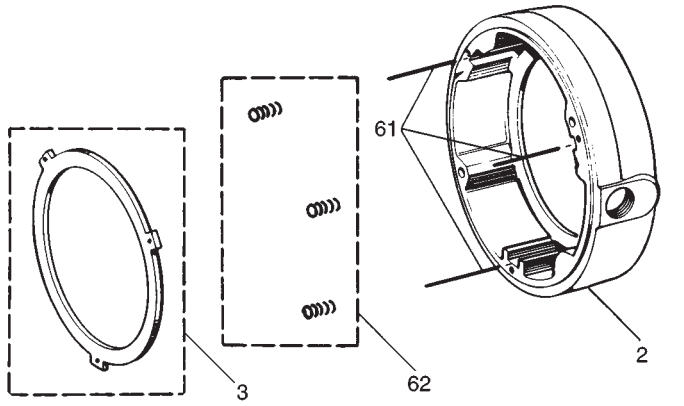
Stearns® *Brake Replacement Parts*

P/N 8-078-943-05
effective 6/1/98

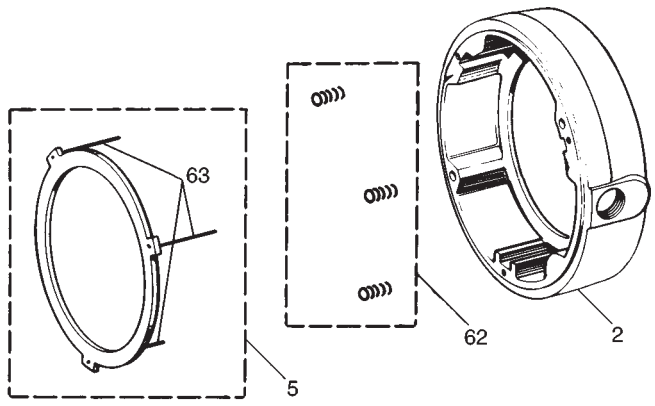
Service Instructions for Vertical Mounting Kits

Series 55,000; 55,500; 55,700 and 57,500 Disc Brakes

Vertical above



Vertical below



Components

Kit	Item Number	Part Description	Quantity Per Kit
Stationary disc kit - vertical mounting	3	Stationary disc	1
Pressure plate - vertical mounting	5	Pressure plate	1
Vertical mounting spring kit - blue	62	Springs - blue	3
Vertical mounting spring kit - white	62	Springs - white	3
Vertical mounting spring kit - red	62	Springs - red	3

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. 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.

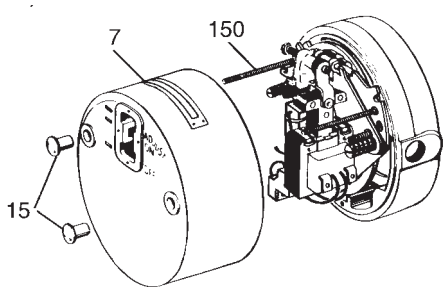
Warning! Any mechanism or load held in position by the brake should be secured to prevent possible injury to personnel or damage to equipment before any disassembly of the brake is attempted or before the manual release knob or lever is operated on the brake.

Instructions

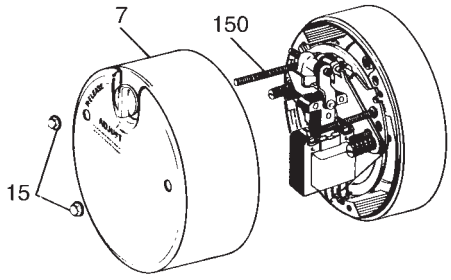
1. To Remove housing, follow instructions listed in Figure 1 for the appropriate brake series.
2. Disconnect coil lead wires (139), and remove support plate assembly (142) by unscrewing and removing three screws (142S) and washers (142W).
3. Disc pack components and vertical mounting components are now accessible for replacement. When replacing these components, be certain they are replaced in the same order as they were removed. When replacing components, be certain they are replaced in the same order as they were removed.

Caution: Stabilizing springs (161) are for use *with one-disc brakes only*. Use of springs on multiple disc brakes may cause brake burn up due to increased drag caused by springs. In multiple disc brakes, discard the stabilizing springs and fit discs to hub so that they slide freely.

55,000 series
Remove housing nuts (15) by unscrewing from housing studs (150), remove housing (7) by pulling back.



55,500 and 57,500 series
Remove housing nuts (15) by unscrewing from housing studs (150), remove housing (7) by pulling back.



