Free protective dust cover with purchase of a 34988NI or AC1234-6 A/C machine

Keep your investment protected

34988NI premium A/C recovery machine is fully automatic and includes automatic oil and dye injection.

- The most efficient A/C machines available, for both recovery and charging accuracy

AC1234-6 was the first commercially available recovery machine to meet the SAE's standards for recovering, recycling and recharging 1234YF systems

- Integrated refrigerant identifier and printer for documenting system service

34988NI 34988NI 17499 dust cover

$75 value

Free 3914 battery tester or 3980 multimeter with diagnostic subscription renewal

Extend your hardware warranty, receive up to 6 new software downloads each year and receive a free Bluetooth capable battery/starting/charging system tester or hybrid multimeter.

3893-LTW Encore 1-year subscription and Lifetime hardware warranty

3896-LTW Evolve 1-year subscription and Lifetime hardware warranty

FREE 3914 or 3980

Free 7503 tie rod/ball joint tool with purchase of 6530 ball joint kit

The ultimate suspension tool combination. Remove & install most ball joints and tie rod ends in less time. Covered by OTC’s lifetime warranty. Ball joint tool compatible with all OTC ball joint adapters.

3980 3914 FREE 7503

Free adapter with purchase of 5019A 2,200-lb low-lift transmission jack

Get the most out of your trans jack with the right adapter. Select one of 6 popular adapters designed to handle multiple powertrain components.

5019A 5091 528150 553516 540232

FREE 7503

All promotions valid 7/1/2019 – 12/31/2019, unless otherwise stated. Some restrictions may apply. For promotion details and to redeem, visit Boschrebates.com. Dated proof of purchase and/or serial number(s) required when registering for rebate. Must redeem within 30 days of promotion end date.
Diagnose, research, and repair - all-in-one

Engineered and assembled in the USA by Bosch. The ADS series is designed by technicians, for technicians, to diagnose, research and repair vehicle issues.

Repair-Source

ADS tools now come with Bosch Repair-Source, a comprehensive vehicle service and repair information library.

- Connect the diagnosis with vital technical information needed for repair – for the specific vehicle make, model and year you are working on.
- Repair information included with standard subscription
- Access to vehicle service and repair information including DTC troubleshooting workflows, repair procedures, maintenance schedules, TSBs, OE wiring diagrams, component locations, labor times and more

Coverage

Continually updated and enhanced coverage for Domestic, Asian and European brands. Recent software updates included a huge European vehicle coverage release for BMW, Volkswagen, Audi and Mercedes-Benz vehicles, with new coverage also added for GM, Ford, Chrysler and Nissan vehicles.

Accessories

Compatible with many wireless borescopes, battery testers, NVH analyzers and more

Ask your tool dealer about Bosch Diagnostics or visit boschdiagnostics.com

The tools

**ADS 325**

- 7” ultra-crisp, high-resolution display
- 5MP rear camera enables sharing photos and Vehicle Scan Reports
- Complete diagnostic needs with Auto ID, read/clear DTCs and DTC types from all controllers, data PIDS, bidirectional controls, calibrations, resets and relearns.
- Android 5.0 plus 64GB SSD for fast processing, printing and file sharing
- Built-in Wi-Fi and Firefox for full browsing capabilities
- Lifetime Warranty with an active, unlapped diagnostics subscription
- Tablet, AC power adapter and OBD II cable with light and voltmeter

**ADS 625**

All the features of the ADS 325, plus:

- Industry-leading full color OE system wiring diagrams
- Wireless VCI and dual WiFi cards for strong web and VCI connection
- J2534 pass-thru VCI for OE programming capabilities
- Large 10” ultra-crisp high-resolution display
- Dual 5MP front and rear cameras
- HDMI output for extended display
- Docking and charging station included
Unbeatable coverage for HD trucks, construction equipment and more

\[\text{ESI[truck] Off-Highway Upgrade Cable Kit with Introductory Software License (3824CBL-UPG)}\]

Add off-highway vehicle and machinery coverage for multiple manufacturers to your 3824 or 3824A ESI[truck] scan tool. Coverage included for:
- Construction equipment
- Agricultural vehicles
- Stationary engines
- Street sweepers and more

\[\text{Manufacturer coverage: Caterpillar, John Deere, Kubota, Perkins, Volvo, Massey Ferguson, Sisu, Deutz, Deutz-Fahr, MTU, and more}\]

\[\text{System coverage: Gearbox, HVAC, engine, steering, hydraulic systems, suspension, electronic modules, antipollution, central computer and more}\]

\[\text{Diagnostic coverage: Manual processes, diagnosis info, measurable values, component actuations, ECU data, parameter IDs (PIDs), calibrations and resets, system technical data, wiring diagrams, vehicle technical data and vehicle maintenance info}\]

\[\text{3824CBL-UPG Kit contents:}\]
- 10 cables for machinery, construction equipment, agricultural vehicles and more
- ESI[truck] off-highway software package with full diagnostic capabilities. Introductory off-highway software expires when your ESI[truck] heavy duty truck software expires
- Software renewals can be done simultaneously, ensuring continuous HD truck and off-highway vehicle coverage

\[\text{3824-08OHW ESI[truck] Off-Highway 1-Year Software License}\]
- 12-months of off-highway diagnostic coverage, including all coverage updates
- Used to renew initial software included with Off-highway upgrade cable kit with introductory software license

For more information on software updates and off-highway coverage upgrades, visit www.BoschDiagnostics.com/Pro

