

INTRODUCTION

GENERAL

This section has the description and the repair procedures for the brake assembly. Checks and adjustments for the brake system are described at the end of this section.

DESCRIPTION

(See FIGURE 1. and FIGURE 2.)

The brake assembly is part of the Master Drive Unit. The brake drum is connected to the motor shaft on the end of the traction motor with the commutator. The brake assembly is both a service brake and a parking brake. (See FIGURE 1.)

The brake is a normally "ON" type of mechanism. To move the lift truck, the operator must use the brake switch as a footrest. The brake switch electrically disengages the brake when the solenoid is energized. (See FIGURE 2.) When the operator does not use the brake switch as a footrest, the brake is engaged automatically.

If it is necessary to move the lift truck without battery power, the brake can be released manually. Early models had a release lever as shown in FIGURE 1. and FIGURE 2.. Battery power will automatically reset the brake to normal operation. On later model units a block

must be used to disengage the brake as shown in FIGURE 2.

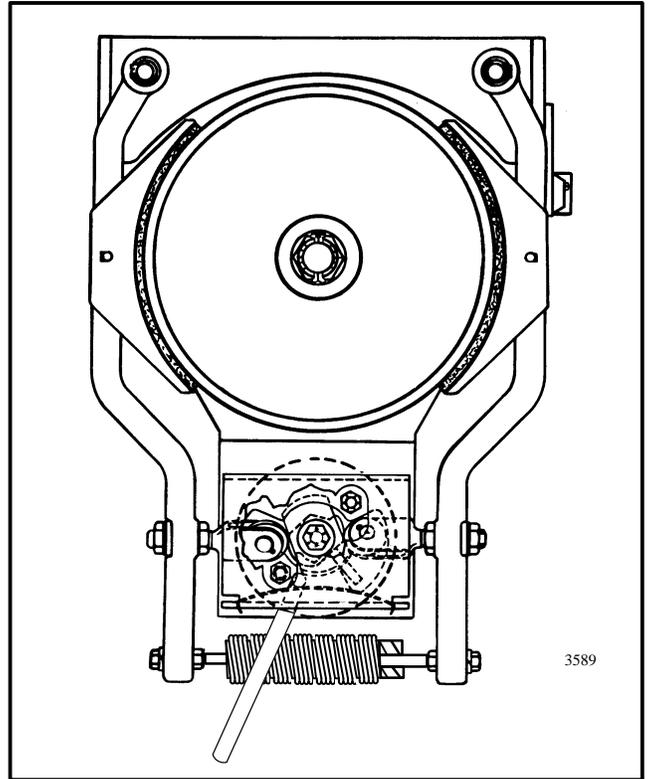


FIGURE 1. BRAKE ASSEMBLY

REPAIRS

REMOVAL AND DISASSEMBLY (See FIGURE 2.)

WARNING

Always disconnect the battery connector when doing maintenance or making repairs.

1. Turn the master drive unit to a position so that there is easy access to the brake assembly.
2. To replace the brake shoes, remove the small snap ring (1) and pin (2) from each shoe. Replace the brake shoes and install the pin and snap ring again. If the brake assembly must be disassembled farther, do not replace the brake shoes and continue with step 3.

3. Remove the castle nut (4) from the brake drum (5). Remove the brake drum with a puller.
4. Remove the snap rings (6), locknut (7) and clevis (10), and adjusting screws (13) from each brake arm. Remove the brake arms (12).
5. Disconnect the wires from the terminal strip on the brake mount. Make a note so that the wires will be connected correctly again.
6. Remove the brake mount and solenoid assembly from the master drive unit by removing the six capscrews.
7. Remove the solenoid. The solenoid is fastened to the brake mount with two nuts.
8. Remove the release lever from the brake mount.

