VOLTAGE 24 ROTATION CWDE BRUSHES 4 POLES 4

DIAMETER 4-1/2"

LUBRICATION	Soak absorbent bronze bearings and felt oiling pads in SAE 20 oil. Allow to drain thoroughly before assembly. Lubricate armature shaft and splines with low temperature grease before assembling drive.
BRUSH REPLACEMENT	Replace brushes when they have worn to a length of 1/4" or less.
SPRING TENSION	32 to 40 ounces with new brushes. Measure with a spring scale hooked under the brush spring at the brush. Pull the scale on a line opposite the line of force exerted by the brush spring and take the reading just as the spring leaves the brush.
TRANSMISSION	Mag. Clutch
POLE SHOE INSTALLATION	If field coils are replaced, install pole shoes so that the short edge is pointing in the same direction as armature rotation.
END PLAY	Adjust to .005" to .030" with thrust washers at commutator end. See Parts & Equipment List for thrust washer package.
SHIFT ADJUSTMENT	With plunger sealed and pinion pushed toward comm. end, adjust link screw so that the clearance between the pinion and pinion stop is 3/32" + 1/32" - 1/64".

TEST SPECIFICATIONS ($77^{o}F/25^{o}C$)

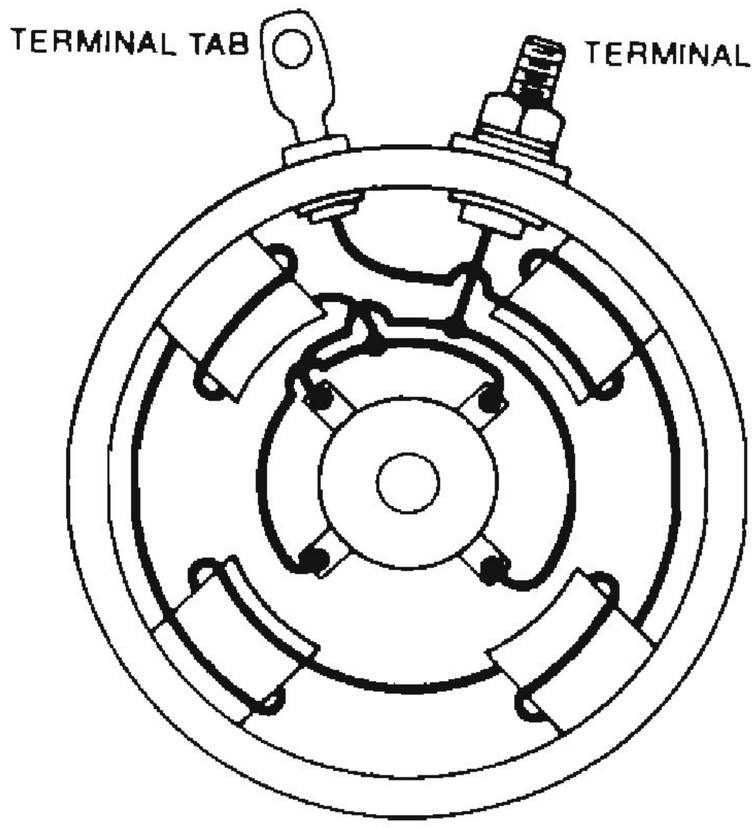
	Terminal Voltage	Maximum Amperes	RPM	Torque Ft. Lbs.
No Load Test	20.0	38	6,500	- 0 -
Stall Torque Test	6.0	175	- 0 -	7.0

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SERVICE
INFORMATION

Unit	*Pinion Position	Special Notes
MHP-7101T	1-9/32" - 1-27/64"	Note 1

* Pinion position "at rest" measured from mounting flange to outer edge of pinion.

Note 1 - After inspection of various parts, paint terminal stud and brush holder insulation with red glyptol. Cover glyptol and all metal surfaces except pilots, head seats, commutator and bearing surfaces with an air-drying, fungus-resistant insulating varnish. Allow varnish to soak into field coils and armature windings. Drain and dry thoroughly before assembling the motor.



