

Series 87,000 and 87,100 Mounting Face: NEMA 182TC - 256TC/UC

The 87,X00** Series have the following design features:

- Self-Adjusting Design
- Splined Hub
- Lead Wire Length: 24 inches
- Maximum Speed:
Horizontal 4000 rpm
Vertical 3600 rpm (modification required for vertical mounting), see [SAB Modification Section](#).
- Coil Insulation: Standard Class B Optional
Class H (Class H standard on 87,800)
- Certified: CSA File LR-6254
- ABS Type Approval Certified

** Does not include 87,300 and 87,700 Series brakes.

Engineering Specifications

Nominal Static Torque	No. of Friction Discs	Coil Size	Maximum Solenoid Cycle Rate ^①	Thermal Capacity ^②	Inertia (Wk ²)			
					hp-sec/min (watts)	lb-ft ² (kgm ² x 10 ⁻⁴)		
						87,000	87,100	87,700
6 (8)	1	5	30	17.5 (218)	.048 (20.34)	—	—	
10 (14)	1	5	30	17.5 (218)	.048 (20.34)	—	.078 (32.76)	
15 (20)	1	6	25	17.5 (218)	.048 (20.34)	—	.078 (32.76)	
25 (34)	1	6	25	17.5 (218)	.048 (20.34)	—	.078 (32.76)	
35 (47)	1	8	20	17.5 (218)	.048 (20.34)	—	.078 (32.76)	
50 (68)	2	6	25	17.5 (218)	.089 (37.40)	.089 (37.40)	.108 (45.36)	
75 (102)	2	8	20	17.5 (218)	.089 (37.40)	.089 (37.40)	.108 (45.36)	
105 (142)	3	8	20	17.5 (218)	.129 (54.45)	.129 (54.45)	.145 (60.90)	
125 (169)	3	8	20	20.0 (248)	.129 (54.45)	.129 (54.45)	—	

① Maximum solenoid cycle rate is based on ambient temperature of 72°F (22°C) with 50% duty cycle. Does not relate to brake cycle rate (see *Thermal Capacity*).

② Thermal capacity rating is based on ambient temperature of 72°F (22°C), stop time of one second or less, with no heat absorbed from motor. Derate thermal capacity by 25% for vertical mounting. Refer to *Selection Procedure* Section.
87,800 Thermal capacity is 14 hp-sec/min (174 watts).

Current Ratings (amperes)

Solenoid Coil Size	AC Current	Voltage: 60 Hz					Voltage: 50 Hz			Voltage: DC				
		115	200	230	400	460	575	110	220	380	24	95	115	230
5	inrush	7.5	4.3	3.7	2.2	1.9	1.5	5.4	4.0	1.9	38.0	8.4	5.6	3.2
	holding	.5	.3	.2	.1	.1	.09	.3	.3	.1	.5	.1	.08	.04
6	inrush	13.0	7.5	6.5	3.7	3.2	2.6	9.4	5.6	3.2	42.8	11.7	8.5	3.7
	holding	.6	.4	.3	.2	.2	.1	.5	.3	.2	.61	.16	.13	.06
8	inrush	17.6	10.3	8.8	5.0	4.2	3.5	15.4	7.7	4.2	43.1	11.4	9.3	4.6
	holding	1.2	.7	.6	.3	.3	.3	1.0	.5	.3	.8	.2	.2	.09

Motor Frame Adapters/Special Endplate

To Adapt to NEMA Frame Size	in. (mm)	Reg. No.	Adapter Stock Number	Additional Shaft Length Required in. (mm)
56C, 143TC, or 145TC 182TFC, 184TFC	4.50 (114.30)	-05	Brake endplate is modified for 4.50 in AK. Adder below*	— (—)
			5-55-7043-00 List \$1,300.00	.56 (14.22)
284TC 286TC	10.50 (266.70)	-11	5-55-7055-00 List \$450.00	.81 (20.64)
metric	—	-10	Endplate modified for 130mm register (AK) & 165mm bolt circle (AJ). Add: Brake w/aluminum endplate \$725.00 includes adder for cast iron endplate. Brake with cast iron endplate: \$340.00	—
324TC, 326TC, 364TC, 365TC, 404TC or 405TC	12.50 (317.50)	-13	5-55-7046-00 List \$875.00	.88 (22.22)
	—	-07	Endplate modified to provide a 6.75" male register (AK) and 7.19" bolt circle (AJ). Adder below*	—
182TC/184TC, 213TC, 215TC, 254TC/256TC	8.5 (215.90)	-03	Extended endplate. Adder below*	.625 (15.88)

*Brakes with aluminum endplate: \$725.00 (includes adder for cast iron endplate)

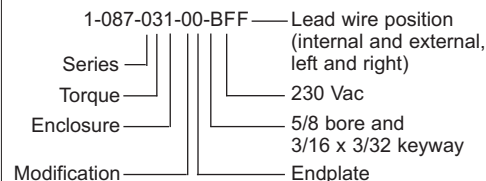
*Brakes with cast iron endplate: \$340

For motor frame adapters: Series 87,000 through 87,800 see [Technical Data](#)

Ordering and Identification Information

The following example and tables provide information for selecting the appropriate three-letter suffix when ordering a Stearns Brake.

Example of a complete part number:



Hub Selection

Character	Bore (in.)	Keyway** (in. x in.)
A*	5/8	1/8 x 1/16
B*	5/8	3/16 x 3/32
C*	3/4	3/16 x 3/32
D	7/8	3/16 x 3/32
E	1-1/8	1/4 x 1/8
F	1-1/4	1/4 x 1/8
G	1-3/8	5/16 x 5/32
H	1-5/8	3/8 x 3/16
I*	1-3/4	3/8 x 3/16
J*	1-7/8	1/2 x 1/4
K*	1/2	1/8 x 1/16
L*	1	1/4 x 1/8
M*	1-1/2	3/8 x 3/16
N*	9/16	1/8 x 1/16
O*	11/16	3/16 x 3/32
P*	1-1/16	1/4 x 1/8
Q*	1-7/16	3/8 x 3/16
R*	13/16	3/16 x 3/32
S*	15/16	1/4 x 1/8
T*	1-3/16	1/4 x 1/8
U*	1-5/16	5/16 x 5/32
Z	.600	pilot bore

Standard AC Voltage Ratings

Character	Voltage	Hz
B	115	60
D	110	50
E	200	60
F	230	60
	190	50
H	220	50
L	460	60
	380	50
M	415	50
N	575	60
O	110/220	50
P	115/230	60
Q	230/460	60
	190/380	50
R	200/400	60

Maximum allowable bore 1.875. For thru-shaft applications 1.625 is maximum.

*These bores are non-standard. Add \$250.00 to list price.

**Keyseats made to ANSI B17.1 standard.

Direct Current

Character	Voltage
T	12
U	24
V	36
W	48
X	95
Y	115
Z	230

Consult factory if other DC voltage is needed.

Modifications are available—see SAB Modification Section

Dimensional drawings are on the pages following.

Series 87,000

Mounting Face: NEMA 182TC 184TC, 213TC, 215TC, 254TC, and 256TC

(Note: for 182TFC and 184TFC mounting, add a -05- register)

8.5" AK, 7.25" AJ

Static Torque: 6 through 105 lb-ft

Enclosure Material: IP 23 - Sheet Metal Housing, Aluminum Endplate. IP 54 & 55 - Cast Iron Housing and Endplate. IP 54 & 55 also available in sheet metal housing, aluminum endplate.

Enclosure Protection: IP 23, 54 & 55 (formerly referred to as NEMA 2, 4 & 4X* respectively) *BISSC Certified

Release Type: Pull Release Knob, maintained with automatic reset. Vertical above IP 54 & 55 supplied with side manual release lever; and all Cast Iron IP 54 & 55 brakes supplied with side manual release lever.

