

## Service Instructions for No. 5, 6 & 8 AC Solenoid Kits Series 87,000; 87,100; 87,200 and 87,700 Disc Brakes

Item No.	Description of Parts Included in Kit	Qty. Per Kit
29	Solenoid plunger / link assembly	1
79	Solenoid frame	1
132	Solenoid mounting cap screw	3
132W	Solenoid mounting conical spring washer	3
132P	Drive-lok pin (Kit 5-66-5082-00; only)	1
8P	Cotter Pin	1
*Shaded components are for reference and not included in kit.		

### Important

Please read these instructions carefully before servicing your Stearns brake. Failure to comply with these instructions could cause injury to personnel and/or damage to property if the brake is installed or operated incorrectly. For definition of limited warranty/liability, contact Rexnord Industries, LLC, Stearns Division, 5150 S. International Dr., Cudahy, Wisconsin 53110, (414) 272-1100.

### Caution

1. Servicing shall be in compliance with applicable local safety codes including Occupational Safety and Health Act (OSHA). All wiring and electrical connections must comply with the National Electric Code (NEC) and local electric codes in effect.
2. To prevent an electrical hazard, disconnect power source before working on the brake. If power disconnect point is out of sight, lock disconnect in the *off* position and tag to prevent accidental application of power.
3. Be careful when touching the exterior of an operating brake. Allow sufficient time for the brake to cool before disassembly. Surface may be hot enough to be painful or cause injury.
4. Do not operate brake with housing removed. All moving parts should be guarded.
5. After usage, the brake interior will contain burnt and degraded friction material dust. This dust must be removed before servicing or adjusting the brake.  
DO NOT BLOW OFF DUST using an air hose. It is important to avoid dispersing dust into the air or inhaling it, as this may be dangerous to your health.
  - a) Wear a filtered mask or a respirator while removing dust from the inside of a brake.
  - b) Use a vacuum cleaner or a soft brush to remove dust from the

brake. When brushing, avoid causing the dust to become airborne. Collect the dust in a container, such as a bag, which can be sealed off.

6. Maintenance shall be performed only by qualified personnel familiar with the construction and operation of the brake.
7. For proper performance and operation, only genuine Stearns parts should be used for repairs and replacements.

**Warning!** Any mechanism or load held in position by the brake should be secured to prevent possible injury to personnel or damage to equipment before any disassembly of the brake is attempted or before the manual release knob or lever is operated on the brake.

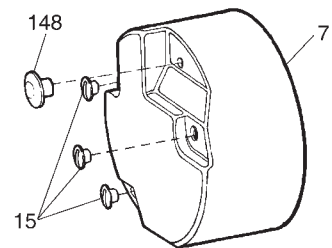
### Instructions

1. To remove housing, follow instructions listed under each individual brake series shown in next column, then continue with the following steps.
2. Solenoid replacement can be accomplished without removing support plate (126) from brake.
3. Disconnect coil lead wires. Remove three cap screws (132) and conical spring washers (132W) to free solenoid subassembly (12).
4. For metallic plunger guides (82), remove plunger guide screw(s) (84) and lock washer(s) (84W). Remove both plunger guides (82) by prying up on the flanges.

**Note:** For 87,700, insert a screwdriver under solenoid frame and pry up. This will free it from drive-lok pin (132P). Drive-lok pin is inserted from back side of support plate. Push out drive-lok pin (132P) using 3/16" diameter drift and remove.

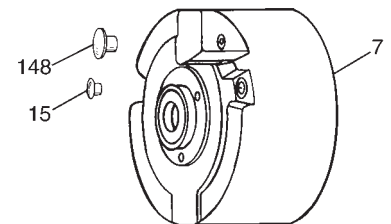
- a) To remove non-metallic plunger guides (82A), remove screw(s) (84) and lock washers (84W). Insert shim stock of other thin gauge material at

### 87,000 and 87,100 Series



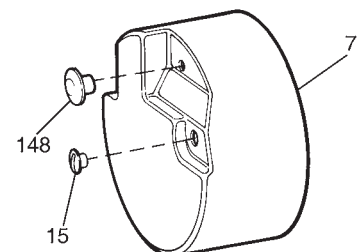
Remove manual release knob (148), two or three housing nuts (15), and housing (7) by pulling back.

### 87,200 Series



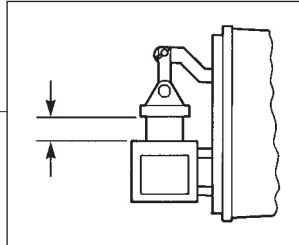
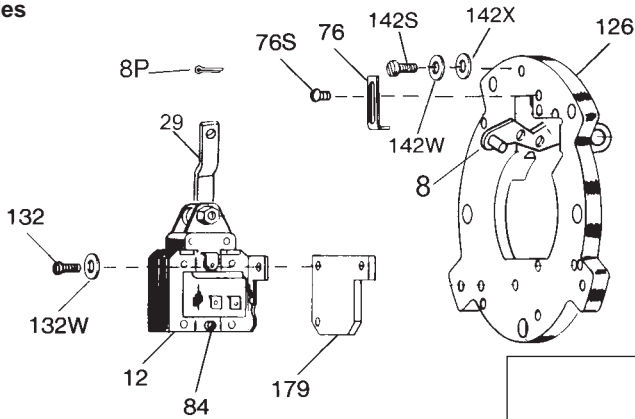
- a) Remove any accessories, sprockets, sheaves, etc., and bearing lock collar on standard enclosure brake from brake shaft on housing side.
- b) Remove manual release knob (148), two or three housing nuts (15), and housing (7) by pulling back.

