



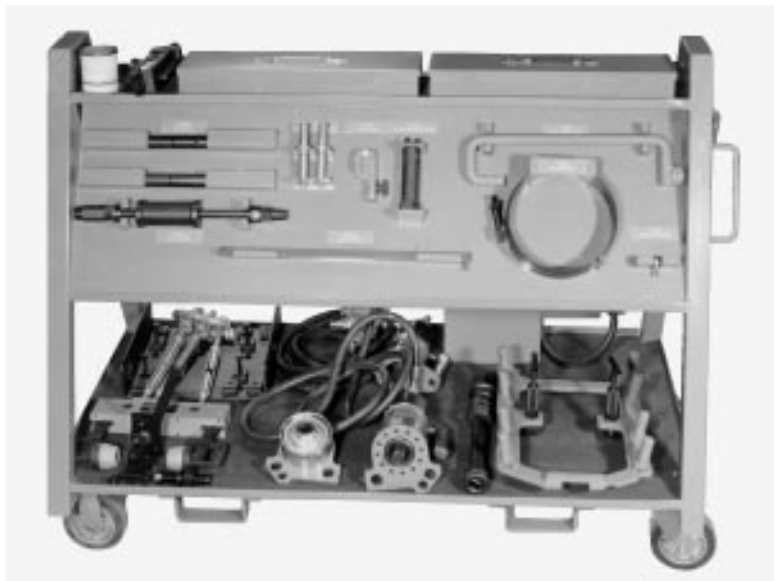
**TRANSPORTATION EQUIPMENT SUPPLY CO.**

A complete T24302 Tool Cart contains:

T10402	Rocker Arm Depressor
T10892	Piston Ring Compressor
T10900	Piston Support Bar
T10980	Piston Ring Groove Scraper
T10992	Ring Expander
T11220	Art Rod Guide Pin
T11322	Cam Bearing Spanner Wrench
T12300	Timing Tram Bar
T12962	Governor Gap Gage
T13221	Cylinder Insert Wrench
T13670	(2) Cylinder Installation Guide Pin
T14062	Piston Retainer
T14582	Art Rod Pin Bolt Wrench
T14740	Art Rod Pin Retainer
T14740D	Art Rod Pin Retainer (Double Pin)
T14921	(2) Conn. Rod Bearing Retainer
T15110	Socket 15/16"
T15171	Adapter
T15925	Fuel Line Torque Kit
T16551	Master Rod Lifter
T17801	Box Wrench Torque Kit
T18230	600 lb.ft. Torque Wrench
T18250	1000 lb.ft. Torque Wrench
T18411	Piston Pin Bolt Wrench
T18560	Nozzle Knocker
T18592	Piston & Rod Lifter
T18660	1 1/8" Socket 3/4" Drive
T19162	Turbocharger Lifter
T50301	Tool Cart
T19510	Piston Protector
T20702	Universal Rack Setting Gage
T22040	Pneumatic Barring Over Tool
T22303	Compression Tester Set
T22520	250 lb. ft. Torque Wrench
T23221	Piston Retainer
T23500	Turbo Bolt Torque Adapter
T52060	Feeler Gage
T52051	Cam Shaft Roller Lifter
T24100	Pneumatic Torque Kit w/Verifier
T15804	Governor Tail Rod Jack
T54551	Cylinder Lifter (shipped on sep. skid)
T54330	Master Rod Cap Lifter
T54800	Exhaust Manifold Alignment Fixture
T54210	Test Gage Kit
T50370	Inlet Casing Wrench Adapter
T18231	Conn. Rod Cap Removing Wrench
T23501	Turbo Mounting Bolt Removal Wrench
T51750	Cooling System Test Kit
T51431	Exhaust Manifold Torque Adapter

**T24302 Tool Cart for GE Engines**

This is a complete tool cart with all the tools required for power assembly and turbocharger removal and installation. The cart itself is equipped with 4 wheels (2 with brakes) and hand grips for steering, as well as pick up positions for forklift trucks. Shop air can also be hooked up to a fixture that provides three additional air outlets. A complete EFI Tool Cart listing is on the next page.