55,700 series

a) Remove housing (7) by unscrewing nuts from the four mounting studs (128) that protrude through the reducer flange.

b) Grasp the coupler brake and motor as a unit and pull free from the reducer.

c) Pull housing from the mounting studs (128). These studs are threaded into the motor C-face and should remain in place.

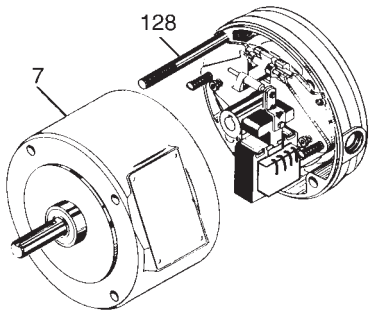


Figure 1

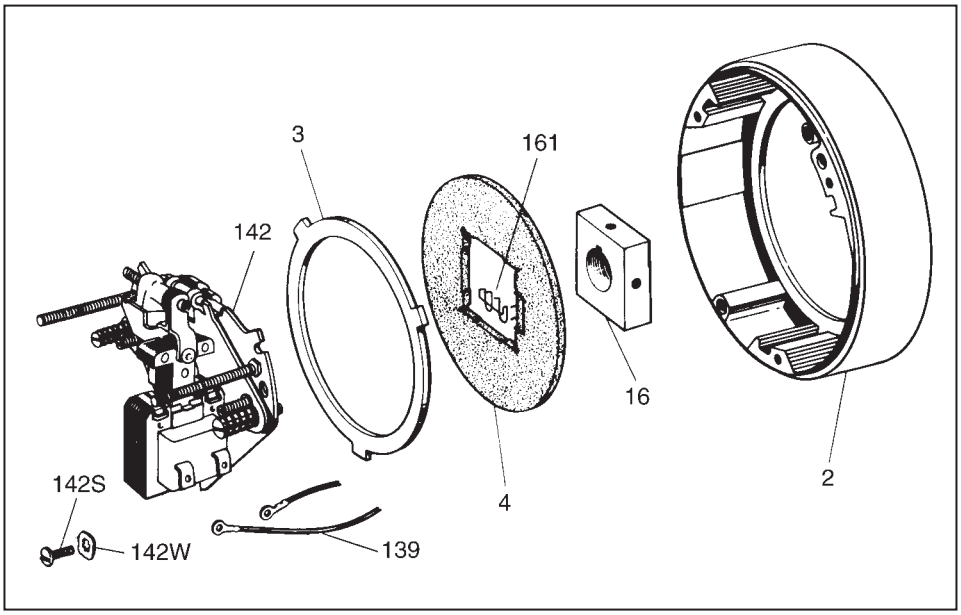


Figure 2

4. To replace vertical mounting springs and pins, follow instructions listed below for the appropriate brake series.

55,000 and 57,500 Series

a) Spring and pin arrangements for vertical above motor are shown in Figure 3.

b) Check to make sure that shoulder of vertical mounting pins and endplate friction surface are flush. Friction discs must be free to rotate. Check by rotating hub, if possible, and compress 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.

c) Spring and pin arrangements for vertical below motor are shown in Figure 4.

d) Assemble stationary discs onto pins in pressure plate to make sure that they slide freely. Insert assembly into endplate to make sure it slide freely in slots. Straightened pins if required.

e) Assemble complete disc pack on bench, and compress to make sure that springs return components. Friction discs must be free to rotate. Center and align friction discs, and assemble disc pack into endplate.

55,500 Series

a) Spring and pin arrangements for vertical above motor are shown in Figure 5.

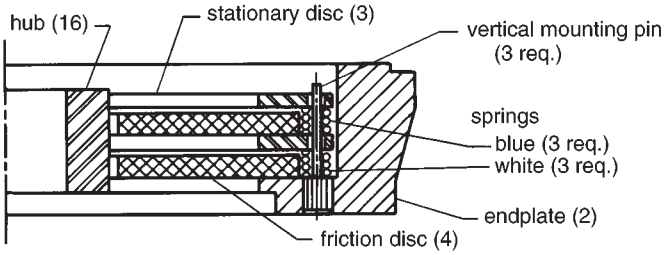
b) Assemble disc pack into endplate. Friction discs must be free to rotate. Check by rotating hub, if possible, and compress disc pack to make sure that components slide freely over pins. If springs do not return components, pins may be bent, and will have to be straightened.

c) Spring and pin arrangements for vertical below motor are shown in Figure 6.

