

Installation Instructions



BENDIX® AD-9si® AND AD-9si® PURAGUARD® OIL COALESCING AIR DRYER

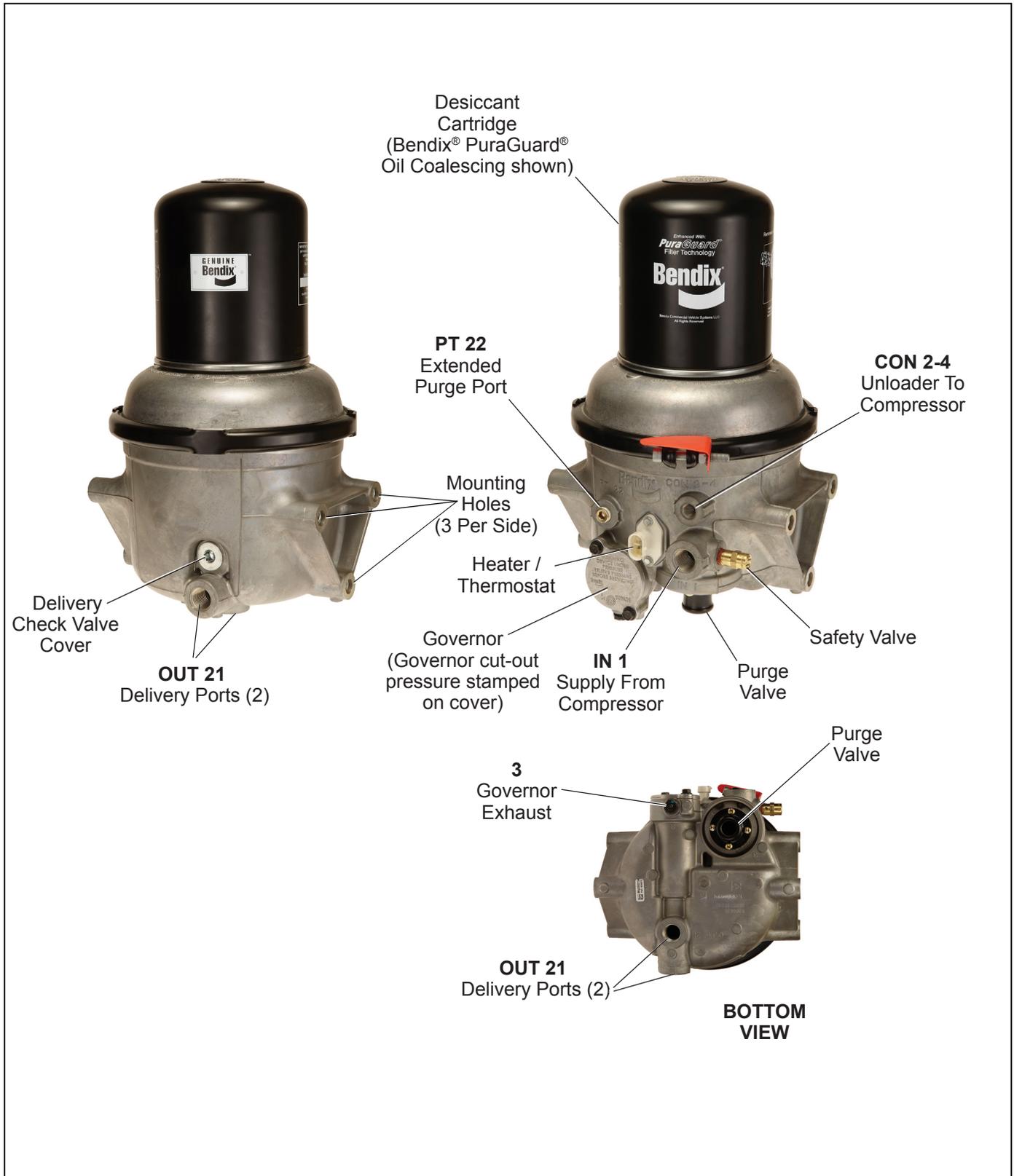


Figure 1 – Bendix® AD-9si® and AD-9si® PuraGuard® Oil Coalescing Air Dryer

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.
- ▲ 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.
- ▲ You should consult the vehicle manufacturer's operating and service manuals, and any related literature, in conjunction with the Guidelines above.

DESCRIPTION

The function of both the Bendix® AD-9si® air dryer and the Bendix® AD-9si® PuraGuard® oil coalescing air dryer is to collect and remove air system contaminants in solid, liquid, and aerosol form before they enter the brake system. The AD-9si includes a spin-on style cartridge for easy servicing, and most include a fully integrated governor to control air system charging.

The air dryer provides clean, dry air to the components of the brake system, which increases the life of the system and reduces maintenance costs. The need for daily manual draining of the reservoirs is eliminated.

The Bendix AD-9si PuraGuard oil coalescing air dryer has an identical appearance to the standard Bendix AD-9si air dryer, but contains a coalescing media at the inlet of the desiccant bed. This coalescing media provides a higher level of oil removal over the standard AD-9si air dryer. The AD-9si PuraGuard oil coalescing air dryer has all of the same functions as the standard AD-9si air dryer and is used in applications where lower oil concentration levels are required.



