TENNANT INSTRUCTION BULLETIN

No. 340414
Machine: 830–II
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System: CHASSIS

NOTE: DO NOT DISCARD the Parts List from the Instruction Bulletin. Place the Parts List in the appropriate place in your machine manual for future reference. Retaining the Parts List will make it easier to reorder individual parts and will save you the cost of ordering an entire kit.

NOTE: Numbers in parenthesis ( ) are reference numbers for parts listed in Bill of Materials.

Installation instructions for kit number 768867

SYNOPSIS / PROBLEM:

This kit contains the parts needed to replace the parking brake assembly on the model 830–II sweeper.

Please follow step-by-step instructions.

SPECIAL TOOLS / CONSIDERATIONS: Plug and cap kit #760098

(Estimated time to complete: 3 hours)

FOR SAFETY: Before leaving or servicing machine, stop on level surface and set parking brake.

PREPARATION:
(Refer to FIG. 1 and 2)

1. Place blocks in front and in back of the rear axle tire assembly.
2. Lower the side brushes, swing skirts back, remove side brushes, raise side brush arms.

FOR SAFETY: Turn off the engine, then, turn the key back on without starting the engine. Bleed off brake hydraulic pressure by rocking the park brake switch until the low pressure warning light comes on. CAUTION--The brake hydraulic system still has 600psi on it. NOW rock the park brake switch 10 more times and then slowly depress and release the service brake pedal 10 times. Remove the machine key.

3. Remove both front wheel fenders, and front dust control skirts at the frame.
4. If possible, place the front machine axle up on jack stands (10,000lbs. each) or place the front wheels up on ramps.
5. Go under the machine on either side, just behind the front wheels.
6. Locate the drive motor attached to the rear of the front axle.

NOTE: Order TENNANT part # 760098 (plug and cap kit) before attempting any hydraulic component repairs.

7. Mark, disconnect, and plug the four smaller hydraulic hoses leading to the drive motor. Leave the two larger hoses connected.

NOTE: Observe hydraulic cleanliness requirements when opening hydraulic lines.

8. Place a floor jack, transmission jack, or some other lifting device under the drive motor to help support it when the hardware is removed.

9. Remove the four M19 hex screws holding the drive motor to the axle housing.

10. Pull the drive motor straight back and out of the brake housing. Remove the drive motor far enough to clear park brake connection spline. Remove the large O–ring from between the motor and brake. Let the drive motor hang from the two large hoses.

11. Scrape any blue RTV from the face of the axle housing at the drive motor mount.

12. Mark, disconnect, and plug the hydraulic hoses leading to the electrical solenoid (SV30) on top of the parking brake unit. *(Refer to FIG. 1)*

13. Unplug the parking brake solenoid from the main harness. *(Refer to FIG. 1)*

14. Place a drain pan under the brake unit. Remove the drain plug on the bottom of the brake housing. Drain the brake lube into the pan. *(Refer to FIG. 2)*

15. Remove the four park brake bolts. The stub shaft will also need to be removed from the differential if it did not stay with the brake. **DO NOT disassemble the park brake--it will need to be intact for inspection upon return to the factory.** *(Refer to FIG. 2)*

INSTALLATION:
(Refer to FIG. 1, 2 and 3)

1. Remove any shipping material from the new park brake assembly and inspect for damage. Check all mating surfaces for contamination. Clean and inspect the large O–ring. *(Refer to FIG. 2)*

2. Look at the end of the park brake assembly that goes toward the differential. The bearing plate should be flush with the main casting surface. If the plate will not push flush, then;
   1. Tighten the two socket head cap screws to compress the brake springs. If this does not work–go to next step;
   2. Carefully remove the bearing plate by placing the drive side of the park brake assembly flat on a horizontal surface and carefully pull the plate up and out of the casting--exposing the park brake disks. There are 2 types of disks, the first is bronze coated and has ears that fit into the outer groves. the second type disk is a spacer that fits on the center spline. Check for misplacement of the disks. Reinstall the bearing plate and stub shaft into the park brake casting. *(Refer to FIG. 2 and 3)*

3. There are two O–rings and a stub shaft located on the differential side of the brake. Lubricate the O–rings with clean oil. Run a thin layer of Ultra blue (4) outside of the large O–ring and around the face of the brake. *(Refer to FIG. 2 and 3)*

4. Position the park brake assembly (1) onto the differential. **DO NOT ALLOW THE BEARING PLATE TO MOVE OUT OF PLACE DURING INSTALLATION.** Reinstall the 4 M12 bolts. Use thread adhesive (5) on the threads and tighten to 47 – 61 ft lb (64 – 83 Nm). *(Refer to FIG. 1 and 2)*