Off-highway cable upgrade kit and off-highway software only compatible with 3824A, 3824 and 3824BSC ESI[truck] diagnostic tools. Not compatible with 3823 or 3823BSC diagnostic tools. Customer must first purchase Off-highway upgrade cable kit with introductory software (3824CBL-UPG) prior to purchasing or activating Off-highway 1-year software license (3824-08OHW)
**Bosch BAT 135 Battery tester with integrated printer**

**Features:**
- Tests 6V, 12V batteries and 12V, 24V charging systems
- Test battery capacities from 40-2,000 CCA
- Test all automotive, light-duty and commercial batteries including: AGM, Gel Cell, Flooded lead-acid, Start/Stop EFB, Commercial, SLI
- Presents State of Health and State of Charge percentage
- Integrated printer to capture test results and customer records
- Detachable test clamps for service and replacement
- Full charging system test with diode/ripple test
- Micro-load testing for proven, accurate results
- 1-year warranty

**Bosch HPT 500 High Pressure Leak Tester**

**The cost-effective, safe alternative for heavy-duty preventive maintenance and repair**

Test heavy-duty exhaust systems safely and efficiently in 15 minutes or less

Troublesome intake and exhaust leaks are commonly diagnosed with outdated and inefficient equipment and methods. These methods are time consuming, dirty, and frequently result in replacement of the wrong components. Low pressure testers, soapy water, and supersonic listening devices can cause revenue generating trucks to spend unnecessary days in the repair facility, out of service.

Bosch is addressing these problems with a new, cost-effective, and safe alternative that will change standard practices for heavy-duty preventive maintenance and repair. The HPT 500 uses regular compressed air to reach and maintain a variable pressure of 2 to 20 psi throughout the vehicle’s intake and exhaust system. Compressed air mixed with a visual vapor is forced into the system, simulating the load of a running engine: both naturally aspirated and forced induction (turbo and supercharged). Many upstream leaks will only appear under these boosted pressures. The dense, highly visible vapor flows throughout the truck’s hoses, tubes and related components and escapes anywhere there is a leak.

Learn more at boschdiagnostics.com/pro
**3893 ENCORE**

Fastest from code-to-fix
- OE-level Domestic / Asian / European Coverage
- 30 million on-tool fixes, maintenance tests and symptom assist
- Direct link to Identifix® and other repair forums
- Industry-leading light-duty diesel coverage
- 7” touch screen

Lifetime hardware warranty*
Engineered and assembled in the USA

**3896 EVOLVE**

All features of the OTC Encore plus
- OE system wiring diagrams, full color wiring diagrams for vehicles 1985 and newer
- Wireless, J2534 compliant VCI
- Dual-band Wi-Fi for secure connections to shop Wi-Fi and wireless VCI
- Android 5.0 with 1Ghz Quad Core Processor
- Front and rear-facing camera
- 10.4” hi-res touch screen

Lifetime hardware warranty*
Engineered and assembled in the USA

**SUBSCRIPTION SOFTWARE**

Domestic, Asian and European Software 1-year subscription kit provides a year of frequent and valuable updates for new coverage, coverage enhancements, repair information, application improvements and includes the Diagnostics for Life* lifetime hardware warranty.

Diagnostics for Life* lifetime hardware warranty means OTC supports your Encore/Evolve for as long as you own it, as long as you update it!

The “hardware warranty” applies to the scan tool tablet only. Accessories, such as cables, adapters, batteries and case remain the 90 Day factory warranty from purchase.

**3893-LTW**

Encore 1-year subscription and Lifetime hardware warranty

**3896-LTW**

Evolve 1-year subscription and Lifetime hardware warranty

Evolve update includes full access to full color, full-system wiring diagrams for vehicles 1985 and newer.
Tractors, Motorcycles - just about everywhere.

connections can be found on automobiles, Class 7-8 how the Weather Pack crimp is properly made. These are magnetically secure. The inside lid decal shows are easily interchanged - simply slip into place and AWG 16-14 / 12 (Din: 1.0-2.0 / 3.0 mm²). The dies range AWG 22 / 20-18 (DIN: 0.35 / 0.5-0.8 mm²) and exposure to heat, moisture, and contaminants with connection systems are designed to protect against connection systems on your vehicle with the OTC Now you can manage environmentally sealed 4484 Weather Pack Crimper Kit. Weather Pack and sizes. The 3-piece set comes with an OTC lifetime warranty against defects in material or workmanship. and time searching for replacements of various shapes and sizes. The 3-piece set comes with an OTC lifetime warranty against defects in material or workmanship.

4484 Weather Pack Ratcheting Crimper Kit
Now you can manage environmentally sealed connection systems on your vehicle with the OTC 4484 Weather Pack Crimper Kit. Weather Pack connection systems are designed to protect against exposure to heat, moisture, and contaminants with unfaltering performance. The OTC 4484 comes with 2 interchangeable crimping dies, covering wire range AWG 22 / 20-18 (DIN: 0.35 / 0.5-0.8 mm²) and AWG 16-14 / 12 (Din: 1.0-2.0 / 3.0 mm²). The dies are easily interchanged - simply slip into place and are magnetically secure. The inside lid decal shows how the Weather Pack crimp is properly made. These connections can be found on automobiles, Class 7-8 Tractors, Motorcycles - just about everywhere.

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.

4972 Cordless Solder 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.

4460 2-Piece Electrical Connector Separator Tool

4461 Terminal Release Tool Set

1/4” & 3/8” Cable Cutters
1/4” cable cutter.
3/8” cable cutter.

