

Installation Instructions



BENDIX® BA-922® AIR COMPRESSOR SEAL MAINTENANCE KIT

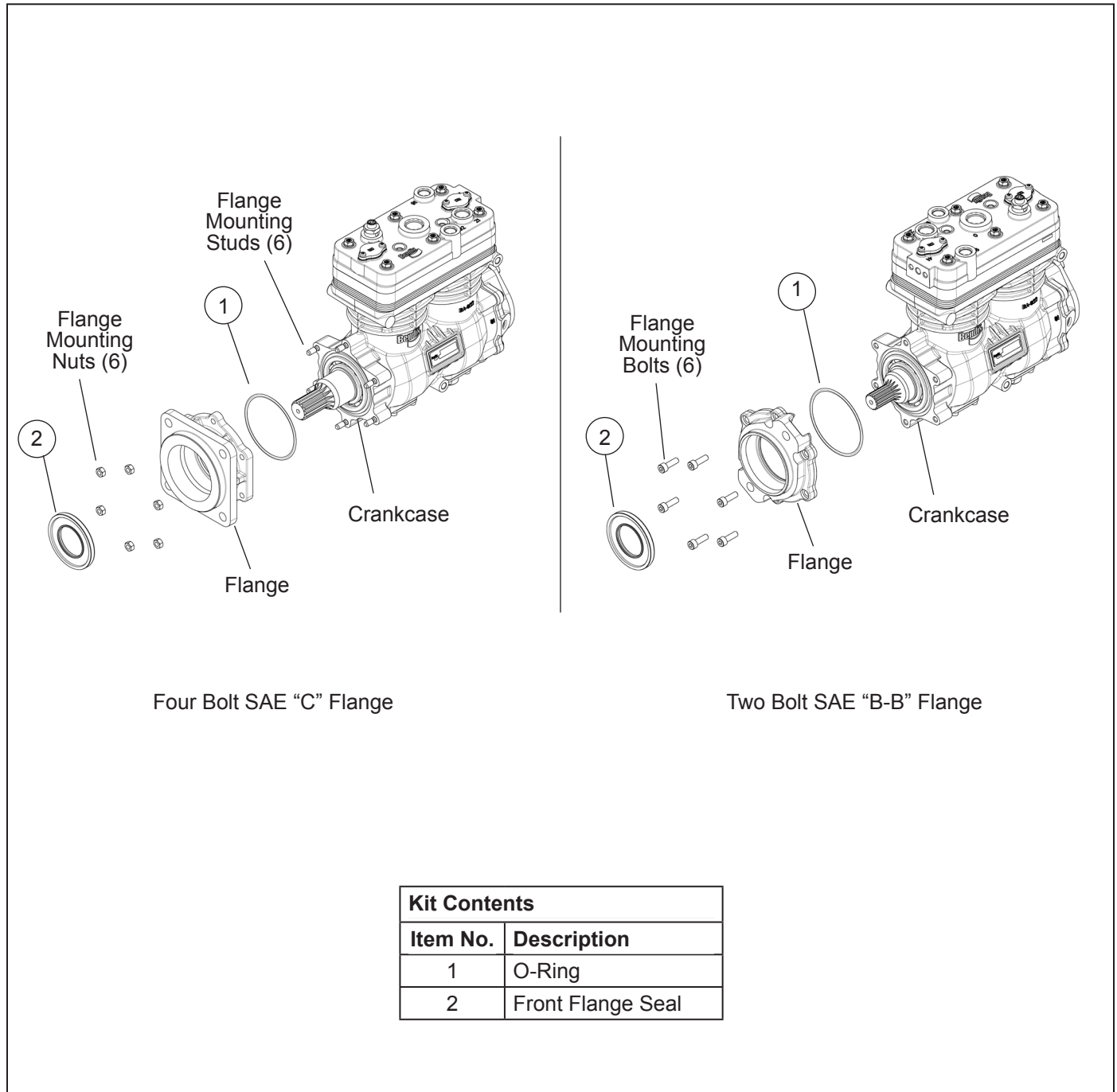


Figure 1 – Compressor Seal Maintenance Kit



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 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.

GENERAL

This instruction sheet is intended to provide the necessary information to install the compressor seal kit in a Bendix® BA-922® compressor.

VEHICLE PREPARATION

These instructions are general and intended to be a guide. In some cases additional preparations and precautions are necessary. In all cases follow the instructions contained in the vehicle maintenance manual in lieu of the instructions, precautions, and procedures presented in this document.

Read all the CAUTION statements contained in this document before performing any service to the vehicle.

