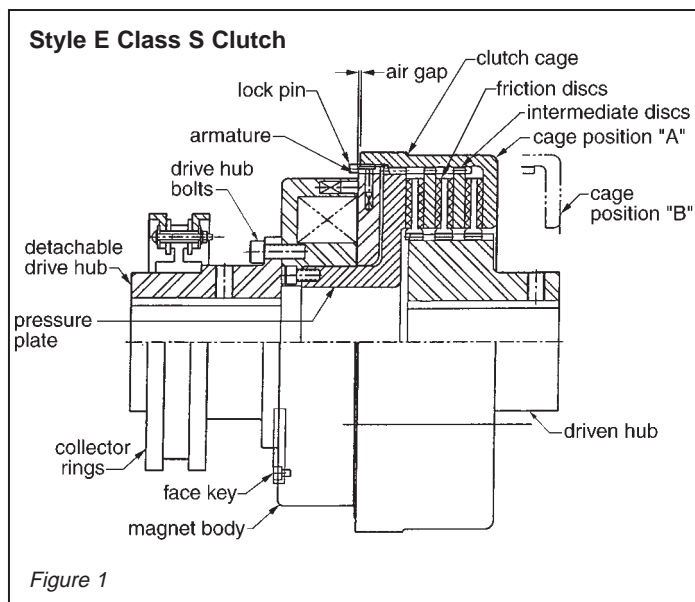


Installation and Maintenance Instructions for Style E Class S Power Engaged Clutch



IMPORTANT

Please read these instructions carefully before installing, operating, or servicing your Stearns clutch. 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 clutch. If power disconnect point is out of sight, lock disconnect in the *off* position and tag to prevent accidental application of power system.

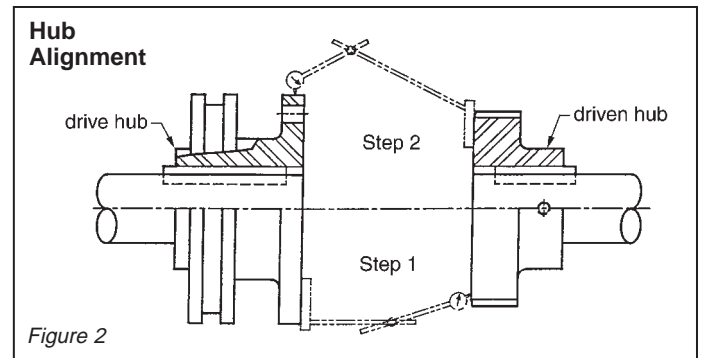
Serial numbers are required for future factory support or replacement parts. The serial number appears on the nameplate and is stamped into the magnet body. Record the serial number in the maintenance log or other permanent record for future use.

Stearns clutches are dry running. Do not lubricate the friction material. Protect the collector rings during storage, installation or maintenance to keep the rings free of knicks. Prevent crushing or tearing of leadwires during handling.

Style E Class S Clutch Installation:

1. Remove the drive hub bolts and separate the drive hub from the clutch.
2. Place the provided spanner wrench into the matching holes in the armature face. Depress and restrain the lock pin in the cage while using the spanner wrench to rotate the armature. Thread the armature out of the cage. The magnet body, armature and pressure plate are a sub-assembly. Remove the disc pack from the cage. Keep the disc pack in order.

3. Mount the drive hub to the motor shaft and the driven hub to the driven shaft. Locate hubs according to the shaft to shaft dimension shown on the assembly outline drawing.
4. Alignment is critical. Stearns recommends laser alignment. Dial indicator alignment is shown in Figure 2.

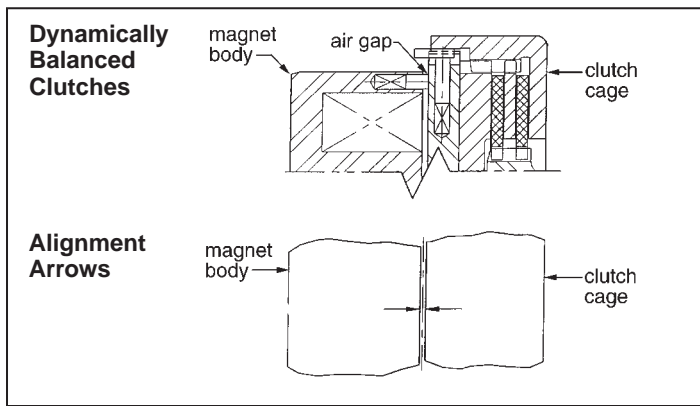


5. **Step one:** Check for angular mis-alignment. Mount the indicator on the drive hub and indicate the driven hub face by turning both shafts simultaneously. Place indicator at as great a radius as possible. This operation indicates angular misalignment between shafts. Readings must be within .001" inch full indicator movement per inch measuring radius. As an example: a 6 inch radial position must not exceed .006 inch full indicator movement (FIM).

Step two: Check for parallel misalignment. Mount the indicator on the driven hub face and indicate the OD of the drive hub by rotating both shafts simultaneously. Parallel misalignment should not exceed .005" full indicator movement. (FIM).

Do step one before step two as any angular misalignment which exists can cause errors in parallel misalignment readings. Repeat steps one and two as necessary.

