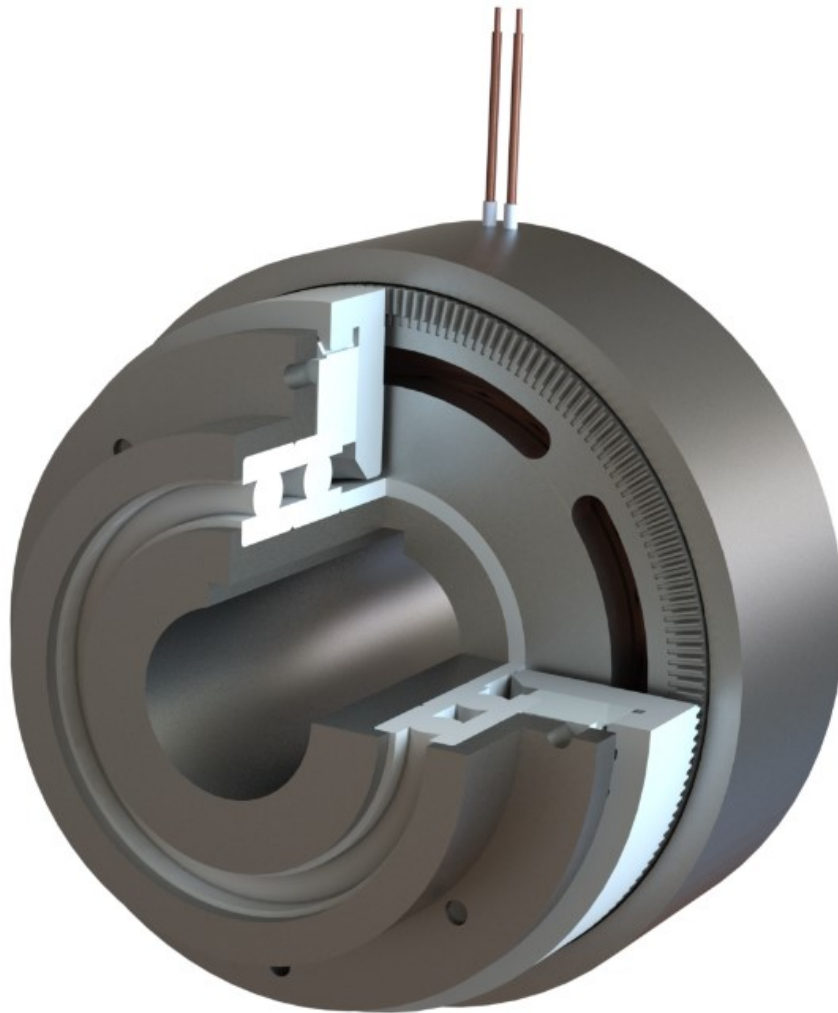


STCC INSTALLATION GUIDE

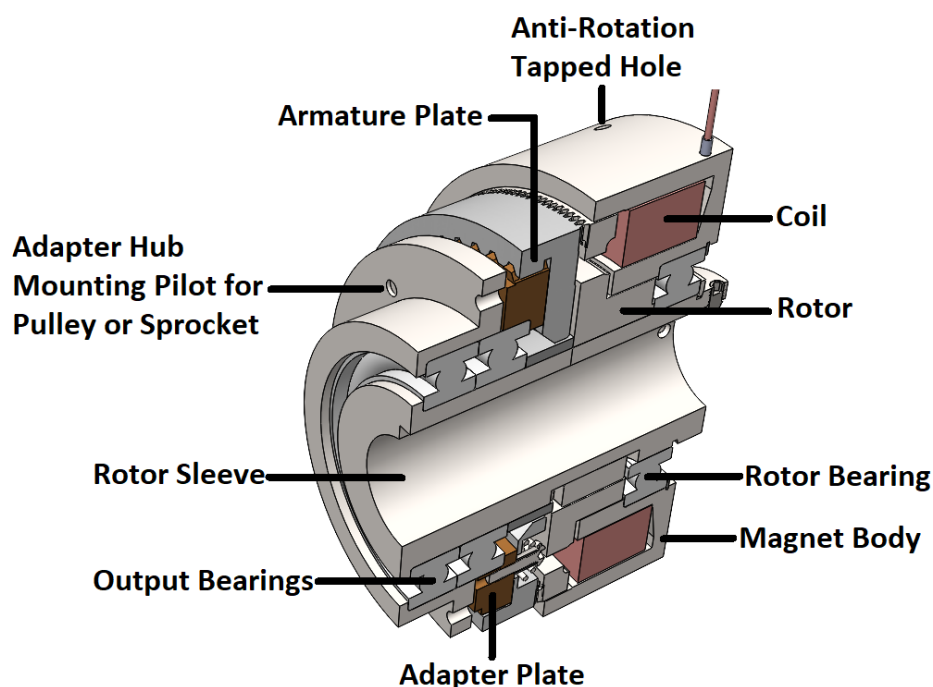
STATIONARY FIELD TOOTH CLUTCH COUPLING



SEPAC Inc. Electromagnetic Tooth Clutches: *STCC* *Stationary Field Tooth Clutch Coupling*

■ Uses.

The SEPAC stationary field tooth clutch is designed to operate both dry and in oil. Bearings are sealed, permanently lubricated and do not require any further maintenance.



