



TEST AND CALIBRATION INSTRUMENTS DIVISION

INSTRUCTION BULLETIN

FOR

HAND HELD HYDRAULIC PRESSURE TESTER MODEL T-620/T-620H/T-820

HAND HELD PNEUMATIC PRESSURE TESTER MODEL T-730/T-740/T-830/T-840

HAND HELD VACUUM TESTER MODEL T-750/T-850

WARRANTY

AMETEK, Test and Calibration Instruments Division guarantees its products to meet or exceed specifications published at the time of sale. In line with the AMETEK, Test and Calibration Instruments Division policy of continuing research and product improvement, AMETEK, Test and Calibration Instruments Division reserves the right, at any time and without prior notice to make changes in the product and/or the specifications pertaining thereto without incurring any expense or obligation.

For a period of one year, from date of sale, AMETEK, Test and Calibration Instruments Division guarantees parts, of its own manufacture, against defects of material or workmanship. Liability of AMETEK, Test and Calibration Instruments Division shall be limited to replacing, free of charge, f.o.b. Largo, Florida, any part proving to be defective during the period of this warranty. AMETEK, Test and Calibration Instruments Division will not assume any cost for transportation of or resultant damage to returned goods.

Parts purchased by AMETEK, U.S. Test and Calibration Instruments Division and used in basically the same form as supplied by the original manufacturer are exempt from the AMETEK, Test and Calibration Instruments Division warranty. The responsibility for warranty shall rest with the original manufacturer.

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SECTION 1 — MODEL DESCRIPTION OPERATING & SERVICE INSTRUCTIONS FOR HYDRAULIC PRESSURE TESTER MODEL T-620/T-620H/T-820

MODEL DESCRIPTION

The T-620/T-820 hydraulic pressure tester is designed to manually generate up to 3000 PSIG (206 BAR) [T-620H is up to 5000 PSIG (344 BAR)] quick accuracy checks of pressure gauges, transmitters, transducers and other pressure measuring instruments.

Recommended test fluids to be used with the tester are: Petroleum based oils, mineral oil, or hydraulic fluids which are compatible with the aluminum, brass, stainless steel, teflon, Lexan and Buna N wetted tester parts. Do not use solvents or synthetic fluids that will adversely affect the operation of the tester.

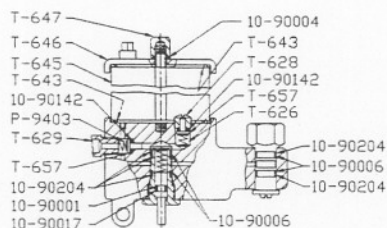
OPERATING INSTRUCTIONS

1. Remove fill plug on top of cap and fill Lexan reservoir approximately 2/3 full of fluid. Connect and tighten fill plug.
2. Attach gauge or other device to be calibrated to the end of hose fitting. Tighten threads loosely.

CAUTION: Do not connect tester to a high pressure source. Follow the above instructions carefully to avoid damage to the tester **and/or personal injury.**

3. Turn needle valve knob on left side of tester counterclockwise until fully open.
4. Pump the movable handle until the test fluid is evident at the thread connection.
5. Tighten the thread connection of the hose and device to be tested.
NOTE: The hose may be pre-filled with test fluid on the initial start up to help speed the operation of the tester.
6. Continue to pump the movable handle until the air bubbling in the reservoir stops.
7. Turn the needle valve clockwise until it is tight by **hand only.**
8. Pump movable handle until the approximate desired pressure is obtained on the precision test gauge.
9. Turn the vernier knob on the right side of the tester until the exact calibration test pressure is obtained.
10. Upon completion of calibration testing, turn the needle valve counterclockwise to release the pressure to 0 PSIG and remove the tested device.
11. Plug open end of hose to prevent fluid leakage and store in carrying case or safe area. If the tester is mounted on a rod pedestal for test stand use, no storage is required.





