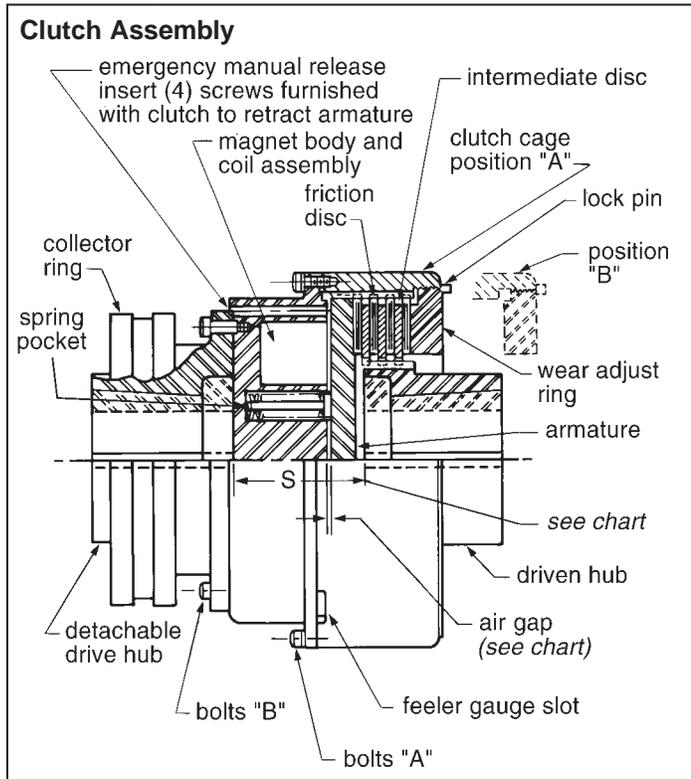


Installation and Service Instructions for Style SCE S3 Clutches



CAUTION 1! Thread manual release bolts into the armature and retract the armature against the magnet pole face before any disassembly of clutch.

CAUTION 2! Screws provided by Stearns are Grade 5. Do not use lesser substitute. See Table for proper screw size.

General Instructions

1. Clutch may not release should the air gap exceed the operating air gap setting by .030 (see Chart) clutch should be adjusted as outlined in *Clutch Wear Adjustment*.
2. The initial seating of the linings will cause some opening of the air gap. Recheck air gap after brake has been cycled in operation. Ordinary lining wear thereafter is very slight under normal loads.

To Vertically Install Clutch Assembly

1. Remove lead wires from collector rings.
2. Make a temporary lead wire connection, energize unit and insert (4) manual release bolts or see *Caution* above.
3. Remove bolts "B" and detachable drive hub.
4. Mount detachable drive and driven hubs on shafts, space to correct distance "S" (see Chart) and align per instructions.
5. Disconnect lead wires, remove bolts "A" clutch cage, linings and steel discs. Place over driven hub in position "B" in Figure.
6. Lower magnet body into space between hubs, lining up holes in magnet body and driven hub. (**Note:** (1) hole is offset) replace bolts "B". Align face keys if present.
7. Slide linings and steel discs into driven hub spline, bring cage into position, note arrows on cage and magnet body must line up. Replace bolts "A."
8. Make a temporary lead wire connection, energize unit and remove (4) manual release bolts.

9. Connect leads to collector rings.

10. Recheck for correct operating air gap in accordance with *Clutch Wear Adjustment*.

To Vertically Remove Clutch Assembly

1. Energize magnet, insert (4) manual release bolts into armature to secure armature against magnet body.
2. Turn off electrical supply.
3. Remove lead wires from collector rings.
4. Remove bolts "A" slide cage, linings, and steel discs to position "B."
5. Mount hoist to magnet body, and take up slack in hoist.
6. Remove face keys (if provided) between drive hub and magnet assembly and bolts "B". Remove magnet assembly from between hubs.
7. Remove linings, steel discs, and cage from driven hub.

