

HVAC/R & Industrial

As long as there's been air conditioning, there's been Robinair, the global leader of HVAC/R air conditioning (A/C) refrigerant recovery, recycling and recharge tools, equipment and accessories. Industrial and commercial contractors have turned to Robinair for A/C service products since 1956.





Founded in 1956, Robinair boasts the most efficient and innovative product line in the automotive and HVACR industries, holding more than 75 patents for A/C refrigerant recovery technology. Patents include several industry-firsts over more than 50 years, including a rotary mechanical vacuum pump design in 1975, refrigerant identifier in 1992 and an automatic oil drain function with industry-leading background tank fill technology in 1999.

Robinair supplies the automotive and HVACR industries with a comprehensive product line comprised of portable and handheld RRR machines, leak detectors and dyes, refrigerant identifiers, video inspection scopes, vacuum pumps, gauges, manifolds, thermometers and scales. Products are favored by business owners and technicians in both the HVACR and automotive industries for their ease of use, functionality and reliability.

The full line of Robinair products can be viewed at www.Robinair.com and purchased from mobile distributors, warehouse distributors and online retailers.

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Heated Pentode® Refrigerant Detector

The TIFZX uses proven heated-pentode technology with an improved grip and easy-to-read display. The design of the TIFZX eliminates false alarms from moisture, solvents and cleaners. An improved, true mechanical pump allows for instant response and clearing.

Features

- Heated Pentode® sensor technology
- Tri-color visual leak size indicator
- Detects all CFC, HFC, HCFC's including R-12, R-22, R-123, R-134a, R-404a, R-407a, R-408a, and R-410a.
- Tactile keypad controls with one-touch reset and adjustable sensitivity
- True mechanical pump provides instant response and clearing
- Battery test function
- Sensor failure indication
- Rechargeable batteries
- Revolutionary design

Technical Data

Sensor Technology:	Heated Pentode® (advanced heated diode)
Electronic Technology:	Microprocessor-controlled circuit, including constant battery and sensor condition detector.
Refrigerants detected:	Detects all CFC, HFC, HCFC's including R-12, R-22, R-123, R-134a, R-404a, R-407a, R-408a, and R-410a
Sensitivity:	Less than 0.1 oz/yr (3 gr/yr); as low as 0.05 oz/yr (R-12)
Warm-up Period:	20 seconds
Excessive Refrig. Tolerance:	Sensor cannot be poisoned by excessive refrigerant
Battery Life:	5 to 6 hours, depending on sensor age. Integral constant power indication.
Battery Technology:	Rechargeable NiMH
Battery Recharge Time:	2 hours, integral charge status indicator.
Failed Sensor Indication:	All LEDs flash red, pump off.
Sensor Life:	Up to 150 hours
Operating Environment:	0°C to 50°C (32°F to 122°F), 0 to 95% RH non-condensing
Dimensions:	26 cm L x 6.5 cm Dia. (10.25" L X 2.5" Dia.)
Weight:	Approximately 452 grams (16 ounces)



**THREE-YEAR
WARRANTY**

TIFZX

Heated Pentode® Refrigerant Leak Detector

TIFZX includes:

- (1) ZX Refrigerant Leak Detector
- (1) Battery charger
- (1) Battery pack, nickel metal hydride (NiMH)
- (1) Soft carrying case
- (1) Owner's manual



International Models

TIFZX-E Same as TIFZX (220-240V)

TIFZX-J Same as TIFZX (90-110V)

TIFZXKIT

Heated Pentode® Refrigerant Leak Detector Kit

TIFZXKIT includes:

- (1) ZX Refrigerant Leak Detector
- (2) Replacement sensors
- (5) Replacement filters
- (2) Battery pack, nickel metal hydride (NiMH)
- (1) Charging base
- (1) Battery charger
- (1) Cigarette lighter charger (12V)
- (1) Blow-molded carrying case
- (1) Owner's manual



International Models

TIFZXKITE Same as TIFZXKIT (220-240V)

TIFZXKITJ Same as TIFZXKIT (90-110V)

Replacement Parts & Accessories

TIFZX-2	Replacement Heated Pentode® Sensor	
TIFZX-3	110V-60 Hz Battery charger (North and South America)	
TIFZX-3E	230V-50 Hz Battery charger (Europe, Asia)	
TIFZX-6	Remote Battery charging base, 110V-60 Hz (Optional)	
TIFZX-7	Nickel-Metal hydride (NiMH) battery pack	
TIFZX-10	Flexible probe (includes probe tip)	
TIFZX-11	12V DC battery charger	
TIFZX-14	Filter and O-ring	
TIFZX-15	Filter elements (5 pack)	
TIFZX-55	Soft carrying case	
		
		
		
		
		
		

InfraRed Refrigerant Leak Detector

The Robinair No. 22791 uses infrared optics to create a refrigerant leak detector that combines sensitivity, speed, battery life, portability, and ease of use.

- Advanced infrared sensor designed to last a minimum of 10 years.
- Three sensitivity levels down to 0.15 oz./year.
- Automatically recalibrates in highly contaminated areas to help pinpoint the exact location of the leak
- Won't trigger on oil or moisture.
- Senses CFC, HFC, HCFC blends and HFO-1234yf refrigerants.
- 8-hour lithium ion battery lasts all day long and beyond.
- Visual alert and peak button make it easy to find leaks in noisy environments.
- Audible alert with mute button.
- Magnetic hanger to easily hang the unit during leak repair.
- Durable carrying case let's you easily store leak detector and accessories.
- Meets NEW SAE J2913 standard for 1234yf and previous SAE J2791 standard for 134A.



Specifications

Gases measured:	CFC, HFC, HCFC blends and HFO-1234yf.
Sensing element:	Infrared
Response time:	0.5 to 1 second.
Sensitivity levels:	HIGH 0.15 oz./year and higher MEDIUM 0.25 oz./year and higher LOW 0.5 oz./year and higher
Accuracy:	Meets current SAE J2791 and J2913 standards.
Calibration:	Automatic
Warm up time:	30 seconds
Probe length:	15 inches
Battery type:	3.7VDC(nominal) rechargeable lithium-ion battery.
Battery life:	Approximately. 8 hours when fully charged.

22791 – Includes InfraRed Refrigerant Leak Detector, wall charger, car charger, 5 filters, 3 O-rings, lithium-ion battery and blow-molded carrying case.

22791-E – Includes InfraRed Refrigerant Leak Detector, Euro and UK wall charger, car charger, 5 filters, 3 O-rings, lithium-ion battery and blow-molded carrying case.

Optional Accessories

74367 – Extension Probe (9 inch)

74368 – Rigid Extension Probe

Replacement Parts

74361 – 100–240 VAC Charger

74362 – 12V DC Charger

74363 – Filters (5) and O-rings (3)

74364 – Lithium-ion Battery



TIFXL-1A, TIFRX-1A, TIFXP-1A Leak Detectors



TIFXL-1A



TIFRX-1A



TIFXP-1A



Design Certified by MET Laboratories, Inc., to meet SAE J1627 for R-134a, R-12, and R-22.

U.S. Patent Nos. Re:
32,552; 4,282,521;
5,400,015

CLASSIFIED BY UNDERWRITERS LABORATORIES INC®
ONLY TO INTRINSIC SAFETY IN CLASS 1 GROUPS
C & D HAZARDOUS LOCATIONS.

All Models Feature

- Microprocessor controlled circuit with Advanced Digital Signal Processing.
- Detects ALL halogenated refrigerants.
- Certified to SAE J1627.
- Variable frequency audible alarm.
- CE approval.
- UL classified.
- Constant power indication.
- Cordless and portable; operates on two C-cell batteries.
- 14" (35.5 cm) flexible stainless steel probe with liner.
- Carrying case included, optional holster.
- Optional reference leak source.

Specifications	TIF XL-1A	TIF RX-1A	TIF XP-1A
Ultimate Sensitivity	< 0.4 oz. per year (11 gr/yr)	< 0.25 oz. per year (7 gr/yr)	< 0.1 oz. per year (3 gr/yr)
True Mechanical Pump	n/a	Yes	Yes
Visual Leak Indication Levels	n/a	6 (single color)	18 (tri-color)
Sensitivity Levels	1	2	7
One Touch Reset and Keypad Controls	n/a	Yes	Yes
Mute Button	n/a	n/a	Yes
Battery Test	n/a	n/a	True voltage indication
Battery Life	Approx. 40 hrs.	Approx. 30 hrs.	Approx. 30 hrs.
Warranty	2 Years	2 Years	3 Years

Replacement Parts (all models)

TIFXP-2 – Maintenance kit (3 tips, 3 protectors).

TIFXP-5A – Battery cover. (supplied with product).

TIFXP-4A – Blow Molded Carrying Case. (supplied with product).

**16330****UV Leak Detection, HVAC/R Dye Kit**

- Complete HVAC/R Leak Detection Kit Includes:
- Cordless UV light, Injector, 6 Dye Cartridges, Charger, UV Glasses, Connecting Hose (1/4" FFL), "Date Installed" Labels, Dye Cleaner, Protective Carrying Case.
- Great for pinpointing those elusive "hard to find" leaks.
- Super Bright 12 LED array - Cordless, Rechargeable UV Light.
- Drop / Shock Proof Light – produces NO heat.
- Universal HVAC/R Dye Cartridges – Compatible with ALL Lubricants & Refrigerants.
- Compact Injector & Cartridge system – Pre-measured: No mess or waste.
- One Year Warranty.

16332**UV Leak Detection, HVAC/R Dye Kit**

- HVAC/R Leak Detection Kit Includes:
- Injector, 6 Dye Cartridges, Connecting Hose (1/4" FFL), "Date Installed" Labels, Dye Cleaner.
- Great for pinpointing those elusive "hard to find" leaks.
- Universal HVAC/R Dye Cartridges – Compatible with ALL Lubricants & Refrigerants.
- Compact Injector & Cartridge system – Pre-measured: No mess or waste.
- One Year Warranty.

**Specifications**

Battery Type	Nickel Metal Hydride - Rechargeable
Battery Life/Charge	3 Hours of continuous use
UV LED working life	100,000 hours

International Versions	Model Number
European HVAC/R Master Kit w/ 220 Volt battery charger	16331
Battery Charger (replacement), 220V	16349

Replacement Parts (supplied with product)	Part No.
Injector Gun	16339
Hose, replacement	16340
Replacement Dye Cartridges, 1/4 oz. (6 ea.)	16336
Replacement Dye Cartridges, 1/2 oz. (6 ea.)	16337
Replacement Dye Cartridges, 3/4 oz. (6 ea.)	16338
Dye Cleaner, 32 oz. Bottle	16263
Glasses, UV	16211

Optional Accessories	Part No.
Dye Injector Kit - HVAC/R	16332
Tracker Ultra Leak DET LED light with UV glasses	16215

HVAC/R Dye Cartridge**A/C Dye Replacement Cartridges**

Pinpoint leaks in A/C Systems

**16336**

- 6 Cartridges (0.25 OZ./7.5 ml).
- For Medium Systems: Residential systems up to 4.9 lbs. (2.2 kg) of refrigerant or up to 1.6 qt. (1.8 l) of oil.
- For kits: No.16330, 16331, 16331 and 16332.

**16337**

- 6 Cartridges (0.5 oz./15 ml).
- For Medium-Large Systems: Light commercial & large residential systems 5 to 9.9 lbs. (2.3 to 4.5 kg) of refrigerant or 1.7 to 3.2 qt. (1.9 to 3.7 l) of oil.
- For kits: No.16330, 16331, 16331 and 16332.

**16338**

- 6 Cartridges (0.75 OZ./22.5 ml).
- For Large Systems: Commercial & light industrial, including all split 10 to 25 lbs. (4.6 to 11.4 kg) of refrigerant or 3.3 qt. to 2 gal. (3.8 to 9.1 l) of oil.
- For kits: No.16330, 16331 and 16332.

**16215****Tracker Ultra Leak Detection LED Light**

- High Output UV LED
- True UV higher wavelength light fluoresces dyes brighter than other lower wavelength "blue" LED UV lights.
- Battery powered.
- Compact Design - easy to use and move around in tight areas.
- Durable aluminum package.

TIF8800X**Combustible Gas Detector**

The TIF8800X is a low maintenance, battery operated, combustible gas detector that provides a ticking signal that increases in frequency as the source of combustible gas or vapor is located. The TIF8800X is small enough to be operated with just one hand, yet loaded with the kind of advanced features service professionals demand. This tool allows you to pinpoint combustible gas leaks as small as 1 ppm quickly, while checking a relatively large area in a short amount of time with absolutely no calibration required.

Applications

The TIF8800X may be used in almost any situation where a combustible gas, vapor, or residue needs to be found. An ideal instrument for pinpointing combustible gas leaks in commercial, residential, and industrial applications.

Features:

- Audible “ticking” signal
- Leak strength indicating LEDs
- Adjustable sensitivity
- Cordless operation
- Fast warm-up
- Battery status indication
- 15 inch flexible probe for hard-to-reach areas
- One-year warranty

Specifications:

- Power Supply: 4.8V NiMH rechargeable battery pack
- Continuous Operation
- Time: Approximately 4 hours
- Battery Pack
- Lifetime Approximately 500 charge cycles
- Warm-up Period: 30 seconds
- Duty Cycle: Continuous; no limitation
- Response Time: Instantaneous
- Sensitivity: Variable; as low as 1 ppm (gasoline)
- Operating Environment: 32°F to 104°F (0°F to 40°C)
- Dimensions: 8 in. x 3 in. x 1.8 in. (20.3 x 7.6 x 4.6 cm)
- Weight: Approximately 16 ounces (454 grams)
- Certifications: UL913 7th Edition (use in Class I, II, or III, Division 1 – hazardous (classified) locations)

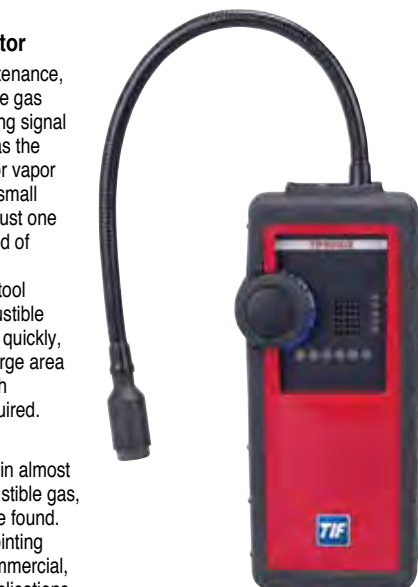
Kit includes: TIF8800X, battery, battery charger and soft case.

International models

TIF8800X-E – 220V

Replacement Parts

- TIF8801** – Sensor
- TIF8802** – AC adapter
- TIF8802E** – AC adapter 220V
- TIF8802J** – AC adapter 90-100V
- TIF8808** – Battery cover
- TIF8809** – Ni Mh battery pack
- TIF8818** – Rubber boot

**TIF8900****Combustible Gas Detector**

The TIF8900 is a super-sensitive, cordless, combustible gas detector that detects a broad range of natural gases including propane, methanol, butane, and gasoline.

- Solid-state sensor technology, long life, and precision.
- Adjustable sensitivity levels; as low as 5ppm.
- Audible “Geiger counter” signal.
- Rechargeable battery and charger included.

International models

TIF8900-E – 220V.

Replacement Parts

- TIF8801** – Sensing tip.
- TIF8803A** – 115V battery charger.
- TIF8805** – Cigarette lighter adapter.
- TIF8806A** – Rechargeable Ni-Cad batteries.
- TIF8806B** – 220V battery charger.

Specifications

Voltage (Charger)	115V, 60Hz
Probe Length	15" (38cm)
Power Supply	(Two) 2.4V Ni-Cad Batteries
Battery Life	4 Hours/Charge
Operating Time	Instantaneous
Warm-up Time	30 seconds

Optional Accessories	Part No.
Cigarette lighter charger	TIF8805

Replacement Parts (supplied with product)	Part No.
Sensor	TIF8801
Rechargeable Ni-Cad batteries (2 each)	TIF8806A
115V battery charger	TIF8803A
220V battery charger	TIF8806B
Carrying Case	ATP-7038
Battery Cover	527690RED



TIF8801



TIF8803A



TIF8805



TIF8806A



527690RED

**Gas Manifold Pressure Test Kits**

- Use these handy kits to Measure Natural gas or LP gas pressure across appliance manifolds.
- Test gas stoves, furnaces, dryers and other gas appliances.
- Economical and accurate – easier to use than a manometer.
- Diaphragm gauge is calibrated in inches of water column, also shows ounces per square inch.
- Includes fitting for quick connection to the appliance manifold.
- Packed in high impact plastic case for protection during transit and use.

42160 – Manifold Pressure Test Kit, Pressure measurements from 0–35" of water col.

42162 – Manifold Pressure Test Kit, Pressure measurements from 0–10" of water col.

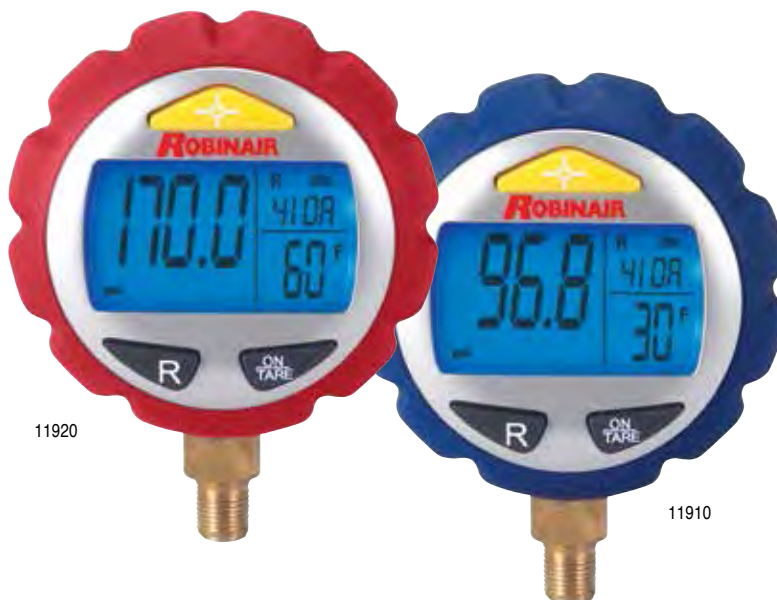


42162

Robinair 11910/11920**Digital Gauges**

Calibrated to measure 17 different refrigerants (R12, R22, R123, R124, R134a, R401A, R401B, R402A, R402B, R404A, R407C, R408A, R409A, R410A, R502, R507, R508B) these accurate gauges allow you to choose the temperature (°F or °C) and pressure units (PSI, bar, kPa and kg/cm²) your most comfortable using. The low side gauge has a pressure scale of 30 inHg VAC to 250 psig and the high side gauge has a pressure scale of 0 to 800 psig. Gauges come with a backlight to enhance the view and make the gauges easy to see in low light conditions.

- Includes profiles for 17 common refrigerants.
- Detects vacuums in "Hg.
- Selectable temperature and pressure units of measure.
- Easy to read LCD screen with large digits.
- Automatic shutdown after 15 minutes of inactivity.
- Low battery indicator.



43160



43180

Part No.	Description
11910	Low side digital gauge
11920	High side digital gauge
43160	4-Way Manifold w/ Digital Gauges - No hoses
43166	4-Way Manifold w/ Digital Gauges - 60" Enviro-Guard Hoses w/ Quickseal fittings
43180	2-Way Manifold w/ Digital Gauges - No hoses
43186	2-Way Manifold w/ Digital Gauges - 60" Enviro-Guard Hoses w/ Quickseal fittings

Operating Temperature	0°C – 50°C; 32°F – 122°F
Storage Temperature	-20°C – 70°C; -4°F – 158°F
Measurement Units	psi; BAR; kPa; kg/cm ² °C (Celsius); °F (Fahrenheit)
Operating Range	
Low Pressure Gauge	30~0inHg, 0~250 psi, -1~17.5 BAR, -100~1750 kPa, -1~17.5 kg/cm ²
High Pressure Gauge	0~800 psi, -1~55.15 BAR, -100~5515 kPa, -1~56.25 kg/cm ²
Accuracy	
Low Pressure Gauge	± 1% FSO ±1 LSD
High Pressure Gauge	± 1% FSO ±1 LSD for 0~500 psi range ± 5% FSO ±1 LSD for 500~080 psi range
Resolution	
Low Pressure Gauge	0.2 psi; 0.05 BAR; 1 kPa; 0.05 kg/cm ²
High Pressure Gauge	0.5 psi; 0.05 BAR; 5 kPa; 0.05 kg/cm ²
Temperature	1°C / 1°F
Display	Positive LCD 50 mm x 30 mm w/ blue backlight (backlight has 30-second auto-shutoff)
Power Requirement	Three 1.5V AAA alkaline batteries
Battery Life	140 hours
ESD	Contact at ± 4 kV; air discharge at ± 8 kV

FSO = Full Scale Output
LSD = Least Significant Digit



41174



41170

2-Way Aluminum Gauges

Constructed from solid aluminum for added durability needed for repeated, tough daily use. Contoured easy to grip hand wheels are color coded for quick and easy identification.

- Improved face seal valves. Better design provides a tighter seal, less wear and improved flow.
- Proven, double O-ring piston design for extra reliability and longer service life.
- Easy to read 2-1/2" gauges protected by Lexan lenses.
- Available with various length hoses or as manifold only.

Refrigerant	Part No.	Hoses
R410A	41140	Manifold Only
	41146	3 – 60" 1/4" Enviro-Guard hoses with Quickseal™ fittings
	41148	3 – 60" 1/4" Enviro-Guard hoses with 45° in-line compact ball valves
R22/404A/410A	41170	Manifold Only
	41174	3 – 60" 1/4" Enviro-Guard hoses with Quickseal™ fittings
	41178	3 – 60" 1/4" Enviro-Guard hoses with 45° in-line compact ball valves
R12/22/502	41160	Manifold Only
	41162	3 – 60" 1/4" Standard hoses with standard fittings
	41166	3 – 60" 1/4" Enviro-Guard hoses with Quickseal™ fittings
R134a/404A/407C	41180	Manifold Only
	41182	3 – 60" 1/4" Standard hoses with standard fittings
R22/134a/404A	41190	Manifold Only
	41192	3 – 60" 1/4" Standard hoses
	41194	3 – 60" 1/4" Enviro-Guard hoses with Quickseal™ fittings

4-Way Aluminum Gauges

Constructed from solid aluminum for added durability needed for repeated, tough daily use. Contoured easy to grip hand wheels are color coded for quick and easy identification. Full 3/8" bores through the body aids in getting the job done quickly and efficiently.

- Large, easy to read 3-1/8" (80mm) gauges protected by Lexan lenses.
- 3/8" vacuum port for use with larger hose to cut evacuation time.
- Improved face seal valves. Better design provides a tighter seal, less wear and improved flow.
- Proven, double O-ring piston design for extra reliability and longer life.
- Available with various length hoses or as manifold only.

Refrigerant	Part No.	Hoses
R410A	42240	Manifold Only
	42248	3 – 60" 1/4" Enviro-Guard hoses (RYB), 45° in-line compact ball valves, 1 – 60" 3/8" black evac hose, 45°
R22/404A/410A	42270	Manifold Only
	42278	3 – 60" 1/4" Enviro-Guard hoses (RYB), 45° in-line compact ball valves, 1 – 60" 3/8" black evac hose, 45°
R12/22/502	42260	Manifold Only
	42266	3 – 60" 1/4" Enviro-Guard hoses (RYB), 45°, 1 – 60" 3/8" black evac hose, 45°
R134a/404A/407C	42210	Manifold Only
	42216	3 – 60" 1/4" Enviro-Guard hoses (RYB), 45°, 1 – 60" 3/8" black evac hose, 45°
R22/134a/404A	42290	Manifold Only
	42296	3 – 60" 1/4" Enviro-Guard hoses (RYB), 45°, 1 – 60" 3/8" black evac hose, 45°

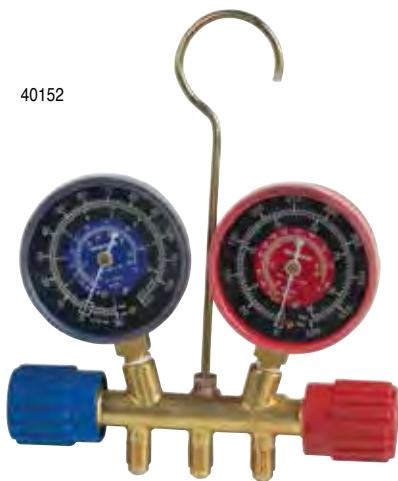


42260



42266

40152



Two Way Brass Manifolds

- Our popular Side Wheel Manifold is durable and easy to use.
- Forged brass for long life; durable handwheels, color-coded Lexan®.
- Universal Gauges – Clearly marked so they're easy to read and protected with Lexan® lenses.
- Works with all refrigerants.
- Field Proven Face Seal Valves – Tight seal, less wear and improved flow.
- Gauge combinations that measure up to three different refrigerants with one manifold.
- Improved Face Seal Valves – Provide a tighter seal, less wear and improved flow.

