



**LANG** TOOLS  
Professional Tools For 4 Generations

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# Lang Tools

Lang represents hand tools that professional technicians and handymen have used for **80 years**, which assures that you are dealing with performance proven, consumer preferred, professional high quality products.

Visit the Lang Tools website at: [www.langtools.com](http://www.langtools.com)

## COMPRESSION TESTING

### CLT-2 CYLINDER LEAKAGE TESTER WITH 2 GAUGES - 100 PSI/7BAR



- Measures the ability of an engine cylinder to hold compressed air using shop air supplements; a compression tester
- Precision regulator, M14 standard reach adapter on a 26" hose assembly M14 long reach solid adapter
- M68 special gauge has one multicolored band for measuring low, moderate and high leakage, and a scale range from 0-100%

### CLT-4 CYLINDER LEAKAGE TESTER WITH 2 GAUGES - 35 PSI/2.4BAR



### TU-3 UNIVERSAL COMPRESSION TESTER



- Tests compression on domestic and foreign cars and trucks with gasoline engines
- Adapters included: M14 x M18 short solid adapter, M14 x M18 long flex adapter, and M14 long reach adapter
- Screw-in adapters with o-rings provide professional accuracy
- Long flex 12" hose
- Side release valve allows quick re-testing of cylinder without removing adapter
- M68 gauge has a dual scale dial 300 PSI and 21 bar

### TU-7 FLEX DRIVE COMPRESSION TESTER



- Tests domestic and foreign cars and trucks with gasoline engines
- M14 x M18 adapter attached to end of 12" hose
- Separate M14 long reach adapter that can be screwed onto end of hose adapter by hand
- Side release valve allows multiple re-testing without removing tester
- M68 gauge has dual scale dial with ranges from 0-300 PSI and 0-21 bar

### TU-8A QUICK COMPRESSION TESTER



- This handy tester is ideal on cars with easy accessibility to cylinders
- For domestic and imported cars and trucks with gasoline engines
- Short offset stem has universal rubber cone for easy seating in most spark plug holes
- M68 gauge has a dual scale dial with ranges from 0-300 PSI and 0-21 bar

COMPRESSION TESTING

**TU-17**  
**WHISTLE FOR CYLINDER LEAKAGE TESTER**



- Whistles on compression stroke and stops whistling at top dead center
- Quick coupler connects directly to the cylinder hose on CLT-2 and CLT-4 as well as 74498 diesel adapter
- Also used to re-install distributors correctly

**TU-21**  
**SMALL ENGINE COMPRESSION TESTER**



- Will test all small engines with M14 or M18 threads
- Valve core at bottom ensures accurate readings
- M43 gauge has a dual scale dial with ranges from 0-200 PSI and 0-14 bar

**TU-18**  
**WHISTLE - GENERIC**



- Whistles on the compression stroke and stops whistling at approximately top dead center
- Whistle is attached to hose with M14 x M18 spark plug threads
- Very useful to locate approximate Top Dead Center for cylinder leak testing
- Can also be used to set approximate distributor timing

**TU-30A**  
**COMPRESSION TESTER SET**



- Tests compression on all domestic and foreign cars and light trucks with gasoline engines, including mini engines
- M68 gauge has a dual scale dial with ranges from 0-300 PSI and 0-21 bar; includes durable boot for protection
- M14 hose adapter short thread, M14 long thread hose adapter, M10 solid adapter, M12/M16 Ford hose adapter, 8" extension tube and repair parts kit
- 24" extension hose

**TU-20-1 (WITH BOOT)**  
**TU-20-2 (WITHOUT BOOT)**  
**JIFFEE COMPRESSION TESTER W/ GAUGE BOOT**



- M68 gauge has a dual scale dial with ranges from 0-300 PSI and 0-21 bar
- Set also includes the following: Straight adapter with rubber cone, 45° angle adapter with rubber cone, 4" solid extension, and 7-1/2" flex extension

**TU-310C**  
**"HANDS FREE" MOTORCYCLE COMPRESSION TESTER**



- Metal clip can be attached to the gauge; the gauge can then be clipped to the frame, or handle bars allowing hands free testing
- Includes M10, M12, M14 and M18 long reach adapters to test most engines; extra long 16" hose for gauge to reach handle bars
- Also tests domestic and imported small cars and trucks with gasoline engines
- M68 gauge has a dual scale dial with ranges from 0-300 PSI and 0-21 bar

COMPRESSION TESTING

**901**  
**AIR HOLD FITTING SET**



- Use to apply air pressure to keep valves closed while replacing seal/spring
- Includes M14 x M18 adaptors threaded for 1/4"NPT

**73106**  
**MINI GAS ENGINE ADAPTER M14 x M18**



- For small displacement engines such as jet skis, string trimmers, small motorcycles, chain saws and more
- Can be used with TU-3, TU-30 or TU-310 only

**73111**  
**M12 & M16 COMPRESSION FORD ADAPTER**



- For testing compression on Ford Triton engines with M12 and M16 threads

**73102**  
**M10 x 1.00 MALE BY M14 x 1.25 FEMALE SOLID ADAPTER**



- For testing compression on small engines such as: snowmobiles, motorcycles, outboard motors and more
- Male thread is M10 x 1.00, female is M14 x 1.25
- Use with any compression tester with a M14 fitting

**73109**  
**COMPRESSION ADAPTER 73109**



- Combination compression adapter to be used on cylinder heads with M14 x 1.25 and M18 x 1.50 threads
- 16" hose

**73103**  
**M12 x 1.25 MALE BY M14-1.25 FEMALE SOLID ADAPTER**



- For testing compression on small engines such as: snowmobiles, motorcycles, outboard motors and more
- Male thread is M12 x 1.25, female is M14 x 1.25
- Use with any compression tester with a M14 fitting

**73110**  
**M14 COMPRESSION ADAPTER EXTENSION**



- 8" long M14 x 1.25 compression test adapter provides easier access for compression testing where spark plug holes are recessed
- Rigid straight tubing is easier to thread into a recessed spark plug hole than a threaded adapter on the end of a test hose



TU-30A: Compression Tester Set

ENGINE OIL PRESSURE TESTING

**TU-4A**  
**AUTOMATIC TRANS-  
MISSION & ENGINE OIL  
PRESSURE TESTER**



- Checks oil pressure in automatic transmissions and gasoline engines
- Tests most domestic and imported cars and light trucks
- More accurate than dashboard oil pressure gauges. Especially helpful on cars with dash indicator light only
- With 6 feet of nitrile (oil proof) hose to make testing easier with 1/8NPT connection
- M68 gauge has a dual scale dial with ranges from 0-300 PSI and 0-21 bar
- 11 standard and metric fittings

**TU-11A**  
**DELUXE AUTO TRANS-  
MISSION & ENGINE OIL  
PRESSURE TESTER**



- Tests most domestic and imported cars and light trucks
- Lower scale is expanded to allow easier reading and therefore, more accurate reading at low pressure
- With 6 feet of nitrile (oil proof) hose to make testing easier with 1/8NPT connection
- M91 gauge has a dual scale dial with ranges from 0-400 PSI and 0-28 kg/cm2
- 11 standard and metric fittings

**TU-12**  
**ENGINE OIL  
PRESSURE TESTER**



- More accurate than dashboard oil pressure gauges. A must for cars with dash indicator light only
- M68 gauge has a dual scale dial with ranges from 0-100 PSI and 0-7 bar
- The hook on gauge enables the technician to hang up gauge and hose assembly to free his hands
- 24" hose with 1/8 NPT connection
- 2 fittings: 1/4 NPT and 3/8 NPT

**TU-16A**  
**QUICK CHANGE AUTOMATIC  
TRANSMISSION TO ENGINE  
OIL PRESSURE TESTER**



- Checks engine oil pressure and automatic transmission pressure on cars, trucks, motorcycles, etc., both domestic and imports
- Set includes 22 color-coded standard and metric fittings
- M68 gauge has dual scale with ranges from 0-100 PSI and 0-7 bar
- M91 gauge has dual scale dial with ranges from 0-400 PSI and 0-28 bar
- 6 ft hose with quick coupler for easy gauge changing and 1/8 NPT connection

**70408**  
**METRIC OIL AND  
TRANSMISSION ADAPTERS**



- M12 x 1.50 Metric adapter
- M14 x 1.50 Metric adapter
- M18 x 1.50 Metric adapter

FUEL INJECTION PRESSURE TESTING

**TU-26**  
**GM TBI FUEL INJECTION  
THRU FILTER TEST SET  
(W/ MANIFOLD)**



- For testing fuel pressure at the fuel filter on GM TBI systems
- Selecting the same adapter as the fuel filter, the adapter can then be screwed onto manifold by hand. Manifold connects to fuel lines in place of fuel filter
- Can be used with all Lang Tools Fuel Injection Testers and Cleaners, or others with a standard GM Schrader adapter
- 7 adapters plus manifold

**TU-113C**  
**FUEL INJECTION TESTER -  
U.S. AND IMPORTS**



- M68 gauge has a dual scale dial with ranges from 0-100 PSI and 0-7 bar
- Standard Schrader (GM)
- Small Schrader (Ford)
- M6 x 1.00 adapter (Honda)
- Tee manifold

**TU-443**  
**DELUXE FUEL INJECTION  
PRESSURE TEST SET**



- M91 gauge has a dual scale dial with ranges from 0-100 PSI and 0-7 bar
- Set has a relief valve and 6 ft. of tubing to relieve the pressure and the fuel safely. Also allows checking for sufficient fuel flow
- The 4 ft. hook on gauge enables the technician to hang up gauge and hose assembly to free his hands
- 29 adapters (see page 25)
- Quick coupler connection at the end of the gauge hose

**TU-446C**  
**BASIC FUEL INJECTION PRES-  
SURE TEST SET - GM T.B.I.**



- Test cars with single and dual injectors
- Only use this tester on GMTBI
- M68 gauge has a dual scale dial with ranges from 0-60 PSI and 0-4 bar, with hook which enables the technician to hang up gauge and hose assembly to free his hands
- 16" gauge hose with quick coupler
- 4 adapter/adaptor kits (see page 25)
- TBI hose assembly

**TU-447C**  
**BASIC FUEL INJECTION  
TESTER - BOSCH C.I.S.**



- M68 gauge (with hook for hands-free use) has a dual scale dial with ranges from 0-100 PSI and 0-7 bar
- 16" gauge hose, and quick disconnect CIS hose assembly
- 9 adapters (see page 25)

**TU-448C**  
**BASIC FUEL INJECTION  
PRESSURE TESTER**



- M68 gauge (with hook for hands-free use) has a dual scale dial with ranges from 0-100 PSI and 0-7 bar
- 16" gauge hose assembly, and quick coupler connection
- 14 adapters (see page 25)

FUEL INJECTION PRESSURE TESTING

TU-449  
HARLEY FUEL PRESSURE  
TEST KIT



- M91 gauge (with hook for hands-free use) has a dual scale dial with ranges from 0-100 PSI and 0-7 bar; includes durable boot for protection
- Use to diagnose driveability issues on fuel injected Harley-Davidson motorcycles
- Easy installation for in-line

TU-457P  
FUEL INJECTION TESTER -  
GM - MULTI PORT ONLY



- For GM domestic cars with large Schrader adapter- light trucks, vans, and sport-utility vehicles with multi-port
- M68 gauge (with hook for hands-free use) has a dual scale dial with ranges from 0-100 PSI and 0-7 bar

TU-469  
FUEL INJECTION PRESSURE  
TESTER WITH SCHRADER  
ADAPTERS



- Enables testing on all cars with standard or small Schrader valves
- M91 gauge (with hook for hands-free use) has a dual scale dial with ranges from 0-100 PSI and 0-7 bar
- Quick Coupler connection at end of gauge hose (other QC adapters can be purchased as needed)

TU-470B  
FUEL INJECTION  
CLEANER- 2 GAUGES



- Two gauges enable a technician to check the vehicle fuel pressure with the bottom gauge, and then easily set cleaning pressure with the top gauge by referring to vehicle fuel pressure on the bottom gauge
- Cleans carbon from intake valves, fuel passages, and cylinders with a professional carbon cleaning solution, which will restore the original spray pattern more effectively, giving improved performance, fuel economy, and emission tests
- Both gauges are M68 and have dual scale dials with ranges from 0-100 PSI and 0-7 bar



TU-470B: Fuel Injection Cleaner - 2 Gauges

FUEL INJECTION PRESSURE TESTING

TU-550  
MASTER GLOBAL FUEL  
INJECTION TEST KIT



- Covers all major domestic and foreign platforms 1988 to present (does not include CIS/TBI)
- M91 test gauge (includes boot for protection) assembly disconnects from test hose and valve assembly for easier storage and improved gauge protection
- Fuel line tee can accommodate 3/8" hose sizes in addition to the 1/4" and 5/16" previously accommodated hose sizes

74476  
6-FT. ROAD TESTER HOSE



- 6' extension hose works with any Lang fuel injection testers with quick connects

FUEL INJECTION PRESSURE TESTER UPDATE KITS

74489  
FUEL INJECTION  
UPDATE KIT I



- Consists of right angle adapters for Ford, GM, etc.; deadhead pressure check adapter and quick connects for Chrysler, GM, etc.

TU-540-1  
FUEL INJECTION EX-  
PANSION KIT FOR TU-540



- Expands TU-540, enabling fuel injection pressure tests on all major domestic and foreign vehicle platforms to present

TU-443-2  
FUEL INJECTION UPDATE  
KIT II (TU-443 TO TU-550)



- Updates TU-443 enabling fuel injection pressure tests on all major vehicle platforms on the market thru present, domestic and foreign

TU-540-2  
CIS/TBI ADAPTER KIT



- Works in conjunction with TU-550 to allow fuel injection pressure testing on all TBI and CIS vehicles


TU-443-3  
FUEL INJECTION UPDATE  
KIT III (TU-443U TO TU-550)




- Updates TU-443U enabling fuel injection pressure tests on all major vehicle platforms on the market thru present, domestic and foreign

FUEL INJECTION ADAPTERS & REPLACEMENT PARTS


**33062**  
HOSE 3/16" ID X 6 FEET



**34021**  
1/4" I.D. X 6" FUEL HOSE




**35031**  
5/16" I.D. X 6" FUEL HOSE




**36032**  
3/8" I.D. X 6" FUEL HOSE




**41303**  
3/16" HOSE BARB X QC BODY




**41310**  
3/16 HOSE BARB X QC PLUG




**41327**  
OTC QUICK COUPLER BODY




**41576**  
BENT TUBE W/ 3/8" INVERTED FLARE NUT




**43110**  
5 PACK - O-RING




**43141**  
5 PACK - O-RING M14



**60236**  
M16 x 1.50 FEMALE BY 3/8" TUBE END




**60238**  
M14 x 1.50 FEMALE BY 3/8" TUBE END




**60239**  
J-BODY ADAPTER




**60410**  
M8 x 1.00 FEMALE BY M12 x 1.50 MALE



**60440**  
M10 x 1.00 FEMALE BY M12 x 1.50 MALE




**60772**  
OTC QUICK COUPLER PLUG




**61333**  
6MM ADAPTER EXTENSION FOR KIA & HYUNDAI



**71301**  
STANDARD SCHRADER HOSE ASSEMBLY




**71302**  
SMALL PARTS KIT




**71303**  
SMALL SCHRADER HOSE ASSEMBLY




**71304**  
M6 x 1.00 (HONDA) HOSE ASSEMBLY



**71305**  
VOLVO ADAPTER, 14MM LH JETRONIC



**71306**  
M11 O-RING ADAPTER



**71308**  
M14 x 1.50 INVERTED FLARE MALE AND FEMALE CONNECTIONS



FUEL INJECTION ADAPTERS & REPLACEMENT PARTS


**71313**  
FORD EFI SPRING LOCK ADAPTER W/ QUICK COUPLER PLUG




**71314**  
FORD CFI ADAPTER, 5/16" QUICK DISCONNECTS



**71315**  
SPRING LOCK ADAPTER W/ SMALL SCHRADER




**71316**  
ADAPTER, 5/16" QUICK DISCONNECTS W/ SMALL SCHRADER




**71317**  
MANIFOLD W/QUICK COUPLER PLUG




**71318**  
STANDARD SCHRADER HOSE ASSEMBLY W/QUICK COUPLER PLUG




**71319**  
SMALL SCHRADER HOSE ASSEMBLY W/QUICK COUPLER PLUG




**71321**  
M16 O-RING ADAPTER



**71327**  
FUEL INJECTION KIT




**71328**  
1/4" HOSE BARB W/QUICK COUPLER PLUG




**71329**  
HOSE ASSEMBLY (AUDI, VW, VOLVO)




**71330**  
HOSE ASSEMBLY (TOYOTA, GEO)




**71403**  
ADAPTER KIT



**71404**  
ADAPTER M8 x 1.00 MALE BY M12 x 1.50 MALE W/O-RING




**71405**  
ADAPTER M10 x 1.00 MALE BY M12 x 1.50 MALE W/O-RING




**71406**  
ADAPTER M8 x 1.00 MALE BY M12 x 1.50 MALE W/O-RING (3" OVERALL)




**71408**  
CONNECTING HOSE AND VALVE ASSEMBLY FOR BOSCH CIS




**72305**  
BENT TUBING W/ 3/8" INVERTED FLARE NUT BY M16x 1.50 NUT, 3/8" O-RING FLARE




**72306**  
ADAPTER M16 x 1.50 THREAD W/ 3/8" O-RING FLARE BY 3/8" TUBE FITTING




**72308**  
CONNECTING HOSE FOR GM TBI 3/8" INVERTED FLARE ENDS W/QUICK COUPLER PLUG



**72309**  
ADAPTER M14 x 1.50 THREAD W/ 3/8" O-RING FLARE BY 3/8" TUBE FITTING

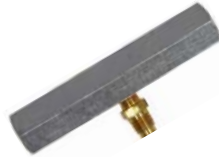


**71409**  
CIS & BANJO BOLD ADAPTER SET



## FUEL INJECTION ADAPTERS &amp; REPLACEMENT PARTS

**72315**  
MANIFOLD W/  
SCHRADER



**72316**  
ADAPTER  
ASSEMBLY



**72317**  
ADAPTER  
ASSEMBLY



**72318**  
ADAPTER  
ASSEMBLY



**72319**  
ADAPTER  
ASSEMBLY



**72320**  
ADAPTER  
ASSEMBLY



**72322**  
ADAPTER SET  
CONSISTING OF:  
60236, 72305, &  
72306



**72323**  
ADAPTER KIT



**74424**  
M91/100 PSI  
GAUGE



**74425**  
RELEASE VALVE  
TUBING



**74426**  
M12 x 1.00  
HONDA PULSE  
DAMPENER  
ADAPTER



**74431**  
BANJO BOLT  
M6 x 1.00 WITH  
O-RING



**74432**  
BANJO BOLT  
M8 x 1.00 WITH  
NYLOTRON  
WASHER



**74433**  
BANJO BOLT  
M10 x 1.00  
W/ NYLOTRON  
WASHER



**74434**  
BANJO BOLT  
M12 x 1.25 WITH  
NYLOTRON WASHER



**74435**  
BANJO BOLT  
M12 x 1.50 W/  
NYLOTRON  
WASHER



**74437**  
REPAIR PARTS KIT



**74438**  
M91/100 PSI  
GAUGE HOSE AND  
RELIEF VALVE



**74440**  
M68/100 PSI  
GAUGE AND  
HOSE



**74442**  
M68/60 PSI  
GAUGE AND HOSE



## FUEL INJECTION ADAPTERS &amp; REPLACEMENT PARTS

**74444**  
BOSCH CIS  
UPGRADE KIT



**74445**  
UPGRADE KIT  
(EXCEPT CIS/TBI)



**74446**  
RELIEF VALVE  
AND TUBING  
ASSEMBLY



**74454**  
OTC CONVER-  
SION, USE  
ADAPTERS W/  
OTC CANISTER



**74455**  
TUBING KIT  
3/8" TUBE  
W/ INVERTED  
FLARE NUTS  
& HOSE CLAMPS



**74459**  
QUICK COUPLER  
SOCKET BY  
MALE STANDARD  
SCHRADER



**74469**  
CONVERSION  
ADAPTER FOR  
OTC ADAPTERS



**74471**  
M14 x 1.50 BANJO  
BOLT (FOR CIS)



**74476**  
6-FT. ROAD  
TESTER HOSE



**74484**  
5/16" QUICK DIS-  
CONNECT HOSE  
ASSEMBLY W/  
QUICK COUPLER  
PLUG: CHRYSLER/  
FORD



**74485**  
3/8" QUICK DIS-  
CONNECT HOSE  
ASSEMBLY W/  
QUICK COUPLER  
PLUG: GM



**74486**  
GSI CONVERSION,  
USE GSI  
ADAPTERS W/  
STAR CANISTER



**74487**  
HOSE ASSEMBLY:  
74484 & 74485



**74488**  
HOSE ASSEMBLY:  
74492 & 74493



**74492**  
5/16" QUICK  
DISCONNECT  
HOSE ASSEMBLY  
W/ STANDARD  
SCHRADER  
TEST PORT



**74493**  
3/8" QUICK DIS-  
CONNECT HOSE  
ASSEMBLY W/  
STANDARD  
SCHRADER  
TEST PORT



**74494**  
GM TUBING KIT



**74495**  
GM ADAPTER KIT



**74499**  
1/4" QUICK DIS-  
CONNECT HOSE  
W/STANDARD  
SCHRADER



**74571**  
GAUGE & HOSE  
ASSEMBLY



**74701**  
GAUGE & HARD-  
WARE ASSEMBLY



**74851**  
DEADHEAD  
ALUMINUM  
ADAPTER



**74852**  
SCHRADER GM  
RIGHT ANGLE  
ADAPTER



**74853**  
SMALL SCHRADER  
RIGHT ANGLE  
ADAPTER



**74854**  
FUEL INJECTION  
UPDATE KIT



FUEL INJECTION ADAPTERS & REPLACEMENT PARTS

Part No.	Description	TU-26	TU-113	TU-443	TU-446	TU-447	TU-448	TU-457	TU-469	TU-480A	TU-485A	TU-550	74476	74489	TU-443-2	TU-443-3	TU-540-1	TU-540-2
33062	Hose 3/16" ID x 6 feet												•					
34021	Hose 1/4" ID x 6"										•							
35031	Hose 5/16" ID x 6"										•							
36032	Hose 3/8" ID x 6"				•													•
41303	3/16" hose barb x quick coupler body												•					
41310	3/16" hose barb x quick coupler plug												•					
41327	Female quick coupler plug, conversion adapter for OTC																	
41576	Bent tube with 3/8" inverted flare nut			•						•								
43110	O-ring 5/16" x 7/16"														•	•		
43141	O-ring M14 .424" ID x .103"														•	•		
52003	Red Plastic Case											•						
52101	Gray Plastic Case	•	•								•							
52105	Gray Plastic Case			•						•								
52107	Gray Plastic Case				•	•	•											
52110	Gray Plastic Case							•										
60236	M14x1.50 female by 3/8" tube end			•						•								•
60238	M16x1.50 female by 3/8" tube end			•						•								•
60239	Union 3/8" inverted flare by M16x1.50			•						•								•
60410	M8x1.00 female by M12x1.50 male			•						•								
60440	M10x1.00 female by M12x1.50 male			•						•								
60507	21-oz bottle Lang branded										•							
60772	Male quick coupler plug, conversion adapter for OTC																	
61333	6mm adapter extensions for Kia and Hyundai																	
71301	Standard Schrader hose assembly		•															
71302	Small parts kit		•															
71303	Small Schrader hose assembly		•															
71304	M6x1.00 (Honda) hose assembly		•															
71305	Volvo adapter, 14mm LH Jetronic			•						•								
71306	11mm o-ring adapter for popular Nissan and Infiniti											•			•	•	•	
71308	Adapter for Geo Storm and Isuzu I-Tec systems, M14x1.50 3/8" inverted flare male and female connections			•			•			•								

