# Automotive Specialty Tools & Equipment

# Productivity Solutions

Forged From 100 years of Relentless Innovation

Automotive Specialty Tools Repairing It Faster

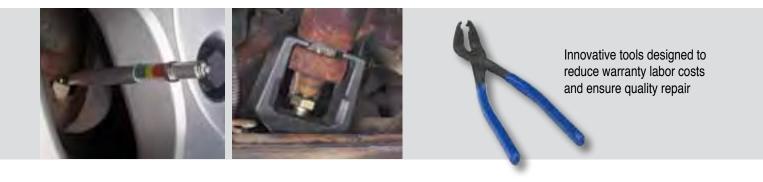


A Legacy of Productivity Solutions.

A Universal Goal of Repairing it Faster.

Value is at the core of the OTC tool and equipment portfolio. Whether it's a simple repair, or the most complex drivability concern, these award winning brands universally solve problems faster, and at better value, than any other product line available.

Whether it's a specialty tool or unique piece of service equipment, OTC provides top solutions to modern automotive service challenges while at the same time increasing technicians' productivity and shop profits.



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Ford Engine Service



#### 6489

#### Ford Cam Tool Kit

The OTC Ford cam tools ensure correct cam timing when servicing timing belts, chains, head gaskets, or other valve train repairs.

Ford master cam tool kit containing all 22 cam tools covering 1992 thru 2012 for over 50 applications, in a molded storage case.



Ford cam tool application can be found at www.otctools.com by entering the part numbers into the search bar. Note: Some applications require more than one tool to accomplish the task. 6489 Ford Cam Tool Kit includes the following: 6009 6472 6480 Cam Sensor Cam Holding Cam positioning Tool (pair) Sync Tool **Tool Adapter** Similar to Similar to Similar to Ford 303-380 Ford 303-529 Ford 303-576 6020 6473 6481 Cam **Cam Sensor** Cam **Positioning Tool** Sync Tool **Holding Tool** Similar to Similar to Similar to Ford 303-589 Ford 303-577 Ford 303-413 6466 6474 6482 Crankshaft **Cam Gear Holding** Cam Sensor Positioner **Alignment Tool Tool Adapter** Similar to Similar to Similar to Ford 303-354 Ford 303-465 Ford 303-578 6467 6475 6483 Cam Sensor Crankshaft TDC Cam Sensor Sync Tool Timing Pin Sync Tool Similar to Similar to Similar to Ford 303-574 Ford 303-638 Ford 303-358 6468 6476 6484 **Cam Positioning** Cam Pulley **Timing Chain Holding Tool** Tool Set **Tensioner Tool** Similar to Similar to Similar to Ford 303-398 Ford 303-S568 Ford 303-571 6469 6477 6485 Cam Sensor **Cam Holding Tool Cam Gear Bolt** Sync Tool Similar to Socket & Ext. Ford 303-557 Similar to Similar to Ford 303-562 Ford 303-565, 303-575 6470 6478 Cam Gear **Cam Sensor** Sync Tool Holding Tool Similar to Similar to Ford 303-630 Ford 303-564 6471 6479 Cam Sensor Crankshaft Sync Tool **Holding Tool** Similar to Similar to Ford 303-453 Ford 303-573

#### Automotive Specialty Tools Ford Engine Service



#### 6486

#### Ford Cam Tool Kit

Ford cam tool kit for 2.0L, 2.3L, 2.5L, 4 cylinder DOHC engines. Contains tool Nos. 6474 and No. 6475.



#### 6487

#### Ford Cam Tool Kit

Ford cam tool kit for 1992 thru 2012 4.6L. 5.4L V8. and 6.8L V10 engines. Contains tool Nos. 6476, 6477, 6009, 6020, and molded storage case.



#### 6488

#### Ford Cam Tool Kit

Ford cam tool kit for 1997 thru 2011 4.0L Explorer/ Mountaineer SOHC V6 engines. Kit contains tool Nos. 6478, 6479, 6480, 6481, 6482, 6484, 6485, and molded storage case.



#### 6498

#### Ford 4.6L & 5.4L 4-Valve Cam Timing Kit Saves time; all tools required for camshaft timing

are in one kit. Set Includes:

525216 - Camshaft positioning tool

- 525217 Camshaft holding tool
- 525219 Crankshaft positioning tool
- 525218 Secondary chain tensioner tool



#### Ford Crankshaft Positioning Tool

- Designed for use on Ford 1993–2012 4.2L, 4.6L 2-valve, 4.6L 4-valve, 5.4L V8, and 6.8L V10 engines when installing timing chains. These engines are not free wheeling, and if an engine has "jumped time," it is possible the cylinder heads have to be removed because of damage to the valves or pistons.
- · Easily installs over the crankshaft and engine front cover alignment dowel to position the crankshaft at top-dead-center - the correct position for timing chain installation. OTC recommends the No. 6024 be used with Nos. 6009 and 6020 (but it is not required).



#### 6918

#### Ford Spark Plug Remover Kit, 3V Engine

- · Unique design helps prevent breakage by locking the plug porcelain core to the plug hex allowing it to turn as one complete unit.
- · Will also pull plug porcelain core if plug hex only is removed.
- · Detailed Instructions to maximize success rate. Works on:
- Ford 4.6L 3V V8 engines used in 2005-2008 Mustang, 2006-2008 Explorer.
- Ford 5.4L 3V V8 engines used in 2004–2008 F-Series, 2005–2008 Expedition, 2005–2008 Lincoln Navigator.
- · Ford 6.8L 3V V10 engines used in 2005–2008 F-Series 250-350-450.



#### Ford Spark Plug Socket

- · This unique design works on 2004-newer Ford vehicles with 5.4L, 4.6L, V8, 6.8L, V10, 3-valve engines.
- · Socket end is 9/16". Soft rubber insert holds and protects spark plug during removal and installation.
- · Extension is part of the socket. Easily fits down spark plug tube in cylinder head.
- · Socket has a 3/8" drive for use with a ratchet or breaker bar.



#### 5607

#### Compression Tester Ford 14mm Adapter

Use with OTC compression testers to access hard to reach spark plug holes.

- Works on 2004 and 2007 Ford 4.6 and 5.4 L, V-8, 3 valve engines.
- · Easy-to-turn feature makes starting thread fast.
- · Use with compression testers with 14 mm thread.



#### 5608

#### **Compression Tester Ford 12mm Adapter** Use with OTC comp ression testers to access

hard-to-reach spark plug holes.

- · Works on 2008 and newer Ford 4.6, 5.4 and 6.8L 3-valve engines with 12mm spark plugs
- · Easy-to-turn feature makes starting thread fast

Similar to Ford 303-178 (T82L-6701-A)



#### 7786

#### Ford Rear Main Seal Installer

This installer is the most accurate way to ensure that the rear main seal is set to the correct depth on the crankshaft. The installer fits over the seal, and with the two bolts included, attaches to the engine crankshaft. By alternately tightening the bolts, the seal is pulled into place quickly, easily, and with no damage to the rear main seal. Works on 2.0L, 2.3L, 2.3L OHC, 2.5L, 2.5L OHC 4-cylinder engines; 3.0L 2V, 3.0L 4V, 3.4L SOHC, 3.8L, 3.8L SC V6 engines; 4.6L 2V, 4.6L 4V, 5.0L and 5.8L V8 engines.



## Ford Rear

#### Crankshaft Seal Installer

- · This installer works on crankshaft rear oil seals
- that come with or without a metal wear sleeve. Designed for use on 1993–1997 Aerostar or 1993–
- 2011 Ranger and Explorer with 4.0L V6 engine.



#### 7835

#### Ford Rear Main Oil Seal Kit

- · Works on 1994-2003 7.3L diesel engine in Ford 3/4- and 1-ton trucks.
- A complete kit with the tools you need to correctly remove and install the rear main oil seal and wear ring on the crankshaft.
- · Eliminates makeshift methods of seal removal and installation that could damage the new seal or crankshaft.





Ford Engine Service



Similar to 211-185 7771A

· Provides an easy way to check glow plug resistance without having to remove the valve cover of 1994-98 Ford trucks and vans with 7.3L DIT (direct-injected

· Used with any standard digital volt ohmmeter to



#### Ford High Pressure Oil Line Disconnect Tool

- with 7.3L direct-injected, turbo-charged (DIT)



#### Ford 6.0L Diesel Fan Clutch Wrench

- Applications: 2003–2009 Ford F-550 and F-650
- clutch on the water pump.
- Wrench has a 68.45 mm (2-11/16") opening.



## 6068

#### Ford Diesel Fan Clutch Wrench

 Designed for use with OTC No. 7205E1 holding tool to remove fan clutch assembly.

Has the same size opening as the OTC No. 7205E2 wrench, but has a special bend in the handle to provide clearance for accessories found on some vehicles.

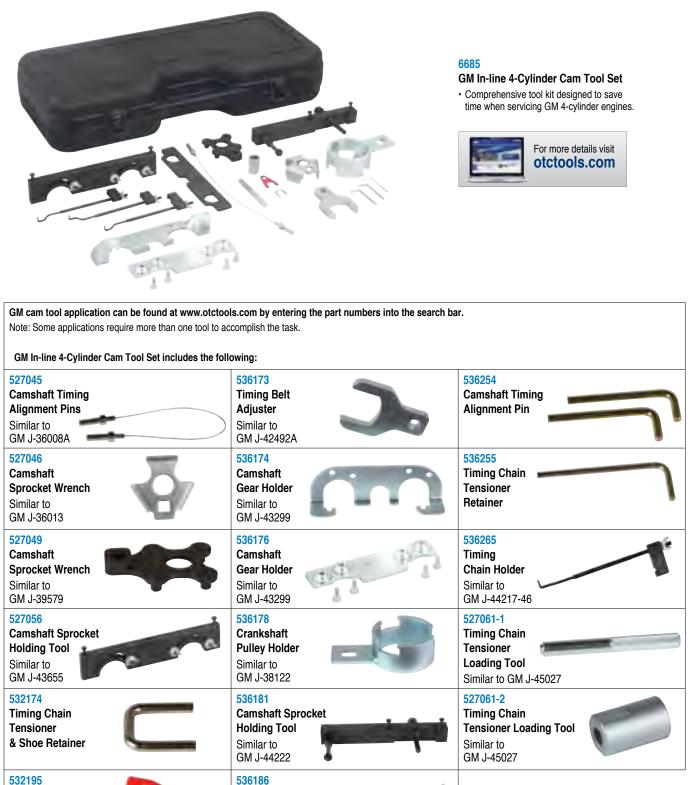
Application: 1998–2003 Ford vans and pickups with 7.3L direct-injected turbocharged (DIT) diesel engine.



Ford Power Steering Pump Pulley Installer Installs power steering pump pulleys on 1992-newer Ford Crown Victoria and Mercury Grand Marquis with 4.6 V8 engine, 1997-newer Ford truck with 4.2 & 4.6 V6, 5.4 V8, and 6.8 V10 engines.

• 8 mm x 1.25" threads fit Ford's C111 pump.





**Timing Chain** Timing **Tensioner Retainer Chain Holder** Similar to Similar to GM J-36589 GM J-44217-1 536172 536187 Camshaft Timing Holding Tool Chain Holder Similar to Similar to

GM J-44221

. .

GM J44217-2

GM Engine Service





#### 6686

#### GM NorthStar V8 Cam Tool Set

· Kit is indispensable for quickly and correctly servicing GM NorthStar 4.0L and 4.6L V8 engines.

#### Set Includes:

- 527048 Cam Chain Tension Holder
- 527050 Crankshaft Rotation Tool
- 527057 Camshaft Holding Tool (qty. 2)
- 527058 Secondary Drive Sprocket Fixture
- 529636 Timing Chain Retention Tool
- 529637 Timing Chain Retention Tool
- 529638 Timing Chain Retention Tool (qty. 2)



#### 6687

#### GM 6 Cylinder Cam Tool Set

- · Required tools to adjust and hold cam shaft timing on GM 3.0 and 3.2 V-6 engines.
- · Kit is designed to save shop time when servicing GM 3.0 and 3.2 V-6 engines.

#### Set Includes:

- 536594 Camshaft Locking Tool
- 536595 Camshaft Locking Tool
- 536596 Crankshaft Holding Tool
- 536608 Camshaft Alignment Gauge 536611 - Timing Belt Installation Tool
- 536612 Timing Belt Tensioner Wrench
- 536613 Crankshaft Socket



## GM In-line 5, 6, or V6 Cam Tool Set

- · Comprehensive tool kit designed to save time when servicing GM 5-, 6-cylinder engines.
- · Tools are actually easier to use than the original OE essential tools.

#### Set Includes:

- 527051 Camshaft Holding Tool
- 527052 Cam Gear Holding Tool
- 527055 Crankshaft Socket
- 527061 Timing Belt Tensioner Loading Tool
- 536172 Camshaft Holding Tool
- 536186 Timing Chain Retention Tool
- 536187 Timing Chain Retention Tool
- 536582 Timing Belt Tensioner Pulley Retaining Tool
- 536583 Camshaft Sprocket Holding Tool.
- 536584 Camshaft Locking Tool
- 536585 Camshaft Locking Tool
- 536586 Timing Belt Tensioner Pin
- 536587 Timing Chain Tensioner Pins
- 536588 Crankshaft Socket
- 536589 Timing Chain Retention Tool
- 536590 Timing Chain Retention Tool



#### **GM Water Pump Socket**

- Works on 1993-newer Cadillac 4.6L V8 Northstar engine, and 1995-1999 Oldsmobile Aurora 4.0L V8.
- 1/2" sq. drive for use with 1/2" drive breaker bar or
- ratchet.
- Tool is designed to self-center in the water pump housing, allowing the tangs to fully engage the water pump for removal or installation.



#### **GM Crankshaft Balancer Puller** Kit and Adapter Set

Everything you need to pull harmonic balancers having three tapped holes. The shoulder bolts are designed to prevent them from being installed too deeply, protecting the crank sensor and/or interrupter rings from damage. The spacer adapter gives the puller's forcing screw something to push against. The kit works on 1990-2002 3300 and 3800 V6 engines. The No. 7911 adapter set consists of the spacer adapter and shoulder bolts only, for use with your No. 518 or No. 6930 flange-type puller.

7911 - GM crankshaft balancer puller adapter set. Includes shoulder bolts and spacer adapter only.

7912 – GM crankshaft balancer puller kit. Includes No. 518 flange-type puller and No. 7911 adapter set.



#### 6616

#### GM Water Pump Holding Tool

- · Holds timing chain in place so water pump can be removed for service.
- · Special design allows easy installation regardless of timing chain orientation.
- · Simply remove access plate from front cover and install the tool.
- Tool saves costly loss of timing on 2002–2009 GM 2.2L and 2.4L EcoTech engines.





#### 6689

#### Chrysler/Jeep Cam Tool Set

The Chrysler/Jeep cam timing tools are provided to ensure correct cam timing when servicing timing belts, chains, head gaskets, or performing other valve train repairs.

These 15 tools are based on OE designs and are offered to service the following applications:

Cam positioning is an important procedure. If cam timing is not correct, the engine may still run, but emissions and mileage will be affected. The engine computer may also initiate the "Check Engine" light. **Set Includes:** 

Set includes:

- 513990 Crankshaft Damper Puller
- 522888 Camshaft Alignment Tools
- 522889 Camshaft Sprocket Holder
- 522890 Timing Chain Tensioner Reset Tool
- 522891 Harmonic Balancer Holding Ring
- 522892 Timing Chain Wedge
- 522893 Timing Chain Wedge
- 522894 Camshaft Wrench
- 522896 Idler Shaft Remover
- 522897 Tensioner Lock Pin
- 522898 Camshaft Holding Pins
- 522899 Timing Belt Tensioner
- 522900A Timing Belt Tensioner Tool
- 522901 Timing Belt Wrench
- 522902 Secondary Timing Chain Holder



Similar to Miller MD-998767

#### 7997

#### **Chrysler Timing Belt Wrench**

Correctly adjusts the timing belt tension on 1991–1994 3.0L DOHC Dodge Stealth, 1992–1994 Eagle Summit, 1992–1994 Dodge Colt, and 1984–1991 2.0L Dodge Colt. For use with a 1/4" drive ratchet.



#### Chrysler Camshaft Alignment Tool Set

These special brackets are necessary to ensure exact alignment of the camshaft sprockets during timing belt installation on all 1993–2010 vehicles with a 3.5L OHC engine.



#### 6495

#### Chrysler Harmonic Balancer Holding Tool

- Designed as a holding ring with three pins to fit into the openings on a harmonic balancer.
- Use with a 1/2" ratchet or breaker bar to hold the harmonic balancer in place when turning the bolt that holds the balancer to the crankshaft. Also use to hold the balancer when removing it from the engine.
- Works on 1990–2010 3.3L V6 vans; 1994–2011 3.8L V6; 1993–1997 3.3L and 3.5L V6 cars; 1998–newer 2.7L, 3.2L, and 3.5L V6 cars.



#### 6667

#### Harmonic Balancer Puller

Designed for removing damper pulleys in tight engine compartments, without removing the radiator. Use on the following:

- GM 2000 Generation III 4.8L, 5.3L, 5.7L 6.0L, and 8.1L V8s. Also works on Cadillac 4.5, 4.6, and 4.9L V8s beginning in 1988. Chevrolet trucks 2003–later 4.2L I6, 2004–current 3.5L I5 & 2005–current 2.8L I4.
- Chrysler engines from 1990–later, including 2.0L, 2.4L-cyl; plus 2.5L, 2.7L, 3.3L, 3.5L, and 3.8L V6s.
- Ford 1995–later V8 engines with 3 spoke pressed on damper.
- Mitsubishi Eclipse 1995–1999 2.0L DOHC non-turbo.
- Kit contains the 3-jaw puller, four lengths of forcing rods, and a forcing screw with a 3/8" square drive for ratchet use, and a 3/4" hex for wrench or socket use.
   Replacement rods:

#### **537757-4** – 5/16" x 4"

**537757-5** – 5/16" x 5-13/32" **537757-6** – 5/16" x 6-1/2" **537757-7** – 5/16" x 7.13/32"



#### Harmonic Balancer Puller Set

 Includes No. 6267 puller, which removes the harmonic balancer from the crankshaft; and No. 6495 holding tool, which holds the harmonic balancer when tightening or loosening the crankshaft bolt, or removing the balancer.



#### **Distributor Bushing Installer/Reamer**

- Used to install the distributor drive shaft lower bushing into the engine block. Then use this same tool to ream the new bushing so the distributor drive shaft correctly fits into the bushing.
- Works on Chrysler, Dodge, and Plymouth 3.9L V6, 5.2L & 5.9L V8 vehicles with distributors.
- Compatible with OEM and aftermarket distributor drive bushings.

**Chrysler Crankshaft Damper** 

The special 3-jaw puller is used with the insert to

kit includes a damper installing tool with bearing.

· Services Chrysler-built 2.0L, 2.4L, 2.5L, 3.3L and

1995–2010 3.3L and 3.5L V6 used in Chrysler New

Yorker and Concorde, Dodge Intrepid, and Eagle

Vision; 1995-newer 2.0L, 2.4L 4-cyl., and 2.5L V6

used in Cirrus, Stratus, and Breeze; 1995-newer

remove the crankshaft damper whenever timing belt, water pump, or front cover service is required. The tool

**Remover/Installer Kit** 

2.0L 4-cyl. used in Neon.

3.5L engines.

#### Automotive Specialty Tools Chrysler/Jeep Engine Service

Import Engine Service



#### 4731A

#### Honda/Acura Dampner Holding Tool

- Holds dampner for removal/installation of the crank bolt on Honda/Acura engines.
- 4" offset.
- 1/2" square drive can be used with ratchet or breaker bar.
- · 50mm hex with large center hole.
- Will fit around accessories eliminating additional part removal.
- Proper fit for applications and allows use of impact tool to remove bolt.

#### Works on:

Honda – Accord, Civic, CRV, Del Sol, Element, Fit, Insight, Odyssey, Pilot, Prelude, Ridgeline, S2000. Acura – CL, Integra, Legend, MDX, RL, RSX, TL, TSX.

#### Honda

Honda		
Accord	1990–1997	2.2L 4 cyl.
Accord	1996–1997	2.7L 4 cyl.
Accord	1998-2002	2.3L 4 cyl.
Accord	1998-newer	2.4L 4 cyl.
Accord	1998-newer	3.0L V-6
Accord Hybrid	2005_2007	3.0L V-6
Civic	1992-newer	1.6L 4 cyl.
Civic	2001-2005	1.7L 4 cyl.
Civic	2006-newer	1.8L 4 cyl.
Civic	2003-newer	2.0L 4 cyl.
Civic Hybrid	2003-newer	1.3L 4 cyl.
CRV	1997-2001	2.0L 4 cyl.
CRV	2002-newer	2.4L 4 cyl.
Del Sol	1993–1997	1.6L 4 cyl.
Element	2003-newer	2.4L 4 cyl.
Fit	2007-newer	1.5L 4 cyl.
Insight	2000-newer	1.0L 3 cyl.
Odyssey	1995–1997	2.2L 4 cyl.
Odyssey	1998	2.3L 4 cyl.
Odyssey	1999-newer	3.5L V-6
Pilot	2003-newer	3.5L V-6
Prelude	1992-newer	2.2L 4 cyl.
Prelude	1992-1996	2.3L 4 cyl.
Ridgeline	2006-newer	3.5L 4 cyl.
S2000	2000-2003	2.0L 4 cyl.
S2000	2004-newer	2.2L 4 cyl.
Acura		
CL	1997	2.2L 4 cyl.
CL	1997–1999	3.0L V-6
CL	1998–1999	2.3L 4 cyl.
CL	2000-newer	3.2L V-6
Integra	1990-1992	1.6L 4 cyl.
Integra	1992-1993	1.7L 4 cyl.
Integra	1993-newer	1.8L 4 cyl.
Legend	1991–1995	3.2L V-6
MDX	2001-2006	3.5L V-6
MDX	2007-newer	3.7L V-6
RL	1996-2006	3.5L V-6
RSX	2002-2007	2.0L 4 cyl.
TL	1997-newer	3.2L V-6
TL	2007-newer	3.5L V-6
TSX	2004-newer	2.4L 4 cyl.



#### 4732

#### Honda/Acura Crankshaft and Harmonic Balancer Holder

- Allows the crankshaft pulley and/or harmonic balancer bolt to break loose.
- Includes tool necessary to properly counter the rotation of the crankshaft pulley/harmonic balancer during removal and reinstallation of crank bolt.
- Secures the pulley in place not allowing it to rotate during removal and reinstallation of crank bolt.

Allows the technician to more easily replace the timing belts on many 1982 to current Honda & Acura vehicle engines, including:

1.6L	4 Cylinder	Civic	1982+
1.7L	4 Cylinder	Integra	1983
1.8L	4 Cylinder	Integra	1983+
2.0L	4 Cylinder S2000	CRV 2000+	1997+
2.2L	4 Cylinder	Accord Odyssey Prelude Acura CL	1980-1998 1985-1988 1982+ 1997+
2.3L	4 Cylinder	Accord Odyssey Prelude Acura CL	1988+ 1988 1982+ 1997+
2.7L	6 Cylinder	Accord	1986+
3.0L	6 Cylinder	Accord Acura CL	1988+ 1987+
3.2L	6 Cylinder	Acura Legend Acura TL	1981-1985 1986+
3.5L	6 Cylinder	Odyssey Acura RL	1999+ 1996+



#### 6613

#### Variable Pin Spanner Wrench

- Universal design fits many different types of pulleys having slots or holes, including camshaft pulleys and crankshaft pulleys.
- Wrench is adjustable from 1-1/4 inch to 5 inches; works with a 1/2 inch ratchet or breaker bar.

#### Set Includes:

- 526908-1 3.5 mm pin
- 526908-2 4 mm pin
- 526908-3 4.5 mm pin
- 526908-4 5 mm pin
- 526908-5 6 mm pin
- 526908-6 7 mm pin
- 526908-7 10 mm pin
- 526908-8 Handle



#### **BMW Head Bolt Socket**

- Socket is designed to fit in the cylinder head on M42 and M50 engines to remove and install cylinder head bolts.
- Spring loaded detent ball holds bolt in place.
- Works with 1/2 inch ratchet, breaker bar, or torque wrench. Socket size is E12 for external TORX<sup>®</sup> bolts.



#### Toyota Head Bolt Socket

- Specially designed socket is needed to tighten or loosen head bolts on Toyota Paseo vehicles with 3S-GE and 3S-FE engines.
- 8 mm socket features a 12-point, 1/2 inch drive socket.



#### 6985

#### Mercedes-Benz and BMW Fan Clutch Service Kit

- Mercedes-Benz fan clutch holding wrench holds the water pump pulley to allow release of the fan.
- BMW Fan clutch holding wrench holds the water pump pulley in place while loosening the radiator fan. Works on BMW M10, M20, M30, & other late model vehicles. (Holes at 38 mm & 44.5 mm.)
- Mercedes-Benz fan clutch wrench removes the thermo-viscous radiator fans found on Mercedes-Benz vehicles. Works on M-B engines: M111, OM604, OM605, and OM606 (C & E Class; 36 mm opening).
- Mercedes-Benz fan clutch wrench is used to remove or install the fan clutch assembly. Slim shaft handle lets you easily work in tight spaces. Works on M-B engines: M103, M104, M119, and M120 (65 mm opening).
- BMW fan clutch wrench is used to remove and install the thermo-viscous fan on BMWs and Fords (32 mm opening).
- Mercedes-Benz Fan Clutch Holding Tool is used to remove / replace thermo-viscous fan coupling with the radiator in place.
- Universal fan belt adjustment wrench services Mercedes-Benz, Nissan Quest, and Mercury Villager radiator fans and pulley belts. It also can be used for loosening the A/C idler pulley tensioner lock nuts for A/C belt adjustment or replacement. Also contains 2.5 mm, 8 mm, and 10 mm Allen keys.

8

Engine Service



#### 6678

#### Cam Gear Holder, 2 pack

- The holders clamp between the engine block or head and the back of the gear to lock it in place.
- Use on single, dual, or quad cam engines to hold valve timing during belt replacement.
- Excellent for diesel injection pump belt replacement.
- The cam gear holders universal design are quick and easy to install.



#### Cam Gear Clamp & Holder Set

- The holders clamp between the engine block or head and the back of the gear to lock it in place. The cam gear clamp is used between two adjacent gears to lock them together and eliminate movement.
- Use on single, dual, or quad cam engines to hold valve timing during belt replacement.
- · Excellent for diesel injection pump belt replacement.



#### 7790

#### Flange-Type Puller Set (Grade 5)

- Versatile puller capable of removing a wide variety of components having tapped pulling holes, including harmonic balancers, gears, crankshaft pulleys, etc.
- Capable of handling 2- or 3-way bolt pulling applications.
- Works on many cars, pickups, SUVs, and small engines.
- Carries the OTC Lifetime Marathon Warranty<sup>®</sup> against defects in workmanship and material.

#### Contents of set:

- Puller flange: adapts to bolt circle dia. of 1-1/2" to 4-5/8".
- Forcing screw: 5-5/8" lg., 5/8-18 thread.
- Shaft protector: 1-3/16" dia. x 3/4" thick.
- Three each of the following flat washers: 1/4"; 5/16"; 3/8".

•	Three	each	of the	following	bolt sizes:
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1/4"-28 x 3" lg.	5/16"-24 x 3" lg.
5/16"-18 x 3-1/2" lg.	5/16"-18 x 6" lg.
3/8"-24 x 1-1/2" lg.	3/8"-16 x 2" lg.
3/8"-16 x 3" lg.	3/8"-16 x 4-1/2" lg.
M8 x 1.25 x 45 mm lg.	M8 x 1.25 x 65 mm lg.
M8 x 1.25 x 90 mm lg.	M10 x 1.5 x 35 mm lg.



#### 6294

#### Flange-Type Puller Set (Grade 8)

- Versatile puller capable of removing a wide variety of components having tapped pulling holes, including harmonic balancers, gears, crankshaft pulleys, etc.
- Capable of handling two- or three-way bolt pulling applications.
- Works on many cars, pickups, SUVs, and small engines.
- Bolts are heat treated to meet Grade 8 hardness.
- Carries the OTC Lifetime Marathon Warranty® against defects in workmanship and material.

#### Contents of set:

- Puller flange: adapts to bolt circle diameters of 1-1/2" to 4-1/4".
- Two forcing screws: 6" long and 3" long.
- Two pointed forcing screw center tips.
- Two flat forcing screw center tips.
- Special stepped bolts 1990-2005 GM 3300-3800 V6 crankshaft pulleys.

	re erainerian panejei	
•	Three each of the following	washer head bolts:
	1/4"-28 x 3" lg.	5/16"-24 x 3" lg.
	5/16"-18 x 3-1/2" lg.	3/8"-24 x 1-1/2" lg.
	3/8"-16 x 2" lg.	3/8"-16 x 3" lg.
	3/8"-16 x 4-1/2" lg.	M8 x 1.25 x 45 mm lg.
	M8 x 1.25 x 65 mm lg.	M8 x 1.25 x 90 mm lg.
	M10 x 1.5 x 35 mm lg.	



#### Crank & Cam Seal Service Kit

- Removes and installs camshaft and crankshaft seals on cars, trucks, vans and SUVs without damange.
- Includes a puller coupled with specialized puller legs that hook the seal for quick and easy removal.
- The interchangeable seal install adapters are designed for use with the cam or crank bolt. Kit services seal sizes of 21.5mm to 64mm.



#### 7793

#### Master Bolt Grip Set (Grade 8)

- Multi-Purpose applications such as steering wheels, flywheels, harmonic balancers, pulleys and gears with tapped holes.
- Includes special stepped bolts for 1990–2005 GM 3300-3800 V6 crankshaft pulleys.

#### Contents of set:

- 4-way slotted puller yoke and 2 lengths of hardened "live-center" forcing screws - a set of 3 interchangeable forcing screw tips is included to optimize pressure and prevent "walking".
- Blow molded case to prevent spilling and each bolt size is molded into the storage compartment.
- Three each of the following bolt sizes:

The cach of the following be	n 31203.
M8 x 1.25 x 90mm	M8 x 1.25 x 45mm
1/4-28 UNF x 3"	M8 x 1.25 x 65mm
5/16-24 UNF x 3"	5/16-18 UNC x 3.5"
3/8-24 UNF x 1.5"	3/8-16 UNC x 2"
3/8-16 UNC x 3"	3/8-16 UNC x 4.5"
M10 x 1.5 x 35mm	
Special Stepped Bolts - 1990	& Newer



Engine Service



#### 525

#### Flange-Type Puller Combination

Two specialty pullers in one box. You get a flange-type puller for removal of harmonic balancers, timing gears, and other parts with two or three tapped holes. You also get a steering wheel, pulley, and flywheel puller. 525 includes: flange-type puller and steering wheel puller with four sets of cap screws.

#### 6930 Flange-Type Puller Combination

Heavy-duty flange puller features a live center forcing screw. Includes two live center forcing screw tips and two sets of commonly used automotive bolts. Puller will work on bolt circles from 1-1/2" to 4-1/4". Three cap screws,  $3/8-24 \times 3$ " long, and three cap screws,  $3/8-16 \times 3$ " long.



#### 7471A

#### **Cummins Engine Barring Tool**

Need to manually rotate an engine? This tool makes the job easy. Just insert the tool into the flywheel housing until it engages the ring gear, then attach a 1/2" square drive ratchet or breaker bar and turn. The tool's load-bearing collar provides friction-free operation while rotating the tool in the housing.

• Works on Cummins B and C series diesel engines and 5.9L liter diesels used in Dodge pickups.



#### 6505

#### Master Harmonic Balancer Installer

- 11 special adapters make this a complete master harmonic balancer installer set for most car and light truck applications.
- The heavy-duty 7/8" diameter forcing screw has internal threads to fit the threaded adapters.
- Plastic storage tray keeps set components organized for easy selection.



#### 4531

#### Harmonic Balancer Puller/Installer Set

- For easy removal of most harmonic balancers and drive pulleys which are press-fitted onto the crankshaft. A bearing-centered circular 2/3-way puller flange and an assortment of metric and fractional bolts and adapters provide wide coverage.
- A heavy-duty, 3/4" dia. forcing screw is internally threaded to fit the eight adapters to install harmonic balancers. Adapter sizes included: M16 x 2.0, M14 x 1.5, M12 x 1.5, 3/4"-16, 5/8"-18, 9/16"-18, 1/2"-20 and 7/16"-20.
- A blow-molded plastic storage case keeps set contents organized and protected.



For more details visit otctools.com

# 7161

#### Cummins Engine Turning Tool

This tool makes easy work of manually rotating a Cummins 855 cubic inch engine. It's essential hardware when you're bringing pistons to top dead center to adjust injector timing.





#### Belt Holding Tool

7424

- Keeps belt from falling off of a pulley during belt installation.
- · Universal design to fit most pulley styles and sizes.
- Super strong magnet to hold the belt firmly on the pulley.
- Multiple holders can be used for belt applications that fit around many pulleys.
- Durable plastic housing with magnet for steel/iron pulley applications.



7425 Stretch Belt Service Set The Stretch Belt Service Set includes an install tool along with a removal tool. Both tools are placed on a pulley which is turned to slip-on or slip-off stretch fit belts without damage.

Engine Service

#### 7654A

#### Serpentine Belt Installation Tool

- Durable tool provides extra control and reach during serpentine belt installation.
- Works equally well on V-belts and timing belts.
- Three-pin design for immediate push/pull capacity.
  Handle gives technician twisting control to install
- belts in confined, hard-to- reach areas.



#### 4652

#### Adjustable Fan Clutch Holding Tool

- Adjustable jaws fit various water pump pulley bolt patterns.
- · Jaws adjust from 1/2" to 8-5/16" opening.
- · Jaws lock in place to securely hold water pump bolts.
- Long handle offers leverage for extra torque.



#### 4645

#### Serpentine Belt Tool

- Fits tensioner pulleys with 13 mm-16 mm, 18 mm hex or 3/8" and 1/2" square drives.
- For hard to access tensioners; there are 13 mm and 15 mm 12-point wrenches built into the handle.
- 13 mm, 14 mm and 15 mm crows foot wrenches also included.



#### Fan Clutch Wrench Master Set

Conventional wrenches are just too wide for the job of removing the fan clutch assembly on some engines. Here's the solution: You hold the fan clutch stationary with the clutch holder tool, and turn the fan clutch nut with the special wrench. Most wrenches feature a square drive for attaching a breaker bar for extra torque. Time savers when replacing water pumps, or for any other front engine service in body or repair shops. Holding tools and wrenches are available individually and in sets.



**Grooved Pulley Strap Wrench** 

crankshaft for engine service.

· Use to hold a grooved pulley when servicing

· Holds tighter than a standard strap wrench.

alternators, water pumps, power steering pumps,

etc. Also may be used to rotate the camshaft or

#### 7419

#### **Timing Tensioner Locking Pin Set**

- This pin set is used to lock timing belt or chain tensioners once they have been compressed, required during the service procedure.
- Once the belt or chain service is complete, the pin is simply pulled out to return the tensioner to functional.
- 6 pin set with clip to cover most all applications.

#### 6673

#### Universal Belt Tension Gauge

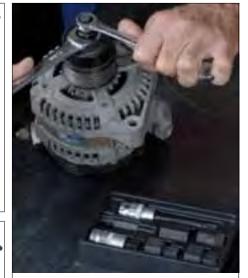
- Belt tension gauges are used to check drive belt tension on drive belts to ensure maximum belt and bearing life.
- and bearing life. • Scale reads 30–180 inch lbs.



#### Steering Wheel, Pulley, and Flywheel Puller

Here's a puller that works in a variety of applications. It pulls steering wheels on most late model cars. It also works as a regular 2/3-way puller to remove pulleys and small engine flywheels. Cap screws included (pairs): 3/8-16 x 3-1/2 in.; 5/16-18 x 3-1/2 in.; 5/16-24 x 3-1/2 in.; M8-1.25 x 90 mm; and 5/16-18 x 4 in. (SIR).

Works on domestic cars with or without collapsible steering columns.





#### **Alternator Pulley Service Kit**

- Overrunning alternator pulley and overrunning alternator decoupler pulley are designed to extend belt life and belt tensioner life. They also make for quieter and smoother accessory drive operation and reduce vibrations in the passenger compartment.
- These tools hold the alternator shaft still so the pulley can be removed or installed.
- A great time saving tool for the technician and the ability to provide a cost saving service for the vehicle owner.

#### Kit contains:

- Decoupler tool assembly
- 17 mm hex drive
- 17 mm Allen wrench
- 110 mm socket extension
- 28 mm / 21 mm hex cap nut driver
- 28 mm / 18 mm hex cap nut driver
- 22 mm hex cap nut driver



#### Universal Pulley Holder

- Universal design fits many different size pulleys having slots or holes, such as camshaft pulleys or crankshaft pulleys.
- Wrench is adjustable from 1-1/2" to 8-5/8"; four different size step pins are interchangeable.
- Long handle enables technician to easily hold the pulley when tightening or loosening retaining bolts.



Engine Service



#### Frost Plug Remover/Installer Set

- · Designed to remove and install frost plugs used in liquid-cooled gas and diesel engines found in cars, trucks, SUVs, agricultural equipment, and construction equipment.
- · Simply use a hammer with the driver and appropriate disc to install frost plugs ranging from 1" to 2-3/8" in diameter.

#### Set contains:

- 4603-1 Installer Handle (18" lg.);
- 4603-2 Frost Plug Remover;

4603-3 - Frost Plug Disc Set (7 ea., plus 1

retaining nut).



#### 4604

#### Frost Plug Installer Set

- · Designed to install frost plugs in liquid-cooled gas and diesel engines found in automobiles, trucks, SUVs, agricultural equipment, and construction equipment.
- · Simply use an air hammer with the driver and appropriate disc to install frost plugs ranging from 1" to 2-1/16" in diameter.

#### Set contains:

4604-1 - Driver (14" lg.); 4604-2 - Frost Plug Disc Set (3 gty.).



#### 4839

#### Adjustable Piston Ring Expander Pliers

These simple pliers include tips designed to capture the ends of piston rings to hold and expand them securely while installing onto pistons.



#### 6986

#### Stud Remover Set, Fractional

This fractional, 4-piece, stud remover set offers the best professional extractors available. Designed and tested to reach studs in difficult work areas.

· Housed in a blow-molded storage case.

#### 3/8" drive for:

- 6986-1 1/4" stud remover
- 6986-2 5/16" stud remover
- 1/2" drive for:
- 6986-3 3/8" stud remover
- 6986-4 7/16" stud remover

#### 4838

#### Piston Ring Compressor Set, 6 Piece

This 6 ring set covers 2 7/8" thru 4 3/8" piston diameters. The ring compressor pliers feature a ratcheting lock to hold the handles in position for easy piston installation.



#### 6987

#### Stud Remover Set, Metric

This metric. 4-piece stud remover set offers the best professional extractors available. Designed and tested to reach studs in difficult work areas.

· Housed in a blow-molded storage case.

3/8" drive for:

- 6987-6 6 mm stud remover
- 6987-8 8 mm stud remover

1/2" drive for:

- 6987-10 10 mm stud remover
- 6987-12 12 mm stud sizes.



#### 4840 Piston Ring Compressor Set with

#### Ring Expander

This complete set includes 12 chrome plated compressor sleeves covering 1 3/8" thru 4 3/8 diameter piston applications. Both the ring compressor and ring expander pliers feature a ratcheting lock to hold the handles in position for easy piston and ring installation. Complete with a metal carry case.

#### 4842

#### Heavy Duty Valve Spring Compressor

Used to compress valve springs for removal or installation. The heavy duty C-frame has a 9" opening and a 5" throat. Kit includes 16mm, 19mm, 23mm, 25mm, and 30mm valve spring retainer adapters.



#### 4572

#### Valve Spring Compressor

- · Designed to compress valve springs on overhead valve engines.
- · Includes two valve spring adapters, which fit valve spring retainers up to 1" (25 mm) and 1-3/16" (30 mm).
- · Unique, direct action compressor lever gives better visibility of valve spring retainers located in difficult access areas.
- Jaw opening of 1-3/8" to 5-5/8" (35 mm to 142 mm); throat clearance of 5-7/8" (150 mm).

Engine Service



#### 4573

**Universal Overhead** 

- Valve Spring Compressor
- · Permits removal and installation of valve springs without removing the cylinder head on many cars and light trucks. Durable steel construction.
- · Spring loaded offset jaws easily grip and compress valve springs.



#### 7928

#### Ford Valve Spring Compressor Tool

Compresses valve springs for quicker, easier camshaft, valve seal, valve spring, or retainer servicebecause you don't have to remove the head from the engine first! It's an OEM-approved tool that you use with a 3/8" ratchet or breaker bar. Works on: 1991-2004 Ford vehicles with 4.6L, two-valve, V8 engines: 4.6 4V, 5.4 V8 and 6.8 V10.



#### 3673

#### **Diesel Glow Plug Tester**

Glow Plug Tester provides fault detection thru LEDs for a quick analysis; Short circuit, Over current, Normal operation, Open circuit/Under current.

- · Glow Plug Tester allows for testing without removing glow plug from engine.
- · Powers the glow plug to test the plug in it's operating state.
- · Much more accurate test than a cold resistance test, which can miss short circuits.
- · Tester uses a current measurement to accurately determine proper operation and check for short circuits.



#### 6589

**Electronic Ignition Spark Tester** 

Check for spark on gasoline engines used in import and domestic cars and trucks, plus small engines.



#### 3589

#### Ignition System Quick Test Kit

This kit enables technicians to do power-balance tests and diagnose problems on standard, electronic, or distributorless ignition systems. Comes with brass adapters to fit all auto coils, test probes and leads, spark gap tester, and step-by-step instructions that lead technicians through the power-balance test.

- · Performs power-balance in less than 5 minutes on standard, electronic, or distributorless ignition systems.
- Spark gap tester checks for adequate kV voltages on electronic ignition systems, providing instant diagnosis of problems-whether a faulty coil, ignition wire, or spark plug.
- · Ideal for checking spark in no-start condition, instead of wasting time trying to "ground out your screwdriver.'
- · Step-by-step instructions lead technician through tests to check if ignition has a bad ground all the way to defective coils.

3579

Ignition system adapters, set of six.







#### 6005A **Glow Plug Remover**

Set includes 10 mm and 12 mm split nuts, three spacers (3/16", 1/4", and 5/16"), plastic storage/ organizer case and instructions. The 10 mm split nut will work on Ford 6.9L and 7.3L diesels; GM 6.2L, and 6.5L diesels; and various diesels in import vehicles. The 12 mm split nut works on various diesels in import vehicles, plus many agricultural and construction diesel applications.



5603 Compression Tester - Deep Well Connector Use with OTC compression testers or other compression testers.

- · Solid steel 8" length shaft.
- · Upper t-wing grip for ease of installation and removal.
- · Popular 14 mm thread for both flat and tapered seat plugs.
- · Corrosion resistant nickel plated finish.

Engine Service



#### 5606

#### **Compression Tester Kit**

Designed for complete compression testing on gasoline engines, including domestic, imports, motorcycles, marine, and small engines. Unique problem solving features for today's limited space engine compartments.

#### Features and benefits:

- · Corrosion resistant nickel plated finish.
- · Adapters work on both flat and tapered seat plugs.
- · Extra long 25" flex hose gauge assembly with quick coupler, allows easy viewing out of cluttered engine compartment.
- · 2-1/2" gauge features chrome bezel and rugged protective outer boot.
- · Dual scale gauge reads 0-300 psi and 0-2100 kPa.
- 12" flex-14 mm standard reach.
- · 12" flex-14 mm long reach.
- 10 mm,12 mm, and 18 mm thread adapters.
- · Rugged blow molded hard case with removable lid.
- · Repair parts kit.



#### 5609

#### Cylinder Leakage Tester Kit

Quickly diagnose internal engine problems such as bad rings, valves and leaking head gaskets. Kit come complete with adapters for most applications.

#### Features and benefits:

- Dual 2-1/2" gauges feature chrome bezel and rugged protective outer boot.
- · Scales read 0-100 psi and 0-700 kPa.
- · Pressure regulated manifold includes quick couplers.
- · Long flex 24" 14 mm hose.
- 10 mm, 12 mm and 18 mm thread adapters.
- · Blow molded hard case with removable lid.
- · Detailed instruction chart.



#### 5605

#### **Deluxe Compression Tester Kit**

Complete with standard and specialty adapters, this deluxe kit offers a complete package for compression testing on gasoline engines. Kit includes the deep well connector used on recessed plug well style heads and the Ford engine adapter using 16 mm thread plugs.

#### Features and benefits:

- · Corrosion resistant nickel plated finish.
- · Adapters work on both flat and tapered seat plugs.
- Extra long 25" flex hose gauge assembly with quick coupler, allows easy viewing out of cluttered engine compartment.
- · 2-1/2" gauge features chrome bezel and rugged protective outer boot.
- · Dual scale gauge reads 0-300 psi and 0-2100 kPa.
- 8" deep well 14 mm connector.
- · 5" flex Ford 16mm adapter.
- 12" flex-14 mm standard reach.
- · 12" flex-14 mm long reach.
- · 10 mm, 12mm, and 18 mm thread adapters.
- · Rugged blow molded hard case with removable lid .
- · Repair parts kit.





#### 5610

#### **Transmission/Engine Oil Pressure Kit**

This professional kit can be used for domestic and import applications. High and low pressure gauges make this kit useful for both transmission and engine work. Kit comes complete with adapter for most applications. Designed to be used for both static and on road testing.

#### Features and benefits:

- Large 3-1/2" gauges feature a chrome bezel and rugged protective outer boot.
- · Low pressure gauge reads 0-100 psi and 0-700 kPa.
- · High pressure gauge reads 0-400 psi and 0-2800 kPa.
- · Both gauges include rear hook to allow gauge to be hung conveniently out of the way.
- · Gauges and hose assembly incorporate quick couplers for easy disconnect.
- · Kit includes 13 adapters and a detailed instruction manual.
- · Blow molded hard case with removable lid.



Engine Service





#### 5613

#### Vacuum/Pressure Gauge Kit

Ideal for testing vacuum lines and components. Accurately tests low-pressure fuel systems. Quickly diagnose internal engine problems such as bad rings, valves and leaking head gaskets. Kit comes complete with adapter for most applications. Pin point hard to find problems such as cracked lines, PCV, fuel pump, fuel filters and more.

#### Features and benefits:

- Large 3-1/2" gauge features a chrome bezel and rugged protective outer boot.
- · Dual purpose gauge reads vacuum and pressure.
- Dual scale gauge reads 0-30 in. Hg vac and 0-70 cm Hg, also reads 0-15 psi and 0-100 kPa.
- · Built in rear hook allows gauge to be hung at eye level.
- · Adapters for most applications.
- · Blow molded hard case with removable lid.
- Detailed instruction chart.

#### 6492

#### **Engine Preluber Kit**

- Ensures oil is present to internal engine components on the first start of a new or rebuilt engine, or after major engine work is performed.
- Required to prime the oil pump and fill the oil galleries and internal engine components with clean, new oil.
- Connects to engine oil system at the oil pressure sensor on a variety of domestic and import engines.
- Oil pressure sensor adapters included.



#### **Diesel Compression Tester with Adapters**

This easy-to-use compression tester is designed for light- and medium-duty diesel engines equipped with glow plugs. A dual-reading gauge, featuring a push-button release valve, measures compression to 1000 PSI and 7000 kPa. The hose end has quick disconnect fittings. The tester comes with glow plug and nozzle adapters in a handy storage case.

Tester services these engines:

- Cummins B and C
- Navistar DT466/DT360
- Ford/Navistar 6.9L & 7.3L
- Detroit 6.2L & 6.5L
- Hino diesel and Mitsubishi Fuso truck engines
- 5020 Diesel compression tester with adapters.
- 5021 Universal diesel engine compression gauge.

304802 - Replacement gauge.

#### **Replacement Adapters**

(available separately) 47484 – Hino diesel truck engines with 12 mm x 1.25 thread

209633 - Ford 6.6L & 7.8L diesels

217791 - Cummins B 3.9L 4 cyl. & 5.9L 6 cyl. '89-'98

308472 - Mitsubishi Fuso truck 4D & 6D engines with

10 mm x 1.25 thread

**310810** – Cummins C 8.3L 6 cyl. '88-'96

310832 - Ford/Navistar 6.9L & 7.3L, Detroit 6.2L & 6.5L with 10 mm x 1.0 thread

310840 - Navistar DT466/DT360

#### 7559A

#### Deluxe Vacuum Pump

This pump kit is designed for vacuum testing, brake bleeding, and fluid transfer. With this kit, one person can quickly and cleanly bleed brake and hydraulic clutch systems, actuate vacuum switches (VOES), as well as get answers to numerous diagnostic and mechanical problems.

#### Kit includes:

 Precision-made repairable vacuum pump with 360° gauge rotation for improved visibility.

- Pumps up to 1 cubic inch (16cc) per stroke.
- Develops and maintains up to 25" of Mercury vacuum.
- · 4-1/2 oz. Reservoir jar with fluid transfer and storage lid.
- Two 2 ft. long, 1/4" ID hoses.
- · Rubber cup adapter.
- · Two universal bleed screw adapters.
- · Vacuum "T" adapter.
- · Automotive test and bleed adapters.
- · User manual (English, Spanish, French).



#### Mechanic's Stethoscope

4491

- · Quick and accurate way to locate vehicle noise.
- · Spring diaphragm on end of hose amplifies noise.
- Includes two hose ends: long rod helps pinpoint noises in hard-to-access areas; short adapter helps locate noise in a broader area of the vehicle.



(D93T-6000-A)

Similar to Ford 303-D092

(D93T-6000-B)

Engine Service

# EVAP – Leak Detection System

- Vacuum Leak Testing
- Crankcase Oil
- Wind and Water Leaks
- Exhaust Leaks
   Cooling System Testing
- 1-Year Warranty

LeakTamer is the latest generation of leak detection systems, providing more smoke and better control. Solid-state circuitry improves reliability and ensures more consistent smoke output.

A wide assortment of accessories make the LeakTamer versatile tools for quickly locating different kinds of leaks.

#### LeakTamer Evap offers:

- · Densest smoke in the industry.
- · Newly redesigned smoke chamber and control system.
- · More complete line of accessories.
- · User refillable.
- · Includes smoke producing solution for 500 tests.
- Non-toxic, non-corrosive smoke.

#### **Product Features:**

- · OEM approved technology
  - Contains STAR Technology; the ONLY OEM-Approved smoke technology anywhere in the world
- · Large full range flow meter
  - Detects Microleaks<sup>™</sup> down to and below 0.10
  - Flow-test components with full range of flow values
- · Pinpoint leaks with Smoke and dye
  - UltraTraceUV® dye deposits at exact location of a leak
  - Finds leaks that smoke alone won't find
  - Introduce to an engine before disassembly to find internal leaks
  - It's the only OEM-Approved dye solution
- · Variable Smoke Flow
  - Helps pinpoint smoke exiting a leak
  - Directional knob shows exact flow position
- · Compact light weight design
  - More powerful diagnostics in smaller package
- · Can be used with air or nitrogen
  - Use any inert gas for safer EVAP testing and shop air for all other tests
- 6522 includes:

Leak Tamer unit, White/UV combination light with laser pointer, UV glasses, EVAP adapter tool, exhaust cone, cap plug adapters, removal tool, smoke producing solutions enough solution for 500 tests.





#### Accessory / Replacement Parts

6522-1	UltraTraceUV <sup>®</sup> (8 oz. / 236 ml) patented solution is the only Automaker-approved smoke-producing solution in the world. Contains a special dye that deposits at the exact location of a leak. Each bottle will perform approximately 300 tests. Part No. is for one bottle, two bottles included with 6522.	
6522-2	Inert Gas Pack Kit connects directly to fitting on back of LeakTamer 6522. Includes preset CO <sub>2</sub> regulator with cylinder fitting, 20 oz. liquid CO <sub>2</sub> cylinder, pressure gauge, universal push-on female coupler accommodates both automotive and industrial male fittings (Cylinder arrives empty) Performs approx. 25-50 full cycle EVAP tests per 20 liquid oz. cylinder.	11- 1
6522-3	Combination Light for easier smoke location and ultraviolet (UV) light, to highlight the fluorescent dye deposited at the exact location of a leak. Also has laser pointer. Includes batteries and glasses.	*
6522-4	Standard Size Service Port Adapter.	
6522-5	Schrader® Removal / Installation Tool.	
6522-6	Cap Plugs Kit. Used for sealing some systems during leak testing.	
6522-7	Universal Fuel Neck Adapter fits the majority of vehicles. Allows access to fuel tank for evaporative system testing.	
6522-8	BMW and MINI Fuel Neck Adapter. Allows access to fuel tank for evaporative system testing.	
6522-9	Smoke Diffuser locates leaks around doors, windows, sunroofs, trunk compartment seals, EV vehicles' battery modules, or any closed system that can be pressurized from the inside and observe the smoke disturbance from the outside.	
6522-10	Cone Adapter (standard) for introducing smoke into induction or exhaust system. 1" x 3.5" & 6" long (25.4 mm x 89 mm x 152 mm).	
6522-11	Cone Adapter (Large) for introducing smoke into induction or exhaust system. 3.5" x 6" & 4.6" long (89 mm x 152 mm x 144 mm).	6
6522-12	Replacement Dipstick (for 6522).	
6522-13	Replacement smoke supply hose and nozzle	Q
6522-14	Nozzle	
6522-15	Flow meter red pointer flag. For easy viewing of flow meter measurements.	



Engine Service

3665

#### 3363

#### Inductive Timing Light

Professional inductive timing light designed for standard base timing.

#### Unique features

- · On/off touch control standard features.
- · All metal inductive pickup.
- · Reflected, super bright xenon flash. · Removable leads with positive
- twist-lock connector.
- · One touch control.
- · Durable, plated ABS housing with over-molded grips.
- · Heat resistant over-molding on clips.
- · Blow-molded case.

#### 3365

#### Advance Timing Light

Professional advance timing light allows accurate adjustment of base and advance timing reading.

#### Unique features

- · Adjustable knob measures centrifugal, vacuum, and computer advance.
- · On/off touch control.

#### Standard features

- · All metal inductive pickup.
- · Reflected, super bright xenon flash.
- · Removable leads with positive twist lock connector.
- · One touch control.
- · Durable, plated ABS housing with over-molded grips.
- · Heat resistant over-molding on clips.
- · Blow-molded case.

#### 3367

#### **Digital Timing Light**

Professional digital timing light has advanced features with a bright LED screen and mode indicator lights.

#### Unique features

- · Microprocessor-controlled circuitry.
- · LED tachometer display reads 0-9999 rpm.
- · LED advance display indicates to 1/10.
- · Unique flashlight feature.
- · 2/4 cycle and rpm/advance lights.
- · Up and down scroll buttons.

#### Standard features

#### · All metal inductive pickup.

- · Reflected, super bright xenon flash.
- · Removable leads with positive twist lock connector.
- · One touch control.
- · Durable, plated ABS housing with over-molded grips.
- · Heat resistant over-molding on clips.

#### Blow-molded case

Timing Light Comparison - Functions/Features	3363	3365	3367	
Conventional, electronic, computer controlled ignition systems	•	•	•	
DIS and 2-cycle systems	•		•	
On/off touch control	•	•		
Adjustable advance		•	•	
Digital LED readout tach and advance			•	
2- to 4-cycle & rpm/advance mode lights			•	
2- to 4-cycle selector button			•	
Flashlight feature button			•	
RPM to advance selector button			•	
Up or down scroll buttons			•	





3363



3365



#### 4522 Vacuum Hose and

#### **Fuel Line Removal Tool**

· Designed to remove vacuum hose or fuel lines (3/16" to 1/2") from fittings or tubing.

Simply place the black iaw on the fitting or tubing - the jaw will grip the material. Then use the silver jaw to push the vacuum hose or fuel line off the fitting or tube.



3660

· Phototach is equipped with a laser pointer for accurate targeting. Reflective tape placed on a revolving object can be measured at distances from 2" to 20".

· No. 3665 phototach can be used as a contact

· Four styles of contact adapter tips clip easily

· Infrared technology makes the phototach

accurate, convenient, and easy to use.

· Infrared beam not affected by ambient light.

Non-contact design results in (zero) torgue

as well as a non-contact tachometer.

to the top of the phototach.

loss for true precision.

· Wide measuring range and high resolution, 2.5 to 99,999 rpm with a large 5-digit display, autoranging, min/max memory storage, and low-battery indicator.

#### 3665

Phototach

Phototach contact/non-contact. 3660

Phototach non-contact only.

#### 4510

#### Hose Pinch Off Pliers Set, 3 Piece

- · Shuts off flow through vacuum lines, fuel lines, coolant lines, etc.
- · Cocking ratchet mechanism holds pivoting jaws tightly in place. Heavy-duty swivel jaws pivot to assure parallel pinching.

#### · Available separately:

4510-8

8" tool for small hoses and tight areas. 4510-10

10" tool for radiator and vacuum lines.

4510-12 12" tool for radiator and vacuum lines.

www.otctools.com



17





Engine / Exhaust Service



#### 4509

#### Straight-Blade Hose Cutter

- · Cuts rubber hoses ranging from 1/4" to 1-1/2".
- · Simply place hose in tool and squeeze handle to cut.
- Replacement steel cutter blade No. 4509-1 is available.
- 4509-1 Replacement hose cutter blade



#### 4411

#### **Ratcheting Hose & PVC Cutter (Standard)**

- · Cuts hose and PVC up to 1-3/8" dia. · Features metal frame and ergonomic handles for
- high leverage. · Compound ratcheting action provides maximum cutting power.
- · Will also cut cable and wires.



#### 4412

#### Ratcheting Hose & PVC Cutter (Heavy Duty)

- · Cuts hose and PVC up to 1-3/4" dia.
- · Features metal frame and rubber padded ergonomic handles for high leverage and comfort.
- · Compound ratcheting action provides maximum cutting power.
- · Will also cut cable and wires.



#### Scraper Set

Scrapers feature polished, heat-treated, stiff, stainless steel blades. Handles are ergonomic two-component plastic and feature a non-slip grip and steel bolstered end.

· Packaged in a storage tray. Includes: 1-1/4" straight blade, 1-1/4" bent blade, and 2" straight blade.

#### 6500 Flexihead O2 Sensor Wrench

#### · Flexible head design assists in the removal of stubborn O2 sensors that

- are 7/8" in diameter, a common size to most vehicles. · Features allow extensions or wrenches to apply force
- in tight areas, even on seized components. Pivots to allow more angles of placement.



#### 7807 Heated Oxygen Sensor Socket

We put a slot in the side of this wrench to accommodate connectors on heated oxygen sensors, which usually won't fit in standard sensor wrenches. The extended and reinforced body removes the most stubborn sensors without rounding them off.

· Features 1/2" double square drive, 7/8" hex.

#### 7189

#### **Oxygen Sensor Socket**

· Designed to easily remove an oxygen sensor.

- · Heat-treated cast steel.
- 7/8" hex, 1/2" square drive (double square for easy access).

Similar to Ford No. T79P-9472-A

#### 6931

#### Oxygen Sensor Socket

- and imported vehicles with oxygen sensors.
- allows wire clearance.
- Outside rib provides added strength. yet does not restrict access to sensors.
- 1/2" square drive, 1" male hex drive on top, 7/8" six-point opening, 3-7/8" long



#### Exhaust Hanger Pliers

Many cars and trucks have rubber blocks supporting their exhaust system hanger brackets. These pliers will enable you to guickly and easily remove those push- through brackets from their hangers. These pliers feature a two-position slip joint for use on many sizes of hanger blocks.



#### 7-Piece Sensor Socket Set Includes:

4673-1 - 29 mm Vacuum Switch and O2 Socket, 1/2" drive.

4673-2 - 7/8" Vacuum Switch and O2 Socket (wide slot), 3/8" drive.

4673-3 - 27 mm Thermal Sensor Switch, 1/2" drive. 4673-4 - 7/8" Vacuum Switch and O2 Socket (narrow slot), 3/8" drive.

4673-5 - 1-1/16" & 1" Oil Pressure Sending Unit Socket, 3/8" drive.

4673-6 - 7/8" O2 Sensor Socket, offset 1/2" drive. 4673-7 - 7/8" O2 Sensor Socket (low profile), offset 3/8" drive.



8-Piece Sensor Socket Set Includes:

4673-1 - 29 mm Vacuum Switch and O2 Socket. 1/2" drive.

4673-2 - 7/8" Vacuum Switch and O2 Socket (wide slot), 3/8" drive.

4673-3 - 27 mm Thermal Sensor Switch, 1/2" drive. 4673-4 - 7/8" Vacuum Switch and O2 Socket (narrow slot), 3/8" drive.

4673-5 - 1-1/16" & 1" Oil Pressure Sending Unit Socket, 3/8" drive.

4673-6 - 7/8" O2 Sensor Socket, offset 1/2" drive. 4673-7 - 7/8" O2 Sensor Socket (low profile), offset 3/8" drive.

4437-8 - 1-1/16" and 1" Oil Pressure Socket (short access), 3/8" drive



#### Exhaust Back Pressure Gauge

Quickly read back pressure to determine the amount of restriction in an exhaust system. This gauge accurately measures through the oxygen sensor hole. Its large dial clearly shows pressure from 0-8 psi. The system has a stainless steel braided tube to withstand highheat conditions.

- · Includes a universal adapter for vehicles with thermactor systems.
- · Works on domestic and imported vehicles.



- · Works on all domestic
- Slot in socket's side

# Fuel, Oil & Coolant Service Tools Quick Finder Index

OTC 744

## Fuel

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Fuel Service Tools Kits



#### 4480

#### **Basic Fuel Injection Service Kit**

- Performs running, residual, rail and flow rate pressure tests.
- Kit includes adapters, hoses and fittings to test fuel injection systems.
- Kit includes two popular adapters for import vehicles as well as the GM TBI adapter.
- Professional dual scale gauge reads 0-100 PSI and 0-700 kPa with relief valve, fuel discharge hose and rubber boot.
- · Packaged in blow molded carrying case.



#### Master Fuel Injection Kit

Test fuel injection systems on most GMs, including GM TBI, Ford, Chrysler, and Jeep vehicles. Also works on imports, including CIS and CISE fuel systems. With this kit you can diagnose fuel-related problems, such as a weak fuel pump or restricted fuel filter, and perform leak-down tests.

 Kit includes 0–100 PSI fuel pressure gauge and 35 of the popular OTC fuel injection adapters, each equipped with a quick-connect Schrader valve for safety. Replacement seal kit also included.

#### 6550UPD

#### Professional Fuel Injection Update Kit

Upgrades existing 6550 Master Fuel Injection Service Kit into the 6550PRO. Kit includes:

- 12 OTC fuel injection system adapters each with a quick connect Schrader Valve.
- 1997 2008 Fuel Injection Service Application Manual.



#### 6550MAN-08

#### **Pro Fuel Injection Application Manual**

Over 200 pages of valuable fuel system service information for professional technicians. English, Spanish and French translations for:

- · Safety Precautions.
- Fuel System Identification.
- Adapter & Tool Identification.
- General Operation instructions PLUS 1997 to 2008
   Make/Model/Year Data points for:
- Fuel Pressure specifications.
- Fuel Pump Disabling Location and Procedure.
- OTC adapter reference.
- · Adapter "break-in" location.



#### Injection Service Kit

Perform fuel pressure testing, diagnose weak fuel pumps or restricted filters, test for fuel flow and perform leak-down tests. Use to clean injectors and intake systems. Kit includes:

- 0 100 PSI Fuel Pressure Gauge.
- 47 OTC fuel injection system adapters each with a quick connect Schrader Valve.
- · '97 '08 Fuel Injection Service Application Manual.
- Replacement Seal Kit.

#### 7448 Canister-type

Fuel Injector Cleaner This tool provides the most effective method of cleaning fouled fuel injectors. The canister, built with brass and aluminum, is rugged and holds 18 fluid ounces. The gauge is easy to read. We recommend that our No. 7000A Pro Inject-R Kleen fluid be used with this cleaner.



Works with all OTC fuel injection system adapters.

Tool No.	Description
313575	Pressure gauge
213299	Air regulator
213209-PK10	O-ring (10 pack)
206878	Coupler socket
306905	Hose



#### Fuel Injector Cleaning Kit

Clogged fuel injectors cause sluggish engine performance, poor fuel economy, and a rough idle. You can easily correct such problems with this injector cleaning kit. It works on a wide range of engines, both domestic and imported. Using our Pro Inject-R Kleen fluid, you can effectively clean injectors, restore their spray patterns, and prevent recurring deposits. The kit also enables you to do low- and high-pressure fuel system tests. It will also work with your shop's pressurized air supply for more powerful cleaning without expensive propellants.

7666

1000

Removes carbon from intake and combustion systems when used with fitting No. 7666 available separately.

• Includes canister, gauge, hose, fittings, operating instructions.



Tool No.	Description
518499	Spring lock coupling adapter
518495	EFI quick-disconnect fitting (.307-32 internal; Ford)
518480	Pressure adapter TBI (5/16" and 3/8")
549578	Quick-disconnect 90° elbow fitting (7/16"-20 internal)
528769	Banjo fitting (M8 internal banjo)
314651	Banjo fitting (M10 internal banjo)
528766	Banjo fitting (M12 internal banjo)
47955	Fuel injector cleaner (canister)



#### 7000A

#### Pro Inject-R Kleen Fluid

Clean fuel injectors mean cleaner running, more efficient engines – and lower emissions. This fluid restores injectors' original spray pattern, helps prevent recurring problems, and reduces intake and port deposits.

- · No mixing; use right from the can.
- Pro Inject-R Kleen fluid.
- Case of 12 16-oz. cans.

7000A-1 Pro Inject-R Kleen Fluid

Single can.



							Fuel Service Tools Kits
Contents of Sets:	• 6550	PRO	• 6550 • 6550UPD	(also sold individually)			
	518483	••	Hi-Pressure Gauge 3-1/2", 0-100 psi (0-7 BAR) with quick disconnect,	h quick disconnect,		• •	M8 x 1.0 External O-ring Adapter (CIS)
			protective gauge boot, and hanger	*	518488	• •	M8 x 1.0 External O-ring Adapter (CIS) (Long)
	518530	••	Gauge Hose Assembly with Relief Valve		518484	••	M10 X 1.0 Internal O-ring Adapter (CIS)
<u>Q</u> Q	518356	••	CIS/TBI Hose Assembly with Shutoff Valve		518489	• •	M10 x 1.0 External O-ring Adapter (CIS)
	518477	••	Seal Kit		518486	• •	M12 x 1.5 Internal Swivel Adapter (CIS)
	518480	• •	Double Ended Hose Adapter; 5/16", 3/8"		518498	••	M14 x 1.5 External & Internal Swivel Adapter
	518478	• •	Singe End Hose Adapter;		518497	••	1/4" BSPT External & Internal Swivel Adapter
	518495	••	1/4", 5/16", 3/8" Schrader Fitting, .308x32 thread		518496	• •	M16 x 1.5 External & Internal Swivel Adapter
	518542	• •	(Ford EFI) Ford MPI Adapter Schrader Fitting, 7/16"-20 thread (Chrysler, Jeep & GM)		549598	• •	M14 x 1.5 Inverted Flare Adapter
	518476	••	5/16" T-Fitting Hair Pin Adapter (Ford)		549596	• •	M12 x 1.0 Honda Pulse Damper Adapter
	518527	• •	3/8" T-Fitting Hair Pin Adapter (Chrysler, Jeep, & GM)		549597	••	Fuel Pressure Test Adapter, Studded Rail Style (ø.625/16 mm)
	518534	• •	5/8"-18 External Flare with Schrader Adapter		567840	• •	1/4" T-Fitting Hair Pin Adapter
	518535	••	5/8"-18 Internal Flare with Schrader Adapter				(Honda) Schrader Fitting, 7/16"-20 Internal
	518481	• •	16mm x 1.5 External O-ring Adapter		549578	• •	90 Degree Elbow
	518472	• •	16mm x 1.5 Internal O-ring Adapter		549579	• •	Schrader Fitting, .308x32 Internal 90 Degree Elbow (Ford)
	518473	• •	14mm x 1.5 External O-ring Adapter	. 🚣	528770	• •	Fuel Pressure Test Adapter (ø.430/11 mm)
	518474	••	14 mm x 1.5 Internal O-ring Adapter				
(Internal	518482	••	14 mm x 1.5 External O-ring Plug		528771	••	Fuel Pressure Test Adapter (ø.580/15 mm)
	518487	••	16 mm x 1.5 In-Line Adapter (GM TBI)		528772	••	Fuel Pressure Test Adapter (ø.625/16 mm)
inter den	518499	••	Ford Spring Lock Coupling Adapter	and the second s			
	518490	• •	M6 x 1.0 External O-ring Adapter		528767	••	M8 x 1.0 External Double Banjo EFI Pressure Test Adapter
	518491	• •	M8 x 1.0 External Banjo Adapter		528768	••	M12 x 1.25 External Double Banjo EFI Pressure Test Adapter
	518492	• •	M10 x 1.0 External Banjo Adapter		528769	• •	M8 Internal Banjo Fitting
	518493	• •	M12 x 1.5 External Banjo Adapter	-	528766	• •	M12 Internal Banjo Fitting
	518494	• •	M12 x 1.25 External Banjo Adapter		7666	• •	Decarbonizing Adapter
	518501	••	M14 x 1.50 External Banjo Adapter				
	518485	• •	M8 x 1.0 Internal O-ring Adapter (CIS)	-			

Fuel Service

#### 7797

#### **Fuel Injection Diagnostic Set**

Quickly and accurately diagnose fuel pressure problems on Chrysler, Ford, GM, or Jeep engines that have multi-port fuel injection systems. You can also bleed air from the system with the bleed valve. No. 7211 gauge assembly allows technicians to check fuel pressure and fuel volume. Set Includes:

518487 – GM TBI fuel pressure adapter

549578 – Quick-disconnect 90° elbow fitting

518495 - Ford EFI guick-disconnect fitting

211398 - Pressure hose

206878 - Coupler

19088 - O-ring

#### 7635A

7211

hoses

6703-3

6703

Basic fuel injection diagnostic set. (Same as No. 7797, but does not include 518437 GM TBI adapter.)

Gauge and Hose Assembly

valve to lessen chance of fuel spray.

to check fuel pump volume.

This gauge is designed to work with any of our fittings

for testing fuel injection systems. It features a sturdy 3-1/2" dial that reads 0-100 psi. It also has a built-

in (100–150 psi) retard to prevent excess pressure

· Includes 6-ft. bleed hose and 30" pressure hose.

· Bleed valve eliminates air from injection system and

· Bleed valve also allows gauge assembly to be used

306905 - Optional pressure hose, 70" long.

can be used to reduce pressure when disconnecting

damage. The assembly's disconnect fitting has a check



7797





#### **Fuel Pressure Tester Kit**

Quickly and easily locate any malfunctioning fuel system component, including fuel filters, pressure regulators, fuel lines, and fuel pumps without removing it from the vehicle.

#### Features and benefits:

- · Large, easy-to-read 0-100 psi scale, 0-700 kPa.
- · Solid brass fittings.
- · Pressure relief valve for safe, clean testing.

# 5613

and components. Accurately tests low-pressure fuel systems. Quickly diagnose internal engine problems such as bad rings, valves and leaking head gaskets.

Kit comes complete with adapter for most applications. Pin point hard to find problems such as cracked lines.

- · Large 3-1/2" gauge features a chrome bezel and
- rugged protective outer boot.
- · Dual purpose gauge reads vacuum and pressure.
- · Dual scale gauge reads 0-30 in. Hg vac and 0-70 cm Hg, also reads 0-15 psi and 0-100 kPa.



**22** Automotive Specialty Tools

6703-1 - Banjo Line Fluid Stoppers, 2 pk. 6703-2 - Steel Line Fluid Stoppers, 2 pk. 6703-3 - Line Plug Fluid Stoppers, 6 pk.

steel line found on fuel, brakes,

AC, power steering and transmission system.

· Includes two banjo style fitting stoppers, two steel line

stoppers, six line plugs, a line disconnect tool, and a

long reach line pinch-off tool for hard-to-reach hoses.













7631 Fuel return line plug (5/16")

Fuel return line plug (3/8")

washer set

for Asian



7342 Quick coupler adapter

#### Automotive Specialty Tools Fuel Service Disconnect Tools

#### **6508**

#### Full-Coverage Disconnect Tool Set

If you're working on Chrysler, Ford, or General Motors vehicles, this set can make your job easier. The tools are designed for heater hoses, transmission oil coolers, air conditioning and fuel lines. They're approved by vehicle manufacturers and will not damage the fittings being disconnected. Tool Nos. 518092, 518896, 518897, 518898, 518899, 518900, and 518901 are spring-loaded in the closed position to deflect any spray that occurs when lines are disconnected.

R	440384	GM hydraulic clutch line disconnect tool.
	7937	GM transmission oil cooler line.
-	501153	Toyota A/C tool.
-	511410	3/8" & 5/16" Fuel line disconnect tool.
- Contraction	511413	3/8" & 1/2" Fuel line disconnect tool.
	518902	Heater hose disconnect tool.
	519158	Fuel line disconnect tool set.
1	518582	Fuel line disconnect tool. (Gold, 5/16")
-	518583	Fuel line disconnect tool. (Red, 3/8")
	518584	Fuel line disconnect tool. (Black, 1/4")
	518896	Fuel line disconnect tool. (Yellow, 3/8")
<b>G</b>	518897	A/C spring lock coupling tool (Black, 5/8")
<b></b>	518898	A/C spring lock coupling tool. (Blue, 1/2")
<b>6</b>	518899	Fuel line disconnect tool. (Green, 1/2")
	518900	A/C spring lock coupling tool. (Red, 3/8")
<i>Q</i> .	518901	A/C spring lock coupling tool. (White, 3/4")



2n	519067	5/16" Fuel line disconnect tool.
	519068	3/8" Fuel line disconnect tool.
	519151	Quick disconnect tool.
-	519152	Oil cooler line disconnect tool.
1	519153	Clutch coupling tool.
	519154	Fuel line coupling tool.
	519155	Chrysler fuel line disconnect tool.
	519156	Ford heater hose disconnect tool.
	519157	GM heater line quick connect separator.
510	519159	Transmission oil line tool.

Fuel Service Disconnect Tools and Noid Lite/IAC Test Kits



#### 6517

#### **Disconnect Tool Set**

Designed for A/C lines, fuel lines, and transmission cooler lines.

- Contains 3/8", 1/2", 5/8", and 3/4" spring lock disconnect tools for A/C lines on Ford cars and trucks, Chrysler and Jeep vehicles.
- Contains the 3/8" and 1/2" fuel line disconnect tool for Ford vehicles.
- · Contains the 5/16" and 3/8" fuel line disconnect tools for GM and Chrysler vehicles.
- · Contains the transmission oil cooler line disconnect tool used on many GM and Ford vehicles.

#### 7363 **Fuel Line**

#### Disconnect Tool Set

- This set works on quick connect fuel lines on Ford. GM, and Chrysler, and on the spring lock fuel line couplings on Ford's popular PFI system.
- · Won't damage fuel line or fuel line connectors.
- Used on 5/16", 3/8", and 1/2" fuel lines.
- · Two large tools are spring loaded, durable, and completely enclose the hose, which helps deflect any spray.

#### 7337

#### Ford Fuel Line **Disconnect Tool Set**

These tools will easily disconnect the spring lock couplings of fuel lines on Ford's throttle body and port fuel injection systems. The tools are spring-loaded and durable, and they enclose the line to help deflect spray.

- · Includes 518896 (3/8" yellow) and
- 518899 (1/2" green) disconnect tools.

#### 7361

**Fuel Line** 

#### **Disconnect Tool Set**

These two disconnect tools are designed to fit quick-connect fuel line fasteners. They'll work on Chrysler, Ford, or GM vehicles, and separate fuel lines without damaging the connectors.

- Includes 519067 (5/16" gray) and 519068 (3/8" blue) disconnect tools.
- Similar to Ford No. 310-S039 (T90T-9550-S)



#### Noid Lite/IAC Test Kit

Noid Lites are a proven test device to quickly determine if the electrical signal is present at the fuel injector.

- Just plug in and turn over the engine; flashing noid indicates good signal.
- · Expanded set of eight Noid Lites cover: GM PFI, Ford TBI, Geo TBI, Bosch PFI, GM TBI, GM SCPI, and now new applications of Bosch 2 and Multec 2.
- Kit comes in molded plastic case and includes a harness extension that allows for convenient remote viewing from the driver's seat.

3054E	
69	28600
0	•

Tool No.	Description	3050E	3054E
7187	GM TBI Noid Lite	Х	Х
7188	Bosch PFI Noid Lite	Х	Х
7601	Ford TBI Noid Lite	Х	Х
6023	GM Multec 2 Noid Lite	Х	Х
7602	GM PFI Noid Lite	Х	Х
7608	Geo TBI Noid Lite	Х	Х
7828	GM SCPI Noid Lite	Х	Х
6266	Bosch 2 Noid Lite	Х	Х
6260	Fiber optic Noid Lite extension	Х	Х
3052S	'82 and newer GM TBI/PFI IAC tester with square 4-pin connector		Х
3053S	'87 and newer Model 700 TBI/PFI with flat 4-pin connector.		Х

#### 6603

#### **GM Fuel Line Disconnect Tool**

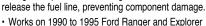
Applications: 2002-newer Tahoe and light-duty trucks

- with the 5.3L V8 engine.
- This is a required tool to
- remove the fuel line from the fuel filter. Similar to Kent-Moore No. J-46363.

#### 519154 Ford Fuel Line

## **Disconnect Tool Set**

Here's the best tool for easy, frustration-free fuel line separation. As you put the tool on the fuel line coupling, its fingers depress the retaining collar to



models fitted with 4.0L, 6-cylinder engines.



#### **Rubber Line Clamp Set**

- · Set of two clamps. Used to quickly shut off flow from vacuum, brake, and fuel lines.
- · Enables you to clamp and hold hose without damage.



#### Line Release Tool · This spring-lock coupling release tool easily separates fittings on fuel and air conditioning lines.

Air Conditioning

4494

Fuel and

• Tool sizes are 3/4", 5/8", 1/2", and 3/8".

#### 6511 **GM & Dodge Transmission Cooler Line Disconnect Tool**

- · Designed for removing the cooler line from
- the radiator to transmission on 1995 and newer GM

Similar to Miller No. 8218

- and Dodge pickups with automatic transmissions. Tool encloses the guick connect fittings and releases the locking fingers on the line. It works
- on both 3/8" and 1/2" lines.

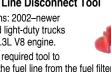


A/C and Fuel Line Disconnect Set

- · Used to remove A/C and fuel line quick-disconnect fittings from hard-to-reach areas.
- Six sizes (5/16", 3/8", 1/2", 5/8", 3/4", and 7/8") available to work on many import/domestic vehicles.

24 Automotive Specialty Tools





#### Automotive Specialty Tools Ford 6.OL Service Tools





#### 6768 Ford 6.0L Glow Plug

6766

Ford 6.0L Diesel

Similar to

Ford No. 303-765 and 303-766

> **Release Tool** Safely remove and install the glow plug harness on 2004-2009 Ford 6.0L Diesel engines.



#### 6760

#### FORD 6.0L & 7.3L Fuel Filter Wrench

Designed to remove and install the fuel filters on the Ford 6.0L & 7.3L Power Stroke diesel engines as well as International / Navastar diesel engines.

- · Low profile design for easy access in tight areas.
- · Reversible Six lug design provides the convenience of two sizes in one tool.
- · Light weight low profile for strength and durability.
- · 3/8" drive allows the wrench to be used with a
- variety of drive tools.

#### 6594

#### Ford Oil Line Disconnect Tool

- · Use to disconnect the high-pressure oil rail supply line from the fuel rail when removing fuel injectors.
- · Works on the 6.0: diesel engine found in 2003-2009
- F-250, F-350, F-450, F-550 trucks, Excursions and

Ford vans.



Similar to

Ford No. 303-755





Similar to Ford No. 303-D115

Designed for the diesel truck market,

this tool will work for just about any injector you need to remove for service or replacement.

#### 6752

#### Fuel Injector Storage Rack with Protective Cups

Compartment are marked to help keep the injectors organized by the cylinder they came from in order to keep the injector calibration in sync with the vehicles ECM.

#### 6753

#### Protector Cups.

A set of eight replacement cups for 6752 Fuel injector storage rack.



· Removes and installs injectors without damaging the injector or cylinder head.

Application: 1994–2003 Ford 3/4- and 1-ton trucks, Super Duty trucks, and vans with 7.3L directinjected turbocharged (DIT) diesel engine.

## 6764

6763

Ford 6.0L Diesel

**High Pressure Fuel Rail Adapters** 

This pair of High Pressure Fuel Rail Adapters is required to connect to the vehicle's fuel line.

The fuel line connection changed in 2004 - so

the two adapters give you the capability to address either platform for pressure testing.

#### Ford 6.0L Diesel IPR Controller

When a hard start or no start condition exists. the 6764 allows a technician to close the Injector Pressure Regulator in order to determine if proper injector control pressure is achieved and sustained for the starting process.

- · Tactile On/Off switch with LED confirming power to the tool and signal to the Injector Pressure Regulator.
- · Permits a quick initial diagnosis of the pressure regulator when a hard start-no start situation exists.
- · Used in conjunction with any scan tool capable of reading fuel pressure on 6.0L Ford Diesel.



combines two OE tools into one. The socket changed in 2005 - so the socket give you the capability to address either platform.



Fuel Service



#### Chrysler Fuel Pump Module Spanner Wrench

Removes and installs the fuel pump retaining ring that holds the fuel pump module onto the gas tank. Works on most 1994–2005 Chrysler vehicles, and 1995-2004 Jeep vehicles.

Similar to Miller No. 6856.



#### 6599

#### **Fuel Tank Lock Ring Wrench**

Universal design allows tool to fit fuel tank lock rings on Ford, Chrysler, and GM vehicles with gas engines.

- Works on: 2004–newer Ford F-150 trucks; 2004– newer Chrysler / Dodge minivans, PT Cruiser, Dakota, and Durango; 2004–newer Chevy 1/2-ton and 3/4-ton trucks; and 2005–newer Jeep vehicles.
- Tool easily removes and installs lock ring on the fuel tank when servicing the fuel pump or fuel sending unit.
- · Used with a 1/2" drive ratchet or breaker bar.



#### GM Computer-Controlled Carburetor Tools

These tools are designed to adjust settings on computer controlled Rochester, DualJet, QuadraJet, and VaraJet carburetors on carbureted GM engines. Applications:

- 2 mm double-D VaraJet lean authority screw and idle air bleed; and DualJet and QuadraJet mixture control adjusting screw.
- 2.5 mm hex DualJet and QuadraJet TPS adjusting screw.
- 7 mm double-D DualJet and QuadraJet main metering jets.
- 10 mm double-D DualJet and QuadraJet mixture control solenoid-rich screw.

#### 7460 Diesel Fuel

Line Wrenches Fuel line nuts are

often hard to reach, but this unique 3/8" square-drive tool solve that problem.

You can loosen or tighten fuel lines at the fuel injector nozzle

- or fuel injection pump without damaging the nut.
- Fuel line wrench, 2.6" long. For International 6.9L and 7.3L diesel engines. Fits 5/8" hex nut.



#### 7148

#### Propane Enrichment Kit

- Ensures a correct idle mixture and compliance with emission standards.
- · Works on domestic or imported vehicles.
- · Uses standard 14-oz. propane cartridge.
- Similar to Ford No. 310-003 (T75L-9600-A).



#### 7670

#### Gasoline Quality Testing Kit

This unique kit helps reduce troubleshooting time by verifying if fuel quality is affecting performance, thereby ruling out other causes. Fuel quality is especially critical to today's sophisticated, computer-controlled engines.

- Applies to all gasoline engines, from small engines to heavy-duty.
- Permits checking for water in the fuel tank without tank removal.
- Fuel volatility may also be tested by measuring its vapor pressure. You can also test for alcohol in the fuel, and the percentage present.





Similar to

Ford 303-230

Similar to Ford No. 303-228 (T83T-9000-C)

#### 7461

#### Fuel Injector Pump Rotating Tool

Maximum fuel economy requires precise injector timing. The tool securely grips the front of the fuel injection pump so you can rotate it while fine-tuning the system.

• Works on Stanadyne rotary fuel pumps found on International's 6.9 and 7.3 liter engines.



#### **Davco Diesel Filter Wrenches**

- Found on Catepillar, Cummins, Detroit Diesel, International, Mack, Mercedes-Benz, Volvo and other engines.
- Durable steel construction.
- Precise, laser-cut angles.
- · Opens vent cap also.
- · Soft, ergonomic handle.
- 6914 Fits Davco Diesel filter models, 232-233-234.
- 6915 Fits Davco Fuel filters 382 & 384.



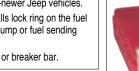
#### **Duramax Water Sensor Wrench**

- Used to remove and install the water sensor on the fuel filter.
- Works on 2001 and Newer 6.6L Duramax Diesel found in Chevrolet and GMC Trucks and Vans.
- 3/8" square drive hole.



#### **Fuel Injector Nozzle Puller**

- Pulls fuel injection nozzles on Ford 6.9L/7.3L and Navistar DT466/9L diesel engines.
- Slide hammer action gives an even, straight pull on the nozzle for fast, easy removal.
- · Puller nut screws onto injector nozzle inlet port.



Fuel Service



#### 6069

#### **Cummins Diesel Fuel Injector Remover Kit**

Kit contains a fuel injector connector tube remover and fuel injector puller. The fuel injector connector tube must be removed before removal of the injector, or both will be damaged.

Application: 1998-1/2-2002 Dodge pickups and vans with 5.9L 24-valve Cummins diesel turbo engine.



#### 3674

#### **Diesel Fuel Pressure Tester**

- · Simple one wire connectivity to the fuel pressure sensor signal wire. Designed for diesel engines that have a fuel pressure sensor reading used by vehicle computer.
- · Displays pressure in PSI or BAR.
- · Range 0-22.000 PSI (0-1500 BAR).
- · Read diesel fuel pressure in vehicle.
- · No fittings required.
- · Readings alternate between current and max pressure.



#### **Detroit Diesel Injector Socket**

Used on GM 6.2L and 6.5L engines. This 30 mm socket ensures proper fit during nozzle removal and installation. The 3/8" square drive and 7/8" hex permit easy access in tight guarters, and prevent damage to nozzle and related components.



#### 6087

5060

#### **GM Injection Pump Wrench Set**

- · Use to loosen or tighten injection pump retaining bolts whenever pump timing adjustment or pump service is required. Services 1996-1999 GM full-size 2- and 4-wheel drive trucks, vans, and Suburbans with 6.5L diesel engine.
- Two specially bent wrenches are needed, due to the location of the throttle, cruise control, T.V. cable bracket, cooling system crossover pipe and bracket, and the thermostat housing on vans and pickups.
- · Wrenches are 15 mm, 12-point, double box-end type.



#### 3490

#### **Multi-Application Digital Pressure and Temperature Analyzer**

Combining the functions of vacuum, oil pressure, hydraulic system pressure, fuel pressure, transmission pressure, compression, and air conditioning-all in one!

Deluxe digital pressure/temperature analyzer with four pressure input receptacles and protective boot. Set includes (500 psi) transducer, 12' cable, 8-1/2" hose, bead-type temperature probe, assorted fittings, plastic storage case, instruction manual.

#### Accessory:

<b>3491-01</b> – 500 psi transduc <b>3491-11</b> – 6' cable.	er.
3491-12 - 12' cable. 3491-13 - 20' cable.	



#### 3398

#### **Fuel Injection Pulse Tester**

Fuel injector testing requires precision equipment. This vehicle powered tool fills that requirement. It enables you to check cylinder balance by firing individual injectors at 1/2-second increments in three different ranges: 1 pulse of 500 milliseconds, 50 pulses of 10 milliseconds, 100 pulses of 5 milliseconds.

- · Power and output lights indicate test activation.
- · Includes wiring harness adapter and instructions.





#### 5025 **OTC DEF Refractometer**

SCR & EPA 2010

EPA regulations require all diesel engines manufactured on or after January 1, 2010 to meet lowered NOx emissions standards.



Scale: 0.5% line graduations 32.5% Indicated Scale 15-40%

Waterline & 20 Deg C

Most heavy duty engine

(Class 7-8 trucks) manufacturers, have chosen to utilize SCR. This Includes Detroit Diesel (DD13, DD15, and DD16 models), Cummins (ISX line), PACCAR, and Volvo/Mack.

#### Application:

The refractometer is a portable, precision, optical instrument used for measuring the Diesel Exhaust Fluid (DEF) concentration. When a liquid sample is placed on the prism, the light passing through it is bent. The more concentrated the liquid, the more the light will bend

The refractometer contains a reticle, or scale, that is enlarged through the eyepiece to measure this light. The values on the scale have been established to evaluate the DEF condition.





Fuel Service



#### 4510

#### Hose Pinch Off Pliers Set, 3 Piece

- · Shuts off flow through vacuum lines, fuel lines, coolant lines, etc.
- · Cocking ratchet mechanism holds pivoting jaws tightly in place. Heavy-duty swivel jaws pivot to assure parallel pinching.
- · Available separately:

#### 4510-8

8" tool for small hoses and tight areas.

#### 4510-10

- 10" tool for radiator and vacuum lines. 4510-12
- 12" tool for radiator and vacuum lines.



## Vacuum Hose and

#### **Fuel Line Removal Tool**

- · Designed to remove vacuum hose or fuel lines (3/16" to 1/2") from fittings or tubing.
- · Simply place the black jaw on the fitting or tubing the jaw will grip the material. Then use the silver jaw to push the vacuum hose or fuel line off the fitting or tube.



#### 6515

#### 3-in-1 180° Tubing Bender

- · Capable of making 180° bends in copper, brass, aluminum, and steel tubing.
- · Just one tool works on three sizes of tubing: 1/4". 5/16" and 3/8".



#### 4509

#### Straight-Blade Hose Cutter

- · Cuts rubber hoses ranging from 1/4" to 1-1/2".
- · Simply place hose in tool and squeeze handle to cut.
- · Replacement steel cutter blade No. 4509-1 is

#### available. 4509-1

Replacement hose cutter blade.



#### 4411

- **Ratcheting Hose & PVC Cutter (Standard)** · Cuts hose and PVC up to 1-3/8" dia.
- · Features metal frame and ergonomic handles for high leverage.
- · Compound ratcheting action provides maximum cutting power.
- · Will also cut cable and wires.



#### Ratcheting Hose & PVC Cutter (Heavy Duty) Cuts hose and PVC up to 1-3/4" dia.

- · Features metal frame and rubber padded ergonomic handles for high leverage and comfort.
- Compound ratcheting action provides maximum cutting power.
- Will also cut cable and wires.



## 4721

- **CV Boot Clamp Cutter** · Designed to easily cut the CV boot clamp without
- damaging the boot.
- · Will cut boot clamps up to 10 mm wide and .7 mm thick.
- · Handles are spring loaded to the open position to allow easy access to the clamp.



- used on front-wheel drive vehicles.
- · May also be used to crimp the type of clamps used on fuel and cooling system hoses.
- Ensures even, precise crimping, and eliminates possibility of damage to the clamp, boot, or hose.

#### 6512 Heavy-Duty **Tubing Cutter**

- · Works on tubing sizes 1/8" to 1-1/8" O.D. (3 mm to 29 mm)
- · Easily cuts copper,
- brass, aluminum, and steel brake lines.
- · Ream folds onto cutter body for storage.
- · Extra cutting wheel stored under ream.

#### 6514

#### **Mini Tubing Cutter**

 Works on tubing sizes 1/8" to 5/8" O.D. (3 mm to 16 mm).



- · Easily cuts copper, brass, aluminum, and steel brake lines in hard-to-reach places.
- · Ream folds onto cutter body for storage.
- · Extra cutting wheel stored under ream.



#### **Tubing Bender**

- For 3/16" and 1/4" dia. tubing.
- · Can bend up to 180+ degrees.
- · Quick release handle to easily remove tubing from bender.
- · Sturdy steel construction.



- **Tubing Bender**
- For 5/16" and 3/8" dia. tubing.
- · Can bend up to 180+ degrees.
- · Quick release handle to easily remove tubing from bender.
- · Sturdy steel construction.





#### Automotive Specialty Tools Fuel & Oil Service



#### 8260

6522

**EVAP – Leak Detection System** 

Wind and Water Leaks 
 · 1-Year Warranty

LeakTamer is the latest generation of leak detection

systems, providing more smoke and better control.

Solid-state circuitry improves reliability and ensures

more consistent smoke output. A wide assortment of

accessories make the LeakTamer versatile tools for

quickly locating different kinds of leaks.

· Exhaust Leaks

· Cooling System Testing

Vacuum Leak Testing

· Crankcase Oil

#### Hose Removal Set, 6 Piece

- · Consisting of six (6) hose removal tools which consists of three (3) 10", soft-handled tools and three (3) 15", soft-handled tools, each with a hard end-cap.
- · They are made of heat-treated, chrome steel with assorted tip shapes.
- · Ergonomic handle design fits properly in the hand, allowing for easier holding of the tool.
- · Hose removal tools can also be used on upper and lower radiator hoses, clips, washers, gaskets and other items.
- · Packaged in a molded tray which can be placed in tool drawer.



## Hot Oil in the Pan Not on your hand!

- Remove oil drain plug without touching the plug or hot oil.
- · No touching hot plug.
- · No hot oil on hands.
- · No dropping of plug in hot oil.
- · No oil soaked gloves.
- · Just magnetically attach DRAIN PLUG PRO to pre-loosened drain plug and rotate to remove plug.
- 1. Loosen drain plug with wrench.
- 2. Place DRAIN PLUG PRO
- on plug so that the tool locks on the plug hex.
- 3. Rotate handle to remove plug.
- 4. Pull plug away from oil stream.
- 5. Magnetic DRAIN PLUG PRO retains plug.





Strong magnetic end.



### 5961HD Heavy-Duty

- Drain Plug Pro™ · For Agricultural, Commercial, and Heavy- Duty Vehicle Applications
- Remove fluid drain plugs without touching the plug or hot fluids!
- · No touching hot plugs.
- · No hot fluids on hands.
- · Removable attachment permits use with common 3/8" square drive sockets. Great for starting bolts in hard-to-reach places.
- Attach to pre-loosened drain plugs and rotate to remove.
- Magnetic attachment for internal 1/2" square drive drain plugs.
- · Magnetic attachment for large drain plugs.





5961

The original innovation meets customer feedback for the broadest application possible! The 5961 Drain Plug PRO kit from OTC utilizes:

- 1/4" square drive.
- · Mounted on a practical flexible cable.
- · A variety of attachments.

All these components combine to give you safe removal of automotive drain plugs in any market! Includes:

- · Standard drain plug attachment.
- · Low profile drain plug attachment.
- 17mm hex attachment for
- internally driven drain plugs.
- 5/16" bit driver attachment.
- · All are conveniently stored in socket rail fashion.

Protect your hands and arms from hot oil in any application! Save time by preventing a dropped or lost drain plug. Never fish a dropped drain plug from a pan full of hot oil again! And, you can use the 1/4" square drive with any 1/4" drive socket you already own, to start bolts in hard to reach locations. The handy 5/16" bit driver lets you start screws in hard to reach places as well.



www.otctools.com



See page 16 for complete EVAP System



#### Automotive Specialty Tools Oil Service



#### 6784

#### Euro/GM Oil Socket Kit

Popular oil filter wrenches for the GM, BMW, Audi, and VW. High quality, 3/8" drive, forged sockets designed to last a lifetime.

3-piece oil socket kit contains:

- 27 mm socket for the Cadillac STS 3.2L V6 and the Mercedes-Benz 1.8L I4.
- · 32 mm socket for the 2.2L GM Ecotec and Saabs.
- 36 mm for the BMW M52, M60, M62, M70, & M73 engines; M-B OM604, 605, & 606 engines; VW/Audi VR6 engine.



#### Oil Filter Cartridge Set

- Fits today's oil filter cartridge style filter applications.
- Short socket style allows for proper clearance when removing the filter element.
- 24mm Cadillac, BMW. 27mm Cadillac, Mercedes, Buick, Saturn, Saab, Smart, VW.
- 29mm Dodge.
- · 32mm Saturn, Saab, various GM.
- 35/36mm Ford, Mini Cooper, Mercedes, BMW, VW/Audi, Mack Truck.
- · 38mm small Diesel engine applications.

# 6903

#### Ford / Mazda Oil Filter Socket-75.6 mm, 14 Flutes

• Designed at 75.6 mm to fit 2.3L 4-cylinder engines.

 Works on Ford Fusion, Mercury Milan, Mazda 3, Mazda 5, and Mazda 6.



#### 6904

#### Hyundai and Kia Oil Filter Socket-88.5 mm, 15 Flutes

- Works on newer Hyundai Sonata and Santa Fe 3.3L V6 engines.
- Works on newer Hyundai Azera, Veracruz and Entourage 3.8L V6 engines.
- Works on newer Kia Amanti, Sedona and Sorrento 3.8L V6 engines.



#### Subaru Oil Filter Socket-66.5 mm, 14 Flutes

6905

- Socket fits between the exhaust manifold and the oil filter for easy removal and installation of the filter.
- Works on 2003-newer Subaru vehicles having the 2.5L 4-cylinder, turbo engine.



Toyota Tundra 4.7L Oil Filter Socket-73 mm, 14 Flutes





#### 6906

Toyota Oil Filter Socket – 65 mm, 14 Flutes Avalon

 2005–'07 V6 3.5L (2GR-FE), 1995–2004 V6 3.0L (1MZ-FE)

#### Camry

 2007 V6 3.5L (2GR-FE), 2004–'06 V6 3.3L (3MZ-FE), 1994–2006 V6 3.0L (1MZ-FE)

#### Camry Solara

2004–'07 V6 3.3L (3MZ-FE)

#### Highlander

- 2004–'07 V6 3.3L (3MZ-FE) also works on the hybrid version of this engine
- 2001–'03 V6 3.0L (1MZ-FE)
- RAV4
- 2006–'07 V6 3.5L (2GR-FE)

#### Sienna

- 2007 V6 3.5L (2GR-FE)
- 2004-'06 V6 3.3L (3MZ-FE)
- 1998-2003 V6 3.0L (1MZ-FE)



#### 6909

#### Set of Five Oil Filter Sockets with Holder

Magnetic holder and 5 oil sockets includes:

- 6903 Ford /Mazda 75.6 mm, 14 Flutes.
- 6904 Hyundai /Kia 88.5 mm, 15 Flutes.
- 6905 Subaru 66.5 mm, 14 Flutes.
- 6906 Toyota Avalon/ Tundra 5.7L 65 mm, 14 Flutes.
- 6908 Toyota Tundra 4.7L 73mm, 14 Flutes.
- 6910 Magnetic holder.



#### 6901

Similar to Kent-Moore No. J-29142.

#### GM Oil Filter Socket

Applications: 1999–2002 Olds Intrigue and 2001–2002 Olds Aurora with 3.5L V6 engine.

• This is a required tool to remove the oil filter cap from the oil pan to access the filter cartridge.

#### Automotive Specialty Tools **Oil Service**



#### 4568

#### 3-Leg Oil Filter Wrench

- Fits filters ranging from 2-1/2" to 5-1/4" (65 mm to 135 mm) in diameter.
- To turn the tool, use a 1/2" ratchet in the ratchet drive or a 13/16" wrench on the nut.
- · Knurled legs provide extra gripping power.



#### 4440

#### Heavy Duty 3 Leg Filter Wrench Standard

- · Self gripping design for true universal fit from 3" to 4-3/4".
- · Heavy duty knurled leg design for extra grip and strength.



#### 4441 Heavy Duty 3 Leg Filter Wrench Large

- · Self gripping design for true universal fit from 4" to 6 1/2".
- · Heavy duty knurled leg design for extra grip and strength.



#### 4582

#### Jointed Jaw Standard Filter Pliers

- · Jointed jaws rotate 180 degrees providing access where standard pliers do not.
- · Slip joint handle design provides a range from 2-1/4" to 4-3/4".
- · Jaw teeth and cushioned handles provide maximum gripping power for slip free operation.



#### 4562

#### Adjustable Oil Filter Pliers Set

- · Forged jaws with sure-grip teeth grab the filter for easy removal.
- Slip-joint ratchet and lock mechanism allows a secure grip on filter diameters of 2-1/4" to 7" (57 mm to 178 mm).
- 4560 Small adjustable oil filter pliers. Pliers is 13-1/2" long; fits filters ranging from 2-1/4" to 5" (57 mm to 127 mm) in diameter.

4561 – Large adjustable oil filter pliers. Pliers is 18" long; fits filters ranging from 3-3/4" to 7" (95 mm to 178 mm) in diameter.



- · Jointed jaws rotate 180 degrees providing access where standard pliers do not.
- · Slip joint handle design provides a range from 3-1/8" to 7-1/2".
- · Jaw teeth and cushioned handles provide maximum gripping power for slip free operation.



#### **Heavy-Duty Oil Filter Wrenches**

- Fit filters ranging from 4-1/8" to 5-21/32" (104 mm to 144 mm) in diameter.
- Feature a 1-1/2" wide steel band that can stand up to the high torque needed to remove filters from trucks, tractors, and other heavy equipment.
- · Use with a 1/2" drive ratchet or breaker bar.
- 4555 Heavy-duty oil filter wrench. Fits filters ranging from 4-1/8" to 4-21/32" (104 mm to 118 mm) in diameter.
- 4556 Heavy-duty oil filter wrench. Fits filters ranging from 4-21/32" to 5-5/32" (118 mm to 131 mm) in diameter.
- 4557 Heavy-duty oil filter wrench. Fits filters ranging from 5-5/32" to 5-21/32" (131 mm to 144 mm) in diameter.





#### Automotive Specialty Tools Oil Service

Similar to Ford No. D79L-6731-A

7062A

#### **Universal Filter Wrench**

This filter wrench will stand up to the job of removing nearly any spin-on filter (up to 6"). Universal design permits use on most vehicles. The tough 2" wide nylon strap holds firmly. In fact, the more leverage applied, the tighter it grips.

· Accommodates a 3/8" drive ratchet.



#### **Davco Diesel Filter Wrenches**

- · Found on Catepillar, Cummins, Detroit Diesel, International, Mack, Mercedes-Benz, Volvo and other engines.
- · Durable steel construction.
- · Precise, laser-cut angles.
- · Opens vent cap also.
- · Soft, ergonomic handle.
- 6914

Fits Davco Diesel filter models, 232-233-234. 6915

Fits Davco Fuel filters 382 & 384.



#### Flexible Spout Funnel

Many oil, transmission, and coolant fluid fill caps are located in hard to access areas. This aluminum 5 1/2" funnel features a removable debris screen in the base flowing to a 25" flexible spout designed to reach these difficult fill locations.



7-Piece Sensor Socket Set Includes:

#### 4673-1

29 mm Vacuum Switch and O2 Socket, 1/2" drive.

#### 4673-2

7/8" Vacuum Switch and O2 Socket (wide slot), 3/8" drive.

#### 4673-3

27 mm Thermal Sensor Switch, 1/2" drive. 4673-4

#### 7/8" Vacuum Switch and O2 Socket (narrow slot), 3/8" drive.

4673-5 1-1/16" & 1" Oil Pressure Sending Unit Socket. 3/8" drive.

4673-6 7/8" O2 Sensor Socket, offset 1/2" drive. 4673-7

7/8" O2 Sensor Socket (low profile), offset 3/8" drive.



8-Piece Sensor Socket Set Includes:

4673-1 29 mm Vacuum Switch and O2 Socket, 1/2" drive.

4673-2 7/8" Vacuum Switch and O2 Socket (wide slot), 3/8" drive.

4673-3 27 mm Thermal Sensor Switch, 1/2" drive.

4673-4 7/8" Vacuum Switch and O2 Socket (narrow slot), 3/8" drive.

4673-5 1-1/16" & 1" Oil Pressure Sending Unit Socket, 3/8" drive.

4673-6 7/8" O2 Sensor Socket, offset 1/2" drive.

4673-7 7/8" O2 Sensor Socket (low profile), offset 3/8" drive. 4437-8

1-1/16" and 1" Oil Pressure Socket (short access), 3/8" drive

Similar to Ford No. 303-755 6594 Ford Oil Line Disconnect Tool for 6.0 L

· Use to disconnect the high-pressure oil rail supply

- line from the fuel rail when removing fuel injectors. · Works on the 6.0: diesel engine found in 2003-2009
- F-250, F-350, F-450, F-550 trucks, Excursions and Ford vans.



6703-3

#### 6703 Line Fluid Stopper Kit



6703-2

Stop messy fluid leaks and prevent contamination during service.

- · Kit seals all types of rubber and steel line found on fuel, brakes, AC, power steering and transmission system.
- · Includes two banjo style fitting stoppers, two steel line stoppers, six line plugs, a line disconnect tool, and a long reach line pinch-off tool for hard-to-reach hoses.

#### 6703-1

Banjo Line Fluid Stoppers, 2 pk.

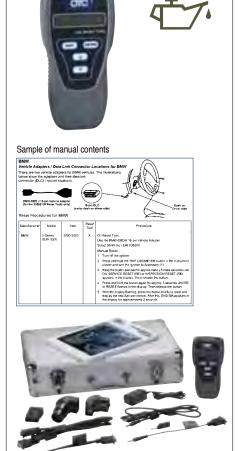
6703-2 Steel Line Fluid Stoppers, 2 pk.

6703-3

Line Plug Fluid Stoppers, 6 pk.







#### 3596J Oil Light Reset Tool Kit

- Oil changes are the #1 service your shop will perform each year. Enhance your service with this complete electronic tool and manual kit, No. 3596J.
- This 3596J kit eliminates the need to take the vehicle to the dealer or use an OEM scan tool to reset oil service lights.
- Electronic tool set includes the adapters and interface module required to reset the oil service lights on Volkswagen, Audi, Mercedes Benz, BMW, and Volvo.
- The included manual details Oil Light Reset tool procedures as well as the manual reset procedures for domestic and import vehicles.
- · Added European coverage.
- Added functionality to reset additional service lights (maintenance cycle, service interval).
- The new Oil Light Reset tool now gives you the ability to update the tool vehicle coverage by connecting to a PC with future update kits.

3596J includes:

- 3596J-1 Main unit cable.
- 3596J-2 BMW connector.
- 3596J-3 Mercedes-Benz connector.
- 3596J-4 OBD II connector.
- 3596J-5 Volvo cable.
- 3596J-6 Transfer plug.
- 3596J-7 VW and Audi cable.
- 3596J-8 Power cable.
- 3596J-9 Reset procedure manual.