4467 Automatic Wire Stripper
• Comes with adjustable depth gauge (8mm to 12mm).

4468 9” Self Adjusting Wire Stripper
• Strips insulating sheathing from wires ranging from 10 ga. to 22 ga.

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.

6
6982PMC
Exhaust Manifold Stud Remover
This specialty stud remover is designed to work in very tight spaces, securely grasping broken studs with as little as 1/4" of exposed material. Perfect for exhaust manifold studs - even when frozen or corroded. A variety of locking collets are included for common applications.
- Designed to securely grasp studs with as little as 1/4" exposed
- Compact - gets behind steering and suspension components
- Draws tight - within 1/16" of head surface to greatly reduce tipping
- Includes 4 collet sizes - 6mm, 7mm, 8mm, and 10mm
- Perfect for broken manifold studs
- Lifetime warranty
Kit Contents:
1 Collet Holder and Forcing Screw Assembly
4 Collets (6mm, 7mm, 8mm, 10mm)
Operating instructions

6982DGS
Drilling Guide System
• Drill perfectly centered holes in broken studs.
• Anchor rail guide on any open hole within reach of broken stud - 6 inch reach.
• 4 bushings for common stud sizes - 6mm, 8mm, 10mm, and 12mm.
• 4 drilling guides for progressive drilling - 1/16", 3/32", 1/8" and 5/32".
• Conveniently stores in vinyl pouch - includes instructions.
• Made in USA with a Lifetime Warranty.
6982DGS-1 4-Pc Bushing Set
6982DGS-2 4-Pc Guide Set
6982DGS-3 Replacement Rail

6982DEX
3 Pc Double Edge Screw Extractors
• For unscrewing broken bolts and screws without damaging threads.
• Can be turned in clockwise or counter clockwise direction for right and left handed threads.
• Drive extractor into drill hole for secure fit.
• Hex shank design works with standard hex sockets eliminating rounded corners.
• Industrial Quality - Made from High Strength Steel - Tapered Flute design.
6982DEX-1 Dual Edge Screw Extractor (#10 - 1/4")
6982DEX-2 Dual Edge Screw Extractor (5/16" - 3/8")
6982DEX-3 Dual Edge Screw Extractor (7/16" - 1/2")

6982ACP
Automatic Center Punch
• Accurately marks your drill point every time.
• Creates deep center mark to prevent drill bit from wandering.
• Flared top fits comfortably in palm of hand.
• Allows free hand to place marking tip exactly where you want it.
• Press tool until spring releases causing tip to mark your drilling point.

6792
Transmission Fluid Fill/Extract Kit with Adapters
Designed for undercar transmission fluid service
• 6-liter reservoir can dispense or extract transmission fluid with simple control valve
• Dual safety valves prevent accidental reverse flow
• Includes universal adapter and 14 OE-style adapters
• Press-on quick connect and disconnect fittings make setup faster and easier
• Instructions embedded to inside of storage case help ensure proper and safe operation

6977
Universal Cooling System Pressure Test Kit
A truly universal vehicle cooling system pressure tester kit.
• Fits cooling system hoses from 1/4" to 5/8".
• Fewer adapters can test more systems and test faster.
• Hand pump features large gauge and padded base to protect vehicle surfaces from scratching.
• 36" hose with quick-coupler adapter securely grips high-quality brass fittings.
• Includes radiator cap with quick-connect for older vehicles.
• Adapters use Schrader valves to prevent spray when disconnecting.
• 1/4", 5/16", 1/2" and 5/8" adapters with Schrader valves.
• Blow molded storage case.
• Covered by OTC’s Lifetime Warranty.
**Fuel Injection Kits**

**OTC Fuel Injection Kits**

**7448A**
Canister-type Fuel Injector Cleaner

Simply and completely clean a vehicle’s fuel system with the 7448A Fuel Injector Cleaner.

With the addition of a quick-connect fitting, the removable hose can be thoroughly cleaned for storage and extending the life of the product. An included blowout fitting adapts to shop air supply to remove residual cleaner from hose lines.

**6550**
Master Fuel Injection Kit

Test fuel injection systems on most GMs, including GM TBI, Ford, Chrysler, and Jeep vehicles. Also works on imports, including CIS and CIE fuel systems.

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

**4437**
8-Piece Sensor Socket Set

- 29 mm Vacuum Switch and O2 Socket, 1/2” Drive.
- 7/8” Vacuum Switch and O2 Socket (wide slot), 3/8” Drive.
- 27 mm Thermal Sensor Switch, 1/2” Drive.
- 7/8” Vacuum Switch and O2 Socket (narrow slot), 3/8” Drive.
- 1-1/16” and 1” Oil Pressure Sending Unit Socket, 3/8” Drive.
- 7/8” O2 Sensor Socket, offset 1/2” Drive.
- 7/8” O2 Sensor Socket (low profile), offset 3/8” Drive.
- 1-1/16” and 1” Oil Pressure Socket (short access), 3/8” Drive

**6650**
Pro Master Fuel Injection Service Kit

Covers 100% of vehicles sold in North America ’97 – 13. Perform fuel pressure testing, diagnose weak fuel pumps or restricted filters, test for fuel flow and perform leak-down tests. Use to clean injectors and intake systems. Kit includes:

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

**6554**
Fuel / AC Line Disconnect Kit

- Topside disconnects for AC and Fuel lines.
- Clips, disc, and scissor styles for broad applications.
- Hi-visibility line plugs included.