## T24303 Tool Cart for EFI Engines

T10402	Rocker Arm Depressor	T22303	Compression Tester Set
T10892	Piston Ring Compressor	T22520	250 Lb.Ft. Torque Wrench
T10900	Piston Support Bar	T23221	Piston Retainer
T10980	Piston Ring Groove Scraper	T23500	Turbo Bolt Torque Adapter
T10992	Ring Expander	T52060	Feeler Gage
T11220	Art Rod Guide Pin	T52051	Cam Shaft Roller Lifter
T12300	Timing Tram Bar	T24100	Pneumatic Torque Kit (Less Cart)
T13221	Cylinder Insert Wrench	T54551	Cylinder Lifter
T13670	(2) Cylinder Installation Guide Pin	T54330	Master Rod Cap Lifer
T14062	Piston Retainer	T54210	Test Gage Kit
T14582	Art Rod Pin Bolt Wrench	T50370	Inlet Casing Wrench Adapter
T14740	Art Rod Pin Retainer	T18231	Conn Rod Cap Removing Wrench
T14921	(2) Conn Rod Bearing Retainer	T23501	Turbo Mounting Bolt Removal Wrench
T15110	Socket 15/16"	T51750	Cooling System Test Kit
T15171	Adapter	T54931	Fuel Line Torque Wrench
T15926	Fuel Line Torque Kit	T51431	Exhaust Manifold Flange Adapter
T16551	Master Rod Lifter	T55570	Exhaust Manifold Elbow Torque Wrench
T17801	Box Wrench Torque Kit	T56050	Tappet Nut Torque Wrench Kit
T18230	600 Lb.Ft. Torque Wrench	T57140	1 1/2" Torque Adapter (Low P. Fuel Line)
T18250	1000 Lb.Ft. Torque Wrench	T55971	Pushrod Height Adjustment Gage
T18411	Piston Pin Bolt Wrench	T57150R	Fuel Roller Retaining Plate
T18560	Nozzle Knocker	T57150L	Fuel Roller Retaining Plate
T18592	Piston & Rod Lifter	T57161	5mm Nut Runner
T19162	Turbo Lifter	T54440EFI	Camshaft Section Wrench Adapter
T50301	Tool Cart	T55991	Camshaft Segment Lifter
T19510	Piston Protector	T58160	Cam Section Bolt Speeder
T22040	Pneumatic Barring Over Tool	T58440	Barring Arbor
T57160	7 mm Nut Runner	T56061R	Resolver Initialization Kit
T56030	Tappet Rod Holder	T18660	1 1/8 Socket

## T54910 Machinist Hand Tool Cart

This tool cart was developed to aid machinists with transport of their small tools and parts to the locomotive service location. It is equipped with four 8" wheels, two fixed and two swivel. Under the push handle is located a tray to accommodate paper wipe towels.



## T51750 GE Locomotive Cooling System Tester

### T51750 - GE Cooling System Test Kit

- 1 - T51760 Water Regulator Kit
- 1 - T51780 GE Fill Neck Pressure Fixture

### T51780 - GE Fill Neck Pressure Fixture

- 3 - T51850 Tang
- 1 - T51860 Gasket
- 6 - T51870 Screw

### T51760 - Water Regulator Kit

- 1 - T51800 Inlet Valve
- 1 - T51790 Water Regulator
- 1 - T51820 1/2" Pipe Cross
- 1 - T51830 Pressure Gage (0-60 PSI)
- 3 - T51840 1/2" Nipple
- 1 - T51800 Dump Valve
- 1 - T51810 Dump Hose
- 1 - T16040 Hose
- 1 - T50150 Cage



This kit is designed to introduce 20 PSI water pressure to the cooling system via the water tank fill neck. The fill neck pressure fixture is placed on the fill neck the same as the locomotive pressure cap and a spring is then compressed to ensure a positive seal at 20 PSI. Other pressures can be utilized depending on railway mechanical specifications from 0-25 PSI.

House water is connected to regulator kit with the inlet valve closed, the dump valve closed and the pressure regulator backed off (minimum spring pressure). The inlet valve is then opened and pressure increased by the regulator to 20 PSI. Once the system is charged, the inlet valve is closed. Pressure should be maintained, otherwise a leak in the system is present.

**NOTE:** Sufficient time should be allowed for the system to be charged - if inlet valve is closed and the gage immediately reads less than 20 PSI, the system is not charged. Open inlet valve and finish charging system. If leaks are indicated, a full system inspection is required including an engine crankcase inspection.

Once the test is complete, with the inlet valve closed, back off the pressure regulator to minimum spring pressure and open the dump valve to release the water under pressure. Direct the water away from all personnel by holding and directing the dump hose. Once the gage reads "0" and all flow is stopped, the fill neck pressure fixture can be removed. First reduce the spring pressure and then remove the fixture from the fill neck.