### 87,700 Series

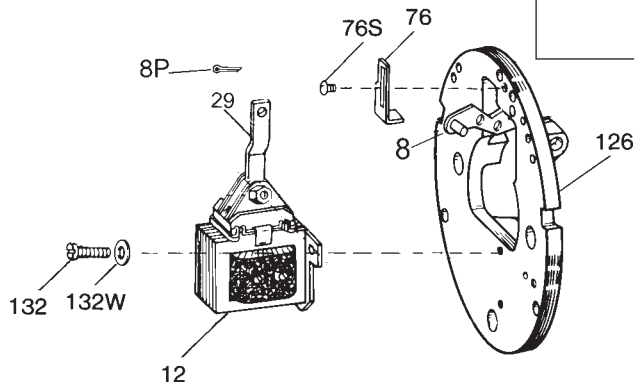


- a) Remove the brake and motor as a unit from the gear reducer.
- b) Remove four housing cap screws (15), lock washers (15W), housing (7) and shaft assembly.

### 87,700 Series



### 87,000; 87,100 and 87,200 Series



previously removed.

Place support plate on drill press so that it rests on the front side of the solenoid frame (79). Using the drive-lok pin hole (in support plate) as a pilot, drill a 3/16" hole into solenoid mounting flange, approximately 3/16" deep.

Drive in new drive-lok pin (132P) until it is fully seated. Remount support plate to brake and torque screws (142S) with conical spring lock washers (142W) to 50 in-lbs. Flat washers (142X) are used with aluminum support plate only. Remove safety wire from solenoid.

- b) Torque no. 5 and no. 6 solenoid screws to 70-75 in-lbs and no. 8 solenoid screws to 120-125 in-lbs. (If later there is a solenoid buzz upon energization, then a slight realignment may be necessary.)

10. Depress and allow solenoid plunger to snap out several times. Measure solenoid air gap between mating surfaces of solenoid frame and solenoid plunger. (On vertically mounted brakes, it will be necessary to push solenoid plunger into solenoid frame to the point where spring pressure is felt before measuring solenoid air gap). The operating air gap measurement is 13/16" to 15/16".

11. The solenoid air gap may be increased by raising or decreased by lowering the wrap spring stop (76). To accomplish this, loosen two (stop) screws (76S), move wrap spring stop slightly and retighten screws.

Repeat Step 10 after each change in wrap spring stop position to obtain solenoid air gap measurement of 13/16" to 15/16".

12. Reconnect solenoid coil leads.
13. Replace housing, screws and manual release knob in the reverse order of the appropriate point in Step 1.
14. **Caution 1!** Do not run motor with brake in manual release position. It is intended only for emergency manual movement of the driven load, not as a substitute for full electrical release.

**Caution 2!** Class H coils with terminals. Do not bend lead wire crimp connection as this causes a fatigue in the metal which may break under vibration.

**NOTE: For complete instructions, with troubleshooting, request sheet applicable to the series of brake that you have.**

top center of coil between coil and solenoid frame. Push to release lock tab while lifting up on plunger guide. Repeat for other plunger guide.

5. Slide coil (12A) sideways from solenoid frame (79). If necessary, tap lightly with soft hammer. (It is assumed coil is serviceable and will be reused.)

6. Install coil (12A) into solenoid frame with same relative position as before. Assemble metallic plunger guides (82) and plunger guide screw(s) (84).

**Note:** 87,700 No. 8 coil lead wires must be positioned toward the center of the brake.

- a) Assemble non-metallic plunger guides (82A) by inserting into position and pushing down until lock tab snaps under top bar of solenoid frame. Install plunger screw(s) (84). With encapsulated coil kits, the locking tabs have been removed. Use of the plunger guide screws(84) are required to help hold guides in place. Set subassembly aside for later installation on support plate.

7. Remove cotter pin (8P) from lever arm/pinion assembly (8), and remove worn plunger/linkarm assembly;

discard

8. Assemble new plunger/linkarm assembly to the lever and pinion assembly (8). (Note: No: 5 & 6 linkarms have an offset that must be positioned toward the center of the brake to allow proper alignment with solenoid frame). Insert new cotter pin (8P) and bend into place.

9. Slide solenoid frame (12) over new plunger (29). Attach to support plate (126) with three new mounting screws (132) and lock washers (132W). Note that on the 87,700 brake there is a spacer (179) inserted between the solenoid mounting flange and support plate on unit using the no. 5 and no. 6 solenoid only and 7/8" long screws (132) and lock washers (132W) are to be used.

- a) Before tightening mounting screws, align the plunger and frame so that mating surfaces are parallel. Manually pulling the plunger (29) down into the sealed position will help with alignment.

**Note:** On the 87,700 only, secure plunger by wiring it to frame. Remove support plate (126). Remove drive-lok pin (132P) pushed out in Step 2, if not