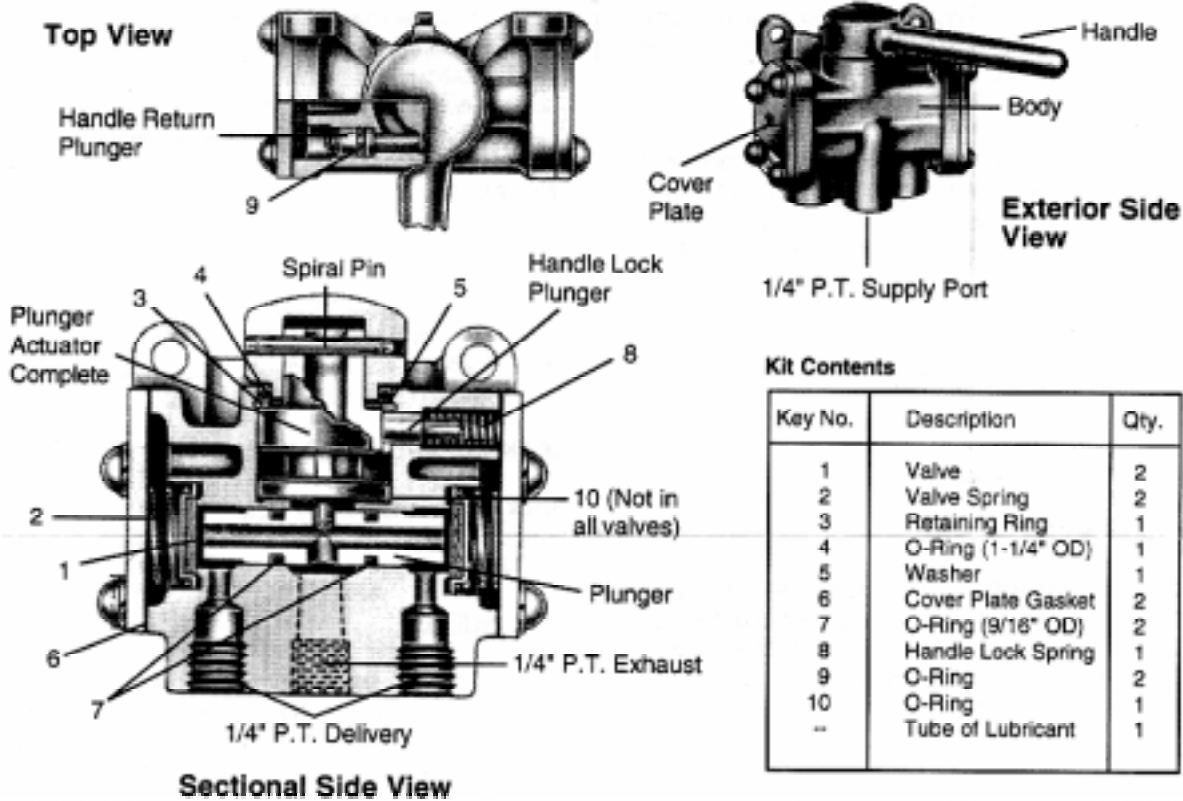




# Installation Instructions

MAINTENANCE KIT FOR TH-2 CONTROL VALVE



**IMPORTANT! PLEASE READ AND FOLLOW THESE INSTRUCTIONS TO AVOID PERSONAL INJURY OR DEATH:**

When working on or around a vehicle, the following general precautions should be observed at all times.

1. Park the vehicle on a level surface, apply the parking brakes, and always block the wheels.
2. Stop the engine when working around the vehicle.
3. If the vehicle is equipped with air brakes, make certain to drain the air pressure from all reservoirs before beginning ANY work on the vehicle.
4. Following the vehicle manufacturer's recommended procedures, deactivate the electrical system in manner that removes all electrical power from the vehicle.
5. When working in the engine compartment the engine should be shut off. Where circumstances require that the engine be in operation, **EXTREME CAUTION** should be used to prevent personal injury resulting from contact with moving, rotating, leaking, heated, or electrically charged components.