VIEWED FROM COMMUTATOR END

VOLTAGE 24 ROTATION See Tabulation BRUSHES 4 POLES 4

VENTILATED No FRAME DIAMETER 4-1/2"

BEARINGS

Absorbent bronze bearing used at commutator end. See tabulations for type of drive end bearing.

LUBRICATION

Soak absorbent bronze bearings and felt oiling pad with SAE 20 oil. Allow excess oil to drain out before assembling end head on motor. Ball bearings, when supplied for drive end, are pre-lubricated and sealed. No additional lubrication is required.

BRUSH REPLACEMENT

The brushes must be replaced when they have worn to a length of - See tabulation.

SPRING TENSION

32 to 40 ounces with new brushes. Measure with a spring scale hooked under the brush spring at the brush. Pull the scale on a line opposite the line of force exerted by the brush spring and take the reading just as the spring leaves the brush.

POLE SHOE INSTALLATION

When replacing field coils, install the pole shoes so that the long edge is pointing in the same direction as the armature rotation.

END PLAY

Adjust to .005" minimum with thrust washers at C.E. bearing. Refer to Parts & Equipment List for thrust washer package.

TEST SPECIFICATIONS (77°F/25°C))

	Terminal Voltage	Maximum Amperes	RPM	Torque Ft. Lbs.
No Load Test	22	40	7000 Min.	0
Stall Torque Test	8	230	0	10.5

UNIT	ROTATION	D.E. BEARING	INTERNAL WIRING	BRUSH REPLACEMENT
MHP-4001,S	CWDE	Sealed Ball	Fig. 1	Replace at 5/16" or less
MHP-4002,S	CWDE	Sealed Ball	Fig. 1	Replace at 5/16" or less
MHP-4003,A	CCWDE	Sealed Ball	Fig. 2	Replace at 1/4" or less
MHP-4005	CCWDE	Sealed Ball	Fig. 3	Replace at 5/16" or less
MHP-4006S	CWDE	--	Fig. 1	Replace at 5/16" or less
MHP-4007,A	CCWDE	Sealed Ball	Fig. 2	Replace at 1/4" or less

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SERVICE
INFORMATION

UNIT	ROTATION	D.E. BEARING	INTERNAL WIRING	BRUSH REPLACEMENT
MHP-4008,A	CCWDE	Sealed Ball	Fig. 2	Replace at 1/4" or less
MHP-4009	CCWDE	Sealed Ball	Fig. 3	Replace at 5/16" or less
*MHP-4009T	CWDE	Absorbent Bronze	Fig. 4	Replace at 1/4" or less
MHP-4101,S	CWDE	Absorbent Bronze	Fig. 4	Replace at 1/4" or less

Note: MHP-4007,A has thermal protection switch not shown in wiring diagram.

* MHP-4009T - After inspection of various parts, paint terminal studs and brush holder insulation with red glyptol. Cover glyptol and all metal surfaces except pilots, head seats, threads, commutator and bearing surfaces with air-drying, fungus-resistant insulating varnish. All varnish to soak into field coils and armature windings. Drain and dry thoroughly before assembling motor.