6. Shaft end play greater than 1/16 inch is considered excessive.
7. Set screws must be torqued sufficiently to upset the shaft surface. Thread locking liquid is recommended.
8. Place the cage about the driven hub in position "B" as shown in figure one. Insert the disc pack into the cage locating friction discs or carrier rings and intermediate discs on the driven hub. Size 1002 and larger clutches have carrier rings. The carrier inside diameter edge faces the driven side.
9. Support the magnet body assembly with a lifting sling and move into the space between the hubs. Align the drive hub and magnet body holes. Bolt the magnet body assembly to the drive hub.
10. Move the cage into position "A" shown in figure one.
11. Depress and restrain the lock pin while threading the armature into the cage using the spanner wrench.
12. Balanced clutches have alignment arrows on the magnet body and cage that **must** be carefully matched anytime the cage is removed and re-installed.
13. Carbon brushes are held in the brush holder assembly and site mounted. The brushes must center on the collector rings and act directly against the rings.
14. Collector rings must be round, smooth and free of knicks or scratches.
15. Check air gap by energizing the magnet. Adjust if required.



Air Gap Adjustment

1. To adjust air gap, depress the lock pin and turn the armature until the lock pin snaps into the next slot. Energize the coil to check air gap with the feeler gage provided. Turn the armature into the cage to increase the air gap.
2. Re-check air gap after a few test engagements. Eventually, with use and lining wear, the air gap will require re-adjustment. An excessive air gap will affect clutch engagement or result in excessive slip. No air gap when energized will result in: slip, loss of torque and friction disc failure due to over heating. The collector rings must be round and free of knicks and burrs.

Operation Specifications

Clutch Size	Coil 230 Vdc		Coil 115 Vdc		Open Air Gap		Closed Air Gap	
	Ohms	Amps	Ohms	Amps	Inches	mm	Inches	mm
5	2249	.102	572	.20	.06	1.52	.031	.79
6	1291	.18	336	.34	.09	2.29	.031	.79
8	666	.35	170	.68	.13	3.3	.031	.79
10	509	.45	127	.91	.13	3.3	.031	.79
12	342	.67	86	1.34	.13	3.3	.031	.79
14	259	.89	67	1.72	.15	3.8	.040	1
16	364	.63	94	1.23	.19	4.8	.040	1
20	200	1.15	52	2.23	.19	4.8	.040	1

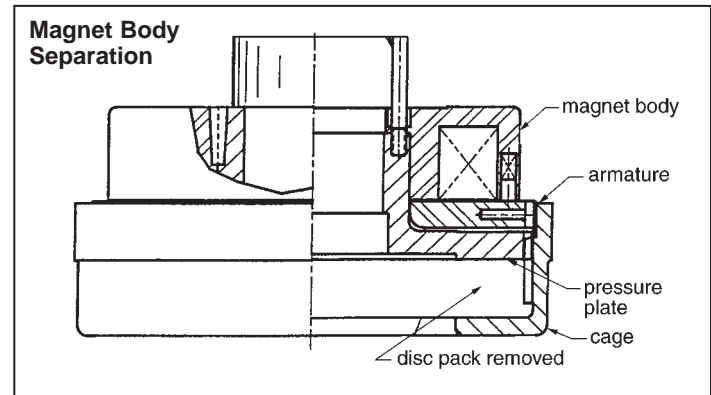
Collector Ring Removal

1. Remove the four bolts holding the brass rings together.
2. Remove the two bolts holding the two ring hub sections together.
3. Replacement rings must be round, smooth, continuous and free of knicks or burrs after mounting to the drive hub.

Replacement of Friction Material:

1. The lock pin is depressed and the spanner wrench is used to thread the armature out of the cage. Avoid cross threading or thread damage.
2. The cage is moved over the splined driven hub into position B as shown in figure one.

3. Replace the worn components and friction material. Keep the disc pack components in order and correct orientation.
4. Reposition the splined driven hub and place the friction material on to the splined driven hub.
5. A small quantity of an anti-sieze lubricant can be used on the armature threads when threading the clutch cage.
6. Make sure the lock pin in the armature is depressed and repeat installation steps 8-11 to install the cage.



Separation of Magnet Body from Pressure Plate (Drive hub remains on shaft)

1. The magnet body, armature and pressure plate are an assembly.
2. Depress the lock pin and un-thread the armature from the cage. The cage is moved into position B as shown in figure one. Remove the lock pin and spring.
3. Mark the drive hub to magnet body orientation for use in re-assembly.
4. Support the magnet body assembly and unbolt the magnet body from the drive hub. Remove the magnet body, armature and pressure plate assembly. Protect magnet lead wires. Do not set the assembly on the lead wire.
5. Remove the disc pack and maintain pack orientation when setting aside.
6. Remove the cage.
7. Thread the magnet body assembly with armature into the cage until the armature is even with the edge of the cage.
8. Remove the shear pin(s) or the set screws at the magnet body and pressure plate interface diameter.
9. The clutch is set on the cage with the magnet facing up.
10. Thread rods evenly into the hub mount threaded holes or place a spacer on the magnet body but inside any magnet body pins.
11. Apply pressure to the drive hub through the pins or the spacer. Force the pressure plate assembly out of the magnet body and into the cage.
12. At reassembly, locate and drill new staking holes if required.