Installation, Service and Parts List: P/N 8-078-928-01 Rev. B brakes

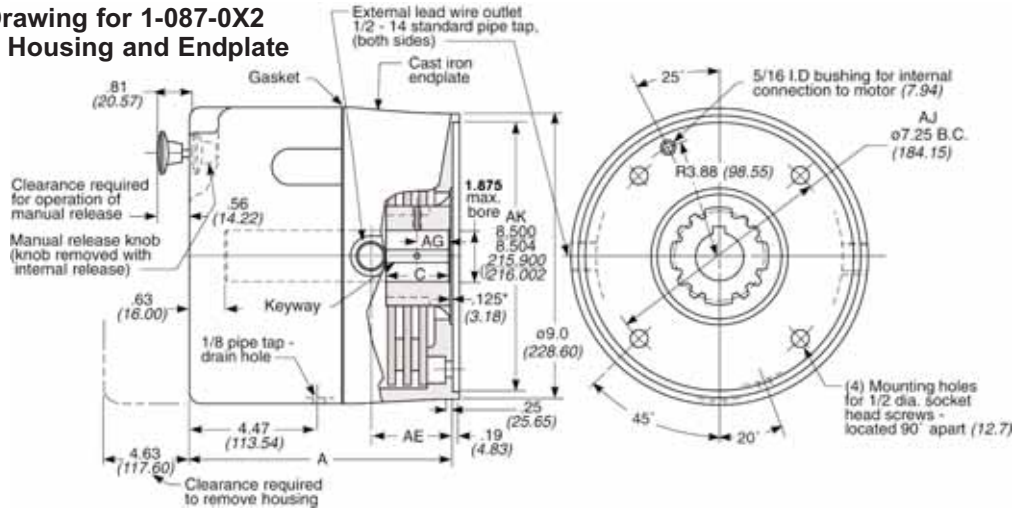
Mounting: Horizontal, unless modified for vertical. Vertical mounting is defined as 15° or more from horizontal. Vertical above requires modification. Vertical below requires modification on 50-105 lb-ft brakes. Vertical above IP 54/55 includes side manual release. See SAB Modification Section for list price adders.

Fanguard-mounted brakes requiring IP 54 or IP 55 protection may require additional sealing measures beyond seals provided with the brake - Refer to Installation & Service Instruction sheets.

Specifications including bore sizes/voltages: Page 17

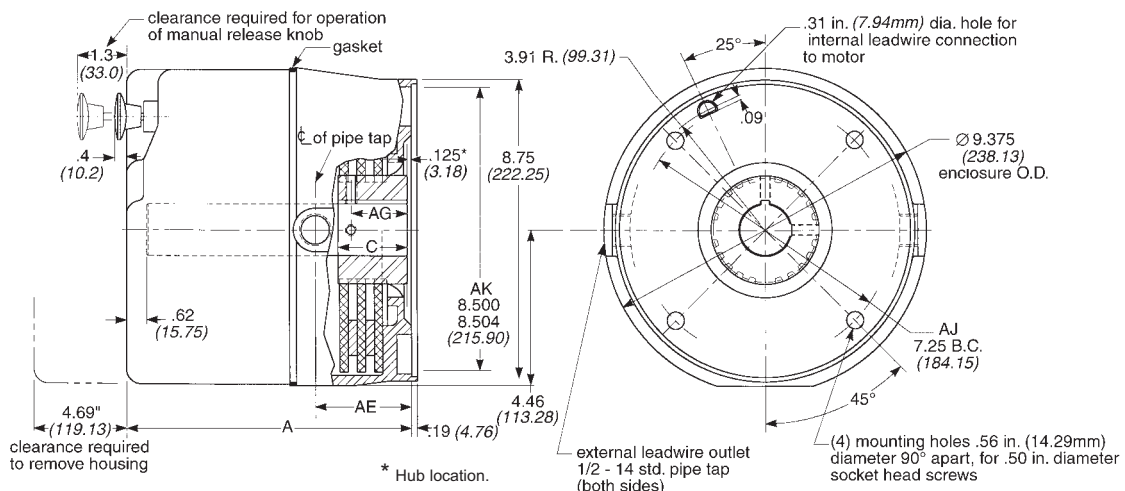
Modifications: Pages 51-60 Including New Manual Adjust Option

Outline Drawing for 1-087-0X2 Cast Iron Housing and Endplate



* Hub location.
Dimensions for estimating only. For installation purposes request certified prints.

Outline Drawing for 1-087-0X1 and 1-087-0X4 Sheet Metal Housing, Aluminum Endplate



* Hub location.



Brake set and release times in milliseconds, when brake and motor are switched separately (for T1/T2 definitions, see page 98):

Static Torque	Coil Size	T1	T2
10, 15, 25, 50	5 & 6	42	20
35, 75, 105	8	48	20

IP 23 Enclosure - aluminum & steel

Nominal Static Torque lb-ft (Nm)	Basic Model Number and List Price*				Dimensions in Inches (Dimensions in Millimeters)				Wt. lbs (kg)**	Discount Symbol
	AC	AC List Price*	DC	DC List Price*	A	AE	AG	C Hub Width		
6 (8)	1-087-001-00	\$925.00	1-087-005-00	\$1,495.00	7.38 (187.32)	1.81 (46.04)	.68 (17.29)	1.00 (25.40)	20 (9.0)	B2
10 (14)	1-087-011-00	925.00	1-087-015-00	1,495.00					20 (9.0)	B2
15 (20)	1-087-021-00	975.00	1-087-025-00	1,545.00					22 (10.0)	B2
25 (34)	1-087-031-00	1,050.00	1-087-035-00	1,620.00					22 (10.0)	B3
35 (47)	1-087-041-00	1,200.00	1-087-045-00	1,770.00					24 (11.0)	B3
50 (68)	1-087-051-00	1,500.00	1-087-055-00	2,070.00	7.88 (200.02)	2.31 (58.74)	.97 (24.64)	1.50 (38.10)	22 (10.0)	B3
75 (102)	1-087-061-00	2,000.00	1-087-065-00	2,570.00					27 (12.2)	B3
105 (142)	1-087-081-00	2,700.00	1-087-085-00	3,270.00					8.38 (212.72)	2.81 (71.44)

IP 54 and IP 55 Enclosure - CAST IRON

Nominal Static Torque lb-ft (Nm)	Enclosure	Basic Model Number and List Price*				Dimensions in Inches (Dimensions in Millimeters)				Wt. lbs (kg)**	Discount Symbol
		AC	AC List Price*	DC	DC List Price*	A	AE	AG	C Hub Width		
6 (8)	IP 54	1-087-002-00	\$1,525.00	1-087-006-00	\$2,095.00	7.56 (192.09)	1.81 (46.04)	.68 (17.29)	1.00 (25.40)	44 (20.0)	B2
	IP 55	1-087-002-B0	\$1,780.00	1-087-006-B0	\$2,350.00						
10 (14)	IP 54	1-087-012-00	1,525.00	1-087-016-00	2,095.00					44 (20.0)	B2
	IP 55	1-087-012-B0	1,780.00	1-087-016-B0	2,350.00						
15 (20)	IP 54	1-087-022-00	1,575.00	1-087-026-00	2,145.00					46 (21.0)	B2
	IP 55	1-087-022-B0	1,830.00	1-087-026-B0	2,400.00						
25 (34)	IP 54	1-087-032-00	1,650.00	1-087-036-00	2,220.00					46 (21.0)	B3
	IP 55	1-087-032-B0	1,905.00	1-087-036-B0	2,475.00						
35 (47)	IP 54	1-087-042-00	1,800.00	1-087-046-00	2,370.00					48 (21.7)	B3
	IP 55	1-087-042-B0	2,055.00	1-087-046-B0	2,625.00						
50 (68)	IP 54	1-087-052-00	2,100.00	1-087-056-00	2,670.00	8.06 (204.79)	2.31 (58.74)	.97 (24.64)	1.50 (38.10)	51 (23.0)	B3
	IP 55	1-087-052-B0	2,355.00	1-087-056-B0	2,925.00						
75 (102)	IP 54	1-087-062-00	2,600.00	1-087-066-00	3,170.00	52 (24.0)	B3				
	IP 55	1-087-062-B0	2,855.00	1-087-066-B0	3,425.00						
105 (142)	IP 54	1-087-082-00	3,300.00	1-087-086-00	3,870.00	8.56 (217.49)	2.81 (71.44)	.97 (24.64)	2.00 (50.80)	56 (25.4)	B3
	IP 55	1-087-082-B0	3,555.00	1-087-086-B0	4,125.00						
125 (169)	IP 54	1-087-092-00	3,800.00	1-087-096-00	4,370.00	8.56 (217.49)	2.81 (71.44)	.97 (24.64)	2.00 (50.80)	56 (25.4)	B3
	IP 55	1-087-092-B0	4,055.00	1-087-096-B0	4,625.00						

