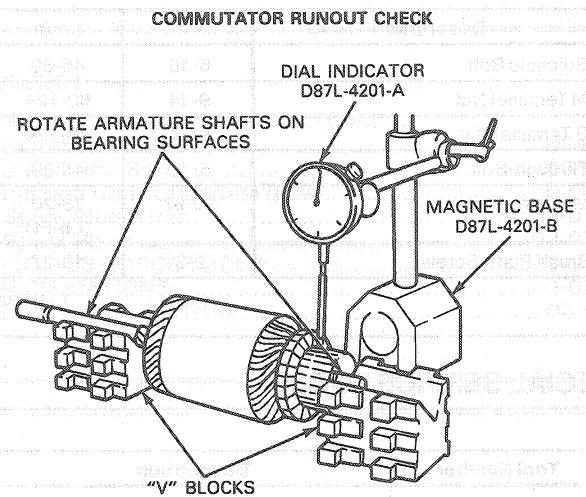


DISASSEMBLY AND ASSEMBLY (Continued)

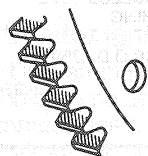
3. Check commutator for runout. Inspect armature shaft and two bearings for scoring and excessive wear with Dial Indicator D87L-4201-A and Magnetic Base D87L-4201-B or equivalent. If commutator is rough, or more than 0.12mm (0.005 inch) out of round, it must be replaced.



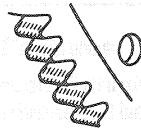
J2711-C

4. Examine gears, spline on driveshaft, and drive pinion for chipped, broken or worn conditions. Replace if required.

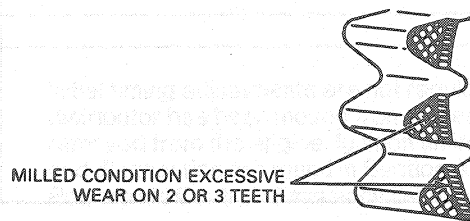
PINION AND RING GEAR WEAR PATTERNS



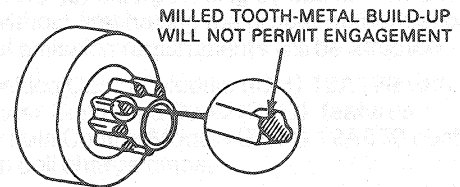
NORMAL WEAR PATTERN



SMALL WEAR PATTERN



MILLED CONDITION EXCESSIVE WEAR ON 2 OR 3 TEETH



MILLED GEARS

MILLED TOOTH-METAL BUILD-UP WILL NOT PERMIT ENGAGEMENT

J2713-2A

SPECIFICATIONS

Starter Motor				Starter Brushes			
Motor Diameter	Current Draw Under Normal Load	Normal Engine Cranking Speed	Min. Stall Torque @ 5 Volts	Max. Load	No Load	Mfg. Length	Spring Tension
101.6mm (4 Inches)	130-220 Amps	140-220 RPM	14.7 N-m (11.0 Lb-Ft)	800 Amps	70 ± 10 Amps	16.8mm (0.66 Inch)	18 N (64 oz.)

Maximum commutator runout is 0.12mm (0.005 inch). Maximum starting circuit voltage drop (battery positive terminal to starter terminal) at normal engine temperature is 0.5 volt.

TJ4456A