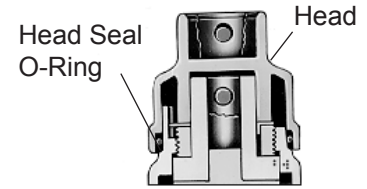
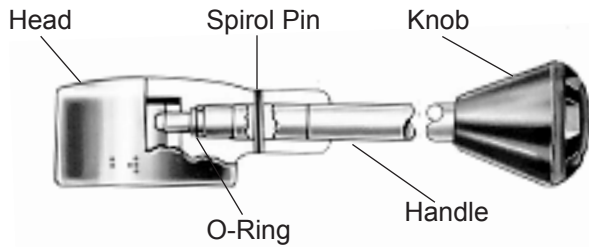


Installation Instructions



BENDIX® TC-2™ TRAILER CONTROL VALVE MAINTENANCE KIT



Kit Contents		
Item No.	Description	Qty.
1	O-Ring	1
2	O-Ring	1
3	O-Ring	1
4	O-Ring	1
5	Stem	1
6	Inlet & Exhaust Valve	2
7	Valve Guide	1
8	Spring	1
9	Spring	1
10	Gasket	1
11	Tube of Lubricant	1

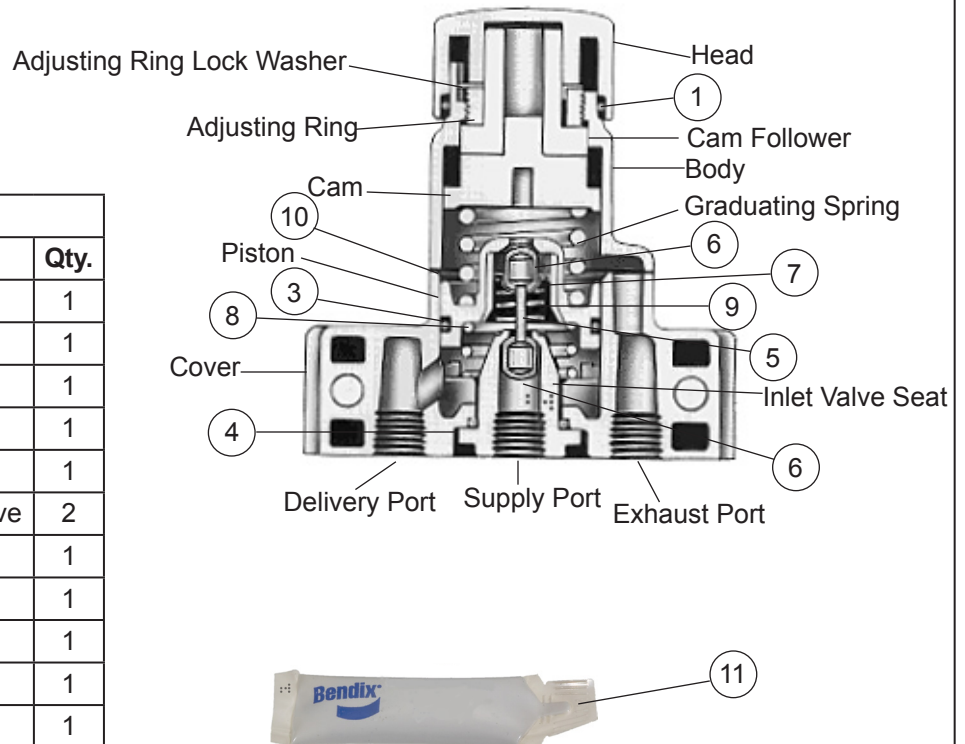


Figure 1 – Maintenance Kit Contents

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.
- ▲ Never exceed manufacturer's recommended pressures.
- ▲ You should consult the vehicle manufacturer's operating and service manuals, and any related literature, in conjunction with the Guidelines above.
- ▲ Never connect or disconnect a hose or line containing pressure; it may whip and/or cause hazardous airborne dust and dirt particles. Wear eye protection. Slowly open connections with care, and verify that no pressure is present. 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, wiring, 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 vehicle equipped with a Bendix® Wingman® system.

REMOVAL

1. Block and hold vehicle by means other than the air brakes.
2. Drain the air brake system.
3. If this is a remote-operated type valve, disconnect the operating mechanism.
4. Disconnect the air lines from the valve.
5. Remove the mounting clamp bolts, clamp, and then the valve.

DISASSEMBLY

Handle Operated Valve

1. Drive out the spirol pin and remove the handle, head, and head seal o-ring.
2. Remove the handle o-ring.
3. **Remote Operated Type Valve:** Remove set screw, head, and head seal o-ring.

4. Remove the adjusting ring lock washer.
5. Remove the cap screws that hold the body and the cover together; separate the cover from the body.
6. Remove the gasket and the graduating spring.
7. Remove the cam and cam follower from the cover.
8. Unscrew and remove the adjusting ring.
9. Remove the piston and piston return spring from the body.
10. Remove the piston o-ring.
11. Remove the inlet and exhaust insert screws and lock washers, then insert the o-ring seal.
12. Insert some object – such as a cap screw – in the supply port to hold the inlet valve on its seat.
13. Depress the exhaust valve guide and spring; remove the exhaust valve.
14. Remove the stem with the inlet valve from the inlet seat and remove the inlet valve from the stem.