IP 54 and IP 55 Enclosure - Lightweight ALUMINUM & STEEL

Nominal Static Torque lb-ft (Nm)	Enclosure	Basic Model Number and List Price*				Dimensions in Inches (Dimensions in Millimeters)				Wt. lbs (kg)**	Discount Symbol
		AC	AC List Price*	DC	DC List Price*	A	AE	AG	C Hub Width		
6 (8)	IP 54	1-087-004-00	\$1,125.00	Contact factory		7.43 (188.59)	1.81 (46.04)	.68 (17.29)	1.00 (25.40)	19 (8.6)	B2
	IP 55	1-087-004-B0	\$1,425.00								
10 (14)	IP 54	1-087-014-00	1,125.00	Contact factory						19 (8.6)	B2
	IP 55	1-087-014-B0	1,425.00								
15 (20)	IP 54	1-087-024-00	1,175.00	Contact factory						20 (9.0)	B2
	IP 55	1-087-024-B0	1,475.00								
25 (34)	IP 54	1-087-034-00	1,250.00	Contact factory						20 (9.0)	B3
	IP 55	1-087-034-B0	1,550.00								
35 (47)	IP 54	1-087-044-00	1,400.00	Contact factory						22 (10.0)	B3
	IP 55	1-087-044-B0	1,700.00								
50 (68)	IP 54	1-087-054-00	1,700.00	Contact factory		7.93 (201.28)	2.31 (58.74)	.97 (24.64)	1.50 (38.10)	23 (10.4)	B3
	IP 55	1-087-054-B0	2,000.00								
75 (102)	IP 54	1-087-064-00	2,200.00	Contact factory		23 (10.4)	B3				
	IP 55	1-087-064-B0	2,500.00								
105 (142)	IP 54	1-087-084-00	2,900.00	Contact factory		8.43 (213.97)	2.81 (71.44)	.97 (24.64)	2.00 (50.80)	24 (11.0)	B3
	IP 55	1-087-084-B0	3,200.00								

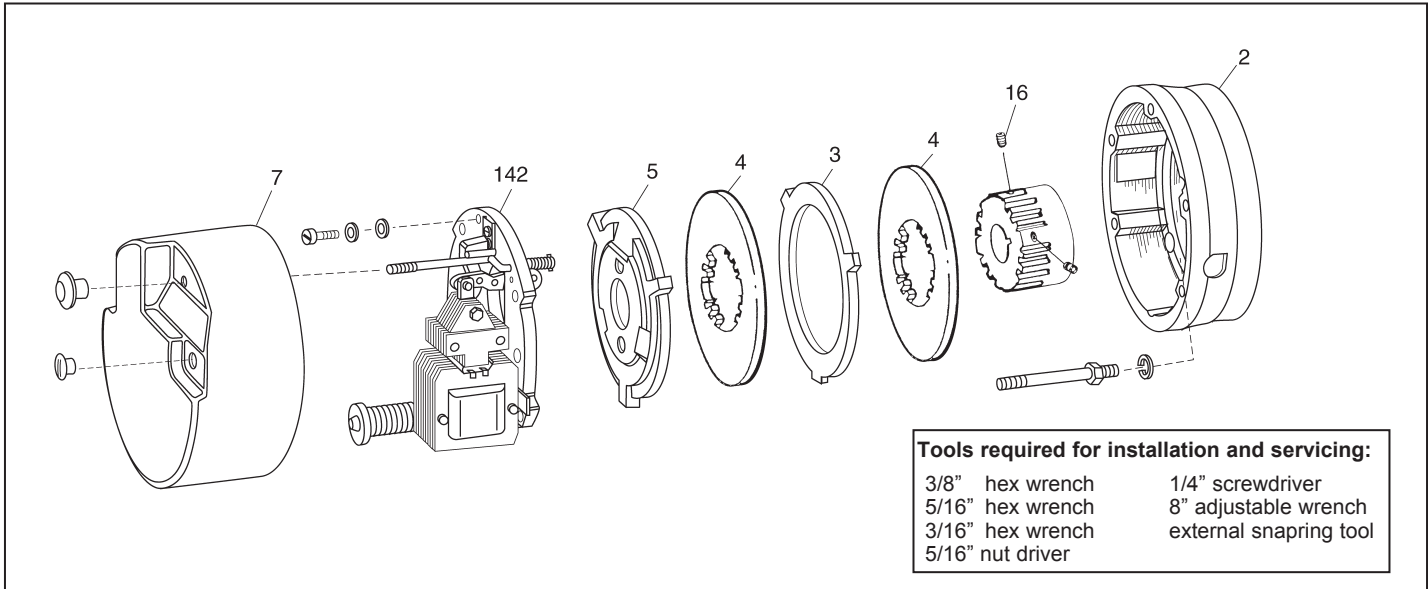
* Subtract \$45.00 for brake ordered less hub.

** Foot mounting adds 7 lbs. (3.2 kg) to weight.

¹ These model numbers and list prices include non-standard friction discs.

For high inertia or overhauling loads, it is recommended that 81,000 or 82,000 series brakes be used, as these brakes have substantially higher thermal capacities (50% higher for 81,000 series and 150% higher for 82,000 series).

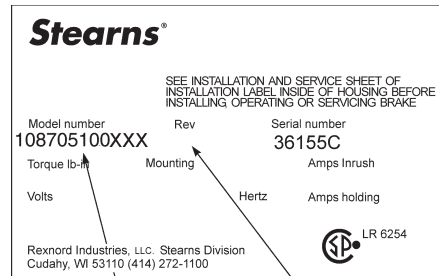
Installation and Service Instructions for 87,000 & 87,100 Series Self-Adjust Brakes (rev. B)



Typical Nameplate

Important

Please read these instructions carefully before



Note:
MODEL NUMBER
Refer to actual nameplate on brake for additional information
REVISION CONTROL
(if applicable) and brake serial number

installing, operating, or 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 International Dr., Cudahy, WI 53110, (414) 272-1100.

Caution

1. Installation and servicing must be made in compliance with all 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. Use of this brake in atmospheres containing explosive gases and dusts must be in accordance with NEC article 501. This brake is not suitable for use in certain atmospheres containing explosive gases and dusts. **HazLoc** inspection authorities are responsible for verifying and authorizing the use of suitably designed and installed **HazLoc** equipment. When

questions arise consult local **Authority Having Jurisdiction (AHJ)**.

3. 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.
4. Make certain power source conforms to the requirements specified on the brake nameplate.
5. Be careful when touching the exterior of an operating brake. Allow sufficient time for brake to cool before disassembly. Surfaces may be hot enough to be painful or cause injury.
6. Do not operate brake with housing removed. All moving parts should be guarded.
7. Installation and servicing should be performed only by qualified personnel familiar with the construction and operation of the brake.
8. For proper performance and operation, only genuine Stearns parts should be used for repairs and replacements.
9. 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.

10. **Caution!** While the brake is equipped with a manual release to allow manual shaft rotation, the motor should not be run with

the manual release engaged, to avoid overheating the friction disc(s).

General Description

These series of brakes are spring-set, electrically released. They contain one or more rotating friction discs (4) driven by a hub (16) mounted on the motor or other shaft.

Note: Fan-guard mounted brakes requiring IP54 & IP55 protection may require additional sealing measures beyond seals provided with this brake. Pressurized sprays aimed at the fan and brake hub surfaces can result in fluid migration along the motor shaft and keyway, and into the brake. The use of an appropriate sealant such as RTV or a *forsheda* seal is advised.

Operating Principle

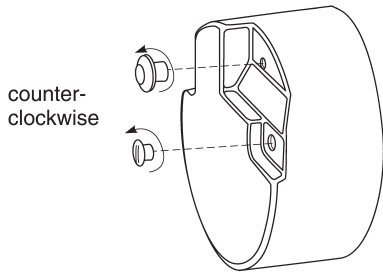
These series contain one or more friction discs (4) assembled alternately between the endplate (2) friction surface, stationary disc(s) (3) and pressure plate (5). The stationary components are restrained from rotating by being keyed into the endplate. With the brake released, all disc pack components are free to slide axially and the friction disc(s) to rotate.

Brake release occurs when the solenoid coil is electrically energized, causing the solenoid plunger to travel a specified distance and through a lever system, overcoming the pressure spring force. This action releases the clamping force on the disc pack, thereby allowing the friction disc(s) and brake hub to rotate.

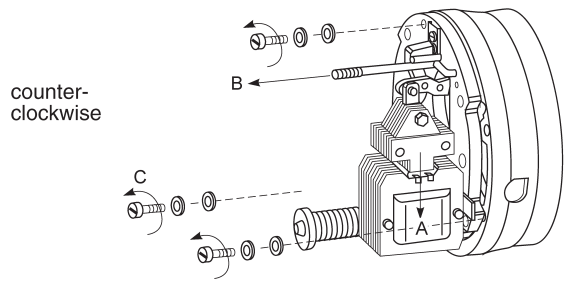
Brake sets and torque is produced when electric current to the solenoid coil is interrupted, thereby collapsing the solenoid magnetic field. The solenoid plunger returns to its original de-energized position allowing the lever arm to move forward by virtue of the compressed torque springs. This action compressed the disc pack components which applies a retarding torque to the brake hub and ultimately restores the brake to a spring-set static condition.