6. Never connect or disconnect a hose or line containing pressure; it may whip. Never remove a component or plug unless you are certain all system pressure has been depleted.
7. Never exceed recommended pressures and always wear safety glasses.
8. Do not attempt to install, remove, disassemble or assemble a component until you have read and thoroughly understand the recommended procedures. Use only the proper tools and observe all precautions pertaining to use of those tools.
9. Use only genuine Bendix replacement parts, components, and kits. Replacement hardware, tubing, hose, fittings, etc. should be of equivalent size, type, and strength as original equipment and be designed specifically for such applications and systems.
10. Components with stripped threads or damaged parts should be replaced rather than repaired. Repairs requiring machining or welding should not be attempted unless specifically approved and stated by the vehicle or component manufacturer.
11. Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.

## REMOVAL

1. Before removing the TH-2, apply parking brakes and drain all the vehicle reservoirs.
2. Identify and mark or label all air lines before disconnecting.
3. Remove the two mounting bolts from the TH-2 and remove the valve.

## DISASSEMBLY

1. Remove the four cap screws and washers from the cover plates on both ends of the valve. Then remove cover plates and gaskets(6).
2. Remove both valve springs(2).
3. Remove both valves(1).
4. If the valve has handle return plungers (shown in the "Top View"), remove them along with their O-rings(9). If it has a handle lock plunger (shown in the Sectional Side View), remove it along with its spring(8).
5. Press the spiral pin out of the handle and remove the handle.
6. Remove handle O-ring(4) and washer(5).
7. Remove retaining ring(3).
8. Remove plunger actuator complete. If O-ring(10) is present, remove it.
9. Remove the plunger and its O-rings(7).

## CLEANING & INSPECTION

Discard all components that have replacements in the kit. Also, clean all metal parts in a solvent and dry them completely. Closely inspect all rubbing surfaces and inner bores for cracks, deterioration, deep scuffs or gouges. Replace components as necessary.

## ASSEMBLY

Before assembly, lubricate all O-rings, O-ring grooves, piston bores, and metal-to-metal moving surfaces with the silicone lubricant in the kit.

**NOTE:** When using pipe thread sealant during assembly and installation, take particular care to not allow the sealant into the valve itself. Apply the sealant beginning with the second thread back from the end.

1. Install the plunger into the body with its cross-slot centered and pointing up into the plunger actuator bore.
2. If O-ring(10) was removed from the plunger actuator complete, install new O-ring(10).
3. Place the plunger actuator complete into its bore, making sure the pin falls into the plunger's cross-slot. The pin should be toward the rear (mounting face) of the valve.
4. Install retaining ring(3) on top of the plunger actuator complete.
5. Next, install one end of the valve at a time. Install valve(1) with its rubber portion against its seat in the body.
6. For TH-2s with handle return plungers, install O-ring(9), then install the plunger. For handle lock TH-2s, install the plunger and its lock spring(8).
7. Install valve spring(2) and cover plate gasket(6).
8. Install cover plate and its four cap screws and lockwashers. Torque to 40-60 in. lbs.

9. Assemble the other end of the valve as noted in steps 5-8.
10. Install washer(5) then O-ring(4).
11. Install handle at 90 degrees to the valve body so the handle is between stops in the body.
12. Line up the handle pin holes and the plunger actuator pin holes and drive in the spiral pin.

## INSTALLATION

1. Using its two mounting bolts, install the valve on the vehicle.
2. Using the identification made in Step 2 of "Removal," install the air lines.
3. Perform "Operational and Leakage Tests" before returning the vehicle to service.

## LEAKAGE AND OPERATIONAL TESTS

Block vehicle and hold by means other than vehicle brakes. Also, install air gauges in the supply line and both delivery lines.

### LEAKAGE TEST

1. Charge air brake system to governor cut-out.
2. With the valve in the released position, check for leakage at the exhaust port, around the handle, at the two cover plates, and at the supply port. No leakage permitted.
3. With the valve in the applied position, check for leakage at the delivery ports and the exhaust port. No leakage permitted.

### OPERATIONAL TEST

1. Charge the air brake system to governor cut-out.
2. Place the valve in the applied position and observe the gauges. Delivery line gauge pressure should equal supply line gauge pressure.
3. Place the valve in the released position. Both delivery lines should promptly exhaust to 0 psi.

All TH-2 control valves are obsolete and no longer available. If it is necessary to obtain a possible replacement for the TH-2, consult Williams Air Controls, referencing their control valve model series WM-317 and WM-486.

