

GROUP 10 ELECTRICAL SYSTEMS

SECTIONS IN GROUP 10

Section	Subject	Page	Section	Subject	Page
10-A	Electrical Specifications . . .	10-1	10-F	Lighting System	10-53
10-B	Battery and Cables	10-6	10-G	Signal Systems	10-62
10-C	Generating System	10-15	10-H	Instruments and Clock	10-69
10-D	Cranking (Starter) System . .	10-27	10-I	Police Car Generating System	10-81
10-E	Ignition System	10-37	10-J	Wiring Circuit Diagrams . . .	10-97

SECTION 10-A ELECTRICAL SPECIFICATIONS

CONTENTS OF SECTION 10-A

Paragraph	Subject	Page	Paragraph	Section	Page
10-1	Battery Specifications	10-1	10-4	Ignition System Specifications	10-3
10-2	Generating System Specifica- tions	10-1	10-5	Lighting System Specifications	10-4
10-3	Cranking (Starter) System Specifications	10-2	10-6	Signal Systems Specifications	10-5

10-1 BATTERY SPECIFICATIONS

Make	Delco-Remy
Model	1980455
Cat. No.	1980454
Location Under Hood	R.F. Fender Skirt
Terminal Grounded	Negative
Voltage	12
Capacity - Wet (Amp. Hrs. @ 20 Hr. Rate)	40
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	Porous Rubber
Case	Hard Rubber
Dimensions	9 1/2" x 6 27/32" x 8 5/16" High

10-2 GENERATING SYSTEM SPECIFICATIONS

a. Generator

Make and Type	Delco-Remy, Shunt
Number (V-8 Engine)	1102307
Number (V-6 Engine)	1102310
Location, Side of Engine	Right
Drive and Rotation (Viewing Drive End)	Fan Belt, Clockwise
Speed Ratio, Generator to Engine	2.35 to 1
Brush Spring Tension, ounces	26 - 32
Field Current Draw (Amps.) @ 80°F and 12 Volts	1.48 to 1.62
Bench Test at 14 Volts (Amps.) Cold @ Generator RPM	35 @ 2510

b. Generator Regulator

Make	Delco-Remy
Number (Including Fuse)	1119277
Fuse Rating, Amperes	40
Cutout Relay Closing Voltage	12 to 13.5
Adjust to	12.8
Cutout Relay Opening Reverse Current	-1 to -6
Cutout Relay Air Gap Points Closed	.020"
Cutout Relay Contact Point Opening	.020"
Current Regulator Air Gap, Points Just Touching	.075"
Current Regulator Setting @ 1500 Eng. RPM (After 15 Min. Warm-Up)	See Figure 10-15,
Voltage Regulator Air Gap, Points Just Touching	.060"
Voltage Regulator Upper Contact Point Opening	None
Voltage Regulator Setting @ 1500 Eng. RPM (After 15 Min. Warm-Up)	See Figure 10-15

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

Make	Delco-Remy
Number	1108303
Location, Side of Engine	Right
Type of Shift	Mechanical - Electrically Controlled
Shift Actuation	Solenoid
Shift Operation	Ignition Switch
Type of Drive	Overrunning Clutch
Rotation, Viewing Drive End	Clockwise
Gear Ratio, Motor to Engine	17.3 to 1
No. Teeth on Ring Gear and Drive Pinion	156, 9
Cranking Speed, Engine RPM (at Operating Temperature) No Load Test	160 Approx.
Amperes	58 to 80
Volts	10.6
R.P.M.	6750 to 8600
Locked Armature Test	
Amperes	280 to 320
Volt	4.0
Brush Spring Tension - Ounces	35 min.
Armature End Play	.005" to .050"
Pinion Clearance in Cranking Position	.010" to .140"

b. Solenoid Switch

Make	Delco-Remy
Solenoid Switch Number	1114266
Current Draw of Solenoid Winding @ 80°F.	
Hold-in Winding, Amps. @ 10 Volts	10.5 - 12.5
Both Windings in Parallel, Amps. @ 10 Volts	42 - 49
Voltage Required for Solenoid Switch Pull-In @ 80°F	7.2 Max.

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

Make	Delco-Remy
Coil Number (Less Bracket)	1115087
Current Draw, Amperes @ 12.6 Volts	
Engine Stopped	3.7
Engine Idling	1.7
Coil Resistance (Ohms) @ 80°F.	
Primary	1.28 to 1.42
Secondary	7200 to 9500
Resistance Wire	Part of Wiring Harness
Resistance, Ohms @ 80°F.	1.80 ± .05

b. Spark Plugs

Make and Model	
Standard V-8 Engine	AC 45FFS
Hi Performance V-8 Engine	AC 44FFS
V-6 Engine	AC 44S
Thread and Shell Hex. Sizes	14MM, 13/16"
Gap at Points	.035"
Terminal Nut Length	3/8"
Tightening Torque in ft. lbs. (Lubricated)	20

