Installation Instructions

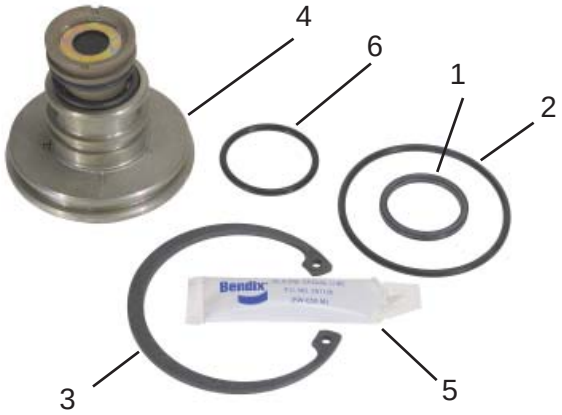
Air Dryer
Purge Valve
Maintenance Kit
& Replacement Kit

Purge Valve Identification

AD-IS® or AD-IP™ Purge Valve - Standard

AD-IS® or AD-IP™ Purge Valve - DLU

These kits are for a standard AD-IS® or AD-IP™ air dryer.
Caution: Do not use this kit if your air dryer is a DLU style.



Purge Valve Replacement Kit:

Item	Description	Qty.
1	Purge Piston Quad-ring	1
2	Purge Valve Housing O-ring (large)	1
3	Retaining Ring	1
4	Standard Purge Valve Assembly	1
5	Lubricant	1
6	Purge Valve Housing O-ring (small)	1

Purge Valve Maintenance Kit:

Item	Description	Qty.
1	Purge Piston Quad-ring	1
2	Purge Valve Housing O-ring (large)	1
3	Retaining Ring	1
5	Lubricant	1
6	Purge Valve Housing O-ring (small)	1
7	Purge Piston	1
8	Purge Valve	1
9	Piston Return Spring	1
10	Shoulder Bolt	1
11	Piston Guide	1
12	Assembly Tool (not shown)	1

FIGURE 1 - AIR DRYER PURGE VALVE IDENTIFICATION AND KIT CONTENTS

KIT DESCRIPTION

These instructions provide the necessary information to allow either the replacement of the complete air dryer purge valve assembly or to rebuild the existing purge valve assembly. This kit is to be used on standard style AD-IS® or AD-IP™ air dryers only. See Figure 1 to verify the correct purge valve assembly and kit.

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 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. Always wear safety glasses.**
2. **Stop the engine and remove 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.**
3. **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.**
4. **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 an AD-IS® air dryer system or a dryer reservoir module, be sure to drain the purge reservoir.**
5. **Following the vehicle manufacturer's recommended procedures, deactivate the electrical system in a manner that safely removes all electrical power from the vehicle.**
6. **Never exceed manufacturer's recommended pressures.**
7. **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.**
8. **Use only genuine Bendix® 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.**
9. **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.**
10. **Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.**
11. **For vehicles with Antilock 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.**

VEHICLE PREPARATION

1. Park the vehicle on a level surface and prevent movement by means other than the brakes.
2. Drain all reservoirs, including the AD-IS® air dryer purge reservoir, to 0 p.s.i.
3. Clean the exterior of the air dryer.

DISASSEMBLY

General

The following maintenance procedures do not require removal of the air dryer from the vehicle; however, if it is removed the following caution should be observed to prevent damage.

***Caution**: While performing service on the air dryer, it is not recommended that a clamping device (vise, C-clamp, etc.) be used as damage may result to the air dryer. To hold the air dryer body, install a pipe nipple in the supply port and clamp the nipple into a vise.*

1. Loosen the compressor discharge line at the air dryer inlet port.
2. Remove and discard the retaining ring(3) that secures the purge valve assembly(4) in the air dryer body.
3. Remove the purge valve assembly(4) from the air dryer body. Compare the removed purge valve assembly(4) to the purge valve assembly supplied in this kit and to Figure 1 to make sure it is the proper kit for your application.
4. Discard the purge piston quad-ring(1) and purge valve housing o-rings(2&6). If replacing the purge valve assembly(4) discard the old purge valve assembly and proceed to *Cleaning & Inspection* section.
5. Remove and discard the 1/4" shoulder bolt(10) from the bottom of the purge valve assembly. To remove, clamp the assembly tool(12) in a vise, turn the assembly over and align the tool in the slot on top of the purge piston. Using a 3/8" socket or wrench, loosen the shoulder bolt(10) and remove. Remove and discard the exhaust guide(11), the purge valve(8), purge piston(7) and the return spring(9).