- · Pump moves five gallons a minute through the 8-foot transfer hose to the a 15-gallon reservoir.
- · Handle is removable for easy storage.
- · Screen attached to reservoir allows assembly to be stored on its side.
- Can also be used for transferring antifreeze.
- 5077 Low profile Transfer Tanker is only 7-1/2" from floor to top of reservoir. Comes equipped with an electric pump (No. 528093).
- 5097 Low profile Transfer Tanker is only 7-1/2" from floor to top of reservoir. Comes equipped with a pneumatic pump (No. 529966).

#### 1577

#### Low Profile Fluid Receiver

- Designed for receiving waste fluid during a wide range of repair jobs.
- · Fluid capacity: 7.5 gallons.
- Constructed of polyethylene plastic for heavy-duty use-yet, only weighs 13 pounds.
- Low profile, only 5" high, it easily slides under passenger cars.
- Designed with four casters to provide efficient maneuverability.
- Suitable for cooling system repair jobs—can be used for antifreeze.
- Includes splash screen to prevent spillage and splashing.
- Two-year warranty.





- Use to bleed brake systems and remove a variety of fluid from vehicles, such as antifreeze, oil, transmission fluid, gear lube, etc.
- Quick connect locking hose adapters and ball-style on/off valve on hose prevent fluid leakage.
- Equipped with a relief valve to prevent over-pressurizing the tank.
- 8100 Operates by shop air or a hand pump; shipped complete with a brake bleeding hose, fluid evacuation hose, and two suction hoses (6 mm and 7 mm); 10-liter capacity tank.
- 8101 Operates with shop air; shipped with a brake bleeding hose and fluid evacuation hose; 6-liter capacity tank.



#### Automotive Specialty Tools Oil & Coolant Service



#### 10-Ton Capacity, Air-operated Automotive Oil Filter Crusher

- · Crushes up to four automotive filters (3-7/8" dia. x 9" high) at one time, in approximately 20 seconds. Engineered and built for dependable operation. Covered by OTC Lifetime Marathon Warranty<sup>®</sup>.
- · 100% air operation eliminates electrical connections. Generous size of crushing chamber easily accommodates the largest automotive spin-on filters.
- · Includes mounting stand. No wall mounting or time consuming installation required.





#### 1877 25-Ton Capacity Heavy-Duty Oil Filter Crusher

- · Handles the big filters (up to 6" dia. and 12-1/2" long) found in trucks, construction equipment, farm implements, etc. May also be used for automotive and light truck filters. It does it all!
- Crushes filters to 1/4 of original size, removing up to 95% of filter's oil capacity. Automatic cycle feature: load the filter, push a button, and walk away.
- Air/hydraulic pump works on standard shop air (requires 9 CFM at 100 psi). Special valving returns ram automatically at the end of each cycle. No electrical connections needed.
- · Built-in floor stand (completely assembled). Whole unit requires just 5 square feet of floor space.
- Covered by OTC Lifetime Marathon Warranty®.



#### 1896 25-Ton Capacity High-Speed Heavy-Duty/Automotive Oil Filter Crusher

- · Automotive and heavy-duty filters up to 15-1/4" long and 6" diameter are crushed in approximately 8 to 16 seconds. Filters are reduced to 20% of original size, with 95% of residual oil removed.
- Automatic cycle feature lets you load the filter, push a button, and walk away.
- Powered by 2 hp electric/hydraulic pump, 230 volt, 20 amp, 60 cycle, single phase, 3,450 rpm. Has a 2-gallon reservoir.
- Built-in, heavy-duty floor stand with leveling pads is designed to accept a 30-gallon drum for oil drainage. Comes assembled. Covered by OTC Lifetime Marathon Warranty<sup>®</sup>.

	Oil Filter Crusher Comparison Chart							
No.	Tonnage	Pump	Crushing Time	% Oil Removed	Filter Size	Stand Dimensions	Note: Crushing times are	
1821	10-ton	Air	20 Seconds	95%	Chamber: 8" x 8" x 9" H.	18-1/2" W x 24" D x 63-1/2" H	approximate; crushing times may vary depending on air	
1877	25-ton	Air/Hyd.	80 Seconds	95%	6" Dia 12-1/2" Long	18-1/2" W x 30" D x 74-1/2" H	pressure available, size of	
1896	25-ton	Elec./Hyd.	16 Seconds	95%	6" Dia 15-1/4" Long	27" W x 30" D x 78" H	filter, type of filter, etc.	



#### 75240

#### **Coolant and Battery Refractometer**

This can be used for measuring the freezing point of either propylene and ethylene glycol based cooling systems. It can also be used for checking the strength of electrolyte solution in batteries. This precision instrument features high quality optics with ultra smooth focusing on the body. Coolant scale range: 32° F/0° C to -60° F/ -51° C.



Econo-Clean Coolant Service Accessories To ensure coolant will provide adequate protection

to the vehicle, the coolant should be adjusted to the manufacturer's specifications. These accessories will help you quickly test coolant.

75134 - Coolant test strips - Just dip a strip in coolant and it shows the freeze point and the pH; bottle of 50 strips.

75234 - 3-way heavy-duty truck coolant test strips shows pH, freeze point, and nitrite (0-4000 ppm), pH <7.5-11+, glycol 0-60%.



75260

#### **Coolant Refiller**

- · 26" Hg vacuum refills cooling system without air lock.
- · Eliminates the need for "bleeding."
- · Checks for system leaks and utilizes OEM
- approved technology.
- · Universal "fits all" cone adapter.
- · Built-in gauge protector.

#### Coolant Service

#### Works on both pressurized and non-pressurized cooling systems.

#### **Increase Your Profits**

• Our 10-minute exchange process means no more waiting for the engine to warm up!



#### Coolant Exchange Unit Designed with the user in mind.

#### Safety First

- Our "engine off" feature removes pulleys, belts, and fan blades from the safety equation.
- · No additional ventilation required.
- Vacuum mode creates a "push/pull" exchange process allowing the technician to safely remove high pressure in a hot system.
- "Hands-off" transfer of used coolant to a bulk tank prevents spills and helps protect the technician.

#### Simple to Operate

- Two clearly marked valves and an easy-to-read gauge make this machine very simple to use.
- Sight glass clearly shows the amount of coolant in the waste tank.
- One valve controls the flow of coolant; process is easy to understand—no special training needed.
- No electricity required. 90 psi shop air drives the exchange process, as well as the 2 gpm pump on the waste tank.

#### **Designed to Survive**

- · Impact-resistant polypropylene cabinet will not scratch or dent vehicle.
- · Cabinet is impervious to chemicals commonly used in the shop.
- · Large, inflatable tires carry a well-balanced platform easily across any shop floor.
- · Easy to maneuver between bays and vehicles.

#### **Extra Design Features**

- Two external new coolant supply tanks allow on-board storage of two different coolant types.
- · Graduations on tanks show user the amount of new coolant on board.
- · On-board storage of step adapters.
- Adapter kit included.
- · No hoses to cut.
- · 96" hoses can be neatly stored on unit.
- · One-year warranty.

#### **Replacement Parts and Accessories**

75369 - Replacement coolant 5-gallon tank.

75360 – Heavy-duty adapter kit. Links the two tanks for 14 gal. capacity to service class A vehicles. (Note: must have 7-gallon tank No. 75370).

#### 75370 - Replacement coolant 7-gallon tank.

17490 - Protect your investment with a heavy-duty vinyl dust cover.

#### Specifications

Power Supply – 90 psi shop air

Tanks – Internal waste – 15-gallon capacity

- External supply (2) 7-gallon capacity (removable)



Back View: 7-gallon capacity supply tanks allow storage of different coolants.



#### 6043

#### "Blast-Vac" Multipurpose Cleaning Gun

- Perfectly suited for quick and efficient cooling system flushing. Simply attach it to radiator or heater hoses and you're in business.
- · Also usable in washing engines and even shop floors.
- Two simple connections: one to shop air and one to a typical water faucet.
- Creates a unique vortex air/water blast for powerful cleaning applications.
- The tool can also be used to vacuum by turning the venturi inside the gun in the opposite direction. Air flow is reversed to create a strong vacuum.

**Note:** While normal water pressure will handle the majority of a cooling system flush, short blasts are sometimes needed to loosen some contaminants from within the system.





## 7991

#### **Cooling System Pressure Tester**

Now you can pressure test the cooling system on most cars, light commercial trucks, motorcycles, and even marine applications. The tester's universal fit eliminates the need for multiple adapters.

Note: Will not work on Saturn and Kia cars or Jeep with the plastic reservoir.

7991-2 - O-ring repair kit

- 7991-3 Pump parts kit
- 7991-4 Gauge spare parts
- 7991-7 Main body repair kit

#### Automotive Specialty Tools Coolant Service





#### 4502

- Hose Clamp Pliers Set (2 piece)
- · Includes a cross-slotted jaw pliers and a wide, flat-band hose clamp pliers. Services most ring-type or flat-band hose clamps.
- The clamps are held open with a ratchet locking mechanism. Jaws swivel to access hose clamps in any position.



#### 4525

#### **Flexible Hose Clamp Pliers**

- · Allows technician to access the flat-type hose clamps located in hard-to-access areas.
- · Pliers has locking mechanism to hold clamp in the open position - makes removal and installation of clamp much easier.
- · Heavy-duty, 24" cable flexes to almost any position.



#### **Offset Hose Clamp Pliers**

- · Head is offset from handle to allow access to hard-to-reach clamps.
- · Swivel jaws allow pliers to be used on many different flat-band and ring-type hose clamps.



## 4524

#### 45° Hose Clamp Pliers

- · Jaws are bent at a 45° angle and pliers tips swivel to allow easy access to confined areas.
- · Ratchet lock mechanism holds jaws open.
- · Works on most flat-band hose clamps.



· Designed to crimp the ear-type CV boot clamps

• Ensures even, precise crimping, and eliminates

• May also be used to crimp the type of clamps used

used on front-wheel drive vehicles.

on fuel and cooling system hoses.

#### 4510

4496

4723 Ear-type CV

**Boot Clamp Pliers** 

Set Contains:

Hose Clamp Pliers Set

· Straight hose clamp pliers set · Hose removal tool · Flat-type hose clamp pliers · Offset hose clamp pliers · 45° hose clamp pliers

· Contains five different styles of hose clamp pliers, which will service most flat-band and ring-style hose clamps. Also contains a hose removal tool.

#### Hose Pinch Off Pliers Set, 3 Piece

- Shuts off flow through vacuum lines, fuel lines, coolant lines, etc.
- · Cocking ratchet mechanism holds pivoting jaws tightly in place. Heavy-duty swivel jaws pivot to assure parallel pinching.
- · Available separately:

#### 4510-8

8" tool for small hoses and tight areas.

4510-10

10" tool for radiator and vacuum lines.

#### 4510-12

12" tool for radiator and vacuum lines.



**Coolant Service** 



#### 4509

#### Straight-Blade Hose Cutter

- · Cuts rubber hoses ranging from 1/4" to 1-1/2".
- · Simply place hose in tool and squeeze handle to cut.
- · Replacement steel cutter blade No. 4509-1 is available.

4509-1 - Replacement hose cutter blade.



#### 4411

#### **Ratcheting Hose & PVC Cutter (Standard)**

- · Cuts hose and PVC up to 1-3/8" dia.
- · Features metal frame and ergonomic handles for high leverage.
- · Compound ratcheting action provides maximum cutting power.
- · Will also cut cable and wires.

#### 4522 Vacuum Hose and

## **Fuel Line Removal Tool**

- · Designed to remove vacuum hose or fuel lines (3/16" to 1/2") from fittings or tubing.
- · Simply place the black jaw on the fitting or tubing the jaw will grip the material. Then use the silver jaw to push the vacuum hose or fuel line off the fitting or tube.



#### Hose Removal Tool

- · Unique tip easily fits between hose and fitting to break stubborn hoses loose.
- · Large handle provides a good grip on tool during hose removal.
- · Works on radiator hoses, heater hoses, transmission lines - any place a rubber hose is clamped to a fitting.



#### Ratcheting Hose & PVC Cutter (Heavy Duty)

- · Cuts hose and PVC up to 1-3/4" dia.
- · Features metal frame and rubber padded ergonomic handles for high leverage and comfort.
- · Compound ratcheting action provides maximum cutting power.
- · Will also cut cable and wires.



#### 4721

#### **CV Boot Clamp Cutter**

- · Designed to easily cut the CV boot clamp without damaging the boot.
- · Will cut boot clamps up to 10 mm wide and .7 mm thick
- · Handles are spring loaded to the open position to allow easy access to the clamp.



#### Hose Removal Set. 6 Piece

- · Consisting of six (6) hose removal tools which consists of three (3) 10", soft-handled tools and three (3) 15", soft-handled tools, each with a hard end-cap.
- · They are made of heat-treated, chrome steel with assorted tip shapes.
- · Ergonomic handle design fits properly in the hand, allowing for easier holding of the tool.
- · Hose removal tools can also be used on upper and lower radiator hoses, clips, washers, gaskets and other items.
- · Packaged in a molded tray which can be placed in tool drawer.

Similar to Kent-Moore J-43181



#### 6046

#### **GM Heater Line Quick-Connect Release Tool**

- · Specially designed for separating quick-connect fittings on heater lines of 1999-2006 Chevy and GMC C/K trucks.
- Tool snaps around the hose and simultaneously depresses the locking tabs to disengage the fitting.



#### 519156 Ford and Chrysler Heater Hose Disconnect Tool Set

- · Quickly and easily removes heater hose from heater core tube without damaging coupling retainer or hose.
- This set includes the heater hose disconnect tool for 5/8" and 3/4" heater hoses with quick connect couplings at heater core, and an extension handle for easier access.
- · For use on 1986-current Aerostar vans and 1991-current full-size vans, 1987 to current Dodge Caravan and Plymouth Voyager vans.



#### GM Heater Line Quick Connect Separator

• When you need to get at and release the quick connect fitting that connects the heater hose to the engine block and thermostat housing, this little tool is great for saving time and aggravation.

· Works on 1991-current GM vehicles with 3.1L, 3.4L, and 3800 engines.



#### **Fin Straightener**

- · Clean and straighten condenser, evaporator and radiator cooling fins.
- · Compact design for confined spaces: the straightener head is 3-1/8" in diameter; the handle is 3-1/2" long.
- · Includes 12 clearly marked combs

Wheel 1: 8, 9, 10, 12, 14, & 15 fins per inch Wheel 2: 10.5, 11, 13, 18, 20, & 22 fins per inch

37

#### lubricant Service



#### 2300

#### Professional Lever Grease Gun

- · Heavy Duty Die Cast Aluminum Grease Gun Head.
- · Grease Gun Head Fitted with Automatic Air Bleeder.
- · Large Diameter Piston for working in cold.
- · Built-In variable stroke for greasing fittings with limited access.
- · Includes 6" Bent Steel Extension, Easy access 24" High Pressure Hose & 3 Jaw Slim Coupler.
- 10.000 PSI.
- · For use with 14 oz. grease cartridge.



#### 2310

#### Air Operated Grease Gun- Continuous Flow

- · Heavy Duty Die Cast Aluminum Grease Gun Head.
- · Grease Gun Head Fitted with Automatic Air Bleeder.
- · Larger Pumping Chamber , honed for rapid operation.
- Includes 6" Bent Steel Extension, Easy Access 24" High Pressure Grease Hose and 3 Jaw Slim Coupler.
- · 4800 PSI.
- · For use with 14 oz. grease cartridge.

## 2340

#### **Heavy Duty** Grease Gun Holder

- · Great Grease Gun
- Storage accessory. · Can be mounted to walls,
- machinery, or heavy equipment. · Design to retain your grease gun in high vibration
- environments.
- · Works with all standard 14 oz. Grease Guns and 16 oz. Suction Guns.

# 2355

#### Professional **Rotary Drum** Pump

- Professional Pump with Die cast Aluminum body and Zinc Rotor and Vanes.
- Fits 15 55 gallon drums.
- · Includes 3 piece threaded Suction Tube.
- · Horizontal Pump Outlet connects to a filter or meter.
- · Up to 7 oz. / rotation.
- · For use with Lubricating Oils, Diesel, Gasoline, Kerosene etc.



#### 2302

- "Mini" Lever Grease Gun
- · Die cast Aluminum Grease Gun head.
- · Lever Action with best in class performance. delivers 6000 PSI.
- · Includes bent 6" steel extension with 3 jaw Slim coupler.
- · For use with 3 oz. grease cartridge.



#### 2332

#### **Quick Connect Greasing Accessory Kit**

- · 7 piece Quick Connect Greasing Accessory Kit · Includes 1 each of the following Quick Connect Accessories:
- 1. Recessed Lube Adapter.
- 2. Angle Lube Adapter.
- 3. Narrow Needle Nose Adapter.
- 4. Seal Off Dispenser.
- 5. Right Angled Grease Coupler.
- 6. Heavy Duty Hose fitted with Spring Guard and Slim Coupler.
- 7. Grease Injector Needle 1.42" Long x 18G.

#### 2352

2357

2359

2320

2322

2325

2326

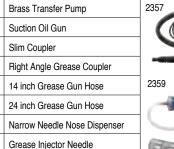
2327

#### Lever Action Bucket Pump

- · Fits 5 gallon pails.
- Includes 12" Drum cover.
- 3 Position Handle for different fluid viscosity.
- · Steel Discharge Spout.
- · Supplied with 5' Hose.
- · Up to 4.6 oz. / stroke.
- · For use with transmission differentials and heavier oils.







- 2328
- 2330 SAE Grease Fitting Assortment kit



#### 2304

#### **Professional Pistol Grease Gun**

- Heavy Duty Die Cast Aluminum Grease Gun Head with integrated die cast Fixed Handle.
- · Grease Gun Head Fitted with Automatic Air Bleeder.
- · Large Diameter Piston for working in cold.
- · Built-In variable stroke for greasing fittings with limited access.
- · Includes 4" straight steel extension, easy access 24" High Pressure Grease Hose and 3 Jaw Slim Coupler. 7500 PSI.
- · For use with 14 oz. grease cartridge.



## 2334

#### Grease Fitting Unblocker

- · Opens clogged grease fittings and loosens hardened grease joints.
- · Comes with Grease Coupler.
- Includes flexible hose to reach difficult areas.
- · Built in hand guard for safe usage.
- · Includes two spare piston seals.



#### Lever Action Drum Pump

- Fits 15 55 gallon drums.
- · Telescoping suction tube.
- · 3 Position Handle for different fluid viscosity.
- · Extra tall pump cylinder allows smaller bucket to be placed under spout.
- · Brass piston rings for extended wear resistance.
- Threaded outlet spout for use with common hoses.
- · Up to 14 oz. / stroke.
- · For use with oil based fluids, heating oils, motor oils, heavy and light oils, diesel and kerosene.



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# Transmission

V6

Transmission Fluid Exchanger 40
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CV Joint Puller & Pliers 47
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#### Automotive Specialty Tools Transmission Service

#### **Transmission Fluid Exchanger**

- Top-off feature. Add or subtract in 1/10 qt. increments.
- "Low Fluid Alarm" and "Indicator Light" to alert operator.
- "Drain Waste" feature automatically pumps used fluid
- from the machine into a waste oil container. • "Drain Pan" feature drains the pan for easy filter replacement. No mess.

#### Three modes of operations: Dipstick only, cooler line, or

- a combination of the two!
- Unprecedented one-tenth quart flow metering for adding or subtracting fluid from the pan.
- Complete set of cooler line adapters for most foreign and domestic vehicles.
- Works with all types of automatic transmission fluid.
- Integral performance designed hose and tool compartment with drain.
- 529734 Replacement nylon tube.

#### Specifications

specifications		
Electrical	12V DC	92500
Exchange Accuracy	+/- 1/4 qt.	
Controls	Microprocessor with digital keypad	and LEDs
Fluid Tanks	32 quarts supply (24.6 liters), 34 qu	uarts waste (26.6 liters)
Hoses	91" black & red (Exchange); 76" w	nite transfer tube (Straw)
Fluid Types	Multiple fluid capability.	
	Complete set for most applications for Ford, GM, Chrysler, European, most Asian imports).	
Pump	Positive displacement gear pump, per minute maximum.	2 gallons
Weight	158 lbs. (72 kg)	
Dimensions	52" H x 33" W x 20" D (132 cm x 8	4 cm x 51 cm)
Process Time	Depends on mode.	
Warranty	1 year parts and labor.	

#### Automatic Transmission Fluid Diagnostic Pads

Easy, quick way to test automatic transmission fluid to determine when service is necessary. Simply place a few drops of transmission fluid from transmission dipstick onto test pad. Pad will change color indicating condition of transmission fluid. Package contains 100 pads.



#### Transflow Transmission Oil Cooler Flusher

Fix it right the first time... designed to measure oil flow capacity within the transmission oil cooler (TOC), and also has the capability to flush contaminated oil from the TOC after repairs.

- Only unit in the industry that performs a flow rate test.
- Flush and flow test time is 5 to 8 minutes.
- 32-quart supply tank; 34-quart waste tank.

40

- · Supply and waste hoses each 10' long.
- 10' long, 12V DC power cables with battery lead clips.
- Requires shop air (90 psi, min.) and 12V DC source.







#### 5610 Transmission/Engine Oil Pressure Kit

This professional kit can be used for domestic and import applications. High and low pressure gauges make this kit useful for both transmission and engine work. Kit comes complete with adapter for most applications. Designed to be used for both static and on road testing.

#### Features and benefits:

- Large 3-1/2" gauges feature a chrome bezel and rugged protective outer boot.
- Low pressure gauge reads 0-100 psi and 0-700 kPa.
- High pressure gauge reads 0-400 psi and 0-2800 kPa.
- Both gauges include rear hook to allow gauge to be hung conveniently out of the way.
- · Gauges and hose assembly incorporate quick couplers for easy disconnect.
- · Kit includes 13 adapters and a detailed instruction manual.
- · Blow molded hard case with removable lid.

# 6604 Similar to Ford Transmission Fluid Fill Adapter Use to fill or add fluid to the automatic transmission. Works on the 5R55W transmission in Ford trucks.



MLR-9336A – Dip stick specifically designed for Chrysler, Dodge, Jeep and Volkswagen vehicles with NAG1, 42RLE, Continuously Variable Transmissions (CVT) and 62TE Transaxles.

MLR-8863B – Dip stick specifically designed and calibrated for fluid level checks on Dodge Sprinter and Chrysler Crossfire Automatic Transmissions model years 2003 thru current.

Automotive Specialty Tools



MLR-9336A Close Up

#### Automotive Specialty Tools Transmission Service

4528

#### Clutch Alignment Tool Set (17 piece)

- · Essential for clutch installation on virtually all cars and light-duty trucks. Aligns clutch plate by using tapered cones and pilot adapters.
- · Includes seven fractional pilot adapters, 1", 13/16", 25/32", 3/4", 11/16", 5/8", 19/32" one clutch disc centering adapter, and one alignment shaft.
- · Includes five metric pilot adapters, 19mm, 17mm, 16mm, 14mm, 12mm, two clutch disc centering adapters, and one alignment shaft.
- · Housed in a blow-molded storage case.



#### 7646A

#### **Clutch Coupling Tool**

- · Disconnects the hydraulic clutch line from the clutch slave cylinder on the following vehicles with manual transmissions and hydraulic clutches: 1988-2012 F-series trucks, Bronco II, Ranger, Explorer, 1989–1997 Ford Thunderbird and Mercury Cougar. and 1992-2010 Chrysler PT Cruiser.
- · Wedge-shaped design allows easy removal of clutch line without damaging clutch line, coupling, or slave cylinder. No need to pry the coupler apart.

#### **Transmission Line Disconnect Tools**





#### **Professional Style Seal Puller**

- Designed to remove oil and grease seals when servicing cars, SUVs, and light trucks without damaging the housing or bearing.
- Hook tips in two sizes and professional handle design allows removal of hard-to-get-at seals by aetting under them.
- · The tool is 12" long and the hook tip is doublesecured (versus competitors' designs), for durability.
- · An extra blade is included, and additional replacements (No. 4508-1) may be ordered.
- 4508-1 Replacement blade for 4508.



#### Automatic Transmission **Clutch Spring Compressor**

- · This is a handy, adjustable tool for removing or installing the snap ring on a transmission rear clutch piston. It applies pressure to the clutch drum's retaining washer to compress piston return springs.
- · For use on most American cars and light trucks.



#### **GM Hydraulic Clutch Line Disconnect Tool** This is a versatile tool for disconnecting clutch lines when you're working on clutch assemblies or slave and master cylinders. The bent end, intended for NVG3500 and NV4500 manual transmissions, works on 1996 to 2012 full-size 2WD and 4WD trucks, Chevrolet S-10 Blazer, and pickups. The straight end

is for 1993 to '94 Chevrolet Lumina sedan, 1995 to 2000 Chevrolet Monte Carlo, 1993 to '99 Buick Regal, 1998 to 2002 Olds Intrique, 1993 to '97 Olds Cutlass Supreme and Pontiac Grand Prix.



#### **Quick-Disconnect Tool**

519151 - Similar to

Two popular disconnect tools in one set give you the versatility to quickly separate the quick connectors found on everything from radiators to transmission and power steering lines. The quick-disconnect coupler tool, No. 519151, works on late model Ford and GM vehicles without disturbing the guick-connect seals. No. 7587 releases the finger on the transmission-toradiator oil cooler line quickly, without damaging the hose or connector. Works on 1986 and newer Ford Tauruses and Mercury Sables with an AXOD, AOD, or ATX transmission.

· Tools available separately.

519151

Quick-disconnect coupler tool.

#### 7587

Ford oil cooler line disconnect tool.



#### 7937

#### **GM Transmission Oil Cooler Line Disconnect Tool**

- · Specially designed to work in tight places. So simple to operate, you can do it with just one hand.
- · After insertion into the quick-connect fitting on 1/2" dia. lines, a guarter turn of the tool quickly and easily releases the fitting on the transmission end of the transmission-to-radiator oil cooler line.
- Works on 2WD and 4WD pickups and vans with electronic shift overdrive automatic transmissions: 1991- newer 4L80E transmissions, and 1993-newer 4I 60F transmissions.



- CTS with the 5L40E transmission.
- 6 per pack.



Transmission Service



#### 6593

#### Ford Transmission Cooler Line **Disconnect Set**

- · Snap around cooler line, push into the fitting, fitting releases. The cooler line can then be removed.
- 3/8" disconnect is used on 2003-newer Ford Explorers with the 5R55W transmission.
- 1/2" disconnect is used on 2003-newer Ford Super Duty trucks with the 4R100 transmission.



**Disconnect Tool Set** 

Designed for A/C lines, fuel lines, and transmission cooler lines.

- Contains 3/8", 1/2", 5/8", and 3/4" spring lock disconnect tools for A/C lines on Ford cars and trucks, Chrysler and Jeep vehicles.
- Contains the 3/8" and 1/2" fuel line disconnect tool for Ford vehicles.
- · Contains the 5/16" and 3/8" fuel line disconnect tools for GM and Chrysler vehicles.
- · Contains the transmission oil cooler line disconnect tool used on many GM and Ford vehicles.



#### 6508

42

#### Full-Coverage Disconnect Tool Set

If you're working on Chrysler, Ford, or General Motors vehicles, this set can make your job easier. The tools are designed for heater hoses, transmission oil coolers, air conditioning and fuel lines. They're approved by vehicle manufacturers and will not damage the fittings being disconnected. Tool Nos. 518902, 518896, 518897, 518898, 518899, 518900, and 518901 are spring-loaded in the closed position to deflect any spray that occurs when lines are disconnected





6703-3

#### 6703 Line Fluid Stopper Kit



Stop messy fluid leaks and prevent contamination during service.

- · Kit seals all types of rubber and steel line found on fuel, brakes, AC, power steering and transmission system.
- · Includes two banjo style fitting stoppers, two steel line stoppers, six line plugs, a line disconnect tool, and a long reach line pinch-off tool for hard-to-reach hoses.

6703-1 Banjo Line Fluid Stoppers, 2 pk. 6703-2

Steel Line Fluid Stoppers, 2 pk.

6703-3 Line Plug Fluid Stoppers, 6 pk.



#### **Flexible Spout Funnel**

Many oil, transmission, and coolant fluid fill caps are located in hard to access areas. This aluminum 5 1/2" funnel features a removable debris screen in the base flowing to a 25" flexible spout designed to reach these difficult fill locations.



#### 6512

#### Heavy-Duty Tubing Cutter

- · Works on tubing sizes 1/8" to 1-1/8" O.D. (3 mm to 29 mm).
- · Easily cuts copper, brass, aluminum, and steel brake lines.
- · Ream folds onto cutter body for storage.
- · Extra cutting wheel stored under ream.



#### Fluid Evacuation / Brake Bleeding Tools

- · Use to bleed brake systems and remove a variety of fluid from vehicles, such as antifreeze, oil, transmission fluid, gear lube, etc.
- Quick connect locking hose adapters and ball-style on/off valve on hose prevent fluid leakage.
- · Equipped with a relief valve to prevent over-pressurizing the tank.

#### 8100

Operates by shop air or a hand pump; shipped complete with a brake bleeding hose, fluid evacuation hose, and two suction hoses (6 mm and 7 mm); 10-liter capacity tank.

#### 8101

Operates with shop air; shipped with a brake bleeding hose and fluid evacuation hose; 6-liter capacity tank.



## **Mini Tubing Cutter**

- · Works on tubing
- sizes 1/8" to 5/8" O.D. (3 mm to 16 mm).
- · Easily cuts copper, brass, aluminum, and steel brake lines in hard-to-reach places.
- · Ream folds onto cutter body for storage.
- · Extra cutting wheel stored under ream.



# **Fin Straightener**

- · Clean and straighten condenser, evaporator and radiator cooling fins.
- · Compact design for confined spaces: the straightener head is 3-1/8" in diameter; the handle is 3-1/2" long.
- Includes 12 clearly marked combs

Wheel 1: 8, 9, 10, 12, 14, & 15 fins per inch Wheel 2: 10.5, 11, 13, 18, 20, & 22 fins per inch





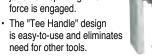


Transmission Service

#### 4422

#### **Pilot Bearing Puller**

- Use to pull a pilot bearing from the end of the crankshaft.
- A restriction plate catches the bridge and prevents the jaws from spinning when force is engaged.



- Spread covers ranges of 1/2" to 1-1/2".
- · Reach has a min/max range of 3/16" to 1".



#### 885

#### Adjustable Hook Spanner Wrench

Here's a tool that's needed wherever turret adjusting nuts or packing gland nuts are used.

- · Capacity is 1-1/2" to 4".
- Handle is 24" long, 11/16" diameter.

#### Pilot Bearing Pullers

Designed to pull flywheel pilot bearings in close quarters where a slide hammer cannot be used. Operates on many models with engine in chassis.

#### 7318

Pilot bearing puller. Capacity: 1/2" to 1-1/2". I.D. reach: 3/4".

#### 7319

Pilot bearing puller. Capacity: 7/8" to 2". I.D. reach: 1".



#### **Transmission Lip Seal Protectors**

- Protects lips seals from damage while assembling the forward, direct, and intermediate piston assembly on GM 400 series Turbo Hydramatic transmissions.
- 7038-A Lip seal protector.
- 7038-B Lip seal protector.
- 7038-C Lip seal protector.

www.otctools.com



#### **Pilot Bearing Puller Attachment**

- Use to pull a pilot bearing from the end of the crankshaft.
- Interchangeable jaws. One set of jaws covers a spread of 1/2" to 1-1/2". Other set of jaws covers a spread of 3/8" to 1-3/8". Both sets of jaws have a reach of 1".
- Reach has a min/max range of 3/16" to 1-1/4".
- Puller attaches to OTC and other slide hammers with 5/8"-18 thread.



#### Gear and Pulley Pullers

These tools are perfect for removing timing gears, fan pulleys, harmonic balancers, and many other parts having tapped holes.

- Each puller will spread from 1-1/2" to 4-1/4". The puller blocks are 4-7/8" wide.
- Both include two hex head cap screws, 3/8"-16 x 3" long.

7392

Puller with 13" long screw.

7393 Puller with 5-1/2" long screw.



#### Large Gear and Pulley Puller

Using this tool, you can easily remove a wide range of gears, pulleys, or other parts that have tapped holes.

- The puller will spread from 2" to 7-3/4". Its block is 8-1/4" wide, and its forcing screw is 3/4"-16 x 11-5/8" long.
- Accommodates any cap screws up to 1/2" diameter.

# thrust washers, and smaller bearings hidden in a shaft or housing. Jaws require a minimum of 5/8" opening and can range up to a max of 1-1/2" diameter. Min/Max reach is 1/8" to 1". Works with both 5/8-18 as well as M18-1.5 threaded hammer shanks.



#### 7118

4421

Pilot Bearing

**Puller Attachment** 

· Removes pilot bearings.

#### **Transmission Adapter Kit**

Converts your OTC engine stand into a transmission service stand.

- Kit replaces the adjustable arms of the stand to hold and position the transmission at workbench height for repair.
- The transmission is held with three sides fully exposed for working convenience, and can be rotated a full 360° for complete access to all parts.



#### **Bench-Mounted Holding Fixture**

Here's a helpful device that enables you to securely hold and rotate small engines, transmissions, and other components while you're working on them.

- This holding fixture will handle pieces weighing up to 250 lbs., and it offers 360° of rotation with positive stops at 90° increments.
- Three sides of the mounted unit remain fully exposed.

#### 34607

Base assembly only.

34607 Similar to Ford D83L-500-B1, 300-D041

adae of bench



7318

#### Automotive Specialty Tools Drive Axle Service

#### 4543A

#### Locknut Socket Set - 4WD (6 piece)

- · Chrome vanadium steel sockets cover most SUV and light truck applications.
- · Sockets have 1/2" square drive, allowing use of a torque wrench, ratchet, or breaker bar.

#### Contents of set:

4543A-1 - Toyota 4-lug locknut socket. Services high-torque locknuts on Toyota 4WD vehicles having free-wheel (lock out) hubs: 1995-newer Tacoma; 1996-newer T100 and 4Runner.

4543A-2 - Ford 4-lug locknut socket for high-shear rotating nuts on 1985-newer F-250 and F-350 truck rear axles, and Dana 80 rear axles of Ford Super Duty trucks.

4543A-3 - 4-lug socket for removing and installing 4-slot front axle locknuts on 1986-newer F-Series 1/2-ton trucks, full-size Bronco with Dana 44 axle. 1984-92 Ford Ranger, and Bronco II with manual hubs. Also, Dodge trucks using Dana 44 axle with automatic hubs.

4543A-4 – 6-lug socket for removing and installing 4-slot front axle locknuts on 1978-84 Ford F-Series 4WD heavy-duty 3/4- and 1-ton trucks; 1973-81 GM 4WD 3/4- and 1-ton trucks.

4543A-5 – 4-lug socket for removing and installing 4-slot front axle locknuts on 1993-newer Ford Ranger, Bronco II, and Explorer with manual hubs; 1995-newer F-Series 1/2-, 3/4-, and 1-ton trucks and full-size Bronco with manual hubs; 1959-85 F-Series 1/2and 3/4-ton trucks and full-size Bronco; 1960-90 GM 1/2-ton trucks and full-size Blazer/Jimmy; 1969-72 International 1/2-ton trucks; 1969-89 Dodge 1/2-ton trucks with manual hubs.

4543A-6 – FWD front spindle puller. Removes front spindle to access needle bearing, when lubricating and aligning front wheels. 5/8"-18 fine thread permits use with OTC No. 1155 slide hammer. Fits spindle thread sizes 2"-16, 1-5/8"-16 and 38 mm-1.5. Applications: Full-size GM, Ford, Jeep, and International pickups with Dana front axles, plus Ranger and Bronco II.

## 4547A

#### Axle Nut Socket Set – FWD (7 piece)

- Extra long, 1/2" drive chrome molybdenum sockets for heavy-duty use in removing and installing axle nuts.
- · Use with a ratchet, breaker bar, or torgue wrench. · Contained in a blow-molded plastic storage case.
- Contents of set:

4547A-29 - 29 mm FWD axle nut socket.
4547A-30 - 30 mm FWD axle nut socket.
4547A-32 - 32 mm FWD axle nut socket.
4547A-34 - 34 mm FWD axle nut socket.
4547A-35 - 35 mm FWD axle nut socket.
4547A-36 - 36 mm FWD axle nut socket.
4547A-38 - 38 mm FWD axle nut socket.

#### 4542

#### 7-Piece Wheel Bearing Locknut Socket Set

• For use with 1/2" ratchet or breaker bar. Contents of set:

519097-1 - 2-3/8" hex locknut socket works on 1984–92 Ford Rangers and Bronco IIs with automatic locking hubs. Similar to Ford 205-040 (T70T-4252-B).

519097-2 - 2-9/16" rounded hex locknut socket works on 1990-93 Dodge trucks with Dana 60 manual hubs.

519097-3 – 2-1/2" hex locknut socket fits the hex nut found on rear axles and various front axle applications on light-duty trucks.

519097-4 - 2-3/4" rounded hex locknut socket works on 3/4-ton and 1-ton Ford F-250 and F-350 trucks with automatic locking hubs. Similar to Ford No. 205-349 (T95T-1197-B).

519097-5 - 2-1/2" rounded hex locknut socket works on 1995–96 Ford F-150 trucks and full-sized Broncos with automatic locking hubs. Similar to Ford 205-348 (T95T-1197-A).

519097-6 - 2-3/8" rounded hex locknut socket works on 1990-newer Ford Rangers, Bronco IIs, and Explorers with automatic locking hubs.

519097-7 - 55 mm hex locknut socket designed for use on front wheel adjusting nuts found on Toyota models FJ. LN. and RN.

#### Similar to Ford 205-039 (T70T-4252-B)

#### 1902

#### Locknut Socket - Ford

- Drive 3/4" (6 pt.) 2-3/8" Hex
- This high-grade truck wheel bearing locknut sockets are made of high-strength steel and resist rounding out.
- Services 1984–92 Ford Ranger and Bronco II with automatic hubs; 1993–1997 Ford Ranger, Bronco II, and Explorer with automatic hubs.
- · For manual use only, impact wrench voids warranty.

#### Similar to Ford 205-043 (T70T-4252-W)

Fits special "rounded" hex nut found on Dana axles of some Ford trucks Depth of locknut sockets is 5".

#### 1928

Locknut Socket - Ford, Dodge

- Drive 3/4" (6 pt.) 2-9/16" Hex
- · This high-grade truck wheel bearing locknut sockets are made of high-strength steel and resist rounding out.
- Services 1990–93 Dodge truck with Dana 60 manual hubs. 3/4" sg. drive.
- · For manual use only, impact wrench voids warranty.

Fits special "rounded" hex nut found on Dana axles of some Ford trucks. Depth of locknut sockets is 5".

#### 1936

Locknut Socket - Ford

- Drive 3/4" (6 pt.) 2-3/8" Hex
- · This high-grade truck wheel bearing locknut sockets are made of high-strength steel and resist rounding out.
- · Services 1990-newer Ford Ranger, Bronco II, and Explorer with automatic hubs.
- · For manual use only, impact wrench voids warranty.

#### 6006

#### Locknut Socket - Dodge

· Services 1994-newer Dodge 1/2-ton 4x4 pickups with Dana 44 front axle and Dana 60 axle with vacuum disconnect front axle.

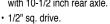


• 1/2" sa. drive.

#### 6601

#### Locknut Socket - Ford

 Services 2003–newer Ford F-250, F-350, and F-450 Super Duty trucks with 10-1/2 inch rear axle.



- 2-3/4" 0.D.
- Similar to Ford 205-448







#### Automotive Specialty Tools Drive Axle Service



7795

# Suzuki. Geo

- · Used to remove and install locknut on 1997-2000
- Suzuki Samurai and Geo Tracker front hubs.

Kent-Moore J-42119

# 7941

2-3/4"

2-1/8"

54 mm

- Locknut Socket Toyota
- · Specially designed to fit 4WD lock-out hubs on Toyota's 1995-2002 Tacoma, and 1996-2002 T100 and

4Runner. 1/2" sg. drive.

center on pins Similar to Toyota 09318-12010-01.

7090A Locknut Socket

# Ford, GM

- Services 1978-84 Ford F-series H.D. 3/4-and 1-ton 4WD trucks; 1973-81 GM 3/4- and 1-ton 4WD trucks.
- 1/2" sq. drive.
- Similar to Ford 2-5/8" 205-D001 (D78T-1197-A)



#### Locknut Socket Ford, Dodge

• Services 1984-92 Ford Ranger and Bronco II with manual hubs; 1986–95 Ford F-series 1/2-ton truck: full size Bronco with Dana 44 front axle; 1990-93 Dodge trucks with Dana 44 automatic hubs. • 1/2" sq. drive.

Similar to Ford 205-244 (T86T-1197-AR)



6612, 6902, 6921 6795, 6796, 6928, 6936

#### 1/2" Drive Locknut Socket Set

- These are not light-hearted sockets; they feature a 1/2" square drive, and can be used with an extension and torque wrench for accurate tightening.
- For use on the rounded and standard hex nuts found on the most popular light-duty trucks on the road.
- Unlike the competition, these sockets are backed by the famous OTC Lifetime Marathon Warranty® against defects in materials and workmanship.

6010 - Locknut socket set. Includes one each: Nos. 6612, 6795, 6796, 6902, 6921, 6928, 6936.

#### Contents of set:

6612 – 54 mm hex locknut socket designed for use on front wheel adjusting nuts found on Toyota FJ, LN, and RN models

6902 - 2-3/8" hex locknut socket works on 1984-92 Ford Rangers and Bronco IIs with automatic locking hubs. (Ford No. T70T-4252-B and 205-040).

6921 – 2-1/2" hex locknut socket fits hex nut found on rear axles and various front axle applications on light-duty trucks.

6795 – 2-1/2" rounded hex locknut socket. Works on 1995–96 Ford F-150 trucks and full-sized Broncos with automatic locking hubs. (Ford No. T95T-1197-A and 205-348).

6796 - 2-3/4" rounded hex locknut socket. Works on 3/4- and 1-ton Ford F-250 and F-350 trucks with automatic locking hubs. (Ford No. T95T-1197-B and 205-349).

6928 - 2-9/16" rounded hex locknut socket. Works on 1990-93 Dodge trucks with Dana 60 manual hubs.

6936 - 2-3/8" rounded hex locknut socket. Works on 1990-newer Ford Rangers, Bronco IIs, and Explorers with automatic locking hubs.









Similar to

#### Dana 60 front axle; 1982-90 GM H.D. 3/4- and 1-ton trucks. 1994-newer Dodge Dana 60 2-1/2" with Cummins.

- 1/2" sq. drive.
- Similar to Ford 205-D065 (D85T-1197-A)

#### 7269

7158

7157

#### Locknut Socket Ford, GM

- · Services 1985-newer Ford F-series 3/4- and 1-ton trucks with Dana 80 rear axle.
- 1/2" sq. drive.
- Similar to Ford 205-282 (T88T-4252-A) Kent Moore J-42855

## 7612

#### Locknut Socket Toyota

· 54 mm hex socket fits front wheel bearing adjusting nut of Toyota FJ, LN, and RN. Has 1/2" square drive end, permitting use of a torque wrench.

## 7698



- 1/2" sa. drive.

with Dana 60 axle.







2-3/8"

Drive Axle Service



## C-Frame Press

· The C-Frame used in conjunction with OTC Ball Joint Adapters. Can also be used for removing/installing; universal joints with needle bearings, pressed in wheel studs, and brake anchor pins on heady-duty vehicles. Suitable for general pressing operations.



#### Live Center Forcing Screw Plug

This plug replaces the existing forcing screw on the No. 7248 C-frame to allow its use on heavy-duty ball joints. The shorter length gives the C-frame a wider opening to accommodate the larger ball joints on 3/4- and 1-ton trucks.

#### 6935

- **U-Joint Service Adapter** For use with the 7248 C-Frame to service the u-joints found
- on Dana 60 4WD front drive axles.

#### **Application Examples:**

- 1977-1991 Chevrolet and GMC 1 Ton
- · 1975-2010 Dodge 3/4 & 1 Ton
- 2000-2002 Ford Excursion
- · 1999-2010 F250 · 1985-2010 F350
- · 1999-2008 F450 · 1999-2004 F550

## 6541

#### Pulling Hook

- This slide hammer puller attachment is used to remove seals, bearings, and other press-fit parts.
- · Designed to be used with OTC No. 1155 (5 lb.) or No. 1156 (2-1/2 lb.) slide hammer, or other slide hammers having 5/8-18 threads.



#### Slide Hammer Rear Axle Puller

This puller will enable you to remove flange-type rear axles from most late model cars and light trucks. It works on axles having bolts and studs up to 9/16" diameter.

- · Fits 4-, 5-, or 6-bolt patterns and stud circles from 4-1/4" to 5-9/16".
- 7372 Rear axle pulling plate.
- 7374 Rear axle pulling plate with 5-lb. slide hammer assembly



#### 7792 **Rear Axle Service Set**

The tools you need for flange-type rear axle and bearing removal on most late model passenger cars and light trucks. Set includes the No. 7374 rear axle pulling plate and 5 lb. slide hammer. The axle bearing pullers, used with the slide hammer, make short work of removing semi-floating rear axle bearings.

#### Consists of:

7374 – Rear axle pulling plate with 5 lb. slide hammer. 7495A - Rear axle bearing puller. Fits min. bearing tube I.D. of 1" and max. axle tube I.D. of 1-7/8". 7496A - Rear axle bearing puller. Fits min. bearing tube I.D. of 15/16" and max. axle tube I.D. of 2-3/8". 7497A – Rear axle bearing puller. Fits min. bearing tube I.D. of 1-3/8" and max. axle tube I.D. of 2-7/8". 27315 - Puller hook for use with the 5 lb. slide hammer. Removes oil seals, bearings, etc.

· Set contains slide hammer and popular attachments

needed for servicing flange-type, floating rear axle

bearings and seals in most late model, rear-wheel

· Rear axle bearing puller fits min. bearing tube I.D.

· Rear axle bearing puller, fits min. bearing tube I.D.

· Rear axle bearing puller fits min. tube I.D. of 1-3/8"

Slide hammer tee bar, slide hammer 5 lb. weight,

pulling hook, rear axle pulling plate, bearing cup

of 1-5/16" and max. axle tube I.D. of 2-3/8".

of 1" and max. axle tube I.D. of 1-7/8".

and max. axle tube I.D. of 2-7/8".

drive cars and light trucks; comes in a molded case.



#### 7494A **Rear Axle Bearing Service Set**

Designed to make the removal of semi-floating rear axle bearings easier. Allows you to capture the bearing firmly, distributing the pulling force over the entire bearing. This reduces damage and increases the amount of applications. Set includes three pullers to service most domestic cars. Use with OTC Nos. 1155 or 1156 slide hammer with 5/8"-18 UNF thread. Pullers also available separately.

7495A - Rear axle bearing puller. Fits minimum bearing tube I.D. of 1" and maximum axle tube I.D. of 1-7/8".

7496A – Rear axle bearing puller. Fits minimum bearing tube I.D. of 1-5/16" and maximum axle tube I.D. of 2-3/8" including 1988–2000 Chevrolet and GMC 8-1/2", 1/2-ton rear axle bearing.

7497A – Rear axle bearing puller. Fits minimum bearing tube I.D. of 1-3/8" and a maximum axle tube I.D. of 2-7/8".



#### **Differential Bearing Pullers**

For removing differential side carrier bearings on a wide variety of passenger cars and light trucks. Use with step plate adapter Nos. 8060, 8061, 8063, and 8064. (Step plate adapters are not included with 1028 or 1031. See page 117.)

1028 - Puller with a 3-1/2" maximum reach, 1-1/4" to 4-1/2" spread. Primarily for servicing Ford products.

1031 - Puller with a 3-1/4" maximum reach, 6" maximum spread. For servicing most General Motors, American Motors, and Chrysler products.

#### 6602 **Differential Bearing**

remover.

6540

#### **Preload Wrench**

- · Use to adjust differential bearing free play on Chrysler/Dodge vehicles with
- 7-1/4", 8-1/4", 8-3/4", and 9-1/4" rear axles.
- Tool fits inside axle tube to access the threaded adjusters.

Similar to Miller C-4164

46 Automotive Specialty Tools



1031

#### Automotive Specialty Tools Drive Axle Service



#### **Differential Side Bearing Pullers**

- · Use to remove differential side carrier bearing. Works on a wide variety of cars and light-duty trucks.
- · Includes four step plate adapters to fit carrier bearings.
- · Reach: 1-5/8". Spread: 2-5/8" to 3-3/8". Forcing screw is 3/4"-16 x 6-11/16" lg.

#### Set includes:

4520-1 - Forcing Screw / Cross Block Assembly 4520-2 – Puller Jaws / Pins (set of two each) 4520-3 – Puller Jaws Retaining Yoke

4520-4 – Step Plate Adapters (set of four)

15/16" - 1-11/32" diameter, 1-1/8" - 1-1/2" diameter 1-1/4" - 1-5/8" diameter, 1-1/8" - 1-3/4" diameter

#### Specifications

Reach: 1-5/8" Spread: 2-5/8" on inside holes in crossbar 3-3/8" on outside holes in crossbar Forcing screw: 3/4"-16 mm x 6-11/16" lg.

Adapter sizes: 15/16" to 1-3/4" diameter



#### 4508

#### Professional Style Seal Puller

- · Designed to remove oil and grease seals when servicing cars, SUVs, and light trucks without damaging the housing or bearing.
- · Hook tips in two sizes and professional handle design allows removal of hard-to-get-at seals by getting under them.
- The tool is 12" long and the hook tip is doublesecured (versus competitors' designs), for durability.
- · An extra blade is included, and additional replacements (No. 4508-1) may be ordered.
- 4508-1 Replacement blade for 4508.



# **Remover/Differential Rotator**

No. 7140 is essential when removing the left-hand halfshaft from Escort/Lynx transaxles. It ensures correct removal and allows the technician to turn the differential.



# 522

Large Gear and Pulley Puller

Using this tool, you can easily remove a wide range of gears, pulleys, or other parts that have tapped holes.

- The puller will spread from 2" to 7-3/4". Its block is 8-1/4" wide, and its forcing screw is 3/4"-16 x 11-5/8" long.
- · Accommodates any cap screws up to 1/2" diameter.



#### Gear and Pulley Pullers

These tools are perfect for removing timing gears, fan pulleys, harmonic balancers, and many other parts having tapped holes.

- Each puller will spread from 1-1/2" to 4-1/4". The puller blocks are 4-7/8" wide.
- · Both include two hex head cap screws,
- 3/8"-16 x 3" long.
- 7392 Puller with 13" long screw. 7393 - Puller with 5-1/2" long screw.



This is the puller you need for CV work on many Ford cars. Used with a slide hammer, it will remove an axle assembly from the transaxle without causing damage to expensive aluminum transmission cases or other components.

7507 - CV joint fork only. Use with OTC slide hammer No. 1155, extension No. 7508, or both.

- 7508 17-1/2"-long slide hammer extension.
- 7509 Complete CV joint tool.



#### 4WD Front Spindle Puller

7502

This puller enables you to remove the front spindle on light-duty 4WD trucks. It's designed for full-size Ford, GM, International, and Jeep pickups with Dana front axles. Also works on Ford Ranger and Bronco II.

- 5/8" fine thread makes it ideal for use with our No. 1155 slide hammer.
- · Fits spindle thread sizes 2"-16, 1-5/8"-16 and 38 mm-1 5



#### 4623

#### **CV Joint Banding Tool and Cutter**

- Use to install and tighten the "band-it" or strap style clamps on CV joint boots, or on power steering rack and pinion steering gear boots.
- Once installed into the tool, tighten the band by turning the handle on the tool; use a socket or wrench on the handle to torgue the band to OE specifications.

When the boot clamp has been tightened to specs, cut the band to the correct length by flipping the lever (at the front of the tool) forward.



· Designed to easily cut the CV boot clamp without damaging the boot • Will cut boot clamps up to 10 mm wide and .7 mm thick. · Handles are spring loaded to the open position to allow easy access to the clamp.





#### Automotive Specialty Tools Drive Axle Service

#### 4722 Heavy-Duty CV Boot Clamp Installer

- · Designed to clamp the ear-type CV boot clamps used on front-wheel drive vehicles.
- May also be used to crimp the clamps used on fuel and cooling system hoses.
- · Ensures even, precise crimping, and eliminates possibility of damage to the clamp, boot, or hose.



#### 4724

- **CV Boot Clamp Pliers**
- · Special tips work on the ear-less type CV boot clamps.
- · Grips clamp in many positions to tighten clamp around boot.



#### **Boot Clamp Pliers – Chrysler**

- · Required tool for correct installation of strap-andbuckle style CV boot clamps.
- · Works on A.C.I. and G.K.N. boots found on various Chrysler, Plymouth, and Dodge front-wheel drive vehicles.
- · Prevents damage to CV boot and clamp during installation.



#### Fluid Evacuation / Brake Bleeding Tools

- · Use to bleed brake systems and remove a variety of fluid from vehicles, such as antifreeze, oil. transmission fluid, gear lube, etc.
- Quick connect locking hose adapters and ball-style on/off valve on hose prevent fluid leakage.
- · Equipped with a relief valve to prevent over-pressurizing the tank.

#### 8100

Operates by shop air or a hand pump: shipped complete with a brake bleeding hose, fluid evacuation hose, and two suction hoses (6 mm and 7 mm); 10-liter capacity tank.

#### 8101

Operates with shop air; shipped with a brake bleeding hose and fluid evacuation hose; 6-liter capacity tank.

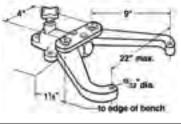


## **Differential Housing Spreader**

Here's a tool that eases the job of removing or installing differential ring-gear assemblies on Dana axle models 30 through 70. It's a heavy-duty device using mechanical screw power to spread the housing. It helps prevent the component damage that often results from the use of homemade devices.

T57L-500-B. 307-003 7020 **Bench-Mounted Holding Fixture** Here's a helpful device that enables you to securely hold and rotate small engines, transmissions, and other components while you're working on them. This holding fixture will handle pieces weighing up to 250 lbs., and it offers 360° of rotation with positive stops at 90° increments. · Three sides of the mounted unit remain fully exposed. 34607 Base assembly only. 34607 Similar to Ford D83L-500-B1, 300-D041

7020 Similar to Ford



## 553516 Differential

Mounting Adapter Mounts easily using existing bolt patterns. Fits the most common differentials currently in use on Category 7 and 8 Heavy Duty



Trucks. Including: Eaton®,

Fuller®, Rockwell®, Meritor, Spicer, International, and Mack. For use on OTC 5019A / 5078 and Stinger 1522A Transmission Jacks.





Works on all vehicles with band-type boot clamps (up to 1/4" wide & .020" thick). The clamp must be installed correctly after servicing to prevent moisture and foreign material from entering the CV joint area. This tool provides exact installation of those clamps with ease.



- such as found in brake calipers, engine lifters, and u-joint vokes. Also useful for any bearing or bushing application.
- · All hones are 180 grit Silicone Carbide for excellent cutting and finish.

7011-1	.375"	10 mm
7011-2	.500"	13 mm
7011-3	.625"	16 mm
7011-4	.750"	19 mm
7011-5	.875"	22 mm
7011-6	1.00"	25 mm
7011-8	1.25"	32 mm
7011-10	1.50"	38 mm
7011-12	1.75"	44 mm
7011-14	2.00"	51 mm



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# Steering

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Steering Service



# 6295

#### Front End Service Set

Kit includes five popular tools used for servicing Pitman arms, ball joints, and tie rods on most vehicles.

Set includes:

- 7314A Pitman arm puller.
- 7315A Tie rod end remover.
- 7503 Outer tie rod remover/ball joint separator.
- 6296 Pitman arm/tie rod end puller.
- 6297 Ball joint separator.

#### 6496 Pitman Arm Puller

- Cuts Removal Time from 31/2 Hours to 40 Minutes!
- · Labor intensive removal of steering sector not necessary. · Compact design allows easy access to the Pitman arm.
- · Works on most domestic SUVs and pickups.
- · Live center on forcing screw and use of a standard wrench results in less effort required.
- · Tool is forged steel for durability and long life.

Works on the following four-wheel-drive vehicles					
1998 – 2003	Ford Navigator				
1997 – 2004	Ford F-150 and Expedition				
1991 – 2004	Oldsmobile Bravada				
1992 – 2011	Chevy Suburban				
1988 – 2005	S-10 / S-15 GMC Trucks & Chevy Blazers				
1988 – 2011	GMC & Chevy 1/2, 3/4, & 1 ton pickups				
1995 – 2011	Chevy Tahoe and GMC Yukon/Denali				







#### 7314A

#### **Pitman Arm Puller**

This puller will handle nearly any Pitman arm job on passenger cars and light trucks. It features special forged jaws shaped to fit the job, ensuring a positive grip every time. Spread between jaw tips: 1-5/16".



#### Pitman Arm/Tie Rod End Puller

The versatile design allows this tool to be used as a Pitman arm remover for many small, domestic rear wheel drive vehicles, or as a tie rod end puller for many domestic and import vehicles. The jaws, with a spread of 1", give a positive grip in tight work places.

#### 6497

Super-Duty Pitman Arm Puller

- Works on 2005 and newer Ford F-250 and F-350 four-wheel-drive Super Duty trucks.
- Allows the Pitman arm to be removed from the steering gear while the steering gear is still in the vehicle.
- · Two clamp bolts lock the jaws on the Pitman arm, ensuring a solid grip.
- Maximum jaw spread is 3-1/4".



#### Tie Rod End Remover Redesigned to use on imports and many front wheel drive vehicles, including SUVs with rack and pinion steering. Live center tip on forcing screw swivels to align tool to tie rod stud to ease in removal and prevent damage to stud. Similar to Ford 211-001 (TOOL-3290-D)





**Ball Joint Separator** 

This tool is used to separate the ball joint from the spindle support arm. It works on many domestic and import front wheel drive vehicles, and is adjustable up to 2" for different size ball joints.





#### **Pitman Arm Pullers**

7311A Similar to

Ford No. 211-003

(T64P-3590-F)

These pullers are designed for the toughest Pitman arm jobs. They're adjustable and have rugged forged jaws shaped to fit the job. Two clamp bolts lock the jaws on the Pitman arm, ensuring a solid grip. Puller No. 7310A includes an adapter for added versatility. Both pullers cover a variety of pulling jobs.

#### 7310A

Pitman arm puller for medium- and heavy-duty trucks. Max jaw spread: 2-1/4".

#### 7311A

Pitman arm puller for cars and light trucks to 3/4 ton. Max jaw spread: 2-1/8".

#### 7503

Outer Tie Rod Remover/Ball Joint Separator This tool is a must when you're servicing outer tie rods and ball joints. It works on imported and domestic models, front or rear wheel drive, cast or stamped-steel steering knuckles.

- · Handles up to 5 tons of force.
- · Jaws spread to 3" and has a 4" reach.
- · Jaws, once tightened, won't slip on the knuckle.



#### Automotive Specialty Tools Steering Service

#### 8149

**Pitman Arm Puller** 

The 8149 conical tool is designed to fit Pitman arms on compact and intermediate cars.

- Conical design gives increased strength, stability, and fits securely on a Pitman arm.
- Spread is 1-1/4" with a reach of 2-1/4".
- 3/4-16 x 4-3/4" forcing screw provides enough power to remove stubborn Pitman arms.

# 8150

# Pitman Arm Puller

- The No. 8150 conical tool is designed to fit Pitman arms on domestic cars and light-duty trucks.
- Conical design gives increased strength, stability, and fits securely on a Pitman arm.
- Spread is 1-1/2" with a reach of 2-1/2".
- 3/4-16 x 4-3/4" forcing screw provides enough power to remove stubborn Pitman arms.



#### 6272

#### Chrysler LH Toe Adjusting Tool Set

This set enables the technician to adjust toe, to obtain a straight steering wheel, and correctly center the tie rod end. Permits easily reaching and breaking loose the tie rod jam nuts, while the entire assembly is held stable. Services 1998–newer Chrysler Concorde, Concorde 300M, New Yorker LHS, Dodge Intrepid, Dodge R/T, and Eagle Vision.



#### 7891

#### Chrysler LH Toe Adjustment Set

Here's a tool set that will quicken front toe adjustments on Chrysler LH series cars. Consisting of a wrench, socket, and retainer, this set is for the 1993–97 Chrysler Concorde and New Yorker, Dodge Intrepid, and Eagle Vision.

#### 6531

Pitman Arm Separator Separating Pitman arms on cars and light trucks is quick and easy

- with this wedge and an appropriate sized hammer.
- 11" long and has a 1-1/8" fork spread.

## 6532

#### **GM Pitman Arm Remover**

Removes Pitman arms on pickups and sport utility vehicles. The wedge end is placed between the Pitman arm and steering gear box, and with just a few hammer blows, it separates them. Works on 1988 and newer Chevrolet and GMC 1/2- and 3/4-ton 4WD pickups, Suburban, Tahoe, and Yukon. • 11-3/4" long with a 1-5/8" fork spread.

# 6533

#### Separator Tool

This handy tool is multipurpose. It will remove camber adjustment sleeves on 1980-86 F-150 & F-250 and 1982-88 Bronco II & Ranger Ford pickups that have an adjustable camber. It's also a separating tool for tie rods on medium- and heavy-duty trucks. And it works as a Pitman arm wedge on light trucks. • 11-5/8" long with a 1-7/16" fork spread.



#### Tie Rod Separator Here's a tool that will convince even the most stubborn shock

links and tie rods to part company. Just insert the tapered wedge between the seized parts, and smack the other end with a hammer.

· 16" long with 11/16" fork spread.



### 6535

**Ball Joint Separator** 

Ball joint service is easier with this tool. It was designed to remove ball joints from spindle support arms, and can be used on a wide variety of vehicles, from compact cars to light-duty trucks.

• 16" long and has a 15/16" fork spread.



#### 6299

#### Separator Set (5 piece)

- Features five popular "pickle forks" in a blow-molded case.
- Used to remove shock linkage, tie rods, and ball joints. Also for general service on many cars and light trucks.
   Includes:

6531 - Size 11" x 1-1/8" Fork Spread.

- 6532 Size 11-3/4" x 1-5/8" Fork Spread.
- 6533 Size 11-5/8" x 1-7/16" Fork Spread.
- 6534 Size 16" x 11/16" Fork Spread.
- 6535 Size 16" x 15/16" Fork Spread



#### 4559

#### Manual / Pneumatic Pickle Fork Set

- · Use to separate ball joints, tie rods, and Pitman arms.
- Set contains two handles: knurled handle allows use of a hammer; smooth handle fits in a pneumatic hammer.
- Three sizes of pickle forks included: 1-1/8", 15/16", and 11/16".

Set contains:

#### 4559-1

Fork heads (set of three: 11/16", 15/16", and 1-1/8"). 4559-2

Handles (set of two: knurled handle for use with a hammer; smooth handle for use with an air hammer).

Steering Service



#### **Tie Rod Adjusting Tool**

Here's a tool that will fit most models of compact and standard-size cars and light trucks. It has a fourposition feature and 360° rotation that lets you locate the tool to grip the sleeve correctly, even when access is limited.



#### Tie Rod/Pitman Arm Adjusting Set

These tools have a unique design that permits 360° rotation of the adjusting sleeve, even where space is limited.

- · Accommodates 1/2" drive ratchet or breaker bar.
- · Set consists of the following tools in a blow-molded case:

7095 - For compact cars with 3/4" diameter adjusting sleeves.

7096 - For full size cars with 7/8" diameter adjusting sleeves.

7097 - For light trucks with 1-1/8" diameter adjusting sleeves.

6274 - For Ford 3/4-ton and 1-ton trucks with

1-13/16" diameter adjusting sleeves.

6084 – Pitman arm adjusting tool for Ford F-250 thru F-450 trucks with 1-7/16" dia. adjusting sleeves.



#### 6065

**Tie Rod Socket for Medium-Duty Trucks** 

Here's a heavy-duty tool for removing tie rod ends on Chrysler, Ford, and GM 1-ton trucks. It also works on many medium-duty trucks, Class 2 through 6. · Accommodates a 1/2" drive impact wrench.



#### Inner Tie Rod Wrenches (Standard & HD)

Universal wrench will fit on all styles and allow the technician to un-screw the tie rod link for replacement.

7484 – Unique lever design will turn hex rack ends or hex shafts from 1" to 1-5/8" (25-41mm).

7500 - Unique cam design cover sizes from 1-1/4" to 1-5/8" (33-41mm) hex, 2 flats, round or any style rack ends.

7501 - Unique cam design cover sizes from 1-1/2" to 1-7/8" (38-48mm) hex, 2 flats, round or any style rack ends.



# 7595A

#### Inner Tie Rod Removal Set

Remove and install inner tie rods without removing steering gear. The adapters fit into the tie rod socket, and a 1/2" drive ratchet or breaker bar fits the drive

- end. · Services both old and new style inner tie rods.
- · For use on most Chrysler, Ford, and GM vehicles.
- The socket is 16" long and is "stepped" to accept 1-3/16" tie rods and 1-5/16" tie rods.
- · Adapters fit into socket and work on 1-3/16", 1-5/16", and 1-7/16" tie rods.

Important: When removing and installing inner tie rods, hold steering rack shaft to prevent damage to pinion gear.



#### 7771A

Ford Power Steering Pump Pulley Installer Installs power steering pump pulleys on 1992-newer Ford Crown Victoria and Mercury Grand Marguis with 4.6 V8 engine, 1997-newer Ford truck with 4.2 & 4.6 V6, 5.4 V8, and 6.8 V10 engines.

• 8 mm x 1.25" threads fit Ford's C111 pump.



# Alignment Assist Tool

With this tool, you won't need to remove tires to adjust the camber on most GM and some Chrysler FWD vehicles. The tool sits on top of a tire and presses against the strut to prevent the tire from moving, allowing you to do the adjustments. For Chrysler and GM vehicles with slotted strut mounts that don't use eccentric washers on the through slots for camber adjustment. (Applications do not include Buick Park Avenue, Cadillac Fleetwood, Oldsmobile 88 and 98, and Pontiac Bonneville - if they have rear air suspension).



#### Ford Axle Shaft Seal Installers

Correctly installs the seal onto the axle shaft and into the wheel knuckle, preventing front hub vacuum leaks that would cause the 4WD to not engage.

6695 – Ford Axle Shaft Seal Installer. Works on 1998-2004 Ford F-250, F-350, F-450, and F-550 4X4s having the vacuum-operated front axle.

6697 - Ford Axle Shaft Seal Installer. Works on 2005-newer Ford F-250, F-350, 4X4s having the vacuum-operated front axle.

6698 - Ford Axle Shaft Seal Installer. Works on 2005-newer Ford F-450, F-550, 4X4s having the vacuum-operated front axle.



**GM Power Steering Pump Pulley Installer** 

This tool offers easy, damage-free installation of power steering pump pulleys. It works on 1988-95 GM Quad 4 engines; 1990-94 Chevrolet Lumina APV, Oldsmobile Silhouette, and Pontiac Trans Sport vehicles; 1990-94 3.1L V6 engines; 1994-newer 3100 GM V6; 1999-newer 3400 GM V6. Threads are 3/8-16" to fit pulley shaft threads.



Similar to

Steering Service

Kent Moore J-21854-A



#### 7362

#### **GM Power Steering Pump Pulley Service Kit**

Remove and install the power steering pump pulley easily and without damaging the pump shaft or pulley.

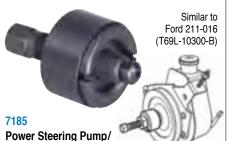
· Includes remover and installer.



#### 4681

#### Power Steering Pump/ Alternator Remover/Installer Tool

- · Reversible 2-in-1 tool removes and installs press-fit alternator and power steering pump pulleys.
- · Also removes and installs other press-fit pulleys with a hub diameter of 1-1/8" (28 mm), 1-1/4" (32 mm), 1-5/16" (34 mm), or 1-3/8" (35 mm).



# **Alternator Pulley Remover**

This puller removes pulleys on most Chrysler, Ford, GM, and VW vehicles fitted with Saginaw, Thompson, or Ford's C2 and C111 power steering pumps; GM belt-driven vacuum pumps on cars; and press-on water pump pulleys on GM 4- and 6-cylinder engines. It works on pulleys with hub diameters of 1-1/8", 1-1/4", 1-5/16", and 1-3/8".

· Designed to ensure damage-free removal.



#### 4529

#### Power Steering/Alternator Pulley Puller/ Installer Set

- · Properly replaces pressed-on power steering and alternator pulleys on Ford, Chrysler, and late GM engines.
- · Housed in a blow-molded plastic storage case.



# 7830A

#### **Power Steering Pump Pulley Kit**

This kit has nearly everything you need to remove and install power steering pump pulleys in Chrysler, Ford, and GM vehicles with Saginaw, Thompson, and Ford C111 and C2 power steering pumps. Fits 1-1/8", 1-1/4", 1-5/16" and 1-3/8" pulley hub diameters, including 1988-newer GM cars equipped with Quad 4 engines; 1991-94 GM 3.1L V6; 1991-newer 3800 V6 engines; 1994-newer GM 3100 V6; 1999-newer GM 3400 V6, and 1992-newer Ford Crown Victoria and Mercury Grand Marguis with 4.6 V8 engine, 1997newer Ford truck with 4.2 & 4.6 V6, 5.4 V8, and 6.8 V10 engines

· Also includes No. 7931 spacer for work on Chrysler Cirrus, Dodge Stratus, and Plymouth Breeze.



#### **Power Steering Pump Pulley Installer**

This is an ideal companion to our No. 7185 pulley remover. It's a real timesaver for installing power steering pump pulleys and GM press-on water pump pulleys.

- · Designed to ensure damage-free installation.
- · Internal roller bearing allows for easy turning.
- · Threads are 3/8"-16 to match pulley shafts.



#### 4530

#### **Power Steering Pump Pulley Service Set**

- · A complete set of tools required to remove and install power steering pump pulleys of most domestic vehicles.
- · Fits pulley hubs with diameters of 1-1/8", 1-1/4", 1-5/16" and 1-3/8".
- · Includes the necessary adapters for servicing: GM 3.1L, 3100, 3400, and 3800 V6 engines, GM 2.3L Quad 4 four-cylinder engines, and Ford 4.6L and 5.4L V8, 6.8 V10 engines.



Removes tie rod inner socket retaining pin on Ford vehicles with rack and pinion power steering. Replacement tips available separately.

37907 - Tip for 7122R.

7889

**Steering Pivot Pin Remover** 



#### Steering Wheel Lock Plate Remover

This is an essential tool for compressing steering wheel lock plates on AMC, Chrysler, and GM vehicles, with or without tilt steering columns. It's also necessary for accessing the turn signal switch and SIR modules on GM vehicles.

· Also works on metric columns.



# Steering Wheel Puller

This puller removes steering wheels on most domestic and imported vehicles, with or without telescoping steering columns. Five sets of cap screws are included for various thread requirements. The forcing screw features a swivel end to protect steering shaft. Cap screws included (pairs): 3/8-16 x 3-1/2; 5/16-18 x 3-1/2; 5/16-24 x 3-1/2; M8-1.25 x 90 mm; 5/16-18 x 4 (SIR). Bar measures 4" x 1" x 1".





Steering Service



#### 7984

#### Master Steering Wheel Service Set

- This master set is used for steering column service on most cars and light trucks, domestic and imports.
- This set includes components for steering wheel, lock plate removal, and pivot pin removal.
- Special 5/16-18 x 4" shoulder bolts allow removal of GM steering wheels without damaging the SIR module. Also use the 5/16-18 x 4" shoulder bolt for earlier models without SIR module.
- This set includes a lock plate compressor with M14 x 1.5 and 9/16-18 forcing screws for steering column shafts on GM S.I.R., as well as older GM, AMC, and Chrysler vehicles with tilt, telescoping, and conventional steering columns. Use on steering columns with or without air bags.
- Includes a screw to contain the telescopic steering column on older GM vehicles.
- The pivot pin remover covers tilt steering pivot pins on 1969 and newer GM, Ford, and Chrysler vehicles with Saginaw steering columns.
- Two hook-shaped puller legs and special forcing screw adapter remove the steering wheels without tapped pulling holes.

This set includes three each of the following hardened bolts:

- · Washer Head Bolts (Grade 8) 1/4-28 UNF x 3"
- Hex Head Flange Bolts 3/8-16 UNC x 3.5"
- Hex Head Flange Bolts 5/16-24 UNF x 3.5"
- Hex Head Flange Shoulder Bolts 5/16-18 UNC x 4
- Hex Head Flange Bolts M8 x 1.25 x 90mm

#### 7929A

#### Steering Wheel Puller Leg Set

- Particularly useful during steering wheel removal when there are no tapped holes in the assembly.
- The 7929A is designed for use with either the No. 7245 or No. 7403 OTC steering wheel puller.
- These legs get behind the steering wheel assembly to provide an even, straight pull. The collar is designed for use on Ford and Chrysler vehicles.
- Works on: 1988–1993 Pontiac LeMans
   1997–newer GM cars, SUVs, and light trucks
   1997–newer Ford SUVs and light trucks
   1999–newer Jeep Grand Cherokee
   2003–newer Jeep Liberty
   2004–newer Dodge Sprinter van

#### 7790

#### Flange-Type Puller Set (Grade 5)

- Versatile puller capable of removing a wide variety of components having tapped pulling holes, including harmonic balancers, gears, crankshaft pulleys, etc.
- Capable of handling 2- or 3-way bolt pulling applications.
- Works on many cars, pickups, SUVs, and small engines.
- Carries the OTC Lifetime Marathon Warranty® against defects in workmanship and material.

#### Contents of set:

- Puller flange: adapts to bolt circle dia. of 1-1/2" to 4-5/8".
- Forcing screw: 5-5/8" lg., 5/8-18 thread.
- Shaft protector: 1-3/16" dia. x 3/4" thick.
- Three each of the following flat washers: 1/4"; 5/16"; 3/8".
- Three each of the following bolt sizes:
  1/4"-28 x 3" lg.
  5/16"-24 x 3" lg.
  5/16"-18 x 6" lg.
  3/8"-24 x 1-1/2" lg.
  3/8"-16 x 2" lg.
  3/8"-16 x 3" lg.
  3/8"-16 x 4-1/2" lg.
  M8 x 1.25 x 45 mm lg.
  M8 x 1.25 x 50 mm lg.
  M10 x 1.5 x 35 mm lg.



#### 7927A

#### Steering Wheel Remover/ Lock Plate Compressor Set

With this set, it's easy to remove the steering wheels of most domestic and imported vehicles, with or without tilt steering columns. Also accesses the turn signal switch and SIR modules on current GM vehicles.

- Includes No. 7815 steering wheel lock plate remover, No. 7889 steering pivot pin remover for Saginaw steering columns, No. 7245 steering wheel puller, plus four sets of cap screws (2 of each size: M8–1.25 x 90 mm, 3/8"–16 x 3-1/2", 5/16"–24 x 3-1/2", and 5/16"–18 x 4").
- · Contained in convenient plastic blow-molded case.



#### 6294

#### Flange-Type Puller Set (Grade 8)

- Versatile puller capable of removing a wide variety of components having tapped pulling holes, including harmonic balancers, gears, crankshaft pulleys, etc.
- Capable of handling two- or three-way bolt pulling applications.
- Works on many cars, pickups, SUVs, and small engines.
- · Bolts are heat treated to meet Grade 8 hardness.
- Carries the OTC Lifetime Marathon Warranty<sup>®</sup> against defects in workmanship and material.

#### Contents of set:

- Puller flange: adapts to bolt circle diameters of 1-1/2" to 4-1/4".
- Two forcing screws: 6" long and 3" long.
- Two pointed forcing screw center tips.
- · Two flat forcing screw center tips.
- Special stepped bolts 1990-2002 GM 3300-3800 V6 crankshaft pulleys.

Three each of the following washer head bolts: 1/4"-28 x 3" lg.
5/16"-24 x 3" lg.
5/16"-18 x 3-1/2" lg.
3/8"-16 x 2" lg.
3/8"-16 x 3" lg.
3/8"-16 x 4-1/2" lg.
M8 x 1.25 x 45 mm lg.
M10 x 1.5 x 35 mm lg.



Heavy-duty flange puller features a live center forcing screw. Includes two live center forcing screw tips and two sets of commonly used automotive bolts. Puller will work on bolt circles from 1-1/2" to 4-1/4". Three cap screws,  $3/8-24 \times 3$ " long, and three cap screws,  $3/8-16 \times 3$ " long.



Here's a puller that works in a variety of applications. It pulls steering wheels on most late model cars. It also works as a regular 2/3-way puller to remove pulleys and small engine flywheels. Cap screws included (pairs): 3/8-16 x 3-1/2 in.; 5/16-18 x 3-1/2 in.; 5/16-24 x 3-1/2 in.; M8-1.25 x 90 mm; and 5/16-18 x 4 in. (SIR).

 Works on domestic cars with or without collapsible steering columns.



4-1/2" reach

#### Automotive Specialty Tools Suspension Service

# Master Ball Joint Kits



#### Ball Joint Master Service Kit. The ultimate ball joint service kit!

- The 6559 Ball Joint Master Service Kit offers complete coverage of Car and Truck/Van/SUV applications. With 70+ adapters, c-frame and application guide means there is nothing else to add for servicing ball joints.
- · The majority of vehicles have press-in ball joints, so stop searching for make-shift solutions for servicing these vehicles - everything required is laid out in this one complete kit.
- · With a kit of this magnitude, finding the correct adapters and using them correctly is key to minimizing service time. That is exactly what the included ball joint application guide is designed to do - contains application charts and diagrams with step-by-step instructions.



#### Car Ball Joint Master Service Kit.

- This 50+ adapter kit is the most complete Car ball joint service kit available, and the first of it's kind on the market.
- With 70% of OEM's having cars with press-in ball joints, this kit is designed to service those applications.
- This kit is a subset of the 6559 and includes 50+ adapters, C-Frame, Ball Joint Application Guide, and Location Card all provided in 2 cases.



#### 6539

#### Truck Ball Joint Master Service Kit.

- This 55+ adapter kit is the most complete Truck/Van/SUV ball joint service kit available.
- · With the majority of Truck/Van/SUV applications having press-in ball joints and universal joints, this kit is designed to service those applications. (note; covers same applications as the 8031 Chrysler/Jeep Truck/Van/Suv Ball Joint Kit without requiring larger C-Frame).
- This kit is a subset of the 6559 and includes 55+ adapters, C-Frame, Ball Joint Application Guide, and Location Card all provided in 2 cases.

# Intermediate Ball Joint Kits



#### 6530

- **Ball Joint Intermediate Service Kit**
- This 20+ adapter kit covers many Truck/Van/SUV applications and some car applications.
- · With the majority of Cars and Truck/Van/SUV applications having press-in ball joints and universal joints, this kit is designed to service many of those applications.
- This kit is a combination of 7249, 7918, and 7996 kits, and includes 20+ adapters, C-Frame, and Application Diagrams all provided in a case.



#### 8031

#### Chrysler/Jeep Truck/Van/SUV Service Kit

- This 18 adapter kit covers Chrysler/Jeep Truck/Van/ SUV 2WD and 4WD applications.
- Includes Large C-Frame for use with the OEM size ball joint adapters.
- · Includes 18 adapters, Large C-Frame, application chart and instructions all provided in a case.

# Starter Ball Joint Kits



**Ball Joint Starter Service Kit** 

· This starter kit is the backbone to ball joint, U-joint, anchor pins, and many other general pressing operations. Kit includes 5 adapters and C-Frame provided in a case.



remove and replace automotive universal joints with needle bearings, including GM plastic pin CV U-joints.



55

#### Automotive Specialty Tools Suspension Service

# Ball Joint Adapter Sets 7918

#### **Ball Joint Update Adapter Set**

· This adapter set will update a 7249 Ball Joint Starter Service Kit to a 6530 Ball Joint Intermediate Service Kit, less the 7996 Honda Ball Joint Lower Ball Joint Adapter Set. Greatly expands the application coverage.



#### BMW Car Ball Joint Adapter Set

- · 11 adapters included to remove & install ball joints.
- · Works on upper and lower ball joints on: 1992 - 1999 318 series, 1998 - 1999 323 series, 1996 - 1999 328 series, 1996 - 1999 M3.
- · Vehicle application chart and diagrams included. Does not include the 7248 C-Frame press.



#### 6529-2

#### Chrysler/Mitsubishi Car Ball Joint Adapter Set

- · 20 adapters included to remove and install ball joints.
- · Works on upper and lower ball joints on Chrysler, Dodge, Plymouth, and Mitsubishi cars with press in ball joints
- · Vehicle application chart and diagrams included. Does not include the 7248 C-Frame press.

#### 8033

#### **Chrysler Ball Joint Socket**

- · Removes and installs the screw-in type ball joints used on mid-size, rear-wheel drive Chrysler cars.
- · Similar to Miller Tools No. C-3560.
- Socket is 2" long with a 3/4" drive: fits 1-59/64" ball joints.



#### Ford/Mazda Car Ball Joint Adapter Set

- · 25 adapters included to remove & install ball joints
- · Works on upper and lower ball joints on Ford. Lincoln, Mercury, and Mazda cars with press in ball joints
- Vehicle application chart and diagrams included. Does not include the 7248 C-Frame press.

#### 8032A

#### Ford/Mercury Car Ball Joint Adapter Set

- · Allows easy removal and installation of the lower ball joint on 1996-2009 Ford Taurus and Mercury Sable vehicles.
- · Lower ball joint can now be replaced without having to replace the entire spindle assembly saving up to an hour of labor.
- Adapters are used with OTC No. 7248 C-Frame.



#### 6529-4

#### **GM Car Ball Joint Adapter Set**

- · 18 adapters included to remove & install ball joints.
- · Works on upper and lower ball joints on Chevrolet, Buick, Pontiac, Oldsmobile, and Cadillac cars with press in ball joints
- Vehicle application chart and diagrams included. Does not include the 7248 C-Frame press.



- · Works on upper and lower ball joints on Honda
- and Acura cars with press in ball joints
- Does not include the 7248 C-Frame press.

## 7996

# Honda Car Ball Joint

Use with ball joint service set Nos. 6530, 7248, and 7249 to remove



and install lower ball joints on Honda 1986-97 Accord, 1988-00 Civic, 1993-99 del Sol, 1988-91 CRX, and 1983-99 Prelude.



#### Honda/Acura Car Ball Joint Adapter Set

Use this three-piece tool kit, along with OTC C-frame No. 7248, to remove and install lower ball joints on the following Honda and Acura vehicles:

- · Honda Accord Sedan '03-'08
- · Honda Accord Coupe'03-'08
- Acura TSX '04-'08

6734



# 6529-6

- Import Car Ball Joint Adapter Set • 15 adapters included to remove & install ball joints.
- · Works on upper and lower ball joints on Toyota, Hyundia, Kia, Infinity, Saab, and Nissan cars with press in ball joints
- · Vehicle application chart and diagrams included. Does not include the 7248 C-Frame press.



#### Car Ball Joint Master Set Upgrade for 6539

· 14 additional adapters required to complete a 6529 Car Ball Joint Master Set when added to the 6539 Truck Ball Joint Adapter Set.



#### Import Truck Ball Joint Adapter Set

- · 35 adapters included to remove & install ball joints.
- · Works on upper and lower ball joints on Toyota, Honda, Acura, Hyundai, KIA, Infinity, Isuzu, and Nissan Trucks, Vans, and SUV's with press in ball ioints.
- · Vehicle application chart and diagrams included. Does not include the 7248 C-Frame press.











## Honda/Acura

### Car Ball Joint Adapter Set

- · 19 adapters included to remove & install ball joints

# Vehicle application chart and diagrams included.



#### Automotive Specialty Tools Suspension Service



#### 6539-2

#### Chrysler/Mitsubishi Truck Ball Joint Adapter Set

- · 35 adapters included to remove & install ball joints.
- · Works on upper and lower ball joints on Chrysler, Dodge, Jeep, Plymouth, and Mitsubishi Trucks, Vans, and SUV's with press in ball joints.
- · Vehicle application chart and diagrams included. Does not include the 7248 C-Frame press.

#### 8034

#### **Chrysler Ball Joint Socket**

- · Removes and installs the screw-in type ball joints used on Chrysler / Dodge light trucks and vans.
- · Similar to Miller Tools No. C-3561.
- · Socket is 2" long with a 3/4" drive; fits 2-9/64" ball joints.

#### 7894

#### Dodge/Jeep Truck, SUV **Ball Joint Adapter Set**



Use with ball joint service set Nos. 6530, 7248, and 7249 to remove or install aftermarket and original equipment upper and lower ball joints, and the

offset ball joints used to change caster/camber. Works on '84-'89 "downsized" Jeep Wagoneer, Cherokee and Comanche; '87-'08 Wrangler; '93-'04 Grand Cherokee; '94-'99 Dodge Ram 4WD 1/2-ton pickup.



#### 6735

#### Sprinter Van Ball Joint Kit

- · Eight piece kit contains the tools needed to service lower ball joints on '04-'09 Dodge and '04-'12 Freightliner<sup>®</sup> Sprinter vans: tie rod remover / separator; wheel alignment studs; ball joint remover; driver, receiver, & installing rings.
- · Use this kit with OTC No. 6736 C-frame.

#### 6736

#### Large C-Frame

- · Required for use with No. 6735 Sprinter Van Ball Joint Kit.
- · When used with OTC No. 6730 Update Kit, you can expand the applications of OTC Nos. 7249, 7918, 6529, 6539 and 6530 Ball Joint Kits.

# 6730

**C-Frame Update Kit** Kit contains two adapters

which, when coupled with



the large C-frame 6736 included in OTC No. 8031 SUV Ball Joint Kit. make it possible to use any adapter designed for use with the smaller OTC No. 7248 C-frame.



#### Ford/Mazda Truck Ball Joint Adapter Set

- · 32 adapters included to remove and install ball joints.
- · Works on upper and lower ball joints on Ford, Lincoln, Mercury, and Mazda Trucks, Vans, and SUV's with press in ball joints.
- · Vehicle application chart and diagrams included. Does not include the 7248 C-Frame press.

#### 6731

#### Ford Truck Ball Joint Adapter Update Kit

Three-piece kit contains specialty ball joint adapters for use with the industry standard OTC No. 7248 C-frame. Designed to work with the following Ford vehicles: F-150 '97-'03, F-250 '97-'99,

Expedition '97-'02, Explorer '95-'05, Ranger '98-'08.

#### 7825

#### Ford Van Ball Joint Adapter

This tool enables you to quickly remove the lower ball joint on '92 to -'08, 3/4- and 1-ton vans (E-250 and E-350) when used with ball joint service set Nos. 6530, 7248, and 7249.

#### Ford 2WD Van Ball Joint Adapter Set

This set is designed to remove/install press-fit Fits most Ford '92 to '04 2WD 3/4- and 1-ton vans.



#### 6733

#### Honda/Toyota Truck/Van/SUV **Ball Joint Adapter Set**

Two-piece kit contains specialty ball joint adapters for use with the industry standard OTC No. 7248 C-frame. Designed to work with the following Honda and Toyota vehicles:

- · Honda CR-V '97-'06, Honda Odyssey '95-'06
- Toyota 4 Runner '96-'02 Toyota Sequoia '01-'08
- Toyota Tacoma '95-'04



- · 28 adapters included to remove & install ball joints. · Works on upper and lower ball joints on Buick,
- Cadillac, Oldsmobile, Pontiac, Chevrolet, GMC, and Hummer Trucks, Vans, and SUV's with press in ball joints.
- · Vehicle application chart and diagrams included. Does not include the 7248 C-Frame press.

#### 6732

#### GM Truck/SUV Ball Joint Adapter Set

Four-piece kit designed to be



used with the industry standard OTC No. 7248 C-frame. Contains specialty ball joint adapters to fit the following GM vehicles:

TrailBlazer & Envoy '02-'08, 1500 Silverado '99-'06, Suburban & Tahoe '95-'06, Avalanche '02-'08, Escalade '99-'07 Express & Savana '03-'08, Hummer H2 '03-'07.

#### 7920

#### GM 4WD Truck/SUV GM **Ball Joint Adapter Set**

Use with ball joint service set Nos. 6530, 7248, and 7249 to service GM's 1996 to 1999 4WD 1/2- and 3/4-ton pickups, and Suburban, Yukon, and Tahoe SUVs. Easily remove or install either aftermarket or original equipment press-fit lower ball joints.



Truck Ball Joint Master Set Upgrade for 6529 18 additional adapters required to complete a 6539 Truck Ball Joint Master Set when added to the 6529 Car Ball Joint Adapter Set.





# 7919

upper and lower ball joints.



#### Suspension Service

#### 7704

**Domestic 4WD** Truck Ball Joint Adapter Set

This kit is used

6529MAN-08

thru 2008

applications.

contains them.



with ball joint service set Nos. 6530, 7248, and 7249 to remove and install upper and lower ball joints on '67 to '92 1/2- and 3/4-ton 4WD vehicles fitted with Dana 44 front axles (found on Ford, Dodge, GM, International, and Jeep vehicles).

#### 7080 **Domestic 4WD Truck** Ball Joint Spanner Wrench

Designed for removal and installation of ball joint adjusting sleeves on 1/2-, 3/4-, and 1-ton

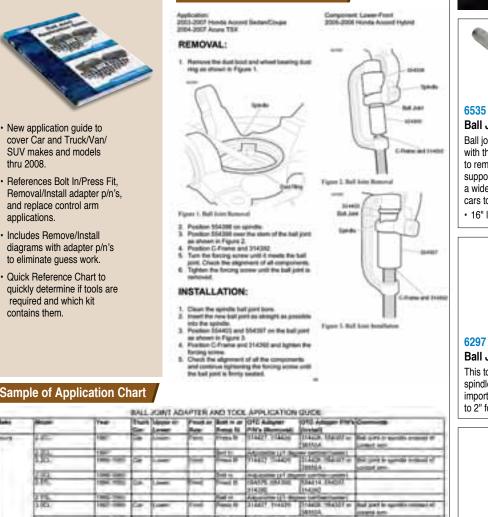
Dana 44 open yoke front axles found on Chrysler, Ford, GM, International, and Jeep 4WD vehicles.

· Permits easy torquing with 1" socket for correct upper ball-joint preload.

#### 6529MAN-08 – Ball Joint Application Guide

Reference all ball joint adapter applications. Can be used with all ball joint kits and adapter sets.

### Sample of Application Diagram







#### **Ball Joint Separator**

Ball joint service is easier with this tool. It was designed to remove ball joints from spindle support arms, and can be used on a wide variety of vehicles, from compact cars to light-duty trucks.

• 16" long and has a 15/16" fork spread.



This tool is used to separate the ball joint from the spindle support arm. It works on many domestic and import front wheel drive vehicles, and is adjustable up to 2" for different size ball joints.



#### **Upper Control Arm Bushing Service Set**

Now you can easily replace press-in type upper control arm bushings on most rear wheel drive Chrysler, Ford, and GM vehicles. Mechanical screw power does the work. Set includes C-frame, screw assembly, and all adapters needed for quick removal or installation of bushings without removing or damaging the control arm.

#### Sample of Application Chart

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#### 8348

#### **GM Truck Bushing Adapter Set**

- Works on 2000–2009 Chevy and GMC 1/2-ton and 3/4-ton trucks, 2- and 4-wheel drive.
- Adapter set is designed for quick and easy removal of the OE control arm bushing and installation of the offset camber bushing.
- Saves shop time by being able to install the offset camber bushing while aligning the front end.
- · Saves replacement cost of the control arm assembly.
- Use with OTC No. 7248 C-Frame.



#### 7917

#### Live Center Forcing Screw Plug

This plug replaces the existing forcing screw on the No. 7248 C-frame to allow its use on heavy-duty ball joints. The shorter length gives the C-frame a wider opening to accommodate the larger ball joints on 3/4- and 1-ton trucks.



#### Lower Control Arm Prying Tool

Installing a ball joint on a lower control arm typically requires the effort of two people. However, with this tool and our No. 7420 or 7421 pry bar – or any 7/8" diameter pry bar – it's a one-person job.



#### Ford Torsion Bar Adjustment Tool

Before servicing a torsion bar on 1995–2001 Ford Explorer and 1998–2001 Mercury Mountaineer vehicles, you must first contain the bar to avoid possible damage. This tool securely accomplishes that task, allowing you to make adjustments.



#### **Upper Arm Alignment Wrenches**

These specialized 1/2" drive wrenches provide easy access to the upper control arm bolts for front wheel alignment jobs.

7414 – 13/16" hex wrench for use on 1985 to '97 Ford Aerostar vans.

**7534** – 22 mm hex wrench for use on 1990–2005 2WD Chevrolet Astro and GMC Safari, and 1991–2005 AWD Chevrolet Astro and GMC Safari vans.

7536 – 3/4" hex wrench for use on 1973 to '87 Chevrolet 2WD pickups, and Canadian-built 1985 to '90 current GM Astro and Safari vans.

7537 – 18 mm hex wrench for use on U.S.-built 1985 to '90 GM Astro vans.



#### 7822A

#### **GM Torsion Bar Unloading Tool**

This rugged tool is built for GM's K-3500 series trucks with heavy-duty chassis and a larger torsion bar. It features a larger C-frame opening to accommodate beefier torsion bars. The tool holds the torsion bar while you make adjustments. It also works on 1988 to 2012 GMC and Chevrolet 1/2-, 3/4-, and 1-ton pickups; the S-10 Blazer and S-15 Jimmy, 4WD pickups with 4.3L V-6 engines; and 1991 to 2001 Oldsmobile Bravada.



## 7826

#### Ford Truck Torsion Bar Tool

This tool firmly holds the torsion bar on Ford light-duty trucks while you adjust or service the front suspension. Without it, a torsion bar could unwind and possibly cause damage. The tool fits 1997–2003 Ford F-150 4WD pickups, 1995–2001 Ford Explorer 4WD, 1998–2001 Mercury Mountaineer, and 1998–2001 Ford Ranger.





#### GM Caster/Camber Adjusting Tool

This tool is designed to make caster/camber adjustments quick and easy. Simply place it into the holes in the cross-member and lower control arm, then turn the tool's turnbuckle nut to hold the correct adjustment. This allows you to tighten the adjusting bolts. For use on 1993 to 2000 Chevrolet Camaro and Pontiac Firebird. Also works on 1986–92 Buick Riviera, Cadillac Seville, Oldsmobile Toronado, and 1986–91 Buick Regal.



#### Ford Caster/Camber Adjusting Wrench

This wrench is specially bent to fit on the caster/ camber adjusting cam on 1995 to 2001 Ford Explorer 4WD SUVs, and 1997 2WD and 4WD F-150 pickups. You can use it on the nut to loosen the adjusting cam, and on the bolt to set the caster/camber.

- Has a 21 mm, 12-point design.
- Accommodates a 1/2" drive ratchet or breaker bar.



#### Ford 4WD Caster/Camber Sleeve Puller

Rusted or seized bushings are no match for this puller. It easily pulls most aftermarket and OEM bushings on Ford 4WD vehicles. It's the only tool that works on any angle OEM bushing, removing it quickly and without damage. For 1980 to '96 Ford Broncos, full-size E- and F-series vans and pickups; 1983 to '89 Ranger and Bronco II. The puller comes with adapters to pull most aftermarket bushings having removable retaining rings.

221476 - Arnwood-style bushing adapter.

Suspension Service



#### 6939

#### **Broken Bolt Extractor Tool**

- Remove frozen, broken or cut off bolts within steering or suspension bushings.
- Can also be used to remove and install wheel studs and other general pressing needs.



#### 6939-1 – Broken Bolt Extractor Adapter Set Available for use with the 7248 C-Frame.



#### 5057 – Broken Bolt/Clevis Pin Extractor Tool Used for smaller application.



#### Strut Rod Nut Socket (24 mm)

This specially designed socket is needed to loosen and tighten the top strut nut when servicing the strut spring or strut cartridge. The socket is used with a 1/2" ratchet or breaker bar to turn the strut nut while holding the strut rod with the appropriate wrench. The socket fits 24 mm strut rod nuts found on many domestic FWD vehicles including 1988–96 Pontiac Grand Prix, 1988–98 Oldsmobile Cutlass Supreme, 1988–99 Chevrolet Lumina sedan, 1995–99 Chevrolet Monte Carlo, and 1988–96 Buick Regal.



#### 7707

60

VW and Audi Strut Nut Socket

This 1-3/4" long socket is built for VW and Audi FWD cars in which the top shock-retaining nut is recessed inside the strut tower. The tool's center bore allows you to hold the strut shaft from turning, using a 7/8" (22 mm) hex key and appropriately sized wrench.

#### 7491C

#### GM Upper Control Arm Knock-Out Tool

Here's the tool you need to remove the inserts on the upper control arm alignment brackets of light-duty GM trucks. It features an indexed forcing bolt that pulls straight and evenly, and works with off-center knockouts. The tool fits 1989–2001 Chevrolet and GMC 1/2-, 3/4-, and 1-ton trucks, two- or four-wheel drive. Also works on 1990–2001 all-wheel drive Chevrolet Astro vans and GMC Safari vans. 1997–2002 1/2-, 3/4-, and 1-ton full size vans.



#### 6578

#### Hub Clamp Expander Kit

- For servicing struts, ball joints, or steering knuckles with pinch bolt mounts.
- Remove most stubborn struts and ball joints with ease.
- This separator mounts in the pinch bolt holes and drives the anvil into the pinch slot, expanding the mount for easy component removal.
- Use on aluminum or cast iron pinch mounts; includes 2 dowel sizes.



#### 4533

#### GM W-Body Strut Tool Kit

- Includes one T50 TORX<sup>®</sup> bit, a universal drive handle, and a double-ended socket.
- Use one end of the socket to remove/install the jounce bumper; the other end to remove/install the strut cap nut.
- Works on GM W-body vehicles:
- 1988-96 Pontiac Grand Prix
- 1988–98 Olds Cutlass Supreme & Chevrolet Lumina Sedan
- 1995-99 Chevrolet Monte Carlo
- 1988-96 Buick Regal



#### 3-Knob Handle for StrutTamer Elite

- Large, easy-to-grasp knobs provide ease of spring compression when using the StrutTamer<sup>™</sup> Elite strut spring compressor.
- Included with the 6580, 6585 and 6591. Available separately for owners of previous model No. 6070.



#### 6587 2:1 Reduction Gearbox

 Allows a 2:1 torque compression increase when compressing struts. Fits on StrutTamer™ Extreme or StrutTamer™ HD.



# 7045B

#### Front Coil Spring Compressor

This compressor fits most late-model rear wheel drive domestic vehicles in which the coil springs are between the upper and lower control arms. The tool features four case-hardened, self-aligning plates to ensure correct load distribution under tension. Includes two 3-3/8" ID plates and two 4" ID plates. Will not work on Mercedes-Benz vehicles.



#### MacPherson Strut Spring Hook Compressor

These devices quickly and easily compress most sizes of MacPherson strut springs. Setup is fast and simple. Compression is achieved by alternating from one assembly to another. Each device has a heat-treated alloy thrust screw (5/8"-11 x 12") with forged hooks.



518450 - Three-Bar Handle

Thicker Adjustable Arms on Spherical Bearings

6582

For product videos visit

otctools.com

You Tube

StrutTamer Stand

Height 44" (1118 mm)

Depth 32" (813 mm)

Width 22-1/2" (572 mm)

6587 - 2:1 Reduction Gearbox

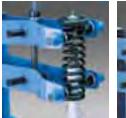
Suspension Service

Four-Point

Locking Jaws

#### Simply the most effective compressor for virtually any straight, conical, or offset spring.

- · Extreme duty design to handle the heavier springs found on midand some full-size truck strut assemblies.
- · Frame includes cross bracing at arm mount locations standard. This eliminates frame flex when compressing heavier springs.
- 2:1 reduction gearbox standard. Allows for a 2:1 torque compression increase when compressing struts.
- Lock rings to hold arms in position standard. This eliminates arms from spreading or sliding when compressing offset or unique strut configurations.
- · Four-point locking jaws securely hold the spring in place.
- · Open-ended design means you can take the strut in and out, quickly and easily.
- · The arms adjust in and out, up and down, to accept many sizes of springs. (2-1/2" to 10" diameter)
- (2-1/2" to 24" vertical stroke)
- · Extra long 3-bar handle gives user the leverage needed to compress heavier strut springs.
- · No need to change shoes for different size springs. · Easy to transport when mounted on optional stand
- (No. 6592 StrutTamer Extreme with stand; No. 6582 stand only)





Strut Spring Coverage 2-1/2" to 10" spring diameters 2-1/2" to 24" vertical stroke range

6591 – StrutTamer Extreme strut spring compressor. Includes 6591-1 upper arm clamps and 6587 2:1 reduction gearbox.

6592 – StrutTamer Extreme strut spring compressor. Includes 6591-1 upper arm clamps, 6587 2:1 reduction gearbox and 6582 mobile stand.

#### Accessories:

6591-1 - Upper Arm Clamps. (Set of 2) For use on springs that require additional compression.

- 6582 StrutTamer stand.
- 6583 Bridge accessory.

6587 - 2:1 Reduction Gearbox.



6494

Note: 6591, 6592 can all be shipped UPS.

**Clamshell Strut Spring Compressor** 

Servicing MacPherson struts is convenient and affordable with this compressor. It fits a wide range of

struts and requires no special adapter shoes.

· Locking pins hold the compressor jaws in place.

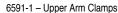
· Tool compresses springs of 4 in. to 9 in. O.D.,

with diameters of 7/16" to 11/16".



6592 StrutTamer Extreme with stand Height 54" (1372 mm) (36" without handle) Width 22-1/2" (572 mm) Depth 32" (813 mm)

Strut Tame





6591

StrutTamer Extreme

Height 29" (736 mm)

Width 21" (533 mm)

Depth 20" (508 mm)

- · Used to compress strut springs if technician prefers to press on the top plate of the strut rather than attaching the locking jaws to the top coils of the spring.
- · Attaches to the locking jaws and is manually adjusted to bridge the strut top plate to be compressed. Lower part of spring is still held in the two lower locking jaws.

Note: Not to be used on conventional coil springs.











## Automotive Specialty Tools Hub Service

# Hub Grappler<sup>™</sup> Cut service time dramatically

Complete solution for servicing wheel hubs and bearings on the vehicle without removing the steering components or knuckle, eliminating unnecessary alignments or the use of a shop press.



#### 6575

- · Jaws designed and sized to properly fit hub applications and is quickly located on the puller bar without the use of fasteners.
- 3/4" custom drive screw coupled with the special equalizer washer provides smooth operation while proprietary heat treating extends its life 5-10 longer than similar designs.
- · Six adapters increase application coverage. Includes tie rod/ball joint tool and two Ford axle installers.
- · Included Application Guide is the most comprehensive on the market.





#### Hydraulic Hub Grappler<sup>™</sup> Kit

6575H

- · An economical way to increase the performance and speed of wheel bearing and hub service.
- Kit includes a through hole 9-ton ram, OTC 2510A air/hydraulic pump, 6 ft. hose with couplers, drive screw and nut.
- · Jaws designed and sized to properly fit hub applications and is guickly located on the puller bar without the use of fasteners.
- · 3/4" custom drive screw coupled with the special equalizer washer provides smooth operation while proprietary heat treating extends its life 5-10 longer than similar designs.
- · Six adapters increase application coverage. Includes tie rod/ball joint tool and two Ford axle installers.
- · Included Application Guide is the most comprehensive on the market.



#### Hub Grappler<sup>™</sup> Puller

- The new Hub Grappler Puller is specifically designed to apply maximum force with minimal effort from an impact gun to also minimize service time.
- · The new jaws are designed and sized to properly fit hub applications and can be quickly located on the puller bar without the use of fasteners.
- The new 3/4" custom drive screw coupled with the special equalizer washer provides smooth operation while the proprietary heat treating extends its life 5-10 times longer than similar designs.



- Hub Tamer<sup>™</sup> to Grappler Update Kit
- This kit includes everything to update the previous Hub Tamer Kit to the New Hub Grappler kit.
- · Includes the Hub Grappler Puller, 6 new adapters, misc. hardware and the new Hub Grappler Application Guide.

6575-2C - Same as above, also includes Hub Grappler case 6575-4.



#### 6575-3

#### Hub Grappler™ Hydraulic Kit

- The Hub Grappler Hydraulic Option is an economical way to increase the performance and speed of wheel bearing and hub service.
- Kit includes a through hole 9-ton ram, OTC 2510A air/hydraulic pump, 6 ft. hose with couplers, drive screw and nut.



Hub Grappler<sup>™</sup> Case · Fits the Hub Grappler puller and adapters.

www.otctools.com

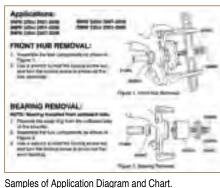
#### Automotive Specialty Tools Hub Service



#### 6575MAN-09

#### Hub Grappler<sup>™</sup> Application Guide

- The Hub Grappler Application Guide is the most comprehensive hub and bearing service guide on the market. Developed to be the first tool used in the kit, it provides quick reference to the other tools in the kit required to do the job, eliminating guesswork and saving time.
- Comprehensive application guide includes diagrams and instructions showing how and where every adapter is used from 1996–2009.
- Application Chart references front/rear, hub/bearing removal and installation adapter part numbers based on vehicle make, model, and year.
- Application Diagrams show puller and adapters properly mounted on steering knuckle with p/n callouts, eliminating trial-and-error.





#### 6290A

#### Front Hub Puller for 4WD Vehicles

- For removal of the front hub assembly, necessary for wheel bearing or brake rotor service. Provides the mechanical advantage and straight pull not possible with a slide hammer.
- Will not work on trucks with dual rear wheels.

#### Services:

- 1988–2013 GM 1/2-ton, 3/4-ton, and 1-ton trucks, Tahoe, Suburban, and Yukon.
- 1994–2013 Dodge 3/4-ton and 1-ton Ram trucks.
- 1998–2013 Ford 3/4-ton and 1-ton trucks, Excursion.



#### 6574

#### Universal Hub Puller HD with Plate

- Universal Hub Puller HD the "Final Answer" to frozen hubs, axle shafts, and other tough pulling applications.
- Adjustable sliding puller legs can be positioned anywhere on the puller center hub for a true universal fit on wheel hubs with 5"-8"+ bolt circles.
- Pulling plate allows for quick attachment and an even pull on the popular 5 bolt hubs with 4"-5" bolt circles.
- •Forged puller assembly coupled with a 1" drive screw capable of 20 tons of force.
- Drive screw approved for use with an impact gun and can be struck with a hammer.
- Additional puller legs may be added to the center hub for special applications.





#### Front Hub Puller for 4WD Vehicles

This puller is required for removing a front hub assembly in 3/4- and 1-ton 4WD pickups with 8-bolt hubs. It works on 1994 to 2012 Dodge Ram and 1988 to 2012 Ford and GM.

