

Service Instructions for No. 8 DC Solenoid Assembly Series 87,700 Disc Brakes

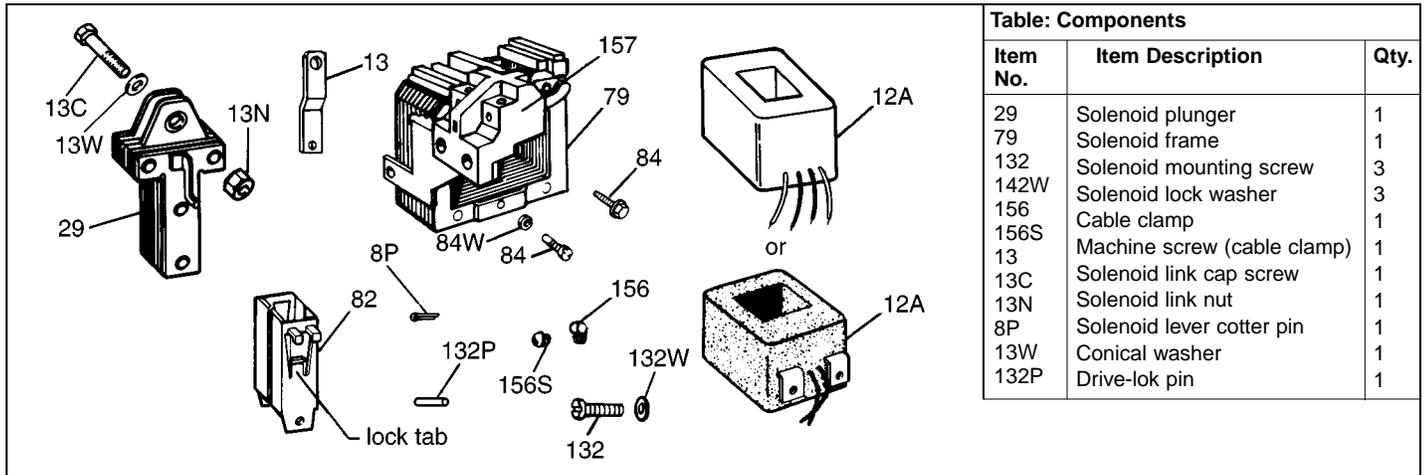


Table: Components		
Item No.	Item Description	Qty.
29	Solenoid plunger	1
79	Solenoid frame	1
132	Solenoid mounting screw	3
142W	Solenoid lock washer	3
156	Cable clamp	1
156S	Machine screw (cable clamp)	1
13	Solenoid link cap screw	1
13C	Solenoid link cap screw	1
13N	Solenoid link nut	1
8P	Solenoid lever cotter pin	1
13W	Conical washer	1
132P	Drive-lok pin	1

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 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 should be performed only by qualified personnel familiar with the construction and operation of the brake.

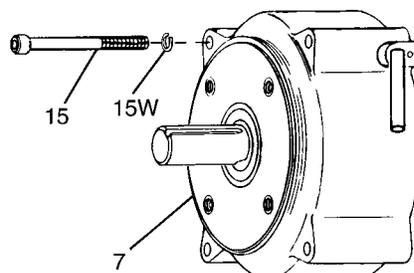
7. For proper performance and operation, only genuine Stearns parts should be used for repairs and replacements.

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:

- a) Remove brake and motor as a unit from reducer.
- b) Remove four housing bolts (15), and lock washers (15W).
- c) Pull back on housing and shaft assembly to remove it as a unit.



2. Disconnect coil lead wires. Remove cable clamp screw (156S). Cable clamp (156) and DC switch (157) from solenoid frame bracket. Remove three cap screws (132) and lock washers (132W). 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 a 3/16" diameter drift and remove pin.