**6599**
Fuel Tank Lock Ring Wrench

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

- Tool easily removes and installs lock ring on the fuel tank when servicing the fuel pump or fuel sending unit.
- Used with a 1/2” drive ratchet or breaker bar.
5889  
**Rocker Arm Shaft Socket**

This deep-well 12mm socket is used to torque the rocker arm nut to OE specification and has a stepped outside diameter for proper clearance and access to the fastener. Features a stepped outside diameter for proper clearance and access to the fastener. Applications include Detroit Diesel Series 60 engines. Similar to J-44706.

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5879  
**Poppet Disassembly Tool**

Disassembly socket for poppet valves with 2-prong spanner style end. Applications include Detroit Diesel engines. Similar to J-36452-B.

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5884  
**Cam Gear Retaining Tool**

This tool is used to properly hold the cam gear stationary while removing/installing the cam gear retaining bolt without damage. The tool installs into the gear case, engaging one of the lightening holes in the camshaft drive gear. Use two of the access cover bolts to secure the tool to the gear case. For use on Detroit Diesel Series 60. Similar to J-35652-B.

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5875  
**Cylinder Liner Installer**

This tool is designed to install cylinder liners into engine block. Attaches to engine with three cylinder head bolts, the drive screw and plate then force the liner into position. For use on Detroit Diesel Series 60. Similar to J-35597-A.

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5870  
**Injector Height Gauge Set**

Injector height gauges are used to properly set injector body height to the injector follower for proper fuel injector timing. Incorrect injector timing can cause engine power issues, poor idle quality and fuel mileage issues. For use Detroit Diesel Two cycle 53, Two cycle 71, Two cycle 92, Series 60, and DDEC IV Engines. Similar to J-1853, J-42749, J-45002, J-39697, J-42665, J-1242, J-35637-A.

**Injector height gauges:**

- 5870-1: 1.460” (37.08 mm)  
- 5870-2: 1.484” (37.69 mm)  
- 5870-3: 3.078” (78.18 mm)  
- 5870-4: 3.102” (78.79 mm)  
- 5870-5: 3.161” (80.29 mm)  
- 5870-6: 3.199” (81.25 mm)  
- 5870-7: 3.232” (82.09 mm)

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5881  
**Cam Gear Alignment Fixture**

This tool pulls the cam drive gear hub and thrust plate forward for camshaft and/or thrust plate seal removal and installation. For use on Detroit Diesel Series 60 engines. Similar to J-35906 and J-35906-6A.

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5887  
**Crankshaft Seal and Wear Sleeve**

This tool installs the front and rear crankshaft wear sleeves and seals. It eliminates lip flare on the wear sleeve and installs the seal properly. For use on Detroit Diesel Series 60 and two cycle 92 engines. Similar to J-35686-B.

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5872  
**Compression Gauge**

Designed to measure compression within heavy duty engines. Hose has push button release valve, and hose end has a quick coupler for connection to compression adapters. Includes M style quick coupler fittings and 45 degree adapter. Dual gauge range: 0-1150 psi and 0-8000 kPa. Hose length: 12 in. Applications include Detroit Diesel Series 60 and two cycle 53, 71, 92, and 149. Similar to J-45876.

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5876  
**Injector Remover**

A specially designed puller to remove seated injectors from the cylinder heads of Detroit Diesel Series 60 inline 6 engines. A thrust bearing under the puller nut reduces friction during operation for smooth, easy injector removal. Similar to J-47372.

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5878  
**Fuel System Test Gauge**

Used to properly diagnose and repair fuel systems. Applications include Detroit Diesel DD13 and DD15 engines. Similar to J-48876.

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6492-10  
**Oil Priming Adapter**

This adapter allows a proper engine pre-lubing, preventing dry starts after engine service. The adapter installs into the oil priming port in the oil module. For use with the engine oil primer p/n 6492. For use on Detroit Diesel DD13 and DD15 engines. Similar to J-49181.
4605
Interchangeable Punch and Chisel Set
• Safety protective handle allows easy grip and protects hand from being hit by hammer.
• 12 punches and chisels included: 5 flat chisels: 1/2", 5/8", 3/4", 7/8", and 1" wide blades 1 cap chisel: 1/4" wide blade 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. Replacement parts available:

4605-1 Drive handle
4605-2 1/2" wide flat chisel
4605-3 5/8" wide flat chisel
4605-4 3/4" wide flat chisel
4605-5 7/8" wide flat chisel
4605-6 1" wide flat chisel
4605-7 1/4" cape chisel
4605-8 1/8" taper punch
4605-9 1/4" taper punch
4605-10 3/16" pin punch
4605-11 1/4" pin punch
4605-12 1/8" center punch
4605-13 3/16" center punch

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.

4406
Adjustable Bearing Race and Seal Driver
• Universal and fully adjustable.
• Twist head to adjustable from 3/4" to 3.5" (19mm to 89mm).
• Lock bolt holds jaws to preferred diameter.
• Steel striking cap mounted on aluminum handle and head provides a weight under 2 lbs.

4410
Master Bushing Drive Set (33 piece Metric & Standard)
• Enables you to remove and install bushings ranging from 10mm to 42mm in diameter, and 3/8" to 1-3/8" in diameter, as used in 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.

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.

4405
Adjustable Bearing Race and Seal Driver
• Universal and fully adjustable.
• Twist head to adjustable from 3/4" to 3.5" (19mm to 89mm).
• Lock bolt holds jaws to preferred diameter.
• Steel striking cap mounted on aluminum handle and head provides a weight under 2 lbs.