	Part No.	Gauge	RYB Hose
R22/134a	40152	2 1/2" Red/Blue	Manifold only
	40153	2 1/2" Red/Blue	36" Standard hoses with standard fittings
	40169	2 1/2" Red/Blue	60" Standard hoses with standard fittings
R12/22/502	40160	2 1/2" Red/Blue	Manifold only
	40161	2 1/2" Red/Blue	36" Standard hoses with standard fittings
	40162	2 1/2" Red/Blue	60" Standard hoses with standard fittings
	40163	2 1/2" Red/Blue	60" Enviroguard hoses with Quickseal fittings
R22/404A/410A	40170	2 1/2" Red/Blue	Manifold only
	40174	2 1/2" Red/Blue	60" Enviroguard hoses with Quickseal fittings
R134a/404A/507	40180	2 1/2" Red/Blue	Manifold only
	40181	2 1/2" Red/Blue	36" Standard hoses with standard fittings
	40182	2 1/2" Red/Blue	60" Standard hoses with standard fittings
	40186	2 1/2" Red/Blue	60" Enviroguard hoses with Quickseal fittings
R22/134a/404A	40190	2 1/2" Red/Blue	Manifold only
	40192	2 1/2" Red/Blue	60" Standard hoses with standard fittings
	40194	2 1/2" Red/Blue	60" Enviroguard hoses with Quickseal fittings
R410	41671	2 1/2" Red/Blue	Manifold only
	41670	2 1/2" Red/Blue	60" Enviroguard hoses with in-line ball valve fittings



Optional Accessories	Part No.
Protective Boot	40001

Replacement Gauges

General usage gauges for multiple applications where pressure or vacuum readings are required. Dampening helps reduce excessive needle fluttering making the gauge much easier to read. Internal components are compatible with many industry applications. The ability to recalibrate the gauge is a standard feature on all gauges. Temperature scale reads in °F and pressure is displayed in either PSI or BAR.

Metric gauges with a temperature scale that reads in °C and pressure is displayed in either PSI or BAR.



Part No.	Description	Size	Press Scale	Refrigerants
11724	Compound Gauge - Blue	2-1/2"	30"- 0 - 250 PSI	R22/404A/410A
11725	Pressure Gauge - Red	2-1/2"	0 - 800 PSI	R22/404A/410A
11734	Compound Gauge - Blue	2-1/2"	30"- 0 - 120 PSI	R12/22/502
11735	Pressure Gauge - Red	2-1/2"	0 - 500 PSI	R12/22/502
11744	Compound Gauge - Blue	2-1/2"	30"- 0 - 120 PSI	R134a/404A/507
11745	Pressure Gauge - Red	2-1/2"	0 - 500 PSI	R134a/404A/507
11754	Compound Gauge - Blue	2-1/2"	30"- 0 - 120 PSI	R22/134a/404A
11755	Pressure Gauge - Red	2-1/2"	0 - 500 PSI	R22/134a/404A
11794	Compound Gauge - Blue	2 1/2"	30"- 0 - 120 PSI	R22/134a
11795	Pressure Gauge - Red	2-1/2"	0 - 500 PSI	R22/134a
13149	Compound Gauge - Blue	2 1/2"	30"- 0 - 250 PSI	R410A
41676	Pressure Gauge - Red	2-1/2"	0 - 800 PSI	R410A
11797	Compound Gauge - Blue - °C	2-1/2"	-1 - 0 - 24 BAR	R22/134a
11798	Pressure Gauge - Red - °C	2-1/2"	0 - 34 BAR	R22/134a
11804	Compound Gauge - Blue	3-1/8"	30"- 0 - 250 PSI	R410A
11805	Pressure Gauge - Red	3-1/8"	0 - 800 PSI	R410A
11824	Compound Gauge - Blue	3-1/8"	30"- 0 - 120 PSI	R22/404A/410A
11825	Pressure Gauge - Red	3-1/8"	0 - 500 PSI	R22/404A/410A
11834	Compound Gauge - Blue	3-1/8"	30"- 0 - 120 PSI	R12/22/502
11835	Pressure Gauge - Red	3-1/8"	0 - 500 PSI	R12/22/502
11854	Compound Gauge - Blue	3-1/8"	30"- 0 - 120 PSI	R22/134a/404A
11855	Pressure Gauge - Red	3-1/8"	0 - 500 PSI	R22/134a/404A
11874	Compound Gauge - Blue	3-1/8"	30"- 0 - 120 PSI	R22/404A/407C
11875	Pressure Gauge - Red	3-1/8"	0 - 500 PSI	R22/404A/407C

Charging Hoses

Robinair premium refrigerant charging hoses are built for long life and dependability. A strong, six-sided crimp provides a reliable connection between the hose and barb, even at maximum pressure. The coupler nuts are deeply knurled for quick finger-tightening. Enviro-Guard™ hoses are ideal for high pressure applications, including R-410a systems.

**Hose Selection Charts****1/4" Standard Hoses with Standard Fittings**

Neoprene-coated for flexibility and wear resistance, with a valve core depressor and a 45° bend on one end for convenient access to the system.

500 psi working pressure;
2500 psi burst pressure.

Length (inches)	Yellow	Blue	Red	Pkg. Set (Blue, Red, Yellow)
36	31036	32036	33036	30036
60	31060	32060	33060	30060
72	31078	32072	31079	30072
96	31096	32096	33096	N/A

1/4" Standard Hoses with Quick Seal™ Fittings

500 psi working pressure;
2500 psi burst pressure.

Length (inches)	Yellow	Blue	Red	Pkg. Set (Blue, Red, Yellow)
72	38172A	38272A	38372A	39072A

1/4" Enviro-Guard™ Hoses with Quick Seal™ Fittings

Special barrier material prevents virtually any permeation of refrigerant, yet remains flexible. With 45° Quick Seal™ fittings.

740 psi working pressure;
3700 psi burst pressure.

Length (inches)	Yellow	Blue	Red	Pkg. Set (Blue, Red, Yellow)
36	68136A	68236A	68336A	69036A
60	68160A	68260A	68360A	69060A
72	68172A	68272A	68372A	69072A
96	68196A	68296A	68396A	69096A

20' Charging Hoses

68020 – Set of 20' Enviro-Guard™ red and blue, 1/4" fittings.

68420 – Set of 20' Enviro-Guard™ red and blue, Quick Seal™ fittings.



68020



65060

Special Hoses for Special Jobs Enviro-Guard™ Hoses with Ball Valves

In-line ball valves control refrigerant flow, open and close in a quarter turn.

65060 – Set of three 60" hoses with ball valves.

65160 – 60" Enviro-Guard™ hose with ball valve, yellow.

65260 – 60" Enviro-Guard™ hose with ball valve, blue.

65360 – 60" Enviro-Guard™ hose with ball valve, red.

**17026****HVAC Replacement Parts Kit**

Contains an assortment of the most commonly needed replacement parts for repairing manifolds, hoses and various other A/C tools. Kit contains:

- 2 Manifold Stem Repair Kits (Conical Seal).
- 2 Manifold Stem Repair Kits (Face Seal).
- 12 Valve Cores.
- 12 Valve Core Depressors, 1/4".
- 12 Hose Gaskets.
- 6 Quick Seal Caps, 1/4".
- 6 Quick Seal Gaskets.
- O-rings for Quick Seal Fittings.
- 1 Valve Core Remover/Installer with 6 Valve Cores.
- 2 Sets of Color-coded Lexan®, Handwheels (red and blue).

Stem Replacement Assembly Kit

Kits include all necessary parts to service one manifold valve. To replace stems on both valves, order two kits.

**40232**

Stem assembly kit for manifolds with conical seal design.

**13148**

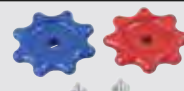
Face seal kit for side-wheel manifolds, includes stem with o-rings, spring, and screw. Will not fit sight glass manifold.

**19695**

Face seal kit for sight glass manifolds.

**13067**

High vacuum grease.

Replacement Handwheels**40449**

Set of one red and one blue with 1/4" drive.

**41698**

Set of one red and one blue with 1/4" drive (barrel style).

Replacement Parts for Hoses and Adapters

Help's you keep your charging hoses and adapters in top working condition.

**18180**

O-rings for Quick Seal™ 1/4" fittings and adapters, pkg/6.

**40531**

O-rings for 10293 adapters, pkg/6.

**40082**

1/4" valve core depressors, package of six.

**40083**

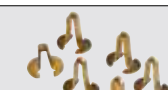
1/4" gaskets, pkg/6.

**40084**

3/8" gaskets, pkg/6.

**40677**

3/16" gaskets, pkg/6.

**40653B**

3/16" valve core depressors, pkg/6.

**40352**

Replacement valve cores, pkg/6.

Access Adapters**90° Style Adapters**

Solid brass fitting is ideal for tight spots or locations where making connections is difficult.

10469A – 1/4" MFL x 3/16" FFL.

40563A – 1/4" MFL x 1/4" FFL.

**Straight Style Adapters**

Straight adapter is versatile and easy to use. Made of solid brass.

10468A – 1/4" MFL x 3/16" FFL.

40560A – 1/4" MFL x 1/4" FFL.

**Flexible Adapters**

Flexible adapters feature brass fittings and a durable neoprene-coated hose, 6" long.

10293 – 1/4" MFL x 1/8" FFL, blue.

10470A – 1/4" MFL x 3/16" FFL, red.

10778 – 1/4" MFL x 1/4" FFL, yellow.

**Hose Adapters**

These six inch adapters connect to any 1/4" FFL charging hose for convenient in-line control of refrigerant flow.

18501 – 1/4" MFL x 1/4" FFL, Blue.

18512 – 1/4" MFL x 1/4" FFL, Red.

18513 – 1/4" MFL x 1/4" FFL, Yellow.

18514 – 1/4" MFL x 1/4" FFL, Blue, Red and Yellow (set of 3).

18511 – 1/4" MFL x 3/16" FFL, Red.

Quick Seal™ Adapters

Quick Seal fittings automatically shut off the charging hose when you disconnect it from the system, so any refrigerant left in the hose is not released. Made of solid brass.

10292 – 1/4" MFL to 1/4" FFL.

10296 – 1/4" MFL to 3/16" FFL.

10250 – 1/4" MFL to 1/4" FFL, 90°.

**Quick Seal Repair Kits**

18451 – 45° 1/4" Quick Seal™ kit.

40302 – 1/2" Acme Quick Seal™ kit.

18180 – 1/4" Quick Seal™ o-rings.

**Brass Caps**

40572 – 1/4" solid brass Quick Seal™ caps have knurled ridges for easy gripping. pkg/6.

**Refrigerant Side Can Tap**

10102 – Hinged design means no inserts to lose. R-12 and R-134a port fittings with Shrader valves.

**FFL Coupling**

40410 – 1/4 MFL with core x 1/4 FFL with copper gasket, pkg/6.

**Quick Couplers with Depressors**

40553 – 1/8 FPT x 1/4 FFL, ea.

**General Purpose Valves****Straight Type**

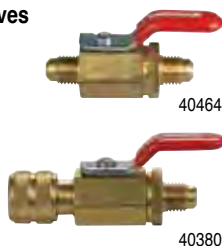
40464 – Straight Type 1/4 MFL x 1/4 MFL.

13144 – Straight Type 1/4 MFL x 1/4 FPT.

Quick Coupler

Style Valve

40380 – Quick Coupler Style Valve 1/4 FFL Coupler x 1/4 MFL.

**Tube Piercing Valves**

Piercing Valves with Flow Control and 1/4 S.A.E. Connector Size.

40288 – Fits 3/16, 1/4, 5/16, 3/8 OD.

13139 – Fits 1/2, 9/16, 5/8 OD.

40291 – Gaskets for 40288/40330, pkg/3.

**Piercing Valves with Valve Cores**

40330 – Fits 3/16, 1/4, 5/6, 3/8 OD.

40336 – Fits 1/2, 5/8 OD.

**40472****Straight Line Top Valves**

Fits 1/4, 5/16, 3/8 OD.

**General Purpose Fittings Tees/Fittings**

40384 – 1/4 MFL Branch with core x 3/8 OD tube or 1/2 OD solder, pkg/3. Comes with 40535 Valve Core Remover.

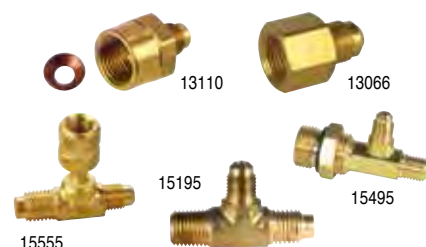
40386 – 1/4 MFL run x 1/4 FFL run with depressor x 1/4 MFL Branch with core, pkg/3.

40396 – 1/4 MFL Branch with core 1/4 MFL run x 1/4 FFL swivel run, pkg/3.

40398 – 1/4 FFL Swivel Branch with depressor x 1/4 MFL run with core x 1/4 MFL run, pkg/3.

**Pump Intake Fittings**

R-12/R-134a Dual Inlet Fittings Convert your pump to R-12 and R-134a. Solid brass tees replace inlet fittings on pump; includes a branch with a 1/4" MFL fitting for R-12 (and other refrigerants).

**Pump Intake Fitting Adapters:**

13110 – Adapter, 3/8" FFL to 1/4" MFL.

13066 – Adapter, 1/2" FFL to 3/8" MFL.

15555 – Screw-on inlet adapter converts any pump, 1/4" FFL coupler x 1/4" MFL x 1/2" Acme.

15195 – 1/4" MFL/1/2" Acme combination inlet fitting for 15200 series vacuum pumps.

15495 – 1/4" MFL/1/2" Acme combination inlet fitting for 15400/15600 series vacuum pump.

1/4" Valve Core Remover/Installer

13145 – Valve core remover/installer with 6 valve cores.

**Valve Core Remover/Installer**

18560 – Remove and install valve cores from a 1/4" male flare access fitting without the loss of refrigerant. Durable, solid brass tool has a ball valve that can be opened or closed in just a quarter-turn. Stainless steel ball and brazed side fitting for durability and long life.

**Valve Core Remover/Installer**

18561 – Replace leaking valve cores quickly and easily, or remove the valve core and hold it out of place for evacuation or charging. The 18561 features a solid brass body with convenient handle that opens and closes in a quarter-turn to speed service.

**Vacuum****Valve Assembly**

Valve assemblies give the service technician maximum control during evacuation and recharging. Installed directly to the vacuum pump, they connect the pump, manifold and thermistor gauge, providing one central control. Saves time – no need to connect/disconnect hoses. Made of durable forged brass for long life.

13047A – 1/2" FFL Coupler x 1/4" MFL x 3/8" MFL, Large internal porting for high CFM-flow.

**Access Fittings Solder Union Type**

40416 – 1/4 MFL x 1/8 OD Copper Tube Ext., pkg/6.

40417 – 1/4 MFL x 3/16 OD Copper Tube Ext., pkg/6.

13142 – 1/4 MFL x 1/4 OD Copper Tube Ext., pkg/6.

40419 – 1/4 MFL x 5/16 OD Copper Tube Ext., pkg/3*.

40420 – 1/4 MFL x 3/8 OD Copper Tube Ext., pkg/3*.

13143 – 1/4 MFL x 1/4 OD or 3/8 ID Solder with cap and chain*.

40427 – 1/4 MFL x 1/4 OD or 3/8 ID Solder, pkg/6*.

* Comes with 40535 Valve Core Remover.

Elbow Access Fitting

40422 – 1/4 MFL with core x 1/8 MPT Elbow, pkg/6.

**Pick Extractor and Thread Chaser**

14774 – For use with No. 18560 or 18561, valve core remover/ installer, lets you remove damaged cores in the service line while the system is fully charged. No release of refrigerant into the atmosphere.

14773 – For use with No. 18560 or 18561, valve core remover/ installer. This item actually repairs damaged threads on valve cores in the service line, without releasing refrigerant into the atmosphere.

RG6

115V Portable Recovery Machine **Performance and Speed for Today's Busy Technicians**

The RG6 is engineered to include what technicians need in a recovery machine – a rugged and tough machine with fast recovery rates. The RG6 is built for speed providing the best refrigerant recovery speeds in all conditions, including high temperatures. An oversized condenser keeps the machine cool in extreme environments. Lightweight and easy to carry, the RG6 can withstand the harsh conditions found in industrial and commercial refrigerant recovery.



RG6



Features

- **Twin-Cylinder Design** – Provides best-in-class* recovery performance.
- **Oil-less Compressor** – Capable of handling both liquid and vapor recovery.
- **Oversized Condensers and Fan** – Larger condenser area and larger fan allow for maximum cooling and shorter cycle times.
- **High Pressure Safety Shut-off Switch** – Automatically shuts off machine if pressure rises above 550 psi.
- **Self-Purge Feature** – Eliminates potential for cross-contamination and saves time.
- **Easy to Operate, Rugged Case** – Oversized pressure gauges, comfortable handle and simple controls.
- **Handles Almost All Refrigerants** – Works with all common CFC, HFC, HCFC Refrigerants including R-410A.
- **IEC connector** and power cord.



International Model

RG6-230 – 230V Pro Recovery Machine

Replacement Part

100343 – Filter Dryer



100343

Accessories

SK-6002 – Filter / Drier Kit (includes filter / drier, 6 inch hose)

SK-5001 – 80% Tank Shut-off Kit

RG6 Specifications	
Capabilities	Push-Pull, Liquid, Vapor
Compressor	3/4 hp, direct drive
Power	115 VAC 60Hz / 230 VAC 50/60Hz
Weight	27 lbs
Dimensions	17" L x 9" W x 12" H
Approvals	UL (ARI-740) / CE pending
Warranty	1 year -over the counter exchange

RG6 Recovery Rates per ARI -740-98*								
	Push Pull	Liquid	Vapor	High Temp Vapor (104°)	Push Pull	Liquid	Vapor	High Temp Vapor (104°)
	lbs/min				kg/min			
R22	14.50	9.37	0.59	0.48	6.58	4.25	0.27	0.22
R410A	15.47	7.51	0.37		7.02	3.41	0.17	
R134A	11.74	6.40	0.42		5.33	2.90	0.19	
R407C	14.49	7.14	0.53		6.57	3.24	0.24	

* UL and ARI tests are a level field comparison method. In other testing conditions, machines can exhibit much higher rates.

RG3**115V Portable Recovery Machine**
Recovery Just Got Smaller

The RG3 sets the new standard in refrigerant recovery. All jobs are different. From a rooftop to a marine HVAC system, the RG3 is easy to use and ideal for any residential and appliance sized recovery job. Capable of recovering both liquid and vapor refrigerant, the RG3 is engineered to withstand the punishment of daily use even under extreme conditions.

Features

- **Compact and Lightweight** – 40% smaller footprint, easy to carry, weighing in at 18 lbs!
- **Oil-less Compressor** – Capable of recovering both liquid and vapor.
- **Handles Almost All Refrigerants** – Works with all common CFC, HFC, HCFC Refrigerants including R-410A.
- **High Efficiency Cross Flow Design** – Layout of fan and condenser is maximized for shorter cycle times.
- **High Pressure Safety Shut-off Switch** – Automatically shuts off machine if pressure rises above 550 psi.
- **Easy to Operate, Rugged Case** – Easy to read gauges, comfortable handle and simple 2 valve controls
- **IEC Connector** and power cord.



RG3

International Models

RG3-230 – 230V Portable Recovery Machine

Replacement Parts

100343 – Filter Dryer

Accessories

SK-6002 – Filter / Drier Kit (includes filter / drier, 6 inch hose)

SK-5001 – 80% Tank Shut-off Kit



100343

RG3 Specifications

Capabilities	Push-Pull, Liquid, Vapor
Compressor	1/3 hp, single cylinder, oil-less
Power	115v 60Hz / 230v 50Hz
Weight	18 lbs.
Dimensions	12.5" L x 6.5" W x 9.5" H
Approvals	UL (ARI-740), CE
Warranty	1 year -over the counter exchange

RG3 Recovery Rates per ARI -740-98*

	Push Pull	Liquid	Vapor	High Temp Vapor (104°)	Push Pull	Liquid	Vapor	High Temp Vapor (104°)
	lbs/min				kg/min			
R22	11.76	6.32	0.20	0.22	5.33	2.87	0.09	0.10
R410A	12.62	3.54	0.17		5.72	1.60	0.07	
R134A	8.84	5.43	0.18		4.01	2.46	0.08	
R407C	11.59	5.44	0.18		5.25	2.47	0.08	

* UL and ARI tests are a level field comparison method. In other testing conditions, machines can exhibit much higher rates.

25200B

Refrigerant Recovery Machine

- Designed for the recovery medium and high-pressure refrigerants, including R-410A.
- Automatically switches from liquid to vapor recovery.
- Provides continuous recovery without the need to change the hose or flip a switch.
- Automatic high pressure cut-out switch for safety.
- Direct liquid recovery without damaging the compressor.
- Oil-less compressor allows rapid transfer of large amounts of liquid.
- Efficient fan and large condenser can handle high ambient temperatures.
- Multi-refrigerant capable with Self-Clearing feature, which prevents cross-contamination.
- Four 60" hoses, with ball-valves included
- Optional Float Cable provides automatic shut off when tanks are 80% full.
- 1/4" MFL fittings.
- Power Source – 115V 60 Hz.
- Weight: 32 lbs.
- 20" H x 12.5" W x 10.5" D.

International Models

25201B – 220V-240V 50/60 Hz, metric gauges, CE approved (power cord not included).

19498 – 220V Optional Float Cable Assembly.



UL CERTIFIED To meet EPA Regulations per ARI 740 8EA7

Optional Accessories	Part No.
30Lb (14kg) Recovery Tank	17121
30Lb (14kg) Recovery Tank with 80% capacity sensor	17605
50Lb (23kg) Recovery Tank	17506
50Lb (23kg) Recovery Tank with 80% capacity sensor	17572
50Lb (23kg) High Pressure Recovery Tank with 80% capacity sensor (use with R-410A)	RGT50HP
100V Optional Float Cable Assembly	KT-5001
Filter-Drier, 1/4" MFL x 1/4" MFL	100343
Hose, Blue 4" Long	100345



30 lb. / 50 lb. Refrigerant Tanks

17121 – 30 lb. tank, 1/4" fittings (25150, 25175, 25200B, 34234, 34300-2K, 34800 series).

17605 – 30 lb. tank with float switch (17650A series).

17506 – 50 lb. tank, 1/4" fittings (17800A, 17800-2K, 17700A, 25150, 25175, 25200B series).

17572 – 50 lb. tank with float switch.

UL CERTIFIED To meet EPA Regulations per ARI 740

One piece of equipment is all you need for A/C and refrigeration service.

Also great for in-plant maintenance!

Recovers, Recycles, Evacuates, and Recharges R-12, R-134a, R-22, R-502, MP and HP Blends – and many more!

Design certified by UL to meet SAE J-1770.



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.



19776

Specifications

Voltage	115V 60 Hz
Tanks	Two 50 lb. (23 kg) refillable
Operating Range	50° to 105° F (11° to 41° C)
Recovery Rate	Vapor – 1/2 lb/min. (.2 kg/min.) Liquid – 1 lb/min. (.4 kg/min.)
Recycling Rate	4 lbs/min. (1.8 kg/min.) flow rate
Recycling Filter-Drier	1150 g XH-9
Pump Free Air Displacement	6 cfm (142 l/m) at 50 Hz
Dimensions	47" H x 26" W x 30" D (119 cm x 66 cm x 77 cm)
Weight	256 lbs. (116 kg) without tank



13119

13203

13204

Premium High Vacuum Pump Oil

The performance of your pump depends largely on the quality and purity of the vacuum pump oil. Robinair's oil is engineered to maintain maximum viscosity at high running temperatures and to improve cold weather starts.