When servicing, note that standard AD-9si air dryers or air dryer cartridges may be serviced with PuraGuard oil coalescing air dryers or cartridges, however, PuraGuard oil coalescing air dryers or cartridges **MUST** only be serviced with like replacements.

Air Connection Port ID	Function/ Connection	Quantity
IN 1	Inlet Port (air in)	1
OUT 21	Delivery Port Out	2
PT 22	Extended Purge	1
CON 2-4	Governor Unloader	1
3	Governor Exhaust	1

Table 1 – Port Designations

NOTE: Unless otherwise stated in this document, AD-9si air dryer refers to both the standard and PuraGuard oil coalescing air dryer.

The AD-9si air dryer consists of a “spin on” desiccant cartridge secured to a base assembly. The base assembly contains a delivery check valve assembly, safety valve, heater and thermostat assembly, integrated governor (in most assemblies), threaded air connections, internal purge volume, and purge valve assembly.

The removable purge valve assembly incorporates the purge valve mechanism and a turbocharger cut-off feature that is designed to prevent loss of engine “turbo” boost pressure during the purge cycle of the Bendix® AD-9si® air dryer. For ease of maintenance, all replaceable assemblies should be serviceable without removal of the air dryer from its mounting on the vehicle – provided adequate clearance exists between the air dryer and the vehicle components.



1. **This air dryer is intended to remove moisture and other contaminants normally found in the air brake system. Do not inject alcohol, anti-freeze, or other de-icing substances into – or upstream of – the air dryer. Alcohol is removed by the dryer, but reduces the effectiveness of the device to dry air. Use of these or other substances can damage the air dryer and may void the warranty.**
2. **For the Bendix® AD-9si® air dryer, there are no serviceable components or maintenance requirements that require the removal of the clamp band.**



3. **DO NOT ATTEMPT TO REMOVE THE CLAMP BAND THAT RETAINS THE TWO HOUSINGS TOGETHER. SERIOUS INJURY OR DEATH MAY OCCUR IF THESE INSTRUCTIONS ARE NOT FOLLOWED COMPLETELY.**

BENDIX AD-9si AIR DRYER REMOVAL

This air dryer removal process is presented in the event it becomes necessary to replace the entire air dryer. Normal service and parts replacement does not require removal of the air dryer from the vehicle.

1. Park the vehicle on a level surface and prevent movement by means other than the brakes.
2. Drain all reservoirs to 0 psi.
3. Identify and disconnect the three air lines from the air dryer housing.
4. Unplug the vehicle wiring harness from the heater and thermostat assembly connector.

5. Remove the three mounting bolts that secure the air dryer to the vehicle.

BENDIX AD-9si AIR DRYER INSTALLATION

1. Install the Bendix AD-9si air dryer on the vehicle using the three existing 1/2"-13 UNC bolts. Torque the bolts to 720-912 in-lbs. If replacement bolts are necessary, use grade 5 or above and ensure they are the same length as those originally used to install the dryer. If the original air dryer is being reinstalled, make sure the threads in the air dryer housing are in good condition.
2. Reconnect the three air lines to the proper ports on the air dryer – identified during step 3 of the Bendix AD-9si removal.
3. Reconnect the vehicle wiring harness to the AD-9si air dryer heater and thermostat assembly connector by plugging it into the air dryer connector until its lock tab snaps in place.
4. Before placing the vehicle back into service, test the air dryer operation as indicated in *Testing The Bendix AD-9si Air Dryer* section that follows.

TESTING THE BENDIX AD-9si AIR DRYER

Before placing the vehicle into service, perform the following tests:

1. Close all reservoir drain valves.
2. Build up system pressure to governor cut-out and note that the Bendix AD-9si air dryer purges (with an audible burst of air), followed immediately by approximately 40 seconds of air flowing out of the purge valve.
3. Apply and release the service brakes several times to reduce system air pressure to governor cut-in. Note that the system once again builds to full pressure and is followed by a purge at the air dryer exhaust.
4. It is recommended that the total air system be tested for leakage to ensure that the AD-9si air dryer will not cycle excessively.



It is important to read and adhere to the previous testing instructions, to ensure the brake system operates safely.

ADDITIONAL SUPPORT

For direct telephone technical support, the Bendix Tech Team is available at 1-800-AIR-BRAKE (1-800-247-2725, option 2) Monday through Friday, 8:00 A.M. to 6:00 P.M. ET. Follow the instructions in the recorded message.

The Bendix Tech Team can also be reached by e-mail at: techteam@bendix.com.



Knowledge Dock™
Please select media to browse.

Blog Video Blog Tech Tips Podcast

Trucking moves fast. Move faster.
Knowledge Dock™
• BLOGS • PODCASTS • VIDEOS • 24/7/365
[knowledge-dock.com]



Log-on and Learn from the Best
On-line training that's available when you are — 24/7/365.
Visit brake-school.com.