4409
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) 2.558" (65.0 mm)
  2.834" (72.0 mm) 2.992" (76.0 mm)
  3.189" (81.0 mm)

4507
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.

4505
Adjustable Bearing Race and Seal Driver
• Universal and fully adjustable.
• Twist head to adjustable from 3/4" to 3.5" (19mm to 89mm).
• Lock bolt holds jaws to preferred diameter.
• Steel striking cap mounted on aluminum handle and head provides a weight under 2 lbs.

4505
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
Adjustable Bearing Race and Seal Driver
• Universal and fully adjustable.
• Twist head to adjustable from 3/4" to 3.5" (19mm to 89mm).
• Lock bolt holds jaws to preferred diameter.
• Steel striking cap mounted on aluminum handle and head provides a weight under 2 lbs.

4605
Interchangeable Punch and Chisel Set
• Safety protective handle allows easy grip and protects hand from being hit by hammer.
• 12 punches and chisels included: 5 flat chisels: 1/2", 5/8", 3/4", 7/8", and 1" wide blades 1 cap chisel: 1/4" wide blade 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. Replacement parts available:

4605-1 Drive handle
4605-2 1/2" wide flat chisel
4605-3 5/8" wide flat chisel
4605-4 3/4" wide flat chisel
4605-5 7/8" wide flat chisel
4605-6 1" wide flat chisel
4605-7 1/4" cape chisel
4605-8 1/8" taper punch
4605-9 1/4" taper punch
4605-10 3/16" pin punch
4605-11 1/4" pin punch
4605-12 1/8" center punch
4605-13 3/16" center punch

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.

4409
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" (39.3 mm) 1.752" (44.5 mm)
  1.968" (50.0 mm) 2.322" (59.0 mm)
  2.48" (63.0 mm) 2.558" (65.0 mm)
  2.834" (72.0 mm) 2.992" (76.0 mm)
  3.189" (81.0 mm)
6690
Ford Master Cam Tool Kit
• Contains 40 tools to ensure correct cam timing when servicing timing belts, chains, head gaskets, or other valve train repairs.
• Covers L4, V6, V8, V10 engine with 2V, 3V, 4V valve configurations, model years 1991 – later.
• Application guide with diagrams and blow molded case included.

6489
Ford Cam Tool Kit
• Ensure proper cam timing when you replace a head gasket, replace a timing belt or chain, or complete any valve train repair.
• The 22 tools in this Master Kit covers 1992 through 2012 applications and comes in a molded storage case.

Service the following engines:
- 4.6L/5.4L/6.8L Modular; 3.8L V6
- 4.2L V6/5.0L V8; 3.0L Taurus
- Windstar; 4.0L V6 Aerostar
- Ranger and Explorer - 2.0L DOHC Zetec

6487
Ford Cam Tool Kit

6488
Ford Cam Tool Kit
Ford cam tool kit for 1997 thru 2011 4.0L Explorer/Mountaineer SOHC V6 engines. Kit contains tool Nos. 6478, 6479, 6480, 6481, 6482, 6484, 6485, and molded storage case.

6498
Ford 4.6L & 5.4L 4-Valve Cam Timing Kit
Saves time; all tools required for camshaft timing are in one kit.
Set Includes:
525216 – Camshaft positioning tool
525217 – Camshaft holding tool
6024 – Crankshaft positioning tool
525218 – Secondary chain tensioner tool
MUSCLETOOLS

Wheel Bearing Service

HUB GRAPPLER™

CUT SERVICE TIME DRAMATICALLY

Complete solution for servicing wheel hubs and bearings on the vehicle without removing the steering components or knuckle, eliminating unnecessary alignments or the use of a shop press.

6575
Hub Grappler™ Kit

- Jaws designed and sized to properly fit hub applications and is quickly located on the puller bar without the use of fasteners.
- 3/4” custom drive screw coupled with the special equalizer washer provides smooth operation while proprietary heat treating extends its life 5-10 longer than similar designs.
- Six adapters increase application coverage. Includes tie rod/ball joint tool and two Ford axle installers.
- Included Application Guide is the most comprehensive on the market.

6575-1
Hub Grappler™ Puller

- The new Hub Grappler Puller is specifically designed to apply maximum force with minimal effort from an impact gun to also minimize service time.
- The new jaws are designed and sized to properly fit hub applications and can be quickly located on the puller bar without the use of fasteners.
- The new 3/4” custom drive screw coupled with the special equalizer washer provides smooth operation while the proprietary heat treating extends its life 5-10 times longer than similar designs.

6575MAN-18
Hub Grappler Application Manual

The 2018 Hub Grappler Application Guide is the most comprehensive hub and bearing service guide on the market. Developed to be the first tool used in the kit, it provides quick reference to the other tools in the kit required to do the job, eliminating guesswork and saving time. The application guide covers vehicles up to model year 2018.

The guide helps find the correct adapters for front hub removal and replacement, front wheel bearing removal and replacement, rear hub removal and replacement, and rear wheel bearing removal and replacement. Can also be used during steering knuckle service, with adapters identified for each specific vehicle application.

6575-3
Hub Grappler™ Hydraulic Kit

- The Hub Grappler Hydraulic Option is an economical way to increase the performance and speed of wheel bearing and hub service.
- Kit includes a through hole 9-ton ram, OTC 2510A air/hydraulic pump, 6 ft. hose with couplers, drive screw and nut.