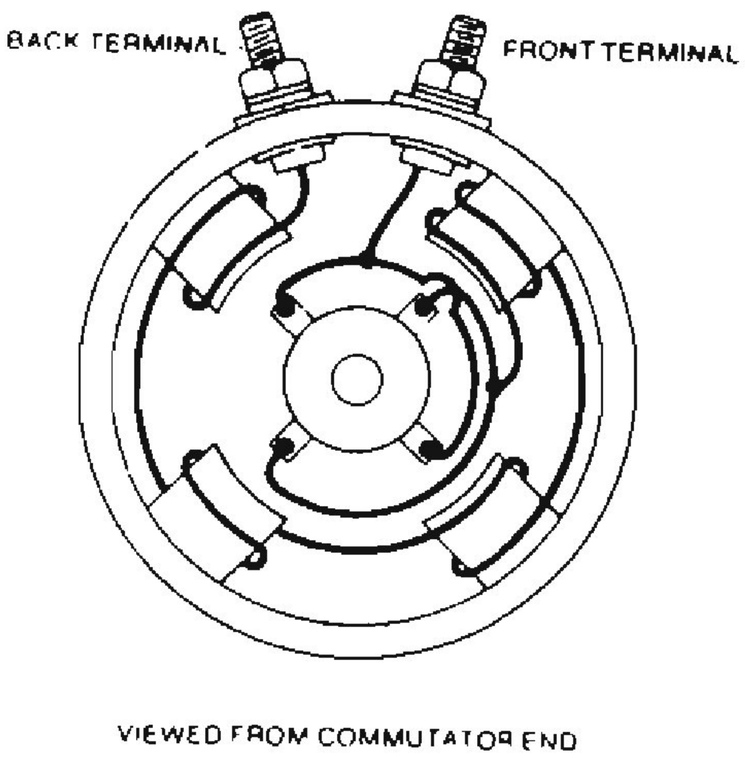


Figure 1

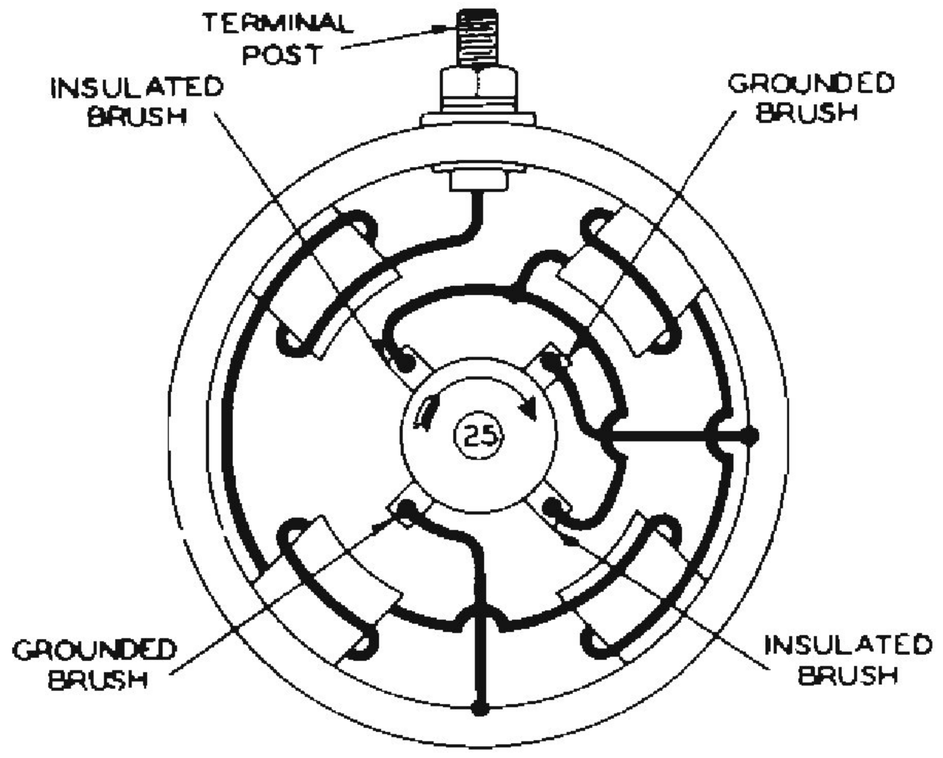


Figure 2

