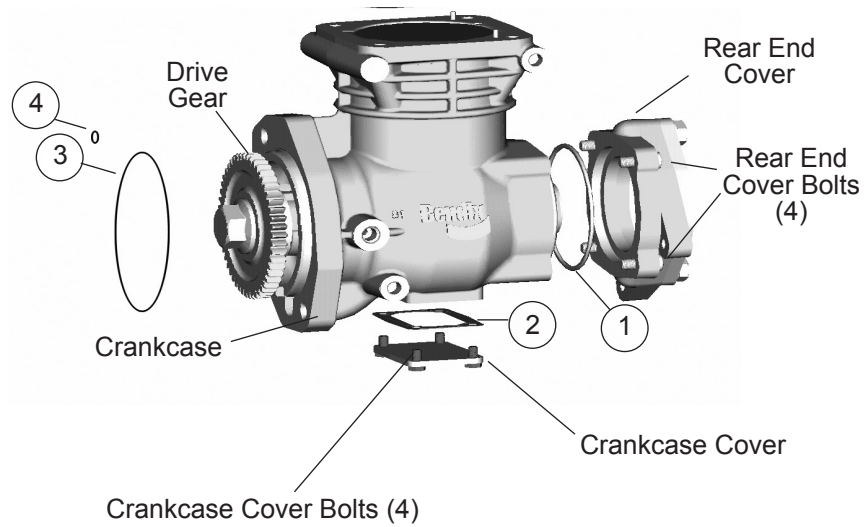


Installation Instructions



BENDIX® BA-921®/BA-922® AIR COMPRESSOR



Bendix® BA-921®
Compressor



Bendix® BA-922®
Compressor

Kit Contents		
Item No.	Description	Qty.
1	End Cover O-ring (seal varies by kit)	1
2	Cover Gasket (included in all kits)	1
3	O-ring	1
4	O-ring (oil feed)	1
(Not shown)	Flange Gasket	1
(Not shown)	Rear Flange Gasket	1

Figure 1 – Compressor Seals Exploded View (BA-921 compressor shown)



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.

INSTALLING SEAL KITS

1. Read and follow the General Safety Guidelines contained in this document.
2. Remove and discard the mounting flange o-ring (3) [or gasket, depending on vehicle] and/or the oil feed o-ring (4).
Note: Not all compressors utilize an oil feed o-ring (4), some applications use gaskets, etc. The o-ring is generally installed in the mating surface of the engine.
3. Remove the four crankcase cover bolts (eight on a Bendix® BA-922® compressor) securing the crankcase cover to the crankcase. Using a soft mallet, gently tap the crankcase cover to break the gasket seal. Remove and discard the crankcase cover gasket (2).
4. Mark the relationship of the crankcase and rear end cover or adapter then remove the four bolts that secure the rear end cover or adapter to the crankcase.
5. Remove the rear end cover or adapter from the crankcase. Remove and discard the o-ring seal (1).
6. Clean the gasket surfaces on the crankcase and cover making certain to remove adhering gasket material.
7. If the compressor was removed for replacement or the drive components replaced, install the drive components. Torque the crankshaft bolt to 250 ft-lbs.
8. Position the crankcase cover gasket (2) on either the crankcase or crankcase cover and install the crankcase cover on the crankcase using the four (or eight) bolts. Torque the bolts to 62-71 in-lbs using a crossing pattern.
9. Lubricate the end cover o-ring (1) with engine oil and install it on the crankcase end cover. Orient the crankcase end cover or adapter to the crankcase using the reference marks made during disassembly and carefully install the end cover or adapter in the crankcase making certain not to damage the crankshaft bearing surface in it.
10. Install the four end cover bolts and torque to 195–213 in-lbs using a crossing pattern.
11. Choose the appropriate size mounting flange o-ring (3) from the two supplied in the kit. Lubricate the o-ring with engine oil and install it on the compressor mounting flange.
12. Follow steps 1 through 7 in the Returning the Vehicle to Service section.