6575H
Hydraulic Hub Grappler™ Kit

- An economical way to increase the performance and speed of wheel bearing and hub service.
- Kit includes a through hole 9-ton ram, OTC 2510A air/hydraulic pump, 6 ft. hose with couplers, drive screw and nut.
- Jaws designed and sized to properly fit hub applications and is quickly located on the puller bar without the use of fasteners.
- 3/4” custom drive screw coupled with the special equalizer washer provides smooth operation while proprietary heat treating extends its life 5-10 longer than similar designs.
- Six adapters increase application coverage. Includes tie rod/ball joint tool and two Ford axle installers.
- Included Application Guide is the most comprehensive on the market.
**30-Ton King Pin Pusher Set**
The Heavy Duty Kingpin and Brake Anchor Pin Pusher utilizes its cylinder and hydraulic force to replace traditional time-consuming torch and hammer methods. It helps get the job done in minutes instead of the better part of a day. Five special collars and two pins allow this unit to work on both straight and tapered kingpins. It accommodates sizes from 7/8” to 2” in diameter and up to 11-1/4” in length. With 30 tons of force, it can push out even the most corroded kingpins. The anchor pin can be removed quickly by using the special adapter installed in the pusher’s base block and the unit positioned over the brake’s spider. Included are the 4121A-MA hydraulic cylinder and hydraulic power source required.

- **4240A** – Complete kingpin and anchor pin pusher set with hydraulics.
- **4241** – King- and anchor-pin pusher with anchor pin adapters without hydraulics.
- **29424** – Anchor pin adapter only.

**5190A Heavy-Duty U-Joint Puller**
- The ideal tool for disassembling drivelines.
- May be used with up to a one-inch impact wrench.
- Quickly and easily removes sealed U-joint cups without the need for hammering or heat.
- Will not damage the driveshaft, yoke, bearing cups, or joints.
- Fits practically all Class 7 and 8 trucks, including: Spicer driveline 1610, 1710, 1760, 1810, 1880 Spicer SPL 140, 170, and 250 Life Series/Mentor (Rockwell) 16N, 17N, 18N, 1710Mentor RPL 20 and 25 “Permalube” Series.
- Covered by OTC Lifetime Warranty.

**7180 Universal Bearing Cup Installer**
This handy, adjustable tool is designed to install wheel-bearing cups in a wide range of heavy-duty axles. Simply adjust and lock the jaws to the cup I.D., slip on the new cup, set it in the bore, and drive it in with a hammer. The tool helps eliminate the damage caused by makeshift methods.
- Works on axles from 11,000 to 50,000 lb. capacity.
- Adjusts to fit 3-5/8” to 6-1/2” O.D. bearing cups, which adds up to as many as 30 individual drivers.

**7471A Cummins Engine Barring Tool**
Need to manually rotate an engine? This tool makes the job easy. Just insert the tool into the flywheel housing until it engages the ring gear, then attach a 1/2” square drive ratchet or breaker bar and turn. The tool’s load-bearing collar provides friction-free operation while rotating the tool in the housing.
- Works on Cummins B and C series diesel engines and 5.9L liter diesels used in Dodge pickups.

**6749 Engine Barring Socket**
- Designed to rotate engine on a Mack E7 and Cat 320B.
- Similar to J-38587-A.

**5038 Brake Anchor Pin and Bushing Service Set**
With the No. 5038, there’s no need to remove the bearing hub assembly just to replace the pins and bushings on 16-1/2” S-cam trailer and tractor “Q” brake systems.
- Special tooling and our C-frame press get you past the hub assembly, so you can do the job quickly and professionally without damaging other parts.
- Includes everything needed for removal and replacement.

**5054 Air Brake Service Kit**
This kit has the tools needed to remove slack adjusters and push-rod clevis pins used in the S-cam brake systems of class 7 and 8 vehicles.
- Works on manual or automatic slack adjusters.
- Includes Nos. 5055 and 5056 slack adjuster pullers, 5057 brake clevis pin press, and a plastic storage case.

**5081 S-Cam Air Brake Spring Tool**
- Eliminate makeshift, unsafe methods of unhooking and reconnecting retaining springs when replacing brake shoes on heavy-duty tractors and trailers.
- Simply hook the retaining spring loop and press down. Lever action against the axle makes the job a snap!

**5085 Hub Oil Seal Puller**
- Eliminates bearing and hub damage that can occur when a punch and hammer is used to remove the seal.
- Extra long 28” handle provides leverage, unique pulling head design quickly and easily removes the seal in one piece.
- Built from the highest quality heat-treated steel.
- Removes hub seals on trailer and truck axles, including truck steering axles.
5018A
Truck Clutch and Flywheel Handler
• Replaces 14” & 15-1/2” clutch assemblies weighing up to 250 lbs.
• 13” low point enables access below side faring.
• Linkage raises load from horizontal to vertical position.
• 360 degree swivel head.
• Covered by OTC Lifetime Warranty®.

5019A
2,200 lb. Capacity Low-Lift Transmission Jack
• Special mounting adapter fits popular Eaton® Fuller® RoadRanger® transmissions used on nearly all Class 7 and 8 heavy-duty trucks. Mounting plate angle is adjusted with the turn of a wrench.
• Swiveling pump handle permits ease of operation in restricted working spaces. Fast-acting pump quickly raises lifting arm.
• Includes No. 540231 adapter for Eaton® Fuller® RoadRanger® transmissions.