c. Distributor

Make	Delco-Remy
Drive	From Camshaft
Rotation, Top View	Clockwise
Firing Order (V-8)	1-8-4-3-6-5-7-2
Firing Order (V-6)	1-6-5-4-3-2
Number (Less Cap) V-8	1110977
Number (Less Cap) V-6	1110286
Timing, Before U.D.C. (Except Hi Perf.-Auto. Trans.)	5° @ Idle or 7-1/2° @ 1050 ERPM
Timing, Before U.D.C. (Hi Perf.-Auto. Trans.)	7-1/2° @ Idle or 10° @ 1050 ERPM
Spark Advance - Crankshaft Degrees (In Addition to Initial Timing Advance)	
Vacuum, Max. (V-8 and V-6)	14 - 18
Centrifugal, Max. (V-8)	24 - 28
Centrifugal, Max. (V-6)	26 - 30
Vacuum Control Number (V-8 and V-6)	1116182
Vacuum Advance Test, Inches of Vacuum	
Vacuum Needed to Start Advance	6 to 8
Vacuum Needed for Max. Advance	14 to 16
Centrifugal Advance Test, Dist. Degrees and RPM (1/2 Eng. Degrees and RPM) V-8	
Start Advance - 525 RPM	0 to 2
Medium Advance - 1050 RPM	6.5 to 8.5
Maximum Advance - 1850 RPM	12 to 14
Centrifugal Advance Test, Dist. Degrees and RPM (1/2 Eng. Degrees and RPM) V-6	
Start Advance - 425 RPM	0 to 2
Medium Advance - 875 RPM	6 to 8
Maximum Advance - 1950 RPM	13 to 15
Contact Point Opening	.013" to .019"
Contact Point Dwell Angle	30° ± 1°
Adjust to	30°
Dwell Variation	3° Max.
Breaker Arm Spring Tension, at Side of Point, Ounces	19 to 23
Condenser Make and Capacity (Microfarads)	Delco-Remy, .18 to .23

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

Headlamp Make and Type	Guide, Dual T-3 Sealed Beam
Headlamp Lens Diameter	5 3/4"
Tail, Stop, Parking, Signal Lamps, Make	Guide
Lighting Switch, Make	Delco-Remy
Wiring Circuit Type	Single Wire
Wiring Circuit Protection for Head and Front Parking Lights	Thermo Circuit Breaker
Thermo Circuit Breaker Location	In Lighting Switch
Thermo Circuit Breaker Calibration @ 75°F.	
Stay Closed Indefinitely @ Amps.	15
Open Within 60 Seconds @ Amps.	26

b. Fuses and Circuit Breakers

NOTE: Unless otherwise specified, all fuses are mounted on fuse block under left side of instrument panel.

Back-Up Lights	9 Amp. - 7/8"
Clock	2 Amp. - 5/8"
Direction Signal, Signal Indicator and Stop Lights	10 Amp. - 1-1/4"
Heater-Defroster, Air Conditioner Blower and Compressor Clutch	20 Amp. - 1-1/4"
Panel Lights and Rheostat	3 Amp. - 5/8"
Radio	2.5 Amp. - 7/8"
Tail, License, Dome, Panel Lights and Rheostat	9 Amp. - 7/8"
Wiper and Washer Motor	25 Amp. - 1-1/4"
Cigar Lighter	Special
Location	In Back of Lighter
Generator Regulator	Special 40 Amp.
Location	Regulator Battery Terminal
Headlights and Front Parking Lights	15 Amp. Circuit Breaker
Location	In Light Switch

c. Lamp Bulbs

Ash Tray	53; 1 CP
Automatic Transmission Control Dial	53; 1 CP
Back-Up	1073; 32 CP
Clock Dial	57; 2 CP
Dome	211; 15 CP
Direction Signal Indicator	158; 2 CP
Glove Box	1816; 3 CP
Headlamp High Beam Indicator	158; 2 CP
Headlamp Sealed Beam Unit, 5-3/4" Dia., Type 1 (Inner)	4001; 37.5 Watt
Headlamp Sealed Beam Unit, 5-3/4" Dia., Type 2 (Outer)	4002; 37.5 - 50 Watt
Heater-Defroster Control Dial	53; 1 CP
Indicator Lights (Hot, Oil, Gen.)	158; 2 CP
Instrument Dial Lights	1816; 3 CP
License Plate, Rear	67; 4 CP
Parking and Dir. Signal, Front	1034; 32 - 4 CP
Radio Dial	1893; 1 CP
Tail, Stop and Direction Signal, Rear	1034; 32 - 4 CP
Courtesy Lights, Rear Quarter Panel (Skylark Only)	90; 6 CP

10-6 SIGNAL SYSTEMS SPECIFICATIONS

Stop Light Switch - Type	Hydraulic
Stop Light Switch Location	Master Cylinder
Direction Signal Switch - Make	Delco-Remy
Direction Signal Flasher - Make and Type	Tung-Sol, Type AP273
Lamp Bulbs - Mazda No. and Power	See Par. 10-5, c
Direction Signal and Stop Light Fuse	See Par. 10-5, b
Horn - Make and Type	Delco-Remy, Solenoid
Horn Number, Low Note (Left Location)	9000399
High Note (Right Location)	9000400
Horn Amperage Draw at 12 Volts (Either Horn)	7 to 11
Horn Relay and Junction Block Number.	1116946
Horn Relay Adjustment	
Closing Voltage	1.5 to 9.5
Adjust to	6.5