- Fits bolt hole pattern 8 x 6.5".
- Will not work on trucks with dual rear wheels.
  Use with our No. 7703 10-lb. slide hammer for maximum pulling force.



With its adjustable sliding arms, this puller makes wheel-hub removal quick, easy, and damage free. It has maximum bolt circle of 7-1/2".

- The No. 32937 puller leg is available separately to complete the five necessary for Cadillac and Jeep hub removal.
- · Includes striking wrench and puller screw.
- 32937 Puller leg.

#### 6574-1

• Optional Puller plate with screws for 7394.



#### 6298

#### Front Hub Installer and Puller Set

Here are three tools that make front hub service easier. The universal puller removes front hubs from most FWD cars without damaging wheel bearings. The installer is used to pull the axle shaft into the front hub on Ford vehicles.

- Spare locknut works with a standard slide hammer puller and the 7208A for rear axle flanges.
- 6298 includes the No. 7208A, 7135A, and 7924A in a molded plastic case.

#### Available separately:

7208A – Hub remover to push the axle shaft from the front hub.

**7135A** – Installer is used to pull the axle shaft into the front hubs on Ford Taurus/Sable vehicles. Fits axle shafts with 20 mm x 1.5 thread.

**7924A** – Installer is used to pull the axle shaft into the front hub. Fits axle shafts with 22 mm x 1.5 thread on Ford Contour/Mystique, Probe, and Focus.

Hub Service



#### Ford Axle Shaft Seal Installers

Correctly installs the seal onto the axle shaft and into the wheel knuckle, preventing front hub vacuum leaks that would cause the 4WD to not engage.

6695 - Ford Axle Shaft Seal Installer. Works on 1998-2004 Ford F-250, F-350, F-450, and F-550 4X4s having the vacuum-operated front axle. 6697 - Ford Axle Shaft Seal Installer. Works on 2005-newer Ford F-250, F-350, 4X4s having

the vacuum-operated front axle. 6698 - Ford Axle Shaft Seal Installer, Works on

2005-newer Ford F-450, F-550, 4X4s having the vacuum-operated front axle.

#### 8342

- Hub Resurfacing Kit
- · Fits your power drill to quickly sand rust off studs and mounting surfaces where it is important to have a clean and debris free surface.
- · The tool features a 1/4" dia. shank and a stud clearance pilot hole that accepts up to 1/2" studs.
- · Sanding pads attach with Half turn thread.
- · Includes holder and five sanding discs.
- · Run at speeds between 5,000 20,000 rpm or less for best results.

552948 - 10 pack of replacement sanding pads.

#### 6541

#### Pulling Hook

- · This slide hammer puller attachment is used to remove
- seals, bearings, and other press-fit parts.
- · Designed to be used with OTC No. 1155 (5 lb.) or No. 1156 (2-1/2 lb.) slide hammer, or other slide hammers having 5/8-18 threads.

## 27315

#### Pulling Hook

- · This slide hammer puller attachment is used oil seals and bearing in situations where conventional methods won't work.
- · Designed to be used with OTC No. 1155 (5 lb.) or No. 1156 (2-1/2 lb.) slide hammer, or other slide hammers having 5/8-18 threads.



# 6578

#### Hub Clamp Expander Kit

- · For servicing struts, ball joints, or steering knuckles with pinch bolt mounts.
- · Remove most stubborn struts and ball joints with ease
- This separator mounts in the pinch bolt holes and drives the anvil into the pinch slot, expanding the mount for easy component removal.
- Use on aluminum or cast iron pinch mounts; includes 2 dowel sizes.

# 1181

#### **Multipurpose Puller Set**

This assortment of puller tools gives you a wide range of job versatility. You get a 5 lb. slide hammer puller, hub puller, two sizes of OTC Grip-O-Matic® jaw-type pullers, a bearing pulling attachment, plus a cross-bar gear and pulley puller, all contained in a handy plastic storage case.

#### Set No. 1181 consists of:

#### Description No.

- 1177 Slide hammer puller with a 5 lb. hammer, 2-way and 3-way heads. Reversible: either two or three jaws may be used to handle both "inside" and "outside" pulling jobs. 7208A Front hub puller for servicing front-wheel-drive cars. Includes a spare locknut, which permits use with a No. 1177 slide hammer for rear axle flanges. 1023 2-ton combination 2- or 3-jaw Grip-O-Matic puller. Has 3-3/8" max. reach,4-3/4" max. spread. 1027 5-ton combination 2- or 3-jaw Grip-O-Matic puller. Has 5-1/2" max. reach, 7" max. spread. Bar-type gear and pulley puller with a 5-1/2" long screw. 7393 Includes two hex head cap screws, 3/8"-16 x 3" long.
- Spread range: 1-1/2" to 4-1/4". 1122 Bearing pulling attachment for use with No. 1027 and No. 7393 pullers. Has 2" max spread, 1/8" min. spread.



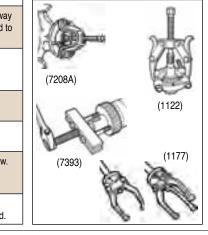
#### Ford Vacuum Front Hub Release Tool Set

Here's the equipment you need to safely remove the plastic vacuum hubs on Ford pickups. Standard tools

- won't work for the job, but this set has special clips that slip into slots on the hub to release it.
- For use on 1998 to 2000 4WD Ranger with vacuum front hubs.







5 lb. Hammer in

Polished Chrome Finish

#### 4579

#### 9-Way Slide Hammer Puller Set

- · Pulls flange-type rear axles and most front-wheel drive hubs.
- · Internal and external jaws provide a variety of combinations to pull bearings, gears and seals.
- Two- and three-way cross blocks and cone provide the perfect jaw configuration for most jobs.
- Set also includes a grip wrench adapter and a dent puller attachment for sheet metal or other unique pulling requirements.
- Designed for use with other OTC 5/8"-18 thread slide hammer attachments.
- Packaged in blow-molded case.



Hub Service



#### 7948

#### Ten-way slide hammer puller set

- 2-3/8" Jaw (3 each)
- 3-3/4" Jaw (3 each)
- 6-1/2" Jaw (3 each)
- 3-Way Puller Head
- Adjusting Cone

5/16-24 x 11/8"

- 5 Lb. Hammer

- Hex Jam Nut, 5/16-24
- Grip Wrench Adapter - Hex Head Cap Screw, - Dent Puller

- Sleeve

- Retainer

1/4" x 2" - Puller Adapter

- Puller Head

- Forcing Screw,

5/8-18 x 5"

- Hex Jam Nut, 5/8-18

- Self-Tapping Screw,
- Shank and Tee Bar Assembly
- Cross Block
- Forcing Screw, 7/16-20 x 6.5"
- Seal Hook
  - Plastic carry/storage case

#### Bearing Cup Remover

Ideal for servicing hubs on today's popular front-wheel-drive small cars. The cone holds the jaws in place during pulling. Perfect for pulling internal bearing cups, seals, bushings, etc. Jaw spread: 15/16" to 3-1/4", reach to 3-1/2". Use with any slide hammer having a 5/8"-18 thread (OTC No. 1155 or No. 1156 or the No. 927 Push-Puller).

6542 - Bearing Cup Remover.

7136 - Bearing Cup Remover. Similar to Ford 308-047.



#### Slide Hammer Rear Axle Puller

This puller will enable you to remove flange-type rear axles from most late model cars and light trucks. It works on axles having bolts and studs up to 9/16" diameter.

- · Fits 4-, 5-, or 6-bolt patterns and stud circles from 4-1/4" to 5-9/16".
- 7372 Rear axle pulling plate.

7374 - Rear axle pulling plate with 5-lb. slide hammer assembly.



## 4507

#### Bearing Race and Seal Driver Set (10 piece)

- · This aluminum constructed set permits installation of tapered bearing races and seals without damage to the component or housing.
- · Tapered side of driver is used to install races. Invert the driver to the flat side to install seals.
- · Set is housed in a blow-molded plastic storage case.
- · Includes driver handle with bolt, plus these tool sizes: 1.565", 1.750", 1.965", 2.325", 2.470", 2.555", 2.830", 2.995", and 3.180".



#### 4542

#### 7-Piece Wheel Bearing Locknut Socket Set • For use with 1/2" ratchet or breaker bar. Set contains:

519097-1 - 2-3/8" hex locknut socket works on 1984-92 Ford Rangers and Bronco IIs with automatic locking hubs. Similar to Ford 205-040 (T70T-4252-B). 519097-2 - 2-9/16" rounded hex locknut socket works on 1990-93 Dodge trucks with Dana 60 manual hubs.

519097-3 - 2-1/2" hex locknut socket fits the hex nut found on rear axles and various front axle applications on light-duty trucks.

519097-4 – 2-3/4" rounded hex locknut socket works on 3/4-ton and 1-ton Ford F-250 and F-350 trucks with automatic locking hubs. Similar to Ford No. 205-349 (T95T-1197-B).

519097-5 - 2-1/2" rounded hex locknut socket works on 1995–96 Ford F-150 trucks and full-sized Broncos with automatic locking hubs. Similar to Ford 205-348 (T95T-1197-A).

519097-6 - 2-3/8" rounded hex locknut socket works on 1990-newer Ford Rangers, Bronco IIs, and Explorers with automatic locking hubs.

519097-7 - 55 mm hex locknut socket designed for use on front wheel adjusting nuts found on Toyota models FJ, LN, and RN.



#### **Professional Style Seal Puller**

- · Designed to remove oil and grease seals when servicing cars, SUVs, and light trucks without damaging the housing or bearing.
- Hook tips in two sizes and professional handle design allows removal of hard-to-get-at seals by aetting under them.
- The tool is 12" long and the hook tip is doublesecured (versus competitors' designs), for durability.
- An extra blade is included, and additional replacements (No. 4508-1) may be ordered.
- 4508-1 Replacement blade for 4508.

Similar to Ford 205-039 (T70T-4252-B)



#### Locknut Socket - Ford

Drive 3/4" (6 pt.) 2-3/8" Hex

- · This high-grade truck wheel bearing locknut sockets are made of high-strength steel and resist rounding out.
- Services 1984–92 Ford Ranger and Bronco II with automatic hubs; 1993-1997 Ford Ranger, Bronco II, and Explorer with automatic hubs.
- · For manual use only, impact wrench voids warranty.

#### Similar to Ford 205-043 (T70T-4252-W)

Fits special "rounded" hex nut found on Dana axles of some Ford trucks.



# Locknut Socket - Ford, Dodge

Drive 3/4" (6 pt.) 2-9/16" Hex

- · This high-grade truck wheel bearing locknut sockets are made of high-strength steel and resist rounding out.
- · Services 1990-93 Dodge truck with Dana 60 manual hubs. 3/4" sq. drive.
- · For manual use only, impact wrench voids warranty.

#### Fits special "rounded" hex nut found on Dana axles of some Ford trucks. Depth of locknut sockets is 5".

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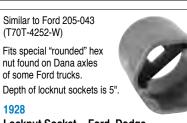
Locknut Socket - Ford Drive 3/4" (6 pt.) 2-3/8" Hex

- This high-grade truck wheel bearing locknut sockets are made of high-strength
- steel and resist rounding out. · Services 1990-newer Ford Ranger, Bronco II,

and Explorer with automatic hubs.

· For manual use only, impact wrench voids warranty.





#### Hub Service

#### 6006

- Locknut Socket Dodge
- · Services 1994-newer Dodge 1/2-ton 4x4 pickups with Dana 44 front axle and Dana 60 axle with vacuum disconnect front axle.



#### 6601

- Locknut Socket Ford
- Services 2003–newer Ford F-250, F-350, and F-450 Super Duty trucks with 10-1/2 inch rear axle.
- 1/2" sq. drive.
- Similar to Ford 205-448





1/2" Drive Locknut Socket Set

- · These are not light-hearted sockets; they feature a 1/2" square drive, and can be used with an extension and torque wrench for accurate tightening.
- · For use on the rounded and standard hex nuts found on the most popular light-duty trucks on the road.
- · Unlike the competition, these sockets are backed by the famous OTC Lifetime Marathon Warranty® against defects in materials and workmanship.

6010 - Locknut socket set. Includes one each: Nos. 6612, 6795, 6796, 6902, 6921, 6928, 6936. Set includes one each of the following:

6612 - 54 mm hex locknut socket designed for use on front wheel adjusting nuts found on Toyota FJ, LN, and RN models.

6902 - 2-3/8" hex locknut socket works on 1984-92 Ford Rangers and Bronco IIs with automatic locking hubs. (Ford No. T70T-4252-B and 205-040).

6921 – 2-1/2" hex locknut socket fits hex nut found on rear axles and various front axle applications on light-duty trucks.

6795 – 2-1/2" rounded hex locknut socket. Works on 1995-96 Ford F-150 trucks and full-sized Broncos with automatic locking hubs. (Ford No. T95T-1197-A and 205-348).

6796 - 2-3/4" rounded hex locknut socket. Works on 3/4- and 1-ton Ford F-250 and F-350 trucks with automatic locking hubs. (Ford No. T95T-1197-B and 205-349).

6928 - 2-9/16" rounded hex locknut socket. Works on 1990-93 Dodge trucks with Dana 60 manual hubs.

6936 - 2-3/8" rounded hex locknut socket. Works on 1990-newer Ford Rangers, Bronco IIs, and Explorers with automatic locking hubs.



Explorer with manual hubs: 1995-96 Ford F-series 1/2-ton truck and full-size Bronco with manual hubs; 1995-newer

Ford F-series 3/4-ton and 1-ton trucks with manual hubs; 1959-85 Ford F-series 1/2- and 3/4-ton trucks and full-size Bronco; 1960-90 GM 1/2-ton truck and full-size Blazer/ Jimmy; 1969-89 Dodge 1/2-ton truck with manual hubs; 1969–72 International 1/2-ton truck.

1/2" sq. drive.

Similar to Ford 205-192 (T83T-1197-B)

# 7158

#### Locknut Socket Ford, Dodge, GM

• Services 1985-1/2-95 Ford F-series H.D. 3/4and 1-ton Dana 50 IFS of Dana 60 front axle; 1982-90 GM H.D. 3/4- and 1-ton trucks. 1994-newer Dodge Dana 60 with Cummins.

• 1/2" sq. drive.

Similar to Ford 205-D065 (D85T-1197-A)

## 7269

## Locknut Socket

- Ford, GM
- Services 1985–newer Ford F-series 3/4- and 1-ton trucks with Dana 80 rear axle.
- 1/2" sq. drive.

Similar to Ford 205-282 (T88T-4252-A) Kent Moore J-42855

# 7612

# Locknut Socket

Toyota 54 mm hex socket fits front wheel bearing adjusting nut of Toyota FJ, LN, and RN. Has 1/2" square drive end, permitting use of a torque wrench.

• 1/2" sq. drive.

#### 7698 Locknut Socket Isuzu, Honda, Jeep

• Services 1988–1995 Isuzu Trooper, Rodeo, Amigo, and pickup; 1989-1995 Honda Passport; Jeep J20 pickups with Dana 60 axle.

• 1/2" sg. drive.



2-1/4"

2-1/2"

2-1/8

54 mm

2-1/4"

# 7795

#### Locknut Socket Ford

- Services 1995–1996 Ford F-series 1/2-ton trucks and full-size Bronco with automatic hubs.
- 1/2" sq. drive.

Similar to Ford 205-348 (T95T-1197-A) 2-1/2"

#### 7796

#### Locknut Socket Ford

- · Services 1995-1998 Ford F-series 3/4and 1-ton trucks with automatic hubs.
- 1/2" sq. drive.
- Similar to Ford 205-349 (T95T-1197-B) 2-3/4"

#### 7913

# Locknut Socket

- Suzuki, Geo
- · Used to remove and install locknut on 1997-2000
- Suzuki Samurai and Geo Tracker front hubs.
- Similar to Kent-Moore J-42119

# 7941

#### Locknut Socket Toyota

- · Specially designed to fit 4WD lock-out hubs on Toyota's 1995-2002 Tacoma, and 1996-2002 T100 and
- center on pins
- Services 1978–84 Ford F-series H.D. 3/4-and 1-ton 4WD trucks; 1973-81 GM 3/4- and 1-ton 4WD trucks.
- 1/2" sq. drive.
- Similar to Ford 205-D001 (D78T-1197-A)

2-5/8"

# 7270A

#### Locknut Socket Ford, Dodge

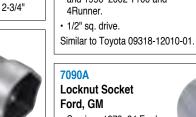
· Services 1984-92 Ford Ranger and Bronco II with manual hubs; 1986–95 Ford F-series 1/2-ton truck: full size Bronco with Dana 44 front axle; 1990-93 Dodge trucks 2-3/8 with Dana 44 automatic hubs. • 1/2" sq. drive.

Similar to Ford 205-244 (T86T-1197-AR)









# Automotive SpecialtyTools Quick Finder Index

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Brake Service



high heat conditions of hard braking situations...it can cause dangerous degradation of your customer's ability to stop safely! The No. 3890 can diagnose a brake system in under a minute. It actually boils a small sample of brake fluid in the reservoir to test for water contamination.

- · Powered by the vehicle battery; won't operate if connected to the wrong polarity.
- · On-screen prompts lead you guickly through testing.
- · You'll find the minimum boiling (vaporizing) point along with minimum recommended levels for various types of brake fluid.
- Works on DOT 3. DOT 4. and DOT 5.1 fluids.
- · No consumable test strips; buy this tool and test every vehicle that comes into your shop.

#### Specifications:

Accuracy at 212°-356°F....1% typical, 3% max. Accuracy above 356°F....3% typical, 5% max. Testing Time....15-60 seconds Operating Temp Range....32°-122°F

Accessory:

- 3491-12 12' cable.
- 3491-13 20' cable.

Deluxe digital pressure/temperature

analyzer with four pressure input

receptacles and protective boot.

3491-01 - 500 psi transducer.

Set includes (500 psi) transducer, 12' cable, 8-1/2" hose, bead-type

temperature probe, assorted fittings,

plastic storage case, instruction manual.

3491-02 - 5,000 psi transducer. (not included in 3490)



#### Automotive Specialty Tools Brake Service



#### 6980

#### **Brake Drum and Rotor Puller**

- Handles large components such as brake drums, rotors, drive wheels, gears, flywheels, and pulleys.
- One person can easily set the tool in place and use for tough pulls even where there is little access to insert the jaws.
- Spread to 12-3/4" and 5" of reach.
- · 7-tons of force, yet weighs less than 10 pounds.
- · Can be used with air tools to reduce time and fatigue.



#### 4589

#### **Disc Brake Piston Tool**

- This "cube" tool rotates pistons back into brake calipers when replacing brake pads on vehicles with rear wheel disc brakes.
- Tool has 3/8" square drive, provides six drive pin configurations to fit most cars and light trucks. This updated version fits more applications than many competitors' tools.

#### 6093 Disc Brake Pad Spreader • Can be used on or off the vehicle

- during brake pad replacement to push
- the piston back into the caliper. Thick pushing plate (3/16") and wide, threaded collars are designed for heavy-duty applications.
- Works on single and dual piston calipers.
- · On dual piston calipers it compresses piston evenly.



#### 7317A

#### **Disc Park Brake Caliper Tool Kit**

Includes caliper piston adapter from 1-1/2" to 2-1/2" to service most Audi, Chrysler, Ford, GM, Honda, Jaguar, Mazda, Mitsubishi, Nissan, Saturn, Subaru, Toyota, VW, Volvo, Saab vehicles with 4 wheel disc brakes.





#### 7034

#### **Disc Brake Pad Spreader**

- For use on all standard and four-piston caliper disc brakes.
- Retracts piston and holds pads snugly in place for easy assembly of caliper over rotor.
- · An extremely rugged tool that's easy to use.





# 4743

#### Motorcycle Brake Caliper Spreader

- Compresses the brake pistons on most style calipers for easy pad replacement.
- Fits all front and some rear disc brakes.
- Range: .25" (5 mm) to 2.25" (58 mm). Works on all automotive applications in this range.





#### Brake Spring Pliers and Claw

- Effectively removes and replaces shoe return springs of drum brakes on domestic cars and trucks. Thin, narrow point provides straight, in-line pull on spring.
- Robust handle provides straight, infine put of spring.
   Robust handle provides powerful leverage. Double- ended design. Plated steel resists corrosion.



4591
Brake Spring Compressor Tool
Provides leverage to remove and install stubborn hold down springs of drum brakes on cars and light trucks.

Special beveled cup end and notched design grips the retaining washers (11/16" to 7/8") used to hold the springs in place. Comfortable handle and knurled base for solid gripping.

Brake Service



#### 6516

- Brake Tool Set (8 piece)
- · Set contains the most popular brake tools for servicing drum brakes on many import and domestic vehicles.
- · Includes three different brake spoons to adjust most brake drums, five different brake spring tools that will service most drum brakes.



#### 7456

#### Ford Brake Spring Tool

The hold-down springs on rear brake drums can now be easily removed or installed with the help of this tool - without causing damage or injuries.

· For use on 1967 to 2004 3/4- and 1-ton pickups and vans.



#### 7299 Ford Caliper Pin Remover

This is the damage-free way to remove brake caliper pins on 1986 to '88 Aerostar, Bronco, and E- and F-series pickups; 1983 to '88 Ranger; and 1984 to '88 Bronco II.



#### Ford Disc Brake Caliper Pin Remover

Forget those makeshift methods of disc brake caliper pin removal. With one of these tools, you can handle jobs on a variety of light-duty Ford models.

· For use on 1989 to 1996 Aerostar, Bronco, Ranger, E- and F-series pickups; 1989 to '91 Bronco II; and 1991 to 1995 Explorer.



#### **Caliper Hanger Set**

These hangers are designed to hold brake calipers out of your way during brake, bearing, suspension, or axle work. In doing so, they make the jobs easier and faster, and reduce possible brake hose damage.



Line Fluid Stopper Kit Stop messy fluid leaks and prevent contamination during service.

- · Kit seals all types of rubber and steel line found on fuel, brakes,
- AC, power steering and transmission system. · Includes two banjo style fitting stoppers, two steel line
- stoppers, six line plugs, a line disconnect tool, and a long reach line pinch-off tool for hard-to-reach hoses.
- 6703-1 Banjo Line Fluid Stoppers, 2 pk.
- 6703-2 Steel Line Fluid Stoppers, 2 pk.
- 6703-3 Line Plug Fluid Stoppers, 6 pk.



#### 4799

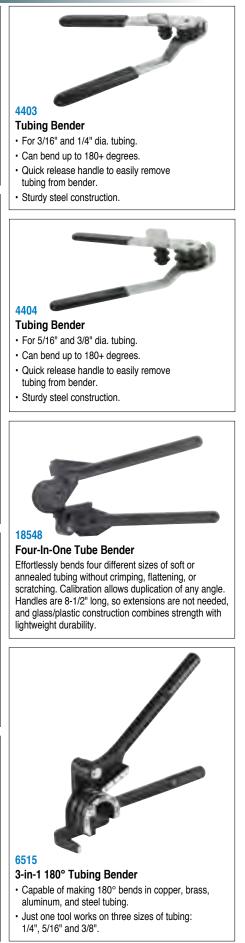
#### Brake Piston Removal Locking Pliers

This specially designed locking pliers allows the removal of brake caliper pistons during service or rebuild. The pliers is simply clamped into the I.D. of the caliper piston allowing it to be pulled out of the caliper. Range; 5/8" to 2-1/4" diameter pistons.



#### **Tube Bending Pliers**

- · Bends tubing from the side allowing for use in limited access areas.
- 3/16" and 1/4" dia. tubing.



#### Automotive Specialty Tools Brake Service



#### 6514

#### Mini Tubing Cutter

- Works on tubing sizes 1/8" to 5/8" O.D. (3 mm to 16 mm).
- Easily cuts copper, brass, aluminum, and steel brake lines in hard-to-reach places.
- Ream folds onto cutter body for storage.
- Extra cutting wheel stored under ream.



#### 6512

#### **Heavy-Duty Tubing Cutter**

- Works on tubing sizes 1/8" to 1-1/8" O.D. (3 mm to 29 mm).
- Easily cuts copper, brass, aluminum, and steel brake lines.
- · Ream folds onto cutter body for storage.
- · Extra cutting wheel stored under ream.



#### 42040

#### Single Blade Deburring Tool

This handy tool removes internal burrs in copper tubing. It features a high-speed steel, blade, aluminum handle, and pocket clip. Tubing size is unlimited.



## Deburring Tool

Quickly deburrs aluminum, copper, and steel tubing, and can work on any size tubing. It's made with a highspeed, steel blade and a durable aluminum handle. Three spare blades store in the handle.



#### 4503

#### **Double Flaring Tool Kit**

- Designed for double or single flare in copper, aluminum, soft steel brake line, and brass tubing (to 45 degrees).
- Includes five adapters 3/16" through 1/2" (4.8 mm through 12.7 mm).
- Chrome swivel, made of alloy steel, reduces friction. Forged yoke made of heat-treated steel. Housed in a blow-molded storage case.



#### Bubble (I.S.O.) Flaring Tool Kit

- Designed for crack-free bubble flares on soft steel tubing used in automotive brake systems.
- Includes four dies: 4.75, 6, 8, and 10 mm adapters.
- Forged steel yoke, flaring bar, and all the adapters needed for ISO bubble flaring.
- The most economical "Bubble" flare tool to date. Housed in a blow-molded storage.



#### **Double Flaring Tool Set with Cutter**

- Designed for steel brake lines where double flaring is required.
- Also performs 45° single flares on 3/16", 1/4", 3/8", 7/16", 1/2", and 5/8" copper, aluminum, brass, and magnesium tubing.
- Includes the No. 6514 tubing cutter and adapters for double flaring 3/16", 1/4", 5/16", 3/8", and 1/2" tubing.
- · Housed in a plastic blow-molded case.



#### Bubble (I.S.O.) Flaring Tool Set with Cutter

- Designed for metric, steel brake lines where an ISO or bubble flare is required.
- Includes the No. 6514 tubing cutter and adapters for 4.75 mm, 6 mm, 8 mm, and 10 mm tubing.
- · Housed in a plastic blow-molded case.



#### 6506

#### Metric Double Flaring Tool Set with Cutter

- Designed for metric, steel brake lines where double flaring is required.
- Also performs 45° single flares on 4 mm, 4.75 mm, 6 mm, 8 mm, 10 mm, 12 mm, and 14 mm copper, aluminum, brass, and magnesium tubing.
- Includes the No. 6514 tubing cutter and adapters for double flaring 4 mm, 4.75 mm, 6 mm, 8 mm, and 10 mm tubing.
- · Housed in a plastic blow-molded case.



#### 6502

#### Master Brake Flaring Tool Kit

- Covers Single, Double, and Bubble type flares:
- Single Flare Standard Lines 3/16" 5/8".
- Single Flare Metric Lines 4mm 14mm.
- Double Flare Standard Lines 3/16" 1/2".
- Double Flare Metric Lines 4mm 10mm.
- Bubble Flare Standard Lines 3/16" 1/2".
- Bubble Flare Metric Lines 4.75mm 10mm.
- Kit contains flaring bar, arbor press, adapters, tube cutter, deburring tool, all in a hard case.



#### Automotive Specialty Tools Brake Service



#### 7559A

#### Deluxe Vacuum Pump

This pump kit is designed for vacuum testing, brake bleeding, and fluid transfer. With this kit, one person can guickly and cleanly bleed brake and hydraulic clutch systems, actuate vacuum switches (VOES), as well as get answers to numerous diagnostic and mechanical problems.

#### Kit includes:

- Precision-made repairable vacuum pump with 360° gauge rotation for improved visibility.
  - Pumps up to 1 cubic inch (16cc) per stroke.
- Develops and maintains up to 25" of vacuum. • 4-1/2 oz. Reservoir jar with fluid transfer and
- storage lid. • Two - 2 ft. long, 1/4" ID hoses.
- · Rubber cup adapter.
- · Two universal bleed screw adapters.
- · Vacuum 'T" adapter.
- · Automotive test and bleed adapters.
- · User manual (English, Spanish, French).





#### **One-Man Brake Bleeder Hose**

- · Removes air from brake system, one wheel at a time, and eliminates the need for an assistant.
- · Hose easily attaches to bleeder screw, which holds hose in place and prevents leaking.
- · Check valve on end of hose prevents air from entering brake system when pumping brake pedal.
- 4599 One-man brake bleeder hose, one only.

4809 - One-man brake bleeder hose, set of four. Do all the wheels at the same time. Includes four of the No. 4599.



#### 4546

#### Steering Wheel Holder & Pedal Depressor Kit

- · This kit has two applications: 1) holds steering wheel in position for alignment adjustments, and 2) depresses brake pedal for various brake checks, including brake lamp operation.
- Rod easily slides in actuator for fast, easy installation of tool on brake pedal or steering wheel. Simply hand squeeze the actuator to accomplish fine adjustments.
- · Kit includes: actuator assembly; extension rod for actuator (use when depressing brake pedal); hook assembly (hooks on steering wheel when depressing brake pedal or holding steering wheel); and flat pad (rests on front seal when holding steering wheel).

4546-1 - Handle and Rod.

4546-2 – Steering wheel and pedal holder.



#### Fluid Evacuation / Brake Bleeding Tools

- Use to bleed brake systems and remove a variety of fluid from vehicles, such as antifreeze, oil, transmission fluid, gear lube, etc.
- Quick connect locking hose adapters and ball-style on/off valve on hose prevent fluid leakage.
- · Equipped with a relief valve to prevent over-pressurizing the tank.

- Operates by shop air or a hand pump; shipped complete with a brake bleeding hose, fluid evacuation hose, and two suction hoses (6 mm and 7 mm); 10-liter capacity tank.

**8101** – Operates with shop air; shipped with a brake bleeding hose and fluid evacuation hose: 6-liter capacity tank.



#### ABS Brake **Proportioning Valve Depressor**

The proportioning valve depressor works on various GM utility vehicles, vans, and pickups fitted with Kelsey Hayes anti-lock brake systems. It also works on rear-wheel anti-lock brakes.

· Two depressors work best for four-wheel anti-lock systems.



#### 7639 **GM W-Body Brake Bushing Service Set**

Here's the complete set for servicing seized disc-brake rear-caliper slides on GM W-body cars. It includes a bushing driver, 180 grit hone, and a 1-1/4" diameter wire brush.

• For use on 1988 to 1993 Buick Regal, Oldsmobile Cutlass Supreme, Pontiac Grand Prix; 1990 to 1993 Chevrolet Lumina sedan.



#### 8104

#### Vacuum Brake Bleeder

This one man brake bleeding system allows for fast and efficient vacuum brake bleeding. Universal rubber fitting holds securely on brake bleeder screw. Attach shop air and use the guick release trigger for on-demand vacuum and hands free operation. Compact size and 17 oz. (500ml) capacity.

#### Automotive Specialty Tools Brake Service & Wheel & Tire Service

sq. drive

3/8"

3/8"

3/8"

TORX

HEX



#### 7011

#### Ball Hone Set, 10 piece

- Ball Hones can be used for refinishing and resizing bores such as found in brake calipers, engine lifters, and u-joint yokes. Also useful for any bearing or bushing application.
- All hones are 180 grit Silicone Carbide for excellent cutting and finish.

# Get more done



Tool No.

7011-1

7011-2

7011-3

7011-4

7011-5

7011-6

7011-8

7011-10

7011-12

7011-14

Size

.375"

.500"

.625'

750"

.875"

1.00"

10 mm

13 mm

16 mm

19 mm

22 mm

25 mm

# With tire service tools from OTC's trusted line

Technicians that are serious about servicing tires are going to be serious about OTC's tire serviceline that kicks off this year with the Tire Bead Seater, Air Chuck, Bead Breaker and Tire Spoons. These tools take very difficult and potentially dangerous processes and make them easy and safe to perform in the shop environment.





6135

No.

6107

6108

6110

**Universal Brake** 

Set includes one each of the following:

Caliper Socket Set (9 Piece)

Size

T40

T45

T50

#### 5713

#### **Tire Bead Seater**

The Tire Bead Seater is used when a tire, new or used, is mounted on a wheel and the tire bead does not touch both sides of the wheel, making inflation possible. The air trigger on this tool expels a tremendous burst of air that inflates the tire to seat it to the wheel rim. This allows the tire to be inflated to the recommended pressure through the tire valve.

- The Tire Bead Seater is equipped with unique configurations that enhance ease of use, productivity and safety for technicians looking to get the job done right every time.
- Unlike other options out there, the Tire Bead Seater's ASME certified 13-gallon tank is designed with a nozzle and valve connected via hose assembly, giving the user more control rather than requiring them to hold the weight of the tank.
- The trigger style discharge valve allows for optimum airflow control while allowing both hands to firmly hold the nozzle/valve assembly, critical for effective and safe use. Wheels and handle function in either the vertical or horizontal position for easy mobility and storage.
- Unique nozzle design significantly reduces "blowback recoil" and contains discharge holes strategically placed for optimum inflation of a wide range of the tire sizes and wheel diameters.
- Air valve included for filling tank, which also provides compressed air for filling the tire while seating the bead, optimum for on-the-road service.







#### 5700

#### Accessory Tire bead seater

• 5700 Accessory Tire Bead Seater can be added to the existing surge tank found on most tire changers.

#### 5702 Tire Bead Seater

The 5702 OTC Tire Bead Seater provides many of

- the great features of it's 5713 big brother, at a more economical price!
- The trigger style discharge valve allows for optimum airflow control while allowing both hands to firmly hold the tank/valve assembly, critical for effective and safe use.
- Unique nozzle design significantly reduces "blowback recoil" and contains discharge holes strategically placed for optimum inflation of a wide range of tire sizes and wheel diameters.
- Inline design allows for a comfortable distance from the tire and wheel while seating.
  ASME approved 2-gallon tank with inlet valve, pressure gauge, and relief pressure
- ASME approved 2-gallon tank with inlet valve, pressure gauge, and relief pressure valve for safety.



Wheel & Tire Service



#### Tire Spoons

Unique "Convex Slip Head" curved design allows the spoon to slide easily into the tire bead while the spoon bump limits the depth for quick-and-easy operation.



#### Tire Service Hammers, Indestructible Handle

- Indestructible handle never needs replacement!
- Ergonomic rubber grip handle reinforced with steel bars resists breaking while absorbing impact and vibration.
- Drop-forged head is induction-hardened for long life, and contains steel locking plates that are specially bonded to ensure the head never becomes loose.
- Use top hook as a wheel tipper; sledge end hook to drag tire into position.
- Bead breaking wedge has grooves and a convex shape to help drive tire lube into the bead.

#### 5789ID-520

Head Weight 5 lb., Handle Length 20". 5789ID-1032

Head Weight 10 lb., Handle Length 32".



#### 5728 Tire Bead Breaker

- Unique head is designed to provide a large striking area for all angles, while providing the mass needed to break the tire bead.
- This design puts the force exactly where it's required and eliminates the possibility of accidentally hitting the wheel, problems typically encountered while using larger swing hammer style bead breakers.





#### 5745

#### Hands Free Air Chuck

- Perfect for applications where the tire valve is facing the floor while seating the tire bead, such as most dual wheel configurations.
- Hooks on the top bead seat of the wheel and the spring pressure holds the chuck on the tire valve pointing to the opposite side.
- Ball valve included to allow inflation only when needed.

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#### Automotive Specialty Tools Wheel & Tire Service



#### 5731

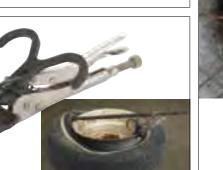
#### **Tire Bead Locking Pliers**

- Prevents the tire from slipping while mounting the top bead.
- Quick and easy universal clamping design.
- Rugged rubber coated jaw to protect wheel finish.
- · Prevents tire from contacting costly TPM Sensors.



#### 4771

Motorcycle Tire Bead Alignment Tool This aluminum tool will hold a tire bead into the drop center of the wheel when changing the tire or installing an inner tube. The nylon thumbscrew will not damage the wheel finish.



#### 5732

#### **Tire Spoon Holding Pliers**

- Tire Spoon Holding Pliers is the 3rd hand needed to ease mounting and demounting of tires with tire spoons.
- · Quick and easy universal clamping design.
- · Rugged rubber coated jaw to protect wheel finish.



#### 5733

#### **Tire Bead Wedge Pliers**

- Tire Bead Wedge Pliers keeps the tire in the bead drop area to ease mounting and demounting of larger truck and agricultural tires.
- · Quick and easy universal clamping design.
- Rugged rubber coated jaw to protect wheel finish.





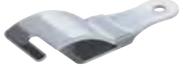




#### 4777

#### Motorcycle Tire Bead Holding Tool, Long

This tool allows the tire bead to be held in the drop center of the wheel when changing the tire or installing an inner tube. The slot slides over the spoke and the opposite end is depressed to push the tire into position. For use on wheels with 1 5/8" maximum side profile height.



#### 4775

#### Motorcycle Tire Bead Holding Tool, Std.

This tool allows the tire bead to be held in the drop center of the wheel when changing the tire or installing an inner tube. The slot slides over the spoke and the opposite end is depressed to push the tire into position. For use on wheels with 3/4" maximum side profile height.



#### Motorcycle/ATV Wheel Rim Protector Set, 3 piece Fits over the wheel rim to protect the wheel from being scratched or damaged while using tire spoons. Set of three.



#### Unique slide hammer design eliminates prying against the wheel finish and potential scratches. Opposite end has a rubber bumper used to re-install

cap with a simple tab.



#### 4750

#### Tire Valve Installer/Remover Tool

This 14" steel tire valve tool includes a stepped rubber sleeve that can be positioned on the handle for optimum pulling angle of the valve, while protecting the wheel finish. Removes and installs snap-in style tire valves.



#### TPMS Tire Deflator/Locator;

- Evacuates air from the tire without removing the valve core.
- Tire location is marked on the color coded deflators so TPMS sensors can be replaced to the original location, eliminating the need for resetting.



#### C-Frame Press

 The C-Frame used in conjunction with OTC Ball Joint Adapters. Can also be used for removing/installing; universal joints with needle bearings, pressed in wheel studs, and brake anchor pins on heady-duty vehicles. Suitable for general pressing operations.



#### Motorcycle/ATV Tire Spoon with Grip This 13" curved tip tire spoon is strong yet comfortable to use with the form fit hand grip. The rounded head

prevents puncturing the tube.



#### Automotive Specialty Tools Wheel & Tire Service

#### Your Full Coverage TPMS Solution

Diagnostics · Reset · Relearn · Register

The OTC Tire Pressure Monitoring Reset Tool is a fast and simple to use stand alone TPR activation tool



#### 3835

#### Tire Pressure Monitoring System Reset Tool Master Kit

Includes: TPR handheld, DB25 wireless adapter, carry case, registration card, user manual for TPR, and Genisys<sup>®</sup> interface, activation magnet, valve stem torque wrench, valve nut torque wrench, digital tire pressure gauge, TPMS Poster, TPMS flip charts, 11mm socket, 12mm socket, and torque tool.



#### Tire Pressure Monitoring System Accessory Kit

Includes: Activation magnet, valve stem torque wrench, valve nut torque wrench, digital tire pressure gauge, TPMS Poster, TPMS flip charts, 11mm socket, 12mm socket, and torque tool.

**Note:** Your Genisys requires System 4.0 or later for TPR communication.



#### 4751

#### **Tire Pressure/Tread Depth Gauge**

This 3-in-1 gauge will measure tire pressure, lower tire pressure, and measure tread depth all in one gauge. Rugged cast housing for strength and long life.



3833-25 – Electronic Torque Wrench



Gives technicians the leverage they need to easily remove or install truck tire-and-wheel assemblies.

- Heavy-duty construction capable of toting 300 pounds.
- · Onboard rollers make stud-hole alignment a snap.
- · Spring-loaded kickstand for handy parking.
- Rugged tubular steel construction.
- Two models that, together, can accommodate tire diameters from 24 to 48 inches.

5095A – Easy Lever wheel dolly. With a width of 22", this dolly handles tire diameters of 24" to 36".

**5096A** – Heavy-duty Easy Lever wheel dolly. With a width of 26", this dolly handles tire diameters of 36" to 48".



#### 5100

#### Wheel Mate™ Wheel Handler

- Enables truck technicians to easily remove, install, rotate, and transport single tire-wheel assemblies.
   Internal ratcheting jack with 14 inches of vertical travel —almost a foot higher than conventional dollies.
- U-shaped chassis that provides close, unhindered access to work area.
- A design that accommodates—and securely holds almost any truck wheel, including wide-based singles, without restraining chains.
- Heavy-duty ball-bearing wheels mounted under ball bearing swivel casters for maximum maneuverability.
- · Foot-operated wheel lock.
- Rugged structural steel tubing construction that meets the demands of the toughest shop environments.



#### 1770A

#### 1,500 lb. Capacity Dual Wheel Dolly

- Hydraulic jack provides almost 5" of lift and tilts wheel assembly 4° to prevent damage to wheel seal.
- Independent lifting rack provides maximum stability; rollers won't catch on load.
- · Swivel casters for easy maneuverability.
- 6' chain holds load in place.
- · Covered by OTC Lifetime Marathon Warranty®.



#### 5105B

- 1,500 lb. Capacity High-Lift Dual Wheel Dolly
- Effortless air-powered hydraulic lift system for a variety of applications.
- 0 to 42" lifting range.
- Six-inch lateral adjustment.
- Tilt adjustment of +15° to -8° ensures easy alignment.
  Features four swivel casters, two locking, for
- enhanced mobility.

#### Wheel Tipper

5082

This heavy-duty wheel tipper makes handling those hard-tomanage truck tires easy. To use the wheel tipper, simply deflate the tire and break the bead, then hook the wheel tipper to the rim of the wheel. With both hands on the wheel tipper, pull it towards you.

- Designed for both aluminum and steel wheels.
- Reduces back strain when tilting deflated wheel assemblies for maintenance.







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#### Battery

D

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#### **Battery Service**

#### 4611

#### **Battery Terminal Puller**

- Designed to remove the battery cable clamp from the post without causing damage to the battery.
- Spring-loaded sharp jaws get under the clamp for a secure grip.

#### 4612

#### 3-Way Battery Post Cleaner

- Steel blades quickly clean top-post battery terminals and cable clamps; cleaners are marked "positive" and "negative."
- Ream is tapered to clean both positive and negative battery cable clamps.

#### 4613

#### Battery Pliers

- Serrated jaws firmly grip the battery terminal nut or bolt.
- Offset handles allow access in hard-to-reach areas.
- Works on top-post and side-post battery terminals.

A IN & SA THERE LATER

4614

#### - 60

#### Side Terminal Battery Wrench

- Designed for use on GM side-terminal batteries, or any 5/16" hex head battery bolt.
- 5/16", 6 point, box end, 5-1/2" long, ratcheting wrench; insulated handle.



#### Long-Side Terminal Battery Wrench

- Designed for use on GM side-terminal batteries, or any 5/16" hex head battery bolt.
- Long handle allows access to hard-to-reach battery terminal bolts.
- 5/16", 6 point, box end, 10" long, ratcheting wrench; insulated handle.

# 4616

#### Battery Terminal Wrench – 10mm

- Designed for use on 10 mm battery terminal bolts found on many import and domestic vehicles.
- 10 mm, 12 pt., box-end ratcheting wrench; 5-1/2" long with insulated handle.

#### Side Terminal Battery Brush

4617

- Designed to clean corrosion from side post batteries.
- One brush used to clean battery terminals; other brush used to clean battery cable ends.
- · Plastic handle resists battery acid.

#### 4618 Battery F

#### Battery Brush

- Cleans dirt and corrosion from positive and negative battery posts and cable clamps.
- Plastic case resists battery acid and most cleaning solvents.



#### **Professional Battery Hydrometer**

- Displays a battery's specific gravity on an easy-toread float; scale ranges from 1.100 to 1.300.
- Thermometer indicates what must be added or subtracted from the float reading to arrive at an accurate specific gravity reading for each battery cell.
- Flexible tip offers easy access to the battery cells while the battery is still in the vehicle.
- 4620

#### Battery Carrier

- Use to lift and install most top post and side terminal batteries.
- Designed to transfer lifting force to a secure hold on the
- battery; teeth on jaws offer a secure grip.
  Vinyl strap resists battery acid and will not conduct electricity.

#### 4621

- Two-Liter Battery Filler
- Replenish battery water the easy way! The fill nozzle on this container has an automatic shut-off that prevents overfilling; the handle on the side of the container makes the job a snap. Container holds up to two liters of distilled water.



#### **Battery Cable Cutter**

 Designed to cut copper battery cable and aluminum electrical cable. IMPORTANT: Do not cut steel cable; damage to blades will occur.

# Precision-

#### provide a clean, square cut.

• 7" long handle gives extra leverage when cutting.

#### 1/4" & 3/8" Cable Cutters

- Perfect choice for cutting heavier copper and aluminum cables.
- This tool is especially valuable for battery service where replacing a terminal is required.
- Clean cut with minimal mushing of wire strands.
- **4476** 1/4" cable cutter. **4477** – 3/8" cable cutter.



#### 516508

Battery Terminal Service Kit (7 piece) Kit includes:

- 4611 Battery terminal puller.
- 4612 3-way battery post cleaner.
- 4613 Battery pliers.
- 4614 Side terminal battery wrench.
- 4615 Long-side terminal wrench.
- 4616 Battery terminal wrench 10mm.
- 4617 Side terminal battery brush



#### 4631

#### Battery Terminal Service Kit (8 piece)

Kit includes:

- 4611 Battery terminal puller.
- 4612 3-way battery post cleaner.
- 4613 Battery pliers.
- 4614 Side terminal battery wrench.
- 4615 Long-side terminal wrench.
- 4616 Battery terminal wrench 10mm.
- 4617 Side terminal battery brush
- 4622 Battery Cable Cutter

#### 7645

#### Parasitic Draw Test Switch

Finding electrical problems that drain the battery is getting harder all the time. But using No. 7645 with your digital amp meter takes the

guesswork out of a complicated job. Attach the test switch between the negative battery cable and the battery, and then road- test the vehicle. Next, connect an amp meter to the switch to determine the parasitic amperage draw, and locate the excessive electrical drain on the battery. Works on any vehicle with side- or top-post batteries.

#### 3386

#### Antizap Auto Surge Protector

 Connects to battery, and becomes part of vehicle's electrical circuit. If a voltage spike is detected, the Antizap automatically clips it to a safe level to



- prevent damage to sensitive electronic systems.
  Protects fuel gauge, ABS brakes, radios, tape and CD players or players. SPS air bage LED.
  - and CD players, car alarms, SRS air bags, LED instrumentation, EFI, fuel, and climate control systems. Protects against welding (Arc, Mig, & TIG).







**Battery Service** 



mode after the battery is completely charged. Application:

Lead Acid (FLA, AGM, GEL).

#### 3176

#### **Smart Battery Charger and Maintainer**

The Smart Battery charger and Maintainer utilizes a patented 5-Stage Automatic charging system designed to charge a battery efficiently while prolonging the life of the battery. The automatic power switching gives you the ability to charge your battery to 100% without worrying about damaging the battery. The battery charger/maintainer comes with clamps for jump starts or overnight charging and ring connectors for permanent connection to seasonally used vehicles such as RVs and motorcycles.

#### Product Features:

- · Maintains the battery charge level during vehicle programming.
- · Charges deep discharged batteries in about 12 hours.
- · Maintains the battery charge level if the vehicle or the battery needs to be stored for an extended period of time.
- · Switches to float mode after the battery is completely charged.
- · Utilizes switching technology which helps restore the batteries that are slightly sulfated.
- · Easy-to-read LED lights to show the status of charging and battery condition.
- · Micro processor controlled pulse charger.
- · LED indicator lights : Red & Green.
- · Input: 110V AC.
- · Application: Lead Acid (FLA, AGM, GEL).
- Output: 5Amp /12Vdc.
- · Auto polarity, Spark free & Overcharging Protection.
- · IP65 waterproof. Dust Splash/Rain Protection.
- · Switches automatically to float mode.



#### 75240

www.otctools.com

#### **Coolant and Battery Refractometer**

This can be used for measuring the freezing point of either propylene and ethylene glycol based cooling systems. It can also be used for checking the strength of electrolyte solution in batteries. This precision instrument features high quality optics with ultra smooth focusing on the body. Coolant scale range: 32° F/0° C to -60° F/ -51° C.

#### Battery Charging/Starting System Professional Analyzer Kits

Made for the professional technician, No. 3185 tests batteries and starting/charging systems faster than ever before. The BCS system analyzer has an operating range of 50-2000 CCAs and is able to store data in memory or remotely print out the results using an infrared

printer interface. It also measures voltage, and tests starting and charging systems at the push of a button. Product Features:

- · Quick 1-second initial results.
- Tests charging and starting systems 50–2000 CCA range accurate to 5 CCAs.
- · Tests 6V and 12V batteries.
- · Temperature and low charge compensation.
- · Detects and identifies loose leads.
- · Supports CCA, IEC, EN, BCI, and DIN scales.
- · 4-line, 20-character LCD display shows CCAs, voltage, and good/bad status.
- · Displays results in seven languages: English, French, Spanish, German, Italian, Dutch, Swedish.
- · Built-in infrared printer interface for remote printing.
- · Detachable cable leads.

#### 3184

BCS system analyzer kit. Includes BCS system analyzer, a 12' extension cable for in-cab testing, two voltmeter probes, battery side- and threaded-post adapters, detachable leads, 9-volt battery, soft-sided carrying case.

#### 3185

BCS system analyzer kit. Same as No. 3184, but also includes an infrared printer.

#### 3183

#### **Digital Battery Tester**

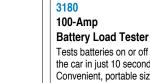
Speed. Accuracy. Reliability. These are the cornerstones behind the technology in our digital battery testers. No. 3183 tests

12-volt batteries (125-1400 CCAs) and analyzes by measuring multiple parameters within the battery to

deliver accurate results. A live voltmeter allows easy starting/charging system testing. Its bright, 4-digit LED display indicates the battery's good/bad status, voltage, and available CCAs. It even compensates for cold temperatures.

#### Product Features:

- · Quick 1-second initial results.
- 125-1400 CCA range.
- · Analyze starting/charging system voltages.
- · Tests 12V batteries.
- Temperature and low charge compensation.
- · Detects and identifies loose leads.
- · Detects bad cells.
- · Surface charge warning.
- · Measures multiple international units: CCA, IEC, DIN, BCI, and EN.
- · 4-digit LED display shows good/bad status, available CCAs, and voltage.
- · Includes digital battery tester. Includes digital battery tester and soft-side carrying case.



Tests batteries on or off the car in just 10 seconds. Convenient, portable size and easy-to-read scales.



- · Heavy-duty, copper-plated clamps
- · 100 amp load capacity.
- · 0-16 volt range.
- · Load safety switch prevents arcing.
- · Heavy-duty, chrome-plated, ventilated steel case.
- · Works on both 6V and 12V batteries.
- Ceramic insulators
- · Determines state-of-charge, cranking, and charging volts.
- · Determines good/bad status.
- · Extra-large display with zero adjust.

#### 3181

#### 130-Amp Heavy-Duty **Battery Load Tester**

Applying an industryleading 130-amp load, this ergonomically designed, heavy-duty battery tester provides accurate, reliable test results in just 10 seconds. It includes uniquely designed



clamps for a positive grip on top- and side-post batteries and an extra-large, easy-to-read display.

#### Product Features:

- · 130-amp load capacity for accurate results.
- 0–16 volt range.
- · Uniquely designed clamps for both top- and side-post batteries.
- · Extra-large display with zero adjust.
- · Works on both 6V and 12V batteries.
- · Side tabs for on-tool clamp storage.
- · Back brackets for tool storage on wall or toolbox.

#### 3182

#### 130-Amp Digital **Battery Load Tester**

Produce more accurate results with this 130-amp digital battery load tester. The compact, lightweight design is rugged enough for everyday testing

of 6- & 12-volt batteries.

#### Product Features:

- · Large, easy-to-read display.
- · Side-clamp mount.
- · Comfortable, easy-to-grip, ergonomic handle.
- Alternator test lead.
   Ripple detection light.
- 0-16 volt range. · Dual jaw load clamp design.

79

· State of charge. · Battery load test.

· 3182 Digital battery tester. Includes 130-amp digital

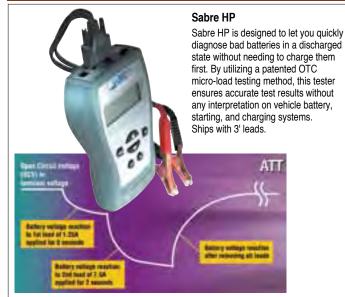
Automotive Specialty Tools

· Starter and charging system test.

battery tester and test leads.

· Alternator ripple test.

Battery Service



#### Product Features:

- · Digital circuitry precisely controls battery test loads to accurately determine battery conditions using OTC micro-load test technology.
  - · Tests the battery both statically and dynamically with multiple fixed loads.
  - · Provides the most accurate test results.
  - · Less susceptible to erroneous results from remote or bad connections, surface charge, and parasitic drains.
- · Accurately tests both absorption glass mat (AGM) and flooded lead acid (FLA) batteries.
- Tests vehicle's starting and charging systems with minimal user interaction: automatically applies loads for accurate charging system tests.
- Tests all 6- and 12-volt batteries with a 50-2000 CCA operating range.
- · Tests batteries down to 1 volt state of charge.
- · Temperature and low charge compensation.
- · Detects bad cells.
- · Scales: CCA. CA. AHR. MCA. JIS. DIN.
- 4 x 20 backlit display shows CCAs, voltage, and good/bad status.
- · Over-molded enclosure with soft-touch keys.
- · Built-in infrared printer interface for remote printing (printer optional).
- · Flash upgradeable memory in field.
- · Removable/auto-sensing leads (3' leads included; optional 10' leads available).
- · Printout has date/time stamp and user definable header and footer.
- Optional amp clamps for current drain tests and starting/charging measurements-the only hand-held battery tester with this feature.
- · Reverse polarity protection.
- · Hard carrying case.
- · 3-year warranty.

#### 3167

SABRE HP Includes SABRE HP. 3' test leads. side-post terminal adapters, instruction

manual, and molded-plastic carrying case. 3168

#### SABRE HP Deluxe Kit

Includes SABRE HP. 3' test leads. side-post terminal adapters, instruction manual, infrared wireless printer, and molded-plastic carrying case.

#### Accessories:

3169

Infrared wireless printer for use with No. 3167 (included with No. 3168).

#### 3167-01

3' test leads. 3172

10' test leads.

#### Sabre Heavy-Duty Battery and **Electrical System Diagnostic Tester**

- · Heavy-duty for 24-volt battery
- and electrical systems. · Diagnoses battery packs in series, parallel, or series/parallel.
- · Tests AGM/gel-cell batteries.
- HIGHEST CCA capacity ranges

(50-4000 CCA - 24V).

LARGE DISPLAY for less scrolling, more detailed instructions. It's also backlit for all light conditions. INDUSTRY FIRST amp-clamp connection ports for live amperage readings using optional external amp-clamp.

15 FT. Cable to perform tests from the cab of the vehicle.

FIELD UPDATEABLE to accommodate new battery types, system updates, feature additions.

#### **Battery Testing**

- · Tests the following battery pack configurations: - One battery (6V or 12V).
- Two batteries in series (24V); 2, 3, or 4 batteries in parallel (12V).
- Two banks in parallel, each bank having 2 batteries in series (24V).
- · Uses pack configuration in algorithm design.
- · Step-by-step user instructions for easy test completion.
- · Tester-applied loads used on all pack combinations.

#### **Electrical System Testing**

- · 12V and 24V charging system tests.
- · 12V and 24V starting system tests.
- · 12V and 24V diode tests.
- · Amp-clamps available (not included)
- for starting/charging and current draw tests. **Product Features:**

Amp-Clamp Connection - allows current drain tests and starting/charging analysis. Tests Both FLA (flooded lead acid) and AGM (absorbed

glass mat) battery types.

Scales - CCA, CA, AHR, MCA, JIS, DIN User Definable - print header and footer.

Removable Test Cables - easily field replaceable.

PC Interface Port - allows for field updateable software.

IR Compatible - allows optional infrared wireless printer.

Readout Display - backlit for low light conditions, easy to view data in direct sunlight (4 x 20 character display). Security Cable Connection - protects against stolen or

dropped units.

Over-molded Surround with Soft-touch Keys - ruggedly built, easy to use, even with gloves.

#### 3167-HD

#### Sabre HD deluxe kit

Includes 24-volt heavy-duty battery tester, 15' test leads, instruction manual, molded-plastic carrying case.

#### 3168-HD

3167

3168

Sabre HD deluxe kit with printer Same as No. 3167-HD above, but also includes an infrared wireless printer.

#### Accessories:

- 3172-15 15' lead set.
- 3169

Infrared wireless printer.

3168-HD



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Electrical Service



#### **Battery Diagnostic Manual**

Gives essential information for battery service in one convenient manual. Saves valuable time by providing information in a complete manual rather than having to go to multiple locations for information.

#### Provides the following information in one manual -

- · Battery access and service locations
- Battery disconnection precautions
- Power windows, locks and sunroof programming procedures
- Convenience accessory programming procedures
- · Supplemental restraint and ABS system precautions
- Engine and body control system resetting
- · Available in print or CD



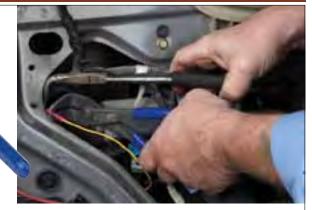
#### 5950A

#### CrimPro™ 4-in-1 Angled Wire Tool

- The angled feature allows access
  to close quarters and facilitates superior crimps.
- Compact 7-inch design used 4 ways.
- Gripping nose to pull, twist, bend, and shape.
   Crimper crimps 12-20 AWG insulated and non-insulated wire.
- Stripper strips 12-20 AWG wire.
- Cutter ability to make cuts both above and below pivot.



- Strips insulating sheathing from wires ranging from 10 ga. to 22 ga.
- Easy-to-use, just insert wire and squeeze.
- Also cuts and crimps.



#### 5912

#### Crimpwell<sup>™</sup> Angled Crimping Pliers

- · Universal crimping design accommodates soft wire solid or stranded 10-22 AWG.
- · Cutting feature included for quicker preparation.
- 9" (228mm) in length, with protective grips to increase leverage and secure crimp.
- Angled design keeps the connector, the wire, and the crimper "in-line" –improving visibility
   and access in hard to reach places.
- · Designed to not pierce connector insulation and also works on un-insulated connectors.
- Service tech can use as much force as desired to ensure connection and it will not damage connector insulation.
- Easy-to-use: Simply insert the connector into the crimping feature, slip over the connector and squeeze.



- Compact 7-inch design used 4 ways.
- Gripping nose to pull, twist, bend, and shape.
   Crimper crimps 12-20 AWG insulated and non-insulated wire.
- Stripper strips 12-20 AWG wire.
- Cutter ability to make cuts both above and below pivot.



#### 4497A

#### **Ratcheting Terminal Crimper**

- Heavy-gauge steel crimping tool designed for insulated wire terminals.
- Ratcheting action crimps terminal to correct tightness on the wire, making crimping fast and easy.
- For wire sizes: AWG 22–18 (0.6 mm–1.0 mm) red terminal; AWG 16–14 (1.3 mm –1.6 mm) blue terminal; AWG 12–10 (2.0 mm–2.6 mm) yellow terminal.
- Insulated handles with compound mechanical leverage for power.



#### 4498

#### 7-in-1 Wire Stripper and Crimper

- Strips insulation off electrical wires ranging from 10 AWG-22 AWG (0.6mm-2.6mm) in diameter. Pliers on tip of jaw for looping or grabbing wire in tight places.
- · Heat-treated steel jaws cut solid or multi-strand wire.
- Screw cutter shears screws clean, with no thread clean-up required. Works on machine screw sizes 4-40, 5-40, 6-32, 8-32, 10-24, and 10-32.
- Crimps insulated and non-insulated wire terminals, 7mm-8mm spark plug wire connectors.



#### Automatic Wire Stripper

- Quick removal of insulation on wire AWG 12-20.
- · Comes with adjustable depth gauge (8mm to 12mm).
- Sharp v-shaped tooth easily removes insulation without any damage to soft wire strands.
- · Cutting tool stored below the stripper.
- Features a space saving locking mechanism for pockets or tool drawer storage.



#### Electrical Service



#### **Dual End Wire Holder**

- · Holds wire and connectors solidly during soldering or other wire service.
- · Unique design allows connection to be held firmly on both sides with infinite adjustability.
- Insulated clips act as heat sinks to protect shrink tubing or other sensitive parts from heat.



#### Magnetic Clamp Wire Holder

- · Holds wire and connectors solidly during soldering or other wire service.
- · Unique design allows connection to be held firmly on both sides with infinite adjustability.
- Insulated clips act as heat sinks to protect shrink tubing or other sensitive parts from heat.
- · Clamp with magnet allows for attachment to a work bench, vehicle, or any other object for a firm base.



#### Wire Pulling Tool

This tool contains an 18" cable with a "T" handle at one end and wire mesh at the other. By threading the cable through a difficult to reach area such as a motorcycle frame, wires or connector can be hooked to the end allowing the wiring to be pulled through.



4822

#### Wire Connector Tool Set, 2 Piece

Designed to remove terminals from connector housing without damage to the terminal or connector. Set provides 12 different tool styles fit most common connectors.

#### 4472

4470 **Butane-Power Flameless MicroTorch** 

14450 Heat Gun

locking trigger.

#### **Cordless Solder Tool Kit**

- · Cordless, hands-free operation. · Safety switch prevents inadvertant ignition.
- · Fuel-level sight window.
- Use as a solder tool, heat tool or an torch tool. Kit Includes:

Soldering iron, conical tip 2.4 mm, chisel tip 2.4 mm, hot knife tip, deflector tip, sponge, wrench, and soldering wire.

· Cordless 650° (1250°F) flameless heat. · Waterproof piezo electronic ignition with

fluid (butane NOT included).

· Refillable fuel cell uses standard butane lighter

· Ideal for automotive and heat shrink projects.

4472-1 - Soldering iron only.







#### 4813 Heat Shrink Tubing Set (171 Piece) Protection and insulation for solder connections and components. 2 to 1 shrink ratio with flame or heat gun.



Waterproof Heat Shrink Tubing Set (106 Piece) Waterproof protection and insulation on solder connections and components. Adhesive lined inner wall to seal out moisture. 3 to 1 shrink ratio with flame or heat gun.



- · Designed to remove and install relays, which are usually located in confined, hard-to-reach areas.
- · Specially coated tips offer a solid grip on the relay.



a 470

A lightweight source of directed heat offering 500°F and 750°F settings, and also has a "cold" setting. This handy heat gun is ideal for many applications, including:

- · Fast heating/drying of materials.
- · Quick curing/drying of epoxies.
- · Applying shrink tubing.
- · Softening tubing for bending.
- · Speed-drying of touch-up paint to eliminate "haze."
- · Drying out condensation in motors, clutches, controls, etc.
- · Shock-proof and cool-running with a tough housing, the unit weighs just 2-1/2 lbs.

#### • 115V 50/60 Hz. **Replacement parts**

44997 - Switch assembly.

#### Automotive Specialty Tools Electrical Service



- Connector Separator Tool
- Releases locking tabs on electrical connectors, component connections & wiring harness connectors.
- Eliminates damage to the tab or connector.
- This pair of tools permits access to electrical connectors in any position.



#### Door Buzzer Shutoff Tool

- This simple tool allows for work with the vehicle door open without the annoying door buzzer on.
- High tension spring can be placed in the door jamb to close the door buzzer switch typically found by the hinges.



#### 4712

#### Euro Radio Removal Tool Kit

- Includes the popular tools needed to remove the radio from the dash on the following European vehicles: BMW, VW, Audi, and Mercedes-Benz.
- Easily removes the radio without damaging the radio or the dash panel.



#### 4461

#### **Terminal Release Tool Set**

- Save time and money. Repair or rebuild a wiring harness without having to order the entire OE replacement.
- Services most OE terminal connectors. Insert the appropriate release tool to depress the locking tab and the individual wire slides out for service or replacement.

#### Kit includes:

7737 – Computer edge board and header release tool. Each end of the tool works on different terminal connector configurations. Works on various domestic and import models.

7738 – Weather Pack sensor terminal release tool. Works on various domestic and import models.

7740 – Micro-style terminal release tool. Works on various domestic and import vehicles.

7741 – Specifically designed to release ID computer terminals on 1988 thru current GM W bodies, 1990 thru current Chevrolet Lumina sedans, and various other domestic and import vehicles.

7742 – Universal harness release tool designed for the RWAL (rear wheel anti-lock) microprocessor found on 1988 thru current GM pickups. Also works on various other domestic and import vehicles.

7743 – Releases terminals on most body wiring connectors on various domestic and import vehicles, including cold start injector and timer, water, O2, vacuum, and air temperature sensors.



#### 4711

#### Deluxe Radio and Antenna Service Kit

- Eleven-piece kit in molded case.
- Universal antenna wrench.
- · Ford radio removal tool.
- Deep sockets to remove and install the tamperproof radio nuts from many GM, Chrysler, and other aftermarket radios.
- Antenna nut sockets cover most import and domestic antenna nuts.



#### Ford 5-pin Connector Harness for Glow Plug Testing

 Provides an easy way to check glow plug resistance without having to remove the valve cover of 1994–98
 Ford trucks and vans with 7.3L DIT (direct-injected

turbocharged) diesel engines.Used with any standard digital volt ohmmeter to check glow plug resistance.



#### **Deluxe European Radio Tool Set**

- 18-piece set of tools used to remove radios on most European vehicles sold in the U.S. and Europe.
- Quickly and easily removes the radio from the dash

#### without damage to the radio or dash.

#### Replacement Parts

4715-1 – Removal Keys (4 pieces) Audi, Becker, Mercedes-Benz, VW.

- 4715-2 Removal Keys (2 pieces) Becker, Mercedes-Benz, Porsche.
- 4715-3 Removal Keys (2 pieces) VW.
- 4715-4 Removal Keys (2 pieces) Skoda.
- 4715-5 Removal Keys (2 pieces) Becker.
- 4715-6 Pentagon Wrench BMW.
- 4715-7 Bent U-hook (2 pieces) Blaupunkt.
- 4715-8 U-hook (2 pieces) Audi, Blaupunkt, Ford, Grundig, VW.
- 4715-9 Allen Hex Wrench BMW, Opel.



Anti-Static Wrist Strap

Virtually eliminates the possibility of static electricity causing damage while working on electronic components.

- One-size-fits-most adjustable wrist strap.
- Includes a 6' coil cord with alligator clip.

**Electrical Service** 



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#### 7575

#### Ford Radio Removal Tool Kit

These dual-purpose tools release the retaining clips of a radio faceplate so you can pull the radio from the instrument panel. For use on 1987 to current Mustang; 1988 and newer Tempo/Topaz; 1989 to current Lincoln Continental; 1990 to current Taurus/Sable, Ranger/ Bronco II, Probe, Lincoln Town Car, Mark VII, Crown Victoria/ Grand Marquis, Thunderbird/Cougar, F-series pickups and E-series vans; 1991 to current Explorer; 1995 to 2003 Windstar.



#### 6711

#### Mercedes-Benz Dashboard Service Tool Kit

- · 8-piece tool kit contains:
- (2) removal tools for ignition lock on model W126.
- (2) removal tools for ignition locks on models W124 & W201.
- (2) removal hooks for instrument cluster on models W107, W116, W123, W124, W126, W140, and W201.
- (2) radio removal tools on models W129, W140, W202, and W210.
- Covers virtually all Mercedes-Benz models since 1992.



#### 7739

#### **GM Code Retrieval Key**

- This key retrieves trouble codes from pre-OBD II model GM vehicles.
- ECM code retrieval key. Jumps between A and B terminals on ALDL connector to retrieve trouble codes from the ECM.



#### 3385

#### Universal Gauge and Component Tester

This is the fast way to pinpoint problems in fuel, oil, temperature, and vacuum electrical gauges. This gauge and component tester includes a test light and switch to also test instrument voltage regulators on various vehicles. Plus, you can use it as an instrument gauge tester by attaching the alligator clips to sensors and wiring harnesses on a variety of vehicles. Included is an instrument gauge application data sheet listing resistance set points for GM, Ford, Chrysler, Toyota, Nissan, VW, Mack, Navistar, and John Deere.

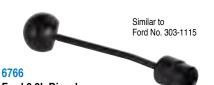


#### Ford Air Bag Simulator

When plugged into the vehicle harness connector, power is restored to simulate a complete circuit for diagnostic purposes.

**7955** – Ford air bag simulator. Special one-ohm resistor for use on air bags on Probe vehicles.

**7956** – Ford air bag simulator. Special two-ohm resistor for use on 1993 and newer Ford system II air bags.



#### Ford 6.0L Diesel Terminal Release Tool

This Terminal Release Tool is required for removal of the vehicle's injector wiring harness without causing damage to the component.



#### Ford 6.0L Glow Plug

Release Tool

Safely remove and install the glow plug harness on 2004-2009 Ford 6.0L Diesel engines.



#### Air Bag Release Tool Kit

- Use to remove the air bag module from the steering wheel.
- Work on many GM, Ford and Mercedes Benz vehicles.

#### Applications:

- Ford 2000-2004 Taurus/Sable, 1999-2003 Windstar Van.
- GM 1999-2005 Chevrolet Impala, Lumina, Monte Carlo, Venture, Pontiac Bonneville, Grand Prix, Montana, Buick LeSabre, Century, Regal, Olds Intrigue, Cadillac El Dorado, Deville, STS, SLS.
- Mercedes Benz Models 107,123, 124, 126, 129, 140, 163, 164, 170, 201, 202, 203, 208, 209, 210, 211, 215, 219, 220, 221 and 463.



#### Ford 6.0L Diesel IPR Controller

When a hard start or no start condition exists, the 6764 allows a technician to close the Injector Pressure Regulator in order to determine if proper injector control pressure is achieved and sustained for the starting process.

- Tactile On/Off switch with LED confirming power to the tool and signal to the Injector Pressure Regulator.
- Permits a quick initial diagnosis of the pressure regulator when a hard start-no start situation exists.
- Used in conjunction with any scan tool capable of reading fuel pressure on 6.0L Ford Diesel.



#### Automotive Specialty Tools Electrical Service



#### 3630

#### **Battery Powered Continuity Tester**

Designed to test any type of non-live electrical circuit. Track down broken wires, bad grounds, and blown fuses quickly.

#### **Product Features:**

- · Comes with AAA alkaline battery.
- · Ergonomic, slim designed clear handle.
- · 12', red coil cord.
- · Low voltage replaceable bulb.
- · Molded strain relief.
- · Heavy-duty stainless steel probe with insulated shaft.
- · Heavy-duty clip with positive soldered connection.



#### Mini-coil Cord Circuit Tester

Small handle with needlepoint stainless steel probe allows easy back probing and piercing. Special threaded probe comes with screw on alligator clip for additional versatility. Useful in testing electrical circuits and locating shorts, grounds, and open circuits.

#### **Product Features:**

3633

- 12', heavy-duty, red coil, cord lead.
- · Checks 6- and 12-volt systems.
- · Ergonomic, slim designed clear handle.
- · Bright red, high intensity/slim style replaceable bulb. · Positive contact-molded strain relief.
- · Heavy-duty, stainless steel probe with insulated shaft.
- · Heavy-duty clip with positive soldered connection.



#### 3631

#### Heavy-duty Logic Probe Tester

Multi-functional design allows testing range of 3-26 volts. Bright red and green LEDs interpret voltage signals such as ground, power, and frequency. Tests fuel injectors, solenoids, presence of serial data, and tach reference signals. Output tests on MAF, Cam, Crank, Hall Effect VRS sensors and more. High impedance input compatible with computer circuits and sensors.

#### **Product Features:**

- · Air bag safe.
- 12', heavy-duty, twin clip, red coil cord lead.
- · Checks 6-,12-, and 24-volt systems.
- · Ergonomic, slim designed clear handle.
- · Positive contact molded strain relief.
- · Heavy-duty stainless steel probe with insulated shaft.



#### 12V-24V Truck Circuit Tester Product Features:

- · Works on 12-24 volt systems.
- · Features 7" stainless steel probe.
- · 24' coil cord.
- · Extra large clamp.



#### 3634

#### Heavy-Duty, Straight Cord Circuit Tester

Designed for testing electrical circuits and locating shorts, grounds, and open circuits.

#### Product Features:

- · 5-foot heavy-duty cord.
- · Checks 6- and 12-volt systems.
- · Ergonomic, slim designed clear handle.
- Bright red, slim style replaceable bulb.
- · Positive contact-molded strain relief.
- · Heavy-duty, stainless steel probe with insulated shaft.
- · Heavy-duty clip with positive soldered connection.



#### Heavy-Duty, Coil Cord Circuit Tester

Designed for testing electrical circuits and locating shorts, grounds, and open circuits. **Product Features:** 

- · 12-foot, heavy-duty, red coil cord lead.
- · Checks 6- and 12-volt systems.
- Ergonomic slim designed clear handle.
- Bright red, slim style replaceable bulb.
- · Positive contact-molded strain relief.
- · Heavy-duty, stainless steel probe with
- · Insulated shaft.
- · Heavy-duty clip with positive soldered connection.



#### Extra Long, Heavy-Duty Circuit Tester

Long 7" probe shank allows access to difficult to reach areas for testing electrical circuits and locating shorts, grounds, and open circuits.

#### Product Features:

- · 12-foot, heavy-duty, red coil cord lead.
- · Checks 6- and 12-volt systems.
- · Ergonomic, slim designed clear handle.
- · Bright red, slim style replaceable bulb.
- · Positive contact-molded strain relief.
- · Heavy-duty, stainless steel probe with insulated shaft
- · Heavy-duty clip with positive soldered connection.



#### **OTC Test Leads**

Constructed from high quality polyurethane, these high visibility coil cord test leads have superior memory retention and resistance to grease and oil, making them a perfect compliment to any technician's arsenal of test equipment. Test leads come with a variety of interchangeable tips suited for just the right application.

#### 3902

Twin 5' jumper leads. High visibility black and red leads stretch to over 5 feet in length.

#### 3903

24' jumper leads. From headlight to taillight, this extra long test lead stretches to over 24 feet in length.

#### 3904

Twin 5' multimeter lead set. Expand the usefulness of any standard multimeter. This set includes one black and one red test lead, 2 multimeter probes, 2 banana plugs, and 4 alligator clips.

#### 3905

Twin 5' multimeter/piercing jumper lead set. Pierce small gauge wires with this complete jumper lead set. This set includes one black and one red test lead, 2 multimeter probes, 2 banana plugs, 2 bed-of-nails, and 2 alligator clips.

#### 3906

Twin 5' piercing test lead set. With 2 banana plugs and 2 bed-of-nails, this test lead set has just the right combination of tips for most testing applications.





#### Automotive Specialty Tools Electrical Service & A/C Service



#### 3569

#### **Terminal Test Kit with Circuit Tester** (Standard Adapters)

- 14-piece standard terminal adapter set for the popular Packard Weather Pack, Metri-Pack, and Micro-Pack style connectors. External-internal versions of adapter styles.
- · Circuit tester with bulb for 6-12-24 volt systems with interchangeable probes for use with terminal test adapters. Heavy-duty coil cord extends to 12 ft.
- · Terminal adapters have flexible joints that eliminate damaged connector terminals that result from testing with a standard test probe.
- · Complete kit in plastic storage case.



#### 3587

#### Terminal Test Kit (Standard Adapters)

- · Excellent accessory when testing with a scope or meter.
- · 32-piece standard terminal adapter set for the popular Packard Weather Pack. Metri-Pack. and Micro-Pack style connectors. Multiple externalinternal versions of adapter styles.
- · Terminal adapters have flexible joints that eliminate damaged connector terminals that result from testing with a standard test probe.
- · Set of 4 patch cords (4 ft.) included for use on multiple terminal connectors, for use with terminal adapters.
- · Complete kit in plastic storage case.



#### 3650

#### Heavy-Duty, Remote Starter Switch

Allows one person to start and crank engine while under the hood or from either side of the vehicle. Product Features:

- · With convenient hot circuit indicator, red ready light glows when starter switch is connected to a hot circuit; light goes off when switch is depressed.
- · High current, heavy-duty push button switch ensures reliable operation and long service life.
- · 5' leads made from heavy-duty, oil and grease resistant, 12-gauge wire,
- · High current clips with protective boots open to an extra wide 5/8" for ease of hook-up.
- · Soft, non-slip rubber grip.



#### 4536

#### A/C Clutch Pulley Puller Set

- For removal of stubborn air conditioning clutch pulleys. Also used on many alternator, generator, power steering, and crankshaft pulleys, harmonic balancers, and fiber timing gears.
- · Set includes drop-forged components: one 3/4"-16 x 5" live-center forcing screw, 5-1/2" crossbar with three spread settings, two pairs of jaws, and a clamp bolt.
- Spread: 3" to 5"; Reach: 1" to 5".
- · Includes blow-molded plastic case.





#### A/C Clutch Holding Tool

This three-stud spanner wrench keeps the A/C clutch from turning when loosening or tightening the retaining nut. Adjusts quickly with brass thumbscrews to fit various styles of A/C compressors used on GM, Ford, and Chrysler vehicles. Also fits a variety of other pulleys.



#### 11009

**Clutch Plate Remover** Designed to overcome resistance when removing the clutch plate.



#### 4535

#### A/C Clutch Hub Remover/Installer Set

- · For damage-free removal and installation of the clutch hubs on these air conditioning compressors: GM-Harrison DA-6, HR-5, V-5, A-6, and early R4; Nippondenso Ford/Chrysler A590, C171, FS-6. 6P148A (new style); Sanden & Sankyo; York/ Tecumseh HR980; Zexel/Mitsubishi CH series.
- Set includes a removing flange, plus forcing screws and adapter assemblies to remove and install virtually all clutch hubs.
- · Includes blow-molded plastic case.



# Clutch Plate Remover/Installer

These compact tools are used both to remove the clutch for access to the shaft seal and to re-install it by simply inverting the nut and main bearing.

10861 - A6, R4. 41067 - V5, DA6, HR6.



#### Automotive Specialty Tools A/C Service



A/C spring lock coupling tool Spring-loaded in the closed position to deflect any spray that occurs when lines are disconnected. 518900 – Red, 3/8"

518898 – Blue, 1/2"



#### A/C spring lock coupling tool

Spring-loaded in the closed position to deflect any spray that occurs when lines are disconnected.

518897 - Black, 5/8" 518901 - White, 3/4"



#### 7238

#### Spring Lock Coupler Disconnect Set

Set includes four sizes for use on 3/8", 1/2", 5/8", and 3/4" tubes. Allows quick, safe disconnect of spring lock couplers on late model Ford systems and Tecumseh HR980 compressors.

518900 – 3/8" (red) Same as Ford 412-026 (T81P-19623-G1). 518898 – 1/2" (blue) Same as Ford 412-027

(T81P-19623-G2).

518897 – 5/8" (black) Same as Ford 412-038 (T83P-19623-C).

**518901** – 3/4" (white) Same as Ford 412-040 (T85L-19623-A).



#### 4494

#### Fuel and Air Conditioning Line Release Tool

- This spring-lock coupling release tool easily separates fittings on fuel and air conditioning lines.
- Tool sizes are 3/4", 5/8", 1/2", and 3/8".





#### 6517

#### **Disconnect Tool Set**

Designed for A/C lines, fuel lines, and transmission cooler lines.

- Contains 3/8", 1/2", 5/8", and 3/4" spring lock disconnect tools for A/C lines on Ford cars and trucks, Chrysler and Jeep vehicles.
- Contains the 3/8" and 1/2" fuel line disconnect tool for Ford vehicles.
- Contains the 5/16" and 3/8" fuel line disconnect tools for GM and Chrysler vehicles.
- Contains the transmission oil cooler line disconnect tool used on many GM and Ford vehicles.



#### 6073

#### Toyota A/C Disconnect Tool

- Used to release the plastic quick-connect fittings on the high- and low-pressure air conditioning lines at the evaporator.
- Services 1998–newer Toyota Corolla, 1998–newer Geo Prizm, 1998-1/2–newer Toyota Land Cruiser and Lexus LX470, 1999–newer Toyota Avalon, Camry, Solara, and Sienna mini vans.
- Easy to use: Plastic fitting on A/C line is rotated to show access to the two release holes in the fitting; tool is inserted into release holes, and pushed to release the fitting.



#### 4495

- A/C and Fuel Line Disconnect Set
- Used to remove A/C and fuel line quick-disconnect fittings from hard-to-reach areas.
- Six sizes (5/16", 3/8", 1/2", 5/8", 3/4", and 7/8") available to work on many import/domestic vehicles.



#### Full-Coverage Disconnect Tool Set

If you're working on Chrysler, Ford, or General Motors vehicles, this set can make your job easier. The tools are designed for heater hoses, transmission oil coolers, air conditioning and fuel lines. They're approved by vehicle manufacturers and will not damage the fittings being disconnected. Tool Nos. 518902, 518896, 518897, 518898, 518899, 518900, and are spring-loaded in the closed position to deflect any spray that occurs when lines are disconnected.



- Kit seals all types of rubber and steel line found on fuel, brakes,
- AC, power steering and transmission system.
- Includes two banjo style fitting stoppers, two steel line stoppers, six line plugs, a line disconnect tool, and a long reach line pinch-off tool for hard-to-reach hoses.
- 6703-1 Banjo Line Fluid Stoppers, 2 pk.
- 6703-2 Steel Line Fluid Stoppers, 2 pk.
- 6703-3 Line Plug Fluid Stoppers, 6 pk.



#### 18403 Fin Chusink

- Fin Straightener
- Clean and straighten condenser, evaporator and radiator cooling fins.
- Compact design for confined spaces: the straightener head is 3-1/8" in diameter; the handle is 3-1/2" long.
- Includes 12 clearly marked combs
- Wheel 1: 8, 9, 10, 12, 14, & 15 fins per inch. Wheel 2: 10.5, 11, 13, 18, 20, & 22 fins per inch.





#### Automotive Specialty Tools A/C Service



#### 10986

**Orifice Tube Remover** 

Use this handy tool to remove the orifice tube before flushing. Speeds service by removing the build-up of particulates on the orifice screen and restrictions that slow flushing. The basic tool works on GM and Ford vehicles and comes with: an extender body for 1985 and newer Ford models; an adapter for 1989–91 GM "J", "L", and "N" cars; and an adapter for 1991 and newer GM "C" and "K" trucks with #3096068 orifices.



#### 6512

#### Heavy-Duty Tubing Cutter

- Works on tubing sizes 1/8" to 1-1/8" O.D. (3 mm to 29 mm).
- Easily cuts copper, brass, aluminum, and steel brake lines.
- · Ream folds onto cutter body for storage.
- Extra cutting wheel stored under ream.



#### 45355

#### **Fiber Optics Inspection Light**

The applications for this handy tool are practically endless...check burners on heat exchangers for cracks, check coils for dirt and damage, look at serial numbers, fan motor tags, etc., on furnaces and condensing units. Fiber optics provide a bright light, but the shaft is just 7.6 mm in

diameter. A durable cover fits over the 15" flexible shaft for protection. Powered by three AA batteries.

Inspection light with magnetic tip and base.



#### 6515

#### 3-in-1 180° Tubing Bender

- Capable of making 180° bends in copper, brass, aluminum, and steel tubing.
- Just one tool works on three sizes of tubing: 1/4", 5/16" and 3/8".

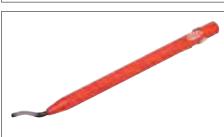


### Four-In-One Tube Bender

Effortlessly bends four different sizes of soft or annealed tubing without crimping, flattening, or scratching. Calibration allows duplication of any angle. Handles are 8-1/2" long, so extensions are not needed, and glass/plastic construction combines strength with lightweight durability.

#### 6514 Mini Tubing Cutter

- Works on tubing sizes 1/8" to 5/8" O.D. (3 mm to 16 mm).
- Easily cuts copper, brass, aluminum, and steel brake lines in hard-to-reach places.
- · Ream folds onto cutter body for storage.
- · Extra cutting wheel stored under ream.



#### 42040

#### Single Blade Deburring Tool

This handy tool removes internal burrs in copper tubing. It features a high-speed steel, blade, aluminum handle, and pocket clip. Tubing size is unlimited.



#### 13162 Deburring Tool

Quickly deburrs aluminum, copper, and steel tubing, and can work on any size tubing. It's made with a highspeed, steel blade and a durable aluminum handle. Three spare blades store in the handle.



#### 14450 Heat Gun

A lightweight source of directed heat offering 500°F and 750°F settings, and also has a "cold" setting. This handy heat gun is ideal for many applications, including:

- · Fast heating/drying of materials.
- Quick curing/drying of epoxies.
- · Applying shrink tubing.
- · Softening tubing for bending.
- · Speed-drying of touch-up paint to eliminate "haze."
- · Drying out condensation in motors, clutches,
- controls, etc.
- Shock-proof and cool-running with a tough housing, the unit weighs just 2-1/2 lbs.
- Replacement parts

• 115V 50/60 Hz.

44997 - Switch assembly.

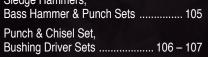
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Body Mechanical Service



#### 6642

#### 11-Piece Trim Tool Kit

Includes 11 specialty tools designed to remove trim strips, panels, wheel caps, bezels, liners, shrouds, fascia, and more ...

- · Tools are constructed of durable, impact-resistant nylon that will not damage non-metal interior trim surfaces.
- · Cloth pouch rests flat on a dashboard or fender for easy access to tools and then folds up with tools inside for storage.
- · Kit has multiple applications in the automotive, aviation marine, and other industries.



4549

**Door Panel & Upholstery Tool Set** Heavy-duty door panel and upholstery tools 4549-1 - removes window and door handle clips,

and upholstery tucking. 4549-2 - V-notched door panel clip removal tool. 4549-3 - U-notched door panel clip removal tool.



#### Scraper Set

Scrapers feature

polished, heat-treated, stiff, stainless steel blades. Handles are ergonomic two-component plastic and feature a non-slip grip and steel bolstered end.

· Packaged in a storage tray. Includes: 1-1/4" straight blade, 1-1/4" bent blade, and 2" straight blade.



#### 4489

#### **Trim Fastener and Molding Removal Set**

- · Set includes five different sizes and styles of tools that allow easy removal of trim fasteners, moldings, and wheel hubs.
- · Tools are made of plastic to prevent damage to trim, moldings, alloy wheels, or vehicle paint.
- · Can be used on trim fasteners and moldings inside, or outside, the vehicle.



#### Small Door Panel & Upholstery Tool Set Heavy-duty U-notched and V-notched tools with

stainless steel blades used for removing small door panels and upholstery clips.



#### 4492

#### 5-Piece E-Clip Tool Set

- · Dual operation tool: one end of tool releases e-clip; other end of tool installs e-clip.
- · Tools fit four sizes of e-clips: 6 mm, 7 mm, 8 mm, and 9 mm.
- · Each tool easily locks into handle provided.

#### 8200A

#### Ford Mirror Removal Tool

Save shop labor time and cost by allowing mirror to be removed without damaging or removing the mirror assembly.

#### Works on these outside door mirrors:

Windstar, Crown Vic, Grand Marg, Marauder, Taurus, Sable, Mustang, Town Car, Ranger, Excursion, Super Crew (F-250-F-550), F-650, F-750, Escape, Thunderbird, Explorer, Mountaineer, Expedition, Navigator, F-150, E-Series van, LS, Explorer Sport, Explorer Sport Trac, Aviator, Dual arm mirror used on

Excursion, Super, Crew (F-250-F-550), F-650, F-750

- · Also works on 1999 and newer Ford interior /
- rearview



#### 6785

#### Euro Door Handle Kit

- · This kit contains the tools needed to service most door hinges and door handles on Audi, Mercedes-Benz, Porsche, and Volkswagen vehicles.
- · Kit includes: A ratchet wrench with three 12-point bits (4 mm, 8 mm, 10 mm), one T40 and one T45 TORX® bit; a T30 TORX<sup>®</sup> long handled driver; and a T20 TORX® T-handle driver.
- T30 driver, 14" long; T20 driver, 9-1/2" long; hex ratchet, 9-1/2" long.



Body Mechanical Service



#### 7827

#### Saturn Window Glass Socket

This specially designed socket enables you to easily remove the tricky fasteners that Saturn uses to hold window glass to the regulator in its car doors. Our tool won't cause the damage that often results from makeshift methods.

- For use on 1991 to 2009.
- Accommodates a 3/8" drive ratchet and extension.



#### 3343

#### Air Bag Release Tool Kit

- Use to remove the air bag module from the steering wheel.
- Work on many GM, Ford and Mercedes Benz vehicles.

#### Applications:

#### 539255 – Air Bag Release Tool

GM 1999-newer Chevrolet Impala, Lumina, Monte Carlo, Venture, Pontiac Bonneville, Grand Prix, Montana, Buick LeSabre, Century, Regal, Olds Intrigue, Cadillac El Dorado, Deville, STS, SLS.

#### 539254 - T30 TORX® Socket

Mercedes Benz Models 107,123, 124, 126, 129, 140, 163, 164, 170, 201, 202, 203, 208, 209, 210, 211, 215, 219, 220, 221 and 463.

#### 539256 – Anti-Theft Socket Ford 2000-'04 Taurus/Sable, 1999-'03 Windstar Van.



#### **Door Buzzer Shutoff Tool**

- This simple tool allows for work with the vehicle door open without the annoying door buzzer on.
- High tension spring can be placed in the door jamb to close the door buzzer switch typically found by the hinges.

#### 4450

#### Lockout Tool Set (6 piece)

- Set includes:
- Lockout Wedge
- Lock Knob Hook
- Slide Lock Linkage Hook
- Toyota/Chrysler Key Hole Lever
- Vent Window Lever PullerBell Crank Thin Bar
- Instruction Manual

#### 4452

#### Master Lockout Tool Set Set includes:

- Lock Knob Puller
- Slide Lock Linkage Hook
- Under Window Knob Puller
- Under Window Lock Button Depressor
- Under Window Slide Lock Puller
- Lockout Wedge
- Porsche Lock Button Depressor
- Toyota/Chrysler Key Hole Lever
- GM/Ford Linkage Slider
- Ford Vent Window Lever
- Vent Window Button Depressor
- Vent Window Lever Puller
- Bell Crank Thin Bar
- Bell Crank Wide Bar
- Mercedes/Vovlo Lock Linkage Puller
- 119-2 Gas Cap Key.
- Instruction Manual



#### Ford Air Bag Simulator

When plugged into the vehicle harness connector, power is restored to simulate a complete circuit for diagnostic purposes.

**7955** – Ford air bag simulator. Special one-ohm resistor for use on air bags on Probe vehicles.

**7956** – Ford air bag simulator. Special two-ohm resistor for use on 1993 and newer Ford system II air bags.



#### 4449

- Air Wedge Lockout Tool
- Air wedge is designed to create working room around the window frame when using other lockout tools.
  Adjustable inflation and release valve provides
- versatile use.





#### 4658

#### Windshield Spray Nozzle Needle

- Makes quick work of clearing obstructions from the windshield washer spray nozzle.
- · Easily pierces corrosion or remove blockage.
- · The barrel is knurled for grip and control.
- Threaded end caps keep the needle points covered when not in use. The pocket clip keeps the tool handy.



Body Mechanical Service

#### 4705

#### **Telescopic Support**

- · Car hoods, or trunk lids with weak hinges or struts can sag or fall. The OTC 4705 securely holds these panels up and out of the way. Great tool for setting a hard cover on a pick-up box - turns a two man job into one.
- · Just 21" when collapsed to almost 48" when fully extended.
- · A simple twist loosens the support for expansion. Twist in the opposite direction to lock in place at the desired length.
- · Rubber end caps prevent scratching and scuffing.



#### 4706

#### Universal Lift Support Clamp (pair)

- · Easy-to-use clamps designed for placement on hood/ lid strut rods preventing the body component from falling of sagging.
- · Great for vehicles and shrouds with weak or dry struts.
- · Simply place over strut rod and tighten.
- · Small design keeps access to the compartment unobstructed

#### 6676

#### Heavy-Duty Wiper Arm Puller

- · Designed to remove aluminum wiper arm from the steel stud that often galvanizes, locking the arm and stud together.
- · Investment cast design is strong, easier to use. and saves time.



· Live center and more precise alignment save labor. Works on these and many other vehicles:

Jeep Liberty, Grand Cherokee, Dodge Caravan, Stratus, Ram Diesels, Dakota & PT Cruiser, Chrysler LHS, Town & Country, Saturn Vue Buick Rendevous, Cadillac CTS, Ford Focus, Ford Windstar, Honda Civic, Odyssy Toyota Camry.

#### 4676 Windshield Wiper Puller

- · Removes wiper arms on many foreign and domestic cars and light trucks.
- · Will not damage wiper arm
- or hood cowling during removal. · Simply place puller feet under wiper arm and tighten forcing screw against wiper shaft.

# 14450

#### Heat Gun

A lightweight source of directed heat offering 500°F and 750°F settings, and also has a "cold" setting. This handy heat gun is ideal for many applications, including:

- · Fast heating/drying of materials.
- · Quick curing/drying of epoxies.
- · Applying shrink tubing.
- · Softening tubing for bending.
- · Speed-drying of touch-up paint to eliminate "haze."
- · Drying out condensation in motors, clutches, controls, etc.
- · Shock-proof and cool-running with a tough housing, the unit weighs just 2-1/2 lbs.
- 115V 50/60 Hz.

#### Replacement parts

#### 44997 - Switch assembly.





#### 4784 10" Profile Gauge

This 10" gauge provides an exact copy of a contour or profile needed during bodywork or fabrication. The plastic fingers will not scratch original finish.



#### 4383

#### **Hole Punch Kit**

- · Easy, smooth operation. Will pierce up to 14 gauge steel.
- 7 sets punches and dies. Sizes: 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", and 9/32".

	HARR
898A	

#### **Body and Fender Dent Puller**

Often, the biggest time-consuming part of dent removal is the removal and installation of interior panels and upholstery. This tool eliminates those steps. Simply drill a hole at the base of the dent and thread in the tool's self-tapping screw. A few sharp blows of the slide hammer will pull the dent out.

- · Puller is 17" long with Pyralin handle grip.
- · Replaceable self-tapping screw. Instructions included

104427-PK5 - Replacement screws (5 pack).



#### **Grip Wrench Adapters**

- · For grip wrenches using single-lead thread adjusting screw.
- · Adapter threads onto a slide hammer with a 5/8"-18 thread.

205378 - Grip wrench threads onto a 7/16"-14 end of adapter for pulling use.

557479 - Grip wrench threads onto a 5/16"-18 end of adapter for pulling use.

557480 – Grip wrench threads onto a 1/4"–20 end of adapter for pulling use.





Collision Repair Service



- very competitively priced, yet high quality sets include single-speed hydraulic hand pump, hose
- Components snap together for quick setups to apply pushing, spreading.
- Components include: hydraulic pump, hose, and ram; ram flat base; extension tubes (4); 1/2-ton spreader; tube coupling; ram toe;
- wedge head; serrated saddle; flex head; plunger toe; 90° wedge head; storage case. The case for the 10-ton set has wheels for mobility.
- 1513B 4-ton collision repair set. Has single speed hydraulic hand pump and ram with 4" stroke.
- **1515B** 10-ton collision repair set. Has single speed hydraulic hand pump and ram with 6" stroke.



- 1519A 10-ton collision repair set. Has two-speed hydraulic hand pump (4002) and ram (4083B) with 6-1/8" stroke.
- 504888 Replacement quick coupler (external).
- 504889 Replacement quick coupler (internal).

#### 5086

#### 10-Ton Collision Repair Set

- Exert hydraulic force just where it's needed to lift, spread, bend, or straighten. Handles the high-force jobs you face daily in trailer maintenance or other applications.
- Includes reliable components including 10-ton, 10-1/8" stroke hydraulic ram; air/hydraulic pumping unit; hydraulic hose; four snap-together extension tubes; extension tube coupling; serrated saddle; flat base; 90° wedge head; flex head; storage case.
- · All set components are covered by OTC Lifetime Marathon Warranty®.



Fastener Service



#### 5900A

#### Master TORX<sup>®</sup> Socket Set

52-piece, professional socket set in a blow-molded case. Hundreds of applications from front to rear on cars and trucks:

- Seat belt bolts
- Interior and exterior trim screws
- Engine assemblies
- Tail lamp lenses & assemblies
- Bumpers
- Headlight bezels
- Door strikers & latches
- Brake rotor bolts
- GM front-wheel drive front wheel bearings
- Truck box liners
- · Styles available: TORX bit sockets, TORX PLUS bits sockets, tamper-resistant TORX bits, and TORX sockets for external bolts.
- · Made from superior S2 steel to meet or exceed torque specifications.

Master	Torx	Socket	Set	includes:
--------	------	--------	-----	-----------

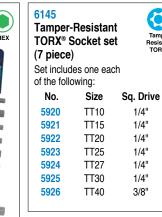
TORX <sup>®</sup> Bit 9 T6 to T60 (1		0	TORX PLUS TP8 to TP60	S® Bit Sockets ) (12 piece)		TORX® Extended E4 to E24 (		ket 🜔	TORX <sup>®</sup> Tamp TT8 to TT60	er-Resistant (12 piece)	Bits 📀
Part No.	Size	Sq. Drive	Part No.	Size	Sq. Drive	Part No.	Size	Sq. Drive	Part No.	Size	Hex Insert
5906	T6	1/4"	5918	TP8	1/4"	5934	E4	1/4"	5919	TT8	1/4"
5908	T8	1/4"	6181	TP10	1/4"	5935	E5	1/4"	5920	TT10	1/4"
6101	T10	1/4"	6182	TP15	1/4"	6151	E6	1/4"	5921	TT15	1/4"
6102	T15	1/4"	6183	TP20	1/4"	6152	E7	1/4"	5922	TT20	1/4"
6103	T20	1/4"	6184	TP25	1/4"	6153	E8	1/4"	5923	TT25	1/4"
6104	T25	1/4"	6185	TP27	1/4"	6154	E10	3/8"	5924	TT27	1/4"
6105	T27	1/4"	6186	TP30	1/4"	6155	E12	3/8"	5925	TT30	1/4"
6106	T30	1/4"	6187	TP40	3/8"	6156	E14	3/8"	5926	TT40	3/8"
6107	T40	3/8"	6188	TP45	3/8"	6157	E16	3/8"	5927	TT45	3/8"
6108	T45	3/8"	6191	TP50	3/8"	5936	E18	1/2"	5928	TT50	3/8"
6109	T47	3/8"	6192	TP55	3/8"	5937	E20	1/2"	5929	TT55	3/8"
6110	T50	3/8"	6193	TP60	1/2"	5938	E22	1/2"	5930	TT60	1/2"
6111	T55	3/8"				5939	E24	1/2"			
6112	T60	1/2"									
6198	T70	1/2"									

#### 6100

Standard TORX® Socket Set T10 to T60 (12 piece)

Set includ of the follo	es one ea owing:	ch	
No.	Size	Sq. Drive	(9
6101	T10	1/4"	
6102	T15	1/4"	
6103	T20	1/4"	
6104	T25	1/4"	
6105	T27	1/4"	
6106	T30	1/4"	
6107	T40	3/8"	
6108	T45	3/8"	
6109	T47	3/8"	
6110	T50	3/8"	
6111	T55	3/8"	
6112	T60	1/2"	

	al Brake Socket Se	et (9 Piece)	TORX*	HEX	HE
Set incluc of the follo	les one eac owing:	h	8 11	C	9
No.	Size	sq. drive	The second		•
6107	T40	3/8"	8		
6108	T45	3/8"		and the	-
6110	T50	3/8"	- 8		100
6112	T60	3/8"		100000	-
6165	1/4"	3/8"			
6167	3/8"	3/8"	- 39		1.764
6175	7 mm	3/8"		and show it	
6176	8 mm	3/8"			
6177	10 mm	3/8"	E		-

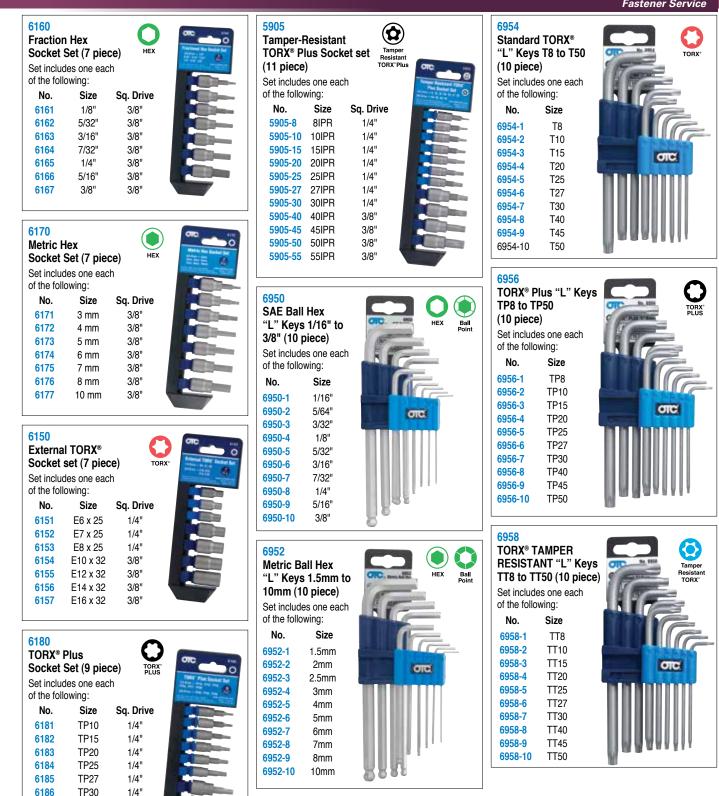




CO TORX\*

Fastener Service

Automotive Specialty Tools



6187

6188

6191

TP40

TP45

TP50

3/8"

3/8"

3/8"

#### Automotive Specialty Tools Fastener Service



#### 7365

#### **Hex Key Wrenches**

Allen head cap screws are everywhere, which makes a set of these wrenches a necessity.

- · Extra long for added leverage and accessibility.
- · Meets ANSI specs.
- · Plastic pouch containing wrench Nos. 7345 through 7354.

Tool No.	Size	Fits Set Screws	Fits HH Cap Screws
7345*	1/16"	6	-
7346*	5/64"	8	-
7347*	3/32"	10 & 12	-
7348*	1/8"	1/4"	8
7349*	5/32"	5/16"	10
7350*	3/16"	3/8"	1/4"
7351*	7/32"	7/16"	5/16"
7352*	1/4"	1/2"	3/8"
7353*	5/16"	5/8"	3/8" & 7/16"
7354*	3/8"	3/4"	1/2"
7355†	7/16"	13/16"	9/16"
7356†	1/2"	7/8"	5/8"
7357†	9/16"	1" & 1-1/8"	3/4"
7358†	5/8"	1-1/4" & 1-3/8"	1"
7359†	3/4"	1-1/2"	1-1/8" & 1-1/4"
7360†	1"	1-3/4" & 2"	1-1/2"

+ Available separately; not included in set



#### 6022

- **Toyota Head Bolt Socket**
- · Specially designed socket is needed to tighten or loosen head bolts on Toyota Paseo vehicles with 3S-GE and 3S-FE engines.
- · 8 mm socket features a 12-point, 1/2" drive socket.

#### 5940 BMW Head Bolt

#### Socket

- · Socket is designed to fit in the cylinder head on M42 and M50 engines to remove and install cylinder head bolts.
- · Spring loaded detent ball holds bolt in place.
- Works with 1/2 inch ratchet, breaker bar, or torque wrench. Socket size is E12 for external TORX® bolts.



#### 7334

#### Metric Hex Key Wrench Set

These long-arm hex key wrenches provide added leverage and accessibility. Rust-resistant black

- oxide finish. There are 9 sizes, from
- 1.5 mm to 10 mm.

· Available separately: 12 mm, 14 mm, 17 mm, and 19 mm. Metric hex key set in plastic pouch. Sizes: 1.5 mm, 2 mm, 2.5 mm, 3 mm, 4 mm, 5 mm, 6 mm, 8 mm, and 10 mm.

Tool No.	Size (mm)
7321*	1.5
7322*	2
7323*	2.5
7324*	3
7325*	4
7326*	5
7327*	6
7328*	8
7329*	10
7330†	12
7331†	14
7332†	17
7333†	19
* Included	in No. 7334 set.

† Available separately; not included in set



#### 6986

#### Stud Remover Set, Fractional

This fractional, 4-piece, stud remover set offers the best professional extractors available. Designed and tested to reach studs in difficult work areas.

· Housed in a blow-molded storage case. 3/8" drive for:

6986-1 - 1/4" stud remover 6986-2 - 5/16" stud remover

1/2" drive for:

6986-3 - 3/8" stud remover

6986-4 - 7/16" stud remover



#### 6987

#### Stud Remover Set, Metric

This metric. 4-piece stud remover set offers the best professional extractors available. Designed and tested to reach studs in difficult work areas.

· Housed in a blow-molded storage case.

#### 3/8" drive for:

6987-6 - 6 mm stud remover

6987-8 - 8 mm stud remover

#### 1/2" drive for:

- 6987-10 10 mm stud remover
- 6987-12 12 mm stud sizes.



#### Spot Weld Cutter Set

- · Use with electric drill or air drill to cut 5/16" and 3/8" spot welds.
- · Cutter bits have cutting teeth on each end.
- · Replacement kit No. 4485-1 consists of (3) 5/16" cutter bits; (3) 3/8" cutter bits; and (4) centering tips.





#### 4651

#### Screw Extractor Set

- · Removes broken studs and bolts.
- · Includes ten guide bushings, five drill bits and five screw extractors with extractor nuts.
- · Drill bits are left handed to help removal.





Fastener Service

Fed. Spec.: GGG-W-665b

7307



#### Impact Drivers

- · Loosens hard-to-turn screws, bolts or nuts.
- Handle design prevents possibility of hitting hand with hammer when striking impact driver.
- Bit holder has 3/8" drive (No. 4608), 1/2" (No. 4607) drive, and 5/16" hex for Phillips and flat screwdriver bits.

· Includes eight screwdriver bits:

No. 2 Phillips bit, 1-3/8" long with 5/16" hex No. 2 Phillips bit, 3-1/8" long with 5/16" hex No. 3 Phillips bit, 1-3/8" long with 5/16" hex No. 3 Phillips bit, 3-1/8" long with 5/16" hex 5/16" wide x 1-3/8" long with 5/16" hex slotted bit 5/16" wide x 3-1/8" long with 5/16" hex slotted bit 3/8" wide x 1-3/8" long with 5/16" hex slotted bit 3/8" wide x 3-1/8" long with 5/16" hex slotted bit 3/8" wide x 3-1/8" long with 5/16" hex slotted bit 4607 – 1/2" impact driver.

4608 - 3/8" impact driver.



