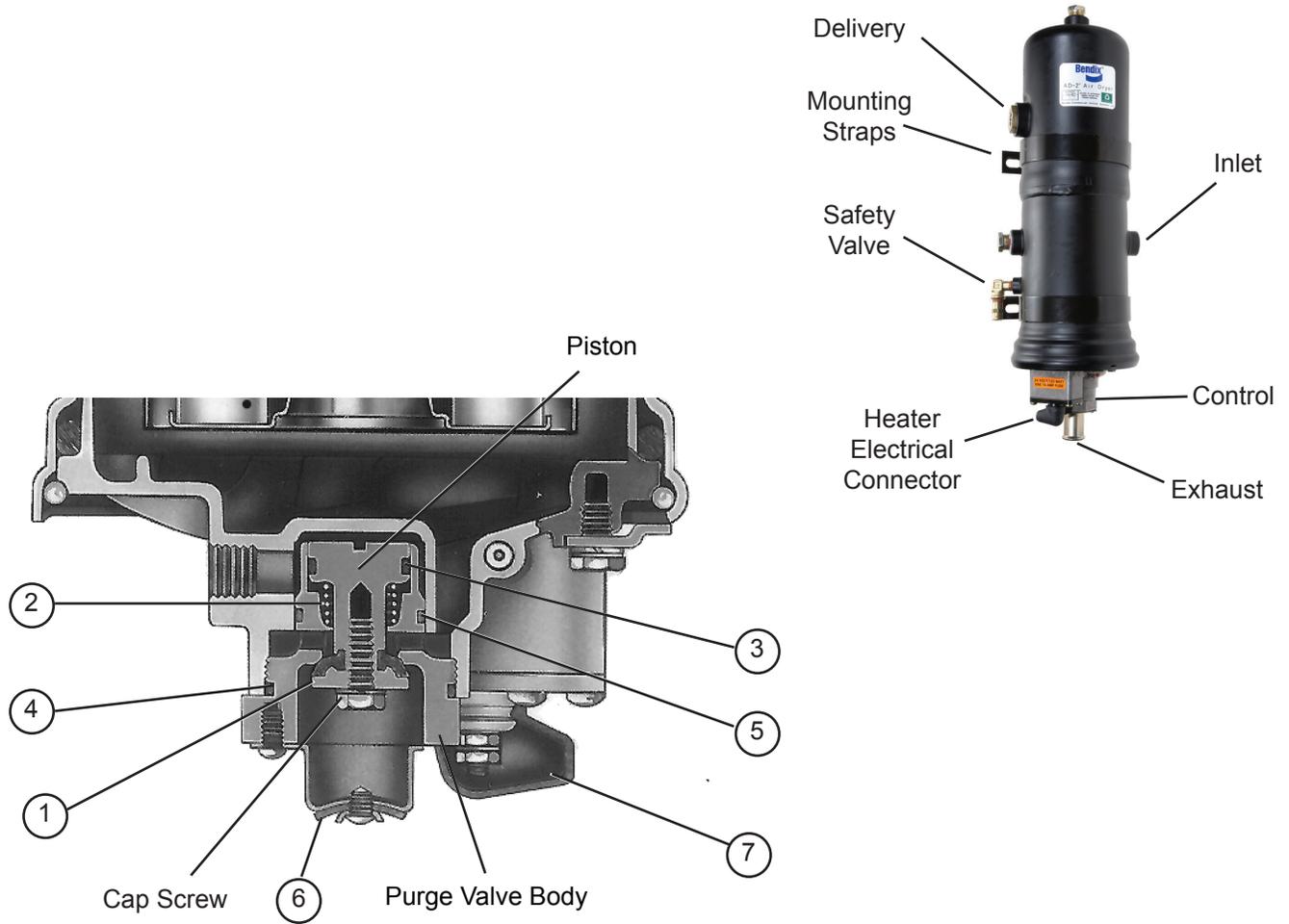




Installation Instructions

FIELD MAINTENANCE KIT BENDIX® AD-2® AIR DRYER PURGE VALVE



Kit Contents		
Item No.	Description	Qty.
1	Purge Valve	1
2	Piston Spring	1
3	O-Ring	1
4	O-Ring	1
5	O-Ring	1
6	Diaphragm	1
7	Boot	1
8	Lubricant (not shown)	1

Figure 1 – AD-2 End Cover Cross Section

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 AND DISASSEMBLY

Air Dryer End Cover Removal Procedure



The Bendix® AD-2® cartridge contains a high spring load. When replacing the AD-2 cartridge or performing any maintenance requiring end cover removal, follow the procedure outlined below.

1. Loosen the air line to the control port of air dryer and allow the trapped air to escape to atmosphere. After the air escapes, remove the control line from the air dryer.
2. Loosen the delivery line from the delivery port or outlet of the air dryer. After the pressure drops, remove the delivery line. Loosen the delivery check valve from this port to relieve any trapped air above the desiccant plate assembly.
3. Remove any exhaust silencers, or the exhaust check valve cover, from the base of the air dryer. Using a hex socket and wrench, loosen the purge valve assembly and allow any trapped air to escape. Slowly unscrew the purge valve and remove it. *NOTE: Clean the exterior of the end cover before removing the purge valve.*
4. Check all ports to ensure that air is not trapped in the air dryer by powdered desiccant material.
5. Disconnect the heater wire from the end cover. Discard the rubber boot (7) on the wire terminal.
6. Remove the three 6-32 screws and remove the exhaust cover. Remove the center 6-32 screw, washer and diaphragm (6). Discard the diaphragm (6).
7. Restrain the piston with a large screwdriver and remove the cap screw which retains the purge valve (1), using a 7/16 inch socket. Remove and discard the purge valve (1), o-rings (3), (4), (5) and spring (2).

ASSEMBLY

1. Wash all remaining parts in mineral spirits (or equivalent). Ensure all surfaces, passages and bores are clean and dry.
2. Coat all threads, surfaces and o-rings with the lubricant (8) provided.
3. Install the o-ring (3) on the piston.
4. Place the piston spring (2) in the bore of the purge valve body and insert the piston. Position the purge valve (1) in the opposite end of the purge valve body with the rubber seat adjacent to the metal seat in the body. Install the cap screw and the lock washer and torque to 50 in-lbs.
5. Install the two o-rings (4) & (5) on the cap nut body, install the cap nut in the end cover and torque to 180–250 in-lbs.

6. Install the exhaust valve diaphragm (6) on the exhaust valve cover using the 6-32 screw and diaphragm washer and attach the exhaust valve cover to the cap nut with the three 6-32 screws.
7. Reconnect the heater wire using the replacement boot (7).



This air dryer is intended to remove moisture and other contaminants normally found in the air brake system. Do not inject alcohol, anti-freeze, oil or other de-icing substances into or upstream of the air dryer. Use of these substances can damage the air dryer and may void the warranty.

OPERATIONAL TEST

1. Disconnect the purge control line and connect a 100 psi air pressure source to the purge control port. Check for leakage at the exhaust port. No leakage is permitted.
2. Reconnect the purge control line and charge the system to approximately 100 psi taking care not to reach the governor cut-out pressure—which would cause the air dryer to purge. Check for leakage at the exhaust port. No leakage is permitted.
3. Continue to charge the system until the compressor unloads. *Note that this air dryer purges with a sharp burst of air as the lower section discharges through the purge valve and then a slower discharge as the upper purge volume purges more slowly through a bleed hole in the inner baffle.*
4. Refer to Instruction and Service Data sheet SD-08-2403 for further information regarding the operation of the AD-2 air dryer.



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