The pressure regulator provides a range of 0-27 PSI water pressure and the fill neck pressure fixture spring rate was adjusted to relieve at 27 PSI.



### T19272 Machinists Hand Tool Set

This kit was assembled to aid general locomotive maintenance requirements. It has been supplied to shops that require a one part reference for a "General Tool Kit".

T19271	Machinist's Hand Tool Kit	T219957P25	Combination Wrench - 7/8"	T219957P54	Socket 1 1/4"
T219957P1	Diagonal Cutter	T219957P26	Combination Wrench - 15/16"	T219957P55	Universal
T219957P2	Interlocking Joint Pliers	T219957P27	Combination Wrench - 1"	T219957P56	Speeder
T219957P3	Gripping Pliers	T219957P28	Combination Wrench - 1 1/16"	T219957P57	Deep Socket 9/16"
T219957P4	Needle Nose Pliers	T219957P29	Combination Wrench - 1 1/8"	T219957P58	Deep Socket 3/4"
T219957P5	Feeler Gages	T219957P30	Combination Wrench - 1 1/4"	T219957P59	Hex Head Wrench 3/8"
T219957P6	Angled Feeler Gages	T219957P31	Box Ratchet 3/4" - 7/8"		<b>3/4" Square Drive Tools</b>
T219957P7	Flat Chisel	T219957P32	Screwdriver 8"	T219957P64	Extension 8"
T219957P8	Flat Chisel	T219957P33	Screwdriver 12"	T219957P65	Ratchet
T219957P9	Tapered Punch		<b>1/2" Square Drive Tools</b>	T219957P66	Universal
T219957P10	Tapered Punch	T219957P38	Extension 5"	T219957P67	Extension 16"
T219957P11	Pry Bar	T219957P39	Extension 12"	T219957P69	Socket 1 1/8"
T219957P12	Mirror	T219957P41	Ratchet	T219957P70	Socket 1 3/16"
T219957P13	Allen Wrench Set	T219957P42	Socket 7/16"	T219957P71	Socket 1 1/4"
T219957P14	Soft Hammer	T219957P43	Socket 1/2"	T219957P72	Socket 1 5/16"
T219957P15	Ball Peen Hammer	T219957P44	Socket 9/16"	T219957P73	Socket 1 3/8"
T219957P16	Adjustable Wrench - 8"	T219957P45	Socket 5/8"	T219957P74	Socket 1 7/16"
T219957P17	Adjustable Wrench - 12"	T219957P46	Socket 11/16"	T219957P75	Socket 1 1/2"
T219957P18	Combination Wrench - 7/16"	T219957P47	Socket 3/4"	T219957P76	Socket 1 5/8"
T219957P19	Combination Wrench - 1/2"	T219957P48	Socket 13/16"	T219957P77	Female-Male Adapter
T219957P20	Combination Wrench - 9/16"	T219957P49	Socket 7/8"	T219957P78	Tool Box
T219957P21	Combination Wrench - 5/8"	T219957P50	Socket 15/16"		
T219957P22	Combination Wrench - 1 1/16"	T219957P51	Socket 1"		
T219957P23	Combination Wrench - 3/4"	T219957P52	Socket 1 1/16"		
T219957P24	Combination Wrench - 13/16"	T219957P53	Socket 1 1/8"		



**T16940 Impact Wrench Set (1/2" Drive)**

This air impact wrench set can be used for removing miscellaneous hardware from 1/2" to 1". A complete set of deep sockets and flex sockets from 1/2" to 1" and standard sockets from 3/8" to 1" are provided to handle most jobs. All sockets and extensions are impact wrench quality to give long service. The impact wrench operates on shop air of 90 to 100 PSI and will deliver an ultimate torque of 320 lb.ft. This unit is also equipped with an adjustable trigger for various speed applications. A 5 ft. flexible hose with a swivel connector at the wrench end is also furnished, so the wrench can be used in tight places without hose kinking.

**Note:** This impact wrench will retain its efficiency and give long service when oiled daily. It also provides valuable savings in time when removing components and hardware from the engine.

