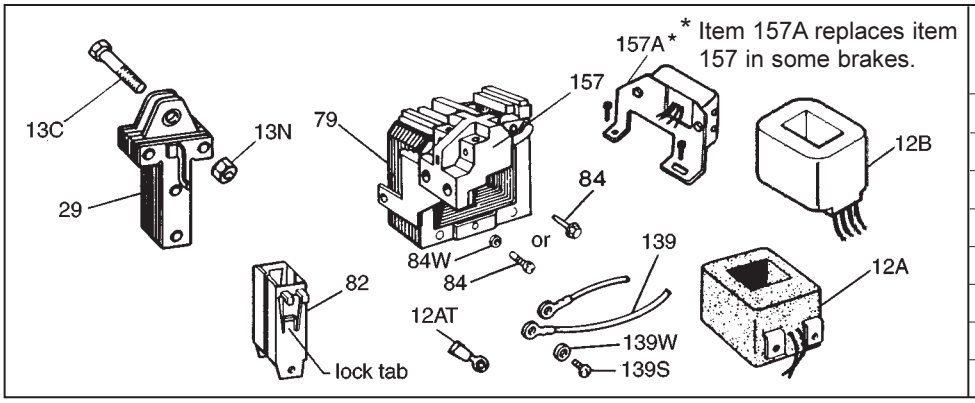
Stearns® *Brake Replacement Parts*

P/N 8-078-956-02
effective 8/20/99

Service Instructions for No. 5 & No. 6 Coil Assemblies
DC Voltage Coils
Series 87,000; 87,200; 87,400; 87,600 and 87,700 Disc Brakes



Item No.	Description of Parts Included in Kit (Kit contents, will vary based on style of coil)	Qty. per Kit
12A	No. 5 coil or No. 6 coil	1
139	Lead wire and terminal assy.	2
139S	Terminal screw	2
139W	Terminal lock washer	2
82	Plunger guide	2
84	Screw - plunger guide	1
84W	Lock washer - plunger washer	1
12AT	Crimp terminal	2

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 serviced or operated incorrectly. For definition of limited warranty/liability, contact Rexnord Industries, Inc., 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 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 should 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.

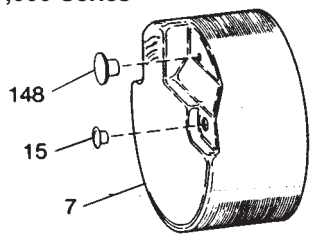
Warning! Any mechanism or load held in position by the brake should be secured to prevent possible injury to personnel or damage to equipment before any disassembly of the brake is attempted or before the manual release knob or lever is operated on the brake.

Instructions

1. To remove housing, follow instructions listed under each individual brake series shown in next column, then continue with the following steps.
2. To replace coil (12A) or (12B), disconnect power source lead wires from coil by removing the screws or connectors. It is *not* necessary to remove the support plate assembly (142). If used, remove two coil leads and two arc suppression leads from DC switch (157).
3. Remove solenoid link screw (13C), nut (13N) and lift out solenoid plunger (29).
4. For metallic plunger guides (82), remove plunger guide screw(s) (84). Remove both plunger guides (82) by prying up on the flanges. Discard plunger guides.

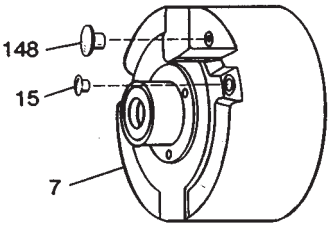
   To remove non-metallic plunger guides (82), remove screw(s) (84).

87,000 Series



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

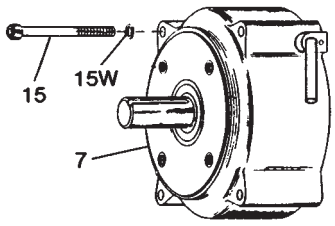
87,200 Series



a) Remove any accessories, sprockets, sheaves, etc. from brake shaft on housing side.

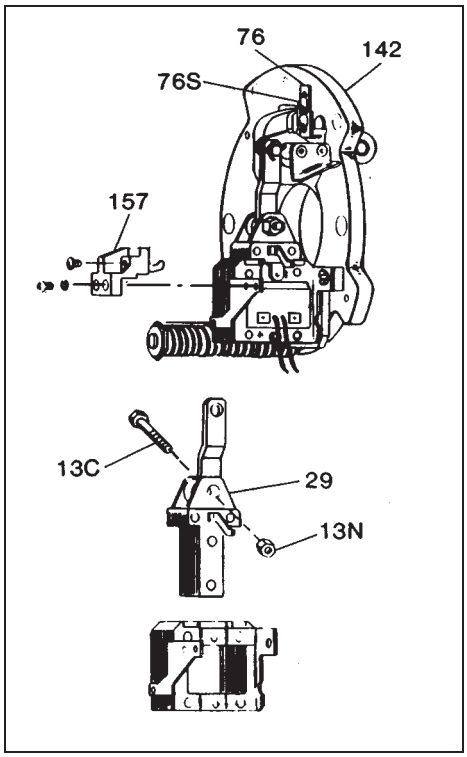
b) Remove manual release knob (148), two housing nuts (15), and housing (7) by pulling back.

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.



Insert shim stock or other thin gauge material at 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) or (12B) out from solenoid frame (79) in the direction of the coil leads. If necessary, tap coil lightly with a soft hammer. If solenoid coil had burned out, be sure to remove all foreign material from the solenoid plunger (29) and solenoid frame.
6. Install new coil (12A) into solenoid frame with same relative position as old coil. Assemble new non-metallic plunger guides (82) by inserting into position and pushing down until lock tab snaps under top bar of solenoid frame. Install plunger guide screw(s). With encapsulated coils (have terminals) check that lock tabs allow free movement of plunger. If movement is restricted, file chamfer approximately 1/16" x 45° on coil at lock tab area.

   Install new coil (12B) (on all except 87,700) with coil leads at upper left of solenoid frame. Follow Step 6 on installation of guides and screw(s).

   On 87,700 install coil (12B) partially into frame with leads at lower left, then left side plunger guide and left screw. Tighten screw. Move coil to right, install right side plunger guide, screw and tighten.
7. Reassemble plunger into solenoid by reversing Step 3.
8. Install crimp terminals (12AT) on leads of new coil.
9. Connect the proper two coil leads and the two arc suppressor leads to DC switch (157) if used. See *DC Voltage Coil Connection, Sheet 8-078-950-00.*

   Note: If new coil uses an electronic switch (157A), the arc suppressor and mechanical switch do not need to be used.
10. Be sure lead wires to coil are not tight or pinched; leads will not be rubbed; leads will not be trapped between solenoid plunger and frame.
11. Manually lift solenoid plunger to maximum travel. 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 solenoid air gap measurement is 13/16" to 15/16".
12. 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 11 after each change in wrap spring stop position to obtain air gap measurement of 13/16" to 15/16".
13. Reconnect coil leads.
14. Replace housing, screws and manual release knob in the reverse order of the appropriate point in Step 1. On dust-tight waterproof enclosure replace gaskets.
15. **Caution!** 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.

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

Refer to Instruction Sheet 8-078-950-00 for wiring.