BRAKE MOUNTING

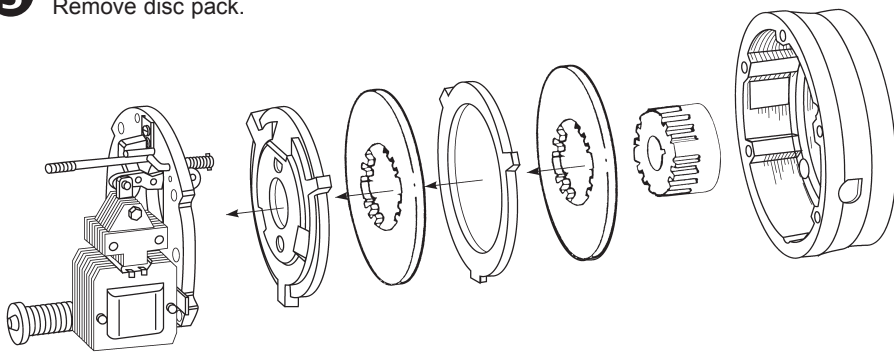
- 1** Remove manual release knob.
Remove housing screws.
Remove housing.



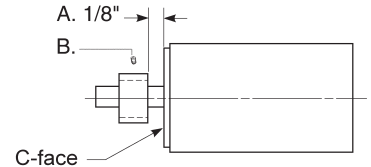
- 2** A. Push plunger down.
B. Pull manual release to hold plunger.
C. Remove support plate screws.



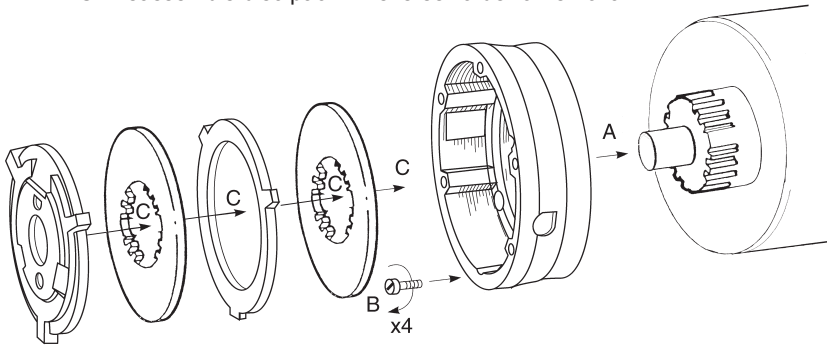
- 3** Lift off support plate.
Remove disc pack.



- 4** A. Position hub on shaft as shown.
B. Tighten set screws to motor shaft.
Torque to: 5/16" - 156 in-lb;
3/8" - 288 in-lb;
1/2" - 625 in-lb.

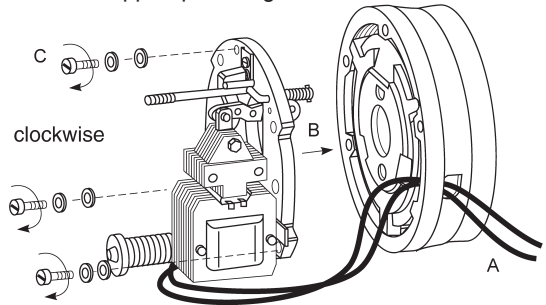


- 5** A. Position endplate on motor register.
B. Insert four mounting bolts and tighten.
C. Reassemble disc pack in reverse* order of removal.



*For vertical brakes, refer to Figure 2, page 3.

- 6** A. Route lead wires through conduit hole.
B. Position support plate on endplate.
C. Position conical washer under the screw head, with the flat washer* against the support plate. Tighten screws to 75-78 in-lb.



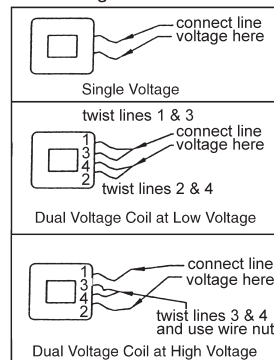
*Cast iron support plates do not require a flat washer.

- 7** AC coils are 50/60 Hz, single phase rated. Power supply to coil must not have current or frequency limiting output that is less than the coil requirement.

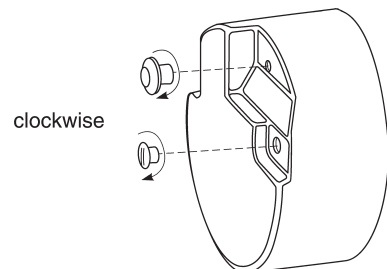
- Connect leadwires to power source. Verify voltage rating* per nametag on coil.
- Keep wiring away from pinch points and moving components.

* For DC voltages see Sheet 8-078-950-00

Coil Wiring



- 8** Replace housing.
Tighten housing screws and release knob to 50-55 in-lb.



Installation Notes:

Note 1: If motor is to be ceiling mounted after assembly, entire brake will have to be rotated 180° or “upside down” so it will be positioned with solenoid plunger (29) above frame when final assembly is mounted on ceiling. Similarly, for horizontal wall mounting, rotate 90°.

Note 2: The brake nameplate states mounting position; “horizontal, vertical above or vertical below.” The brake must be mounted in that position. Horizontal brakes rated 35 lb-ft and less do not require modification to be mounted vertical below.

Note 3: A dimple drilled into the motor shaft for the hub set screw (16S), 90° from the key is recommended for vertical mounting.

General Maintenance

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. Observe all cautions listed at the beginning of this manual.

Note 1: To obtain correct replacement parts for the Series 87,000 Marine Duty, obtain brake serial number and consult factory.

Note 2: Replace friction disc in single disc brakes when wear surface area is one-half the original disc thickness. In multiple disc brakes, replace all friction discs when throat of lever arm (17) is within 1/16” of touching teeth of pinion (32).

Troubleshooting

A. If brake does not stop properly or overheats, check the following:

1. Is manual release engaged, and is motor energized?
2. Friction discs may be excessively worn, charred or broken.
3. Hub may have become loose and shifted on shaft.
4. Are controls which govern start of braking cycles operating properly?
5. On vertically mounted brakes, are springs in place in disc pack?
6. Is solenoid air gap adjusted correctly? See *Air Gap Adjustment*, Page 4.
7. Solenoid lever stop (22) must be in place on support plate.
8. Solenoid may not be energizing and releasing the brake. Check voltage at the coil and compare to the coil and/or nameplate voltage rating.
9. Check that heads of mounting bolts do not extend above wear surface of endplate.
10. If stopping time is more than two seconds, the brake torque rating may be insufficient. If the brake stops high inertial loads and/or brake stops more than five times per minute, check thermal requirements of application versus thermal capacity rating of brake.

11. Use Loctite® 242 to secure link screw nut (13N) to link screw (13C) if vibration causes nut to loosen.
12. Check pressure spring length to insure correct compressed height. Original spring lengths are given in the following Table so that correct setting may be verified and corrected if necessary. With worn friction discs, add amount of wear to the approximate spring length shown.

Color	Torque (lb-ft)	Compressed Spring Length
Black	10	3-1/4”
White	15	3-1/4”
Orange	25 & 50	3-1/4”
Purple	35, 75, 105 & 125	3-1/4”

13. If a heater is supplied and excess rusting has occurred in brake, check power source to heater to be sure it is operating and that heater is not burned out.

B. If brake hums, solenoid pulls in slowly, or coil burns out, check the following:

1. Voltage supply at coil versus coil rating.
2. Is solenoid air gap excessive? See *Air Gap Adjustment*, Page 4.
3. Solenoid frame and plunger may be excessively worn.
4. Solenoid mounting screws may have become loose, causing frame to shift and plunger to seat improperly.

Vertical Spring Assembly

Note: For vertical brakes refer to Figure 2 for proper stationary disc positioning. Discs must be inserted spring side first. Also refer to instruction sheet 8-078-937-06.

For brakes with brass stationary components, refer to instruction sheet 8-078-937-07.