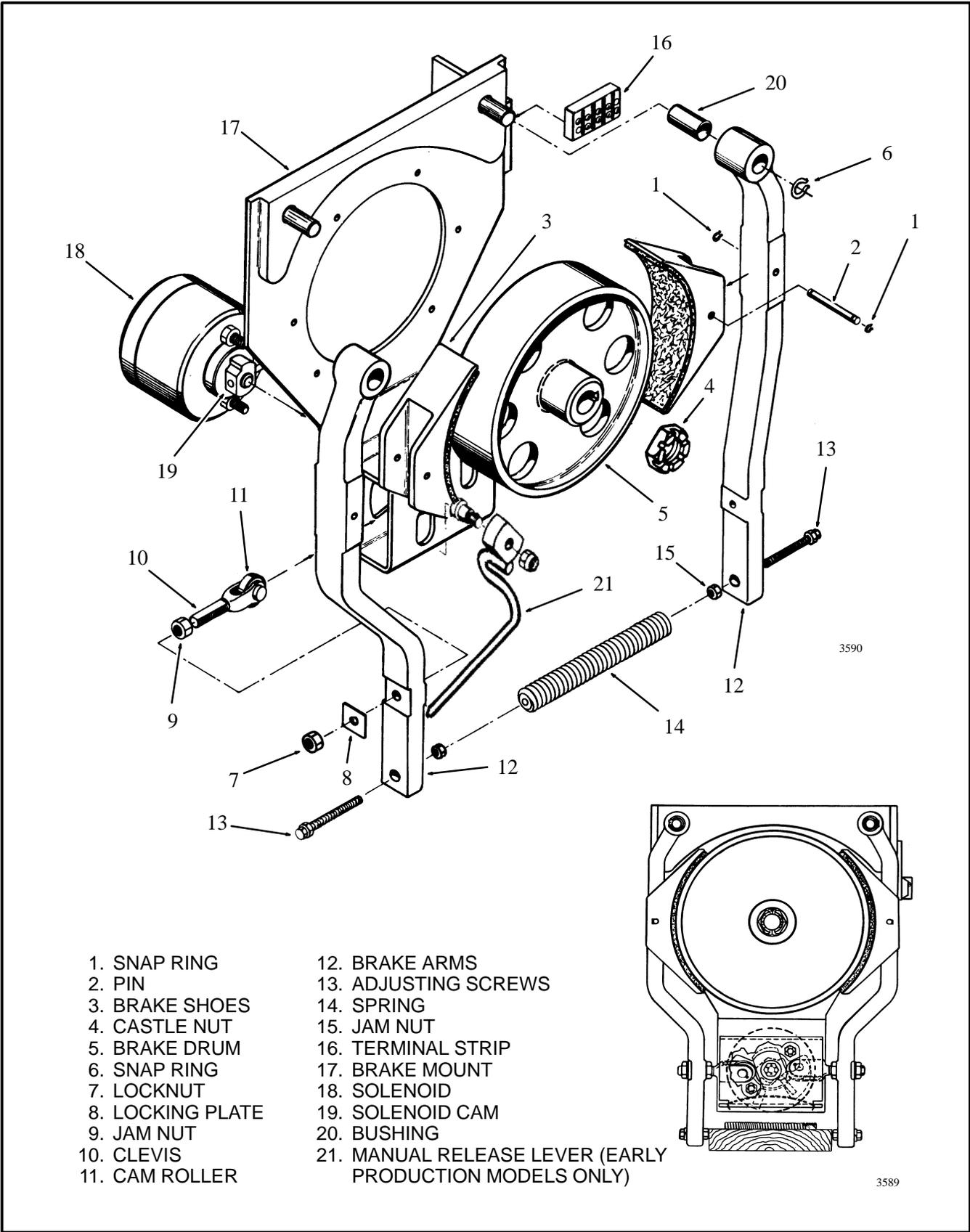


FIGURE 2. BRAKE ASSEMBLY

Cleaning

⚠ WARNING

Brake linings can contain dangerous fibers. Inhaling the dust from these brake linings is a cancer or lung disease hazard. Do not make dust! Do not clean brake parts with compressed air or by brushing. Use vacuum equipment approved for brake dust or follow the cleaning procedure in this section. When the brake drums are removed, do not create dust.