FUEL INJECTION ADAPTERS & REPLACEMENT PARTS

Part No.	Description	TU-26	TU-113	TU-443	TU-446	TU-447	TU-448	TU-457	TU-469	TU-480A	TU-485A	TU-550	74476	74489	TU-443-2	TU-443-3	TU-540-1	TU-540-2
71313	Ford EFI spring lock adapter with quick coupler plug			•			•			•	•	•						
71314	Ford CFI adapter, 5/16" quick disconnects			•			•			•	•							
71315	Ford EFI spring lock adapter with small Schrader test port																	
71316	Ford CFI adapter, 5/16" quick disconnects with small Schrader test port																	
71317	Manifold with quick coupler plug for 5/16" and 1/4" ID hose			•						•	•	•						
71318	Standard Schrader hose assembly with quick coupler plug			•			•		•	•	•	•						
71319	Small Schrader hose assembly with quick coupler plug			•			•		•	•	•	•						
71321	16mm o-ring adapter for popular Hyundai and Mitsubishi											•			•	•		
71327	Kit contains: 34021, 35031, 71317, 71328, 74431, 74432, 74433, 74434 and 74435						•											
71328	1/4" hose barb with quick coupler plug			•						•								
71329	Hose assembly (Audi, VW, Volvo)											•					•	
71330	Hose assembly (Toyota, Geo)											•					•	
71403	Adapter Kit																	•
71404	Adapter M8x1.00 male by M12x1.50 male with o-ring			•						•								
71405	Adapter M10x1.00 male by M12x1.50 male with o-ring			•						•								
71406	Adapter M8x1.00 male by M12x1.50 male with o-ring (3" overall)			•						•								
71408	Connecting hose and valve assembly for Bosch CIS			•		•				•								•
71409	CIS and banjo bolt adapter set consists of: 60410, 60440, 71404, 71405, 71406, 74432, 74433, 74435					•												
72305	Bent tubing with 3/8" inverted flare nut by M16x1.50 nut, 3/8" o-ring flare			•						•								
72306	Adapter M16x1.50 thread with 3/8" o-ring flare by 3/8" tube fitting			•						•								•
72308	Connecting hose for GMTBI 3/8" inverted flare ends with quick coupler plug			•	•					•								•
72309	Adapter M14x1.50 thread with 3/8" o-ring flare by 3/8" tube fitting			•						•								•

FUEL INJECTION ADAPTERS & REPLACEMENT PARTS

Part No.	Description	TU-26	TU-113	TU-443	TU-446	TU-447	TU-448	TU-457	TU-469	TU-480A	TU-485A	TU-550	74476	74489	TU-443-2	TU-443-3	TU-540-1	TU-540-2
72315	Manifold with standard Schrader	●																
72316	3/8" male stem adapter GM/TBI	●																
72317	3/8" flare adapter GM/TBI	●																
72318	M16x1.50 GMTBI adapter	●																
72319	M16x1.50 female by 3/8" quick coupler plug	●																
72320	M16x1.50 long stem quick coupler GM/TBI	●																
72321	Cut hose, 3 pieces. Consists of: 34201,35031 and 36032		●							●		●						
72322	Consists of 60236, 72305 and 72306																	
74423	Repair parts kit											●						
74424	Gauge assembly											●						
74425	Hose assembly											●						
74426	M12x1.00 Honda pulse dampener adapter											●			●	●	●	
74431	Banjo bolt M6x1.00 with o-ring		●							●	●	●					●	
74432	Banjo bolt M8x1.00 with nylotron washer		●							●	●	●						
74433	Banjo bolt M10x1.00 with nylotron washer		●							●	●	●					●	
74434	Banjo bolt M12x1.25 with nylotron washer		●							●	●	●					●	
74435	Banjo bolt M12x1.50 with nylotron washer		●							●	●	●						
74437	Repair parts kit		●	●	●	●				●	●							●
74438	100 PSI gauge, hose and relief valve		●						●	●								
74440	100 PSI gauge and hose				●	●												
74442	60 PSI gauge and hose			●														
74444	Bosch CIS kit: 71408 and 71409																	
74445	Upgrade kit (except CIS/TBI): 71308, 71313, 71314, 71318, 71319 and 71327																	
74446	Relief valve and tubing assembly																	
74454	OTC-style conversion adapter, use Lang adapters with OTC canister																	
74455	Straight tubing, nut and clamp parts kit			●	●					●		●						●
74459	Quick coupler socket by male standard Schrader																	
74469	Conversion adapter OTC																	

FUEL INJECTION ADAPTERS & REPLACEMENT PARTS

Part No.	Description	TU-26	TU-113	TU-443	TU-446	TU-447	TU-448	TU-457	TU-469	TU-480A	TU-485A	TU-550	74476	74489	TU-443-2	TU-443-3	TU-540-1	TU-540-2
74471	M14x1.50 banjo bolt (for CIS)											●			●	●		
74476	Road tester hose												●					
74484	5/16" quick disconnect hose assembly with quick coupler plug: Chrysler, Ford										●	●		●	●			
74485	3/8" quick disconnect hose assembly with quick coupler plug: GM										●	●		●	●			
74486	GSI conversion adapter, use GSI adapters with Lang gauges and canister																	
74487	Hose assembly: 74484 and 74485																	
74488	Hose assembly: 74492 and 74493																	
74492	5/16" quick disconnect hose assembly with standard Schrader test port																	
74493	3/8" quick disconnect hose assembly with standard Schrader test port																	
74494	GM tubing kit, consists of adapters: 41576 and 72305				●													●
74495	GM adapter kit, consists of adapters: 60236, 60238, 60239, 72306, 72309 and 74434				●													
74499	1/4" quick disconnect hose assembly with quick coupler plug																	
74571	Gauge and hose assembly						●											
74701	Gauge and hardware assembly										●							
74852	Standard Schrader right angle adapter with quick coupler plug											●		●				
74853	Small Schrader right angle adapter with quick coupler plug											●		●				
74854	Fuel injection update kit, consists of adapters: 74851, 74852 and 74853										●				●		●	

MISCELLANEOUS TEST EQUIPMENT

TU-1  
DELUXE VACUUM & FUEL  
PUMP TESTER



- Comes complete with 2 feet of high quality hose, plus 3 fittings to test all domestic and foreign cars and trucks with gasoline engines
- M91 compound gauge has a multicolor dual scale dial with ranges from 0-10 PSI / 0-0.7 kg/cm2 pressure; and 0-28 inHg / 0-70 cmHg vacuum
- Hook on gauge enables the technician to hang up gauge and hose assembly to free his hands
- Assists in diagnosing a variety of problems: fuel pump pressure; leaky, burnt, or sticky valves; leaky intake manifold; restricted exhaust systems; turbo pressures; worn piston rings; incorrect timing; heating and air conditioning controls; wind shield wipers; power brakes; emission control devices

TU-24A  
THREE-WAY EXHAUST  
BACK PRESSURE KIT



- This Three-Way tester allows quicker and more accurate testing of exhaust blockages in catalytic converters, mufflers, etc
- M68 special gauge has two multi-colored bands for measuring at Idle and 2500 RPM. The scale ranges are in PSI and bar. Boot included on gauge for extra protection
- Hose is 6 feet, enough length for the technician to test from the drivers seat
- Can test in THREE different places: Oxygen Sensor, Exhaust Pipes, and Air Injection System

TU-2  
FLEXIBLE VALVE  
AIR-HOLD TOOL



- This tool allows replacement of valve seals and broken or weak valve springs on OHV and OHC engines without removing the head by applying air to cylinder through spark plug hole
- Flexible design makes job easier and quicker where spark plug holes are hard to get at
- Overall length 13-in., with one end M14 and M18 threads fit spark plug hole. Other end 1/4-in. female pipe thread for coupler plug attachment
- After attaching plug and quick coupler, air pressure keeps valve closed while working

TU-25  
STANDARD VACUUM  
& FUEL PUMP TESTER



- Assists in diagnosing a variety of problems on domestic and imported vehicles: fuel pump pressure; leaky, burnt, or sticky valves; leaky intake manifold; restricted exhaust systems; turbo pressures; worn piston rings; incorrect timing; heating and air conditioning controls; wind shield wipers; power brakes; emission control devices
- M68 compound gauge has a multicolor dual scale dial with ranges from 0-10 PSI / 0-0.7 kg/cm2 pressure; and 0-30 inHg / 0-1.0 bar vacuum
- Complete with hose, fittings, instructions, and specifications

TU-22A  
POWER STEERING  
& RACK TESTER



- Takes the guesswork out of power steering analysis quickly and accurately by detecting defective power steering pumps; gears, plus kinked or clogged lines
- Includes most adapters to test domestic cars and light trucks, and some imports
- M68 gauge has a dual scale dial with ranges from 0-2000 PSI and 0-140 bar

TU-29  
BASIC EXHAUST  
BACK PRESSURE KIT



- Enables technician to test exhaust back pressure thru oxygen sensor
- Oxygen Sensor adapter includes M12 and M18 thread
- The special M68 gauge has two multi-colored bands - idle and 2500 RPM, with pressures shown in PSI and bar; includes boot for protection
- Hose is 6 feet, enough length for the technician to test from the driver's seat

COMPRESSION TESTING

74498  
DIESEL ADAPTER  
FOR CYLINDER  
LEAKAGE TESTER



- Connects CLT-2 or CLT-4 to diesel adapters
- Measure diesel engine cylinder ability to hold compressed shop air

TU-15-51  
DIESEL COMPRESSION  
TEST SET



- 7 adapters (see chart on page 20)
- TU-15 gauge assembly

TU-15-70  
DIESEL COMPRESSION  
TEST SET WITH TESTER  
AND ADAPTERS



- Test heavy-duty trucks and equipment
- 14 adapters (see chart on page 20)
- TU-15 gauge assembly

TU-17  
WHISTLE FOR CYLINDER  
LEAKAGE TESTER



- Whistles on compression stroke and stops whistling at top dead center
- Quick coupler connects directly to the cylinder hose on CLT-2 and CLT-4

TU-15-52B  
DIESEL COMPRESSION  
TEST SET - LIGHT  
CARS/TRUCKS



- 7 adapters (see chart on page 20)
- TU-15 gauge assembly

TU-15-71  
DIESEL COMPRESSION  
ADAPTER SET



- Same as TU-15-70 with the exception of the gauge
- 14 adapters (see chart on page 20)

TU-15  
DIESEL COMPRESSION TESTER



- Deflator button for repeat testing
- Swivel-end Quick Coupler
- M68 gauge has a dual scale dial 1000 PSI, 70 bar in red and black dial

TU-15-53  
DIESEL COMPRESSION  
TEST SET



- 9 adapters (see chart on page 20)
- TU-15 gauge assembly

COMPRESSION TESTING

DIESEL COMPRESSION SET CHART

Part #	Description	TU-15	TU-15-51	TU-15-52B	TU-15-53	TU-15-70	TU-15-71
TU-15	Gauge, hose, quick connect	•	•	•	•	•	
52110	Case	•					
52102	Case		•	•	•		
52011	Case					•	•
56244	Adapter Chart		•	•	•	•	•
42553	Instructions		•	•	•	•	•
TU-15-1A	Glow Plug		•		•		
TU-15-2A	Glow Plug		•		•		
TU-15-3A	Glow Plug		•	•	•		
TU-15-4A	Injector		•	•	•	•	•
TU-15-5	Glow Plug		•	•	•		
TU-15-6	Glow Plug		•	•	•		
TU-15-8	Injector					•	•
TU-15-9	Injector					•	•
TU-15-11A	Injector					•	•
TU-15-12A	Injector					•	•
TU-15-13A	Motometer			•			
TU-15-14	Glow Plug		•	•	•	•	•
TU-15-17	Injector				•	•	•
TU-15-18A	Injector					•	•
TU-15-19	Injector					•	•
TU-15-20	Injector					•	•
TU-15-21	Injector					•	•
TU-15-22A	Glow Plug				•		
TU-15-23	Glow Plug			•		•	•
TU-15-28	Extension					•	•
TU-15-29	Extension					•	•

TU-15-1A  
M10 x 1.00 GLOW PLUG

TU-15-2A  
M10 x 1.00 GLOW PLUG

TU-15-3A  
M10 x 1.25 GLOW PLUG

TU-15-4A  
M24 x 2.00 INJECTOR



COMPRESSION TESTING

DIESEL COMPRESSION TEST ADAPTERS

TU-15-5  
M12 x 1.25, M18 x 1.50  
GLOW PLUG

TU-15-6  
M12 x 1.25, M18 x 1.50  
GLOW PLUG

TU-15-8  
7/8" INJECTOR

TU-15-9  
1" INJECTOR

TU-15-11A  
M21 INJECTOR

TU-15-12A  
M24 INJECTOR  
DETROIT DIESEL

TU-15-13A  
MOTOMETER

TU-15-14  
M10 x 1.25 GLOW PLUG

TU-15-15  
SNAP-ON/OTC

TU-15-17  
M24 x 1.50 INJECTOR

TU-15-18A  
M17 INJECTOR

TU-15-19  
M17 INJECTOR

TU-15-20  
3/8" INJECTOR

TU-15-21  
9/16" INJECTOR

TU-15-22A  
M10 x 1.00 GLOW PLUG - FORD/NAVISTAR

TU-15-23  
M12 x 1.25 GLOW PLUG

TU-15-24  
M14 x 1.25 GLOW PLUG

TU-15-25  
INTERNATIONAL  
DT466, DT530

TU-15-26  
CUMMINS ISB

TU-15-27  
CUMMINS ISC

TU-15-28  
CUMMINS NCT/NTS

TU-15-29  
CUMMINS N14

TU-15-30  
TESTER 7" EXTENSION

TU-15-31  
TEST 90 DEGREE ADAPTER

COMPRESSION TESTING

DIESEL COMPRESSION TEST ADAPTERS

**TU-15-32**  
45 DEGREE  
ADAPTER



**TU-15-36**  
MACK E6 & E7



**TU-15-40**  
PERKINS 4.108  
ENGINES



**TU-15-44**  
CATERPILLAR 3126B  
AND 3126E



**TU-15-48**  
CATERPILLAR



**TU-15-77**  
CATERPILLAR  
3500 SERIES



**TU-15-81**  
CATERPILLAR  
C7 & C9



**TU-15-33**  
DETROIT DIESEL  
50 & 60



**TU-15-37**  
MBE-900 AND  
MBE-4000



**TU-15-41**  
PERKINS AND  
CATERPILLAR



**TU-15-45**  
CATERPILLAR 3176



**TU-15-49**  
CATERPILLAR 3406E



**TU-15-78**  
CUMMINS ISX



**TU-15-34**  
M20 x 1.50



**TU-15-38**  
6.6L DURAMAX  
M10 x 1.25



**TU-15-42**  
CATERPILLAR 3116



**TU-15-46**  
CATERPILLAR 3196



**TU-15-75**  
CUMMINS ISB



**TU-15-79**  
INTERNATIONAL  
MAXXFORCE



**TU-15-35**  
M8 x 1.00



**TU-15-39**  
M22 x 1.50  
MERCEDES BENZ



**TU-15-43**  
CATERPILLAR 3126  
AND 3126B



**TU-15-47**  
CATERPILLAR 3304



**TU-15-76**  
CATERPILLAR  
3408E/3412E



**TU-15-80**  
GLOW PLUG FORD  
6.7L M8 x 1.00



COMPRESSION TESTING

APPLICATION CHART FOR DIESEL COMPRESSION TEST ADAPTERS

Application	Engine	Type	Thread	Adapter
Allis Chalmers	6000, 7000, 10000, 11000	Injector M21	-	TU-15-11A
Audi	Early Models, see VW for TDI	Injector	M24 x 2.00	TU-15-4A
	(1982-83) 4000, 4000 Quattro 1.6L	Glow Plug	M12 x 1.25	TU-15-6
	(1979-85) 5000 Quattro 2.0L			TU-15-23
Bedford	200, 220, 300, 330, 466	Injector M21	-	TU-15-11A
BMW	2.4L MFiTurbo	Glow Plug	M12 x 1.25	TU-15-6
				TU-15-23
Caterpillar	D336, 1674, 1676, 3406, 3408, 3412 3406B	Injector 9/16"	7/8"-14	TU-15-21
	3208, 110	Injector 3/8"	-	TU-15-20
	3022, 3023, 3024, 3034	Glow Plug	M10 x 1.25	TU-15-14
	3116	Injector	-	TU-15-42
	3054, 3056	Injector	M24 x 1.50	TU-15-41
	3126, 3126B	Injector	-	TU-15-43
	3126D, 3126E	Injector	-	TU-15-44
	3176, C10, C11	Injector	-	TU-15-45
	3196, C12, C13	Injector	-	TU-15-46
	3304	Injector	-	TU-15-47
	3204, Late Model 3208, 3304B, 3306C, 3406C	Injector	-	TU-15-48
	3406E, C15, C16	Injector	-	TU-15-49
	3408E, 3412E	Injector	-	TU-15-76
	3500 Series	Injector	-	TU-15-77
Chevette/Isuzu	C7, C9	Injector	-	TU-15-81
	1.8L, 2.2L	Glow Plug	M10 x 1.25	TU-15-3A
Cummins	V-185, V-210, V-225, V-555, VT-255, VT-555	Injector 7/8"	-	TU-15-8
	NH, V6, V8, V12, All 5-1/2" Bore NH, and 903 V8 Cylinder PTB	Injector 1"	-	TU-15-9
	N14	Extension	-	TU-15-29
	NTC, NTS, M11, ISM, L10	Extension	-	TU-15-28
	1998-2002 ISB 5.9L	Injector	-	TU-15-26
	2003-Present ISB 5.9L, 6.7L	Injector	-	TU-15-75
	1998- 2003 ISC, ISL	Injector	-	TU-15-27
	1984-1998 B Series 2.9L, 3.9L, 5.9L, 4.5L	Injector	M24 x 1.50	TU-15-17
	1985-1998 C Series 8.3L	Injector M17	-	TU-15-18A
	B Series 3.3L	Injector M17	-	TU-15-19
	2001-2010 ISX	Injector	-	TU-15-78
Detroit Diesel	53, 71, 92, 110, 149, V53, V71 8.2L	Injection M24	-	TU-15-12A
	Series 40	Injector	-	TU-15-25
	Series 60 and 50	Injector	-	TU-15-33
Deutz	Most models	Glow Plug	M12 x 1.25	TU-15-6
	Some models	Injector M17	-	TU-15-18A

COMPRESSION TESTING

APPLICATION CHART FOR DIESEL COMPRESSION TEST ADAPTERS

Application	Engine	Type	Thread	Adapter
Dodge/Cummins, Dodge	(1989-98) 5.9L	Injector	M24 x 1.50	TU-15-17
	(1998-2009) 5.9L ISB	Injector	-	TU-15-26
Fiat Allis	8035-02-300, 8035-02-301, 8035-02-302, 8045-02, 8045-03	Injector M21	-	TU-15-11A
Ford	6.6L, 7.8L, Bosch	Injector M21	-	TU-15-11A
Ford/Mazda	(1984-1987) 2.0L; (1983-84) 2.2L Escort, Lynx, Ranger, Tempo, Topaz	Glow Plug	M10 x 1.25	TU-15-14
Ford/Mitsubishi	(1985-1987) Ranger 2.3L	Glow Plug	M10 x 1.25	TU-15-14
Ford	(1982-1994) 6.9L, 7.3L	Glow Plug	M10 x 1.00	TU-15-1A
	(1994-2004) 7.3L Turbo, Direct Injection Power Stroke	Glow Plug	M10 x 1.00	TU-15-22A
	(2003-2008) 6.0L, 6.4L Power Stroke (2008-2010)	Glow Plug	M14 x 1.25	TU-15-24
	2011-2015 6.7L Powerstroke	Glow Plug	M8 x 1.00	TU-15-80
General Motors	4.3L V6, 4.3L V8, 5.7L V8 (1978-85)	Glow Plug	M10 x 1.00	TU-15-1A
	6.2L & 6.5L V8 True Diesel (1982-2002)	Glow Plug	M10 x 1.00	TU-15-2A
	DuraMax 6.6L Turbo Diesel (2001-2005)	Glow Plug	M10 x 1.25	TU-15-3A
	DuraMax 6.6L Turbo Diesel (2005-Present)	Glow Plug	M10 x 1.25	TU-15-38
	DuraMax ID415	Injector M17	-	TU-15-19
GMCTruck	W4, W7, W7HV	Glow Plug	M12 x 1.25	TU-15-23
Hatz	Some Models	Injector M17	-	TU-15-19
Hino	Medium	Glow Plug	M12 x 1.25	TU-15-23
Hummer H1	(1992-2004) Optimizer 6500 V8 Turbo & 6.2L V8	Glow Plug	M10 x 1.00	TU-15-2A
Hummer H1-Alfa	6.6L Duramax (2005-06)	Glow Plug	M10 x 1.25	TU-15-38
International Harvester	D/DT361, D/DT429, DV462, DV/DVT550, DT/DV/DVT, 573, 361, 407	Injector M21	-	TU-15-11A
	6.9L, 7.3L	Glow Plug	M10 x 1.00	TU-15-1A
International Navistar	(1984-1997) DT 360, DT408, DT466, 312, 360, 414, 436, 446 C.I.D.	Injector M17	-	TU-15-19
	1994-2007 7.3L T444E	Glow Plug	M10 x 1.00	TU-15-22A
	4.5L VT275, 6.0L VT365E, 6.4L Maxxforce7	Glow Plug	M14 x 1.25	TU-15-24
	1994-2004 7.6L DT466E, 8.7E DT530E, DT570	Injector	-	TU-15-25
	2004-Present International MaxxForce DT, 9,10	Injector	-	TU-15-79
Isuzu/Isuzu Truck	(1992-98) HE1-TC (1998-present) 6HK1-TC	Glow Plug	M10 x 1.25	TU-15-3A
	(1998-present) 4HE1-TC; (up to 1998) 6HK1-TC	Glow Plug	M12 x 1.25	TU-15-5 TU-15-6 TU-15-23
	1.8L, 2.2L, I-Mark, Pick-up, Trooper	Glow Plug	M10-1.25	TU-15-14
Jeep	(2005) Liberty 2.8L	Glow Plug	M10 x 1.00	TU-15-2A
J.I. Case	2.9L, 3.9L, 5.9L	Injector	M24 x 1.50	TU-15-17
	8.3L	Injector M17	-	TU-15-18A
	Models not using pencil nozzle	Injector M21	-	TU-15-11A
J.I. Case 70 Series	188, 207	Injector 3/8"	-	TU-15-20