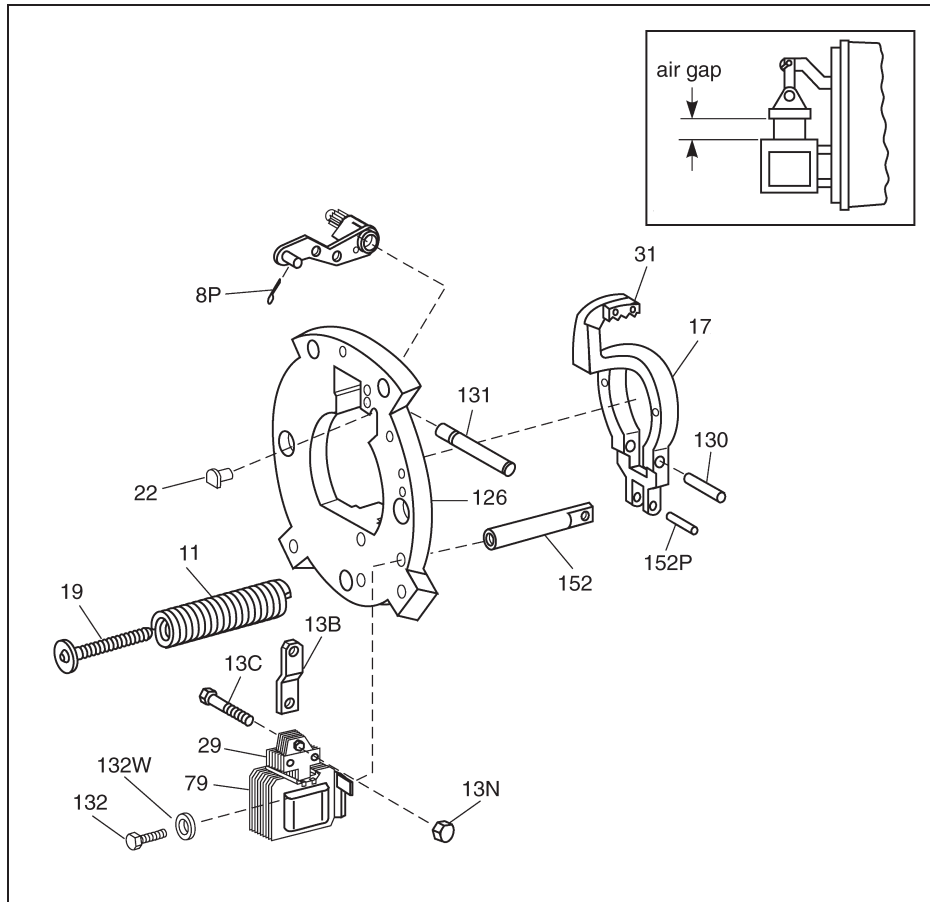


Figure 1

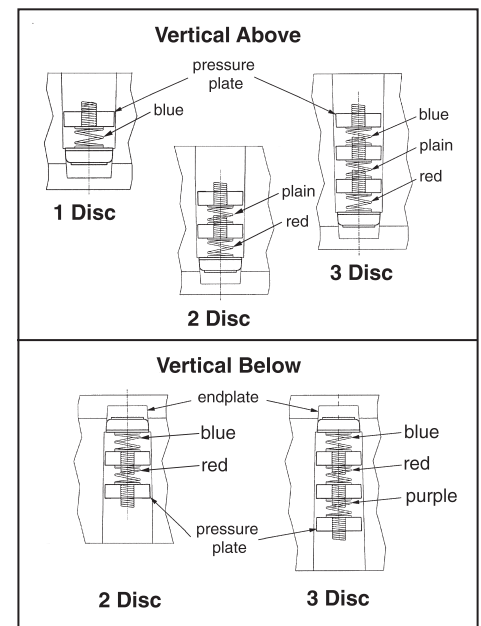
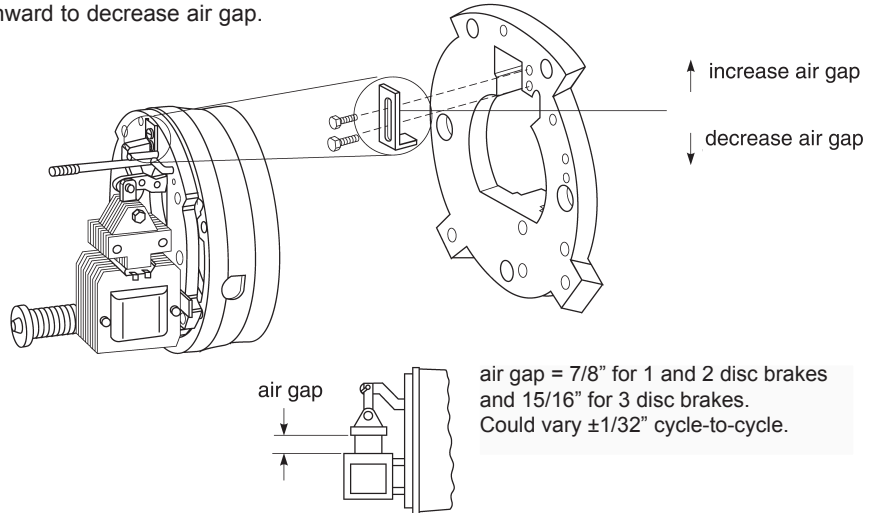
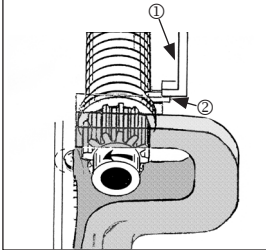


Figure 2

AIR GAP AJUSTMENT

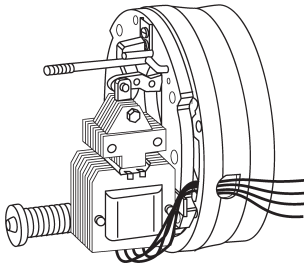
- 1** Loosen two locking screws.
Slide bracket outward to increase or inward to decrease air gap.
Tighten screws to 45-55 lb-in.

Wrap spring stop ① is positioned above the tang of the wrap spring ②

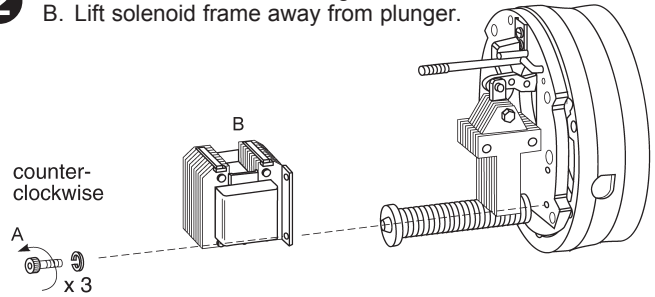


COIL REPLACEMENT

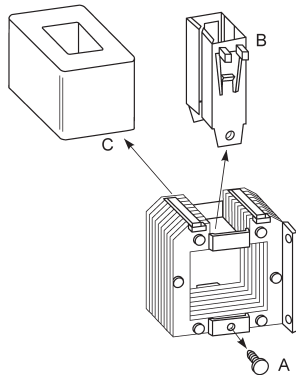
- 1** Disconnect coil lead wires from power source and pull them out of the brake.



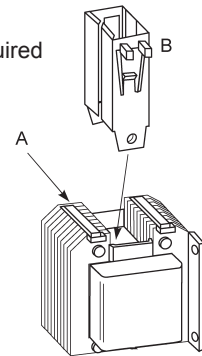
- 2** A. Remove solenoid mounting screws.
B. Lift solenoid frame away from plunger.



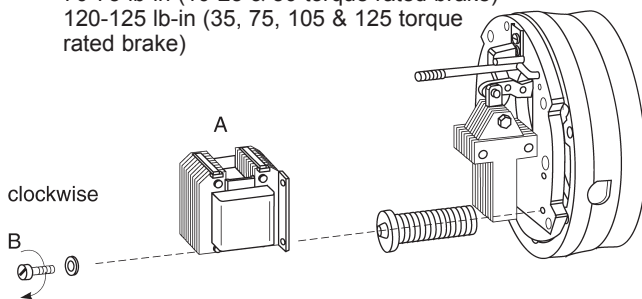
- 3** A. Remove guide screws, if used.
B. Lift guides out of coil.
C. Push coil out of frame.



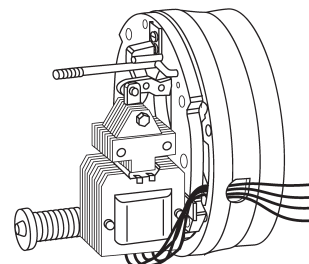
- 4** A. Insert new coil.
B. Press plunger guides into place.
C. (Guide screws are no longer required with plastic guides.)