To keep the pump operating at peak efficiency, change the oil frequently. Moisture and other contaminants can quickly deteriorate the purity of the oil, thinning the oil, and reducing the pump's ability to reach deep vacuum conditions.

Thermally Stable

Laboratory tests prove that Robinair oil is more thermally stable in comparison to other leading brands, which means it resists breaking down due to heat for a longer period of time.

Lower Moisture Content

Robinair oil has a lower moisture content than other oils, thanks to our special packaging and handling procedures. Moisture degrades the oil's purity, thinning it, and reducing the pump's ability to reach a deep vacuum.

13119 – Pint bottle, 12 per case.

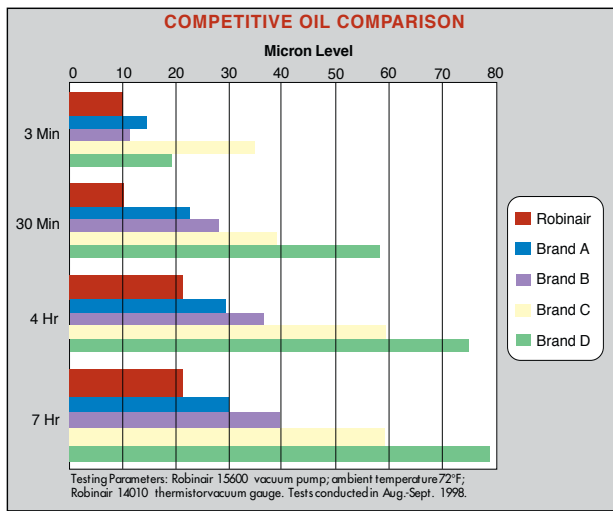
13203 – Quart bottle, 12 per case.

13204 – Gallon bottle, 4 per case.

Change Your Vacuum Pump Oil Frequently

Clean oil is important for peak vacuum pump performance. When the oil is contaminated, it reduces your pump's ability to remove moisture from a system. You should change the pump oil frequently, and especially in the following situations:

- You have just evacuated a system that you suspect was overly moisture-laden.
- You have just evacuated a system with a compressor burnout.
- The pump oil looks cloudy or milky.
- The pump will not pull to factory specifications when blanked off to an electronic thermistor vacuum gauge.
- Every 10 hours of operation.



1 Oil Fill Port

Makes adding oil simple since the port is accessible from the front or either side. The sight glass on the front of the pump shows you when enough oil has been added.

2 Two-stage Design

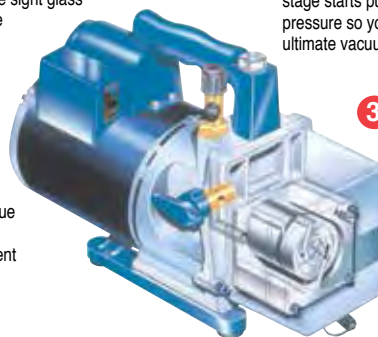
Cleans the system more thoroughly than a single-stage pump; the second stage starts pumping at a lower pressure so you can pull a deeper ultimate vacuum.

3 Die-Cast Aluminum Housing

Cast aluminum housings make the pumps lightweight but durable.

4 Heavy Duty Motor

High torque design for easy startup and efficient operation.



5 Molded Base

Durable polycarbonate base improves pump balance and minimizes vibration during operation.

8 Oil Drain Valve

Positioned at the bottom of the oil reservoir and angled for faster, more complete draining.

6 Iso-Valve™

Isolates the pump from the system with just a quarter-turn.

7 Offset Rotary Vanes

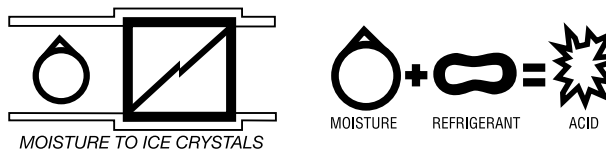
Our proven design builds a powerful compression within the pumping chamber to reduce system pressure and vaporize moisture, so it can be exhausted along with air.

The Importance of Deep Vacuum

The purpose of a vacuum pump is to remove moisture and air from an A/C-R system.

Modern systems are built tighter and charges are more critical. That means these systems have a greater sensitivity to moisture and other contaminants, making thorough evacuation more important than ever before.

Moisture in a refrigeration system, directly or indirectly, is the cause of most problems and complaints. First, moisture can cause freeze-up in a system. Moisture is picked up by the refrigerant and transported through the refrigerant line in a fine mist, with ice crystals forming at the point of expansion.



"Freeze-up" is not the only problem caused by moisture.

It can also result in corrosion, the effects of which are not apparent until the real damage has occurred. Moisture alone is bad enough, but combined with refrigerants containing chlorine, hydrochloric acids can form. These greatly increase the corrosion of metals.

Also, refrigerant oil rapidly absorbs moisture. Water-formed acids combine with the refrigerant, forming a closely bonded mixture of fine globules. The effect is called sludging and it greatly reduces the lubricating ability of the oil.

A vacuum pump removes troublesome moisture by lowering the pressure within the system and vaporizing (or boiling off) the moisture, then exhausting it along with air.

CoolTech™ – The Inside Story

A vacuum pump that's fast and thorough saves you not only time, but also the expense of callbacks and dissatisfied customers. Robinair pumps perform better than other pumps in the industry, ensuring you complete dehydration before recharging.

Robinair pumps are engineered specifically to meet the needs of the kind of A/C work you're doing today, and to give you trouble-free operation. We've put our years of experience and know-how into developing pumps that help you do the job faster and better.

All Robinair pumps are backed by our exclusive "No Hassle" over-the-counter replacement warranty. You can return a pump to your Robinair distributor for an immediate exchange — with no hassle! (In U.S. and Canada only; in other locations, see your Robinair distributor.)

Robinair CoolTech vacuum pumps are designed for use on A/C-R systems using CFCs, HCFCs, and HFCs in conjunction with mineral oil, ester oil, alkylbenzene oil, and PAG oil as lubricants. Do not use them with ammonia or lithium bromide systems; not for use with flammable refrigerants.

U.S. Patent Numbers: 4,523,897; 4,631,006; 5,209,653.

Selecting the Right Size Pump

The more air a pump moves, the faster it can reach an acceptable vacuum. A smaller pump takes more time to evacuate a system than one that's the correct size for the job.



Cool Tech



VacuMaster

Use this Chart as a Guide to Selecting the Right Size Pump.

System	Recommended Pump Size	
	Cool Tech Robinair Pump	VacuMaster™ Robinair Pump
Up to 10 tons (35kW); Domestic Refrigeration, Passenger Cars	–	1.5 CFM (35 l/m)
Up to 30 tons (105kW); Residential A/C, Panel Trucks & RV's	4 CFM (93 l/m)	3 CFM (71 l/m)
Up to 50 tons (176kW); Rooftop A/C systems, Tractor/Trailers, Buses	6 CFM (142 l/m)	5 CFM (118 l/m)
Up to 70 tons (246kW)	10 CFM (236 l/m)	8 CFM

	Oil Fill Port	Heavy Duty Motor	Two-Stage Design	Molded Base	Die-Cast	Oil Drain Valve	Offset Rotary Vanes	Iso-Valve	Gas Ballast
Robinair® Pumps	•	•	•	•	•	•	•	•	•
VacuMaster® Pumps	•	•	•		•	•			

All Robinair pumps are backed by our exclusive "No Hassle" over-the-counter replacement warranty. You can return a pump to your Robinair distributor for an immediate exchange — with no hassle! (In U.S. and Canada only; in other locations, see your Robinair distributor.)

Robinair Vacuum Pumps

- Power and capacity for a wide range of service applications.
- High CFM rating for fast, thorough evacuation.
- Two-stage rotary vane design.
- Cool Tech assembly in the USA.

Iso-Valve™ – Isolates the pump from the system with just a quarter-turn.

Gas Ballast – Moisture laden air passing through the pump mixes with relatively dry air so compression does not cause condensation.

Two-stage Design – Cleans the system more thoroughly than a single-stage pump; the second stage starts pumping at a lower pressure so you can pull a deeper, ultimate vacuum.

Oil Drain Valve – Positioned at the bottom of the oil reservoir and angled for faster, more complete draining.

Oil Fill Port – Makes adding oil simple since the port is accessible from the front or either side. The sight glass on the front of the pump shows you when enough oil has been added.

Heavy-Duty Motor – High torque design for easy startup and efficient operation.

Offset Rotary Vanes – Our proven design builds a powerful compression within the pumping chamber to reduce system pressure and vaporize moisture so it can be exhausted along with air.

Molded Base – Durable polycarbonate base improves pump balance and minimizes vibration during operation.

Die-Cast Aluminum Housing – Cast aluminum housings make the pumps lightweight but durable.



15120A – 10 CFM



15600 – 6 CFM, 15400 – 4 CFM, 15434 – 4 CFM

Model	Free Air Displacement	Factory Micron Rating	No. of Stages	Intake Fitting	Oil Capacity	Motor Size	Voltage	Approvals	Weight	Dimensions
Domestic Models										
15400	4 CFM	15 microns	2	1/4" MFL & 1/2" MFL	15 oz. (445 ml)	1/2 hp	115V 60 Hz	UL	27 lbs. (12.2 kg)	9.75" H x 5.625" W x 15.5" L 247 mm x 143 mm x 394 mm
15434	4 CFM	15 microns	2	1/4" MFL & 1/2" Acme	13 oz. (384 ml)	1/3 hp	115V 60 Hz	UL	29 lbs. (13 kg)	9.75" H x 5.625" W x 15" L 247 mm x 143 mm x 381 mm
15600	6 CFM	15 microns	2	1/4" MFL, 3/8" MFL, & 1/2" MFL	15 oz. (445 ml)	1/2 hp	115V 60 Hz	UL	27 lbs. (12.2 kg)	9.75" H x 5.625" W x 15.5" L 247 mm x 143 mm x 394 mm
15120A	10 CFM	15 microns	2	1/4" MFL, 3/8" MFL, & 1/2" MFL	16.5 oz. (488 ml)	1/2 hp	115V 60 Hz	UL	38 lbs. (17.24 kg)	10.75" H x 5.625" W x 16.5" L 273 mm x 143 mm x 419 mm
International Models										
15401	94 liters/minute	15 microns	2	1/4" MFL & 1/2" MFL	13.5 oz. (400 ml)	1/3 hp	115V/220-250V 50/60 Hz	CE	29 lbs. (13 kg)	9.688" H x 5.625" W x 15.75" L 246 mm x 143 mm x 400 mm
15424	94 liters/minute	20 microns	2	1/4" MFL & 1/2" Acme	13.5 oz. (400 ml)	1/3 hp	115V/220-250V 50/60 Hz	CE	32 lbs. (14.5 kg)	9.763" H x 5.625" W x 15.75" L 248 mm x 143 mm x 400 mm
15601	142 liters/minute	15 microns	2	1/4" MFL, 3/8" MFL, & 1/2" MFL	13.5 oz. (400 ml)	1/3 hp	115V/220-250V 50/60 Hz	CE	29 lbs. (13 kg)	9.688" H x 5.625" W x 16.5" L 246 mm x 143 mm x 419 mm
15121A	283 liters/minute	15 microns	2	1/4" MFL, 3/8" MFL, & 1/2" MFL	16.5 oz. (488 ml)	1/2 hp	115V/220V 50/60 Hz	CE	41 lbs. (18.60 kg)	10.75" H x 5.625" W x 17.5" L 273 mm x 143 mm x 445 mm

VacuMaster™**Economy Vacuum Pumps**

- Performance tested to meet Robinair's high standards
- Power and capacity for a wide range of service applications.
- High CFM rating for fast, thorough evacuation.
- Two-stage rotary vane design.

Features:

Two-stage Design – Cleans the system more thoroughly than a single-stage pump; the second stage starts pumping at a lower pressure so you can pull a deeper, ultimate vacuum.

Oil Drain Valve – Positioned at the bottom of the oil reservoir and angled for faster, more complete draining.

Oil Fill Port – Makes adding oil simple since the port is accessible from the front or either side. The sight glass on the front of the pump shows you when enough oil has been added.

Heavy-Duty Motor – High torque design for easy startup and efficient operation.

Die-Cast Aluminum Housing – Cast aluminum housings make the pumps lightweight but durable.



15150 – 1.5 CFM
15300 – 3 CFM
15500 – 5 CFM



15800 – 8 CFM

Model	Free Air Displacement	Factory Micron Rating	No. of Stages	Intake Fitting	Oil Capacity	Motor Size	Voltage	Weight	Dimensions
Domestic Models									
15150	1.5 CFM	50 microns	2	1/4" MFL and 3/8" Acme 3/8" FFL x 1/2" Acme adapter	7.4 oz. (219 ml)	1/4 hp	115V 60Hz	22 lbs. (10 kg)	9.5" H x 4.75" W x 12.5" L 240 mm x 120 mm x 315 mm
15300	3 CFM	35 microns	2	1/4" MFL and 3/8" MFL 3/8" FFL x 1/2" Acme adapter	7.5 oz. (220 ml)	1/3 hp	115V 60Hz	28 lbs. (12.5 kg)	10" H x 5" W x 13" L 255 mm x 123 mm x 336 mm
15500	5 CFM	35 microns	2	1/4" MFL and 3/8" Acme 3/8" FFL x 1/2" Acme adapter	7.5 oz. (220 ml)	1/3 hp	115V 60Hz	28 lbs. (12.2 kg)	10" H x 5" W x 13" L 255 mm x 123 mm x 336 mm
15800	8 CFM	35 microns	2	1/4" MFL and 3/8" MFL	18.6 oz. (550 ml)	1 hp	115V 60Hz	37 lbs. (16.8 kg)	16" H x 6" W x 10" L 406 mm x 152 mm x 254 mm
International Models									
15301 3 CFM	71 liters/minute	35 microns	2	1/4" MFL and 1/2" MFL 3/8" FFL x 1/2" Acme adapter	7.5 oz. (220 ml)	1/3 hp	220V 50Hz	28 lbs. (12.5 kg)	10" H x 5" W x 13" L 255 mm x 123 mm x 336 mm
15501 5 CFM	118 liters/minute	35 microns	2	1/4" MFL and 1/2" Acme 3/8" FFL x 1/2" Acme adapter	7.5 oz. (220 ml)	1/3 hp	220V 50Hz	28 lbs. (12.5 kg)	10" H x 5" W x 13" L 255 mm x 123 mm x 336 mm

14777**Compact Electronic Vacuum Gauge**

Robinair's 14777 electronic vacuum gauge is just 2-1/2" x 3" in size, but accurate enough to clearly indicate when the system is free from moisture and ready for recharging. Specifically designed for use with a high vacuum pump, the 14777 measures to 10 microns.

Clearly Shows Vacuum Level – The display is an easy-to-read LCD type with readout showing the current vacuum level.

6' Lead for Service Flexibility – Hang the gauge in a location that's convenient for you to monitor vacuum level.

Mounting Magnet – Position the 14777 where it's easy-to-read the LCD.

Specifications

Power Supply One 9V battery (included)
Vacuum Fitting 1/4" MFL
Length of Lead 6 feet (8.3 m)
Vacuum Rating 29 in./Hg
Dimensions 3" H x 2.5" W x 1" D
..... (7.62 cm x 6.35 cm x 2.54 cm)

14778 – Replacement thermistor tube.

**Reading Vacuum Tips**

When reading vacuum, remember that the location of the vacuum gauge tube will affect the reading. The closer the gauge is to the vacuum pump, the lower the reading will be. Conversely, if you take the reading at a line far away from the pump, the reading will be on the high side.

The way to get the most reliable reading is to isolate the vacuum pump using a vacuum valve assembly. Allow the pressure to equalize throughout the system, then take a final reading.

A reading that's too high is a good indication of moisture in the system; continuing to evacuate will likely pull the system into a deeper vacuum. If the pressure will not equalize, you probably have a leak, which should be repaired.

RAVG-1**Digital Vacuum Gauge****Easy as 1 - 2 - 3****Connect, Measure, Test**

Robinair proudly introduces one of the most sophisticated Digital Micron (vacuum) Gauges available for field service. Packaged in the same convenient case as our successful Digital Pressure gauges, this stand alone gauge is compact and can be used anywhere.

The RAVG-1 employs a sophisticated MEMS Pirani type sensor that directly measures flow. Unlike all other field service gauges on the market, the RAVG-1 is NOT affected by temperature.

The RAVG-1 measures vacuum from Atmosphere to 10 microns in 6 different scales, and can withstand overpressure beyond 30 bar. The unit employs an industry first multi-color backlight that functions as an instant go/no go indicator of acceptable vacuum or leakage.

Features

- High Resolution and unique backlight indicator make precision readings easy
- Patent Pending design, employs a sophisticated MEMS Pirani sensor
- Range from Atmosphere down to 10 microns
- Measure vacuum in Microns, mmHg, inHg, mBar, Pascals or Torr
- Extremely accurate at low micron levels
- Impact and water resistant case with protective Rubber boot
- Rapid response to changes in vacuum
- Large easy to read 5 digit display
- Auto shut off feature prolongs battery life
- Battery powered
- Integrated "magnetic" hook
- Includes carrying case and tee adapters or in-line connections (1/4" MFL x 1/4" MFL and 1/4" FFL x 1/4" MFL versions)

First time introduction:
3 color backlight display offers at one glance the vacuum process status



Highlight:
Integrated "Magnetic Hook"
or connect to a manifold.



Manifold sold separately.

RAVG-1 Specifications

Operating Range	Atmosphere to 10 Microns
Resolution	As low as 5 Microns/ 0.005mmHg/0.002inHg/ 0.007mBar/0.66Pa/0.005Torr
Accuracy	As low as +/- 5 % of RDG
Over pressure	~ 31 Bar/450 psi
Measuring Units	Microns/mmHg/inHg/ mBar/Pa/Torr
Display	5 digit STN LCD, 50 x 30 mm with tricolor LED backlight
Power Supply	3 x size "AAA" 1.5 V Batteries
Input Connection	1/8"-27 NPT Male

CE



TIF9010A



TIF9020A

Slimline Refrigerant Scales

The TIF Slimline scales offered industry leading accuracy, performance, with the choice of getting the familiar usability and quality in either a 110 pound/50 kg. or 200 pound/100 kg. capacity.

Features

- Touch Key controls.
- Three display modes – Lbs./oz.; Decimal Lbs., Kilograms.
- Extremely Accurate.
- Auto Zero.
- Removable platform and control box with prop stand/hanging hook.
- Compact design, completely portable.
- Removable control box with prop stand/hanging hook.
- CE approved.
- Two year warranty.
- Blow molded case.

Specifications

	TIF9010A	TIF9020A
Range 15.8 oz., OR	0 lbs. 0.0 oz. to 110 lbs. 0.0 oz., 0.000 lbs. to 110.000 lbs., OR 0.000 kg to 55.000 kgs	0 lbs. 0.0 oz. to 199 lbs. 0.000 lbs. to 199.990 lbs., OR 0.000 kg to 100.000 kg
Resolution	0.1 oz./0.005 lbs./2 grams	0.2 oz./0.010 lbs./4 grams
Accuracy	± 0.5% of reading	± 0.5% of reading ± 1 digit
Operating Temp	32° to 120°F (0° to 49°C)	32° to 120°F (0° to 49°C)
Power Supply	9VDC	9VDC
Battery Life	30 hours	30 hours
Coil Cord Length	6 ft. (1.8m)	6 ft. (1.8m)



TIF9031



TIF9030

Economy Digital Refrigerant Scale

- Easy to carry and store.
- Capacity up to 220 lbs. (100 kg). Display shows lbs./oz. and kg.
- High accuracy (± 0.5 oz.) and resolution (0.1 oz).
- 9-volt battery power.
- Platform to adapt to most existing tanks (9" x 9").
- Three control keys: On/Off, automatic zeroing, and measurement units.
- Charging and recovery capabilities
- CE approved.
- One-year warranty.



TIF9030 – Economy digital refrigerant scale.

TIF9031 – Economy digital refrigerant scale carrying case.

TIF9055

Certified Refrigerant Scale

- 200 pound OR 100 kg capacity.
- Allows automatic charging or recovery operations.
- Color-coded keypad controls.
- Three display modes – lbs./oz.; decimal lbs.; kilograms.
- Very high resolution – 0.2 oz./0.010 lbs./4 grams.
- Can be used with all refrigerants.
- Advanced charge and recovery modes – uses tare weight and maximum capacity of cylinder to calculate maximum charge/recovery available.
- User programmable memory for up to 99 different stored values.
- "Repeat" charge feature.
- Removable platform and control box with prop stand/hanging hook.
- Compact design – completely portable, battery powered.
- Low battery indicators.
- Five-year warranty.



Specifications

Range	0 lbs. 0.0 oz. to 219.99 lbs.
.....	0.0 oz., OR 0.000 lbs. to
.....	219.990 lbs., OR 0.000 kg to 100.000 kg
Resolution	0.2 oz./0.010 lbs./4 grams
Accuracy	$\pm 0.5\%$ of reading
Power Supply	Four AA batteries
.....	and one 9V battery
Battery Life	30 hours
Max. Solenoid operating pressure	500 psi
Operating Temp.	32°F to 120°F (0°C to 49°C)
Inlet/Outlet Ports	1/4" MFL fittings with
.....	1/2" ACME adapters
Weight	Approx. 7 lbs.

TIF3880X

Inspection Camera / Detect and Diagnose

Introducing the TIF3880X Inspection Camera. With an industry leading 5.5-millimeter camera diameter, technicians can inspect small, hard-to-reach areas normally not accessible when using a large entry point camera. With the added wireless display and ability to record images and video, the TIF3880X is an ideal tool for any HVAC, plumbing, or industrial technician.

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-inch 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 chemicals.
- Unit is powered by removable power pack with four rechargeable AA batteries (batteries and charger included).

Applications:

- Inspect HVAC application issues with in buildings.
- Examine HVAC equipment for wear or performance issues.
- Locate items in hard-to-see areas or behind walls.
- Inspect heat exchanges for cracks or damage.

TIF3880X Video Scope includes:
Magnetic mount for wireless display
Rechargeable AA batteries (4),
Micro SD card, Battery charger,
XvidCodec installation CD,
AC power adapter, USB cable,
One year warranty, Video out cable,
and Protective carry case.



TIF785

Photo Tachometer

Capable of measuring and recording the rotational, linear and surface speeds. Non-contact function makes it easy to use in hard to reach or tight spaces. Easy to handle palm sized design makes it easy to maneuver when performing traditional contact measurement.

Features:

- Both non-contact and contact modes
- Operates at a distance of up to 40 in (100 cm)
- Laser sighting
- Auto ranging/fixed decimal
- Ability to capture and store readings
- Low battery indicator

Specifications:

Range:

Non-Contact:	6.0-99,999 RPM (rev/min)
Contact:	6.0-25,000 RPM (rev/min)

Accuracy:

6.0-5,999.9 RPM	$\pm 0.01\%$
5,999.9-99,999 RPM	$\pm 0.05\%$

Resolution:

6.0-9,999.9 RPM	0.1 RPM
10,000-99,999 RPM	1 RPM

Response Time:

Auto Power Off	After 30 secs. of inactivity
Max/Min/Average	Yes
Memory	40 points
Battery	9V (included)

TIF785 Photo Tachometer includes:
Photo Tachometer, Contact adapter,
Wheel adapter, Cone adapter,
Funnel adapter, 21" reflective tape,
and Protective carry case.



TIF7620, TIF7612, TIF7610 IR Thermometer PRO

- Complete IR design is incorporated inside of a single chip, reducing space and creating a compact and light weight product.
- Innovative optical lens – accurate measurements; wide temperature range.
- Laser pointer – Easy to define the target area to be measured.
- Extend temperature – TIF7612 and TIF7620 have a thermocouple interface that can extend the temperature up to 1999°F.
- Simple and easy to operate – Simply point at desired target and press the trigger button for a temperature reading.
- Set alarm temperatures (Low and High Temperatures) to receive alert information when the you are measured out of the range (TIF7612 and TIF7620 only).
- (MAX), (MIN), Difference between MAX and MIN (DIF), and average (AVG) modes are available in TIF7612 and TIF7620.
- The new TIF IR thermometers incorporate visual low battery indication and simple operation of two “AAA” batteries.