Do not sand, grind, chisel, hammer, or change linings in any way that will make dust. Any changes to brake linings must be done in a restricted area with special ventilation. Protective clothing and a respirator must be used.

1. Carefully remove the brake drum. Do not release dust from the brake linings into the air when the brake drum is removed.

⚠ WARNING

Cleaning solvents can be flammable and toxic, and can cause skin irritation. When using cleaning solvents, always follow the solvent manufacturer's recommended safety precautions.

2. Use a solvent approved for cleaning of brake parts to wet the brake lining dust. Follow the instructions and cautions of the manufacturer for the use of the solvent. If a solvent spray is used, do not make brake lining dust with the spray.

3. When the brake lining dust is wet, clean the parts. Put any rags or towels in a plastic bag or an airtight container while they are still wet. Put a "DANGEROUS FIBERS" warning label on the plastic bag or airtight container

4. Any cleaning rags that will be washed must be cleaned so that fibers are not released into the air.

⚠ CAUTION

Do not use an oil solvent to clean the wheel cylinder. Use a solvent approved for cleaning of brake parts. Do not permit oil or grease in the brake fluid or on the brake linings.

ASSEMBLY AND INSTALLATION

1. Install the release lever on the brake mount.

2. Fasten the solenoid to the brake mount with the two nuts.

3. Fasten the brake mount to the master drive unit with the six capscrews.

4. Connect the wires to the correct terminals on the terminal strip.

5. Install the clevis (10) on the brake arm. Install the brake arms, bushings and snap rings (6). Install the spring and adjusting screws.

6. Install the brake drum and woodruff key. Install the castle nut and cotter pin.

7. Fasten the brake shoes to the brake arms with the pins (2) and the snap rings (1).

BRAKE SWITCH (See FIGURE 3.)

The brake switch is a normally "OFF" switch found on the operator's platform. The brake is released and the control circuits are energized only when the operator pushes on the switch plunger.

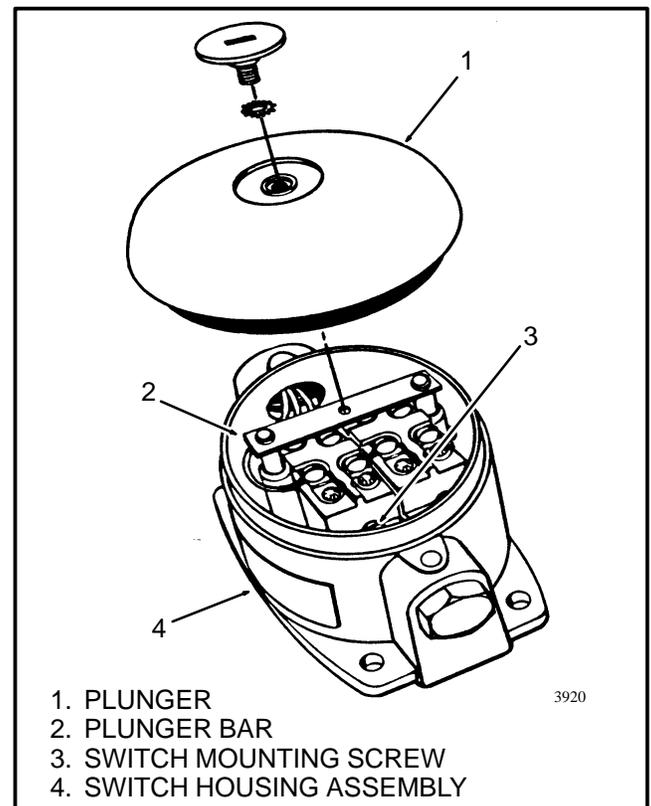


FIGURE 3. BRAKE SWITCH ASSEMBLY

CHECKS AND ADJUSTMENTS

⚠ WARNING

Put blocks under the wheels so that the lift truck cannot move when the parking brakes are released.