- 5** A. Slide coil assembly onto plunger.
B. Insert mounting screws and tighten:
70-75 lb-in (10-25 & 50 torque rated brake)
120-125 lb-in (35, 75, 105 & 125 torque rated brake)

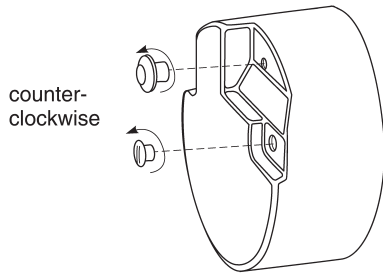


- 6** Reroute coil wires and reconnect to power supply.

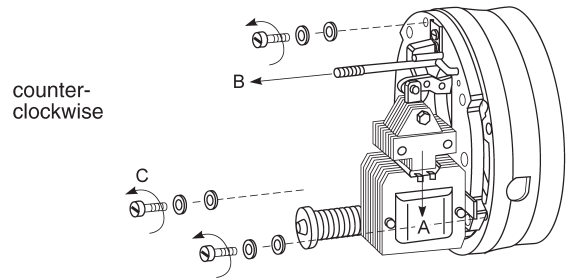


FRICION DISC REPLACEMENT

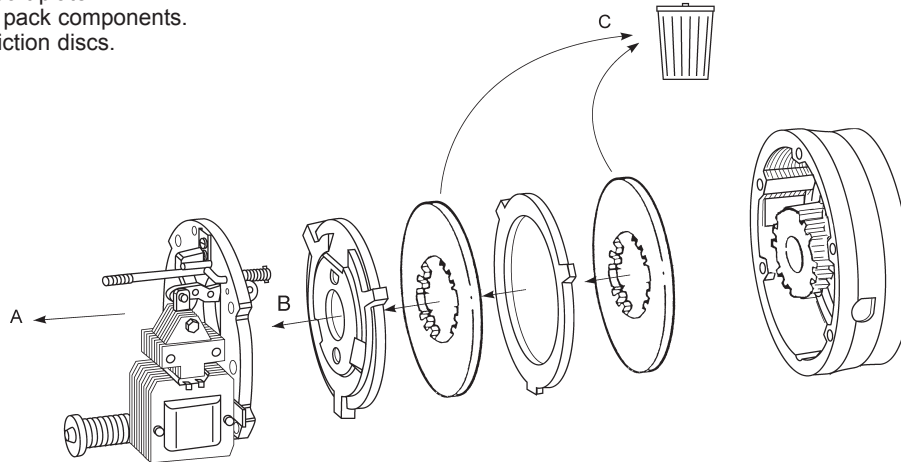
- 1** Remove manual release knob.
Remove housing screws.
Remove housing.



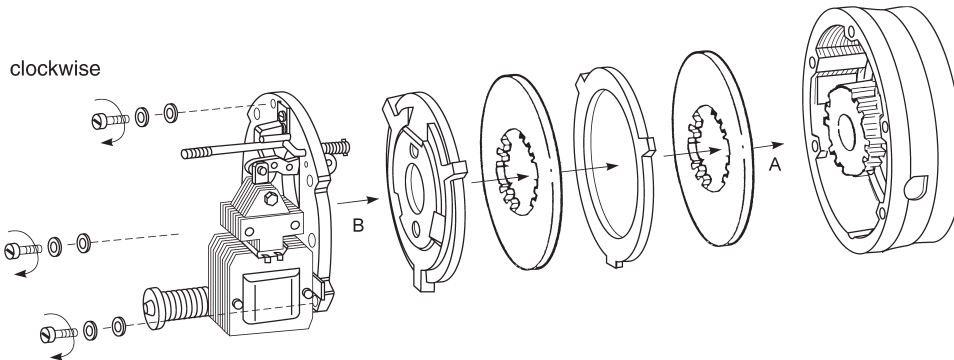
- 2** A. Push plunger down.
B. Pull manual release to hold plunger
C. Remove support plate screws.



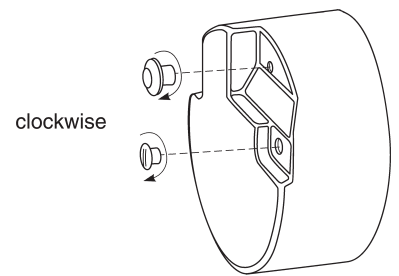
- 3** A. Remove support plate.
B. Remove disc pack components.
C. Discard old friction discs.



- 4** A. Install new friction discs and reassemble in reverse order of disassembly.*
B. Positioned conical washer under the screw head, with the flat washer against the support plate. **(Cast iron support plates do not require a flat washer)**. Tighten screws to 75-78 in-lb.



- 5** Replace housing.
Tighten housing screws to 50-55 in-lb. Hand tighten release knob.



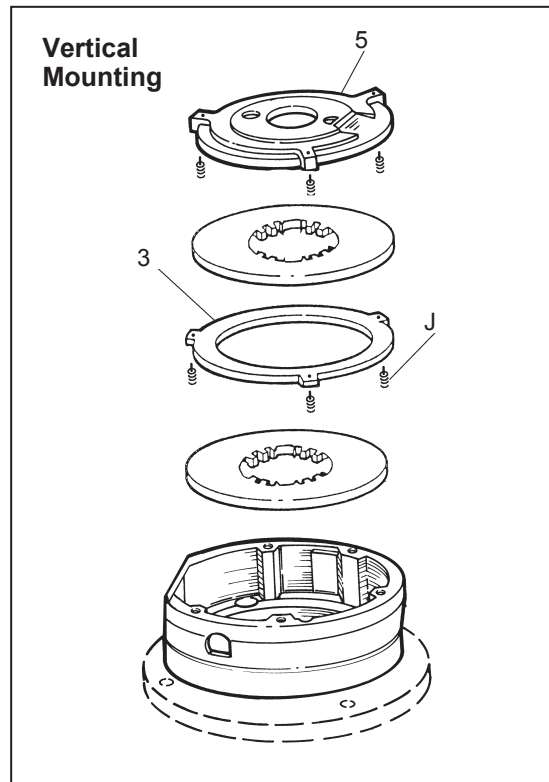
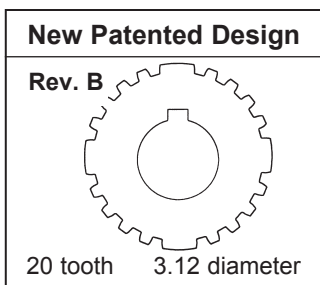
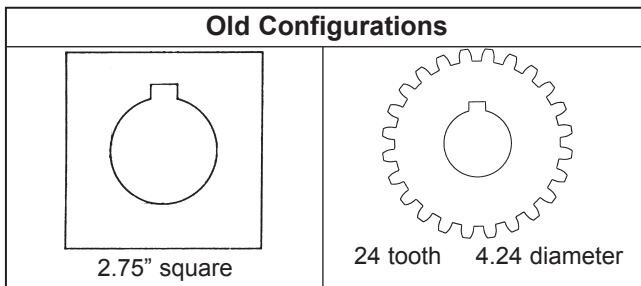
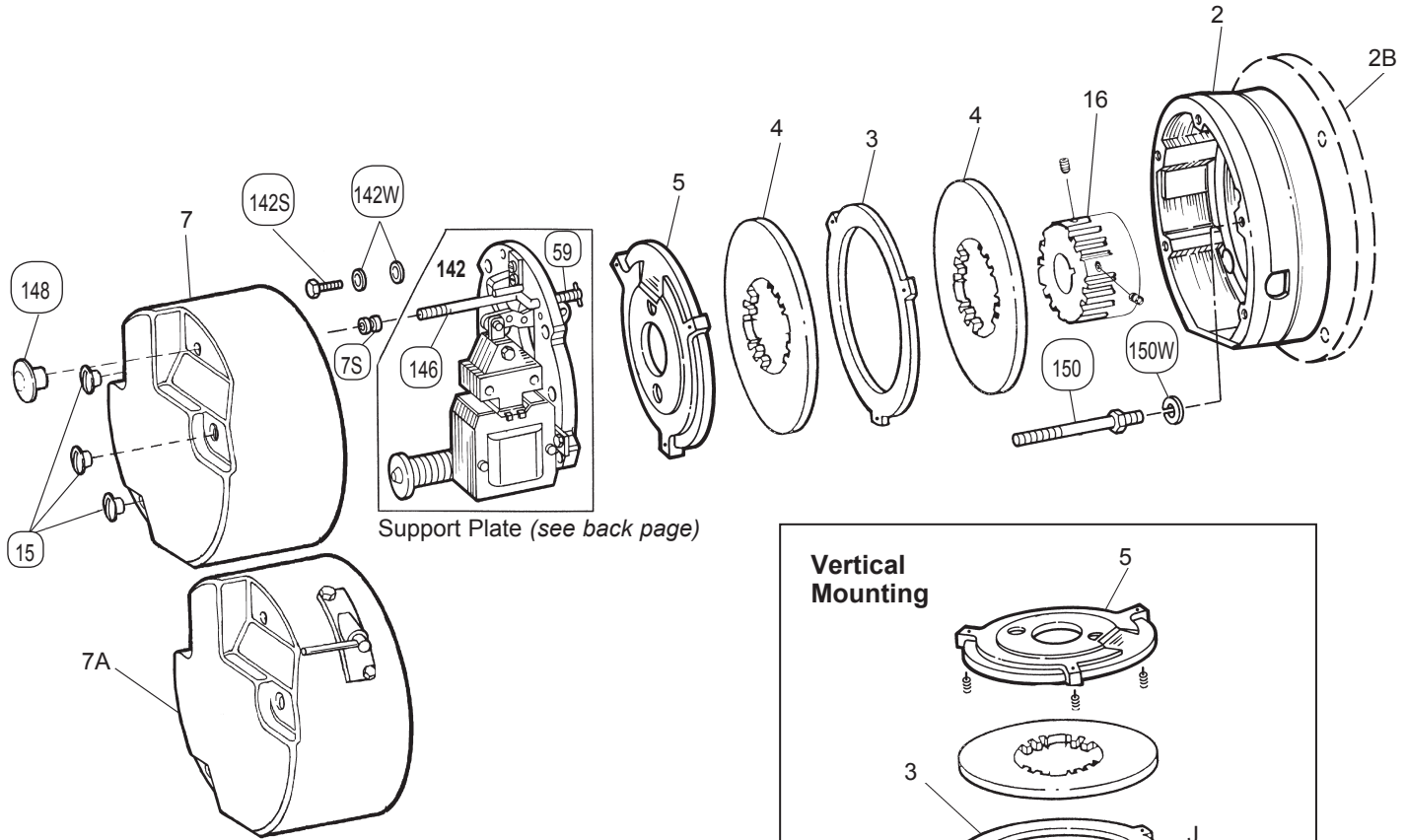
* For vertical brake assembly refer to Figure 2, page 3.