**Note:** All sockets are 1/2" drive - 6 point impact quality.

1	T16950 Impact Wrench
2	T16960 Hose
3	T16970 5" Extension
4	T16980 10" Extension
5	T17180 3/8" Standard Socket
	T17190 7/16" Standard Socket
	T17200 1/2" Standard Socket
	T17210 9/16" Standard Socket
	T17220 5/8" Standard Socket
	T17230 11/16" Standard Socket
	T17240 3/4" Standard Socket
	T17250 13/16" Standard Socket
	T17260 7/8" Standard Socket
	T17270 15/16" Standard Socket
	T17280 1" Standard Socket
6	T17090 1/2" Flex Socket
	T17100 9/16" Flex Socket
	T17110 5/8" Flex Socket
	T17120 11/16" Flex Socket
	T17130 3/4" Flex Socket
	T17140 13/16" Flex Socket
	T17150 7/8" Flex Socket
	T17160 15/16" Flex Socket
	T17170 1" Flex Socket
7	T16990 1/2" Deep Well
	T17010 9/16" Deep Well
	T17020 5/8" Deep Well
	T17030 11/16" Deep Well
	T17040 3/4" Deep Well
	T17050 13/16" Deep Well
	T17060 7/8" Deep Well
	T17070 15/16" Deep Well
	T17080 1" Deep Well

**T17290 General Purpose Impact Wrench**

This is a 3/4" square drive impact wrench rated at 800 lb.ft. for intermediate sized bolt removal. It is particularly suited for removal of master rod cap bolts and main frame main bearing side bolts. It is not recommended for bolt tightening.



**T50780 Digital Torque Analyzer**



**T50780-115V** 115 Volt Analyzer  
**T50780-230V** 230 Volt Analyzer

This analyzer is used for checking the output of T16050 and T22020 pneumatic torque wrenches. The kit includes a special transducer with integral mounting arrangement for the two torque motors previously mentioned. The transducer is connected to a digital analyzer that records the torque output. The instrument is accurate to +/-1%. Rated 2500 lb.ft.

Please specify voltage when ordering.

**T57580**

**Torque Wrench Analyzer Input Adapter Set**



This adapter set contains 12 adapters from 1/2" through 1-1/4" which are terminated with a 3/4" square drive that inserts into torque analyzers. They are used to verify torque on various torque wrench box end and socket applications. It comes complete with an aluminum stand for storage of each adapter.

**T18960 Torque Wrench Tester for General Torque Wrench Qualification**



**T18960** Torque Wrench Tester 0-1000 lb.ft.

This tester is used for testing and calibrating 1/2", 3/4" and 1" drive torque wrenches. The tester has an accuracy of +/- 1/2 % or one scale graduation, whichever is greater. The maximum input torque is retained on the torque indicator. Torque wrenches can be checked for breaking and tightening torque by using the appropriate side of the torque input shaft. 1/2", 3/4", and 1" input adapters are supplied, and repair service is available.

**T18960AS Input Adapter Set for T18960 Torque Wrench Tester**



T18960AS-1	1"sq female to 3/4" sq.male
T18960AS-2	3/4"sq. female to 3/4" hex male
T18960AS-3	3/4" sq. female to 15/16"hex male
T18960AS-4	3/4" sq. female to 1 1/8" hex male
T18960AS-5	3/4" sq. female to 1 1/4" hex male
T18960AS-6	3/4"sq. female to 1 1/2" hex male
	Other Adapters Available Upon Request



**TRANSPORTATION EQUIPMENT SUPPLY CO.**

**Maintenance Wrenches for GE Engines**

1	T19820	1" sq. drive ratcheting wrench for barring over engines w/barring feature in governor gearbox. (36" long)
2	T18231	3/4" sq. drive ratcheting wrench for removing connecting rod cap bolts. (40" long)
3	T23501	Turbocharger mounting bolt removal wrench. (26" long)



**Various Maintenance Wrenches**

1	T54120	GE Dynamic Brake Grid Wrench - one 15/16" double hex box end and one 15/16" double hex ratcheting box end.
2	T16491	30-150 lb.ft. Torque Handle
3	T51431	GE exhaust manifold to cylinder bolt adapter 5/8" double hex. Use with T16491
4	T55700	No Longer Available

**Torque Wrenches to support Engine Maintenance**

1	T18250	1" sq.dr. 0-1000 lb.ft. fixed head with (1A) extension torque wrench
2	T18230	3/4" sq.dr. 100-600 lb.ft. ratcheting head torque wrench
3	T22520	1/2" sq.dr. 30-250 lb.ft. ratcheting head torque wrench



**Torque Wrenches to Support Engine Maintenance**



1	T300T-I	100-300 lb.ft torque handle
2	T200T-I	45-200 lb.ft. torque handle
3	T54930W	45-220 lb.ft torque handle (Spigot Drive)
4	T18220	3/8" sq.dr. ratcheting head 4-75 lb.ft. torque wrench
5	T20710	3/8" Sq. Dr. Ratcheting Head 50-250 lb.in Torque Wrench

### T17801 Box Wrench Torque Kit

This kit was assembled to make general engine torque requirements both safer and easier. The kit contains a 30-150 lb.ft. torque handle, 1/2" sq. drive ratcheting head, and box wrench adapter ends from 1/2" through 1".



