

# MODEL 1903 COMPRESSOR REBUILD KIT T-20 SERIES

**CAUTION:** Improper assembly or use of damaged parts may lead to premature failure. To avoid frequent repairs follow the recommended assembly procedures.

**NOTE:** Before you begin, read these instructions thoroughly. Assemble the necessary tools. In addition to the supplied hex key, you will need a flat tip and phillips head screwdriver, a T-20 and T-25 Torx driver, and an adjustable wrench.

**WARNING:** Unplug the compressor and drain all air from the tank before beginning disassembly.

## PARTS LIST

607178	Connrod Ass'y	Qty. 1
623551	O-ring	Qty. 1
623561	Head Gasket	Qty. 1
656708	Valve Flapper	Qty. 4

## DISASSEMBLY

**STEP 1.** Clean loose dirt from the outside of the compressor.

**STEP 2.** Remove the compression nut on the head exhaust fitting and disconnect the exhaust tube.

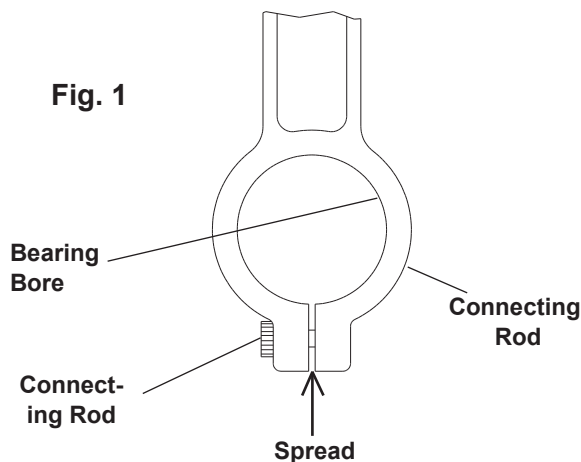
**STEP 3.** Remove the 4 mounting bolts holding the compressor to the tank assembly and lift the compressor off. Loosen the head 6 screws and remove the cylinder head.

**STEP 4.** Remove the plastic upper shroud of the compressor (you must lift the label in order to access 2 of the screws). Remove the bottom shroud, but do not disconnect the in-line cord from the pressure switch or motor end cap.

**STEP 5.** Lift off the valve plate.

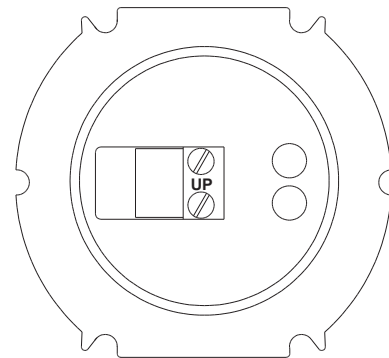
**STEP 6.** Remove the fan by taking out the screw holding it to the eccentric nib.

**STEP 7.** With the supplied hex key, loosen the clamping screw on the base of the connecting rod. Slide the connecting rod off the bearing, and lift it out through the top of the compressor housing. **NOTE:** it may be necessary to insert a flat tip screwdriver into the slot in the base of the connecting rod and spread the base slightly in order to free it from the bearing (See Fig. #1).

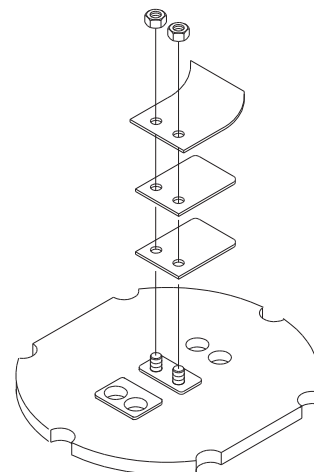


## REBUILD AND ASSEMBLY

**STEP 1.** Remove the O-ring. Remove the nuts from the screws. Remove the valve keeper, plastic insert and (2) intake valves from the bottom of the valve plate. Clean the bottom of the plate with a clean soft cloth. Place (2) new intake flapper valves and the insert over the ports. Place the valve keeper on top so that the word 'UP' is visible (See Fig. #2). Make sure all components are lined up and insert the 2 screws. Install the new O-ring, seating it firmly into the groove with your finger or blunt object.



**STEP 2.** Remove the restraint and (2) exhaust flapper valves from the top of the valve plate. Clean the top of the plate with a clean soft cloth. Install (2) new valves over the screws with the restraint on top as shown in Fig. #3. Replace the nuts and tighten.