Information required when ordering replacement parts:

- Give part number of parts or kits needed, brake model number, and brake serial number. The brake model and serial number may identify special brakes not covered by this parts list.
- Description items in ***CAPITALIZED BOLD ITALICS*** are recommended spare parts. One set per 5 brakes in service is recommended.
- For 87,100 Series see Table 2.

Circled items are contained in kit Item A, Table 4.

For installation and service instructions, see P/N 8-078-937-06.
Detailed service instruction sheet is included with each kit.



Stearns®		Note:
SEE INSTALLATION AND SERVICE SHEET OR INSTALLATION LABEL INSIDE OF HOUSING BEFORE INSTALLING, OPERATING OR SERVICING BRAKE.		MODEL NUMBER will appear on brake nameplate.
Model number 108705100EQB	Rev. B	REVISION CONTROL (if applicable) and brake serial number
Torque lb-ft	Mounting	
Volts	Hertz	
Amps inrush	Amps holding	
Rexnord Industries, LLC, Stearns Division Cudahy, WI 53110 (414) 272-1100		LR 6254

N2 = NEMA 2
N4 = NEMA 4

TABLE 1: Components Of AC Brake

Item	Description	Part Number ↓	Torque (lb-ft)		6		10		15		25		35		50		75		105		125								
			2	4	4	2	4	4	2	4	4	2	4	4	2	4	4	2	4	4	2	4	4						
NEMA Enclosure			2	4	4	2	4	4	2	4	4	2	4	4	2	4	4	2	4	4	2	4	4						
Brake Model number →			1-087-001-00	1-087-002-00	1-087-004-00	1-087-011-00	1-087-012-00	1-087-014-00	1-087-021-00	1-087-022-00	1-087-024-00	1-087-031-00	1-087-032-00	1-087-034-00	1-087-041-00	1-087-042-00	1-087-044-00	1-087-051-00	1-087-052-00	1-087-054-00	1-087-061-00	1-087-062-00	1-087-064-00	1-087-081-00	1-087-082-00	1-087-084-00	1-087-091-00	1-087-092-00	1-087-094-00
A	HARDWARE KIT	5-66-1007-01 5-66-1007-02 5-96-1007-02	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
2	Endplate, aluminum, 1 disc, N2 Endplate, aluminum, 2 disc, N2 Endplate, aluminum, 3 disc, N2 Endplate/seal, aluminum, 1 disc, N4 Endplate/seal, aluminum, 2 disc, N4 Endplate/seal, aluminum, 3 disc, N4	5-02-7004-01-30F 5-02-7005-01-30F 5-02-7006-01-30F 5-22-7066-00-30F 5-22-7067-00-30F 5-22-7068-00-30F	1		1		1		1		1		1		1		1		1		1		1		1		1		
2	Endplate/seal, cast iron, 1 disc, N4 Endplate/seal, cast iron, 2 disc, N4 Endplate/seal, cast iron, 3 disc, N4	5-22-7061-00-30F 5-22-7063-00-30F 5-22-7065-00-30F		1			1		1		1		1		1		1		1		1		1		1		1		
Not Shown	Gasket and seal kit, aluminum, N4 Gasket and seal kit, cast iron, N4 Drain plug, cast iron, N4	5-66-1271-01 5-66-1271-02 9-33-0325-00		1	1		1	1		1	1		1	1		1	1		1	1		1	1		1	1		1	
3	STATIONARY DISC (HOR.-VERT.)	5-66-8372-00														1	1	1	1	1	1	1	2	2	2	2	2	2	
4	FRICITION DISC KIT, STANDARD FRICITION DISC KIT, SPECIAL DUTY FRICITION DISC KIT	5-66-8483-00 8-004-729-00 5-66-8484-02	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3			3	3	
5	PRESSURE PLATE (HOR.-VERT.)	5-66-8571-00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
7	Housing (front pull), steel, N2 Housing (front pull), steel, N4 Housing (front pull), cast iron, N2/4	5-07-7059-00 5-07-7057-00 5-07-7060-00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
7A	Housing (side rel), steel, N2 Housing (side rel), cast iron, N2/4	5-07-7052-00 5-07-7036-09	1	1		1	1		1	1		1	1		1	1		1	1		1	1		1	1		1		
16	Hub and set screw, 1 disc Hub and set screw, 2 disc Hub and set screw, 3 disc	5-16-7201-00* 5-16-7202-00* 5-16-7203-00*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
142	Support plate assembly Support plate assembly Support plate assembly Support plate assembly Support plate assembly	5-42-7089-00** 5-42-7091-00** 5-42-7093-00** 5-42-7095-00** 5-42-7097-00**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
J	VERTICAL SPRING KIT (STANDARD) VERTICAL SPRING KIT (BRASS)	5-66-3176-00 5-66-3177-00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Not Shown	Brass stationary disc (horizontal-vertical) Brass pressure plate (horizontal-vertical)	8-003-704-01 8-005-703-12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	
VERTICAL BELOW-CAST IRON-NEMA 4 ONLY																													
2	Endplate & seal assembly 1 disc (cast iron) 2 disc (cast iron) 3 disc (cast iron)	5-22-7072-00-30F 5-22-7073-00-30F 5-22-7074-00-30F		1			1		1		1		1		1		1		1		1		1		1		1		

*Bore diameter or full model number must be given when ordering.
**Coil is separate, consult factory for support plate assembly part number with the side release option.

