

## Installation and Service Instructions for 321/322 Series AAB Spring-Set Brakes (1.2, 1.8 and 2.8)

### Important

Please read these instructions carefully before 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, Inc., Stearns Division, 5150 S. International Dr., Cudahy, Wisconsin 53110, (414) 272-1100.

OEM's and subsystem suppliers, please forward these instructions with your components to the final user.

### 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 to system.
3. To avoid damage to internal power supply, hipot testing should not exceed 1500 volts for one second. Brake coil leads must be connected together.
4. Heat developed during normal operation (135°C) of the brake may be hot enough to be painful or cause injury. Be careful when touching exterior surfaces. Allow sufficient time for the brake to cool before servicing.
5. After usage, the brake will contain burnt and degraded friction material dust. This dust should be removed before servicing.

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.
- 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.

### Brake Identification

Series — 321- 2 4 0 1 0 - 0 H - E A

321  
322

Size —  
2 = 1.2  
4 = 1.8  
7 = 2.8

Torque —  
4 = Dynamic  
5 = Holding  
6 = Dynamic  
8 = Holding

Mounting —  
1 = Body Mount  
3 = Flange Mount  
D = Flange Mount

Options —  
Coil Voltage  
Bore Size

### Installation

The brake should be pressure plate mounted only. The hub should be secured to shaft before mounting brake. Two set screws are provided and should be tightened securely. Refer to Table A for set screw torque. The key should not extend towards the armature or past the face of the hub. Refer to Table B or C for positioning of hub. If brake was supplied with the Double "D" friction disc option, then brake hub is not required; see Figure A. Mount brake to register using screws or bolts. Refer to Table A for mounting torque. Lock washers are optional. The rated voltage should be available at the brake and allowance should be made for voltage drop in long wiring runs. The optional, factory installed, manual release lever is a rotary maintained design.

**Note:** Position of hub should allow full engagement of friction disc without interfering with the movement of the armature. Motor shaft end float should be taken into consideration when positioning the hub.

Figure A

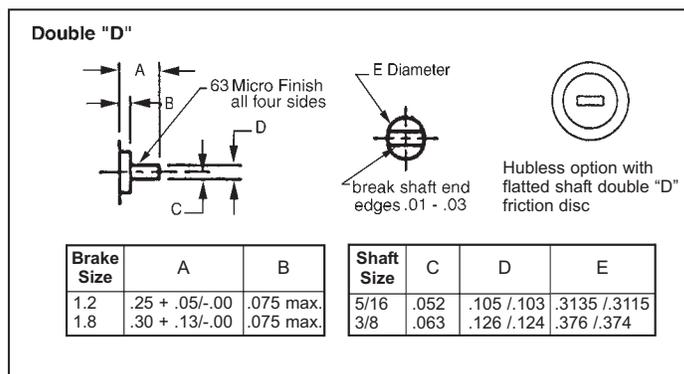
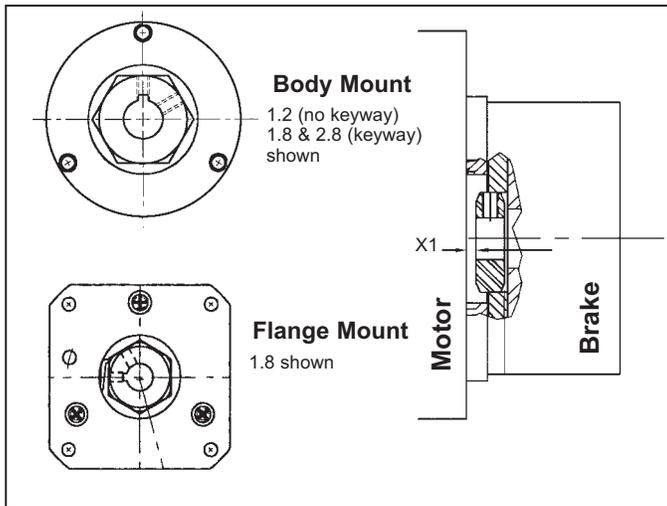


Table A

Model Number	Set Screws		Mounting Screws		
	Torque	Size	Torque Maximum	Qty Screws	Operating Range Air Gap (inches)
3-21-2XXX 3-22-2XXX	9-10 lb-in	*	9 lb-in/#4 37 lb-in/#8	3	.003 to .012
3-21-4XXX 3-22-4XXX	9-10 lb-in	#8	37 lb-in	4	.003 to .015
3-21-7XXX 3-22-7XXX	9-10 lb-in	#8	37 lb-in	4	.003 to .015

\*Use #4 for body mount; #8 for flange mount.