1. Block the wheels of the vehicle and drain the air pressure from all the reservoirs in the system.
2. Remove as much road dirt and grease from the exterior of the compressor as possible.
3. Drain the engine cooling system and the cylinder head of the compressor. Identify and disconnect all air, water, and oil lines (if applicable) leading to the compressor.
4. Remove the discharge and inlet fittings, as applicable, and note their position on the compressor to aid in reassembly.
5. Remove any support brackets attached to the compressor and note their position on the compressor to aid in reassembly.
6. Remove the flange mounting bolts and remove the compressor from the vehicle.
7. Inspect the gear and associated drive parts for visible wear or damage. Since these parts are precision fitted, they must be replaced if they are worn or damaged.

INSTALLING THE SEAL KIT

1. Mark the orientation of the flange to the compressor crankcase.
2. Remove and retain the six fasteners that connect the compressor's front flange to the crankcase.
3. Remove the flange from the front of the crankcase.
4. Remove the front flange o-ring (1) and discard it.
5. If replacing the seal, remove the worn seal (2) from the front flange by pushing the seal out from the back side of the flange using an appropriate diameter tool.
6. Thoroughly clean the flange, then lubricate the flange seal cavity surfaces with a lubricant compatible with the compressor lubricant.
7. Lubricate the outside diameter of the seal (2), then place it into the flange seal housing (the orientation of the seal is not critical because it is a double lip seal). With finger pressure, press the seal (2) into place, taking care to position the seal squarely into the flange seal cavity.

8. Finish the installation by using a tool appropriate for the seal diameter, then drive the seal into the flange until it seats onto the face of the seal housing.
9. Thoroughly clean the front of the compressor crankcase, including the o-ring groove.
10. Lubricate the inside diameter of the seal (2), the o-ring (1), and the outside diameter of the crankshaft.
11. Insert the o-ring (1) into the o-ring groove.
12. Slide the front flange with seal (2) over the crankshaft. Push the seal (2), by hand, onto the crankshaft with a slight rotating motion. Push the flange all the way onto the shaft until the face of the flange sits flat against the front face of the compressor crankcase and o-ring seal. Before installing any fasteners, orient the flange in the desired clock position and visually inspect for a pinched o-ring.
13. Torque the fasteners. The socket headed cap screws used on the SAE B-B two bolt flange and the stud nuts used on the SAE C, have the same torque; 195-213 in-lbs. (22-24 Nm).

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 with engine oil and install it in the engine. Mount the compressor on the engine, taking care not to damage the mounting flange gasket. Do not use additional gaskets or sealants. Secure the compressor to the engine with the mounting bolts that were retained during disassembly. Torque to manufacturer's specifications.
3. 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.
4. Refill the engine cooling system.
5. Clean the 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.
6. 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 the 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 the 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 three (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).

TORQUE SPECIFICATIONS

Inlet Port Fittings

1-3/16"-12	575-637 in-lbs	65-72 Nm
M27x2.0-6g.	991-1089 in-lbs	112-123 Nm

Discharge Port Fittings

7/8"-14 UNF.	460-504 in-lbs	52-57 Nm
M22x1.5-6g.	814-912 in-lbs	92-103 Nm

Water Port Fittings

3/4"-16 UNF.	319-345 in-lbs	36-39 Nm
M18x1.5-6g.	593-637 in-lbs	67-72 Nm

Unloader Port Fittings

1/8"-27 NPT.	2-3 TFFT*	
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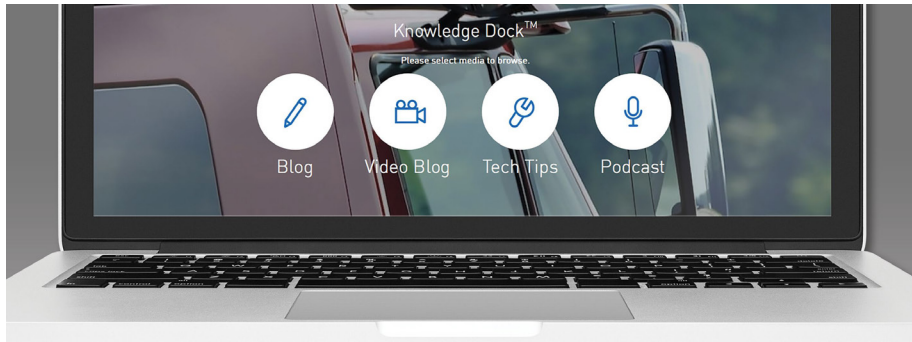
Safety Valve Port

7/8"-14 UNF.	319-345 in-lbs	36-39 Nm
M16x1.5-6g.	230-257 in-lbs	26-29 Nm

Oil Port

7/16"-20 UNF.	97-115 in-lbs	11-13 Nm
M12x1.5-6g.	142-159 in-lbs	16-18 Nm


*Note: TFFT = Turns From Finger Tight



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