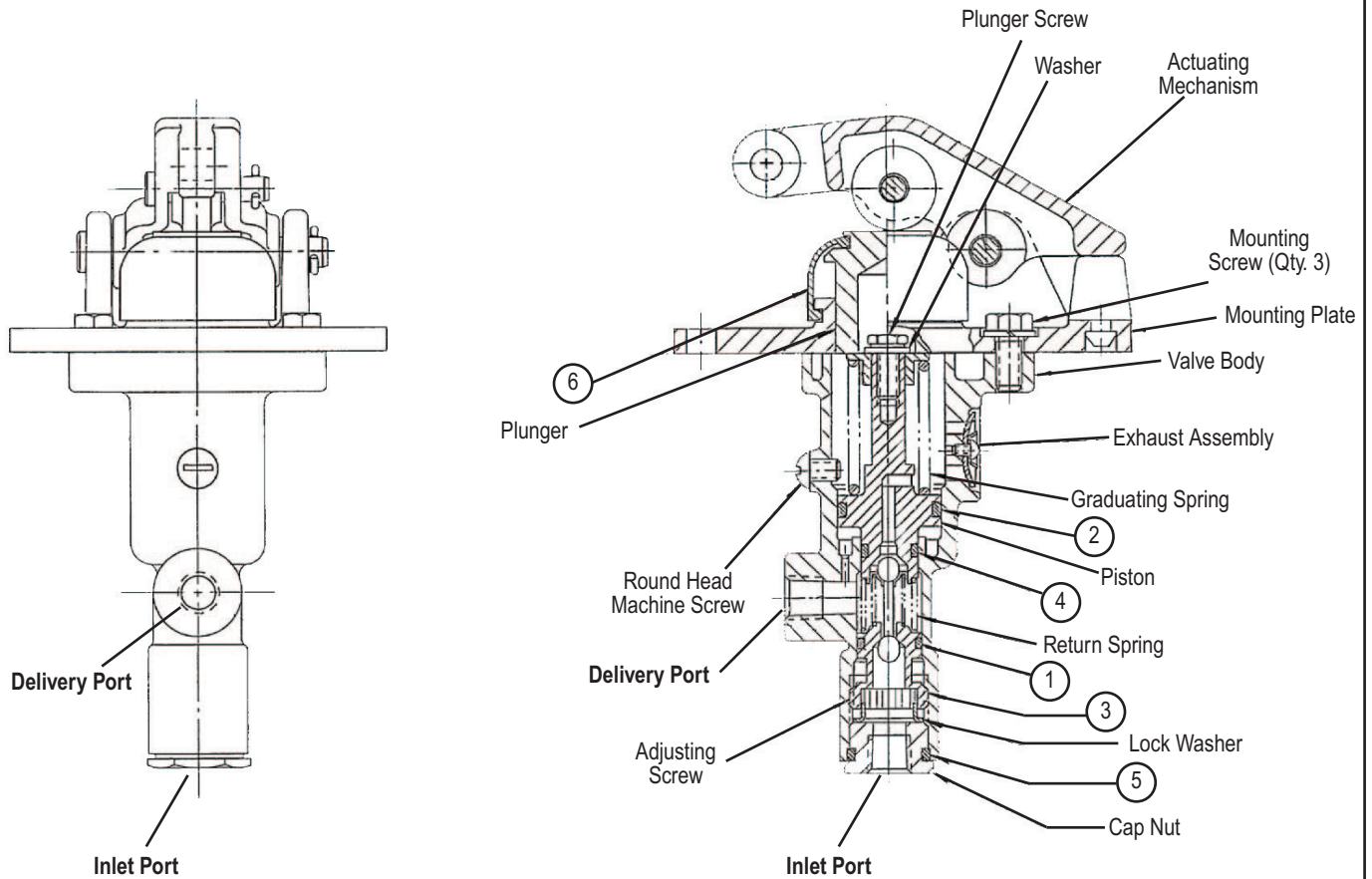




Installation Instructions

BENDIX® TV-2™ THROTTLE VALVE MAINTENANCE KIT



Bendix® TV-2™ Throttle Valve Maintenance Kit Contents		
Item No.	Description	Qty.
1	O-ring (0.737" I.D.)	1
2	O-ring (0.984" I.D.)	2
3	Inlet / Exhaust Valve Assembly	1
4	O-ring (0.487" I.D.)	1
5	Cap nut o-ring (0.549" I.D.)	1
6	Boot	1
7	Tube of Lubricant (not shown)	1

Figure 1 Bendix® TV-2™ Throttle Valve Maintenance Kit Contents

GENERAL SAFETY GUIDELINES



WARNING! PLEASE READ AND FOLLOW THESE INSTRUCTIONS



TO AVOID PERSONAL INJURY OR DEATH:

When working on or around a vehicle, the following guidelines should be observed **AT ALL TIMES**:

- ▲ Park the vehicle on a level surface, apply the parking brakes and always block the wheels. Always wear personal protection equipment.
- ▲ Stop the engine and remove the ignition key when working under or around the vehicle. When working in the engine compartment, the engine should be shut off and the ignition key should be removed. 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.
- ▲ 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.
- ▲ If the work is being performed on the vehicle's air brake system, or any auxiliary pressurized air systems, make certain to drain the air pressure from all reservoirs before beginning ANY work on the vehicle. If the vehicle is equipped with a Bendix® AD-IS® air dryer system, a Bendix® DRM™ dryer reservoir module, or a Bendix® AD-9si™ air dryer, be sure to drain the purge reservoir.
- ▲ Following the vehicle manufacturer's recommended procedures, deactivate the electrical system in a manner that safely removes all electrical power from the vehicle.
- ▲ You should consult the vehicle manufacturer's operating and service manuals, and any related literature, in conjunction with the Guidelines above.
- ▲ Never exceed manufacturer's recommended pressures.
- ▲ 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.
