

INSTALLATION GUIDE

DB / DBE Matrix™ Series Motors *Proper Mounting Instructions*

Many of the motor and alternator products offered by Moog are unboxed or frameless part sets. Although full dimensional data is provided on a particular model's outline drawing, often questions arise as to how to mount the components. The following sections address the considerations for mounting these kit form components.

Mechanical

1. Eccentricities from the inner member mounting surface should not exceed 0.004 inches.
2. The bore of the mounting surface should be perpendicular to the mounting seat within 0.002 inches. Larger models will have greater mounting tolerances.
3. Axial alignment of the motor components is listed on the model's outline drawing. This is necessary to properly align the magnetic field assembly with the armature core. For brush type motors it is also critical for proper brush tracking on the commutator.

Component Securing

1. Bonding each motor element to housing and shaft components by using an appropriate adhesive for the application's temperature requirements.
2. Temperature shrinking motor elements to the housing and shaft components.
3. Clamping by housing components that provide a pressure fit, usually by the design of parts secured by bolts that squeeze the motor parts tightly to the housing components. When designed properly, the pressure on the motor components will prevent them from moving on their respective housing parts and align them to the recommended mounting dimensions.
4. When available, there may be features on the motor components that allow for some kind of mechanical securing such as bolt holes or keyways.

Assembly Precautions

1. Alnico permanent magnet field assemblies come with a magnetic ring attached to their side. This ring is known as a keeper whose purpose is to provide a closed magnetic path until the armature is installed within the field assembly. If this ring is removed or partially slid off of the field assembly prior to the armature being in place, it could demagnetize the field assembly up to 60% of its original magnetic strength.
2. Brush motors must have the motor's armature and field assembly mounted prior to installing the brush ring assembly. Care must be taken when mounting the cantilever springs onto the armature's commutator so as not to improperly bend or twist these springs nor damage the commutator's surface finish.
3. Many motor models will be shipped with the two motor components nested inside one another which is a convenience for the user during motor mounting. To protect these components from hitting each other during shipping, a Mylar® strip is inserted into the air gap that separates these motor parts. This Mylar strip must be removed once the components have been installed.
4. When requested, frameless motor components will be shipped separately. If this is the case and because of the high magnetic forces developed by rare earth magnet field assemblies, caution must be taken to prevent the field assembly from striking the armature during assembly. For larger motors, it will be necessary to use a jack or hoist to assemble these components because of the high axial attractive force. The factory may be consulted to obtain a model's attractive force.

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