Specification	TIF7610	TIF7612	TIF7620
Measurement Range	-76 to +932°F (-60 to +500°C)	-76 to +932°F (-60 to +500°C)	-76 to +1400°F (-60 to +760°C)
Thermocouple Measurement Range	N/A	83.2 to +1999°F (-64 to +1400°C)	
Accuracy: Tobj=59°-95°F (15-35°C) Tamb=77°F (25°C)	±1.8°F (1.0°C)		
Accuracy: Tobj= -27-932°F (-33-500°C) Tamb= 73°F ±5°F (23 ± 3°C)	±2% of reading or 4°F (2°C) whichever is greater		
Thermocouple Accuracy	N/A	±1% of reading or 1.8°F (1°C) whichever is greater (Test under Tamb=73±11°F[23±6°C])	
Emissivity	0.95 fixed	Adjustable	
Resolution: 14.2° F~199.9° F (-9.9~199.9°C)	0.1°F/0.1°C (1° below 9.9 and above 199.9)		
Spectral Response	5 ~ 14μm	8 ~ 14μm	
Response Time (90%)	.5 sec		
Distance: Spot	10:1	12:1	20:1
Battery Life	Typ.18 hours		
Dimensions	175.2 x 39.0 x 71.9mm		
Weight	179 grams including batteries (AAA*2pcs)		

TIF7201**Pocket IR Thermometer**

- System-on-a-Chip SoC technology: compact and lightweight
- Backlit LCD display w/ dual readings
- °C / °F Switch and MAX function
- Auto power off after 15 sec.
- Battery level indication
- Distance to spot (D/S): 1:1

Applications:

- Automotive
- Electrical
- General home use
- HVAC/R



TIF7201

TIF7210 Specifications

Temperature measurement range	-27° to +428°F (-33° to +220°C)
Operating temperature range	14 to +122°F (-10 to +50°C)
Accuracy (Tamb=23±3°C)	±2% of reading or ±4°F (2°C)
Resolution	0.1 °F/°C
Distance to Spot	1:1 optical
Emissivity setting	0.95 fixed
Field of View	1:1
Battery Life	Typ.25 hours / Min.20 hours
Battery	1 CR2032 lithium cell battery

TIF7201D



Available in 4pk. display: TIF7201D
(Includes 4 of the TIF7201)

43240

Digital Thermometer

- Sampling time is just one second; HOLD button freezes display for accuracy.
- Easy-to-read display can be read even in direct sunlight.
- Durable case includes a cover to protect the probe.
- Min/Max display for reading temperature ranges.

Specifications

Range -40° to 390° F (-40° to 200° C)
 Accuracy $\pm 2^\circ$ F between -14° and 212° F
 $\pm 1^\circ$ C between -10° and 100° C, Otherwise: $\pm 3^\circ$ F ($\pm 1^\circ$ C)
 Display Resolution 0.1° F (0.1° C) throughout range
 Battery One 1.5V x 1, Size LR44



43230

Swivel Head Digital Thermometer

- 180° swivel head makes display easier to read in tight places.
- Reliable readings over the entire temperature range.
- Sampling time is just one second.
- Durable case includes a pocket clip.
- For surface, liquid, and air temperatures.

Specifications

Range -58° to 302° F (-50° to 150° C)
 Accuracy $\pm 2^\circ$ F between -4° and 248° F
 $\pm 1^\circ$ C between -20° and 120° C, Otherwise: $\pm 4^\circ$ F ($\pm 2^\circ$ C)
 Display Resolution 0.1° between -19.9 to 199.9, otherwise 1°
 Battery One 1.5V x 1, Size LR44
 Automatic Power OFF After 10 minutes if ON/OFF is not pressed.

**Dial Thermometers**

All pocket thermometers come with a pocket-clip carrying case for protection and easy access. Easy-to-read faces are available in a variety of sizes and ranges.

Part No.	Temperature Range	Size
10596	-40° to + 160°F	1" dial face
10597	0° to + 220°F	1" dial face
10945	0° to + 220°F	1-3/4" dial face
40859	-40° to + 70°C	1" dial face

16455

TruTrack Ultrasonic Leak Detector**Use TruTrack to identify...**

- Refrigerant leaks.
- Pressurized gas leaks.
- Vacuum leaks.
- Dry nitrogen gas leaks.
- Steam leaks.
- Failing solenoids, valves, bearings.

So Sensitive It Hears the Blink of an Eye!

Easy to Use — Just put on the headset, adjust the sensitivity level, and place the sensor near the suspected problem area; you can use the sensor alone or with one of the probes.

Positive Identification — You hear the sound of the leak in the headset with no beeps or squeals; the sound is loudest when you are near the leak.

Accurate — Wind, stray gases, or other contaminants will not trigger a false alarm; the unit suppresses most background noises.

Dependable — There are no clogged tips to clean, or sensors to replace, to get accurate readings.

Versatile — Ideal for a wide range of service and preventive maintenance applications. Taking regular readings of bearing or solenoid function, for instance, can show increased noise, which may be a sign the component is starting to fail.

16455 — Comes complete with padded carrying case, headset, solid contact probe, and flextube.

Replacement Parts

- 16456 — Contact probe.
 16458 — Replacement headset.



16451

TruTrack Ultrasonic Sound Generator

An ideal accessory for Robinair's Model 16455 Ultrasonic Leak Detector, the sound generator detects seal failure in refrigerators, microwaves, vehicle passenger compartments, trunks, and any other location where there should be a good seal. Battery-operated unit emits special frequency from inside the test area; where the sound can be heard, a leak exists.

Specifications

Power Source One 9V battery (included)
 Dimensions 4-1/2" L x 3-3/8" W x 3/4" D (11.43 cm x 8.57 cm x 1.9 cm)
 Weight 5 oz. (140 g)



14388

Refrigerant Oil Pump

- Oil-Pump design allows you to add refrigerant oil to a system under pressure.
- Designed for larger systems.
- Siphon hose allows for the removal of old oil, preventing over-charging.
- Pump universally mounts directly to one-gallon containers.
- Allows the pumping of oil directly from the container, keeping oil free from dirt and moisture.
- Pump can remain mounted on oil container during storage.
- Oil is pumped at a rate of 3 ounces (90 ml) per stroke

Replacement Parts

- 18171 — Oil pump rebuild kit.



16258

Oil injector, 1/4" SAE fitting

Use these syringe-type injectors to add oil to a fully pressurized A/C system. Just fill the barrel with the amount of oil needed, connect the injector, and press the plunger. Not recommended for UV dye injection.

Replacement Parts (supplied with product)

- 16262 — Replacement plunger.
 16267 — Replacement O-ring to plunger, pkg/5.



Mini-Split Service Kit



42170

Every Tool you need for Mini-Split Installations / Service

- Single valve manifold gauge, dedicated specifically for Mini-Split installation and service applications.
- Custom length high pressure hoses, eliminates up to 20% of unnecessary charge volume compared to longer length hoses.
- Protective blow molded case, gives a visual inventory of each tool – no more leaving tools behind at the job site.
- Eccentric cone flaring tool produces a rolling action for uniform flare walls, which are ideal for mini-split R410A flares.

Kit Includes:

1/4" quick seal x 1/4" FFL standard 18" blue hose
1/4" quick seal x 1/4" FFL standard 36" yellow hose
Metric torque wrench set
17mm, 22mm, 24mm, 26mm, 27mm, 29mm and wrench
Metric ball hex "L" keys
1.5mm to 10mm
Tubing reamer
Tubing cutter 1/8" to 1-1/8" O.D. tubing capacity.
Eccentric flaring tool
R410A single port manifold
Valve core removal tool
5/16" FFL x 1/4" MFL adapter
6 in 1 – Screwdriver



42170 Replacement Parts

	68118 1/4" quick seal x 1/4" FFL standard 18" blue hose
	68136A 1/4" quick seal x 1/4" FFL standard 36" yellow hose
	14322 Metric torque wrench set 17mm, 22mm, 24mm, 26mm, 27mm, 29mm and wrench
	14322-1 7mm individual wrench head
	14322-2 22mm individual wrench head
	14322-3 24mm individual wrench head
	14322-4 26mm individual wrench head
	14322-5 27mm individual wrench head
	14322-6 29mm individual wrench head
	14322-7 Wrench handle
	12540 Tubing reamer
	18706 Eccentric flaring tool
	40120-R410A R410A single port manifold
	42022 Tubing cutter 1/8" to 1-1/8" O.D. tubing capacity
	40156 5/16" FFL x 1/4" MFL adapter
	18562 Valve core removal tool

42022**Mini Tubing Cutter**

With a short swing radius, this cutter makes quick work of cutting tubing in tight spots. The 42022 is especially versatile with its larger range: 1/8" to 1-1/8" O.D. tubing capacity.

**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.

**42024****Mini Tubing Cutter**

With the smallest cutting radius in the industry, the 42024 is ideal for extremely tight places. A finer thread screw provides easier tightening. For 1/8" to 5/8" O.D. tubing.

**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.

**42028****Tubing Cutter**

Our roller-type cutter makes clean cuts in copper, aluminum, steel, and stainless steel tubing. Features easy action, wide capacity range, and a pencil reamer. For 1/4" to 1-1/2" O.D. tubing

**42035****Slip-Adjust Tubing Cutter**

- For 1/4" to 2" tubing.
- All metal construction.
- Spring-loaded cutting tool for faster cutting.
- Two locations for spare cutting wheels (1 included).
- Includes attached reaming tool.

**12294****Pinch-Off Tool**

- Patented clamping mechanism quickly and securely pinches off tubing and cloth-reinforced hose.
- Comfortable cushion grip.
- Ideal for closing off compressor process tubes.
- For 3/16", 1/4", 5/16" and 3/8" tubing.

**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.

**12479****Six-in-One Swaging Tool**

- One convenient tool, forms solder cups on six (6) different sizes of-tubing.
- Made of fatigue proof steel.
- Works on 3/16", 1/4", 5/16", 3/8", 1/2" and 5/8" tubing.

**13162****Deburring Tool**

Quickly deburrs aluminum, copper, and steel tubing, and can work on any size tubing. It's made with a high-speed, steel blade and a durable aluminum handle. Three spare blades store in the handle.



42080, 42090

42071

Ratcheting Tubing Cutters

- Designed for confined spaces.
- Unique ratcheting action operates like a socket ratchet, but cuts copper, aluminum, stainless steel, and PVC.
- Spring-loaded adjusting screw applies continuous pressure while cutting.

42071 – Ratcheting tubing cutter for 1/8" to 1/2" tubing.

42080 – Ratcheting tubing cutter for 1/4" to 7/8" tubing.

42090 – Ratcheting tubing cutter for 1/4" to 1-1/8" tubing.

**Replacement Cutter Wheels**

These top quality replacement cutter wheels are thinner for cleaner cuts with less effort. Made of high quality, shock-resistant, tool steel, the cutters are also heat treated to resist breakage and last longer. Cutter wheels are available to fit Robinair cutters, and can be used as replacements in nearly all other brands.

Replacement Wheel Chart

Model No.	Fits Cutter No.
42062	42028
42073	42071
42083	42080, 42090

**14998****Refrigerant Access Tool**

- Provides fast and easy access to refrigeration lines not equipped with access fittings.
- Supplies instant pierce and seal for fast refrigeration evacuation.
- Clamping mechanism automatically locks on tubing.

**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.

**4504****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.

**6502****Master Flaring Tool Kit**

Covers Single, Double, and Bubble type flares:

- Single Flare Standard Lines 3/16" – 1/2".
- 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.

**12458****Process Tube Adapter Kit**

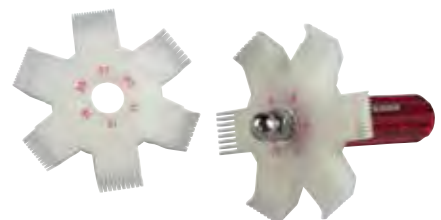
- Kit provides the quickest and easiest means of connecting charging lines to process tubes for evacuating and recharging a system.
- Assures an absolute seal between tubing and the charging hose.
- Eliminates the need for flaring and the possibility of metal chips getting into the system.
- Includes Carrying Case with individual compartments.
- Adapts 3/16", 1/4", 5/16" and 3/8" copper tubing to charging hose.

**45355****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.

**18548****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.

**18403****Fin Straightener**

- Clean and straighten condenser and evaporator coils.
 - 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

**A/C Ratchet Wrenches**

- 11008** – Reversible, 1/2" and 9/16" HEX openings on one end, 3/16" and 1/4" SQUARE on the other.
- 10696** – Reversible, four SQUARE openings, 1/4" and 3/16" on one end, 3/8" and 5/16" on the other.
- 11012** – Reversible, with 25° OFFSET, four SQUARE openings, 1/4" and 3/16" on one end, 3/8" and 5/16" on the other.

**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".



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).



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.



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.



4550

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.

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.



5800TGLV-M



5801SGLV-M

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™ Technician Gloves

- Same as above, also works with touchscreen technology.

5801SGLV-M – Medium.

5801SGLV-L – Large.

5801SGLV-XL – Extra large.

Spectrum Work Lights

- AC/DC Rechargeable
- Li-Ion battery
- Magnetic base
- Bright LEDs - 50,000 hour life
- Adjustable 60° angle
- Slip resistant textured body
- Impact and water resistant
- Limited 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



5550 Specifications	5551 Specifications	5552 Specifications
10W LED Work lightwith 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

5912

Crimpwell™ 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.



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.



5950S

CrimPro™ 4-in-1 Wire Tool

- 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 & below pivot.



4468

9" Self Adjusting Wire Stripper

- Strips insulating sheathing from wires ranging from 10 ga. to 22 ga.
- Easy-to-use, just insert wire and squeeze.
- Also cuts and crimps.



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 mashing of wire strands.
- 4476 – 1/4" cable cutter.
4477 – 3/8" cable cutter.





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.



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.



4493

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.



4467

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.

4472

Cordless Solder Tool Kit

- Cordless, hands-free operation.
- Safety switch prevents inadvertent 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.

4472-1 – Soldering iron only.



4470

Butane-Power Flameless MicroTorch

- Cordless 650° (1250°F) flameless heat.
- Waterproof piezo electronic ignition with locking trigger.
- Refillable fuel cell uses standard butane lighter fluid (butane NOT included).
- Ideal for automotive and heat shrink projects.



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.



5947

Butt Connector Kit (240 Piece)

Two styles - insulated and non-insulated. Three sizes of each style: 12-10 AWG, 16-14 AWG and 22-16 AWG.



4813

Heat Shrink Tubing Set (171 Piece)

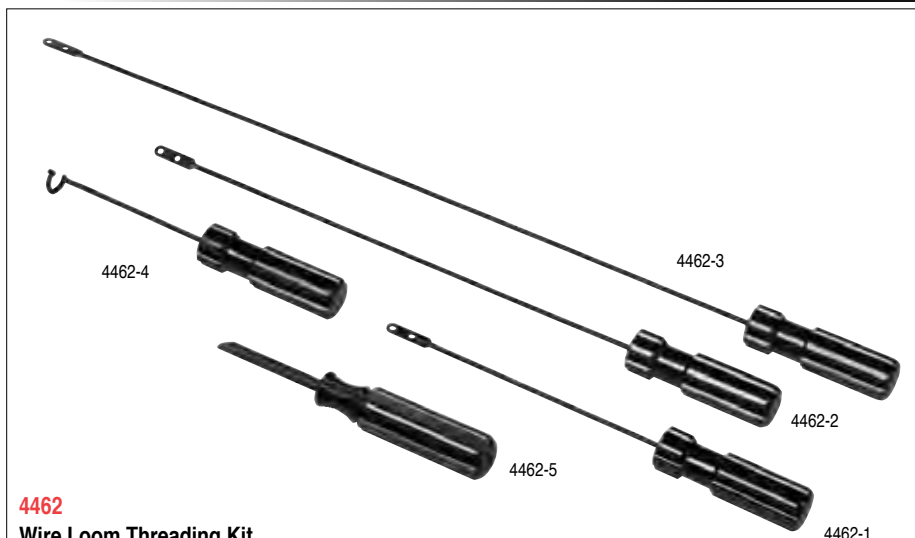
Protection and insulation for solder connections and components. 2 to 1 shrink ratio with flame or heat gun.



4814

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.



4462

Wire Loom Threading Kit

The 4462 Wire Loom Threading Kit from OTC is a clever grouping of wire fishing tools for the automotive technician. Whether general wiring R&R - or adding Gauge Packs, Sound Systems, Vehicle Security and Camera Systems, these tools simplify placing the wiring within the protection of existing wiring looms, without cutting tape or zip ties and without damage to other wires.

There are 3 wire pulling tools in 15", 10" and 5.5" lengths for common automotive applications, the grommet insertion tool allows the wire to be captured within the tool to hold once it is placed, placed so you can grab from the opposite side of the firewall - and the pigtail tool assists when building a new harness on the workbench.

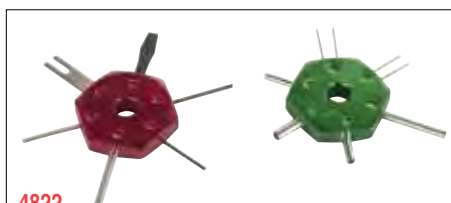
4462-1 – Wire Loom Threader - 5.5"

4462-2 – Wire Loom Threader - 10"

4462-3 – Wire Loom Threader - 15"

4462-4 – Wire Loom Pigtail Threader

4462-5 – Wire Loom Grommet Tool



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.



5953

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.



5955

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.



4460

2-Piece Electrical 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.



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.



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.



4523
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.



4496
Hose Clamp Pliers Set

- 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.

Set Contains:

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



4723
Ear-type CV Boot Clamp Pliers

- Designed to crimp the ear-type CV boot clamps 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.



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.



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.



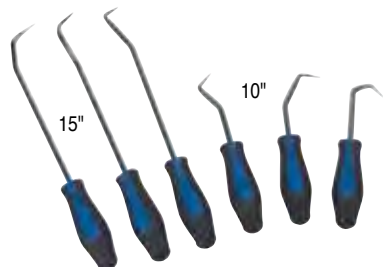
4412
Ratcheting Hose & PVC Cutter (Heavy Duty)

- 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.



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.



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 double-secured (versus competitors' designs), for durability.
- An extra blade is included, and additional replacements (No. 4508-1) may be ordered.

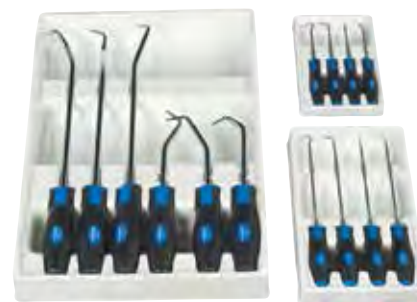
4508-1 – Replacement blade for 4508.



8263

Long Pick and 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 ring 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.



8260M

Short Pick, Long Pick and Hook Set (14-piece)

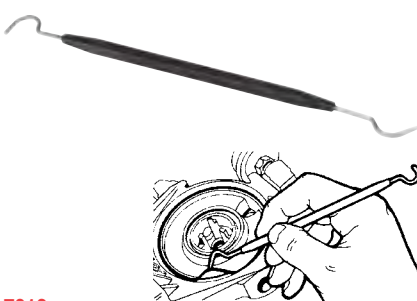
- Combines 8260, 8262 and 8263 sets.
- Packaged in molded trays which can be placed in tool drawer.



7103

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.



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.



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.



4521

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.



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.



4658

Obstruction Needle

- Makes quick work of clearing obstructions from small orifices such as cutting fluid, air and lubrication systems
- 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.



5900A

Master TORX® 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® Bit Socket Set T6 to T60 (15 piece)			TORX PLUS® Bit Sockets TP8 to TP60 (12 piece)			TORX® External Socket E4 to E24 (13 piece)			TORX® Tamper-Resistant Bits TT8 to TT60 (12 piece)		
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 includes one each of the following:

No.	Size	Sq. Drive
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"



6135

Universal Brake Caliper Socket Set (9 Piece)

Set includes one each of the following:

No.	Size	sq. drive
6107	T40	3/8"
6108	T45	3/8"
6110	T50	3/8"
6112	T60	3/8"
6165	1/4"	3/8"
6167	3/8"	3/8"
6175	7 mm	3/8"
6176	8 mm	3/8"
6177	10 mm	3/8"



6145

Tamper-Resistant TORX® Socket Set (7 piece)

Set includes one each of the following:

No.	Size	Sq. Drive
5920	TT10	1/4"
5921	TT15	1/4"
5922	TT20	1/4"
5923	TT25	1/4"
5924	TT27	1/4"
5925	TT30	1/4"
5926	TT40	3/8"



6160
Fraction Hex
Socket Set (7 piece)



Set includes one each of the following:

No.	Size	Sq. Drive
6161	1/8"	3/8"
6162	5/32"	3/8"
6163	3/16"	3/8"
6164	7/32"	3/8"
6165	1/4"	3/8"
6166	5/16"	3/8"
6167	3/8"	3/8"



6170
Metric Hex
Socket Set (7 piece)



Set includes one each of the following:

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"
6176	8 mm	3/8"
6177	10 mm	3/8"



6150
External TORX®
Socket Set (7 piece)



Set includes one each of the following:

No.	Size	Sq. Drive
6151	E6 x 25	1/4"
6152	E7 x 25	1/4"
6153	E8 x 25	1/4"
6154	E10 x 32	3/8"
6155	E12 x 32	3/8"
6156	E14 x 32	3/8"
6157	E16 x 32	3/8"



6180
TORX® Plus
Socket Set (9 piece)



Set includes one each of the following:

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"



5905
Tamper-Resistant
TORX® Plus Socket Set
(11 piece)



Set includes one each of the following:

No.	Size	Sq. Drive
5905-8	8IPR	1/4"
5905-10	10IPR	1/4"
5905-15	15IPR	1/4"
5905-20	20IPR	1/4"
5905-25	25IPR	1/4"
5905-27	27IPR	1/4"
5905-30	30IPR	1/4"
5905-40	40IPR	3/8"
5905-45	45IPR	3/8"
5905-50	50IPR	3/8"
5905-55	55IPR	3/8"



5931
External Torx® Plus
Socket Set (8 piece)



Set includes one each of the following:

No.	Size	Sq. Drive
5931-6	6EP	3/8"
5931-7	7EP	3/8"
5931-8	8EP	3/8"
5931-10	10EP	3/8"
5931-11	11EP	3/8"
5931-12	12EP	3/8"
5931-14	14EP	3/8"
5931-16	16EP	3/8"



5942
XZN Super Short
Socket Bit Set (8 piece)



Set includes one each of the following:

No.	Size	Sq. Drive
5942-4	SP4	1/4"
5942-5	SP5	1/4"
5942-6	SP6	1/4"
5942-8	SP8	1/4"
5942-10	SP10	3/8"
5942-12	SP12	3/8"
5942-14	SP14	3/8"
5942-16	SP16	3/8"



6950
SAE Ball Hex
"L" Keys 1/16" to
3/8" (10 piece)

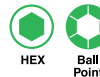


Set includes one each of the following:

No.	Size
6950-1	1/16"
6950-2	5/64"
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"
6950-10	3/8"



6952
Metric Ball Hex
"L" Keys 1.5mm to
10mm (10 piece)



Set includes one each of the following:

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®
"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



6956
TORX® Plus "L" Keys
TP8 to TP50
(10 piece)



Set includes one each of the following:

No.	Size
6956-1	TP8
6956-2	TP10
6956-3	TP15
6956-4	TP20
6956-5	TP25
6956-6	TP27
6956-7	TP30
6956-8	TP40
6956-9	TP45
6956-10	TP50



6958
TORX® TAMPER
RESISTANT "L" Keys
TT8 to TT50 (10 piece)



Set includes one each of the following:

No.	Size
6958-1	TT8
6958-2	TT10
6958-3	TT15
6958-4	TT20
6958-5	TT25
6958-6	TT27
6958-7	TT30
6958-8	TT40
6958-9	TT45
6958-10	TT50





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.



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.

- Accommodates a 3/4" drive ratchet or breaker bar.

204928 – Replacement pin.



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 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"

* Included in No. 7365 set.

† Available separately; not included in set.



7463

Gland Nut Wrench

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.



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.



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.



4485

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.



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.



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.



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.



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.