1	T16491	30-150 lb.ft. Torque Handle (Heavy Duty)
2	T15930	Ratchet Head (1/2" square drive)
3	T17710	Box Wrench Adapter 1/2" - 12pt
4	T17720	Box Wrench Adapter 9/16" - 12pt
5	T17730	Box Wrench Adapter 5/8" - 12pt
6	T17740	Box Wrench Adapter 11/16" - 12pt
7	T17750	Box Wrench Adapter 3/4" - 12pt
8	T17760	Box Wrench Adapter 13/16" - 12pt
9	T17770	Box Wrench Adapter 7/8" - 12 pt
10	T17780	Box Wrench Adapter 15/16" - 12pt
11	T17790	Box Wrench Adapter 1" - 12pt

### T12940 General Purpose Puller Set

This puller set is used for various maintenance applications on the GE Locomotive. It is useful in pulling tapered bearings, hubs, pulleys and gears.

1	T12840 Puller Set with yoke and 28 various length threaded adapters
2	T12850 Pulley and Gear Puller Set (spread 1 1/2"-5")
3	T12860 Bearing Separator 2 3/8" diameter
4	T12870 Bearing Separator 4 3/8" diameter
5	T12880 Bearing Separator 5 7/8" diameter
6	T12950 Storage Box





### **T59550 60-600 Lb.Ft. Torque Tester**

The T59550 Torque Tester has a range of 60 to 600 lbs.ft., and is accurate to within 1% of the indicated value from 20 to 100% of the full scale. This particular tester comes with a 3/4" male input, and a female adapter. The tester has a peak-mode and can be tested in the clockwise and counterclockwise position. The T59550 is an inexpensive and accurate tool for testing and standardizing wrenches that are designated for everyday use. Testers are also available in the following ranges (please inquire):

- 2.5 to 25 lb.in.
- 5 to 50 lb.in
- 25 to 250 lb.in.
- 100 to 1,000 lb.in
- 25 to 250 lb.ft.



### **T59810 Adjustable Torque Screwdriver**

The T59810 has a range of 2 to 36 lb.in., and has a 1/4" male square drive. The screwdriver also has a limiting feature to prevent over-torque. The 5mm and 7mm sockets are shown because they correspond with the two different sizes of solenoid nuts on GE EFI engines. Although this is a common application for this wrench, it can be used for anything else in its range. (Other ranges available - please inquire)

### Consumable Products for Engine Maintenance



These are the consumable items that we carry to support ordinary engine maintenance and repair functions. These items are all shipped with Material Safety Data sheets and are always in stock.

T11431	G-N Metal Assembly Paste (Molycote) (1 can = 17.6 oz.)
T24890	LOCTITE Threadlocker (1 can = 50 ml)
T18981	LOCTITE 609 Retaining Compound (1 can = 50 ml)
T16400	Fel-Pro Copper Compound (1 can = 16 oz.)
T21630	LUBRIPLATE Petroleum Lubricating Grease (1 can = 14 oz.)
T16380	Scotch 1/2" Thread Sealant and Lubricant (1 roll = 520")

### T55570 GE Exhaust Manifold to Cylinder Torque Wrench Kit

This torque kit consists of a preset torque handle set at 145 lb.ft. and a special torque adapter which is terminated with a 5/8" 12 point adapter. This is for torquing the bolts only, as the preset torque handle is a precision instrument. To break the exhaust manifold bolts loose use the T57600 Handle with the T51431 5/8" 12 point adapter.



T55570W	Pre-set Torque Handle (100-300lb.ft) Set at 145 lb.ft.
T55570A	Exhaust Manifold Adapter (5/8" 12 Point)
T57600	Exhaust Manifold Removing Tool (not shown)
T51431	Exhaust Manifold Adapter (5/8" 12 Point) For use with T57600 Handle (not shown)