Specifications:
- Min. height is 8-1/4”
- Max. height is 65”
- Forward tilt – 50°
- Backward tilt – 38°
- Side tilt (side/side) – 14°
- Leg width – 46”

5078
Air-Assisted 2,000 lb. Capacity High-Lift Transmission Jack... or Trucks & Buses
• Foot-operated air pump enables the operator to effortlessly raise the transmission into place.
• Rugged, heavy wall tubing and oversized base for stability.
• A dedicated adapter for Allison 500- and 600-series automatic transmissions is included.
• Covered by OTC Lifetime Warranty®.

Specifications:
- Min. height is 41-1/2”
- Max. height is 65”
- Forward tilt – 50°
- Backward tilt – 38°
- Side tilt (side/side) – 14°
- Leg width – 46”

1735B
2,000 lb. Capacity HD Motor-Rotor® Repair Stand
• Handles a wide variety of engines, transmissions, torque converters, and rear axles from trucks, tractors, and construction machinery.
• The 50:1 ratio gearbox allows full rotation of mounted unit with just a turn of the crank and locks in position. Easily maneuvered when loaded.
• To ensure engine stability in all positions, this repair stand is equipped with a positive-crank handle locking mechanism.
• Twin-post design, featuring laterally adjustable, 3 position outboard support; provides an extremely stable work-holding unit.
• Locking rear wheels anchor stand in position.

5091
HD Spindle Adapter
• Adapter for low lift transmission jacks that holds the spindle assembly firmly in place during king pin service.
• Eliminates the need to completely disassemble the brakes to reduce spindle weight for handling.
• Spindle assembly can be raised to a comfortable working height while replacing king pin bearings or bushings.
• Patented design will work with standard HD truck bolt patterns and wheel stud sizes.
• Adapts to most low lift transmission jacks.

1726A
1,000 lb. Capacity Engine Stand
• A time saver for passenger car and light truck engine rebuilding or repair.
• Four adjustable attachment arms make engine mounting fast and easy.
• Engine can be rotated a full 360° with a turn of the handle; a locking pin secures the work in any of eight positions.
• Two rear wheels lock tightly to anchor the stand in place.
• Covered by OTC Lifetime Warranty®.

Specifications:
- Height to center line – 28”; Length – 46”
- Width – 35-1/2”; Handle length – 24”

1788B
22-Ton Capacity Under-Axle Jack
• Self-retracting, spring return feature.
• Long 49-1/2” T-handle lets you easily position jack under vehicles with long overhangs.
• One pull of the handle activates the self-retracting 22-ton capacity ram without having to crawl underneath the vehicle.
• Jack has large rubber-tired wheels.
• Lifting range: 3/4” saddle Max. height 17-3/4”; 1-15/16” saddle Max. height 18-15/16”; 3-7/8” saddle Max. height 20-7/8”
• Cylinder stroke, 4-1/2”; extended screw length, 4-1/4”; PSI range, 90-145.

5130
1,000 lb. Capacity DriveMaster™ Driveline Lift
• Low profile of 7”.
• Lift range: 23”–30”.
• Pivoting pump handle +/− 15° tilt in each direction.
• Includes 553516 differential mounting adapter. Mounts easily using existing bolt patterns. Fits the most common differentials currently in use on Category 7 and 8 Heavy Duty Trucks. Including: Eaton, Fuller, Rockwell, Meritor, Spicer, International, and Mack.
• CE certified, PALD compliant.
• Covered by OTC Lifetime Warranty®.

5269
20-Ton Truck Ramps
• Long, retractable T-handle enhances mobility.
• Non-skid rubber matting prevents slippage during use.
• Durable, heavy-duty rubber wheels.
• Capacity per pair is 20 tons.
• Covered by OTC Lifetime Warranty®.

5268 – 20-ton truck ramps handle up to 10’ tread width.
5269 – Wide 20-ton truck ramps handle up to 16’ tread width.
**R-1234yf Systems**

These machines will test, recover and recharge R-134a and R-1234yf automotive A/C system quickly and accurately.

<table>
<thead>
<tr>
<th>Features</th>
<th>34288NI</th>
<th>34788NI</th>
<th>34788NI-H</th>
<th>34988NI</th>
<th>AC1234-4</th>
<th>AC1234-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fully Automatic Function: Program to recover, vacuum, leak test and charge without operating panel valves.</td>
<td>Manual Valves</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Automatic fluid drain/inject</td>
<td>Oil drain</td>
<td>Oil drain/inject*</td>
<td>Oil drain</td>
<td>Oil drain/inject, dye inject***</td>
<td>Oil drain</td>
<td>Oil drain</td>
</tr>
<tr>
<td>Refrigerant &amp; Oil Database: A/C system capacities for North American market vehicles (Optional – not included with the machine)</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>A/C System Flush: Flushes a vehicle’s A/C system with refrigerant, eliminating any residual oil or other liquid. (Flushing adapters not included)</td>
<td>–</td>
<td>–</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Save &amp; print before and after service data: Allows the user to store before and after service information by vehicle and print this information to provide to a customer.</td>
<td>–</td>
<td>–</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Visual &amp; Audible Alarm: Notifies the user when service is complete, or if a problem has occurred.</td>
<td>–</td>
<td>–</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Vacuum Leak Test: Monitors level after evacuation, informs of possible leak.</td>
<td>–</td>
<td>–</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Automatic Air Purge: Eliminates system-damaging air without monitoring gauges or opening valves.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Automatic Refrigerant Refill: Maintains a user-selectable amount of refrigerant in an internal vessel and signals when it’s time to change supply tank.</td>
<td>–</td>
<td>–</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Vacuum Feature: Defaults to 15 mins, programmable up to 99 mins. “Remaining time” is displayed.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Display: Multilingual.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Refrigerant Charging:</td>
<td>X***</td>
<td>X***</td>
<td>X***</td>
<td>X***</td>
<td>X***</td>
<td>X***</td>
</tr>
<tr>
<td>Refrigerant Management System: Displays refrigerant use and monitors remaining filter life. Prompts appear when 1/3 of filter life remains.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Electric Vehicle: Capable of servicing high voltage electric compressor A/C systems.</td>
<td>–</td>
<td>–</td>
<td>X</td>
<td>–</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>USB2.0 port &amp; Ethernet Network port/audio jack</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Replacement Filter part number 34724</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Printer</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>X</td>
<td>Optional</td>
</tr>
</tbody>
</table>