#### 4576

#### **Universal C-Frame Nut Splitter**

- Forged and heat-treated frame with offset handle works where ordinary nut splitters may fail. Smooth action cracks nuts without damaging bolt threads.
- Chisel rotates to line up parallel to bolt. Splits non-heat-treated nuts of 7/16" (11 mm) through 3/4" (19 mm) diameter. Tool is 6-3/4" in length.



#### **Universal Outside Thread Chaser**

Damaged bolt or nut threads can be an annoying, costly problem–unless you have one of our thread chasers. It will quickly restore threads to near original condition without the use of expensive thread-cutting equipment.

- · Replaceable V-pads and dies.
- 1-1/4" to 5" O.D.

**7402** – Thread chaser with 6 dies: threads per inch - 4, 5, 6, 7, 7-1/2, 8, 9, 10, 11, 11-1/2, 12, 14, 16, 18, 20, and 24.

216884 – Standard die set. Includes 6 dies, in the sizes listed above.

202817 – Metric die set. Includes three dies: 1 mm-1.25 mm-1.5 mm-1.75 mm, 2 mm-2.5 mm-3.0 mm-3.5 mm; 4 mm pitch dies. 206803 – V-pad. SY8 & SDE TERMAN BATTERY \*

#### 4614

#### Side Terminal Battery Wrench

- Designed for use on GM side-terminal batteries, or any 5/16" hex head battery bolt.
- 5/16", 6 point, box end, 5-1/2" long, ratcheting wrench; insulated handle.



#### 4615

#### Long-Side Terminal Battery Wrench

- Designed for use on GM side-terminal batteries, or any 5/16" hex head battery bolt.
- Long handle allows access to hard-to-reach battery terminal bolts.
- 5/16", 6 point, box end, 10" long, ratcheting wrench; insulated handle.



#### Battery Terminal Wrench – 10mm

- Designed for use on 10 mm battery terminal bolts found on many import and domestic vehicles.
- 10 mm, 12 pt., box-end ratcheting wrench; 5-1/2" long with insulated handle.



#### 4791

#### Spanner Wrench, 3/4" - 2"

This chrome vanadium hardened steel wrench features a 5" handle and slim strong hook to access slotted retaining rings in hard to reach areas.



#### 4792

#### Spanner Wrench, 2" - 4 3/4"

This chrome vanadium hardened steel wrench features a 9" handle and slim strong hook to access slotted retaining rings in hard to reach areas.



#### 885

#### Adjustable Hook Spanner Wrench

Here's a tool that's needed wherever turret adjusting nuts or packing gland nuts are used.

- Capacity is 1-1/2" to 4".
- · Handle is 24" long, 11/16" diameter.





#### 7309

#### Heavy-Duty Adjustable Hook Spanner Wrench

Some jobs require beefier tools. Here's a wrench to fill that need. It's drop-forged and features extra heavy construction and a 3/4" thick, 11-position hook jaw that's capable of gripping fasteners from 4-3/4" to 12-3/4" O.D.

Handle is 25-3/4" long and 15/16" in diameter.



#### 7380

#### **Dial Torque Wrench**

- Torques in both right and left hand directions with equal accuracy.
- Can be used with confidence in all automotive, and industrial applications.
- Reads directly in both English and Metric graduations.
- Wrench can be held at any point without affecting accuracy.
- Memory or follow-up pointer can be utilized to indicate the maximum torque reached.
- · Accuracy; +/- 4% CW and CCW.
- Torque Range; 0-150 in. lbs. (0-17 N-m).
- 3/8" square drive, 10" length.
- · Includes blow-molded storage case.

Tool No.	Torque Range	Graduations	Square Drive	Length
7380	0–150 in. lbs. (0– 17 N•m)	4 in. lbs.	3/8"	10"



97

Fastener Service



#### Accutorq<sup>™</sup> Clikker Torque Wrenches

These precision torque wrenches make a loud click when you've reached the torque setting. They feature ratcheting heads, all-metal construction, permanently roll-marked scales, and soft-grip rubber handles that enable you to firmly grasp the wrench for right- or left-hand torquing.

- · Includes molded plastic case.
- · One-year warranty.



#### 7367

#### Torque Multiplier, 1000 lb-ft

- Drive Input; 1/2", 365 lb-ft Max
- Drive Output; 3/4", 1100 lb-ft Max
- · Head Width; 2.9", 3.3:1 Ratio
- · Reaction Bar; 13-3/4"
- · Includes reaction foot.
- Note; frictional gear loss = 6%



#### 7368

#### Torque Multiplier, 2000 lb-ft

- Drive Input; 3/4", 730 lb-ft Max
- Drive Output; 1", 2200 lb-ft Max
- Head Width; 3.6", 3.3:1 Ratio
- Reaction Bar; 15-5/8"
- Includes reaction foot.
- Note: frictional gear loss = 6%



#### 4554 Torque Angle Gauge

- Required when servicing many late model engines that use torque-to-yield fasteners. Measures angle of rotation after pre-torque in torque-angle applications.
- The 360° scale is marked in 2° increments and intervals of 10° and 30°; easily zeroed for next application by turning the tool housing.
- · Has 1/2" male and female square drives.



#### 7415

#### Torque Angle Gauge

Many manufacturers specify a torque angle procedure for tightening fasteners and head bolts because it helps ensure more accurate tightening. This torque angle gauge, featuring an easy-to-read gauge, will provide a precise reading.

· Accommodates a 1/2" drive torque wrench.



Tool No.	Torque Range	Graduations	Square Drive	Length
7375	150–750 lb-in (17– 85 N•m)	10 lb-in	3/8"	15-1/8"
7377	30-150 lb-ft (41-203 N·m)	2 lb-ft	1/2"	17-3/4"
7378	50-250 lb-ft (68-339 N•m)	2 lb-ft	1/2"	19-3/8"
7379	100-600 lb-ft (136-813 N•m)	10 lb-ft	3/4"	42-1/4"

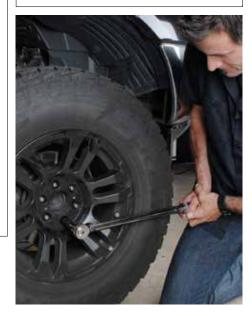


#### **Torque Multipliers**

These 4:1 ratio torque multipliers provide the power to tighten threaded fasteners in a number of truck and tractor repair operations.

 $5073-1,000~\mbox{lb.}$  capacity torque multiplier. Has 1/2" square drive and 3/4" square drive output. Includes 14" extension handle.

5074 – 2,000 lb. capacity torque multiplier. Has 3/4" square drive and 1" square drive output. Includes 18" extension handle.



Fastener Service

#### **Giant Adjustable Wrenches**

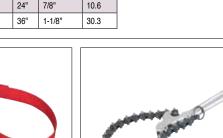
The really big jobs call for really big tools. These wrenches will handle 42 bolt sizes from 1-3/8" to 4-3/4". Together, both wrenches weigh just 41 lbs., but can replace over 1,000 lbs. of fixed-size wrenches.

7640 - Giant adjustable wrench. Rated to withstand 2,000 ft. lbs. of torque.

7641 - Giant adjustable wrench. Rated to withstand 5,000 ft. lbs. of torque.



			Jaw Adjustment		Thickness	(lbs.)
76	640	1-3/8" to 2-7/8"	1/8"	24"	7/8"	10.6
76	641	2-3/4" to 4-3/4"	1/8"	36"	1-1/8"	30.3



#### 7206

#### Multipurpose Strap Wrench

You'll find many uses for this heavy-duty strap wrench. The 53" long nylon strap won't mar precision surfaces of shafts, pulleys, or other components. Useful on engine, transmission, and drive pulleys up to 16 inches. Special head design self-tightens the strap as force is applied to the lightweight, 12" long handle. 305085 - Replacement Strap.



#### 6968 Ratcheting Chain Wrench - 12"

- · Works on many different-shaped objects, such as square, round, hexagon, oval, etc.
- · Handle is 12" long; chain grips objects ranging from 1/2" to 4-1/2" O.D.
- 516941 Replacement Chain.

#### 6969

#### Ratcheting Chain Wrench – 24"

- · Ratcheting action makes it possible to re-grip without removing wrench.
- · Handles parts of most any shape ... round, square, hexagon, or octagon.
- · Handle is 24" long; chain grips objects ranging from 3" to 6-1/2" O.D.

516942 - Replacement chain.

#### **OTC Technician Gloves**

- · Washable synthetic leather palm with padding ensures comfort and a secure grip.
- · Polyester and Lycra material around fingers offer a durable lightweight cover that stretches for a great fit.
- · PVC cushions help protect knuckles from injury due to slippage.
- · Comfortable polyester back panels include webbing for improved ventilation.

#### 5800TGLV-M - Medium.

5800TGLV-L - Large.

5800TGLV-XL - Extra large.

#### SmartTech<sup>™</sup> Technician Gloves

· Same as above, also works with touchscreen technology.

5801SGLV-M - Medium.

5801SGLV-L - Large.

5801SGLV-XL - Extra large.

5801SGLV-M





#### 4804

#### Heavy Duty Pulley Holder

This strap style universal wrench features a 9" drop forged handle and 23" leather strap for excellent grip on diameters up to 7". The milled foot increases grip on the strap and pulley as handle force is increased.



#### **Ratcheting Chain Wrench**

This multi-purpose tool will grip parts of nearly any shape. It features a ratcheting head design that lets you turn in either direction without removing wrench from the work.

• 13" handle with capacity from 1/2" to 4-3/4" O.D.

#### 209199 - Replacement Chain.



7401 **Ratcheting Chain Wrench** 

This multi-purpose tool will grip parts of nearly any shape. It features a ratcheting head design that lets you turn in either direction without removing wrench from the work.

· 19" handle with capacity from 3" to 6-3/4" O.D. 209200 - Replacement Chain.

5800TGLV-M

**Retaining Ring Pliers** 

#### **Retaining Ring Pliers**

Here are a variety of retaining ring pliers, available individually or in sets, to handle many applications.

#### 7053K

Internal/external retaining ring pliers kit. Includes four 90° tips (.038" diameter), four 45° tips (.047" diameter), and eight straight tips (.047" and .070" diameter).

15702

7123K

Replacement tip kit. Contains 4 sets, 4 tips per set.

Convertible retaining

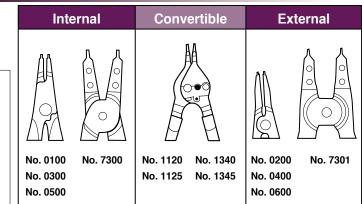
(.038" diameter) and

one No. 1340

internal or external rings. Contains one No. 1120

ring pliers kit. For





#### How to select the correct pliers:

- 1. If ring number is known, locate ring number in chart —pliers are listed in right-hand column.
- Or, measure diameter of shaft bore and locate size in chart -pliers are in right-hand column.

straight tip pliers.		Ring Series No.	Size Range (Ring Size No.	Bore of Shaft Dia. Range ("Inch" equiv.)	Pliers No.
71051/			12 to 87	1/8" to 7/8"	0200
7125K Convertible retaining ring pliers kit.			12,15,25 to 66	1/8" to 21/32"	1120, 1125
For internal or external rings. Contains		UD	25 to 143	1/4" to 1-7/16"	7053K, 7123K, or 7125
one No. 1125 (.038" diameter) and one No. 1345 (.070" diameter) 45° pliers.		5100 5101	93 to 143	15/16" to 1-7/16"	1340, 1345, or 0400
		5102	31 to 75	5/16" to 3/4"	1340, 1343, 01 0400
		555	150 to 350	1-1/2" to 3-1/2"	0600
	G,		75	3/4"	0000
			354 to 650	3-35/64" to 6-1/2"	7301
,			50 to 100	1/2" to 1"	0200
<b>/300</b>	the first	$\frown$	50 to 78	1/2" to 25/32"	1120
nternal, straight tip retaining ing pliers. 16" long.			50 to 200	1/2" to 2"	7053K, 7123K, or 7125
/301	CO.C.	5400	106 to 200	1-1/16" to 2"	1340, 1345, or 0400
External, straight tip retaining ing pliers. 16" long.	7300 Internal tip	5108 215 to 334 2-1/8" to	2-1/8" to 3-11/32"	0600	
JF TO TO J			350 to 400	3-1/2" to 4"	7301
			37 to 102	3/8" to 1-1/32"	0100
	000		37 to 56	3/8" to 9/16"	1120, 1125
and the second se	7301 External tip	<b>d d</b> f	37 to 200	3/8" to 1-3/4"	7053K, 7123K, or 7125
	7301 External up	N5000 N5001	106 to 175	1-1/16" to 1-3/4"	1340, 0300
teplacement tips (pairs):	4.4.4	N5001	181 to 300	1-13/16" to 3-1/2"	0500
09201 or pliers Nos. 7300 and 7301. 209201	0		306 to 625	3-1/16" to 6-1/4"	7300
22029			75 to 137	3/4" to 1-3/8"	0100
5° for pliers Nos. 7300 and 7301.		$\frown$	75 to 100	3/4" to 1"	1120, 1125
22030 0° for pliers Nos. 7300 and 7301.		$\mathbf{V}$	75 to 200	3/4" to 2"	7053K, 7123K, or 7125
		5008	143 to 200	1-7/16" to 2"	1340, 1345, or 0300
, <b></b>		5000	206 to 300	2-1/16" to 3"	0500
			315 to 400	3-5/32" to 4"	7300

Retaining Ring Pliers

0100	7412K		No. 7440K includes
			No. 7412K includes:
038" tip diameter straight	Retaining Ring Pliers		Tool No. Description
for removing internal rings.	This set includes 12 of our most popular		1120 .038" dia., straight
	retaining ring pliers, in sizes for automotive		
	applications. Tips include straight,	T	1125 .038" dia., 45°
	45°, and 90° angles in four		1131 .038" dia., 90°
0200	different sizes (.038, .047,	211-1	1320 .047" dia., straight
038" tip diameter straight	.070, and .090" diameter).		, <b>,</b>
or removing external rings.	Includes a sturdy		1325 .047" dia., 45°
	plastic organizer box.		1329 .047" dia., 90°
	plastic organizer box.	alla -	1340 .070" dia., straight
			, °
0300	and the second s	and the second	1345 .070" dia., 45°
070" tip diameter straight		1 1 2 2 - 11	1349 .070" dia., 90°
or removing internal rings.			1560 .090" dia., straight
or removing internal rings.			
			1565 .090" dia., 45°
			1569 .090" dia., 90°
1			All items can be purchased separately.
400			Air items can be pulchased separately.
070" tip diameter straight			
or removing external rings.			
in removing external migs.			No. 4512 includes:
			Tool No. Description
<i>F</i>		and the second second	
500 🥏			4512-1 .090" tip, straight plier
			4512-2 .090" tip, 90° pliers
90" tip diameter straight			4512-3 .070" tip, straight plier
r removing internal rings.			17 0 1
9			4512-4 .070" tip, 90° pliers
			4512-5 .047" tip, straight plier
		· ·	4512-6 .047" tip, 90° pliers
600	4512		
	Snap Ring Pliers Set – Internal/External		4512-7 .038" tip, straight plier
90" tip diameter straight			4512-8 .038" tip, 90° pliers
r removing external rings.	For internal or external snap rings; thumbscrew p	permits quick conversion.	4512-9 straight tip pick
	<ul> <li>Made of heavy-gauge tempered steel.</li> </ul>		<b>3</b> 11
			4510 10 000 tip pick
	<ul> <li>Includes two stainless steel handled picks.</li> </ul>		4512-10 90° tip pick
295 Retaining Ring Pliers	<ul> <li>Includes two stainless steel handled picks.</li> <li>Contained in a blow-molded plastic storage case</li> <li>4513</li> <li>Heavy-Duty Snap Ring Pliers Set (2 piece)</li> <li>Heat treated steel "circlip" pliers for large</li> </ul>		All items can be purchased separately.
letaining	Contained in a blow-molded plastic storage case     4513     Heavy-Duty Snap Ring Pliers Set (2 piece)		
etaining ing Pliers re "squeeze-lock" ratchet action of this tool locks taining rings in position, making removal and stallation easy. It features cushioned handles to sure a secure grip. Will handle rings 3/16" thick and up to 4" in diameter. Pliers is 12" long. 1051 air of replacement tips.	<ul> <li>Contained in a blow-molded plastic storage case</li> <li>4513</li> <li>Heavy-Duty Snap Ring Pliers Set (2 piece)</li> <li>Heat treated steel "circlip" pliers for large equipment repair.</li> <li>Replaceable tips and spring ratchet locking mechanism to securely hold against snap ring te</li> <li>Internal pliers' capacity 3-1/16" to 6-1/4" (78 mm to 159 mm) snap rings.</li> <li>External pliers' capacity 3-1/2" to 6-1/2" (89 mm to 165 mm) snap rings.</li> <li>Blow-molded storage case includes extra sets of replaceable tips.</li> </ul>	No. 4513 includes: Tool No. Description 4513-1 Internal snap ring pliers	All items can be purchased separately.
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etaining ing Pliers he "squeeze-lock" ratchet action of this tool locks taining rings in position, making removal and stallation easy. It features cushioned handles to sure a secure grip. Will handle rings 3/16" thick and up to 4" in diameter. Pliers is 12" long. 11051 air of replacement tips.	<ul> <li>Contained in a blow-molded plastic storage case</li> <li>4513</li> <li>Heavy-Duty Snap Ring Pliers Set (2 piece)</li> <li>Heat treated steel "circlip" pliers for large equipment repair.</li> <li>Replaceable tips and spring ratchet locking mechanism to securely hold against snap ring te</li> <li>Internal pliers' capacity 3-1/16" to 6-1/4" (78 mm to 159 mm) snap rings.</li> <li>External pliers' capacity 3-1/2" to 6-1/2" (89 mm to 165 mm) snap rings.</li> <li>Blow-molded storage case includes extra sets of replaceable tips.</li> </ul>	No. 4513 includes: Tool No. Description 4513-1 Internal snap ring pliers	All items can be purchased separately.
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etaining ing Pliers he "squeeze-lock" ratchet action of this tool locks taining rings in position, making removal and stallation easy. It features cushioned handles to hsure a secure grip. Will handle rings 3/16" thick and up to 4" in diameter. Pliers is 12" long. 11051 air of replacement tips. 313 etaining ing Pliers his tool removes the external retaining rings used transmissions, differentials and other automotive omponents. Maximum spread is 1-1/16" and 7-3/4" long. 14 orseshoe Lock ing Pliers his ruggedly uilt pliers is designed to spread and remove presenve lock rings used on hydraulic brakes,	<ul> <li>Contained in a blow-molded plastic storage case</li> <li>4513</li> <li>Heavy-Duty Snap Ring Pliers Set (2 piece)</li> <li>Heat treated steel "circlip" pliers for large equipment repair.</li> <li>Replaceable tips and spring ratchet locking mechanism to securely hold against snap ring te</li> <li>Internal pliers' capacity 3-1/16" to 6-1/2" (89 mm to 159 mm) snap rings.</li> <li>External pliers' capacity 3-1/2" to 6-1/2" (89 mm to 165 mm) snap rings.</li> <li>Blow-molded storage case includes extra sets of replaceable tips.</li> <li>Overall length 16"; handle length 12-1/2".</li> </ul>	No. 4513 includes: Tool No. Description 4513-1 Internal snap ring pliers 4513-2 External snap ring pliers 4513-3 (2) .12" (3 mm) straight t 4514 Mini Snap Ring Pliers Set (4 piece - Service S-ring and I straight or angled. F chrome molybdenur - Set includes two int straight, one 45°) ar (one straight, one 45°) ar	Items can be purchased separately.         All items can be purchased separately.         Items can

Pliers & Cutter Service



#### 4509

#### Straight-Blade Hose Cutter

- · Cuts rubber hoses ranging from 1/4" to 1-1/2".
- · Simply place hose in tool and squeeze handle to cut.
- Replacement steel cutter blade No. 4509-1 is available.
- 4509-1 Replacement hose cutter blade.



#### 4411

#### Ratcheting Hose & PVC Cutter (Standard)

- Cuts hose and PVC up to 1-3/8" dia.
- Features metal frame and ergonomic handles for high leverage.
- Compound ratcheting action provides maximum cutting power.
- · Will also cut cable and wires.



#### 4412

#### Ratcheting Hose & PVC Cutter (Heavy Duty)

- Cuts hose and PVC up to 1-3/4" dia.
- · Features metal frame and rubber padded ergonomic
- handles for high leverage and comfort.
- Compound ratcheting action provides maximum cutting power.
- · Will also cut cable and wires.



#### 4818

#### Multi-purpose Scissors

Will cut hose, wire and cables, wood dowel, PVC, and thin sheet metals in addition to general cutting. The hardened stainless steel blades have an angle ground into one that eliminates slipping when cutting round materials.



#### 5912

#### Crimpwell<sup>™</sup> Angled Crimping Pliers

- · Universal crimping design accommodates soft wire solid or stranded 10-22 AWG.
- Cutting feature included for quicker preparation.
- 9" (228mm) in length, with protective grips to increase leverage and secure crimp.
- Angled design keeps the connector, the wire, and the crimper "in-line" –improving visibility and access in hard to reach places.
- · Designed to not pierce connector insulation and also works on un-insulated connectors.
- Service tech can use as much force as desired to ensure connection and it will not damage connector insulation.
- · Easy-to-use: Simply insert the connector into the crimping feature, slip over the connector and squeeze.



Hose Pinch Off Pliers Set, 3 Piece • Shuts off flow through vacuum lines, fuel lines,

· Cocking ratchet mechanism holds pivoting jaws

tightly in place. Heavy-duty swivel jaws pivot to

4510-8 - 8" tool for small hoses and tight areas.

4510-10 - 10" tool for radiator and vacuum lines.

4510-12 - 12" tool for radiator and vacuum lines.



#### the battery terminal nut or bolt.

- · Offset handles allow access in hard-to-reach areas.
- Works on top-post and side-post battery terminals.



#### **Angle-Tip Relay Pliers**

- Designed to remove and install relays, which are usually located in confined, hard-to-reach areas.
- · Specially coated tips offer a solid grip on the relay.

#### 1/4" & 3/8" Cable Cutters

- Perfect choice for cutting heavier copper and
- aluminum cables. • This tool is especially valuable for battery service where replacing a terminal is required.
- Clean cut with minimal mushing of wire strands.
- 4476 1/4" cable cutter.
- 4477 3/8" cable cutter.



#### 4802

4510

coolant lines, etc.

assure parallel pinching.

Available separately:

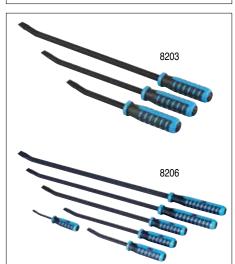
#### Universal Pulley Holder Locking Pliers

This adjustable locking pliers can be used to hold pulleys, clutch hubs, flywheels, gears, and sprockets with internal or external teeth up to a 4" diameter. Can also be used on applications with slots or holes with the 5/16" pins.

#### Automotive Specialty Tools Pry Bars & Picks

7175 3 Piece Indexing Pry Bar Set • Sizes 10", 12" and 15".

- · Indexible to 180° for better access.
- 14 locking positions for leverage in multiple applications.
- · Knurled handle assures a sure grip.
- Meets or exceeds ANSI specifications for pry bars
- 7172 10" Indexing Pry Bar.
- 7173 12" Indexing Pry Bar.
- 7174 15" Indexing Pry Bar.



#### Handled Pry Bars

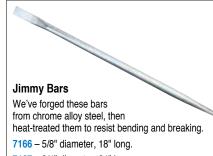
Heavy-duty pry bar made of tempered square steel that you can hit without damaging the handle.

- Black chrome striking cap allows hitting the bar without damage to the handle.
- Ergonomic handle dual durometer composite handle for user comfort; reduces hand fatigue.
- · Polished tip with black oxide finish.
- · Long-life finish resists rust and wear during use.
- · OTC Marathon Lifetime Warranty.

8203 – 3-piece handled pry bar set in gray molded tray. Includes 12", 18", and 24" sizes.

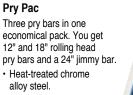
**8206** – 6-piece handled pry bar set in gray molded tray. Includes 8", 12", 18", 24", 32" and 36" sizes. **8208** – 8" handled pry bar.

- 8212 12" handled pry bar.
- 8218 18" handled pry bar.
- 8224 24" handled pry bar.
- 8232 32" handled pry bar.
- 8236 36" handled pry bar.

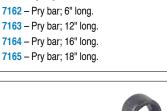


- 7167 3/4" diameter, 24" long.
- 7168 7/8" diameter, 30" long.
- 7420 7/8" diameter, 46" long.
- 7421 1" diameter, 54" long.

#### 7171







You'll have a lot of leverage using one of these rolling

head pry bars. The long, tapered body will also serve

**Rolling Head Pry Bars** 

as an aligning drift.



#### 7687A Pry Bar Head

- Turns any 3/8" drive ratchet or breaker bar into a rolling head pry bar.
- Gives you the versatility of a pry bar without the storage problems.



#### **OTC Technician Gloves**

- Washable synthetic leather palm with padding ensures comfort and a secure grip.
- Polyester and Lycra material around fingers offer a durable lightweight cover that stretches for a great fit.
- PVC cushions help protect knuckles from injury due to slippage.
- Comfortable polyester back panels include webbing for improved ventilation.
- 5800TGLV-M Medium.

5800TGLV-L - Large.

5800TGLV-XL - Extra large.

#### SmartTech<sup>™</sup> Technician Gloves

- · Same as above, also works with touchscreen technology.
- 5801SGLV-M Medium.
- 5801SGLV-L Large.
- 5801SGLV-XL Extra large.

5801SGLV-M

5800TGLV-M

#### Automotive Specialty Tools Pick & Hook Service



#### 8260

#### Hose Removal Set (6-piece)

- · Consisting of six (6) hose removal tools which consists of three (3) 10", soft-handled tools and three (3) 15", soft-handled tools, each with a hard end-cap.
- · They are made of heat-treated, chrome steel with assorted tip shapes.
- Ergonomic handle design fits properly in the hand, allowing for easier holding of the tool.
- · Hose removal tools can also be used on upper and lower radiator hoses, clips, washers, gaskets and other items.
- · Packaged in a molded tray which can be placed in tool drawer.



#### 8262

#### Short Pick and Hook Set (4-piece)

- · Consisting of four (4), 6.5", soft-handled picks.
- · They are sturdy, with both stainless steel shafts and tips, with assorted tip shapes designed for marking, removing o-rings, accessing snap rings and other assorted applications.
- Ergonomic handle design fits properly in the hand, allowing for easier holding of the tool.
- · Multi-use tools to scribe, align pierce, clean or remove o-rings, shaft seals, cv boot and motorcycle fork seals and dust hoods.
- · Packaged in a molded tray which can be placed in tool drawer.



#### 4508

#### Professional Style Seal Puller

- · Designed to remove oil and grease seals when servicing cars, SUVs, and light trucks without damaging the housing or bearing.
- · Hook tips in two sizes and professional handle design allows removal of hard-to-get-at seals by getting under them.
- The tool is 12" long and the hook tip is doublesecured (versus competitors' designs), for durability.
- An extra blade is included, and additional replacements (No. 4508-1) may be ordered.
- 4508-1 Replacement blade for 4508.

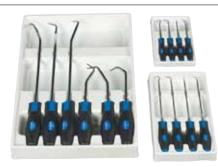
# 9.25"

#### 8263

#### Short Pick and Hook Set (4-piece)

- · Consisting of four (4), 6.5", soft-handled picks.
- · They are sturdy, with both stainless steel shafts and tips, with assorted tip shapes designed for marking, removing o-rings, accessing snap ring sand other assorted applications.
- · Ergonomic handle design fits properly in the hand, allowing for easier holding of the tool.
- · Multi-use tools to scribe, align pierce, clean or remove o-rings, shaft seals, cv boot and motorcycle fork seals and dust hoods.

· Packaged in a molded tray which can be placed in tool drawer.



#### 8260M

- Short Pick, Long Pick and Hook Set (14-piece) · Combines 8260, 8262 and 8263 sets.
- · Packaged in molded trays which can be placed in tool drawer.



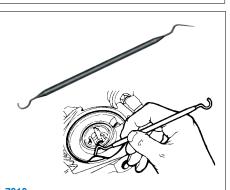
#### O-Ring / Oil Seal Pick Set

Fishing a stubborn o-ring or oil seal out of its seat is easy if you have this pair of picks in your toolbox.

#### 4515

#### Mini Pick and Hook Set - 4-Piece

- Sturdy stainless steel points and shafts designed for marking, removing o-rings, accessing snap rings, and performing other tasks. Assorted angle tips allow you to reach awkward locations.
- · Knurled shaft design enhances finger control for delicate jobs.



#### 7312 O-Ring / Oil Seal Pick Here's an extremely handy tool that makes quick work of oil seal and o-ring removal and installation.



#### 4658

#### Windshield Spray Nozzle Needle

- Makes quick work of clearing obstructions from the windshield washer spray nozzle.
- · Easily pierces corrosion or remove blockage.
- · The barrel is knurled for grip and control.
- Threaded end caps keep the needle points covered when not in use. The pocket clip keeps the tool handy.

#### Automotive Specialty Tools Strike-Struck Service

# **OTC Hammer Line**

- · Indestructible handle never needs replacement!
- Ergonomic rubber grip handle reinforced with steel bars resists breaking while absorbing impact and vibration.
- Drop-forged head is induction-hardened for long life, and contains steel locking plates that are specially bonded to ensure the head never becomes loose.
- Tire Service Features for 5789ID-1032 and 5789ID-520.
- Use top hook as a wheel tipper; sledge end hook to drag tire into position.
- Bead breaking wedge has grooves and a convex shape to help drive tire lube into the bead.

OTC No.	Head Weight	Handle Length					
Double Face Sledge Hammer, Indestructible Handle							
5790ID-624	6 lb.	24"					
5790ID-630	6 lb.	30"					
5790ID-824	8 lb.	24"					
5790ID-830	8 lb.	30"					
5790ID-1030	10 lb.	30"					
5790ID-1230	12 lb.	30"					
5790ID-1430	14 lb.	30"					
Club/Hand Dril	l Hammer, Indes	structible Handle					
5791ID-312	2.5 lb.	12"					
5791ID-412	4 lb.	12"					
5791ID-416	4 lb.	16"					
Cross Peen Ha	Cross Peen Hammer, Indestructible Handle						
5792ID-216	2 lb.	16"					
5792ID-316	3 lb.	16"					
Ball Peen Hammer, Indestructible Handle							
5793ID-2414	24 oz.	14"					
5793ID-3214	32 oz.	14"					
Tire Service Ha	Tire Service Hammer, Indestructible Handle						
5789ID-1032	10 lb.	32"					
5789ID-520	5 lb.	20"					





#### Brass Punch Set (2 piece)

- Two large, brass non-sparking punches. Ideal for use near precision parts or in locations where sparks from ferrous metal could be hazardous.
- Includes an 8" punch (5/8" hex, tapered to 3/8") and 10" straight punch (3/4" dia., chamfered at both ends).



#### 4606

#### **Brass Hammer and Punch Set**

- Brass-head hammer and punches are ideal to use where sparks from ferrous metals would be hazardous, or where precision metal parts could be damaged by steel tools.
- Hammer head weighs 24 oz.; brass drift punch is 10" x 3/4" diameter; brass tapered punch is 8" x 5/8" hex tapered to 3/8" diameter point.



#### Brass Hammer and Punch Set

- Brass-head hammer and punches are ideal to use where sparks from ferrous metals would be hazardous, or where precision metal parts could be damaged by steel tools.
- Two hammer head weighing 24 and 12 oz.
- Two tapered punches 14" x 5/8", 10" x 5/8".
- One hex tapered punch 8" x 5/8".
- Two drift punches 10" x 3/4", 8" x 1/2".
- Two pin punches 6" x 3/8", 4" x 1/4".



#### Automotive Specialty Tools Punch/Chisel, Bushing Drive Service

9 10 11 12 13 14 16 15 4600 Punch and Chisel Set (16 piece) Durable set of heat-treated chrome vanadium steel punches and chisels. Storage tray included. Contents of set:

- 3 Cold chisels (with gauge): 3/8" x 5-1/2"; 1/2" x 6"; 5/8" x 6-1/2"
- 2 Center punches: 1/8" x 5": 3/16" x 6"
- 5 Pin punches: 3/32" x 4-1/4": 1/8" x 4-3/4":
- 5/32" x 5"; 3/16" x 5-1/4"; 1/4" x 5-3/4"
- 5 Taper punches: 3/32" x 5-1/4"; 1/8" x 5-3/4";
- 5/32" x 6"; 3/16" x 6-1/4"; 1/4" x 6-3/4"
- 1 Chisel gauge



#### Impact Drivers

- · Loosens hard-to-turn screws, bolts or nuts.
- · Handle design prevents possibility of hitting hand with hammer when striking impact driver.
- Bit holder has 3/8" drive (No. 4608), 1/2" (No. 4607) drive, and 5/16" hex for Phillips and flat screwdriver bits.
- · Includes eight screwdriver bits:
- No. 2 Phillips bit, 1-3/8" long with 5/16" hex
- No. 2 Phillips bit, 3-1/8" long with 5/16" hex
- No. 3 Phillips bit. 1-3/8" long with 5/16" hex

No. 3 Phillips bit, 3-1/8" long with 5/16" hex 5/16" wide x 1-3/8" long with 5/16" hex slotted bit 5/16" wide x 3-1/8" long with 5/16" hex slotted bit 3/8" wide x 1-3/8" long with 5/16" hex slotted bit 3/8" wide x 3-1/8" long with 5/16" hex slotted bit

- 4607 1/2" impact driver.
- 4608 3/8" impact driver.

Available separately:				
lo.	Part No.	Description		
1	4600-15	Taper Punch, 1/4" x 6-3/4"		
2	4600-14	Taper Punch, 3/16" x 6-1/4"		
3	4600-13	Taper Punch, 5/32" x 6"		
4	4600-3	Cold Chisel, 3/8" x 5-1/2"		
5	4600-2	Cold Chisel, 1/2" x 6"		
6	4600-1	Cold Chisel, 5/8" x 6-1/2"		
7	4600-4	Center Punch, 3/16" x 8"		
8	4600-5	Center Punch, 1/8" x 5"		
9	4600-12	Taper Punch, 1/8" x 5-3/4"		
10	4600-11	Taper Punch, 3/32" x 5-1/4"		
11	4600-10	Pin Punch, 3/32" x 4-1/4"		
12	4600-9	Pin Punch, 1/8" x 4-3/4"		
13	4600-8	Pin Punch, 5/32" x 5"		
14	4600-7	Pin Punch, 3/16" x 5-1/4"		
15	4600-6	Pin Punch, 1/4" x 5-3/4"		
16	4600-16	Chisel Gauge		
	1 2 3 4 5 6 7 8 8 9 10 11 12 13 14 15	Io.         Part No.           1         4600-15           2         4600-14           3         4600-3           5         4600-2           6         4600-1           7         4600-4           8         4600-5           9         4600-12           10         4600-10           12         4600-9           13         4600-7           14         4600-7           15         4600-6		



#### 4408

#### Bearing Race and Seal Driver Kit

- The Bearing Race and Seal Driver Kit provides a convenient way to smoothly and quickly position a bearing in the inner hole of an axle.
- The kit includes a handle grip and six heavy-duty bearing drivers. The drivers have different diameters in order to match different-sized bearings, and three of the drivers are formed with two different diameters.
- · Bearing Driver Sizes:

1.555" (39.5 mm) 1.752" (44.5 mm) 1.968" (50.0 mm) 2.322" (59.0 mm) 2.48" (63.0 mm) 2.559" (65.0 mm) 2.834" (72.0 mm) 2.992" (76.0 mm) 3.189" (81.0 mm)



#### 4407

#### **Metric Bushing Driver Set**

- · 14-piece tool kit for motorcycles, Asian and European vehicles contains adapters: 10-12 mm, 14-16 mm, 15-17 mm, 16-18 mm, 18-20 mm, 20-22 mm, 22-24 mm, 25-27 mm, 28-30 mm, 30-34 mm, 32-36 mm, 35-40 mm. 38-42 mm: one small driver handle: one medium driver handle; one large driver handle.
- Aluminum construction won't mar the bushing or affect bushing tolerance, which is critical for efficient operation of the engine, transmission, and hubs.



#### 4605

#### Interchangeable Punch and Chisel Set

- · Handle allows easy grip and protects hand from being hit by hammer.
- · 12 punches and chisels:
- 1 cape chisel: 1/4" wide blade
- 5 flat chisels: 1/2", 5/8", 3/4", 7/8", & 1" wide blades
- 2 taper punches: 1/8" and 1/4" diameter
- 2 pin punches: 3/16" and 1/4" diameter
- 2 center punches: 1/8" and 3/16" diameter
- Double-locking ball detent holds punch or chisel securely in the driver handle.



#### 4507

#### Bearing Race and Seal Driver Set (10 piece)

- This aluminum constructed set permits installation of tapered bearing races and seals without damage to the component or housing.
- Tapered side of driver is used to install races. Invert the driver to the flat side to install seals.
- · Set is housed in a blow-molded plastic storage case.
- · Includes driver handle with bolt, plus these tool sizes: 1.565", 1.750", 1.965", 2.325", 2.470", 2.555", 2.830", 2.995", and 3.180".



#### **Bushing Driver Set (19 piece)**

- Enables you to remove and install bushings ranging from 3/8" to 1-3/8" in diameter, as used in cars. trucks, tractors, construction equipment, electric motors, & many other components having bushings.
- Includes: Large, medium, and small driver handles with nuts; sixteen bushing adapters ranging from 3/8" to 1-3/8".
- · Housed in a blow-molded storage case.



# Automotive Specialty Tools

Bushing Drive Service



# 4410

# Master Bushing Drive Set

# (33 piece Metric & Standard)

- Enables you to remove and install bushings ranging from 10mm to 42mm in diameter, and 3/8" to 1-3/8" in diameter, as used import cars,trucks, tractors, construction equipment, electric motors, and many other components having bushings.
- · Includes large, medium, and small driver handles and adapters all made of steel.
- Housed in a blow-molded storage case.

# Seal & Bearing Driver Set

Now you can have the proper-size driver for nearly any automotive seal, bearing, or bushing installation job. These sets include discs and handles, spacers and drivers.

- Discs range from 1/2" to 4-1/2" in diameter, in 1/16" increments.
- 27793 Starter set. Includes a handle and discs (5/8" to 2" diameter) specially selected to provide the driver sizes usually needed in automotive service. Includes plastic storage box.
- 27794 Basic set. Includes two handle sizes and 41 discs, ranging from 1/2" to 3" diameter along with plastic storage box and insert.
- 27795 Big-job set for servicing large components. Includes a handle and 24 discs, ranging from 3-1/16" to 4-1/2" diameter.
- 27796 Intermediate set. Includes a handle and 25 discs, ranging from 2" to 3-1/2" diameter.
- 27797 Master set. Includes three handle sizes and 65 discs, ranging from 1/2" to 4-1/2" diameter.
- 27810 Tool organizer board for holding all components in No. 27797 master set.

Tool No.	Description	Tool No.	Description	Tool No.	Description	Tool No.	Description
10012*	Cap Screw	27501*	Disc, 1-1/8" dia.	27520	Disc, 2-5/16" dia.	27539	Disc, 3-1/2" dia.
10020*	Cap Screw	27502	Disc, 1-3/16" dia.	27521	Disc, 2-3/8" dia.	27540	Disc, 3-9/16" dia.
10854*	Cap Screw	27503*	Disc, 1-1/4" dia.	27522	Disc, 2-7/16" dia.	27541	Disc, 3-5/8" dia.
10855*	Cap Screw	27504	Disc, 1-5/16" dia.	27523	Disc, 2-1/2" dia.	27542	Disc, 3-11/16" dia.
12001*	Cap Screw	27505*	Disc, 1-3/8" dia.	27524	Disc, 2-9/16" dia.	27543	Disc, 3-3/4" dia.
27487*	Small Handle	27506	Disc, 1-7/16" dia.	27525	Disc, 2-5/8" dia.	27544	Disc, 3-13/16" dia.
27488	Medium Handle	27507*	Disc, 1-1/2" dia.	27526	Disc, 2-11/16" dia.	27545	Disc, 3-7/8" dia.
27489	Large Handle	27508	Disc, 1-9/16" dia.	27527	Disc, 2-3/4" dia.	27546	Disc, 3-15/16" dia.
27490	Extension Tube	27509*	Disc, 1-5/8" dia.	27528	Disc, 2-13/16" dia.	27547	Disc, 4" dia.
27491	Disc, 1/2" dia.	27510	Disc, 1-11/16" dia.	27529	Disc, 2-7/8" dia.	27548	Disc, 4-1/16" dia.
27492	Disc, 9/16" dia.	27511*	Disc, 1-3/4" dia.	27530	Disc, 2-15/16" dia.	27549	Disc, 4-1/8" dia.
27493*	Disc, 5/8" dia.	27512	Disc, 1-13/16" dia.	27531	Disc, 3" dia.	27550	Disc, 4-3/16" dia.
27494	Disc, 11/16" dia.	27513*	Disc, 1-7/8" dia.	27532	Disc, 3-1/16" dia.	27551	Disc, 4-1/4" dia.
27495*	Disc, 3/4" dia.	27514	Disc, 1-15/16" dia.	27533	Disc, 3-1/8" dia.	27552	Disc, 4-5/16" dia.
27496	Disc, 13/16" dia.	27515*	Disc, 2" dia.	27534	Disc, 3-3/16" dia.	27553	Disc, 4-3/8" dia.
27497*	Disc, 7/8" dia.	27516	Disc, 2-1/16" dia.	27535	Disc, 3-1/4" dia.	27554	Disc, 4-7/16" dia.
27498	Disc, 15/16" dia.	27517	Disc, 2-1/8" dia.	27536	Disc, 3-5/16" dia.	27555	Disc, 4-1/2" dia.
27499*	Disc, 1" dia.	27518	Disc, 2-3/16" dia.	27537	Disc, 3-3/8" dia.	7350*	Allen Wrench
27500	Disc, 1-1/16" dia.	27519	Disc, 2-1/4" dia.	27538	Disc, 3-7/16" dia.		

# 7248

6939-1

6939

Broken Bolt Extractor Tool
Remove frozen, broken or cut off bolts within steering or suspension bushings.
Can also be used to remove and install wheel studs and

other general pressing needs.

Available for use with the 7248 C-Frame.

# **C-Frame Press**

 Used for removing/installing; universal joints with needle bearings, pressed in wheel studs, and brake anchor pins on heady-duty vehicles. Suitable for general pressing operations.

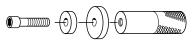
**Broken Bolt Extractor Adapter Set** 





It's this easy...

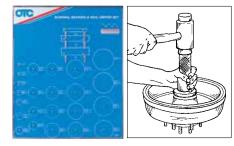
1. Select the proper size components.



2. Assemble your driver tool.



3. Perform the job easily.



27810

NOTE: All discs are 1/2" thick. \* Included in set No. 27793.



Automotive Specialty Inspection Service	Tools		
Spectrum V	Nork Lights	;	She Che
Li-Ion battery     Adjusta	<i>i</i>	and water resistant Lifetime Warranty	
5550 Spectrum Solar 10W LED Work Light with UV Top Light	5551 Spectrum Trio 9W LED Work Light with 3W LED Top Light	5552 Spectrum 30+4 30 Pc. LED Work Light with 4 Pc. LED Top Light	A Contraction
5550 Specifications	5551 Specifications	5552 Specifications	in the second second
10W LED Work light with UV Top Light	9W LED Work light with 3W LED Top Light	30 Piece LED Work light with 4 Piece LED Top Light	
LI-ION Rechargeable Battery – 3.6V 2250 mAH, AC/DC	LI-ION Rechargeable Battery – 3.6V 2250 mAH, AC/DC	LI-ION Rechargeable Battery – 3.6V 2250 mAH, AC/DC	
Charger Input AC 100 ~ 240V; 50/60Hz; DC12V ~ 24V	Charger Input AC 100 ~ 240V; 50/60Hz; DC12V ~ 24V	Charger Input AC 100 ~ 240V; 50/60Hz; DC12V ~ 24V	
Power Output: 5.0V 1000 mAH	Power Output: 5.0V 1000 mAH	Power Output: 5.0V 1000 mAH	
Charger Time: 3.5 ~ 4.0 hours	Charger Time: 3.5 ~ 4.0 hours	Charger Time: 3.5 ~ 4.0 hours	
Active Time: 2.5 hours	Active Time: 3.0 hours	Active Time: 4.0 to 5.0 hours	
Storage Temperature: -4°F to 158°F; -20°C to 70°C	Storage Temperature: -4°F to 158°F; -20°C to 70°C	Storage Temperature: -4°F to 158°F; -20°C to 70°C	
Operating Temperature: 23°F to 122°F; -5° to 50°C	Operating Temperature: 23°F to 122°F; -5° to 50°C	Operating Temperature: 23°F to 122°F; -5° to 50°C	
PS: LED Sector: 170°	PS: LED Sector: 25°	PS: LED Sector: 15°	
At 50 cm: 350 LUX (750 LM)	At 50 cm: 4000 LUX	At 50 cm: 2250 LUX	
Waterproof Grade IP65	Waterproof Grade IP65	Waterproof Grade IP65	

# Automotive Inspection Camera

With an industry leading 5.5 millimeter camera, it allows the technician to inspect hard to reach areas that would have normally required taking an engine apart or removing body panels to inspect.

With the added wireless display and ability to record images and video, the 3880X is an ideal tool for any automotive, aviation or industrial technician.

# Product Features:

- Micro camera transmits images and video to the removable wireless camera to allow viewing of hard to reach areas.
- Large 3.5" inch high resolution color screen for optimal viewing.
- Detachable 36" camera snake with position hold shaft.
- Images and video are recorded on the included SD card and can be viewed on the camera display or transferred to a computer.
- · Easy to change camera allows for use with various camera sizes and lengths.
- Magnetic display mount allows for hands-free viewing.
- Camera head includes four built-in adjustable LEDs for optimal viewing from light to dark areas.
- · IP67 Rated camera for complete protection from dust and standard automotive chemicals.
- Unit is powered by removable power pack with four rechargeable AA batteries (batteries and charger included).

### Applications:

- Micro 5.5 mm camera allows for inspection through spark-plug holes.
- Inspecting cylinders, valves, diesel injectors and glow plug ports.
- Viewing behind body panels and under the dashboard for electrical wiring and connections.
- Examine for corrosion and wear in hard to see areas.
- Inspect fluid lines for leaks.

# 3880X

Video Scope, Magnetic mount for wireless display, Micro SD card, XvidCodec installation CD, USB cable, Video out cable, Rechargeable AA batteries (4) with charger, AC power adapter, one year warranty and Protective carry case.





# Automotive Specialty Tools Inspection Service



# **Fiber Optics Inspection Light** with Magnetic Tip and Base

The applications for this handy tool are practically endless...check burners on heat exchangers for cracks, check coils for dirt and damage, look at serial numbers, fan motor tags, etc., on furnaces and condensing units. Fiber optics provide a bright light, but the shaft is just 7.6 mm in diameter. A durable cover fits over the 15" flexible shaft for protection. Powered by three AA batteries



# 4650

## **Mirror and Magnet Set**

- · Handles telescope from 6-1/2" to 25". Swivel heads allow access to tight areas.
- Large, rectangular swivel mirror is 2" x 3-1/2", and is attached to one telescoping handle; small mirror is 1-1/4" in diameter, and is interchangeable with magnets on the other handle.
- · Magnets can lift up to 8 lbs.

# 3598

- Flex-View Bore Scope
- · Ultra-thin 1/4" cable.
- Small diameter cable allows for inspection in tighter locations.
- · White light, non-fluorescent bulb,
- · Uses two AA batteries.
- · Flexible cable does not retain a set shape.
- · 36" Flex-View bore scope in a sturdy case.





and location of bad bearings, bushings, dirty fuel injectors, wind/air leaks, valves, and lifters.

· Flexible shaft reaches tight areas.

3590

Electronic

- · Ultra-sensitive mic and amplifier provide a full range of sounds needed by the professional.
- · 7 sound-level control settings; 60 dB to 120 dB.



# 7559A

# **Deluxe Vacuum Pump**

This pump kit is designed for vacuum testing, brake bleeding, and fluid transfer. With this kit, one person can guickly and cleanly bleed brake and hydraulic clutch systems, actuate vacuum switches (VOES), as well as get answers to numerous diagnostic and mechanical problems.

# Kit includes:

- Precision-made repairable vacuum pump with 360° gauge rotation for improved visibility.
  - Pumps up to 1 cubic inch (16cc) per stroke.
- Develops and maintains up to 25" of Mercury vacuum.
- · 4-1/2 oz. Reservoir jar with fluid transfer and storage lid.
- Two 2 ft. long, 1/4" ID hoses.
- · Rubber cup adapter.
- · Two universal bleed screw adapters.
- · Vacuum "T" adapter.
- · Automotive test and bleed adapters.
- · User manual (English, Spanish, French).



# 4491

#### Mechanic's Stethoscope

- · Quick and accurate way to locate vehicle noise.
- · Spring diaphragm on end of hose amplifies noise.
- · Includes two hose ends: long rod helps pinpoint noises in hard-to-access areas; short adapter helps locate noise in a broader area of the vehicle.





#### **OTC Technician Gloves**

- · Washable synthetic leather palm with padding ensures comfort and a secure grip.
- Polyester and Lycra material around fingers
- offer a durable lightweight cover that stretches for a great fit.
- · PVC cushions help protect knuckles from injury due to slippage.
- · Comfortable polyester back panels include webbing for improved ventilation.

5800TGLV-M - Medium.

5800TGLV-L - Large.

5800TGLV-XL - Extra large.

# SmartTech<sup>™</sup> Technician Gloves

· Same as above, also works with touchscreen technology.

5801SGLV-M - Medium.

# 5801SGLV-L - Large.

5801SGLV-XL - Extra large.

5801SGLV-M

Automotive Specialty Tools

5800TGLV-M

109



# Stethoscope Quickly pinpoints noise

# Automotive Specialty Tools

Multi-System Testing Service

# 6522 **EVAP** – Leak Detection System

- Vacuum Leak Testing
- Crankcase Oil
- · Exhaust Leaks · Cooling System Testing
- · Wind and Water Leaks
- · 1-Year Warranty

LeakTamer is the latest generation of leak detection systems, providing more smoke and better control. Solid-state circuitry improves reliability and ensures more consistent smoke output.

A wide assortment of accessories make the LeakTamer versatile tools for quickly locating different kinds of leaks.

# LeakTamer Evap offers:

- · Densest smoke in the industry.
- · Newly redesigned smoke chamber and control system.
- · More complete line of accessories.
- · User refillable.
- Includes smoke producing solution for 500 tests.
- · Non-toxic, non-corrosive smoke.

### **Product Features:**

- OEM approved technology
  - Contains STAR Technology; the ONLY OEM-Approved smoke technology anywhere in the world
- · Large full range flow meter
  - Detects Microleaks<sup>™</sup> down to and below 0.10
  - Flow-test components with full range of flow values
- · Pinpoint leaks with Smoke and dye
  - UltraTraceUV® dye deposits at exact location of a leak
  - Finds leaks that smoke alone won't find
  - Introduce to an engine before disassembly to find internal leaks
  - It's the only OEM-Approved dye solution
- · Variable Smoke Flow
  - Helps pinpoint smoke exiting a leak
  - Directional knob shows exact flow position
- · Compact light weight design
  - More powerful diagnostics in smaller package
- · Can be used with air or nitrogen
  - Use any inert gas for safer EVAP testing and shop air for all other tests

### 6522 includes:

Leak Tamer unit, White/UV combination light with laser pointer, UV glasses, EVAP adapter tool, exhaust cone, cap plug adapters, removal tool, smoke producing solutions enough solution for 500 tests.





#### Accessory / Replacement Parts

6522-1	UltraTraceUV® (8 oz. / 236 ml) patented solution is the only Automaker-approved smoke-producing solution in the world. Contains a special dye that deposits at the exact location of a leak. Each bottle will perform approximately 300 tests. Part No. is for one bottle, two bottles included with 6522.	
6522-2	Inert Gas Pack Kit connects directly to fitting on back of LeakTamer 6522. Includes preset CO <sub>2</sub> regulator with cylinder fitting, 20 oz. liquid CO <sub>2</sub> cylinder, pressure gauge, universal push-on female coupler accommodates both automotive and industrial male fittings (Cylinder arrives empty) Performs approx. 25-50 full cycle EVAP tests per 20 liquid oz. cylinder.	
6522-3	Combination Light for easier smoke location and ultraviolet (UV) light, to highlight the fluorescent dye deposited at the exact location of a leak. Also has laser pointer. Includes batteries and glasses.	<b>Solution</b>
6522-4	Standard Size Service Port Adapter.	
6522-5	Schrader® Removal / Installation Tool.	
6522-6	Cap Plugs Kit. Used for sealing some systems during leak testing.	
6522-7	Universal Fuel Neck Adapter fits the majority of vehicles. Allows access to fuel tank for evaporative system testing.	
6522-8	BMW and MINI Fuel Neck Adapter. Allows access to fuel tank for evaporative system testing.	
6522-9	Smoke Diffuser locates leaks around doors, windows, sunroofs, trunk compartment seals, EV vehicles' battery modules, or any closed system that can be pressurized from the inside and observe the smoke disturbance from the outside.	
6522-10	Cone Adapter (standard) for introducing smoke into induction or exhaust system. 1" x 3.5" & 6" long (25.4 mm x 89 mm x 152 mm).	
6522-11	Cone Adapter (Large) for introducing smoke into induction or exhaust system. 3.5" x 6" & 4.6" long (89 mm x 152 mm x 144 mm).	
6522-12	Replacement Dipstick (for 6522).	
6522-13	Replacement smoke supply hose and nozzle	Q
6522-14	Nozzle	
6522-15	Flow meter red pointer flag. For easy viewing of flow meter measurements.	



# Automotive Specialty Tools

General Service



#### **Ratcheting Hose & PVC Cutter (Standard)**

- · Cuts hose and PVC up to 1-3/8" dia.
- Features metal frame and ergonomic handles for high leverage.
- Compound ratcheting action provides maximum cutting power.
- · Will also cut cable and wires.



#### 4412

#### Ratcheting Hose & PVC Cutter (Heavy Duty)

- Cuts hose and PVC up to 1-3/4" dia.
- Features metal frame and rubber padded ergonomic handles for high leverage and comfort.
- Compound ratcheting action provides maximum cutting power.
- · Will also cut cable and wires.



# 4490

#### **Magnetic Parts Tray**

- Rectangular, stainless steel tray is 9-1/2" x 5-1/2" and 1-1/4" deep. Holds tools and small metal parts, so they don't get lost or misplaced during repair work.
- Two heavy-duty magnets on bottom of tray, with non-marring contact pads, securely hold tray to metal objects such as a tool box, air cleaner cover, frame rail, fender, etc.

#### 4779

#### Front Fork & Shock Vice

This vice is designed to hold up to 4" diameter round or oddly shaped components such as forks, shocks, pistons, rods, etc. The V shaped jaws are covered with thick rubber pads to ensure a firm grip without leaving a mark. Comes complete with a table/vice mounting bracket that allows adjustment to any position.





### Personal Tool Pack

Includes 1/4" drive ratchet, 2" extension, 16 drive bits, and Universal Spline sockets fit both SAE 3/16" - 9/16" and metric 5mm - 14mm nuts and bolts in a variety of styles; 6 pt., 12 pt., torx, square, spline, etc. All tools included in a travel pouch.



# Super Stubby Screwdriver Set

These screwdrivers are perfect for those limited access fasteners typically found on carburetors or in electrical compartments and many other areas.

2 Phillips and 2 straight screwdrivers included in set.



# 4783

#### Flexible Magnetic/Claw Pick Up Tool

The 25" flexible spring shaft allows the tool to reach difficult areas and pick up objects either magnetically or with the use of the retractable claw.





#### Aluminum Vice Inserts

4786

Essential for every workbench vice. Aluminum jaws have reliefs for 5/16, 3/8, & 9/16 (7mm, 10mm, & 15mm) diameter shafts. Excellent for holding steel shafts without scratching or damage such as shocks, crankshafts, or any threaded bolts and shafts.





# Safety Wire Drill Guide Set, SAE & Metric Set

Here is the perfect way to drill those nuts and bolts for use with safety wire without breaking the drill bit. These guide, align, and support the hex head or the bolt threads. The hex fixture fits nuts and bolt heads that measure up to 1 1/4". The SAE fixture bar is threaded for 1/4"-20, 5/16"-18, 5/16"-24, 3/8"-18, 3/8"-24, 7/16"-14 bolts, and the Metric fixture bar covers M6x1.0mm, M8x1.0, M8x1.25mm, M10x1.25mm, M10x1.25mm, M10x1.5mm, M12x1.5mm sizes.



# 4795

# Safety Wire Twist Pliers

These versatile 8" pliers will reliably twist safety wire rapidly and consistently. The right hand twist mechanism features an automatic spring return. The forged alloy steel construction features tapered jaws for confined areas and mated cutters to cut safety wire. For use on safety wire applications found on vehicles, machinery, and aircraft.



Universal Clutch Holder Holder arms designed to fit into the external teeth of a clutch hub, but can also be used on gears and sprockets. Opens to handle a 5" OD hub.



# Automotive Specialty Tools General Service



### 4802

### **Universal Pulley Holder Locking Pliers**

This adjustable locking pliers can be used to hold pulleys, clutch hubs, flywheels, gears, and sprockets with internal or external teeth up to a 4" diameter. Can also be used on applications with slots or holes with the 5/16" pins.





# 4804 Heavy Duty Pulley Holder

This strap style universal wrench features a 9" drop forged handle and 23" leather strap for excellent grip on diameters up to 7". The milled foot increases grip on the strap and pulley as handle force is increased.



# 6043

# "Blast-Vac" Multipurpose Cleaning Gun

- Perfectly suited for quick and efficient cooling system flushing. Simply attach it to radiator or heater hoses and you're in business.
- Also usable in washing engines and even shop floors.
- Two simple connections: one to shop air and one to a typical water faucet.
- Creates a unique vortex air/water blast for powerful cleaning applications.
- The tool can also be used to vacuum by turning the venturi inside the gun in the opposite direction. Air flow is reversed to create a strong vacuum.

**Note:** While normal water pressure will handle the majority of a cooling system flush, short blasts are sometimes needed to loosen some contaminants from within the system.

# 4803

# **Universal Pulley Holder Locking Pliers Set**

This adjustable locking pliers can be used to hold pulleys, clutch hubs, flywheels, gears, and sprockets with internal or external teeth up to a 4" diameter. Can also be used on applications with slots or holes with the addition of the interchangeable 5, 6, 7, 10, and 16mm pin sets. Complete with metal carry case.

Also useful for any bearing or bushing application.

· All hones are 180 grit Silicone Carbide for excellent cutting and finish.



7011-12

7011-14

1.75"

2.00"

44 mm

51 mm

	Tool No.	Size	
	7011-1	.375"	10 mm
	7011-2	.500"	13 mm
	7011-3	.625"	16 mm
	7011-4	.750"	19 mm
7011	7011-5	.875"	22 mm
Ball Hone Set (10 piece)	7011-6	1.00"	25 mm
Ball Hones can be used for refinishing and resizing bores	7011-8	1.25"	32 mm
such as found in brake calipers, engine lifters, and u-joint yokes.	7011-10	1.50"	38 mm

# **OTC Technician Gloves**

- Washable synthetic leather palm with padding ensures comfort and a secure grip.
- Polyester and Lycra material around fingers offer a durable lightweight cover that stretches for a great fit.
- PVC cushions help protect knuckles from injury due to slippage.
- Comfortable polyester back panels include webbing for improved ventilation.

5800TGLV-M - Medium.

5800TGLV-L - Large.

5800TGLV-XL - Extra large.

# SmartTech<sup>™</sup> Technician Gloves

· Same as above, also works with touchscreen technology.

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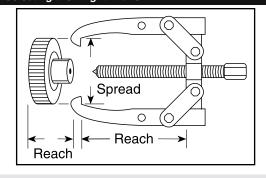
www.otctools.com

# Pullers

CLOSED AT ALL TIMES

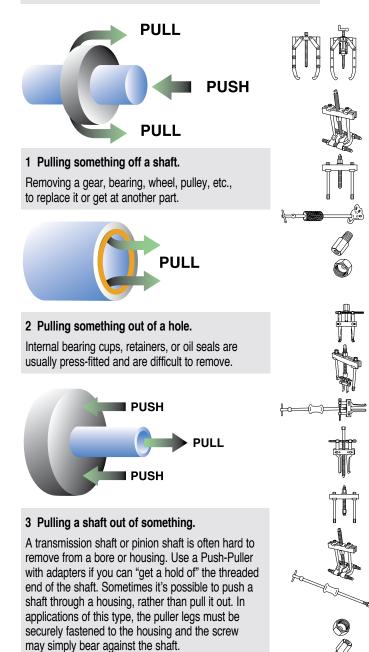
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**General Rule of Thumb:** Manual pullers require that the puller screw be at least half as large (in diameter) as the shaft of the pulling job.

Hydraulic pullers need the maximum force exerted in tons to be 7–10 times the diameter of the shaft in inches.



# You can solve the 3 basic pulling problems...

The first thing you have to do is identify exactly what your particular pulling problem is. Once you recognize the problem, you can go on to select the right tool to solve it.

# How to select the "RIGHT" puller

**1: Determine the type of puller or puller combination.** Which puller type is best for "getting a grip" on the part? Is a combination of puller types required?

**2: Determine the "REACH" needed.** The puller you select must have a "reach" equal to or larger than the corresponding sizes of the part.

**3: Determine the "SPREAD" needed.** The width of the part to be pulled will determine the "spread" required.

**4: Estimate the force required.** A puller with the correct "reach" and "spread" will usually have enough power. When in doubt, always use the next larger size. More power may be needed for rusted parts, or when the "area of resistance" is large.

# The tools to use when pulling something off a shaft:

**Jaw-type puller**, either manual or hydraulic. (For extra force and convenience use a hydraulic puller.) Both are available in 2- or 3-jaw versions and are used to grip the outer circumference of an attachment.

**Bearing pulling attachment.** Provides "knife-like" edges to get behind the component, or when there isn't a good gripping area on the part to be pulled. The splitter gets behind the component to prevent damage to the part.

**Push-Puller®** with attachments. External-internal adapters can thread directly into tapped holes on a component.

**Slide hammer** puller with selected attachments for multiple light-duty pulling tasks.

A variety of OTC **adapters** can be used to protect a shaft, bridge a hole, thread into tapped holes, or assist installation.

# The tools to use when pulling something out of a hole:

**Internal pulling attachments** have narrow jaws which extend through the center of the part to be pulled. They provide a straight pull and avoid damage to housings. Designed for use with Push-Pullers or slide hammer pullers.

**Push-Puller** in combination with internal pulling attachment. Both mechanical and hydraulically powered versions are available.

Here a **slide hammer puller** is combined with an internal pulling attachment. Ideal for removing parts from blind holes, especially when there is no housing to brace puller legs against.

When there is a shaft to bear against, a **forcing screw** of the correct size may be used in combination with an internal pulling attachment.

# The tools to use when pulling a shaft out of something:

**Push-Puller®** with threaded adapter. Use a mechanical or hydraulic puller, depending on the size of the shaft to be pulled.

When the housing lacks sufficient surface for the puller legs to bear against, a **pulling attachment** may be used to provide support.

Slide hammer puller with threaded adapter – either external-internal or internal can be used.

**Internal adapters** are fastened to the external threaded end of the shaft to pull while pushing against the housing.

**External-internal adapters** are threaded into the shaft to pull it while pushing against the housing.

# **Safety Precautions**

WARNING: To prevent personal injury when using pullers,

• Wear approved eye protection, such as safety glasses, goggles, or a face shield.



- Inspect puller for dents, cracks, or excessive wear before use. Inspect forcing screw for signs of galling or seizing. Replace worn or damaged components.
- Do not exceed puller's rated capacity, spread, or reach. Use correct size of puller for application.
- Ensure puller is correctly aligned with application and seated on component to be removed. Jaws must be parallel to forcing screw.
- Do not use wrench extensions when applying a load.
- Cover application with a shield or protective blanket before force is applied to contain flying debris should breakage occur.
- Apply force gradually. Do not use an impact wrench to apply force unless instructions specify use with an impact wrench.
- · Do not strike or "sledge" puller or component.
- Do not modify puller by grinding, heating, or other means that could weaken puller strength.

# **About Mechanical Pullers**

A pulling system can exert tons of force and it is difficult to predict the exact force required for a pulling application. It is important to observe safety precautions when using a puller.

The OTC pulling system is versatile. For that reason, it is possible that various components in a pulling setup will have different tonnage ratings. The lowest capacity component determines the capacity of the entire setup. For example, when an accessory having a capacity of one ton is used with a 10-ton capacity puller, the puller setup can be used at a force of <u>only one ton</u>.

If you are unsure which puller or attachment to select for an application, contact your OTC tool representative or Service Solutions, LLC.

# **Puller Operation**

- 1. Mount the puller so its grip is tight. When using a jaw-type puller, tighten the adjusting strap bolts. For a better grip and more even pulling power, use a 3-jaw puller when possible.
- Align puller legs and jaws. Verify the setup is rigid and the puller is square with the application.
- Use the correct size of puller for the application. If you have applied maximum force and the component has not moved, switch to a larger capacity puller.

- Apply force gradually. The component should give a little at a time. Do not try to speed up the application by using an impact wrench on the forcing screw.
- Do not couple puller legs. The tonnage capacity of the puller is reduced when longerthan-standard legs are used or when legs are compressed, increasing the chance of breakage.
- Keep reach to a minimum. Use the shortest legs possible to reach the component to be removed.
- Install threaded puller legs evenly into the component, attachment, or adapter. Uneven legs result in greater force applied to one side of the puller, which can result in breakage.
- Sliding plates must be on the opposite side of the cross block from the forcing screw nut or hydraulic cylinder.
- 9. Bearing pulling attachments may not withstand the full tonnage of the pullers with which they are used. The shape and condition of the component being pulled affects the tonnage at which puller blocks and / or studs may bend or break. Select the largest attachments that fit the component being pulled.

# **Puller Maintenance**

Keep the puller clean, and frequently lubricate the forcing screw from threads to tip.

# **Protective Blankets**

Think of them as "security blankets." They wrap around pulling, pressing, and other high-force jobs to protect you and your employees from work-related injuries as much as possible. They're made of high tensile, tear resistant ballistic nylon – similar to military flak jackets – that, when tested, withstood the shattering of a neck-down grade 8 bolt without any visible damage.

NOTE: Always reduce the force from the work piece prior to removing the blanket. Protective blankets may afford protection from injuries to users and others should part breakage occur. Because of the variety of situations that require guarding, it is the user's responsibility to determine the best method of protection.

#### 1230PB

Protective blanket. 12" x 30". 2036PB Protective blanket. 20" x 36". 2860PB

Protective blanket. 28" x 60".



6

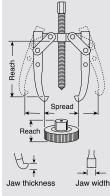
Mechanical Grip-O-Matic<sup>®</sup> Pullers

# OTC "Grip-O-Matic® Pullers" Providing Automotive Service Solutions for Over 80 Years

# Mechanical **Grip-O-Matic**<sup>®</sup> Pullers

OTC has developed the most complete line of gear and bearing pullers, enabling you to remove and install parts for fast, effective repairs. The pullers are forged from quality steel, heat treated, and subjected to rigorous tests which exceed their rated capacity.









**WARNING** Wear approved eye protection when using pullers. See page 115 for protective blankets for your pulling jobs.

		Tool No.	Capacity Style and Weight	M Reach	ax Spread	Screw Size	Jav Thickness	v Width
+	+	1020	1-Ton,	2-1/8"	3-1/4"	5/16"–24 x 3-7/8"	9/64"	1/4"
	LP N		2-Jaw; 5 oz.					
	$( \mathbf{I} )$	1021	1-Ton, 3-Jaw; 8 oz.	2-1/8"	3-1/4"	5/16"–24 x 3-7/8"	9/64"	1/4"
why y	TR	1022	2-ton, 2-Jaw; 14 oz. (Reversible Jaws)	3-1/4"	4"	3/8"–24 x 4-7/8"	Upper 3/16" Lower 1/8"	Upper 1/4" Lower 1/2"
(I)	(ţ)	1023	2-ton, 2/3-Jaw; 1 lb., 5 oz. (Reversible Jaws)	3-1/4"	4-3/4"	3/8"–24 x 4-7/8"	Upper 3/16" Lower 1/8"	Upper 1/4" Lower 1/2"
	VIII	1024	5-Ton, 2-Jaw; 1 lb., 12 oz. (Reversible Jaws)	3-1/4"	6"	9/16"–20 x 6-15/16"	Upper 5/16" Lower 1/4"	Upper 3/8" Lower 3/4"
(T)		1026	5-Ton, 2/3-Jaw; 2 lbs., 12 oz. (Reversible Jaws)	3-1/4"	7"	9/16"–20 x 6-15/16"	Upper 5/16" Lower 1/4"	Upper 3/8" Lower 3/4"
Y	YTY YTY	1025	5-Ton, Long 2-Jaw; 2 lbs. (Reversible Jaws)	5-1/2"	6"	9/16"–20 x 6-15/16"	Upper 5/16" Lower 1/4"	Upper 3/8" Lower 3/4"
$U \Psi$	Ų	1027	5-Ton, Long 2/3-Jaw; 3 lbs., 10 oz. (Rev. Jaws)	5-1/2"	7"	9/16"–20 x 6-15/16"	Upper 5/16" Lower 1/4"	Upper 3/8" Lower 3/4"
M	He He	1035	7-Ton, 2-Jaw; 4 lbs., 8 oz. (Reversible Jaws)	5"	9"	11/16"–18 x 9"	Upper 5/16" Lower 11/32"	Upper 1" Lower 1"
	1037	7-Ton, 2/3-Jaw; 6 lbs., 2 oz. (Rev. Jaws)	5"	10-1/2"	11/16"–18 x 9"	Upper 5/16" Lower 11/32"	Upper 1" Lower 1"	
出出	L.	1036	7-Ton, Long 2-Jaw; 5 lbs., 6 oz.	8-3/4"	9-1/2"	11/16"–18 x 9"	11/32"	1"
	(IJ	1038	7-Ton, Long 2/3-Jaw; 8 lbs., 2 oz.	8-3/4"	11"	11/16"–18 x 9"	11/32"	1"
200		1039	13-Ton, 2-Jaw; 10 lbs., 13 oz.	11"	12"	13/16"–16 x 12"	9/16"	1"
(I)	$( \mathbf{I} )$	1041	13-Ton, 2/3-Jaw; 16 lbs., 4 oz.	11"	12"	13/16"–16 x 12"	9/16"	1"
		1040	13-Ton, Long 2-Jaw; 13 lbs.	15-1/4"	15-1/2"	13/16"–16 x 12"	9/16"	1"
(1)	(1)	1042	13-Ton, Long 2/3-Jaw; 18 lbs., 12 oz.	15-1/4"	17"	13/16"–16 x 12"	9/16"	1"
75		1043	17-1/2-Ton, 2-Jaw; 23 lbs.	14-1/2"	14"	1"–14 x 131/2"	13/16"	1-9/32"
( )	( )	1045	17-1/2-Ton, 3-Jaw; 33 lbs.	14-1/2"	14"	1"–14 x 13-1/2"	13/16"	1-9/32"
		1044	17-1/2-Ton, Long 2-Jaw; 26 lbs.	18-3/4"	16"	1"–14 x 13-1/2"	13/16"	1-9/32"
(')		1046	17-1/2-Ton, Long 3-Jaw; 37 lbs.	18-3/4"	16"	1"–14 x 13-1/2"	13/16"	1-9/32"
		1047	25-Ton, 2-Jaw; 37 lbs., 8 oz.	15-1/2"	18"	1-1/4"–12 x 15-15/16"	1-1/16"	1-1/2"
(') (		1049	25-Ton, 3-Jaw; 54 lbs.	15-1/2"	18"	1-1/4"–12 x 15-15/16"	1-1/16"	1-1/2"
75	PN	1048	25-Ton, Long 2-Jaw; 42 lbs., 12 oz.	22-1/4"	20"	1-1/4"–12 x 15-15/16"	1-1/16"	1-1/2"
U)	(1)	1050	25-Ton, Long 3-Jaw; 60 lbs.	22-1/4"	20"	1-1/4"–12 x 15-15/16"	1-1/16"	1-1/2"

Pullers

Push Pullers & Threaded Adapters

# Metric and standard External-Internal Threaded Adapters

cans ninions etc.

For use on the ends of Push-Puller legs or

forcing screws when pulling shafts, bearing

# **Push-Pullers®**

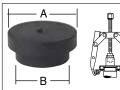
927 10-Ton Capacity Can be used with No. 1123 bearing pulling attachment or No. 679 pulley pulling attachment. May also be used with Nos. 1150, 1151, 1152, or 1153 internal pulling attachments.

938 17-1/2 Ton Capacity Can be used with Nos. 1124 and 1130 bearing pulling attachments or Nos. 679 and 680 pulley pulling attachments. May also be used with Nos. 1150, 1151, 1153, 1165, or 1166 internal pulling attachments.

939 30-Ton Capacity Can be used with Nos. 1126 and 1127 bearing pulling attachments or No. 680 pulley pulling attachment (two 8012 adapters are required to connect 680 to puller). Can be used with No. 1165 internal pulling attachment.

#### Push-Pullers<sup>®</sup> Lea Extensions

rusii-rui	iers° Leg Exte	11510115			
Tool No.	Max. Reach	Max. Spread	Scre	w Size	Notes / Weight
927	8-1/4"	2-1/8" – 7-1/4"	3/4"–16 x 12"		1/2" of forcing screw tip end is threaded 5/8"–18. No. 1100 legs and No. 24827 leg ends included. Wt., 7 lbs.
Extra Legs	(pair) for No. 927 F	Push-Puller (Reach eo	quals leg lengt	h plus 1-1/2" w	vith leg end caps.
Tool No.	Leg Length & Wt.			Tool No.	Leg Length & Wt.
1103	4-3/4" 1 lb.			1102	11-3/4" 2 lbs., 4 oz.
1100	6-3/4" 1 lb., 8 oz.			1101	15-3/4" 3 lbs., 4 oz.
Tool No.	Max. Reach	Max. Spread	Scre	w Size	Notes / Weight
938	11-1/2"	3-1/8" – 11-3/4"	1"-14	x 13-1/4"	Leg ends threaded 5/8"-18. No. 1106 legs and No. 24827 leg ends included. Wt., 20 lbs., 12 oz.
Extra Legs	(pair) for No. 938 F	Push-Puller (Reach eo	quals leg lengt	h plus 2" with l	leg end caps.)
Tool No.	Leg Length & Wt.			Tool No.	Leg Length & Wt.
1107	4-1/2" 2 lbs., 8 oz.	•	:	1105	22-1/2" 9 lbs.
1106	9-1/2" 4 lbs., 8 oz.		:	1108	30" 11.5 lbs.
1104	16-1/2" 6 lbs., 8 oz.				·
Tool No.	Max. Reach	Max. Spread	Scre	w Size	Notes / Weight
939	10-1/2"	7"–16-1/4"	1-1/2"–12	2 x 17-1/4"	Leg ends threaded 1"–14. No. 1109 legs and No. 28390 leg ends included. Wt., 44 lbs.
Extra Legs	(pair) for No. 938 F	Push-Puller (Reach eo	quals leg lengt	h plus 2" with l	leg end caps.)
Tool No.	Leg Length & Wt.			Tool No.	Leg Length & Wt.
1109	8" 8 lbs.			1111	28" 22 lbs.
1110	18" 15 lbs.				



# Step Plate Adapter Sets 8074, 8076 & 8075

Necessary for pulling and installing bearings, gears, or other parts found on hollow shafts or housings. They may be used with Grip-O-Matic® pullers and Push-Pullers®, as well as shop presses. All adapters are available separately.

Set No.

8074 8075 8076

•

Dia.

"**A**"

2-3/8"

2-1/2"

2-5/8"

3"

.

. 2-3/4"

• 2-7/8"

.

• 3-1/4"

• 3-1/2" Dia.

"B"

1-7/8"

2"

2-1/8"

2-1/4"

2-3/8"

2-1/2"

2-3/4"

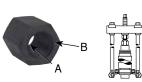
3"

Tool		Set No.		Dia.	Dia.	Tool
No.	8074	8075	8076	"A"	"B"	No.
8057	•	•		1"	3/4"	8066
8058	•	•		1-1/8"	7/8"	8067
8059	•	•		1-1/4"	1"	8068
8060	•	•		1-3/8"	1-1/8"	8069
8061	•	•		1-5/8"	1-1/4"	8070
8062	•	•		1-3/4"	1-3/8"	8071
8063		•		1-7/8"	1-1/2"	8072
8064		•		2"	1-5/8"	8073
8065		•		2-1/8"	1-3/4"	



Designed to protect shaft centers from distortion when extreme pressures are applied with either Grip-O-Matic® pullers or Push-Pullers. Shaft protectors are available separately.

8056 Shaft Protector Set								
Tool No.	"A"	"A" "B" "C" (60°) "D" (60°)						
8050	1-1/2"	3/4"	3/8"	7/16"				
8051	1-1/4"	3/4"	3/8"	3/8"				
8052	1"	3/4"	3/8"	5/16"				
8053	3/4"	3/4"	1/4"	1/4"				
8054	5/8"	5/8"	1/4"	1/4"				
8055	5/8"	5/8"	3/16"	3/16"				



# 8044

# Internal Threaded Adapter Set

For use on the ends of Push-Puller legs or forcing screws to aid in the removal and installation of shafts, axles, and housings.

Tool No.	Internal End "A"	Internal End "B"			
8035*	1/2"–20	5/8"–18			
8036*	1"–14	1"–14			
8037	5/8"–18	5/8"–18			
8038	5/8"–18	3/4"–16			
8039	5/8"–18	7/8"–14			
8040	5/8"–18	1"–14			
8041	5/8"–18	1-1/8"–12			
8042	5/8"–18	1-1/4"–12			
8043*	5/8"–18	1-1/2"–12			
*Not included in set No. 8044. Order separately. All adapters are available separately.					

caps, pini	ons, etc.	f f	ملكم
		Ţ.	
Tool	Internal	External	
No.	End	End	Length
	Metric Thread		
8111	5/8"–18	M6 x 1.0	2-1/4"
8112	5/8"-18	M8 x 1.0	2-1/4"
8113	5/8"-18	M8 x 1.25	2-1/4"
8114	5/8"-18	M10 x 1.25	2-1/4"
8115	5/8"–18	M10 x 1.5	2-1/4"
8116	5/8"-18	M12 x 1.25	2-1/4"
8117	5/8"–18	M12 x 1.75	2-1/4"
8121	5/8"-18	M14 x 1.5	2-1/4"
8122	5/8"-18	M14 x 2.0	2-1/4"
8123	5/8"-18	M16 x 1.5	2-3/4"
8124	5/8"–18	M16 x 2.0	2-3/4"
8125	5/8"-18	M20 x 1.5	2-3/4"
8126	5/8"–18	M20 x 2.5	2-3/4"
8131	5/8"-18	M6 x 1.0	1-5/8"
8132	5/8"–18	M8 x 1.25	1-5/8"
8133	5/8"–18	M10 x 1.5	1-5/8"
8134	5/8"–18	M12 x 1.75	1-5/8"
8135	5/8"–18	M14 x 2.0	1-5/8"
8136	5/8"–18	M16 x 2.0	1-5/8"
8137	5/8"–18	M20 x 2.5	1-5/8"
8141	1"–14	M16 x 1.5	3"
8142	1"-14	M16 x 2.0	3"
8143	1"-14	M18 x 1.5	3"
8144	1"–14	M20 x 1.5	3"
8145	1"-14	M20 x 2.5	3"
8146	1"-14	M22 x 1.5	3"
8147	1"-14	M24 x 2.0	3"
8148	1"–14	M24 x 3.0	3"
	tandard Threa		
206437	1/2"-20	5/8"–18	2-1/4"
8000	5/8"-18	1/4"-20	2-1/4"
8001	5/8"-18	5/16"-18	2-1/4"
8002	5/8"-18	7/16"-14	2-1/4"
8003	5/8"–18	7/16"–20	2-1/4"
8004	5/8"-18	3/8"-24	2-1/4"
8005	5/8"-18	3/8"–16	2-1/4"
8006	5/8"-18	1/2"-20	2-1/4"
8007	5/8"–18	1/2"–13	2-1/4"
8008	5/8"-18	9/16"-18	2-1/4"
8009	5/8"-18	9/16"-12	2-1/4"
8010	5/8"–18 5/8"–18	5/8"–11 3/4"–16	2-1/4"
8013			2-1/4"
8015	5/8"-18	3/4"-10	2-1/4"
8017	5/8"-18	7/8"–14	2-1/4"
8018	5/8"-18	7/8"-9	2-1/4"
8019	5/8"-18	1"-14	2-1/4"
8022	5/8"-18	1/8" pipe	2-1/4"
8012	1"-14	5/8"-18	3-3/16"
8011	1"-14	5/8"–11 3/4"–16	2-1/2"
8014			2-1/2"
8016	1"-14	3/4"-10	2-1/2"
8020	1"-8	5/8"-18	3"
8021	1"-8	1"-14	3"
8023	1-1/4"-12	1"-14	4-1/2"
8024	1-1/4"-12	1-3/4"-12	4-3/4"
8025	1-1/4"-7	5/8"–18 1"–14	4"
8027 8029	1-1/4"–7 1-5/8"–51/2	1"-14 1"-14	4" 4"
	1-1-7/851/2	-14	4"



60	•	•	1-3/8"	1-1/8
61	•	•	1-5/8"	1-1/4
62	•	•	1-3/4"	1-3/8
63		•	1-7/8"	1-1/2
64		•	2"	1-5/8
5		•	2-1/8"	1-3/4

4"

2-1/4"

1"–8

5/8"–18

8028

8030

1-5/8"-51/2

3/4"–16

# Pullers Hydraulic Pullers



No. 1062 & 1063 Usable reach equals leg length minus 4-7/8" when using leg ends.

No. 1070 & 1071 Usable reach equals leg length minus 5-7/8" when using leg ends.

No. 1076 Usable reach equals leg length minus 10-5/8".

# Hydraulic Push-Puller®

No. 1062, 1063 – 17-1/2" Ton Capacity Can be used with Nos. 1124 and 1130 bearing pulling attachments or No. 680 pulley pulling attachment. May also be used with No. 1154 internal pulling attachment. Ends of legs are threaded 5/8"–18. Usable reach: 11-5/8".

Tool No.	Max. Reach	Max. Spread	Screw Size	Notes / W	leight			
1063	18-1/2" 5-3/4"-11-3/4" 1"-8 x 20"				Puller with No. 1104 legs, No. 24827 leg ends, No. 4120 hyd. ram, No. 32118 adjusting screw, and No. 24814 adjusting crank. 38 lbs.			
1062	18-1/2"	5-3/4"-11-3/4"	1"–8 x 20"	Puller only	Puller only. 22 lbs.			
Extra Legs	Extra Legs (pair) for No. 1062, 1063 (Reach equals leg length plus 2" with leg end caps.)							
Tool No.	Leg Length & V	Vt.		Tool No.	Fool No. Leg Length & Wt.			
1107	4-1/2" 2 lbs., 8 oz.	-		1105	22-1/2" 9 lbs.			
1106	9-1/2" 4 lbs., 8 oz.	•		1108	30" 11.5 lbs.			
1104	16-1/2" 6 lbs., 8 oz.			Note: 3/4"- on leg uppe				

No. 1070, 1071 – 30-Ton Capacity Can be used with Nos. 1126 and 1127 bearing pulling attachments or No. 680 pulley pulling attachment (two No. 8012 adapters are required to connect No. 680 to puller). Also may be used with No. 1166 internal pulling attachment. Ends of legs are threaded 1"–14. Usable reach: 12-1/8".

Tool No.	Max. Reach	Max. Spread	Screw Size	Notes / We	eight		
1071	20-1/2"				Puller with No. 1110 legs, No. 28390 leg ends, No. 4121 hyd. ram, No. 34758 adjusting screw, and No. 27198 adjusting crank. 90 lbs.		
1070	20-1/2"	7"–16-1/4"	1-1/4"–7 x 24"	Puller only	. 56 lbs. N/A		
Extra Legs	(pair) for No. 107	0, 1071 (Reach equa	als leg length plus 2-5/8	" with leg en	d caps.)		
Tool No.	Leg Length & V	Vt.		Tool No.	Leg Length & Wt.		
1109	8" 8 lbs.			1111	28" 22 lbs.		
1110	18" 15 lbs.			Note: 1"-14 on leg uppe			

No. 1076 – 50-Ton Capacity Can be used with Nos. 1128 and 1129 bearing pulling attachments. Ends of legs are threaded 1-1/4"–12. Usable reach: 13-3/8". See pages 117 to order threaded adapters for use with these pullers.

Tool No.	Max. Reach	Max. Spread	Screw Size	Notes / W	eight		
1076	24"	8-1/2"–20-1/2"	1-5/8"–5-1/2" x 30-3/8"	x Puller only. 106 lbs.			
Extra Legs	(pair) for No. 107	'6 (Reach equals leg	length plus 1-1/4"–12 tl	nd. on both l	eg ends.)		
Tool No.	Leg Length & V	Vt.		Tool No.	Leg Length & Wt.		
1112	24" 34 lbs.			1113	34" 47 lbs.		

# Hydraulic Grip-O-Matic<sup>®</sup> Puller

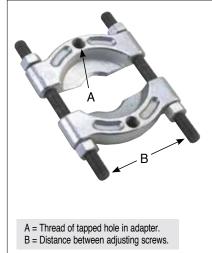
No. 1060-1080 Available in 10 to 50-ton capacities. Reliable single-acting Power Twin ram is matched with a versatile 2-jaw or 3-jaw puller. Lightweight ram can be used in other applications. You also get an adjusting screw, speed crank, and coupler where applicable. Hydraulic pump is not included; see index for pump listings.

			~				
Tool No.	MA Reach	X Spread	Ram Capacity & Number	JAV Thickness	V Width	Screw Size & Crank No.	Style and Weight
1060	10"	17"	N/A	9/16"	1"	N/A	10-Ton, 2/3-Jaw; Puller Only; 17 lbs.
1065	11-1/2"	16"	17-1/2 Ton, No. 4120	13/16"	1-9/32"	1"–8 x 20" No. 24814	17-1/2 Ton, 2-Jaw; 40 lbs.
1064	11-1/2"	16"	N/A	13/16"	1-9/32"	N/A	17-1/2 Ton, 2-Jaw Puller Only; 24 lbs.
1067	11-1/2"	20"	17-1/2 Ton, No. 4120	13/16"	1-9/32"	1"–8 x 20" No. 24814	17-1/2 Ton, 3-Jaw; 53 lbs.
1066	11-1/2"	20"	N/A	13/16"	1-9/32"	N/A	17-1/2 Ton, 3-Jaw Puller Only; 37 lbs.
1073	19-7/16"	26"	30-Ton, No. 4121	1-1/8"	1-5/8"	1-1/4"–7 x 24" No. 27198	30-Ton, 2-Jaw; 91 lbs.
1072	19-7/16"	26"	N/A	1-1/8"	1-5/8"	N/A	30-Ton, 2-Jaw Puller Only; 59 lbs.
1075	19-7/16"	34"	30-Ton, No. 4121	1-1/8"	1-5/8"	1-1/4"–7 x 24" No. 27198	30-Ton, 3-Jaw; 122 lbs.
1074	19-7/16"	34"	N/A	1-1/8"	1-5/8"	N/A	30-Ton, 3-Jaw Puller Only; 90 lbs.
1080	19-7/16"	44"	N/A	1-1/8"	1-5/8"	N/A	50-Ton, 3-Jaw Puller Only; 187 lbs.



#### Puller components

	No.	Description	Capacity
	24814	Speed Crank	17-1/2 Ton
Constant of the second	27198	Speed Crank	30 Ton
	29595	Speed Crank	50 Ton
	32118	Adjusting Screw	17-1/2 Ton
	34758	Adjusting Screw	30 Ton
	32698	Adjusting Screw	50 Ton
- 5世間 峰	39448	Lube for pullers	



# **Bearing Splitters**

No. 1121-1130 These versatile accessories feature "knife-like" edges which are easily placed behind the part to secure a gripping surface, even when clearances are extremely limited. When used with an OTC Grip-O-Matic<sup>®</sup> puller, puller jaws grip attachment's outer edge; when used with a Push-Puller, puller legs are threaded into the attachment's two tapped holes.

Tool No.	MAX. Spread	MIN. Spread	Α	В	Weight	Application
1121	15/16"	1/4"	15/16"–18	1-11/16"	12 oz.	Use with puller Nos. 1020, 1022, & 1023.
1122	2"	1/8"	3/8"–16	2-7/16"	1 lb., 4 oz.	Use with puller Nos. 1024, 1025, 1026, 1027, 7392, & 7393.
1123	4-5/8"	1/2"	5/8"–18	4-3/8"	5 lbs.	Use with puller Nos. 1035, 1036, 1037, 1038, & 927.
1124	5-3/4"	1/2"	5/8"–18	6"	12 lbs.	Use with puller Nos. 1035, 1040, 1041, 1042, 1065, 1063, & 938.
1130	9"	1/2"	5/8"–18	6"	12 lbs., 9 oz.	Use with puller Nos. 1035, 1040, 1041, 1042, 1065,1063, & 938.
1126	8"	5/8"	1"–14	7-1/8"	19 lbs., 12 oz.	Use with puller Nos. 1047, 1043, & 939.
1127	13-3/8"	3/4"	1"–14	10-1/4"	41 lbs., 12 oz.	Use with puller Nos. 1047, 1073, & 939.
1128	12-7/8"	5"	1-3/4"–12	13"	100 lbs.	Use with puller Nos. 1073, 1079.

#### **Pulley Pulling Attachments**

Attachment clamps down into V-groove to distribute load. Use with Grip-O-Matic® pullers or Push-Pullers.

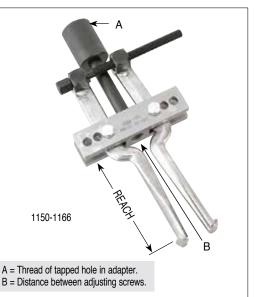
Tool No.	MAX. Spread	MIN. Spread	A	В	Weight	Application	
679	5-7/8"	1-3/4"	5/8"–18	6"	4 lbs., 4 oz.	Use with puller Nos. 1035, 1036, 1037, 1038, and 927.	
680	10"	1-5/8"	5/8"–18	10-1/16"	22 lbs., 4 oz.	Use with puller Nos. 1039, 1040, 1041, 1063, 1065, and 938.	A B



#### **Internal Pulling Attachments**

Approved by leading bearing manufacturers, OTC's internal pulling attachments remove bearing cups, oil seals, bushings, and other parts from blind holes quickly and easily. Each attachment is designed for use with a corresponding Push-Puller or slide hammer assembly.

Tool	JAW Spread	JAW Reach	Α	в	Weight	Application
1153	1-1/2"-5"	2-1/8"	1"–14	5/8"–18	4 lbs., 4 oz.	Use with Nos. 927 and 938 Push-Pullers,
1150	1-1/2"-6"	4"	1"–14	5/8"–18	4 lbs., 4 oz.	1155 and 1156 slide hammer pullers,
1152	1-1/2"-6"	4"	-	5/8"–18	3 lbs., 8 oz.	or 24832 and 24833 puller screw.
1151	1-1/2"–7"	5-1/4"	1"–14	5/8"–18	4 lbs., 8 oz.	Use with Nos. 927 and 938 Push-Pullers, 1155 and 1156 slide hammer pullers, or 24832 puller screw.
1165	3"–9"	5-7/8"	1-1/2"–12	1"–14	13 lbs., 8 oz.	Use with No. 939 Push-Puller.
1154	1-1/2"-9"	4"	1"–8	5/8"–18	4 lbs., 8 oz.	Use with No. 1063 hyd. Push-Puller.
1166	3"–9"	5-7/8"	1-1/4"–7	1"–14	13 lbs., 8 oz.	Use with No. 1071 hyd. Push-Puller.
Puller Sc	rews					
24832	13-3/4" long			5/8"–18	1 lb.	Use with Nos. 1150, 1151, 1152, and 1153. Acts as a regular forcing screw when threaded directly into the block of pulling attachment.
24833	5-1/2" long			5/8"–18	6 oz.	Use with Nos. 1150, 1152, and 1153. Acts as a regular forcing screw when threaded directly into the block of pulling attachment.



4420

# **Pilot Bearing Pulling Attachment**

- Use to pull a pilot bearing from the end of the crankshaft.
- Interchangeable jaws. One set of jaws covers a spread of 1/2" to 1-1/2". Other set of jaws covers a spread of 3/8" to 1-3/8". Both sets of jaws have a reach of 1".
- Reach has a min/max range of 3/16" to 1-1/4".
- Puller attaches to OTC and other slide hammers with 5/8"-18 thread.

# 4421

# Pilot Bearing Pulling Attachment Removes pilot bearings, thrust

- washers, and smaller bearings hidden in a shaft or housing.
- Jaws require a minimum of 5/8" opening and can range up to a max of 1-1/2" diameter.
- Min/Max reach is 1/8" to 1".
  Works with both 5/8 18 as
- well as M18-1.5 threaded hammer shanks.



4422

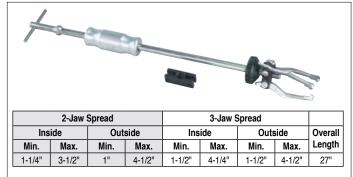
# • Use to pull a pilot bearing

- from the end of the crankshaft. • A restriction plate catches
- A restriction plate caches the bridge and prevents the jaws from spinning when force is engaged.
- The "Tee Handle" design is easy-to-use and eliminates need for other tools.
- Spread covers ranges
- of 1/2" to 1-1/2" and 3/8" to 1-3/8".
- Reach has a min/max range of 3/16" to 1-1/4".



# Pullers

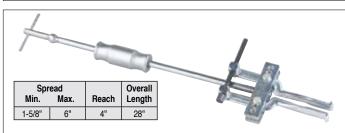
# Reversible-Jaw Slide Hammer Pullers



# **Reversible-Jaw Slide Hammer Pullers**

Here are two extremely versatile pullers, which will accomplish many pulling jobs involving gears, bearings, outer races, grease retainers, oil seals, etc. Either two or three puller jaws may be used to handle "inside" pulling jobs such as bearing cups and outer races, as well as regular "outside" pulling jobs. The basic slide hammer unit can be removed and used independently. The No. 1177 slide hammer puller has a 5 lb. hammer, and the No. 1176 has a 2-1/2 lb. hammer.

- 1176 Puller with 2-1/2 lb. hammer, 2-way and 3-way head, 27" long.
- 1177- Same as 1176, except has a 5 lb. hammer.



## Slide Hammer Pullers with Cup Pulling Attachments

These pullers combine a basic slide hammer unit with a No. 1152 internal pulling attachment (described on page 211). Ideal for removing bearing cups, outer races, and oil seals from blind holes. Upon removal of the internal pulling attachment, the basic slide hammer unit, which has a 5/8"-18 threaded end, may be used with various adapters for a multitude of pulling jobs.

1157 - Slide hammer puller, consisting of an 1152 internal pulling attachment and an 1156 basic slide hammer unit with a 2-1/2 lb. hammer.

1158 – Slide hammer puller (not shown), consisting of an 1152 internal pulling attachment and an 1155 basic slide hammer unit with a 5 lb. hammer.



#### **Basic Slide Hammer Units**

May be used with an OTC internal pulling attachment (page 119), or with internal or external-internal threaded adapters (page 117).

- 1155 Slide hammer unit is 24" long with a 5 lb. hammer, 5/8"-18 threaded end.
- 1156 Slide hammer unit is 24" long with a 2-1/2 lb. hammer, 5/8"-18 threaded end.
- 6501 Slide hammer unit is 17" long with a 1-3/4 lb. hammer, 1/2-20 threaded end.



- Pulling Hook
- This slide hammer puller attachment is used to remove seals, bearings, and other press-fit parts.
- · Designed to be used with OTC No. 1155 (5 lb.) or No. 1156 (2-1/2 lb.) slide hammer, or other slide hammers having 5/8-18 threads.

#### 27315 Pulling Hook

- This slide hammer puller attachment is used oil seals and bearing in situations where conventional methods won't work.
- Designed to be used with OTC No. 1155 (5 lb.) or No. 1156 (2-1/2 lb.) slide hammer, or other slide hammers having 5/8-18 threads.

Tool		I.D. S	Spread	Wt.	
No.	Reach	Min.	Max.	(lbs./oz.)	
1170	3/4"	1/2"	1-1/2"	4/14	
1171	1"	7/8"	2-1/8"	4/14	
1172	1-3/4"	1/2"	2"	4/14	

## Pilot Bearing Pullers

These very versatile pullers are built specially for inside pulling jobs, and particularly for removing flywheel pilot bearings on automobiles, trucks, and tractors. Also very practical for pulling motor, generator, and magneto bearings.



## Special Slide Hammer Puller

Ideal for pulling jobs in very close quarters, as in removal of small-bore bushings, bearings, oil seals, etc. Internal pulling attachment has a jaw spread of 1/2" to 1-3/8", adjusted by turning the slide hammer handle. Handle end has a 1/2"-20 thread.

- 1173 Slide hammer puller with head assembly.
- 1174 Head assembly only.

### 5028 Slide Hammer Puller

Just 8-1/2" long to fit into tight

spots, but its 1-1/2 pound hammer gives you a little extra muscle for stubborn jobs. It's perfect for pulling injector nozzles. The shank is threaded 1/2" -20 and has a 5/8" -18 threaded adapter included. Works with many OTC pulling attachments.



#### **Ten-Pound Slide Hammer Puller**

This heavy-duty slide hammer puller gets tough with those really stuck parts. It has all the features of our smaller versions - heat treated, 24" long, and a 5/8"-18 threaded end to adapt to any of OTC's pulling attachments. The difference is the ten-pound hammer that gives you the extra muscle for really stubborn pulling jobs.

#### Sliding Hammers

22185 - 2-1/2 lb. sliding hammer.

34331 - 5 lb. sliding hammer.

34331

22185



# Pullers



# Slide Hammer Puller Set

This useful set contains OTC's popular No. 1176 reversible-jaw slide hammer puller, plus an assortment of special jaws and adapters. You get all the versatility of the No. 1176 (described fully on page 120), plus attachments for pulling various size pilot bearings, oil seals, bushings, timing gears, harmonic balancers, and other tightly fitted parts!

Set No. 1	1178 consists of:
No.	Description
1176	Reversible-jaw slide hammer puller with 2-1/2 lb. hammer
44195	Medium jaw (3 include)
32054	Pilot bearing jaw (3 include)
44148	Long jaw (3 include)
27315	Puller hook. Removes oil seals, bearings, etc.
27241	2-way cross head
36578	Cross block. Removes timing gears, harmonic balancers, pulleys, other parts having tapped holes. Uses cap screws up to 3/8" diameter. Spread with 3/8" dia. cap screws: 1-7/8" – 5-5/8".
	2-Jaw Spread

2-Jaw Spread								
Tool	Ins	ide	Out	side				
No.	Min. Max.		Min.	Max.				
44195	1-1/2"	4-1/2"	3/4"	5"				
32054	3/4"	2-3/8"	-	-				
44148	2-3/4"	5-1/2"	3/4"	7-1/2"				
34698	1-1/4"	3-1/2"	1"	4-1/2"				
	3	Jaw Sprea	d					
Tool	Ins	ide	Outside					
No.	Min.	Max.	Min.	Max.				
44195	1-1/2"	4-3/4"	1"	4-1/2"				
32054	1"	2-3/4"	-	-				
44148	3-1/4"	6-1/4"	1"	6-1/4"				
34698	1-1/2"	4-1/2"	1-1/2"	4-1/2"				



# **Grip Wrench Adapters**

- For grip wrenches using single-lead thread adjusting screw.
- Adapter threads onto a slide hammer with a 5/8"-18 thread.

205378 – Grip wrench threads onto a 7/16"–14 end of adapter for pulling use.

557479 – Grip wrench threads onto a 5/16"–18 end of adapter for pulling use. 557480 – Grip wrench threads onto a 1/4"–20 end

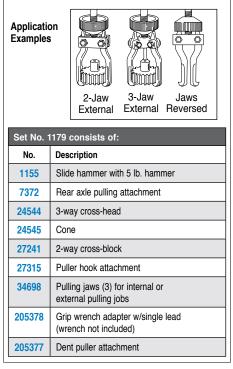
of adapter for pulling use.



#### 1179 "Cilur

# "Silver Slapper" 8-Way Slide Hammer Puller Set

You can pull flange-type rear axles, stubborn oil seals and bearings, and other press-fit parts. Jaws can be set up for 2/3-way internal or external pulling jobs.



# **4579**

### 9-Way Slide Hammer Puller Set

5 lb. Hammer in

Polished Chrome



- Pulls flange-type
- rear axles and most front-wheel drive hubs. Internal and external jaws provide a variety of
- combinations to pull bearings, gears and seals.
- Two- and three-way cross blocks and cone provide the perfect jaw configuration for most jobs.
- Set also includes a grip wrench adapter and a dent puller attachment for sheet metal or other unique pulling requirements.
- Designed for use with other OTC 5/8"-18 thread slide hammer attachments.
- · Packaged in blow-molded case.



Reversible-Jaw Slide Hammer Puller Sets

# Rear Axle Puller Set

The tools you need for flange-type rear axle and bearing removal on most late model passenger cars and light trucks. Set includes the No. 7374 rear axle pulling plate and a 5 lb. slide hammer. The axle bearing pullers, used with the slide hammer, make short work of removing semi-floating rear axle bearings.

Set No. 7	Set No. 7792 consists of:					
No.	Description					
7374	Rear axle pulling plate with a 5 lb. slide hammer.					
7495A	Rear axle bearing puller. Fits a min. bearing tube I.D. of 1" and a max. axle tube I.D. of 1-7/8".					
7496A	Rear axle bearing puller. Fits min. bearing tube I.D. of 5/16" and max. axle tube I.D. of 2-3/8".					
7497A	Rear axle bearing puller. Fits min. bearing tube I.D. of 1-3/8" and max. axle tube I.D. of 2-7/8".					
27315	Puller hook for use with 5 lb. slide hammer in set. Removes oil seals, bearings, etc.					



# 8-Way and 10-Way Slide Hammer Puller Sets

Our two most popular slide hammer puller sets—the Silver Slapper and the Silver Slapper Plus—now come packaged in a convenient plastic, blow-molded carrying/storage case. They're the same great sets with the same versatile pullers and attachments, now made even better with the addition of an organizer case. Or, if you already own either our No. 1179 or No. 1189 puller sets, we offer the plastic case separately. The case will hold either set.

**7947** – Eight-way slide hammer puller set. Same contents as No. 1179 Silver Slapper set, but includes plastic carrying/storage case.

7948 – Ten-way slide hammer puller set.

63106 - Puller storage case. Blow-molded plastic.



# Pullers Differential Bearing Pullers



# OTC "GripLock" Pullers

Manufactured to our rigorous specifications to ensure the quality professionals expect from OTC.

- Pressure bearing yoke cap holds jaws in place for ease of set up - in any orientation.
- · 2 or 3 jaw application.
- · Both external and internal pulling action.
- · "Live Center" action forcing screw.
- Professional finished for long lasting durability...
- 464 Puller with a 4" maximum reach, 3" to 4" spread.
- 465 Puller with a 7" maximum reach, 3" to 7" spread.



# **Differential Bearing Pullers**

For removing differential side carrier bearings on a wide variety of passenger cars and light trucks. Use with step plate adapter Nos. 8060, 8061, 8063, and 8064. (Step plate adapters are not included with 1028 or 1031. See page 117.)

**1028** – Puller with a 3-1/2" maximum reach, 1-1/4" to 4-1/2" spread. Primarily for servicing Ford products.

1031– Puller with a 3-1/4" maximum reach, 6" maximum spread. For servicing most General Motors, American Motors, and Chrysler products.

# Bearing Cup Remover



7136 – Bearing Cup Remover. Similar to Ford 308-047.

# 4520

# **Differential Side Bearing Pullers**

- Use to remove differential side carrier bearing. Works on a wide variety of cars and light-duty trucks.
- Includes four step plate adapters to fit carrier bearings.
- Reach: 1-5/8". Spread: 2-5/8" to 3-3/8". Forcing screw is 3/4"-16 x 6-11/16" lg.

### Set includes:

### Part No. Description

- 4520-1 Forcing Screw / Cross Block Assembly
- 4520-2 Puller Jaws / Pins (set of two each)
- 4520-3 Puller Jaws Retaining Yoke 4520-4 – Step Plate Adapters (set of four)
- 15/16" 1-11/32" diameter
- 1-1/8" 1-1/2" diameter
- 1-1/4" 1-5/8" diameter
- 1-1/8" 1-3/4" diameter

# 1181

# **Multipurpose Puller Set**

This assortment of puller tools gives you a wide range of job versatility. You get a 5 lb. slide hammer puller, hub puller, two sizes of OTC Grip-O-Matic<sup>®</sup> jaw-type pullers, a bearing pulling attachment, plus a cross-bar gear and pulley puller, all contained in a handy plastic storage case.

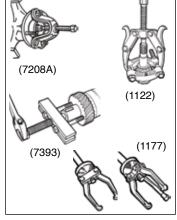
Set No.	1181 consists of:
No.	Description
1177	Slide hammer puller with a 5 lb. hammer, 2-way and 3-way heads. Reversible: either two or three jaws may be used to handle both "inside" and "outside" pulling jobs.
7208A	Front hub puller for servicing front-wheel-drive cars. Includes a spare locknut, which permits use with a No. 1177 slide hammer for rear axle flanges.
1023	2-ton combination 2- or 3-jaw Grip-O-Matic puller. Has 3-3/8" max. reach,4-3/4" max. spread.
1027	5-ton combination 2- or 3-jaw Grip-O-Matic puller. Has 5-1/2" max. reach, 7" max. spread.
7393	Bar-type gear and pulley puller with a 5-1/2" long screw. Includes two hex head cap screws, 3/8"-16 x 3" long. Spread range: 1-1/2" to 4-1/4".
1122	Bearing pulling attachment for use with No. 1027 and No. 7393 pullers. Has 2" max spread, 1/8" min. spread.