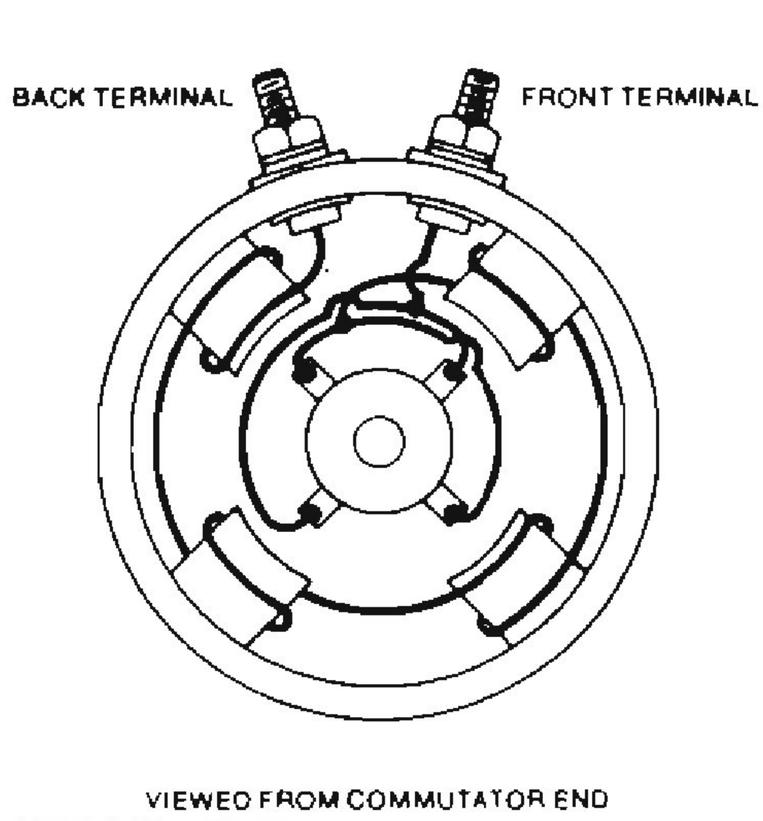


Figure 3

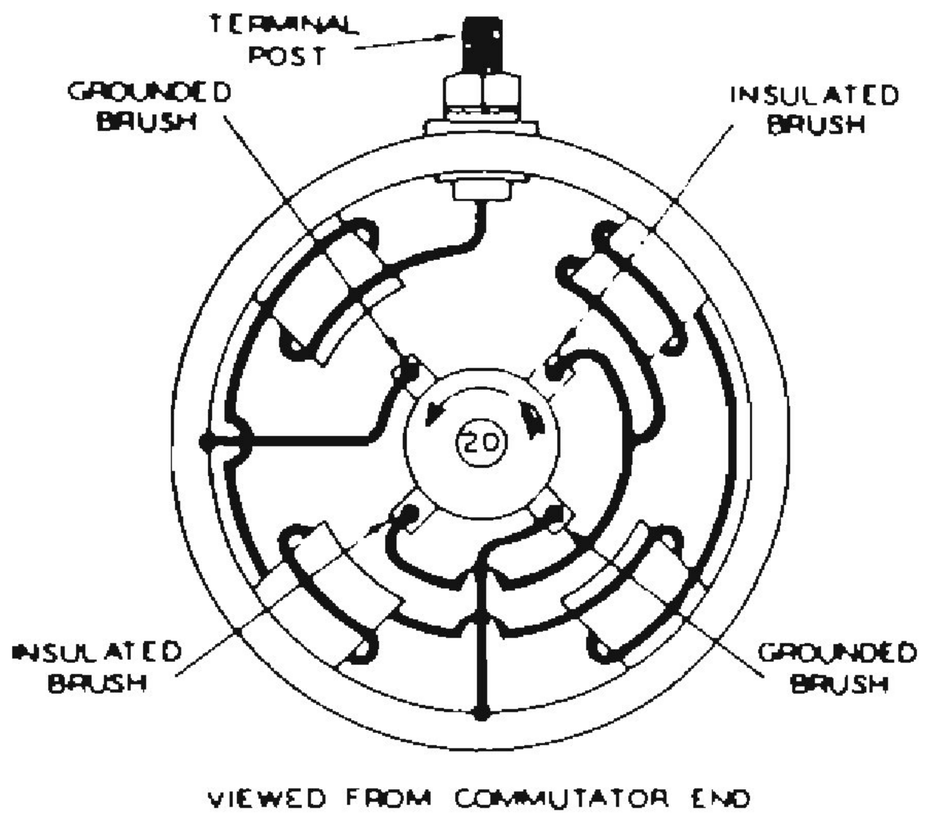


Figure 4