

Electromagnetic Clutches & Brakes



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This installation assumes the most common form of mounting which is the clutch mounted to the pump. The pump type can be hydraulic, vacuum, water or a compressor. These mobile clutches consist of two assemblies: the field assembly and the rotor/armature assembly. Installation assumes that the clutch will be mounted to a mounting bracket for a pump or directly to the pump face.

Step 1

Attach the field (coil) to the mounting bracket (customer supplied) or pump face. Use the four 1/4" x 20 cap screws supplied. Tighten to 8lb. ft. per screw, taking care not to strip the heads. The flange should be square with the shaft of the pump within .003" TIR at a 6" diameter.

Step 2

Install the key (customer supplied) into the pump shaft keyway.

Step 3A

If taper bore or there are set screws on the clutch hub, skip to (3B). For a straight bore you first need to establish a clearance between the rotor and the field. A proper clearance of .695" +/- .010" is required between the end of the rotor hub (this assumes a standard hub) and the field mounting surface. Some models with straight bores have the hub aligned with the face of the mounting flange. In this case, no clearance is required. A step in the shaft or a spacer will be required to set this proper distance.

Step 3B



Slide the rotor/armature assembly onto the shaft and key, taking care to properly align both the shaft and hub keyways.

Step 4

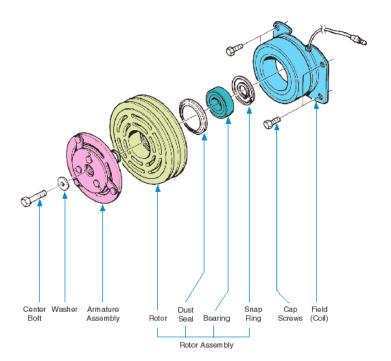
Install and securely tighten the rotor with the center bolt and washer supplied with most models (Recommended torque: 20-30 ft. lbs.) (If clutch has a straight bore with set screws, access set screws through the slot in the back of the field. Push rotor assembly all the way on until it contacts the step in the shaft. If there is no step in the shaft, slide the rotor on until it contacts the field and then back off the rotor assembly approximately 0.1" and tighten down the two set screws.) After installing and tightening the center bolt, turn the pulley by hand to make sure there is no rubbing between the pulley portion and the field (coil). If contact is noticed, refer to Noisy Clutch section in the Troubleshooting Section.

Step 5

Connect the lead wire to the electric circuit. If clutch coil has diode, (only possible on two wire field) check lead wire polarity. In single wire coils, the field is grounded at the factory; if there is not a good ground returned through the field support, it is a good practice to attach a wire from the ground terminal on the field to the equipment to provide a sure ground. (Possible interference with proper grounding is a painted surface in the connection, possibly between the clutch and the bracket and/or the bracket and the engine.)

Step 6

Engage and disengage the clutch several times to ensure it is functioning properly. If full torque will be required from the pump immediately, the clutch should be properly burnished. (Burnishing involves cycling the clutch at a reduced speed not more than 4 times per minute so the surfaces can mate together. In most applications, 20-50 cycles are required for burnishing.)



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