# Specifications

Reach: 1-5/8" Spread: 2-5/8" on inside holes in crossbar 3-3/8" on outside holes in crossbar Forcing screw: 3/4"-16 mm x 6-11/16" lg. Adapter sizes: 15/16" to 1-3/4" diameter







# Cone-type Puller

Reversible jaws permit handling of both internal and external pulling jobs. The 2-way/3-way head permits assembly of puller to suit the job at hand. Turning the cone on the puller head securely locks its jaws on the part to be removed. Puller reach: 2-7/8"

2-jaw spread: Inside: 1-1/2" to 4-1/2" Outside: 3/4" to 5" **3-jaw spread:** Inside: 1-1/2" to 4-3/4" Outside: 1" to 4-1/2"

#### Pilot Pearing D

Bearing Pullers Designed to pull flywheel pilot bearings in close quarters where a slide hammer cannot be used. Operates on many models with engine in chassis.

**7318** – Pilot bearing puller. Capacity: 1/2" to 1-1/2". I.D. reach: 3/4". **7319** – Pilot bearing puller.

Capacity: 7/8" to 2". I.D. reach: 1".







# **Blind Hole Puller Set**

This set provides a complete selection of expanding collets ranging in size from 5/16" to 1-3/4". Collet is placed through bore of part to be removed, then expanded with actuator pin so that lips of collet secure a positive grip for pulling. Force is exerted by means of a forcing screw and a bridge assembly or a slide hammer. Individual pieces can be ordered separately.

Set No. 981 consists of:					
No.	Description		No.	Description	
24835	Forcing screw		33857	Collet 3/8" to 7/16"	
24836	Forcing screw nut		33858	Collet 7/16" to 1/2"	
22185	2-1/2 lb. hammer		33859	Collet 1/2" to 5/8"	
208627	Shank and tee bar assembly		33860	Collet 5/8" to 3/4"	
28250	Actuator pin, 1/8" dia., for use		33861	Collet 3/4" to 7/8"	
	with collets 33856 & 33857		33862	Collet 7/8" to 1"	
28253	Actuator pin, 3/16" dia., for use with collets 33858-33862		33863	Collet 1" to 1-1/4"	
28256	Actuator pin, 1/2" dia., for use		33864	Collet 1-1/2" to 1-3/4"	
	with collets 33863-33865		33865	Collet 1-1/2" to 1-3/4"	
28323	Metal box		41331	Bridge	
33856	Collet 5/16" to 3/8"				



## Blind Hole Bearing Puller Set

- · For pulling jobs requiring an internal pull.
- · Set includes four collets, which fit a wide range of applications. Select the appropriate sized collet by comparing it with the application. Insert the collet, expand it to fit the hole, then attach the slide hammer.
- Four collet sizes: 7/16" to 1/2", 9/16" to 11/16", 5/8" to 1", and 1" to 1-1/4".
- · Set includes a 2-1/2 lb. slide hammer with a T-handle.
- · Housed in a blow-molded plastic storage case.



# A/C Clutch Pulley Puller Set

- · For removal of stubborn air conditioning clutch pulleys. Also can be used on many alternator, generator, power steering, and crankshaft pulleys, harmonic balancers, and fiber timing gears.
- · Set includes drop-forged components: one 3/4"-16 x 5" live center forcing screw, 5-1/2" crossbar with 3 spread settings, two pairs of jaws, and a clamp bolt.
- Spread: 3" to 5"; Reach: 1" to 5".
- · Includes a blow-molded plastic case.



# 4532

#### 7-Ton Multi Purpose Bearing and Puller Set

- Offers a bearing/pulley tool solution featuring a classic "H" Bar style puller block accommodating 7" to 11" application spread.
- · Comes with 2 sets of forged jaws for a pulling reach range of 5" to 9" - tempered for heavy-duty applications. (Jaws from OTC's 4534 are interchangeable) Two forcing screws are included for short and long pulls.
- · Where a Push Puller is the best pulling choice and threaded holes are not available, the 4532 provides technicians and shops with a solution for many applications like heavy-duty pinion bearings, side bearings, alternators, generators, power steering and crankshaft pulleys, timing gears and harmonic balancers.
- Deep set transmission gears and A/C clutches. Roller gears on tracked vehicles, locking collars on pivot shafts.



# 4534

# **Multipurpose Bearing and Pulley Puller Set**

- · For a wide range of pulling jobs, including: bearings, alternators, generators, power steering and crankshaft pulleys, timing gears, and harmonic balancers.
- · Set includes drop-forged components, which can be used in a variety of combinations. Contents of Set: 2 - Forcing Screws (Live Center): 3/4"-16 x 6-11/16" and 3/4"-16 x 5" 2 - Cross-bar Yokes: 3 pin-hole @ 3-1/4" to 5-1/2", 2 pin-hole @ 2-3/8" to 3-3/8" 2 - Clamp Bolts 3 - Pairs of Puller Jaws: 1-3/8" Max, 1-5/8" Max, 1-3/4" Max 1 - Pair of Jaw Pins with Ball Spring 3 - Pairs of Capped Bolts
- Spread: 3" to 5", Reach: 1" to 2-1/4"
- · Housed in a blow-molded plastic storage case.



## 4517

## 7-Ton Bar-Type Puller/Bearing Separator Set

- Includes a Bearing Splitter with 4" capacity, two sets of hex push puller legs, a 8" bar type puller head mated with a custom thread forcing screw.
- Now service and maintenance professionals have a Puller/Bearing set for tough jobs, up to 7-tons, larger applications, and greater reach 8" to 16".
- As a stand alone puller/bearing splitter set or as a compliment to the 4518 version, the 4517 7-Ton Puller/Bearing Separator Set gives your maintenance/service shop the expanded capability to keep more business in house.



#### 5-Ton Bar-Type Puller/Bearing Separator Set · This combination set includes our two most popular bearing 'splitters" (2" and 3"), four sets of hex push-puller legs and a bar-type puller head with a 9/16" forcing screw. Separator tools are used with bar puller and legs for a wide variety of pulling jobs.

- The 5" puller cross-bar with a 6-1/4" forcing screw or each of the bearing separators may also be used separately or in combination with other pullers or tools.
- · A blow-molded plastic storage case keeps set contents organized and protected from loss.

Tool No.	Min. Spread	Max. Spread	Tapped Holes	Distance Between Adj. Screws
4518-2	3/16"	2-3/8"	3/8-16	2-3/8"
4518-3	1/2"	2-3/8"	3/8-16	3-9/16"

# Pullers Puller/Bearing Sets



# 1182

# Lock-on, Jaw-type Puller Set

Components can be assembled to create several versatile puller versions for both internal and external pulling tasks. The puller head is turned to securely lock the jaws onto the part being removed. Both a 2-way and 3-way puller head are included, plus three long-reach and three short-reach puller jaws. Plastic storage box included. Easily removes gears, bearings, timing gears, harmonic balancers, and other press-fitted parts.



# Gear and Pulley Pullers

These tools are perfect for removing timing gears, fan pulleys, harmonic balancers, and many other parts having tapped holes.

- Each puller will spread from 1-1/2" to 4-1/4". The puller blocks are 4-7/8" wide.
- · Includes two hex head cap screws, 3/8"-16 x 3" long.
- 7392 Puller with 13" long screw.
- 7393 Puller with 5-1/2" long screw.

#### Similar to Ford D80L-522-A, 303-D025

# 522

Large Gear and Pulley Puller

Using this tool, you can easily remove a wide range of gears, pulleys, or other parts that have tapped holes.

- The puller will spread from 2" to 7-3/4". Its block is 8-1/4" wide, and its forcing screw is 3/4"-16 x 11-5/8" long.
- · Accommodates any cap screws up to 1/2" diameter.





# 1183

# **Bearing Splitter Combo Set**

This combo pack contains four of OTC's most popular bearing splitters, plus a pulley pulling attachment. A rugged organizer case is included, enabling you to keep the tools together for instant use.

# 62885

Organizer case only (for 1183).

Set No	Set No. 1183 consists of:						
No.	Description						
1121	Bearing splitter. Has 15/16" max. spread and 1/4" min. spread.						
1122         Bearing splitter. Has 2" max. spread and 1/8" min. spread.							
1123	Bearing splitter. Has 4-5/8" max. spread and 1/2" min. spread.						
1130 Bearing splitter. Has 9" max. spread and 1/2" min. spread.							
679	Pulley pulling attachment with a 5-7/8" max. and 1-3/4" min. spread.						



# 4526

# Heavy-Duty Single Pressure Beam Bearing Splitter Set

- Single point of adjustment allows quick attachment of splitter to the application.
- Pressure beam provides the ultimate in secure gripping surface.
- $\boldsymbol{\cdot}$  Push Puller is thread matched to the splitter.
- Interchangeable legs shorten or lengthen the range of pull.
- Designed of high quality tool grade materials for a lifetime of use.
- For use on most bushing or bearing jobs up to 4" in diameter.

# 7403

# Steering Wheel, Pulley, and Flywheel Puller

Here's a puller that works in a variety of applications. It pulls steering wheels on most late model cars. It also works as a regular 2/3-way puller to remove pulleys and small engine flywheels. Cap screws included (pairs):  $3/8-16 \times 3-1/2$  in.;  $5/16-18 \times 3-1/2$  in.;  $5/16-24 \times 3-1/2$  in.;  $M8-1.25 \times 90$  mm; and  $5/16-18 \times 4$  in. (SIR).

· Works on domestic cars with or without collapsible steering columns.



# 10-Ton Capacity Push-Puller Set

Contains three popular OTC bar-type pullers in one versatile set, packed in a handy plastic storage case. Tools included permit damage-free pulling of gears, bearings, harmonic balancers, and other parts having tapped holes. Ideal for servicing heavy-duty trucks, off-road construction equipment, and machinery.

# Set No. 1180 consists of: No. Description 927 10-ton Push-Puller, 8-3/8" reach, 2-1/8" to

521	7-1/4" spread. 6-3/4" puller legs. Other leg sizes are available separately. (See pages 117–118.)
522	Gear and pulley puller; spread range when used with 1/2" cap screws: 2" to 7-3/4" Cap

 
 screws not included.

 7393
 Gear and pulley puller with standard 5-1/2" forcing screw, plus special 13" forcing screw. Includes two hex head cap screws, 3/8"–16 x 3" long. Special range: 1-1/2" to 4-1/4".



#### 4527 5-Ton Single

# Pressure Beam Bearing Splitter Set

- Single point of adjustment allows quick attachment of splitter to the application.
- Pressure beam provides the ultimate in secure gripping surface.
- Push Puller is thread matched to the splitter.
- Interchangeable legs shorten or lengthen the range of pull.
- Designed of high quality tool grade materials for a lifetime of use.
- For use on most bushing or bearing jobs up to 3" in diameter.





www.otctools.com



# Pullers Flange-Type Pullers



# 7790

# Flange-Type Puller Set (Grade 5)

- Versatile puller capable of removing a wide variety of components having tapped pulling holes, including harmonic balancers, gears, crankshaft pulleys, etc.
- Capable of handling 2- or 3-way bolt pulling applications.
- Works on many cars, pickups, SUVs, and small engines.
- Carries the OTC Lifetime Marathon Warranty  $^{\! \circledast}$  against defects in workmanship and material.

# Contents of set:

- Puller flange: adapts to bolt circle dia. of 1-1/2" to 4-5/8".
- Forcing screw: 5-5/8" lg., 5/8-18 thread.
- Shaft protector: 1-3/16" dia. x 3/4" thick.
- Three each of the following flat washers: 1/4"; 5/16"; 3/8".

# Three each of the following bolt sizes:

The back of the following b	
1/4"-28 x 3" lg.	5/16"-24 x 3" lg.
5/16"-18 x 3-1/2" lg.	5/16"-18 x 6" lg.
3/8"-24 x 1-1/2" lg.	3/8"-16 x 2" lg.
3/8"-16 x 3" lg.	3/8"-16 x 4-1/2" lg.
M8 x 1.25 x 45 mm lg.	M8 x 1.25 x 65 mm lg.
M8 x 1.25 x 90 mm lg.	M10 x 1.5 x 35 mm lg.



# Flange-Type Puller Combination

Two specialty pullers in one box. You get a flange-type puller for removal of harmonic balancers, timing gears, and other parts with two or three tapped holes. You also get a steering wheel, pulley, and flywheel puller. 525 includes: flange-type puller and steering wheel puller with four sets of cap screws.



# 6294

# Flange-Type Puller Set (Grade 8)

- Versatile puller capable of removing a wide variety of components having tapped pulling holes, including harmonic balancers, gears, crankshaft pulleys, etc.
- Capable of handling two- or three-way bolt pulling applications.
- Works on many cars, pickups, SUVs, and small engines.
- Bolts are heat treated to meet Grade 8 hardness.
- Carries the OTC Lifetime Marathon Warranty<sup>®</sup> against defects in workmanship and material.

## Contents of set:

- Puller flange: adapts to bolt circle diameters of 1-1/2" to 4-1/4".
- Two forcing screws: 6" long and 3" long.
- Two pointed forcing screw center tips.
- Two flat forcing screw center tips.
- Special stepped bolts 1990-2005 GM 3300-3800 V6 crankshaft pulleys.

· Three each of the following	washer head bolts:
1/4"-28 x 3" lg.	5/16"-24 x 3" lg.
5/16"-18 x 3-1/2" lg.	3/8"-24 x 1-1/2" lg.
3/8"-16 x 2" lg.	3/8"-16 x 3" lg.
3/8"-16 x 4-1/2" lg.	M8 x 1.25 x 45 mm lg.
M8 x 1.25 x 65 mm lg.	M8 x 1.25 x 90 mm lg.
M10 x 1.5 x 35 mm lg.	

# 6930

# Flange-Type

Puller Combination Heavy-duty flange puller features a live center forcing screw. Includes two live center forcing screw tips and two sets of commonly used automotive bolts. Puller will work on bolt circles from 1-1/2" to 4-1/4". Three cap screws, 3/8-24 x 3" long, and three cap screws, 3/8-16 x 3" long.





• Three each of two cap screw sizes included: 3/8"-24 x 3" long and 3/8"-16 x 3" long.



# 7793

# Master Bolt Grip Set (Grade 8)

- Multi-Purpose applications such as steering wheels, flywheels, harmonic balancers, pulleys and gears with tapped holes.
- Includes special stepped bolts for 1990–2005 GM 3300-3800 V6 crankshaft pulleys.

# Contents of set:

- 4-way slotted puller yoke and 2 lengths of hardened "live-center" forcing screws - a set of 3 interchangeable forcing screw tips is included to optimize pressure and prevent "walking".
- Blow molded case to prevent spilling and each bolt size is molded into the storage compartment.
- Three each of the following bolt sizes:

I nree each of the following	I hree each of the following bolt sizes:					
M8 x 1.25 x 90mm	M8 x 1.25 x 45mm					
1/4-28 UNF x 3"	M8 x 1.25 x 65mm					
5/16-24 UNF x 3"	5/16-18 UNC x 3.5"					
3/8-24 UNF x 1.5"	3/8-16 UNC x 2"					
3/8-16 UNC x 3"	3/8-16 UNC x 4.5"					
M10 x 1.5 x 35mm						
Special Stepped Bolts - 199	90 & Newer					



# PA7

# 7-Ton Capacity Four-In-One<sup>™</sup> Puller Set

With the parts included in the PA7, you can quickly assemble a 2/3-jaw puller with standard or long reach. 7-ton capacity, the max. reach of 8-3/4", and max. spread of 11" make it ideal for hundreds of pulling jobs. PA7 includes; 7-ton cap. Standard jaw max. reach: 5". Max. spread: 10-1/2". Long jaw max. reach: 8-3/4". Max. spread: 11".

# 1677

# 17-1/2 Ton Capacity Puller Set

This puller set gives you the versatility you want and the tonnage capacity you need to tackle parts removal and installation on many models of cars, trucks, tractors, power shovels, road building machinery, etc. Maintenance operations involving the removal and replacement of gears, bearings, wheels, and other press-fit parts can be done with ease.

Set No. 1677 consists of:				
No.	No. Description No. Description			
938	Push-Puller with 9-1/2" legs		Internal threaded adapters	
1104	16-1/2" legs for 938 (pair)		8037	5/8"–18 x 5/8"–18
1024	2-jaw puller		8038	5/8"–18 x 3/4"–16 (2)
1036	2-jaw puller		8039	5/8"–18 x 7/8"–14
1039	2-jaw puller		8040	5/8"–18 x 1"–14
1130	Bearing splitter		8041	5/8"–18 x 1-1/8"–12
			8043	5/8"–18 x 1-1/2"–12



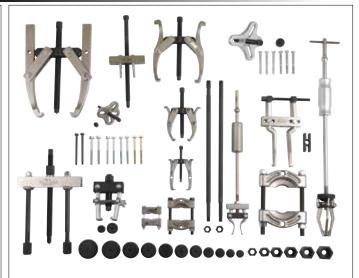
# 1676 Strong Box Puller Set

Here's a set of pullers that gives you almost unheard of versatility. You get eight pullers, five attachments, and extra puller jaws. They enable you to pull gears, bearings, pulleys, wheels, and more on cars and light trucks. All these tools are contained in a rugged, lockable metal storage cabinet you can either mount on a wall or stand on a work bench, so they are handy when you need them. Just imagine the jobs you can do with this set!

# 18886

Storage box only. 29-1/2" wide x 25-3/4" high x 10" deep.

Set No. 1676 consists of:				
No.	Description		No.	Description
1026	2/3-jaw puller		7311A	Pitman arm puller
1037	2/3-jaw puller		1122	Bearing splitter
7392	Gear and pulley puller		1123	Bearing splitter
518	Flange-type puller		7372	Rear axle pulling adapter
7403	Steering wheel puller		43888	Long jaws for No. 1026 (3)
1170	Pilot bearing puller		43892	Long jaws for No. 1037 (3)
1177	Slide hammer puller		18886	Metal storage box



## 1675

# 13-Ton Capacity Puller Set

This versatile 13-ton capacity puller set removes gears, bearings, shafts, pinions, bearing outer races, and other tightly fitted parts. The set includes a Push-Puller, Grip-O-Matic<sup>®</sup> pullers, bearing pulling attachments, specialized pullers, and many accessories. You can work on all makes and models of cars and light trucks with this set.

# 1620

Board (3' x 4') for storing No. 1675 set (not included with set).

Set No. 1675 consists of:					
No.	Description		No.	Description	
927	Push-Puller with 6-3/4" legs		1176	Slide hammer puller	
1101	15-3/4" legs for 927 (pair)		7310A	Pitman arm puller	
1022	2-jaw puller		8075	Step plate adapter set	
1024	2-jaw puller		8035	Internal threaded adapter:	
1035	2-jaw puller			1/2" –20 x 5/8" –18 (2)	
1039	2-jaw puller		8044	Internal threaded adapter set	
7392	Gear and pulley puller		1152	Bearing cup pulling attachment	
518	Flange-type puller		1121	Bearing splitter	
7403	Steering wheel puller		1122	Bearing splitter	
1170	Pilot bearing puller		1123	Bearing splitter	



# Hydraulic Puller Sets

17-1/2, 30-, and 50-Ton Capacity – Individual items in the sets are fully described elsewhere in this catalog. . . consult index.

1688 – 17-1/2 ton capacity hydraulic puller set.

1689 – 30-ton capacity hydraulic puller set.

1690 - 50-ton capacity hydraulic puller set.

No.	Description	1688	1689	1690
HYDRAU	ILICS			
4002	Single stage hydraulic hand pump assy.	x	x	x
4120	17-1/2 ton ram with threaded insert	x		
4121	30-ton ram with threaded insert		x	
4122	50-ton ram with threaded insert			x
24815	Tee adapter	x	x	x
9650	Pressure gauge	x	x	x
9767	Hydraulic hose – 6 foot	x	x	x
9798	Hose half coupler with dust cap	x	x	x
PULLER	RS			
1062	17-1/2 ton Push-Puller with 16-1/2" legs	x		
1066	17-1/2 ton 3-jaw hydraulic puller	x		
1070	30-ton hydraulic Push-Puller with 18" legs		x	
1074	30-ton 3-jaw hydraulic puller		x	
1076	50-ton hydraulic Push-Puller with 24" legs			x
1080	50-ton 3-jaw hydraulic puller			x
ACCES	SORIES			
1105	Puller leg – 22-1/2"	x		
1111	28" legs for No. 1070	1	x	
1113	34" legs for No. 1076			x
1127	Bearing pulling attachment		x	x
1130	Bearing pulling attachment	x		
1154	Bearing cup pulling attachment	x		
1166	Bearing cup pulling attachment		x	
201454	Pushing adapter	x		
24814	Speed crank	x		
27198	Speed crank		x	
28228	Pushing adapter	x		
28229	Ram cap		x	
28230	Ram cap for No. 1076			x
29595	Speed crank			x
32118	Ram adjusting screw	x		
32698	Adjusting screw			x
34510	Pushing adapter		x	
34755	Pushing adapter			x
34758	Adjusting screw		x	
41226	2-way head for No. 1074		x	
41224	2-way head for No. 1066	x		
50449	2-way head for No. 1080			x
8020	1"-8 F. x 5/8"-18 M. threaded adapter	x		
8023	1-1/4"-12 F. x 1"-14 M. threaded adapter (2)			x
8028	1-5/8"-5-1/2 F. x 1"-8 M. threaded adapter			x
8029	1-5/8"-5-1/2 F. x 1"-14 M. threaded adapter			x
8036	Female threaded adapter 1"-14 x 1"-14 (2)		x	
8038	Female threaded adapter 5/8"-18 x 3/4"-16 (2)	x		

1688 17-1/2 ton capacity hydraulic puller set



1689 30-ton capacity hydraulic puller set

# 1690 50-ton capacity hydraulic puller set



# **Pullers** Hydraulic Puller Sets

Photo for illustrative purposes only. For complete set contents, see chart below. Individual items in the sets are fully described elsewhere in this catalog. . . consult index.

# Hydraulic Puller Sets

- 1679 17-1/2 ton hydraulic puller set.
- 1680 17-1/2 ton hyd. farm implement service set.
- 1681 17-1/2 ton and 30-ton hydraulic puller set.
- 1682 17-1/2 ton, 30-ton, & 50-ton master puller set.

1683 – 17-1/2 ton & 50-ton hydraulic construction equipment service set.

-		•				
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No.	Description	1679	1680	1681	1682	1683
HYDRA	JLICS					
4002	Single-stage hydraulic hand pump assembly	x	x	x	x	x
4008	2-stage hyd. hand pump w/3-way control valve				x	
9650	2-stage hyd. hand pump w/3-way control valve	x	x	x	(2)	x
9798	Hose half coupler with dust cap	x	x	x	(2)	x
9767	Hydraulic hose – 6 ft.	x	x	x	(2)	x
RAMS						
4120	17-1/2 ton ram with threaded insert	x	x	x	x	x
4121	30-ton ram with threaded insert			x	x	
4122	50-ton ram with threaded insert				x	x
PULLE						
1025	2-jaw puller		x			
1027	5-ton capacity 2/3-jaw puller	x		x	x	x
1035	2-jaw puller		x			
1039	2-jaw puller		x			
1062	17-1/2 ton cap. hyd. Push-Puller w/16-1/2" legs	x	x	x	x	x
1105	22-1/2" legs for No. 1062 (pair)	x	x	x	x	x
1106	9-1/2" legs for No. 1062 (pair)				x	
1107	4-1/2" legs for No. 1062 (pair)				x	
1070	30-ton cap. hyd. Push-Puller with 18" legs			x	x	
1109	8" legs for No. 1070 (pair)				x	
1111	28" legs for No. 1070 (pair)			x	x	
1076	50-ton cap. hyd. Push-Puller with 24" legs				x	x
1113	34" legs for No. 1076 (pair)				x	x
1066	17-1/2 ton 3-jaw Grip-O-Matic <sup>®</sup> puller	x	x	x	x	x
41224	17-1/2 ton 2-jaw puller head	x	x	x	x	x
1074	30-ton 3-jaw hyd. puller			x	x	
1080	50-ton 3-jaw hyd. puller				x	x
50449	50-ton 2-jaw puller head				x	x
1037	Combination 2/3-jaw puller	x		x	x	x
41226	30-ton 2-jaw puller head			x	x	
43892	Long jaws for No. 1037 (3)			x	x	x
1041	Combination 2/3-jaw puller	x		x	x	x
30902	Long jaws for No. 1041 (3)			x	x	x
1170	Pilot bearing puller		x			
1176	Slide hammer puller		x			
7392	Gear and pulley puller		x			x
24833	Short forcing screw for No. 7392		x			x
ACCES	SORIES					
8005	5/8"-18 F x 3/8"-16 M threaded adapter (2)	x	x	x	x	x
8006	5/8"-18 F x 1/2"-20 M threaded adapter (2)	x	x	x	x	x
8807	5/8"-18 F x 1/2"-13 M threaded adapter (2)	x	x	x	x	x
8010	5/8"-18 F x 5/8"-11 M threaded adapter (2)	x	x	x	x	x
		x	x	x	x	x

No.	Description	1679	1680	1681	1682	1683
8015	5/8"-18 F x 3/4"-10 M threaded adapter (2)	x	x	x	X	X
8017	5/8"-18 F x 7/8"-14 M threaded adapter (2)	x	^	x	x	^
8018	5/8"-18 F x 7/8"-9 M threaded adapter (2)	x		x	x	
8019	5/8"-18 F x 1"-14 M threaded adapter (2)	x	x	x	x	v
8020	1"-8 F x 5/8"-18 M threaded adapter (1)					X
8020		X	X	X	X	X
8012	1"-8 F x 1"-14 M threaded adapter (1)	X	X	X	X	X
8025	1"-14 F x 5/8"-18 M threaded adapter (2)			X	X	
8025	1-1/4"-7 F x 5/8"-18 M threaded adapter (2)			X	X	
	1-1/4"-7 F x 1"-14 M threaded adapter (2)			X	X	
8023	1-1/4"-12 F x 1"-14 M threaded adapter (2)				X	X
8024	1-1/4"-12 F x 1-3/4"-12 M threaded adapter (2)				X	~
8028	1-5/8"-5-1/2 F x 1"-8 M threaded adapter (1)				X	X
8029	1-5/8"-5-1/2 F x 1"-14 M threaded adapter (1)				X	X
8036	1"-14 F x 1"-14 F threaded adapter (2)	(0)		X (0)	X (0)	
8038	5/8"-18 F x 3/4"-16 F threaded adapter	(2)	X	(2)	(2)	X
8056	Shaft protector set	X	X	X	X	X
8075	Step plate adapter set	X	X	X	X	X
8076	Step plate adapter set			X	X	X
679	Pulley pulling attachment	X		X	X	
680	Pulley pulling attachment			X	X	
8044	Internal threaded adapter set	X	X	X	X	X
10215	Hex nut: 3/4"–16 (2)					X
1154	Bearing cup pulling attachment	X	X	X	X	X
32136	Long jaws for No. 1154 (2)				X	X
1166	Bearing cup pulling attachment			X	X	X
34479	Reducing adapter for use with No. 1166				X	X
1122	Bearing splitter	X	X	X	X	X
1123	Bearing splitter	X	x	X	X	X
1126	Bearing splitter			X	x	x
1127	Bearing splitter				x	X
1128	Bearing splitter				x	
1130	Bearing splitter	x	x	x	x	x
24814	Speed crank	x	x	x	x	X
24815	Tee adapter	x	x	x	x	X
24829	Short bolt (2)					X
24832	Special puller forcing screw	x		x	x	
27198	Speed crank			x	x	
29595	Speed crank				x	X
28228	Ram cap	x	x	x	x	x
28229	Ram cap			x	x	
28230	Ram cap				x	x
32118	Ram adjusting screw	x	x	x	x	x
32698	Ram adjusting screw				x	x
34758	Ram adjusting screw			x	x	
34510	Pushing adapter			x	x	
34755	Pushing adapter				x	x
201923	Pushing adapter	x	x	x	x	x

128 Pullers



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# Motorcycle Tools Engine / Fuel / Oil





# 4437

### Sensor Socket Set (8-Piece) Includes:

4673-1 - 29 mm Vacuum Switch and O2 Socket, 1/2" Drive.

4673-2 - 7/8" Vacuum Switch and O2 Socket (wide slot), 3/8" Drive.

4673-3 - 27 mm Thermal Sensor Switch, 1/2" Drive. 4673-4 - 7/8" Vacuum Switch and O2 Socket (narrow slot), 3/8" Drive.

4673-5 - 1-1/16" & 1" Oil Pressure Sending Unit Socket, 3/8" Drive.

4673-6 - 7/8" O2 Sensor Socket, offset 1/2" Drive. 4673-7 - 7/8" O2 Sensor Socket (low profile), offset 3/8" Drive.

4437-8 - 1-1/16" and 1" Oil Pressure Socket (short access), 3/8" Drive



# 4480

#### **Basic Fuel Injection Service Kit**

Performs running, residual, rail and flow rate pressure tests on fuel injected engines. Kit includes adapters, hoses, fittings, and a professional dual scale gauge that reads 0-100 PSI and 0-700 kPa with relief valve. All packaged in a professional, heavy-duty, blow molded carrying case.



#### 7991

#### **Cooling System Pressure Tester**

Now you can pressure test the cooling system on motorcycles, ATVs, and even snowmobile applications. The tester's universal fit eliminates the need for multiple adapters.

# 4838

## Piston Ring Compressor Set, 6 Piece

This 6 ring set covers 2-7/8" thru 4-3/8" piston diameters. The ring compressor pliers feature a ratcheting lock to hold the handles in position for easy piston installation.



## 4840

#### **Piston Ring Compressor Set with Ring Expander**

This complete set includes 12 chrome plated compressor sleeves covering 1-3/8" thru 4-3/8 diameter piston applications. Both the ring compressor and ring expander pliers feature a ratcheting lock to hold the handles in position for easy piston and ring installation. Complete with a metal carry case.



# 4842

## Heavy Duty Valve Spring Compressor

Used to compress valve springs for removal or installation. The heavy duty C-frame has a 9" opening and a 5" throat. Kit includes 16mm, 19mm, 23mm, 25mm, and 30mm valve spring retainer adapters.



# 4572

# Valve Spring Compressor

- · Designed to compress valve springs on overhead valve engines.
- · Includes two valve spring adapters, which fit valve spring retainers up to 1" (25 mm) and 1-3/16" (30 mm).
- · Unique, direct action compressor lever gives better visibility of valve spring retainers located in difficult access areas.
- Jaw opening of 1-3/8" to 5-5/8" (35 mm to 142 mm); throat clearance of 5-7/8" (150 mm).

#### 4875

# **Cam/Crank Locking Tool**

- · Designed to lock the cam and crank sprockets together for removal, replacement and proper
- torquing of the sprocket bolts. Application
- · Dyna 2006 & Later
- Similar to HD-47941.

#### 4876

### Cam/Crank Locking Tool

· Designed to lock the cam and crank sprockets together for removal, replacement and proper torquing of the sprocket bolts.

# Application:

- Twin Cam 88/B 1999 & Later
- · Similar to HD-42314.



# 4844

# Cam/Crank Locking Tool, Twin Cam & Dyna

- · Designed to lock the cam and crank sprockets together for removal, replacement and proper torqueing of the sprocket bolts.
- · Double end design covers;
- Twin Cam 88/B 1999 & Later
- · Dyna 2006 & Later



# Motorcycle Tools Engine / Fuel / Oil



# Cam Chain

- **Tensioner Unloader Tool**
- · These tools are used to unload the pressure of the primary and secondary chain tensioners when servicing HD Twin Cam 88 engines.
- · Tools can also be used to check spring loads on chain tensioners.
- Applications include 99-06 FL, 99-05 FXD, 00-06 FXST.
- Similar to HD-42313.



# 7419

# **Timing Tensioner Locking Pin Set**

- This pin set is used to lock timing belt or chain tensioners once they have been compressed, required during the service procedure.
- · Once the belt or chain service is complete, the pin is simply pulled out to return the tensioner to functional.
- · 6 pin set with clip to cover most all applications.

# 6589

# **Electronic Ignition** Spark Tester

Use to quickly check spark on 2 and 4 stroke gasoline engines with electronic ignition systems.





- clamps used on fuel and cooling system hoses.
- · Ensures even, precise crimping, and eliminates possibility of damage to the clamp, boot, or hose.

# 4847

# Twin Cam Inner Cam Bearing **Remover/Installer Kit**

- This kit contains the tools to remove and install inner cam bearings without damage to the crankcase.
- The bearing puller is designed to trap the needle bearings and keep them from falling into the crankcase.
- · The installation tools are designed to press on the outer most diameter of the bearing, eliminating damage to the bearing, cam, or case. The press adapter will also set the bearing to its proper depth.
- Similar to HD-42325-B.



# Wrist Pin Installer & Remover Tool

- · Removes and installs piston wrist pins without having to hold the piston in position and use a drift.
- · Applications include HD stock and aftermarket engines, including Twin Cam, and other engine makes with similar piston pin diameter sizes.



# 4846

# **Tappet Block Alignment Set**

- · These adapter screws provide perfect alignment of the oil hole from the crank case to the tappet block on Shovel and Evo style engines.
- · Align rocker boxes on Evo heads.
- · Also align twin cam oil pump.
- Applications include all HD Big Twin single cam engines, stock and aftermarket, 76 - Present.
- Similar to HD-33443.

# 4851

# **Tappet Oil Filter** Screen Plug Tool

 A simple tool to remove the tappet oil filter screen plug without removing the exhaust pipes on HD applications. Can also be used on any slot type plug.



# **Timing Plug**

4866

- This threaded clear acrylic timing plug used in conjunction with a timing light allows for viewing the crankshaft timing marks without oil spraving out of the crankcase, typical during full advance RPM.
- · Fits all HD models.
- Similar to HD-96295-65D.



# 4948

# Water Pump Drive & Rotor Puller

- · Installs the water pump drive gear on the rotor and removes the rotor from the crankshaft. This tool also works on RZR XP.
- Similar to Polaris No. PA-49316.





# Motorcycle Tools Engine / Fuel / Oil



# 5604

# Motorcycle Compression Tester Kit

Designed specifically for testing motorcycle and small engines, this kit features a specially designed compression gauge and hose assembly, plus three different size hose adapters. Compression Tester and hose lengths are designed for optimal viewing along side engine. Covers most popular motorcycle and small engine plug sizes.

#### Features and benefits:

- · Corrosion resistant nickel plated finish
- 10" flex hose gauge assembly with quick coupler.
- 2-1/2" gauge features chrome bezel and rugged protective outer boot
- · Dual scale gauge reads 0-300 psi and 0-2100 kPa
- 12" flex hose -14 mm standard/plus reach (extra length supports V-Twin applications)
- 12" flex hose -12 mm standard reach
- 12" flex hose -10 mm standard reach
- · Rugged blow molded hard case with removable lid
- Repair parts kit



# 5609

#### Cylinder Leakage Tester Kit

Quickly diagnose internal engine problems such as bad rings, valves and leaking head gaskets. Kit come complete with adapters for most applications.

# Features and benefits:

- Dual 2-1/2" gauges feature chrome bezel and rugged protective outer boot.
- · Scales read 0-100 psi and 0-700 kPa.
- · Pressure regulated manifold includes quick couplers.
- · Long flex 24" 14 mm hose.
- 10 mm, 12 mm and 18 mm thread adapters.
- · Blow molded hard case with removable lid.
- · Detailed instruction chart.



# Vacuum/Pressure Gauge Kit

Ideal for testing vacuum lines and components. Accurately tests low-pressure fuel systems. Quickly diagnose internal engine problems such as bad rings, valves and leaking head gaskets. Kit comes complete with adapter for most applications. Pin point hard to find problems such as cracked lines.

#### Features and benefits:

- Large 3-1/2" gauge features a chrome bezel and rugged protective outer boot.
- · Dual purpose gauge reads vacuum and pressure.
- Dual scale gauge reads 0-30 in. Hg vac and 0-70 cm Hg, also reads 0-15 psi and 0-100 kPa.
- · Built in rear hook allows gauge to be hung at eye level.
- Adapters for most applications.
- · Blow molded hard case with removable lid.
- · Detailed instruction chart.



# 3367

# **Digital Timing Light**

Professional digital timing light has advanced features with a bright LED screen and mode indicator lights.

#### Unique features

- · Microprocessor-controlled circuitry.
- LED tachometer display reads 0-9999 rpm.
- LED advance display indicates to 1/10.
- · Unique flashlight feature.
- · 2/4 cycle and rpm/advance lights.
- Up and down scroll buttons.

#### Standard features

- · All metal inductive pickup.
- Reflected, super bright xenon flash.
- · Removable leads with positive twist lock connector.
- One touch control.
- · Durable, plated ABS housing with over-molded grips.
- · Heat resistant over-molding on clips.
- Blow-molded case included.



# Motorcycle Tools

Driveline / Transmission



# 4862

#### 5 Speed Main Drive Gear Tool

- This tool set will remove and install the transmission main drive gear and install the main bearing without removing the transmission. Designed to not damage the bearing or gear during installation.
- Applications include 5 speed Big Twin and aftermarket 6 speed 1980-2006 (ex 06 Dyna and Sportster 91-05).



# Flywheel Puller Kit

- · Developed for many small engines in the ATV, and Motorcycle service markets, these tools are machined from high quality tool grade steel and are packaged in a convenient blow-molded case.
- · Each part is marked with size for reference and has a corresponding location in the storage case.
- · Works on many makes like Honda, Suzuki, Kawasaki, Yamaha, Ducati and others. For street, performance or off-road.

#### 4800 **Clutch Hub**

# and Alternator Puller Removes clutch on Big



# Twins with 3, 5, and 10

fingers. Also works on Sportster transmission sprocket and clutch. Pulls motor sprockets, alternator covers, and many general pulling applications.



# 4850

# **Flywheel Puller**

Designed to pull magneto flywheel, clutch hubs, or starter gears. Works on wet or dry clutches. 6x25mm and 8x40mm bolts included.

# 4864-1

- **Flywheel Puller**  M33x1.5 RH Internal threads.
- Applications
- KTM 625 SMC 2006, 640 LC4 Adventure 04-07. 640 LC4E 2001, 690 RFR 2008
- Suzuki GSXR 1000 01-08, GSXR 600 01-09, GSXR 750 00-08
- Yamaha WR 450F 04-08, YFZ 450 04-09.

# 4864-2

- **Flywheel Puller**
- M50x1.5 RH Internal threads
- Includes crankshaft protector.
- · Fits Suzuki.

# 4864-3

- **Flywheel Puller** • M24x1.5 RH Internal threads.
- Includes 12mm shaft protector cap.
- Fits Honda, Kawasaki, and
- Suzuki motorcycle applications.

# 4864-4

- **Flywheel Puller**
- M26x1.0 RH
- Internal threads.
- Includes 12mm shaft protector cap.
- · Fits KTM 4 stroke motorcycles.

# 4864-5

- **Flywheel Puller**
- M30x1.0BH
- Internal threads.
- Fits Yamaha WR 250F.



# Transmission & Steering Bearing Puller/Installer Kit

- · This combination kit works on transmission main-shaft and steering stem bearings on HD motorcycles.
- · Removes; Fork stem bearings on most applications. Flywheel bearing 00-03 XL. Removes/Installs; Inner bearing race on trans main-shaft Big twin 84 & later.
- Aftermarket trans main-shaft bearings & bushings on 5 & 6 spd. LSD and RSD trans.

# 4864-6 **Flywheel Puller**

- · M38x1.5 RH Internal threads.
- · Includes crankshaft protector.

# Applications

- Arctic Cat DVX 400 04-07
- Kawasaki KLX & KSF 400 03-06
- Suzuki AN & LT-Z 400 03-07, DR-Z 250 01-07, LTZ 90 2007. LT-Z 250 04-07. LT-F 300F 99-01. DR-Z 400 01-06, DR-Z 400E 00-07, DR-Z 400S 00-06, DR-Z 400SM 05-07. LT-R 450 06-08.



# 4888

# Flywheel Socket Set

· The best flywheel sockets available. These offer a low profile design that provides full nut to socket contact to eliminate rounding off the nut and slippage. Made from heat-treated chrome moly steel.

## Set includes:

4888-1 – Socket fits pinion shaft nut on big twin 81-89. Size 1-1/4" with 1/2" square drive.

4888-2 – Socket fits crank pin nut on big twins

54 - early 81. Size 1-5/16" with 1/2" square drive.

4888-3 - Socket fits crank pin nut on Sportster 81-99 and Buell 87-99. Can also be used on top fork nut on glide forks. Size 1-3/8" with 1/2" square drive.

4888-4 - Socket fits crank pin nut on big twin 83-99 single cam. Size 1-1/2" with 1/2" square drive.

4888-5 - Socket fits sprocket shaft nuts on big twins 72-99 single cam. Size 1-5/8" with 3/4" square drive.





# Motorcycle Tools Driveline / Transmission



# 4970

#### Heavy Duty Flywheel Puller

- · Extremely heavy duty puller to pull the most stubborn flywheels. Includes 2 drive screws and bolts; 8mm x 1.25 x 60mm (3X), 6mm x 1.0 x 55mm (6X), 6mm x 1.0 x 50mm (6X).
- · The 6 bolt capable design fits Polaris ATV, Snowmobile, Watercraft and many other makes and models.
- · Similar to Polaris No. 2871043-A.

#### 4858

### **Clutch Spring Compressor Tool**

This tool will release the clutch spring pressure for easy removal and installation



of the retainer ring. Applications include HD big twin 90-97, and includes spring compressor nut for use on XL 91-05 and Buell.

# 4992 Clutch Spring **Compressor Tool**

# · This is a required

tool for efficient servicing of HD 1340 cc

(80 ci) clutches. The compressor relieves spring pressure for disassembly during servicing. Applications include 1340 cc (80 ci) Models 90-97, Buell 95-Later, XL 91-Later.

Similar to HD-38515-A.



#### 4991

# **Clutch Compressor Tool**

- · This universal compressor is used to compress the drive or driven clutch during assembly of disassembly. Innovative design makes use quick and effective without binding. Works on all Polaris and TEAM clutches found on full-sized model ATV, Side x Side, and Snowmobile.
- · Similar to Polaris No. PU-50518.



# **Clutch Holding Wrench**

- · Designed to hold the drive clutch for retainer bolt removal and torquing. For both P-85 and P-90 drive clutches on Polaris ATV & Side x Side.
- Similar to Polaris 9314177-A.



4984

4974

Clutch Puller

and newer.

and newer.

3/4-16 thread.

**Clutch Puller** 

Diesel.

4978

4975

· Similar to Polaris 2872085.

Similar to Polaris PA-48595.

Clutch Alignment Tool

and Snowmobile.

Secondary Drive Clutch Puller

· Similar to Polaris No. 2870913.

5-1/2" total length.

· Removes secondary drive clutches on Polaris ATV & Side x Side 1985-up. 1" - 12 rolled thread,

· Removes drive clutches on Polaris Side x Side

Snow Applications: 700/800 XCR Fuji 3 cylinder

engines 1999-2001, all Domestic twin 2 -strokes

Side x Side Applications: Ranger RZR XP 2011

Short puller for removal of the drive clutch from the

crankshaft taper on Polaris 550 Sportsman XP 4x4

09-12, 550 Sportsman (all models) 10-12, 570 RZR

4x4 12, 800 RZR 4x4 (all models) 08-12, and Ranger

model year 2000 and newer, FS/FST models 2006

# 4972

# **Drive Clutch Holding Fixture**

For solid holding of drive clutch for spider removal when shimming for belt-to-sheave clearance or servicing spider.

- · Bolt to bench or clamp in a vise.
- · Contacts all webs for maximum support to eliminate clutch web damage.
- · Center hold down for much greater holding stability while applying off center torque.
- · Single person operation, even on the most difficult spiders.
- ATV and Ranger applications.
- · Similar to Polaris No. 2871358-B.



# **Clutch Holding Tool**

4990

- · Designed to hold the clutch basket while removing or servicing clutch.
- · Fits 00-02 Polaris Xpedition models.
- Similar to Polaris PA-44688.



**Universal Clutch Holder** Holder arms designed to fit into the external

teeth of a clutch hub, but can also be used on gears and sprockets. Opens to handle a 5" OD hub.

# 4986

## **Primary Drive Clutch Puller**

- · Removes primary drive clutches on Polaris ATV & Snowmobile 1985-up (except 400, 500, 600, 700, 800 domestic twins, '99 700 & 800 XCR, '99 Trial RMK, & Supersport 550 Fuji). 3/4" - 16 thread, 10-1/2" long.
- · Similar to Polaris 2870506.

# 4985

# Primary Drive Clutch Puller

- · Removes primary drive clutches on Polaris ATV Sportsman
- 600/700 twin EFI X2 02-08.





# **Clutch Alignment Tool**

- · Establishes correct clutch offset and alignment on Polaris P85 Clutches.
- Similar to Polaris 2870426.



# Motorcycle Tools

Driveline / Transmission



# 4987

#### **Clutch Spider Nut Socket**

- Used to remove and install the drive clutch spider jam nut on 2011 & newer Ranger RZR XP. Similar to OE P/N PU-50578.
- Similar to Polaris No. PU-50578.



# 4988

# Clutch Spider Nut Driver

- Essential when servicing or re-building Polaris clutch. Fit's P85 and P90 clutches found on Polaris ATVs and snowmobiles 1972 to Present. (except 900 RZR XP 4x4 11-12, 900 RZR XP 4 4x4 12).
- · Similar to Polaris No. 2870338.

# 4989

# Clutch Spider Tool

- Essential when servicing or re-building Polaris clutch. Fit's P85 and P90 clutches found on Polaris ATV, Side x Side, and snowmobiles 1972 to Present.
- · Similar to Polaris No. 2870341.

# 6673

# Belt Tension Gauge

Belt tension gauges are used to properly check drive belt tension on drive belts to ensure maximum belt and bearing life. This belt tension gauge simply connects to the belt to provide the tension reading. Dual scale reads 30–180 in lbs. (2.5-15 ft. lbs.) and 130-800 Newtons, covering the 10 ft. lb. spec. typically found on rear drive motorcycle belts.

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#### 4748 Belt Tension Gauge

This easy to use and read tool allows for accurate belt tension to be set after belt replacement, adjustment, or wheel service. Use on secondary drive belts with a 10 lb. spec. Instructions; 1. Position the small O-ring over the 10 lb. mark. 2. Position the U-shaped belt cradle against the bottom of the belt at a 90 degree angle and locate the large O-ring to a reference point, record reading. 3. Push upward on the rubber bumper until the small O-ring touches the bottom of the tool body. Re-align the large O-ring to the reference point, difference in the reading is the belt deflection (refer to service manual for spec.).



# Chain Master

4745

### Link Clip Tool

Designed specifically for roller style chains with specialized tips to easily remove and install master link clips. Includes comfort grip handles.



# Chain Master Link Plate Tool

Tool will remove press-fit master link plates found on many standard and O-ring style roller chains. Will also break 40-60 series chains to add a master link or remove links.



# **Chain Breaker and Riveting Tool Kit**

This kit will break, press, and rivet most #25 - #35 and # 428 - #630 standard and O-ring roller chains. Includes HSS rivet tip for riveting hollow nose master links. The hardened steel body has a removable handle for compact storage.



# Chain Breaker & Riveting Tool Kit

This heavy duty kit makes easy work out of breaking, pressing, and riveting # 415 - # 632 size standard and O-ring chains. The handle can be mounted in 3 different positions on the forged and hardened alloy c-frame, providing access while the chain is on the vehicle. The kit can rivet hollow nose master links as well as hardened pins. Storage case included.



# Chain Brush

Use to clean and oil various sized roller chains found on motorcycles, ATVs, machinery, etc. Brushes adjust to chain widths ranging from 1/4" to 9/16".





Designed to simplify the alignment of the countershaft and rear sprocket during chain adjustment or wheel service. Tool clamps to rear sprocket and held with the thumb screw. The rod indicates alignment.

### <mark>4880</mark> 4-in-1

#### Hex Axle Tool

 Fits internal hex on many late model sport bike axles and some dirt bikes.

17mm

227

- · Heavy duty CrMo steel construction for shop use.
- Four metric hex sizes: 17 mm, 19 mm, 22 mm and 24 mm.
- · 3/8" square drive on both ends.

#### 4882

### **Rear Axle Wrench**

- This wrench allows for simple adjustment of drive belt tension or rear wheel alignment.
- Eliminates the need to remove any exhaust components.
- 36mm wrench includes a 1/2" square drive allowing for use with a torque wrench for proper axle torque.
- · Similar to HD-47925.



# Motorcycle Tools Driveline / Transmission



# 4758

#### Motorcycle/ATV Chain Tensioner

- Tool is designed to work on drive chains found on motorcycles and all-terrain vehicles (ATVs). Fits the following size chains: 428, 520, 525, 528, and 530.
- Tool jaws fit in chain link ends. Tightening the forcing screw pulls the jaws together to hold the chain for easy removal or installation of the chain connector or master link.



# 4527

# 5-Ton Pressure Beam Bearing Splitter Kit

Single point of adjustment allows quick attachment of 3" splitter to the bushing or bearing. Pressure beam is used in conjunction with interchangeable legs. Includes carry case.



# Horseshoe Lock Ring Pliers

These pliers feature 8" handles and are designed to spread and remove horseshoe style lock rings found on engines, transmissions, and chassis.



# **Retaining Ring Pliers**

These pliers are 7-3/4" long and are designed to spread and remove retaining rings found on engines, transmissions, and chassis. Maximum spread is 1- 1/16".



# CV Joint Banding Tool and Cutter

Use to install and tighten the "band-it" or strap style clamps found on CV joint boots, steering gear boots, or hoses. Tighten the band by turning the handle on the tool; use a socket or wrench on the handle to torque the band to OE specifications. When the boot clamp has been tightened to specs, cut the band to the correct length by flipping the lever (at the front of the tool) forward.





# 7790

# Flange Puller Set (48 piece)

Versatile puller capable of removing a wide variety of components having tapped pulling holes such as gears, pulleys, etc.

- Capable of handling 2- or 3-way bolt pulling applications.
- Puller flange: adapts to bolt circle dia. of 1-1/2" to 4-5/8".
- Forcing screw: 5-5/8" lg., 5/8-18 thread.
- Shaft protector: 1-3/16" dia. x 3/4" thick.



# Flange-Type Puller Combination

Two specialty pullers in one box. You get a flange-type puller for removal of parts with two or three tapped holes. You also get a pulley and flywheel puller. 525 includes: flange-type puller along with a puller with four sets of cap screws.



#### 981 Blind Hole Puller Set

This set provides a complete selection of expanding collets ranging in size from 5/16" to 1-3/4". Collet is placed through bore of part to be removed, then expanded with actuator pin so that lips of collet secure a positive grip for pulling. Force is exerted by means of a forcing screw and a bridge assembly or a slide hammer. Individual pieces can be ordered separately.

# 1037

7-Ton Grip-O-Matic Puller Mechanical Grip-O-Matic® Puller Remove and install parts for fast, effective repairs. The puller is forged from quality steel, heat treated, and subjected to rigorous tests which exceed their rated capacity.



- 7-Ton, 2/3-Jaw
- Max. Reach 5" Max. Spread 10-1/2"
- Screw Size 11/16"–18 x 9"
- Jaw Thickness Upper 5/16" Lower 11/32"
- Jaw Width Upper 1" Lower 1"



# 4532

# 7-Ton Multi Purpose Bearing and Puller Set

- Offers a bearing/pulley tool solution featuring a classic "H" Bar style puller block accommodating 7" to 11" application spread.
- Comes with 2 sets of forged jaws for a pulling reach range of 5" to 9" – tempered for heavy-duty applications. Two forcing screws are included fr short and long pulls.
- Where a Push Puller is the best pulling choice and threaded holes are not available, the 4532 provides technicians and shops with a solution for many applications like side bearings, alternators, generators, power steering and crankshaft pulleys.
- Deep set works excellent for pulling the primary plate from the transmission

# Motorcycle Tools

# Driveline / Transmission

# 6930

# Flange-Type

#### **Puller Combination** Heavy-duty flange puller features a live center forcing screw. Includes two live center forcing screw tips and two sets of commonly used automotive bolts. Puller will work on bolt circles from 1-1/2" to 4-1/4". Three cap screws, 3/8-24 x 3" long, and three cap screws, 3/8-16 x 3" long.



# Pulley and Flywheel Puller

Here's a puller that works in a variety of applications. Works as a regular 2/3-way puller to remove pulleys and small engine flywheels. Cap screws included (pairs): 3/8-16 x 3-1/2 in.; 5/16-18 x 3-1/2 in.; 5/16-24 x 3-1/2 in.; M8-1.25 x 90 mm; and 5/16-18 x 4 in. (SIR).



# 5-Ton Bar-Type Puller/Bearing Separator Set

- · This combination set includes our two most popular bearing 'splitters" (2" and 3"), four sets of hex push-puller legs and a bar-type puller head with a 9/16" forcing screw. Separator tools are used with bar puller and legs for a wide variety of pulling jobs.
- The 5" puller cross-bar with a 6-1/4" forcing screw or each of the bearing separators may also be used separately or in combination with other pullers or tools.
- · A blow-molded plastic storage case keeps set contents organized and protected from loss.

Tool No.	Min. Spread	Max. Spread	Tapped Holes	Distance Between Adj. Screws
4518-2	3/16"	2-3/8"	3/8-16	2-3/8"
4518-3	1/2"	2-3/8"	3/8-16	3-9/16"



# 4852

# Adjustable Primary Locking Bar

- · Used to lock primary for service work.
- · Will work on Chain or Belt Drive style primary drives.
- Adjustable length from 4" to 7-1/4" to cover virtually any application.





# **Universal Pulley Holder**

- · Universal design fits many different size pulleys having slots or holes, such as crankshaft/ transmission pulleys or gears.
- Wrench is adjustable from 1-1/2" to 8-5/8"; four different size step pins are interchangeable.
- Long handle enables technician to easily hold the pulley when tightening or loosening retaining bolts.



# 4802

# Universal Pulley Holder Locking Pliers

This adjustable locking pliers can be used to hold pulleys, clutch hubs, flywheels, gears, and sprockets with internal or external teeth up to a 4" diameter. Can also be used on applications with slots or holes with the 5/16" pins.





- · This wedge is placed between the primary chain and motor sprocket to lock them together during removal and installation of the engine sprocket nut without damage.
- · Made of POM material to not damage the sprocket or chain.
- · Fits all chain primaries.
- · Similar to HD-41214.



# 464

# Griplock 2 Ton, 3 Jaw Puller

Three-in-One "Griplock" Puller is used for general purpose pulling such as hubs, gears, bearings and anywhere this versatile puller can be attached.

- · Pressure bearing yoke cap holds iaws in place for ease of set up - in any orientation.
- · Yoke arms have two jaw positions and do not require tools to change.
- · 2 or 3 jaw applications, with a 3" to 4" spread.
- · Both external and internal pulling action.

# 465

# Griplock 5 Ton, 3 Jaw Puller

Three-in-One "Griplock" Puller is used for general purpose pulling such as hubs, gears, bearings and anywhere this versatile puller can be attached.

- · Pressure bearing voke cap holds jaws in place for ease of set up - in any orientation.
- · Yoke arms have two jaw positions and do not require tools to change.
- · 2 or 3 jaw applications, with a 3" to 7" spread.
- · Both external and internal pulling action.



# 4803

# Universal Pulley Holder Locking Pliers Set

This adjustable locking pliers can be used to hold pulleys, clutch hubs, flywheels, gears, and sprockets with internal or external teeth up to a 4" diameter. Can also be used on applications with slots or holes with the addition of the interchangeable 5, 6, 7, 10, and 16mm pin sets. Complete with metal carry case.





# Heavy Duty Pulley Holder

This strap style universal wrench features a 9" drop forged handle and 23" leather strap for excellent grip on diameters up to 7". The milled foot increases grip on the strap and pulley as handle force is increased.





# Motorcycle Tools Chassis / Body



#### 4889

### Fork Cap & Compression Valve Socket Set

 This set is designed to fit fork cap sockets or the compression body with an octagonal shape. These offer a low profile design that provides full nut to socket contact to eliminate rounding off the nut and slippage. Made from high quality aluminum and can be driven with the 3/8" square drive or 19mm wrench.

#### Set includes:

**4889-1** – Internal Socket to remove the compression body from the cartridge on KYB twin chamber forks, found on Honda CRF 250 & 450. Size 32mm.

4889-2 – Internal Socket to remove the compression body from the cartridge on KYB twin chamber forks, found on Yamaha YZ 125/250 & 250F/450F, Honda CRF250R/CRF450R, Kawasaki KX450F. Size 36mm.

**4889-3** – Socket fits fork cap on Showa BPF with 43mm fork tubes. Size 45mm.

**4889-4** – Socket fits fork cap on Showa with 44mm - 46mm fork tubes, found on late model Honda CRF 250R & Suzuki RM 125/250. Size 46mm.

4889-5 – Socket fits fork cap on KYB forks found on Honda CRF 450R, Yamaha YZ125/250 & YZ250F/450F, Kawasaki KX450F. Size 49mm.

4889-6 – Socket fits fork cap on Showa forks found on Honda CRF 250R/450R & CRF 250X/450X, Suzuki RM 125/250 & RMZ 250/450, Kawasaki KL250F. Size 50mm.



#### 4891

#### Fork Spring Compressor Kit

- Designed to install fork caps on forks with a large amount of spring pre-load. Kit includes 39mm and 41mm adapter sets, and one jackscrew.
- · Application: 39mm and 41mm HD forks.



#### 4892

# **Steering Head Bearing Installer**

- Designed to install steering head bearing cups and races completely straight without any damage.
- · Will work on stock and custom applications.
- · Similar to HD-39302.



# Swing Arm Bearing Tool

- Designed to install new needle style bearings into a swing arm. Includes 3 drivers to fit different size bearings. Driver 1 (22.0mm/26.8mm), Driver 2 (21.0mm/26.0mm), Driver 3 (20.0mm/26.0mm).
- Application: For use on late model off-road motorcycles such as Honda, Suzuki, Kawasaki, Yamaha models.



# 4884

# Swing Arm Pivot Bearing Puller

- An essential tool for removing and installing pivot bearings in swing arms and front fenders.
- Applications include HD Softail swingarms
   86-Present, HD Springer front fender mounts 97-11.



#### Swing Arm Tool

- This 2-in-1 tool is designed with one end for removing and installing the pivot bolt lock nut, while the other end will remove the pivot bolt.
- · Applications include Honda 4-stroke 4 wheelers.



#### **Ball Joint Service Kit**

- Use to remove and install ball joints in vehicle on Sportsman XP, RZR and Ranger models.
- Similar to Polaris No. PU-50506.



#### ATV Steering Knuckle/Ball Joint Separator

 Eliminates damaging the A-Arm, ball joint stud, or rubber boot while separating the ball joint from the knuckle body. Includes 2 drive bolts for Applications include ATV models Honda TRX and Yamaha YZF, YFZ, and YFM.



#### ATV Steering Knuckle/Ball Joint Separator

For removal and installation of lower ball joints on models with pressed-in ball joints on the front strut casting found on Polaris and other Makes.
Similar to Polaris No. 2870871



#### **Coil Spring Compressor Locking Plier**

- Locking plier with special jaws that clamp on the external side of the coil spring. Use 2 pliers to evenly compress each side of the spring found on struts and coil over shocks.
- Similar to Polaris No's 2871573 & 2871574.



# Motorcycle Tools Chassis / Body



# 4517

# 7-Ton Bar Type Puller/Bearing Separator

- Includes a Bearing Splitter with 4" capacity, two sets of hex push puller legs, a 8" bar type puller head mated with a custom thread forcing screw.
- Puller/Bearing set for tough jobs, up to 7-tons, larger applications, and greater reach 8" to 16".
- · Capacity to remove steering stem bearings.



# 4790

# Wheel Bearing Removal/Installation Kit

- This tool assembly will remove and install 3/4", 1", and 25mm I.D. sealed wheel bearings.
- Standard wrenches used in combination with tool. Instructions included along with blow molded case.



# 4797

# **Steering Stem Bearing Installation Tool**

 Provides a quick and easy method to install lower steering stem bearings. The 14" drive tube accepts the 1.0", 1.4", and 1.75" I.D. bearing adapters.

# 4779

Front Fork & Shock Vice This vice is designed to hold up to 4" diameter round or oddly shaped components such as forks, shocks, pistons, rods, etc. The V shaped jaws are covered with thick rubber pads to ensure a firm grip without leaving a mark. Comes complete with a table/vice mounting bracket that allows adjustment to any position.





# 4581

## **Blind Hole Bearing Puller**

- For pulling jobs requiring an internal pull, such as pilot bearings and pinion bushing from cam cover.
- Four collets which fit a wide range of applications. Select the appropriate sized collet by comparing it with the application. Insert the collet, expand it to fit the hole, then attach the slide hammer assembly.
   Set includes:

#### Set includes

- Four collet sizes: 7/16" to 1/2", 9/16" to 11/16", 5/8" to 1", 1" to 1-1/4" and 2-1/2 pound slide hammer with T-handle.
- · Housed in a blow-molded plastic storage case.



# 4507

# Bearing Driver Set, Stinger

- Permits installation of tapered bearing races and seals without damage to the component or housing. Includes a driver handle plus popular bearing and seal drivers, ranging from 1.565" to 3.180".
- Tapered side of driver is used to install races. Invert the driver to the flat side to install seals. Set is housed in a blow-molded plastic storage case.
- Bearing applications include steering stem, swing arm, and wheel bearings races.



# 4791

# Spanner Wrench, 3/4" - 2"

This chrome vanadium hardened steel wrench features a 5" handle and slim strong hook to access slotted retaining rings in hard to reach areas.



Spanner Wrench, 2" - 4 3/4" This chrome vanadium hardened steel wrench features a 9" handle and slim strong hook to access slotted retaining rings in hard to reach areas.



#### 6642 Trim Tool Kit (11 Piece)

- Includes 11 tools designed to remove specialty body fasteners, trim strips, panels, bezels, liners, shrouds, fascia, and more...
- Tools are constructed of durable, impact-resistant nylon that will not damage metal and non-metal surfaces.





# 4784

# 10" Profile Gauge

 This 10" gauge provides an exact copy of a contour or profile needed during bodywork or fabrication.
 The plastic fingers will not scratch original finish and non-metal surfaces.



# 3176

# **Smart Battery Charger & Maintainer**

Excellent for vehicles in storage for weeks or months. This charger and maintainer will keep 12V batteries fully charged when not in use, without damaging the battery.

- Charges deep discharged batteries in about 12 hours.
- Switches to float mode after the battery is completely charged.
- Easy to read LED lights to show the status of charging and battery condition.
- · Microprocessor controlled pulse charger.

www.otctools.com

# Motorcycle Tools Wheel / Brake



# 7206

#### Multi-purpose Strap Wrench

You'll find many uses for this heavy-duty strap wrench. The 53" long nylon strap won't mar precision surfaces of shafts, pulleys, or other components. Useful on engine, transmission, and drive pulleys up to 16 inches. Special head design self-tightens the strap as force is applied to the lightweight, 12" long handle.

305085 - Replacement Strap.



# 4750

# **Tire Valve Installer/Remover Tool**

This 14" steel tire valve tool includes a stepped rubber sleeve that can be positioned on the handle for optimum pulling angle of the valve, while protecting the wheel finish. Removes and installs snap-in style tire valves.



#### 4751

#### **Tire Pressure/Tread Depth Gauge**

This 3-in-1 gauge will measure tire pressure, lower tire pressure, and measure tread depth all in one gauge. Rugged cast housing for strength and long life.



# Tire Spoon with Grip

This 13" curved tip tire spoon is strong yet comfortable to use with the form fit hand grip. The rounded head prevents puncturing the tube.



#### 4769

Wheel Rim Protector Set, (3 piece) Fits over the wheel rim to protect the wheel from being scratched or damaged while using tire spoons. Set of 3.

# 4771 Tire Bead Alignment Tool

This aluminum tool will hold a tire bead into the drop center of the wheel when changing the tire or installing an inner tube. The nylon thumbscrew will not damage the wheel finish.







# Tire Bead Holding Tool, Long

This tool allows the tire bead to be held in the drop center of the wheel when changing the tire or installing an inner tube. The slot slides over the spoke and the opposite end is depressed to push the tire into position. For use on wheels with 1 5/8" maximum side profile height.



# Tire Bead Holding Tool, Std.

This tool allows the tire bead to be held in the drop center of the wheel when changing the tire or installing an inner tube. The slot slides over the spoke and the opposite end is depressed to push the tire into position. For use on wheels with 3/4" maximum side profile height.



# 3833-15

**Digital Tire Gauge** 

Digital tire gauge for accurate tire pressure measurements in 0.1 psi increments. Display is backlit for use in low light conditions. 0-150 psi capability.



#### **Tire Valve Core Tool**

This tire valve core tool will remove and install valve cores when servicing tires. The tool is preset to tighten the valve core to the proper torque during installation.



# **Brake Fluid Tester**

Catch bad break fluid before it has time to destroy expensive brake calipers and other brake system components! Tester determines quality of brake fluid. One battery included: 1.5V AAA.

- 1. Remove cap from brake fluid reservoir.
- 2. Remove probe cap from brake fluid tester.
- 3. Press power button on top of tester. Green LED lights up.
- 4. Dip entire length of metal probes into brake fluid.
- 5. After one second, match color of LEDs with color chart to determine brake fluid quality. Tester automatically powers off after twelve seconds of inactivity.



# Spoke Tool Set (9 Piece)

- · Use to tighten or loosen spoke nuts found on most motorcycle and scooter wheel applications.
- · Nine interchangeable wrench ends; 5.2 mm, 5.4 mm, 5.6 mm, 5.8 mm, 6.0 mm, 6.2 mm, 6.4 mm ,6.6 mm, 6.8 mm.



and maintenance. This dual head spoke wrench offers install and removal in one wrench. The click-type torque end applies accurate and equal tension to each spoke, while the fixed end easily removes damaged or rusted spokes. This set includes 11 torque heads and 11 fixed heads for use with the sealed body wrench, all complete in an organizer case. Head sizes included for both ends; 5.0mm, 5.6mm, 5.8mm, 6.0mm, 6.2mm, 6.3mm, 6.5mm, 6.7mm, 6.8mm, 7.1mm, and Spline.



# Motorcycle Tools Wheel / Brake



# 6703

Line Fluid Stopper Kit

Stop messy fluid leaks and prevent contamination during service.

- · Kit seals all types of rubber and steel line found on fuel, brakes, and oil lines.
- Includes two banjo style fitting stoppers, two steel line stoppers, six line plugs, a line disconnect tool, and a long reach line pinch-off tool for hard-to-reach hoses.
- 6703-1 Banjo Line Fluid Stoppers, 2 pk.

6703-2 - Steel Line Fluid Stoppers, 2 pk

6703-3 - Line Plug Fluid Stoppers, 6 pk



# **Deluxe Vacuum Pump**

This pump kit is designed for vacuum testing, brake bleeding, and fluid transfer. With this kit, one person can quickly and cleanly bleed brake and hydraulic clutch systems, actuate vacuum switches (VOES), as well as get answers to numerous diagnostic and mechanical problems.

# Kit includes:

- · Precision-made repairable vacuum pump with 360° gauge rotation for improved visibility.
- 4-1/2 oz. Reservoir jar with fluid transfer and storage lid.
- Two 2 ft. long, 1/4" ID hoses.
- · Rubber cup adapter, two universal bleed screw adapters.
- · Vacuum 'T" adapter, test and bleed adapters.
- · User manual (English, Spanish, French).



# 4740

# Spring Hook (6" reach)

- · Made from heat treated alloy steel.
- · Designed for removing and installing hard-to-reach headlight adjusting springs, exhaust, brake and kickstand springs.

# 4599

- **One Man Break Bleeder Hose**
- · Removes air from brake system-one wheel at a time- and eliminates the need for an assistant to help do the job.
- Hose easily attaches to bleeder screw, which holds hose in place and prevents leaking.
- Check-valve on end of hose prevents air from entering brake system when pumping brake pedal.

# 4743

# **Brake Caliper Spreader**

- · Compresses the brake pistons on most style calipers for easy pad replacement.
- · Fits calipers with 1/4" thick rotor applications, popular on motorcycles.
- · Range: .25" (5 mm) to 2.25" (58 mm). Works on all automotive applications in this range.



# Brake Piston Removal Locking Pliers

This specially designed locking pliers allows the removal of brake caliper pistons during service or rebuild. The pliers is simply clamped into the I.D. of the caliper piston allowing it to be pulled out of the caliper. Range; 5/8" to 2-1/4" diameter pistons.



These versatile 8" pliers will reliably twist safety wire rapidly and consistently. The right hand twist mechanism features an automatic spring return. The forged alloy steel construction features tapered jaws for confined areas and mated cutters to cut safety wire. For use on safety wire applications found on vehicles, machinery, and aircraft.



bolt is adjusted to tighten the remover against I.D. of steering neck. The remover is then driven from other end of neck to remove race. Fits 1-1/8" to 2-5/8" I.D. bearing race.





# 4794

# Safety Wire Drill Guide Set, SAE & Metric Set

Here is the perfect way to drill those nuts and bolts for use with safety wire without breaking the drill bit. These guide, align, and support the hex head or the bolt threads. The hex fixture fits nuts and bolt heads that measure up to 1 1/4". The SAE fixture bar is threaded for 1/4"-20, 5/16"-18, 5/16"-24, 3/8"-18, 3/8"-24, 7/16"-14 bolts, and the Metric fixture bar covers M6x1.0mm, M8x1.0, M8x1.25mm, M10x1.25mm, M10x1.5mm, M12x1.5mm sizes.



# Vacuum Brake Bleeder

This one man brake bleeding system allows for fast and efficient vacuum brake bleeding. Universal rubber fitting holds securely on brake bleeder screw. Attach shop air and use the guick release trigger for on-demand vacuum and hands free operation. Compact size and 17 oz. (500ml) capacity.



### 4870 Master Cylinder Snap-Ring Pliers

Allows for removal of the internal snap rings found in hydraulic master cylinder. Remove and install small to medium snap rings up to a 2 1/8" depth. Other snap ring applications include transmission gear locators, bearing and oil seal retention, and fork seal retaining rings.





4795 Safety Wire Twist Pliers





4796

Steering Neck

Simple way to remove

bearing race in the





#### **Digital Multimeter**

This digital multimeter contains all the base functions required for today's electrical system testing, at an economical price. Digital display provides; Volts, Ohms, Amps, Duty Cycle, Resistance, Capacitance, Diode, Continuity, Temperature.



#### Ignition Switch Housing Alignment Tool

- · This tool aligns the ignition switch housing properly as the retaining screws are being torqued. Proper switch alignment extends the life of the ignition switch. Applications include HD FL Touring models 03 - Present, V-Rods 02 - Present.
- · Similar to HD-45962.



#### Wire Pulling Tool

This tool contains an 18" cable with a "T" handle at one end and wire mesh at the other. By threading the cable through a difficult to reach area such as a bike frame, wires or connector can be hooked to the end allowing the wiring to be pulled through.



#### **Terminal Battery Brush**

- · Designed to clean corrosion from side post batteries.
- · One brush used to clean battery terminals; other brush used to clean battery cable ends.
  - · Plastic handle resists battery acid.



#### Probe Multimeter

This full function digital multimeter is used for electrical system testing, but it's compact design allows it to be conveniently carried anywhere in case of emergencies. Digital display provides; Volts, Ohms, Diode, Continuity.



**Amp Clamp Multimeter** 

This digital clamp meter is well suited for testing starting/ charging circuits, and provides easy access to current, voltage, temperature and other key electrical system measurements, all in one easy to use tool. Digital display provides; Volts, Ohms, Amps, Duty Cycle, Resistance, Capacitance, Diode, Continuity, Frequency, Temperature.



#### 3650

#### Heavy-Duty, Remote Starter Switch

Allows one person to start and crank engine while under the hood or from either side of the vehicle.

#### Product Features:

- · With convenient hot circuit indicator, red ready light glows when starter switch is connected to a hot circuit; light goes off when switch is depressed.
- · High current, heavy-duty push button switch ensures reliable operation and long service life.
- · 5' leads made from heavy-duty, oil and grease resistant, 12-gauge wire.
- · High current clips with protective boots open to an extra wide 5/8" for ease of hook-up.
- · Soft, non-slip rubber grip.



#### 4822

#### Wire Connector Tool Set (2 Piece)

Designed to remove terminals from connector housing without damage to the terminal or connector. Set provides 12 different tool styles fit most common connectors.



#### 4813

Heat Shrink Tubing Set (171 Piece) Protection and insulation for solder connections and components. 2 to 1 shrink ratio with flame or heat gun.



Waterproof Heat Shrink Tubing Set (106 Piece)

Waterproof protection and insulation on solder connections and components. Adhesive lined inner wall to seal out moisture. 3 to 1 shrink ratio with flame or heat gun.

## 3633

**Circuit Tester** 

The standard in electrical system testing. This basic and simple to use tester provides the capability to locate shorts, grounds, and open circuits. 12', heavyduty, red coil, cord lead.

- · Checks 6- and 12-volt systems.
- · Ergonomic, slim designed clear handle.
- · Bright red, high intensity/slim style replaceable bulb.



#### Battery Terminal Wrench, 5/16, 6 pt.

- · Designed for use on side-terminal batteries, or any 5/16" hex head battery bolt.
- · 5/16", 6 point, box end, 5-1/2" long, ratcheting wrench; insulated handle.



#### Battery Terminal Wrench, 10mm, 12 pt.

- · Designed for use on 10 mm battery terminal bolts found on many batteries.
- 10 mm, 12 pt., box-end ratcheting wrench; 5-1/2" long with insulated handle.

143

Electrical



#### 4461

#### **Terminal Release Tool Set**

- · Save time and money. Repair or rebuild a wiring harness without having to order the entire OE replacement.
- · Services most OE terminal connectors. Insert the appropriate release tool to depress the locking tab and the individual wire slides out for service or replacement.

#### Kit includes:

7737 - Computer edge board and header release tool. Each end of the tool works on different terminal connector configurations. Works on various domestic and import models.

7738 - Weather Pack sensor terminal release tool. Works on various domestic and import models. 7740 - Micro-style terminal release tool. Works on

various domestic and import models. 7741 – Specifically designed to release ID computer terminals on various domestic and import models.

7742 - Universal harness release tool designed to work on various domestic and import models.

7743 - Releases terminals on most harness

connectors on various domestic and import models, including water, O2, vacuum, and air temperature sensors.



Automatic Wire Stripper

- · Quick removal of insulation on wire AWG 12-20.
- · Comes with adjustable depth gauge (8mm to 12mm).
- · Sharp v-shaped tooth easily removes insulation without any damage to soft wire strands.
- · Cutting tool stored below the stripper.
- · Features a space saving locking mechanism for pockets or tool drawer storage.

#### 5912 Crimpwell™

#### **Angled Crimping Pliers**

- · Universal crimping design accommodates soft wire - solid or stranded - 10-22 AWG.
- · Cutting feature included for guicker preparation.
- 9" (228mm) in length, with protective grips to
- increase leverage and secure crimp.
- · Angled design keeps the connector, the wire, and the crimper "in-line" -improving visibility and access in hard to reach places.
- Designed to not pierce connector insulation and also works on un-insulated connectors.
- Service tech can use as much force as desired to ensure connection and it will not damage connector insulation.
- · Easy-to-use: Simply insert the connector into the crimping feature, slip over the connector and squeeze.



# 5953

- · Holds wire and connectors solidly during soldering or other wire service.
- Unique design allows connection to be held firmly on both sides with infinite adjustability.
- Insulated clips act as heat sinks to protect shrink tubing or other sensitive parts from heat.



#### **Magnetic Clamp Wire Holder**

- · Holds wire and connectors solidly during soldering or other wire service.
- · Unique design allows connection to be held firmly on both sides with infinite adjustability.
- Insulated clips act as heat sinks to protect shrink tubing or other sensitive parts from heat.
- · Clamp with magnet allows for attachment to a work bench, vehicle, or any other object for a firm base.

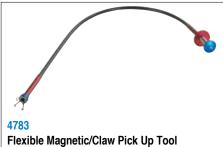
# 5950A

#### CrimPro<sup>™</sup> 4-in-1 Angled Wire Tool

- · The angled feature allows access to close guarters and facilitates superior crimps.
- · Compact 7-inch design used 4 ways.
- · Gripping nose to pull, twist, bend, and shape.
- · Crimper crimps 12-20 AWG insulated and
- non-insulated wire.
- · Stripper strips 12-20 AWG wire.
- · Cutter ability to make cuts both above and below pivot.



- Gripping nose to pull, twist, bend, and shape.
- · Crimper crimps 12-20 AWG insulated and non-insulated wire.
- · Stripper strips 12-20 AWG wire.
- · Cutter ability to make cuts both above and below pivot.



The 25" flexible spring shaft allows the tool to reach difficult areas and pick up objects either magnetically or with the use of the retractable claw.



# Multi-Purpose Scissors

Will cut hose, wire and cables, wood dowel, PVC, and thin sheet metals in addition to general cutting. The hardened stainless steel blades have an angle ground into one that eliminates slipping when cutting round materials.



# **Dual End Wire Holder**

Motorcycle Tools Fasteners



#### 5900A

#### Master Torx® Bit Socket Set, 52 Piece

52-piece professional socket set in a blow molded case covers the popular versions of Torx® specialty fasteners in all popular sizes.

- Styles available: Torx<sup>®</sup> Bit Sockets, Torx<sup>®</sup> Plus Bits Sockets, Tamper-Resistant Torx® Bits, and Torx® Socket for external bolts.
- · Made from superior S2 steel to meet or exceed torque specifications.
- · All bit sockets are a 2-piece design. .20 percent stronger than a one-piece style for longer life.

#### 6100

#### Standard TORX<sup>®</sup> Socket Set T10 to T60 (12 piece) Set includes one each of the following: No. Size Sq. Drive 6101 1/4" T10

6102	T15	1/4"	
6103	T20	1/4"	
6104	T25	1/4"	
6105	T27	1/4"	
6106	T30	1/4"	100
6107	T40	3/8"	
6108	T45	3/8"	
6109	T47	3/8"	1 P
6110	T50	3/8"	
6111	T55	3/8"	
6112	T60	1/2"	



	Set (7 pied les one eac	,	
No.	Size	Sq. Drive	
6171	3 mm	3/8"	
6172	4 mm	3/8"	
6173	5 mm	3/8"	
6174	6 mm	3/8"	
6175	7 mm	3/8"	State of the local division of the local div
6176	8 mm	3/8"	
6177	10 mm	3/8"	

6180		•	
TORX®	Plus	$\odot$	(TP)
Socket	Set (9 pied	ce) TORX° PLUS	0
Set inclue of the foll	des one eac owing:	h	The first least lat
No.	Size	Sq. Drive	
6181	TP10	1/4"	
6182	TP15	1/4"	
6183	TP20	1/4"	
6184	TP25	1/4"	
6185	TP27	1/4"	
6186	TP30	1/4"	
6187	TP40	3/8"	
6188	TP45	3/8"	
6191	TP50	3/8"	

3/8" (10	s 1/16" to piece) es one each	HEX Ball Point
No.	Size	
6950-1	1/16"	
6950-2	5/64"	(THE)
6950-3	3/32"	
6950-4	1/8"	
6950-5	5/32"	
6950-6	3/16"	
6950-7	7/32"	
6950-8	1/4"	
6950-9	5/16"	1.68.8
6950-10	3/8"	8

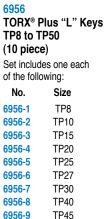
#### 6952 Metric Ball Hex "L" Keys 1.5mm to 10mm (10 piece) Set includes one each of the followina: 6 6

er une renering.		
No.	Size	
6952-1	1.5mm	
6952-2	2mm	
6952-3	2.5mm	
6952-4	3mm	
6952-5	4mm	
6952-6	5mm	
6952-7	6mm	
6952-8	7mm	
6952-9	8mm	
6952-10	10mm	



6954 Standard TORX <sup>®</sup> "L" Keys T8 to T50 (10 piece) Set includes one each of the following:				
No.	Size			
6954-1	T8			
6954-2	T10			
6954-3	T15			
6954-4	T20			
6954-5	T25			
6954-6	T27			
6954-7	T30			
6954-8	T40			
6954-9	T45			
6954-10	T50			





TP50

6956-10





#### Personal Tool Pack

Includes 1/4" drive ratchet, 2" extension, 16 drive bits, and Universal Spline sockets fit both SAE 3/16" - 9/16" and metric 5mm - 14mm nuts and bolts in a variety of styles; 6 pt., 12 pt., torx, square, spline, etc. All tools included in a travel pouch.



General



#### 4781

#### Super Stubby Screwdriver Set

These screwdrivers are perfect for those limited access fasteners typically found on carburetors or in electrical compartments and many other areas.

· 2 Phillips and 2 straight screwdrivers included in set.



#### 8262

#### Short Pick & Hook Set (4 Piece)

Consisting of four (4), 6.5", soft-handled picks.

- · They are sturdy, with both stainless steel shafts and tips, with assorted tip shapes designed for marking, removing O-rings, accessing snap rings and other assorted applications.
- · Ergonomic handle design fits properly in the hand, allowing for easier holding of the tool.
- · Multi-use tools to scribe, align pierce, clean or remove O-rings, shaft seals, CV boot and motorcycle fork seals and dust hoods.
- · Packaged in a molded tray which can be placed in tool drawer.



#### 8263

#### Long Pick & Hook Set (4 Piece)

Consisting of four (4), 9.25", soft-handled picks.

- · They are sturdy, with both stainless steel shafts and tips, with assorted tip shapes designed for marking, removing O-rings, accessing snap rings and other assorted applications.
- · Ergonomic handle design fits properly in the hand, allowing for easier holding of the tool.
- · Multi-use tools to scribe, align pierce, clean or remove O-rings, shaft seals, CV boot and motorcycle fork seals and dust hoods.
- · Includes a knurled shaft which allows good grip with grease or oil on hands.
- · Packaged in a molded tray which can be placed in tool drawer.

# 7011

#### Ball Hone Set, 10 piece

- · Ball Hones can be used for refinishing and resizing bores such as found in brake calipers, engine lifters, and u-joint yokes. Also useful for any bearing or bushing application.
- · All hones are 180 grit Silicone Carbide for excellent cutting and finish.





#### **Aluminum Vice Inserts**

Essential for every workbench vice. Aluminum jaws have reliefs for 5/16, 3/8, & 9/16 (7mm, 10mm, & 15mm) diameter shafts. Excellent for holding steel shafts without scratching or damage such as shocks, crankshafts, or any threaded bolts and shafts.



#### Master Bushing Driver Set

- · Enables you to remove and install bushings ranging from 10mm to 42mm in diameter, and 3/8" to 1-3/8" in diameter.
- · Includes large, medium, and small driver handles and adapters all made of steel.
- · Housed in a blow-molded storage case.





#### 5180

#### Portable Multi Purpose C-Frame Press.

- · Lightweight (less than 28 lbs.) and durable, the 5180 portable press is perfect for bench top pressing applications.
- · Use for all clamping, pressing, and bending needs. Ideal for welding and metal fabrication.
- · Press can be positioned vertically or horizontally.
- Versatile 9" 4-1/4" Open-Throat® design.
- · Couples to any 4- or 10-ton Porta Power pump.
- · Base allows the operator to mount the press to a bench.

Set includes: C-Frame press with base, adapters: V-pushing and ram pushing (9/16" and 3/4" dia. shanks), receiving inserts, flat insert, storage case,



Finally, a heavy-duty pry bar made of tempered square steel that you can hit without damaging the handle.

- · Black chrome striking cap allows hitting the bar without damage to the handle.
- · Ergonomic handle dual durometer composite handle for user comfort; reduces hand fatigue.
- · Polished tip with black oxide finish.
- · Long-life finish resists rust and wear during use.
- · OTC Marathon Lifetime Warranty.

Set includes 12", 18", and 24" bar shank lengths packaged in a gray molded tray.

#### Motorcycle Tools Lift / General



#### 4497A

#### Ratcheting Terminal Crimper

- · Heavy-gauge steel crimping tool designed for insulated wire terminals.
- · Ratcheting action crimps terminal to correct tightness on the wire, making crimping fast and easy.
- · Insulated handles with compound mechanical leverage for power.
- For wire sizes: AWG 22-18 (0.6mm-1.0mm) red terminal; AWG 16-14 (1.3mm -1.6mm) blue terminal; AWG 12-10 (2.0mm-2.6mm) yellow terminal.



#### 4411

#### **Ratcheting Hose & PVC Cutter (Standard)**

- · Cuts hose and PVC up to 1-3/8" dia.
- · Features metal frame and ergonomic handles for high leverage.
- · Compound ratcheting action provides maximum cutting power.
- · Will also cut cable and wires.



#### 4498

#### 7-in-1 Wire Stripper & Crimper

- Strips insulation off electrical wires ranging from 10 AWG-22 AWG (0.6mm-2.6mm) in diameter. Pliers on tip of jaw for looping or grabbing wire in tight places.
- · Heat-treated steel jaws cut solid or multi-strand wire.
- · Screw cutter shears screws clean, with no thread clean-up required. Works on machine screw sizes 4-40, 5-40, 6-32, 8-32, 10-24, and 10-32.
- · Crimps insulated and non-insulated wire terminals, 7mm-8mm spark plug wire connectors.



#### Straight-Blade Hose Cutter

- · Cuts rubber hoses ranging from 1/4" to 1-1/2".
- · Simply place hose in tool and squeeze handle to cut.
- · Replacement steel cutter blade No. 4509-1 is available.
- 4509-1 Replacement hose cutter blade



#### 4412

# Ratcheting Hose & PVC Cutter (Heavy Duty)

- · Cuts hose and PVC up to 1-3/4" dia.
- · Features metal frame and rubber padded ergonomic handles for high leverage and comfort.
- · Compound ratcheting action provides maximum cutting power.
- · Will also cut cable and wires.



#### 4515

#### Mini Pick and Hook Set - 4-Piece

- · Sturdy stainless steel points and shafts designed for marking, removing o-rings, accessing snap rings, and performing other tasks. Assorted angle tips allow you to reach awkward locations.
- · Knurled shaft design enhances finger control for delicate jobs.



#### Snap Ring Pliers Set - Internal/External

- · For internal or external snap rings; thumbscrew permits quick conversion.
- · Made of heavy-gauge tempered steel.
- · Includes two stainless steel handled picks.
- · Contained in a blow-molded plastic storage case.

No. 4512 includes:		
Tool No.	Description	
4512-1	.090" tip, straight pliers	
4512-2	.090" tip, 90° pliers	
4512-3	.070" tip, straight pliers	
4512-4	.070" tip, 90° pliers	
4512-5	.047" tip, straight pliers	
4512-6	.047" tip, 90° pliers	
4512-7 .038" tip, straight pliers		
4512-8	.038" tip, 90° pliers	
4512-9	Straight tip pick	
4512-10	90° tip pick	
All items can be purchased separately.		



#### Motorcycle/ATV Lift

- 1,500 lb. capacity and 17" long skids that will lift the largest, widest cruisers.
- · Lowest clearance available, 3-1/2" at lowest level, with a wide lift range of 3-1/2" to 16-3/4".
- Removable handle provides 360° access to load.
- · Features also include foot pedal release, locking rear casters, automatic safety lock, and two ratcheting tie down straps for safety.



#### Magnetic Tray

- Rectangular, stainless steel tray is 9-1/2" x 5-1/2" and 1-1/4" deep. Holds tools and small metal parts so they don't get lost or misplaced during repair work.
- Two heavy-duty magnets on bottom of tray have nonmarring contact pads; will securely hold tray to metal objects such as a tool box, frame rail, fender, etc.



#### Impact Drivers

- · Loosens hard-to-turn screws, bolts or nuts.
- Handle design prevents possibility of hitting hand with hammer when striking impact driver.
- Bit holder has 3/8" drive (No. 4608), 1/2" (No. 4607) drive, and 5/16" hex for Phillips and flat screwdriver bits.
- · Includes eight screwdriver bits:
- No. 2 Phillips bit, 1-3/8" long with 5/16" hex
- No. 2 Phillips bit, 3-1/8" long with 5/16" hex
- No. 3 Phillips bit, 1-3/8" long with 5/16" hex
- No. 3 Phillips bit, 3-1/8" long with 5/16" hex
- 5/16" wide x 1-3/8" long with 5/16" hex slotted bit 5/16" wide x 3-1/8" long with 5/16" hex slotted bit
- 3/8" wide x 1-3/8" long with 5/16" hex slotted bit 3/8" wide x 3-1/8" long with 5/16" hex slotted bit
- 4607 1/2" impact driver.
- 4608 3/8" impact driver.



General



#### 6986

#### SAE Stud Remover Set

This SAE, 4-piece, stud remover set offers the best professional extractors available. Designed and tested to reach studs in difficult work areas.

SAE stud remover set. 3/8" drive for 1/4" and 5/16" stud sizes, and 1/2" drive for 3/8" and 7/16" stud sizes. Housed in a blow-molded storage case.

- 6986-1 1/4" stud remover 6986-2 – 5/16" stud remover 6986-3 – 3/8" stud remover
- 6986-4 7/16" stud remover



#### 6987

#### Metric Stud Remover Set

This metric, 4-piece stud remover set offers the best professional extractors available. Designed and tested to reach studs in difficult work areas.

Metric stud remover set. 3/8" drive for 6 mm and 8 mm stud sizes, and 1/2" drive for 10 mm and 12 mm stud sizes.

Housed in a blow-molded storage case.

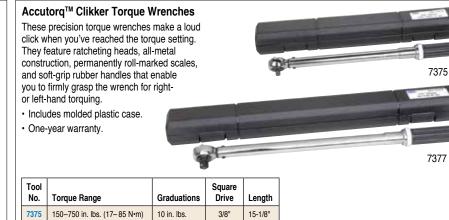
6987-6 – 6 mm stud remover 6987-8 – 8 mm stud remover 6987-10 – 10 mm stud remover 6987-12 – 12 mm stud remover



#### **Rolling Head Pry Bars**

You'll have a lot of leverage using one of these rolling head pry bars. The long, tapered body will also serve as an aligning drift.

7163 – Pry bar; 12" long. 7165 – Pry bar; 18" long.



1/2"

17-3/4"



2 ft. lbs

#### 4629

7377

#### Brass Hammer and Punch Set

30-150 in. lbs. (41-203 N·m)

- Brass-head hammer and punches are ideal to use where sparks from ferrous metals would be hazardous, or where precision metal parts could be damaged by steel tools.
- Two hammer head weighing 24 and 12 oz.
- Two tapered punches 14" x 5/8", 10" x 5/8".
- One hex tapered punch 8" x 5/8".
- Two drift punches 10" x 3/4", 8" x 1/2".
- Two pin punches 6" x 3/8", 4" x 1/4".



#### 4602

#### Brass Punch Set (2 piece)

- Two large, brass non-sparking punches. Ideal for use near precision parts or in locations where sparks from ferrous metal could be hazardous.
- Includes an 8" punch (5/8" hex, tapered to 3/8") and 10" straight punch (3/4" dia., chamfered at both ends).





# 4606

#### Brass Hammer and Punch Set

- Brass-head hammer and punches are ideal to use where sparks from ferrous metals would be hazardous, or where precision metal parts could be damaged by steel tools.
- Hammer head weighs 24 oz.; brass drift punch is 10" x 3/4" diameter; brass tapered punch is 8" x 5/8" hex tapered to 3/8" diameter point.



See page 112 for OTC SmartTech™ Technician Gloves

General



 Double locking ball detent holds punch or chisel securely in the driver handle. Replacement parts available:

4605-1 - Drive handle

- 4605-2 1/2" wide flat chisel 4605-3 - 5/8" wide flat chisel
- 4605-4 3/4" wide flat chisel
- 4605-5 7/8" wide flat chisel
- 4605-6 1" wide flat chisel
- 4605-7 1/4" cape chisel
- 4605-8 1/8" taper punch
- 4605-9 1/4" taper punch
- 4605-10 3/16" pin punch
- 4605-11 1/4" pin punch
- 4605-12 1/8" center punch
- 4605-13 3/16" center punch



#### 6613

#### Variable Pin Spanner Wrench

- Universal design fits many different types of pulleys having slots or holes, including camshaft pulleys and crankshaft pulleys.
- Wrench is adjustable from 1-1/4 inch to 5 inches; works with a 1/2 inch ratchet or breaker bar.

#### Set Includes:

526908-1 – 3.5 mm pin	526908-5 – 6 mm pin
526908-2 – 4 mm pin	526908-6 – 7 mm pin
526908-3 – 4.5 mm pin	526908-7 – 10 mm pin
526908-4 – 5 mm pin	526908-8 - Handle



#### Punch and Chisel Set (16 piece)

- Durable set of heat-treated chrome vanadium steel punches and chisels. Storage tray included. Contents of set:
- 3 Cold chisels (with gauge): 3/8" x 5-1/2"; 1/2" x 6"; 5/8" x 6-1/2"
- 2 Center punches: 1/8" x 5"; 3/16" x 6"
- 5 Pin punches: 3/32" x 4-1/4"; 1/8" x 4-3/4";
- 5/32" x 5"; 3/16" x 5-1/4"; 1/4" x 5-3/4"
- 5 Taper punches: 3/32" x 5-1/4"; 1/8" x 5-3/4"; 5/32" x 6"; 3/16" x 6-1/4"; 1/4" x 6-3/4"
- 1 Chisel gauge



#### **Universal C-Frame Nut Splitter**

- Forged and heat-treated frame with offset handle works where ordinary nut splitters may fail. Smooth action cracks nuts without damaging bolt threads.
- Chisel rotates to line up parallel to bolt. Splits nonheat-treated nuts of 7/16" (11mm) through 3/4" (19mm) diameter. Tool is 6-3/4" in length.



#### 4514

#### Mini Snap Ring Pliers Set (4 Piece)

- Small-size pliers for work in tight areas. Service S-ring and R-ring clips, internal or external, straight or angled. Ruggedly built of heat-treated chrome molybdenum steel.
- Set includes two internal snap ring pliers (one straight, one 45°) and two external snap right pliers (one straight, one 45°).
- All pliers have .038" (1.0mm) diameter tips.

	Part No.	
	No. Part No. Description	
1	4600-15	Taper Punch, 1/4" x 6-3/4"
2	4600-14	Taper Punch, 3/16" x 6-1/4"
3	4600-13	Taper Punch, 5/32" x 6"
4	4600-3	Cold Chisel, 3/8" x 5-1/2"
5	4600-2	Cold Chisel, 1/2" x 6"
6	4600-1	Cold Chisel, 5/8" x 6-1/2"
7	4600-4	Center Punch, 3/16" x 8"
8	4600-5	Center Punch, 1/8" x 5"
9	4600-12	Taper Punch, 1/8" x 5-3/4"
10	4600-11	Taper Punch, 3/32" x 5-1/4"
11	4600-10	Pin Punch, 3/32" x 4-1/4"
12	4600-9	Pin Punch, 1/8" x 4-3/4"
13	4600-8	Pin Punch, 5/32" x 5"
14	4600-7	Pin Punch, 3/16" x 5-1/4"
15	4600-6	Pin Punch, 1/4" x 5-3/4"
16 4600-16 Chisel Gauge		
	3 4 5 6 7 8 8 9 0 10 1 1 2 3 3 4 4 5	3         4600-13           4         4600-2           5         4600-2           6         4600-4           8         4600-5           9         4600-12           00         4600-11           11         4600-9           3         4600-8           4         4600-7           5         4600-6



#### Scraper Set

Scrapers feature polished, heat-treated, stiff, stainless steel blades. Handles are ergonomic two-component plastic and feature a non-slip grip and steel bolstered end. Packaged in a storage tray. Includes: 1-1/4" straight blade, 1-1/4" bent blade, and 2" straight blade tips.



#### Screw Extractor Set

- · Removes broken studs and bolts.
- Includes ten guide bushings, five drill bits and five screw extractors with extractor nuts.
- · Drill bits are left handed to help removal.

General





## 4650

**Mirror and Magnet Set** 

- · Handles telescope from 6-1/2" to 25". Swivel heads allow access to tight areas.
- Large, rectangular swivel mirror is 2" x 3-1/2", and is attached to one telescoping handle; small mirror is 1-1/4" in diameter, and is interchangeable with magnets on the other handle.
- · Magnets can lift up to 8 lbs.





#### **Bench-Mounted Holding Fixture**

Securely hold and rotate small engines, transmissions, and other components while you're working on them.

- This holding fixture will handle pieces weighing up to 250 lbs., and it offers 360° of rotation with positive stops at 90° increments.
- · Three sides of the mounted unit remain fully exposed.

34607 - Base assembly only.



%s"dia

to edge of bench



#### **Universal Outside Thread Chaser**

This thread chaser will quickly restore threads on fork tubes, steering stems, axles, etc. to near original condition without the use of expensive thread-cutting equipment.

- · Replaceable V-pads and dies.
- 1-1/4" to 5" O.D.

#### 7402

Thread chaser with 6 dies: threads per inch - 4, 5, 6, 7, 7-1/2, 8, 9, 10, 11, 11-1/2, 12, 14, 16, 18, 20, and 24.

#### 216884

Standard die set. Includes 6 dies, in the sizes listed above.

#### 202817

Metric die set. Includes three dies: 1 mm- 1.25 mm-1.5 mm-1.75 mm, 2 mm-2.5 mm-3.0 mm-3.5 mm; 4 mm pitch dies.

206803 V-pad.



# **Spectrum Work Lights**

- AC/DC Rechargeable
- · Li-Ion battery
- · Magnetic base
- · Bright LEDs 50,000 hour life · Adjustable 60° angle
- · Impact and water resistant
- · Limited Lifetime Warranty
- · Slip resistant textured body

5550 Spectrum Solar 10W LED Work Light with UV Top Light	5551 Spectrum Trio 9W LED Work Light with 3W LED Top Light	5552 Spectrum 30+4 30 Pc. LED Work Light with 4 Pc. LED Top Light
5550 Specifications	5551 Specifications	5552 Specifications
10W LED Work light with UV Top Light	9W LED Work light with 3W LED Top Light	30 Piece LED Work light with 4 Piece LED Top Light
LI-ION Rechargeable Battery – 3.6V 2250 mAH, AC/DC	LI-ION Rechargeable Battery – 3.6V 2250 mAH, AC/DC	LI-ION Rechargeable Battery – 3.6V 2250 mAH, AC/DC
Charger Input AC 100 ~ 240V; 50/60Hz; DC12V ~ 24V	Charger Input AC 100 ~ 240V; 50/60Hz; DC12V ~ 24V	Charger Input AC 100 ~ 240V; 50/60Hz; DC12V ~ 24V
Power Output: 5.0V 1000 mAH	Power Output: 5.0V 1000 mAH	Power Output: 5.0V 1000 mAH
Charger Time: 3.5 ~ 4.0 hours	Charger Time: 3.5 ~ 4.0 hours	Charger Time: 3.5 ~ 4.0 hours
Active Time: 2.5 hours	Active Time: 3.0 hours	Active Time: 4.0 to 5.0 hours
Storage Temperature: -4°F to 158°F; -20°C to 70°C	Storage Temperature: -4°F to 158°F; -20°C to 70°C	Storage Temperature: -4°F to 158°F; -20°C to 70°C
Operating Temperature: 23°F to 122°F; -5° to 50°C	Operating Temperature: 23°F to 122°F; -5° to 50°C	Operating Temperature: 23°F to 122°F; -5° to 50°C
PS: LED Sector: 170°	PS: LED Sector: 25°	PS: LED Sector: 15°
At 50 cm: 350 LUX (750 LM)	At 50 cm: 4000 LUX	At 50 cm: 2250 LUX
Waterproof Grade IP65	Waterproof Grade IP65	Waterproof Grade IP65





# Heavy Duty Tools & Equipment Quick Finder Index

# Heavy-Duty

neavy-Duly
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Diesel Compression Testers



No. 3500-05 bead-type temperature

probe, assorted fittings. No. 3491-31

Tester services these engines: · Cummins B and C Navistar DT466/DT360 Ford/Navistar 6.9L & 7.3L Detroit 6.2L & 6.5L

304802 - Replacement gauge.

209633 - Ford 6.6L & 7.8L diesels

310840 - Navistar DT466/DT360

**Replacement Adapters** 

(available separately)

**Diesel Compression Tester with Adapters** 

This easy-to-use compression tester is designed for light- and medium-duty diesel engines equipped

plastic storage case,

instruction manual.

#### 3673

3642

Product Features:

· 24' coil cord.

3903

in length.

**Diesel Glow Plug Tester** 

Glow Plug Tester provides fault detection thru LED's for a quick analysis; Short Circuit, Over Current, Normal Operation, Open Circuit/Under Current.

- · Glow Plug Tester allows for testing without removing glow plug from engine.
- · Powers the glow plug to test the plug in it's operating state.
- · Much more accurate test than a cold resistance test, which can miss short circuits.
- · Tester uses a current measurement to accurately determine proper operation and check for short circuits.



#### 3674

#### **Diesel Fuel Pressure Tester**

- · Simple one wire connectivity to the fuel pressure sensor signal wire. Designed for diesel engines that have a fuel pressure sensor reading used by vehicle computer.
- · Displays pressure in PSI or BAR.
- · Range 0-22,000 PSI (0-1500 BAR).
- · Read diesel fuel pressure in vehicle.
- No fittings required.
- · Readings alternate between current and max pressure.



3491-02 - 5,000 psi transducer. Required for

3491-03 – 10,000 psi transducer. (Note: For No. 3492 only.)

3491-11 - 6' cable, 3491-12 - 12' cable, 3491-13 - 20' cable.

ABS and power steering pressure readings.

"Min/Max" pinpoints:

Fuel restrictions Plugged filters

Weak fuel pumps

pressure spikes

"Delta Zero"

check valves.

European specs.

Displays readings in BAR for checking

Permits

comparison

of ABS brake

pressures at

. each wheel.

See Scope/Meter

accessories for

temp probes.

400

monitors fuel pressure

drop caused by faulty

Transmission

www.otctools.com

#### Heavy Duty Tools & Equipment Injector Remover / Installers

Similar to



Similar to Ford 303-D103

### Ford Diesel Compression Test Adapter

- Use with OTC No. 5021 diesel engine compression gauge.
- · Remove glow plug; this adapter is used to connect the No. 5021 gauge to perform a compression test.
- Application: 1994–2003 Ford vans and pickups with 7.3L direct-injected turbocharged (DIT) diesel engine.

Similar to Ford 303-757

#### 6660

#### Ford Diesel Compression Test Adapter

- · Use with OTC No. 5021 diesel engine compression gauge.
- · Works on 2003-2006 Ford vans and trucks-with 6.0L diesel engines.



**Glow Plug Remover** 

Set includes 10 mm and 12 mm split nuts, three spacers (3/16", 1/4", and 5/16"), plastic storage/ organizer case and instructions. The 10 mm split nut will work on Ford 6.9L and 7.3L diesels; GM 6.2L, and 6.5L diesels; and various diesels in import vehicles. The 12 mm split nut works on various diesels in import vehicles, plus many agricultural and construction diesel applications.



# Ford 5-pin Connector

#### Harness for Glow Plug Testing

- · Provides an easy way to check glow plug resistance without having to remove the valve cover of 1994-98 Ford trucks and vans with 7.3L DIT (direct-injected turbocharged) diesel engines.
- · Used with any standard digital volt ohmmeter to check glow plug resistance.



- the cylinder head.
- · Works on 1998-2003 Ford vans and trucks with 7.3L direct-injected, turbo-charged (DIT) diesel engines.



#### Ford Rear Main Oil Seal Kit

- · Works on 1994-2003 7.3L diesel engine in Ford 3/4- and 1-ton trucks.
- · A complete kit with the tools you need to correctly remove and install the rear main oil seal and wear ring on the crankshaft.
- · Eliminates makeshift methods of seal removal and installation that could damage the new seal or crankshaft.



# **Detroit Diesel Injector Socket**

Used on GM 6.2L and 6.5L engines. This 30 mm socket ensures proper fit during nozzle removal and installation. The 3/8" square drive and 7/8" hex permit easy access in tight quarters, and prevent damage to nozzle and related components.



#### Ford Injector Remover / Installer Kit

· Removes and installs injectors without damaging the injector or cylinder head.

Application: 1994–2003 Ford 3/4- and 1-ton trucks. Super Duty trucks, and vans with 7.3L directinjected turbocharged (DIT) diesel engine.

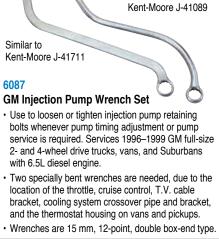


#### 6069

#### **Cummins Diesel Fuel Injector Remover Kit**

Kit contains a fuel injector connector tube remover and fuel injector puller. The fuel injector connector tube must be removed before removal of the injector, or both will be damaged.

Application: 1998-1/2-2002 Dodge pickups and vans with 5.9L 24-valve Cummins diesel turbo engine.







Similar to Ford No. 303-D113 Similar to Ford No. 303-D115

Designed for the diesel truck market. this tool will work for just about any injector you need to remove for service or replacement.

#### 6752 – Fuel Injector Storage Rack with Protective Cups

Compartment are marked to help keep the injectors organized by the cylinder they came from in order to keep the injector calibration in sync with the vehicles FCM.

#### 6753 – Protector Cups.

A set of eight replacement cups for 6752 Fuel injector storage rack.

# 7471A

#### **Cummins Engine Barring Tool**

Need to manually rotate an engine? Insert the tool into the flywheel housing until it engages the ring gear, then attach a 1/2" square drive ratchet or breaker bar and turn. The tool's load-bearing collar provides friction-free operation while rotating the tool in the housing.

· Works on Cummins B and C series diesel engines and 5.9L liter diesels used in Dodge pickups.





**Oil Filter Wrenches** 



#### The C-Frame used in conjunction with OTC Ball Joint Adapters. Can also be used for removing/installing; universal joints with needle bearings, pressed in wheel studs, and brake anchor pins on heady-duty vehicles. Suitable for general pressing operations.

#### 6935

U-Joint Service Adapter For use with the 7248 C-Frame to service the u-joints found on Dana 60 4WD front drive axles.

#### Application Examples:

- 1977-1991 Chevrolet and GMC 1 Ton
- 1975-2010 Dodge 34 & 1 Ton
- 2000-2002 Ford Excursion
- 1999-2010 F250 1985-2010 F350
- 1999-2008 F450 1999-2004 F550

#### Heavy-Duty Oil Filter Wrenches

 Features a 1/2" wide steel band that can stand up to the high torque needed to remove filters from trucks, tractors, and other heavy equipment.



• Use with a 1/2" drive ratchet or breaker bar.

4555 – Heavy-Duty Oil Filter Wrench for filter dia. of 4-1/8" to 4-21/32" (104 mm to 118 mm).

4556 - Heavy-Duty Oil Filter Wrench for filter dia. of

4-21/32" to 5-5/32" (118 mm to 131 mm).

4557 – Heavy-Duty Oil Filter Wrench for filter dia. of 5-5/32" to 5-21/32" (131 mm to 144 mm).



