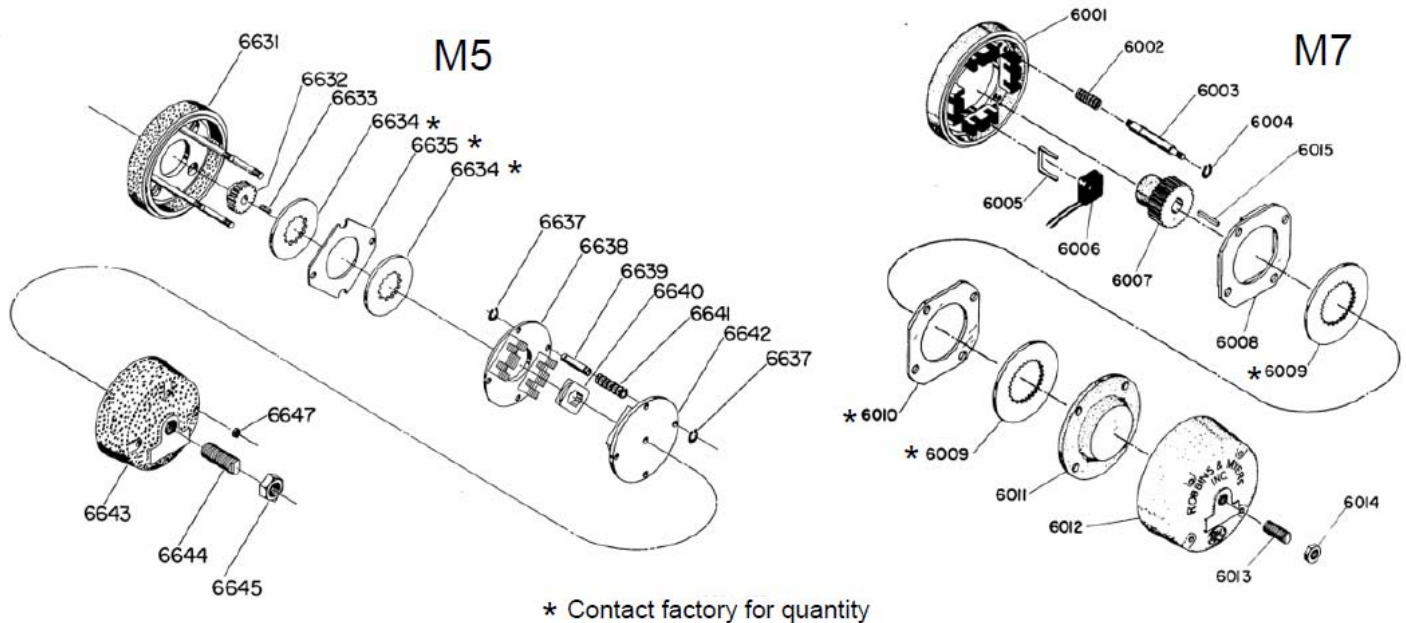


TECHNICAL TIP – “M” SERIES BRAKES



- 1) The “M” series brakes may be wired in a ‘series’ configuration or a ‘series-parallel’ configuration based on the number of brake coils in a particular brake. When there are two brake coils they must be wired in ‘series’ so the “E” and “I” frames pull together evenly. If line voltage coils are used and wired in ‘parallel’ the brake coil that receives the voltage first will try to pull in ahead of the other coil, causing the “E” frame (6639) to jam against the brake studs (6003). This jamming will prematurely wear the brake studs, intermediate plates, coil mounting plates, and ultimately damage the brake beyond repair. When installing new brake coils make sure there is no varnish on the coil electrical connections that can create an electrical insulator. Use new flag terminals to insure a good electrical connection. Proper wiring connections may be found on our website at:

<http://www.rmhoist.com/technical-support/tech-tips>

- 2) The number of friction discs in each individual brake are dependent upon the horsepower of the hoisting motor. The parts and service manual brake illustrations are for reference only and may not reflect the actual quantity of friction discs. The hoist serial number determines the correct number of brake friction discs.

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ADDING OR REDUCING THE NUMBER OF FRICTION DISCS CHANGES THE TORQUE OF THE BRAKE. THIS CAN RESULT IN DAMAGED GEAR CASE COMPONENTS OR A DROPPED LOAD. NEVER CHANGE THE NUMBER OF FRICTION DISCS FROM THE MANUFACTURER'S RECOMMENDATION.

- 3) When taking apart the armature plate from the pole plate, first mark the plates so they can be reassembled exactly the same way that they came apart. Brakes develop a wear pattern during their lifetime and will develop peaks and valleys caused from brake dust getting in between the plates. Rotating the plates 90° or 180° from each other will change the wear pattern causing gaps between the 'E' and 'I' frames leading to the brakes making a buzzing noise or developing a chatter problem. We recommended to change both the armature and pole plates as a set to prevent these potential problems.
- 4) Never try to re-machine the 'E' or 'I' plates, weld a solenoid back in place, or even repair a damaged plate. Removing any material from the plates will reduce the magnetization capability of the brake and will not allow the brake to properly energize. Incorrect brake operation will result.
- 5) When installing the cover do not over tighten the cover bolts. Excessive pressure on the thin aluminum cover could cause the brake to bind.
- 6) Installing new brake studs (6003) in a brake head (6631) requires the jam nut to be locked into place using 'Lock-tite' thread lock (red 271 or blue 272). The jam nut must be properly torqued to 40 ft/lb and then the nut to be 'pinged' at the connection to the brake stud. This procedure is to keep the brake studs from working loose.
- 7) The air gap is dependent on the number of friction discs:
 - 1 disc = 0.030"
 - 2 discs = 0.040"
 - 3 discs = 0.050"
 - 4 discs = 0.060"

Note: For high jogging applications add 0.005" to the air gap. The brake air gap must be adjusted before it reaches 0.110". Brake coil failure will result if the air gap grows beyond this setting.

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- 8) The electric motor brake and the mechanical load brake work together for proper hoist operation. If either the mechanical load brake or clutch located inside the hoist gearbox is not properly working additional strain will be put on the electric motor brake causing increased brake friction disc wear.
- 9) The friction disc to the hub fit must be a slip fit but not be a loose fit. A loose or sloppy fit can break the friction discs.
- 10) Some brake hubs have a heat shrink fit and cannot be removed by a puller due to the resulting damage to the shaft. This damage **will** affect the proper fit of the new brake hub since the brake hub key is not the main holding force. These hub types must be removed by cutting through the hub at the keyway. If there is any question as to what hub you have please contact our technical support group at 937-328-5100.

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