

# GROUP 10 ELECTRICAL SYSTEMS

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## SECTION 10-A ELECTRICAL SPECIFICATIONS

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### NOTES

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### 10-1 BATTERY SPECIFICATIONS

Items	All Series
Make .....	Delco-Remy
Number .....	3 KMR 62
Location Under Hood .....	L. F. Fender Skirt
Terminal Grounded .....	Negative
Voltage .....	12
Capacity—Wet (Amp. Hrs. @ 20 Hr. Rate) .....	62
Number of Cells & Plates/Cell .....	6, 9
Specific Gravity, Full Charge @ 80° F. ....	1.260 to 1.280
Bench Charging Rate, Start .....	4 Amps.
Bench Charging Rate, Finish .....	2 Amps.
Separators .....	Rubber

### 10-2 GENERATING SYSTEM SPECIFICATIONS

#### a. Generator

Items	All Series
Make and Type .....	Delco-Remy, Shunt
Model, Regular .....	1102008
With Factory Installed Air Conditioning .....	1102051
Location, Side of Engine .....	Right
Drive and Rotation (Drive End) .....	Fan Belt, Clockwise

**10-2 SPECIFICATIONS**

Speed Ratio, Generator to Engine.....	2.17 to 1
Brush Spring Tension, ounces.....	26-32
Field Current Draw (Amps.) @ 80° F., At 12 Volts, Regular.....	1.48 to 1.62
With Factory Installed Air Conditioning.....	1.62 to 1.82
Max. Stall Current (Amps.) @ 80° F. at 12 Volts, Regular.....	80
With Factory Installed Air Conditioning.....	87
Bench Test, Regular, (Amps.) Hot at 14 Volts and 2300 RPM.....	30
Bench Test, with Air Conditioning (Amps) Hot at 14 Volts and 2600 RPM..	35

**b. Generator Regulator**

Make.....	Delco-Remy
Model, Regular.....	1119003
With Factory Installed Air Conditioning.....	1119002
Cutout Relay Closing Voltage.....	11.8 to 13.6
Adjust to.....	12.8
Cutout Relay Opening Current.....	Reverse or Discharge
Cutout Relay Air Gap Points Closed.....	.020"
Cutout Relay Contact Point Opening.....	.020"
Current Regulator Air Gap, Points Just Touching.....	.075"
Current Regulator Setting, Amps. HOT, @ Approx. 2000 Eng. RPM, Regular.....	27-33, Adjust to 30
With Factory Installed Air Conditioning.....	32-38, Adjust to 35
Voltage Regulator Air Gap, Points Just Touching.....	.075"
Voltage Regulator Setting, HOT, @ Approx. 1500 Eng. RPM—	
Volts @ 8-10 Amps.....	14 to 15
Adjust to.....	14.5

**10-3 CRANKING (STARTER) SYSTEM SPECIFICATIONS****a. Cranking Motor**

	Items	All Series
Make.....		Delco-Remy
Model.....		1107646
Location, Side of Engine.....		Left
Type of Shift.....		Mechanical-Electrically Controlled
Shift Actuation.....		Solenoid
Shift Operation.....		Accelerator Pedal
Type of Drive.....		Overrunning Clutch
Rotation, Viewing Drive End.....		Clockwise
Gear Ratio, Motor to Engine.....		20 to 1
No. Teeth on Ring Gear and Drive Pinion.....		180, 9
Cranking Speed, RPM.....		160
No Load Test—		
Amperes.....		95
Volts.....		10.1
R.P.M.....		3500
Lock Torque Test—		
Amperes.....		470
Volts.....		5.4
Torque—Lbs. Ft.....		10.5 Min.
Brush Spring Tension—Ounces.....		40 to 70
Armature End Play.....		.005"—.050"
Pinion Clearance in Cranking position.....		.010" to .050"
Shift Lever Return Spring Tension—		
Start of Travel, Lbs.....		20
End of Travel, Lbs.....		40

**b. Solenoid Switch and Relay**

Make.....	Delco-Remy
Model.....	1116878
Current Draw of Solenoid Windings @ 80° F.—	
Hold-in Winding, Amps. @ 10 Volts.....	18-20
Both Windings in Parallel, Amps. @ 10 Volts.....	72-76
Solenoid Relay Adjustments—	
Air Gap—Points Closed.....	.011"
Point Opening.....	.020"—.030"
Closing Voltage.....	3.8 to 5.0
Adjust to.....	4.4
Sealing Voltage, Max. Above Closing Voltage.....	.2
Opening Voltage, Min.....	.6

**10-4 IGNITION SYSTEM SPECIFICATIONS****a. Ignition Coil and Resistor**

Items	All Series
Make .....	Delco-Remy
Model .....	1115081
Coil Resistance (Ohms) @ 75° F.—	
Primary .....	1.2 to 1.4
Secondary .....	6500 to 9500
Resistor Number .....	1927809
Resistance, Ohms @ 75° F. ....	1.40 to 1.62

**b. Spark Plugs**

Make and Model .....	AC, 44
Thread and Shell Hex. Sizes .....	14MM, $\frac{13}{16}$ "
Gap at Points .....	.030" — .035"
Terminal Nut Length .....	$\frac{3}{8}$ "
Tightening Torque (ft. lbs.) .....	25