#### **Adjustable Oil Filter Pliers**

- Forged jaws with sure-grip teeth grab the filter for easy removal.
- Slip-joint ratchet and lock mechanism allows a secure grip on filters.

**4560** – Small Adjustable Oil Filter Pliers. Plier is 13-1/2" long and fits filters ranging from 2-1/4" to 5" (57 mm to 127 mm) in diameter.

4561 – Large Adjustable Oil Filter Pliers. Plier is 18" long and fits filters ranging from 3-3/4" to 7" (95 mm to 178 mm) in diameter.

4562 – Adjustable Oil Filter Pliers Set. Includes both the No. 4560 and No. 4561 listed above.

#### 4513

#### Heavy-Duty Snap Ring Pliers Set (2 piece)

- Heat treated steel "circlip" pliers for large
- equipment repair. • Replaceable tips and spring ratchet locking
- mechanism to securely hold against snap ring tension.
- Internal pliers' capacity 3-1/16" to 6-1/4" (78 mm to 159 mm) snap rings.
- External pliers' capacity 3-1/2" to 6-1/2" (89 mm to 165 mm) snap rings.
- Blow-molded storage case includes extra sets of replaceable tips.
- Overall length 16"; handle length 12-1/2".



4513 includes:				
Tool No.	Description	Tool No.	Description	
4513-1	Internal snap ring pliers	4513-4	(2) .12" (3 mm) 45° tips	
4513-2	External snap ring pliers	4513-5	(2) .12" (3 mm) 90° tips	
4513-3	(2) .12" (3 mm) straight tip	4513-6	4 tip retaining screws	

7640

7641

#### **Giant Adjustable Wrenches**

The really big jobs call for really big tools. These wrenches will handle 42 bolt sizes from 1-3/8" to 4-3/4". Together, both wrenches weigh just 41 lbs., but can replace over 1,000 lbs. of fixed-size wrenches.

7640 – Giant adjustable wrench. Rated to withstand 2,000 ft. lbs. of torque. Nut/bolt size 1-3/8" to 2-7/8". Increments of Jaw adjustment 1/8", length 24". Head thickness 7/8".

7641 – Giant adjustable wrench. Rated to withstand 5,000 ft. lbs. of torque. Nut/bolt size 2-3/4" to 4-3/4". Increments of Jaw adjustment 1/8", length 36". Head thickness 1-1/8".



#### **Gland Nut Wrench**

7463

This wrench is fully adjustable to fit hydraulic cylinders on vehicles having gland nuts from 1" to 3-3/4" in diameter. It also reverses to work on either 1/4" or 7/32" pinholes.

· Accommodates a 1/2" drive ratchet.

215128 - Replacement pin.

# 5961HD

#### Heavy-Duty Drain Plug Pro™

- For Agricultural, Commercial, and Heavy- Duty Vehicle Applications
- Remove fluid drain plugs without touching the plug or hot fluids!
- NO touching HOT plugs.
- NO HOT fluids on hands.
- Removable attachment permits use with common 3/8" square drive sockets. Great for starting bolts in hard-to-reach places.
- Just magnetically attach HEAVY-DUTY DRAIN PLUG PRO<sup>™</sup> to pre-loosened drain plugs and rotate to remove.
- Magnetic attachment for internal 1/2" square drive drain plugs.
- Magnetic attachment for large drain plugs.



1266 Adjustable

**Gland Nut Wrench** 

Here's a wrench designed to fit hydraulic cylinders on most



farm and construction equipment. It fits gland nuts

from 2" to 6" diameter pin to pin. And it's reversible

to fit 1/4" and 5/16" diameter pinholes.

# hch

will stand up to the job of removing nearly any spin-on filter (up to 6"). Universal design permits use on most vehicles. The tough 2" wide nylon strap holds firmly. The more leverage applied, the tighter it grips.

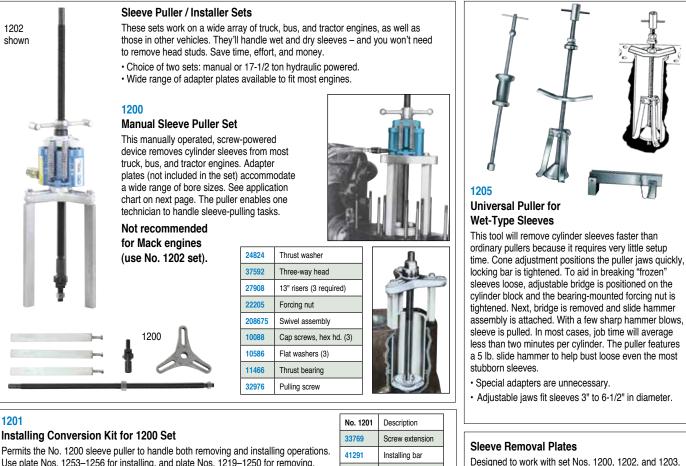
· Accommodates a 3/8" drive ratchet.



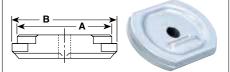
Just 8-1/2" long to fit into tight spots, but its 1-1/2 pound hammer gives you a little extra muscle for stubborn jobs. It's perfect for pulling injector nozzles. The shank is threaded 1/2" -20 and has a 5/8" -18 threaded adapter included. Works with many OTC pulling attachments.



#### Heavy Duty Tools & Equipment Sleeve Puller / Installers



Designed to work with set Nos. 1200, 1202, and 1203, these removal plates fit the full spectrum of cylinder sleeve sizes. Determine engine bore size ("A" dimension) and O.D. of sleeve to be pulled ("B" dimension). Then consult chart to the right.



Bore Inches	A I.D. +.010 000	B I.D. +.010 000	OTC Plate Number
3.600"	3.585	3.657	1219
3-9/16"	3.547	3.663	1221
3-11/16"	3.671	3.792	1222
3-7/8"	3.840	4.047	1223
3-7/8"	3.859	4.093	1225
4"	3.984	4.218	1227
4-1/8"	4.109	4.229	1230
4-1/4"	4.235	4.470	1232
4-5/16"	4.302	4.450	1233
4-3/4"	4.734	5.171	1240
4-7/8"	4.860	4.980	1242
4-7/8"	4.860	5.045	1243
5"	4.977	5.120	1245
5-1/8"	5.093	5.593	1246
5-1/2"	5.484	5.718	1250

#### www.otctools.com

ATC6.3541, AT6.354, AT6.3541

#### 1201

Use plate Nos. 1253-1256 for installing, and plate Nos. 1219-1250 for removing. Plates are not included with kit.



Sleeve puller plate application chart

The puller plates listed here work with manual and 17-1/2 ton hydraulic sleeve pullers

CATERPILLAR – 1673C; 1674; 3304; 3306; D330C; D333C; D334, D326, D337

D-166, D-188, D-236, D-282, C-248, D-248, D-310, D-358, D-155

J.I. CASE - 207 Diesel

H & NH

71 Series

D-179, D-206, D-239

C-281, D-281, D-361

JOHN DEERE - 4-270, 6-404

MACK - END(T) 673, 675, 676

PERKINS - AD3.152, AG3.152, AD4.203

AG4.212, A4.236, AG4.236, A6.354, A6.3541,

Universal puller for wet-type sleeves, see following page

D-691, D-461

D-407

6-531

6-619

8-955

672

END (T) 711, 707

CUMMINS - V Series 903 NT855

GENERAL MOTORS - 53 Series

INT'L HARVESTER - C-221, C-263



Bore Dia.

4-3/4"

5-1/8"

5-1/2"

4-7/8"

3-7/8"

4-1/4"

3-9/16"

3-11/16

3-7/8"

4-1/8"

4-3/4"

4-5/16"

4-1/4"

4-3/4"

5.12"

5.512

4-7/8"

4-7/8"

5"

3.6'

3-7/8"

4"

Plate No.

1227

1240 1246

1250

1242

1225

1232

1221

1222

1225

1230

1240

1233

1232

1240

1246

1250

1243

1242



#### 17-1/2 Ton Hydraulic Sleeve Puller Set

Removes and installs sleeves of many makes and models of trucks, buses, and tractors. See chart at left and on next page.

1202 - 17-1/2 ton hydraulic sleeve puller set.

1203 - Sleeve puller without hydraulic assembly.

No. 1202	Description (includes 1203 and 4180)	
37592	Three-way head	
33769	Screw extension	
302482	Speed nut	
302340	Yoke assembly	
10088	Cap screws, hex hd (3)	
32976	Pulling screw	
4180	Hyd. ram/pump assy.	
27908	13" risers (3 req'd)	
41291	Installing bar	
10221	Hex safety nut	
208675	Swivel assembly	
10586	Flat washers (3)	
21714	Insert	

302340 Yoke assembly



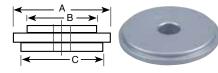
1245 1219 1223

#### Heavy Duty Tools & Equipment Heavy Duty Tools

#### **Sleeve Installation Plates**

Each of these dry-sleeve installation plates covers a range of bore sizes. Their reversible design makes both sides usable. The plates work with our manual or 17-1/2 ton hydraulic puller/installers.

(Nos. 1200, 1202, and 1203). Check chart at below to ensure correct sleeve selection.



Fits Sleeves From	A	В	с	No.
3-3/16" to 3-7/16"	3-7/8"	3.171"	3.421"	1252
3-9/16" to 3-7/8"	4-1/4"	3.546"	3.859"	1253
4-1/8" to 4-3/8"	4-3/4"	4.109"	4.359"	1254
4-3/8" to 4-3/4"	5-1/4"	4.390"	4.734"	1255
4-13/16" to 5-3/4"	6-3/8"	4.797"	5.734"	1256



#### **Oil Seal and Wear Ring Installer**

This two-piece tool makes the difficult job of correctly installing the rear crankshaft seal and wear ring on most Navistar DT-360 and DT-466 engines thru 1996 an easy task. Bolt the adapter to the crankshaft and wrench the component home.

· Eliminates damage to seals or wear ring that can occur when driving them into place.



#### 7106 **Cylinder Liner Height Gauge** with Hold-Down Bar

This set lets you meet those exacting specifications necessary for optimum diesel engine performance. It accurately measures cylinder bore flatness and depth. The hold-down bar correctly seats the liner for accurate measurement of liner protrusion. The easy-toread dial is in .001 inch graduations, 1.000" range.



#### 7161

#### **Cummins Engine Turning Tool**

This tool makes easy work of manually rotating a Cummins 855 cubic inch engine. It's essential hardware when you're bringing pistons to top dead center to adjust injector timing.



# **Charged Air Cooler Tester**

This is the easy way to find air leaks in the charged air cooler systems used on class 7 & 8 truck

engines. The tester features a large

2-1/2", 0-60 PSI pressure gauge, regulator and relief valve, and two safety cables. It also has

quick disconnect air fittings that attach to a 3", 3-1/2", or 4" cooler hose.



#### **Cummins Water Pump Pulley Tool**

This heavy-duty tool is designed to remove or install water pump pulleys on Cummins L10 and M11 engines, 1991 and newer. The installer has a rugged thrust bearing that allows for friction-free pulley installation without damaging pump components.



#### 7119

#### **Compressor Drive-Gear Coupling Puller**

Here's the solution for removing the coupling from the Cummins Compact and Bendix air compressors found on many Cummins 855 cubic inch engines. The split collet design fits over the coupling, and mechanical force does the work.

· Works on compressors with 1-3/4" O.D. shaft.



#### 7470

#### **Cummins Diesel Injector Timing Kit**

Measures static timing on Cummins J, K, N, NH, V-12, N-14, and L-10 series diesel engines. With this tool you can deter-mine the injector push tube travel in relation to piston travel. Tool is installed with one dial indicator in the injector bore and the other on the injector push tube. Turn the engine over manually to find top dead center. By checking the gauges, you can determine if timing is within factory specifications, then make adjustments to the cam followers.



**Cummins Drive-Pullev Tool Set** 

This two-piece set is designed to remove and install the drive pulley on Cummins NH and NTC 855 cubic inch engines. The 7120B remover simply bolts into the tapped holes for pulling. The 7120A installer threads onto the pulley accessory drive shaft for easy installation.

7120A – Drive-pulley installer. 7120B - Drive-pulley remover.

#### 5044 Self-Adjusting **Clutch Rotating** Tool

This handy tool replaces the self-adjuster mechanism on Spicer self-adjusting clutches. allowing you to manually adjust them with a wrench or socket. 3/4" hex drive.







#### **Pilot Bearing Pullers**

These tools make quick work of pulling stubborn, rusted pilot bearings. No. 5048 fits 1-1/4" I.D. bearings, and No. 5049 fits 1" I.D. bearings. The puller's forcing screw expands the jaws inside the bearing and simultaneously pushes against the crankshaft.

5048 - Pilot bearing puller for 1-1/4" I.D.

5049 - Pilot bearing puller for 1" I.D.



# **Clutch-Adjusting Wrench**

This clutch-adjusting wrench will solve the difficult, time-consuming job of internally adjusting heavy-duty Spicer clutches. Using this wrench is much quicker and easier than makeshift methods such as pry bars, which often result in component damage, poor job performance, or extra downtime.

#### Heavy Duty Tools & Equipment Clutch / U-Joint Tools

#### **Truck Clutch Alignment Shafts**

These 10-spline clutch alignment shafts are available in the three most popular sizes: 1-1/2", 1-3/4", 2" O.D., and are designed for use on heavy-duty single, two-plate, push/pull, manual, and self-adjust clutches. The shafts are constructed of lightweight fiberglass-reinforced nylon that won't hang up in clutch disc splines. Yet, they're rugged and will easily support the weight of heavy pressure plates.

5070 - Truck clutch alignment shaft. 1-1/2" O.D., 30 mm pilot. 7072A - Truck clutch alignment shaft. 1-1/2" O.D., 1" pilot, 10 splines, 3.25" long. Similar to Ford 308-D001 (D79T-7550-A). 7073A - Truck clutch alignment shaft. 1-3/4" O.D., 1-1/4" pilot, spline 3.75" long. Similar to Ford 308-D002 (D79T-7550-B.) 7074A - Truck clutch alignment shaft. 2" O.D., 1-1/4" pilot. 10 splines, 3.6" long. Similar to Ford 308-D003 (D79T-7550-C). 7480 - Truck clutch alignment shaft. 1-3/4" O.D., 1" pilot. Similar to Ford 308-D010 (D93T-7550-A). 5029 - Clutch alignment shaft. 2" O.D., 1-1/4" pilot. 10 splines, 7.3" long. Similar to Ford 308-D011 (D93T-7550-B).

5030 - Clutch alignment shaft. 1-3/4" O.D., 1-1/4" pilot, spline 7.375" long. Similar to Ford 308-D012 (D93T-7550-C).

#### 5035

#### **Truck Clutch Adjustment Set**

The gauges in this set enable you to check the adjustment of pull-type, heavy-duty clutches, ensuring their correct operation. One gauge checks the amount of free play between the yoke and the bearing's wear pad. The other gauge lets you determine the amount of travel between the release bearing and transmission bearing cap.

- · Release bearing travel gauge.
- · Clutch pedal free play gauge.

Heavy-Duty U-Joint Puller

The ideal tool for disassembling drivelines.

without the need for hammering or heat.

Meritor (Rockwell) 16N, 17N, 18N, 1710

Meritor RPL 20 and 25 "Permalube" Series.

· May be used with up to a one-inch impact wrench.

· Will not damage the driveshaft, yoke, bearing cups,

· Fits practically all Class 7 and 8 trucks, including: Spicer driveline 1610, 1710, 1760, 1810, 1880 Spicer SPL 140, 170, and 250 "Life Series"

· Quickly and easily removes sealed U-joint cups

Similar to Ford 308-D008(D93L-4201-A)



Similar to Ford

308-D009(D93L7025-A)

FREE PLAY

performed with No. 5035 tool set

#### Heavy-Duty Bearing Cup Installer

Spicer SPL "Life Series" quick-disconnect universal ioints.

- · Three individual adapters press bearings to the manufacturer's recommended depths.
- · Adapters fit Spicer SPL 140, 170, and 250 series drivelines.



#### 7490 **U-Joint Tool**

Designed for a 1/2" impact wrench, this U-joint tool removes even the most stubborn U-joints with ease. It's compact and easily set up, making it ideal for service calls. And it can be used at different angles and in tight places, eliminating those damaging makeshift methods. The puller's legs have holes for bolt storage.

- Bolts included: 5/16"-24 x 1-1/2", 3/8"-24 x 1-1/2", 7/16"-20 x 1-1/2", M8-1.25 mm x 35 mm.
- · Works on most Dana Spicer and Meritor U-joints -
- except Spicer's Life series model SPL250X.



#### 5043

#### **Clutch Service Set**

Here's an ideal companion set to the clutch handler. Designed for Spicer heavy-duty clutches, the nine tools in this set help with a variety of jobs, from clutch installation and removal to flywheel drive-pin installation to clutch adjustment.

· Includes handy plastic carrying case.

OTC No.	Description	
5044*	Self-adjust clutch rotating tool. Rotates adjusting ring.	
5045*	Flywheel drive pin installing tool. Aligns and installs drive pins in 14" heavy-duty truck pot-type flywheels.	
5046*	Clutch release tool. Removes shipping blocks from between clutch housing and release bearing.	
7028*	Adjusting wrench. For internal adjustment of multiple lever and angle-spring clutches.	
7073A*	Clutch alignment tool. 1-3/4" O.D. Provides perfect fit to spline of clutch disc.	
7074A*	Clutch alignment tool. 2" O.D. Provides perfect fit to spline of clutch disc.	
213013	Pair of 3/8" flywheel to clutch guide pins.	
213014	Pair of 7/16" flywheel to clutch guide pins.	
213015	Hex key Wrench. Removes/installs flywheel drive pin set screws.	
* Tool is available separately.		



#### 7057

#### **U-Joint Puller**

This service tool easily removes stubborn, corroded bearings without damaging U-joint components, even in limited space. The tool applies up to 7 tons of force to separate voke assemblies and remove bearings. Far superior to sledgehammer methods.



- · Works on Meritor 16N, 17N, 18N, and 1710 series U-joints and Spicer 1600/1610 to 1880 series U-joints.
- · Includes plastic storage box, No. 1036 2-jaw puller, and instructions.

#### 5192

5190

or joints.

# Heavy-Duty

#### **Bearing Cup Installer**

Quickly and easily installs bearing cups on boltretained universal joints. Fits series 1610 to 1880 and nearly all other heavy-duty truck and machine type u-joints with bolt-retained bearing cups.

- · Automatically aligns bearing cups during installation.
- · Eliminates the possibility of damage to the
- needle bearing.



Quickly and easily installs bearing cups on Dana/



# Heavy Duty Tools & Equipment Heavy Duty Locknut Sockets

Wheel bearing locknuts are easy to remove or install with these specially designed sockets. They're made of high-strength steel and resist rounding out. **NOTE:** Sockets are designed for use with 3/4" square-drive manual tools only. Impact tool use voids sockets' warranty. 1902 – Similar to Ford No. 205-039 (T70T-4252-B) 1904 – Similar to Ford No. 205-040 (T70T-4252-D) 1905 – Similar to Ford No. 205-041 (T70T-4252-E)

1910 – Similar to Ford No. 205-042 (T70T-4252-K) 1928 – Similar to Ford No. 205-043 (T70T-4252-W) Measure from flat to flat to determine size of locknut, then consult chart to find the correct socket.

Socket No.	Opening Size
1901	2-3/32" (6 pt.)
1920	2-1/4" (6 pt.)
1902	2-3/8" (6 pt.)
1936*	2-3/8" (6 pt.)
1903	2-3/8" (8 pt.)
1921	2-1/2" (6 pt.)
1904	2-9/16" (6 pt.)
1905	2-9/16" (8 pt.)
1928*	2-9/16" (6 pt.)
1922	2-5/8" (6 pt.)
1923	2-3/4" (6 pt.)
1937	2-3/4" (8 pt.)
1932	2-7/8" (6 pt.)

Socket No.	Opening Size
1933	2-7/8" (8 pt.)
1906	3" (6 pt.)
1907	3" (8 pt.)
1934	3-1/8" (6 pt.)
1935	3-1/8" (8 pt.)
1908	3-1/4" (6 pt.)
1909	3-1/4" (8 pt.)
1924	3-3/8" (8 pt.)
1910	3-1/2" (6 pt.)
1911	3-1/2" (8 pt.)
1925	3-3/4" (8 pt.)
1926	3-3/4" (6 pt.)
1927	3-13/16" (8 pt.)

Socket No.	Opening Size
1912	3-7/8" (6 pt.)
1913	3-7/8" (8 pt.)
1914	4" (6 pt.)
1915	4-1/8" (6 pt.)
1940	4-1/8" (8 pt.)
1916	4-3/8" (6 pt.)
1917	4-3/8" (8 pt.)
1938	4-1/2" (8 pt.)
1941	4-13/16" (8 pt.)
1918	4-7/8" (6 pt.)
1919	4-7/8" (8 pt.)
1939	5-1/4" (6 pt.)
7795	2-1/2" (6 pt.)
7796	2-3/4" (6 pt.)



Measure from flat to flat to determine size of locknut, then consult chart to select a socket. Warranty is void if tool is subjected to impact wrench use.

Metric Truck Wheel Bearing Locknut Sockets

Socket No.	Opening Size		Sock No.
1950M	54 mm (6 pt.)		1954
1951M	55 mm (6 pt.)		1955
1952M	60 mm (6 pt.)		1956
1953M	70 mm (6 pt.)		1957
		-	

Socket No.	Opening Size
1954M	71 mm (6 pt.)
1955M	80 mm (6 pt.)
1956M	82 mm (8 pt.)
1957M	90 mm (8 pt.)
	No. 1954M 1955M 1956M

Socket No.	Opening Size
1958M	94 mm (8 pt.)
1962M	100 mm (8 pt.)
1959M	106 mm (8 pt.)
1960M	110 mm (8 pt.)
1961M	120 mm (6 pt.)

\* Fits special "rounded" hex nut found

on Dana axles of some Ford trucks.

Depth of locknut sockets is 5".

Truck Wheel Bearing Locknut Sockets (6-pt.) 9850 – 21 wheel bearing locknut sockets with tool board. 62908 – Display board only.

No.	Qty.	Description
1901	1	Locknut socket (2-3/32")
1902	1	Locknut socket (2-3/8")
1904	1	Locknut socket (2-9/16")
1906	1	Locknut socket (3")
1908	1	Locknut socket (3-1/4")
1910	1	Locknut socket (3-1/2")
1912	1	Locknut socket (3-7/8")
1914	1	Locknut socket (4")
1915	1	Locknut socket (4-1/8")
1916	1	Locknut socket (4-3/8")
1918	1	Locknut socket (4-7/8")
1920	1	Locknut socket (2-1/4")
1921	1	Locknut socket (2-1/2")
1922	1	Locknut socket (2-5/8")
1923	1	Locknut socket (2-3/4")
1926	1	Locknut socket (3-3/4")
1928	1	Locknut socket (2-9/16" rounded)
1932	1	Locknut socket (2-7/8")
1934	1	Locknut socket (3-1/8")
1936	1	Locknut socket (2-3/8" rounded)
1939	1	Locknut socket (5-1/4")

# 5047

#### Lug Nut Cap Remover

Chrome-plated lug nut caps found on many heavy-duty trucks and trailers can be tough to remove, and they're easily damaged if you pry them off or use an ordinary cap remover. This tool avoids those problems. It is ruggedly built and features specially coated jaws that won't slip off the caps, no matter how much squeezing force you apply.

· Features cushioned handles.



#### 5059 Hubcap Installer

Truckers like chrome, and many of them accent their truck's drive axle with chrome hubcaps designed to snugly fit around the axle-shaft bolts. Unfortunately for service shops, these hubcaps are often tricky to install without causing damage. That's where our hubcap installer comes in handy. Constructed of high-density polyethylene, this tool guides the cap into place over the axle nuts, protecting it from unwanted and costly dents.



6

#### Heavy Duty Tools & Equipment Heavy Duty Locknut Sockets

#### **9851**

Wheel Bearing Locknut Sockets (8 pt.)

62909 - Display board only.

No.	Qty.	Description
1903	1	Locknut socket (2-3/8")
1905	1	Locknut socket (2-9/16")
1907	1	Locknut socket (3")
1909	1	Locknut socket (3-1/4")
1911	1	Locknut socket (3-1/2")
1913	1	Locknut socket (3-7/8")
1917	1	Locknut socket (4-3/8")
1919	1	Locknut socket (4-7/8")
1924	1	Locknut socket (3-3/8")
1925	1	Locknut socket (3-3/4")
1927	1	Locknut socket (3-13/16")
1925	1	Locknut socket (2-5/8")
1927	1	Locknut socket (3-13/16")
1929	1	Locknut socket (2-5/8")



No.	Qty.	Description
1930	1	Locknut socket (2-7/8")
1931	1	Locknut socket (3-5/8")
1933	1	Locknut socket (2-7/8")
1935	1	Locknut socket (3-1/8")
1937	1	Locknut socket (2-3/4")
1938	1	Locknut socket (4-1/2")

#### 9852

#### Wheel Bearing Locknut Sockets

• A selection of popular sizes in 6- or 8-point.

62910 - Display board only.

Qty.	Description
1	Locknut socket (2-9/16" hex)
1	Locknut socket (3-1/4" hex)
1	Locknut socket (3-1/4" 8 pt.)
1	Locknut socket (3-1/2" hex)
1	Locknut socket (3-7/8" 8 pt.)
1	Locknut socket (4" hex)
1	Locknut socket (4-1/8" hex)
1	Locknut socket (2-1/2" hex)
1	Locknut socket (2-5/8" hex)
	1 1 1 1 1 1 1 1



No.	Qty.	Description
1923	1	Locknut socket (2-3/4" hex)
1928	1	Locknut socket (2-9/16" hex rounded)
1932 1		Locknut socket (2-7/8" hex)

#### 9814

#### **Truck Pinion Sockets**

We've designed and built these sockets to have the correct clearance for yoke and locknut assemblies on a variety of truck transmissions and differentials. The sockets have 3" of usable depth and are 4" long. Using the right tools saves time and effort, eliminating the need to destroy standard sockets by grinding them down to fit tight pinion clearances. No. 1981\* – Socket only, not included in set.

62911 - Tool Board only.

Socket No.	Opening Size
1975	2" (6 pt.)
1976	2-1/8" (6 pt.)
1977	2-1/4" (6 pt.)
1978	2-3/8" (6 pt.)
1979	2-5/8" (6 pt.)

ocket No.	Opening Size				
1980	2-3/4" (6 pt.)				
1981*	2-1/2" (6 pt.)				
DTE: Use sockets with 3/4"					

NOTE: Use sockets with 3/4" square-drive, manually powered handles only. Warranty void if tool is subjected to impact wrench use.





#### Budd Wheel Sockets

- Metric sizes for Isuzu, Hino, Mitsubishi Fuso, and import trucks; fit front and rear axle wheels.
- 1-1/2" hex Budd wheel socket for American-made trucks with dual rear wheels.

These sockets work on the import truck Budd wheels. Their extra deep design lets you remove both nut and stud with just the one socket. Usable with a 1" square drive impact wrench.

1944 - Consists of 1945A, 1946A, 1947A, 1948A, and 1949A, in a blow molded organizer case.

1945A - 35 mm hex socket with 17 mm sq.

- 1946A 38 mm hex socket with 20 mm sq.
- 1947A 41 mm hex socket with 21 mm sq.

1948A – 33 mm hex Budd wheel socket. For Mack Midliners, White Volvo, and other import trucks w/dual rear wheels.

1949A – 1-1/2" hex Budd with 13/16" square wheel socket. For American-made trucks with dual rear wheels.





#### Tubular

Spanner WrenchesSix-lug, spanner-type

wrenches remove and install rear wheel bearing locknuts. They're built for use with a 3/4" square-drive ratchet or breaker bar.

1929 – Wrench for servicing Chevrolet and GMC 5,200 and 7,200 lb. axles. Socket O.D. is 2-5/8".

1930 – Wrench for servicing Chevrolet and GMC

11,000 to 13,500 lb. axles. Socket O.D. is 2-7/8".

**1931** – Wrench for servicing Chevrolet and GMC 15,000 lb. axles; 17,000 lb. 2-spd. axles; 15,000 lb. trailing axles. Socket O.D. is 3-5/8".





Steering / Suspension Tools



#### Kingpin & Brake Anchor Pin Pusher

With this pin remover, hydraulic force and precision tooling replace torch-and-hammer methods for getting the job done quickly and easily. Five special collars and two pins allow this unit to work on both straight and tapered kingpins and accommodates sizes from 7/8" to 2" in diameter and up to 11-1/4" long. The tool delivers 30 tons of hydraulic force to push out even the most corroded kingpins. A job that could consume the better part of a day is done in minutes. The anchor pin can be removed quickly by using the special adapter installed in the pusher's base block and the unit positioned over the brake's spider.

- · Works on many models of trucks and buses.
- 27-1/2" high x 8-1/2" wide.
- · 30-ton capacity.
- Set includes No. 4002 hydraulic hand pump, No. 9767 hose, No. 9798 hose-half coupler, No. 4121 Power Twin 30-ton ram, and No. 29424 anchor pin adapter.
- 4240 Complete kingpin and anchor pin pusher set with hydraulics.
- 4241 King- and anchor-pin pusher with anchor pin adapter without hydraulics.

29424 – Anchor pin adapter only.

#### 5053

#### Mack Kingpin Socket

Here is a socket that makes life a little easier for anyone who works on Mack trucks. Designed for 1/2" square drive ratchet or

breaker bar, the socket fits the slotted adjusting screw in tapered kingpins used on most Mack front axles (12,000 to 20,000 lbs.).

• Socket O.D. 1.8"

# 6065

#### Tie Rod Socket for Medium-Duty Trucks

- Services GM-, Ford-, and Chrysler-built 1-ton 2WD and 4WD trucks.
- Also works on medium-duty Class 2 through Class 6 trucks.
- Use with a 1/2" drive impact wrench to easily remove the tie rod ends from the tie rod.
- Socket I.D. 2-1/8"

#### 5068

#### Truck Tie Rod Socket Designed to withstand the

force of a 3/4" drive impact wrench, this rugged socket makes truck tie-rod end removal quick and simple.

Works on inner and outer tie rod ends on 12,000 to 16,000 lb. truck axles.
Socket I.D. 2-3/4"

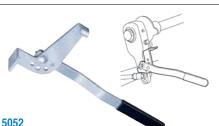




#### 7071 Differential Housing Spreader

Removing and installing differential ring gear assemblies is typically a difficult, time-consuming chore – that is, unless you're using this differential housing spreader. This device uses mechanical screw power to spread the housing. Allowing easy removal of the differential assembly while eliminating damage often caused by makeshift methods.

· Works on Dana axle models 30 through 70.



# Slack Check

This tool enables you to quickly check the brake adjustment on class 7 and 8 trucks and trailers having S-cam brakes. It features a sturdy, four-position handle to provide the leverage you need at the proper angle. • Works on manual or automatic slack adjusters.



#### Heavy-Duty Power Steering Pump Analyzer

- There is only one way to troubleshoot problem components in a heavy-duty power steering system: a flow and pressure reading meter. OTC's new No. 5079 measures both: 1 to 10 gallons oil flow and up to 3,000 psi of pressure.
- When connected in line, this universal analyzer will isolate the failed components in just minutes. There is no wasted time as in trial and error methods.
- The set is complete with high pressure hoses, 9/16"-18 standard fittings, and quick disconnect couplers to handle Eaton/Vickers, TRW, Ross, and Shepard power steering systems.



#### Wheel Stud Service Kit

- Works on most hubs for installation and removal.
   All sizes of studs.
- Installation done by pushing on the head, eliminating the need for threaded adapters.
  - Reduces number of adapters required
  - Reduces damage to studs
- Increases ease of use
- Remove and install 10 studs in only 10-15 minutes (compare to 20-30 minutes for more expensive competitive products).
- Can be powered with an impact wrench, no hydraulic power source required.
- · No need to remove hub from vehicle.
- Reduces risk of damage to hubs, studs, and bearings when using tool.
- Weighs only 12 lbs., assembled to remove studs and 14 lbs., assembled to install studs.



**160** Heavy Duty Tools & Equipment

#### Heavy Duty Tools & Equipment Brake Tools



#### 7180

#### **Universal Bearing Cup Installer**

This handy, adjustable tool is designed to install wheelbearing cups in a wide range of heavy-duty axles. Simply adjust and lock the jaws to the cup I.D., slip on the new cup, set it in the bore, and drive it in with a hammer. The tool helps eliminate the damage caused by makeshift methods.

- ${\boldsymbol \cdot}$  Works on axles from 11,000 to 50,000 lb. capacity.
- Adjusts to fit 3-5/8" to 6-1/2" O.D. bearing cups, which adds up to as many as 30 individual drivers.

52038 - Replacement jaw.

207561 - Replacement retaining spring.



#### 5038

#### Brake Anchor Pin and Bushing Service Set

With the No. 5038, there's no need to remove the bearing hub assembly just to replace the pins and bushings on

16-1/2" S-cam trailer and tractor "Q" brake systems. Much less complicated and time consuming!

- Special tooling and our C-frame press get you past the hub assembly, so you can do the job quickly and professionally without damaging other parts.
- Includes everything needed for removal and replacement.





#### 5081

#### S-Cam Air Brake Spring Tool

- Eliminate makeshift, unsafe methods of unhooking and reconnecting retaining springs when replacing brake shoes on heavy-duty tractors and trailers.
- Simply hook the retaining spring loop and press down. Lever action against the axle makes the job a snap!
- 314548 Replacement hook kit.



# 5080

# Truck Front Leaf Spring, Pin, and Bushing Service Set

- Delivers 10 tons of hydraulic force to remove and install truck front spring eye bushing assemblies quickly and easily.
- Services bushings with diameters from 1-1/4" through 1-7/8", and pin diameters from 7/8" through 1-1/8". Handles all popular OE and aftermarket components, including Horton pin and bushing assemblies.
- Service bushing assemblies, in many cases, without removing leaf spring hangers and spring assemblies from the vehicle.
- All accessories are included except the hydraulic hand pump and hydraulic hose which must be purchased separately.





#### Hub Oil Seal Puller

- Eliminates bearing and hub damage that can occur when a punch and hammer is used to remove the seal.
- Extra long 28" handle provides leverage, unique pulling head design quickly and easily removes the seal in one piece.
- Built from the highest quality heat-treated steel.
  Removes hub seals on trailer and truck axles,
- including truck steering axles.

#### Slack Adjuster Pullers

These pullers will yank even the most corroded slack adjuster off the S-cam— and do so in just a fraction of the time needed with "heat and beat" methods. Plus, they won't damage components. Both pullers have a rugged forcing screw and cast steel body. Puller No. 5055 fits many manual types, and the No. 5056 works on Rockwell, Haldex, Gunite, and Bendix automatic adjusters.

- 5055 Manual slack adjuster puller.
- 5056 Automatic slack adjuster puller.





#### Air Brake Service Kit

This kit has the tools needed to remove slack adjusters and push-rod clevis pins used in the S-cam brake systems of class 7 and 8 vehicles.

- Works on manual or automatic slack adjusters.
- Includes Nos. 5055 and 5056 slack adjuster pullers, 5057 brake clevis pin press, and a plastic storage case.



#### **Clevis Pin Press**

5057

Removing corroded clevis pins from a brake airchamber push rod can be a maddening and timeconsuming task— unless you're using our clevis pin press. This handy screw-operated tool applies the force just where it's needed. The pin is easily removed from its hole without damaging nearby components.



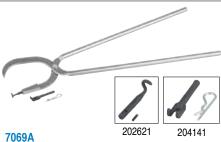
Now you can easily remove the tapered cone from studs used on the rear axles of medium and heavyduty trucks. This specially designed tool gives you the leverage needed to expand the cone and remove it from the stud for axle removal.



Brake / Transmission Tools



- return springs on medium-duty and heavy-duty drum brakes.
- 4592-1 Replacement tip.



#### Heavy-Duty Brake Spring Pliers

Save time and effort when removing and installing return springs on the brake shoes of heavy-duty vehicles. This specially designed pliers works for hydraulic wedge-type and "S" cam air brakes. Its 26-1/4" length gives you the leverage to do the job more easily, and the huge jaw opening accommodates even the widest brake shoes.

202621 - Wedge-type replacement tip.

204141 - "S" cam replacement tip.



#### Positioned for main shaft timing.

These sets enable one-man installation of front and rear countershaft bearings on Fuller twin-countershaft transmissions. The set positions the upper countershaft, yet lets you slide it aside to insert the main shaft. When the main shaft is in place and timing marks line up, turn the tool vertically to engage and position the countershaft to main shaft.

7108 - Timing block set for Fuller RTO 610/613 transmissions.

7109 - Timing block set for Fuller RT and RTO 910, 915, 9513, 12509, 12510, 12513, and 12515 transmissions.

#### 5063 **Timing Tool**

Transmission

**Timing Block Sets** 

 Designed to support the main-case upper countershaft during transmission assembly and timing.



· Works on Eaton® Fuller® 2 Series Roadranger® transmissions.

#### Truck Transmission Bearing Service Set

The set is designed to help you remove input shaft bearings and countershaft bearings, in both the main and auxiliary boxes of heavy-duty Fuller transmissions. It will also remove end yokes from 1600/1610-1810 series transmissions. The puller delivers 10 tons of mechanical power-essential force for working on big gearboxes.

· Works on Fuller twin-countershaft transmissions: 125, 600, 660, 900, 9500, 1100, 12500, 12600, 13000, 14600, 15600, and 8600 series, 910-913, 915, and 9513.

7070A - Truck transmission bearing service set.

7075 - Transmission output shaft end yoke remover only. 7207 - Collet only.



#### 7462 **Hydraulic Brake** Spring Tool

Here's a tool to remove and install the return springs in Lucas Girling hydraulic brake systems. The tool's machined tip cradles the return spring securely, and its sliding fulcrum gives you all the leverage needed to do the job. A knurled handle helps prevent slipping.

Works on 1984 to current Ford F600. F700, and F800 series having Lucas Girling hydraulic brakes.



#### 5072

#### Lucas Rear Brake Adjusting Tool

If you're working on a lot of medium-duty hydraulic brake systems, you need our adjusting tool. It enables you to easily adjust Lucas Girling hydraulic brake systems (popular in Ford F700, F800, and F900 series). The tool's offset design and extra handle length get the job done guickly.



#### 205776

#### **Bearing Puller Set**

This puller set, designed for use with our No. 7070A transmission service set (sold separately), is designed to remove front countershaft and input shaft bearings on Fuller RT, RTO 610/613 twin countershaft transmissions.



#### **Bearing Puller Set**

When teamed with our No. 7070A puller, this puller set will remove front and rear countershaft bearings from the main case of Eaton® Fuller® 2 Series Roadranger® transmissions.

· Includes pulling collet, sleeve, and a pair of puller legs.



5064 **Countershaft Pushing Tool** Replacing rear countershaft bearing snap rings in Eaton Fuller transmissions. With this tool, you can easily move the countershaft rearward to expose the snap ring.

· Works on Eaton® Fuller® Roadranger® transmissions (series 2, 5, 6, and 7).



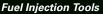
#### **Countershaft Bearing Driver**

- · Eases the task of installing a main-case countershaft bearing.
- Works on Eaton<sup>®</sup> Fuller<sup>®</sup> 2 Series Roadranger<sup>®</sup> transmissions.



This tool is designed to install the bearing on 2" diameter input shafts used in Eaton® Fuller® Roadranger® transmissions.







# 1982M

#### 70 mm Hex Socket

Attach this heavy-duty socket to your 3/4" drive ratchet or breaker bar, and you'll be able to easily remove the end-yoke locknut on Eaton® Fuller® 2 Series Roadranger® transmissions.



#### Cummins® Injector **Remover/Installer**

This is our best tool for removing or installing fuel injectors on Cummins L10 and N14 Celect electronically controlled engines. The large slide hammer and pin-type pulling adapter easily- and safely-handle injector jobs.

- · Includes storage case.
- · Two installing adapters help prevent damage to an injector's electronic solenoid.



#### 7455

#### Mack Fuel Injector Nozzle Tool

Here's a handy tool for removing or installing injector nozzles on Mack E-6 4 VH and E-9 4 VH four-valve engines. The puller threads directly into the nozzle holder, and mechanical screw power does the pulling while a cylindrical guide holds the injector steady.

· Includes gauge to ensure correct injector depth during installation.



#### Cummins<sup>®</sup> Fuel Injector Puller Adapter

When combined with our No. 5028 injector puller or a slide hammer with a 1/2"-20 threaded shaft, this adapter gives you an easy, damage-free way to remove fuel injectors from Cummins B and C series engines.

217793 - Cummins fuel injector puller adapter for B and C series engines with 12 mm x 1.5 injector threads.

215844 - Cummins fuel injector puller adapter for B and C series engines with 14 mm x 1.5 injector threads.



#### **Cummins® Injector Puller**

This helpful puller will handle a variety of injectors found in Cummins engines: mechanical L-10, PDT, and PTD top-stop 855NH. Its two-jaw design firmly grips the injector while it is being removed by the slide hammer.

· Includes storage case and special adapter for pulling STC injectors.



#### 5062 Auxiliary

#### **Countershaft Shim Tool**

When you're working on Eaton® Fuller® 2 Series Roadranger® transmissions, this tool holds the auxiliary countershaft in place while you set the bearing end play.

· Includes a support strap for .100 and .125 shim settings, and metric and standard mounting bolts.



#### **Caterpillar Fuel Injector Nozzle Puller**

We've designed this nozzle puller to remove pencil nozzles on Cat engines. The tool applies straight, even pulling power through a bridge assembly and mechanical forcing screw. The job is done quicklyand without damage.

· Works on Caterpillar 1100/3208 diesel engines.



#### **Fuel Injector Nozzle Puller**

We've designed this puller to remove the pencil-type fuel injector nozzles used in many agricultural and construction engines. The slide hammer action gives a straight, even pull without damaging components.

· Works on Case, Caterpillar, GM, John Deere, Waukesha, and White diesel engines.



the No. 5028 slide-hammer puller, this adapter removes injectors from Ford 6.6L and 7.8L diesel engines without damage.

7458 Bosch Nozzle Socket

218163

- Slide-hammer threads are 1/2" x 20. Threaded end
- for injector is 14 mm x 1.5.



**Injector Sleeve Set** 

Here are the ideal tools for removing and installing the injector sleeves of International DT466 engines. The removing tool threads onto a slide hammer with 5/8" - 18 threads to remove sleeves quickly. The installer seats new sleeves equally fast, without damage.

Similar to Ford 303-230 (T83T-9396-A)



#### **Diesel Fuel** Line Wrenches

Fuel line nuts are often hard to reach, but these unique 3/8" square-drive tools solve that problem. With them, you can loosen or tighten fuel lines at the fuel injector nozzle or fuel injection pump without damaging the nut.

7453A - Fuel line wrench, 2.6" long. For International DT466 and 9L diesel engines. Fits 19 mm fuel line nuts

7460 - Fuel line wrench, 2.6" long. For International 6.9L and 7.3L diesel engines. Fits 5/8" hex nut.





Nozzle Testers

#### 4201

#### **Nozzle-Tester Adapter Set**

This is our universal adapter set for testing injection nozzles on the most popular automotive, agricultural, and construction diesel engines. The set has 17 adapters that connect to our No. 4200 Nozlrater testing unit.

- Includes handy metal storage box.
- 23622- used on 1989-95 Cummins 5.9L, 1983-94 Ford 6.9L and 7.3L.
- 23623 used on 1996–2000 Cummins 5.9L and Navistar 6.6L and 7.8L.



	,				-		<u> </u>		· · · · · · · · · · · · · · · · · · ·	r			1	,
Adapter No.	Description	I.H. Truck	I.H. Farm Construction	John Deere	Oliver & Allis	Waukesha	Case, Ford Tractor, Massey, & Perkins	White	Mack	Caterpillar Pencil Nozzles	Deutz	GM Autos	VW, Audi, & Mercedes Autos	Mercedes & Magaris Truck
36352	Fuel line assembly, 9/16"-18 R.H. thd. with 24° on pipe.	•	•	•	•	•	•	•	•	•	•	•	•	•
23622	Adapter nut, 12 X 1.5 mm internal R.H. thd. to 1/2"-20 internal L.H. thd.	•		•	•	•	•	•			•	•	•	
23623	Adapter nut, 14 X 1.5 mm internal R.H. thd. to 1/2"-20 internal L.H. thd.	•	•	•	•	•	•		•		•			•
23624	Adapter nut, 18 X 1.5 mm internal R.H. thd. to 1/2"-20 internal L.H. thd.		•		•	•	•							
201917	Adapter nut, 9/16"-18 internal R.H. thd. to 1/2"-20 internal L.H. thd.	•	•	•	•	•	•	•				•		
23626	Adapter nut, 5/8"–18 internal R.H. thd. to 1/2"–20 internal L.H. thd.	•	•		•	•	•							
201912	Adapter nut, 3/4"–16 internal R.H. thd. to 1/2"–20 internal					•								
201913	Adapter nut, 9/16"–24 internal R.H. thd. to 1/2"–20 internal L.H. thd.	•	•											
23693	Straight adapter, 1/2"–20 external L.H. thd. (Ermeto 24° & 90° seat) to 9/16"–18 external R.H. thd. (E201917°).	•	•	•	•	•	•	•				•		
23692	Straight adapter, 3/8"–24 external R.H. thd. to 9/16"–18 external R.H. thd. (internal Ermeto 24°).	•	•											
23617	90° adapter, 9/16"–18 external R.H. thd. (Ermeto 24°) to 9/16"–18 internal R.H. thd. (Ermeto 24°).	•	•	•	•		•		•		•	•	•	•
23621	Straight adapter, 9/16"-18 external R.H. thd. (Ermeto 24°) to 1/2"-20 external L.H. thd. (60° seat).	•	•	•			•	•	•		•	•	•	•
208370	Banjo adapter, 9/16"-18 external R.H. thd. (24° seat).		•	•										
201916	Adapter, 9/16"-18 external R.H. thd. to 9/16"-18 internal R.H. thd. ferrule.			•										
208369	90° adapter, 9/16"-18 external R.H. thd. to 9/16"-18 internal R.H. thd.	•												
38279	Straight adapter, 14 X 1.5 mm external R.H. thd. (Ermeto 60°) to 9/16"-18 external R.H. thd. (internal Ermeto 24°).			•										
43468	Straight adapter, 1/2"–20 external R.H. thd. (Ermeto 24°) to 9/16"–18 external R.H. thd. (internal Ermeto 24°).							•						
Additional Acc	cessories Available (not included in 4201 Set)													
44026	Straight adapter, 9/16"–18" R.H. thd. (Ermeto 24°) to Caterpillar 1100 & 3200 series pencil nozzle.									•				
201920	Adapter nut, 14 X 1.5 mm external thd. to o"-18 internal R.H. thread	Connec	ts OTC 4	200 Nozli	rater to o	ther fittin	gs used ir	n the ind	ustry.					

Nozzle Testers

#### Nozzle Tester Manifold/Adapter Sets

These adapter sets expand our No. 4200 Nozlrater to troubleshoot a wide range of diesel engine injector nozzles.

**4202** – Adapters for servicing Audi, GM, Mercedes- Benz, Nissan/Datsun, Toyota, and VW Rabbit diesel engines. **4203** – Manifold/adapter set. Tests Caterpillar high- and low-pressure, capsule-type nozzles, and high-pressure, pencil-type nozzles on 1100 and 3200 series engines. Complete with Nos. 39870 and 206168 adapters, low-pressure gauge (up to 1,000 PSI), cap plug and mounting brackets.



#### No. 4202 set includes:

Adapter No.	Description	Chevy Chevette & GM 1980 and newer C.A.V. nozzles	GM 1979 & newer pencil nozzles	GM 1978 pencil nozzles	Nissan, Toyota, and VW Rabbit Diesels	Audi & Mercedes-Benz
36352	Fuel line assy., 9/16"-18 R.H. thd. with 24° on pipe.	•	•	•	•	•
23617	90° adapter, 9/16"-18 external R.H. thd. (Ermeto 24°) to 9/16"-18 internal R.H. thd. (Ermeto 24°).	•	•	•	٠	•
23621	Straight adapter, 9/16"-18 external R.H. thd. (Ermeto 24°) to 1/2"-20 external L.H. thd. (60° seat).	•	•		•	•
23622	Adapter nut, 12 X 1.5 mm internal R.H. thd. to 1/2"-20 internal L.H. thd.	•			٠	•
201917	Adapter nut, 9/16"-18 internal R.H. thd. to 1/2"-20 internal L.H. thd.		•	•		
23693	Straight adapter, 1/2"-20 external L.H. thd. (Ermeto 24° & 90° seat) to 9/16"-18 external R.H. thd. (Ermeto 24°).			•		

#### 4200

#### Nozlrater Diesel Injector Nozzle Tester

Here is the ultimate tool for diagnosing a number of problems that affect diesel fuel injector nozzles. The Nozlrater tester enables you to check for leakage, pop-off pressure, spray pattern, and chatter. This tool will accommodate a wide range of injectors. We also offer adapters so you can troubleshoot nozzles used in popular automotive, agricultural, and construction engines. Nozlrater features a rugged, lightweight reservoir that holds 7/10 of a gallon of fuel. It is equipped with a replaceable 2-micron filter. The large, dual-scale, high-pressure gauge is protected by a guard and includes an indicator needle to record maximum pressure reached. The tester is light enough to be easily carried for field use. Or you can bench-mount it, using the holes in its base.

· Not designed for Cummins or Detroit injectors.

#### 17169 - Replacement filter.

#### 11565 - Gauge.



Specifications	
Overall width	5-3/4"
Overall length (includes handle)	26"
Overall height	11-1/4"
Weight (empty)	15 lbs., 10 oz.
Max. pressure	5000 PSI (350 bar)
Max. reservoir cap.	.692 gal. of diesel fuel (160 cu. in.)
Usable reservoir cap.	.628 gal. of diesel fuel (145 cu. in.)
Outlet port	For 3/8" tube
Gauge	Calibrated 0–5000 PSI (350 bar) Has 3-1/2" dial face with maximum reading indicator needle.
Gauge connection	1/4" NPT internal
Stroke of 1/2" dia. piston	3/4"
Volume per full stroke	.147 cu. in. (2.4 cc)
Intake filter	2 micron

#### 208629 Calibration Fluid

# • For use in diesel injection pump testers and injector nozzle testers.

1 gallon



#### Davco Diesel Filter Wrenches

- Found on Catepillar, Cummins, Detroit Diesel, International, Mack, Mercedes-Benz, Volvo and other engines.
- · Durable, stainless steel construction.
- Precise, laser-cut angles.
- Opens vent cap also.
- Soft, ergonomic handle.
- 6914 Fits Davco Diesel filter models, 232-233-234.
- 6915 Fits Davco Fuel filters 382 & 384.



#### **Duramax Water Sensor Wrench**

- Used to remove and install the water sensor on the fuel filter.
- Works on 2001 and Newer 6.6L Duramax Diesel found in Chevrolet and GMC Trucks and Vans.
- 3/8" square drive hole.

165

**Oil Filter Crushers / Fluid Receivers** 



#### 10-Ton Capacity, Air-operated Automotive Oil Filter Crusher

- · Crushes up to four automotive filters (3-7/8" dia. x 9" high) at one time, in approximately 20 seconds. Engineered and built for dependable operation. Covered by OTC Lifetime Marathon Warranty<sup>®</sup>.
- 100% air operation eliminates electrical connections. Generous size of crushing chamber easily accommodates the largest automotive spin-on filters.
- Includes mounting stand. No wall mounting or time consuming installation required.



#### 1877 25-Ton Capacity Heavy-Duty Oil Filter Crusher

- · Handles the big filters (up to 6" dia. and 12-1/2" long) found in trucks, construction equipment, farm implements, etc. May also be used for automotive and light truck filters. It does it all!
- Crushes filters to 1/4 of original size, removing up to 95% of filter's oil capacity. Automatic cycle feature: load the filter, push a button, and walk away.
- Air/hydraulic pump works on standard shop air (requires 9 CFM at 100 psi). Special valving returns ram automatically at the end of each cycle. No electrical connections needed.
- · Built-in floor stand (completely assembled). Whole unit requires just 5 square feet of floor space.
- Covered by OTC Lifetime Marathon Warranty®.



#### 1896 25-Ton Capacity High-Speed Heavy-Duty/Automotive Oil Filter Crusher

- Automotive and heavy-duty filters up to 15-1/4" long and 6" diameter are crushed in approximately 8 to 16 seconds. Filters are reduced to 20% of original size, with 95% of residual oil removed.
- · Automatic cycle feature lets you load the filter, push a button, and walk away.
- Powered by 2 hp electric/hydraulic pump, 230 volt, 20 amp, 60 cycle, single phase, 3,450 rpm. Has a 2-gallon reservoir.
- Built-in, heavy-duty floor stand with leveling pads is designed to accept a 30-gallon drum for oil drainage. Comes assembled. Covered by OTC Lifetime Marathon Warranty®.

	Oil Filter Crusher Comparison Chart										
No.	Tonnage	Pump	Crushing Time	% Oil Removed	Filter Size	Stand Dimensions	Note: Crushing times are				
1821	10-ton	Air	20 Seconds	95%	Chamber: 8" x 8" x 9" H.	18-1/2" W x 24" D x 63-1/2" H	approximate; crushing times may vary depending on air				
1877	25-ton	Air/Hyd.	80 Seconds	95%	6" Dia 12-1/2" Long	18-1/2" W x 30" D x 74-1/2" H	pressure available, size of				
1896	25-ton	Elec./Hyd.	16 Seconds	95%	6" Dia 15-1/4" Long	27" W x 30" D x 78" H	filter, type of filter, etc.				

#### **Transfer Tankers**

- · Draining oil from a large displacement engine and getting it to your bulk storage container is a snap with OTC's Transfer Tankers.
- Used oil is collected in a reservoir, and then rolls smoothly on 4" free-wheeling casters to your storage location.
- · Pump moves five gallons a minute through the 8-foot transfer hose to the a 15-gallon reservoir.
- · Handle is removable for easy storage.
- · Screen attached to reservoir allows assembly to be stored on its side.
- · Can also be used for transferring antifreeze.

5077 - Low profile Transfer Tanker is only 7-1/2" from floor to top of reservoir. Comes equipped with an electric pump (No. 528093).

5097 - Low profile Transfer Tanker is only 7-1/2" from floor to top of reservoir. Comes equipped with a pneumatic pump (No. 529966).





#### Low Profile Fluid Receiver

- · Designed for receiving waste fluid during
- a wide range of repair jobs.
- · Fluid capacity: 7.5 gallons.
- · Constructed of polyethylene plastic for heavy-duty use-yet, only weighs 13 pounds.
- · Low profile, only 5" high, it easily slides under passenger cars.
- · Designed with four casters to provide efficient maneuverability.
- · Suitable for cooling system repair jobs-can be used for antifreeze.
- · Includes splash screen to prevent spillage and splashing.
- Two-year warranty.

Bushing Service

#### 1740

#### **Basic Tooling Set**

This is the basic tooling set for servicing center and end beam bushings. It does not include the hydraulic pump or gauge. If you are already equipped with hydraulics, you can be replacing bushings right away! (Does not include tooling for hanger tube or end plug adapter removal.)

#### For 340 thru 450 Series Hendrickson Suspensions

Item	No	Description	Item	No	Description
A	44119	Receiving tube	N	302028	Hex nut
В	51678	80-ton cylinder	0	302029	Speed nut
С	51695	Jack cart	Р	302030	Removing adapter
D	206457	Press adapter	Q	302031	Installing adapter
Е	206459	Clamp plate	R	302032	Removing adapter
F	9780	Hydraulic hose	S	302401	Spacer ring (3)
G	302018	Spacer (2)	Т	42052	Inst. adapter clamp
Н	302019	Receiving adapter		(	1 the second
J	302021	Receiving adapter		- E	) total of the second
К	302023	Pulling screw			
L	302026	Installing adapter	J.		
М	302027	Removing adapter		3	Our ch
			1740 to	oling setup	for end bushing insta



#### Hendrickson Service Sets with Hydraulics

#### For 340 – 450 series Hendrickson suspensions

#### 1742

#### Basic Tooling Set with hydraulics (Hydraulic pump 4031)

The preferred method for servicing center and end beam bushings. You get the complete No. 1740 basic set, plus OTC's No. 4031 two-stage electric/hydraulic pump with remote hand switch, a No. 9654 pressure gauge, hose half coupler, and 80-ton single-acting ram. (Tooling for hanger tube or end plug adapter removal not included.)

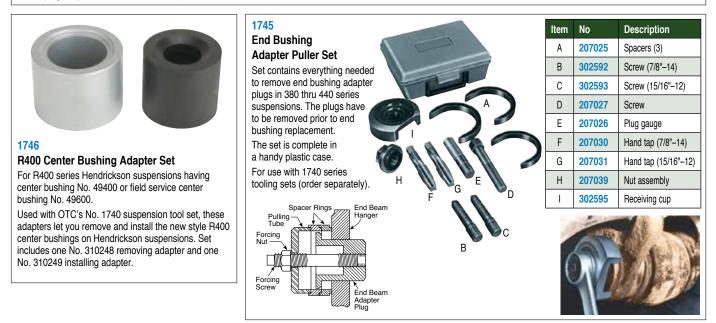
#### 1741

#### Basic Tooling Set with hydraulics (Hydraulic pump 4062)

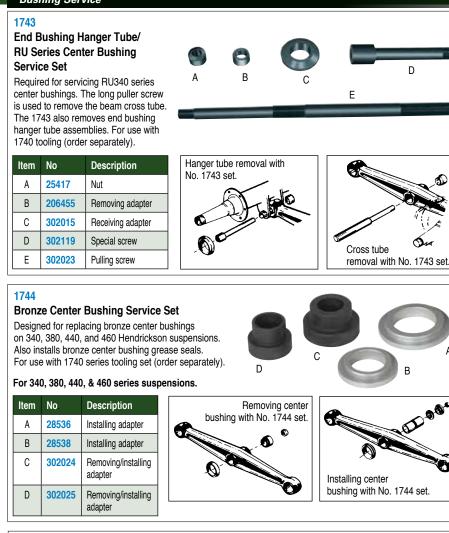
The method Hendrickson recommends for suspension service. You get the No. 1740 basic set, plus OTC's No. 4062 two-stage electric/hydraulic pump with remote hand switch, a No. 9653 pressure gauge, hose half coupler, and 80-ton single-acting ram. (Tooling for hanger tube or end plug adapter removal not included.)







**Bushing Service** 



#### 1763

#### Center and End Bushing Service Set

This set is required for bushing service on 500 and 700 series heavy-duty suspensions. It is intended for use with a 100-ton capacity shop press. It allows replacement of center and end bushings.

For 500 & 700 series suspensions. Use with a shop press.

Item	No	Description	Item	No	Description	
A	208350	Adapter	С	28541	Adapter	
В	208349	Adapter clamp				

#### 1764

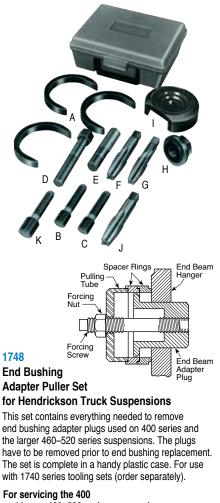
#### Center and End Bushing Tool Set

This set is the answer for replacing center and end bushings on Hendrickson 340 and 380/440 series suspensions. The 1764 is for use with a 100-ton or larger hydraulic press. The press plate sits on the press bolster to provide a level, cradle-like surface for the beam to rest on during pressing.



#### For 340 and 380/440 series suspensions. Use with a shop press.

lt	em	No	Description	Item	No	Description	Item	No	Description
	A	51100	Press plate	D	302030	Removing adapter	G	206457	Press adapter
	В	302032	Removing adapter	E	42052	Inst. adapter clamp	Н	302027	Removing adapter
	С	302031	Installing adapter	F	206459	Clamp plate	Ι	302026	Installing adapter



This set contains everything needed to remove end bushing adapter plugs used on 400 series and the larger 460-520 series suspensions. The plugs have to be removed prior to end bushing replacement. The set is complete in a handy plastic case. For use with 1740 series tooling sets (order separately).

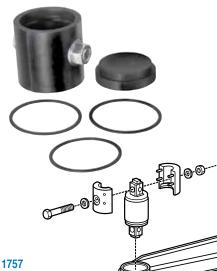
#### For servicing the 400 and larger 460-520 series suspensions.

ltem	No	Description
А	207025	Spacers (3)
В	302592	Screw (7/8"-14)
С	302593	Screw (15/16"-12)
D	207027	Screw
Е	207026	Plug gauge
F	207030	Hand tap (7/8"-14)
G	207031	Hand tap (15/16"-12)
Н	207039	Nut assembly
Ι	302595	Receiving cup
J	*221378	Hand tap (M30 x 2)
K	*313342	Screw (M30 x 2)

For use on 460-520 series adapter plugs (can be purchased separately and used with set No. 1745).



**Bushing Service** 



#### Hendrickson Bar Pin Adapter Set

Servicing bar pin end bushings used on Hendrickson equalizing beam tandem truck suspensions requires the use of special tooling. OTC's No. 1757 adapter set is used with the beam removed from the truck, and in conjunction with OTC No. 51100 press plate and a 100-ton hydraulic shop press.

The 1757 set, which replaces the No. 1747 set, includes an adapter for installing bushings in older forged beams as well as the fabricated beams introduced in 1999.

To remove bushings, use OTC's previously introduced No. 302030 removing adapter and No. 206457 press adapter, both of which may be ordered separately. Reinstall bushings following procedures recommended by the suspension manufacturer.

#### 1767

1768

#### Hendrickson Primaax **Quick Alignment Socket**

- Hendrickson Approved tool.
- · Used to adjust axle alignment on the Primaax air suspension.
- · Works on Primaax models 230, 460, and 690 rear suspensions.



#### Hendrickson PRIMAAX® **Quick Wrench**

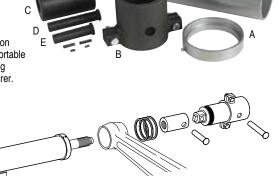
- · Hendrickson Approved tool.
- · Used to torque cross tube end cap bolts and longitudinal torque rod top pad bolts.
- · Reduces maintenance time by eliminating the need to remove the tires to gain access to the end cap bolt.
- · Use with the following Hendrickson PRIMAAX suspensions:
  - Type A PAX 230/460/690 and FMX 240/480 with 8-1/2" ride height
  - Type B PAX 230/460/690 with 10" ride h eight.

# 1749

#### **Hendrickson Suspension** Bar Pin End Bushing Adapter Set

Extend your No. 1741 and No. 1742 bushing service equipment sets. You can now remove and install worn end bushings on the Hendrickson new style bar pin end bushings without removing the equalizing beam from the vehicle. The No. 1749 works in conjunction with OTC's No. 1741 and No. 1742 80-ton portable service equipment to do the job quickly, using procedures recommended by the manufacturer.

Item	No	Description
А	314557	Receiving tube
В	49050	Installer
С	314556	Receiving adapter
D	314558	Pin
Е	314559	Pin







4245

#### Freightliner Rear Suspension Tool

- · Removes single-wrapped FAS II Airliner Freightliner Rear Suspension bushings in a fraction of the time of traditional methods.
- · Also can handle Neway AD Series Truck and Tractor suspension bushings.
- · Saves on average 45 minutes per bushing (4 per vehicle) on flat rate of 1.5 hours per bushing.
- 15 ton Capacity cylinder
- 4244 Freightliner Rear Suspension Tool.

4245 - Freightliner Rear Suspension Tool - Master Kit includes 2510A Air/Hydraulic Pump.

#### Hydraulic Flow Testers

50 and 75 GPM hydraulic oil flow testers accurately measure oil flow, temperature, and pressures against manufacturers' specifications. Troubleshoot hydraulic circuits and isolate faulty components on mobile equipment, machine tools, fork lifts, agricultural and industrial tractors, and equipment (open or closed) hydraulic systems with capabilities up to 75 GPM at pressures to 5,000 PSI. Models include features such as an automatic pressure compensating load valve that lets you increase flow without affecting the pressure settings. Temperature flow and RPM readings are displayed in metric or English, and accurate to within plus or minus 2% of full scale. Each tester is protected by a safety disc, which ruptures automatically if pressures exceed the upper limits.

4221 - 75 GPM hydraulic circuit tester.

Comes with two pressure gauges and three 9-volt batteries.

4235 - 50 GPM hydraulic circuit tester with single liquid-filled pressure gauge. Includes two adapter unions for 3/4" NPTF fittings.



4235



Power Train Lifts / Transmission Jacks

#### Power Train Lifts

- · These lifts will handle engine and transmission assemblies, gas tanks, drive axle assemblies, engine/transaxle assemblies, electric vehicle batteries, and more.
- · Scissors-type design allows access to all four sides of a component.
- Two independent adjusting screws tilt the table ±15° side-to-side, or fore and aft. Can be operated manually or with non-impact air wrench.
- 20" x 32" table.
- · 8" swivel casters provide enhanced mobility under heavy loads.
- · ANSI/PALD compliant.

#### 5285

- Power train lift (1,650 lb. Capacity)
- · Air / hydraulic operation Foot control pump with hose allows movement around lift.
- Min. height is 31-1/2"; Max. height is 74-1/2".
- · Footprint 33" wide x 48" long.

#### 1595

#### Power train lift (2,500 lb. Capacity)

- · Powered by a quiet, 110V electric/hydraulic pump.
- · Smooth, steady lifting and lowering motion controlled by hand-held remote.
- · A 30 ft. long retractable extension cord is mounted to the frame.
- Min. height is 29"; Max. height is 80"
- · Footprint 31" wide x 50" long.



#### 5019A

#### 2,200 lb. Capacity Low-Lift Transmission Jack

- Special mounting adapter fits popular Eaton<sup>®</sup> Fuller<sup>®</sup> RoadRanger® transmissions used on nearly all Class 7 and 8 heavy-duty trucks. Mounting plate angle is adjusted with the turn of a wrench.
- · Swiveling pump handle permits ease of operation in restricted working spaces. Fast-acting pump quickly raises lifting arm.
- Includes No. 220492 adapter for Eaton<sup>®</sup> Fuller<sup>®</sup> RoadRanger® transmissions (also available separately).

#### Specifications:

Min. height is 8-1/4"	Max. height is 36-1/2"			
Max. forward tilt – 15°	Max. backward tilt – 20°			
Max. side tilt (either side) – 12°				
Overall length - 52"	Overall width - 32-1/2"			

# 1522A

#### Heavy-Duty 2,000 lb. Capacity Low-Lift Transmission Jack...for Class 7 and 8 Trucks

- Includes No. 220492 adapter for Eaton<sup>®</sup> Fuller<sup>®</sup> RoadRanger® transmissions.
- · Pump handle rotates 360° for operator convenience; ball bearing 3.5" diameter swivel casters provide easy positioning of jack.
- Safety overload system prevents use of jack beyond its rated capacity, and a safety bypass protects the hydraulic cylinder from damage.

#### Specifications:

- Min. height is 6-7/8" Max. height is 35-1/4" Max. backward tilt - 18°
- Max. forward tilt 24°

Max. side tilt (either side) - 11° Overall length - 43-1/2"

Overall width - 26"

# 5078 Air-Assisted 2,000 lb. Capacity High-Lift Transmission Jack... or Trucks & Buses Foot-operated air pump enables the operator to effortlessly raise the transmission into place.

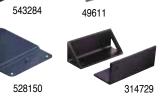
- · Rugged, heavy wall tubing and oversized base for stability.
- · A dedicated adapter for Allison 500- and 600-series automatic transmissions is included.
- · Covered by OTC Lifetime Marathon Warranty®.

#### Specifications:

#### Min. height is 41-1/2" Max. height is 65" Max. forward tilt - 50° Max. backward tilt - 38° Max. side tilt (either side) - 14° Lea width - 46"



- Accessories for 5019A / 5078 and 1522A Jacks
- 528150 Eaton® "Lightning" adapter. Used with the No. 5019A transmission jack. 543284 - Roadranger transmission Model series FRO-11210C to FRO-18210C that is equipped with an internal cooler. Used with the No. 5019A transmission jack.
- 49611 Eaton® Fuller® RoadRanger® auxiliary housing adapter. Bolts directly to the countershaft bearing caps to provide a stable platform for removing and installing the auxiliary housing.
- 314729 Allison 500/600 series automatic transmission adapter used with No. 5078 transmission jack.
- 553516 Differential Mounting Adapter. Mounts easily using existing bolt patterns. Fits the most common differentials currently in use on Category 7 and 8 Heavy Duty Trucks. Including: Eaton, Fuller, Rockwell, Meritor, Spicer, International, and Mack. For use on OTC (5019A - 553516 requires 565188 adapter) 5078 and Stinger 1522A Transmission Jacks.



553516





Casters provide a 9-1/2"

clearance on lower frame

5285

extended

#### Heavy Duty Tools & Equipment Clutch / Air Lifts



#### 5018A

5015A

up to 250 lbs.

to aid in alignment.

5015 and 5015A only.

218174 - Flywheel handling

48625 - Optional splined shaft,

1-3/4" dia. with a 1-1/4" pilot.

Navistar 466 series engines. 314386 – Optional 1-3/4" dia. alignment shaft extension.

Used for 2-plate clutch of Navistar 466 series engine.

attachment for use on No.

#### **Truck Clutch & Flywheel Handler**

- Replaces 14" & 15-1/2" clutch assemblies weighing up to 250 lbs.
- 13" low point enables access below side faring.
- Linkage raises load from horizontal to vertical position.
- 360 degree swivel head.
- Covered by OTC Lifetime Marathon Warranty®. 516160 – Optional flywheel handling attachment. 515686 – Optional splined shaft, 1-3/4" dia. with 1-1/4" pilot.
- 516159 Optional splined shaft, 1-3/4" dia. with 1" pilot.

**Truck Clutch & Flywheel Handler** 

· Lifting range of 9" to 37". Swivel casters

· Includes a 2" spline shaft with a 1-1/4" pilot

440533 - Optional splined shaft, 1-3/4" dia.

with a 1" pilot. Needed for clutch service on some

provide easy maneuverability.

· Handles 14" and 15-1/2" clutch assemblies weighing



#### 1520 10-Ton Capacity Lifting System (Includes two lifts)

- Mobile, tandem system is air-operated. This will handle your class 7 and 8 tractor lifting needs. No need to waste time re-blocking and making additional lifts for the clearance you need for under-vehicle service. Roll the system to the vehicle anywhere in the shop or outside on a level surface.
- Unique design provides lift from the tires, not the frame or axle members. Ideal for situations where limited ground clearance or a lack of clear access complicates lifting.
- Single controller operates both sides of the system for a smooth, level lift up to two full feet from the bottom of the tires to the ground. Units can double as support stands when retention pin is inserted.
- · Covered by OTC Lifetime Marathon Warranty®.

#### Specifications:

Capacity - 10-tons (20,000 lbs.) (pair) Air pressure - 150 psi Lifting range - 0"-24" Saddle width - 19-1/2" - 24" dia. rim sizes Height - 53-1/4" Width - 41-1/2" Length - 39-1/2



# 10-Ton Combination

# Air Lift & Support Stand

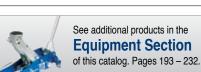
- 40" removable handle and 8' air hose.
- Covered by OTC Lifetime Marathon Warranty  $^{\! \mathrm{\$}}.$

#### Specifications:

218174

314386

- Capacity 10 tons (at 200 PSI air)
- Minimum height (unpinned, no extension) – 18-1/4"
- Maximum height
- (pinned in top hole, with extension) 51-1/4"
- Stroke 10-7/8"





#### 5214

#### 4-Ton Capacity Fork Lift Jack

- 8,000 lb. capacity with a low starting height of 2-5/32".
- 10,000 lb. capacity (5 tons) when lifting from cylinder saddle- ideal for agriculture and industrial applications.
- Unique shape of primary saddle allows for handling of all lift truck configurations with flat or edged surfaces.
- Features include high-quality seals, chrome-plated internal components, and high-strength steel construction.
- Secondary lifting surface feature.
- Complies with ASME-PALD.
- Lifting Height: 2-5/32 17-15/16".

#### 1540

#### 4-Ton Capacity Fork Lift Jack

- 8,000 lb. capacity with a low starting height of 2-5/8".
- Two-position lift pad permits handling of all lift truck configurations with flat or edged surfaces.
- Minimum low lift: 2-1/4".
- Maximum high lift: 16-1/4".
- Features include high-quality seals and high-strength
- steel construction.Handle stop makes
- for easy maneuverability
- 30" long handle.

Under Axle Jacks



- Features class-leading 27.5 ton capacity
- Robust design with completely sealed piston reduces likelihood of contamination of hydraulic fluid.
- Ergonomic handle design provides convenient location of air valve and release knob.
  - Incorporates both hand release knob and venturi vacuum system for power return with no load.
- Four position handle includes 'stow away' position for convenient storage.
- Maximum height of 21-3/8 inches when used with screw extended and large adapter.
- Complies with latest ASME/PALD standards.

#### Specifications:

Minimum retracted height (with saddle) – 8-1/4" Maximum lifting height (with saddle only) – 13-1/8" Maximum lifting height (with screw extended and large adapter) – 21-3/8" Stroke – 4-15/16" Large adapter length – 3-15/16" Screw extended length – 4-3/4" Handle length – 48-3/4" PSI range – 90 to 175 psi.

#### 5093B

#### 3-Stage Under-Axle Jack

Three-stage lift capacity 20T, 35T, and 65-tons. Ideal for lifting loaded trailers, buses, and other Class 7 & 8 vehicles.

- Piston and cylinders are made from chromium molybdenum vanadium steel for durability and then liquid nitrided to prevent rust and seizing.
- · Features a high load-approach speed.
- Air-driven cylinder with pressure control knob for maximum user safety.
- 4-position handle: horizontal, 45 degrees, vertical, or collapsed.
- · 7-inch minimum height for low clearance vehicles.
- Comes complete with a 3-15/16 in. (100 mm) lifting extension.
- · Complies with ASME / PALD test requirements.







Single control switch, handy and easy to use.

4 positions: horizontal, 45 degrees, vertical, or collapsed for easier transport.

8-1/4" width for easy access to the lifting point.



# Under-Axle Jack

- Long 49-1/2" T-handle lets you easily position jack under vehicles with long overhangs.
- One pull of the handle activates the self-retracting 22-ton capacity ram without having to crawl
- underneath the vehicle.
- · Jack has large rubber-tired wheels.
- Lifting range:
  - 3/4" saddle
     Max. height 17-3/4"

     1-15/16" saddle
     Max. height 18-15/16"

     7/0" as dalla
     Max. height 18-5/16"
- 3-7/8" saddle Max. height 20-5/8" • Cylinder stroke, 4-1/2"; extended screw length,
- Cylinder stroke, 4-1/2"; extended screw length, 4-1/4"; PSI range, 90–145.

215009\* – In-line oil lubricator. Add to air line to meter precise flow of lubricant to air motor. Has 1/4" NPT fitting. \*Not included, order separately.

Prevents harmful contamination caused by moisture in the air line!



5110

# 6- & 10-Ton Capacity Air/Hydraulic Service Jack

- Huge steel front wheels are mounted in bearings for trouble-free service life. Rear swivel casters make spotting the jack easy.
- Spring-loaded handle can be locked in three positions.
- · Covered by OTC Lifetime Marathon Warranty®.

5106 – 6-Ton Air/Hydraulic Service Jack. Lifting range 4-3/4" to 23-1/4", reach 87", 45" handle.

5110 – 10-Ton Air/Hydraulic Service Jack. Lifting range 6-3/4" to 26-7/8", reach 93", 47" handle.

Specifications	5106	5110	
Capacity	6-ton	10-ton	
Air pressure	90–175 PSI	90–175 PSI	
Lifting range	4-3/4" to 23-1/4"	6-3/4" to 26-7/8"	
Saddle dia.	7"	7-3/8"	
Overall reach	87"	93"	
Frame height	8"	10"	
Handle length	45"	47"	



\_\_\_\_\_

1510B

1512

1505B

Service Jacks



#### Heavy-Duty Service Jack

- Ergonomic handle for user comfort and easy mobility.
- Foot pedal for quick approach of the lifting saddle
- to load. Built-in tray for fasteners and tools.
- · CE marked ASME/PALD tested.
- · Covered by OTC Lifetime Marathon Warranty®.

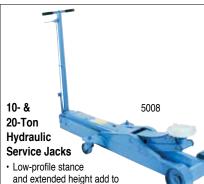
5206 - 6-ton HD service jack.

Lifting range 6-11/16" to 22-13/16".

5210 – 10-ton HD service jack.

Lifting range 6-11/16" to 23-13/16".

Specifications	5206	5210
Capacity	6-ton	10-ton
Min. Height	6-11/16"	6-11/16"
Max. Height	22-13/16"	23-13/16"
Overall length	87"	99-1/2"
Overall width	16-5/8"	16-5/8"
Handle length	39-3/8"	39-3/8"



- and extended height add to versatility. Lift trucks to heavy-duty commercial vehicles. Huge metal wheels and swivel casters roll effortlessly on internal bearings.
- Either the foot pedal or jack handle may be used for pumping action. Counter-balanced, spring-assisted handle has a three-position lock.
- OTC Lifetime Marathon Warranty<sup>®</sup>.

5008 – 10-ton service jack. Lifting range 7" to 25-1/2", 40" handle 5009 – 20-ton service jack.

Lifting range 7-1/2" to 25-1/4", 40" handle

Specifications	5008	5009	
Capacity	10-ton	20-ton	
Lifting range	7" to 25-1/2"	7-1/2" to 25-1/4"	
Overall reach	66"	69"	
Frame height	7"	10-1/4"	
Handle Length	40"	40"	

#### 5-Ton and 10-Ton Service Jacks

- A built-in safety overload prevents using the jack beyond its rated capacity.
- Convenient foot pedal speeds the lifting operation. Handle lock and release control are located on top of the handle. Handle can be locked into any position from vertical to horizontal.
- Both models have a spring-loaded 40" handle.
- 1505B 5-ton service jack.
- 1510B 10-ton service jack.

#### 20-Ton Capacity Service Jack

- Low-profile stance and extended height add to versatility.
- Wheels and swivel casters feature internal bearings.
- Either the foot pedal or jack handle may be used for pumping action. Counter-balanced, spring-assisted handle has a three-position lock.
- 1512 20-ton service jack.

Specifications	1505B	1510B	1512
Capacity	5-ton	10-ton	20-ton
Lifting range	6" to 22"	6-1/4" to 22"	7-1/2" to 24"
Saddle dia.	5-1/8"	6"	7-1/2"
Overall reach	47"	51"	97"
Frame height	7-3/4"	9-3/4"	10-1/4"
Handle Length	43"	43-1/4"	42"
Floor space	14-3/4" to 56"	18" to 60"	18-1/8" to 61-3/8"

#### 5-Ton and 10-Ton Air/Hydraulic Service Jacks

- Bring the versatility of air-assist operation to your shop's lifting tasks.
- Huge front wheels mounted in bearings provide trouble-free service life. Rugged steel frame members.
- Rear swivel casters make spotting the jack easy. Spring-loaded handle may be locked in three positions, from horizontal to vertical.
- 1507B 5-ton air/hydraulic service jack.
- 1511B 10-ton air/hydraulic service jack.

Specifications	1507B	1511B	
Capacity	5 ton	10 ton	
Air pressure	80–120 PSI	80–120 PSI	
Lifting range	5-7/8" to 22"	6-3/8" to 22"	
Saddle dia.	6-5/8"	7-3/8"	
Overall reach	87"	90"	
Frame height	8"	12-3/4"	
Handle length	40"	42"	



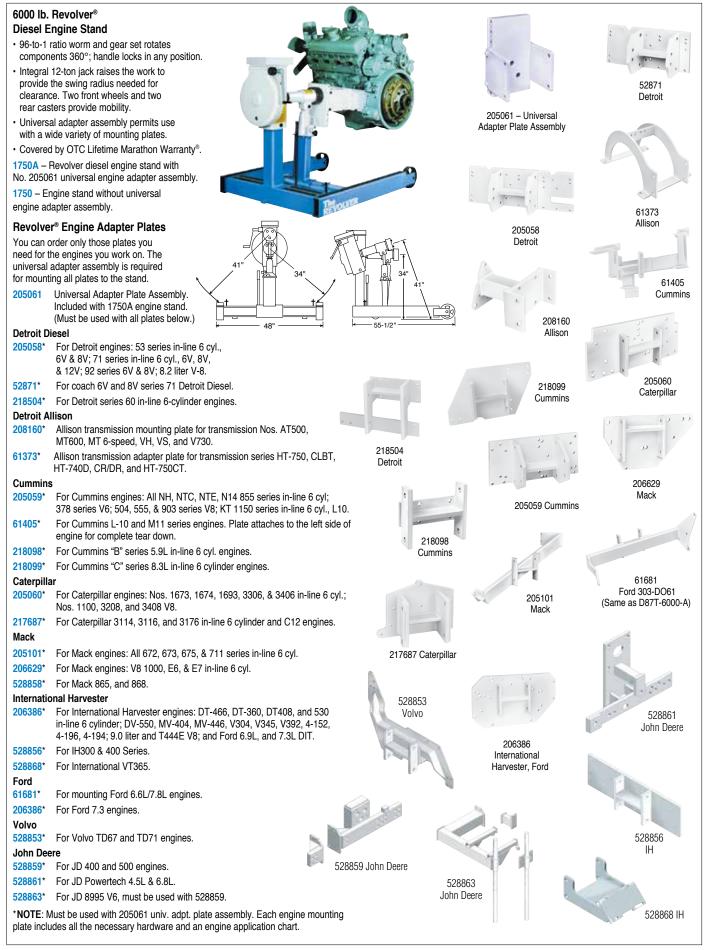


See additional products in the Equipment Section of this catalog. Pages 193 – 232.

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Engine Stands / Adapter Plates



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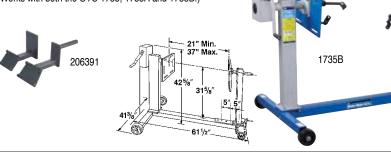
#### Heavy Duty Tools & Equipment Engine / Jack Stands



2,000 lb. Capacity Heavy-Duty Motor-Rotor® Repair Stand

- Handles a wide variety of engines, transmissions, torque converters, and rear axles from trucks, tractors, and construction machinery.
- The 50:1 ratio gearbox allows full rotation of mounted unit with just a turn of the crank and locks in position. Easily maneuvered when loaded.
- To ensure engine stability in all positions, this repair stand is equipped with a positive-crank handle locking mechanism.
- Twin-post design, featuring laterally adjustable, 3 position outboard support; provides an extremely stable work-holding unit.
- Locking rear wheels anchor stand in position.
- · Covered by OTC Lifetime Marathon Warranty®.

206391 – 6.0L and 6.4L Ford engine adapters. (Works with both the OTC 1735, 1735A and 1735B.)



#### 3- and 6-Ton Capacity Ratcheting Jack Stands

- Jack stands feature a formed steel frame for strength and long life, and rolled base edges that resist sinking into soft ground or asphalt.
- Recessed column saddle for acceptance of vehicle panel rail (pinch weld).
- Dual purpose handle serves as carrying handle and column release.
- Investment cast rack bar for long life strength.
- · Covered by OTC Lifetime Marathon Warranty®.

1736A – Pair of 6-Ton Jack Stands. Height Range of 15-1/2" to 24-1/2". 1733A – Pair of 3-Ton Jack Stands. Height Range of 12-1/2" to 18-1/2".



- The form-fit saddle design and 12" x 14" base ensures stability.
- Height range is 20" to 31-1/2".



1735B with engine

#### 3-, 6-, 12-Ton Ratchet-Style Jack Stands

- Formed and welded steel base for strength; self-locking ratchet handle cannot be released under load. Durable baked enamel finish resists corrosion.
- Stands conform to ANSI PALD load rating standard; factory tested before shipment.

#### 1772D

Pair of 3-ton jack stands. Base: 7-11/16" x 6-11/16". Height range: 11-1/2" to 17".

#### 1773D

Pair of 6-ton jack stands. Base: 10-5/8" x 9-1/4". Height range: 15-5/16" to 24-5/16".

#### 1784C

Pair of 12-ton jack stands. Base: 12-5/8" x 11-3/8". Height range: 19-1/2" to 30-3/4".



# See additional products in the **Equipment Section** of this catalog. Pages 193 – 232.



- 1778B 12-Ton Low Jack Stand. One only.
  Height range of 19" to 29-1/2".
  1779B 12-Ton High Jack Stand. One only.
- Height range of 33-3/4" to 44-1/4".
- 543751 Extension Tube for Low Jack Stand. 543752 – Extension Tube for High Jack Stand.



#### 1783

#### Heavy-Duty 20-Ton Capacity Adjustable Support (One only)

- Designed for the really big service jobs. Rugged steel construction, and large 15-1/2" square base will satisfy support requirements up to 40,000 lbs.
- Features include 4-point adjustment. Height range is 15-1/4" to 24". Saddle diameter is 6".
- · Covered by OTC Lifetime Marathon Warranty®.



#### 1780

#### 22-Ton Capacity Jack Stands

- Height range is 13-7/8" to 19-7/8".
- Saddle size 3" x 3-3/4".
- Pin-style (non-ratchet) three positions, 3" intervals.
- Reinforced collar to meet newest ANSI PALD test standards.
- 11" flat base prevents sinking into the surface.

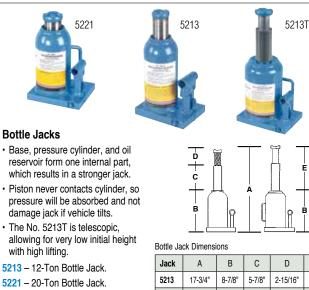
# **OTC 9300 Stinger Series** Bottle Jacks give you lifting range from 2 to 50 tons.

- · Forged base and cylinder to ensure strength and eliminate leaks.
- · Chromed pump piston and ram for additional rust resistance.
- · In-line design for increased ease of use in positioning and operation.
- · Includes free seal kit with each unit to extend product life.
- · ANSI/PALD compliant.





	OTC 9300 Stinger Series Bottle Jacks									
Cap. (tons)	Stroke	OTC No.	Retracted Height min.	Length of Screw Extension	Height with Screw Extension	Pump Strokes to Extend Piston One Inch	Saddle Dia.	Base Size	Carry Handle	Weight
2	4-5/8"	9302	7"	2-3/8"	14"	8	13/16"	4-5/16" x 2-9/16"	No	5 lbs.
3	4-1/2"	9303	7-1/2"	2-9/16"	14-9/16"	13	15/16"	4-9/16" x 2 7/8"	No	6.2 lbs.
5	4-13/16"	9305	7-13/16"	3"	15-5/8"	20	1-1/8"	5-3/16" x 3"	No	8.4 lbs.
8	4-15/16"	9308	7-13/16"	3"	15-3/4"	21	1-3/8"	6" x 3-9/16"	No	12.6 lbs.
12	6"	9312	9-3/8"	3-1/4"	18-5/8"	21	1-3/4"	6-9/16" x 4-3/16"	Yes	17.4 lbs.
12	3-11/16"	9314	7-1/16"	2-7/8"	13-5/8"	21	1-3/4"	6-9/16" x 4-3/16"	Yes	15.1 lbs.
20	6-7/8"	9320	10-5/8"	2-15/16"	20-7/16"	28	2-1/8"	7" x 4-11/16"	Yes	27.2 lbs.
20	3-7/16"	9322	7-3/16"	1-11/16"	12-5/16"	25	2-1/8"	7" x 4-11/16"	Yes	20.9 lbs
30	6-5/8"	9330	11"	N/A	17-5/8"	41	2-1/2"	7-11/16" x 6"	Yes	41 lbs
50	7-3/16"	9350	11-3/4"	N/A	18-15/16"	74	2-1/2"	8-11/16" x 7"	Yes	76.5 lbs.



Dottie back Dimensions							
Jack	А	В	С	D	E		
5213	17-3/4"	8-7/8"	5-7/8"	2-15/16"			
5221	18-1/16"	9-1/4"	5-7/8"	2-15/16"			
5213T	22-1/2"	9-5/8"			12-13/16"		

# Air/Hydraulic Bottle Jacks

- · Operate manually or pneumatically, 100 PSI minimum air pressure required.
- 4313C 12-ton air-assist bottle jack;
- lift range 9-1/2" to 18-3/8", stroke 6-1/8".
- 4321C 20-ton air-assist bottle jack; lift range 9-7/16" to 17-11/16", stroke 5-7/8".

# 1734A

- Heavy-Duty Wheel Step
- · Tire-mounted wheel step provides quick, easy access to under-hood components.
- Fits heavy-duty vehicles (Class 7/8).
- · Installs in seconds; adjusts to fit 22-1/2" to 24" wheel sizes and folds for easy storage.
- · 300 pound capacity.
- · Non-skid platform surface.





5213T - 12-Ton Telescopic Bottle Jack.

Wheel Service

#### 5017A

#### **Brake Drum Dolly**

- Remove, install, and transport truck brake drums without physically having to lift them.
- Works on 15" and 16-1/2" drums found on most Class 7 and 8 tractor and trailer brake systems.
- Heavy-gauge steel construction, ten-inch pneumatic tires, and adjustable handle.
- Covered by OTC Lifetime Marathon Warranty<sup>®</sup>.



#### 1543

#### Brake Drum Dolly

- Removes, installs, and transports truck brake drums without physically having to lift them.
- Works on all 15" and 16-1/2" drums found on most class 7 and 8 tractor and trailer brake systems.
- 6" height adjustment aids installation.
- Heavy-gauge steel construction, 8" tires, and 36" handle.



#### **Easy Lever Wheel Dollies**

- Gives technicians the leverage they need to easily remove or install truck tire-and-wheel assemblies.
- Heavy-duty construction capable of toting 300 pounds.
- Onboard rollers that make stud-hole alignment a snap.
- Spring-loaded kickstand for handy parking.
- Two models that, together, can accommodate tire
- diameters from 24 to 48 inches.
- Rugged tubular steel construction.

5096A – Heavy-duty Easy Lever wheel dolly. With a width of 26", this dolly handles tire diameters of 36" to 48".

5095A – Easy Lever wheel dolly. With a width of 22", this dolly handles tire diameters of 24" to 36".



# • Remove, transport, service, and install heavy truck brake

- drums and hub assemblies.Fast-motion ratcheting jack with 14" of vertical lift.
- Pneumatic rear tires
- smoothly roll across shop floor.Tilting mechanism to
- achieve the exact angle necessary for precise reassembly.
- Fold-down handle for open access to
- the work area.
- Onboard lube tray and toolbox.
- An array of optional adapter sets capable of grabbing almost any truck hub assembly or brake drum, inboard or outboard.

513926 – 10 stud inboard hub & drum assemblies – 335 mm.

 ${\color{blue} 513927-10}$  hole outboard drums – 3/4" thick back plates

#### Adapter Sets (sold separately)

- 513925 5 and 6 spoke wheels
- 514644 8 stud inboard hub & drum assemblies
- 514645 8 hole outboard drums
- 514646 6 stud inboard hub & drum assemblies
- 514647 6 hole outboard drums
- 514648 Humvee/Hummer geared hubs





#### 1770A

#### 1,500 lb. Dual Wheel Dolly

- Hydraulic jack provides almost 5" of lift and tilts wheel assembly 4° to prevent damage to wheel seal.
- Independent lifting rack provides maximum stability; rollers won't catch on load.
- · Swivel casters for easy maneuverability.
- Floor space is 45" by 41".
- 6' chain holds load in place.
- · Covered by OTC Lifetime Marathon Warranty®.



#### 1769A

#### **Truck Dual Wheel Dolly**

- This 1,500 capacity dolly will remove, transport, and replace dual wheel and tire assemblies without strain or struggle.
- Swivel casters, 3-1/2" front and 3" rear, provide easy maneuverability.
- · Floor space is 43" by 42".
- No. 1769A hydraulic jack provides over 6-1/2" of lift and tilts wheel assembly 7° to prevent damage to wheel seal.
- · Includes a 6' support chain to hold load in place.

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- Capacity per pair is 20 tons
- Covered by OTC Lifetime Marathon Warranty  $^{\! \mathrm{\scriptscriptstyle B}}$  .
- 5268 20-ton truck ramps handle up to 10" tread width.
- 5269 Wide 20-ton truck ramps handle up to 16" tread width.

Model	Frame Height	Frame Width	Frame Length	Wheel Diameter	Handle Length
5268	9-1/4" (23.5 cm)	13-1/2" (34.29 cm)	47" (119.38 cm)	5" (12.7 cm)	33" (83.82 cm)
5268	9-1/4" (23.5 cm)	18-1/4" (46.36 cm)	47" (119.38 cm)	5" (12.7 cm)	33" (83.82 cm)

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#### Tire Service

#### 5713

#### **Tire Bead Seater**

The Tire Bead Seater is used when a tire, new or used, is mounted on a wheel and the tire bead does not touch both sides of the wheel, making inflation possible. The air trigger on this tool expels a tremendous burst of air that inflates the tire to seat it to the wheel rim. This allows the tire to be inflated to the recommended pressure through the tire valve.

- The Tire Bead Seater is equipped with unique configurations that enhance ease of use, productivity and safety for technicians looking to get the job done right every time.
- Unlike other options out there, the Tire Bead Seater's ASME certified 13-gallon tank is designed with a nozzle and valve connected via hose assembly, giving the user more control rather than requiring them to hold the weight of the tank.
- The trigger style discharge valve allows for optimum airflow control while allowing both hands to firmly hold the nozzle/valve assembly, critical for effective and safe use. Wheels and handle function in either the vertical or horizontal position for easy mobility and storage.
- Unique nozzle design significantly reduces "blowback recoil" and contains discharge holes strategically placed for optimum inflation of a wide range of the tire sizes and wheel diameters.
- Air valve included for filling tank, which also provides compressed air for filling the tire while seating the bead, optimum for on-the-road service.





#### Tire Spoons

Unique "Convex Slip Head" curved design allows the spoon to slide easily into the tire bead while the spoon bump limits the depth for quick-and-easy operation.

<b>5716 – HD Sliding Tire Spoon</b> 38" extends to 52", 3/4" diameter. Inner slide bar provides hammer action to easily insert and remove the spoon.	
<b>5720 – Sliding Dual Tire Spoon</b> 35" and 3/4" diameter. Unique configuration provides mount and demount heads on either end with the aid of a slide hammer mounted mid bar, allowing for hammering either end in or out of the tire bead. Twist-lock feature locks 3.5 lb. slide weight in position.	
5724 – Extending Tire Spoon 22" extends to 34", 3/4" diameter. Twist-lock feature allows the spoon to be extended to any length and locked into position with a twist of the collar.	
5735-35 – 35" Curved/Flat Tip Curved Tire Spoon Double end curved tire spoon. Handle knob enables easier spoon pick up. 3/4" diameter.	
5736-24 – 24" Curved Tire Spoon Handle knob enables easier spoon pick up. 3/4" diameter.	
5736-30 – 30" Curved Tire Spoon Handle knob enables easier spoon pick up. 3/4" diameter.	
5737-30 – 30" Flat Tip Curved Tire Spoon Handle knob enables easier spoon pick up. 3/4" diameter.	
5739-24 – 24" Curved Shank Tire Spoon The curved shank allows improved access for the spoon head around the tire bead or wheel rim. Handle knob enables easier spoon pick up. 3/4" diameter.	
5739-30 – 30" Curved Shank Tire Spoon The curved shank allows improved access for the spoon head around the tire bead or wheel rim. Handle knob enables easier spoon pick up. 3/4" diameter.	





These precision torque wrenches make a loud click when you've reached the torque setting. They feature ratcheting heads, all-metal construction, permanently roll-marked scales, and soft-grip rubber handles that enable you to firmly grasp the wrench for right- or left-hand torquing. • Includes molded plastic case.

- One-year warranty.



7378

Tool

No.

7378

7379

**Torque Range** 

50-250 in. lbs. (68-339 N·m)

100-600 in. lbs. (136-813 N·m)

Square

Drive

1/2"

3/4"

Length

19-3/8"

42-1/4"

Graduations

2 ft. lbs.

10 ft. lbs.

Tire Service





#### 5745

#### Hands Free Air Chuck

- Perfect for applications where the tire valve is facing the floor while seating the tire bead, such as most dual wheel configurations.
- Hooks on the top bead seat of the wheel and the spring pressure holds the chuck on the tire valve pointing to the opposite side.
- Ball valve included to allow inflation only when needed.



#### 5728 Tire Bead Breaker

- Unique head is designed to provide a large striking area for all angles, while providing the mass needed to break the tire bead.
- This design puts the force exactly where it's required and eliminates the possibility of accidentally hitting the wheel, problems typically encountered while using larger swing hammer style bead breakers.

#### 5082 Wheel Tipper

This heavy-duty wheel tipper makes handling those hard- to-manage truck tires easy. To use the wheel tipper, simply deflate the tire and break the bead, then hook the wheel tipper to the rim of the wheel. The wheel tipper makes an otherwise tough task effortless.

 Designed for both aluminum and steel wheels won't damage wheel rim.



#### **Tire Bead Locking Pliers**

- Prevents the tire from slipping while mounting the top bead.
- · Quick and easy universal clamping design.
- Rugged rubber coated jaw to protect wheel finish.
- Prevents tire from contacting costly TPM Sensors.



#### **Tire Spoon Holding Pliers**

- Tire Spoon Holding Pliers is the 3rd hand needed to ease mounting and demounting of tires with tire spoons.
- · Quick and easy universal clamping design.
- · Rugged rubber coated jaw to protect wheel finish.



#### Tire Wheel Wedge Pliers

- Tire Bead Wedge Pliers keeps the tire in the bead drop area to ease mounting and demounting of larger truck and agricultural tires.
- Quick and easy universal clamping design.
- · Rugged rubber coated jaw to protect wheel finish.





#### Tire Service Hammers, Indestructible Handle

- · Indestructible handle never needs replacement!
- Ergonomic rubber grip handle reinforced with steel bars resists breaking while absorbing impact and vibration.
- Drop-forged head is induction-hardened for long life, and contains steel locking plates that are specially bonded to ensure the head never becomes loose.
- Use top hook as a wheel tipper; sledge end hook to drag tire into position.
- Bead breaking wedge has grooves and a convex shape to help drive tire lube into the bead.

#### 5789ID-520

Head Weight 5 lb., Handle Length 20". 5789ID-1032

Head Weight 10 lb., Handle Length 32".



#### 7367

#### Torque Multiplier, 1000 lb-ft

- Drive Input; 1/2", 365 lb-ft Max
- Drive Output; 3/4", 1100 lb-ft Max
- Head Width; 2.9", 3.3:1 Ratio
- Reaction Bar: 13-3/4"
- Includes reaction foot.
- Note; frictional gear loss = 6%



#### Torque Multiplier, 2000 lb-ft

- Drive Input; 3/4", 730 lb-ft Max
- Drive Output; 1", 2200 lb-ft Max
- Head Width; 3.6", 3.3:1 Ratio
- Reaction Bar; 15-5/8"
- Includes reaction foot.
- Note: frictional gear loss = 6 %



Floor Cranes



Specifications	1819	1820		
Cap., boom retracted Cap., boom extended	2,200 1,650	4,400 3,300		
A Max. boom height, boom retracted	107"	111"		
B Max. boom height, boom extended	117"	122"		
C Overall height, boom horizontal	80"	82"		
D Overall length	83"	89"		
E Minimum throat width	24"	25"		
F Inside leg length	54"	57-1/2"		
G Effective boom reach (retracted)	33"	35-1/2"		
H Effective boom reach (extended)	48"	50-1/2"		
J Inside leg width (3-position)	24", 36" 48"	26", 40" 52-1/2"		
K Leg height	8"	9-1/2"		
L Dolly wheel diameter	5"	5"		
M Wheel diameter	6"	8"		
Height, folded	79"	86"		
1819 Floor space folded	27" >	x 38"		
1820 Floor space folded	31" >	x 42"		

B

#### 2,200 and 4,400 lb. Capacity Heavy-Duty Floor Cranes

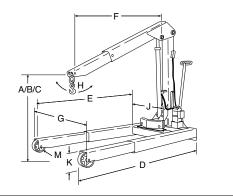
 ${\boldsymbol{\cdot}}$  To conserve valuable floor space, crane folds into a compact package for storage.

- For "close-in" work, leg spread adjusts to clear vehicle's wheels, telescoping boom extension
- gives additional reach. Roller bearing mounted wheels and steering dolly provide ease of mobility.
- · A two-speed hydraulic hand pump provides fast boom travel; descent of boom is under precise control of operator.
- · Covered by OTC Lifetime Marathon Warranty®.
- 1819 2,200 lb. Capacity Crane. Has hydraulic hand pump and 16-7/8" lifting chain.
- 39610 1/4" steel chain grade 43, 18-3/8" long, 2,200 lb. capacity. Has safety hook on end. Use with 1819.
- 1820 4,400 lb. Capacity Crane. Has hydraulic hand pump and 18-3/8" lifting chain.
- 39611 5/16" steel chain grade 70, 19-3/4" long, 4,400 lb. capacity. Has safety hook on end. Use with 1820.



Boom Capacity (Ibs.) Description	Extended 4,000	Centered 5,000	Retracted 6,000
A Maximum boom height	161-7/8"	150-11/16"	139-1/2"
B Minimum boom height	6"	17-3/8"	28-3/4"
C Overall height (boom horizontal)	87"	87"	87"
D Overall length*	129-1/8"	113-7/8"	98-1/4"
E Inside leg length	91-11/16"	76-1/8"	43-1/4"
F Effective boom horizontal reach	94-1/4"	78-3/4"	63-1/4"
G Outside leg width**	59-3/4"	57-3/4"	55-3/4"
H Boom swing	36"	31"	26"
J Inside leg width		35-3/4"	
K Leg height		9-1/16"	
M Wheel diameter		8"	
Dolly wheel diameter		5"	

\* Legs in storage position: 80-7/8" \*\* Legs in storage position: 53-1/2"



#### 6,000 lb. Capacity

#### Heavy-Duty Mobile Floor Cranes

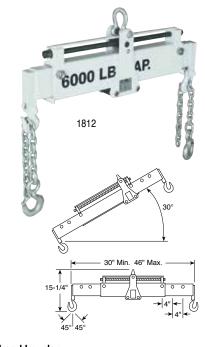
- Three boom positions give capacities of 4,000, 5,000, and 6,000 lbs. to handle the biggest engines, and often the transmission right along with the engine! Usable reach is almost 92".
- Boom swivels for vertical and lateral positioning; legs extend to straddle the biggest tires.
- 1814 6,000 lb. capacity crane with electric/ hydraulic pump (115V) with remote motor control.
- 1813 6,000 lb. capacity crane with two-speed hydraulic hand pump.

#### Heavy Duty Tools & Equipment Floor Cranes / Accessories



	Specifications	2002	2004
	Maximum capacity, boom extended	500 lbs.	1,000 lbs.
,	Maximum capacity, boom retracted	2,000 lbs.	4,000 lbs.
	Maximum height, boom extended	94"	104"
	Maximum height, boom retracted	87"	81"
	Effective boom reach, boom extended	36"	48"
•	Effective boom retracted	24"	26"
	Leg width @ front wheels	32-1/2"	25"
	Leg height	6-1/2"	7-3/4
	Floor space folded	57" x 38"	16" x 17-1/2"
	Floor space unfolded	70" x 32"	33" x 33-1/2"

- · Both of these cranes fold up for compact storage.
- · Front wheels are 3-1/2"; rear casters 5-7/8".
- 2002 2000 lb. capacity crane with a reach of 24" to 36".
- 2004 4000 lb. capacity crane with a reach of 25" to 46".

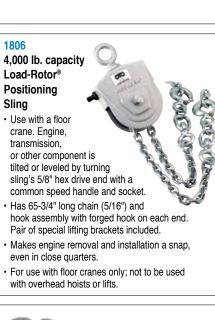


#### Load Leveler

- · Improved design over conventional spreader bars.
- · Carriage on main support beam moved by turning lead screw; this permits fine adjustment of the tilt angle of component being lifted.
- · Turn lead screw manually or with air-powered tools.
- · Spreader bar adjustment secured with locking bolts.
- · Chain grade is 80.
- · Covered by OTC Lifetime Marathon Warranty®.

1812 - Load Leveler. Max. lifting capacity: 6,000 lbs.; distance between hooks: min. 30", max. 46".

1822 - Load Leveler. Max. lifting capacity: 10,000 lbs.; distance between hooks: min. 36", max. 56".





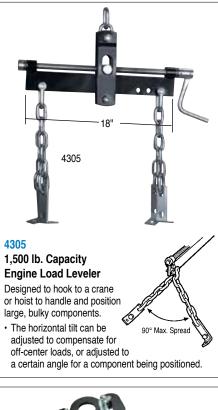
#### Alloy Chains for Overhead Lifts and Hoists

302941 - 5/16" alloy chain, 26-13/16" long, 4,000 lb. capacity. With safety hook on one end. Use on No. 1812.

302249 - 3/8" alloy chain, 28-3/8" long, 6,000 lb. capacity. With safety hook on one end.



See additional products in the **Equipment Section** of this catalog. Pages 193 - 232.





#### **Adjustable Slings** · For lifting and positioning engines, transmissions,

etc. Each chain can be adjusted independently for length; plate design enables chain to be "short-hooked" for correct tilt.

205049 - 2,000 lb. capacity sling with 1/4" chain, 56" long.

205050 - 4,000 lb. capacity

sling with 5/16" chain, 65" long.

38841 - Plate only, use with any 1/4"

or 5/16" alloy steel chain.



4,000 lb. Capacity Lifting Brackets (pair) · Attach directly to component for easy lifting; will take 1/2" diameter bolts.

Presses



#### **5180**

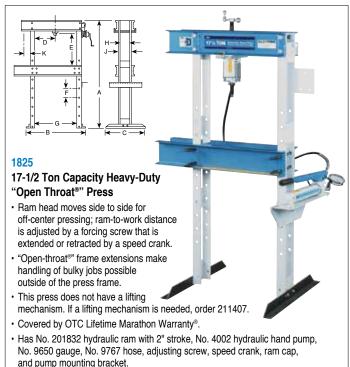
#### **10-Ton Portable Hydraulic C-Frame Press**

- Weighing less than 28 lbs, this durable press is portable for various applications, i.e., roadside maintenance services, industrial applications, marine, general automotive.
- For clamping, pressing and bending. Ideal for welding and metal fabrication.
- 9" Open-Throat® design.
- · Couples to any 4- or 10-ton Porta Power pump.
- The base can be assembled to position the press either vertically or horizontally and can also be mounted to a bench.

Set includes: C-Frame press with base, adapters: V-pushing and ram pushing (9/16" and 3/4" dia. shanks), receiving insert, flat insert, storage case.