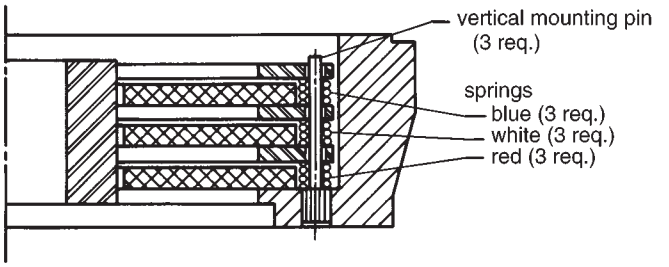
d) Assemble stationary disc onto pins in pressure plate to make sure that it slides freely. Insert assembly into endplate to make sure that it slides freely in slots. Straighten pins if required.

e) Assemble complete disc pack on bench, and compress to make sure that springs return components. Friction discs must be free to rotate. Center and align friction discs and assemble disc pack into endplate.

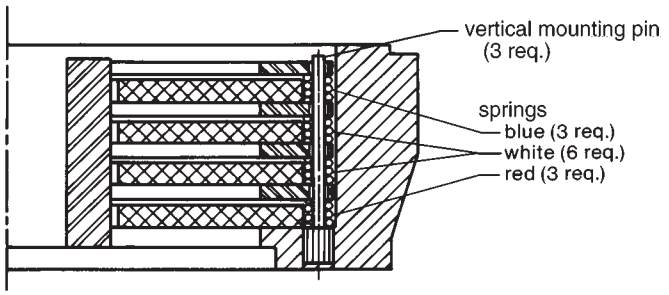
Vertical arrangement for 55,000 and 57,000 Series vertical mounting above motor



2 Friction Discs



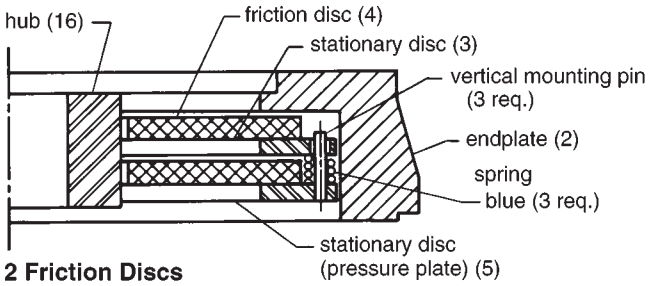
3 Friction Discs



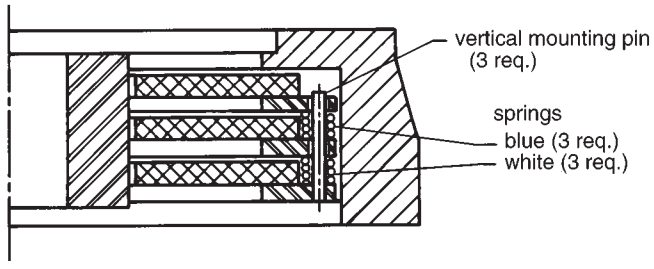
4 Friction Discs

Figure 3

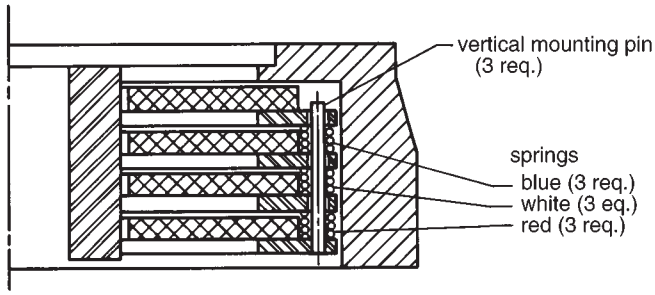
Vertical arrangement for 55,000 and 57,500 Series vertical mounting below motor