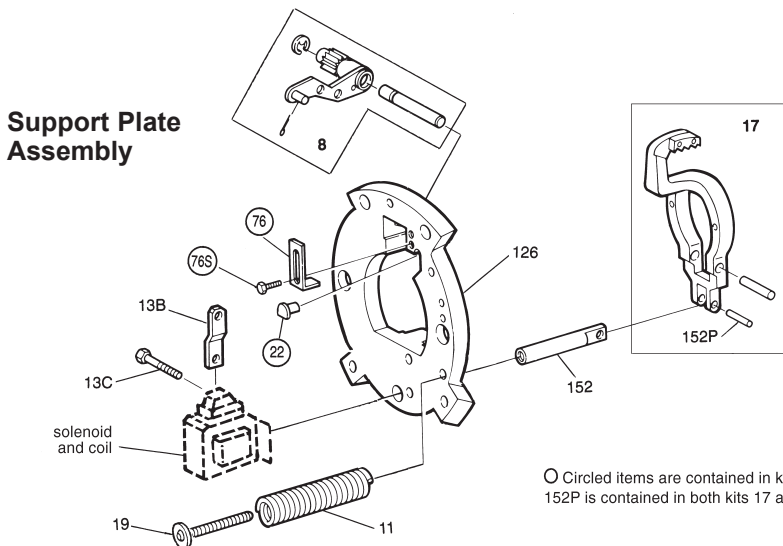


TABLE 2: For 284UC and 286UC or TC Frame NEMA "C" Flange

Item No.	Description	Part No.	Used on Models
2B	Endplate For use with sheet metal housing	8-002-909-02-30F	1-087-151-00, 1-087-155-00, 1-087-161-00 & 1-087-165-00
	Endplate For use with sheet metal housing	8-002-910-02-30F	1-087-181-00, 1-087-185-00, 1-087-191-00, & 1-087-195-00
	Endplate and*** oil seal assembly	5-22-7078-00-30F	1-087-152-00, 1-087-156-00, 1-087-162-00 & 1-087-166-00
	Endplate and*** oil seal assembly	5-22-7079-00-30F	1-087-182-00, 1-087-186-00, 1-087-192-00 & 1-087-196-00

***For vertical below endplate consult the factory.

TABLE 3: Components of Support Plate and Coil Assembly

Item	Description	Part Number	Torque				
			6 10	15	25 50	35 75 105	125
126	Support plate and bearing assembly Support plate and bearing assembly	5-26-7007-00 5-26-7008-00	1	1	1	1	1
8 17 19 & 152	SOLENOID LEVER AND PINION KIT Lever arm kit Pressure spring tube kit	5-66-7371-00 5-66-7271-00 5-66-7471-00	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1
11	Pressure spring kit - black Pressure spring kit - white Pressure spring kit - orange Pressure spring kit - purple	5-66-3072-00 5-66-3074-00 5-66-3076-00 5-66-3078-00	1	1	1	1	1
AC Brakes							
U	NO. 5 SOLENOID KIT NO. 6 SOLENOID KIT NO. 8 SOLENOID KIT	5-66-5051-00 5-66-5061-00 5-66-5081-00	1	1	1	1	1
13B	Solenoid link Solenoid link	8-013-703-00 8-013-704-00	1	1	1	1	1
13C	Solenoid link cap screw Solenoid link cap screw Solenoid link cap screw	8-157-701-00 8-157-702-00 8-157-703-00	1	1	1	1	1
V	No. 5 Coil kit 60 Hz	115/230 Vac 230/460 Vac 115 Vac 230 Vac 460 Vac 575 Vac	5-66-6507-33 5-66-6509-33 5-66-6501-33 5-66-6502-33 5-66-6504-33 5-66-6505-33	1 1 1 1 1 1			

Item	Description	Part Number	Torque				
			6 10	15	25 50	35 75 105	125
V	No. 6 Coil kit 60 Hz	115/230 Vac 230/460 Vac 115 Vac 230 Vac 460 Vac 575 Vac	5-66-6607-33 5-66-6609-33 5-66-6601-33 5-66-6602-33 5-66-6604-33 5-66-6605-33	1 1 1 1 1 1	1 1 1 1 1 1		
	No. 8 Coil kit 60 Hz	115/230 Vac 230/460 Vac 115 Vac 230 Vac 460 Vac 575 Vac	5-66-6807-33 5-66-6809-33 5-66-6801-33 5-66-6802-33 5-66-6804-33 5-66-6805-33			1 1 1 1 1 1	1 1 1 1 1 1
XX	Brake release interlock switch	5-57-5528-00	1	1	1	1	1
DC Brakes							
W	Electronic DC Switch Kit	24/28 Vdc 115 Vdc 230 Vdc	5-57-5712-07 5-57-5716-07 5-57-5717-07	1 1 1	1 1 1	1 1 1	1 1 1
W	No. 5 Coil assembly	115 Vdc 230 Vdc	5-96-6516-33 5-96-6517-33	1 1			
	No. 6 Coil assembly	115 Vdc 230 Vdc	5-96-6616-33 5-96-6617-33		1 1		
	No. 8 Coil assembly	115 Vdc 230 Vdc	5-96-6816-33 5-96-6817-33			1 1	1 1

Solenoid and Coil

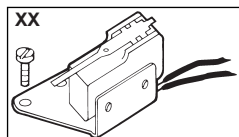
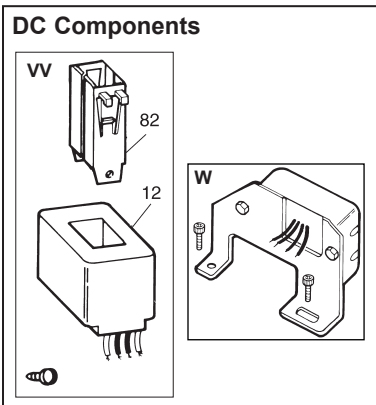
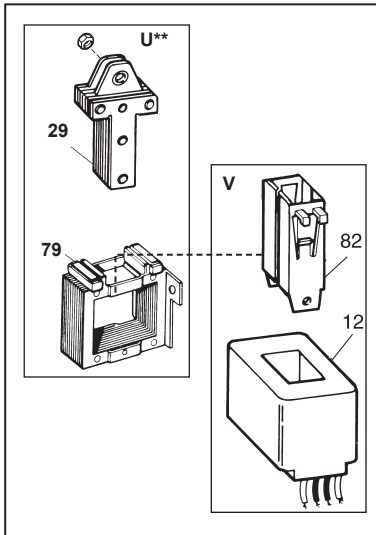


TABLE 4: Contents of Kits and Assemblies (contents may vary)

Item	Kit Description
A	Hardware kit (5-66-1007-01) 2 - External lead wire plugs 1 - Wrap spring stop 2 - Wrap spring stop screws 1 - Solenoid lever stop 3 - Support plate screws 3 - Support plate conical spring washers 3 - Support plate flat washers 3 - Housing studs 3 - Housing stud lock washers 3 - Housing nuts 1 - Release rod 1 - Release rod spring 1 - Release spring retainer 1 - Housing grommet 1 - Release knob
	Gasket and seal kit (5-66-1271-0X) 1 - Endplate oil seal 1 - Housing seal 3 - Housing nut gaskets 1 - Housing to endplate gasket 3 - Endplate rubber plugs (-01 only) 1 - Manual release gasket (-01 only)
3	Stationary disc kit (5-66-8372-00) 1 - Stationary disc (horizontal or vertical)
4	Friction disc kit - splined (5-66-8483-00) 1 - Friction disc - splined
5	Pressure plate kit (5-66-8571-00) 1 - Pressure plate (horizontal or vertical)
J	Vertical spring kit (5-66-317X-00) 15 - Vertical above mounting springs
8	Solenoid lever and pinion kit (5-66-737X-00) 1 - Solenoid lever & pinion assembly 1 - Cotter pin 1 - Solenoid lever pivot pin 1 - Pivot pin retaining ring

Item	Kit Description
17	Lever arm kit (5-66-7271-00) 1 - Lever arm assembly 1 - Lever arm pivot pin 1 - Spring tube pivot pin
19 & 152	Pressure spring tube kit (5-66-7471-00) 1 - Pressure spring tube 1 - Pressure spring screw 1 - Spring tube pivot pin
11	Pressure spring kit (5-66-307X-00) 1 - Pressure spring
U	Solenoid kit (5-66-50X1-00) 1 - Plunger 1 - Frame 3 - Solenoid mounting screws 3 - Solenoid mounting conical spring washers 1 - Solenoid link nut
V	Coil kits (5-66-6XXX-33) AC coils 1 - Coil 2 - Plunger guides 3 - Solenoid mounting screws
VV	Coil assembly (5-96-6XXX-33) DC coils 1 - Coil 2 - Plunger guides 4 - Wire fasteners 3 - Solenoid mounting screws
W	DC switch kit (5-57-57XX-07) 1 - Switch 1 - Mounting bracket 2 - Support plate mounting screws 2 - Switch mounting screws 2 - Nuts 3 - Crimp connectors
XX	AC switch assembly (5-57-5528-00) 1 - Microswitch 1 - Mounting bracket 2 - Lead wire assemblies 2 - Mounting bracket screws 2 - Nuts 2 - Support plate screws 1 - Actuator arm 1 - Actuator arm mounting bolt 1 - Actuator arm nut



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