COMPRESSION TESTING

APPLICATION CHART FOR DIESEL COMPRESSION TEST ADAPTERS

Application	Engine	Type	Thread	Adapter
John Deere	Early 300, 400, 500 Series;	Injector 3/8"	-	TU-15-20
	276, 404, and 531 CID			
	404, 466, 531, 619	Injector M21	-	TU-15-11A
Kawasaki	Mule 3010 Diesel (Kubota)	Injector	M20 x 1.50	TU-15-34
	Mule 3010 Diesel (Diahatsu)	Glow Plug	M10 x 1.25	TU-15-14
Kubota	D722, D902, D950, D1105, V1505, V2203	Glow Plug	M8 x 1.00	TU-15-35
	D650, D1100	Glow Plug	M10 x 1.25	TU-15-14
	D902, D950	Injector	M20 x 1.50	TU-15-34
Lincoln	(1984-85 cars) Mark VII, Continental 2.4L MFI Turbo	Glow Plug	M12 x 1.25	TU-15-6 TU-15-23
Mack Truck	END 405, 457, 510, 519, 605, 672, 673, 674, 711, 864, ENDT 673, 675, 676, 865, 866	Injector M21	-	TU-15-11A
	E6, E7, E-Tech, E460	Injector	-	TU-15-36
Mazda	(1982-84) B2200 2.2L, (1984-85) 626 2.0L	Glow Plug	M10 x 1.25	TU-15-14
Massey Ferguson	4.203, 4.236, 4.248, 6.354, 8.540	Injector M21	-	TU-15-11A
Mercedes-Benz	(1960-80) models	Glow Plug	M18 x 1.50	TU-15-5 TU-15-6
	(1978-99) models, (1988-89) 190E 2.5L, (1991-99) E300, (1992-95) 300 SD / S350	Glow Plug	M12 x 1.25	TU-15-5 TU-15-6 TU-15-23
	(1966-87) models	Injector	M24 x 2.00	TU-15-4A
	(1987-2005) models	Injector	M22 x 1.50	TU-15-39
	(2004-05) E320 CDI	Glow Plug	M10 x 1.00	TU-15-1A
	MBE 900 & MBE 4000	Injector	-	TU-15-37
	2.7L	Glow Plug	M10 x 1.00	TU-15-2A
Mitsubishi	2 and 3 cylinder engines	Glow plug	M10 x 1.25	TU-15-14
Mitsubishi-Fuso	Medium	Glow Plug	M10 x 1.25	TU-15-14
	Medium	Injector M21	-	TU-15-11A
Nissan	(1965-71) Cedric 2.2L SD22	Glow Plug	M10 x 1.25	TU-15-14
	(1981) 810 2.8L (Datsun) RD 28;	Glow Plug	M12 x 1.25	TU-15-23
	(1982-83) Maxima 2.8L RD28	Glow Plug	M10 x 1.00	TU-15-1A
	(1983-87) Sentra 1.7L CD17	Glow Plug	M10 x 1.00	TU-15-1A
Nissan / UDTruck	Medium	Glow Plug	M10 x 1.25	TU-15-14
Onan	DSL, MD5L	Injector M21	-	TU-15-11A
Perkins	3.125, 4.203, 4.236, 4.248, 4.318, 6.354, 6.370, 8.540, 8.640, Phaser/1004, Phaser/1006	Injector M21	-	TU-15-11A
	100, 200, 400, 700 series	Glow Plug	M10 x 1.25	TU-15-14
	4.108	Glow Plug	5/8"-18	TU-15-40
	1000 series	Injector	M24 x 1.50	TU-15-41

COMPRESSION TESTING

APPLICATION CHART FOR DIESEL COMPRESSION TEST ADAPTERS

Application	Engine	Type	Thread	Adapter
Peugeot	Most Models	Glow Plug	M12 x 1.25 M18 x 1.50	TU-15-6
Scania	DN11, DS11	Injector M21	-	TU-15-11A
Sprinter/ Mercedes/ Freightliner/Dodge	(2001-2006) 2.7L, OM612/647	Glow Plug	M10 x 1.00	TU-15-2A
	(2007-Present) 3.0L, OM642/V6	Glow Plug	M8 x 1.00	TU-15-80
Toyota	1.8L	Glow Plug	M10 x 1.25	TU-15-3A
	2.2L	Glow Plug	M10 x 1.25	TU-15-14
UDTruck	Medium	Glow Plug	M10 x 1.25	TU-15-14
Universal Marine	M15, M20, M25, M25XP, M30	Injector	M20 x 1.50	TU-4A
				TU-15-34
Volvo	Early models	Injector	M24 x 2.00	TU-15-4A
	Models 30's, 40's	Glow Plug	M12 x 1.25	TU-15-23
Volvo Penta	MD marine engines	Injector M17	-	TU-15-18A
VW	(1970s) Rabbit	Injector	M24 x 2.00	TU-15-4A
	(1979-81) Dasher, (1996) Eurovan,	Glow Plug	M12 x 1.25	TU-15-5
	(1985-96) Golf, (1981-95) Jetta,			TU-15-6
	(1992-94) Passat, (1981-84) Pick-up,			TU-15-23
	(1982-85) Quantum, (1977-84) Rabbit,			
	(1982-85) Vanagon	Glow Plug	M10 x 1.00	TU-15-1A
	(1997-05) Golf, (1997-05) Jetta / Jetta Wagon, (1998-05) Beetle, (1996-97) Passat, (2004-05) Touareg			
Waukesha	Most	Injector M21	-	TU-15-11A
Westerbeke	Marine engines	Glow Plug	M10 x 1.00	TU-15-1A
		Glow Plug	M10 x 1.25	TU-15-14
		Injector M21	-	TU-15-11A
White Farm	66, 77, 88, 99, 166, 177, 188, 199, 550, 660, 770, 880, 950, 1550, 1555, 1600, 1650, 1655, 1750, 1755, 1800, D2000, 2300, 3000	Injector M21	-	TU-15-11A
Wisconsin	340, 350, 430, 660, 670, 750, 860, 1000	Injector M21	-	TU-15-11A
Yanmar	Some models	Injector M17	-	TU-15-18A

FUEL PRESSURE TESTING

TU-32

MASTER FUEL SYSTEM TEST KIT - CUMMINS 5.9L



- M68 compound 45 PSI, 30inHg gauge, fuel pressure, inlet restriction and fuel volume test adapters
- Contains all adapters necessary for testing on Cummins Series B and ISB engines (including Dodge Ram)

TU-32-1

FUEL SYSTEM TEST ADAPTER KIT - CUMMINS 5.9L



- Includes an OTC-style conversion adapter so that pressure adapter and inlet restriction adapters can be used with existing gauges on the market

TU-32-2

BASIC DIESEL FUEL PRESSURE TEST KIT



- M91/100 PSI gauge w/ boot assembly and 4-ft. hose
- Pressure relief valve
- 5 banjo bolt adapters ranging from M8 to M14 and 1 repair kit

TU-32-3

INTERNATIONAL DIESEL FUEL SYSTEM TEST KIT



- International engines VT365, T444E, DT466, DT530, and DT570
- Two M91 gauges: 0 - 100 PSI and 0 - 30 inHg
- 4-ft. hose
- 4 adapters

TU-32-4

FORD POWER STROKE DIESEL FUEL SYSTEM KIT



- Ford Power Stroke engines 1994 to present
- M91/100 PSI gauge w/boot and bleed off assembly
- Adapters necessary to pressure test the fuel system on Power Stroke engines
- Adapters can be used for testing at both the fuel filter and at the fuel pump

TU-32-5

FORD POWER STROKE DIESEL FUEL PRESSURE ADAPTER KIT



- Includes all adapters necessary to test Ford Power Stroke engines 1994 to present
- Adapters can be used with any gauge from the following sets: TU-443, TU-469, TU-540, TU-550, TU-32-2, TU32-3

TU-32-6

GM 6.6L DURAMAX DIESEL FUEL SYSTEM TEST KIT



- Quick connect test port on GM 6.6L Duramax engines
- Gauge assembly with 6-ft. hose
- M91 gauge w/vinyl boot reads 30 inHg to 15 PSI

TU-32-7

HIGH PRESSURE OIL SYSTEM TEST KIT



- Used to diagnose the inline pressure, pressure loss to one head, and oil pump dead head pressure in the following: Ford Power Stroke 6.0L and 7.3L as well as International T444E and VT 365E engines
- 5000 PSI gauge and hose assembly, 12mm straight thread adapter
- STC and JIC adapters
- STC release tool

FUEL PRESSURE TESTING

TU-32-8  
HIGH PRESSURE OIL  
SYSTEM TEST KIT



- Used to diagnose the inline pressure and oil pump dead head pressure in the following engines using ORFS connectors: DT-466 engines with EGR, MaxxForce 5, MaxxForce DT, MaxxForce 9, and MaxxForce 10
- 10,000 PSI gauge and hose assembly
- Inline adapter tee, shopair adapter

TU-32-23  
INTERNATIONAL  
SCHRADER ADAPTER



- Fits Schrader test ports on the fuel system of International Diesel engines and Ford Power Stroke (1994-1997) diesel engines

TU-32-28  
INTERNATIONAL  
MAXXFORCE ADAPTER



- Applications include: late model DT-466 engines with EGR, MaxxForce DT, MaxxForce 9, and MaxxForce 10 engines

TU-32-20  
FUEL SYSTEM  
PRESSURE TEST  
GAUGE - COMPUCHEK



- Used to check fuel system pressure on diesel engines with Compuchek test ports
- M91/300 PSI gauge w/ boot
- 6 ft. hose

TU-32-24  
INTERNATIONAL RIGHT  
ANGLE ADAPTER



- Used to connect a pressure gauge to the engine fuel system
- Fits Schrader test ports on the fuel system of International Diesel engines and Ford Power Stroke diesel engines

TU-32-27  
FORD POWER STROKE 6.0L  
FUEL PRESSURE ADAPTER



- For testing Ford Power Stroke 6.0L engines, 2003 to present
- M12 x 1.50 male fitting on a 6" hose with 1/4" NPTF on the other

TU-32-21  
FUEL SYSTEM  
RESTRICTION TEST  
GAUGE - COMPUCHEK



- Used to check fuel system restriction on diesel engines with Compuchek test ports
- M91/30 inHg vacuum gauge w/ boot
- 6 ft. hose

TU-32-25  
COMPUCHEK ADAPTER



- To be used with the Lang Tools 74438 gauge assembly, or the 74424 gauge assembly with the 74425 hose assembly
- Used to measure fuel pressure, check for air bubbles and bleed air from the fuel system on the family of engines from Navistar/International VT365, DT466, DT570 and HT570 engines

TU-32-22  
COMPUCHEK  
TEST PORT



- Can be added to an engine's fuel system permanently or temporarily for testing pressure or restriction with a Compuchek tester

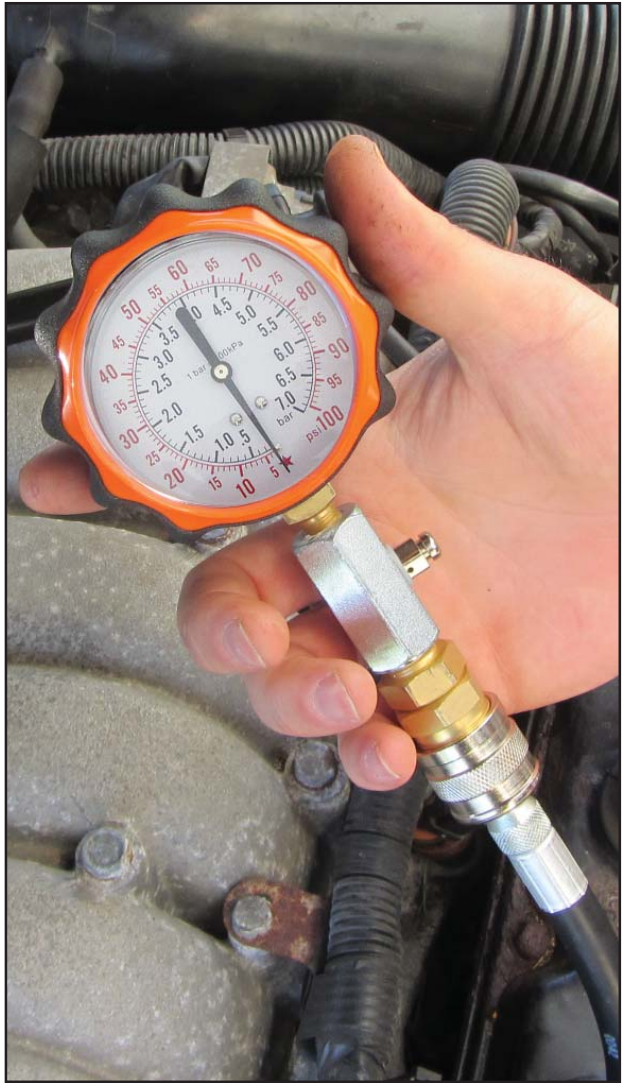
TU-32-26  
FORD POWER  
STROKE 7.3L  
FUEL PRESSURE  
ADAPTER



- For diesel fuel pressure testing on Ford Power Stroke 7.3L engines, 1998 thru 2004
- 8-in. hose with 1/8-in. MNPT

FUEL ADAPTERS, ASSEMBLIES & REPLACEMENT PARTS

Part No.	Description	Point
71327	Fuel Injection Kit	Kit contains: 34021, 35031, 71317, 71328, 74431, 74432, 74433, 74434 and 74435
73211	Gauge Assembly 30inHg	Gauge assembly for the TU-32-3
74425	Release Valve & Amp Tubing	Hose assembly for the TU-32, TU-32-2, TU-32-3 & TU-32-4
74427	Gauge assembly	Gauge assembly for the TU-32-2, TU-32-3 or TU-32-4
74471	M14 x 1.50 Banjo Bolt 100 PSI	M14 banjo bolt
74484	5/16" quick disconnect hose assembly	5/16" quick disconnect hose assembly with quick coupler plug: Chrysler, Ford
74485	3/8" quick disconnect hose assembly	3/8" quick disconnect hose assembly with quick coupler plug: GM



74427: Gauge Assembly on the TU-30A



71327



73211



74427



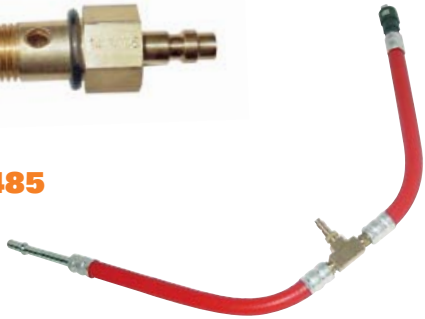
74425



74471



74485

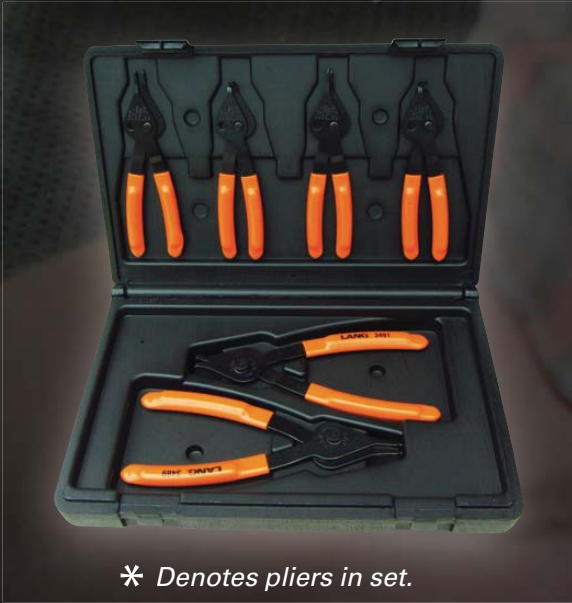


FIXED TIP RETAINING RING PLIERS

- Convertible for use on internal / external snap rings
- Cushioned grip handles
- Knurled center screw with spring for easy changing and secure hold
- Sets packaged in a plastic blow molded case for protection and easy use
- Individual pliers packaged in a plastic hanger

Part No.	Tip Diameter (in.)	Tip Angle	Nominal length (in.)
* 3483	.038	0°	6
* 3484	.038	45°	6
* 3485	.038	90°	6
* 3486	.047	0°	6
* 3487	.047	45°	6
* 3488	.047	90°	6
* 3489	.070	0°	7-1/2
* 3490	.070	45°	7-1/2
* 3491	.070	90°	7-1/2
* 3492	.090	0°	9-1/4
* 3493	.090	45°	9-1/4
* 3494	.090	90°	9-1/4

3497  
6 PIECE COMBINATION  
INTERNAL/EXTERNAL  
SNAP RING PLIERS SET



\* Denotes pliers in set.

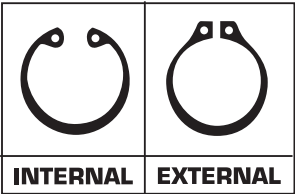
3495  
12 PIECE COMBINATION  
INTERNAL/EXTERNAL  
SNAP RING PLIERS SET



Ring Size			
Part No.	Description	SAE (Inch)	Metric
3495	Internal	3/8" - 3"	10mm - 76mm
	External	1/8" - 3-1/2"	3mm - 89mm
3497	Internal	3/8" - 2"	10mm - 51mm
	External	1/4" - 2"	7mm - 51mm

QUICK SWITCH CONVERTIBLE RETAINING RING PLIERS

- Convert between internal / external with a quick flip of a switch
- Eliminates the jaw aligning process
- Cushion grip, spring return handles
- Tip kit included with every pliers
- Patented



1421  
QUICK SWITCH PLIERS WITH  
ADJUSTABLE STOP AND TIP KIT

1434  
QUICK SWITCH PLIERS  
WITH TIP KIT

1435  
QUICK SWITCH PLIERS WITH  
ADJUSTABLE STOP AND TIP KIT

1450  
2-PC. QUICK SWITCH  
RETAINING RING PLIERS SET



- Contains Models: 1421 and 1434
- Tip Kits Include: color-coded, interchangeable tips and hex key

75  
QUICK SWITCH PLIERS WITH  
AUTOMATIC RATCHET LOCK  
AND TIP KIT



- Automatic ratchet lock feature keeps rings open or closed for easy installation and removal

1465  
3-PC. QUICK SWITCH  
RETAINING RING PLIERS SET



- Contains Models: 1421, 1434 & 75
- Tip Kits Include: color-coded, interchangeable tips and hex key

1485  
HEAVY DUTY SNAP  
RING PLIERS- INTERNAL



1486  
HEAVY DUTY SNAP  
RING PLIERS- EXTERNAL



- Spring ratchet locking mechanism securely holds against snap ring tension
- Optional .120", 45° & 90° tips available (sold separately)

Ring Size			
Part No.	Description	SAE (Inch)	Metric
1421	Internal	1/4" - 1"	7mm - 26mm
	External	1/8" - 1"	3mm - 26mm
1434	Internal	3/8" - 2"	10mm - 51mm
	External	1/4" - 2"	7mm - 51mm
1435	Internal	3/8" - 2"	10mm - 51mm
	External	1/4" - 2"	7mm - 51mm
75	Internal	1-13/16" - 4"	46mm - 102mm
	External	1-1/2" - 4"	32mm - 102mm
1450	Internal	1/4" - 2"	7mm - 51mm
	External	1/8" - 2"	3mm - 51mm
1465	Internal	1/4" - 4"	7mm - 102mm
1485	Internal	3-1/16" - 6-1/4"	78mm - 159mm
1486	External	3-1/2" - 6-1/2"	89mm - 165mm

Tip Sizes			
Part No.	Tips	SAE (Inch)	Metric
1421	Straight	0.023", 0.039", 0.047"	0.6mm, 1.0mm, 1.2mm
	Bent 90°	0.039", 0.047"	1.0mm, 1.2mm
1434	Straight	0.039", 0.047", 0.074"	1.0mm, 1.2mm, 1.9mm
	Bent 90°	0.039", 0.047"	1.0mm, 1.2mm
1435	Straight	0.039", 0.047", 0.074"	1.0mm, 1.2mm, 1.9mm
	Bent 90°	0.039", 0.047"	1.0mm, 1.2mm
75	Bent 15°	0.090", 0.108", 0.120"	2.3mm, 2.7mm, 3.0mm
	Bent 70°	0.090", 0.108", 0.120"	2.3mm, 2.7mm, 3.0mm
	Straight	0.023", 0.039", 0.047", 0.074"	0.6mm, 1.0mm, 1.2mm, 1.9mm
1450	Bent 90°	0.039", 0.047"	1.0mm, 1.2mm
	Straight	0.023", 0.039", 0.047", 0.074"	0.6mm, 1.0mm, 1.2mm, 1.9mm
	Bent 15°	0.090", 0.108", 0.120"	2.3mm, 2.7mm, 3.0mm
	Bent 70°	0.090", 0.108", 0.120"	2.3mm, 2.7mm, 3.0mm
1465	Bent 90°	0.039", 0.047"	1.0mm, 1.2mm
	Straight	0.023", 0.039", 0.047", 0.074"	0.6mm, 1.0mm, 1.2mm, 1.9mm
	Bent 15°	0.090", 0.108", 0.120"	2.3mm, 2.7mm, 3.0mm
1485	Bent 70°	0.090", 0.108", 0.120"	2.3mm, 2.7mm, 3.0mm
	Bent 90°	0.039", 0.047"	1.0mm, 1.2mm
1485	Straight	0.120"	3.0mm
1486	Straight	0.120"	3.0mm

REPLACEABLE TIP PLIERS

87 HEAVY-DUTY PLIERS WITH TIP KIT



- Provides safe and stable service of extra large retaining rings
- Compound screw lever for easy ring installation and removal
- Durable heat treated alloy steel components provide reliability of use not available with other tools for servicing this range of rings

Part No.	Description	Ring Size	
		SAE (Inch)	Metric
87	Internal	3-1/2" - 7"	90mm - 175mm
	External	3-1/2" - 7"	90mm - 175mm

Part No.	Tips	Tip Sizes	
		SAE (Inch)	Metric
87	Bent 20°	0.120", 0.150", 0.180"	3.0mm, 3.8mm, 4.6mm
	Bent 72°	0.120", 0.150", 0.180"	3.0mm, 3.8mm, 4.6mm

RETAINING RING PLIERS TIP KITS

Part No.	Models	Tips	Tip Sizes	
			SAE (Inch)	Metric
12	1421	Straight	0.023", 0.039", 0.047"	0.6mm, 1.0mm, 1.2mm
		Bent 90°	0.039", 0.047"	1.0mm, 1.2mm
14	1434,1435	Straight	0.039", 0.047", 0.074"	1.0mm, 1.2mm, 1.9mm
		Bent 90°	0.039", 0.047"	1.0mm, 1.2mm
6515	75	Bent 15°	0.090", 0.108", 0.120"	2.3mm, 2.7mm, 3.0mm
6590	75	Bent 70°	0.090", 0.108", 0.120"	2.3mm, 2.7mm, 3.0mm
651590	75	Bent 15°	0.090", 0.108", 0.120"	2.3mm, 2.7mm, 3.0mm
		Bent 70°	0.090", 0.108", 0.120"	2.3mm, 2.7mm, 3.0mm
8600	1485,1486	Straight	0.120"	3.0mm
8645	1485,1486	Bent 45°	0.120"	3.0mm
8690	1485,1486	Bent 90°	0.120"	3.0mm
8720	87	Bent 20°	0.120", 0.150", 0.180"	3.0mm, 3.8mm, 4.6mm
8790	87	Bent 72°	0.120", 0.150", 0.180"	3.0mm, 3.8mm, 4.6mm

HOSE-PLIERS

145 HOSE PINCH-OFF PLIERS



- Eliminates the need to drain cooling system when servicing
- Squeezes hoses shut and jaws swivel for parallel clamping
- Pliers include automatic locking ratchet

3444 LARGE HOSE CLAMP PLIERS



- For use on flat type hose clamps
- Fine tooth locking ratchet
- For heavy-duty jobs

3975 HOSE CLAMP PLIERS



- For Corbin style hose clamps
- Slotted tips rotate to grip at any angle

3976 HOSE CLAMP PLIERS



- For flat type hose clamps
- Tips rotate to grip at any angle

3977 ANGLED HOSE CLAMP PLIERS



- For flat type hose clamps
- Angle feature provides easy access to clamps located in hard-to-reach areas

LET RATCHETING BOX WRENCHES SPEED UP YOUR JOB!