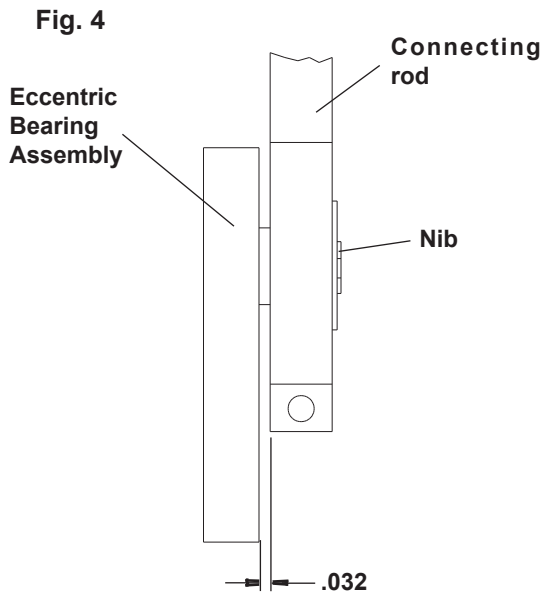


**STEP 3.** While looking down through the top of the housing, spin the eccentric by hand. The eccentric should run parallel to the housing ribs. If the gap between the eccentric and housing ribs varies by more than 1/16 inch during rotation, the eccentric is misaligned. Contact the nearest Service Center. If the eccentric is misaligned, do not continue installing the rebuild kit, as premature rod or sleeve failure may result.

**STEP 4.** Remove the clamping screw from the old connecting rod. Clean the old adhesive from the threads. Clean the old adhesive from connecting rod bearing (mounted on the eccentric).

**STEP 5.** Apply Loctite® #680 (supplied) or equivalent to the bearing bore of the new connecting rod (See Fig. #1). Apply Loctite® #242 (supplied) or equivalent to the threads of the clamping screw, and turn the screw a few turns into the new rod. Do not tighten. Drop the new rod and sleeve assembly through the top of the compressor housing. With the head of the clamping screw to the right (as viewed through the open end of the compressor housing), slip the rod onto the rod bearing.

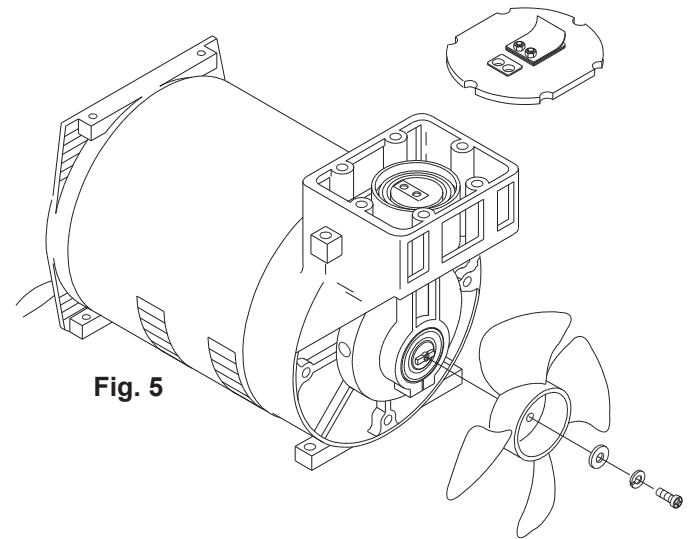
**STEP 6.** Align the front face of the connecting rod with the front face of the bearing. This will result in a clearance of about .032 inch between the rod and the eccentric (See Fig. #4). Tighten the clamping screw to 15 in. - lbs. torque. **DO NOT OVERTIGHTEN**, or bearing damage/connecting rod breakage may result.



**STEP 7.** Slide the sleeve down over to cup until it contacts the housing. The 4 locator ribs should bear against the inside surface of the sleeve.

**STEP 8.** Hold the sleeve down against the housing with one hand, and slowly rotate the eccentric with the other hand. As the piston travels up and down it will also rock from side to side. This is a feature of the WOB-L Piston. However, if it rocks from front to rear, the connecting rod is misaligned on the eccentric. If the front to rear rocking is detected, loosen the connecting rod clamping screw and repeat Steps 6, 7, and 8. If the connecting rod cannot be properly aligned, contact the nearest Service Center.

**STEP 9.** With the sleeve located and firmly seated on the housing, replace the valve plate as shown in Fig. #5. Make sure the top edge of the sleeve locates in the O-ring groove in the bottom of the valve plate.



**STEP 10.** Install the fan onto the eccentric nib. Align the slot marked '8' with the notch on the eccentric nib. Tighten the screw and washer into the threaded hole in the nib. When properly assembled the fan will remain centered in the housing when rotated by hand.

**STEP 11.** Replace the plastic lower shroud and replace the upper shroud.

**STEP 12.** Remove the old gasket from the head, and clean the inside of the head with a clean soft cloth. Install the new head gasket, seating the gasket firmly in the groove with your finger or other blunt object.

**STEP 13.** Place the head on top of the valve plate. The large (exhaust) cavity inside the head will be over the curved valve restraints on the top of the valve plate. Install the 6 head screws making sure the valveplate is aligned properly. Tighten the head screws in a criss-cross pattern to 20 in. - lbs.

**STEP 14.** Mount the compressor to the tank baseplate, making sure that the 4 aluminum spacers are held captive between the compressor and the base plate.

**STEP 15.** Reconnect the exhaust tube.