CLEANING & INSPECTION

1. Clean the exterior of the air dryer body.
2. Using a clean rag, wipe the body bores clean.
3. Thoroughly clean the purge valve bore with a clean rag, removing all the grease.
4. Inspect for physical damage to the body, broken and/or missing parts.

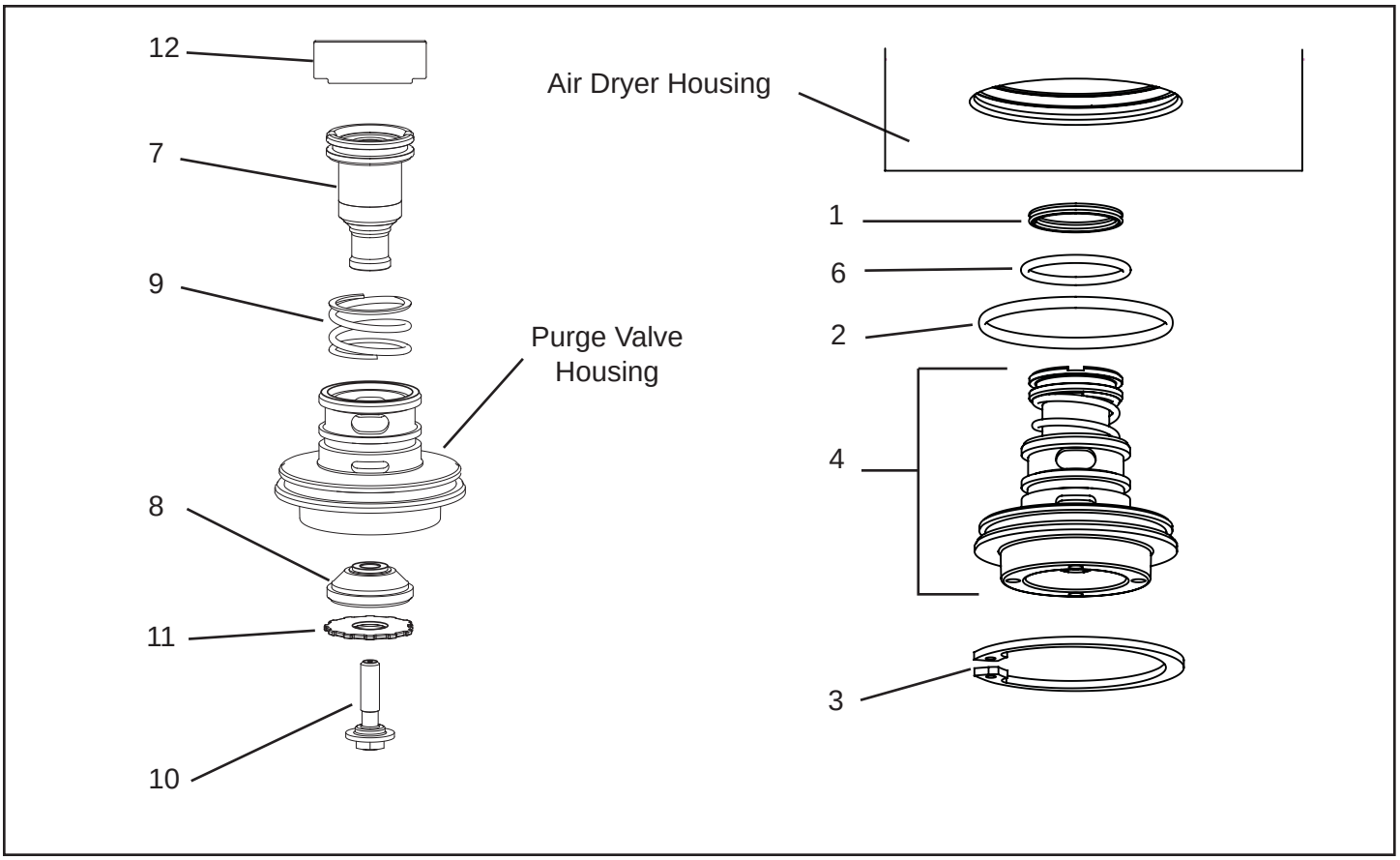


FIGURE 2- AIR DRYER PURGE VALVE ASSEMBLY

5 Inspect the interior and exterior of the body for severe corrosion, pitting and cracks. Superficial corrosion and/or pitting on the exterior portion is acceptable.

6. Inspect the bores, valve seats and o-ring contact areas for deep scuffing or gouges or nicks that would not permit an airtight seal.

7. Any component exhibiting a condition described in step 4 to 6 should be replaced.

8. If the purge valve assembly(4) is being rebuilt rather than replaced, clean the purge valve housing using a commercial solvent. Thoroughly dry the purge valve housing before reuse. Inspect for corrosion, pitting and damage to the purge valve housing. Inspect the purge valve seating and turbo cutoff valve seating area in the purge valve housing for deep scratches and gouging. Replace the entire purge valve assembly if these conditions are noted and would prevent sealing. *Note: Light exterior pitting is acceptable.*

ASSEMBLY

1. Lubricate the quad-ring(1), o-rings(2 & 6), and the quad-ring and o-ring grooves of the purge piston and purge valve housing. Lubricate the air dryer quad-ring bore for the purge valve assembly. ***Important: Use only the lubricant packaged with this kit.***
2. Install the large and small o-rings on the purge valve housing placing each in its appropriate location. See Figure 2.
3. Install the quad-ring(1) in its groove on the O.D. of the purge piston. **Caution:** Take care not to twist the quad-ring. Use all of the lubricant, making sure to apply a liberal amount to the quad-ring and its bore after installing the quad-ring.
4. If the purge valve assembly is being replaced rather than rebuilt go to step 7.
5. Place the piston return spring(9), over the purge piston (7) and insert into the purge valve housing. Refer to Figure 2.