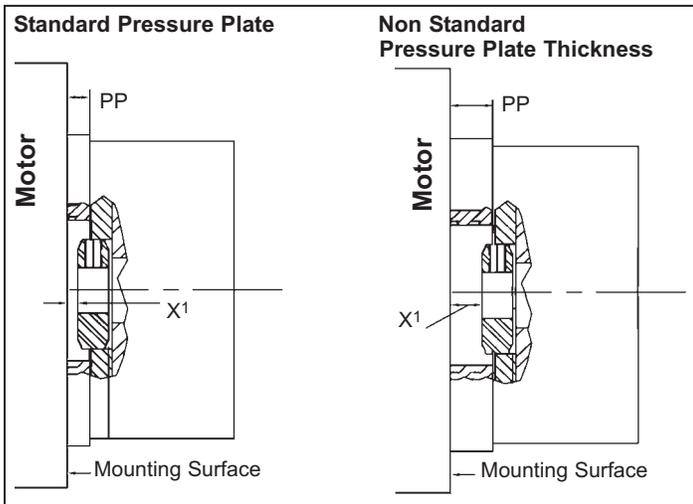


**Table B**

Model Number	Hub Position (inch)**	Max. Allowed Misalignment (inches)		Standard Pressure Plate Thickness Reference PP <sup>1</sup>
		Parallel	Angular	
3-21-2XXX 3-22-2XXX	.02*	.005	.005	.120"
3-21-4XXX 3-22-4XXX	.02*	.005	.005	.120"
3-21-7XXX 3-22-7XXX	.09*	.005	.005	.164"

\*This dimension is for units mounting on hub end, and using short version of the hub. Factor in motor shaft end float; do not allow hub to contact armature.

\*\*Add .03 when mounting gasket is used.



**Table C - Hub Position for brakes with Non-Standard Pressure Plate Thickness PP**

Model Number	Hub Position (inch) **
3-21-2XXX 3-22-2XXX	X <sup>1</sup> = PP - .10
3-21-4XXX 3-22-4XXX	X <sup>1</sup> = PP - .10
3-21-7XXX 3-22-7XXX	X <sup>1</sup> = PP - .07

\*\*Add .03 when sealing gasket is used.

Example: If the actual 3212XXX non-standard pressure plate thickness is 0.15" then hub position equals .05.

## General

After proper installation, no further adjustment should be required for the life of the unit.

## Power supply

The voltage to be applied is determined by rating shown on the nameplate. Resistance and other coil data for various voltages are tabulated on appropriate Engineering Data Sheets. This data can be secured by contacting the factory.

## Troubleshooting for AAB Brakes

### Overheating, coil burned out or loss of torque

1. Check ambient temperature. Is it above 40° C? Consult factory for assistance.
2. Check thermal capacity of unit versus actual heat dissipation requirements. Consult factory.
3. Check voltage supply as close to coil as feasible. Compare to nameplate data, if incorrect apply proper voltage.
4. Is coil resistance correct? Consult factory for resistance of the specific coil.

**Caution:** To avoid damage to power supply, hipot testing should not exceed 1500 volts for one second. Brake coil leads must be connected together.

5. Stop time on brake normally should not exceed one second. If excessive, recheck torque rating versus load characteristics.
6. Check for oil/grease on friction elements. If this is found, replacement of entire brake may be required.
7. On pressure spring, check for broken, missing or substituted springs not of our design.
8. Failure to release after unit has performed satisfactorily for a period indicates wear has occurred. Refer to Table A for operating air gap range. Replacement of the brake is required if air gap exceeds maximum shown.
9. If brake hub is loose or not positioned properly, the hub may come in contact with the motor endbell or the brake armature. Check Table B or C for proper hub positioning, and Table A for correct set screw torque.

### Fuse in DC power supply blows

1. Never put in a higher rating fuse or replace with a slo-blow type.
2. Check resistance of coil, if shorted, replacement of brake is required. If not shorted, obtain coil resistance from factory and compare to your reading.
3. If cause was not found in Step 2 above, check rectifier bridge by removing all loads and replacing fuse. If fuse blows when AC is applied to rectifier, bridge is shorted. Replace bridge if feasible or discard control and replace.



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