

Electrically Released Permanent Magnet Clutch Compatible Modules

P-1349
819-0318

Installation Instructions

EM-50-20 FBC	5370-169-056
EM-180-20 FBC	5370-169-057
EM-210-20-FBC	5371-169-028

Warner Electric's FBC series of Electrically Released Modules are designed to be used in clutch-brake combinations only. The FBC modules can be mounted on a C-face motor with the proper input module (10 module), and can also be foot mounted with a 30 Input Clutch Module and base. The FBC modules include a spacer for mounting to 10 and 30 clutch modules. The fail safe brake engages when power goes off.

10-20 FBC

Reference: Electro-Module Service Manual P-213.

Mounting Instructions

Follow Steps 1 and 2 in the Service Manual.

Step 3

Assembling two modules. The 20 FBC brake module may be assembled to the mounted model 10 motor clutch module as follows:

A. Position the modules with the ventilation holes down when in their normal horizontal position to prevent foreign matter from falling into the units.

B. Assemble the 20 FBC brake module to the motor clutch module, inserting the spacer provided between the (20) and (10) modules. Bolt the modules together with the long hex head bolts provided.

Follow Steps 4 and 8 in the Service Manual.

20 FBC-30-B

Reference: Electro-Module Service Manual P-213.

Mounting Instructions

Follow Step 2 in the Service Manual.

Step 3

Assembling two modules. The 20 FBC brake module may be assembled to the (30) input clutch module.

A. Position the modules with the ventilation holes down when in their normal horizontal position to prevent foreign matter from falling into the units.

B. Assemble the 20 FBC brake module to the 30 input clutch module, inserting the spacer provided between the units. Bolt the modules together with the long hex head bolts provided.

Follow Step 4 in the Service Manual.

Step 7

Installing the Base Mount. The 20 FBC brake module and the 30 input clutch module can be base mounted as follows:

A. Mount the modules so that the base is located below the ventilation holes. A pilot diameter on the end of each module mates with pilot diameter on the base.

B. Secure the base to the modules with the four (4) bolts provided.

Control Requirement

Electrically Released Permanent Magnet Brakes must use one of Warner's adjustable power supplies. See the Service Installation sheet included with the power supply for connection information.

Note: All Electrically Released Permanent magnet modules are polarity sensitive. Therefore, the (+) wire must be connected to the positive terminal and the (-) wire to the negative terminal. Potentiometer control will then provide adjustment for the proper brake release point.

Switching of clutch and brake with this type of module should allow both clutch and brake to be engaged and disengaged simultaneously for proper operation.

Brake Release Adjustment

Instructions for setting the optimum release voltage of permanent magnet applied/ electrically released brakes.

⚠CAUTION The following procedure will result in the brake releasing and allowing the load to be free to move. Be sure the load is in a safe condition before proceeding with this process.

In a permanent magnet applied/electrically released brake, the attractive force between the brake surfaces is created by permanent magnets. The brake is electrically released by applying DC power to the electro-magnetic coil

in the brake that opposes the permanent magnets. Electrically released brakes are polarity sensitive: the positive lead of the power supply must be connected to the positive lead of the brake, and the negative lead of the power supply must be connected to the negative lead of the brake. The power supply applied to the brake must also be adjustable so that the optimum release voltage for each individual brake can be determined and set.

The following procedure describes how to set the adjustable power supply to the optimum release point of the brake. A volt-meter is required to perform the procedure.

⚠CAUTION No power is applied to motor during this procedure. Power normally supplied by motor to brake control should be supplied by alternate method.

After control is adjusted per steps below, brake control may need to be fine tuned (adjusted) with motor running to compensate for any changes in supply voltage used.

1. With power off, connect the positive lead of the power supply to the positive lead of the brake and the negative lead of the power supply to the negative lead of the brake.
2. Connect a volt-meter to measure the voltage applied across the brake.
3. Adjust the power supply to its lowest possible output, then energize the power supply only, to apply power to the brake.
4. Starting from the low point, slowly increase the applied voltage until the brake armature disengages from the magnet. Note and record the applied voltage at this point.

5. Continue to slowly increase the applied voltage until the armature re-engages the magnet. If the maximum voltage available from the supply does not cause the armature to re-engage, the armature should be manually assisted into engagement.

Note: If armature needs to be manually assisted, armature should be pressed on back side to make contact with friction face of magnet.

6. With the armature re-engaged, slowly reduce the applied voltage until the armature disengages from the magnet. Note and record the applied voltage at this point.

7. The optimum release point for the brake is half-way between the two recorded voltage readings. Adjust the supply to this optimum release voltage.

Note: The above procedure should be done by visually watching the armature move and may be repeated if necessary from Step 1 through Step 7.

If any problems should occur during adjustments or application questions arise, please contact Technical Support at 1-800-825-9050 Monday through Friday 7:30 a.m. - 4:30 p.m. central time.

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