5. Install the hydraulic control valve (2) onto the top of the park brake assembly (1). Reconnect the two hydraulic hoses and reconnect the electrical connector to the control valve (2). *(Refer to FIG. 1)*

6. Check the brake spline sleeve, the internal spline socket where the drive motor shaft is mated. The spline sleeve should not stick out more than .125 in (1/8 in) beyond the plate. If it does and the sleeve will not push in, then 1 brake disc has slipped out of place. To correct this--do the following;
   A. Tighten the two socket head cap screws (in the plate on the propel side of the brake), this will unlock the brake and allow it to rotate.
   B. Lock one front wheel from turning. A large screw driver in the universal joint will work.
   C. Rotate the other wheel slowly and FEEL the spline sleeve back into the brake until it slips into the brake disc. *(Refer to FIG. 2 and 3)*

7. **REMOVE THE TWO SOCKET HEAD CAP SCREWS.** *(Refer to FIG. 2 and 3)*

8. Inspect the drive motor shaft seal for any damage. *(Refer to FIG. 2 and 3)*

9. Lubricate the large O-ring and place it into the mating face of the brake. Insert the drive motor spline STRAIGHT INTO THE SPLINE SLEEVE of the brake. This is important to avoid damage to the brake plates. The motor should slide all the way to the brake face. If not--go back to step 20. **DO NOT FORCE THE MOTOR ONTO THE PARK BRAKE WITH THE HARDWARE.** *(Refer to FIG. 2 and 3)*

10. Use the thread adhesive (5) on the threads and tighten to 47 - 61 ft lb (64 - 83 Nm).

11. Reconnect the four hydraulic hoses.

12. Add the special oil (3) to the level of the center plug on the park brake (1). **DO NOT USE ANY OTHER TYPE OF OIL.** *(Refer to FIG. 2)*

13. Start the machine and check the drive motor and park brake for any leaks. Operate the parking brake numerous times--this will purge any air in the parking brake hydraulic lines.