SERVICE INSTRUCTIONS

This section is provided to assist you in making minor repairs to the tester if successful operation cannot be obtained by following the detailed operating instructions procedure.

If the pump assembly fails to indicate a pressure increase after considerable pumping action of the handle, the following items should be examined.

1. Check to assure the threaded connection between the hose end and the attached instrument is tight and repeat operating instructions items 6 and 7.
2. If a pressure increase still cannot be obtained.

- a) Remove hose fitting, T-629, from casting body to obtain access to poppet spring, P-9403, and poppet assembly consisting of item 10-90142 o-ring and item T-657 poppet. Examine parts for contamination. Wash parts in a solvent such as Freon TF or Freon substitute. Replace o-ring, 10-90142, if damaged and lubricate with test fluid. Reassemble parts in reverse order of disassembly. Apply thread sealant to hose fitting, T-629, tighten securely and repeat operating instructions items 5, 6 and 7.
- b) Loosen and remove nut T-647. Remove reservoir cap, T-646, and reservoir, T-645. Remove intake cap, T-628, along with poppet assembly consisting of 10-90142 o-ring, T-657 poppet and poppet spring, T-626. Examine parts for contamination. Wash parts in a solvent such as Freon TF or Freon substitute. Replace o-ring, 10-90142, if damaged and lubricate with test fluid. Reassemble parts in reverse order of disassembly. Apply thread sealant to intake cap, T-628, tighten securely and repeat operating instructions items 5, 6 and 7. When replacing gasket T-643, apply Loctite® 416 (per manufacturers instructions) to gasketing surface.
- c) Remove gauge fitting from body. Wash parts in a cleaning solvent. Replace o-rings and back up rings (concave side faces o-ring). Lubricate with test fluid and reassemble. Repeat operating instructions items 5, 6 and 7.
- d) Remove needle valve assembly from body. Wash parts in a cleaning solvent. Replace o-ring. Lubricate with test fluid and reassemble. Remove vernier assembly from body. Wash parts in a cleaning solvent. Replace o-ring. Lubricate with test fluid and reassemble. Repeat operating instructions items 5, 6 and 7.
- e) Remove retaining ring and slide handle pivot out of body. Remove pistons assembly. Wash parts in a cleaning solvent. Replace o-rings and back up rings (concave side faces o-ring). Lubricate with test fluid and reassemble. Repeat operating instructions items 5, 6 and 7.

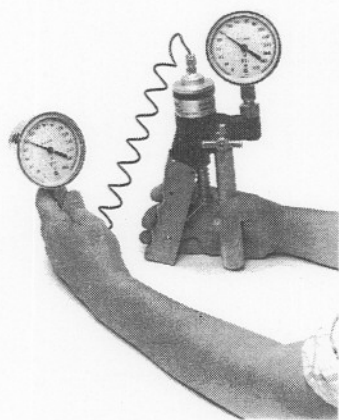
T-656 REPAIR KIT

PART NO.	DESCRIPTION	NO. REQUIRED	PART NO.	DESCRIPTION	NO. REQUIRED
10-90000	O-RING	2	10-90001	O-RING	1
10-90004	O-RING	1	10-90006	O-RING	4
10-90017	BACK UP RING	1	10-90142	O-RING	2
10-90204	BACK UP RING	5	21-90012	RETAINING RING	1
T-626	SPRING	1	T-643	GASKET	2
P-9403	SPRING	1			

SECTION 2 — MODEL DESCRIPTION OPERATING & SERVICE INSTRUCTIONS FOR PNEUMATIC PRESSURE TESTER MODEL T-730/T-740/T-830/T-840

MODEL DESCRIPTION

The T-740/T-840 Pneumatic Pressure Tester is designed to manually generate up to 300 PSIG (20.6 BAR) for quick accurate checks of pressure gauges, transmitters, transducers, and other pressure measuring instruments. The T-730/T-830 Pneumatic Pressure Tester is designed to manually generate up to 30 PSIG (2.1 BAR).