Never operate a unit that has the brake released. Tag the controller to indicate that the truck has no brakes any time the brake is released or blocked.

NOTE: Adjust each brake shoe for correct operation.

The brake shoes must be adjusted with the solenoid energized and the brake released electrically.

1. Adjust brake shoe clearance to 0.002 to 0.004 inches (0.05 to 0.10 mm) at all points along both shoe linings. Each shoe is adjusted by moving the nuts on the cam roller clevis. Tighten the adjusting nuts.

2. Deenergize the brake circuit. Check that the cam rollers do not touch the solenoid cam when the solenoid is deenergized.

3. (See FIGURE 4.) Use the adjustable screws to adjust the brake force. Use a spring gauge to check the force needed to release the brake. The brake force must be as listed in TABLE 1. Adjust if necessary. Tighten the jam nuts.

TABLE 1. SPRING FORCE		
MODEL	Spring Force	
	N	lbs
R25A	121-143	27-32
R30C	121-143	27-32
R30CA	187-210	42-47
R30CH (Shoe Brake)	187-210	42-47
N30-50 24V	116-139	26-31
N30-50 36V	161-183	36-41
N30-50 48V	192-215	43-48

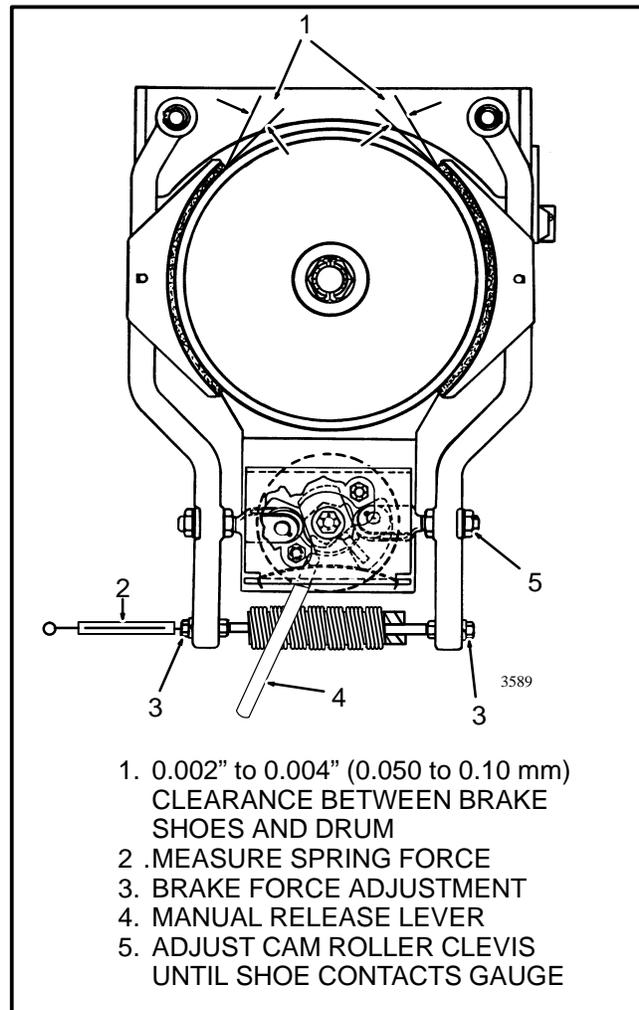


FIGURE 4. BRAKE ADJUSTMENT

TROUBLESHOOTING

PROBLEM	CAUSE
Brake will not release.	Discharged battery.
	Battery not connected.
	Brakes not adjusted correctly.
	Brake solenoid with defects.
	Foot switch with defects.
Brake will not stop lift truck correctly.	Brakes not adjusted correctly.
	Brake shoes worn.
	Oil or grease on brake shoes.
	Solenoid or cam mechanism with defects.

(More Content includes: Brake system, Capacities, and specifications, Frame, Hydraulic, System, Industrial battery, Main control, Valve, Mast repair, Fasteners, Schematics diagrams, Steering axle, Steering system, Wire harness repair And more)

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