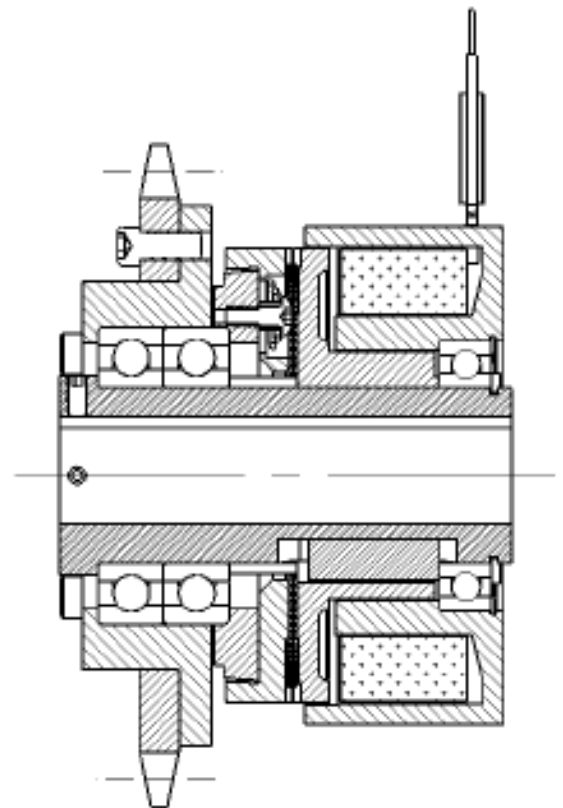
■ Operation.

When current is applied to the coil in the magnet body, a magnetic field is created which attracts the armature (sliding on the adapter) toward the rotor. As the teeth engage, torque is transmitted. Springs between the armature and adapter assist in disengagement. The magnet body is held stationary by means of shoulder or cap screw in the anti-rotation tapped hole.

■ Mounting the magnet body assembly.

Install the clutch magnet body assembly on the shaft with the key in place. When properly positioned and secured, attach the anti-rotation mechanism. Table 1 on page 5 shows the proper anti-rotation screw size and maximum screw depth of penetration in the magnet body.

Shown here is a model STCC which has a sprocket mounted to the adapter hub and both are mounted on bearings. Gears, pulleys, sprockets, etc. should be mounted in this manner to maintain the alignment of the clutch teeth.



■ Electrical Connections.

Connect the magnetic coil wires to the proper DC power supply voltage.

NOTE: Control switching should be in the DC circuit. Switching in the AC circuit will cause slow disengagement. Arc suppressors should be used in all clutch circuits.

■ Check-out.

- Observe the armature movement while turning the clutch on and off. It should move freely on the splined adapter.
- To check the face tooth clearance, the clutch or brake teeth should be disengaged.

■ Wet application considerations.

- The unit should not be immersed more than 10% of its diameter in the oil. Oil levels higher than this will create excessive levels of idle torque and generate destructive heat. Too much oil can also delay engagement time. An oil mist or splash from gears, etc. is usually enough for lubrication.
- The viscosity of the oil used should not exceed 150 S.S.U. at 100°F.
- The oil used should be acid-free, anti-foaming and should not contain any additives or molybdenum. Some oils that have been used in applications successfully are: Gulf Harmony #44, Mobile DTE Light (10W), Pennzoil Pennbell #1 and Texaco Regal A (R&O).
- A magnetic filter or a permanent magnet should be in the oil reservoir to remove any steel particles which could affect bearing, slip ring and/or brush life.

Other Considerations.

- When two or more units are located on the same shaft, the coils should be wired so that the polarity is changed when switching from one to the other. This will reduce the residual magnetism in the idling unit.
- Units on a common shaft should be kept apart with a non-magnetic spacer 1/8" thick minimum.

Table.

CAUTION: Screw penetration beyond the dimension shown can damage the magnetic coil. The screw should be held loosely by the anti-rotation arm so as not to apply any external forces on the magnet body bearing. External forces applied to the bearing by the anti-rotation mechanism may cause premature bearing failure.

SIZE	320	375	450	525	630	760	895	1065	1290
SCREW	10-32	10-32	1/4-20	1/4-20	3/8-16	3/8-16	3/8-16	3/8-16	3/8-16
PENETRATION	0.13	0.14	0.17	0.21	0.27	0.29	0.35	0.47	0.72
LOCATION*	0.29	0.33	0.34	0.47	0.53	0.65	0.75	0.86	0.85

TABLE 1 – Anti-rotation screw data – STCC Model

**Measured from the back of the magnet body assembly to the center of the anti-rotation screw hole.*

SIZE	320	375	450	525	630	760	895	1065	1290
CLEARANCE	.008/.012	.010/.014	.012/.016	.014/.018	.016/.020	.018/.022	.022/.026	.026/.030	.030/.034

TABLE 2— Disengaged Tooth Clearance (Ref: Gap built into model)

ABOUT US

SEPAC Inc., in Elmira, NY, is a custom engineering company and manufacturer of motion control products including electromagnetic clutches and brakes. We provide innovative solutions of the highest quality and reliability to OEMs, distributors and end users around the world. Our brake and clutch applications range from aerospace and defense to outer space, robotics, energy, healthcare, and a wide variety of industrial markets.



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