Installation Instructions

Follow all standard industry safety procedures including, but not limited to, those found on page 2 of this document.

DETERMINING THE REPLACEMENT TYPE

Bendix® BA-921® replacement compressors for certain Detroit Diesel Corporation engine applications can be manufactured with either of two alternative cylinder heads (see Chart below).

The Detroit Diesel kit number for the aftermarket compressors shown below is R23535534. This kit can include either:

(a) Bendix compressor part number 5016614 (cast iron cylinder head), or,

(b) Bendix compressor part number 5018523 (aluminum cylinder head).

The two compressor part numbers are interchangeable in the application. There are minor changes in the type of plug used in the cylinder head: Cast iron heads have a screw-in plug, and aluminum heads use a press-in plug. The torque specifications for the various fittings are slightly different, however, see the chart for full details.

REMOVAL AND DISASSEMBLY

REMOVAL

These instructions are general and are intended to be a guide, in some cases additional preparations and precautions are necessary.

1. Block the wheels of the vehicle and drain the air pressure from all the reservoirs in the system.

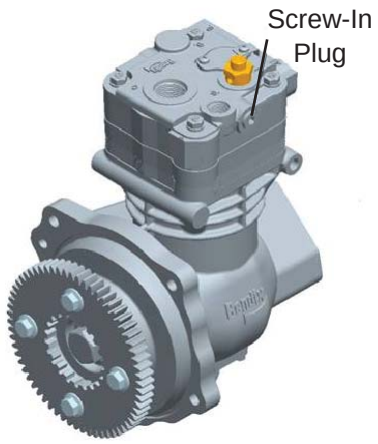
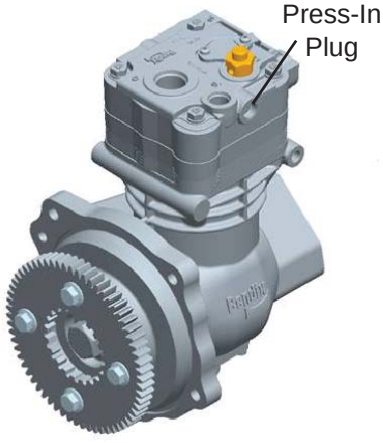
Compressor	Fitting	Torque (in-lbs)	Torque (N•m)	
Cast Iron Head 5016614	Inlet Air M27 x 2	885 - 980	100 - 111	
	Discharge Air M22 x 1.5	531 - 575	60 - 65	
	Coolant M18 x 1.5	354 - 395	40 - 45	
	Safety Valve M16 x 1.5	230 - 257	26 - 29	
	Unloader 1/8” – 27 NPT	2 – 3 TFFT	2 – 3 TFFT	
Aluminum Head 5018523	Inlet Air M27 x 2	991 - 1089	112 - 123	
	Discharge Air M22 x 1.5	814 - 912	92 - 103	
	Coolant M18 x 1.5	593 - 637	67 - 72	
	Safety Valve M16 x 1.5	230 - 257	26 - 29	
	Unloader 1/8” – 27 NPT	2 – 3 TFFT	2 – 3 TFFT	

FIGURE 1 - COMPARISON CHART

Note: TFFT = Turns From Finger Tight

2. Drain the engine cooling system and the cylinder head of the compressor. Identify and disconnect all air, water and oil lines leading to the compressor.
3. Remove the governor and any supporting bracketry attached to the compressor and note their positions on the compressor to aid in reassembly.
4. Remove the discharge and inlet fittings, if applicable, and note their position on the compressor to aid in reassembly.
5. Remove the flange bolts and remove the compressor from the vehicle.

INSPECTION

Remove road dirt and grease from the mounting area with a cleaning solvent. Inspect for any damage.

INSTALLATION

Refer to the Chart on page 1 throughout the installation process for the specific torques needed during each step.

1. Re-install the compressor onto the engine, including any bracketry removed during disassembly.
2. Install the discharge and inlet fittings, using the same orientations as before.
3. Install the governor and any supporting bracketry attached to the compressor as noted during disassembly.
4. Complete the re-installation with other particular steps taken during disassembly, including restoring the engine cooling system connections to the cylinder head.
5. Re-connect all air, water and oil lines leading to the compressor.
6. Before returning the vehicle to service, restore the lubricating oil supply to the compressor and start the engine. Visually inspect the end cover and oil supply line fitting for leaks.

LEAKAGE TESTS

Before returning the vehicle to service, conduct a brief leakage check.

1. With the engine running, check and troubleshoot any leakage at the coolant and lubricating oil fittings.
2. Check air hose fittings by applying a soap solution around the cylinder head. Troubleshoot any leakage above a one-inch bubble in one minute.

Return the vehicle to service.

Reference Document

SD-01-690:

Service Data Sheet for Bendix® BA-921® compressor.

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 <u>at all times.</u>

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.**