



# Installation Information

INSTALLATION INFORMATION FOR BENDIX COMPRESSORS

**IMPORTANT! PLEASE READ AND FOLLOW THESE INSTRUCTIONS TO AVOID PERSONAL INJURY OR DEATH:**

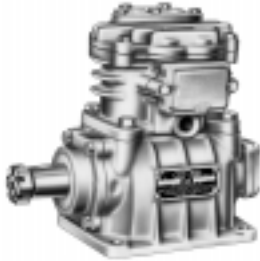








When working on or around a vehicle, the following general precautions should be observed **at all times**.

1. Park the vehicle on a level surface, apply the parking brakes, and always block the wheels.
2. Stop the engine when working around the vehicle.
3. If the vehicle is equipped with air brakes, make certain to drain the air pressure from all reservoirs before beginning ANY work on the vehicle.
4. Following the vehicle manufacturer's recommended procedures, deactivate the electrical system in manner that removes all electrical power from the vehicle.
5. When working in the engine compartment the engine should be shut off. 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.
6. 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.
7. Never exceed recommended pressures and always wear safety glasses.
8. 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.
9. Use only genuine Bendix replacement parts, components, and kits. Replacement hardware, tubing, hose, fittings, etc. should be of equivalent size, type, and strength as original equipment and be designed specifically for such applications and systems.
10. Components with stripped threads or damaged parts should be replaced rather than repaired. Repairs requiring machining or welding should not be attempted unless specifically approved and stated by the vehicle or component manufacturer.
11. Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.

**NOTE THE FOLLOWING BEFORE PLACING THE COMPRESSOR IN SERVICE:**

1. Do not exceed 120 foot pounds of torque on crankshaft nut when installing drive gear or pulley. The castellated nut should be torqued by hand to 100 ft-lbs. If it is not possible to line up the cotter pin holes without exceeding 150 ft-lbs. the nut should be removed and another nut used.  
**NOTE:** Detroit diesel series 60 compressor crankshaft nut **must** be torqued to 220-254 ft. lbs.
2. Remove all thread protectors from head, cylinder block and end covers. Use a small amount of thread sealant and do not overtighten plugs.
3. Mount compressor using new gasket and tighten mounting hardware as recommended by vehicle or engine manufacturer. Synthetic gasket sealing & forming materials are not recommended for compressor mounting; however, if used, special care should be taken to insure internal oil supply & return passages are completely unobstructed.
4. It is recommended that coolant lines:
  - A) Be inspected, and damaged or restricted lines be replaced.
  - B) Have a minimum internal diameter .41 inches (equivalent to  $\frac{5}{8}$ " O.D. metal tubing)
  - C) For fully water cooled compressor the coolant lines should be connected so that coolant enters the cylinder block at one end of compressor and exits the cylinder head at the opposite end.
5. Inspect compressor discharge line for restrictions or carbon build up. Replace faulty sections of discharge line using only copper tubing or approved flexible hose.
6. Check engine or compressor air cleaner and replace if necessary. Check compressor air inlet line for kinks, excessive bends and be certain inlet lines have the minimum specified inside diameter. Recommended minimum inlet line inside diameter is  $\frac{5}{8}$ ". Recommended maximum air inlet restriction is 25" of water. Install a new inlet gasket. The compressor intake should not be connected to any part of the exhaust gas recirculation (E.G.R.) system on the engine.
7. Check the condition of the oil supply line, making certain no kinks or obstructions exist. Replace as necessary. Refer to special instructions for engine or self-lubricated compressor types.
8. For detailed service information on Bendix compressors consult the appropriate Bendix service data sheet which may be obtained at any authorized Bendix parts outlet.
9. Not all compressors are supplied with a crankshaft nut.

# Bendix Compressors

<p><b>TU-FLO 300</b> 4 CFM AT 1250 RPM</p> 	<p><b>TU-FLO 501</b> 12 CFM AT 1250 RPM</p> 	<p><b>TU-FLO 1000</b> 24 CFM AT 1250 RPM</p> 
<p><b>TU-FLO 400</b> 7<sup>1</sup>/<sub>4</sub> CFM AT 1250 RPM</p> 	<p><b>TU-FLO 550/750</b> TU-FLO 550 - 13.2 CFM AT 1250 RPM TU-FLO 750 - 16.5 CFM AT 1250 RPM</p> 	<p><b>TU-FLO 1400</b> 31 CFM AT 1250 RPM</p> 
<p><b>TU-FLO 500</b> 12 CFM AT 1250 RPM</p> 	<p><b>TU-FLO 700</b> 15<sup>1</sup>/<sub>2</sub> CFM AT 1250 RPM</p> 	<p><b>BX2150</b> 9<sup>1</sup>/<sub>2</sub> CFM AT 1250 RPM</p> 

10. Bendix drive gears are available for both Cummins and Detroit diesel compressors as indicated below.

Pc. No.	Application	Comments
298204	Detroit Diesel	Metallic
253285	Cummins	With Keyway*
253248	Cummins	Without Keyway*