4791

Spanner Wrench, 3/4" - 2"

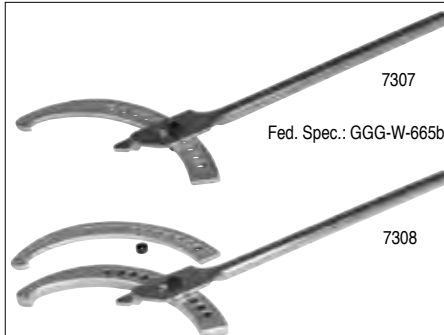
This chrome vanadium hardened steel wrench features a 5" handle and slim strong hook to access slotted retaining rings in hard to reach areas.



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.



Adjustable Hook Spanner Wrenches

These pieces will replace many fixed-size wrenches needed to service industrial tractors and other equipment. Their drop-forged jaws adjust to 11 positions for a capacity of 4-3/4" to 12-3/4" O.D.

- Handle is 24" long and 1" in diameter.

7307 – Spanner wrench with one 3/8" thick jaw.

7308 – Spanner wrench with two interchangeable jaws: one 3/8" thick, one 3/4" thick.



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.



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.

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.



Tool No.	Nut / Bolt Size	Increments of Jaw Adjustment	Lgth.	Head Thickness	Wt. (lbs.)
7640	1-3/8" to 2-7/8"	1/8"	24"	7/8"	10.6
7641	2-3/4" to 4-3/4"	1/8"	36"	1-1/8"	30.3

**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.

**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.

**7400****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.

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.

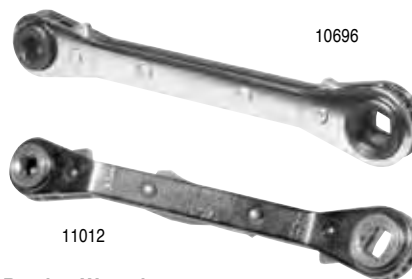
**4475****Grooved Pulley Strap Wrench**

- Use to hold a grooved pulley when servicing rotating electrical or mechanical components.
- Holds tighter than a standard strap wrench.

**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.



10696

11012

Ratchet Wrenches

11008 – Reversible, 1/2" and 9/16" HEX openings on one end, 3/16" and 1/4" SQUARE on the other.

10696 – Reversible, four SQUARE openings, 1/4" and 3/16" on one end, 3/8" and 5/16" on the other.

11012 – Reversible, with 25° OFFSET, four SQUARE openings, 1/4" and 3/16" on one end, 3/8" and 5/16" on the other.

7379



7378



7377



7375



Accutorq™ Klikker 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.

Tool No.	Torque Range	Graduations	Square Drive	Length
7375	100-1000 in.-lb (11-113 N·m)	10 in.-lb	3/8"	15-1/8"
7377	10-150 ft.-lb (14-203 N·m)	2 ft.-lb	1/2"	17-3/4"
7378	25-250 ft.-lb (34-339 N·m)	2 ft.-lb	1/2"	19-3/8"
7379	100-600 ft.-lb (136-813 N·m)	10 ft.-lb	3/4"	42-1/4"



7367

Torque Multiplier, 1000 ft-lb

- 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

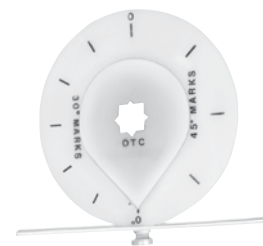
- Drive Input; 3/4", 730 lb-ft Max
- Drive Output; 1", 2200 lb-ft Max
- Head Width; 3.6", 3.3:1 Ratio
- Reaction Bar; 15-5/8"
- Includes reaction foot.
- Note; frictional gear loss = 6%



4554

Torque Angle Gauge

- Required when servicing many late model engines that use torque-to-yeild 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.



5074

5073

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 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.



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"

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 Drill Hammer, Indestructible Handle		
5791ID-312	2.5 lb.	12"
5791ID-412	4 lb.	12"
5791ID-416	4 lb.	16"
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 Hammer, Indestructible Handle		
5789ID-1032	10 lb.	32"
5789ID-520	5 lb.	20"



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.



4629

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".



7175

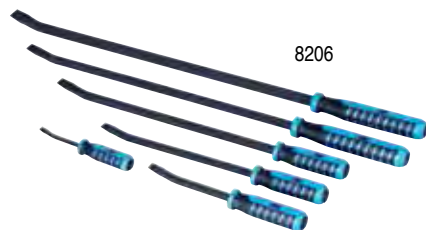
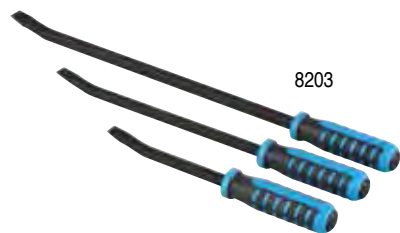
3 Piece Indexing Pry Bar Set

- 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.
- 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.

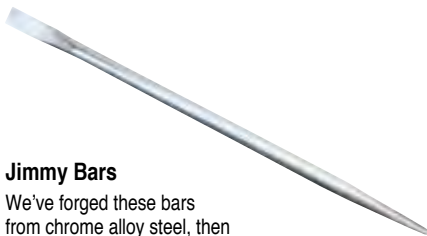
8212 – 12" handled pry bar.

8218 – 18" handled pry bar.

8224 – 24" handled pry bar.

8232 – 32" handled pry bar.

8236 – 36" handled pry bar.



Jimmy Bars

We've forged these bars from chrome alloy steel, then heat-treated them to resist bending and breaking.

7166 – 5/8" diameter, 18" long.

7167 – 3/4" diameter, 24" long.

7168 – 7/8" diameter, 30" long.

7420 – 7/8" diameter, 46" long.

7421 – 1" diameter, 54" long.

7171

Pry Pac

Three pry bars in one economical pack. You get 12" and 18" rolling head pry bars and a 24" jimmy bar.

- Heat-treated chrome alloy steel.



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.

7162 – Pry bar; 6" long.

7163 – Pry bar; 12" long.

7164 – Pry bar; 16" long.

7165 – Pry bar; 18" long.



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.



9900A

Persuader Pry Bar Merchansider

- 9900A is a merchandiser specifically designed for the OTC 7168 30 inch Chisel and Alignment "Jimmy Bar".
- The merchandiser is 52" high, 18" wide and 12" deep.

7168 Jimmy Bar features:

- 10 - 30" in length; 7/8" Diameter.
- Forged and chromed Alloy Steel.
- Designed and heat treated to resist Bending and Breaking.
- Made in USA.
- Lifetime Warranty.



9901A

MAJOR Persuaders Pry Bar Merchansider

- 9901A is a merchandiser specifically designed for the biggest OTC chisel and alignment "Jimmy Bars"
- The merchandiser is 64" high, 16" wide and 18" deep.

7168, 7420 and 7421 Jimmy Bar features:

- 2 - 7168 Jimmy Bars (30" in length, 7/8" Diameter);
- 2 - 7420 Jimmy Bars (46" length, 7/8" Diameter);
- 1 - 7421 Jimmy Bar (54" length, 1" Diameter).
- Forged and Chrome Plated or Painted Alloy Steel.
- Designed and heat treated to resist bending and breaking.
- Lifetime Warranty.

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

Replacement tip kit. Contains 4 sets, 4 tips per set.

**7123K**

Convertible retaining ring pliers kit. For internal or external rings. Contains one No. 1120 (.038" diameter) and one No. 1340 (.070" diameter) straight tip pliers.

**7125K**

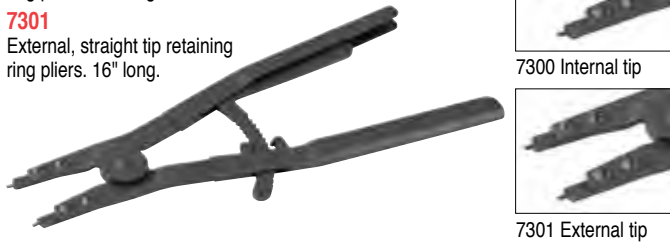
Convertible retaining ring pliers kit. For internal or external rings. Contains one No. 1125 (.038" diameter) and one No. 1345 (.070" diameter) 45° pliers.

**7300**

Internal, straight tip retaining ring pliers. 16" long.

7301

External, straight tip retaining ring pliers. 16" long.



7300 Internal tip

7301 External tip

Replacement tips (pairs):

209201

For pliers Nos. 7300 and 7301.

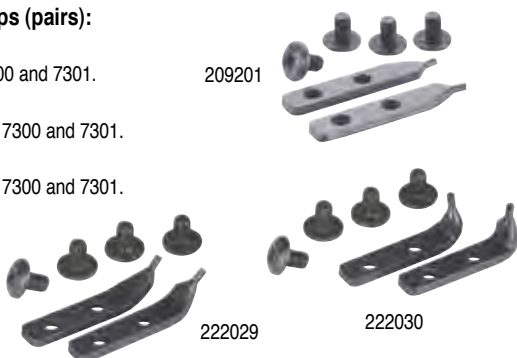
209201

222029

45° for pliers Nos. 7300 and 7301.

222030

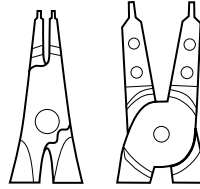
90° for pliers Nos. 7300 and 7301.



222029

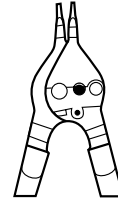
222030

Internal



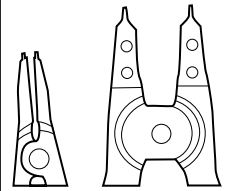
No. 0100
No. 0300
No. 0500

Convertible



No. 1120 No. 1340
No. 1125 No. 1345

External



No. 0200 No. 7301
No. 0400
No. 0600

How to select the correct pliers:

1. If ring number is known, locate ring number in chart — pliers are listed in right-hand column.
2. Or, measure diameter of shaft bore and locate size in chart — pliers are in right-hand column.

Ring Series No.	Size Range (Ring Size No.)	Bore of Shaft Dia. Range ("Inch" equiv.)	Pliers No.
5100 5101 5102 555	12 to 87	1/8" to 7/8"	0200
	12,15,25 to 66	1/8" to 21/32"	1120, 1125
	25 to 143	1/4" to 1-7/16"	7053K, 7123K, or 7125K
	93 to 143	15/16" to 1-7/16"	1340, 1345, or 0400
	31 to 75	5/16" to 3/4"	
	150 to 350	1-1/2" to 3-1/2"	0600
	75	3/4"	
5108	354 to 650	3-35/64" to 6-1/2"	7301
	50 to 100	1/2" to 1"	0200
	50 to 78	1/2" to 25/32"	1120
	50 to 200	1/2" to 2"	7053K, 7123K, or 7125K
	106 to 200	1-1/16" to 2"	1340, 1345, or 0400
	215 to 334	2-1/8" to 3-11/32"	0600
N5000 N5001 N5002	350 to 400	3-1/2" to 4"	7301
	37 to 102	3/8" to 1-1/32"	0100
	37 to 56	3/8" to 9/16"	1120, 1125
	37 to 200	3/8" to 1-3/4"	7053K, 7123K, or 7125K
	106 to 175	1-1/16" to 1-3/4"	1340, 0300
	181 to 300	1-13/16" to 3-1/2"	0500
5008	306 to 625	3-1/16" to 6-1/4"	7300
	75 to 137	3/4" to 1-3/8"	0100
	75 to 100	3/4" to 1"	1120, 1125
	75 to 200	3/4" to 2"	7053K, 7123K, or 7125K
	143 to 200	1-7/16" to 2"	1340, 1345, or 0300
	206 to 300	2-1/16" to 3"	0500
	315 to 400	3-5/32" to 4"	7300

0100

.038" tip diameter straight
for removing internal rings.



0200

.038" tip diameter straight
for removing external rings.



0300

.070" tip diameter straight
for removing internal rings.



0400

.070" tip diameter straight
for removing external rings.



0500

.090" tip diameter straight
for removing internal rings.



0600

.090" tip diameter straight
for removing external rings.



7295

**Retaining
Ring Pliers**

The "squeeze-lock" ratchet action of this tool locks retaining rings in position, making removal and installation easy. It features cushioned handles to ensure a secure grip.

- Will handle rings 3/16" thick and up to 4" in diameter.
- Pliers is 12" long.

211051

Pair of replacement tips.



7313

**Retaining
Ring Pliers**

This tool removes the external retaining rings used in transmissions, differentials and other automotive components.

- Maximum spread is 1-1/16" and 7-3/4" long.



714

**Horseshoe Lock
Ring Pliers**

This ruggedly built pliers is designed to spread and remove horseshoe lock rings used on hydraulic brakes, differentials, transmissions, and CV joints.

- Handles are 8" long.



7412K

Retaining Ring Pliers

This set includes 12 of our most popular retaining ring pliers, in sizes for automotive applications. Tips include straight, 45°, and 90° angles in four different sizes (.038, .047, .070, and .090" diameter).

- Includes a sturdy plastic organizer box.



No. 7412K includes:

Tool No.	Description
1120	.038" dia., straight
1125	.038" dia., 45°
1131	.038" dia., 90°
1320	.047" dia., straight
1325	.047" dia., 45°
1329	.047" dia., 90°
1340	.070" dia., straight
1345	.070" dia., 45°
1349	.070" dia., 90°
1560	.090" dia., straight
1565	.090" dia., 45°
1569	.090" dia., 90°

All items can be purchased separately.

4512

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.



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".



No. 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

7410

Retaining Ring Pliers with replaceable tips

An ideal tool for any transmission shop, this 13" long pliers with a maximum spread of 2.5" features replaceable tips and a spring-return handle.

214903

Set of replacement tips.

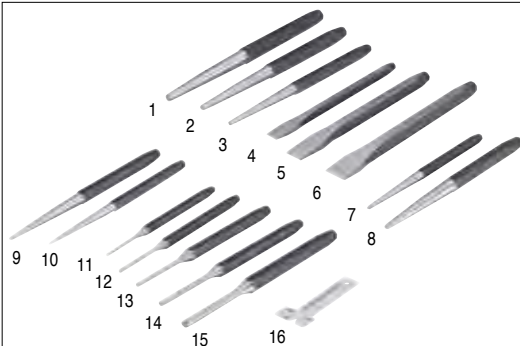


4514

**Mini Snap Ring
Pliers Set (4 piece)**

- 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 ring pliers (one straight, one 45°).
- All pliers have .038" (1.0mm) diameter tips.
- Overall length 3"; handle length 2".





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

Available separately:

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



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.



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.



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)



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".



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.



4505

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.



4410
Master Bushing Driver 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.

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.



7248
C-Frame Press

- Used for removing/installing; universal joints with needle bearings, pressed in wheel studs, and brake anchor pins on heavy-duty vehicles. Suitable for general pressing operations.



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.



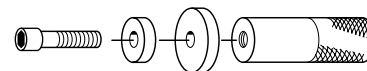
Starter Set 27793

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.		

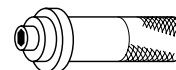
NOTE: All discs are 1/2" thick. * Included in set No. 27793.

It's this easy...

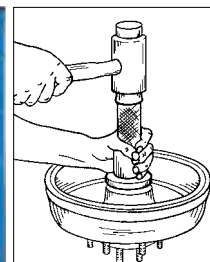
1. Select the proper size components.



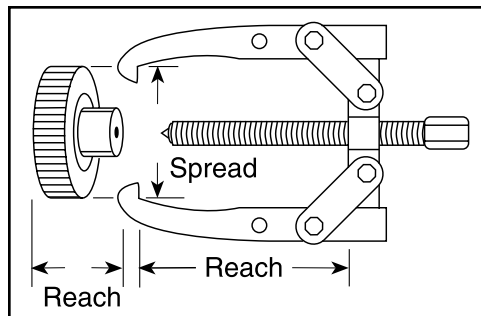
2. Assemble your driver tool.



3. Perform the job easily.

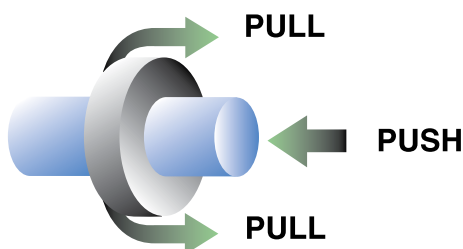


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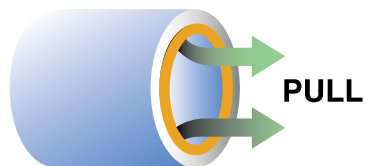
General Rule of Thumb: Manual pullers require that the puller screw be at least half as large (in diameter) as the shaft of the pulling job.

Hydraulic pullers need the maximum force exerted in tons to be 7–10 times the diameter of the shaft in inches.



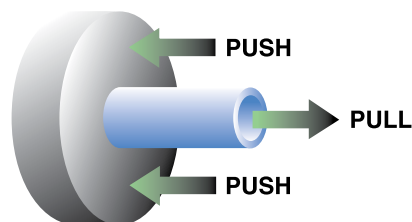
1 Pulling something off a shaft.

Removing a gear, bearing, wheel, pulley, etc., to replace it or get at another part.



2 Pulling something out of a hole.

Internal bearing cups, retainers, or oil seals are usually press-fitted and are difficult to remove.



3 Pulling a shaft out of something.

A transmission shaft or pinion shaft is often hard to remove from a bore or housing. Use a Push-Puller with adapters if you can "get a hold of" the threaded end of the shaft. Sometimes it's possible to push a shaft through a housing, rather than pull it out. In applications of this type, the puller legs must be securely fastened to the housing and the screw may simply bear against the shaft.

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:

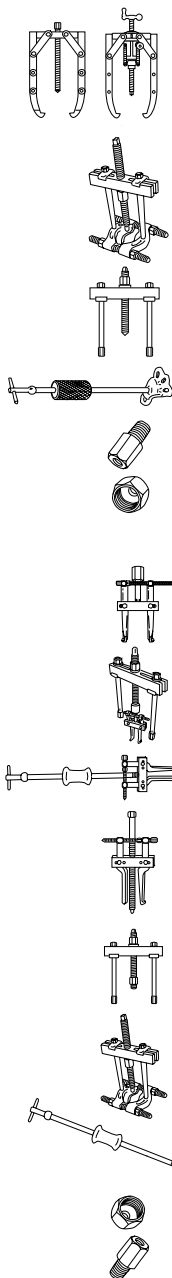
Push-Puller® with threaded adapter. Use a mechanical or hydraulic puller, depending on the size of the shaft to be pulled.

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.

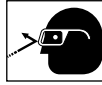
External-internal adapters are threaded into the shaft to pull it while pushing against the housing.



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 only one ton.

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.
2. Align puller legs and jaws. Verify the setup is rigid and the puller is square with the application.
3. 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.

4. 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.
5. Do not couple puller legs. The tonnage capacity of the puller is reduced when longer-than-standard legs are used or when legs are compressed, increasing the chance of breakage.
6. Keep reach to a minimum. Use the shortest legs possible to reach the component to be removed.
7. 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.
8. 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".



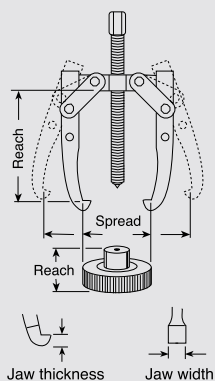
1230PB

OTC "Grip-O-Matic® Pullers" Providing Automotive Service Solutions for Over 80 Years

Mechanical Grip-O-Matic® 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.

No. 1020-1050



WARNING
Wear approved eye protection when using pullers.
See page 43 for protective blankets for your pulling jobs.

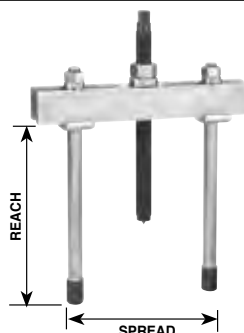
	Tool No.	Capacity Style and Weight	Max Reach	Max Spread	Screw Size	Jaw Thickness	Jaw Width
	1020	1-Ton, 2-Jaw; 5 oz.	2-1/8"	3-1/4"	5/16"-24 x 3-7/8"	9/64"	1/4"
	1021	1-Ton, 3-Jaw; 8 oz.	2-1/8"	3-1/4"	5/16"-24 x 3-7/8"	9/64"	1/4"
	1022	2-ton, 2-Jaw; 14 oz. (Reversible Jaws)	3-1/4"	4"	3/8"-24 x 4-7/8"	Upper 3/16" Lower 1/8"	Upper 1/4" Lower 1/2"
	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"
	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"
	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"
	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"
	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"
	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"
	1036	7-Ton, Long 2-Jaw; 5 lbs., 6 oz.	8-3/4"	9-1/2"	11/16"-18 x 9"	11/32"	1"
	1038	7-Ton, Long 2/3-Jaw; 8 lbs., 2 oz.	8-3/4"	11"	11/16"-18 x 9"	11/32"	1"
	1039	13-Ton, 2-Jaw; 10 lbs., 13 oz.	11"	12"	13/16"-16 x 12"	9/16"	1"
	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"
	1042	13-Ton, Long 2/3-Jaw; 18 lbs., 12 oz.	15-1/4"	17"	13/16"-16 x 12"	9/16"	1"
	1043	17-1/2-Ton, 2-Jaw; 23 lbs.	14-1/2"	14"	1"-14 x 13 1/2"	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"
	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"
	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"

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 pulley). Can be used with No. 1165 internal pulling attachment.

**Push-Pullers® Leg Extensions**

Tool No.	Max. Reach	Max. Spread	Screw 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 Push-Puller (Reach equals leg length plus 1-1/2" with 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	Screw 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 Push-Puller (Reach equals leg length plus 2" with 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	Screw Size	Notes / Weight
939	10-1/2"	7"-16-1/4"	1-1/2"-12 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. 939 Push-Puller (Reach equals leg length plus 2" with 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**

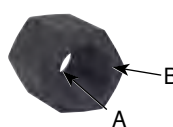
Necessary for pulling and installing bearings, gears, or other parts found on hollow shafts or housings. They may be used with Grip-O-Matic® pullers and Push-Pullers®, as well as shop presses. All adapters are available separately.

Tool No.	Set No.	Dia. "A"	Dia. "B"
8057	•	1"	3/4"
8058	•	1-1/8"	7/8"
8059	•	1-1/4"	1"
8060	•	1-3/8"	1-1/8"
8061	•	1-5/8"	1-1/4"
8062	•	1-3/4"	1-3/8"
8063	•	1-7/8"	1-1/2"
8064	•	2"	1-5/8"
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.

Tool No.	"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

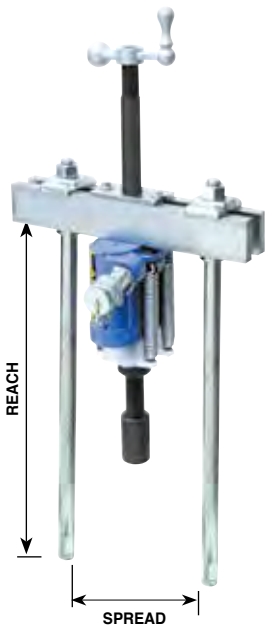
*Not included in set No. 8044. Order separately. All adapters are available separately.

Metric and standard External-Internal Threaded Adapters

For use on the ends of Push-Puller legs or forcing screws when pulling shafts, bearing caps, pinions, etc.



Tool No.	Internal End	External End	Length
Metric Threaded Adapters			
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"
Standard Threaded Adapters			
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"-11	2-1/4"
8013	5/8"-18	3/4"-16	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	2-1/2"
8014	1"-14	3/4"-16	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	4"
8027	1-1/4"-7	1"-14	4"
8029	1-5/8"-51/2	1"-14	4"
8028	1-5/8"-51/2	1"-8	4"
8030	3/4"-16	5/8"-18	2-1/4"



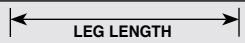
No. 1062 & 1063
Usable reach equals
leg length minus 4-7/8"
when using leg ends.

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 / Weight
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. 22 lbs.
Extra Legs (pair) for No. 1062, 1063 (Reach equals leg length plus 2" with 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"
1106	9-1/2"	4 lbs., 8 oz.	1108	30"
1104	16-1/2"	6 lbs., 8 oz.	Note: 3/4"-14 thread on leg upper end. 	

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 / Weight
1071	20-1/2"	7"-16-1/4"	1-1/4"-7 x 24"	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. 1070, 1071 (Reach equals leg length plus 2-5/8" with leg end caps.)				
Tool No.	Leg Length & Wt.		Tool No.	Leg Length & Wt.
1109	8"	8 lbs.	1111	28"
1110	18"	15 lbs.	Note: 1"-14 thread on leg upper end.	