RETURNING THE VEHICLE TO SERVICE

1. Install any supporting bracketing on the compressor in the same position noted and marked during removal.
2. If required by the compressor model, lubricate the oil feed o-ring (4) with engine oil and install it in the engine. Mount the compressor on the engine taking care not to damage the mounting flange o-ring (3) or oil feed o-ring (4) if applicable. Do not use additional gaskets or sealants. Secure the compressor to the engine with the mounting bolts and torque to manufacturer's specifications.
3. Install the discharge, inlet, and governor adapter fittings, if applicable, in the same position on the compressor noted and marked during disassembly. Make certain the threads are clean and the fittings are free of corrosion. Replace as necessary. See the Torque Specifications for various fitting sizes and types of thread.
4. Inspect all air, oil, and coolant lines and fittings before reconnecting them to the compressor. Make certain o-ring seals are in good or new condition. Tighten all hose clamps.
5. Refill the engine cooling system.
6. Clean oil supply line. Before connecting this line to the compressor. Run the engine briefly to be sure oil is flowing freely through the supply line.
7. Before returning the vehicle to service, perform the Operation and Leakage Tests specified in this manual. Pay particular attention to all lines reconnected during installation and check for air, oil, and coolant leaks at compressor connections. Also check for noisy operation.

OPERATION & LEAKAGE TESTS

1. Start the engine and note that air system steadily builds pressure.
2. With system air pressure increasing, check for cylinder head gasket air leakage. Apply a soap solution around the cylinder head. Check the gaskets between the cylinder head, cooling plate, and valve plate assembly for air leakage.

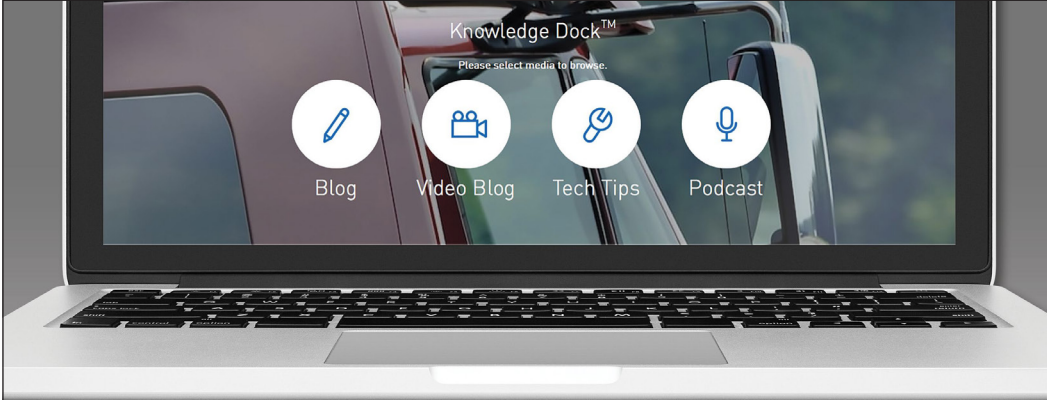
No leakage is permitted. If leakage is detected, try re-torquing the head bolts after draining all air pressure. Replace the compressor if replacing the head gasket has not resolved the leakage problem.

3. Allow air system pressure to build and note that the compressor unloads properly at the specified governor cut-out pressure. Repeat this test 3 times noting that the compressor unloads at approximately the same pressure each time. If the compressor fails to unload by at least 150 psi system pressure, check all air lines to and from the governor. Make certain each line is clear (unobstructed) and not kinked, or leaking. Repair or replace the governor as needed. If an unloader kit was also installed, recheck installation.
4. More complete compressor performance tests are provided in the Bendix Service Data sheet. This publication is available online at bendix.com or by calling 1-800-AIR-BRAKE (1-800-247-2725), option 5.

TORQUE SPECIFICATIONS

Bolt, Fitting, Nut, or Screw	Assembly Torque (in-lbs unless specified)
M8x1.25-6g Rear End Cover.....	195 - 213
M6x1.00-6g Crankcase Cover.....	62 - 71
M20x2.50-6g Crankshaft Nut	250 ft. lbs.
Inlet Port Fittings	
1-3/16" - 12.....	575 - 637
1" - 12-1/2 NPT.....	1.5 - 2.5 TFFT ¹
Discharge Port Fittings	
7/8"-14 UNF.....	460 - 504
3/4"-14 NPT.....	2 - 3 TFFT ¹
Water Port Fittings	
3/4"-16 UNF.....	319 - 345
3/8"-18 NPT.....	2 - 3 TFFT ¹
Unloader Port Fittings	
1/8"-27 NPT.....	2 - 3 TFFT ¹
Safety Valve Port	
3/4"-16 UNF.....	319 - 345
1/2"-14 NPT.....	2 - 3 TFFT ¹
Oil Port	
7/16"-16 UNF.....	97 - 115


¹Note: TFFT = Turns From Finger Tight



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