

## GROCO MODEL K TOILET OVERHAUL PROCEDURE

1. Remove the four bowl bolts, #2 (51618X2HB), and lift bowl, #1 (4985-X), and gasket, #4 (HT-52-A), off pump assembly casting, #33 (K PUMP ASSY). Replace the gasket on reassembly.
2. Note that the pump casting, #33, and flap plate, #5 (K-4) have alignment grooves to position flap properly. Remove the flap plate and flap assembly, #'s 5-12 (plate is loose fit into pump casting and can be removed by prying with a long screwdriver, or threading screw back of the tapped ¼" X 20 screw hole in plate.
3. Remove foot pedal and valve assembly by removing screws, #23 (1024X12HB), inlet casting #24 (HT-3556) and gaskets #25 (HT-3557-A), and #26 (HT-3557). Loosen the cam set screw, #22 (1420X38RB) and foot pedal spring, #36 (S-72587) and remove foot pedal, #37 (HT-3570-A) and valve cam, #21 (K-1). Replace gasket #26 upon reassembly. The cellophane gasket #25 is not needed unless the head will be stored and not used for a long time.
4. Removing valve cam #21, exposes the piston crank assembly, #'s 12 through 18. (K-32). Pressing the piston down to its lowest position will expose the crank set screw, #16 (51618X112HB) in the inlet port. Loosen the crank set screw approximately 3 turns using ½" socket wrench (the position may have to be tapped to the full down position with a rubber mallet to enable seating of the socket head on the set screw.) Note the approximate shaft handle position to assist reassembly of the shaft key. Now remove pump shaft, #31 (HT-6566-K) and pump handle arm, #29 (HT-3560-D) by tapping on the inner part of the handle arm as close to shaft as possible with a rubber mallet to drive the arm and shaft out of the body at the same time.
5. The piston has a threaded hole, either ¼" [20 older models], or 5/16" [18 newer models], that allows you to screw in a bolt to aid in the removal of the piston and crank assembly. Reinstall the piston upside down by holding the crank assembly to determine the new rings provide a close fit. If the piston is loose remove and expand the rings by tapping on rings with a hammer. Pack area between piston rings with heavy-duty silicone or marine grease. On models built before 1992 peen both side of pin #13 (K-3-P) to prevent the pin from extending beyond the shoulder of the piston. On later models the piston is fastened to the crank assembly with a bolt.
6. Once rings have been properly sized and pin has been checked, replace the crankshaft key in crank lever assembly using heavy-duty grease to hold the key in place. Remove crank set screw, #16 from crank arm assembly to enable use of a coat hanger in the setscrew hole to pull the crank assembly around the corner in pump casting. Reinstall piston and crank assembly into pump using coat hanger inserted in crank assembly set screw hole to pull crank assembly outward and upward to permit piston to travel to full down position.
7. Grease shaft seals and shaft seal seats and install seals in pump casting. Note the smaller ID on both the crankshaft and foot pedal shaft seals should face inward. Position pump shaft handle casting in position noted in Step 5 and press shaft through seal using a slight back and forth rotary motion. This rocking motion will facilitate mating the shaft to the key in the crank assembly. Press in shaft until contact is made with the casting wall. Insert and tighten the setscrew.
8. Reassemble inlet valve on foot pedal shaft and tighten the setscrew. Reinstall flapper plate etc., when reassembling Bowl Flap Plate assembly #5-12, align slot on plate with slot on pump casting as noted in Step 2. Wet bowl gasket to hold it in place and reinstall bowl (DO NOT OVER TIGHTEN OR BOWL WILL CRACK) on pump casting. When reassembling joker valve, #41 (H-27-A) position the valve so the top of the valve flap is perpendicular to a line drawn across the bolt holes on #42 (K-8) discharge casting. You can test the unit by connecting a hose to the inlet and dropping the other end into a bucket of water and pumping. Check for leaks and make sure the pump is working before reinstalling on the boat.