Wear Adjustment

1. The operating air gap should be set to dimension shown in Chart below. As lining wear continues the air gap will increase. Readjustment is recommended when the air gap has increased by .015.
2. To adjust for wear, energize magnet, depress lock pin and turn wear adjust ring clockwise until lock pin snaps into next slot.

OPTION: Setting air gap without electrical power. Insert (4) manual release bolts through mag body and thread into armature. Draw armature up against mag body. Insert feeler gauges between armature and disc pack. Disengage lock pin and rotate adjusting plate until proper gap is achieved. Remove feeler gauges and release locking pin.

3. De-energize magnet and check open air gap.
4. If open air gap is still too large, repeat Steps 2 and 3 until desired gap is obtained.
5. Use feeler gauges and spanner wrench at all times in adjusting. They were furnished for your convenience.

Replacement of Discs

1. Energize magnet, insert and draw up emergency manual release bolts to secure armature against magnet body.
2. Turn off electrical supply.
3. Remove lead wires from collector rings.
4. Remove bolts "A" slide cage to position "B."
5. Slide discs toward magnet body and remove (1) piece at a time.
6. Insert new discs (1) at a time and slide onto hub or into cage teeth.
7. Slide cage toward magnet body making sure all discs are properly meshed to the hub or cage teeth.
8. Reinsert bolts "A" and tighten.
9. Electrically energize magnet body and remove manual release bolts.
10. De-energize magnet body.

Unit Size	Operating Air Gap	Readjust When Gap Reaches	Hub Spacing "S"	Manual Release Bolt Length
800	.040	.055	41/8	1/4-20 x 33/4
1000	.060	.075	45/8	1/4-20 x 4
1200	.060	.075	57/16	3/8-24 x 41/2
1400	.060	.075	71/4	3/8-16 x 6
1600	.060	.075	63/4	5/8-11 x 51/2

Alignment Instructions

(For clutch installation between two independent and self-supported shaft systems.)

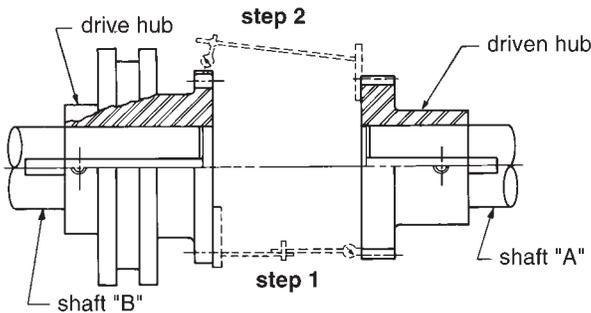
With shaft "A" leveled and aligned with machine base as desired, install clutch hubs as shown, with clutch body assembly removed.

Step 1 - Mount indicator on shaft "B" or on clutch hub and indicate opposite hub face by turning shaft "A" and shaft "B" simultaneously. Place indicator at as great a radius as possible. This operation indicates angular misalignment between shafts "A" and "B." Alignment must be within .001 total indicator reading per inch measuring radius.

Example: If measuring on 6 inch radius, total indicator reading must not exceed .006.

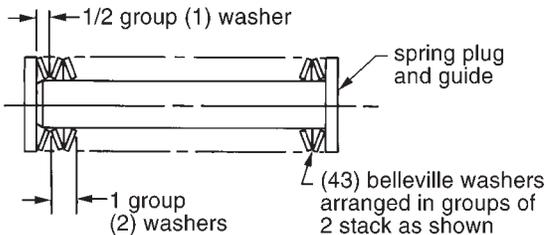
Step 2 - Mount indicator on hub face and indicate O.D. of opposite clutch hub by rotating shaft "A" and shaft "B" simultaneously. This operation indicates parallel misalignment which should not exceed .005 total indicator reading.

CAUTION! Always perform Step 1 before Step 2. Since any angular misalignment which exists can introduce errors in indicator readings for parallel misalignment. Also, after making corrective adjustments recheck both Steps 1 and 2.