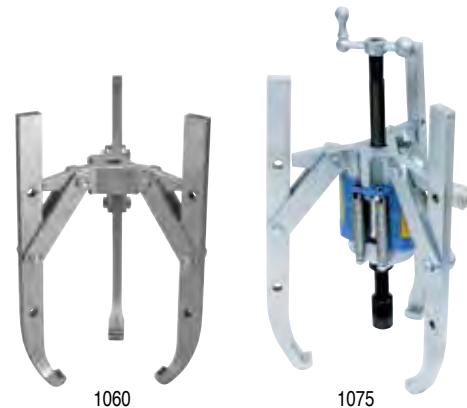
No. 1076 – 50-Ton Capacity Can be used with Nos. 1128 and 1129 bearing pulling attachments. Ends of legs are threaded 1-1/4"-12. Usable reach: 13-3/8". See page 45 to order threaded adapters for use with these pullers.

Tool No.	Max. Reach	Max. Spread	Screw Size	Notes / Weight
1076	24"	8-1/2"-20-1/2"	1-5/8"-5-1/2" x 30-3/8"	Puller only. 106 lbs.
Extra Legs (pair) for No. 1076 (Reach equals leg length plus 1-1/4"-12 thd. on both leg ends.)				
Tool No.	Leg Length & Wt.		Tool No.	Leg Length & Wt.
1112	24"	34 lbs.	1113	34"
				47 lbs.

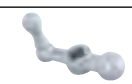


Hydraulic Grip-O-Matic® Puller

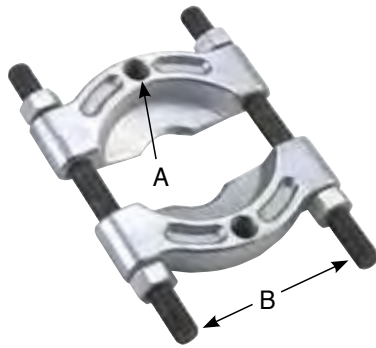
No. 1060-1080 Available in 10 to 50-ton capacities. Reliable single-acting Power Twin ram is matched with a versatile 2-jaw or 3-jaw puller. Lightweight ram can be used in other applications. You also get an adjusting screw, speed crank, and coupler where applicable. Hydraulic pump is not included; see index for pump listings.

Tool No.	MAX Reach	MAX Spread	Ram Capacity & Number	JAW Thickness	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
	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
	39448	Lube for pullers	



A = Thread of tapped hole in adapter.
B = Distance between adjusting screws.

Bearing Splitters

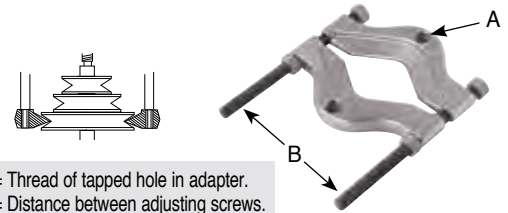
No. 1121-1130 These versatile accessories feature "knife-like" edges which are easily placed behind the part to secure a gripping surface, even when clearances are extremely limited. When used with an OTC Grip-O-Matic® puller, puller jaws grip attachment's outer edge; when used with a Push-Puller, puller legs are threaded into the attachment's two tapped holes.

Tool No.	MAX. Spread	MIN. Spread	A	B	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	B	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 = Thread of tapped hole in adapter.
B = Distance between adjusting screws.

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	A	B	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, 1155 and 1156 slide hammer pullers, or 24832 and 24833 puller screw.
1150	1-1/2"-6"	4"	1"-14	5/8"-18	4 lbs., 4 oz.	
1152	1-1/2"-6"	4"	-	5/8"-18	3 lbs., 8 oz.	
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 Screws						
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.



A = Thread of tapped hole in adapter.
B = Distance between adjusting screws.

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".
- 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

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.
- 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".





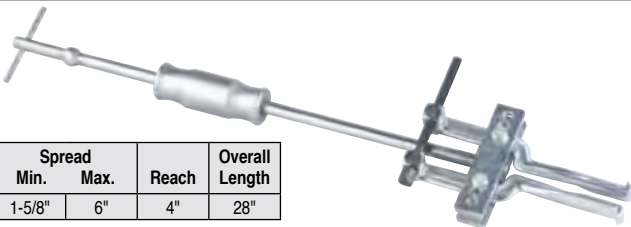
2-Jaw Spread				3-Jaw Spread				Overall Length
Inside		Outside		Inside		Outside		
Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
1-1/4"	3-1/2"	1"	4-1/2"	1-1/2"	4-1/4"	1-1/2"	4-1/2"	27"

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.



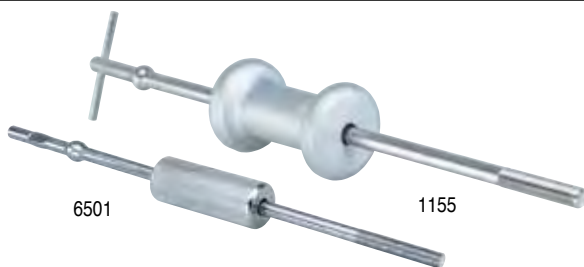
Spread		Reach	Overall Length
Min.	Max.		
1-5/8"	6"	4"	28"

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 47). 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 47), or with internal or external-internal threaded adapters (page 45).

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.

6541 Pulling Hook

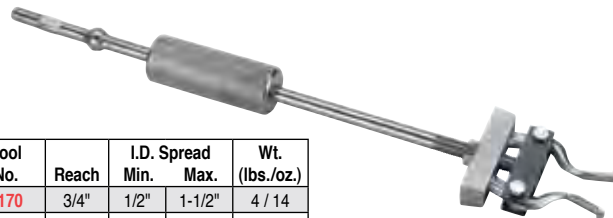
- This slide hammer puller attachment is used to remove seals, bearings, and other press-fit parts.

- 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.



Tool No.	Reach	I.D.	Spread Min.	Max.	Wt. (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 light duty 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.

Slide hammer unit is 17" long with a 1-3/4 lb. hammer, 1/2-20 threaded end.



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.

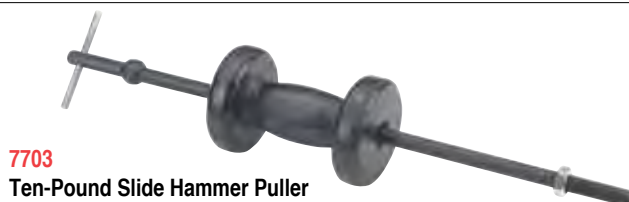
1173 – Slide hammer unit is 17" long with a 1-3/4 lb. hammer, 1/2-20 threaded end.

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.



7703

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.



**1178****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 48), plus attachments for pulling various size pilot bearings, oil seals, bushings, timing gears, harmonic balancers, and other tightly fitted parts!

Set No. 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

Tool No.	Inside		Outside	
	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 Spread

Tool No.	Inside		Outside	
	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"

**6627****Grip Wrench Adapters**

- For grip wrenches using single-lead thread adjusting screw.
- Adapter threads onto a slide hammer with a 5/8"-18 thread.

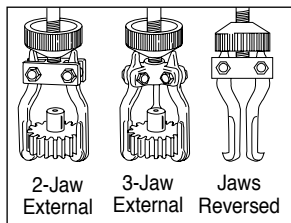
205378 – Grip wrench threads onto a 7/16"-14 end of adapter for pulling use.

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****"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.

Application Examples**Set No. 1179 consists of:**

No.	Description
1155	Slide hammer with 5 lb. hammer
7372	Rear axle pulling attachment
24544	3-way cross-head
24545	Cone
27241	2-way cross-block
27315	Puller hook attachment
34698	Pulling jaws (3) for internal or external pulling jobs
205378	Grip wrench adapter w/single lead (wrench not included)
205377	Dent puller attachment

4579**9-Way Slide Hammer Puller Set**

5 lb. Hammer in Polished Chrome Finish.



- 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.

**7792****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. 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.

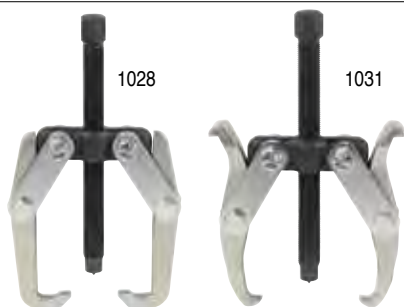
63106 – Puller storage case. Blow-molded plastic.

**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 45.)

- 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

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.

**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

**Specifications**

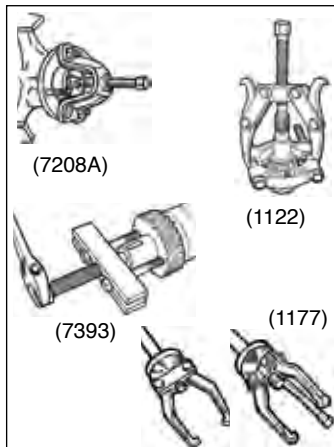
- Reach:** 1-5/8"
Spread: 2-5/8" on inside holes in crossbar
 3-3/8" on outside holes in crossbar
Forcing screw: 3/4"-16 mm x 6-11/16" lg.
Adapter sizes: 15/16" to 1-3/4" diameter

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:

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.

**1184****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**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".





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.

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 with collets 33856 & 33857	33861	Collet 3/4" to 7/8"
28253	Actuator pin, 3/16" dia., for use with collets 33858-33862	33862	Collet 7/8" to 1"
28256	Actuator pin, 1/2" dia., for use with collets 33863-33865	33863	Collet 1" to 1-1/4"
28323	Metal box	33864	Collet 1-1/4" to 1-1/2"
33856	Collet 5/16" to 3/8"	33865	Collet 1-1/2" to 1-3/4"
		41331	Bridge



4581

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.



4536

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.



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 complement 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.



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.



4518

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"

**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.

**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. 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.

**1180****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 7-1/4" spread. 6-3/4" puller legs. Other leg sizes are available separately. (See pages 45-46.)
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".

**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, tapped 5/8" - 18 UNF.
- 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.

**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.
- 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.

**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.

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 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.





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 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.



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.



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:

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

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.



PA7

7-Ton Capacity Four-In-One™ Puller Set

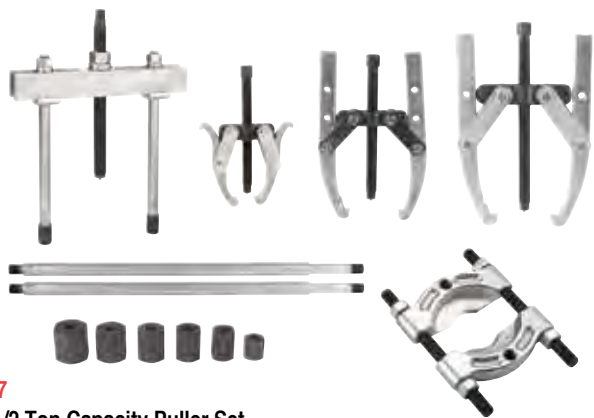
With the parts included in the PA7, you can quickly assemble a 2/3-jaw puller with standard or long reach. 7-ton capacity, the max. reach of 8-3/4", and max. spread of 11" make it ideal for hundreds of pulling jobs. PA7 includes: 7-ton cap. Standard jaw max. reach: 5". Max. spread: 10-1/2". Long jaw max. reach: 8-3/4". Max. spread: 11".

518

Flange-type Puller

- Pulls harmonic balancers, timing gears, and other parts having two or three tapped holes.
- Slotted holes in puller body permit cap screws to be positioned to handle bolt circle diameters from 1-1/2" to 4-5/8"
- Three each of two cap screw sizes included: 3/8"-24 x 3" long and 3/8"-16 x 3" long.



**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.	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**

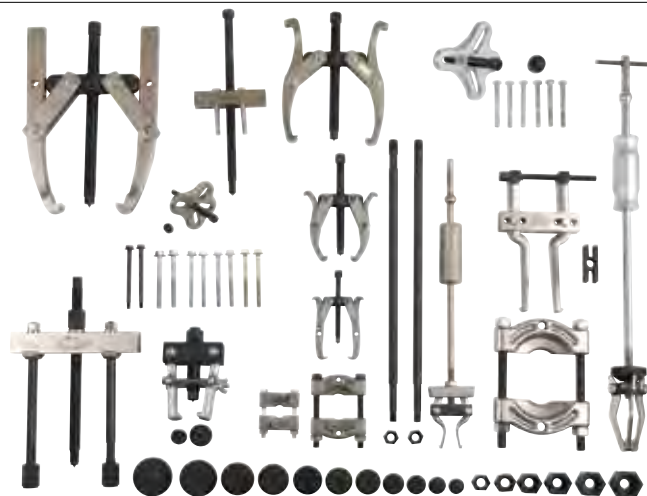
Here's a set of pullers that gives you almost unheard of versatility. You get eight pullers, five attachments, and extra puller jaws. They enable you to pull gears, bearings, pulleys, wheels, and more on cars and light trucks. All these tools are contained in a rugged, lockable metal storage cabinet 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® 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: 1/2" -20 x 5/8" -18 (2)
1035	2-jaw puller	8044	Internal threaded adapter set
1039	2-jaw puller	1152	Bearing cup pulling attachment
7392	Gear and pulley puller	1121	Bearing splitter
518	Flange-type puller	1122	Bearing splitter
7403	Steering wheel puller	1123	Bearing splitter
1170	Pilot bearing puller		

1060-HYD**OTC 10 Ton Hydraulic Puller Kit**

The OTC 1060-HYD delivers 10 tons of force for industrial bearing service. Engineered for a maximum spread of 17" and maximum reach of 15".

OTC Grip-O-Matic® Pullers are designed with adjustable jaw positions in both 2 and 3 jaw configurations. Two pushing adapters are designed to fit the cylinder ram and act as 4.5" and 8.5" forcing screws.

- 10-Ton 2/3 Jaw Grip-O-Matic Puller Chassis.
- 10-Ton Single Cylinder Hydraulic Ram with 10-Ton Hand Operated Hydraulic Pump.
- Includes 2 Pushing Adapters (4-1/2" and 8-1/2").
- Includes 6 Piece Shaft Adapter Set.
- Ultra Heavy Duty Rolling Storage Case.
- Comes with a Quick Link Connector for suspending pulling from lifting equipment.



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
HYDRAULICS				
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
PULLERS				
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
ACCESSORIES				
1105	Puller leg – 22-1/2"	x		
1111	28" legs for No. 1070		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





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.

No.	Description	1679	1680	1681	1682	1683
HYDRAULICS						
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
PULLERS						
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® 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
ACCESSORIES						
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
8013	5/8"-18 F x 3/4"-16 M threaded adapter (2)	x	x	x	x	x

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.

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	x
8020	1"-8 F x 5/8"-18 M threaded adapter (1)	x	x	x	x	x
8021	1"-8 F x 1"-14 M threaded adapter (1)	x	x	x	x	x
8012	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	
8027	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)			x	x	
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



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)

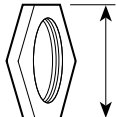
Measure from flat to flat to determine size of locknut, then consult chart to find the correct socket.



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.**



* Fits special "rounded" hex nut found on Dana axles of some Ford trucks.

* Depth of locknut sockets is 5".

Metric Truck Wheel Bearing Locknut Sockets

Socket No.	Opening Size
1950M	54 mm (6 pt.)
1951M	55 mm (6 pt.)
1952M	60 mm (6 pt.)
1953M	70 mm (6 pt.)

Socket No.	Opening Size
1954M	71 mm (6 pt.)
1955M	80 mm (6 pt.)
1956M	82 mm (8 pt.)
1957M	90 mm (8 pt.)

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.)

9850

Truck Wheel Bearing Locknut Sockets (6-pt.)

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")

9851

Wheel Bearing Locknut Sockets (8 pt.)

18 wheel bearing locknut sockets with tool board.

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")
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.

No.	Qty.	Description
1904	1	Locknut socket (2-9/16" hex)
1908	1	Locknut socket (3-1/4" hex)
1909	1	Locknut socket (3-1/4" 8 pt.)
1910	1	Locknut socket (3-1/2" hex)
1913	1	Locknut socket (3-7/8" 8 pt.)
1914	1	Locknut socket (4" hex)
1915	1	Locknut socket (4-1/8" hex)
1921	1	Locknut socket (2-1/2" hex)
1922	1	Locknut socket (2-5/8" hex)



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.

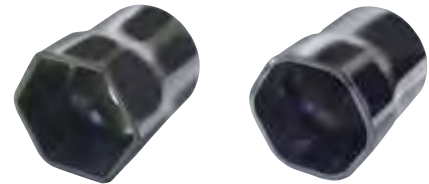
Socket No.	Opening Size
1975	2" (6 pt.)
1976	2-1/8" (6 pt.)
1977	2-1/4" (6 pt.)
1978	2-3/8" (6 pt.)
1979	2-5/8" (6 pt.)

Socket No.	Opening Size
1980	2-3/4" (6 pt.)
1981*	2-1/2" (6 pt.)

NOTE: Use sockets with 3/4" square-drive, manually powered handles only. Warranty void if tool is subjected to impact wrench use.



6010



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.

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.



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 Accessories 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	Connects OTC 4200 Nozlrater to other fittings used in the industry.												

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°).	•	•	•	•	•
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.	•			•	•
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



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.

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.



5221



5213



5213T

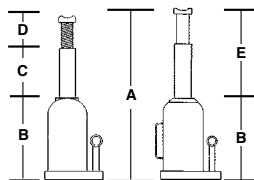
Bottle Jacks

- 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

Jack	A	B	C	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".

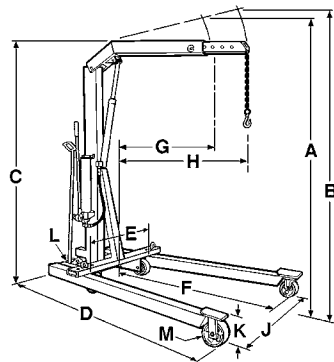
4321C – 20-ton air-assist bottle jack; lift range 9-7/16" to 17-11/16", stroke 5-7/8".

4313C





1819, 1820



2,200 and 4,400 lb. Capacity Heavy-Duty Floor Cranes

- 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.

Specifications	1819	1820
Cap., boom retracted	2,200	4,400
Cap., boom extended	1,650	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"	



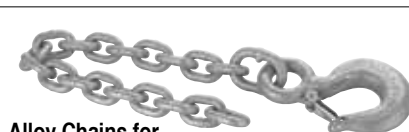
Load-Rotor® Positioning Slings

- For use with floor cranes only; not to be used with overhead hoists or lifts.
- 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.
- Pair of special lifting brackets included.
- 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.
- 1806** – 4,000 lb. capacity Load-Rotor®. Has 65-3/4" long chain (5/16") and hook assembly with forged hook on each end.



Heavy-Duty Adjustable Slings

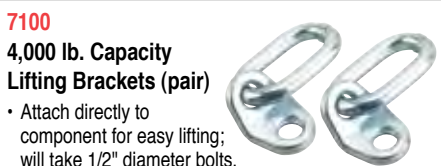
- For lifting and positioning engines, transmissions, etc. Each chain can be adjusted independently for length; plate design enables chain to be "short-hooked" for correct tilt.
- 205049** – 2,000 lb. capacity sling with 1/4" chain, 56" long.
- 205050** – 4,000 lb. capacity sling with 5/16" chain, 65" long.
- 38841** – Plate only, use with any 1/4" or 5/16" alloy steel chain.



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.

302249



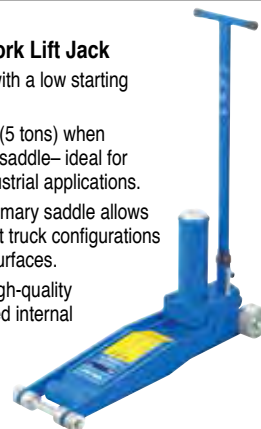
7100 4,000 lb. Capacity Lifting Brackets (pair)

- Attach directly to component for easy lifting; will take 1/2" diameter bolts.

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.





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.



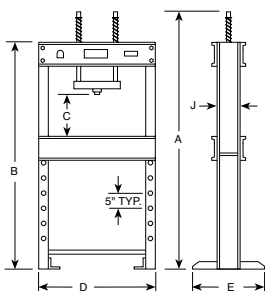
A	B	C	D	E	F	G	H
21-1/4"	13-3/4"	9"	8-1/2"	2-1/2"	1-1/2"	4"	4-1/4"

Hydraulic Bottle Jack Presses

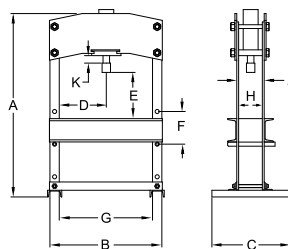
- All bottle jacks have an overload valve built into them.

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	B	C	D	E	J
1823A	84-1/2"	72"	2" – 42"	28-3/4"	28"	4-3/8"
1824A	85-7/8"	72"	2" – 37"	37-1/2"	28"	7-3/8"



5230

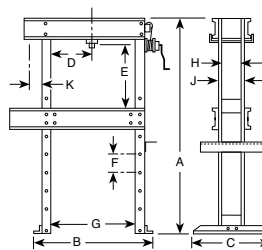
16-1/2 Ton Capacity Bench Press

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.



A	B	C	D	E	F	G	H	J	K
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"



1825

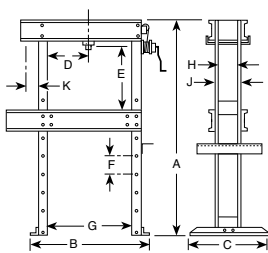
17-1/2 Ton Capacity Heavy-Duty "Open Throat" Press

- Ram head moves side to side for off-center pressing; ram-to-work distance is adjusted by a forcing screw that is extended or retracted by a speed crank.
- "Open-throat" frame extensions make handling of bulky jobs possible outside of the press frame.
- This press does not have a lifting mechanism. If a lifting mechanism is needed, order 211407.
- Covered by OTC Lifetime Marathon Warranty®.
- Has No. 201832 hydraulic ram with 2" stroke, No. 4002 hydraulic hand pump, No. 9650 gauge, No. 9767 hose, adjusting screw, speed crank, ram cap, and pump mounting bracket.

211407 – 17-1/2 ton winch kit.



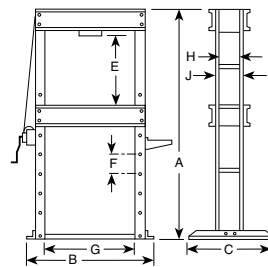
A	B	C	D	E	F	G	H	J	K	Floor Space
64"	28"	28"	17-7/8"	34-7/8"	3-3/8"	20"	4-1/4"	5"	4-3/8"	28" x 28"

**1825****17-1/2 Ton Capacity****Heavy-Duty "Open Throat" Press**

- Ram head moves side to side for off-center pressing; ram-to-work distance is adjusted by a forcing screw that is extended or retracted by a speed crank.
- "Open-throat" frame extensions make handling of bulky jobs possible outside of the press frame.
- This press does not have a lifting mechanism. If a lifting mechanism is needed, order 211407.
- Covered by OTC Lifetime Marathon Warranty®.
- Has No. 201832 hydraulic ram with 2" stroke, No. 4002 hydraulic hand pump, No. 9650 gauge, No. 9767 hose, adjusting screw, speed crank, ram cap, and pump mounting bracket.

211407 – 17-1/2 ton winch kit.

A	B	C	D	E	F	G	H	J	K	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"

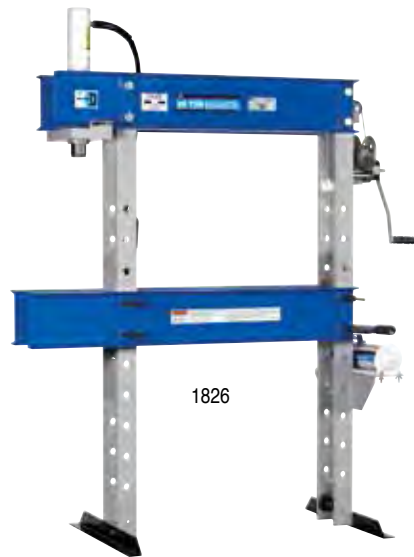
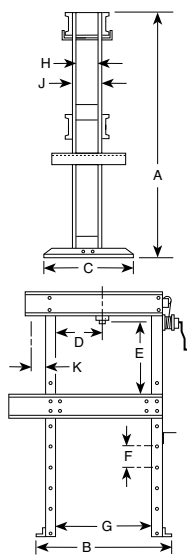
**1833****25-Ton Capacity Shop Presses**

- 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.