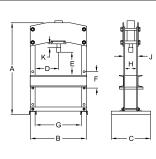
Α	В	С	D	E	F	G	Н
21-1/4"	13-3/4"	9"	8-1/2"	2-1/2"	1-1/2"	4"	4-1/4"

RCD



# 211407 – 17-1/2 ton winch kit.

A	в	с	D	E	F	G	Н	J	к	Floor Space
64"	28"	28"	17-7/8"	34-7/8"	3-3/8"	20"	4-1/4"	5"	4-3/8"	28" x 28"





#### **5230**

#### 16-1/2 Ton Capacity Bench Press

This innovative press integrates all the hydraulic elements within the chassis. The compact and functional design saves workshop space and ensures protection during transport.

- · Bolster is adjustable for height.
- Automatic spring return piston.
- Pressure gauge with damper to extend its working life- positioned at eye level for easy reading.
- Includes set of two V-blocks and legs with bolt-holes for fixing to bench.

Α	В	С	D	E	F	G	Н	J	К
37"	16-1/2"	23-7/8"	9-1/2"	5-7/8"–17-5/8"	6"	19-5/8"	4-3/4"	5-1/2"	3"



#### 25-Ton Capacity Heavy-Duty "Open Throat®" Press

- "Open throat<sup>®</sup> feature enables ram to be positioned outside of press frame for fast axle bearing removal and installation, as well as other tasks. Rugged press is covered by OTC Lifetime Marathon Warranty<sup>®</sup>.
- Press bed is raised or lowered with a hand crank, and a spring-return hydraulic ram is laterally adjustable for off-center work at full capacity.
- 1826 25-ton press. Includes No. 4016 hydraulic hand pump; No. 52025 hydraulic ram with 14" stroke; No. 9652 gauge; No. 303563 hose (3/8" ID x 8'); and pump mounting bracket.

**1826A** – 25-ton press. Includes No. 4020 air/hydraulic pump; equipped the same as 1826.

A	В	С	D	E	F	G	Н	J	к	Floor Space
68"	68"         43"         28"         3"-29"         6-7/8"-4-3/8"         4-1/2"         32"         5-1/2"         6-1/2"         7"									
*Lateral head movement. Frame shipped assembled.										



Presses



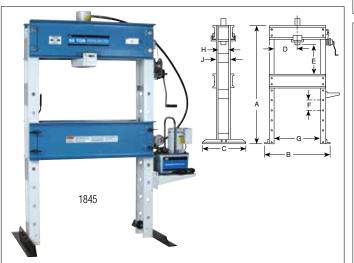
· Tough, economical press is ideal for pressing rear axle bearings, piston pins, and much more.

· Large 30" x 46" work area under ram makes positioning of even bulky work easy. Press bed is easily raised and lowered by a dependable lifting mechanism. Choice of model with hand- or air-driven hydraulic pump.

1833 - 25-ton press, complete with No. 4002 hydraulic hand pump; No. 9652 gauge; No. 24815 tee; No. 9767 hose (1/4" ID x 6'); hydraulic ram No. 51426 with 6-1/4" stroke; and 42733-WH2 pump mounting bracket. 1834 – 25-ton press, complete with air-driven No. 4020 hydraulic pump;

No. 9652 gauge; No. 24815 tee; No. 9768 hose (1/4" ID x 8') and hydraulic ram with 6-1/4"stroke.

A	в	с	Е	F	G	н	J	Floor Space
69-1/2"	40-1/2"	28"	5-3/4"-46"	4"	30"	5-1/2"	6-1/2"	41-1/2" x 28"



#### 55-Ton Capacity Heavy-Duty Presses

- · Side-to-side positioning of ram allows full capacity pressing along entire bolster length without buckling or bending. Covered by OTC Lifetime Marathon Warranty®.
- · Hydraulic ram features 13" of stroke. Choice of hydraulic power units.

1845 - 55-ton press. Includes single-acting ram No. 52380 with 13" stroke; No. 4044 electric/hydraulic pump; No. 9651 gauge; No. 303563 hose (3/8" ID x 8'); and pump mounting bracket.

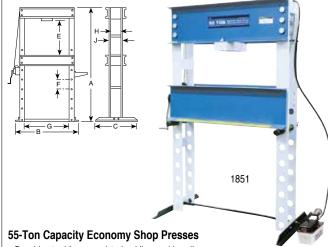
1846A - Same as No. 1845 except has No. 4016 hydraulic hand pump and single acting ram No. 65458 with 10-1/8" stroke.

1847 - Same as No. 1845 except has a No. 4022 air/hydraulic pump and a No. 9781 hose (3/8" ID x 10').

1872 - 55-ton press. Includes double-acting ram No. 51682 with 13" stroke; No. 4046 electric/hydraulic pump; No. 9651 gauge; No. 36887 hoses; and pump mounting bracket.

A	в	С	D	E	F	G	н	J	Floor Space
72"	48-1/2"	36"	3-1/4"-32-3/4"	6"-42"	6"	36"	6-3/4"	8"	56-1/2" x 36"

\*Lateral head movement.



· Durable steel frame resists buckling and bending.

Covered by OTC Lifetime Marathon Warranty®.

· Hand-operated winch and cable mechanism adjusts lower press bolster.

1850 - 55-ton press. Includes No. 52457 hydraulic ram with 6-1/4" stroke; No. 4016 hydraulic hand pump; No. 9651 gauge; No. 9767 hose (1/4" ID x 6'); and pump mounting bracket.

1851 - 55-ton press. Includes No. 52457 hydraulic ram with 6-1/4" stroke; No. 4020 air/ hydraulic pump; No. 9651 gauge; No. 9767 hose (1/4" ID x 6'); and pump mounting bracket.

A	в	с	E	F	G	Н	J	Floor Space
70-3/4"	47-1/2"	28"	6-1/8"-41-1/8"	5"	35"	7-1/16"	10"	55-1/2" x 28"



#### 100-Ton Capacity Economy Shop Press

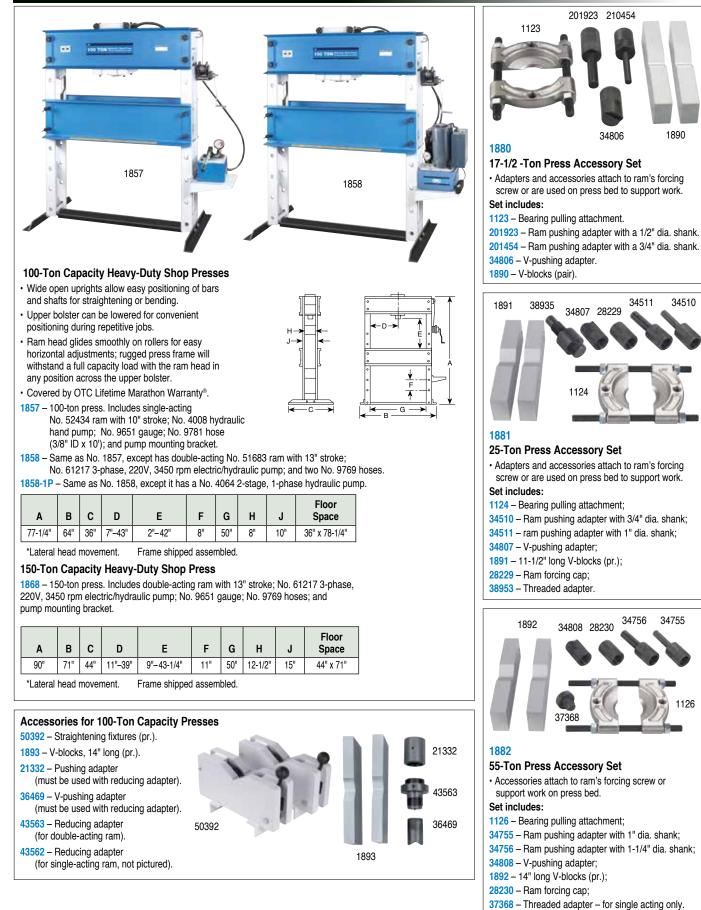
- · Large 35" opening between press uprights allows easy handling of large gears, shafts, sprockets, and other components serviced in truck, construction, and agricultural equipment shops. Covered by OTC Lifetime Marathon Warranty®.
- · Hand-operated winch and cable mechanism gives operator precise control in adjustment of lower press bolster to any height.

1854 - 100-ton press. Includes hydraulic ram No. 52434 with 10" stroke; No. 4044 electric/hydraulic pump; No. 9651 gauge; No. 9768 hose (1/4" ID x 8'); and pump mounting bracket.

A	в	с	D	E	F	G	н	J	Floor Space
86-5/8"	47-1/2"	28"	17-1/2"	9-5/8"-49-5/8"	8"	35"	6-3/8"	10"	55-1/2" x 28"

www.otctools.com

Presses / Accessories





201923 210454

34806

1890

34510

34511

34756

34808 28230

38954 - For 1872 double acting press.

34755

126

34807 28229

#### Heavy Duty Tools & Equipment **Collision Repair Sets**



#### **Universal Outside Thread Chaser**

Damaged bolt or nut threads can be an annoying, costly problem-unless you have one of our thread chasers. It will quickly restore threads to near original condition without the use of expensive thread-cutting equipment.

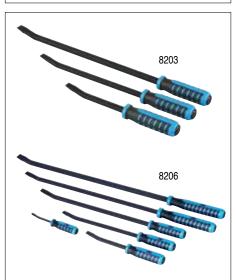
- · Replaceable V-pads and dies.
- 1-1/4" to 5" O.D.

7402 - Thread chaser with 6 dies: threads per inch -4, 5, 6, 7, 7-1/2, 8, 9, 10, 11, 11-1/2, 12, 14, 16, 18, 20. and 24.

216884 - Standard die set. Includes 6 dies, in the sizes listed above.

202817 - Metric die set. Includes three dies: 1 mm-1.25 mm-1.5 mm-1.75 mm, 2 mm-2.5 mm-3.0 mm-3.5 mm; 4 mm pitch dies.

206803 - V-pad.



#### Handled Prv Bars

Heavy-duty pry bar made of tempered square steel that you can hit without damaging the handle.

- · Black chrome striking cap allows hitting the bar without damage to the handle.
- · Ergonomic handle dual durometer composite handle for user comfort; reduces hand fatigue.
- · Polished tip with black oxide finish.
- · Long-life finish resists rust and wear during use.
- · OTC Marathon Lifetime Warranty.

8203 - 3-piece handled pry bar set. Includes 12", 18", and 24" sizes.

8206 - 6-piece handled pry bar set. Includes 8", 12", 18", 24", 32" and 36" sizes.

- 8208 8" handled prv bar.
- 8212 12" handled pry bar.
- 8218 18" handled pry bar.
- 8224 24" handled pry bar.
- 8232 32" handled pry bar.
- 8236 36" handled pry bar.



#### **Engine Preluber Kit**

- · Ensures oil is present to internal engine components on the first start of a new or rebuilt engine, or after major engine work is performed.
- Required to prime the oil pump and fill the oil galleries and internal engine components with clean, new oil.
- · Connects to engine oil system at the oil pressure sensor on a variety of domestic and import engines.
- · Oil pressure sensor adapters included.



#### 5086

#### 10-Ton Collision Repair Set

- · Exert hydraulic force just where it's needed to lift, spread, bend, or straighten. Handles the high-force iobs you face daily in trailer maintenance or other applications.
- · Includes reliable components including 10-ton, 10-1/8" stroke hydraulic ram; air/hydraulic pumping unit; hydraulic hose; four snap-together extension tubes; extension tube coupling; serrated saddle; flat base; 90° wedge head; flex head; storage case.
- · All set components are covered by OTC Lifetime Marathon Warranty®.



#### **10-Ton Collision Repair Sets**

- · Components snap together for quick setups to apply pushing, spreading, or pulling force.
- · Components include: hydraulic pump, hose, and ram; ram flat base; extension tubes (4); 1/2-ton spreader; tube coupling; ram toe; wedge head; serrated saddle; flex head; plunger toe; 90° wedge head; storage case. The case has wheels for mobility.
- Single speed hydraulic hand pump and ram with 6" stroke.



#### Air/Hydraulic Pump

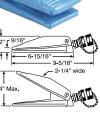
- · Ideal all-around power source
- develops 10,000 PSI at 100 PSI air.
- · Two-stage release mechanism; internal relief valve.
- 98 cu. inches of usable oil.
- · Covered by OTC Lifetime Marathon Warranty®.

4085

4180

#### 1-ton Capacity Hydraulic Spreader

This hydraulic spreader is rated at a full 1-ton capacity at 10,000 PSI and that's enough for a wide variety of jobs. Working in tight spots is no problem-it needs only a 9/16" clearance

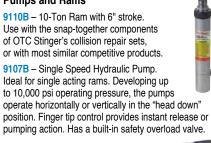


to engage the jaws. With a big 4" spread, it's ready for a variety of applications: straightening work, removing dents and creases from sheet metal, or as a clamp. The device's spring-return jaws are made of highstrength alloy steel. It can be dead-ended at 4" spread under full load. Ideally suited to work with No. 4012 hand pump (not included).



- · Center-hole feature permits extending adjusting screws, cables,
- puller screws, etc., straight through the ram.
- · This spring return unit is compact and lightweight.
- · Ideal for jobs having restricted working space.
- Set includes 4120 17-1/2 ton, 2" stroke single-acting hydraulic ram; 4002 pump; 9650 gauge; 24815 tee; 9767 hose; and 9798 hose half coupler.

#### Pumps and Rams



185





5286

# Portable Diesel Particulate Filter Cleaner

The Diesel Particulate Filter (DPF) Cleaner was designed with shop service in mind. Its portability allows the unit to be placed as close to the vehicle as possible and to be stored wherever needed in the service facility. The advent of the 2010 Tier 4 cleaning requirements created the need for a lighter, more portable cleaning system which can be taken into the field to clean filters at the point of service.

#### **Diesel Particulate Filter features**

- · Lightweight and Highly Portable ideal cleaning system for use in the shop or on a service truck.
- Flexibility clean DPF's from 6" to 15.5" in diameter using shop or compressed air of at least 100 PSI and 20 CFM sustained airflow.
- Fully Automated Operation once started, the cleaning process can be completed with minimal operator oversight, freeing up the technician to simultaneously do other work in the shop.
- Focused Air Jet Technology<sup>™</sup> concentrates a precise high pressure stream of air directly into every cell.
- · Easy Maintenance contains no internal filters that require user maintenance.
- Rugged design provides maximum durability.
- · Operates on 12-24 volt DC, or 110-220 Volt AC.

#### Efficiency by the Numbers\*

- Cleans up to 20% more efficiently than traditional pulse based systems.
- · Cleans up to 5% more efficiently than other more expensive "air knife" systems.
- \*Based on third party OE test data using Pin-gauge measurement.

#### Unique floating puck prevents "splash back"

- Features Focused Air Jet Technology<sup>™</sup> with a unique floating puck that prevents splash back.
- Includes three nozzles: two straight (short and long), for standard "open face" DPFs; and one curved for the angled-flange DPFs.
- · Ensures quiet operation.

#### Ash disposal System and Shield

 Innovative ash disposal system enables technician to quickly and easily remove and dispose of particulate matter in accordance with local environmental requirements.





Curved neck nozzle with floating puck for angled-flange DPFs.



Long nozzle with floating puck for standard open face DPFs.





- · Cleaning unit
- Three neoprene rings fit filters from 6 in. (165 mm) to 15.5 in. (400 mm) in diameter
- Wet / dry HEPA vacuum
- Short, long, and curved-flange filter nozzles
- · Adjustment feet for standard and flanged filters
- Ash disposal kits
- · AC and DC adapter cables

#### Accessories

**563197** (Set of 5) – Ash disposal system enables technician to quickly and easily remove and dispose of particulate matter in accordance with local environmental requirements.



Includes innovative shield to protect cleaning area from moisture.

CE

#### DPF Equipment

# 5280 OTC 5280 Diesel Particulate Filter Cleaner

The Diesel Particulate Filter (DPF) Cleaner was designed with shop service in mind. The cleaning process allows the DPF to be cleaned as part of a general maintenance schedule at the service location with minimal time away from the vehicle. It's portability allows the unit to be placed as close to the vehicle as possible and to be stored wherever needed in the service facility.

#### **DPF Cleaner Features**

- · OE tested and Dealer recommended By many major diesel engine manufacturers. Robust design - For long shop life. Can be used as part of a preventative maintenance program.
- · High Pressure cleaning process for thorough cleaning of ash from DPF produces 10 times the burst energy of competitive low pressure units.
- · Initial Burst Quick check To identify filters too plugged for proper cleaning.
- · Movable with locking wheels For placement throughout the shop.
- · Computer Controlled Process Based on OE Requirements for "Start to End" cleaning without constant technician monitoring.
- · Containment of hazardous ash For easy disposal.
- · HEPA Filter Air Exhaust System To exceed environmental air standards for shop.
- · Operates on standard 115V outlet.
- · Proven to clean to over 92% efficiency. (3)
- (3) Third-party OEM test results using pin gauge measurement with approved OTC adapters and burst cycles. Actual results may vary.

#### **DPF Cleaner Includes:**

OTC Diesel Particulate Filter (DPF) Cleaner

- 535936 Small Cone
- 543887 Medium Cone
- 543885 Large Cone
- 553913 CAT Adapters
- 553915 Cummins Adapters



543887



#### Upgrade kits for other OEM's are sold separately:

- 556889 Detroit Diesel upgrade kit
- 553990 UD TRUCK (with Hino Engine) upgrade kit
- 553991 Isuzu upgrade kit
- 553993 Volvo/Mack upgrade kit
- 558181 Navistar upgrade kit\*
- \* Requires use of 5281 DPF Thermal Processing Unit.
- 554654 Includes all upgrade kit shown above.
- 558569 12" HEPA filter

#### 5281

# **OTC DPF Thermal Processing Unit**

The 5281 DPF Thermal Processing Unit is a device which will thermally regenerate a DPF unit at a controlled, pre-programmed rate. Sometimes, the DPF cannot be regenerated on the truck due to a failure with the vehicle's own regeneration system, or in the case of retrofit applications, a lack of an on-vehicle regeneration system. Thermal regeneration of DPFs is used in conjunction with the OTC 5286 DPF Cleaner.

Designed to facilitate the cleaning of dirty filters especially those with high amounts of wet soot, and unburned hydrocarbons.

- · Pre-programmed thermal profile controls temperature 'ramp up' and 'cool down' to protect the DPF from thermal shock, reducing the risk of cracking the DPF.
- · Holds temperature constant for two hours to ensure complete regeneration of filter.
- · Includes both standard cycle and "pre-treat" cycle for oil-soaked filters.
- · Built-in electronic safety lock prevents unauthorized opening of the door when temperatures exceed 200 degrees F.
- · Large chamber accommodates various DPF sizes and shapes. Front access door allows for easy access to the thermal chamber.
- · 220VAC / 60Hz / Single phase / 50 Amp.
- · 1-year warranty.
- CE, UL201, UL499.
- · Internal chamber dimension: 24" (L) x 24" (W) x 26" (H).





# Horizontal DPF Handler

- The Universal mounting assembly adjusts, front to back and side to side for easy DPF handling
- The height range of 6-1/2" to 29-1/2" is ideal for most of today's trucks
- · Safety strap holds the load securely while moving about the shop

#### Specifications:

- Overall Length: 34-1/2"
- Overall Width: 19-3/8"
- Max. Height: 29-3/4"
- Min. Height: 7-1/2"
- Side tilt: 30°, Front tilt: 15°, Back tilt: 15°



Electronic safety lock.



#### Heavy Duty Tools & Equipment Genisys EVO<sup>®</sup> HD Standard

#### 5025

#### **DEF Refractometer**

SCR and EPA 2010

EPA regulations require all diesel engines manufactured on or after January 1, 2010 to meet lowered NOx emissions standards.

- · Most heavy duty engine (Class 7-8 trucks) manufacturers, have chosen to utilize SCR. This Includes Detroit Diesel (DD13, DD15, and DD16 models), Cummins (ISX line), PACCAR, and Volvo/Mack.
- · SCR-equipped engines require the periodic addition of Diesel Exhaust Fluid (DEF, a urea solution) to enable the process. DEF is available in a bottle from most truck stops, and some have installed bulk DEF dispensers near the Diesel Fuel pumps. However, to ensure the proper operation of the SCR system, operators must ensure the DEF in their vehicle consists of a 32.5% Urea / Water solution.
- The OTC 5025 makes this a simple and quick process for an operator or technician.

#### Application:

The refractometer is a portable, precision, optical instrument used for measuring the Diesel Exhaust Fluid (DEF) concentration. When a liquid sample is placed on the prism, the light passing through it is bent. The more concentrated the liquid, the more the light will bend. The refractometer contains a reticle, or scale, that is enlarged through the eyepiece to measure this light. The values on the scale have been established to evaluate the DEF condition.

Scale:

0.5% line graduations 32.5% Indicated Scale 15-40% Waterline & 20 Deg C



The scale without any liquid on the prism.





5025 OTC DEF Refractometer Kit includes: Refractometer, dropper, lens wipe cloth, instructions and quick guide, screwdriver and case.

The scale with liquid on the prism. The reading is taken at the point the shadow line crosses the scale.



#### 3874HD

#### Genisys EVO® USA 2011 Deluxe with Heavy Duty Standard Kit

Includes Genisys EVO<sup>®</sup> featuring the NEW System 5.0 with Code-Assist<sup>™</sup> experienced-based Confirmed Fixes<sup>™</sup> from Identifix®, NEW USA 2011 Domestic / Asian with ABS and European 2010 software including Pathfinder, Repair-Trac®, Fast fixes™ information, Heavy-Duty Standard software with cables, InfoTech Component Information software, Automated System Test™, OBD II Smart Cable, USA Domestic OEM vehicle cables (for GM, Ford, Chrysler, Jeep, Saturn), manuals, and carrying case.

NOTE: OEM cables may be required for certain vehicle system functions. Additional OEM cables are available individually or in convenient kits - Asian OEM Cable Kit 3421-94, European OEM Cable Kit 3421-75 and ABS/ Airbag OEM Cable Kit 3421-54. One time scan tool registration required.

#### **Genisys Heavy-Duty Standard**

Genisys HD supports two Society of Automotive Engineers (SAE) standards for the heavy-duty industry, J1587 / J1708 and J1930 CAN. Features:

- · Class 4 Class 8 truck coverage.
- · View and clear diagnostic trouble codes
- · Live vehicle data

#### Applications:

Tow trucks, recreational vehicles, buses, cement trucks, dump trucks, step vans, garbage trucks, municipal vehicles, refrigerated trucks, and conventional trucks.

# 3421-79

#### **Genisys Heavy-Duty Starter Kit**

Genisys Heavy-Duty Standard software includes J1587/1708 and J1939 CAN communications.

Kit includes 9-pin Deutsch cable, 6-pin Deutsch cable, Smart Card, and PC software CD.

NOTE: System 4.0, 4GB card minimum required to install: see No. 3421-138.



#### Heavy Duty Tools & Equipment Heavy Duty Scan

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# PC Program for HD Standard Diagnostics:

- RP1210 compatible and will work with any RP1210 VCI.
- SAE J1587 / J1708 and J1939 CAN, Engine, Transmission/ABS coverage .
- Read and clear diagnostic trouble codes.
- Live vehicle data of HD Standard Engine parameters.
- · Vehicle data communication and live data stream.
- Demo mode permits operation without vehicle connection.
- On-screen definitions of diagnostic trouble codes.
- PC & CD user's manual.
- · Customizable line graphs .
- · Automatic recording of data.
- Print screen data or save reports to print later.
- · Ez-Tap Kits Available.

#### 3070 – HD Scan Software

- Stand-alone software.
- · Works with any RP1210 interface (VCI).

#### 3076 - HD Scan with Ez-Tap

- · In-shop wireless capability.
- Ez-Tap Wireless Vehicle Communication Interface (VCI) works with OEM diagnostic software.
- One wireless VCI for all your diagnostic software.
- · Eliminate cables and cable replacement costs.

#### 3086 – HD Scan with Ez-Tap Extended Range

- 300 ft. wireless range to scan trucks anywhere on facility grounds.
- · Scan trucks and preform initial diagnosis before you bring them into the shop.
- · One wireless VCI for all your diagnostic software.
- · Eliminate cables and cable replacement costs.













www.otctools.com

Heavy Duty Tools & Equipment 189



# **Advanced Telematics Revolutionizing the** Heavy Duty Industry

- · No recurring monthly charges.
- Advanced Airbridge<sup>™</sup> 2 Technology. · Reduced latency for super fast vehicle connections.
- Ability to take fast diagnostic snapshots of a vehicle, even as they drive through an AirBridge™ 2 hotspot.
- · Faster than traditional wireless for most common diagnostic operations.
- · Reduced interference and less vehicle connection drops.
- · Range improvement over traditional wireless technology.



300 Ft. + range Note: 1000 Ft. + range with optional remote mounted antenna. (3075-07) sold separately.

- Designed for fleets of any size. - Purchase Ez-Tap Wireless
  - locking VCI for each remaining truck in your fleet (No. 3075-02).
- Locking VCI connects to the truck to maintain vehicle connect during transportation.

# Advanced **Diagnostic Hardware Revolutionizing the** Heavy Duty Industry

- The EZ Tap Diagnostic kit permits a Heavy-duty facility to use their OEM software for direct diagnostic mode operation.
- Advanced Airbridge<sup>™</sup> 2 Technology.
- · Reduced latency for super fast vehicle connections.
- · Faster than traditional wireless for most common diagnostic operations.
- · Reduced interference and less vehicle connection drops.
- · Range improvement over traditional wireless technology.

# OTC Ez-TAP (Diagnostic Hardware)

- · Ez-Tap truck access point hardware supports diagnostic modes of operation for J1939, J1708 and CAN protocols using a shops OEM software. This fully RP-1210a compliant access point communicates with the vehicle and transfers vehicle information to your PC. A 9-pin connector is built into the device, eliminating the need for a cable. Connection to the truck is accomplished in only a few seconds.
- · Direct Diagnostics Mode for use with OEM diagnostic software.
- · Fault Monitoring\* Selective Fault Reporting.
- Triggers\* Report deviation and duration for any parameter or event.
- · Parameter Monitoring\* Reports latest data from vehicle network.
- File Storage\*\* Enough onboard memory to store maintenance notes for the lifetime of the vehicle.
- \* Will require additional Ez-TRAC software 3085-03.
- \*\* Will require additional Ez-File software 3085-01.

#### 3075

## Ez-Tap Wireless

- **Diagnostic Hardware Kit** The EZ Tap Diagnostic kit enables a Heavy-Duty facility to use their OEM software for
- direct diagnostic mode operation. Kit includes: Ez-Tap wireless (non-locking) VCI, Ez-Base wireless adapter, Ez-Tap 9-pin to 6-pin adapter, USB cable and Ez-Tap CD.
- Note: OEM diagnostic software not included.





Locking



100 Ft. + range

# **OTC Ez-TAP (Telematics)**

- A truck access point providing telematics modes of operation for J1939, J1708 and CAN protocols. This fully RP-1210a compliant access point communicates with the vehicle and transfers vehicle information to your PC. A 9-pin connector is built into the device, eliminating the need for a cable. Connection to the truck is accomplished in only a few seconds.
- · Direct Diagnostics Mode for use with OEM diagnostic software.
- · Fault Monitoring Selective Fault Reporting.
- · Triggers Report deviation and duration for any parameter or event.
- · Parameter Monitoring Reports the latest data from vehicle network.
- · File Storage Enough onboard memory to store maintenance notes for the lifetime of the vehicle.

#### 3085

#### **Ez-Tap Fleet Telematic** Wireless Starter Kit

· Gives the user the ability to switch between Ez-TAP connected vehicles effortlessly. · Enables users to monitor connected

vehicle status locally and remotely.



- · Automatically produces reports providing vehicle health and status from vehicles entering the wireless hotspot.
- · Simple status lights on the VCI to alert you to vehicle issues immediately when the vehicle is in range.
- · Kit includes: Ez-Tap wireless locking VCI, Ez-Base extended range wireless, USB cable, Ez-Suite software.
- Note: OEM diagnostic software not included.





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Heavy Duty Scan

# Ez-Launch, EZ-Trac, **EZ-File**. **EZ-Suite Software Applications**

#### 3085-02

#### **OTC Ez-Launch Software**

This software allows users to automate mode switching and application launching. With a couple of clicks a user is able to switch from Ez-Trac telematics mode to direct diagnostic mode.

- · Enables fast launching of OEM Diagnostic software.
- · Simple and efficient switching between software applications.
- · Gives the user ability to switch between Ez-TAP connected vehicles effortlessly.
- 3085-03

#### **OTC Ez-Trac Software**

Software used to collect and view vehicle telematic and diagnostic snapshot information.

- · Enables users to monitor connected vehicle status locally and remotely.
- · Automatically produces reports providing vehicle health and status from vehicles entering the wireless hotspot.
- · Simple status lights on the dashboard to alert you to vehicle issues immediately when the vehicle is in range.
- Works with Ez Config Lite (sold separately 3085-04). to customize triggers and parameter limits for your fleet or vehicle.

#### 3085-01

#### **OTC Ez-File Software**

Allows users to read and write data files to flash memory, as well as upgrade firmware both manually and automatically.

· Allows data, such as vehicle maintenance history information, to be stored on the Ez-TAP.

#### 3085-05

#### **OTC Ez-Suite Software**

· Complete software package containing Ez-TAP Drivers, Ez-Launch, Ez-Trac, Ez-File Software, Ez-Config Lite Software.

#### **Ez-TAP Wireless VCI**

3075-01 9-pin non-locking

3075-02 9-pin locking

Note: For your PC to communicate with the Wireless Ez-TAP, you will need an OTC EZ-Base (3075-05) or OTC EZ-Base ER (3075-06).

**Ez-TAP USB VCI** 

9-pin non locking, (

3075-03

3075-04

16 foot USB cable

and Ez-TAP CD.

16 foot USB cable

and Ez-TAP CD.

**Ez-TAP Adapter** 

9-pin to 6-pin

adapter cable.

3075-03

3075-04

3075-08

9-pin locking,



#### 3075-05 Ez-Base Wireless Adapter

The Ez-Base allows a PC or host computer to communicate with Ez-TAP using our AirBridge<sup>™</sup> 2 wireless technology.

- · 100+ foot range.
- · Built in indicator lights.
- · Allows full wireless throughput for direct diagnostics.
- · Allows a single PC to connect to any Ez-TAP in range.



#### 3075-06

#### **Ez-Base Extended Range Wireless** Ez-Base Extended Range allows even more

range and flexibility for your truck yard or service environment.

- · 300+ foot range with the included antenna.
- · 1000+ foot range with optional remote mounted antenna. (3075-07) sold separately.
- Built-in Wireless signal strength indicator
- lights. · Plus all the features of Ez-Base.



**OTC Heavy-Duty Scan Tool** For Heavy-Duty shops that need a second tool in the shop and for their mobile repair trucks.

#### Product Features:

Brilliant Color Display

- Class 4 Class 8 truck coverage featuring "Automatic Protocol Search".
- HD J1587 / J1708 and J1939 CAN, Engine, Transmission/ABS coverage and more!
- · Live vehicle data such as: Engine speed, Engine ECU temperature, Percent acceleration pedal position, Engine intercooler temperature, Engine coolant temperature, Battery volts, Alternator volts, Ambient air temperature, Air inlet temperature
- · Read and clear diagnostic trouble codes.
- · Global OBD II All 9 Modes.
- · English, Spanish, and French support
- · Battery powered for off vehicle use.
- Trilingual Quick Start Guide included to help technicians get started fixing cars FAST.
- · CD-based manuals in Spanish, French, and English.
- · Customize data views in line graph, LED, or digital format with the push of a button.
- Three record modes marker frame, freeze data history, and code triggered record.

3417 HD Scan Kit Includes: HD scan tool, 9-Pin deutsch cable, 6-Pin deutsch cable, OBD II cable, heavy duty cable, USB cable, ScanMate software operations manual, carrying case and 3-vear warrantv.

#### 3418

#### **OTC Heavy-Duty Code Reader**

- Class 4 8
- HD J1587 / J1708 and J1939 CAN. Engine, Transmission/ ABS coverage and more for diagnostic trouble codes!
- Read and clear diagnostic trouble codes.
- Battery powered for off vehicle use.
- · Internet update capable.

#### Applications:

Tow trucks, recreational vehicles, cement trucks, dump trucks, garbage trucks, buses, step vans, municipal vehicles, refrigerated trucks, and conventional trucks.

Heavy-Duty Standard compliant construction, marine, agriculture, & industrial diesel power plant configurations!

3418 HD Reader Kit Includes: HD reader tool, 9-Pin deutsch cable, 6-Pin deutsch cable, operations manual, 3-year warranty, and soft nylon carrying case.





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23

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3085-03

#### Heavy Duty Tools & Equipment Heavy Duty Scan

# Smarter–Easier–Essential, The recognized standard in diagnostic scan tools.

Pro-Link iQ is designed to help diagnose engine, brake, and transmission failures. This easy-to-use, advanced tool is engineered to support today's commercial vehicles as well as the more complex vehicles of tomorrow. Using clear menus and message screens, the Pro-Link iQ guides technicians through the most complicated vehicle tests.

#### 3110

#### Pro-Link® iQ

- · Easy-to-use common user interface across all OEM applications
- Free trial period for all OEM software
- · Software easily updated via the Internet
- · Large capacity hard drive for future updates
- Light-weight and durable for the shop area
- 8.4" color screen for use in any light
- Touch screen for easy activation of on-screen tabs
- PC and printer connectivity via USB ports
- Can print to most USB printers
- · Power from either the vehicle or internal battery for continuous use
- 2 USB ports
- 1 compact flash port
- · Protective carrying case

#### Available iQ Applications

- Generic
- · HDS I Medium- and heavy-duty trucks
- OBD II I Light- and medium-duty trucks

#### OEM

- · Caterpillar I ACERT
- Detroit Diesel I DDEC III, IV, V
- International | Engine
- Allison I 1K and 2K, WTEC, CEC1
- WABCO | Air and hydraulic

#### 3110 Pro-Link kit includes:

PRO-LINK iQ scan tool, iQ Heavy-Duty Standard application, Power and data cable, 6-pin Deutsch adapter, 9-pin Deutsch adapter, 2-cell battery pack, CD manual/driver, Stylus pen and Carrying case.

#### 3110-22 Pocket iQ<sup>™</sup>

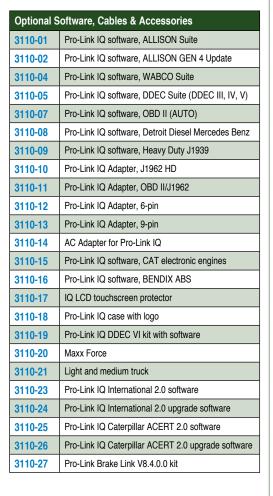
The versatile Pocket iQ reports both engine and transmission functions—and it covers brakes, too.

Gather data quickly and easily. Smart and handy, compact and lightweight, the Pocket iQ puts data at your fingertips.

Pocket iQ key functions and features:

- · Monitors all vehicle data
- Checks engine speed/load, pressures, temperatures, other data
- · Reads and clears active and inactive fault codes
- Displays trip data
- Collects and stores vehicle data from multiple vehicles
- Stores vehicle data in PDF or text format
- · Provides J1587 and J1939 data







See page 187 for OTC Heavy Duty Scan Diagnostic

#### Leak Detector System

# EVAP – Leak Detection System

- Vacuum Leak Testing
- Exhaust Leaks
- Crankcase Oil
- Wind and Water Leaks
- Cooling System Testing
- 1-Year Warranty

LeakTamer is the latest generation of leak detection systems, providing more smoke and better control. Solid-state circuitry improves reliability and ensures more consistent smoke output.

A wide assortment of accessories make the LeakTamer versatile tools for quickly locating different kinds of leaks.

#### LeakTamer Evap offers:

- Densest smoke in the industry.
- · Newly redesigned smoke chamber and control system.
- · More complete line of accessories.
- · User refillable.
- · Includes smoke producing solution for 500 tests.
- · Non-toxic, non-corrosive smoke.

#### **Product Features:**

- · OEM approved technology
  - Contains STAR Technology; the ONLY OEM-Approved smoke technology anywhere in the world
- · Large full range flow meter
  - Detects Microleaks<sup>™</sup> down to and below 0.10
  - Flow-test components with full range of flow values
- · Pinpoint leaks with Smoke and dye
  - UltraTraceUV® dye deposits at exact location of a leak
  - Finds leaks that smoke alone won't find
  - Introduce to an engine before disassembly to find internal leaks
  - It's the only OEM-Approved dye solution
- · Variable Smoke Flow
  - Helps pinpoint smoke exiting a leak
  - Directional knob shows exact flow position
- Compact light weight design
  - More powerful diagnostics in smaller package
- · Can be used with air or nitrogen
  - Use any inert gas for safer EVAP testing and shop air for all other tests

#### 6522 includes:

Leak Tamer unit, White/UV combination light with laser pointer, UV glasses, EVAP adapter tool, exhaust cone, cap plug adapters, removal tool, smoke producing solutions enough solution for 500 tests.





#### Accessory / Replacement Parts

,,	/ neplacement i alto	
6522-1	UltraTraceUV <sup>®</sup> (8 oz. / 236 ml) patented solution is the only Automaker-approved smoke-producing solution in the world. Contains a special dye that deposits at the exact location of a leak. Each bottle will perform approximately 300 tests. Part No. is for one bottle, two bottles included with 6522.	
6522-2	Inert Gas Pack Kit connects directly to fitting on back of LeakTamer 6522. Includes preset CO <sub>2</sub> regulator with cylinder fitting, 20 oz. liquid CO <sub>2</sub> cylinder, pressure gauge, universal push-on female coupler accommodates both automotive and industrial male fittings (Cylinder arrives empty) Performs approx. 25-50 full cycle EVAP tests per 20 liquid oz. cylinder.	\$1_ 
6522-3	Combination Light for easier smoke location and ultraviolet (UV) light, to highlight the fluorescent dye deposited at the exact location of a leak. Also has laser pointer. Includes batteries and glasses.	
6522-4	Standard Size Service Port Adapter.	
6522-5	Schrader® Removal / Installation Tool.	
6522-6	Cap Plugs Kit. Used for sealing some systems during leak testing.	
6522-7	Universal Fuel Neck Adapter fits the majority of vehicles. Allows access to fuel tank for evaporative system testing.	
6522-8	BMW and MINI Fuel Neck Adapter. Allows access to fuel tank for evaporative system testing.	
6522-9	Smoke Diffuser locates leaks around doors, windows, sunroofs, trunk compartment seals, EV vehicles' battery modules, or any closed system that can be pressurized from the inside and observe the smoke disturbance from the outside.	
6522-10	Cone Adapter (standard) for introducing smoke into induction or exhaust system. 1" x 3.5" & 6" long (25.4 mm x 89 mm x 152 mm).	
6522-11	Cone Adapter (Large) for introducing smoke into induction or exhaust system. 3.5" x 6" & 4.6" long (89 mm x 152 mm x 144 mm).	
6522-12	Replacement Dipstick (for 6522).	
6522-13	Replacement smoke supply hose and nozzle	Q
6522-14	Nozzle	
6522-15	Flow meter red pointer flag. For easy viewing of flow meter measurements.	



Diesel Emission Tester

#### Smoke Check 1667 Diesel Emission Tester

In some states, failing the on-road emission test can result in a "must appear in court" citation, and up to an \$1,800 fine. Add the downtime, missed delivery, rescheduling, and the potential for lost business. More states are adopting emissions standards and testing programs. This can cost time and money for local and interstate fleets.

#### SMOKE CHECK 1667 DIESEL EMISSION TESTER

- Fleets can determine immediately if the truck will pass state standards and interstate emission programs.
- Completely portable; all components in one case; there is no PC.
   One person can do the entire test. Windows-based, PC downloadable program transfers up to 100 stored tests.
- No warm-up time needed; perfect for random roadside testing or in your PM Service Program.
- The partial flow meter clips inside any smokestack; testing can be performed in any weather.
- Digital LCD screen walks you through each step; when testing is complete, a printout of results is produced for verification.
- This is the same meter used for enforcement in California, New York, Illinois, and the majority of states that test for diesel emissions compliance.
- · Meets the latest SAE J1667 specifications.

SPECIFICATIONS	
Range	0–100%
Accuracy	+/-1.0%
Light Source	Green LED
Power	12 VDC battery (built-in)
Battery Life	40 hrs./charge
Warm-up Time	
Response Time	
Control Unit	14" x 10" x 8"
Maintenance	.Clean lens w/cotton swab
Weight:	
Control Unit	15.5 lbs.
Sensor	3.5 lbs.

#### **ORDERING INFORMATION:**

#### RM1020CPCL

Smoke Check 1667 diesel smoke opacity tester. Includes partial flow meter, base unit with hand-held display, built-in printer, ambient sensors, two battery chargers – one for vehicle or shop, 20 ft. cable, telescoping rod, spring clamp, neutral density filter, and sensor head case.

#### **OPTIONAL ITEMS:**

#### OTC3020CPCL

Standard meter listed above with OIL/RPM software and accessories. These options are required for state approval testing in New York and New Jersey.

#### **OTCSH**

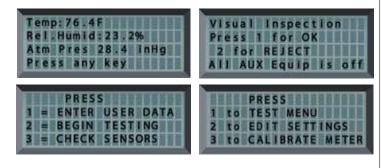
Sensor head with quick detach release.

One person can run the entire test, even in the wind, since the sensor measures smoke inside the stack.





Scrolling instructions walk you through the entire testing procedure.



Aluminum rod telescopes from 3 ft. to 8 ft.; reaches all stacks.

Optional pinch clamp holds head securely, on horizontal or downward facing stacks.

Three-point detachment quickly releases the sensor head for easy cleaning.



RM1020CPC

#### Battery Tester / AC

#### Sabre Heavy-Duty Battery and **Electrical System Diagnostic Tester**

- · Heavy-duty for 24-volt battery and electrical systems.
- · Diagnoses battery packs in series, parallel, or series/parallel.
- · Tests AGM/gel-cell batteries.

HIGHEST CCA capacity ranges (50-4000 CCA - 24V).

LARGE DISPLAY for less scrolling, more detailed instructions. It's also backlit for all light conditions. INDUSTRY FIRST amp-clamp connection ports for live

amperage readings using optional external amp-clamp. 15 FT. Cable to perform tests from the cab of the vehicle.

FIELD UPDATEABLE to accommodate new battery types, system updates, feature additions.

#### **Battery Testing**

- · Tests the following battery pack configurations:
- One battery (6V or 12V).
- Two batteries in series (24V); 2, 3, or 4 batteries in parallel (12V).
- Two banks in parallel, each bank having 2 batteries in series (24V).
- · Uses pack configuration in algorithm design.
- · Step-by-step user instructions for easy test completion.
- · Tester-applied loads used on all pack combinations.

#### **Electrical System Testing**

- · 12V and 24V charging system tests.
- · 12V and 24V starting system tests.
- · 12V and 24V diode tests.
- · Amp-clamps available (not included) for starting/charging and current draw tests.

#### **Product Features:**

Amp-Clamp Connection - allows current drain tests and starting/charging analysis.

Tests Both FLA (flooded lead acid) and AGM (absorbed glass mat) battery types.

Scales - CCA, CA, AHR, MCA, JIS, DIN

User Definable - print header and footer.

Removable Test Cables - easily field replaceable.

PC Interface Port - allows for field updateable software.

IR Compatible - allows optional infrared wireless printer. Readout Display - backlit for low light conditions, easy to view data in direct sunlight (4 x 20 character display).

Security Cable Connection - protects against stolen or dropped units.

Over-molded Surround with Soft-touch Keys - ruggedly built, easy to use, even with gloves.

#### 3167-HD

#### Sabre HD deluxe kit

Includes 24-volt heavy-duty battery tester, 15' test leads, instruction manual, molded-plastic carrying case.

#### 3168-HD

Sabre HD deluxe kit with printer

Same as No. 3167-HD above, but also includes an infrared wireless printer.

#### Accessories:

3172-15 - 15' lead set. 3169 - Infrared wireless printer. 3173 - Low-range amp probe (current drain tests). 3174 – High-range amp probe (starting/charging test).





# 3181

#### 130-Amp Heavy-Duty Battery Load Tester

Applying an industry-leading 130-amp load, this ergonomically designed, heavy-duty battery tester provides accurate, reliable test results in just 10 seconds. It includes uniquely designed clamps for a positive grip on top- and side-post batteries and an extra-large, easy-to-read display.

#### Product Features:

- · 130-amp load capacity for accurate results.
- 0-16 volt range.
- Uniquely designed clamps for both top- and side-post batteries.
- · Extra-large display with zero adjust.
- · Works on both 6V and 12V batteries.
- · Side tabs for on-tool clamp storage.
- · Back brackets for tool storage on wall or toolbox.



34288 - Combines simple operation with superior accuracy. It recovers, recycles, evacuates, leak tests, and recharges R-134A quickly and accurately. Meets SAE J-2788 standards for accuracy: 95% refrigerant recovery and charging to +/- 1/2 oz.

34788 - Combines simple operation with superior accuracy. It recovers, recycles, evacuates, leak tests, and recharges R-134a quickly and accurately. Fully automatic function lets you recover, vacuum, leak test, charge, and then walk away.

Features:	34288	34788
Fully-Automatic Function: Program to recover, vacuum, leak test and charge without operating panel valves.		Х
Automatic Oil Drain: A display reminds you to empty the graduated container to show the amount of oil to replace.		Х
Oil Inject: Less than 1% cross-contamination.		Х
Refrigerant & Oil Database: For North American market vehicles 1994 - 2007 (updates available mid-2008).		Х
Indicator light and notification alarm: Notifies the user when service is com- plete, or if a problem has occurred.		Х
Vacuum Leak Test: Monitors level after evacuation, informs of possible leak.	Х	Х
Automatic Air Purge: Eliminates damaging air without monitoring gauges or opening valves.	Х	Х
Automatic Refrigerant Refill: Maintains a user-selectable amount of refrigerant in an internal vessel and signals with it's time to change supply tank, no monitoring required.		Х
Vacuum Feature: Defaults to 15 mins, programmable up to 99 mins. "Remaining time" is displayed.	Х	Х
Display: Multilingual	Х	Х
Refrigerant Charging: Select a charge mode from high or low side.		Х
Refrigerant Management System: Displays refrigerant use and monitors remaining filter life. Prompts appear when 1/3 of filter life remains.	Х	Х

#### Heavy Duty Tools & Equipment AC / Coolant



#### 17800B

#### Multiple Refrigerant Recovery, Recycling, and Recharging Machine

The 17800B recovers, recycles, evacuates and recharges - all in one fast, continuous operation through one hook-up. It's ideal for refrigerated trailers, buses, RVs, and other vehicles that use more than one refrigerant. The Multi RRR machine is also great for fleet maintenance, covering a variety of makes and models since it has both R-12 and R-134a capabilities. In-plant maintenance departments will find it can handle the different types of refrigerants used in various systems.

#### Proven technology simplifies service!

Microprocessor - Controls functions; prompts lead you through programming and also signal when it's time to change the filter-drier, vacuum pump oil, and compressor oil.

Float Chamber - Automatically adjusts from liquid to vapor for most efficient recovery.

Electronic Scale – Makes it simple to recharge to factory specifications; also weighs recovered refrigerant and provides tank overfill protection.

**CoolTech Vacuum Pump** – 6 CFM has the capacity to thoroughly evacuate the system, readying it for recharging.

#### Versatility for many types of systems!

Lockout Panel - Prevents mixing of refrigerants; rotates to one side for 1/4" fittings and to the other for 1/2" Acme fittings.

Single-Pass Recycling - Makes an initial pass through the filter-drier; additional recycling can be programmed in case of compressor burn-out, or other conditions.

Heavy-Duty Filter-Drier – Removes moisture and acid from the refrigerant; can handle up to 200 pounds between change- overs. Comes with two 50 pound tanks, one with 1/4" fittings and the other with 1/2" Acme fittings. Also three sets of charging hoses are included - one for R-12, one for automotive R-134a (with field service couplers), and one for other refrigerants using 1/4" SAE fittings.

#### International Models

17801B - 220-240V 50 Hz. readout in kilograms.

#### **Replacement Parts**

19776 - Recycling filter-drier.

17506 - 50 lb. (23 kg) refillable tank, 1/4" fittings.

34750 - 50 lb. (23 kg) refillable tank, 1/2" ACME fittings.

#### Specifications

Voltage
Tanks Two 50 lb. (23 kg) refillable
Operating Range
Recovery Rate Vapor - 1/2 lb/min. (.2 kg/min.) Liquid - 1 lb/min. (.4 kg/min.)
Recycling Rate
Recycling Filter-Drier 1150 g XH-9
Pump Free Air Displacement 6 cfm (142 l/m) at 50 Hz
Dimensions
Weight

Works on both pressurized and non-pressurized cooling systems.

#### **Increase Your Profits**

 Our 10-minute exchange process means no more waiting for the engine to warm up!

#### **Coolant Exchange Unit** Designed with the user in mind.

#### Safety First

- · Our "engine off" feature removes pulleys, belts, and fan blades from the safety equation.
- · No additional ventilation required.
- · Vacuum mode creates a "push/pull" exchange process allowing the technician to safely remove high pressure in a hot system.
- "Hands-off" transfer of used coolant to a bulk tank prevents spills and helps protect the technician.

#### Simple to Operate

- Two clearly marked valves and an easy-to-read gauge make this machine very simple to use.
- · Sight glass clearly shows the amount of coolant in the waste tank.
- One valve controls the flow of coolant; process is easy to understand-no special training needed.
- No electricity required. 90 psi shop air drives the exchange process, as well as the 2 gpm pump on the waste tank.

#### **Designed to Survive**

- · Impact-resistant polypropylene cabinet will not scratch or dent vehicle.
- · Cabinet is impervious to chemicals commonly used in the shop.
- Large, inflatable tires carry a well-balanced platform easily across any shop floor.
- · Easy to maneuver between bays and vehicles.

#### **Extra Design Features**

- · Two external new coolant supply tanks allow on-board storage of two different coolant types.
- · Graduations on tanks show user the amount of new coolant on board.
- · On-board storage of step adapters.
- · Adapter kit included.
- · No hoses to cut.
- · 96" hoses can be neatly stored on unit.
- · One-year warranty.

#### **Replacement Parts and Accessories**

75369 - Replacement coolant 5-gallon tank.

75360 - Heavy-duty adapter kit. Links the two tanks for 14 gal. capacity to service class A vehicles. (Note: must have 7-gallon tank No. 75370).

- 75370 Replacement coolant 7-gallon tank.
- 17490 Protect your investment with a heavy-duty vinyl dust cover.

#### Specifications

Power Supply - 90 psi shop air

Tanks - Internal waste - 15-gallon capacity

- External supply (2) 7-gallon capacity (removable)

Dimensions:	
Medium Step Adapter	Two included; fits hose size 1-1/4", 1-3/8", and 1-1/2"
Large Step Adapter	Two included; fits hose size 1-3/4", 2", and 2-1/4"



75700

Back View: 7-gallon capacity supply tanks allow storage of different coolants

75360







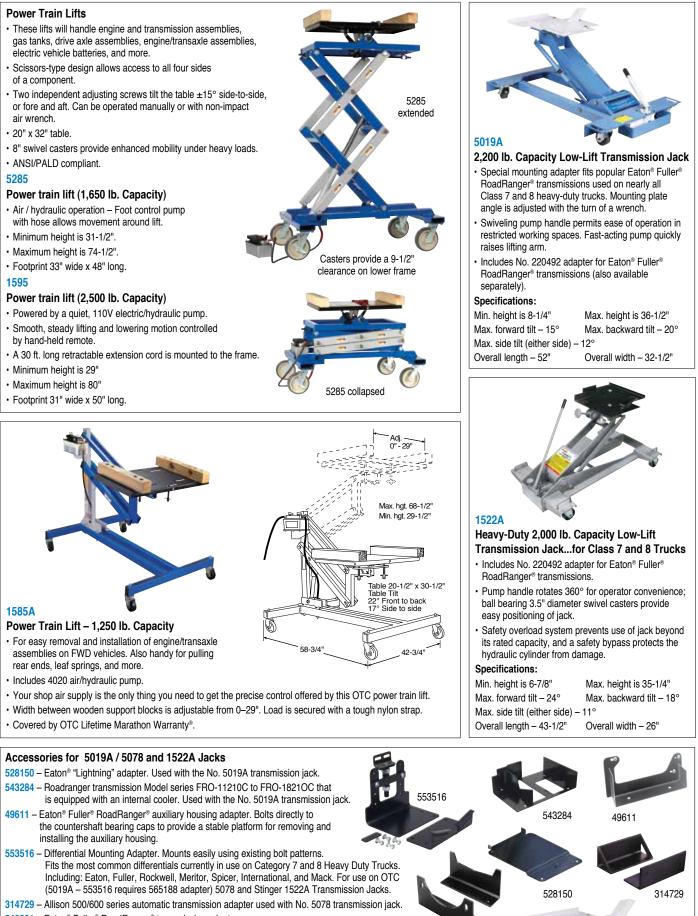
19776

DU

(1116)

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#### Shop Equipment Power Train Lifts



540231 – Eaton<sup>®</sup> Fuller<sup>®</sup> RoadRanger<sup>®</sup> transmission adapter.

540232 - Mack transmission mounting brackets. Provides a stable platform for Mack T200 series transmissions

www.otctools.com

540231

540232

#### Shop Equipment Transmission Jacks



#### 5078

#### Air-Assisted 2,000 lb. Capacity High-Lift Transmission Jack... for Trucks & Buses

- · Low height of 41-1/2" allows transmission to be rolled out from under vehicle's frame.
- · Foot-operated air pump enables the operator to effortlessly raise the transmission into place.
- Rugged, heavy wall tubing and oversized base for stability.
- · A dedicated adapter for Allison 500- and 600-series automatic transmissions is included.
- Covered by OTC Lifetime Marathon Warranty<sup>®</sup>.

#### Specifications:

1521A

1,000 lb. Capacity

Low-Lift Transmission Jack

transmission alignment.

moving about the shop.

beyond its rated capacity.

the vehicle.

position.

Specifications:

· Universal mounting head, with adjustable brackets,

· Safety chains hold the load securely, even while

· Wide, stable wheel base with four swivel casters,

· Safety overload prevents jack from being used

Pump handle rotates a full 360° for use in any

and two handle grips make it easy to position under

tilts front to back and side to side for easy

Min. height is 41-1/2" Max. height is 65" Max. forward Tilt - 50° Max. backward tilt - 38° Max. side tilt (either side) - 14° Leg width - 46"

Head adjustable to 19-1/2" x 18". 1728

#### Air-Assisted 1,000 lb. Capacity High-Lift Transmission Jack

- · Unique foot pedal design gives you complete control over the air-driven first stage to rapidly raise the mounting head to the transmission; second stage is hydraulically actuated - permitting precise operator control during removal and installation.
- Transmission mounting head features four ratcheting brackets that adjust to fit a wide range of transmissions. Four-wheel base with locking swivel casters provides stability and portability.
- · Safety bypass prevents damage caused by a system overload.
- Carries OTC Lifetime Marathon Warranty<sup>®</sup>.

#### Specifications:

Min. height is 34-1/2" Max. height is 75" Max. forward tilt - 50° Max. backward tilt - 20° Max. side tilt (either side) - 10° Leg width - 41"



# **Fuel Tank Handler**

- · Provides safe and efficient handling of fuel tanks. Adjustable from 24" to 38" horizontally, and 7" to 11" vertically, to service tanks up to 40 gallons.
- · Universal adapter plate fits all OTC and virtually all competitive transmission jacks and power train

Shown

jack.

mounted on

an OTC No.

1728 high-lift

- lifts in the market. · Gearing mechanism ensures equal extension of lift arms to ensure load is
- properly balanced over jack.
- · Four adjustable
- support risers can be individually adjusted to ensure a perfect fit to any fuel tank design.
- Cross-link polyethylene
- foam pads protect tank from damage.



#### **High-Lift Transmission Jack**

- · Universal mounting head provides wide fore and aft tilt range.
- Two-stage hydraulic cylinder design.
- Innovative folding foot pedal and release provides precise ease of control when positioning or removing a transmission.
  - Significantly reduces force required to lift extremely heavy transmissions.
- · Upgraded ergonomic handles for adjustment. ANSI/PALD compliant.

#### Specifications:

Min. height is 34-1/2" Max. forward tilt –  $50^{\circ}$ Max. side tilt (either side) - 10° Leg width - 41"

Max. height is 75" Max. backward tilt - 20°

#### 223196

Transmission Jack Mounting Adapter Set

- Used with No. 1728 transmission jack. Ideal for use on larger standard transmissions with irregularly shaped oil pans.
- Four adjustable arms help stabilize transmissions that have rounded bottom surfaces.





Min. height is 7-1/2" Max. height is 29-3/4" Max. forward tilt - 67° Max. backward tilt - 17° Max. side tilt (either side) - 30° Overall length - 34-1/2" Overall width - 19.3/8"



#### Shop Equipment Transmission Jacks / Lifts



#### 1794A

#### Air-Assisted 1,000 lb. Capacity High-Lift Transmission Jack

- Air-assist primary stage for rapidly raising the mounting head, activated by depressing foot pedal.
- Hydraulic secondary stage for precise operator control, activated by a hand pump to raise the load, and a release knob to lower the load.
- Big, easy-to-grip knobs that make mounting head adjustments simple, and a safety chain for securing the load.
- Wide leg base with 4" polyurethane swivel wheels that provide stability and easy maneuvering. (Brakes on two of the wheels.)
- Safety overload system to prevent jack from being used beyond its rated capacity.

#### Specifications:

 $\begin{array}{ll} \text{Min. height is 37-5/8"} & \text{Max. height is 76-1/2"} \\ \text{Max. forward tilt} - 42^\circ & \text{Max. backward tilt} - 46^\circ \\ \text{Max. side tilt (either side)} \pm 12^\circ \\ \text{Leg width} - 37-1/8" \\ \end{array}$ 





#### 1793A 1,000 lb. Capacity

#### High-Lift Transmission Jack

- Universal saddle tilts front to back and side to side; features adjustable corner brackets and safety chain for optimum positioning of the load.
- Flash-chromed rams inhibit rust from entering the hydraulic system.
- Foot-operated pump and lowering pedal for ease of control when positioning or removing a transmission.
- Wide leg base with 4" polyurethane swivel wheels that provide stability and easy maneuvering. (Brakes on two of the wheels.)
- Safety overload system to prevent jack from being used beyond its rated capacity.

#### Specifications:

 $\begin{array}{ll} \text{Min. height is 35"} & \text{Max. height is 71-5/8"} \\ \text{Max. forward tilt} - 24^{\circ} & \text{Max. backward tilt} - 19^{\circ} \\ \text{Max. side tilt (either side)} \pm 20^{\circ} \\ \text{Leg width} - 37-1/8" \\ \end{array}$ 

#### 1590

#### 10-Ton Air Lift

- Adjustable lifting saddles and an extra-wide stance
- for extra stability.

  10 tons of lift at
- 200 PSI air pressure.
- Lifting range is 13" to 52".
  Automatic mechanical safety catch engages
- in five height positions
   Two large swivel casters and pneumatic
- tires make it easy to maneuver, even on loose gravel.
- Covered by OTC Lifetime Marathon Warranty<sup>®</sup>.
   Specifications:

Capacity -10 tons (at 200 psi air) Air pressure -100-200 psi Lifting range -13"-52"Saddle width -29" - 41-3/4"Height -67-1/2"Width -41"Length -36"Distance from lift arm to floor support -12-1/2"



#### 10-Ton Capacity Lifting System (Includes two lifts)

- Mobile, tandem system is air-operated. This will handle your class 7 and 8 tractor lifting needs. No need to waste time re-blocking and making additional lifts for the clearance you need for under-vehicle service. Roll the system to the vehicle anywhere in the shop or outside on a level surface.
- Unique design provides lift from the tires, not the frame or axle members. Ideal for situations where limited ground clearance or a lack of clear access complicates lifting.
- Single controller operates both sides of the system for a smooth, level lift up to two full feet from the bottom of the tires to the ground. Units can double as support stands when retention pin is inserted.
- Covered by OTC Lifetime Marathon Warranty<sup>®</sup>. Specifications:

Capacity - 10-tons (20,000 lbs.) (pair)

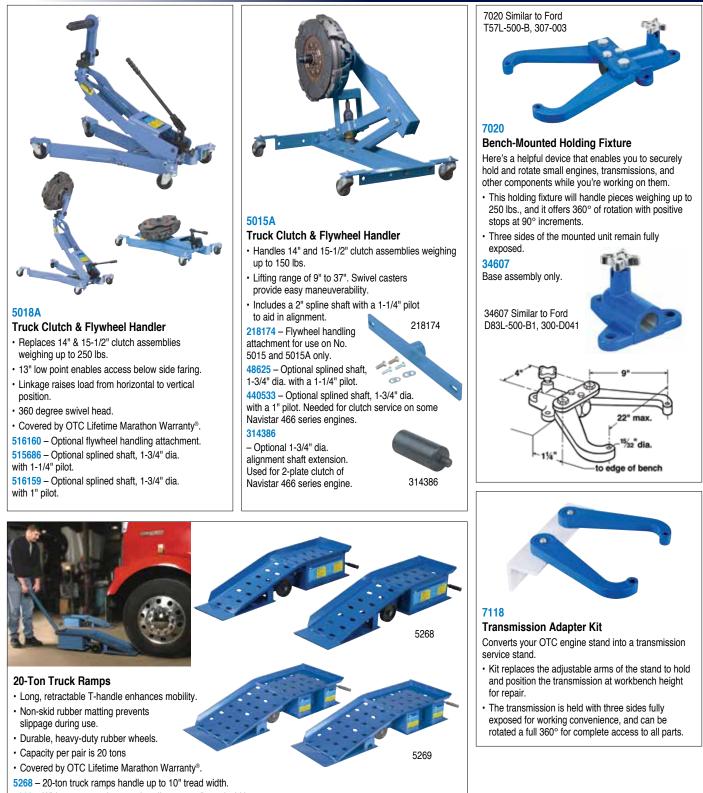
Air pressure – 150 psi

- Lifting range 0"-24"
- Saddle width 19-1/2" 24" dia. rim sizes Height - 53-1/4"
- Width 41-1/2"
- Length 39-1/2





#### Shop Equipment Clutch Lifts / Truck Ramps



5269 - Wide 20-ton truck ramps handle up to 16" tread width.

Model	Frame Height	Frame Width	Frame Length	Wheel Diameter	Handle Length
5268	9-1/4" (23.5 cm)	13-1/2" (34.29 cm)	47" (119.38 cm)	5" (12.7 cm)	33" (83.82 cm)
5268	9-1/4" (23.5 cm)	18-1/4" (46.36 cm)	47" (119.38 cm)	5" (12.7 cm)	33" (83.82 cm)

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Under Axle Service Jacks



- · Features class-leading 27.5 ton capacity
- · Robust design with completely sealed piston reduces likelihood of contamination of hydraulic fluid.
- · Ergonomic handle design provides convenient location of air valve and release knob.
  - Incorporates both hand release knob and venturi vacuum system for power return with no load.
- · Four position handle includes 'stow away' position for convenient storage.
- · Maximum height of 21-3/8 inches when used with screw extended and large adapter.
- · Complies with latest ASME/PALD standards.

#### Specifications:

Minimum retracted height (with saddle) - 8-1/4" Maximum lifting height (with saddle only) - 13-1/8" Maximum lifting height (with screw extended and large adapter) - 21-3/8" Stroke - 4-15/16" Large adapter length - 3-15/16" Screw extended length - 4-3/4" Handle length - 48-3/4" PSI range - 90 to 175 psi.

#### 5093B

#### 3-Stage Under-Axle Jack

Three-stage lift capacity 20T, 35T, and 65-tons. Ideal for lifting loaded trailers, buses, and other Class 7 & 8 vehicles.

- Piston and cylinders are made from chromium molybdenum vanadium steel for durability and then liquid nitrided to prevent rust and seizing.
- · Features a high load-approach speed.
- · Air-driven cylinder with pressure control knob for maximum user safety.
- · 4-position handle: horizontal, 45 degrees, vertical, or collapsed.
- · 7-inch minimum height for low clearance vehicles.
- · Comes complete with a 3-15/16 in. (100 mm) lifting extension.
- · Complies with ASME / PALD test requirements.







Single control switch, handy and easy to use.

4 positions: horizontal, 45 degrees, vertical, or collapsed for easier transport.



1788A

· Lifting range:

3/4" saddle

3-7/8" saddle

8-1/4" width for easy access to the lifting point.



· CE marked - ASME / PALD tested.



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#### 2- & 3-Ton Service Jack

- · Ergonomic handle for user comfort and easy mobility.
- Foot pedal for quick approach of the lifting saddle to load. Built-in tray for fasteners and tools.
- CE marked ASME/PALD tested.
- · Covered by OTC Lifetime Marathon Warranty®.
- 5202 2-ton service jack.
- Min. height 3"; Max. height 18-1/4".

5203 - 3-ton service jack.

Min. height 5-1/2"; Max. height 20-1/2".

Specifications		5202	5203
Capacity		2-ton	3-ton
Min	. height	3"	5-1/2"
Мах	k. height	18-1/4"	20-1/2"
Overall length		34-5/8"	42-1/4"
Ove	erall width	14-3/16"	14-3/16"
Handle length		39-1/2"	39-1/2"



- Service Jacks Aluminum Racing Jack – Lifts 2-Tons and Weighs only 43 lbs.! · Low profile makes it perfect for ground hugging, high performance cars. · Five pumps to max. height. • Min. height 3-1/2"; max. height 18". 1533 Jack & stands · Includes side-mounted handles for quick and easy carrying. Made from aircraft-grade aluminum. Two-piece, 45" long handle snaps together for quick setup. · Removable, rubber saddle pad protects vehicle and prevents slipping. 1532 - 2-ton aluminum racing jack. 2-Ton Aluminum Jack Stands • 10-1/4" min. height. • 15-1/4" max. height. 1582 Stands 1532 Jack · The pair weighs only 11 lbs.! · Made from aircraft-grade aluminum. 1582 - A pair of 2-ton aluminum jack stands. 2-Ton Racing Jack Pack 1533 - Includes 2-ton aluminum racing jack and a pair of 2-ton aluminum jack stands. 552650 552650 - Aluminum racing jack wall mount. 1525 2-Ton Service Jack The strongest lack frame in its class: features flanged edges, both top and bottom, to resist twisting. · Lifting range 18-3/4"
- Min. height 3-3/4"; max. height 22-1/2".
- Handle length 48".
- Sealed cylinder prevents contamination of hydraulic system.
- Conforms to ANSI PALD Part 10. Carries OTC Lifetime Marathon Warranty<sup>®</sup>.

#### 529219 - Jack replacement saddle.

The stem on this saddle will fit jack lift arms measuring 1" diameter. Bushing included will enable this saddle to also be used on jack lift arms of 1-5/32" diameter. Form-fitted saddle top is made of rubber to prevent damage to the finish of the undercarriage.

#### 2-1/2 Ton and 3-Ton Service Jacks

- The Stinger series 2-1/2 and 3-ton hydraulic service jacks are designed for the budget-minded shop owner, who still wants the quality of an OTC product.
- Built from select steel, these jacks can stand up to the abuse that jacks are subjected to daily. Yet, their light, compact design makes them easy and convenient to use.
- Each jack has a built-in safety overload system that prevents use beyond its rated capacity.
- With rear swivel casters, maneuvering and positioning of these jacks is an easy task.

1503A – 2-1/2 ton service jack with lifting range of 4-1/2" to 20". 1504A – 3-ton service jack with lifting range of 5-3/8" to 19-7/8".

Specifications	1503A	1504A
Capacity	2-1/2 ton	3-ton
Lifting range	4-1/2" to 20"	5-3/8" to 19-7/8"
Saddle dia.	5"	5"
Overall reach	21"	21"
Frame height	6-1/4"	6-1/4"
Handle Length	37-1/2"	37-1/2"
Floor space	14" x 26"	14" x 26"



529219





#### Shop Equipment Service Jacks



#### 1500A

#### 3-Ton Stinger Jack Pack

- Pack includes both a No. 1504A 3-ton hydraulic service jack and a pair of No. 1772D 3-ton ratcheting jack stands.
- The stands have a steel base for strength, self-locking ratchet handle, durable baked enamel finish, and conform to ANSI PALD-4 load rating standard. Base: 8-1/4" x 7-1/2". Height range: 11-5/8" to 17-1/8".
- Jack has a light, compact design with a 37-1/2" handle length, and a lifting range of 5-3/8" to 19-7/8".



#### 1526

#### Two-Speed

3-1/2 Ton Service Jack

The ideal floor jack for both a large automotive service center or a one person shop.

- · Gets to the load quickly.
- One pump to load; three pumps to full height unloaded.
- Extra wide lift range from 4" to 21".
- A long 48" spring-loaded handle provides rapid return after each pump.
- Heavy-duty construction rolled edges add strength and resist twisting.
- With a wheel base of 23", the front wheels are 3-1/2" diameter and rear casters are 2-1/8".
- Pinned 4-3/4" saddle will not lift off during use.
- · 2-year limited warranty.



#### 5-Ton and 10-Ton Air/Hydraulic Service Jacks

- Bring the versatility of air-assist operation to your shop's lifting tasks.
- Huge front wheels mounted in bearings provide trouble-free service life. Rugged steel frame members.
- Rear swivel casters make spotting the jack easy. Spring-loaded handle may be locked in three positions, from horizontal to vertical.
- 1507B 5-ton air/hydraulic service jack.
- 1511B 10-ton air/hydraulic service jack.

Specifications	1507B	1511B
Capacity	5 ton	10 ton
Air pressure	80–120 PSI	80–120 PSI
Lifting range	5-7/8" to 22"	6-3/8" to 22"
Saddle dia.	6-5/8"	7-3/8"
Overall reach	87"	90"
Frame height	8"	12-3/4"
Handle length	40"	42"



# 5206

#### 6- & 10-Ton Heavy-Duty Service Jack

- Ergonomic handle for user comfort and easy mobility.
- Foot pedal for quick approach of the lifting saddle
- to load. Built-in tray for fasteners and tools.
- CE marked ASME/PALD tested.
- Covered by OTC Lifetime Marathon Warranty<sup>®</sup>.
- 5206 6-ton HD service jack.

Min. height 6-11/16" Max. height 22-13/16"

5210 – 10-ton HD service jack.

Min. height 6-11/16" Max. height 23-13/16"

Specifications	5206	5210
Capacity	6-ton	10-ton
Min. height	6-11/16"	6-11/16"
Max. height	22-13/16"	23-13/16"
Overall length	87"	99-1/2"
Overall width	16-5/8"	16-5/8"
Handle length	39-3/8"	39-3/8"

#### Shop Equipment Service Jacks

5007, 5008

5009



#### 6- & 10-Ton Capacity Air/Hydraulic Service Jack

- Huge steel front wheels are mounted in bearings for trouble-free service life. Rear swivel casters make spotting the jack easy.
- Spring-loaded handle can be locked in three positions.
- · Covered by OTC Lifetime Marathon Warranty®.

5106 – 6-Ton air/hydraulic service jack. Lifting range 4-3/4" to 23-1/4", reach 87", 45" handle.

5110 – 10-Ton air/hydraulic service jack. Lifting range 6-3/4" to 26-7/8", reach 93", 47" handle.

Specifications	5106	5110
Capacity	6-ton	10-ton
Air pressure	90–175 PSI	90–175 PSI
Lifting range	4-3/4" to 23-1/4"	6-3/4" to 26-7/8"
Saddle dia.	7"	7-3/8"
Overall reach	87"	93"
Frame height	8"	10"
Handle length	45"	47"

4-Ton, 10-Ton, and 20-Ton Hydraulic Service Jacks
Built of the highest quality heavy gauge steel,

- these jacks feature precision hydraulics for a lifetime of hard work.
- Low-profile stance and extended height add to versatility. They lift everything from cars to trucks to heavy-duty commercial vehicles.
   Huge metal wheels and swivel casters roll effortlessly on internal bearings.
- Either the foot pedal or jack handle may be used for pumping action. Counter-balanced, spring-assisted handle has a three-position lock.
- OTC Lifetime Marathon Warranty®.

5007 – 4-ton service jack.

Lifting range 5-1/2" to 26-1/2", 40" handle.

5008 – 10-ton service jack.

Lifting range 7" to 25-1/2", 40" handle

5009 – 20-ton service jack. Lifting range 7-1/2" to 25-1/4", 40" handle

Specifications	5007	5008	5008
Capacity	4-ton	10-ton	20-ton
Lifting range	5-1/2" to 26-1/2"	7" to 25-1/2"	7-1/2" to 25-1/4"
Saddle dia.	7-7/8"	9"	9-1/4"
Overall reach	58"	66"	69"
Frame height	5-1/2"	7"	10-1/4"
Handle Length	40"	40"	40"

#### 5-Ton and 10-Ton Service Jacks

- A built-in safety overload prevents using the jack beyond its rated capacity.
- Convenient foot pedal speeds the lifting operation. Handle lock and release control are located on top of the handle. Handle can be locked into any position from vertical to horizontal.
- Both models have a spring-loaded 40" handle.
- 1505B 5-ton service jack.
- 1510B 10-ton service jack.

#### 20-Ton Capacity Service Jack

- Low-profile stance and extended height add to versatility.
- Wheels and swivel casters feature internal bearings.
- Either the foot pedal or jack handle may be used for pumping action. Counter-balanced, spring-assisted handle has a three-position lock.

1512 - 20-ton service jack.

Specifications	1505B	1510B	1512
Capacity	5-ton	10-ton	20-ton
Lifting range	6" to 22"	6-1/4" to 22"	7-1/2" to 24"
Saddle dia.	5-1/8"	6"	7-1/2"
Overall reach	47"	51"	97"
Frame height	7-3/4"	9-3/4"	10-1/4"
Handle Length	43"	43-1/4"	42"
Floor space	14-3/4" to 56"	18" to 60"	18-1/8" to 61-3/8"

1505B

1512

1510B

Fork Lift Jacks / Stands

#### 5214

- 4-Ton Capacity Fork Lift Jack
- 8,000 lb. capacity with a low starting height of 2-5/32".
- 10,000 lb. capacity (5 tons) when lifting from cylinder saddle- ideal for agriculture and industrial applications.
- Unique shape of primary saddle allows for handling of all lift truck configurations with flat or edged surfaces.
- · Features include high-quality seals, chrome-plated internal components, and high-strength steel construction.
- Secondary lifting surface feature.
- · Complies with ASME-PALD.
- Lifting Height: 2-5/32 17-15/16"

#### 1540

#### 4-Ton Capacity Fork Lift Jack

- · 8,000 lb. capacity with a low starting height of 2-5/8".
- · Two-position lift pad permits handling of all lift truck configurations with flat or edged surfaces.
- Minimum low lift: 2-1/4".
- · Maximum high lift: 16-1/4". · Features include high-quality seals and high-strength
- steel construction. · Handle stop makes for easy maneuverability.
- · 30" long handle.



#### 3-, 6-Ton Ratchet-Style Jack Stands

- · Formed and welded steel base for strength; self-locking ratchet handle cannot be released under load. Durable baked enamel finish resists corrosion.
- · Stands conform to ANSI PALD load rating standard; factory tested before shipment.

1772D - Pair of 3-ton jack stands. Base: 7-11/16" x 6-11/16". Height range: 11-1/2" to 17". 1773D - Pair of 6-ton jack stands.

Base: 10-5/8" x 9-1/4". Height range: 15-5/16" to 24-5/16".



# **Ratcheting Jack Stands**

· Jack stands feature a formed steel frame for strength and long life, and rolled base edges that resist sinking into soft ground or asphalt.

- Recessed column saddle for acceptance of vehicle panel rail (pinch weld).
- · Dual purpose handle serves as carrying handle and column release.
- · Investment cast rack bar for long life strength.
- · Covered by OTC Lifetime Marathon Warranty®. 1736A - Pair of 6-Ton Jack Stands.
- Height range of 15-1/2" to 24-1/2". 1733A - Pair of 3-Ton Jack Stands. Height range of 12-1/2" to 18-1/2".



#### **Ratcheting Jack Stands (pair)**

- · These ratcheting jack stands are highest guality steel and factory tested to ANSI PALD standards.
- The form-fit saddle design and 12" x 14" base



#### 1780

#### 22-Ton Capacity Jack Stands

- Height range is 13-7/8" to 19-7/8".
- Saddle size 3" x 3-3/4".
- · Pin-style (non-ratchet) three positions, 3" intervals.
- · Reinforced collar to meet newest ANSI PALD test standards.
- 11" flat base prevents sinking into the surface.



#### Heavy-Duty 20-Ton Capacity Adjustable Support (One only)

1783

- · Designed for the really big service jobs. Rugged steel construction, and large 15-1/2" square base will satisfy support requirements up to 40,000 lbs.
- Features include 4-point adjustment. Height range is 15-1/4" to 24". Saddle diameter is 6".
- · Covered by OTC Lifetime Marathon Warranty®.



#### 1781B

#### 4,000 lb. Capacity

- **Underhoist Tripod Stand** · Ideal for undercar maintenance. An ACME take-up screw precisely positions and secures the support stand in place.
- Height range of 65-3/4" to 74-5/8".



#### Shop Equipment Stands / Dollies / Lifts





#### **Tripod and Underhoist Stands**

- 2018A 4.000 lb. Capacity Underhoist Tripod Stand · Lifting height of 58-7/8" to 91-5/8"; saddle
- measures 3-1/4" x 3-1/4".
- 24" x 24" x 24" tripod base.

2015A – 1,500 lb. Capacity Underhoist Stand

• Lifting height of 54-1/4" to 80-3/4"; saddle measures 5-1/4" x 1-1/4".

• 11-7/8" dia. base.

2016A - 1,500 lb. Capacity Underhoist Stand with Foot Pedal

- · Foot pedal actuated lifting mechanism.
- · Lifting height of 54-1/4" to 80-3/4"; saddle measures 5-1/4" x 1-1/4".



#### 1572

#### Car Dolly (3,600 lbs., capacity pair)

- Innovative patent-pending design clamps directly to pinch welds to prevent slippage during use.
- · Independent units eliminate the need to adjust dolly width for different vehicle designs.
- · Each unit has an independently adjustable threaded lift saddle with rubber pads to protect the vehicle frame.
- · Universal design for use on all vehicle types without additional adapters.
- · Provides easy movement of FWD vehicle after removal of drive train.
- · The material on the 5" casters is polypropene.
- Each unit has 1,800 lbs. capacity (3,600 lbs., pair) with low height of 9" and high of 14".
- · May be used with or without tires on vehicle.



#### Brake Drum / Wheel Dollies

#### 5017**Δ**

#### **Brake Drum Dolly**

- · Remove, install, and transport truck brake drums without physically having to lift them.
- Works on 15" and 16-1/2" drums found on most Class 7 and 8 tractor and trailer brake systems.
- · Heavy-gauge steel construction, ten-inch pneumatic tires, and adjustable handle.
- · Covered by OTC Lifetime Marathon Warranty®.



#### 1543

#### Brake Drum Dolly

- · Removes, installs, and transports truck brake drums without physically having to lift them.
- · Works on all 15" and 16-1/2" drums found on most class 7 and 8 tractor and trailer brake systems.
- · 6" height adjustment aids installation.
- · Heavy-gauge steel construction, 8" tires, and 36" handle.

5105B

alignment.

enhanced mobility.

1.500 lb. Capacity High-Lift Dual Wheel Dolly · Effortless air-powered hydraulic lift system for a variety of applications. · 0 to 42" lifting range. · Six-inch lateral adjustment.



#### **Easy Lever Wheel Dollies**

- · Gives technicians the leverage they need to easily remove or install truck tire-and-wheel assemblies.
- · Heavy-duty construction capable of toting 300 pounds.
- · Onboard rollers that make stud-hole alignment a snap.
- Spring-loaded kickstand for handy parking.
- · Two models that, together, can accommodate tire diameters from 24 to 48 inches.
- Rugged tubular steel construction.

5096A - Heavy-duty Easy Lever wheel dolly. With a width of 26", this dolly handles tire diameters of 36" to 48".

5095A - Easy Lever wheel dolly. With a width of 22", this dolly handles tire diameters of 24" to 36".

#### 5100 Wheel Mate<sup>™</sup>

- · Enables truck technicians to easily
- remove, install, rotate, and transport single tire-wheel assemblies.
- · Internal ratcheting jack with 14 inches of vertical travel -almost a foot higher than conventional dollies.
- · U-shaped chassis that provides close, unhindered access to work area.
- · A design that accommodates-and securely holds- almost any truck wheel, including wide-based singles, without restraining chains.
- · Heavy-duty ball-bearing wheels mounted under ball-bearing swivel casters for maximum maneuverability.
- · Foot-operated wheel lock.
- · Rugged structural steel tubing construction that meets the demands of the toughest shop environments.



#### Wheel Tipper

This heavy-duty wheel tipper makes handling those hard- to-manage truck tires easy. To use the wheel tipper, simply deflate the tire and break the bead, then hook the wheel tipper to the rim of the wheel. The wheel tipper makes an otherwise tough task effortless.





· Designed for both aluminum and steel wheels won't damage wheel rim.





### 1769A

#### **Truck Dual Wheel Dolly**

- · This 1,500 capacity dolly will remove, transport, and replace dual wheel and tire assemblies without strain or strugale.
- · Swivel casters, 3-1/2" front and 3" rear, provide easy maneuverability.
- · Floor space is 43" by 42".
- No. 1769A hydraulic jack provides over 6-1/2" of lift and tilts wheel assembly 7° to prevent damage to wheel seal.
- · Includes a 6' support chain to hold load in place.

· Tilt adjustment of +15° to -8° ensures easy

· Features four swivel casters, two locking, for

For product videos visit

otctools.com

You Tube







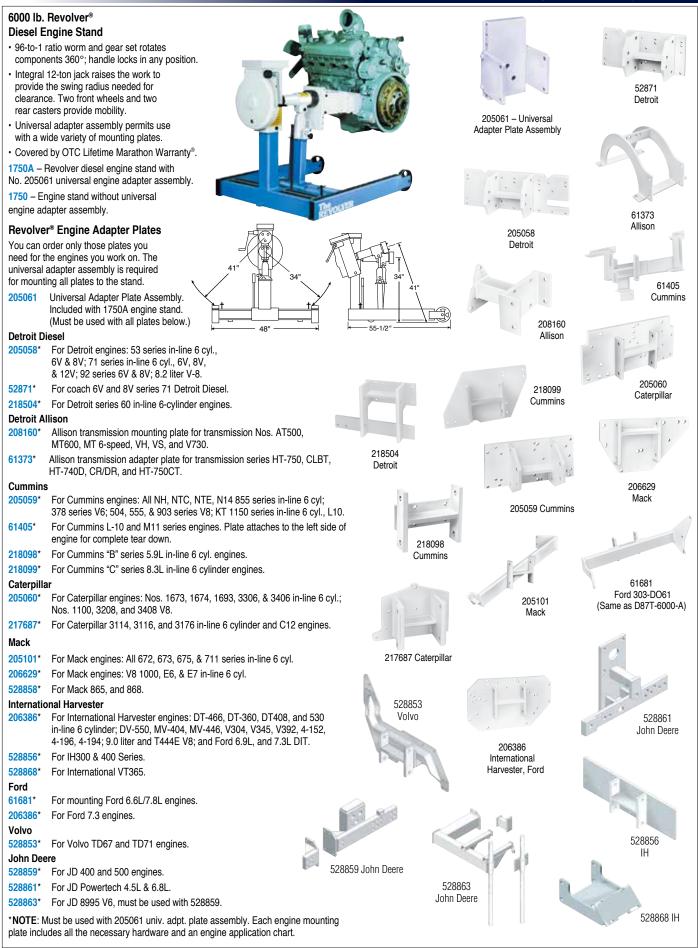
#### 1,500 lb. Dual Wheel Dolly

- · Hydraulic jack provides almost 5" of lift and tilts wheel assembly 4° to prevent damage to wheel seal.
- Independent lifting rack provides maximum stability: rollers won't catch on load.
- Swivel casters for easy maneuverability.
- · Floor space is 45" by 41".
- · 6' chain holds load in place.
- · Covered by OTC Lifetime Marathon Warranty®.





#### Shop Equipment Engine Stands / Adapter Plates



Shop Equipment



1725

www.otctools.com

distance between hooks: min. 36", max. 56".

1819

2,200

1,650

107"

117"

80"

83"

24"

54"

33"

48"

24", 36"

48"

8"

5"

6"

79"

Specifications

D Overall length

F Inside leg length

J Inside leg width

(3-position)

L Dolly wheel diameter

1819 Floor space folded

1820 Floor space folded

M Wheel diameter

Height, folded

K Leg height

E Minimum throat width

Cap., boom retracted

Cap., boom extended

A Max. boom height, boom retracted

B Max. boom height, boom extended

C Overall height, boom horizontal

G Effective boom reach (retracted)

H Effective boom reach (extended)

Floor Cranes

1820

4,400

3,300

111"

122"

82"

89"

25"

57-1/2"

35-1/2"

50-1/2"

26", 40" 52-1/2"

9-1/2"

5"

8"

86"

27" x 38"

31" x 42"



#### 2,200 and 4,400 lb. Capacity Heavy-Duty Floor Cranes

- ${\boldsymbol{\cdot}}$  To conserve valuable floor space, crane folds into a compact package for storage.
- For "close-in" work, leg spread adjusts to clear vehicle's wheels, telescoping boom extension
- gives additional reach. Roller bearing mounted wheels and steering dolly provide ease of mobility.
- A two-speed hydraulic hand pump provides fast boom travel; descent of boom is under precise control of operator.
- Covered by OTC Lifetime Marathon Warranty<sup>®</sup>.
- 1819 2,200 lb. Capacity Crane. Has hydraulic hand pump and 16-7/8" lifting chain.
- 39610 1/4" steel chain grade 43, 18-3/8" long, 2,200 lb. capacity. Has safety hook on end. Use with 1819.
- 1820 4,400 lb. Capacity Crane. Has hydraulic hand pump and 18-3/8" lifting chain.
- 39611 5/16" steel chain grade 70, 19-3/4" long, 4,400 lb. capacity. Has safety hook on end. Use with 1820.



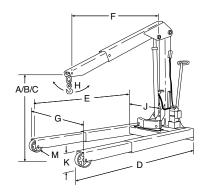
• Three boom positions give capacities of 4,000, 5,000, and 6,000 lbs. to handle the biggest engines,

and often the transmission right along with the engine! Usable reach is almost 92".
Boom swivels for vertical and lateral positioning; legs extend to straddle the biggest tires.
1814 – 6,000 lb. capacity crane with electric/ hydraulic pump (115V) with remote motor control.

1813 - 6,000 lb. capacity crane with two-speed hydraulic hand pump.

Boom Capacity (lbs.) Description	Extended 4,000	Centered 5,000	Retracted 6,000
A Maximum boom height	161-7/8"	150-11/16"	139-1/2"
B Minimum boom height	6"	17-3/8"	28-3/4"
C Overall height (boom horizontal)	87"	87"	87"
D Overall length*	129-1/8"	113-7/8"	98-1/4"
E Inside leg length	91-11/16"	76-1/8"	43-1/4"
F Effective boom horizontal reach	94-1/4"	78-3/4"	63-1/4"
G Outside leg width**	59-3/4"	57-3/4"	55-3/4"
H Boom swing	36"	31"	26"
J Inside leg width		35-3/4"	
K Leg height		9-1/16"	
M Wheel diameter		8"	
Dolly wheel diameter		5"	

\* Legs in storage position: 80-7/8" \*\* Legs in storage position: 53-1/2"



6,000 lb. Capacity

Heavy-Duty Mobile Floor Cranes



#### Shop Equipment Floor Cranes / Lifting Chains



# · Both of these cranes fold up for compact storage.

- · Front wheels are 3-1/2"; rear casters 5-7/8".
- 2002 2000 lb. capacity crane with a reach of 24" to 36". 2004 - 4000 lb. capacity crane with a reach of 25" to 46".

#### Lifting Chains for Floor Cranes

· For use with floor cranes only; not recommended for overhead hoists or lifts.

38839 - 1/4" steel chain, 56-1/2" long, 2.000 lb. capacity. Has safety hook on both ends. Use with No. 205049. 38840 - 5/16" steel chain, 65-3/4" long, 4,000 lb. capacity. Has safety hook on both ends. Use with No. 205050.

31609 - 1/4" steel chain, 56-1/2" long, 2,000 lb. capacity. With swiveling safety hooks on both ends. Use with No. 1805.

31800 - 5/16" steel chain, 65-3/4" long, 4,000 lb. capacity. With swiveling safety hooks on both ends. Use with No. 1806.

#### Alloy Chains for Overhead Lifts and Hoists

302249 - 3/8" alloy chain, 28-3/8" long, 6,000 lb. capacity. With safety hook on one end.

302941 - 5/16" alloy chain, 26-13/16" long, 4,000 lb. capacity. With safety hook on one end. Use on No. 1812.





· Attach directly to component for easy lifting;

will take 1/2" diameter bolts.

Specifications	2002	2004
Maximum capacity, boom extended	500 lbs.	1,000 lbs.
Maximum capacity, boom retracted	2,000 lbs.	4,000 lbs.
Maximum height, boom extended	94"	104"
Maximum height, boom retracted	87"	81"
Effective boom reach, boom extended	36"	48"
Effective boom retracted	24"	26"
Leg width @ front wheels	32-1/2"	25"
Leg height	6-1/2"	7-3/4
Floor space folded	57" x 38"	16" x 17-1/2"
Floor space unfolded	70" x 32"	33" x 33-1/2"

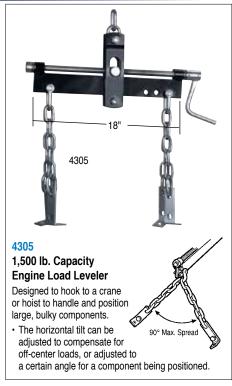


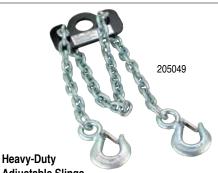
#### Load-Rotor<sup>®</sup> Positioning Slings

- · Use with a floor crane. Engine, transmission, or other component is tilted or leveled by turning sling's 5/8" hex drive end with a common speed handle and socket.
- · Makes engine removal and installation a snap, even in close quarters.
- · For use with floor cranes only; not to be used with overhead hoists or lifts.

1805 - 2,000 lb. capacity Load-Rotor®. Has 56-1/2" long chain (1/4") and hook assembly with forged swiveling hook on each end. Pair of special lifting brackets included.

1806 - 4,000 lb. capacity Load-Rotor®. Has 65-3/4" long chain (5/16") and hook assembly with forged hook on each end. Pair of special lifting brackets included.





# **Adjustable Slings**

· For lifting and positioning engines, transmissions, etc. Each chain can be adjusted independently for length; plate design enables chain to be "short-hooked" for correct tilt.

205049 - 2,000 lb. capacity sling with 1/4" chain, 56" long.

205050 - 4,000 lb. capacity

sling with 5/16" chain, 65" long.

38841 - Plate only, use with any 1/4"

or 5/16" alloy steel chain.

#### Shop Equipment **Oil Filter Crushers / Fluid Receivers**



#### 10-Ton Capacity, Air-operated Automotive Oil Filter Crusher

- · Crushes up to four automotive filters (3-7/8" dia, x 9" high) at one time, in approximately 20 seconds. Engineered and built for dependable operation. Covered by OTC Lifetime Marathon Warranty®.
- · 100% air operation eliminates electrical connections. Generous size of crushing chamber easily accommodates the largest automotive spin-on filters.
- · Includes mounting stand. No wall mounting or time consuming installation required.



See page 31 for **Oil Filter Wrenches** 



#### 1877 25-Ton Capacity Heavy-Duty Oil Filter Crusher

- · Handles the big filters (up to 6" dia. and 12-1/2" long) found in trucks, construction equipment, farm implements, etc. May also be used for automotive and light truck filters. It does it all!
- · Crushes filters to 1/4 of original size, removing up to 95% of filter's oil capacity. Automatic cycle feature: load the filter, push a button, and walk away.
- · Air/hydraulic pump works on standard shop air (requires 9 CFM at 100 psi). Special valving returns ram automatically at the end of each cycle. No electrical connections needed.
- · Built-in floor stand (completely assembled). Whole unit requires just 5 square feet of floor space.
- Covered by OTC Lifetime Marathon Warranty<sup>®</sup>.



#### 1896 25-Ton Capacity High-Speed

#### Heavy-Duty/Automotive Oil Filter Crusher

- · Automotive and heavy-duty filters up to 15-1/4" long and 6" diameter are crushed in approximately 8 to 16 seconds. Filters are reduced to 20% of original size, with 95% of residual oil removed.
- · Automatic cycle feature lets you load the filter, push a button, and walk away.
- Powered by 2 hp electric/hydraulic pump, 230 volt, 20 amp, 60 cycle, single phase, 3,450 rpm. Has a 2-gallon reservoir.
- Built-in, heavy-duty floor stand with leveling pads is designed to accept a 30-gallon drum for oil drainage. Comes assembled. Covered by OTC Lifetime Marathon Warrantv<sup>®</sup>.

	Oil Filter Crusher Comparison Chart												
No.	Tonnage	Pump	Crushing Time	% Oil Removed	Filter Size	Stand Dimensions	Note: Crushing times are						
1821	10-ton	Air	20 Seconds	95%	Chamber: 8" x 8" x 9" H.	18-1/2" W x 24" D x 63-1/2" H	approximate; crushing times may vary depending on air						
1877	25-ton	Air/Hyd.	80 Seconds	95%	6" Dia 12-1/2" Long	18-1/2" W x 30" D x 74-1/2" H	pressure available, size of						
1896	25-ton	Elec./Hyd.	16 Seconds	95%	6" Dia 15-1/4" Long	27" W x 30" D x 78" H	filter, type of filter, etc.						

#### **Transfer Tankers**

- Draining oil from a large displacement engine and getting it to your bulk storage container is a snap with OTC's Transfer Tankers.
- · Used oil is collected in a reservoir, and then rolls smoothly on 4" free-wheeling casters to your storage location.
- · Pump moves five gallons a minute through the 8-foot transfer hose to the a 15-gallon reservoir.
- · Handle is removable for easy storage.
- · Screen attached to reservoir allows assembly to be stored on its side.
- · Can also be used for transferring antifreeze.

5077 - Low profile Transfer Tanker is only 7-1/2" from floor to top of reservoir. Comes equipped with an electric pump (No. 528093).

5097 - Low profile Transfer Tanker is only 7-1/2" from floor to top of reservoir. Comes equipped with a pneumatic pump (No. 529966).





# 1577

- Low Profile Fluid Receiver
- · Designed for receiving waste fluid during a wide range of repair jobs.
- · Fluid capacity: 7.5 gallons.
- Constructed of polyethylene plastic for heavy-duty use-yet, only weighs 13 pounds.
- · Low profile, only 5" high, it easily slides under passenger cars.
- Designed with four casters to provide efficient maneuverability.
- · Suitable for cooling system repair
- jobs-can be used for antifreeze. · Includes splash screen to prevent
- spillage and splashing.
- Two-year warranty.

Presses



#### **5180**

#### 10-Ton Portable Hydraulic C-Frame Press

- Weighing less than 28 lbs, this durable press is portable for various applications, i.e., roadside maintenance services, industrial applications, marine, general automotive.
- For clamping, pressing and bending. Ideal for welding and metal fabrication.
- 9" Open-Throat® design.
- · Couples to any 4- or 10-ton Porta Power pump.
- The base can be assembled to position the press either vertically or horizontally and can also be mounted to a bench.

Set includes: C-Frame press with base, adapters: V-pushing and ram pushing (9/16" and 3/4" dia. shanks), receiving insert, flat insert, storage case.

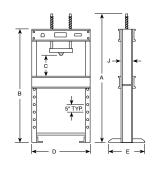
Α	В	С	D	E	F	G	Н
21-1/4"	13-3/4"	9"	8-1/2"	2-1/2"	1-1/2"	4"	4-1/4"

#### Hydraulic Bottle Jack Presses

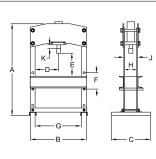
• All bottle jacks have an overload valve built into them. 1823A – 12-ton capacity press with a OTC bottle jack.

Stroke 6-1/4", 19 pump stroke to extend piston 1 inch. Height with screw extension 19".

**1824A** – 20-ton capacity press with a OTC bottle jack. Stroke 7-1/2", 30 pump stroke to extend piston 1 inch. Height with screw extension 20-1/2".



OTC No.	A	В	С	D	E	J
1823	84-1/2"	72"	2" – 42"	28-3/4"	28"	4-3/8"
1824	85-7/8"	72"	2" – 37"	37-1/2"	28"	7-3/8"





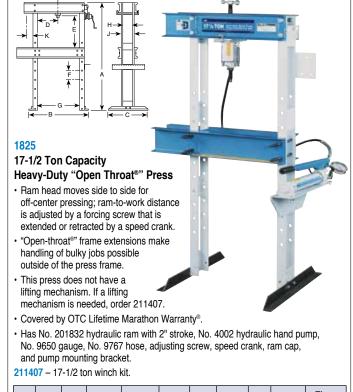
#### 5230

#### 16-1/2 Ton Capacity Bench Press

This innovative press integrates all the hydraulic elements within the chassis. The compact and functional design saves workshop space and ensures protection during transport.

- · Bolster is adjustable for height.
- Automatic spring return piston.
- Pressure gauge with damper to extend its working life- positioned at eye level for easy reading.
- · Includes set of two V-blocks and legs with bolt-holes for fixing to bench.

Α	В	С	D	E	F	G	Н	J	Κ
37"	16-1/2"	23-7/8"	9-1/2"	5-7/8"–17-5/8"	6"	19-5/8"	4-3/4"	5-1/2"	3"



A	в	с	D	E	F	G	Н	J	к	Floor Space
64"	28"	28"	17-7/8"	34-7/8"	3-3/8"	20"	4-1/4"	5"	4-3/8"	28" x 28"



1833

Presses



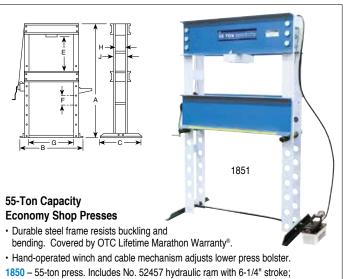
#### 25-Ton Capacity Heavy-Duty "Open Throat®" Press

- "Open throat<sup>®</sup>" feature enables ram to be positioned outside of press frame for fast axle bearing removal and installation, as well as other tasks. Rugged press is covered by OTC Lifetime Marathon Warranty<sup>®</sup>.
- Press bed is raised or lowered with a hand crank, and a spring-return hydraulic ram is laterally adjustable for off-center work at full capacity.
- 1826 25-ton press. Includes No. 4016 hydraulic hand pump; No. 52025 hydraulic ram with 14" stroke; No. 9652 gauge; No. 303563 hose (3/8" ID x 8'); and pump mounting bracket.

**1826A** – 25-ton press. Includes No. 4020 air/hydraulic pump; equipped the same as 1826.

A	в	с	D	E	F	G	Н	ſ	к	Floor Space
68"	43"	28"	3"–29"	6-7/8"-4-3/8"	4-1/2"	32"	5-1/2"	6-1/2"	7"	28" x 25-1/4"

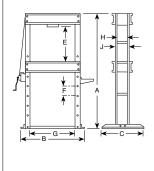
\*Lateral head movement. Frame shipped assembled.



No. 4016 hydraulic hand pump; No. 9651 gauge; No. 9767 hose  $(1/4" ID \times 6')$ ; and pump mounting bracket.

1851-55-ton press. Includes No. 52457 hydraulic ram with 6-1/4" stroke; No. 4020 air/ hydraulic pump; No. 9651 gauge; No. 9767 hose (1/4" ID x 6'); and pump mounting bracket.

A	В	с	E	F	G	н	J	Floor Space
70-3/4"	47-1/2"	28"	6-1/8"-41-1/8"	5"	35"	7-1/16"	10"	55-1/2" x 28"



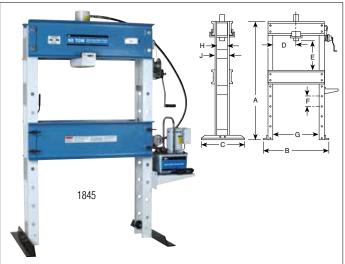
#### 25-Ton Capacity Shop Presses

- Tough, economical press is ideal for
- pressing rear axle bearings, piston pins, and much more.
- Large 30" x 46" work area under ram makes positioning of even bulky work easy. Press bed is easily raised and lowered by a dependable lifting mechanism. Choice of model with hand- or air-driven hydraulic pump.

 $\label{eq:stability} \begin{array}{l} \textbf{1833} - \textbf{25}\text{-ton press, complete with No. 4002 hydraulic hand pump;} \\ \textbf{No. 9652 gauge; No. 24815 tee; No. 9767 hose (1/4" ID x 6'); hydraulic ram No. 51426 with 6-1/4" stroke; and 42733-WH2 pump mounting bracket. \end{array}$ 

1834 – 25-ton press, complete with air-driven No. 4020 air/hydraulic pump; No. 9652 gauge; No. 24815 tee; No. 9768 hose (1/4" ID x 8') and hydraulic ram with 6-1/4"stroke.

A	в	с	E	F	G	н	J	Floor Space
69-1/2"	40-1/2"	28"	5-3/4"-46"	4"	30"	5-1/2"	6-1/2"	41-1/2" x 28"



#### 55-Ton Capacity Heavy-Duty Presses

- Side-to-side positioning of ram allows full capacity pressing along entire bolster length without buckling or bending. Covered by OTC Lifetime Marathon Warranty<sup>®</sup>.
- · Hydraulic ram features 13" of stroke. Choice of hydraulic power units.

1845 – 55-ton press. Includes single-acting ram No. 52380 with 13" stroke; No. 4044 electric/hydraulic pump; No. 9651 gauge; No. 303563 hose (3/8" ID x 8'); and pump mounting bracket.

1846A – Same as No. 1845 except has No. 4016 hydraulic hand pump and single acting ram No. 65458 with 10-1/8" stroke.

1847 – Same as No. 1845 except has a No. 4022 air/hydraulic pump and a No. 9781 hose (3/8" ID x 10').

1872 – 55-ton press. Includes double-acting ram No. 51682 with 13" stroke; No. 4046 electric/hydraulic pump; No. 9651 gauge; No. 36887 hoses; and pump mounting bracket.

A	в	С	D	E	F	G	н	J	Floor Space
72"	48-1/2"	36"	3-1/4"-32-3/4"	6"-42"	6"	36"	6-3/4"	8"	56-1/2" x 36"

\*Lateral head movement.

) (

Presses

Α

86-5/8"

В

47-1/2"

С D

28"

#### 100-Ton Capacity Economy Shop Press

- · Large 35" opening between press uprights allows easy handling of large gears, shafts, sprockets, and other components serviced in truck, construction, and agricultural equipment shops. Covered by OTC Lifetime Marathon Warranty®.
- · Hand-operated winch and cable mechanism gives operator precise control in adjustment of lower press bolster to any height.

Е

1854 – 100-ton press. Includes hydraulic ram No. 52434 with 10" stroke; No. 4044 electric/ hydraulic pump; No. 9651 gauge; No. 9768 hose (1/4" ID x 8'); and pump mounting bracket.





#### 100-Ton Capacity Heavy-Duty Shop Presses

- · Wide open uprights allow easy positioning of bars and shafts for straightening or bending.
- · Upper bolster can be lowered for convenient positioning during repetitive jobs.
- · Ram head glides smoothly on rollers for easy horizontal adjustments; rugged press frame will withstand a full capacity load with the ram head in any position across the upper bolster.
- Covered by OTC Lifetime Marathon Warranty<sup>®</sup>.

1857 - 100-ton press. Includes single-acting No. 52434 ram with 10" stroke; No. 4008 hydraulic hand pump; No. 9651 gauge; No. 9781 hose (3/8" ID x 10'); and pump mounting bracket.

1858 - Same as No. 1857, except has double-acting No. 51683 ram with 13" stroke; No. 61217 3-phase, 220V, 3450 rpm electric/hydraulic pump; and two No. 9769 hoses. 1858-1P - Same as No. 1858, except it has a No. 4064 2-stage, 1-phase hydraulic pump.

Α	В	С	D	E	F	G	Н	J	Floor Space
77-1/4"	64"	36"	7"–43"	2"-42"	8"	50"	8"	10"	36" x 78-1/4"

\*Lateral head movement. Frame shipped assembled.

#### 150-Ton Capacity Heavy-Duty Shop Press

1868 – 150-ton press. Includes double-acting ram with 13" stroke: No. 61217 3-phase. 220V, 3450 rpm electric/hydraulic pump; No. 9651 gauge; No. 9769 hoses; and pump mounting bracket.

Α	В	С	D	E	F	G	Н	J	Floor Space
90"	71"	44"	11"–39"	9"-43-1/4"	11"	50"	12-1/2"	15"	44" x 71"



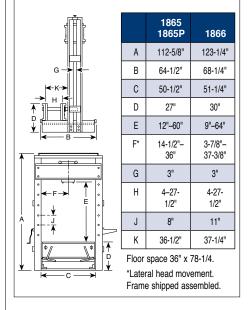
#### 100- and 150-Ton Capacity **Roll-Bed® Shop Presses**

- · Lower press bed rolls out smoothly for easy loading and unloading of heavy work using an overhead lifting device.
- · Movable ram head and remote pump control, combined with large, open work area, allow operator to easily view work from any side during the pressing operation.
- · Heavy-duty, cold-rolled steel construction ensures durability to withstand loads of full-rated capacity.
- · Covered by OTC Lifetime Marathon Warranty®. 1865 - 100-ton press. Includes double-acting ram

with 13" stroke; No. 61217 three-phase, 220V, 3450 rpm electric/hydraulic pump; No. 9651 gauge; No. 9669 hoses; and pump mounting bracket.

1865P - Same as No. 1865 except with No. 4064 Vanguard 2-stage hydraulic pump with 3-position/ 4-way valve and 6 ft. remote motor control (115V).

1866 - 150-ton press. Includes double-acting ram with 13" stroke; No. 61217 3-phase, 220V, 3450 rpm electric/ hydraulic pump; No. 9651 gauge; No. 9770 hoses; and pump mounting bracket ...



G

R

#### Shop Equipment Press Accessories



# **OTC 9300 Stinger Series** Bottle Jacks give you lifting range from 2 to 50 tons.

- Forged base and cylinder to ensure strength and eliminate leaks.
- · Chromed pump piston and ram for additional rust resistance.
- · In-line design for increased ease of use in positioning and operation.
- · Includes free seal kit with each unit to extend product life.