6. Install the shoulder bolt(10), piston guide(11), and purge valve(8) into the bottom of the purge valve housing. Push the purge piston(7) into the purge valve housing until it bottoms. As in the disassembly process, the assembly tool may be held in a vise if needed. While depressing the purge piston(7) secure with the shoulder bolt(10) using a 3/8" socket or wrench. Torque to 60-80 in. lbs.
7. **CAUTION**: Carefully ease the purge valve assembly into position in the air dryer body (using a gentle twisting motion if necessary) - do not force the purge piston as serious damage may be caused to the quad-ring. Ensure the purge valve housing is fully seated against the air dryer body.
8. Secure the purge valve assembly(4) in the air dryer using the retaining ring(3). Make certain the retaining ring is fully seated in its groove.
9. Secure the inlet port that was disconnected in step 1 of the disassembly process.
10. If the air dryer was removed to facilitate installation of this kit, return the air dryer to the vehicle and reconnect all air lines and electrical connections.
11. Before placing the vehicle back into service, complete the TESTING procedures.

TESTING

1. Close all reservoir drain cocks. Build up system pressure to governor cutout and note that the air dryer purges with an audible escape of air. "Fan" the service brakes to reduce system air pressure to governor cut-in. Note that the system once again builds to full pressure and is followed by an air dryer purge.
2. Check for excessive leakage. With the compressor in the loaded mode (compressing air), apply a soap solution around the retaining ring that secures the purge valve assembly in the air dryer and over the exhaust diaphragm (bore where purge valve is installed). Leakage should not exceed a 1 inch bubble in 1 second. If the leakage exceeds the maximum specified, remove the purge valve assembly and reinstall. If leakage persists replace the air dryer assembly.

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