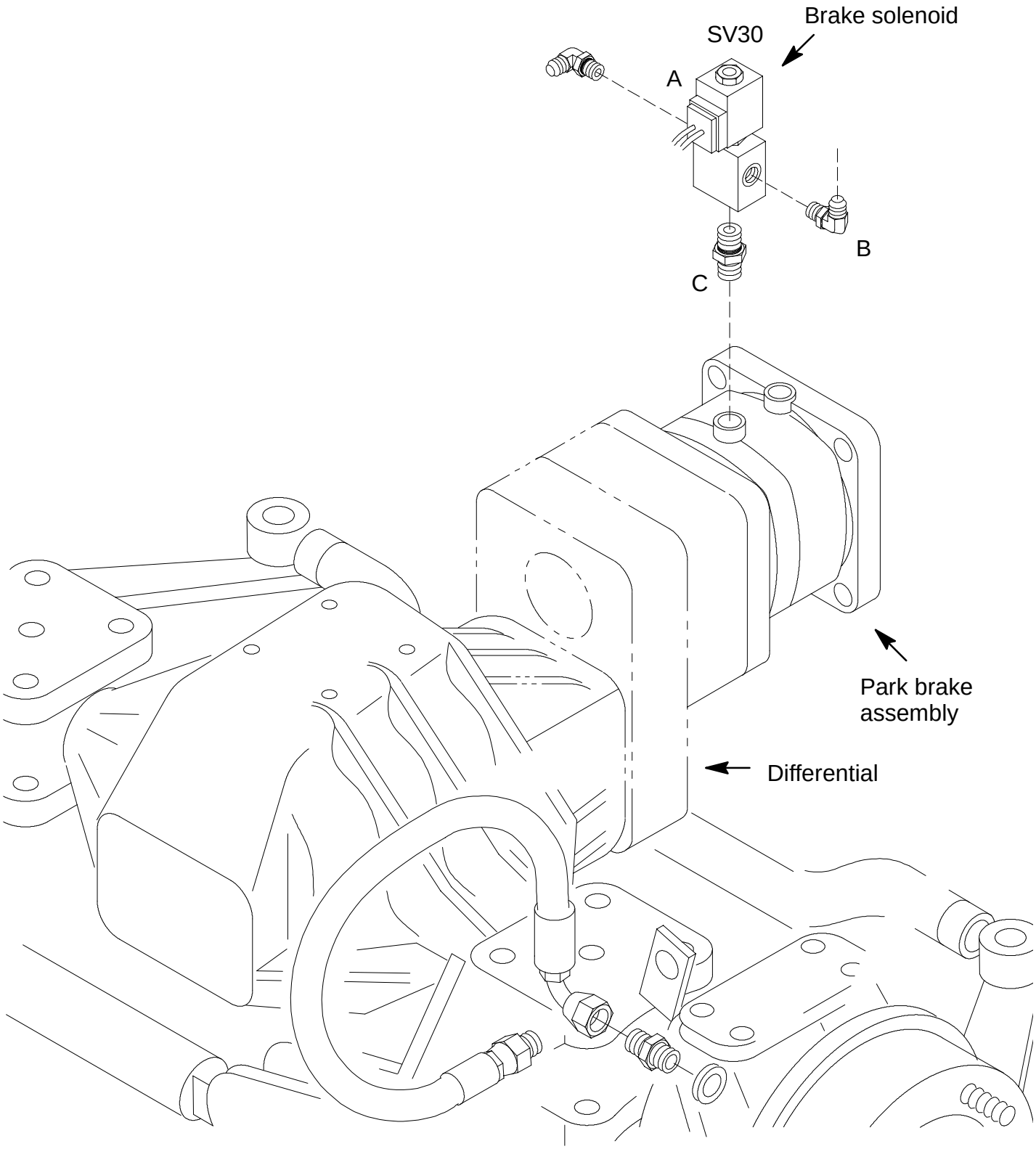

FIG. 1 – Parking Brake Solenoid

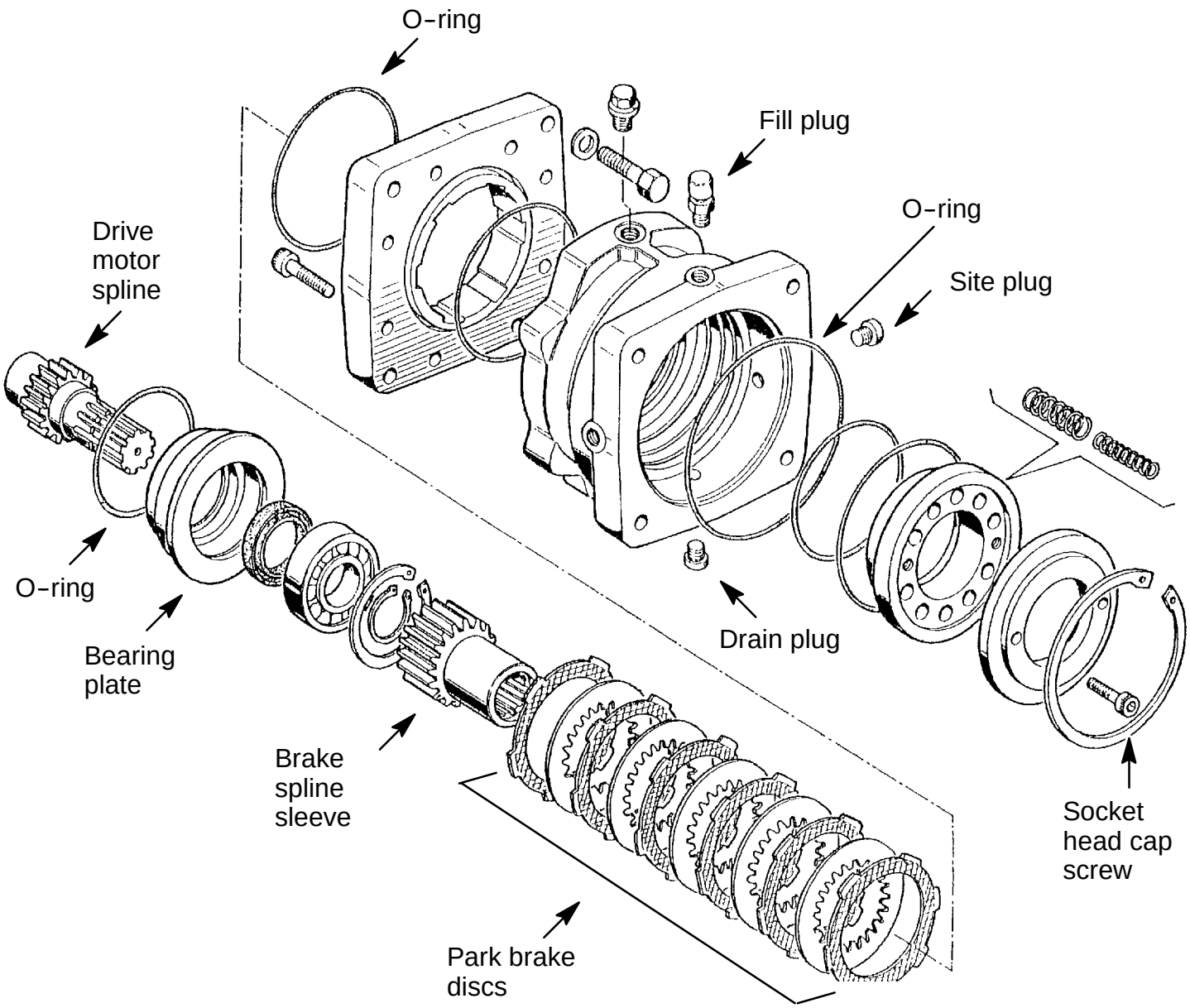

FIG. 2 – Parking Brake Assembly

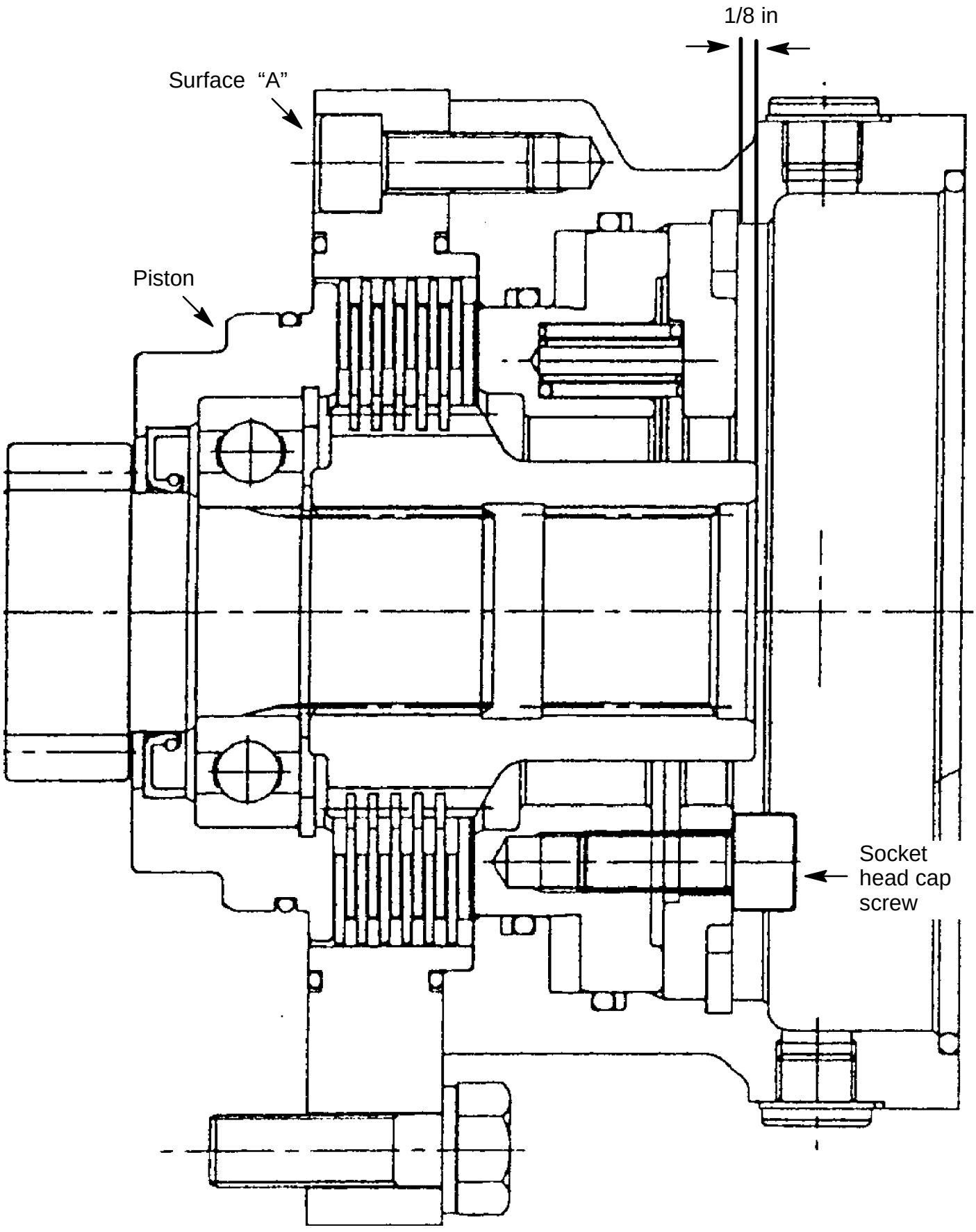

FIG. 3 – Parking Brake Assembly

BILL OF MATERIALS FOR PARKING BRAKE REPLACEMENT KIT 768867

Ref.	TENNANT Part No.	Description	Qty.
1	767769	Brake assembly	1
2	767207	Parking brake hydraulic control valve	1
3	767766	Parking brake hydraulic oil (2.5 gal)	1
4	60737	Sealant (Permatex ultra lube)	1
5	32676	Thread adhesive (loctite 242 blue .5ml)	1

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