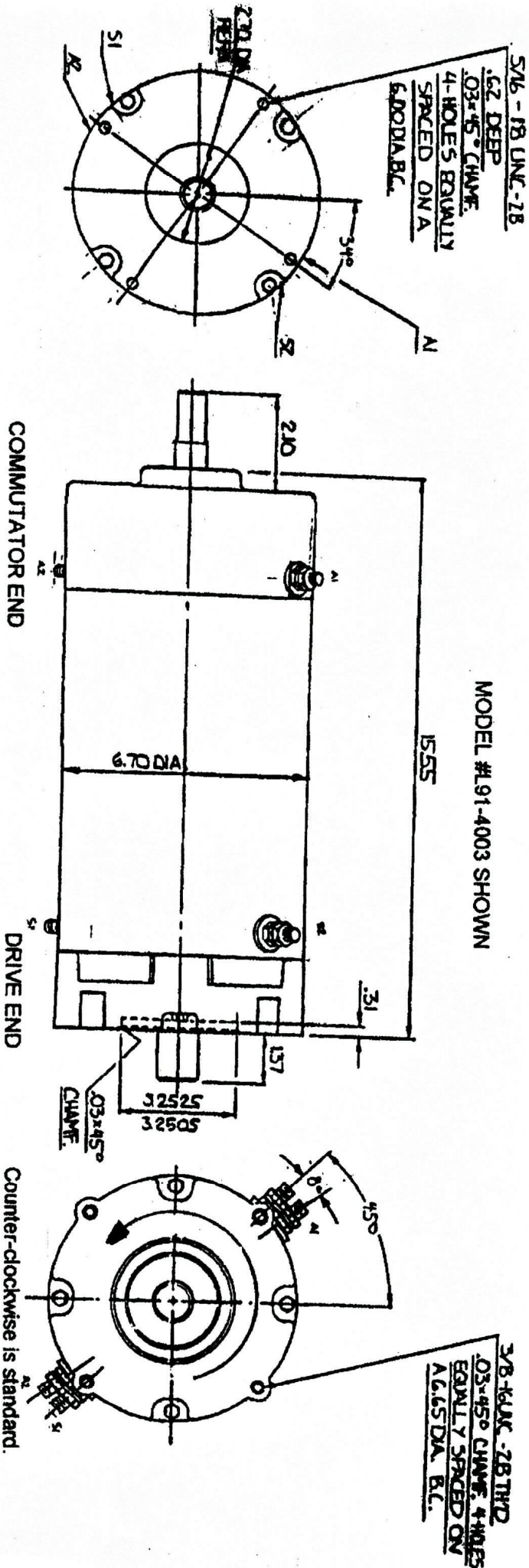


RELOCKING THE COMMUTATOR / BRUSH RIGGING FOR CLOCKWISE ROTATION

Almost without exception, Advanced DC Motors manufactures their motors to rotate in the C.C.W. direction as viewed from the DRIVE END of the motor. This is done for compatibility with the most commonly used types of transmissions and drivelines available. When the direction of rotation is known for a particular application, it is possible to lead the brushes into the direction of rotation slightly in order to gain a few efficiency points. While this lead angle is very small (about 10-13 degrees), the amount of lead angle is critical for good commutation. Unless otherwise noted, all Advanced DC motors have a slight lead angle in the C.C.W. direction. Conversely, if an application requires rotation in the C.W. direction as viewed from the DRIVE END of the motor, the lead angle will have to be restored in the C.W. direction for proper commutation. Failure to restore the prescribed lead angle will result in inefficient operation and premature brush and commutator wear. The following procedure describes how to set up a motor for C.W. operation.



- (1) At the COMMUTATOR END of the motor, remove the brush band and set it aside. Locate the springs that hold the 8 brushes into place. One-at-a-time, grasp the loose end of a brush spring between opposing index fingers. Pull the spring up away from the brush and park it behind its holding bar so that its loose end is pointing up into the air. In like fashion, park the other 7 brush springs away from the brushes.
- (2) Remove the 4 bolts that attach the COMMUTATOR END assembly of the motor to the motor body.
- (3) Pry loose and carefully remove the COMMUTATOR END assembly, being careful not to disturb or damage any part contained therein.
- (4) At the COMMUTATOR END of the motor, locate the 8 threaded holes in the end of the motor body. 4 of these threaded holes will be empty, and the other 4 will have setscrews installed in them. With an allen wrench, remove the 4 setscrews and reinstall them into the empty threaded holes.
- (5) Replace the COMMUTATOR END assembly onto the motor, being careful to align the bolt holes with the newly-empty threaded holes in the end of the motor body. Reinstall the 4 bolts removed in step (2). Tighten them firmly.
- (6) Restore all 8 brush springs from their parked positions to their original positions on the brushes. Reinstall the brush band. With a marking pen, write "C.W. DIR." on the motor nameplate.

DRAWN 1/2 SCALE