- ▲ Use only genuine Bendix® brand replacement parts, components and kits. Replacement hardware, tubing, hose, fittings, etc. must be of equivalent size, type and strength as original equipment and be designed specifically for such applications and systems.
- ▲ Components with stripped threads or damaged parts should be replaced rather than repaired. Do not attempt repairs requiring machining or welding unless specifically stated and approved by the vehicle and component manufacturer.
- ▲ Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.
- ▲ For vehicles with Automatic Traction Control (ATC), the ATC function must be disabled (ATC indicator lamp should be ON) prior to performing any vehicle maintenance where one or more wheels on a drive axle are lifted off the ground and moving.
- ▲ The power **MUST** be temporarily disconnected from the radar sensor whenever any tests **USING A DYNAMOMETER** are conducted on a Bendix® Wingman® Advanced™-equipped vehicle.

This kit is intended for use when servicing a Bendix® TV-2™ throttle valve. The TV-2 valve is obsolete and no longer available. The parts included in this kit are the only items available for servicing this valve.

BENDIX® TV-2™ THROTTLE VALVE REMOVAL

1. Park the vehicle on a level surface and prevent movement by means other than the brakes. Exhaust the air pressure from the reservoirs.
2. Disconnect all air lines from the valve. Mark each line for ease of reassembly.
3. Remove the treadle or actuation mechanism from the mounting plate.
4. Remove the three mounting screws, the mounting plate and the boot (6). Discard the boot (6).
5. Remove the cap nut. Remove and discard the cap nut o-ring (5) and inlet and exhaust assembly (3). Remove and retain the return spring.
6. Remove the round head machine screw from the side of the valve body and slide the piston assembly out of the bottom of the TV-2 valve body.
7. Remove the graduating spring.
8. Remove and discard piston o-rings (1), (2) and (4).

9. Locate the exhaust assembly on the side of the valve body. Loosen the exhaust assembly screw and remove the washer and exhaust the diaphragm from the valve body.

