

Service Instructions for Vertical Mounting

Series 87,000; 87,100; 87,200 and 87,700 Disc Brakes

(Spring arrangement is for standard friction discs with cast iron pressure plate and stationary disc(s). For other combinations of material consult factory.)

Kit	Item no.	Description of parts included in kit	Qty. per kit	Used for brake series
Vertical below spring kit (green)	68	Spring – green	3	87,000; 87,100 87,200 & 87,700
Vertical below spring kit (red)	69	Spring – red	3	87,000; 87,100 87,200 & 87,700
Vertical above spring and spacer kit	64 65	Spring Spacer	9 9	87,000; 87,100 & 87,700
Vertical above mounting pin kit (1-disc brake)	61	Vertical above mounting pin	3	87,000; 87,100 & 87,700
Vertical above mounting pin kit (2-disc brake)	62	Vertical above mounting pin	3	87,000; 87,100 & 87,700
Vertical above mounting pin kit (3-disc brake)	63	Vertical above mounting pin	3	87,000; 87,100 & 87,700

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, 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. Surfaces may be hot enough to be painful or to 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.

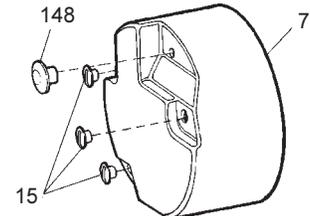
6. Maintenance shall be performed only by qualified personnel familiar with the construction and operation of the brake.
7. For proper performance and operation, only genuine Stearns parts should be used for repairs and replacements.

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

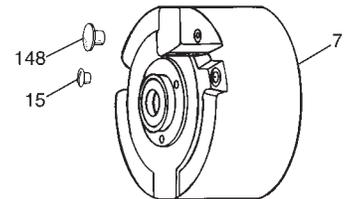
1. To remove housing, follow instructions listed under each individual brake series shown in next column, then continue with the following steps.
2. Disconnect coil lead wires, and secure the solenoid plunger to the solenoid frame with safety wire and remove support plate assembly (142) by unscrewing and removing three screws (142S) and washers (142W).

87,000 and 87,100 Series



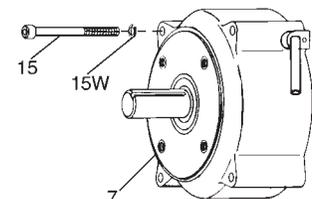
Remove manual release knob (148), housing nuts (15), and housing (7) by pulling back.

87,200 Series

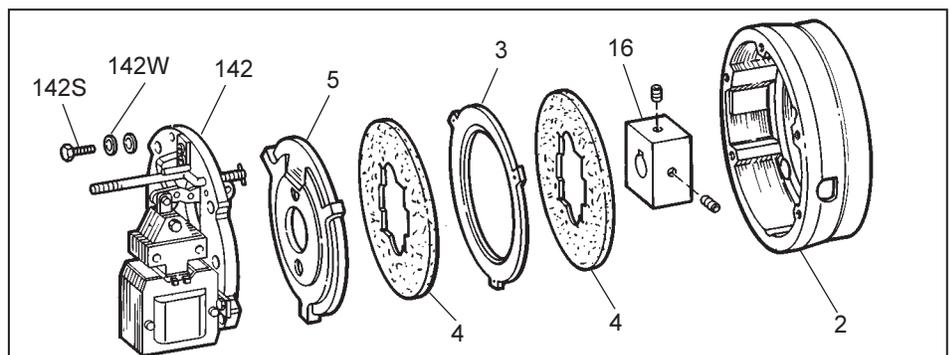


- a) Remove any accessories, sprockets, sheaves, etc., and bearing lock collar on standard enclosure brake from brake shaft on housing side.
- b) Remove manual release knob (148), housing nuts (15), and housing (7) by pulling back.

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.



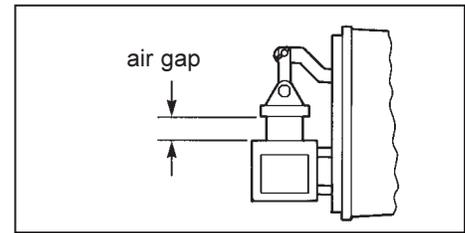
- Disc pack components – pressure plate (5), friction disc (4), and stationary disc – as well as the vertical mounting components are now accessible for replacement.
 - Spring, spacer, and pin arrangements for vertical above motor are shown in the following diagrams. Note that pin kits are usable only with cast iron endplates.
 - Be certain that the proper pin kit is used. Pins, springs, and spacers are installed as shown. Check to make certain that the shoulder of vertical mounting pins and endplate friction surface are flush. Friction discs must be free to rotate. Check by rotating, if possible. Compress and release disc pack to make sure that components slide freely over pins. If springs do not return components, pins may be bent and will have to be straightened.
 - Spring and pin arrangements for vertical mounting below motor are shown in the following diagrams. Brakes with a single friction disc do not require a modification for vertical mounting below.
- Assemble disc pack on bench, and compress to make sure that

components slide freely over pins. If springs do not return components, pins may be bent and will have to be straightened. Friction discs must be free to rotate. Center and align friction discs, and assemble disc pack into endplate.

- Remount the support plate assembly to the brake, drawing the screws down evenly. Torque to 90 in-lbs for aluminum endplate and 120 in-lbs for cast iron endplate. Remove the safety wire from the solenoid plunger.
- Manually lift solenoid plunger to maximum travel. Depress fully 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".

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



- Reconnect solenoid coil leads.
- Replace housing, screws and manual release knob in the reverse order of the appropriate point in Step 1.
- 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.

Spring arrangement for vertical mounting above motor (cast iron endplate shown)																																																																					
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