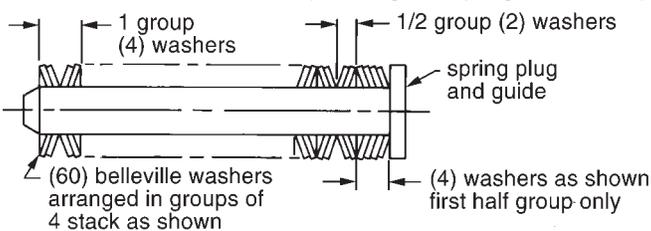


Pressure Spring Assembly

Sizes 800 and 1000 (free length of spring stack 37/32)



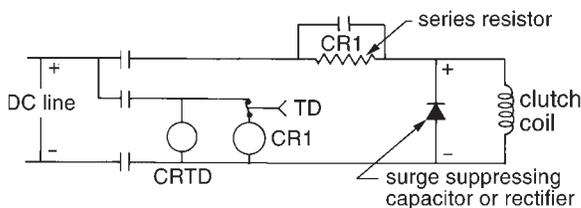
Sizes 1200, 1400 and 1600 (free length of spring stack 325/32)



Note: Should removal of springs become necessary, they must be reassembled as shown to insure normal operation of clutch or brake.

Typical Forcing Circuit Diagram

Note: Refer to Table for circuit values.



Circuit Values

Unit Size	DC Line Values				Clutch Coil Holding			Suggested Resistor Rating	
	Inrush		Holding		Volts	Amps	Ohms	Ohms	Watts
	Volts	Amps	Volts	Amps					
800	115	3.54	115	1.12	36.6	1.12	32.5	70	125
800	230	1.77	230	.567	74	.567	130	275	125
800	240	1.85	240	.592	77	.592	130	275	125
800	250	1.92	250	.617	80	.617	130	275	125
1000	230	2.94	230	.98	76.3	.98	78	160	250
1000	240	3.07	240	1.02	80	1.02	78	160	250
1000	250	3.19	250	1.06	83.3	1.06	78	160	250
1200	220	3.90	220	1.21	68.2	1.21	56.4	125	250
1200	230	4.08	230	1.27	71.4	1.27	56.4	125	250
1200	250	4.43	250	1.38	77.8	1.38	56.4	125	250
1200	440	1.95	440	.605	136.5	.605	225.6	500	250
1200	115	8.22	115	2.61	35.6	2.61	14.0	30	250
1400	230	3.68	230	1.16	73	1.16	62.5	135	250
1400	250	4.0	250	1.26	79	1.26	62.5	135	250
1400	220	3.52	220	1.11	69.6	1.11	62.5	135	250
1600	230	3.7	230	1.13	71	1.13	62.2	140	250
1600	250	4.02	250	1.27	79	1.27	62.2	140	250

Note: Refer to clutch nameplate for unit size and voltage.

The clutch coil, wound for approximately 1/3 line voltage, is momentarily engaged at line voltage. Timer, which must be set at approximately 5 seconds, then places the series resistor in the circuit, reducing the clutch coil voltage and current to a *holding* current.

Assembly of Magnet Body and Armature - Using Press

1. Place magnet body, with manual release bolts in holes provided in magnet body, flange side of magnet body up, on press base, with spacer as shown below.
2. Insert pressure spring assemblies, (check assembly) set armature in place, (armature pilot faces disc pack) aligning arrows on armature and magnet body. Insert temporary pins into release bolt holes for aligning.
3. Press armature against magnet body (see Table for pressure required) remove (4) temporary pins and install (4) manual release bolts and tighten to hold armature against magnet body.

Disassembly Procedure

1. Place assembly on press with spacer.
2. Press armature against magnet body (see Table for pressure required) and remove manual release bolts from armature.
3. Slowly release pressure from press until spring pressure is relieved and remove armature. Pressure spring assemblies may now be removed.

Size	Press Force (lbs)
800	6500
1000	10400
1200	13200
1400	17600
1600	24200

