
INSTALLATION AND MAINTENANCE

Installation of MDC Clutches

This unit consists of four major components: the field, the rotor/hub assembly, the armature and the multiple friction disks. When the current is applied to the coil, the armature is pulled in, compressing the multiple disks and the friction between the disks transfers torque.

Installation Procedure

1. Slide clutch body onto the shaft (key should already be in place in the key way in the shaft).
2. Make sure the clutch is secured axially from moving on the shaft. This can be done via a step in the shaft, set collar, center bolt or some type of sleeve.
3. The coupling (drive cup) should be attached to, (customer supplied) bearing mounted gear, pulley or direct drive coupling flange.
4. The gap between the clutch hub and the exterior of the coupling (drive cup shown as dimension A in the mounting diagram) should be as follows:

Table 1

Model	1.2	2.5	5	10	20	40
A [inch]	0.217	0.217	0.236	0.256	0.374	0.551
Model	80	160	250	320	450	600
A [inch]	0.670	0.906	0.984	1.181	1.417	1.417

5. Concentricity of the coupling with the shaft should be within .002”.
6. Make sure the drive cup (coupling assembly) is restrained from moving axially on the shaft. The inboard bearing race (via a sleeve or spacer) should contact the face of the clutch and the outboard bearing race or sleeve, should be restrained by a snap ring, retaining ring or some other positive contact device.
7. Make sure that the torque tab is loosely restrained to prevent the field from rotating due to the field bearing drag. Approximately 1/16th of axial and radial clearance should be allowed so that the field bearing is not pre-loaded restraint is loosely connected to the torque tab on the clutch.

Maintenance

1. This clutch is intended to be used dry and, therefore oil should not be allowed on the friction faces. In case oil has seeped in, disassemble clutch, and wipe off the oil or grease from the friction faces (using an environmentally safe solvent). Make sure the discs are dry before re-starting operation.

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2. The torque of clutch is varies with exciting voltage. Make sure that DC24V is always supplied to the clutch. Note that even when the exciting voltage is DC 24V, the clutch terminal voltage can be lowered by the line resistance if the circuit is too long. Check the exciting voltage at the clutch field and make sure you register 24 volts.
3. The clutch slips whenever it is engaged. The clutch discs wear and the wear rate increases gradually. This can be measured in the amount of release (disengaged) travel. The clutch requires no adjustment, but when the discs are very worn and the air gap exceeds the specified values the response time is influenced. At that point the discs in these units can be replaced. The amount of air gap wear rate is listed in Table 2.

Table 2

Model : MDC	1.2	2.5	5	10	20	40
Initial release [inch]	0.031	0.031	0.039	0.055	0.063	0.071
Wear limit of release [inch]	0.071	0.071	0.079	0.114	0.122	0.126
Model : MDC	80	160	250	320	450	600
Initial release [inch]	0.075	0.098	0.098	0.110	0.118	0.138
Wear limit of release [inch]	0.134	0.177	0.177	0.189	0.197	0.217

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