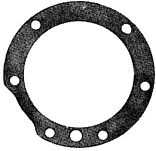
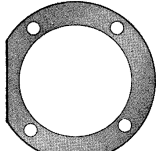
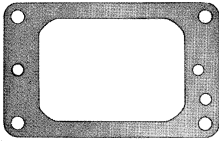
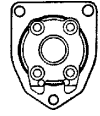
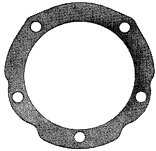
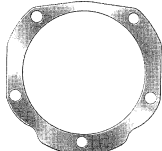
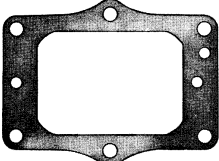
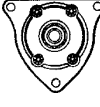
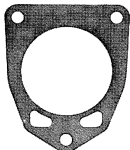

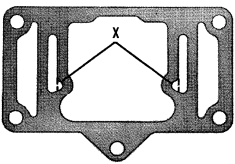
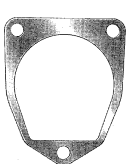
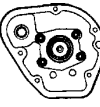
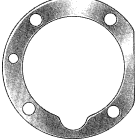
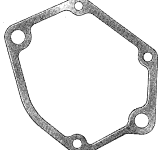



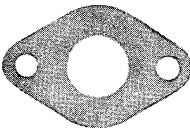

\*Gear retention is dependent upon the Keyway for the TU-FLO 500, 600 and 700 compressors.

Gear retention for the TU-FLO 501 is accomplished by a press fit thus either Pc. No. 253285 or 253248 may be used.

Compressors may accumulate oil above the piston due to the position in which the compressor has been handled in storage and shipment. After the compressor has been installed, less the discharge; start the engine to blow out any trapped oil, run the engine until the oil is purged. Shut down the engine and install the discharge line. **Note: Initial discharge of oil does not signify an oil passing compressor.**

## SPECIAL INSTRUCTIONS FOR ENGINE LUBRICATED COMPRESSORS

- Oil return to the engine should not be in any way restricted. Check for excessive bends, kinks, and restrictions in the oil return line. Minimum recommended oil return line size is <sup>5</sup>/<sub>8</sub>" O.D. tubing or equivalent I.D. (<sup>1</sup>/<sub>2</sub>" minimum). Return line must constantly descend from the compressor to the engine crankcase. Make certain oil drain passages in the compressor and mating engine surfaces are unobstructed and aligned. Special care must be taken when sealants are used with, or instead of, gaskets.
- Check the engine oil pressure with a test gauge and compare the reading to the engine specifications. Do not restrict the compressor oil supply line because of the possibility of plugging the restriction with oil contaminants. Minimum oil supply line size is <sup>1</sup>/<sub>4</sub>" O.D. tubing.

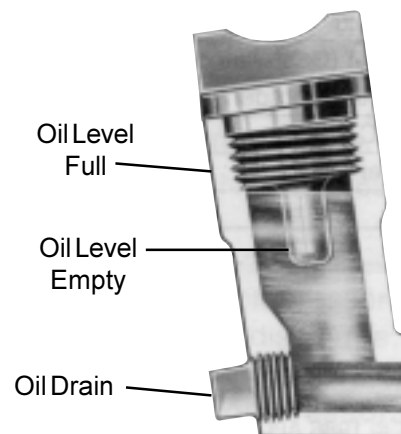
 <p>PC. NO. 234706 TF-400 &amp; 500 COMP. (GMC)</p>	 <p>PC. NO. 239005 TF-500, 600 WITH 11.54" FLANGES (CUMMINS)</p>	 <p>4-HOLE MOUNT</p>	<p><b>FLANGES</b></p> 	<p><b>ENGINES</b></p> <p>Caterpillar 3406 Caterpillar 3408 Mack 6 Cylinder</p>
 <p>PC. NO. 234707 TF-500 COMP. (GMC)</p>	 <p>PC. NO. 242026 TF-500, 501, 600, 700 &amp; 1000 (GMC)</p>	 <p>6-HOLE MOUNT</p>		<p>Mack 8 Cylinder</p>
 <p>PC. NO. 234708 TF-500 COMP. (MACK)</p>	 <p>PC. NO. 245370 TF-500, 501, 600 &amp; 700 COMP. (MACK)</p>			<p>Cummins NH, NTC, KT, KTA Series Engines</p>
 <p>PC. NO. 238571 - "X" Areas Shown PC. NO. 245298 - "X" Area Solid 238571 USED FOR TF-400, 500 &amp; 600 245298 USED FOR TF-501 (FORD)</p>	 <p>PC. NO. 248510 TF-400, 500, 501, 600 700 COMP. (MACK)</p>			<p>Cummins VTB-903 Cummins VT-903 Cummins VT-350</p>
 <p>PC. NO. 249243 FOR TF-500, 501, 600 &amp; 700 COMP. (CUMMINS 8.54" FLANGE) (REAR END)</p>	 <p>PC. NO. 291954 TF-400, 501, 700 COMP. (CATERPILLAR)</p>		<p><b>AIR STRAINER GASKETS</b></p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="849 989 1208 1241">  <p>Pc. No. 235627-BUNAN RUBBER Pc. No. 238233-CORK RUBBER TF-300 COMPRESSOR</p> </div> <div data-bbox="1208 989 1570 1241">  <p>Pc. No. 236170-BUNAN RUBBER Pc. No. 243430-ASBESTOS FIBER WITH BUNAN Pc. No. 291909 ASBESTOS-BUNAN ALL TU-FLO COMP. EXCEPT TF-300</p> </div> </div>	
 <p>PC. NO. 290848 FOR TF-500, 501, 600 &amp; 700 COMP. (CUMMINS 8.54" FLANGE) (FRONT END)</p>	<p><b>MOUNTING GASKETS</b></p>		<p><b>DISCHARGE FITTING GASKET</b></p>  <p>Pc. No. 204820 USED ON ALL TU-FLO COMPRESSORS EXCEPT TF-300</p>	<p><b>GOVERNOR GASKET</b></p>  <p>Pc. No. 236577 Pc. No. 237303* USED ON ALL TU-FLO COMPRESSORS EXCEPT TF-300</p>