	OTC 9300 Stinger Series Bottle Jacks										
Cap. (tons)	Stroke	OTC No.	Retracted Height min.	Length of Screw Extension	Height with Screw Extension	Pump Strokes to Extend Piston One Inch	Saddle Dia.	Base Size	Carry Handle	Weight	
2	4-5/8"	9302	7"	2-3/8"	14"	8	13/16"	4-5/16" x 2-9/16"	No	5 lbs.	
3	4-1/2"	9303	7-1/2"	2-9/16"	14-9/16"	13	15/16"	4-9/16" x 2 7/8"	No	6.2 lbs.	
5	4-13/16"	9305	7-13/16"	3"	15-5/8"	20	1-1/8"	5-3/16" x 3"	No	8.4 lbs.	
8	4-15/16"	9308	7-13/16"	3"	15-3/4"	21	1-3/8"	6" x 3-9/16"	No	12.6 lbs.	
12	6"	9312	9-3/8"	3-1/4"	18-5/8"	21	1-3/4"	6-9/16" x 4-3/16"	Yes	17.4 lbs.	
12	3-11/16"	9314	7-1/16"	2-7/8"	13-5/8"	21	1-3/4"	6-9/16" x 4-3/16"	Yes	15.1 lbs.	
20	6-7/8"	9320	10-5/8"	2-15/16"	20-7/16"	28	2-1/8"	7" x 4-11/16"	Yes	27.2 lbs.	
20	3-7/16"	9322	7-3/16"	1-11/16"	12-5/16"	25	2-1/8"	7" x 4-11/16"	Yes	20.9 lbs	
30	6-5/8"	9330	11"	N/A	17-5/8"	41	2-1/2"	7-11/16" x 6"	Yes	41 lbs	
50	7-3/16"	9350	11-3/4"	N/A	18-15/16"	74	2-1/2"	8-11/16" x 7"	Yes	76.5 lbs.	

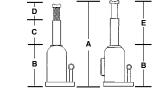


# 5213

#### Bottle Jacks

- · Base, pressure cylinder, and oil reservoir form one internal part, which results in a stronger jack.
- · Piston never contacts cylinder, so pressure will be absorbed and not damage jack if vehicle tilts.
- · The No. 5213T is telescopic, allowing for very low initial height with high lifting.
- 5213 12-Ton Bottle Jack.
- 5221 20-Ton Bottle Jack.
- 5213T 12-Ton Telescopic Bottle Jack.





Bottle Jack Dimensions								
No.	A	В	С	D	E			
5213	17-3/4"	8-7/8"	5-7/8"	2-15/16"	-			
5221	18-1/16"	9-1/4"	5-7/8"	2-15/16"	-			
5213T	22-1/2"	9-5/8"	-	-	12-13/16"			



#### **Air/Hydraulic Bottle Jacks**

· Operate manually or pneumatically, 100 PSI minimum air pressure required.

4313C - 12-ton air-assist bottle jack; lift range 9-1/2" to 18-3/8", stroke 6-1/8".

4321C - 20-ton air-assist bottle jack; lift range 9-7/16" to 17-11/16", stroke 5-7/8".

1	No.	Сар.	Min. Height	Max. Height	Stroke	Screw/ Adapter	Air pressure	Base Area
4	4313C	12	9-1/2"	18-3/8"	6-1/8"	2-3/4"	100-200 psi	6-3/8" x 7-5/8"
4	4321C	20	9-7/16"	17-11/16"	5-7/8"	2-5/16"	100-200 psi	8-1/32" x 7-1/16"

Collision Repair Sets / Hydraulic Spreaders



- · Very competitively priced, yet high quality sets include single-speed hydraulic hand pump, hose, and ram.
- · Components snap together for quick setups to apply pushing, spreading, or pulling force.
- Components include: hydraulic pump, hose, and ram; ram flat base; extension tubes (4); 1/2-ton spreader; tube coupling; ram toe;
- wedge head; serrated saddle; flex head; plunger toe; 90° wedge head; storage case. The case for the 10-ton set has wheels for mobility.
- 1513B 4-ton collision repair set. Has single speed hydraulic hand pump and ram with 4" stroke.
- 1515B 10-ton collision repair set. Has single speed hydraulic hand pump and ram with 6" stroke.



- We've matched our OTC hydraulics with versatile tooling.
- Components snap together, permitting you to apply pushing, spreading.
- Components include: hydraulic pump, hose, and ram; ram flat base; 1/2-ton hydraulic spreader; extension tubes (4); tube coupling; ram toe;
- wedge head; serrated saddle; flex head; plunger toe; 90° wedge head; storage case. The case for the 10-ton set has wheels for mobility.
- 1517A 4-ton collision repair set. Has single speed hydraulic hand pump (4000) and ram (4082B) with 5" stroke.
- 1519A 10-ton collision repair set. Has two-speed hydraulic hand pump (4002) and ram (4083B) with 6-1/8" stroke.
- 504888 Replacement quick coupler (external).
- 504889 Replacement quick coupler (internal).



#### 5086

#### **10-Ton Collision Repair Set**

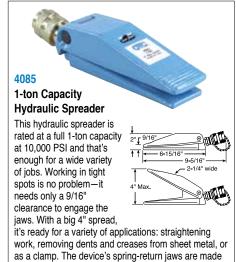
- Exert hydraulic force just where it's needed to lift, spread, bend, or straighten. Handles the high-force jobs you face daily in trailer maintenance or other applications.
- Includes reliable components including 10-ton, 10-1/8" stroke hydraulic ram; air/hydraulic pumping unit; hydraulic hose; four snap-together extension tubes; extension tube coupling; serrated saddle; flat base; 90° wedge head; flex head; storage case.
- All set components are covered by OTC Lifetime Marathon Warranty®.



#### Hydraulic Spreaders

Included as standard equipment with our collision sets, these versatile hydraulic spreader tools are also available individually. Ideal for removing dents and creases, performing straightening jobs, or for use as a clamp. Makes working in tight spots easy. • Maximum spread is 3-1/4".

- 9101B 1/2-ton spreader with 1/4" NPT ram half coupler.
- 9102 1/2-ton spreader with 3/8" NPT ram half coupler.



as a clamp. The device's spring-return jaws are made of high-strength alloy steel. It can be dead-ended at 4" spread under full load. Ideally suited to work with No. 4012 hand pump (not included).



#### Shop Equipment Hydraulic Pumps & Rams



#### Hydraulic Rams for Collision Repair Sets

These premium quality rams are designed for long. trouble-free service. Backed by a two-year warranty, they feature a special piston rod that permits their use with the snap-together components of OTC Stinger's new collision repair sets, or with most similar competitive products.

9104B – 4-ton ram with 4" stroke and special piston rod end designed to fit most collision repair set components ..

9110B - 10-ton ram with 6" stroke and special piston rod end designed to fit most collision repair

set components.		
Specifications	9104B	9110B
Min. height	10-3/8"	15"
Max. height	14-3/8"	21"
Spring return	Yes	Yes
Rod end dia.	.874"	1.310"
Max. operating. Pressure	8,950	8,950
Oil cap. (cu. in.)	4.97	13.69
Oil port	1/4" NPT	1/4" NPT



#### Hydraulic Rams for Collision Repair Sets

These premium quality rams are designed for long. trouble-free service. Backed by a life-time warranty, they are ideal replacements for worn-out, leaky rams. They feature a special piston rod that permits their use with the snap-together components of OTC's collision repair sets, or with most similar competitive products.

4082A – 4-ton ram with 5" stroke and special piston rod end designed to fit most collision repair set components.

4083B – 10-ton ram with 6-1/8" stroke and special piston rod end designed to fit most collision repair set components.

Specifications	4082A	4083B
Min. height	10-7/8"	14-5/8"
Max. height	15-7/8"	20-3/4"
Spring return	Yes	Yes
Rod end dia.	.874"	1.310"
Max. operating. Pressure	8,950	8,950
Oil cap. (cu. in.)	4.97	13.69
Oil port	1/4" NPT	3/8" NPT



rams. Developing up to 10,000 psi operating pressure, the pumps operate horizontally or vertically in the "head down" position. Finger tip control provides instant release or pumping action. Has a built-in safety overload valve. Ideal for use with OTC Stinger single-acting rams, or similar competitive rams. 9106B – Hand pump only.

9107B – Hand pump only.

#### 4042 Hydraulic Ram, Pump, and Hose Set

This versatile set is usable in a wide variety of hydraulic power applications. Combines our No. 4026 air/hydraulic power unit, hose, and hose half coupler with the No. 4105 10-ton hydraulic ram with 10-1/8" stroke. Ram has threaded collar, internal base threads, and threaded piston rod end for mounting adaptability.

Specifications	9106B	9107B
Max. operating pressure	10,000 psi	10,000 psi
Volume per stroke	0.17 cu. in.	0.17 cu. in.
Reservoir capacity	18 cu. in.	30 cu. in.
Oil port	1/4" NPT	1/4" NPT



# 4002

#### Single-Speed Hydraulic Hand Pump

This single-speed pump is ideal for single-acting rams. Developing up to 10,000 psi operating pressure, the pump operates horizontally or vertically in the "head down" position. Fingertip control provides instant release or pumping action. Has a built-in safety overload valve. Ideal for use with OTC single-acting rams, or similar competitors' rams.

Specifications	4002
Max. operating pressure	10,000 psi
Volume per stroke	160 cu. in.
Reservoir capacity	45 cu. in.
Oil port	3/8" NPT



# Use with single-acting hydraulic rams. Rugged

all-metal construction. Maximum handle effort is 90 lbs. Two-speed action provides rapid approach of ram piston to the work. An appropriate and economical power source for applications in which 20 cu. in. of usable oil is adequate.

Specifications	4004
Max. operating pressure	10,000 psi
Volume per stroke (first stage)	.305 cu. in.
Volume per stroke (second stage)	.091 cu. in.
Reservoir capacity	24.4 cu. in.
Oil port	3/8" NPT

Shop Equipment Hydraulic Pumps & Rams

#### 4026

#### Air/Hydraulic Power Unit

Features a heavy-duty, one-piece, aluminum body for durability and light weight. A perfect replacement pump for body and frame straightening equipment. Performs in either vertical or horizontal positions. Has a time-tested motor design. All internal moving parts are constructed of metal. not plastic! Unique external relief valve ensures damage-free operation should oil reservoir be overfilled. Internal vent eliminates external oil leakage. Rotary-style pressure release provides superior operator control. Carries OTC's unsurpassed Lifetime Marathon Warranty®.

Specifications	4026
Oil delivery	10 cu. in. of oil @ 9,500 psi
Reservoir capacity	39 cu. in. (34 cu. in. usable)
Internal relief setting	10,000 PSI
Air operating pressure	40-120 PSI

Dimensions



#### Automotive-Style Quick Couplers

Precision designed and built for high pressures. Permits disconnecting hose without loss of oil.

- · Ideal for use in body shop equipment applications.
- Works with OTC No. 1515B and 1513B collision repair sets.
- 9195 Complete quick coupler, 1/4" NPT.
- 9196 Complete quick coupler, 3/8" NPT.

#### Single-Acting, Spring-Return Rams

Available in capacities of 5 to 100 tons and for maximum working pressures up to 10,000 PSI; 2 to 1 safety factor on material yield; designed and tested to meet ANSI B30.1. Standard stroke lengths of 5/8" to 14-1/4", these compact rams require a minimum of mounting space. Several of the rams feature threaded ram collars and internal base threads to simplify mounting. Also, some of the models have threaded piston rod ends. OTC's design ensures positive, leak-resistant sealing throughout all pressure ranges, yet full piston return characteristics are maintained. Additional bearing surface has been designed into these units, to effectively resist the punishing stress exerted by off-center loads. Depending on capacity, these rams can handle a variety of bending and straightening jobs, construction maintenance applications, pressing operations, body and frame straightening, and rear housing and axle correction. Е ċ

4104

16-15/16" L x 6-3/8" H x 5-5/8" W

4101

4105

4107

4106

4110

			0"	Effective	Tons		Hei	ght	Piston	Diamete	r	Piston	Collar	Internal	
OTC No.	Capacity in Tons	Stroke "A"	Oil Cap. (cu. in.)	Ram Area (sq. in.)	at 10,000 PSI	Spring Return	Collapsed "B"	Extended "C"	Protrusion at Collapsed Height	"D"	"E"	Thread (N.P.T.) "F"	Thread (Straight) "G"	Base Thread (N.P.S.M.) "H"	Wt. (lbs./oz.)
SINGLE	-ACTING, SF	RING-RET	URN RAMS												
4100	5	3"	3.0	.994	4.97	No	5-11/16"	† 8-11/16"	1/4"	1-1/2"	7/8"	None	None	None	3 / 5
4101	5	5-1/4"	5.2	.994	4.97	Yes	10-1/2"	15-3/4"	1-1/8"	1-1/2"	1-1/16"	3/4"	1-1/2"–16	3/4"–14	5
4108	5	5/8"	.62	.994	4.97	Yes	1-5/8"	2-1/4"	1/8"	2-9/16" x 1-5/8"	5/8"	None	None	None	2/5
4103	10	2-1/8"	4.8	2.236	11.2	Yes	5-9/16"	7-11/16"	1-1/16"	2-1/4"	1-5/8"	1-1/4"	2-1/4"–14	None	5 / 14
4104	10	6-1/8"	13.9	2.236	11.2	Yes	11-1/2"	17-5/8"	1-1/16"	2-1/4"	1-5/8"	1-1/4"	2-1/4"–14	1-1/4"–11-1/2	11 / 10
4105	10	10-1/8"	22.9	2.236	11.2	Yes	15-1/2"	25-7/8"	1-1/16"	2-1/4"	1-5/8"	1-1/4"	2-1/4"–14	1-1/4"–11-1/2	14 / 13
4106	25	6-1/4"	32.2	5.157	25.8	Yes	13-3/8"	19-5/8"	1-7/8"	3-3/8"	2-3/8"	2"	3-5/16"–12	2"–11-1/2	26
4107	25	14-1/4"	73.5	5.157	25.8	Yes	21-3/8"	35-5/8"	1-7/8"	3-3/8"	2-3/8"	2"	3-5/16"–12	2"–11-1/2	42 / 10
4110	55	6-1/4"	69.0	11.04	55.2	Yes	11-1/8"	17-3/8"	1/8"	5"	3-1/8"	None	None	None	60
4115	100	6-5/8"	137.0	20.62	103.1	Yes	13-1/4"	19-7/8"	1/8"	6-1/4"	4-1/8"	None	None	None	105
ALUMIN	IUM RAMS (S	See listing	on page 21	8)											
4111	55	6-1/8"	67.6	11.04	55.2	Yes	10-3/4"	16-7/8"	1/4"	5-1/4"	3-1/8"	None	None	None	25 / 10
4116	100	6-1/4"	129.0	20.62	103.1	Yes	11-3/4"	18"	1/8"	7-3/8"	4-1/8"	None	None	None	64

† No. 4100 has a piston "screw-extension" (1-1/2"), which will extend the maximum height to 10".

4103

4100

See ram accessories listed on the next page. These accessories thread onto the ram's piston rod end, collar, or into the ram base. All rams include No. 9796 3/8" NPTF half coupler; oil port threads are 3/8" NPTF.

Hydraulic Rams

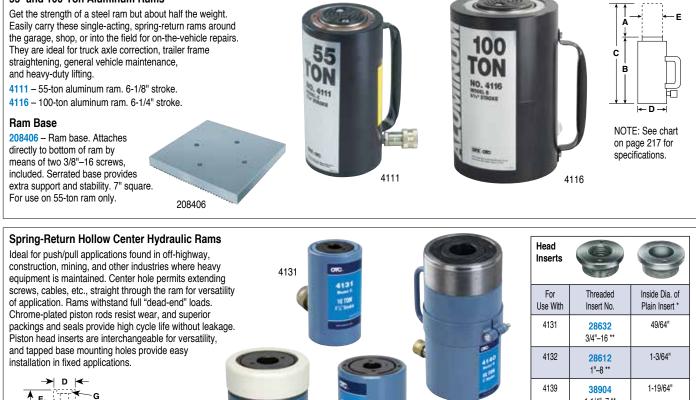
#### Single-Acting Ram Accessories

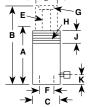
These versatile attachments let you "harness" OTC hydraulic force and put it to work exactly where it's needed to handle various maintenance tasks. Accessories thread onto the ram's piston rod end or into the ram base.

Use with 10-ton hydraulic rams, Nos. 4103, 4104, and 4105 Item No. Description Item 32325\* Ram flat base А В 31772 Serrated saddle С 24016 Smooth saddle D Threaded tube coupling 5- and 10-ton 25664\* 25-ton Е 38909 10" Extension tube \* NOTE: 32325 and 25664 cannot be used on No. 4103 hydraulic ram. Ram Use with 25-ton hydraulic rams, Nos. 4106 and 4107 Description Item Item No. Coupling Ram Flat Base F 25653 Ram flat base G 31776 Serrated saddle with coupling Threaded Tube Е 55- and 100-Ton Aluminum Rams

А

В





4139



			A	В	C	D	E	F	G	Н	J				K			
Cylinder Cap. (tons)	Stroke (in.)	OTC No.	Re- Tracted Height (in.)	Ex- tended Height (in.)	Outside Dia. (in.)	Piston Rod Dia. (in.)	Center Hole Dia. (in.)	Inches Between Base Holes	Insert Thread Size (in.)	Collar Thread (in.)	Thread Length (in.)	Oil Cap. (cu. in.)	Int. Press. at Cap. (PSI)	Tons at 10,000 PSI	Base to Inlet Port (in.)	Mounting Holes (in.)	Base Cyl. Eff. Area (sq. in.)	Prod. Wt. (lbs.)
10	2-1/2	4131	5-5/16	7-13/16	3	2-1/16	49/64	2-3/8	1-3/4–12	None	None	5.52	9,054	11	1	1/4-20	2.21	9
20	3	4132	6-1/8	8-1/8	3-7/8	2-1/8	1-5/64	3-1/4	1-9/16–16	None	None	9.45	8,466	23.6	1	3/8-16	4.72	20.0
30	2-1/2	4139	6-1/4	8-3/4	4-3/4	3-1/4	1-19/64	3-5/8	2-3/4-12	4-3/4-12	1-1/2	15.85	9,457	31.7	1-5/32	7/16-20	6.34	25.6
60	6	4140	12-1/4	18-1/4	6-1/4	3-19/32	2-1/8	5-1/8	3–12	6-1/4-12	2-1/2	73.86	9,750	61.6	1	1/2-13	12.31	78



2-1/8"

#### Shop Equipment Hydraulic Rams

3/8 NPTF

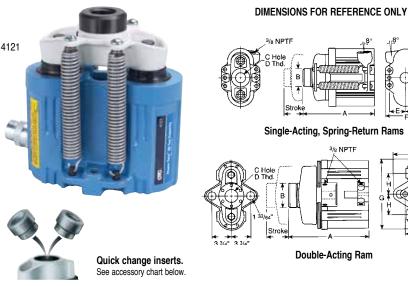
#### Center-Hole, Power Twin Rams

In capacities of 17-1/2, 30, 50, and 100 tons and for operating pressures up to 10,000 PSI; use these rams on Grip-O-Matic® pullers, Push-Pullers, and shop presses.

OTC's center-hole rams are ideal for jobs that require a great deal of force and a relatively short stroke. Compared to the force it develops, each center-hole Power Twin ram is lightweight, compact, and easy to handle, permitting its use in confined quarters. Center-hole feature permits extending jacking screws, cables, puller screws, etc., straight through the ram.

#### Quick change inserts

For added job versatility, Power Twin rams also feature a basic head which allows the operator to change from a tapped hole to a plain hole by merely changing the head insert (held in place by a socket-head set screw). In certain applications, the use of a plain insert is desired, since it permits using a speed nut for necessary readjustment after the ram has been extended, rather than turning the screw with a speed crank.



4120 – 17-1/2-ton Power Twin single-acting hydraulic ram. Complete with No. 21669 threaded ram head insert, ram attaching screws, and No. 9796 ram half coupler. 4121 – 30-ton Power Twin single-acting hydraulic ram. Complete with No. 21873 threaded ram head insert, ram attaching screws, and No. 9796 ram half coupler. 4122 – 50-ton Power Twin single-acting hydraulic ram. Complete with No. 22274 threaded ram head insert, ram attaching screws, and No. 9796 ram half coupler.

4130 - 100-ton Power Twin double-acting hydraulic ram. Complete with No. 24197 threaded ram head insert and two No. 9796 ram half couplers.

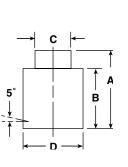
OTC No.		acity ns) Pull	Stroke	Oil Capacity	Eff. Area (sq. in.)	Internal PSI at Capacity	A	В	C	D	E	F	G	Н	J	к
4120	17-1/2	-	2"	7.06	3.53	10,000	6-7/8"	1-3/4"	1-1/16"	1"–8	1-1/2"	3-3/4"	5-3/4"	-	-	11/32"
4121	30	-	2-1/2"	15.7	6.28	10,000	8-7/16"	2-1/4"	1-19/64"	1-1/4"–7	1-13/16"	4-1/2"	7-1/2"	-	-	15/32"
4122	50	-	3"	29.4	9.81	10,000	10-9/16"	2-7/8"	1-43/64"	1-5/8"–5-1/2	2-3/8"	5-7/8"	9-3/8"	-	-	21/32"
4130	100	5	4-7/8"	93.8	19.24*	10,000	15-1/8"	4-3/4"	2-9/16"	2-1/2"-8	2-7/8"	10-1/8"	13-1/4"	4"	3/4"–16	25/32"
* Push	side only.	* Push side only. Passes ANSI B30.1 Static and Dynamic Tests.														

Power Twin Ram Accessories					
	Description	17-1/2 Ton	30-Ton	50-Ton	100-Ton
9	Speed crank	24814	27198	29595	303785
	Speed nut	<b>302482</b> 1"–8 thread	<b>302483</b> 1-1/4"–7 thread	<b>33439</b> 1-5/8"–5-1/2 thread	<b>34136</b> 2-1/2"–8 thread
	Adjusting screw	<b>32118</b> 1"–8 thread, 20" long	<b>34758</b> 1-1/4"–7 thread, 24" long	<b>32698</b> 1-5/8"–5-1/2 thread, 30" long	<b>32699</b> 2-1/2"–8 thread, 36" long
	Threaded insert	<b>21669</b> 1"–8 thread	<b>21873</b> 1-1/4"-7 thread	22274 1-5/8"–5-1/2 thread	<b>24197</b> 2-1/2"–8 thread
	Plain-hole insert	<b>21714</b> 1-1/16" dia. hole	<b>21872</b> 1-5/16" dia. hole	22275 1-11/16" dia. hole	<b>24196</b> 2-9/16" dia. hole
T	Pushing adapter	<b>201923</b> 1"–8 thread, 1/2" dia. shank	<b>34510</b> 1-1/4"–7 thread, 3/4" dia. shank	<b>34755</b> 1-5/8"–5-1/2 thread, 1" dia. shank	-
	Pushing adapter	<b>201454</b> 1"–8 thread, 3/4" dia. shank	<b>34511</b> 1-1/4"–7 thread, 1" dia. shank	<b>34756</b> 1-5/8"5-1/2 thread, 1-1/4" dia. shank	-
	Jack screw	<b>24813</b> 1"–8 thread, 7" long	<b>25931</b> 1-1/4"–7 thread, 9" long	-	-
	Ram cap	<b>28228</b> 1"–8 thread, 1-1/2" dia.	<b>28229</b> 1-1/4"–7 thread, 1-3/4" dia.	<b>28230</b> 1-5/8"–5-1/2 thread, 2-1/4" dia.	-

#### Hydraulic Pumps & Rams

#### "Shorty" Rams, Single-Acting, Spring-Return

Forcing a gravity return ram to retract wastes both time and money. This OTC series of single-acting, spring-return rams eliminates that waiting. With their low collapsed height and the stroke you really need, these rams are ideal for a variety of applications. You can choose from capacities of 10 to 100 tons and strokes from 1-1/2" to 2-7/16", with the largest ram being only 7-3/8" high! Bronze-plated piston rods resist scoring, and each ram can be "dead-ended" at full capacity for maximum safety. Each "Shorty" ram has an angled coupler port (5°) for easy hook-up. So, if you're tired of waiting for your rams to retract, these OTC "Shorty" rams are just the answer to your problems!





OTC No.	Capacity (tons)	Stroke No.	(A) Extended Height (in.)	(B) Retracted Height (in.)	(C) Piston Rod Dia. (in.)	(D) Outside Dia. (in.)	Cyl. Eff. Area (sq. In.)	Oil Capacity (cu. in.)	Int. Pressure at Capacity (PSI)	Tons at 10,000 (PSI)	Oil Port Return	Type Piston NPTF	Wt. (Ibs./oz.)
4141	10	1-1/2	5	3-1/2	1-1/2	2-3/4	2.24	3.4	8,943	11.2	3/8"–18	Spring	6
4142	20	1-3/4	5-1/2	3-3/4	2-5/32	3-9/16	4.43	7.7	9,029	22.1	3/8"–18	Spring	9/9
4143	30	2-7/16	7-1/16	4-5/8	2-1/2	4	6.49	15.8	9,243	32.5	3/8"–18	Spring	14 / 7
4144	50	2-3/8	7-3/8	5	3-1/8	4-7/8	9.62	22.8	10,393	48.1	3/8"–18	Spring	23 / 2
4145	100	2-1/4	7-3/8	5-1/2	4-3/8	6-5/8	19.63	44.2	10,186	98.2	3/8"–18	Spring	47 / 3



#### 4175

#### "Shorty" Ram and Pump Set

- Shorty rams provide lifting or pushing force in limited working space. Visual centering of load is simplified by a concentric ring pattern on piston top.
- · Single-acting, spring-return.
- Two-speed hand pump gives fast piston approach. (See chart below for specifications.)
- Set includes 4143 30-ton, 2-7/16" stroke single-acting spring-return hydraulic ram; 4016 pump; 9767 hose; and 9798 hose half coupler.

OTC Set No.	Capacity (tons)	Ram Stroke	Ram Collapsed Height	Strokes to Obtain Full Ram Stroke	Pump Speed
4175	30	2-7/16"	4-5/8"	55*	Two
			oke being m in high-pre		e.



#### Air/Hydraulic Ram and Pump Sets

Ideal for applications where an air supply of 40–120 PSI is available. Internal relief valve protects hydraulic system components regardless of air pressure, and two-stage release mechanism allows fast or metered ram return.

- The perfect replacement pump for hand pumps on body and frame straightening equipment.
- **4185** Set includes 4104 10-ton, 6-1/8" stroke single-acting hydraulic ram; 4020 air/hydraulic pump; 9767 hose; and 9798 hose half coupler.

**4186** – Set includes 4105 10-ton, 10-1/8" stroke single-acting hydraulic ram; 4020 air/hydraulic pump; 9767 hose; and 9798 hose half coupler.

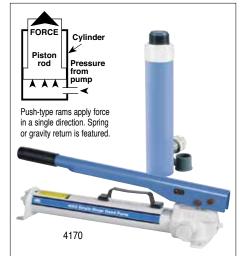
OTC Set No.	Capacity (tons)	Ram Stroke	Ram Collapsed Height	Pump Speed
4185	10	6-1/8"	11-1/2"	Multiple
4186	10	10-1/8"	15-1/4"	Multiple



- Ideal for jobs having restricted working space.
- Set includes 4120 17-1/2 ton, 2" stroke single-acting hydraulic ram; 4002 pump; 9650 gauge; 24815 tee; 9767 hose; and 9798 hose half coupler.

OTC Set No.	Capacity (tons)	Ram Stroke	Ram Collapsed Height	Strokes to Obtain Full Ram Stroke	Pump Speed
4180	17-1/2	2"	6-7/8"	48	Single

#### Shop Equipment Hydraulic Pumps & Rams



Hydraulic Push-Type Ram and Pump Sets

Compact and lightweight, these ram and pump sets

minimum of mounting space, their remote operation is facilitated by a 6-foot, high-pressure hose.

4169 - Set includes 4103 single-acting hydraulic ram,

4170 - Set includes 4104 single-acting hydraulic ram,

single-speed hydraulic hand pump. Requiring a

4002 pump, 9767 hose, and 9798 hose half

4002 pump, 9767 hose, and 9798 hose half

are ideal for use in a wide variety of lifting and pushing applications. They feature a single-acting ram with a

# $3/a^{"} \operatorname{NPTF}$

#### Single-Speed Hydraulic Hand Pump

This single-speed pump is ideal for single-acting rams. Developing up to 10,000 psi operating pressure, the pump operates horizontally or vertically in the "head down" position. Fingertip control provides instant release or pumping action. Has a built-in safety overload valve. Ideal for use with OTC single-acting rams, or similar competitors' rams.

#### Specifications:

Maximum operating press	ure 10,000 psi
Volume per stroke	160 cu. in.
Piston dia.	1/2"
Piston stroke	13/16"
Reservoir capacity	55 cu. in. (45 cu. in. usable)
Oil port	3/8" NPT



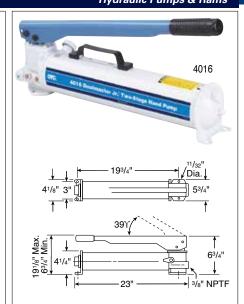
#### 4012

#### **Two-Speed Hand Pump**

The 4012 two-speed hand pump's all-metal construction almost eliminates the chance of leaking, or damage to the pump from regular use or accidents. It's the perfect pump for use with single-acting rams or combinations where 45 cu. in. of usable oil capacity will do the job. Has 2-way valve; welded steel carrying handle; automatic switching from low to high pressure mode; handle effort under 140 lbs. at 10,000 PSI; unique fill cap to prevent over-filling and over-pressurization; non-vented reservoir; fingertip control valve with 180° throw for on/off control.

#### Specifications:

Maximum	
Operating pressure	1st- 325 psi / 2nd- 10,000 psi
Volume per stroke	1st662 cu. in. / 2nd160 cu. in.
Piston dia.	3/8"
Piston stroke	13/16"
Reservoir capacity	55 cu. in. (45 cu. in. usable)
Oil port	3/8" NPT



#### **Dualmaster Jr. Two-Stage Hand Pumps**

Here's two-stage flexibility at a popular price! These pumps have extra-large reservoirs (125 cu. in. usable oil) and permit use with large hydraulic rams or in multiple small ram applications. Compact and lightweight, Dualmaster Jr. provides maximum flexibility with minimum effort in a portable pump. The 4016 and 4017 deliver... providing high oil volume (2.6 cu. in. per stroke) for rapid ram approach and return. Then they automatically switch at 300 PSI to the high pressure, low volume stage (.16 cu. in. per stroke) for high force applications. Both have a large, non vented reservoir with safety relief valve to prevent over-pressurization of the reservoir. Piston stroke is 3/4", maximum handle effort is 130 lbs. at 10,000 PSI. The 4016 is equipped with a 2-way valve for use with single-acting rams. The 4017 has a 4-way valve for use with double-acting rams. Two versatile hydraulic pumps...dependable power for automotive, heavy-duty truck, agricultural, and construction maintenance needs.

**4016** – Pump with a 2-way valve for use with single-acting rams. Delivers 2.6 cu. in. of oil per stroke in low pressure stage.

**4017** – Pump with a 4-way valve for use with double-acting rams. Delivers 2.6 cu. in. of oil per stroke in low pressure stage.

#### 4016 and 4017 Specifications:

Maximum	
Operating pressure	1st- 300 psi / 2nd- 10,000 psi
Volume per stroke	1st- 2.6 cu. in. / 2nd16 cu. in.
Piston dia.	1st- 2" / 2nd- 1/2"
Piston stroke	3/4"
Reservoir capacity	125 cu. in. usable
Oil port	3/8" NPT

# coupler.

coupler.

OTC Set No.	Capacity (tons)	Ram Stroke	Ram Collapsed Height	Strokes to Obtain Full Ram Stroke	Pump Speed
4169	10	2-1/8"	5-9/16"	32	Single
4170	10	6-1/8"	11-1/2"	93	Single

See page 217 for ram specs., and this page for hand pump specs.

Hydraulic Pumps

#### Dualmaster® Two-Stage Hand Pumps

Our finest hand-operated power units! These fast acting, two-stage pumps not only handle high force, high pressure requirements up to 10,000 PSI, but deliver extremely high volume at low pressure (7.35 cu. in. per stroke from 0 to 200 PSI) to quickly move the ram piston to and from the work! Pumps have a built-in relief valve, pre set at the factory for 10,000 PSI. Maximum handle effort is 90 lbs. Two basic Dualmaster models are offered: No. 4008 for use with single-acting rams, and No. 4009 for use with double acting rams. For information on pressure gauges, hoses, and other accessories for your Dualmaster, see pages 226 and 227.

**4008** – Hydraulic hand pump with No. 9584 2-position, 3-way control valve (for operating single-acting rams), and No. 4006 BL2 2-gallon reservoir with legs.

4009 – Hydraulic hand pump with No. 9500 3-position, 4-way control valve (for operating double-acting rams), and No. 4006 BL2 2-gallon reservoir with legs.

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`		JO BEE E gallor rooor	ion mariog	0.		l	Performance Example	24.12			
	Pump No.	Maximum Pressure	Piston Dia.	Piston Stroke	Reservoir Capacity	Oil Port		Job: To fully extend an OTC 4105 ram (has 10-1/8" stroke)	4008/4009 Pump	4016 Pump	4002 Pump
	4008 and 4009	1st stage 200 PSI 2nd stage 10,000 PSI	2-1/2" 1/2"	1-1/2"	460 cu. in. usable	3/8" NPTF		5" of ram travel is under no load, 5" is under load	37 strokes	74 strokes	141 strokes

#### Air / Hydraulic Pump

With shop air as the energy source, these pumps have the power and oil capacity (80 cu. in. usable oil) to drive even the large 55-ton rams. They are ideal all-around power sources for dozens of body, frame, and alignment applications. They can be used with a variety of rams, presses, and hydraulic pullers operating at up to 10,000 PSI. An internal relief valve protects the hydraulic components regardless of hydraulic pressure. In addition, a two-stage release mechanism gives fast or metered ram return while reducing hydraulic shock. In addition to all the features and performance characteristics of the 4020/4025, the 4021 is equipped with a 15 ft. remote control cord. The 4022 is equipped with a 2-gal. reservoir. These pumps require 9 cfm at 100 PSI air pressure at the pump.

**4020** – Air/hydraulic pump. Develops 10,000 PSI at 100 PSI air pressure. 3/8" NPTF oil port. 98 cu. in. usable oil capacity in plastic reservoir.

4021 – Air/hydraulic pump with a remote control actuator, 15 ft. cord. Develops 10,000 PSI at 100 PSI air pressure. 3/8" NPTF oil port. 105 cu. in. capacity plastic reservoir.

**4022** – Air/hydraulic pump with a 2-gallon (442 cu. in.) plastic reservoir.

**4025** – Air/hydraulic pump. Develops 10,000 PSI at 100 PSI air pressure. 3/8" NPTF oil port. 98 cu. in. usable oil capacity in metal reservoir.

213896 – Metal reservoir. 98 cu. in. usable oil capacity. Includes gasket and fasteners.

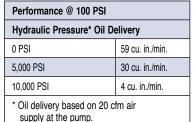
61243 – Replacement plastic reservoir for 4020 pump, 98 cu. in. usable oil capacity.

33853 - Replacement gasket for 4020 pump reservoir.

300871 – Repair kit for 4020 pump.









04141

#### Air/Hydraulic Pump

- 10,000 PSI air/hydraulic pump.
- Internal relief valve.
- Two-stage release mechanism.
- · Pump, hold, or release load with pedal control.
- 98 cu. in. useable capacity.
- 3/8 NPT oil port.
- 538592 Seal kit for 2510A.



#### Shop Equipment Hydraulic Pumps

Universal Motor

#### Vanguard® Two-Stage, High-Pressure Power Units

Thousands of users have put Vanguard to work in a variety of hydraulic power applications. And the reputation for trouble-free performance this pumping unit has earned is a proven, documented fact, not just a sales claim! Vanguard is a fast-acting, precision-built, two-stage pumping unit consisting of a gear pump for the low-pressure stage and an axial-piston pump for the high-pressure stage, the latter being "supercharged" by the gear pump. Vanguard delivers low volume at high pressure, yet provides high volume at low pressure for fast cylinder piston approach and return. Units feature a 10,000 PSI universal motor, which starts under full load. They are suitable for operation up to 10,000 PSI. Motor is 1-1/8 h.p., 12,000 RPM, (27 amp draw). Rated for intermittent duty. 4062 - Vanguard 2-stage hydraulic pump with 2-position/ 3-way valve and 6 ft. remote motor control (115V). 2 gal. of oil supplied.

4064 - Vanguard 2-stage hydraulic pump with 3-position/ 4-way valve and 6 ft. remote motor control (115V). 2 gal. of oil supplied.

#### Speed Comparison Chart

The job - Fully extend a 10-ton ram with a 10-1/8" stroke:

Pump No.	5" travel No load	5" travel Under load	Total Time
4062 Power	1.5 sec.	12 sec.	13.5 sec.
4002 Hand Pump	141 strokes (	4 to 5 min.*	

\* Handle effort at max. pressure is 140 lbs.

#### Performance Oil Delivery

100 PSI	1,000 PSI	5,000 PSI	10,000 PSI
650 cu. in./min.	80 cu. in./min.	70 cu. in./min.	55 cu. in./min.

Pump No.	For use with:	Control Valve	Reservoir	Motor Control	Voltage
4062	Single-acting rams	2-pos., 3-way	2 gal.	Remote 6 ft. cord	1-1/8 H.P., 115V*
4064	Double-acting rams	3-pos., 4-way	2 gal.	Remote 6 ft. cord	50/60Hz, Sgl. Phase

\* For 230 volt, please specify.

#### **Two-Gallon Reservoir**

Increase the oil capacity of your 4020, 4021, or 4025 air/hydraulic pumps with this kit. It gives you a two-gallon reservoir and everything else needed to make those pumps ideal for large, single-acting rams or for multiple ram applications.

207436 - 2-gallon reservoir kit for 4020, 4021, or 4025 air/hydraulic pumps. Includes reservoir, gasket, top mounting plate, bolts, and fittings. Gives 442 cu. in. usable oil capacity. 11-1/2" x 9-1/2" x 6-1/2". 40063BL2 - 2-gallon (462 cu. in. usable) "standard" reservoir only for Vanguard® pumps. Size: 12-1/2" x 10-1/2" x 6-1/2" high.







With a reputation for trouble-free performance these pumps work in a variety of hydraulic power applications.



Specifications											
A	В	C	D	E	F						
18-1/4"	12-1/2"	10-1/2"	7"	10"	8"						

Hydraulic Pumps

#### Two-Stage Electric / Hydraulic Pumps

They're called "RamRunners" and that's just what they do...run large singleor double-acting rams for fast frame straightening, wheel alignment, etc. They deliver up to 45 cu. in./min. at max. operating pressure of 10,000 PSI. The 4044 has a 2-position/2-way valve with "advance" and "return" positions and is for use with single-acting rams. The 4046 and 4057 have a 3-position/4-way valve with "advance," "hold," and "return" positions; for use with double-acting or multiple single-acting rams. Nos. 4044 and 4046 are equipped with a 1/2 h.p. single-phase, 60 Hz, 115 volt thermal protected electric motor and are designed to start under load. No. 4057 has a 1-1/2 h.p. electric motor. The RamRunners also feature a 6 ft. remote control cord for "on/off" control. One gallon and two quarts of oil are supplied.

4044 – RamRunner two-stage hyd. pump with 2-position/2-way manual valve and a 6 ft. remote control cord. Supplied with one gallon and two quarts of oil.

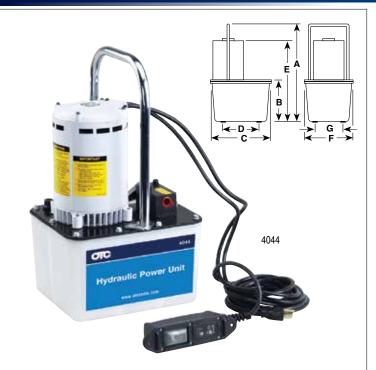
**4046** – RamRunner two-stage hydraulic pump with 3-position/4-way manual valve for double-acting rams, and a 6 ft. remote control cord. Supplied with one gallon and two quarts of oil.

**4057** – RamRunner two-stage hydraulic pump with 3-position/4-way valve for double-acting rams, and a 6 ft. remote control cord. Supplied with one gallon and two quarts of oil.

#### Speed Comparison Chart

The job - Fully extend a 10-ton ram with a 10" stroke:

Pump No.	5" travel No Load	5" travel Under Load	Total Time
4044 / 4046	3 sec.	39 sec.	42 sec.
4057	1.2 sec.	14 sec.	15.2 sec.



	Max.		Oil Del.* (cu. in./min. @)												
Pump No.	Press. Output	RPM	0 PSI	100 PSI	10,000 PSI	Voltage	Re: Cap.	servoir Usable	A	В	С	D	E	F	G
4044 / 4046	10,000 psi	3,450	290	240	17	1/2 h.p., 115 volt** 60 Hz, Sgl. Phase	1.9 gal.	295 cu. in.	18-1/2"	7"	11-3/8"	7-1/8"	14-7/8"	9-1/4"	5-1/8"
4057	10,000 psi	3,450	525	490	45	1-1/2 h.p., 115 volt** 60 Hz, Sgl. Phase	1.9 gal.	315 cu. in.	20"	7"	11-3/8"	7-1/8"	14-7/8"	9-1/4"	5-1/8"
* Typical deliv	* Typical delivery, actual flow will vary with field conditions. ** For 230 volt, please specify.														

#### **Control Valves**

9582 – This is a 2-position/3-way, lever operated, detent positioned valve for use with single-acting rams. It has "advance" and "hold" positions..

**9500** – A 3-position/4-way, lever operated, detent positioned valve for use with double-acting rams. Has "advance," "neutral," and "return" positions. Cylinder ports are blocked in "neutral" and pump flow is directed back to the reservoir.







OTC's control valves work in a variety of automotive and industrial applications.

#### Shop Equipment Hydraulic Pumps

#### Vanguard Jr.® Two-Stage, High-Pressure Power Units

Combines compact size and light weight with 2-stage high performance. Choose from several models with electric motors and many options. Designed for operating pressures up to 10,000 PSI.

Vanguard Jr. gives you just what you need: 2-stage flexibility with high performance, and a selection of units and options that lets you tailor the pump to your needs. Refer to the performance and speed tables below, and you'll see how these pumps cut down the time needed for almost any job. The 2-stage operation automatically matches pump performance to the job requirements. The low-pressure, high-volume stage provides fast ram approach and return. Then at approximately 200 PSI, the high-pressure, low-volume stage takes over to handle high force requirements. These pumps are ideal for hundreds of hydraulic applications such as clamping, bending, straightening, pressing, forming, testing, pushing, and pulling. Each is equipped with a relief valve factory-set at 10,000 PSI (the maximum operating pressure of the pump). Choose from models with electric (115 or 220 volt) motors and options that include remote hand- and foot-operated motor controls, adjustable pressure regulator, and pressure switch. Vanguard Jr. starts easily under load and has been thoroughly field-tested for high cycle reliability.

**4031** – Vanguard Jr. two-stage hydraulic pump 115V with 2-position/3-way valve and 6 ft. remote motor control. 1 gal. of oil supplied.

**4031-220V** – Vanguard Jr. two-stage hydraulic pump 220V with 2-position/3-way valve and 6 ft. remote motor control. 1 gal. of oil supplied.

4033 – Vanguard Jr. two-stage hydraulic pump 115V with 3-position/4-way valve and 6 ft. remote motor control. 1 gal. of oil supplied.

4033-220V – Vanguard Jr. two-stage hydraulic pump 220V with 3-position/4-way valve and 6 ft. remote motor control. 1 gal. of oil supplied.

4036 – Vanguard Jr. two-stage hydraulic pump 115V with 3-position/4-way valve and run/off/jog motor control. 2 gal. of oil supplied.

**4036-220V** – Vanguard Jr. two-stage hydraulic pump 220V with 3-position/4-way valve and run/off/jog motor control. 2 gal. of oil supplied.

#### Speed Comparison Chart

The job - Fully extend a 10-ton ram with a 10-1/8" stroke:

Pump No.	5" travel No Load	5" travel Under Load	Total Time	
4031	4 sec.	34 sec.	38 sec.	
4002 Hand pump	141 strokes of	4 to 5 min. *		

\* Handle effort at max. pressure is 140 lbs.

#### Universal Motor Version and Large Reservoir Models

These all have a 10,000 PSI pump and universal motor: 1/2 h.p., 12,000 RPM, 115 or 230 volt (specify), 60/50 cycle A.C. single phase. No. 4036 has an extra-large 2-gallon (462 cu. in.) reservoir to permit full stroke of large displacement rams. Also suited for applications where several rams are used.

Pump No.	For use with	Control Valve	Reservoir	Motor Control
4031 / 4031-220V	Single-acting rams	2-position, 3-way	.45 gallon, 104 cu. in.	Remote 6 ft. cord
4033 / 4033-220V	Double-acting rams	3-position, 4-way	.45 gallon, 104 cu. in.	Remote 6 ft. cord
4036 / 4036-220V	Double-acting rams	3-position, 4-way	2 gallon, 462 cu. in.	Run / off / jog





Specifications Note: Dimensions shown apply to pumps with 104 cu. in. reservoir.

A	В	C	D	E	F
16"	6"	8"	4-3/4"	5-1/8"	7-1/8"

#### Performance

The low-pressure, high-volume stage provides fast ram approach. When high force is needed, the high-pressure, low-volume stage takes over. The figures below indicate oil delivery of the electric power unit at various pressure levels.

170 cu. in./min. at 100 PSI 25 cu. in./min. at 5,000 PSI 32 cu. in./min. at 1,000 PSI 18 cu. in./min. at 10,000 PSI

Thousands of user's have put Vanguard Jr. pumps to work in a variety of hydraulic power applications.

Hydraulic Accessories

#### Pressure Regulator/Check Valves and Accessories

	OTC No.	Description		OTC No.	Description	
2100	9623	Pressure regulator valve. For remote location in a hydraulic system. Adjusts from 1,000 to 10,000 PSI.		9617	Manifold block. For use when a multiple-ram system is required. Has six 3/8" NPTF ports.	
1	9575	Needle valve for fine metering. Use several for controlling multiple single-acting rams simultaneously, yet independently. 3/8" NPTF		9691	"Y" manifold. Useful when connecting two rams to a single line. Three 3/8" NPTF ports.	
	9596	ports. Load lowering valve. 3/8" NPTF ports, 10,000 PSI max. operating pressure.	-	10645	45° fitting. Used when mounting gauge at an angle on connection such as 24815. External and internal 1/4" NPTF ends.	
	7312	O-ring/oil seal pick. An extremely handy little tool! Makes removal and installation of oil seals and o-rings a snap. Pick has a metal shaft.		10469	Swivel connector. 3/8" NPTF external, 3/8" NPSM internal.	
10	10461	Remote control foot switch, 10 ft. cord. Press for "on," release for "off."		10682	Coupling. Both ends 3/8" NPTF internal.	
$\overline{\bigcirc}$	25017	Remote control hand switch, 10 ft. cord. Press for "on," release for "off." (Replacement rocker switch only, No.16772)		10474	Street elbow. Internal and external 3/8" NPTF ends.	
Contraction of the second seco	9625	Pressure switch. 1/4" NPTF external thread.		10673	Short nipple. 1-1/2" long, 3/8" NPTF external ends.	
Gauge	es - All gaug	jes have 1/4" NPTF threads		13828	Long nipple. 2" long, 3/8" NPTF external ends.	
	9650	Pressure and tonnage gauge. Four scales: 0-10,000 PSI, 0–17-1/2-ton, 0-30 ton, and 0-50 ton. 3-1/2" dia. face (Dry)		10647	90° elbow. 3/8" NPTF internal ends.	
	9651	Pressure and tonnage gauge. Four scales: 0-10,000 PSI, 0-55 ton, 0-75 ton, and 0-100 ton. 3-1/2" dia. face (Dry).	67	13888	Coupling. Ends – 3/8" NPTF internal	
	9652	Pressure and tonnage gauge. Four scales: 0-10,000 PSI, 0-5 ton, 0-10 ton, and 0-25 ton. 3-1/2" dia. face (Dry).		0i	and 1/2" NPTF external.	
	9653	Pressure gauge. Two scales: 0-10,000 PSI, and 0-689 BAR. 3 -1/2" dia. face. Use with any OTC pump or ram (Dry)	Precisio Permits disco	Quick Couplers ision built and designed for high pressure. isconnecting hose without loss of oil. 3/8" NPTF		
	9654	Pressure gauge. Two scales: 0-10,000 PSI, and 0-689 BAR. 2 -1/2" dia. face. Use with		9795	Complete quick coupler.	
	9655	any OTC pump (Dry). Pressure gauge. One scale: 0-6,000 PSI.		9796	Ram half coupler and dust cap.	
Q		3 -1/2" dia. face (Dry).	O	9797	Ram half coupler dust cap only.	
	9658	Pressure gauge. Two scales: 0-10,000 PSI, and 0-689 BAR. 2 -1/2" dia. face. Gauge is filled with glycerin or silicone to dampen vibration and fluid pulsation. Use with any OTC pump or ram.		9798	Hose half coupler only.	
	9659	Pressure gauge. Same as 9658 except is liquid filled and has 3-1/2" diameter face.	0	9799	Hose half coupler dust cap only.	
	Adapte	rs and Fittings		9866	Hose or ram half cap.	
	24815	Tee adapter. For installing gauge between pump and hose coupling. Has 1/4" and 3/8" NPTF internal and 3/8" NPTF external.				
	25919	Double tee adapter. Permits use of more than one ram in series with one pump. Three 3/8" NPTF ports.				

Shop Equipment Hydraulic Accessories

#### Hydraulic Oil

Ensure dependable performance of rams and pumps by using this high-grade, specially prepared oil. Contains foam suppressant additives; high viscosity index.

OTC No.	Size	Viscosity	Recommended for use with
9636	1 quart	215 SSU	4000, 4002, 4016, 4017, 4020, 4021
9637	1 gallon	@ 100°F	Vanguard, RamRunner and Stinger pumps



#### **Hydraulic Hose**

Lightweight, rugged hose in lengths to 20 ft. Choose from 1/4" I.D. or 3/8" I.D. high flow hose. All have 3/8" NPTF ends. Operating pressure is 10,000 PSI. Hoses comply with MHI Std. IJ100.



Hose Type	Hose Inside Dia.	Hose Length	OTC No.
	1/4"	2 ft.	9765
Braid (2-ply Rating)	1/4"	3 ft.	9766
(= p.) :	1/4"	6 ft.	9767
	1/4"	8 ft.	9768
	1/4"	10 ft.	9769
	1/4"	12 ft.	9770
Nylon Core	3/8"	6 ft.	9780
Synthetic Fiber	High	10 ft.	9781
Reinforced *	Flow	20 ft.	9782

\* Note: This hose is not recommended for use where heat or weld spatter conditions exist.

#### 80-Ton Capacity Truck Center and End Bushing Service Equipment

For fast, easy bushing replacement on 340, 380, 440, and 450 series Hendrickson suspensions. Recommended by Hendrickson as the only correct method for bushing replacement— eliminates "torching"!

Knock off about six to eight hours when replacing center and end bushings. Center bushings, which often require more frequent service, can be replaced in under two hours, and the beam and wheels stay in place! The No. 1741 and 1742 sets include a hydraulic pump and ram to deliver up to 80 tons of force!

If center bushings are allowed to wear from lack of maintenance, the end bushings may soon fail, which can also lead to excessive tire wear. Correct bushing maintenance with one of OTC's heavy-duty service sets can save needless parts costs and downtime.

#### Center Bushing Service

Two hours. That's about what it takes to replace center bushings with this equipment. Best of all, the beam and wheels are not removed.

#### End Bushing Removal & Installation

This is almost as easy as center bushing replacement. Of course, the wheels have to be removed first, then the hanger tubes or end beam adapter plugs. (See page 229 for 1743 hanger tube service set and 1745 end bushing adapter service set.) After that, the procedure is much like center bushing replacement. Typically save six to eight hours because the beams are not removed from the truck.

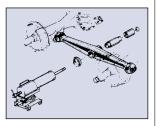
NOTE: Hendrickson Mfg. Co. has changed the numerical designations on the following suspension models. These numerical changes DO NOT affect service procedures or tooling required to service their suspensions.

Original Model Number	New Model Number
380	400
440	460
450	480
500	650



Order information for center and end beam bushing service sets is below and on the following pages.

OTC No. 1740 tooling set up for center bushing replacement.



#### 1740

#### **Basic Tooling Set**

This is the basic tooling set for servicing center and end beam bushings. It does not include the hydraulic pump or gauge. If you are already equipped with hydraulics, you can be replacing bushings right away! (Does not include tooling for hanger tube or end plug adapter removal.)

#### For 340 thru 450 Series Hendrickson Suspensions

Item	No	Description		ltem	No	Description
A	44119	Receiving tube		Ν	302028	Hex nut
В	51678	80-ton cylinder		0	302029	Speed nut
С	51695	Jack cart		Р	302030	Removing adapter
D	206457	Press adapter		Q	302031	Installing adapter
E	206459	Clamp plate	R 302032 Removing ada		Removing adapter	
F	9780	Hydraulic hose	S 302401 Spacer ring		Spacer ring (3)	
G	302018	Spacer (2)		Т	42052	Inst. adapter clamp
Н	302019	Receiving adapter			4	N /A-
J	302021	Receiving adapter			J.	Total Or a
K	302023	Pulling screw			K K	
L	302026	Installing adapter		ASS - W		
М	302027	Removing adapter		×.		Sec.

1740 tooling setup for end bushing installation.

#### Hendrickson Service Sets with Hydraulics

#### For 340 – 450 series Hendrickson suspensions

#### 1742

#### Basic Tooling Set with hydraulics (Hydraulic pump 4031)

The preferred method for servicing center and end beam bushings. You get the complete No. 1740 basic set, plus OTC's No. 4031 two-stage electric/hydraulic pump with remote hand switch, a No. 9654 pressure gauge, hose half coupler, and 80-ton single-acting ram. (Tooling for hanger tube or end plug adapter removal not included.)

#### 1741

#### Basic Tooling Set with hydraulics (Hydraulic pump 4062)

The method Hendrickson recommends for suspension service. You get the No. 1740 basic set, plus OTC's No. 4062 two-stage electric/hydraulic pump with remote hand switch, a No. 9653 pressure gauge, hose half coupler, and 80-ton single-acting ram. (Tooling for hanger tube or end plug adapter removal not included.)

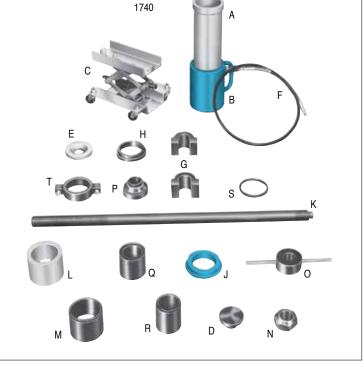


#### 1746

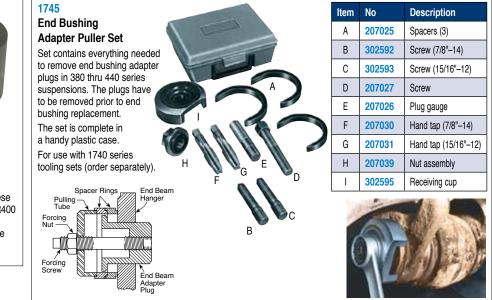
#### R400 Center Bushing Adapter Set

For R400 series Hendrickson suspensions having center bushing No. 49400 or field service center bushing No. 49600.

Used with OTC's No. 1740 suspension tool set, these adapters let you remove and install the new style R400 center bushings on Hendrickson suspensions. Set includes one No. 310248 removing adapter and one No. 310249 installing adapter.







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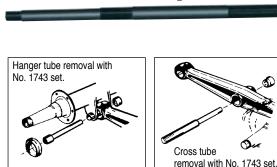
#### Shop Equipment Bushing Service



#### End Bushing Hanger Tube/ RU Series Center Bushing Service Set

Required for servicing RU340 series center bushings. The long puller screw is used to remove the beam cross tube. The 1743 also removes end bushing hanger tube assemblies. For use with 1740 tooling (order separately).

Item	No	Description
A	25417	Nut
В	206455	Removing adapter
С	302015	Receiving adapter
D	302119	Special screw
Е	302023	Pulling screw



R

D

#### 1744

#### **Bronze Center Bushing Service Set**

Designed for replacing bronze center bushings on 340, 380, 440, and 460 Hendrickson suspensions. Also installs bronze center bushing grease seals. For use with 1740 series tooling set (order separately).

#### For 340, 380, 440, & 460 series suspensions.

Item	No	Description	Removing center	
A	28536	Installing adapter	bushing with No. 1744 set.	Jan Branch
В	28538	Installing adapter		
С	302024	Removing/installing adapter		Installing center
D	302025	Removing/installing adapter		bushing with No. 1744 set.

#### 1763

#### Center and End Bushing Service Set

This set is required for bushing service on 500 and 700 series heavy-duty suspensions. It is intended for use with a 100-ton capacity shop press. It allows replacement of center and end bushings.

For 500 & 700 series suspensions. Use with a shop press.

Item	No	Description	Item	No	Description
A	208350	Adapter	С	28541	Adapter
В	208349	Adapter clamp			

#### 1764

#### Center and End Bushing Tool Set

This set is the answer for replacing center and end bushings on Hendrickson 340 and 380/440 series suspensions. The 1764 is for use with a 100-ton or larger hydraulic press. The press plate sits on the press bolster to provide a level, cradle-like surface for the beam to rest on during pressing.



# For 340 and 380/440 series suspensions. Use with a shop press.

Item	No	Description	Item	No.	Description	Item	No	Description
А	51100	Press plate	D	302030	Removing adapter	G	206457	Press adapter
В	302032	Removing adapter	E	42052	Inst. adapter clamp	Н	302027	Removing adapter
С	302031	Installing adapter	F	206459	Clamp plate	Ι	302026	Installing adapter



#### 1748

Δ

#### End Bushing Adapter Puller Set

Scre

#### for Hendrickson Truck Suspensions

This set contains everything needed to remove end bushing adapter plugs used on 400 series and the larger 460–520 series suspensions. The plugs have to be removed prior to end bushing replacement. The set is complete in a handy plastic case. For use with 1740 series tooling sets (order separately).

Ènd Beam

Adapter

Plua

#### For servicing the 400

and larger 460-520 series suspensions.

Item	No	Description
A	207025	Spacers (3)
В	302592	Screw (7/8"-14)
C	302593	Screw (15/16"-12)
D	207027	Screw
E	207026	Plug gauge
F	207030	Hand tap (7/8"-14)
G	207031	Hand tap (15/16"-12)
Н	207039	Nut assembly
I	302595	Receiving cup
J	*221378	Hand tap (M30 x 2)
К	*313342	Screw (M30 x 2)

\* For use on 460–520 series adapter plugs (can be purchased separately and used with set No. 1745).

#### Shop Equipment Bushing Service



Servicing bar pin end bushings used on Hendrickson equalizing beam tandem truck suspensions requires the use of special tooling. OTC's No. 1757 adapter set is used with the beam removed from the truck, and

in conjunction with OTC No. 51100 press plate and a 100-ton hydraulic shop press. The 1757 set, which replaces the No. 1747 set, includes an adapter for installing bushings in older forged beams as well as the fabricated beams introduced in 1999.

To remove bushings, use OTC's previously introduced No. 302030 removing adapter and No. 206457 press adapter, both of which may be ordered separately. Reinstall bushings following procedures recommended by the suspension manufacturer.

#### 1767

Hendrickson Primaax Quick Alignment Socket

- Hendrickson Approved tool.
- Used to adjust axle alignment on the Primaax air suspension.
- Works on Primaax models 230, 460, and 690 rear suspensions.



#### Hendrickson PRIMAAX<sup>®</sup> Quick Wrench

- · Hendrickson Approved tool.
- Used to torque cross tube end cap bolts and longitudinal torque rod top pad bolts.
- Reduces maintenance time by eliminating the need to remove the tires to gain access to the end cap bolt.
- Use with the following Hendrickson PRIM AAX suspensions:
  - Type A PAX 230/460/690 and FMX 240/480 with 8-1/2" Ride Height
  - Type B PAX 230/460/690 with 10" Ride Height.

#### 1749 Hendrickson Suspension

# Bar Pin End Bushing Adapter Set

Extend your No. 1741 and No. 1742 bushing service equipment sets. You can now remove and install worn end bushings on the Hendrickson new style bar pin end bushings without removing the equalizing beam from the vehicle. The No. 1749 works in conjunction with OTC's No. 1741 and No. 1742 80-ton portable service equipment to do the job quickly, using procedures recommended by the manufacturer.

ltem	No	Description
А	314557	Receiving tube
В	49050	Installer
С	314556	Receiving adapter
D	314558	Pin
Е	314559	Pin





#### Freightliner Rear Suspension Tool

- Removes single-wrapped FAS II Airliner Freightliner Rear Suspension bushings in a fraction of the time of traditional methods.
- Also can handle Neway AD Series Truck and Tractor suspension bushings.
- Saves on average 45 minutes per bushing (4 per vehicle) on flat rate of 1.5 hours per bushing.
- 15 ton Capacity cylinder
- 4244 Freightliner Rear Suspension Tool.
- 4245 Freightliner Rear Suspension Tool Master Kit includes 2510 Air/Hydraulic Pump.

#### **Hydraulic Flow Testers**

50 and 75 GPM hydraulic oil flow testers accurately measure oil flow, temperature, and pressures against manufacturers' specifications. Troubleshoot hydraulic circuits and isolate faulty components on mobile equipment, machine tools, fork lifts, agricultural and industrial tractors, and equipment (open or closed) hydraulic systems with capabilities up to 75 GPM at pressures to 5,000 PSI. Models include features such as an automatic pressure compensating load valve that lets you increase flow without affecting the pressure settings. Temperature flow and RPM readings are displayed in metric or English, and accurate to within plus or minus 2% of full scale. Each tester is protected by a safety disc, which ruptures automatically if pressures exceed the upper limits.

4221 - 75 GPM hydraulic circuit tester.

Comes with two pressure gauges and three 9-volt batteries.

4235 – 50 GPM hydraulic circuit tester with single liquid-filled pressure gauge. Includes two adapter unions for 3/4" NPTF fittings.





#### Shop Equipment DPF Equipment

#### 5286

# **Portable Diesel** Particulate Filter Cleaner

The Diesel Particulate Filter (DPF) Cleaner was designed with shop service in mind. Its portability allows the unit to be placed as close to the vehicle as possible and to be stored wherever needed in the service facility. The advent of the 2010 Tier 4 cleaning requirements created the need for a lighter, more portable cleaning system which can be taken into the field to clean filters at the point of service.

#### **Diesel Particulate Filter FEATURES**

- · Lightweight and Highly Portable ideal cleaning system for use in the shop or on a service truck.
- · Flexibility clean DPF's from 6" to 15.5" in diameter using shop or compressed air of at least 100 PSI and 20 CFM sustained airflow.
- · Fully Automated Operation once started, the cleaning process can be completed with minimal operator oversight, freeing up the technician to simultaneously do other work in the shop.
- · Focused Air Jet Technology™ concentrates a precise high pressure stream of air directly into every cell.
- · Easy Maintenance contains no internal filters that require user maintenance.
- · Rugged design provides maximum durability.
- · Operates on 12-24 volt DC, or 110-220 Volt AC.

#### Efficiency by the Numbers\*

- · Cleans up to 20% more efficiently than traditional pulse based systems.
- · Cleans up to 5% more efficiently than other more expensive "air knife" systems.
- \*Based on third party OE test data using Pin-gauge measurement.

#### Unique floating puck prevents "splash back"

- Features Focused Air Jet Technology™ with a unique floating puck that prevents splash back.
- · Includes three nozzles: two straight (short and long), for standard "open face" DPFs; and one curved for the angled-flange DPFs.
- · Ensures quiet operation.

#### Ash disposal System and Shield

· Innovative ash disposal system enables technician to quickly and easily remove and dispose of particulate matter in accordance with local environmental requirements.







Includes innovative shield to protect cleaning area from moisture.

5286 kit includes:

- · Cleaning unit
- Three neoprene rings fit filters from 6 in.
- (165 mm) to 15.5 in. (400 mm) in diameter
- · Wet / dry HEPA vacuum
- · Short, long, and curved-flange filter nozzles
- · Adjustment feet for standard and flanged filters
- Ash disposal kits

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· AC and DC adapter cables

#### Accessories

563197 (Set of 5) - Ash disposal system enables technician to quickly and easily remove and dispose of particulate matter in accordance with local environmental requirements.





Curved neck nozzle with floating puck for angled-flange DPFs.



Long nozzle with floating puck for standard open face DPFs.



CE

DPF Equipment

#### 5280

# **OTC 5280 Diesel Particulate Filter Cleaner**

The Diesel Particulate Filter (DPF) Cleaner was designed with shop service in mind. The cleaning process allows the DPF to be cleaned as part of a general maintenance schedule at the service location with minimal time away from the vehicle. It's portability allows the unit to be placed as close to the vehicle as possible and to be stored wherever needed in the service facility.

#### **DPF Cleaner Features**

- · OE tested and Dealer recommended By many major diesel engine manufacturers. Robust design - For long shop life. Can be used as part of a preventative maintenance program.
- · High Pressure cleaning process for thorough cleaning of ash from DPF produces 10 times the burst energy of competitive low pressure units.
- · Initial Burst Quick check To identify filters too plugged for proper cleaning.
- · Movable with locking wheels For placement throughout the shop.
- · Computer Controlled Process Based on OE Requirements for "Start to End" cleaning without constant technician monitoring.
- · Containment of hazardous ash For easy disposal.
- · HEPA Filter Air Exhaust System To exceed environmental air standards for shop.
- · Operates on standard 115V outlet.
- · Proven to clean to over 92% efficiency. (3)

(3) Third-party OEM test results using pin gauge measurement with approved OTC adapters and burst cycles. Actual results may vary.

#### **DPF Cleaner Includes:**

OTC Diesel Particulate Filter (DPF) Cleaner

- 535936 Small Cone
- 543887 Medium Cone
- 543885 Large Cone
- 553913 CAT Adapters
- 553915 Cummins Adapters





#### Upgrade kits for other OEM's are sold separately:

556889 - Detroit Diesel upgrade kit

- 553990 UD TRUCK (with Hino Engine) upgrade kit
- 553991 Isuzu upgrade kit
- 553993 Volvo/Mack upgrade kit
- 558181 Navistar upgrade tit\*
- \* Requires use of 5281 DPF Thermal Processing Unit.
- 554654 Includes all upgrade kit shown above.
- 558569 12" HEPA filter

# 5281 OTC DPF Thermal **Processing Unit**

The 5281 DPF Thermal Processing Unit is a device which will thermally regenerate a DPF unit at a controlled, pre-programmed rate. Sometimes, the DPF cannot be regenerated on the truck due to a failure with the vehicle's own regeneration system, or in the case of retrofit applications, a lack of an on-vehicle regeneration system. Thermal regeneration of DPFs is used in conjunction with the OTC 5286 DPF Cleaner.

Designed to facilitate the cleaning of dirty filters especially those with high amounts of wet soot, and unburned hydrocarbons.

- · Pre-programmed thermal profile controls temperature 'ramp up' and 'cool down' to protect the DPF from thermal shock, reducing the risk of cracking the DPF.
- · Holds temperature constant for two hours to ensure complete regeneration of filter.
- · Includes both standard cycle and "pre-treat" cycle for oil-soaked filters.
- · Built-in electronic safety lock prevents unauthorized opening of the door when temperatures exceed 200 degrees F.
- · Large chamber accommodates various DPF sizes and shapes. Front access door allows for easy access to the thermal chamber.
- · 220VAC / 60Hz / Single phase / 50 Amp.
- 1-vear warranty.
- · CE, UL201, UL499.
- · Internal chamber dimension: 24" (L) x 24" (W) x 26" (H).





Electronic safety lock







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36255         29         3460         77,68         467         29         4461         .81,144         4633         .60           36364         24         340-10         76,161         462.0         22         4461         .81         443         .22         343         .22         4477         .81         443         .22         343         .24										
30358.         24         4949-10         27, 68, 159         402         227         4467         81, 144         433.         60           3075.         169         4949-00         159         402A         229         4470.         52         433.         661.28           3075.0         169         4949-10         7.68         4000.         221         4475.         111         4612.         443.           3075.0         191         3969.         68         4003.         221         4475.         111         4612.         444           3075.0         191         3969.         68         4003.         221         4476.         7.81.124         464.         444           3075.0         191         3957.         68         4056.         221         4486.         51         453.4         44           3075.01         191         3958.1         13         4010.         221         4481.         411.1         149         454.4         444           3075.01         191         3958.1         33         4110.         221         443.4         444         447.2         444         447.2         444         447.2         444         <	3050E									
3654E         34         340-10         56         664         227         4468         81         4353         123           3075         110         340-11         27,66         4082A         20         4472         22         455         66         126           3075         110         340-11         27,66         4085         122         4472         22         425         66         128           307560         131         3579         76         4100         221         4477         77.110         4544.4         44           307560         131         3579         131         4104         221         4480         111         4344.4         44           30756         131         3579         131         4106         221         4480         111         4344.4         44           30756         131         3587         134         1410         221         4480         111         4344.4         44           3076         131         3598         133         4113         222         4490         111         4344.4         44           3076         139         3598.4         33         412								/		
3070.         189         349-103         155         4682.h         220         4470.         82         4535.         86           3075.01         191         349-12         27.68         4685.         165.219         4472.         82         4536.         861.12           3075.01         191         349-12         27.68         4400.         221         4473.         7.8         468           3075.02         191         3491.12         27.68         4400.         221         4473.         7.8         164         444         444         444         444         444         444         444         444         444         445         444         444         445         444         445         444         445         444         445         444         445         444         445         444         445         444         445         444         445         444         445         444         445         444         445         444         445         444         446         444         446         444         446         444         446         446         446         446         446         446         446         446         446								,		
3075.         190         4491-11         27, 66, 150         46880         220         4472         28         4837         886           3075-62         191         4491-12         77, 66         4100         221         4473         11         442         445           3075-63         191         3527         68         4101         221         4477         78, 102         454.44         444           3075-66         191         3557         68         4106         221         4485         90         4614.44         444           3075-66         191         3550         113         4100         221         4480         11,11         474.44         444           3075-6         191         3560         113         4100         221         4480         11,11         4444         444         444         444         444         444         444         444         444         444         11,11         222         4483         441         77         457.43         444         444         444         444         444         444         444         444         444         444         444         444         444         444         444				,						
3075(1)       19       3491-12       .7, 68       4065.       .168, 219       4475.       .84       367.       .85         3075(2)       19       3492.       .166       4101       .221       4476.       .76       10       4543.4       .44         3075(2)       .191       3690.       .86       4103       .221       4477.       .76       10       4543.4       .44         3075(3)       .191       3690.       .13       4104.       .221       4493.       .44       .44         3075.10       .190       3690.       .13       4107.       .221       4491.       .151       4543.4       .44         3055.       .190       3690.       .33       4116.       .221       4491.       .151       .454.4       .44         3055.       .191       3696.1.       .33       4115.       .221       4491.       .26       7       454.4       .72       365.63       .131       369.4       .44										
307562       191       340-13       2,68       4100.       221       4475.       11       4422.       44,65         307543       191       3869.       66       4103.       221       4477.       77.0       102       4543.4.       44         307565       191       3577.       18       4105.       221       4476.       776.0       2453.4.       44         307565       191       3587.       86       4105.       221       4483.       98       4543.4.       44         305506       191       3589.1.       33       4105.       221       4481.       150       9454.4.       44         30551       191       3589.1.       33       4115.       221       449.2.       476.7.       72         30553       191       358.4.3.       31       4115.       221       444       410       410       411       411       411       411       411       411       411       411       411       411       411       411       414       411       414       411       414       411       414       411       414       411       414       411       414       411       414										,
9075-64         191         3569.         66         4103.         221         4477.         76         102         4543.4.         44           3075-65         191         3567.         18         4105.         221         4480.         003         4543.4.         44           3075-68         191         3580.         113         4107.         221         4480.         111         47         4543.4.         44           3075-67         191         3586.1         38         4105.         221         4480.         111         4543.4.         44           3075-67         191         3586.1         38         4105.         221         4481.         115         6443.4.         44           3085-10         191         3586.1         33         4115.         221         4464.         457         4547.2         24           3110-1         192         3586.4         33         4121.         223         4463.         4443         310.2         24         454.         4547.3         444           3110-21         192         3583.6         54         440.2         4563.7         71         4547.8         444           3110-1			3491-13						4542	
907565         191         357         13         4104         221         4480.         20.13         4543.4.2.         44           9075.66         191         3587.         66         4105.         221         4489.         90         4543.4.3.         444           9076.         190         3590.         113         4107.         221         4489.         90         4548.5.         444           9085.01         113         3564.1         33         4100.         221         4489.         420         4548.6.         72           9085.02         181         3564.1         33         4101.         221         2463.         421         74         457.4         74           9086.01         192         3566.1         33         412.         223         4467.3         451.7         74         477.2         444           9110.1         192         3566.1         34         412.         223         4467.3         4471.4         444         3110.6         123         3467.7         4477.4         44         3110.0         123         3569.4         33         4131         222         450.4         451.4         444         310.6 <t< td=""><td></td><td></td><td></td><td></td><td>4101</td><td>221</td><td></td><td></td><td></td><td></td></t<>					4101	221				
3075-06         191         3687         86         4105         221         4483         96         453,4.         .44           3075-16         191         3590         113         4107         221         4480         111,1.47         453,8.4         .44           3075-16         191         3590.1         34         110         221         4482         109         454,6.         .44           3085-15         191         3591.3         34110         221         4482         .38         117         243,6.         .44           3085-15         191         3591.4         33         4115         .221         4484         .24,7         244,7         .444         .44           3085-15         191         3591.4         .33         4115         .222         4497         .61,17         24,72         .444           3110-01         192         3591.4         .33         4131         .222         4304         .71         4577,43         .444           3110-01         192         3591.4         .34         142         224         4506         .44         .447         .51,145         .444         .447         .51,145         .444								,		
3075-0       19       550       13       4106       221       4480       111       4543-4       444         3065       190       5560       13       4107       221       4491       115, 147       4543-6       444         3065       191       3560-1       33       4111       221       4492       90       4546-7       72         3065-02       191       3560-1       33       4115       221       4494       24, 67       4547-7       72         3065-05       191       3560-1       33       4116       221, 224       4495       81, 103       4577-4       444         3110-1       122       5569-1       34       4121       223       4495       81, 104       4577-4       444         3110-1       122       5569-1       34       4121       223       4496       81, 104       4577-8       444         3110-1       122       5569-1       34       4507-8       444       4507-8       444       4507-8       444       4507-8       444       4507-8       444       4507-8       444       4507-8       444       4507-8       444       4507-8       444       4507-8								-, -		
3076.         190         556.1         33         4107.         221         4490.         111.1         454.0         -         444           3065.1         190         556.1         33         4100.         221         4492         .00         456.6         .72           3065.1         191         556.1         33         4110.         222         4439         .82, 102         456.4         .72           3065.05         191         556.1         33         4115.         .222         4494.         .74         454.7         .72           3065.05         191         556.1         33         4120.         .223         4496.         .81, 13         4577.49.         .44           3010-1         192         556.1         34         4120.         .223         4497.         .61.74         4577.49.         .44           3110-1         192         556.1         34         4120.         .224         4467.         .74         4577.45.         .44         .44         .44         .44         .44         .44         .44         .44         .44         .44         .44         .44         .44         .44         .44         .44         .44										
3065         190         3580.1         38         4108.         221         4491         15. 100         4543.4								• •		
2085-01         191         3506.12         33         4110         221         4492         .00         4546         .72           308-503         191         356.14         33         4115         .222         4494         .24, 57         4546-1         .72           308-505         191         356.14         33         4115         .221         4494         .24, 57         4547.2         .44           3086         191         356.14         33         4112         .223         4495.         .81, 103         4547.23         .444           3110-01         192         356.1-6         33         412         .223         4498.         .81, 147         4547.34         .444           3110-01         192         356.1-8         34         1410         .222         4506.         .71         4547.34         .444           3110-01         192         356.1         56         56         .44         454.9         .90           3110-10         192         356.3         65         4141         .224         4506.         .616.14         454.9         .90           3110-11         192         356.3         56         414.4         .24 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>,</td> <td></td> <td></td>								,		
2085-02         191         3564.12         33         4111         22,22         4493         42,127         4444-2,17         72           2085-05         191         3564.14         33         4115         221         4494         24, 67         454.62         72           2085-05         191         3565.14         33         4116         222         2498         36, 130         457.42.9         444           3110-01         192         356.14         334         4121         223         4498         81, 147         457.42.9         444           3110-01         192         356.14         3413         122         223         450.         71         457.43.2         444           3110-07         192         356.14         4142         224         450.         71         457.43.8         444           3110-07         192         363.8         8144         224         450.6         164         449.4         90           3110-11         192         366.18         414.2         24         450.6         164         449.8         90           3110-11         192         366.14         4147.6         144         444         44								-,		
2085-05         191         5564.4         38         4115.         221         4494.         24, 67         4494.7.         74           2086.5         191         5564.4.         38         4120.         223         4496.         361.00         4547.A.29.         44           2086.10         192         5564.7.         38         4120.         223         4496.         81.107         4547.A.39.         44           2110-01         192         5564.7.         38         4122.         223         4498.         81.147         4547.A.32.         444           2110-04         192         5568.1.         3112.2.         224         4504.         71         4547.A.34.         444           2110-06         192         5631.         85         4414.2.         224         4506.         244         4549.         90           2110-10         192         5633.         85         144         4144.2.         224         4506.         244         4549.         90           2110-11         192         5636.         86         4143.2.224         4506.1         147.455.1         169.0         161.4         4549.2         90         310.1         1455.3										
2085-05         191         3596;4-5         34         4116.         22,22         4495.         24,87         457A.29.         444           3110.         192         3596;4-5.         34         4121.         223         4496         36,103         457A.29.         444           3110.01         192         3596;4-7.         34         4122.         223         4496         81,147         457A.29.         444           3110.04         192         3596;4-8.         34         4130.         223         4602.         36         457A.29.         444           3110.04         192         3580;4-9.         34         4131.2.         222         4504.         71         4547A.35.         44           3110.07         192         3580;4-8.5         4142.         224         4505.         166         4547A.38.         44           3110-10         192         3633.         85,142         4144.         224         4508.         4147.22.         4508.         4649-3.         90           3110-11         192         3663.         861,124         4147.6         104         4492.         .90           3110-12         192         3650.         71						,		- , -		
3086         189         3564.6         33         4120         223         4486         36, 130         457.4×29         444           3110-01         192         3564.7         33         4121         223         4497.8         81, 147         457.4×30         444           3110-02         192         3564.4         33         4130         222         4503         77         457.4×36         444           3110-01         192         3564.4         33         4130         222         4505         70         457.4×36         444           3110-07         192         3631         65         4140         224         4505         700         457.4×36         444           3110-10         192         3633         85.142         4141         224         4506         6.24         4549.9         90           3110-11         192         3636         61         4142         224         4506         457.3         444         459.9         90           3110-11         192         3636         61         4140         224         450.9         455.5         31.9         453.9         90           3110-12         192         36								, -		
3110-01       192       3560-J       33       4122       223       4488       81, 147       4574-342       444         3110-04       192       3560-J       33       4130       222       4503       77       4574-34       444         3110-05       192       3563-       65       4130       222       4505       106       45474-34       444         3110-06       192       3631       65       4140       222       4505       106       45474-39       444         3110-09       192       3634       65       4140       224       4507       65106       4459-9       90         3110-11       192       3636       66       4142       224       4509       471, 475       6510       4599-9       90         3110-12       192       3636       65       4142       224       4509-1       68, 172, 147, 55, 104       4599-9       90       90       91       91       91       91       91       93       91       91       91       91       91       91       91       91       91       91       91       91       91       91       91       91       91       91 <td< td=""><td></td><td></td><td>3596J-5</td><td></td><td>4120</td><td></td><td>4496</td><td></td><td></td><td></td></td<>			3596J-5		4120		4496			
3110-02       192       36961-8       33       4130       222       4502       .36       4577-84       .44         3110-06       192       36961-9       31       4131       .222       4503       .77       4577-85       .44         3110-07       192       3630       65       4139       .222       4505       .06       4577-83       .44         3110-08       192       3631       65       4140       .222       4506       .24       4549       .90         3110-11       192       3633       85       4141       .224       4508       .44       4549-1       .90         3110-12       192       3638       85       4142       .224       4509-1       417, 85, 104       4549-2       .90         3110-13       192       3650       .81, 41       .224       4509-1       .81, 83, 102, 104       454.       .90         3110-14       192       3650       .71       4170       .224       4510-1       .72, 83, 810, 210       455.       .91         3110-15       192       3660       .71       4170       .21       .81, 810       .51       .51       .51       .51       .51					4121	223				
3110-04       192       3394, 131       222       4503       .71       4547A35       .44         3110-05       192       3586       .113       1132       222       4504       .71       4547A35       .44         3110-06       192       3531       .65       1140       .222       4505       .06       4549       .90         3110-08       192       3533       .65       1140       .224       4506       .44       4564       .90         3110-10       192       3534       .65       1142       .224       4508       .14       .45614       .45649       .90         3110-13       192       3642       .5512       1144       .224       4508       .14       .45614       .45649       .90         3110-14       192       3660       .71       1717       .224       4510-8       .71       4554       .90         3110-15       192       3660       .77       1717       .224       4510-8       .71       2554       .90       .91       .91       .91       .91       .91       .91       .91       .91       .91       .91       .91       .91       .91       .91 <td< td=""><td>3110-01</td><td>192</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	3110-01	192								
3110-05										
3110-07       192       3631       65       4139       222       4505       106       4547A.38       .44         9110-08       192       3633       851       4140       224       4506       .44       4549       .90         9110-10       192       3634       .55       4142       .224       4508       .14       .45       164       .90         9110-11       192       3636       .55       4143       .224       4508       .14       .47       65, 106       142       .450-3       .90         9110-11       192       3629       .65       .4144       .224       4508       .14       .47, 65, 104       .454-9       .90         9110-16       192       3660       .17       .4177       .224       4510-10       .17, 28, 36, 102, 104       .555       .31, 154         9110-16       192       3633       .13, 152       148       .224       4510-10       .17, 28, 36, 102, 104       .555       .31, 154         9110-16       192       3633-15, 76, 140       400       .66       4512-1       .101, 147       4559       .51       .51       .51       .51       .51       .51       .51       .51 <td></td>										
3110-08       192       3631       85       4140       222       4506       24       4549       .90         3110-10       192       3633       85       4142       224       4508       .41, 47, 65, 104       4549-1       .90         3110-11       192       3636       .85       4143       .224       4508-1       .41, 47, 65, 104       4549-3       .90         3110-12       192       3636       .85       4144       .224       4508-1       .45, 114       4551       .90         3110-13       192       3650       .66, 143       4169       .225       4510-1       .17, 28, 36, 102, 10       4551       .90         3110-16       .192       3650       .17       4175       .224       4510-1       .17, 28, 36, 102, 10       4555       .31, 154         3110-17       .192       3674       .27, 152       4450-1       .17, 28, 36, 102, 10       4557       .31, 154         3110-18       .192       3673       .76, 140       4186       .24       4512-1       .101, 147       4559-5       .51       310, 1147       4559-5       .51       310, 144       4592-5       .51       310, 144       4512-5       .011, 147	3110-05									
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	3110-07									
3110-10.       192       3834.       85       4142.       224       4086.       41, 47, 65, 104       4549-2.       .90         3110-12.       192       3838.       85       4144.       .224       4080.       .16, 82, 87, 102, 147       4550.       .18, 90, 149         3110-14.       192       3842.       .85, 152       4145.       .224       409.1       .18, 28, 37, 102, 147       4551.       .90         3110-15.       192       3660.       .17       4170.       .225       4510.8       102, 103       4555.       .31, 154         3110-16.       192       3665.       .17       4175.       .224       4510.1       .17, 28, 36, 102, 100       4555.       .31, 154         3110-17.       192       367.4       .77, 15       140       450.1       .17, 28, 36, 102, 100       4557.       .31, 154         3110-21.       192       383.15.       .76, 140       4186.       .224       4512.2       101, 147       4559.2       .51         3110-21.       192       383.47.       .76       4202.       .165       4512.2       101, 147       456.       .31, 154         3110-22.       192       383.47.       .76       4202. <t< td=""><td>3110-00</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	3110-00									
3110-11       192       2686										
3110-12       192       2639       .86       4144       .224       4509       18, 28, 37, 102, 147       4551       .90         3110-14       192       3850       .66, 143       4169       .225       4510       .17, 28, 36, 102, 130       4554       .99         3110-16       192       3660       .17       4170       .225       4510       .17, 28, 36, 102, 130       4556       .31, 154         3110-16       192       3665.       .17       4175       .224       4510-10       .72, 28, 36, 102, 130       4556       .31, 154         3110-17       192       3673.       .13, 152       4186       .224       4512       .101, 147       4559       .51         3110-18       192       3633-15       .76, 140       4186       .224       4512       .101, 147       4559.       .51         3110-21       192       3833-15       .76       4201       .165       4512-2       .101, 147       4559.       .51         3110-22       192       3836       .76       4202       .165       4512-4       .101, 147       4562.       .31, 154         3110-26       192       3876       .76       4203       .166       4512-5<										
3110-13       192       3642       85, 122       4145       224       4501-1.16, 28, 37, 102, 147       4551.       99         3110-15       192       3650       86, 143       4169       225       4510-1.77, 28, 36, 102, 130       4555.       311, 154         3110-16       192       3665       17       4175       224       4510-12.7, 28, 36, 102, 130       4555.       311, 154         3110-17       192       3673.       27, 152       4185.       224       4510-12.7, 28, 36, 102, 130       4555.       311, 154         3110-18       192       3674.       27, 152       4185.       224       4512.1       101, 147       4559.       51         3110-20       192       3833-17       76, 140       4200       165       4512.4       101, 147       4550.       311, 154         3110-21       192       3833-17       76       4203       166       4512.4       101, 147       4560.       311, 154         3110-23       192       3864       76       4203       166, 224       4512.4       101, 147       4562.       31, 154         3110-26       192       3860X       112       4166.4       4512.4       101, 147       4566.       <										
1110-15       192       3660       17       4170       225       4510-8       17.28,36,102,130       4555       311,154         1110-16       192       3673       13,152       4180       151,185,224       4510-10       17.28,36,102,130       4555       311,154         1110-18       192       3674       27,152       4185       224       4512-1       101,147       4559       51         1110-20       192       3833-15       76,140       4106       224       4512-1       101,147       4559-2       51         1110-21       192       3833-5       76       4200       165       4512-4       101,147       4561       31,154         3110-22       192       3835       76       4203       165       4512-4       101,147       4561       31,154         3110-24       192       3860       76       4203       165       4512-4       101,147       4561       31,134         3110-25       192       3804       124       169,234       4512-9       101,147       4566       31         3110-27       192       3800       64       4241       160       4512-9       101,147       4568       31,133 <td>3110-13</td> <td></td> <td></td> <td></td> <td>4145</td> <td>224</td> <td></td> <td></td> <td>4551</td> <td>90</td>	3110-13				4145	224			4551	90
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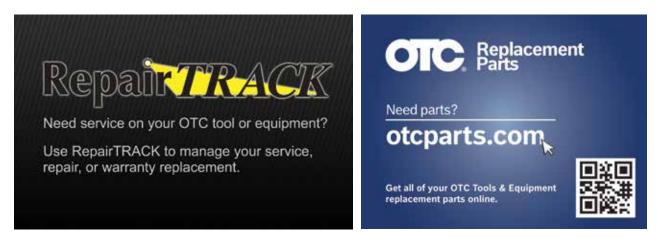
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7011-5         46, 72, 112, 146         720.         92, 141         7378         98, 173         7584         0         7687         77           7011-8         46, 73, 112, 146         7203         62         730         97         7614         77         78         77         77         77         78         77         77         77         77         78         77 <td></td> <td></td> <td></td> <td></td> <td></td> <td>,</td> <th></th> <td></td> <th></th> <td></td>						,				
70116.         48, 73, 112, 114         720.         112         787         98, 178         7764         117         197         7           70116.         48, 73, 112, 114         7208.         54, 21         7308.         62, 61, 74         748.         64, 74, 74, 123         7668.         20.21         7999.         7           7011.0         48, 73, 112, 146         711.1         22         748.         64, 74, 74.22         767.         58         60.00         117           7023.         43, 74, 114, 20         728.         47, 74.12         777.         18         80.00         117           7024.         41         7242.         57         740.0         777.         18         80.00         117           7024.         41         7242.         57         740.2         77.04         18         80.00         117           7034.         60         7244.         57         740.2         777.         18         80.00         117           7035.         100         726.5         51         727.4         11         12         770         81.44         801.1         117           7055.         157         729.4         730.4         <						,				
70116         40, 73, 112, 140         7208						,				
7011-10         48, 73, 112, 148         7211         22, 783         43, 74, 142, 120         7086         20, 21         7089         77           7011-12         46, 73, 112, 146         7215         18         744, 74, 142, 120         767         28         0000         117           7011-14         46, 73, 112, 146         7215         18         740         976         28         0000         117           7020         43, 414, 20         728         47         741         976         28         0000         117           7025         16         756         55         7410         976         768         66         005         117           7036         43         7294         45, 66         7414         977         774         69         8006         117           7036         7294         45, 66         7414         10         777         64         8001         111           7036         7294         45, 66         7414         10         777         64         8016         117           7048         00         7244         10         7473         83, 144         8016         117           7058						,				
701+12         48, 73, 112, 146         721         22         788         43, 47, 64, 12, 12         7867.         68         8000         117           7020.         .37         728.         .47         740.         .68         777.         .68         800.         117           7023.         .37         728.         .47         740.         .69         786.         .69         117           7023.         .67         746.         .77         .61         800.         117           7034.         .69         7284.         .65         714.         115         127.         .68         800.         117           7038.         .64         729.         .45.         66         741.         .97         777.         .68         800.         117           7038.         .61         720.         .45.         66         741.         .97         777.         .68.         800.         117           7048.         .60         724.         .65.         741.         .97         .77         .83.         .44.         800.         117           7048.         .60         724.         .60         774.         .84.         801. </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <th></th> <td></td> <th></th> <td></td>										
7011-14         48, 73, 112, 406         7215.         18         7944.         63         7070.         26         8001.         117           7020.         -43, 44, 46, 501         7338.         67         7401.         99         7676.         52         8002.         117           7024.         -14         7242.         67         7401.         99         7677.         18         8003.         117           7024.         -14         7242.         67         7401.         19         7676.         52         8002.         117           7038.         -14         55         7414.         99         7077.         63         8067.         117           70380.         -43         7270.         45, 66         7415.         98         7737.         63         8068.         117           70380.         -10         7225.         101         7226.         101         121         117           70584.         100         7244.         100         724.         8014.         101         117           70584.         100         724.         101         724.         101         117         7054.         117         117										
T020         43. 46 146, 201         T28.         67         700.         99         707.         52         800.         117           T024         51         723.         67         740.         99         707.         18         800.         117           T024         161         724.         67         740.         19         724.         65         75         117         117         118         800.         117           T034         69         724.         65         741.         10         1770.         18         800.         117           T036.         60         729.         64         67         741.         68         800.         117           T058.         100         729.         60         741.         19         733.         81.44         801.         117           T056.         107         726.         100         742.         10         774.         83.144         801.         117           T056.         160         700.         742.         10         177         10.1         177         10.1         177         10.1         10.1         10.1         10.1         10.1 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><th></th><td></td><th></th><td></td></td<>										
T023         S2         728         67         7401         99         7677.         18         8003.         117           T024         147         7242         65         7402         7142         157         7674.         158         8004.         117           T024.         69         7246.         65         7510.         7410.         157         7414.         150         7402.         8006.         117           T038.         43         7248.         65         7614.         101         T703.         804         8007.         117           T038.         43         7248.         65         7614.         109         777.         804         801.         117           T055.         100         725.         100         742.         101         764.         81.44         801.         117           T062A.         32         707.         743.         32         774.         81.44         801.         117           T062A.         127         730.         97         743.         20         774.         83.14         801.         117           T062A.         127         730.         97         743.<										
T024										
7034         60         7248         46, 55, 75, 107, 154         7410         101         7703         102         8006         117           7038A         43         7299         45, 66         7414         99         7707         .60         8008         117           7038C         43         7270A         .45, 66         7415         .98         7737         .83, 144         8010         117           7048C         .00         7284         .00         7419         .11, 122         7738         .83, 144         8010         .117           7055K         .00         7285         .01         7420         .00, 159         7740         .83, 144         8015         .117           7055K         .00         .00         7424         .00         .744         .83         8016         .117           7070A         .162         .2701.         .00         .7453.         .159         .7714.         .45.2         8017         .117           707A         .157         .7314.         .50, 126         .744.         .80         .737.         .14         .20         .117           7077.         .161         .7314.         .50, 126         .7	7024	41			7402				8004	117
7038A         43         7249         55         7412K         101         7704         56         8007         117           7038B         43         7270A         45, 66         7415         96         7737         83, 144         8009         117           7048B         66         7244         60         7419         11, 12         7738         83, 144         8011         117           7055         7157         7288         70         7422         103, 159         7738         84         8011         117           7056         7157         7288         70         7422         103, 159         7738         48         8011         117           7068         59         7301         70         742         83, 144         8015         117           7074         162         7307         97         744         30         7744         84         8015         117           7074         162         7314         50.16         778         774         84         801         117           7074         161         7314         50.16         778         778         45.66         802.117         117			7245		7403	11, 54, 124, 126, 139	7698	45, 66	8005	117
T0388			7248		7410	101			8006	117
7038C         43         7270A         45, 66         7415         98         7737         88, 144         8000         1117           7045B         60         7244         60         7419         11, 122         738         88, 144         8011         1117           7057         7157         7290         70         7424         100         7741         83, 144         8013         1117           7068A         929         70         724         100         7744         83, 144         8015         1117           7068A         927         797         7433         22         7743         83, 144         8015         1117           7070A         187         730A         50         7744         83         8016         1117           707A         187         731A         50, 128         745A         139         773A         45         813         1117           707A         161         731A         50, 128         745A         139         798         45, 66, 158         8021         1117           707A         161         731A         40, 107         768         118         7797         22         801 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><th></th><td></td><th></th><td></td></td<>										
T045B.         60         7294.         60         7419.         11,192         7738.         83,144         8010.         1117           7055K.         107         7295.         101         7420.         103,159         7740.         83,144         801.         1117           7052A.         28,154         7300.         100         7424.         103,159         7740.         83,144         801.         1117           7058A.         182         7307.         97         7433.         22         7743.         83,144         801.         1117           7076A.         182         7308.         97         7448.         20         7744.         452         801.         1117           7077A.         167         7310.A         60.128         7454.         768         38018         1117           7074A.         157         7311.A         50.128         7468.         716         38018         1117           7075A.         161         7314.A         50         7461.         426.         70         7762.         446.821         1117           7077A.         161         7314.A         50         7462.         747         28         622.										
TOSK         100         7285         101         7290         7283         44         8011         111           TOSF         157         7299         70         721         105         7741         80.144         8012         1117           TOREA         58         7301         100         7424         10         7741         80.144         8013         1117           TORA         162         7307         97         7433         22         7744         83         8016         1117           TOTA         161         7308         97         7433         150         7711         4.3         8016         1117           TOTA         157         7310A         50.12         7455         163         7790         9.4         151         8018         1117           TOTA         157         7314         50.12         7465         163         7796         9.4         8018         1117           TOTA         162         7317         748         40.26         167         797         80.20         1117           TOTA         162         7317         69         8024         1117         7066         56										
TOF						,		,		
TOERA.         32.154         7300.         100         7424.         10         7741.         88.144         8014.         1117           TOERA.         162         7307.         97         7433.         22         7743.         88.144         8014.         1117           TOTA.         162         7308.         97         7443.         20         7744.         83         8016.         1117           TOTA.         161         7310A.         50.126         7454.         169         7711A.         4.52         8016.         1117           TOTA.         157         731A.         50.126         7456.         163         7790.         9.41.215.37         8018.         1117           TOTA.         157         7314.         50.126         7466.         163         7795.         45.618         8022.         117           TORS.         38         7315A.         50         7461.         4.616         7795.         45.66.158         8022.         117           TOBS.         4.81         64         7170.         161         7314.         50         7461.         4.516         7795.         52         8024         117           TOBS. </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <th></th> <td></td> <th></th> <td></td>										
TobB         58         7301         100         742         10         7742         83, 144         8014         1117           ToOBA         162         7307.         97         743.         22         774.         83         144         8015.         1117           ToYA         163         7310.         50.9         97         7453.         1717         4.52         8017.         1117           ToYA         157         7314.         50.12         744.         26         9786.         3         8018.         1117           ToYA         157         7314.         50.12         748.         66         7792.         46, 12         8020.         1117           ToYA         161         7314.         50         746.         66         7795.         45, 66         168         8022.         1117           ToPo         53         7315.         50         7461.         46, 610         7795.         45, 66         168         8022.         1117           ToPo         52         7314.         60         7441.         10.15         7816.         59         8031.         55           ToPo         518         732.						,				
1020         102         7307.         97         7433.         22         7743.         83, 144         8015.         117           7070.         162         7308.         97         7453.         107         117           7071.         48, 160         7304.         50, 28         7454.         26         7768.         3018.         117           7072A.         157         7314.         50, 128         7456.         67         7792.         461, 128         108.         117           707A.         157         7314.         50, 128         7466.         7793.         9, 125         802.         117           7075.         152         7314.         50         7469.         456         65         802.         117           7085.         456         7314.         50         7461.         426         797         45         802.         117           7095.         52         7319.         43, 122         7470.         156         781.         50         802.         117           7096.         52         7319.         43, 122         749.         100.55         782.         800.9         117           7096. <td></td> <td>,</td> <td></td> <td></td> <td></td> <td></td> <th></th> <td> )</td> <th></th> <td></td>		,						)		
1070A         162         7308         97         7448         20         7744         83         8016         117           1072A         157         7310A         50.9         7744.         83         8018         117           1072A         157         7310A         50.12         774A         367         731A         919         117           1074A         157         731A         101.12         7485         103         912         8012         1117           1075         161         731A         101.137         7483         912         8021         1117           1075         161         731A         50         7461         426.161         7795         45.6158         8022         1117           1080         45         7315.         50         7461         426.161         7787         22         8024         1117           1080.         15         55         53         8021         117         7085         45         7318         43,122         747.0         157         7816         55         8024         117           7096         22         236         67         744         10         157										
7071.       .48, 100       7304.       .97       7453.       .96       .9								,		
1072A         157         7310A         50, 126         7454         26         7786         3         8018         117           1073A         157         7312         104, 230         7456         707         7792         46, 121         8020         117           10775         161         7313         101, 137         7458         163         7913         9, 125         8021         117           10765         161         7314.         50         7461         4, 26, 163         7795         455, 66, 158         8022         117           7095.										
1074A         157         7312         104 (37)         7458.         707         7792         46 (12)         8020.         117           7075.         161         7313.         101 (37)         7458.         163         7793.         9, 125         8021.         117           7080.         .58         7315A.         50         7461.         4, 26 (13)         7797.         22         8024.         117           7096.         .52         7319.         .43, 122         7463.         154         7807.         16         8022.         117           7096.         .52         7319.         .44, 122         7470.         156         56         8027.         117           7096.         .52         732.         .66         7440.         157         7862.         .98         8028.         117           7007.         .52         732.         .66         7448.         .68         7822.         .57         8030.         117           7108.         .162         722.         .66         7448.         .68         782.         .59         8031.         .55           7108.         .162         732.         .66         7490.         <		,			7454					
7074.       157       7312.       104.30       7456.       707       7792.       46.121       9020.       117         7075.       161       7313.       101.137       7458.       161       7793       9.125       8021.       117         7080.       .58       7315A.       50       7461.       42.6183       7795.       45.66.158       8022.       117         7096.       .52       7319.       .43.122       7463.       1747.       1515.       53.022.       117         7096.       .52       7319.       .43.122       7463.       157       7815.       58.022.       117         7096.       .52       732.       .96       7471.4       0.153       7816.       .99       0228.       117         7097.       .52       732.       .96       7440.       .52       7822.       .9       8030.       117         7008.       .162       722.       .96       7446.       .8722.       .9       8030.       117         7108.       .162       722.       .96       7490.       177       128.1       303.5       117.126         7108.       .162       732.       .96       7	7073A	157	7311A		7455		7790		8019	117
7075.       162       7314.       50       7460.       261       7795.       456.       66158       8022       117         7080.       58       7315A.       50       7461.       4,2613       7795.       455.       66158       8022       117         7085.       48       7317A.       69       7462.       2797.       28       8024.       117         7090A.       45, 66       7318.       43, 122       7470.       156       7815.       53       8027.       117         7096.       52       722.       .96       7471.       105       7815.       53       8027.       117         7096.       .52       722.       .96       7400.       157       7825.       58       8029.       117         7010.       181       212       223.       96       7484.       52       782.       58       8030.       155         7108.       162       732.       96       7490.       157       7828.       59       8031.       55         7108.       162       732.       96       7490.       157       7828.       59       8031.       57         7117.			7312							
7080.         58         7317A         90         7462.         797.         28         802.         117           7090A         .45, 66         7318.         .43, 122         7463.         154         7807.         28         8024.         117           7090A         .45, 66         7318.         .43, 122         7470.         156         7815.         58         8027.         117           7096.         .52         7321.         .96         7471.         105         7816.         59         8028.         1177           7097.         .52         7322.         .96         7484.         52         7825.         57         8030.         1177           7100.         .161 / 7232.         .96         7486.         .68         7827.         98         8034.         .57           7108.         .162         7327.         .96         7491.         .60         7829.         .98         8034.         .57           7117.         .163         7328.         .96         7494.         .46         121         7830.         .58         8035.         .117.         126           7118.         .43.01         728.         .96         7			7313		7458				8021	117
7085.         48         7317A.         69         7462.         162         7797.         22         8024.         117           7090.4.45,65         7318.         43,122         7470.         156         7815.         58         8027.         117           7095.         52         7321.         96         7471.         10,183         7815.         58         8027.         117           7096.         52         7322.         96         7480.         157         7822.         59         8029.         117           7103.         104         7324.         96         7484.         52         7822.         59         8034.         56           7106.         156         7325.         96         7484A.         68         7827.         91         8033.         56           7108.         162         7327.         96         7491.         60         7829.         59         8034.         57           7117.         163         732.         96         7494.         46         7830.         30         96         1717         1717         172         1717         120         156         7331.         96         7490.	7077	161	7314A		7460		7795		8022	117
7090A         45, 66         7318         43, 122         7463         164         7807         18         8025         117           7095         52         7319         43, 122         7470         156         53         8027         117           7096         52         7321         96         7471A         10.153         7816         59         8029         117           7097         52         7322         96         7484         52         7225         57         8030         117           7100         161, 127         7323         96         7484         52         725         57         8030         117           7106         162         7325         96         7480         68         7827         91         8032         56           7108         162         7328         96         7494A         46         7830         38         8036         117           7117         163         7330         96         7495A         46, 121         7834         3         8036         117, 126           7120         156         7330         96         7495A         46, 121         7834         3	7080	58			7461	4, 26, 163	7796	45, 66, 158	8023	117
7095       52       7319       43, 122 $7470$ 166       7815       53       8027       117         7096       52       7322       96       7480       157       7822A       59       8028       117         7100       161, 212       7282A       96       7484       52       7855       57       8030       117         7103       104       7324       96       7484       52       7855       57       8030       117         7106       156       7325       96       7484       68       7827       91       8032A       56         7108       152       7327       96       7491C       60       7828       24       8034       57         7117       163       7328       96       7494A       46       7830A       53       8035       117         7119       155       7330       96       7494A       46       121       7834       38       8036       117         7120       156       7332       96       7499       70       7833       72       8039       117, 126         7120A       156       7332       96			7317A	69	7462		7797	22	8024	117
7086.         52         7321.         96         7471A         10.153         7816.         59         8028.         117           7097.         52         7322.         96         7480.         157         7822A         59         8029.         117           7100.         1812 12         7322.         96         7480.         157         7825.         57         8030.         117           7106.         165         7325.         96         7488.         68         7827.         91         8032.         56           7108.         162         7328.         96         7490.         157         7828.         24         8033.         56           7109.         162         7328.         96         7494.         46         7830A.         53         8035.         117, 126           7117.         163         7332.         96         7495A.         46, 121         7834.         38         8036.         117, 126           7119.         156         7331.         96         7497A.         46, 121         7835.         128         8038.         117, 126           7120A         156         7333.         96         7500.	7090A	45, 66	7318		7463	154	7807	18	8025	117
7097         52         7322         96         7480         157         7822A         59         8029         117           7100         181         21         7323         96         7484         52         7825         57         8030         117           7103         104         7324         96         7486         68         7827         91         8032A         56           7108         162         7327         96         7491C         60         7828         24         8033         56           7109         162         7327         96         7491C         60         7829         59         8034         57           7117         163         7339         96         7495A         46.121         7834         3         8036         1117           7119         156         7331         96         7495A         46.121         7843         38         8037         117, 126           7120         156         7332         96         7496A         46.121         7840         59         8038         117, 126           7120         156         7332         96         7497         46.121 <t< td=""><td></td><td></td><td></td><td></td><td>7470</td><td></td><th></th><td></td><th></th><td></td></t<>					7470					
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7108.       162       7326.       96       7490.       157       7828.       .24       8033.       .56         7109.       162       7327.       .96       7491C.       60       7829.       .59       8034.       .57         7117.       .163       7328.       .96       7494A.       46       7830A.       .53       8035.       .117.       126         7118.       .43.201       7329.       .96       7495A.       .46.121       7834.       .3       8036.       .117.         7120.       .156       7331.       .96       7497A.       .46.121       7843.       .3153       8037.       .117.126         7120A.       .156       7332.       .96       7497A.       .46.121       7840.       .59       8038.       .117.126         7120A.       .156       7333.       .96       7500.       .22       7883.       .11       8040.       .117.126         7121.       .163       7334.       .96       7501.       .52       7889.       .53       8041.       .117.126         7122R.       .53       7345.       .96       7507.       .47       7901.       .63       8042.       .117										
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