Those "hard-to-get-at" nuts and bolts are easy to turn with these top quality ratcheting box wrenches. Openings are accurately broached for that perfect non-slip fit. Critical parts are heat-treated to ensure safety and durability. Wrench handles are nickel-chrome plated for lasting quality and assurance. Exceeds torque capacity requirement of Federal specification ASME B107.100-2010 for ratcheting box wrenches.



All Lang 6 & 12 point ratcheting box wrenches utilize the "torque grip system"

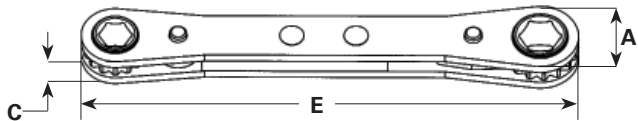


TORQUE GRIP



CONVENTIONAL

SAE FLAT



EDP#	Part No.	Description	Point	Weight (Each)	Dimensions		
					A	C	E

SAE FLAT INDIVIDUAL RATCHETING BOX WRENCHES

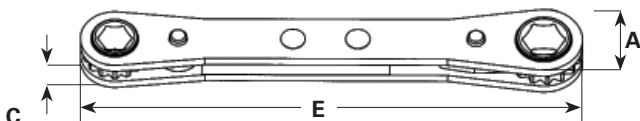
5500	RB-810*	1/4" x 5/16"	6	.16 lbs.	19/32"-43/64"	3/8"	4-1/2"
5501	RB-810DH	1/4" x 5/16"	12	.12	19/32"-43/64"	3/8"	4-1/2"
6500	RB-1214*	3/8" x 7/16"	6	.21	51/64"-57/64"	3/8"	5-1/2"
6501	RB-1214DH	3/8" x 7/16"	12	.17	51/64"-57/64"	3/8"	5-1/2"
7522**	7522	3/8" x 1/2"	6	.30	1-1/64"-1-5/32"	1/2"	6-7/8"
7514	RB-1218	3/8" x 9/16"	6	.30	1-1/64"-1-5/32"	1/2"	6-7/8"
7529	RB-1218DH	3/8" x 9/16"	12	.30	1-1/64"-1-5/32"	1/2"	6-7/8"
7517	RB-1416	7/16" x 1/2"	6	.30	1-1/64"-1-5/32"	1/2"	6-7/8"
7518	RB-1416DH	7/16" x 1/2"	12	.30	1-1/64"-1-5/32"	1/2"	6-7/8"
7500	RB-1618*	1/2" x 9/16"	6	.34	1-1/64"-1-5/32"	1/2"	6-7/8"
7501	RB-1618DH	1/2" x 9/16"	12	.30	1-1/64"-1-5/32"	1/2"	6-7/8"
8512	RB-1820	9/16" x 5/8"	12	.46	1-19/64"-1-7/16"	1/2"	8-1/8"
8513**	8513	9/16" x 3/4"	12	.46	1-19/64"-1-7/16"	1/2"	8-1/8"
8500	RB-2022*	5/8" x 11/16"	12	.50	1-19/64"-1-7/16"	1/2"	8-1/8"
8501	RB-2024	5/8" x 3/4"	12	.46	1-19/64"-1-7/16"	1/2"	8-1/8"
9515	RB-2224	11/16" x 3/4"	12	.46	1-13/32"-1-37/64"	1/2"	9-1/4"
9501	RB-2226	11/16" x 13/16"	12	.50	1-13/32"-1-37/64"	1/2"	9-1/4"
9516	RB-2228	11/16" x 7/8"	12	.50	1-13/32"-1-37/64"	1/2"	9-1/4"
9518	RB-2426	3/4" x 13/16"	12	.50	1-13/32"-1-37/64"	1/2"	9-1/4"
9500	RB-2428*	3/4" x 7/8"	12	.54	1-13/32"-1-37/64"	1/2"	9-1/4"
9520	RB-2628	13/16" x 7/8"	12	.50	1-13/32"-1-37/64"	1/2"	9-1/4"
9521	RB-2630*	13/16" x 15/16"	12	.54	1-13/32"-1-37/64"	1/2"	9-1/4"
9601	RB-3234	1" x 1-1/16"	12	1.38	1-29/32"-2-17/64"	9/16"	15"
9602	RB-3436	1-1/16" x 1-1/8"	12	1.38	1-29/32"-2-17/64"	9/16"	15"
9604	RB-3440	1-1/16" x 1-1/4"	12	1.38	1-29/32"-2-17/64"	9/16"	15"
9603	RB-3638	1-1/8" x 1-3/16"	12	1.38	1-29/32"-2-17/64"	9/16"	15"
9608	RB-3640	1-1/8" x 1-1/4"	12	1.38	1-29/32"-2-17/64"	9/16"	15"

SAE FLAT INDIVIDUAL AIRCRAFT RATCHETING BOX WRENCHES

5508**	5508	7/32" x 1/4"	6	.12 lbs.	19/32"-43/64"	3/8"	4-1/2"
5532**	5532	1/4" x 9/32"	6	.12	19/32"-43/64"	3/8"	4-1/2"
5516**	5516	5/16" x 11/32"	6	.12	19/32"-43/64"	3/8"	4-1/2"
5520**	5520	1/4" x 11/32"	6	.12	19/32"-43/64"	3/8"	4-1/2"
5526**	5526	5/16" x 11/32"	12	.12	19/32"-43/64"	3/8"	4-1/2"
5527**	5527	7/32" x 11/32"	12	.12	19/32"-43/64"	3/8"	4-1/2"
5528**	5528	9/32" x 11/32"	12	.12	19/32"-43/64"	3/8"	4-1/2"
5531**	5531	1/4" x 9/32"	12	.12	19/32"-43/64"	3/8"	4-1/2"

\*Skin-packed    \*\* Available only by special quote (with lead time and minimum order requirements)

METRIC FLAT



EDP#	Part No.	Description	Point	Weight (Each)	Dimensions		
					A	C	E

METRIC FLAT INDIVIDUAL RATCHETING BOX WRENCHES

5504	RBM-0708	7mm x 8mm	6	.12 lbs.	19/32"-43/64"	3/8"	4-1/2"
5506	RBM-0708DH	7mm x 8mm	12	.12	19/32"-43/64"	3/8"	4-1/2"
5585**	5585	6mm x 7mm	12	.12	19/32"-43/64"	3/8"	4-1/2"
6585**	6585	8mm x 9mm	12	.17	51/64"-57/64"	3/8"	5-1/2"
6504	RBM-0910	9mm x 10mm	6	.17	51/64"-57/64"	3/8"	5-1/2"
6506	RBM-0910DH	9mm x 10mm	12	.17	51/64"-57/64"	3/8"	5-1/2"
6507**	6507	8mm x 10mm	12	.17	51/64"-57/64"	3/8"	5-1/2"
7515	RBM-1011DH	10mm x 11mm	12	.30	1-1/64"-1-5/32"	1/2"	6-7/8"
7504	RBM-1112	11mm x 12mm	6	.30	1-1/64"-1-5/32"	1/2"	6-7/8"
7509	RBM-1112DH	11mm x 12mm	12	.30	1-1/64"-1-5/32"	1/2"	6-7/8"
7523	RBM-1113	11mm x 13mm	6	.30	1-1/64"-1-5/32"	1/2"	6-7/8"
7586	RBM-1213DH	12mm x 13mm	12	.30	1-1/64"-1-5/32"	1/2"	6-7/8"
7524	RBM-1214	12mm x 14mm	6	.30	1-1/64"-1-5/32"	1/2"	6-7/8"
7506	RBM-1314	13mm x 14mm	6	.30	1-1/64"-1-5/32"	1/2"	6-7/8"
7510	RBM-1314DH	13mm x 14mm	12	.30	1-1/64"-1-5/32"	1/2"	6-7/8"
8587	RBM-1415	14mm x 15mm	12	.46	1-19/64"-1-7/16"	1/2"	8-1/8"
8504	RBM-1517	15mm x 17mm	12	.46	1-19/64"-1-7/16"	1/2"	8-1/8"
8505	RBM-1618	16mm x 18mm	12	.46	1-19/64"-1-7/16"	1/2"	8-1/8"
9504	RBM-1921	19mm x 21mm	12	.50	1-13/32"-1-37/64"	1/2"	9-1/4"

\*\* Available only by special quote (with lead time and minimum order requirements)



PORTABLE TOOL CADDY

5373

5-PIECE SAE RATCHETING BOX WRENCH SET

Part No.	Description	Point
RB-810DH	1/4" x 5/16"	12
RB-1214DH	3/8" x 7/16"	12
RB-1618DH	1/2" x 9/16"	12
RB-2024	5/8" x 3/4"	12
RB-2228	11/16" x 7/8"	12

5374

5-PIECE METRIC RATCHETING BOX WRENCH SET

Part No.	Description	Point
RBM-0708DH	7mm x 8mm	12
RBM-0910DH	9mm x 10mm	12
RBM-1213DH	12mm x 13mm	12
RBM-1415	14mm x 15mm	12
RBM-1921	19mm x 21mm	12

VINYL POUCH

RB-312P EDP#5428

3 PC. 12 PT. SAE FLAT WRENCH SET

Part No.	Description	Point
RB-1214	3/8" x 7/16"	12
RB-1618	1/2" x 9/16"	12
RB-2024	5/8" x 3/4"	12



RB-5 EDP#5485

5-PIECE SAE FLAT WRENCH SET

Part No.	Description	Point
RB-810	1/4" x 5/16"	6
RB-1214	3/8" x 7/16"	6
RB-1618	1/2" x 9/16"	6
RB-2022	5/8" x 11/16"	12
RB-2428	3/4" x 7/8"	12



RB-6 EDP#5486

6-PIECE SAE FLAT WRENCH SET

Part No.	Description	Point
RB-810	1/4" x 5/16"	6
RB-1214	3/8" x 7/16"	6
RB-1618	1/2" x 9/16"	6
RB-2022	5/8" x 11/16"	12
RB-2428	3/4" x 7/8"	12
RB-2630	13/16" x 15/16"	12



RB-3P EDP#5483

3-PIECE SAE FLAT WRENCH SET

Part No.	Description	Point
RB-810	1/4" x 5/16"	6
RB-1214	3/8" x 7/16"	6
RB-1618	1/2" x 9/16"	6

RBM-5 EDP#5490

5 PC. METRIC FLAT WRENCH SET

Part No.	Description	Point
RBM-0708	7mm x 8mm	6
RBM-0910	9mm x 10mm	6
RBM-1113	11mm x 13mm	6
RBM-1214	12mm x 14mm	6
RBM-1517	15mm x 17mm	12

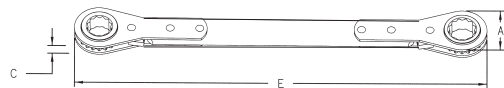
ROLL POUCH

RBM-7 EDP#5491

7 PC. METRIC FLAT WRENCH SET

Part No.	Description	Point
RBM-0708	7mm x 8mm	6
RBM-0910	9mm x 10mm	6
RBM-1113	11mm x 13mm	6
RBM-1214	12mm x 14mm	6
RBM-1517	15mm x 17mm	12
RBM-1618	16mm x 18mm	12
RBM-1921	19mm x 21mm	12

EXTRA LONG



Part no.	Description	Point	Weight (Each)	Dimensions		
				A	C	E

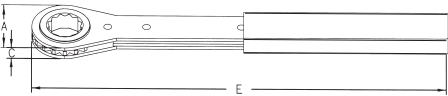
SAE INDIVIDUAL LARGE RATCHETING BOX WRENCHES

6660	1/4" x 5/16"	12	.30 lbs.	51/64"-57/64"	3/8"	8"
7660	3/8" x 7/16"	12	.70	1-1/64"-1-5/32"	1/2"	10"
7661	1/2" x 9/16"	12	.70	1-1/64"-1-5/32"	1/2"	10"
8660	5/8" x 11/16"	12	.80	1-19/64"-1-7/16"	1/2"	12"
9660	3/4" x 7/8"	12	.90	1-29/32"-2-17/64"	9/16"	14"

METRIC INDIVIDUAL LARGE RATCHETING BOX WRENCHES

6665	8mm x 10mm	12	.30 lbs.	51/64"-57/64"	3/8"	8"
7665	12mm x 14mm	12	.70	1-1/64"-1-5/32"	1/2"	10"
8665	13mm x 15mm	12	.80	1-19/64"-1-7/16"	1/2"	12"
8666	17mm x 19mm	12	.80	1-19/64"-1-7/16"	1/2"	12"
9665	18mm x 21mm	12	.90	1-29/32"-2-17/64"	9/16"	14"

LARGE RATCHETING BOX WRENCHES



For Heavy Duty Equipment and Industrial Applications

- Built for those tough jobs where lots of torque, leverage & durability are required
  - Requires less effort than a conventional combination wrench
- Great for: Agricultural, construction, utility, mining, industrial equipment and much more!

EDP#	Part No.	Description	Point	Weight (Each)	Dimensions		
					A	C	E

SAE INDIVIDUAL LARGE RATCHETING BOX WRENCHES

9630	RB-42	1-5/16"	12	3.2 lbs.	2-3/4"	5/8"	15-1/2"
9631	RB-44	1-3/8"	12	3.2	2-3/4"	5/8"	15-1/2"
9632	RB-46	1-7/16"	12	3.2	2-3/4"	5/8"	15-1/2"
9633	RB-48	1-1/2"	12	3.2	2-3/4"	5/8"	15-1/2"
9634	RB-50	1-9/16"	12	3.2	2-3/4"	5/8"	15-1/2"
9635	RB-52	1-5/8"	12	3.2	2-3/4"	5/8"	15-1/2"
9650	RB-54	1-11/16"	12	4.1	3-3/8"	5/8"	19"
9651	RB-56	1-3/4"	12	4.1	3-3/8"	5/8"	19"
9652	RB-58	1-13/16"	12	4.1	3-3/8"	5/8"	19"
9653	RB-60	1-7/8"	12	4.1	3-3/8"	5/8"	19"
9654	RB-64	2"	12	4.1	3-3/8"	5/8"	19"
9655	RB-68	2-1/8"	12	4.1	3-3/8"	5/8"	19"

METRIC INDIVIDUAL LARGE RATCHETING BOX WRENCHES

9620	RBM-22	22mm	12	1.0 lbs.	1-15/16"	9/16"	12"
9623	RBM-23	23mm	12	1.0	1-15/16"	9/16"	12"
9622	RBM-24	24mm	12	1.0	1-15/16"	9/16"	12"
9624	RBM-25	25mm	12	1.0	1-15/16"	9/16"	12"
9625	RBM-26	26mm	12	1.0	1-15/16"	9/16"	12"
9626	RBM-27	27mm	12	1.0	1-15/16"	9/16"	12"
9627	RBM-29	29mm	12	1.0	1-15/16"	9/16"	12"
9629	RBM-30	30mm	12	1.0	1-15/16"	9/16"	12"
9640	RBM-32	32mm	12	3.2	2-3/4"	5/8"	15-1/2"
9641	RBM-36	36mm	12	3.2	2-3/4"	5/8"	15-1/2"

OFFSET E-Z GRIP

- Our offset E-Z GRIP ratcheting box wrenches combine the speed of a ratcheting box wrench with the comfort of a screwdriver-style handle to create the ultimate fastener turning tool
- Easy thumb-operated reversing lever especially useful for bench type repetitive applications

EDP#	Part No.	Size	Point	Length	Wt. (ea.)	EDP#	Part No.	Size	Point	Length	Wt. (ea.)
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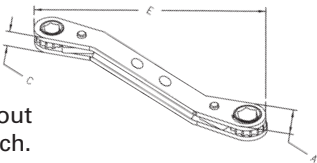
SAE OFFSET RATCHETING BOX WRENCHES

METRIC OFFSET RATCHETING BOX WRENCHES

6789	ROW-08	1/4"	6	5-1/2"	.25 lbs.	6794	ROWM-08	8mm	6	5-1/2"	.25 lbs.
6790	ROW-10	5/16"	6	5-1/2"	.25	6795	ROWM-9	9mm	6	5-1/2"	.25
6791	ROW-12	3/8"	6	5-1/2"	.25	6796	ROWM-10	10mm	6	5-1/2"	.25
6792	ROW-14	7/16"	6	5-1/2"	.25	7795	ROWM-11	11mm	6	6-3/4"	.43
7791	ROW-16	1/2"	6	6-3/4"	.43	7796	ROWM-12	12mm	6	6-3/4"	.43
7792	ROW-18	9/16"	6	7"	.43	7797	ROWM-13	13mm	6	6-3/4"	.43
8791	ROW-20	5/8"	12	7-3/4"	.50	7798	ROWM-14	14mm	6	7"	.50
8792	ROW-22	11/16"	12	8"	.56	8795	ROWM-15	15mm	12	7-3/4"	.50
9791	ROW-24	3/4"	12	8-3/4"	.56	8796	ROWM-16	16mm	12	7-3/4"	.50
9792	ROW-28	7/8"	12	9"	.62	8797	ROWM-17	17mm	12	8"	.56
						8798	ROWM-18	18mm	12	8"	.56

SAE OFFSET

The 25° angle at each end of these wrenches allows reach to those tight applications without scraping knuckles, and still provided the speed and convenience of a ratcheing box wrench. Reverse direction by simply flipping the reversing lever



EDP#	Part No.	Description	Point	Weight (Each)	Dimensions		
					A	C	E

SAE OFFSET INDIVIDUAL RATCHETING BOX WRENCHES

5700	ROW-0810*	1/4" x 5/16"	6	.16 lbs.	19/32"-43/64"	3/8"	4-1/4"
5701	ROW-0810DH	1/4" x 5/16"	12	.13	19/32"-43/64"	3/8"	4-1/4"
6700	ROW-1214*	3/8" x 7/16"	6	.24	51/64"-57/64"	3/8"	5-7/16"
6701	ROW-1214DH	3/8" x 7/16"	12	.20	51/64"-57/64"	3/8"	5-7/16"
7717**	7717	7/16" x 1/2"	6	.30	1-1/64"-1-5/32"	1/2"	6-3/4"
7700	ROW-1618*	1/2" x 9/16"	6	.34	1-1/64"-1-5/32"	1/2"	6-3/4"
7701	ROW-1618DH	1/2" x 9/16"	12	.30	1-1/64"-1-5/32"	1/2"	6-3/4"
8712**	8712	9/16" x 5/8"	12	.44	1-19/64"-1-7/16"	1/2"	8"
8713**	8713	9/16" x 3/4"	12	.44	1-19/64"-1-7/16"	1/2"	8"
8700	ROW-2022A	5/8" x 11/16"	12	.44	1-19/64"-1-7/16"	1/2"	8"
8701	ROW-2024*	5/8" x 3/4"	12	.48	1-19/64"-1-7/16"	1/2"	8"
9701**	9701	11/16" x 13/16"	12	.51	1-13/32"-1-37/64"	1/2"	9-1/8"
9781	ROW-2228	11/16" x 7/8"	12	.51	1-13/32"-1-37/64"	1/2"	9-1/8"
9700	ROW-2428*	3/4" x 7/8"	12	.55	1-13/32"-1-37/64"	1/2"	9-1/8"
9721	ROW-2630	13/16" x 15/16"	12	.51	1-13/32"-1-37/64"	1/2"	9-1/8"

SAE OFFSET INDIVIDUAL AIRCRAFT RATCHETING BOX WRENCHES

5709**	5709	7/32" x 9/32"	12	.13 lbs.	19/32"-43/64"	3/8"	4-1/4"
5717	ROW-1011DH	5/16" x 11/32"	12	.13	19/32"-43/64"	3/8"	4-1/4"

\*Skin-packed \*\* Available only by special quote (with lead time and minimum order requirements)