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 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	B	C	E	F	G	H	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"

**1826****25-Ton Capacity Heavy-Duty "Open Throat" Press**

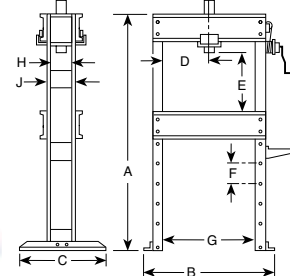
- "Open throat" feature enables ram to be positioned outside of press frame for fast axle bearing removal and installation, as well as other tasks. Rugged press is covered by OTC Lifetime Marathon Warranty®.
- Press bed is raised or lowered with a hand crank, and a spring-return hydraulic ram is laterally 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	B	C	D	E	F	G	H	J	K	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.

**1845****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.

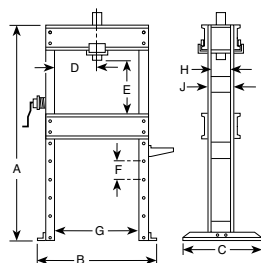
1846A – Same as No. 1845 except has No. 4016 hydraulic hand pump and single acting ram No. 65458 with 10-1/8" stroke.

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	B	C	D	E	F	G	H	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.



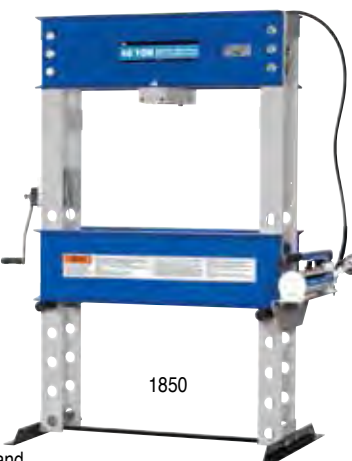
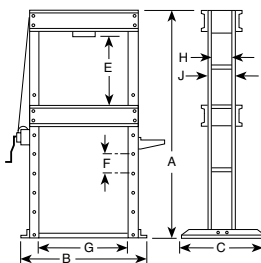
1854

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	B	C	D	E	F	G	H	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"



1850

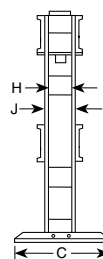
55-Ton Capacity Economy Shop Presses

- Durable steel frame resists buckling and bending. Covered by OTC Lifetime Marathon Warranty®.
- Hand-operated winch and cable mechanism adjusts lower press bolster.

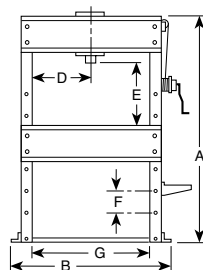
1850 – 55-ton press. Includes No. 52457 hydraulic ram with 6-1/4" stroke; No. 4016 hydraulic hand pump; No. 9651 gauge; No. 9767 hose (1/4" ID x 6'); and pump mounting bracket.

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	B	C	E	F	G	H	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"



1857



1858

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®.

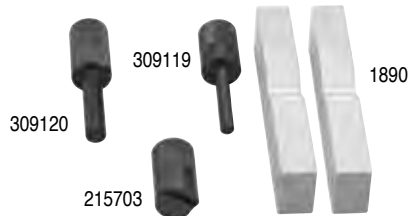
1857 – 100-ton press. Includes single-acting No. 52434 ram with 10" stroke; No. 4008 hydraulic hand pump; No. 9651 gauge; No. 9781 hose (3/8" ID x 10'); and pump mounting bracket.

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.

A	B	C	D	E	F	G	H	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.



Accessory Set for Bottle Jack Presses

- 1879** – Accessory set for 12-ton and 20-ton bottle jack presses. Includes;
- 1890** – 9" long V-block set;
- 215703** – 1-1/2" dia. V-pushing adapter;
- 309119** – 3/4" dia. pushing adapter;
- 309120** – 1" dia. pushing adapter.



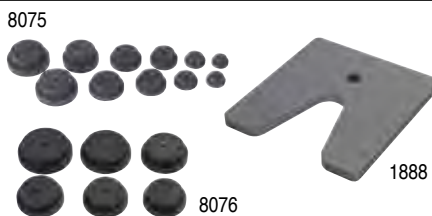
1880

17-1/2 -Ton Press Accessory Set

- Adapters and accessories attach to ram's forcing screw or are used on press bed to support work.

Set includes:

- 1123** – Bearing pulling attachment.
- 201923** – Ram pushing adapter with a 1/2" dia. shank.
- 201454** – Ram pushing adapter with a 3/4" dia. shank.
- 34806** – V-pushing adapter.
- 1890** – V-blocks (pair).



17-1/2 Ton Press Accessory Sets

- 8075** – Step plate adapter set.
- 8076** – Step plate adapter set.
- 1888** – V-throat press plate. Dimensions are 9-1/4" x 10" and 3/4" thick.

Note: See page 45 for sizes of step plate adapters in sets.



1881

25-Ton Press Accessory Set

- Adapters and accessories attach to ram's forcing screw or are used on press bed to support work.

Set includes:

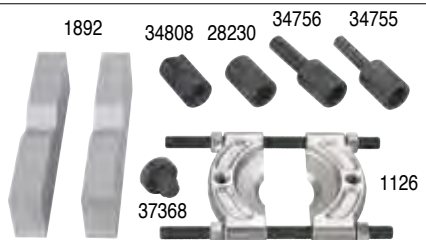
- 1124** – Bearing pulling attachment;
- 34510** – Ram pushing adapter with 3/4" dia. shank;
- 34511** – ram pushing adapter with 1" dia. shank;
- 34807** – V-pushing adapter;
- 1891** – 11-1/2" long V-blocks (pr.);
- 28229** – Ram forcing cap;
- 38953** – Threaded adapter.



25-Ton Press Accessory Sets

- 8075** – Step plate adapter set.
- 8076** – Step plate adapter set.
- 1889** – V-throat press plate. Dimensions are 11-5/8" x 14-1/2" and 3/4" thick.

Note: See page 45 for sizes of step plate adapters in sets.



1882

55-Ton Press Accessory Set

- Accessories attach to ram's forcing screw or support work on press bed.

Set includes:

- 1126** – Bearing pulling attachment;
- 34755** – Ram pushing adapter with 1" dia. shank;
- 34756** – Ram pushing adapter with 1-1/4" dia. shank;
- 34808** – V-pushing adapter;
- 1892** – 14" long V-blocks (pr.);
- 28230** – Ram forcing cap;
- 37368** – Threaded adapter – for single acting only.
- 38954** – For 1872 double acting press.



Accessories for 100-Ton Capacity Presses

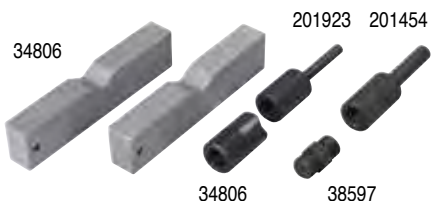
- 50392** – Straightening fixtures (pr.).
- 1893** – V-blocks, 14" long (pr.).
- 21332** – Pushing adapter (must be used with reducing adapter).
- 36469** – V-pushing adapter (must be used with reducing adapter).
- 43563** – Reducing adapter (for double-acting ram).
- 43562** – Reducing adapter (for single-acting ram, not pictured).



Accessories for

150-ton Capacity Shop Presses

- 44458** – Pushing adapter with 2-1/4" dia. shank.
- 44457** – V-pushing adapter.



1899

10-Ton Capacity Press Accessory Set

- Adapters and accessories are attached to the ram's forcing screw or used on the press bed to support the work. Set includes:

- 201923** – Ram pushing adapter with a 1/2" dia. shank.
- 201454** – Ram pushing adapter with a 3/4" dia. shank.
- 34806** – V-pushing adapter.
- 1890** – V-blocks (pair).
- 38597** – Adapter.



Stinger Series 4- and 10-Ton Collision Repair Sets

- 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.



OTC Series 4- and 10-Ton Collision Repair Sets

- 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 (4004) 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.

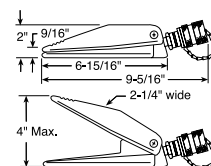


4085

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 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).



**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


4000
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	4000
Max. operating pressure	10,000 psi
Volume per stroke	.160 cu. in.
Reservoir capacity	45 cu. in.
Oil port	3/8" 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


Single-Speed
Hydraulic Hand Pumps

These single-speed pumps are ideal for single-acting 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.

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

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.


4004
2-Speed Hydraulic Hand Pump

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

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	16-15/16" L x 6-3/8" H x 5-5/8" W



Quick Couplers

Precision designed and built for high pressures. Permits disconnecting hose without loss of oil.

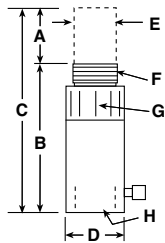
- Ideal for use in body shop equipment applications.
- Works with OTC No. 1515B and 1513B collision repair sets.

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.



OTC No.	Capacity in Tons	Stroke "A"	Oil Cap. (cu. in.)	Effective Ram Area (sq. in.)	Tons at 10,000 PSI	Spring Return	Height		Piston Protrusion at Collapsed Height	Diameter		Piston Thread (N.P.T.) "F"	Collar Thread (Straight) "G"	Internal Base Thread (N.P.S.M.) "H"	Wt. (lbs./oz.)
							Collapsed "B"	Extended "C"		"D"	"E"				
SINGLE-ACTING, SPRING-RETURN 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
ALUMINUM RAMS (See listing on page 70)															
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".

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.

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.

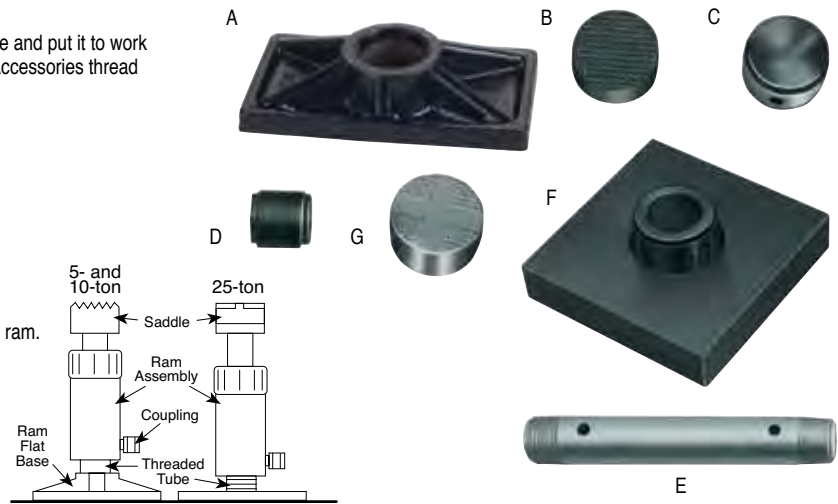
Use with 10-ton hydraulic rams, Nos. 4103, 4104, and 4105

Item	No.	Description	Item
A	32325*	Ram flat base	
B	31772	Serrated saddle	
C	24016	Smooth saddle	
D	25664*	Threaded tube coupling	
E	38909	10" Extension tube	

* NOTE: 32325 and 25664 cannot be used on No. 4103 hydraulic ram.

Use with 25-ton hydraulic rams, Nos. 4106 and 4107

Item	No.	Description	Item
F	25653	Ram flat base	
G	31776	Serrated saddle with coupling	



55- and 100-Ton Aluminum Rams

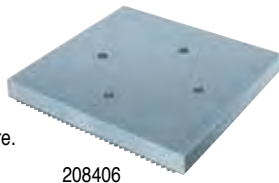
Get the strength of a steel ram but about half the weight. Easily carry these single-acting, spring-return rams around the garage, shop, or into the field for on-the-vehicle repairs. They are ideal for truck axle correction, trailer frame straightening, general vehicle maintenance, and heavy-duty lifting.

4111 – 55-ton aluminum ram. 6-1/8" stroke.

4116 – 100-ton aluminum ram. 6-1/4" stroke.

Ram Base

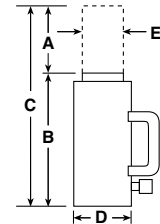
208406 – Ram base. Attaches directly to bottom of ram by means of two 3/8"-16 screws, included. Serrated base provides extra support and stability. 7" square. For use on 55-ton ram only.



4111



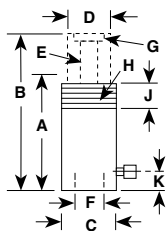
4116



NOTE: See chart on page 69 for specifications.

Spring-Return Hollow Center Hydraulic Rams

Ideal for push/pull applications found in off-highway, construction, mining, and other industries where heavy equipment is maintained. Center hole permits extending screws, cables, etc., straight through the ram for versatility of application. Rams withstand full "dead-end" loads. Chrome-plated piston rods resist wear, and superior packings and seals provide high cycle life without leakage. Piston head inserts are interchangeable for versatility, and tapped base mounting holes provide easy installation in fixed applications.



4139

4132

4140

Head Inserts		
For Use With	Threaded Insert No.	Inside Dia. of Plain Insert *
4131	28632 3/4"-16 **	49/64"
4132	28612 1"-8 **	1-3/64"
4139	38904 1-1/4"-7 **	1-19/64"
4140	34251 1-5/8"-5-1/2 **	2-1/8"

* Plain insert comes standard with rams.
** Internal thread size.

			A	B	C	D	E	F	G	H	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

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.

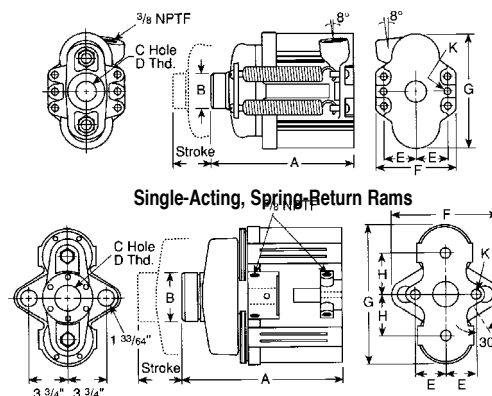
Quick change inserts

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.



Quick change inserts.
See accessory chart below.

DIMENSIONS FOR REFERENCE ONLY



Double-Acting Ram

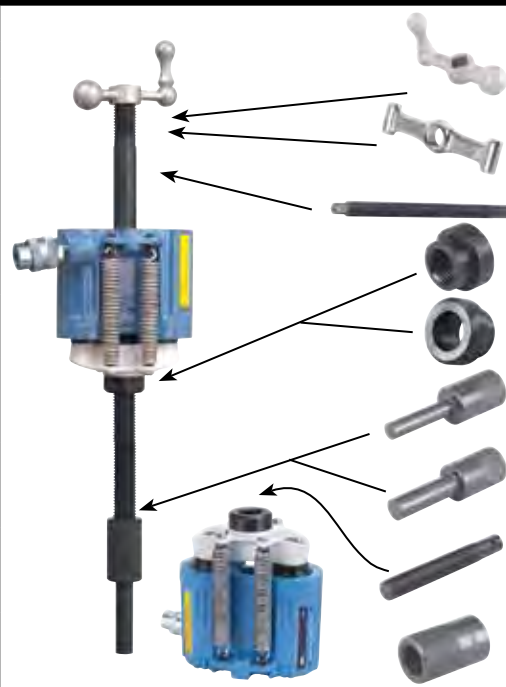
- 4120** – 17-1/2-ton Power Twin single-acting hydraulic ram. Complete with No. 21669 threaded ram head insert, ram attaching screws, and No. 9796 ram half coupler.
- 4121** – 30-ton Power Twin single-acting hydraulic ram. Complete with No. 21873 threaded ram head insert, ram attaching screws, and No. 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.	Capacity (tons)		Stroke	Oil Capacity	Eff. Area (sq. in.)	Internal PSI at Capacity	A	B	C	D	E	F	G	H	J	K
	Push	Pull														
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.

Passes ANSI B30.1 Static and Dynamic Tests.

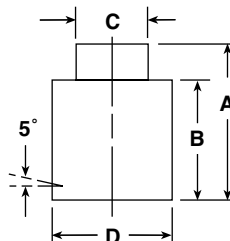
Power Twin Ram Accessories



Description	17-1/2 Ton	30-Ton	50-Ton	100-Ton
Speed crank	24814	27198	29595	303785
Speed nut	302482 1"-8 thread	302483 1-1/4"-7 thread	33439 1-5/8"-5-1/2 thread	34136 2-1/2"-8 thread
Adjusting screw	32118 1"-8 thread, 20" long	34758 1-1/4"-7 thread, 24" long	32698 1-5/8"-5-1/2 thread, 30" long	32699 2-1/2"-8 thread, 36" long
Threaded insert	21669 1"-8 thread	21873 1-1/4"-7 thread	22274 1-5/8"-5-1/2 thread	24197 2-1/2"-8 thread
Plain-hole insert	21714 1-1/16" dia. hole	21872 1-5/16" dia. hole	22275 1-11/16" dia. hole	24196 2-9/16" dia. hole
Pushing adapter	201923 1"-8 thread, 1/2" dia. shank	34510 1-1/4"-7 thread, 3/4" dia. shank	34755 1-5/8"-5-1/2 thread, 1" dia. shank	–
Pushing adapter	201454 1"-8 thread, 3/4" dia. shank	34511 1-1/4"-7 thread, 1" dia. shank	34756 1-5/8"-5-1/2 thread, 1-1/4" dia. shank	–
Jack screw	24813 1"-8 thread, 7" long	25931 1-1/4"-7 thread, 9" long	–	–
Ram cap	28228 1"-8 thread, 1-1/2" dia.	28229 1-1/4"-7 thread, 1-3/4" dia.	28230 1-5/8"-5-1/2 thread, 2-1/4" dia.	–

"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. (lbs./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

* Based on 50% of the stroke being made in low-pressure stage, 50% in high-pressure stage.



4186

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.

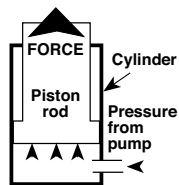
4186 – Set includes 4105 10-ton, 10-1/8" stroke single-acting hydraulic ram; 4020 air/hydraulic pump; 9767 hose; and 9798 hose half coupler.

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

**4180****Power Twin Ram and Pump Set**

- 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.

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



Push-type rams apply force in a single direction. Spring or gravity return is featured.



4170

Hydraulic Push-Type Ram and Pump Sets

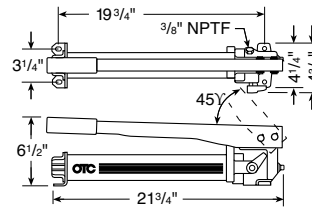
Compact and lightweight, these ram and pump sets are ideal for use in a wide variety of lifting and pushing applications. They feature a single-acting ram with a single-speed hydraulic hand pump. Requiring a minimum of mounting space, their remote operation is facilitated by a 6-foot, high-pressure hose.

4169 – Set includes 4103 single-acting hydraulic ram, 4002 pump, 9767 hose, and 9798 hose half coupler.

4170 – Set includes 4104 single-acting hydraulic ram, 4002 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
4169	10	2-1/8"	5-9/16"	32	Single
4170	10	6-1/8"	11-1/2"	93	Single

See page 69 for ram specs., and this page for hand pump specs.



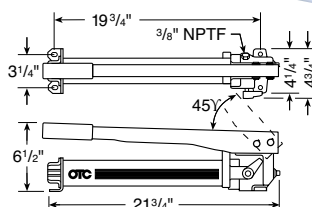
4002

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:

Maximum operating pressure	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

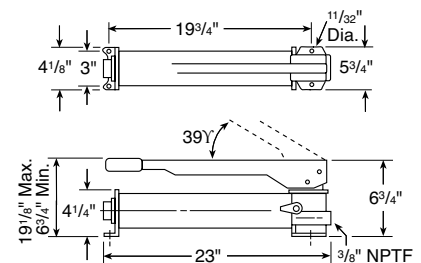
The 4012 two-speed hand pump's all-metal construction almost eliminates the chance of leaking, or damage to the pump from regular use or accidents. It's the perfect pump for use with single-acting rams or combinations where 45 cu. in. of usable oil capacity will do the job. Has 2-way valve; welded steel 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	1st- .662 cu. in. / 2nd- .160 cu. in.
Piston dia.	3/8"
Piston stroke	13/16"
Reservoir capacity	55 cu. in. (45 cu. in. usable)
Oil port	3/8" NPT



4016



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. / 2nd- .16 cu. in.
Piston dia.	1st- 2" / 2nd- 1/2"
Piston stroke	3/4"
Reservoir capacity	125 cu. in. usable
Oil port	3/8" NPT

Dualmaster® Two-Stage Hand Pumps

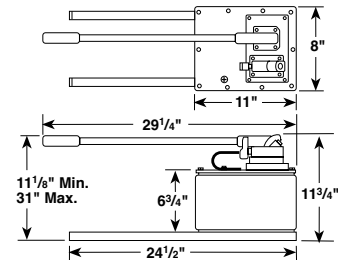
Our finest hand-operated power units! These fast acting, two-stage pumps not only handle high force, high pressure requirements up to 10,000 PSI, but deliver extremely high volume at low pressure (7.35 cu. in. per stroke from 0 to 200 PSI) to quickly move the ram piston to and from the work! Pumps have 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.



Pump and valving mount on common cover plate; permits use on other than standard OTC reservoirs.



Performance Example

Pump No.	Maximum Pressure	Piston Dia.	Piston Stroke	Reservoir Capacity	Oil Port
4008 and 4009	1st stage 200 PSI 2nd stage 10,000 PSI	2-1/2" 1 1/2"	1-1/2"	460 cu. in. usable	3/8" NPTF

Job: To fully extend an OTC 4105 ram (has 10-1/8" stroke)	4008/4009 Pump	4016 Pump	4002 Pump
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.



4020



4021

Performance @ 100 PSI	
Hydraulic Pressure* Oil Delivery	
0 PSI	59 cu. in./min.
5,000 PSI	30 cu. in./min.
10,000 PSI	4 cu. in./min.
* Oil delivery based on 20 cfm air supply at the pump.	



2510A

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.

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 of pump handle		4 to 5 min.*

* Handle effort at max. pressure is 140 lbs.

Performance Oil Delivery

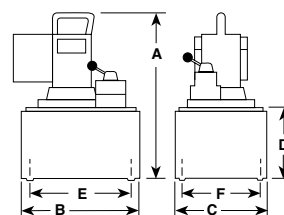
100 PSI	1,000 PSI	5,000 PSI	10,000 PSI
650 cu. in./min.	80 cu. in./min.	70 cu. in./min.	55 cu. in./min.

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.



Universal Motor
Version



Specifications

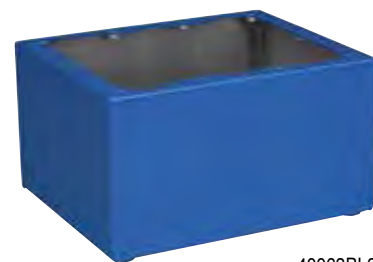
A	B	C	D	E	F
18-1/4"	12-1/2"	10-1/2"	7"	10"	8"

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.

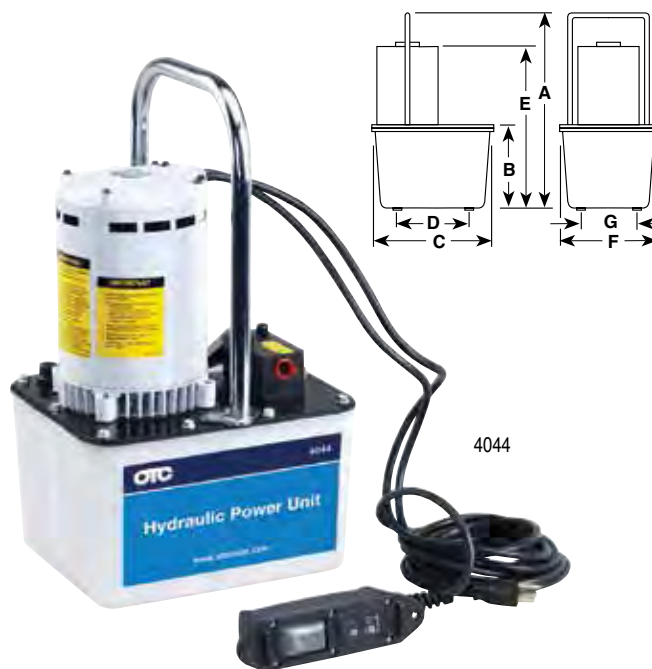
Two-Stage Electric / Hydraulic Pumps

They're called "RamRunners" and that's just what they do...run large single- or 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.