OPERATING INSTRUCTIONS

1. Attach gauge or pressure device to be calibrated to the 1/4" NPT hose fitting. CAUTION: Do not attach tester to a high pressure source. Follow these instructions carefully to avoid damage to the tester and/or personal injury.
2. Turn needle valve on left side of the tester clockwise until it is tight by hand only.
3. Pump movable handle until the desired pressure is obtained. Increase hand pressure on handle at the end of the stroke to obtain higher pressures.
4. Turn vernier (which is part of the handle) counterclockwise to decrease pressure in tester and clockwise to increase pressure of item being tested. Turn vernier slowly for precise incremental pressure control.
5. Upon completion of calibration testing, turn needle valve counterclockwise to release the pressure to 0 PSIG and remove the test device from the hose end.
6. Plug open end of hose and store tester in carrying case or safe area.

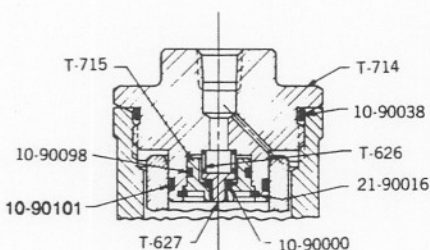
SERVICE INSTRUCTIONS

This section is provided to assist you in making minor repairs to the tester if successful operation cannot be obtained by following the detailed operating instructions procedure.

If the pump assembly fails to indicate or maintain pressure after considerable pumping action of the movable handle, the following items should be examined.

1. Check to assure the threaded connections are tight.
2. Check that the needle valve is fully tightened.
3. If satisfactory operation still cannot be obtained, the discharge check valve should be examined.

a) Unscrew T-714 cap (the hose may remain attached), and remove the 21-90016 retaining ring, T-715 cap insert, T-627 poppet with 10-90000 o-ring. Examine parts for contamination. Wash parts in a solvent such as Freon TF or Freon substitute. Replace 10-90000 o-ring if damaged. Reassemble parts in reverse order of disassembly.



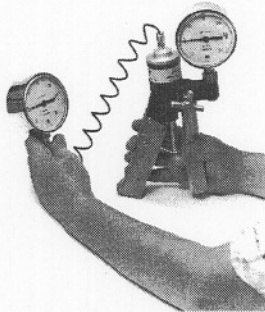
If it becomes difficult to pump the movable handle, it may be necessary to lubricate the piston o-ring and cylinder, which is accomplished as follows:

1. Unscrew T-714 cap from the casting body, (the hose may remain attached).
2. Apply (2) drops of mineral oil at the O.D. of the piston. **Do not** apply oil to the center of the piston which contains the piston check valve.
3. Screw T-714 cap on casting body tightly.

T-746 REPAIR KIT

PART NO.	DESCRIPTION	NO. REQUIRED
10-90038	O-RING	1
10-90101	O-RING	1
10-90000	O-RING	1
10-90098	O-RING	1
T-626	SPRING	1

SECTION 3 — MODEL DESCRIPTION OPERATING & SERVICE INSTRUCTIONS FOR VACUUM TESTER MODEL T-750/T-850



MODEL DESCRIPTION

The T-750/T-850 Vacuum Tester is designed to manually generate up to 25" Hg for quick accuracy checks of vacuum gauges or other vacuum instruments.