METRIC OFFSET

EDP#	Part No.	Description	Point	Weight (Each)	Dimensions		
					A	C	E

METRIC OFFSET INDIVIDUAL RATCHETING BOX WRENCHES

5704	ROWM-0708A	7mm x 8mm	6	.12 lbs.	19/32"-43/64"	3/8"	4-1/4"
5706	ROWM-0708DH	7mm x 8mm	12	.12	19/32"-43/64"	3/8"	4-1/4"
6704	ROWM-0910*	9mm x 10mm	6	.17	51/64"-57/64"	3/8"	5-7/16"
6705	ROWM-0910DH	9mm x 10mm	12	.17	51/64"-57/64"	3/8"	5-7/16"
7704	ROWM-1112	11mm x 12mm	6	.30	1-1/64"-1-5/32"	1/2"	6-3/4"
7705	ROWM-1112DH	11mm x 12mm	12	.30	1-1/64"-1-5/32"	1/2"	6-3/4"
7723	ROWM-1113*	11mm x 13mm	6	.30	1-1/64"-1-5/32"	1/2"	6-3/4"
7786	ROWM-1213DH	12mm x 13mm	12	.30	1-1/64"-1-5/32"	1/2"	6-3/4"
7724	ROWM-1214*	12mm x 14mm	6	.30	1-1/64"-1-5/32"	1/2"	6-3/4"
7706	ROWM-1314	13mm x 14mm	6	.30	1-1/64"-1-5/32"	1/2"	6-7/8"
7710	ROWM1314DH	13mm x 14mm	12	.30	1-1/64"-1-5/32"	1/2"	6-3/4"
8787	ROWM-1415	14mm x 15mm	12	.46	1-19/64"-1-7/16"	1/2"	8"
8704	ROWM-1517	15mm x 17mm	12	.46	1-19/64"-1-7/16"	1/2"	8"
8705	ROWM-1618	16mm x 18mm	12	.46	1-19/64"-1-7/16"	1/2"	8"
9704	ROWM-1921	19mm x 21mm	12	.50	1-13/32"-1-37/64"	1/2"	9-1/8"

\*Skin-packed \*\* Available only by special quote (with lead time and minimum order requirements)

PORTABLE TOOL CADDY

5362

5-PIECE SAE OFFSET CADDY WRENCH SET

Part No.	Description	Point
ROW-0810DH	1/4" x 5/16"	12
ROW-1214DH	3/8" x 7/16"	12
ROW-1618DH	1/2" x 9/16"	12
ROW-2024	5/8" x 3/4"	12
ROW-2228	11/16" x 7/8"	12

5363

5-PIECE METRIC OFFSET CADDY WRENCH SET

Part No.	Description	Point
ROWM-0708DH	7mm x 8mm	12
ROWM-0910DH	9mm x 10mm	12
ROWM-1213DH	12mm x 13mm	12
ROWM-1415	14mm x 15mm	12
ROWM-1921	19mm x 21mm	12



ROLL POUCH

ROWM-7P EDP#5497

7 PC. METRIC OFFSET WRENCH SET

Part No.	Description	Point
ROWM-0708	7mm x 8mm	6
ROWM-0910	9mm x 10mm	6
ROWM-1113	11mm x 13mm	6
ROWM-1214	12mm x 14mm	6
ROWM-1517	15mm x 17mm	12
ROWM-1618	16mm x 18mm	12
ROWM-1921	19mm x 21mm	12



VINYL POUCH

ROW-3 EDP#5493

3-PC. SAE OFFSET WRENCH SET

Part No.	Description	Point
ROW-0810	1/4" x 5/16"	6
ROW-1214	3/8" x 7/16"	6
ROW-1618	1/2" x 9/16"	6



VINYL POUCH

ROW-5 EDP#5495

5-PC. SAE OFFSET WRENCH SET

Part No.	Description	Point
ROW-0810	1/4" x 5/16"	6
ROW-1214	3/8" x 7/16"	6
ROW-1618	1/2" x 9/16"	6
ROW-2022	5/8" x 11/16"	12
ROW-2428	3/4" x 7/8"	12



ROWM-5 EDP#5496

5 PC. METRIC OFFSET WRENCH SET

Part No.	Description	Point
ROWM-0708	7mm x 8mm	6
ROWM-0910	9mm x 10mm	6
ROWM-1113	11mm x 13mm	6
ROWM-1214	12mm x 14mm	6
ROWM-1517	15mm x 17mm	12



BIT WRENCH SETS WITH MAGNETIC BIT RETENTION

- Use with any 1/4" drive bit as a ratcheting screwdriver or a 1/4" adapter enabling use of a 1/4" socket to access restricted applications
- Readily accessible reversing lever for one-hand use
- Raised knurl design allows fingertip control for loose screws

5220  
7-PC. FINE TOOTH BIT  
WRENCH SET



5278  
7-PC. RATCHETING SCREW-  
DRIVER BIT WRENCH SET



5370  
5-PC. OFFSET RATCHETING  
SCREWDRIVER BIT WRENCH SET



5221  
5-PC. FINE TOOTH BIT  
WRENCH SET



5345  
5-PC. REVERSE OFFSET  
RATCHETING SCREWDRIVER  
BIT WRENCH SET



5382  
2-PC. FINE TOOTH BIT  
WRENCH SET



5222  
6-PC. FINGER  
RATCHET BIT DRIVER



5222: 6-Piece Finger Ratchet Bit Driver

Part No.	5" Ratchet Flat	5" Ratchet Offset	5" Reverse Ratchet Offset	5" Finger Ratchet	Flat	Offset	Reverse	#1 Phillips	#2 Phillips	6-8" Slotted	8-10" Slotted	1/4" Adapter	Extender
5220	•	•	•					•	•	•	•		
5221		•						•	•	•	•		
5222				•				•	•	•		•	•
5278					•	•	•	•	•	•	•		
5345							•	•	•	•	•		
5370						•		•	•	•	•		
5382		•										•	

SET INCLUDES A VARIETY OF 32 BITS:

- 1/4" TORX® BITS: T-10, T-15, T-20, T-25, T-27, T-30, T40, T45, T50
- PHILLIPS® BITS: P1, P2
- HEX BITS: 5/64", 3/32", 7/64", 1/8", 9/64", 7/32", 1/4", 5/32", 3/16"
- POZIDRIV® BITS: PZ-1, PZ-2
- CLUTCH BITS: C2, C3, C4
- SLOTTED BITS: 4-5, 6-8, 8-10
- ROBERTSON BITS: R-1, R-2, R-3, 1/4" ADAPTER

5457  
35-PC. RATCHETING  
SCREWDRIVER  
BIT WRENCH SET



- 2 WRENCH DRIVERS:  
1 magnetic 1/4" extension  
The double end design on both will accommodate 1/4" and 5/16" drive bits
- One ratcheting wrench is flat and the other is offset 25°

SQUARE DRIVE

Air Conditioning and Refrigerator Ratcheting Box Wrenches

- Specifically designed for servicing automotive, commercial and home air conditioners, refrigeration units and freezers
- Reversing feature on both ends
- Four sizes in each wrench

9902A  
1/4" X 3/16" SQ. X 9/16" X 1/2" 6-PT. AC AND REFRIGERATION WRENCH



9903A  
3/8" X 5/16" SQ. X 1/4" X 3/16" SQ. AC AND REFRIGERATION WRENCH



9907A  
3/8" X 5/16" SQ. X 1/4" X 3/16" SQ. OFFSET AC AND REFRIGERATION WRENCH



Part No.	4-in-1 ratchet sizes	Length
9902A	1/4" x 3/16" square X 1/2" x 9/16" 6-pt.	7"
9903A	3/8" x 5/16" X 1/4" x 3/16" square	5-1/2"
9907A	3/8" x 5/16" X 1/4" x 3/16" square OFFSET	5-7/32"



9903A: 3/8" x 5/16" Sq. x 1/4" x 3/16" Sq. Wrench

MECHANIC MATS AND KNEELING PADS

- Will not breakdown under harsh chemicals, including the harsh oils used in the automotive/aircraft industry
- Customer name and logo can be marked on the pads (Minimum required)
- Sold in 5-packs only

1160  
FOAM KNEELING  
PAD-SMALL



- Size: 8-5/8" x 13"

1167  
FOAM MECHANICS  
FLOOR MAT



- Size: 15-1/2" x 38-1/2"; laminated closed cell foam

1174  
FOAM KNEELING PAD - MEDIUM (MULTIPLE COLORS)



- 5 large (10" x 19") kneeling pads in the color assortment as follows: (1) red, (1) yellow, (1) green, (1) blue and (1) orange

### 13800 DIGITAL THERMOMETER



- Foldout stainless steel probe
- Magnetic mount for hands-free use
- Large, easy-to-read display
- Min/Max
- -58°F to 572°F

### 13803 AUTOMOTIVE DIGITAL MULTIMETER



- ACV/DCV, ACA/DCA, resistance, diode, frequency, continuity, temperature
- Duty cycle and dwell reading
- RPM measurement
- Ruggedized design
- Inductive pickup/carrying case/thermocouple probe/test leads

### 13808 CAT IV CLAMP METER



- DC and AC clamp-on current measurement to 600A
- 1000V DC/ 750V AC voltage ranges
- Cat IV Rated for HEV diagnostics
- High resolution (0.01A), full function clamp meter
- Check starter or charging current
- Check voltage drops, capturing minimum or maximum values

### 13801 IP54 INFRARED THERMOMETER



- IP54 Splash proof certification
- 12:1 distance/spot ratio
- Min/Max, diff and lock
- Backlit display
- -76°F to 1022°F

### 13804 CAT IV DIGITAL MULTIMETER



- Cat IV 600/Cat III 1000V for HEV work
- High accuracy standard DMM
- Fuel injector pulse width testing
- RPM measurements with included inductive pick-up
- Limited Lifetime Warranty

### 13809 BASIC CATIII DMM



- DC and AC Voltage to 600V
- 2M ohm resistance
- 10A DC Current
- Preform basic voltage and resistance measurement
- Audible continuity for checking switches and fuses
- Cat III 600V safety rating

### 13802 INFRARED THERMOMETER



- UV worklight
- 12:1 distance/spot ratio
- Backlit display
- Max value capture
- -58°F to 1200°F

### 13805 DIGITAL STORAGE OSCILLOSCOPE/GMM



- Two-Channel, 20 Mega-sample/second sample rate
- Preset standard sensor/actuator/ignition waveforms
- Full auto signal capture
- Glitch mode to capture single events
- Complete kit with two shielded test leads, ground lead extension, standard tips, back-probe tips, alligator tips, capacitive pick-up, inductive (triggering) pick-up, AC Adapter, soft-sided carrying case

### 13810 CAT IV WIRELESS CLAMP/ VOLT METER



- Wireless High Amps, Low Amps, and Voltage in one complete kit
- View readings remote on your smartphone or tablet
- mA resolution for parasitic current drain
- High current clamp for starter and charging current
- DC /AC Volts for checking voltage drops while under load
- Cat IV rated safety for use with HEV diagnostics

## REPLACEMENT PARTS

### 13902 POUCH



- Pouch for 13802

### 13908 INDUCTIVE PICKUP



- Inductive pickup for 13803 and 13804

### 13909 PROTECTIVE CASE



- Protective case for 13803 and 13804

### 13910 TEMPERATURE ADAPTER



- Temperature adapter for 13803

### 13912 TEST LEADS



- Test leads for 13803 and 13804

### 13914 TEMPERATURE PROBE



- K-type thermocouple probe for 13803 and 13804

### 13915 UNIVERSAL HANGER & MAGNET



- Universal hanger & magnet for 13804
- Adjustable strap

## FEATURES

- Used for testing electrical circuits in cars, trailers, boats and more
- Retractable test leads pull out and stay at desired length and rewind into its own protective case when not in use
- 18 gauge copper wire with insulated alligator clips
- Different color wires for easy identification
- Maximum amperage: 10 AMPS fully unwound, 6 AMPS wound

### 1129 RETRACTABLE TEST LEADS - 3 LEADS X 10 FT.



### 1137 RETRACTABLE TEST LEADS - 2 LEADS X 30-FT.



### 1175 RETRACTABLE TEST LEADS - 2 LEADS X 15 FT. WITH BANANA PLUGS



### 1130 RETRACTABLE TEST LEADS - 1 LEAD X 30 FT.



### 1138 MAGNETIC RETRACTABLE TEST LEADS - 2 LEADS X 30-FT.



### 1176 7-PIECE RETRACTABLE TEST LEAD SET



### 1135 MAGNETIC RETRACTABLE TEST LEADS - 3 LEADS X 10-FT.



### 1140 RETRACTABLE TEST LEADS - 2 LEADS X 10 FT.



- Use with any multimeters with steel banana jack connectors

Includes: One 2 x 15-ft. test lead with banana plugs (1175), one pair of test probes (1170R), one pair of alligator clips (1167R), and one pair of spring hooks (1173R)

## REPLACEMENT PARTS

### 1167R REPLACEMENT ALLIGATOR CLIPS FOR 1176



### 1170R REPLACEMENT TEST PROBES FOR 1176



### 1173R REPLACEMENT SPRING HOOKS FOR 1176



### 1174R REPLACEMENT SET - ALLIGATOR CLIPS, TEST PROBES & SPRING HOOKS



DIES

For quick, on-the-job repairs of damaged threads on bolts and studs. Chase out damaged threads and remove nicks and burrs without undercutting good threads. Rethreading dies are highly tempered for strength and durability, and are 6-pt. shaped for use with socket or wrench. Dies are color-coded for quick visual identification. Use with standard wrench and light oil. Never use to cut new threads. (See chart on page 46 for sizes included in sets.)

**2590**  
7-PC. SAE COARSE THREAD RESTORER DIE SET

**2592**  
7-PC. SAE FINE THREAD RESTORER DIE SET

**2594**  
5-PC. METRIC THREAD RESTORER DIE SET

**2579**  
8-PIECE FRACTIONAL AND METRIC SPINDLE RETHREADER SET

**2577**  
8-PC. FLOATING AXLE HOUSING THREAD RESTORER KIT

**2583**  
7-PC. WHEEL STUD THREAD RESTORER KIT

**2599**  
20-PC. SPINDLE THREAD RESTORER DIE SET

**801**  
7-PC. ATV AXLE END THREAD RESTORER KIT

TAPS

For repair of damaged internal threads on nuts. Chase out damaged threads and remove nicks and burrs without undercutting good threads. Rethreading taps are highly tempered for strength and durability, and are 6-pt. shaped for use with a socket or wrench. Taps are color-coded for quick visual identification. Use with standard wrench and light oil. Never use to cut new threads. (See chart on page 46 for sizes included in sets.)

**2585**  
6-PC. SAE COARSE THREAD RESTORER TAP SET

**2586**  
6-PC. NF THREAD RESTORER TAP SET

**2588**  
6-PC. METRIC THREAD RESTORER TAP SET

FILES

Restores damaged external threads, any diameter, right or left hand. Just select the proper number of threads per inch or millimeters per thread, and overlapping several good threads, work over the area using regular file strokes. Rethreading files are highly tempered for strength and durability. Packaged in a reusable pouch. (See chart on page 46 for pitch sizes included.)

**2665**  
THREAD RESTORER FILE 8 PITCHES 11-24 TPI

**2666**  
THREAD RESTORER FILE 8 PITCHES 9-32 TPI

**2670**  
METRIC THREAD FILE 8 PITCHES 0.75MM-3.0MM

**2573**  
3-PC. THREAD RESTORER FILE SET

2665: Thread Restorer File

KITS

**2581**  
26-PC. THREAD RESTORER TAP AND DIE SET

**2584**  
15-PC. METRIC THREAD RESTORER SET

Both of these sets are packaged in a high-impact styrene tray with clear cover for display and storage. (See chart on page 46 for sizes included in sets.)

**971**  
48 PC. SAE AND METRIC THREAD RESTORER KIT

**972**  
40 PC. SAE AND METRIC THREAD RESTORER KIT

Both of these sets are packaged in a plastic blow molded case for protection and easy use. (See chart on page 46 for sizes included in sets.)

	Die Part Numbers	Tap Part Numbers	Size	801	971		972		2573	2577	2579	2581		2583	2584		2585	2586	2588	2590	2592	2594	2599
				Die	Die	Tap	Die	Tap		Die	Die	Die	Tap	Die	Die	Tap	Tap	Tap	Tap	Die	Die	Die	Die
NATIONAL COARSE	51-2625-0005	50-2600-0005	1/4"-20		●	●	●	●				●	●				●			●			
	51-2626-0005	50-2601-0005	5/16"-18		●	●	●	●				●	●				●			●			
	51-2627-0005	50-2602-0005	3/8"-16		●	●	●	●				●	●				●			●			
	51-2628-0005	50-2603-0005	7/16"-14		●	●	●	●				●	●				●			●			
	51-2629-0005	50-2604-0005	1/2"-13		●	●	●	●				●	●				●			●			
	51-2630-0005	50-2605-0005	9/16"-12		●	●	●	●				●	●				●			●			
	51-2631-0005		5/8"-11		●		●					●								●			
	51-2632-0005		3/4"-10																				
	51-2633-0005		7/8"-9																				
	51-2634-0005		1"-8																				
	51-2635-0005		1-1/8"-7																				
	51-2636-0005		1-1/4"-7																				
NATIONAL FINE	51-2640-0005	50-2610-0005	1/4"-28		●	●	●	●				●	●					●			●		
	51-2641-0005	50-2611-0005	5/16"-24		●	●	●	●				●	●					●			●		
	51-2642-0005	50-2612-0005	3/8"-24		●	●	●	●				●	●					●			●		
	51-2643-0005	50-2613-0005	7/16"-20		●	●	●	●				●	●	●						●			
	51-2644-0005	50-2614-0005	1/2"-20		●	●	●	●				●	●	●				●			●		
	51-2645-0005	50-2615-0005	9/16"-18		●	●	●	●				●	●	●				●			●		
	51-2646-0005		5/8"-18		●		●					●									●		
	54-2671-0005		11/16"-24																				●
	54-2696-0005		3/4"-16	●																			●
	54-2676-0005		3/4"-20								●												●
	54-2677-0005		13/16"-20								●												●
	54-2688-0005		27/32"-20																				●
	54-2697-0005		7/8"-14	●																			●
	54-2698-0005		1"-14 UNS																				●
	51-2649-0005		1"-14																				
	51-2650-0005		1-1/8"-12																				
	51-2651-0005		1-1/4"-12																				
	1043-3R		1-5/8"-16								●												
	1043-4R		1-13/16"-16								●												
	1043-1R		2"-16								●												
	1043-5R		2"-16 LH								●												
	1043-6R		2-1/8"-16								●												
	1043-7R		2-1/4"-16								●												
METRIC	52-2655-0005	50-2620-0005	M6x1.00		●	●	●	●							●	●			●			●	
	52-2656-0005	50-2621-0005	M8x1.25		●	●	●	●							●	●			●			●	
	52-2699-0005	50-2638-0005	M10x1.00		●	●																	
	52-2662-0005	50-2619-0005	M10x1.25		●	●									●	●							
	52-2657-0005	50-2622-0005	M10x1.50		●	●	●	●							●	●			●			●	
	52-2702-0005	50-2639-0005	M11x1.50		●	●																	
	52-2660-0005	50-2637-0005	M12x1.25		●	●	●	●							●	●	●		●				
	52-2658-0005	50-2623-0005	M12x1.50		●	●	●	●							●	●	●		●			●	
	52-2659-0005	50-2624-0005	M12x1.75		●	●	●	●							●	●	●		●			●	
	52-2703-0005	50-2618-0005	M14x1.50	●	●	●									●								
	54-2689-0005		M16x1.00																				●
	54-2690-0005		M16x1.50	●																			●
	54-2691-0005		M18x1.50	●																			●
	54-2692-0005		M19x1.50																				●
	54-2693-0005		M20x1.00																				●
	54-2673-0005		M20x1.25								●												●
	54-2678-0005		M20x1.50	●							●												●
	54-2674-0005		M22x1.00								●												●
	54-2679-0005		M22x1.50								●												●
	54-2675-0005		M24x1.50	●							●												●
	54-2680-0005		M24x2.00								●												●
	54-2681-0005		M25x1.50																				●
	54-2682-0005		M27x2.00																				●
1043-2R		M38x1.50								●													
FILES	2665	11, 12, 13, 14, 16, 18, 20, 24 TPI			●		●		●														
	2666	9, 10, 12, 16, 20, 27, 28, 32 TPI							●														
	2670	0.75, 1.00, 1.25, 1.50, 1.75, 2.00, 2.50, 3.00mm			●		●		●						●								

RETHREADERS

- Restores and cleans threads of dirt, carbon build up and metal particles
- Rubber o-ring holds chaser firmly in socket

1010

M10 X M14  
SPARK PLUG  
THREAD CHASER



1012

M14 X M18  
SPARK PLUG  
THREAD CHASER



1013A

M12 SPARK  
PLUG THREAD  
RESTORER



1016A

M18 O2 SENSOR  
THREAD RESTORER



1020A

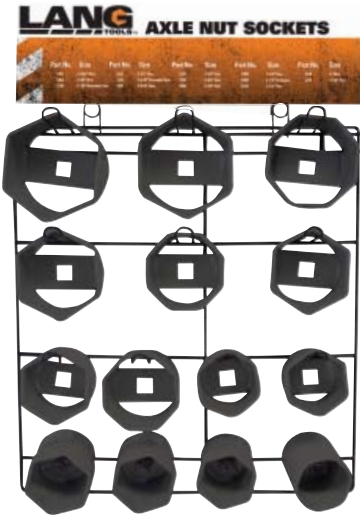
M14 SINGLE  
END SPARK  
PLUG CHASER



Part No.	Services on all major vehicle platforms	Use with 13/16" hex deep well socket	Use with 5/8" hex deep well socket	Use with 3/8" square ratcheting wrench	Long Neck for extra deep cavities (2.3L Ford and Mercury engines)	Used on Harley Davidson, Twin Cam, V-Rod and other Sportster models
1010	●		●			
1012	●	●				
1013A			●	●		●
1016A	●	●		●		
1020A			●	●	●	

AXLE NUT SOCKETS

- Axle nut sockets are designed for use with a torque wrench when servicing truck wheel bearing lock nuts
- 3/4" square drive OR 1/2" square drive (see chart ◇)
- Full range of six and eight-point sizes
- NOTE: Not to be used with pneumatic power tools. Wear safety goggles



1290

14- PIECE AXLE NUT DISPLAY

Includes: Rack, header board and one each (see chart ●)

1291

22- PIECE AXLE NUT DISPLAY

Includes: Rack, header board and one each (see chart \*)

6-Point		6-Point		6-Point	
Part #	Size	Part #	Size	Part #	Size
1201	2-3/32" *	1218	4-7/8"	1236	2-3/8" Rd.
1202	2-3/8" *	1220	2-1/4" ● *	1238	59mm
1204	2-9/16" ● *	1221	2-1/2" ● *	1239	5-1/4"
1206	3" ● *	1222	2-5/8" ● *	1244	2-1/2" Rd. ◇
1208	3-1/4" ● *	1223	2-3/4" ● *	1245	2-3/4" Rd.* ◇
1210	3-1/2" ● *	1228	2-9/16" Rd. ● *	1251	55mm ◇
1212	3-7/8" *	1229	54mm *	1252	60mm
1214	4" ● *	1231	3-3/4"	1253	70mm
1215	4-1/8" ● *	1232	2-7/8" *	1254	71mm
1216	4-3/8"	1234	3-1/8"	1255	80mm
8-Point		8-Point		8-Point	
Part #	Size	Part #	Size	Part #	Size
1203	2-3/8"	1225	3-3/4" ● *	1250	4-1/2"
1205	2-9/16"	1226	2-13/16"	1256	82mm
1207	3" *	1227	3-13/16"● *	1257	90mm
1209	3-1/4" ● *	1230	3-3/8"	1258	94mm
1211	3-1/2"	1233	2-7/8"	1259	106mm
1213	3-7/8" *	1235	3-1/8"	1260	110mm
1217	4-3/8"	1237	2-3/4"	1261	120mm
1219	4-7/8"	1240	4-1/8"	1262	100mm
1224	2-3/4" Rd.	1241	4-13/16"		