ASSEMBLY

Prior to assembly, lubricate the body and cover bores, cam and cam follower, piston o-ring, and cover top with Dow Corning® 55-M pneumatic grease (Bendix piece number 291126).

1. Press inlet valve on stem. A little water in the boot valve or some soap on the stem will make it easy to press on the inlet valve.
2. Place stem with inlet valve installed in the inlet seat. Insert some object – such as a cap screw – to hold the inlet valve up against its seat.
3. Position the spring and the exhaust valve guide.
4. Depress the guide and the spring, then press the exhaust valve on the stem.
5. Place the seal o-ring over the insert seat. Install the inlet and exhaust insert in the body, securing with cap screws and lock washers. Recommended torque on the insert cap screws is 60 to 80 in-lbs.
6. Install the piston return spring.
7. Install the piston o-ring on the piston and install the piston in the body.
8. Install the adjusting ring in the cover and screw it down until it is flush with the top of the cover.
9. Place the cam follower and cam in the cover.
10. Position the graduating spring and gasket in the body.
11. Connect the body to the cover; tighten the cap screws evenly and torque to 75-95 in-lbs.
12. Install the adjusting ring lock washer, head seal o-ring, and head.
13. Install the set screw in the head of the remote-operated type valves.

At this stage, before installing the handle and the spirol pin of the handle-operated type valve, if facilities are available, the rebuilt valve should be tested and adjusted. If facilities are not available, the valve can be tested on the vehicle.

ADJUSTABLE

Generally, the Bendix® TC-2™ Brake Valve should deliver full reservoir pressure; however, there are a few exceptions in special applications.

1. If the delivered pressure is below the specified final delivery pressure, it can be adjusted by removing the head and adjusting the ring lock washer and rotating the adjusting ring clockwise to raise the delivery pressure. Care should be taken not to raise the delivery pressure beyond the design limits; exhaust opening could be restricted.

2. If the delivery pressure is above the specified final delivery pressure, it can be lowered by rotating the adjusting ring counterclockwise.

A spanner wrench can be used to rotate the adjusting ring, but if this wrench is not available, the adjusting ring can be turned with a small screwdriver inserted in one of the inner notches of the ring. Turning the adjusting ring one notch will raise the delivered pressure approximately 5 psi.

INSTALLATION

1. Check and clean the air lines to the valve.
2. The operating mechanism for remote type should be checked for functionally and for proper adjustment.
3. Mount the valve with clamp and mounting bolts.
4. Tighten the mounting bolts evenly to approximately 200 in-lbs torque (3/8-16 Bolt torque 180-220 in-lbs).
5. If remote type valve, connect the operating mechanism.

OPERATING TEST

Connect an accurate test gauge to a delivery port. When the handle is moved to the fully applied position, the gauge should register full reservoir pressure.

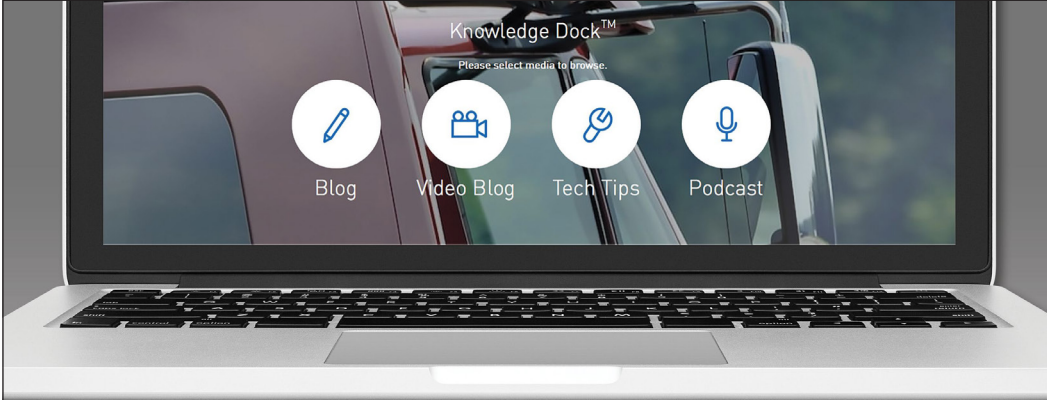
Note: Some valves may be preset to deliver lower than reservoir pressure; however, the standard valves generally used on tractors are set to deliver full reservoir pressure.

Intermediate positions should deliver proportionate intermediate pressure. Upon release, the gauge should immediately register zero.

LEAKAGE TEST

Locate the exhaust port or the exhaust line and apply a soap solution. (It is common practice to connect a line from the valve exhaust port to a location remote from the immediate driver's area.) With the valve in the released position, exhaust leakage should not exceed a 1 inch bubble in 5 seconds (100 sccm).


With the valve fully applied, leakage at the exhaust should not exceed a 1 inch bubble in 3 seconds (175 sccm).



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