

INSTRUCTION BULLETIN

No. 2201 Machine: 550E Published: 9-81

Installation Instructions for Seal Kit SK 2201.

This kit includes the parts needed to replace the seals in pump 76043. It also contains parts not applicable to this installation. Please follow the step-by-step directions.

GENERAL HYDRAULIC PROCEDURES:

- * Cleanliness is extremely important when repairing hydraulic components. Work in a clean area. Dirt and foreign material in the hydraulic system can damage equipment and impair operation.
- * Before disconnecting hydraulic hoses or fittings, thoroughly clean the outside of the pump to prevent dirt from entering the hydraulic system.
- * Before disassembly, cap or plug all hoses and ports. Mark hoses and ports for proper reassembly.
- * Discard all hydraulic fluid drained from the system. Use only new, approved hydraulic fluid to fill the hydraulic tank after work is completed.
- * A puller is needed to remove the pulley from the pump shaft. If not used, bearing and shaft damage may result.
- * Clean all parts except O-rings in a clean mineral solvent. Blow the parts dry with filtered compressed air. After drying thoroughly, lay the parts on a clean, lint-free surface. All internal oil passages of the pump cover, housing and body must be thoroughly cleaned.
- * All O-rings and the shaft seal should be replaced at reassembly. All seals should be soaked in hydraulic fluid before being used.

DISASSEMBLY:

1. Turn off the motor and set the parking brake.

CAUTION: Always turn off motor and set parking brake before working on a machine.

2. Disconnect battery connectors from the machine.

CAUTION: Always disconnect battery connectors from machine before working on electrical components.

3. Remove pump drive belts and all hoses from pump.

WARNING: Before removing the pump or any parts of the hydraulic system, be sure the unit is not subject to hydraulic pressure.

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- 4. Remove pump from machine.
- 5. Clamp the pump mounting flange in a machinist's vise. Be sure to use protective jaws.
- 6. Remove wing nut, washer, cover, and gasket (Fig. 1).
- 7. Remove reservoir stud and nut assembly.
- 8. Remove the two cap screws, lock washers, and baffle. Separate the reservoir from the pump and remove the gasket (or O-rings) from the housing.
- 9. Mount the housing in a machinist's vise, being sure to use protective jaws. Remove mounting cap screws.
- 10. Separate the housing from the pump body.
- 11. Remove the pressure plate spring and pressure plate.
- 12. Remove the pump ring, locating pins, rotor and vanes, and the two O-rings.
- 13. Mount the housing in a vise. Drive out the retaining pin with a pin punch. Protect the relief valve plug and subassembly from dropping out of the bore. Work the plug, control valve, and spring from the bore.

NOTE: Access to the relief valve plug and subassembly may be gained through the large chamfered hole which leads to relief valve bore from inside the cover.

- 14. Wash all parts in clean solvent. Inspect the relief valve and bore for wear and scoring.
- 15. On the shaft end, remove the large snap ring that retains the outer ball bearing in the body.
- 16. Press the shaft and outer ball bearing from the body.
- 17. Remove the inner, small snap ring that retains the outer ball bearing and remove bearing from the shaft. The inner needle bearing and shaft seal are a press fit to the body. Use a pin punch and hammer to tap them from the body.

INSPECTION AND REASSEMBLY(Fig. 1)

- 1. Wash all parts except seals in clear mineral solvent. Dry with filtered compressed air.
- 2. Inspect parts surfaces for wear.
 - a. On the ring, rotor, vanes, pressure plate, and body -- light scoring may be removed from the faces of the body or wear plate with crocus cloth by placing the cloth on a flat surface, medium India stone or by lapping.
 - b. Check the edges of the vanes for wear. Vanes must not have excessive play in slots or burrs on edges. Replace if necessary.
 - c. Check each rotor slot for sticky vanes or wear. Vanes should drop in rotor slots by their own weight when both slot and vane are dry.
- 3. If relief valve or bore show excessive wear and scoring, replace.

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- 4. Bearings must be replaced if they are removed for any reason.
- 5. Stone all mating surfaces on the housing and body with a medium India stone to remove burrs and sharp edges. Rewash all parts after stoning.
- 6. To reassemble, press inner needle bearing into the body with an arbor press.
- 7. Install new shaft seal in body in the same manner. Do not install a new seal on a shaft that is worn or damaged at the oil seal diameter. Replace the shaft if worn. Stone and polish sharp edges on the shaft before installing the seal.
- 8. Press outer ball bearing on shaft and assemble small snap ring onto shaft.
- 9. Install shaft assembly into the body.
- 10. Insert the large snap ring in body to retain the ball bearing.
- 11. To reassemble the housing and cartridge:
 - a. Install locating pins in pump body. Install ring over pins in correct direction of rotation.
 - b. Install rotor with chamfered edge of splined hole "IN" or toward pump body. The chamfer eases assembly.
 - c. Install vanes with their radius edge toward the inner ring contour.
 - d. Oil the cartridge with clean hydraulic fluid and install pressure plate.
 - e. Install O-rings.
 - f. Install pressure plate spring and cover. Tighten cover screws to 25 30 ft. lbs torque.
 - g. Install pressure compensating spring in relief valve bore. Insert valve assembly with the hex toward the spring. Install plug with new O-ring in bore and hold in position while driving a new retaining pin.
- 12. Install a new gasket on reservoir mounting pad on housing. Position reservoir on pad.
- 13. Install cap screws, washer and reservoir stud and lock nut.
- 14. Install reservoir cover, gasket, washer, and thumb screw.
- 15. Rotate pump shaft by hand to check for free operation of pump.
- 16. Reinstall pump and reservoir in machine. Reconnect all hoses and drive belt. Be sure connections are tight.
- 17. Add new approved hydraulic fluid to the reservoir.
- 18. Tension the pump drive belt to obtain a deflection of 0.12 in (3.2 mm) from a force of 1.6 to 2 lbs (0.7 to 0.9 kg) applied at belt midpoint.
- 19. Turn on machine and check for leaks.

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