SPINDLE NUT SOCKETS

**2467**  
4-LUG 4WD SPINDLE NUT SOCKET 1/2 TO 3/4 - TON DANA 44



Remove and install 4-slot axle lock nuts on Ford Ranger, Bronco II, Explorer, F-Series, and full-size Bronco; GM 1/2-ton trucks and full-size Blazer/Jimmy; International 1/2- ton trucks; Dodge 1/2-ton trucks and Dodge with Dana 44

**2770**  
6-LUG 4WD SPINDLE NUT SOCKET 3/4 TO 1 - TON DANA 44



Remove and install 4-slot front axle lock nuts on Ford F-Series 4WD trucks; Ranger, Bronco, GM 4WD 3/4- and 1-ton trucks; Dodge trucks with Dana 44

**3195**  
4-LUG WITH EXTENSION 1/2 - TON DANA 80



For high-shear rotating nuts on F250-350 with Dana 80 rear axle 10-1/4" ring gear; E350 with Dana 80 rear axle and 10-1/4" ring gear; F super-duty with Dana 80 rear axle and 10-1/4" ring gear

**3246**  
4WD SPINDLE NUT WRENCH



For use on GM 3/4- and 1-ton trucks; Ford F-Series 1/2-ton trucks with Dana 28, F250 and F350 4WD trucks

**3910**  
4WD SPINDLE PULLER



Removes front spindle to access needle bearing when lubricating and aligning front wheels. 5/8"-18 fine thread permits use with slide hammer. Fits spindle thread sizes 2"- 16, 1-5/8"-16, and M38 x 1.50 Applications: Full-size GM, Ford, Jeep and International pickups with Dana front axles, plus Ranger and Bronco II

**3911**  
TOYOTA LOCK NUT TOOL

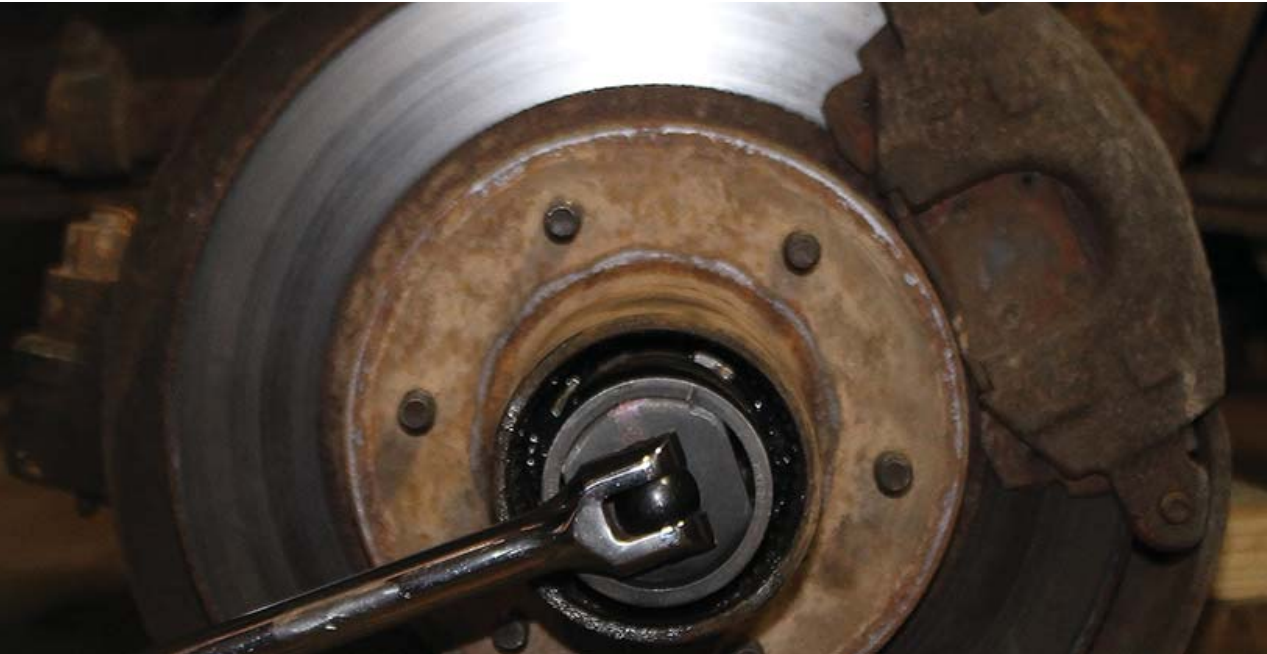


Servises high-torque lock nuts on Toyota 4WD vehicles having free-wheel (lock-out) hubs; Tacoma; T100 and 4-Runner

**3937**  
4-LUG 4WD SPINDLE NUT SOCKET 1/2 - TON DANA 50



Remove and install 4-slot front axle nuts on Ford F250-350, Bronco with Dana Axle, or Dana 50IFS or model 60 monobeam axle outer adjusting nut; GM Heavy-duty 3/4- and 1-ton trucks



3246: 4WD Spindle Nut Wrench

AIR CHUCKS

- These air chucks are combined with our E-Z Grip handles to provide a comfort grip when using the air chuck
- Durable, heavy duty handle stands up to tough shop abuse
- 1/4" NPT pipe threaded end will accept an air line quick-disconnect fitting

**780**  
E-Z GRIP DUAL HEAD AIR CHUCK



- Designed for use on trucks, dual rear wheels, semis, and hard-to-reach wheels

**782**  
E-Z GRIP DUAL HEAD STRAIGHT AIR CHUCK TOOL



- Straight On Dual Head Tool permits access to hard to reach inner tandem wheels and includes the new tilt-lock feature which locks onto the valve

**785**  
STANDARD AND LARGE BORE AIR CHUCK



- For inflating tires on large trucks and earth moving equipment with large bore valves

**915**  
E-Z GRIP AIR CHUCK TOOL - PASSENGER VEHICLES



- Sealed ball air chuck is extended 1" from handle to allow access to tight areas

BATTERY CARRIERS

**B-600**  
HEAVY DUTY BATTERY CARRIER



- For use on all batteries with horizontal ridges; Non-slip, acid resistant, riveted rubber grip pads secure a firm hold on any battery up to 7-1/2" wide
- Zinc-plated steel construction

**B-610**  
BATTERY CARRIER - STRAP STYLE



- Accommodates battery size from 3-1/2" to 7-3/4"
- Jaws made from zinc-plated carbon steel
- Reinforced conveyor strapping handle

BATTERY TERMINAL

**B-10A**  
5/16" RATCHETING SIDE TERMINAL BATTERY WRENCH



**6525**  
5/16" EXTRA LONG RATCHETING SIDE TERMINAL BATTERY WRENCH



**6571**  
5/16" X 10MM EXTRA LONG BATTERY TERMINAL WRENCH



**6572**  
10MM BATTERY TERMINAL WRENCH



Part No.	Removes/installs 5/16" battery terminals	Removes/installs 10mm battery terminals and hold-down fasteners	Insulated handle to prevent electric shock	Reversible ratcheting box wrench allows for quick and effective bolt removal	Extra length (9-3/4") allows for easy access to recessed terminals
B-10A	•		•	•	
6525	•		•	•	•
6571	•	•	•	•	•
6572		•	•	•	

**41701**  
BATTERY SERVICE KIT



- Terminal puller
- Nut pliers
- Terminal brush
- Terminal spreader and cleaner
- 5/16" x 10mm extra long terminal wrench

## BATTERY TERMINAL

### 297 BATTERY NUT PLIERS



- Use to easily loosen and tighten nuts on battery terminal clamps
- Handles are offset for working in confined areas
- Jaws are serrated for a firm grip

### 298 BATTERY TERMINAL SPREADER AND CLEANER



- Use to clean corrosion from the cable clamp
- Sharp teeth effectively clean corrosion from the cable clamp

### 299 BATTERY BRUSH



- Use this durable steel brush to remove corrosion and dirt from battery terminals and cable clamps
- External brush cleans cable clamps and internal brush cleans terminal posts
- Rugged steel case has long life

### 202 BATTERY TERMINAL PULLER



- Easily remove battery terminal cables, preventing damage to battery posts
- Jaws fit under cable terminal and center screw pushes down on post to pull terminal up
- Durable jaws open 1/4" to 1-1/8" to fit most battery terminals

## COMPUTER MEMORY SAVERS

- Maintains the memory of the on-board vehicle computer (CCU) when battery is disconnected
- Prevents loss of certain drivability codes, keyless entry codes, digital radio settings and function on anti-theft systems, cellular phone settings, and other memory related functions

### 291 MEMORY SAVER KIT



- Modern vehicles require 12 volts of memory supply vs. the older 9 volt method
- This kit allows for multiple ways to supply 12 volts to a modern vehicles memory system

### 294A COMPUTER MEMORY SAVER W/ 12 VOLT ADAPTER ON STANDARD 120 VAC OUTLET



### 295A COMPUTER MEMORY SAVER WITH 9 VOLT ALKALINE BATTERY



## BRAKES/WHEELS

### 541A TUBE BENDER 1/4" O.D.



- Bends tubing up to 1/4" OD (outer diameter) to 360° without kinks
- For copper, brass, brake lines and Bundy weld tubing
- Zinc die-cast for durability

### 279 BRAKE CALIPER PRESS



- Four tools in one
- Works on various single, dual & quad piston calipers
- Centrally distributes force
- Compact design
- 360° ratchet swing allows access at any angle

### 380A BRAKE RESETTNG GAUGE



- Wide working range allows measurements from 6-1/2" to 13-1/4" in diameter
- Services foreign and domestic cars and light trucks with drum brakes
- Locks the measurement at the appropriate inch or metric calibration during use
- Heat-treated, chrome-plated steel jaws ensure long tool life

## BRAKES/WHEELS

### 833 BRAKE DRUM AND ROTOR PULLER



- Saves time and reduces damage to the wheel bearing by eliminating the need to repeatedly strike or heat the brake drum to free it from the hub
- Adjustable with a 17" spread and 6" reach to accommodate the most common drum sizes
- Includes specially designed jaws to maximize surface contact ensuring uniform grip even on deteriorated drums

### 401 RAPID DEFLATORS WITH TPMS LOCATION MARKS



- Sockets are clearly marked with LF (left front), RF (right front), LR (left rear) & RR (right rear) for easy identification so tires can be returned to original position without TPMS needing to be reset
- Orange anodized aluminum with permanent markings for easy identification
- Cutout allows for quick evacuation of air without removing valve core
- Socket also holds valve caps for easy storage
- Knurling creates sure grip even in greasy situations

### 847 WHEEL HUB LOCK TOOL



- Works on most vehicles with wheel stud bolt patterns ranging from 4x100mm to 8x170mm
- Used to hold the wheel hub in place while the axle nut is removed or installed for axle or wheel bearing service
- Works with 1/2" square drive ratchet or bracker bar

### 6 PC. WHEEL STUD INSTALLER KITS

- Assures correct installation of wheel studs
- No more ruined studs or lug nuts
- Also includes spacer and washer
- Will install wheel studs on major vehicle platforms, domestic and foreign, including light trucks and SUVs



### 755 LIGHT TRUCKS & SUV'S

- Kit includes installer sizes: 1/2"-20; 9/16"-18; M12 x 1.75; M14 x 1.50

### 938 AUTOMOBILES

- Includes installer sizes: 7/16"-20; 1/2"-20; M12 x 1.25; M12 x 1.50



1410: Tire Valve Installer

### 1410 TIRE VALVE INSTALLER



- Simplify inserting any tubeless tire valve
- Swivel head screws onto cap thread of tire valve
- Handle is used as a lever to pull tire valve into rim hole

GENERAL PURPOSE

- Magnetic insert firmly holds the fastener in the socket for easy installation/removal
- Prevents fasteners from dropping into restricted areas where they can be difficult to locate and/or retrieve
- Magnetic insert can be left in or removed for use in other sockets

520  
9 PC. MAGNETIC SOCKET INSERTS (SAE)



- Includes nine pieces: 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", and 7/8"

850  
UNIVERSAL SEAL PULLER KIT



- Pin creates a pivot point on the surface of the seal, thus distributing the force evenly over a larger surface area(when compared to competitive puller designs)
- Greater surface area on hook helps prevent seal puller from piercing through the seal
- Works with 3/8" square drive ratchet or braker bar

521  
10 PC. MAGNETIC SOCKET INSERTS (METRIC)



- Includes nine pieces: 10, 11, 12, 13, 14, 15, 16, 17, 18 and 19mm

852  
2-PIECE PRYBAR HEAD SET



- Teeth allow for a better grip and approximately 70% less movement on the prying surface
- 3/8" and 1/2" square drive connections provide various orientations in limited access locations

522  
19 PC. MAGNETIC SOCKET INSERTS (SAE & METRIC)



- Includes nineteen pieces: SAE and Metric sets combined

950  
11 PC. GASKET HOLE PUNCH SET



- Designed to cut holes and internal radii in gaskets and other soft material (i.e., rubber, lead foil, linoleum, felt fiber)
- Contains long driving mandrel
- Ten punch sizes: 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 3/4", 7/8", 1"

PULLEY

Removes and installs power steering pump pulleys on most major domestic vehicle platforms including early GM, Chrysler, Ford and GM belt-driven vacuum pumps and pressed-on water pump pulleys on GM 4 and 6 cylinders

5238  
MASTER POWER STEERING PULLEY REMOVER AND INSTALLER SET



5239A (CLAMSHELL) 5239B (CASE)  
POWER STEERING PUMP/ALTERNATOR PULLEY REMOVER/INSTALLER



SERRATED BIT WRENCHES

- Use to install and remove 12-point (triple-square) metric socket-head screws
- Turn with a socket or wrench

	12-POINT				DRIVE	
Part No.	6MM	8MM	10MM	12MM	5/16"	1/2"
676-6	•				•	
676-8		•			•	
676-10			•			•
676-12				•		•

676-8



676-6



676-10



676-12



MISCELLANEOUS

413  
FORD SEATBELT PRETENTIONER RELEASE TOOL



- Allows for the disconnection of Ford Interceptor, Taurus & Lincoln MKS seat belt pretentioner system
- Simplifies disconnection of seatbelt release mechanism

436A  
EXHAUST HANGER REMOVAL PLIERS



- For removal of rubber exhaust system hangers, (i.e. tailpipe, exhaust pipe and muffler)
- Self-locating forcing pin
- Cushioned slip-resistant handles at a 25° offset for easy access in restricted areas

504  
GLOW PLUG HARNESS TOOL



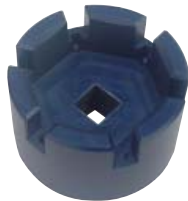
- Prevents damage to harness and connector rail
- Removes and installs glow plug connectors
- Applications Include 2004 and newer
  - 6.0 Liter Diesel
  - E-series
  - Low Cab Forward
  - F250-F350 Super Duty

525  
TILT STEERING PIVOT PIN REMOVER



- Removes pivot pins from Chrysler, Ford, and GM steering columns
- Fits all telescoping steering columns (1969 to present)

538  
FORD FUEL FILTER CAP TOOL



- 36mm hex, combined with 6 notches allows this tool to do the work of two
- Blue anodized aluminum
- 3/8" drive

548  
MAXXFORCE FUEL LINE RELEASE TOOL



- Fuel line disconnect for International MaxxForce series 11 & 13 engines
- Heat treated to minimize fork deflection

563  
FORD 1/2" FUEL LINE & VAPOR REMOVAL CONNECTION TOOL



- Removal of Ford type 1&2 quick release connectors
- Removal of Super Duty truck Fuel supply line quick connectors
- Found on majority of 2005 to current Ford Motor Co. vehicles

568  
FORD 3/8" FUEL LINE & VAPOR REMOVAL CONNECTION TOOL



- Removal of Ford type 1&2 quick release connectors
- Removal of passenger car and light truck 5/16" & 3/8" Fuel supply & Vapor line quick connectors
- Found on majority of 2005 to current Ford Motor Co. vehicles

635A  
UNIVERSAL OIL FILTER WRENCH



- Designed to fit oil filters for all domestic and foreign compact, mid- and standard sized automobiles
- Self-adjusting wrench will fit all filters 2-1/2" through 3-13/16" in diameter
- Works with a 3/8" square drive socket wrench

708  
CAMSHAFT SPROCKET HOLDING TOOL



- Pivoting design allows fit in most cam and injection pump gear sizes
- Dented grooves on holding pins gives user a sure hold
- Use as a counter holder when loosening or tightening sprocket retainer bolts

3509  
STEEL WHEEL LOCK-PLATE REMOVER/INSTALLER



- Features puller yoke to fit late model GM cars with (S.I.R.) air bags
- Narrow yoke prevents damage to the lock plate
- Hex screw supplied will lock down telescoping steering columns while removing lock plate
- Zinc and black oxide for corrosion resistance

## SPARK PLUG

### 135 SPARK PLUG TERMINAL PLIERS



- Safely remove spark plug cables and prevent cable damage
- Pliers' handles and jaws are coated with heavy-duty plastic for a sure grip

### 528 (5/8" DIA., 3/8" DRIVE) 529 (13/16" DIA., 3/8" DRIVE) MAGNETIC SPARK PLUG SOCKET



- Magnet firmly holds the spark plug for easy installation and removal avoiding the chance of dropping and damaging the spark plug
- Unique design prevents damage to the spark plug's ceramic top
- Unlike sockets with rubber inserts, the permanent magnet in this socket will not wear out or be damaged by exposure to oil or humidity

### 4663 SPARK PLUG EXTRACTOR TOOL



- Removes broken spark plugs from the cylinder head on Ford Triton® 4.6L, 5.4L, and 6.8L 3-valve engines without removing the head
- Engine Applications:
  - Ford Triton® 4.6L V8 3-valve
  - Ford Triton® 6.8L V10 3-valve
  - Ford Triton® 5.4L V8 3-valve used on 2004-2010 Ford F150
  - F250 and F350 F-Series pick-ups, 2004-2010 Ford Super Duty pick-ups, 2004-2010 Ford Expedition and 2004-2010 Lincoln Navigator

### 4647 HARNESS CONNECTOR RELEASE TOOLS



- For disconnecting electrical connectors
- Specially designed, heat-treated blades with E-Z Grip handles
- Set includes one tool designed for pulling connectors off, and the other for pushing connectors off
- Easy connector removal, regardless of component location

## SERVICE

- Compress valve springs on overhead valve and L-head engines on cars, trucks and tractors
- Variable sizes, jaw openings and throat depths for use on multiple engine models

### 379 SMALL ENGINE VALVE SPRING COMPRESSOR



- Long and slender, maximum opening 2-3/8"
- Will reach into small recesses where valve springs and retaining washers are located
- Jaws are adjustable in width and have edges so thin they can be forced under and over ends of valve spring to compress it for removal

### 380 VALVE SPRING COMPRESSOR



- Jaws and plunger bars are easily adjusted
- Plunger bar seats on both flat and cup-shaped valve heads
- 9-3/4" Throat depth, and jaw openings of 2-3/4" to 7-3/4"; 2 straight jaws included

### 383A VALVE SPRING COMPRESSOR



- A handle on the outside of the tool makes it easy to use
- 7-1/2" Throat depth, and jaw openings of 2-3/4" to 5-7/8"

### 385 VALVE SPRING COMPRESSOR



- Designed for light-weight valve springs
- 6-1/4" Throat depth, and jaw openings of 3" to 5-3/8"

### 277A PISTON RING COMPRESSOR



- Double tension band with gear ratchet
- Stronger locking mechanism and quick release
- For use with major vehicle platforms, domestic and foreign
- Ring capacity 2-1/8" to 5"; depth 3-1/2"

### 1722 PISTON RING GROOVE CLEANER



- Effectively removes carbon from ring grooves on pistons 2" to 5" (51mm to 127mm)
- The two 6-bladed cutters cover all major piston ring grooves in SAE and metric sizes
- Cutters rotate to any selected size, locking in place with hold-down nut

## WRENCHES



FM-720A: Ford Ignition Module Wrench

### FM-720A FORD IGNITION MODULE WRENCH



- 25° offset ratcheting dual-end wrench containing a 7/32" six-point (5.5mm), and T-20 TORX® bit
- For easy removal of Ford ignition module without removing or tampering with the distributor

### 615 TIE ROD WRENCH



- For adjusting tie rods on vehicles with rack and pinion steering
- Spring-loaded upper jaw pivots to accommodate tie rods ranging in size from 10mm-18mm
- Works on 2-flat, spline and hex
- Cam action increases the gripping pressure as the load applied to the handle increases

### 1418 DRAIN PLUG WRENCH



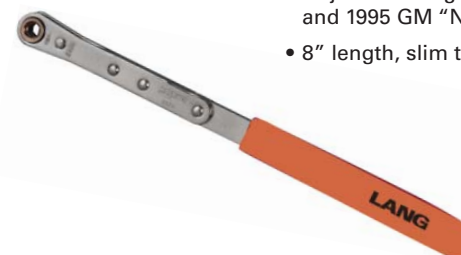
- For drain plugs on differentials, transmissions (auto/manual), transfer cases, and engines
- Designed to fit the two most common female drain plug sizes: 3/8" and 1/2" square

### 5523 4MM FORD HEADLIGHT ADJUSTING RATCHETING WRENCH



- For use on late model Fords with aerodynamic designs and headlights with rear mounted adjusters
- 8" length, slim tool profile

### 5524 5MM GM HEADLIGHT ADJUSTING RATCHETING WRENCH



- Adjusts headlights on 1994 and 1995 GM "N" body vehicles
- 8" length, slim tool profile

### 5529A FORD HEADLIGHT ADJUSTING RATCHETING WRENCH



- 4mm x 4.5mm wrench for adjusting headlights on late model Fords with aerodynamic designs and headlights with rear mounted adjusters
- 8" length, slim tool profile

SETS

- Remove and install the fan clutch thermostatic fan assembly on many models when repairing or replacing water pump, timing chain or the fan clutch
- Use with 1/2" square drive tools and a torque wrench
- Individual and set configurations listed in chart below

3136

FORD FAN CLUTCH WRENCH SET



3296

FORD DIESEL FAN CLUTCH WRENCH SET



3472

FAN CLUTCH WRENCH SET



41570

FAN CLUTCH WRENCH SERVICE KIT



Part Number	Product Description	Fan Clutch Wrench Set 3136	Fan Clutch Wrench Set 3296	Fan Clutch Wrench Set 3472	Fan Clutch Wrench Set 41570
3136-36	<b>36mm Fan Clutch Wrench</b> Used to remove/replace the thermostatic fan assembly on: -Ford 4.9L E and F Series truck engines (1984-1993) -Ford 4.6L modular engines -Ford 2.8L engines (1984-1987) -Ford 2.9-3.0L engines (1988-current) -Ford 4.0L engines (1990-current)	•		•	•
3136-58	<b>58mm Short Fan Clutch Wrench</b> Used to install/remove thermostatic fan assembly in Fords	•			
3296-83	<b>83mm Short Fan Clutch Wrench</b> Used to install/remove thermostatic fan assembly in Ford Diesels, Ford 6.9L and 7.3L engines		•		
3422	<b>40mm Fan Clutch Wrench</b> Removes thermostatic fan assembly on 1993-current 4.9L Ford engines. Use in conjunction with 8mm Short Wrench of Universal Pulley Holder			•	•
3473	<b>47mm Fan Clutch Wrench</b> Used to install/remove thermostatic fan assembly in Ford Diesels				•
3474	<b>48mm Fan Clutch Wrench</b> Used to install/remove thermostatic fan assembly in Ford Diesels, Ford 6.9L and 7.3L engines		•		
3900	<b>Universal Pulley Holder with pin set (5x8mm)</b> Holds both bolted-on and pressed-on pulleys found on many vehicles			•	•
3903	<b>22mm Fan Clutch Wrench</b> Used to install/remove thermostatic fan assembly in Fords				•
3904	<b>50mm Fan Clutch Wrench</b> Used to install/remove thermostatic fan assembly in Fords & Internationals				•

3901

PULLEY HOLDER PIN SET



- Small set: 5mm x 8mm

3902



- Large set: 6mm x 10mm and 7.5mm x 18mm

729

UNIVERSAL HOLDING TOOL

- Replaces numerous tools and quickly adjusts to multiple pulley configurations
- Improves accessibility with low profile in tight fan clutch areas
- Get more torque with square drive cutouts designed for use with a breaker bar



3406



- Sizes: 22mm, 32mm, 36mm, 40mm, 48mm and 50mm
- Convenience of combining the 6 most commonly used wrench sizes onto one double-end wrench; eliminates the guess work of sizing
- Offset wrenches provide better hand alignment and a clearer line of sight, while improving accessibility in tight fan clutch areas
- Square drive cutouts designed for use with a breaker bar for added torque or length

FEATURES

- Releases the tension on spring-loaded idler pulleys
- Allows direct access to the tensioner without having to remove engine accessories or frame components. This can be done by rotating the drive end on the wrench to match the position of the serpentine belt tensioner
- Ratcheting feature allows quick and easy positioning to access the tensioner from any angle
- Heat-treated and nickel-chrome plated for strength, durability, appearance, and long tool life
- Slim head design for access to restricted areas

INDIVIDUAL RATCHETING WRENCHES

8579

RATCHETING SERPENTINE BELT WRENCH 15MM 6-PT. X 3/8" MALE SQUARE X 16MM 6-PT.