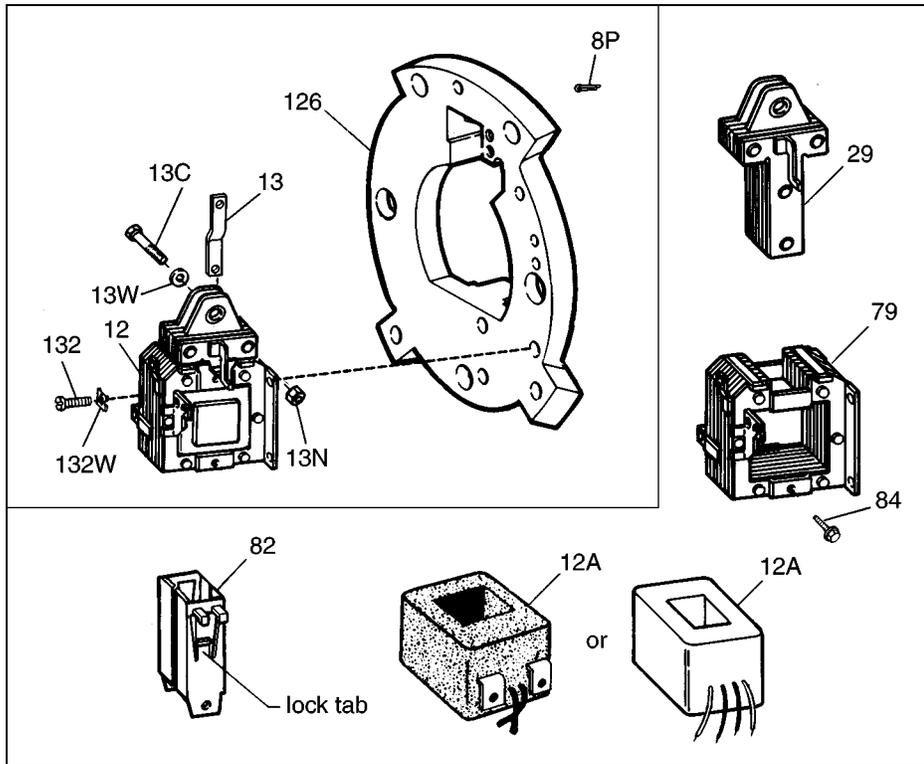
3. For metallic plunger guides (82) remove plunger guide screw(s) (84). Remove both plunger guides (82) by prying up on the flanges.

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

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.

4. Slide coil (12A) out from solenoid frame (79) in the direction of the coil leads or terminals. If necessary, tap coil lightly with a soft hammer. If solenoid coil had burned out, be sure to remove all foreign material from the plunger guides.
5. Install coil (12A) into solenoid frame with same relative position as removed. Note: Do not reuse worn plunger guides, replace.

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 screws. With encapsulated coils (have terminals) check that lock tabs allow free movement of plunger. If movement is restricted, file chamfer on coil at lock tab areas.



14. **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.

Remount DC switch (157) to new solenoid frame (79) and reconnect the two coil leads and the two arc suppression leads to it. (Polarity is immaterial). Install new cable clamp (156) with screw (156S). Set subassembly aside for later installation on support plate.

6. Remove cotter pin (8P) to free old solenoid link (13) and old plunger (29). Discard all.
7. Attach new solenoid link to new plunger using cap screw (13C), washer (13W) and new nut (13N). Attach other end of link (13) to solenoid lever using new cotter pin (8P).
8. Slide solenoid subassembly (12) over new plunger (29). Before tightening mounting screws (132) and lock washers (132W), align plunger and frame to that mating surfaces are parallel. Manually pulling the plunger (29) down into the sealed position will aid this procedure. Energize coil and align frame for buzz-free operation. Torque screws to 43 in-lbs.
9. Secure plunger by wiring it to frame. Remove support plate. Remove drive-lok pin (132P) pushed out in Step 2, if not 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 in hole (in support plate)

as a pilot, drill a 3/16" hole into solenoid mounting flange, approximately 3/167" deep. Drive in new drive-lok pin (132P) until it is fully seated.

Remove support plate to brake and torque screws (142S) with lock washers (142W) to 120 in-lbs. Remove safety wire from solenoid.

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 solenoid 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. Set air gap at 13/16" to 15/16".
Repeat Step 10 after each change in wrap spring stop position to obtain correct solenoid air gap measurement.
12. Reconnect solenoid coil.
13. Replace housing, screws and manual release knob in the reverse order of Step 1.