* One oil bottle. ** Two oil bottles and one UV dye bottle. *** Charge mode from high or low side, or use both sides.

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**New 2019 A/C system capacity databases**

- **34411-J**
  - 134a database
  - For 34788, 34788-H, 34988, 34788NI, 34788NI-H, 34988NI, 34988NI-H, 34988N-H, and 34988N-H machines

- **34412-D**
  - 134a database
  - For 34288NI, 34788NI, 34988NI, 34988NI-H, 34988N-H, and 34988N-H machines

- **34413-B**
  - 1234yf database
  - For AC1234-4 machines

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**Vehicle Database Screens R-134a Vehicle A/C Refrigerant Database 2019**

- Confirm A/C system charge capacities directly from your Robinair A/C RRR machine for R-134a and R-1234yf systems, sold separately.
- Includes charge amounts and component oil capacities for vehicle model years 1997-2019 using R-134a refrigerant and vehicle model years 2013-2019 using R-1234yf refrigerant.
- Database helps ensure the vehicle system is charged with the correct amount of oil, per factory and OEM specification

- **34412-D** – R-134a Vehicle A/C Refrigerant Database 2019. Compatible with new Robinair R-134a machines 34288NI, 34788NI, 34788NI-H, 34988NI.
**Made in USA* - Leak Detectors from Robinair**

**Features**
- Automatic calibration
- Automatic and manual calibration
- Long life, stable sensor
- Three adjustable sensitivity levels
- Low battery indicator
- True mechanical pump
- Uses 4 AA alkaline batteries, included
- Rubberized Santoprene handle grip

**LD3**
- Loud audible alert
- Automatic calibration

**LD3 Features**
- Automatic calibration and reset to ambient
- Three adjustable sensitivity levels
- Low battery indicator
- True mechanical pump
- Uses 4 AA alkaline batteries, included
- Rubberized Santoprene handle grip

**LD5**
- Color display with graphics and visual alerts
- Bar and Pinpoint graphing modes help locate leaks faster
- Loud audible alert
- LED inspection lights
- Automatic and manual calibration

**LD5 Features**
- Unique color graphic LCD display
- Automatic calibration and reset to ambient
- Three adjustable sensitivity levels
- Low battery indicator
- True mechanical pump
- Audio mute function
- Uses 4 AA alkaline batteries, included
- Rubberized Santoprene handle grip

**LD7**
- Color display with graphics and visual alerts
- Bar and Pinpoint graphing modes help locate leaks faster
- Loud audible alert with mute option
- UV and Clear LED inspection lights
- Automatic and manual calibration

**LD7 Features**
- Patented 3 LED UV lights with 395-415 nm; wavelength is optimum for A/C dye fluorescence
- Unique color graphic LCD screen
- Long life, stable sensor lasts up to 10 years
- Sweep mode function to pinpoint leak source
- User friendly message and error screens
- High-intensity LED inspection light
- Three adjustable sensitivity levels
- Low battery indicator
- True mechanical pump
- Audio mute function
- Uses 4 AA alkaline batteries, included
- Rubberized Santoprene handle grip

**41234**
- R1234yf Aluminum Manifolds and Hose Set
  - Easy-to-read 3-1/8" adjustable gauges.
  - Durable aluminum manifold block with fittings.
  - Improved face seal valves provide a tight seal, less wear and improved flow.
  - Easy-to-grip control knobs.

**45111**
- 2-Way Brass Manifold R134a Manifold Hose Kit
  - 90° manual couplers
  - 72° R134a hose set

**UV Leak Detection Kit**
- The easiest and most accurate gun available today.
- No guesswork — a pre-measured application every time.
- One squeeze injects a pre-measured amount (1/8 oz.) of dye. No more adding too much dye.

**Syringe-type Injectors**
- Use these syringe-type injectors to add oil to a fully pressurized A/C system. Fill the barrel with the amount of oil needed, connect the injector, and press the plunger.
- 18480 — R-134A oil injector, PAG labeled
- 18490 — R-134A oil injector, POE labeled
- 18460 — R1234YF oil injector, generic
- 18465 — R1234YF oil injector, PAG labeled
- 18470 — R1234YF oil injector, POE labeled

*Not recommended for UV dye injection.

**Robinair Vacuum Pumps**

**VacuMaster® Single Stage Vacuum Pumps**
- 15115 1.5 CFM Vacuum Pump
- 15310 3 CFM Vacuum Pump
- 15510 5 CFM Vacuum Pump

**VacuMaster® 2-Stage Vacuum Pumps**
- 15150 1.5 CFM Vacuum Pump
- 15300 3 CFM Vacuum Pump
- 15500 5 CFM Vacuum Pump

**CoolTech® Vacuum Pumps**
- 15434 4 CFM Vacuum Pump
- 15600 6 CFM Vacuum Pump