**c. Distributor**

Make .....	Delco-Remy
Model .....	1110861
Drive .....	From Camshaft
Rotation, Top View .....	Clockwise
Timing, Before U.D.C. ....	5 Degrees
Spark Control Advance—Flywheel Degrees—	
Vacuum, Max. ....	18—21
Centrifugal .....	22—27
Vacuum Control Number .....	1116090
Vacuum Advance Test, Distributor Degrees—	
At 6.5" to 8.5" of Vacuum .....	Start Travel
At 12" to 14" (Hg) of Vacuum .....	9—10.5
Centrifugal Advance Test, Distributor Degrees and RPM ( $\frac{1}{2}$ Engine RPM)—	
At 375 RPM .....	0 to 1.5
At 850 RPM .....	6 to 8
At 1450 RPM .....	9.5 to 11.5
At 1750 RPM .....	11 to 13.5
Contact Point Opening .....	.0125" to .0175"
Breaker Arm Spring Tension, at Side of Point, Ounces .....	19 to 23
Breaker Base Plate Tension, Ounces .....	15 max.
Condenser Make and Capacity (Microfarads) .....	Delco-Remy, .18 to .23

**10-5 LIGHTING SYSTEM SPECIFICATIONS****a. Lamps, Switches, Wiring**

Items	All Series
Headlamp Make and Type .....	Guide, T-3 Sealed Beam
Headlamp Lens Diameter .....	$6\frac{11}{16}$ "
Tail, Stop, Parking, Signal Lamps, Make .....	Guide
Lighting Switch, Make .....	Delco-Remy
Wiring Circuit Type .....	Single Wire
Wiring Circuit Protection, for Head, Parking, Tail, License, Instrument Lights .....	Thermo Circuit Breaker
Thermo Circuit Breaker Location .....	On Lighting Switch
Thermo Circuit Breaker Calibration @ 70° F.—	
Stay closed Indefinitely @ Amps. ....	22
Open in $\frac{1}{2}$ to 4 Minutes @ Amps. ....	30

**b. Lighting and Other Circuit Fuses**

**NOTE:** Unless otherwise specified, all fuses are mounted on fuse block under cowl. Head, tail, parking, license and instrument circuits are protected by thermal circuit breaker on light switch.

Items	All Series
Back-Up Light .....	10 Amp. AGC
Dome and Luggage Compt. Light .....	20 Amp. SFE
Electric Clock .....	2 Amp. AGA
Heater and Defroster Blower .....	20 Amp. SFE
Parking Brake Warning Signal .....	10 Amp. AGC
Stop and Direction Signal Lights .....	9 Amp. SFE
Cigar Lighter .....	Special
Location .....	In back of Lighter

**10-4 SPECIFICATIONS**

Glove Box Light and Map Light.....	2 Amp. AGA
Location.....	In Wiring Connector
Radio.....	7.5 Amp. Special
Location.....	End of "A" Lead at Set
Antenna Motor.....	15 Amp. AGC
Location.....	In Wiring Connector Near Switch
Air Conditioner Blower.....	20 Amp. SFE
Location.....	In Fuse Block
Air Conditioner Clutch Control.....	5 Amp. AGC
Location.....	In Fuse Block
Hydro-Lectric Power System.....	Auto. Reset Circuit Breaker on Dash
Electric Top Control.....	Auto. Reset Circuit Breaker on Dash
Electric Window and Seat Control.....	Auto. Reset Control in Motors, <i>plus</i>
	Auto. Reset Circuit Breaker on Dash
	Thermal Circuit Breaker
	on Light Switch

**c. Lamp Bulbs**

	<b>Mazda No. and Power</b>
Headlamp Sealed Beam Unit.....	5400; 40-50 Watt
Headlamp Beam Indicator.....	53; 1 CP
Parking and Front Dir. Signal.....	1034; 32-4 CP
Direction Signal, Rear (also Tail and Stop).....	1034; 32-4 CP
Direction Signal Indicator.....	53; 1 CP
License Plate Lamp.....	67; 3 CP
Tail and Stop Lamps.....	1034; 32-4 CP
Instrument Lights.....	57; 2 CP
Map Light.....	90; 6 CP
Dome Lamp.....	1004; 15 CP
Trunk Compartment.....	89; 6 CP
Clock Light.....	57; 2 CP
Glove Box.....	57X; 2 CP
Radio Dial Light.....	57; 2 CP
Back-Up Light.....	1073; 32 CP
Parking Brake Warning Signal.....	89; 6 CP
Dynaflow Speed Ratio Dial.....	57; 2 CP
Heater or Air Conditioner Control Panel.....	57; 2 CP

**10-6 SIGNAL SYSTEMS SPECIFICATIONS**

<b>Items</b>	<b>All Series</b>
Stop Light Switch—Type.....	Hydraulic
Stop Light Switch Location.....	Brake Master Cylinder
Direction Signal Switch—Make.....	Delco-Remy
Direction Signal Flasher—Make.....	Tungsol
Lamp Bulbs—Mazda No. and Power.....	See Par. 10-5, c
Stop and Signal Light Fuse.....	See Par. 10-5, b
Horn—Make and Type.....	Delco-Remy, Vibrator
Horn Model, High Note (L.H.).....	1999770
Low Note (R.H.).....	1999769
Horn Amperage Draw at 11.5 Volts—	
High Note (L.H.).....	7.5 to 9.5
Low Note (R.H.).....	8.5 to 10.5
Horn Relay Number.....	1116781
Horn Relay Adjustment—	
Air Gap—Points Closed.....	.014"
Contact Point Opening.....	.027"
Closing Voltage.....	5.0 to 9.5
Adjust to.....	6.5