## SPECIAL INSTRUCTIONS FOR SELF-LUBRICATED COMPRESSORS

Check oil level daily!  
Replenish if necessary

Oil level must be maintained between the bottom of the dip-stick threads (full) and the bottom end of the dipstick (empty).

Drain and refill each 300 hours or 8,000 Miles (13,000 kilometers) of operation.



# Assembly Torque Specifications (in-lbs)

**NOTE:** Inspection torque and assembly torque are not equivalent measures. The inspection torque value may differ from the assembly torque indicated in the chart below.

	Compressor Model								
	TF-300	TF-400	TF-500	TF-501	TF-550/750	TF-700	TF-1000	TF-1400L	BX-2150
Cylinder Head	85-115	175-225	175-225	300-360	440-500	175-225	175-225	175-225	175-225
Cylinder Block	175-225	220-225	220-225	–	–	220-250	220-250	220-250	220-250
<b>End Cover</b>									
#10-24	30-40	–	–	–	–	–	–	–	–
1/4-20	85-115	85-115	85-115	–	–	–	–	–	–
5/16-18	–	175-225	175-225	175-225	175-225	175-225	175-225	175-225	175-225
3/8-16	–	–	220-250	–	–	–	–	–	–
7/16-14	–	–	–	–	–	–	–	–	–
<b>Pipe Plugs</b>									
1/16	35-50	35-50	35-50	35-50	35-50	35-50	35-50	35-50	35-50
1/8	85-105	85-105	85-105	85-105	85-105	85-105	85-105	85-105	85-105
1/4	–	130-170	130-170	130-170	130-170	130-170	130-170	130-170	130-170
3/8	–	160-200	160-200	160-200	160-200	160-200	160-200	160-200	160-200
1/2	–	200-270	200-270	200-270	200-270	200-270	200-270	200-270	200-270
3/4	–	–	–	–	–	–	200-270	200-270	200-270
Governor	175-225	175-225	175-225	175-225	175-225	175-225	175-225	175-225	175-225
<b>Pipe Bushing</b>									
1/2	–	180-250	180-250	180-250	175-225	180-250	180-250	180-250	180-250
3/4	–	–	–	–	–	–	–	–	180-250
<b>Air Inlet Fitting/Strainer</b>									
#10-24	30-40	–	–	–	–	–	–	–	–
1/4-20	50-80	–	–	–	–	–	–	–	–
5/16	–	Strainer 125-150 Fitting 175-225	Strainer 125-150 Fitting 175-225	Strainer 125-150 Fitting 175-225	Strainer 125-150 Fitting 175-225	Strainer 125-150 Fitting 175-225	Strainer 125-150 Fitting 190-220	Strainer 125-150 Fitting 175-225	Strainer 125-150 Fitting 175-225
<b>Bottom Cover</b>									
1/4-20 Screw Driver Slot	–	60-90	60-90	–	–	60-90	60-90	60-90	–
1/4-20 Hex	85-115	85-115	85-115	–	–	85-115	–	85-115	–
5/16-18 Hex	–	95-125	95-125	–	175-225	95-125	–	95-125	–
3/8-16 Hex	–	300-360	300-360	160-200	–	300-360	–	300-360	–
Discharge	175-225	175-225	175-225	175-225	175-225	175-225	175-225	175-225	–
Crankshaft Plug	–	180-230	180-230	180-230	180-230	180-230	–	180-230	–
Crankshaft Nut (Castellated)	1440 Max	1440 Max	1440 Max	1440 Max	1440 Max	1440 Max	1440 Max	1440 Max	1440 Max
Crankshaft Nut (Marsden)	–	–	–	–	1400 Max	–	–	–	–
Rear Spline Coupling	–	–	–	175-225	–	–	–	–	175-225
<b>Base adapter</b>									
5/16-18	–	175-225	175-225	–	175-225	175-225	–	175-225	–
7/16-14	–	450-550	450-550	–	450-550	450-550	–	450-550	–