8585

RATCHETING SERPENTINE BELT WRENCH 13MM X 14MM 6-PT. X 18MM 6-PT. X 1/2" MALE SQUARE



8586

RATCHETING SERPENTINE BELT WRENCH 15MM 6-PT. X 3/8" MALE SQUARE X 16MM 6-PT. X 1/2" MALE SQUARE



8591

RATCHETING SERPENTINE BELT WRENCH 14MM X 17MM 6-PT. X 19MM 6-PT. X 3/4" MALE SQUARE



8592

RATCHETING SERPENTINE BELT WRENCH 15MM 6-PT. X 3/8" MALE SQUARE X 13MM X 14MM 6-PT.



8593

13" REVERSIBLE RATCHETING SERPENTINE BELT WRENCH FOR HEAVY-DUTY TRUCKS



- Used to release serpentine belt tensioners with 1/2" square drive openings
- Low profile for better access to contained areas

RATCHETING WRENCH SETS

5339

2-PC. RATCHETING SERPENTINE BELT WRENCH SET FOR IMPORT VEHICLES

- No. 8591 - 14mm x 17mm 6-pt. x 19mm 6-pt. x 3/4" male square
- No. 8592 - 15mm 6-pt. x 3/8" male square x 13mm x 14mm 6-pt.



5344

3-PC. UNIVERSAL RATCHETING SERPENTINE BELT WRENCH SET

- No. 8579 - 15mm 6-pt. x 3/8" male square x 16mm 6-pt.
- No. 8585 - 13mm x 14mm 6-pt. x 18mm 6-pt. x 1/2" male square
- No. 8591 - 14mm x 17mm 6-pt. x 19mm 6-pt. x 3/4" male square



8584

2-PC. RATCHETING SERPENTINE BELT WRENCH SET

- No. 8579 - 15mm 6-pt. x 3/8" male square x 16mm 6-pt.
- No. 8585 - 13mm x 14mm 6-pt. x 18mm 6-pt. x 1/2" male square



8572

SERPENTINE BELT WRENCH SET FOR BMW ENGINES

- Set contains one 17mm single hex box wrench, and two 17mm drive end adapters with 8mm and 16mm working ends



RATCHETING WRENCH SETS

5333 9-PIECE FINE TOOTH SERPENTINE BELT WRENCH SET

- Fine Tooth ratcheting action allows quick and easy positioning of wrench-driving end for tensioner access from any angle
- Interchangeable adapters allow service to most serpentine belt applications
- Set includes eight adapters:
  - 6-Point
    - 13mm (1/2"), 14mm (9/16"), 15mm
    - 16mm (5/8"), 18mm, 19mm (3/4")
  - Square
    - 1/2"
    - 3/8"



NON-RATCHETING

3414A SERPENTINE BELT WRENCH SET

- Set Includes:
  - 3/8" drive bar for sockets and crowfoot wrenches
  - 1/2" square drive bar
  - 15mm, 16mm, 18mm 3/8" drive 12 point sockets
  - 13mm, 14mm, 15mm 3/8" drive crowfoot wrenches



Applications:

- 6-Point
  - 13 mm or 1/2": GM "Quad 4" 2.3L; Volkswagen 2.0L
  - 14 mm: Isuzu 3.1L; Lexus 2.5L, 3.0L, 4.0L; Mazda 2.3L, 3.0L, 4.0L; Saturn, 1.9L with hex on idler pulley; Toyota 3.0L; Volkswagen 1.8L, 2.5L, 2.8L
  - 15 mm: GM 2.2L; Isuzu 2.8L; Jeep 4.7L
  - 16 mm or 5/8": Ford/Lincoln/Mercury 2.3L, 3.8L, 4.0L, 4.9L, 5.0L, 5.8L; GM 4.3L, 5.0L, 5.7L
  - 18 mm: GM 2.0L, 3.1L, 3.3L, 3.4L, 3.8L
  - 19 mm: or 3/4" (use with 15mm adapter for extra reach): Mercedes; Toyota 1.8L, 2.4L Square
- Square
  - 3/8": Ford/Lincoln/Mercury 1.9L, 2.3L, 2.5L, 4.0L; GM 2.0L, 2.2L, 2.8L, 3.1L, 3.4L; Isuzu 2.8L, 3.1L
  - 1/2": Dodge/Chrysler/Plymouth 2.0L, 3.0L; Ford/Lincoln/Mercury 3.0L, 4.2L 4.6L; GM 2.5L, 4.9L, 5.0L, 5.7L; Mitsubishi 3.0L

5139 FLEXIBLE LIGHTED SERPENTINE BELT TOOL

- Flexible serpentine belt tool allows for easy adjustment of belt around various pulley positions
- LED lighted portion of tool ensures easy visibility in dark engine compartments
- Extra-long 33" length allows for deeper reach around crank shaft pulley
- Reverse gripping feature allows for two handed positioning of tool



5331 ECOTEC SERPENTINE BELT TENSIONER TOOL

- Serpentine belt service on Ecotec 2.2 and 2.4L inline 4-cylinder General Motors vehicles
- Allows service of serpentine belt without removal of engine mount or lower air filter housing
- Allows access to tensioner from top of engine compartment
- Double square drive allows improved leverage and flexibility in all Ecotec applications
- Low profile allows it to fit into space between tensioner and frame rail



MISCELLANEOUS

3350 INJECTOR HEIGHT GAUGE FOR DETROIT DIESEL ENGINES



Size	Series	Year	
	Engine		
78.2mm	60	DDEC I	1986-1993
78.2mm	60 & 50	DDEC II	1896-1993
78.8mm	60 & 50	DDEC III	1994-1997
80.3mm	60	DDEC III	Late 1997
80.3mm	60 & 50	DDEC IV	1997-1998
81.0mm	60 & 50	DDEC IV	1998-1999
81.0mm	60	Marine	2000-2003
82.1mm	60		See service manual

679 T-45 TORX® BIT - 7 " LONG



- Used to remove/install the intake manifold on CUMMINS N14 engines without having to remove the fuel pump, air compressor, etc

706 FAN CLUTCH TOOL



- For use on International VT365, T444E, DT466, and DT530; Ford Power Stoke 7.3L and 6.0L; Detroit Diesel Series 40; and John Deere
- Firmly affixes to the fan hub with bolts
- Tool length is designed to reach the frame rail
- Hands free operation

795 WHEEL STUD INSTALLER FOR FORD F250 THRU F550



- Used for installing button head wheel studs on Ford trucks F-250 Super-Duty through F-550 (1998 to present)
- Patented installer pull the stud into the drive flange or hub without damaging the threads
- 1-1/8" six-point drive
- 1-7/8" long and internally threaded M14 x 2.0

WRENCHES

4651 AUTOMATIC SLACK ADJUSTER RELEASE TOOL AND WRENCH



- Used for Rockwell®, Arvin® Meritor systems
- Fork-end tool to release the tensioner button, and a 5/16" double square offset reversible wrench with E-Z Grip handle
- Release the anti-reverse mechanism without prying and apply more turning power with less fatigue to the hand

7578 7/16" AUTOMATIC SLACK ADJUSTER WRENCH



- For brake adjustment on heavy-duty trucks equipped with Haldex® slack adjusters
- Extra long handle provides comfort while overcoming the anti-reverse mechanism

8569 9/16" EXTRA LONG AUTOMATIC SLACK ADJUSTER WRENCH



- For brake adjustment on heavy-duty trucks equipped with Bendix® slack end adjusters
- Extra deep hex allows reach to recessed adjusters

486 OIL FILTER NIPPLE INSTALLER SERIES 60 DETROIT DIESEL ENGINES

- Used to reinstall or tighten the oil filter nipple into the oil filter housing
- 2" six-point hex nut with a 3/8" drive plate
- Can be used with a ratchet or torque wrench



GAUGES

The sizes, both decimal and metric equivalent, are permanently etched on each blade

0.50-in Width		3072	3074	3075	3078	3079
	.008"	•	•	•		•
	.009"	•	•	•		•
	.010"	•	•	•		•
	.011"	•	•	•		•
	.012"	•	•	•		•
	.013"	•	•	•		•
	.014"	•	•	•		•
	.015"	•	•	•		•
	.016"	•	•	•		•
	.017"	•	•	•		•
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	.026"	•	•	•		•
	.027"	•	•	•		•
	.028"	•	•	•		•
	.029"	•	•	•		•
	.030"	•	•	•		•
	.019"- .021"				•	
	.022"- .024"				•	
	.025"- .027"				•	
	.031"- .033"				•	
	.058"- .060"				•	
	.063"- .065"				•	

3078  
FEELER GAUGE SET, JACOBS  
ENGINE BRAKES-DETROIT DIESEL

- Blade sizes and usage: 0.019" - 0.021" Series 60 model years 1999 and before; 0.022" - 0.024" Series 60 all model years, Series 50; 0.025" - 0.027" Series 60 all model years, Series 50; 0.031" - 0.033" Series 60 model year 2000 and after; 0.058" - 0.060" Series 71, Series 92; 0.063" - 0.065" Series 71, Series 92
- This set contains the gauges required to set slave piston lash on Detroit Diesel engines
- 4" blade with 1/2" long 45° offset and 0.002" step Go-No-Go
- 0.002" step is on the bottom side of the blade so that the Go-No-Go can be felt against the exhaust rocker arm adjusting screw or exhaust valve bridge (depending on the model engine)

3079  
MASTER FEELER GAUGE SET  
FOR H.D. TRUCK VALVE ADJ.



- Set contains:
- Part No. 5469 - double-end plastic color-coded handle
  - Part No. 3072 - 6" blade with 1" long 90° offset;
  - Part No. 3074 - 3" blade with 5/8" long 45° offset
  - Part No. 3075 - 3" blade with 1" long 30° offset and 1/2" of 0.002" step
- This handle and blade set was designed to make valve adjustments faster and easier

5469  
DOUBLE-END HANDLE FOR  
FEELER GAUGE BLADES

- Color-coded handle makes using the correct blade fast and accurate, where light blue is for intake and red for exhaust
- Even in dimly lit shops, the technician can be confident in using the correct blade without wasting time having to read the blades every time

3072  
23-BLD FEELER GAUGE FOR  
CUMMINS DIESEL VALVE ADJ.

- 6" blade, with 1" long 90° offset

3074  
23-BLD FEELER GAUGE FOR  
GEN. H.D. TRUCK VALVE ADJ.

- 3" blade, with 5/8" long 45° offset

3075  
23-BLD FEELER GAUGE FOR  
DETROIT DIESEL VALVE ADJ.

- 3" blade, with 1" long 30° offset, and 1/2" of 0.002" step



MISCELLANEOUS

408A  
VALVE STEM FISHING TOOL

- Used to pull valve stems and valve stem/inner tube assemblies through the valve stem hole on vehicle rims
- Tool has three functions: valve stem puller, valve core removal, and tire deflator
- Unlike existing tools on the market, this valve stem puller threads into the valve stem rather than over-the valve stem, eliminating the need to put hands inside the rim/tire assembly

444  
SPRINGER FORK BEARING  
ADJUSTING TOOL

- Adjust the steering stern adjuster nut to allow for proper neck bearing endplay
- Three-prong socket, 3/8" drive, with a pass through hole in the center allows for precise neck endplay adjustment
- Used on Harley-Davidson® motorcycle Springer® forks

449  
NECKBEARING ADJUSTMENT  
TOOLS FOR HARLEY-DAVIDSON®  
MOTORCYCLES

- Tapered end allows easy access to the neck bearing adjusting star on Harley-Davidson® front ends
- Screwdriver-style handle offers a comfortable grip

437  
CRANKSHAFT BEARING  
END PLAY SETUP TOOL

- Used on Big Twin® engines
- Allows inner bearing races to be installed and removed without pressing them on or off as you would if you were using a crankshaft
- Allows for much faster servicing

445  
REAR ISOLATOR  
REPLACEMENT TOOL

- Offset ratcheting wrench with extended handle
- A threaded bolt is used to jack apart the frame and the swing arm; assembly is kept from turning by a handle staked to the wheel
- Built-in feature keeps motorcycle frame from being overspread
- Applications include: S1 Lightning®, S1 Cyclone®, S2 Thunderbolt®, S2T Thunderbolt®, and S3T Thunderbolt®

492  
LOCK RING TOOL

- Allows access to the fuel filter and pump as the lock ring is connected to the pump
- Made of durable ABS plastic
- Competitive products are metal and can scratch the painted surface of the motorcycle

440  
SHOCK ABSORBER FORK  
OIL REPLENISHMENT KIT

- Clear plastic tube and special fitting allows replacement of the oil in the fork through the drain plug
- No need to disassemble the fork and front end

446  
CYLINDER SLEEVE  
HOLD DOWNS

- Specialty nuts (four per package) used to hold down cylinder sleeves during service procedures
- Motor can be turned over with the heads off
- Applications: Harley-Davidson® Big Twin®, Twin Cam®, Sportster® and models with 3/8" studs
- Nuts are for a 3/8" - 16 UNC thread
- 3/4" hexagon (easy handling)

514  
SEAT SCREWDRIVER  
FOR SOFTTAIL®

- Seat screwdriver for Harley-Davidson® SoftTail®

## MISCELLANEOUS

### 801 7-PC. ATV AXLE END THREAD RESTORER KIT



- Contains 7 different dies to restore threads on axle ends of ATVs such as Honda, Kawasaki, Suzuki, Yamaha and more
- Die sizes included: M14x1.50, M16x1.50, M18x1.50, M20x1.50, M24x1.50, 3/4"-16 and 7/8"-14

### 1201A LOW PRESSURE TIRE GAUGE



- Reads 1 - 20PSI, 1/2 lb. increments
- Metal body/plastic gauge, pocket clip, deflator feature
- For ATVs, lawn tractors and motorcycles

### 1610 14-BLADE VALVE LASH GAUGE SET



- Set of 4" x 1/4" feeler gauge blades, thickness .002" through .015"
- 1/4" wide gauge blades can be used to check valve clearances of small diameter bucket and shim type valve trains
- Standard 1/2" wide blades may contact the cylinder head and not provide the proper clearance "feel"
- 4" length allows for extra reach to recessed valve systems

## WRENCHES

### 5530 INTAKE MANIFOLD WRENCH



- Reversible ratcheting box wrench used on BigTwin® engines to install/remove intake manifold socket head cap screws
- 1/4" ball-end Allen bit

### 6529 ROCKER BOX COVER RATCHETING BOLT WRENCH



- Reversible ratcheting box wrench used on Harley Davidson® Evolution® motor rocker box covers
- Low profile allows clearance between the frame and engine
- Long handle for increased reach
- Ergonomic rubber grip will not scratch chrome
- 9-3/4" long chrome plated with 1/4" drive

### 702 ROCKER BOX COVER WRENCH REPLACEMENT BITS



- Three 3/16" Allen bits packaged in a polybag

### 6530 LOWER ROCKER BOX 7/16" WRENCH FOR TWIN CAM®



- Reversible ratcheting box wrench used to install/remove the lower rocker box on Harley-Davidson® motorcycles with Twin Cam® engines (1999-2006)
- Vinyl grip prevents the wrench from scratching or marring the bike
- 7/16" protruding socket, 1" socket length

### 6531 LOWER ROCKER BOX 7/16" WRENCH FOR EVOLUTION®



- Reversible ratcheting box wrench used to install/remove the lower rocker box on Harley-Davidson® motorcycles with Evolution® engines (1994-1999)
- Vinyl grip prevents the wrench from scratching or marring the bike
- 7/16" protruding socket, 1-1/4" socket length

### 6538 EXHAUST BRACKET WRENCH



- Reversible ratcheting wrench used to remove/install the front exhaust bracket on Harley-Davidson® Dyna® model Twin Cams® from 1999 to present
- 9-3/4" long with a removable/replaceable shortened T-27 TORX® bit
- Vinyl grip prevents the wrench from scratching or marring the bike

## WRENCHES

### 6562 REAR FENDER BOLT WRENCH



- 13" long rocker box wrench used to remove/replace the bolt that holds the rear fender to the frame on Harley-Davidson® Touring® models, 1988 to present
- Remove the rear fender bolt without having to remove the tire
- T40 Bit

### 8598 22MM X 24MM FRONT AXLE WRENCH



- Reversible ratcheting wrench used to remove/install the front axle shaft on motorcycles equipped with a female six-point socket in the end of the axle
- Used on various late models of Honda, Kawasaki, Suzuki and Yamaha

### 9280 24-TOOTH CRANKSHAFT WRENCH



- Used for rotation of the crankshaft on all 24-spline engines (2006 Harley-Davidson® Dyna®), and to check engine timing and parts clearance
- Custom design fits perfectly on the crankshafts of 2006 Dyna® model
- E-Z Grip handle allows more turning power with less fatigue to the hand

### 6738 MAGNETIC SPEEDOMETER SENDING UNIT WRENCH



- Reversible offset ratcheting wrench used to remove/install magnetic speedometer sending units on Harley-Davidson® Sportster® motorcycles and other Harley-Davidson®
- Shortened 3/16" ball-end hex bit allows access to remove/install sending units without further disassembly

### 8799 17MM ENGINE OIL DRAIN PLUG WRENCH



- Reversible offset ratcheting wrench used to remove/install the engine oil drain plug on Metric V-Twin® motorcycles: Honda Shadows®, Yamaha V-Stars®, Kawasaki® Vulcan® and other metric motorcycles with 17mm engine and rear differential drain plug
- 17mm extended wheel, low profile head

### 9636 REAR AXLE 36MM NUT RATCHET WRENCH



- Reversible ratcheting wrench used to install/remove 36mm axle nuts on FL Touring® models
- Insert a torque wrench into the built-in 1/2" square drive to get a torque reading

### 8577 17MM X 19MM FRONT AXLE WRENCH



- Reversible ratcheting wrench used to remove/install the front axle shaft on motorcycles equipped with a female six-point socket in the end of the axle
- Used on various late models of Honda, Kawasaki, Suzuki and Yamaha

### 9270 6-TOOTH CRANKSHAFT WRENCH



- Reversible ratcheting wrench used for rotation of the crankshaft on all 6-spline engines (2007 Harley-Davidson® Sportsters® and 2008 Buell®)
- Extended wheel/socket to prevent wrench from sliding to far onto the crankshaft
- E-Z Grip handle allows more turning power with less fatigue to the hand

### 9723 OIL PRESSURE INDICATOR LAMP SENDING UNIT WRENCH



- Reversible ratcheting wrenches used to remove/install the oil pressure indicator lamp sending unit on Harley-Davidson® FL Touring® motorcycles (1999 and up)
- Special low profile
- Vinyl grip prevents the wrench from scratching or marring the bike

WRENCHES

9724  
OIL PRESSURE INDICATOR  
GAUGE SENDING UNIT WRENCH



- Special low profile reversible ratcheting wrench used to remove/install the oil pressure indicator gauge sending unit on Harley-Davidson® FL Touring® motorcycles (1999 and up)
- Vinyl grip prevents the wrench from scratching or marring the bike

9793  
SIX SPLINE RATCHETING  
OUTPUT WRENCH



- Reversible offset ratcheting EZ Grip wrench contains a 1" drive to service a six spline crankshaft
- Used for rotation of the crankshaft check engine timing and parts clearance on Sportster® motorcycles

9794  
TEN SPLINE RATCHETING  
OUTPUT WRENCH



- Reversible offset ratcheting EZ Grip wrench contains a 1-1/8" drive to service a ten spline crankshaft
- Used for rotation of the crankshaft/ check engine timing and parts clearance on Sportster® motorcycles

SPARK PLUG GAP

712A  
RAMP GAUGE LARGE CHROME



- Spark plug tool adjusts spark plug gap in graduated ramp sequence
- Sizes: SAE - .020 - .100; Metric - .60 - 2.40mm

2633A  
HIGH-ENERGY SPARK GAUGE



- Contains: Six round wires - .040, .044, .045, .050, .060, .080 with double end electrode adjusting tool
- Popular sizes required to gap spark plugs
- Round wire in this gauge permit exact gap checking at all angles

2634A  
ROUND STYLE WIRE GAUGE



- Contains: Six round wires - .025, .030, .034, .035, .040, .045 with double end electrode adjusting tool
- Most popular "standard ignition" spark plug gapping wire sizes
- Round wire in this gauge permit exact gap checking at all angles

4450A  
E-Z GRIP SPARK PLUG RAMP GAUGE



- Full range coverage for all spark plug gapping requirements from .020 to .080 (.60 to 2.00mm)
- Applications include those with distributor-less ignition systems
- Tool includes a recess specifically designed to adjust electrodes

GENERIC

The sizes, both decimal and metric equivalent, are permanently etched on each blade

21A  
9-BLADE FEELER GAUGE  
• 3" x 1/2" blades  
• Steel ruler  
• For ignition and general purpose



28A  
9-BLADE TUNE-UP GAUGE  
• 3" x 1/2" blades and five - 1" x 1/4" blades  
• Steel ruler and adjusting tool



36A  
32-BLADE FEELER GAUGE  
• 3" x 1/2" blades  
• Thirty-one steel and one .010 brass blade for transistorized engines



3013A  
22-BLADE GO-NO-GO GAUGE  
• 3" x 1/2" step-ground blades that are ground at the tip .002" less than the normal blade thickness to permit a quick check for proper setting or clearances



9-3MC  
9-BLADE FEELER GAUGE  
• 3" x 1/2" blades



FG-2  
25-BLADE FEELER GAUGE  
• 3" x 1/2" blades



FG-135  
36-BLADE COMBINATION  
STANDARD AND BRASS  
FEELER GAUGE  
• Thirty steel and six brass blades - 3" x 1/2" blades



27A  
15-BLADE FEELER GAUGE  
• 3" x 1/2" blades  
• Steel ruler



29A  
26-BLADE FEELER GAUGE  
• 3" x 1/2" blades



36XK  
MASTER THICKNESS GAUGE  
• 3" x 1/2" blades  
• Thirty-one steel and one .010 brass blade for transistorized engines



4046A  
26-BLADE FEELER GAUGE  
• 3" x 1/2" blades



16-3-5/16MC  
15-BLADE FEELER GAUGE  
WITH STEEL RULER  
• 3" x 1/2" blades



FG-35-A  
35-BLADE FEELER GAUGE  
• 3" x 1/2" blades



(See chart on page 66 for sizes included in sets.)