Pump No.	Max. Press. Output	RPM	Oil Del.* (cu. in./min. @)			Voltage	Reservoir Cap.	Usable	A	B	C	D	E	F	G
			0 PSI	100 PSI	10,000 PSI										
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 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.



9582



9500

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.



OTC No.	Hose Length	Hose Inside Dia.	Hose Type
9765	2 ft.	1/4"	Braid (2-ply Rating)
9766	3 ft.	1/4"	
9767	6 ft.	1/4"	
9768	8 ft.	1/4"	
9769	10 ft.	1/4"	
9770	12 ft.	1/4"	
9780	6 ft.	3/8"	Nylon Core Synthetic Fiber Reinforced *
9781	10 ft.	High	
9782	20 ft.	Flow	

* Note: This hose is not recommended for use where heat or weld spatter conditions exist.

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.

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.

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.

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 pump handle		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.

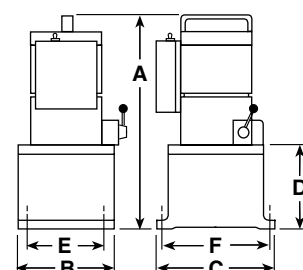
Pump No.	For use with	Control Valve	Reservoir	Motor Control
4031	Single-acting rams	2-position, 3-way	.45 gallon, 104 cu. in.	Remote 6 ft. cord
4033	Double-acting rams	3-position, 4-way	.45 gallon, 104 cu. in.	Remote 6 ft. cord
4036	Double-acting rams	3-position, 4-way	2 gallon, 462 cu. in.	Run / off / jog

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 @ 100°F	4000, 4002, 4016, 4017, 4020, 4021 Vanguard, RamRunner and Stinger pumps
9637	1 gallon		

Universal Motor
Version



Specifications

Note: Dimensions shown apply to pumps with 104 cu. in. reservoir.

A	B	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	32 cu. in./min. at 1,000 PSI
25 cu. in./min. at 5,000 PSI	18 cu. in./min. at 10,000 PSI

9636











9637





Pressure Regulator/Check Valves and Accessories



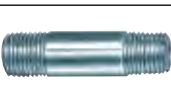



	OTC No.	Description
	9623	Pressure regulator valve. For remote location in a hydraulic system. Adjusts from 1,000 to 10,000 PSI.
	9575	Needle valve for fine metering. Use several for controlling multiple single-acting rams simultaneously, yet independently. 3/8" NPTF ports.
	9596	Load lowering valve. 3/8" NPTF ports, 10,000 PSI max. operating pressure.
	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.
	10461	Remote control foot switch, 10 ft. cord. Press for "on," release for "off."
	25017	Remote control hand switch, 10 ft. cord. Press for "on," release for "off." (Replacement rocker switch only, No.16772)
	9625	Pressure switch. 1/4" NPTF external thread.

Gauges - All gauges have 1/4" NPTF threads

	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)
	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).
	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).
	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)
	9654	Pressure gauge. Two scales: 0-10,000 PSI, and 0-689 BAR. 2 -1/2" dia. face. Use with any OTC pump (Dry).
	9655	Pressure gauge. One scale: 0-6,000 PSI. 3 -1/2" dia. face (Dry).
	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.
	9659	Pressure gauge. Same as 9658 except is liquid filled and has 3-1/2" diameter face.







Adapters and Fittings

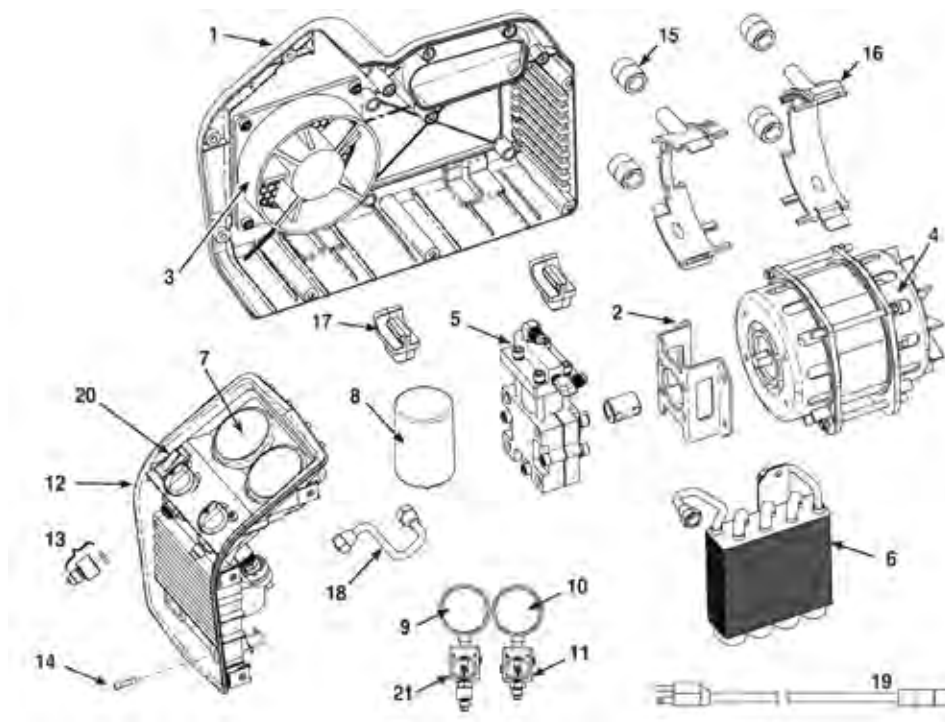
	24815	Tee adapter. For installing gauge between pump and hose coupling. Has 1/4" and 3/8" NPTF internal and 3/8" NPTF external.
	25919	Double tee adapter. Permits use of more than one ram in series with one pump. Three 3/8" NPTF ports.

	OTC No.	Description
	9617	Manifold block. For use when a multiple-ram system is required. Has six 3/8" NPTF ports.
	9691	"Y" manifold. Useful when connecting two rams to a single line. Three 3/8" NPTF ports.
	10645	45° fitting. Used when mounting gauge at an angle on connection such as 24815. External and internal 1/4" NPTF ends.
	10469	Swivel connector. 3/8" NPTF external, 3/8" NPSM internal.
	10682	Coupling. Both ends 3/8" NPTF internal.
	10474	Street elbow. Internal and external 3/8" NPTF ends.
	10673	Short nipple. 1-1/2" long, 3/8" NPTF external ends.
	13828	Long nipple. 2" long, 3/8" NPTF external ends.
	10647	90° elbow. 3/8" NPTF internal ends.
	13888	Coupling. Ends - 3/8" NPTF internal and 1/2" NPTF external.

Quick Couplers

Precision built and designed for high pressure.
Permits disconnecting hose without loss of oil. 3/8" NPTF

	9795	Complete quick coupler and rubber dust cap.
	9796	Ram half coupler and rubber dust cap.
	9797	Ram half coupler steel dust cap only.
	9798	Hose half coupler only.
	9799	Hose half coupler steel dust cap only.
	9866	Hose or ram rubber half cap.



RG3000 Part List

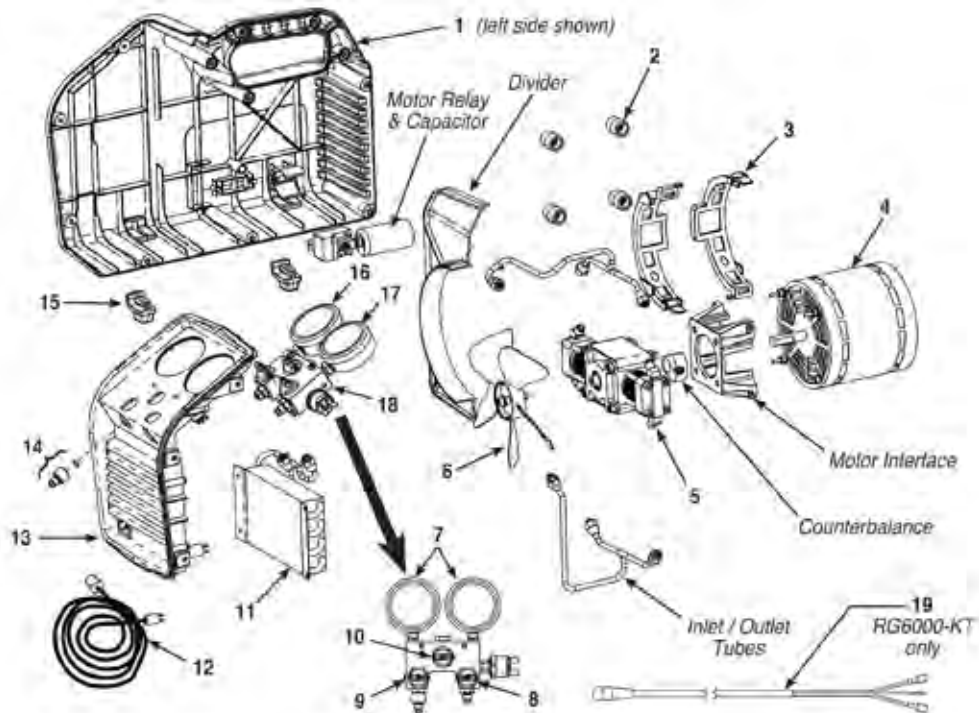
Item No.	Part No.	Description
1	565505	Case Kit (both halves)
2	SK-3001	Interface Kit (motor-compressor interface, coupler, hardware)
3	SK-3003	Fan
4	SK-3004	Motor Kit (motor, capacitor, hardware)
5	565504	Compressor
6	SK-3006	Condenser
7	565502	Gauge Lens (1 ea.)
8	565617	Motor Start Capacitor
9	SK-3007	Low-side Gauge Kit (low-side gauge, lens)
10	SK-3008	High-side Gauge Kit (high-side gauge, lens)
11	SK-3005	High-side Manifold Kit
12	565501	Front Bezel

Item No.	Part No.	Description
13	SK-6001	Inlet Fitting / Filter Screen Kit (inlet fitting, filter screen, o-ring)
14	565500	Fuse
15	550503	Grommet (1 ea.)
16	SK-3009	Motor Clamp Kit (4 pieces)
17	550502	Foot (1 ea.)
18	565616	Inlet Tube
19	551628	Power Cord
20	EL1310	Power Switch
21	SK-3010	Low-side Manifold Kit
	100343	Filter / Drier (not shown)
	100345	6 in. Blue Hose (not shown)
Rebuild Kit	SK-3011	Compressor Rebuild Kit (piston seals, valves, springs, o-rings)
Rebuild Kit	SK-6007	Valve Rebuild / Replacement Kit (inlet / outlet valves, springs, o-rings)

RG3 Part List

Item No.	Part No.	Description
1	570895	Case Kit (both halves)
2	SK-3001	Interface Kit (motor-compressor interface, coupler, hardware)
3	SK-3003	Fan
4	SK-3004	Motor Kit (motor, capacitor, hardware)
5	565504	Compressor
6	SK-3006	Condenser
7	565502	Gauge Lens (1 ea.)
8	565617	Motor Start Capacitor
9	SK-3007	Low-side Gauge Kit (low-side gauge, lens)
10	SK-3008	High-side Gauge Kit (high-side gauge, lens)
11	SK-3005	High-side Manifold Kit
12	565501	Front Bezel

Item No.	Part No.	Description
13	SK-6001	Inlet Fitting / Filter Screen Kit (inlet fitting, filter screen, o-ring)
14	565500	Fuse
15	550503	Grommet (1 ea.)
16	SK-3009	Motor Clamp Kit (4 pieces)
17	550502	Foot (1 ea.)
18	565616	Inlet Tube
19	551628	Power Cord
20	EL1310	Power Switch
21	SK-3010	Low-side Manifold Kit
	100343	Filter / Drier (not shown)
	100345	6 in. Blue Hose (not shown)
Rebuild Kit	SK-3011	Compressor Rebuild Kit (piston seals, valves, springs, o-rings)
Rebuild Kit	SK-6007	Valve Rebuild / Replacement Kit (inlet / outlet valves, springs, o-rings)



RG6000 Part List

Item No.	Part No.	Description
1	550495	Case Half (left)
	550496	Case Half (right)
2	550503	Grommet (1 ea.)
3	SK-6013	Motor Clamp Kit (4 pieces)
4	SK-6005	Motor Kit (includes motor, relay,
5	SK-6017	Compressor Kit (includes compressor, cover, hardware)
6	SK-6008	Fan Kit (includes fan, spacer mounting hardware)
7	GA1000	Gauge Lens (1 ea.)
8	100124	Manifold Knob (red)
9	100123	Manifold Knob (blue)
10	100122	Manifold Knob (black)

Item No.	Part No.	Description
11	SK-6014	Condenser Kit (includes condenser assembly, hardware)
12	551628	Power Cord
13	SK-6012	Bezel Kit (includes bezel, power switch, circuit breaker, power entry module, hardware)
14	SK-6001	Inlet Fitting / Filter Screen Kit (includes inlet fitting, filter screen, o-ring)
15	550502	Foot (1 ea.)
16	SK-6003	Low-side Gauge Kit (includes low-side gauge, lens)
17	SK-6022	High-side Gauge Kit (includes high-side gauge, lens)
18	SK-6016	Manifold Kit (includes manifold assembly, hardware)
19	549977	Tank Connection Harness (RG6000-KT only)

RG6 Part List

Item No.	Part No.	Description
1	567913	Case Half (left)
	567915	Case Half (right)
2	550503	Grommet (1 ea.)
3	SK-6013	Motor Clamp Kit (4 pieces)
4	SK-6005	Motor Kit (includes motor, relay,
5	SK-6023	Compressor Kit (includes compressor, hardware)
6	SK-6008	Fan Kit (includes fan, spacer mounting hardware)
7	GA1000	Gauge Lens (1 ea.)
8	100124	Manifold Knob (red)
9	100123	Manifold Knob (blue)
10	100122	Manifold Knob (black)

Item No.	Part No.	Description
11	SK-6014	Condenser Kit (includes condenser assembly, hardware)
12	551628	Power Cord
13	SK-6012	Bezel Kit (includes bezel, power switch, circuit breaker, power entry module, hardware)
14	SK-6001	Inlet Fitting / Filter Screen Kit (includes inlet fitting, filter screen, o-ring)
15	550502	Foot (1 ea.)
16	SK-6003	Low-side Gauge Kit (includes low-side gauge, lens)
17	SK-6022	High-side Gauge Kit (includes high-side gauge, lens)
18	SK-6016	Manifold Kit (includes manifold assembly, hardware)

RG5410EX Parts List

Part No.	Description
536752 (L&R)	Plastic Case
100505	Fan Grill
EL1817	Axial Fan
CD1201	Condenser
536756	Motor Modified
534483	Coupler
CP1001	Bell Housing
535398ASM	Compressor
EL2800	Pressure SW
534487	Input Gauge
534488	Output Gauge

Part No.	Description
GA1000	Gauge Lens
E11310	On/Off Switch
EL1309	Start Switch
100123	Blue Knob
100124	Red Knob
100122	Black Knob
535388	Front Panel
100343	Filter
NB6501	Flare Cap
111443	Power Cord
EL2802	High Pressure SW

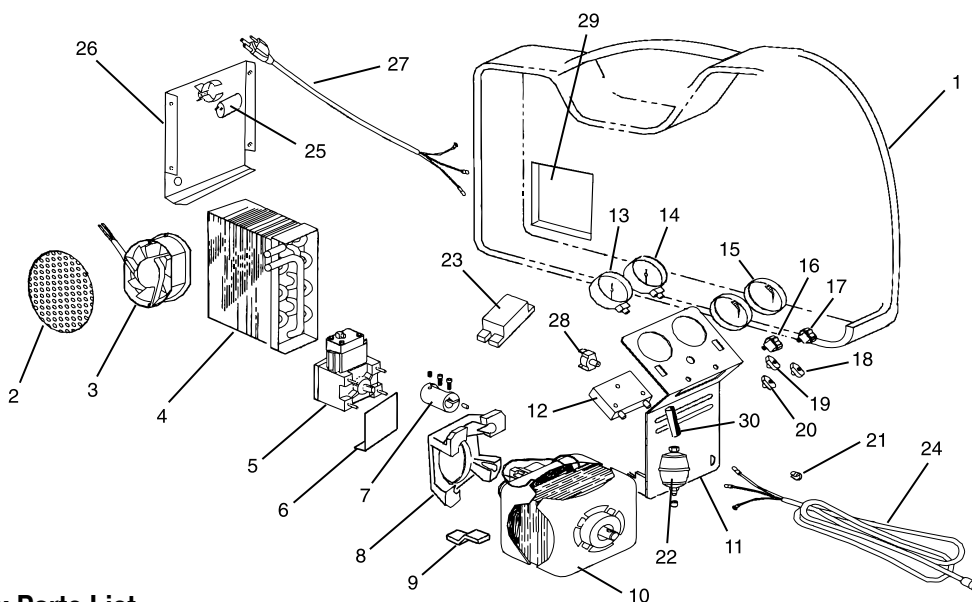
Part No.	Description
100318	Back Plate
536754	Start Capacitor
100351	Compressor Bracket
535396ASM	Manifold
100345	Hose 4"
536755	Run Capacitor
113726	Low Pressure SW
116418	Check Valve (NS)
536768	On/Off/On Switch
536769	Handle Grip

RG5410A Parts List

Part No.	Description
100134 (L&R)	Plastic Case
100505	Fan Grill
EL1817	Axial Fan
CD1201	Condenser
EL1821	Motor Modified
CP1315	Coupler
CP1001	Bell Housing
CP1320	Compressor
EL2800	Pressure SW

Part No.	Description
GA1500	Input Gauge
GA0800	Output Gauge
GA1000	Gauge Lens
EL1310	On/Off Switch
EL1309	Start Switch
100123	Blue Knob
100124	Red Knob
100122	Black Knob
100137	Front Panel

Part No.	Description
100343	Filter
NB6501	Flare Cap
100162	Cord Set
EL2802	High Pressure SW
100318	Back Plate
EL1412	Capacitor
100351	Compressor Bracket
700133	Manifold
100345	Hose 4"



Minimax Parts List

Item No.	Part No.	Description
1	100118	Plastic Case
2	100179	Fan Grill, Outlet
3	100119	Axial Fan
4	100139	Condenser
5	CP1320	Compressor
6	100207	Compressor Bracket
7	CP1315	Coupler
8	CP1001	Bell Housing

Item No.	Part No.	Description
9	100209	Motor Bracket
10	EL1821	Motor
11	100121	Front Panel
12	700009	Manifold
13	GA1500	Input Gauge
14	GA0800	Output Gauge
15	GA1000	Gauge Lens
16	EL1310	On/Off Switch

Item No.	Part No.	Description
17	EL1309	Start Switch
18	100124	Red Knob
19	100122	Black Knob
20	100123	Blue Knob
21	NB6501	Flare Cap
22	100343	Filter
23	EL1500	*Relay
24	EL1420	*Sensor Cord

Item No.	Part No.	Description
25	EL1412	Capacitor
26	100538	Rear Panel
27	100162	Cord Set
28	EL2802	Pressure Switch
29	100180	Fan Grill, Inlet
30	100345	Hose Assembly

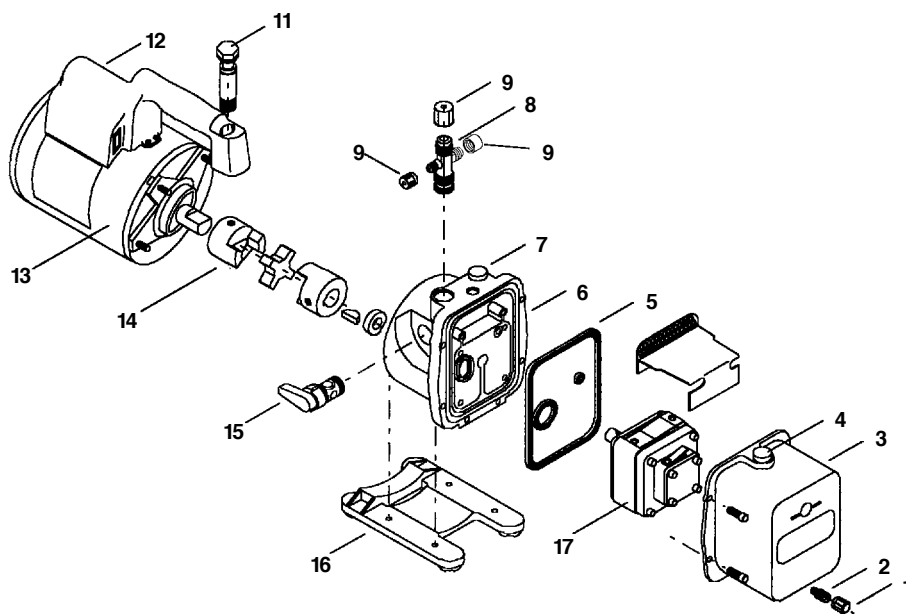
*Optional components for 80% Capacity Tank Sensing Kit.

Leak Detector Replacement Tip Table

Replacement Tip Item Number	Used On
TIF444 (discontinued)	TIF5000A, TIF5000, HLD-440
TIF544 (discontinued)	TIF5500, TIF5600, TIF6000, H10K
TIF554 (discontinued)	TIF5050, TIF5050A
TIF555	TIF5550, TIF5550A, TIF5650, TIF5650A, TIF5750, TIF5750A, H10A
TIFXP-2	TIFXL-1, TIFXL-1A, TIFRX-1, TIFRX-1A, TIFXP-1, TIFXP-1A
TIFZX-2	TIFZX-1


**15150, 15151, 15155, 15203, 15300, 15301
15355, 15500, 15501, 15505 and 15800 Parts List**

Part No.	Description
556672	Handle and Switch Assembly (Models 15300 & 15500)
556673	Handle and Switch Assembly (Models 15301 & 15501)
556674	Oil Drain Fitting
523194	Capacitor (all models)
523195	Oil Fill Plug
523197	Base (all models)
556675	Housing Gasket (all models)
556676	Exhaust Fitting (all models)
523208	Inlet Fitting Adapter, 3/8" External Flare x 1/2" Internal ACME
525402	Inlet Fitting, 1/4" and 3/8" External Flare
525488	Inlet Fitting Adapter, 3/8" Internal Flare x 1/2" External ACME
557048	Inlet Fitting Adapter, 1/4" Internal Flare x 3/8" External Flare
556677	Power Cord (Models 15300 & 15500)
556678	Power Cord (Models 15301 & 15501)



15400 & 15600 Parts List

Item No.	Part No. 15400	Part No. 15600	Description
1	40572	40572	Oil Drain Cap (qty. 6)
2	48116	48116	Oil Drain Kit (includes oil drain cap)
3	15337	15337	Module Cover Kit (includes items 2, 4, 5)
4	15371	15371	Oil Fill Cap (includes gas ballast valve)
8	15364	555124	Intake Fitting (includes intake caps)
9	555133	555133	Intake Caps 1/4", 3/8" and 1/2" flare; 1 ea.)
11	15338	15338	Vent Bolt (includes o-rings)
12	15366	15366	Handle, Power Cord, Switch Assembly
13	15365	15370	Motor
14	48103	48103	Coupling
15	15368	15368	Iso-Valve™ Assembly
16	15369	15369	Base and Foot Assembly
17	15547	15548	Replacement Module (includes Nos. 1 through 7)
--	15367	15367	Seal Replacement Kit (not shown)

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465.....	50	1070.....	46	1179.....	49	1858.....	65	1939.....	57
518.....	53, 54	1071.....	46	1180.....	52	1858-1P.....	65	1940.....	57
522.....	52	1072.....	46	1181.....	50	1872.....	64	1941.....	57
525.....	53	1073.....	46	1182.....	52	1879.....	66	1950M.....	57
679.....	47, 52	1074.....	46	1183.....	52	1880.....	66	1951M.....	57
680.....	47	1075.....	46	1184.....	50	1881.....	66	1952M.....	57
714.....	39	1076.....	46	1230PB.....	43	1882.....	66	1953M.....	57
885.....	33	1080.....	46	1266.....	32	1888.....	66	1954M.....	57
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