CLEANING AND INSPECTION

Using a quality shop solvent, clean and dry all metal parts not discarded during disassembly. Inspect all parts for excessive pitting, corrosion or wear. Pay particular attention to the treadle, or actuating mechanism, hinge pin bore in the mounting plate, the sliding surface of the plunger, the adjusting screw on the plunger, and the interior of the valve body bore.

ASSEMBLY (Refer to Figure 1)

1. Using the lubricant(7) included in this kit, lubricate the valve body bore, all o-rings and their grooves, and all sliding metal surfaces.
2. Install the graduating spring in the valve body.
3. Install o-rings (2) and (4) on the piston assembly. Slide the piston assembly into the valve body until it bottoms in the body bore.
4. Apply Loctite® 675 or RC-75 to the plunger screw. Install the plunger screw and washer in the body of the valve and tighten the screw to 30-60 in-lbs.

5. Apply a Loctite® thread sealant to the round head machine screw and install it in the side of the valve body. Tighten to 30-40 in-lbs.
6. Install the o-ring (1) on the inlet and exhaust valve assembly (3).
7. Place the inlet and exhaust valve assembly (3) with the o-ring (1) in the Bendix® TV-2™ throttle valve body. Turn until snug.
8. Install the o-ring (5) on cap nut and install the cap nut in bottom of the valve body. Tighten to 120-250 in-lbs.
9. Install the exhaust assembly in the side of the valve body. Tighten the screw to 8-15 in-lbs.
10. Slide the plunger into the mounting plate.
11. Position boot (6) and mounting plate. Secure the mounting plate with the three bolts. Tighten to 80-120 in-lbs. Do not attach the treadle until the adjustment procedure is complete.

IMPORTANT

Before placing the throttle valve in service, it must be adjusted to obtain a .055" exhaust valve-to-seat clearance. This is necessary to ensure prompt and efficient exhaust of air pressure when the actuating mechanism is released. It is best to perform this procedure with the valve on a test bench and not installed on a vehicle.

ADJUSTMENT PROCEDURE

The intention of the adjustment procedure is to adjust the valve such that the air pressure just begins to exhaust—reaching its threshold pressure setting.

1. Secure the valve in a manner that will allow a controlled application pressure on the piston.
2. Plug the TV-2 valve delivery port.
3. Connect the air supply line to the inlet port of the valve.

4. Apply 100 psi air pressure to the inlet port of the valve. Check for air leakage at the exhaust and go to the appropriate next step.

If air is leaking at the exhaust: Remove the air pressure from the inlet port. Remove the cap nut and adjust the inlet and exhaust valve (3) by loosening one quarter turn (counterclockwise). Reinstall the cap nut and tighten to 120-250 in-lbs. Repeat steps 3 and 4 until air is not leaking at the exhaust.

If air is not leaking at the exhaust: Go to step 5.

5. Connect the air supply line to the inlet port of the valve.
6. Apply 100 psi air pressure to the inlet port of the valve. Depress the plunger 0.055" and check for air leakage at the exhaust.

If air is leaking at the exhaust: Go to step 7.

If air is not leaking at the exhaust: Remove the air pressure from the inlet port. Remove the cap nut and adjust the inlet and check valve by tightening one quarter turn (clockwise). Repeat steps 5 and 6 until air is leaking at the exhaust.

7. Once the adjustment is complete, remove the plug from the delivery port, disconnect the air line from the inlet and reinstall the cap nut. Tighten the cap nut to 120-250 in-lbs. and return the valve to the vehicle.
8. Reinstall the treadle, or actuating mechanism.
9. Reconnect the air supply and delivery lines and secure the valve reusing all mounting hardware.

LEAKAGE CHECKS

With the air system fully charged, coat the exhaust port of the solenoid with a soap solution. A one inch bubble in three seconds is permitted (175 SCCM).

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