		21A	27A	28A	29A	36A	36XK	3013A	4046A	9-3MC	16-3-5/16MC	FG-2	FG-35-A	FG-135
0.50-in Width	.0015"				•	•	•		•	•		•	•	
	.002"	•	•	•	•	•	•		•	•	•	•	•	•
	.0025"				•	•	•		•					•
	.003"	•	•	•	•	•	•		•	•	•	•	•	•
	.004"	•	•	•	•	•	•		•	•	•	•	•	•
	.005"		•		•	•	•		•		•	•	•	•
	.006"	•	•	•	•	•	•	•	•	•	•	•	•	•
	.007"				•	•	•	•	•			•	•	•
	.008"	•	•	•	•	•	•	•	•	•	•	•	•	•
	.009"				•	•	•	•	•			•	•	•
	.010"				•	•	•	•	•	•		•	•	•
	.011"		•		•	•	•	•	•		•	•	•	•
	.012"	•	•	•	•	•	•	•	•	•	•	•	•	•
	.013"	•	•	•	•	•	•	•	•		•	•	•	•
	.014"		•		•	•	•	•	•		•	•	•	•
	.015"				•	•	•	•	•	•		•	•	•
	.016"		•		•	•	•	•	•		•	•	•	•
	.017"				•	•	•	•	•			•	•	•
	.018"		•		•	•	•	•	•		•	•	•	•
	.019"				•	•	•	•	•		•	•	•	•
	.020"	•	•	•	•	•	•	•	•		•	•	•	•
	.021"				•	•	•	•	•		•	•	•	•
	.022"		•		•	•	•	•	•		•	•	•	•
	.023"				•	•	•	•	•			•	•	•
	.024"				•	•	•	•	•		•	•	•	•
	.025"	•	•	•	•	•	•	•	•		•	•	•	•
	.026"					•	•	•				•	•	•
	.027"							•				•		
	.028"					•	•					•	•	•
	.029"											•		
	.030"					•	•					•	•	•
	.031"											•		
	.032"					•	•					•	•	•
	.033"											•		
	.034"											•		
	.035"					•	•					•	•	•
	.040"													
0.25-in Width	.025"			•										
	.030"			•										
	.035"			•										
	.040"			•										
	.044"			•										
Brass	.006"													•
	.008"													•
	.010"					•	•							•
	.012"													•
	.014"													•
	.016"													•
Steel Rule		•	•	•							•			
Electrode Tool				•										
Knurl Lock-Nut							•	•	•	•	•	•	•	•
Rivet		•	•	•	•	•								

LONG

The sizes, both decimal and metric equivalent, are permanently etched on each blade except where noted \*

	12025	8-9MC	8-12MC	22-2-5/16MC
0.50-in Width	.0015"	•		
	.002"	•	•	
	.0025"			
	.003"	•	•	
	.004"	•	•	•
	.005"	•	•	•
	.006"	•	•	•
	.007"	•		•
	.008"	•	•	•
	.009"	•		•
	.010"	•	•	•
	.011"	•		•
	.012"	•		•
	.013"	•		•
	.014"	•		•
	.015"	•	•	•
	.016"	•		•
	.017"	•		•
	.018"	•		•
	.019"	•		•
	.020"	•		•
	.021"	•		•
	.022"			•
	.023"			•
	.024"			•
	.025"	•		•
	.026"			
	.027"	•		
	.028"			
	.029"			
	.030"	•		
	.031"			
	.032"			
	.033"			
	.034"			
	.035"			
	.040"	•		
Knurl Lock-Nut		•	•	•

12025

25-BLADE FEELER GAUGE  
• 12" x 1/2" blades



8-9MC

8-BLADE FEELER GAUGE  
• 9" x 1/2" blades



8-12MC

8-BLADE FEELER GAUGE  
• 12" x 1/2" blades



22-2-5/16MC

22-BLADE FEELER GAUGE  
• 2-5/16" x 1/2" blades



METRIC

\* Only metric sizes etched on blades.

342A \*

15-BLADE METRIC FEELER GAUGE  
• 3" x 1/2" blades



FG-30 \*

25-BLADE METRIC FEELER GAUGE  
• 3" x 1/2" blades



	342A	343A	FG-30
0.04 mm		•	•
0.05 mm		•	•
0.06 mm	•	•	•
0.07 mm	•	•	•
0.08 mm	•	•	•
0.09 mm		•	•
0.10 mm	•	•	•
0.15 mm	•	•	•
0.20 mm	•	•	•
0.25 mm	•	•	•
0.30 mm	•	•	•
0.35 mm	•	•	•
0.40 mm	•	•	•
0.45 mm	•	•	•
0.50 mm	•	•	•
0.55 mm	•	•	•
0.60 mm	•	•	•
0.65 mm		•	•
0.70 mm	•	•	•
0.75 mm		•	•
0.80 mm		•	•
0.85 mm		•	•
0.90 mm		•	•
0.95 mm		•	•
1.00 mm		•	•
Rivet	•	•	
Knurl Lock-Nut			•



OFFSET The sizes, both decimal and metric equivalent, are permanently etched on each blade

	39A	316A	3085	3275A
.0015"				
.002"				
.0025"				
.003"				
.004"			•	
.005"		•	•	•
.006"		•	•	•
.007"		•	•	•
.008"	•	•	•	•
.009"		•	•	•
.010"	•	•	•	•
.011"		•	•	•
.012"	•	•	•	•
.013"	•	•	•	•
.014"	•	•	•	•
.015"	•	•		•
.016"	•	•		•
.017"		•		•
.018"	•	•		•
.019"	•	•		•
.020"	•	•		•
.021"				•
.022"				•
.023"				•
.024"				•
.025"	•			•
.026"	•			•
.027"				•
.028"				•
.029"				•
.030"				•
.031"				
.032"				
.033"				
.034"				
.035"				
.040"				
Knurl Lock-Nut			•	•
Rivet	•	•		

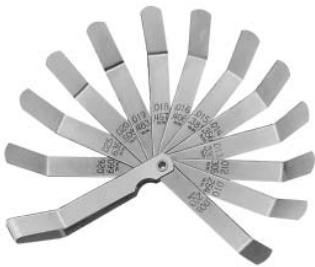
1610 14-BLADE VALVE LASH GAUGE SET



- 4" x 1/4" blades
- 1/4" wide gauge blades can be used to check valve clearances of small diameter bucket and shim type valve trains
- Standard 1/2" wide blades may contact the cylinder head and not provide the proper clearance "feel"
- 4" length allows for extra reach to recessed valve systems

39A 12-BLADE OFFSET FEELER GAUGE 4" LONG

- 4" x 1/2" blades
- Blades have 1" 45° offset for checking valve clearances



316A 16 OFFSET BLADE TAPPET FEELER GAUGE 4" LONG

- 4" x 1/2" blades
- Blades have 1" 45° offset for checking valve clearances



3085 11 OFFSET VALVE TAPPET GAUGE SET - IMPORTS

- 3" x 1/2" blades
- Blades have 30° offset for easy use
- This two handle, eleven feeler blade set is designed for use when setting valve tappets on many import vehicles
- E-Z grip handle for comfort and control



3275A 26-BLADE OFFSET FEELER GAUGE 4" LONG

- 4" x 1/2" blades
- Blades have 1" 45° offset for checking valve clearances



THIN

2636A 17 MINI-BLADE FEELER GAUGE

- 1-3/4" x 1/4" blades



	1610	2636A
.002"	•	
.003"	•	
.004"	•	
.005"	•	
.006"	•	
.007"	•	
.008"	•	
.009"	•	
.010"	•	•
.011"	•	
.012"	•	•
.013"	•	•
.014"	•	
.015"	•	•
.016"		•
.017"		•
.018"		•
.019"		•
.020"		•
.022"		•
.024"		•
.025"		•
.026"		•
.028"		•
.030"		•
.032"		•
.035"		•
Pouch	•	
Knurl Lock-Nut		•

Part #	Pg.	Part #	Pg.	Part #	Pg.	Part #	Pg.	Part #	Pg.	Part #	Pg.
8-9MC	67	522	52	1160	41	1245	47	3074	60	4663	54
8-12MC	67	525	53	1167	41	1250	47	3075	60	5139	58
9-3MC	65	528	54	1167R	43	1251	47	3078	60	5220	40
12	32	529	54	1170R	43	1252	47	3079	60	5221	40
14	32	538	53	1173R	43	1253	47	3085	68	5222	40
16-3-5/16MC	65	541A	50	1174	41	1254	47	3136	56	5238	52
21A	65	548	53	1175	43	1255	47	3136-36	56	5239A	52
22-2-5/16MC	67	563	53	1176	43	1256	47	3136-58	56	5239B	52
27A	65	568	53	1201	47	1257	47	3195	48	5278	40
28A	65	615	55	1202	47	1258	47	3246	48	5331	58
29A	65	635A	53	1203	47	1259	47	3275A	68	5333	58
36A	65	676-6	52	1204	47	1260	47	3296	56	5339	57
36XK	65	676-8	52	1205	47	1261	47	3350	59	5344	57
39A	68	676-10	52	1206	47	1262	47	3406	56	5345	40
75	31	676-12	52	1207	47	1290	47	3414A	58	5362	39
87	32	679	59	1208	47	1291	47	3422	56	5363	39
135	54	702	62	1209	47	1410	51	3444	32	5370	40
145	32	706	59	1210	47	1418	55	3472	56	5373	35
202	50	708	53	1211	47	1421	31	3473	56	5374	35
277A	54	712A	64	1212	47	1434	31	3474	56	5382	40
279	50	729	56	1213	47	1435	31	3483	30	5457	40
291	50	755	51	1214	47	1450	31	3484	30	5469	60
294A	50	758	59	1215	47	1465	31	3485	30	5500	34
295A	50	759	59	1216	47	1485	31	3486	30	5501	34
297	50	780	49	1217	47	1486	31	3487	30	5504	35
298	50	782	49	1218	47	1610	62	3488	30	5506	35
299	50	785	49	1219	47	1722	54	3489	30	5508	34
316A	68	795	59	1220	47	2467	48	3490	30	5516	34
342A	67	801	44	1221	47	2573	45	3491	30	5520	34
343A	67	833	51	1222	47	2577	44	3492	30	5523	55
379	54	847	51	1223	47	2579	44	3493	30	5524	55
380	54	850	52	1224	47	2581	45	3494	30	5526	34
383A	54	852	52	1225	47	2583	44	3495	30	5527	34
385	54	901	5	1226	47	2584	45	3497	30	5528	34
401	51	915	49	1227	47	2585	44	3509	53	5529A	55
408A	61	938	51	1228	47	2586	44	3900	56	5530	62
413	53	950	52	1229	47	2588	44	3901	56	5531	34
436A	53	971	45	1230	47	2590	44	3902	56	5532	34
437	61	972	45	1231	47	2592	44	3903	56	5585	35
440	61	1010	47	1232	47	2594	44	3904	56	5700	38
444	61	1012	47	1233	47	2599	44	3910	48	5701	38
445	61	1013A	47	1234	47	2633A	64	3911	48	5704	38
446	61	1016A	47	1235	47	2634A	64	3937	48	5706	38
449	61	1020A	47	1236	47	2636A	68	3975	32	5709	38
486	59	1129	43	1237	47	2665	45	3976	32	5717	38
492	61	1130	43	1238	47	2666	45	3977	32	6500	34
504	53	1135	43	1239	47	2670	45	4046A	65	6501	34
514	61	1137	43	1240	47	2770	48	4450A	64	6504	35
520	52	1138	43	1241	47	3013A	65	4647	54	6506	35
521	52	1140	43	1244	47	3072	60	4651	59	6507	35

Part #	Pg.	Part #	Pg.	Part #	Pg.	Part #	Pg.	Part #	Pg.	Part #	Pg.
6515	32	7723	38	9280	63	9902A	41	71306	10	74440	12
6525	49	7724	38	9500	34	9903A	41	71308	10	74442	12
6529	62	7786	38	9501	34	9907A	41	71313	11	74444	13
6530	62	7791	37	9504	35	12025	67	71314	11	74445	13
6531	62	7792	37	9515	34	13800	42	71315	11	74446	13
6538	62	7795	37	9516	34	13801	42	71316	11	74454	13
6562	63	7796	37	9518	34	13802	42	71317	11	74455	13
6571	49	7797	37	9520	34	13803	42	71318	11	74459	13
6572	49	7798	37	9521	34	13804	42	71319	11	74469	13
6585	35	8500	34	9601	34	13805	42	71321	11	74471	29
6590	32	8501	34	9602	34	13808	42	71327	29	74476	9
6660	36	8504	35	9603	34	13809	42	71328	11	74484	29
6665	36	8505	35	9604	34	13810	42	71329	11	74485	29
6700	38	8512	34	9608	34	13902	42	71330	11	74486	13
6701	38	8513	34	9620	37	13908	42	71403	11	74487	13
6704	38	8569	59	9622	37	13909	42	71404	11	74488	13
6705	38	8572	57	9623	37	13910	42	71405	11	74489	9
6738	63	8577	63	9624	37	13912	42	71406	11	74492	13
6789	37	8579	57	9625	37	13914	42	71408	11	74493	13
6790	37	8584	57	9626	37	13915	42	71409	11	74494	13
6791	37	8585	57	9627	37	33062	10	72305	11	74495	13
6792	37	8586	57	9629	37	34021	10	72306	11	74498	19
6794	37	8587	35	9630	37	35031	10	72308	11	74499	13
6795	37	8591	57	9631	37	36032	10	72309	11	74571	13
6796	37	8592	57	9632	37	41303	10	72315	12	74701	13
7500	34	8593	57	9633	37	41310	10	72316	12	74851	13
7501	34	8598	63	9634	37	41327	10	72317	12	74852	13
7504	35	8600	32	9635	37	41570	56	72318	12	74853	13
7506	35	8645	32	9636	63	41576	10	72319	12	74854	13
7509	35	8660	36	9640	37	41701	49	72320	12	651590	32
7510	35	8665	36	9641	37	42553	20	72322	12	B-10A	49
7514	34	8666	36	9650	37	43110	10	72323	12	B-600	49
7515	35	8690	32	9651	37	43141	10	73102	5	B-610	49
7517	34	8700	38	9652	37	52011	20	73103	5	CLT-2	3
7518	34	8701	38	9653	37	52102	20	73106	5	CLT-4	3
7522	34	8704	38	9654	37	52110	20	73109	5	FG-2	65
7523	35	8705	38	9655	37	56244	20	73110	5	FG-30	67
7524	35	8712	38	9660	36	60236	10	73111	5	FG-35-A	65
7529	34	8713	38	9665	36	60238	10	73211	29	FG-135	65
7578	59	8720	32	9700	38	60239	10	74424	12	FM-720A	55
7586	35	8787	38	9701	38	60410	10	74425	29	RB-3P	36
7660	36	8790	32	9704	38	60440	10	74426	12	RB-5	36
7661	36	8791	37	9721	38	60772	10	74427	29	RB-6	36
7665	36	8792	37	9723	63	61333	10	74431	12	RB-42	37
7700	38	8795	37	9724	64	70408	6	74432	12	RB-44	37
7704	38	8796	37	9781	38	71301	10	74433	12	RB-46	37
7705	38	8797	37	9791	37	71302	10	74434	12	RB-48	37
7706	38	8798	37	9792	37	71303	10	74435	12	RB-50	37
7710	38	8799	63	9793	64	71304	10	74437	12	RB-52	37
7717	38	9270	63	9794	64	71305	10	74438	12	RB-54	37

Part #	Pg.	Part #	Pg.	Part #	Pg.	Part #	Pg.	Part #	Pg.
RB-56	37	ROW-24	37	TU-11A	6	TU-15-52B	19	TU-457P	8
RB-58	37	ROW-28	37	TU-12	6	TU-15-53	19	TU-469	8
RB-60	37	ROW-0810	39	TU-15	19	TU-15-70	19	TU-470B	8
RB-64	37	ROW-0810DH	38	TU-15-1A	20	TU-15-71	19	TU-540-1	9
RB-68	37	ROW-1011DH	38	TU-15-2A	20	TU-15-75	22	TU-540-2	9
RB-312P	36	ROW-1214	39	TU-15-3A	20	TU-15-76	22	TU-550	9
RB-810	36	ROW-1214DH	38	TU-15-4A	20	TU-15-77	22		
RB-810DH	35	ROW-1618	39	TU-15-5	21	TU-15-78	22		
RB-1214	36	ROW-1618DH	38	TU-15-6	21	TU-15-79	22		
RB-1214DH	35	ROW-2022	39	TU-15-8	20-21	TU-15-80	22		
RB-1618	36	ROW-2022A	38	TU-15-9	20	TU-15-81	22		
RB-1618DH	35	ROW-2024	39	TU-15-11A	20	TU-16A	6		
RB-2022	36	ROW-2228	38	TU-15-12A	20	TU-17	4,19		
RB-2024	35	ROW-2428	39	TU-15-13A	20-21	TU-18	4		
RB-2228	35	ROW-2630	38	TU-15-14	20	TU-20-1	4		
RB-2428	36	ROWM-5	39	TU-15-15	21	TU-20-2	4		
RB-2630	36	ROWM-7P	39	TU-15-17	20	TU-21	4		
RBM-5	36	ROWM-8	37	TU-15-18A	20	TU-22A	18		
RBM-7	36	ROWM-9	37	TU-15-19	20-21	TU-24A	18		
RBM-22	37	ROWM-10	37	TU-15-20	20-21	TU-25	18		
RBM-23	37	ROWM-11	37	TU-15-21	20-21	TU-26	7		
RBM-24	37	ROWM-12	37	TU-15-22A	20-21	TU-29	18		
RBM-25	37	ROWM-13	37	TU-15-23	20-21	TU-30A	4		
RBM-26	37	ROWM-14	37	TU-15-24	21	TU-32	27		
RBM-27	37	ROWM-15	37	TU-15-25	21	TU-32-1	27		
RBM-29	37	ROWM-16	37	TU-15-26	21	TU-32-2	27		
RBM-30	37	ROWM-17	37	TU-15-27	21	TU-32-3	27		
RBM-32	37	ROWM-18	37	TU-15-28	20-21	TU-32-4	27		
RBM-36	37	ROWM-0708	39	TU-15-29	20-21	TU-32-5	27		
RBM-0708	36	ROWM-0708A	38	TU-15-30	21	TU-32-6	27		
RBM-0708DH	35	ROWM-0708DH	38	TU-15-31	21	TU-32-7	27		
RBM-0910	36	ROWM-0910	39	TU-15-32	22	TU-32-8	28		
RBM-0910DH	35	ROWM-0910DH	38	TU-15-33	22	TU-32-20	28		
RBM-1113	36	ROWM-1112	38	TU-15-34	22	TU-32-21	28		
RBM-1213DH	35	ROWM-1112DH	38	TU-15-35	22	TU-32-22	28		
RBM-1214	36	ROWM-1113	39	TU-15-36	22	TU-32-23	28		
RBM-1415	35	ROWM-1213DH	38	TU-15-37	22	TU-32-24	28		
RBM-1517	35-36	ROWM-1214	39	TU-15-38	22	TU-32-25	28		
RBM-1618	36	ROWM-1314	38	TU-15-39	22	TU-32-26	28		
RBM-1921	35-36	ROWM1314DH	38	TU-15-40	22	TU-32-27	28		
ROW-3	39	ROWM-1415	38	TU-15-41	22	TU-32-28	28		
ROW-5	39	ROWM-1517	38	TU-15-42	22	TU-113C	7		
ROW-08	37	ROWM-1618	38	TU-15-43	22	TU-310C	4		
ROW-10	37	ROWM-1921	38	TU-15-44	22	TU-443	7		
ROW-12	37	TU-1	18	TU-15-45	22	TU-443-2	9		
ROW-14	37	TU-2	18	TU-15-46	22	TU-443-3	9		
ROW-16	37	TU-3	3	TU-15-47	22	TU-446C	7		
ROW-18	37	TU-4A	6	TU-15-48	22	TU-447C	7		
ROW-20	37	TU-7	3	TU-15-49	22	TU-448C	7		
ROW-22	37	TU-8A	3	TU-15-51	19	TU-449	8		



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## **Do You Have An Invention or Product Improvement Idea?**

If you have an original tool idea which others may need, A & E Incorporated is interested in evaluating your idea. Your idea may be produced and sold by A & E Incorporated under an attractive Award or Royalty Agreement that will bring you income for years to come. If you have a new tool idea or have identified a problem, follow these two easy steps:

1. Write A & E Incorporated and request an *Idea Disclosure Agreement* or fill out a request form on our website: [www.aetools.com](http://www.aetools.com)
2. Return the signed agreement to A & E Incorporated. We will promptly evaluate your idea. You will then be notified whether or not we will offer an award or royalty.

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