



# Installation Instructions

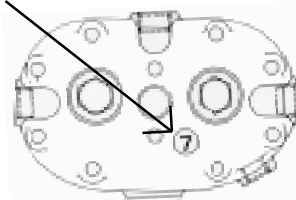
KIT  
PC. No. 289998

## MAINTENANCE KIT FOR TU-FLO 700 COMPRESSOR

### IMPORTANT: PLEASE READ BEFORE PROCEEDING

This kit should only be used to service TuFlo 700 compressors that are NOT identified with a ⑦ in the location illustrated below. Use of this kit in compressors identified with a ⑦ will result in compressor malfunction and damage

RAISED OR DEPRESSED NUMERAL AND CIRCLE



QUANTITY	DESCRIPTION	KEY
1	Discharge Fitting Gasket	1
1	Governor Gasket	5
1	Inlet Cavity Gasket	6
1	Cylinder Head Gasket	10
2	Inlet Valves	3
2	Inlet Valve Springs	4
2	Inlet Valve Guides	7
1	Unloader Maintenance Kit	8
2	Discharge Valves	2
2	Discharge Valve Springs	9
2	Cap Nuts	14
2	Discharge Valve Seats	15

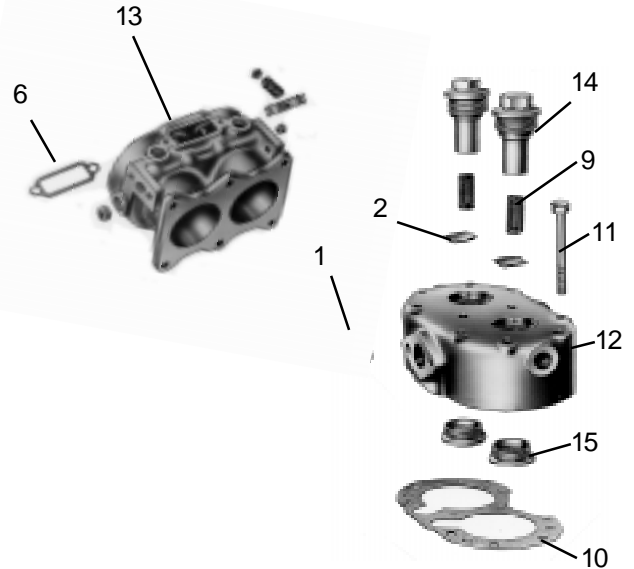


Figure 1 Tu-Flo Compressor Exploded View

### **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.

## GENERAL

Prior to beginning work, set the parking brakes or block the vehicle's wheels and drain the air pressure from the brake system. Clean the compressor's exterior, paying special attention to the head and inlet cavity. To utilize this kit, it will, in most cases, not be necessary to remove the compressor from the vehicle.

## DISASSEMBLY

1. Remove the discharge fitting from the discharge port of the cylinder head and push the discharge line out of the way. Remove the discharge fitting gasket (1) and discard.
2. Remove the governor or the air line leading to the governor mounting pad on the cylinder block of the compressor. Remove and discard the governor mounting gasket (5) if governor is mounted to cylinder block.
3. Remove the inlet fitting or strainer and discard the gasket (6).
4. Remove the inlet and outlet water lines after draining the radiator.
5. Remove the unloader mechanism (8) following the instructions included with the unloader maintenance kit, which is part of this kit.
6. Remove the ten cylinder head cap screws (11) and tap the head with a mallet to break the gasket seal.
7. Remove and discard the inlet valves (3), valve springs (4) and inlet valve guides (7) from around inlet valve seats on the block, taking care not to damage seats.
8. Scrape any gasket material from the cylinder head (12) and block (13).
9. Remove and discard the discharge valve cap nuts (14) and discharge valve springs (9) from the head (12).
10. Remove and discard discharge valves (2) and discharge valve seats (15).

**NOTE:** In order to remove the older style discharge valve and seat assembly, use .234" (5.9mm) diameter drill rod. Insert drill rod in two of the four discharge openings and remove the old discharge valve assembly. (Do not use dowel pin stock as this material is generally too hard and will break.)

## CLEANING & INSPECTION

Remove all the carbon deposits from the discharge cavities and all the rust and scale from the cooling cavities of the cylinder head body. Scrape all the foreign matter from the body surfaces and use shop air pressure to blow the dirt particles from all the cavities.

Prior to assembly, the following inspections should be made to determine the serviceability of parts not included in this kit but necessary for proper operation.

1. Inspect the inlet valve seats in the cylinder block for excessive wear, nicks and scratches. These seats can be "dressed" with a lapping stone to remove all nicks or scratches.
2. Inspect the unloader pistons, bushings in the block for corrosion and excessive wear.

If while performing the above inspections it becomes apparent that these parts are not salvageable, replacement parts can be obtained from your nearest Bendix outlet.

Complete compressor rebuilding instructions, as well as the replacement of parts outside the scope of this kit, are contained in Bendix publication SD-01-5. This publication can be obtained at any Bendix outlet or directly from Bendix, Elyria, Ohio.

## ASSEMBLY

1. Install the unloader mechanism (8) following the instructions packaged in the unloader maintenance kit.
2. Install the discharge valve seats (15) and torque to between 70-90 foot pounds (95-122 N.m).
3. Install the discharge valve (2), discharge valve springs (9) and discharge valve cap nuts (14). Tighten the discharge valve cap nuts to 150-170 foot pounds (203-230 N.m).
4. Install the inlet valve springs (4) in the cylinder head by applying a turning motion to the spring after it is in the head.
5. Install inlet valve guides (7) and inlet valves (3) on the inlet valve seats.
6. Place the cylinder head gasket (10) on the cylinder block. Carefully align the cylinder head assembly on the block and install the ten cap screws (11), tightening them evenly to a torque of 15-20 foot pounds (20-27 N.m).
7. Replace the discharge fitting, governor and inlet fitting or air strainer using the new gaskets.
8. Reconnect the cylinder head water lines and refill the radiator.

## COMPRESSOR TESTING

A compressor efficiency or build-up test can be run which is not too difficult. Before the test, the crankcase of a self-lubricated type compressor should be properly filled with lubricating oil. An engine lubricated compressor must be connected to an oil supply line of at least 15 psi (103 kPa) during the test and an oil return line must be installed to keep the crankcase drained. The compressor (when tested) should be tested without a strainer.

To the discharge port of the compressor, connect a reservoir or reservoirs whose volume plus the volume of the connecting line equals 1300 cubic inches (21 L). Run the compressor between 1700 and 1750 RPM. Elapsed time that the compressor takes to build up from 0 to 100 psi (0-689 kPa) is 30 seconds maximum.

During the above test, the compressor should be checked for oil leakage and noisy operation.