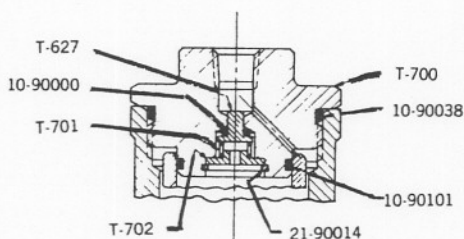
OPERATING INSTRUCTIONS

1. Attach gauge or vacuum device to be calibrated to the 1/4" NPT hose fitting. **CAUTION:** Do not attach tester to a high pressure source. Follow these instructions carefully to avoid damage to the tester **and/or personal injury.**
2. Turn needle valve on left side of the tester clockwise until it is tight by **hand only.**
3. Pump movable handle until the desired vacuum reading is obtained. Increase hand pressure on handle at the end of the stroke to obtain higher vacuum of item being tested.
4. Turn vernier (which is part of the handle) counterclockwise to increase vacuum readings and clockwise to decrease vacuum of item being tested. Turn vernier slowly for precise incremental vacuum control.
5. Upon completion of testing, turn needle valve counterclockwise to release the vacuum to 0" Hg and remove the tested device from the hose end.
6. Plug open end of hose and store tester in carrying case or safe area.

SERVICE INSTRUCTIONS

This section is provided to assist you in making minor repairs to the tester if successful operation cannot be obtained by following the detailed operating instructions procedure.

If the pump assembly fails to indicate or maintain a vacuum after considerable pumping action of the movable handle, the following items should be examined.



1. Check to assure the threaded connections are tight.
2. Check that the needle valve is fully tightened.
3. If satisfactory operation still cannot be obtained, the inlet check valve should be examined.
 - a) Unscrew T-700 cap (the hose may remain attached), and remove the 21-90014 retaining ring, T-702 spring positioner, T-701 spring and T-627 poppet with 10-90000 o-ring. Examine parts for contamination. Wash parts in a solvent such as Freon TF or Freon Substitute. Replace 10-90000 o-ring if damaged. Reassemble parts in reverse order of disassembly.

If it becomes difficult to pump the movable handle, it may be necessary to lubricate the piston o-ring and cylinder, which is accomplished as follows:

1. Unscrew T-700 cap from the casting body, (the hose may remain attached).
2. Apply (2) drops of mineral oil at the O.D. of the piston. **Do not** apply oil to the center of the piston which contains the piston check valve.
3. Screw T-700 cap on casting body tightly.

T-747 REPAIR KIT

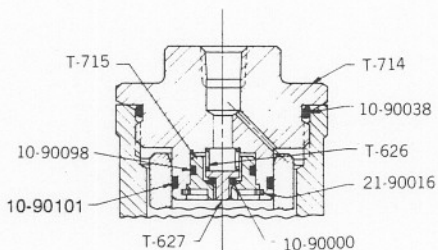
PART NO.	DESCRIPTION	NO. REQUIRED
10-90038	O-RING	1
10-90101	O-RING	1
10-90000	O-RING	1
T-701	SPRING	1

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SERVICE INSTRUCTIONS

This section is provided to assist you in making minor repairs to the tester if successful operation cannot be obtained by following the detailed operating instructions procedure.

If the pump assembly fails to indicate or maintain pressure after considerable pumping action of the movable handle, the following items should be examined.



1. Check to assure the threaded connections are tight.
2. Check that the needle valve is fully tightened.
3. If satisfactory operation still cannot be obtained, the discharge check valve should be examined.

a) Unscrew T-714 cap (the hose may remain attached), and remove the 21-90016 retaining ring, T-715 cap insert, T-627 poppet with 10-90000 o-ring. Examine parts for contamination. Wash parts in a solvent such as Freon TF or Freon substitute. Replace 10-90000 o-ring if damaged. Reassemble parts in reverse order of disassembly.

If it becomes difficult to pump the movable handle, it may be necessary to lubricate the piston o-ring and cylinder, which is accomplished as follows:

1. Unscrew T-714 cap from the casting body, (the hose may remain attached).
2. Apply (2) drops of mineral oil at the O.D. of the piston. **Do not** apply oil to the center of the piston which contains the piston check valve.
3. Screw T-714 cap on casting body tightly.

T-746 REPAIR KIT

PART NO.	DESCRIPTION	NO. REQUIRED
10-90038	O-RING	1
10-90101	O-RING	1
10-90000	O-RING	1
10-90098	O-RING	1
T-626	SPRING	1