2 Friction Discs



3 Friction Discs



4 Friction Discs

Figure 4

Vertical arrangement for 55,500 Series vertical mounting above motor

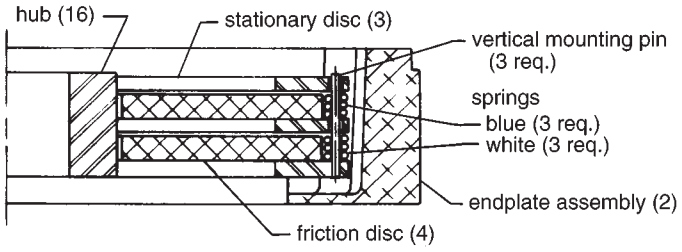


Figure 5

Vertical arrangement for 55,500 Series vertical mounting below motor

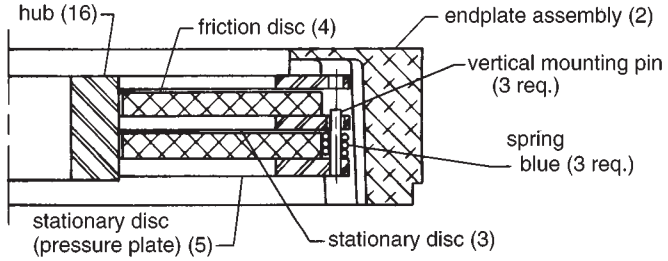


Figure 6

Vertical arrangement for 55,700 Series vertical mounting above motor

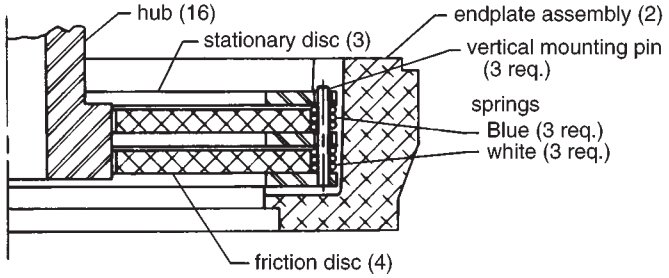


Figure 7

Vertical arrangement for 55,700 Series vertical mounting below motor

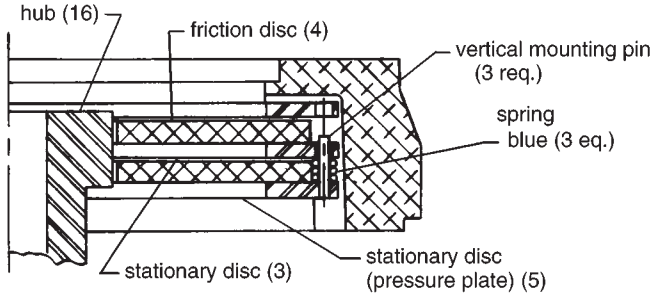


Figure 8

57,500 Series

a) Spring and pin arrangements for vertical above motor are shown in Figure 7.

b) Assemble disc pack into endplate. Friction discs must be free to rotate. Check by rotating hub, if possible, and compress 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.

c) Spring and pin arrangements for vertical below motor are shown in Figure 8.

d) Assemble stationary disc onto pins in pressure plate to make sure that it slides freely. Insert assembly into endplate to make sure that it slides freely in slots. Straighten pins if required.

e) Assemble complete disc pack on bench, and compress to make sure that springs return components. Friction discs must be free to rotate. Center and align friction discs and assemble disc pack into endplate.

5. Remount support plate assembly to the brake, drawing the screws down evenly. Be sure that the assembly is mounted so that the solenoid is upright (plunger above the frame) when the brake is mounted in the horizontal position.

6. 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.)

   If solenoid air gap exceeds 11/16", adjustment is necessary.

   The solenoid air gap measurements are shown in Table below.

Table: Solenoid air gap measurment

Nominal static torque (lb-ft)	55,000 57,500	55,500	55,700
1.5 and 3	13/32	13/32	13.32
6	1/2	1/2	1/2
10	9/16	1/2	1/2
15	9/16	9/16	9/16
20 and 25	9/16	—	—

7. The solenoid air gap my be increased or decreased by turning both wear adjustment screws (10) equal amounts clockwise, approximately 1/8 turn, until approximate solenoid gap is obtained.

8. Reconnect solenoid coil leads.

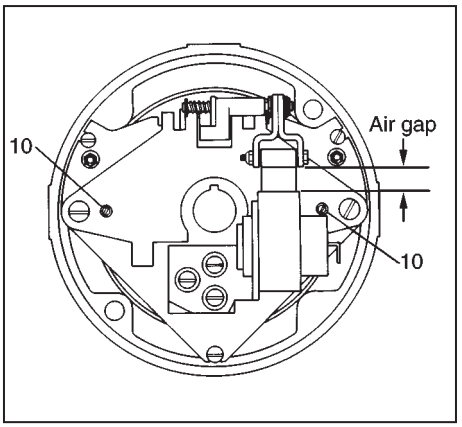


Figure 9

9. Replace housing and housing nuts in reverse order of the appropriate point in step 1.

10. 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.

Rexnord Industries, Inc., Stearns Division, 5150 S. International Dr., Cudahy, Wisconsin 53110, (414) 272-1100 Fax (414) 277-4364