

# GROUP 10

## ELECTRICAL SYSTEMS

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## SECTION 10-A

### ELECTRICAL SPECIFICATIONS

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### 10-1 BATTERY SPECIFICATIONS

Item	
Make . . . . .	Delco-Remy
Model . . . . .	1980563
Cat. No. . . . .	1980562
Location Under Hood . . . . .	L. F. Fender Skirt
Terminal Grounded . . . . .	Negative
Voltage . . . . .	12
Capacity—Wet (Amp. Hrs. @ 20 Hr. Rate) . . . . .	70
Number of Cells & Plates /Cell . . . . .	6,11
Specific Gravity, Full Charge @ 80° F. . . . .	1.260 to 1.280
Bench Charging Rate, Start . . . . .	5 Amps.
Bench Charging Rate, Finish . . . . .	2 Amps.
Separators . . . . .	Porous Rubber
Case . . . . .	Hard Rubber
Dimensions . . . . .	13 1/16" x 6 17/64" x 8 13/16"

### 10-2 GENERATING SYSTEM SPECIFICATIONS

#### a. Generator

Item	Standard	Air Condition
Make and Type . . . . .	Delco-Remy, Shunt	
Number . . . . .	1102302	1102215
Location, Side of Engine. . . . .		Right
Drive and Rotation (Viewing Drive End) . . . . .		Fan Belt, Clockwise
Speed Ratio, Generator to Engine . . . . .	2.52 to 1	2.82 to 1
Brush, Spring Tension, ounces . . . . .		26-32
Field Current Draw (Amps.) @ 80°F at 12 Volts . . . . .	1.48 to 1.62	2.66 to 2.86
Bench Test at 14 Volts (Amps. Cold @ Generator RPM) . . . . .	35 @ 2510	45 @ 2400

**b. Generator Regulator**

Item	Standard	Delco-Remy	Air Condition
Make . . . . .			
Number (Including Fuse) . . . . .	1119277		1119659
Fuse Rating, Amperes . . . . .	40		50
Cutout Relay Closing Voltage . . . . .		12 to 13	
Adjust to . . . . .		12.5	
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 Chart on Page 10-24	
Voltage Regulator Air Gap, Points Just Touching . . . . .	.060"		.067"
Voltage Regulator Upper Contact Point Opening . . . . .	None		.016"
Voltage Regulator Setting @ 2000 Eng. RPM (After 15 Min. Warm-Up) . . . . .		See Chart on Page 10-24	

**10-3 CRANKING (STARTER) SYSTEM SPECIFICATIONS**

**a. Cranking Motor**

Item	Delco-Remy
Make . . . . .	1107221
Number . . . . .	Left
Location, Side of Engine . . . . .	Mechanical - Electrically Controlled
Type of Shift . . . . .	Solenoid
Shift Actuation . . . . .	Ignition Switch
Shift Operation . . . . .	Overrunning Clutch
Type of Drive . . . . .	Clockwise
Rotation, Viewing Drive End . . . . .	18.4 to 1
Gear Ratio, Motor to Engine . . . . .	166, 9
No. Teeth on Ring Gear and Drive Pinion . . . . .	160 Approximately
Cranking Speed, Engine RPM (at Operating Temperature) No Load Test . . . . .	
Amperes . . . . .	80 to 120
Volts . . . . .	10.6
R. P. M. . . . .	3900 to 5400
Locked Armature Test . . . . .	
Amperes . . . . .	290 to 370
Volt . . . . .	2.0
Brush Spring Tension - Ounces . . . . .	35 min.
Armature End Play . . . . .	.005" to .050"
Pinion Clearance in Cranking Position . . . . .	.010" to .140"

**b. Solenoid Switch**

Item	Delco-Remy
Make . . . . .	1114272
Solenoid Switch Number . . . . .	
Current Draw of Solenoid Windings @ 80° F. Hold-in Winding, Amps. @ 10 Volts . . . . .	15.5 - 17.5
Both Windings in Parallel, Amps. @ 10 Volts. . . . .	47 - 54

**10-4 IGNITION SYSTEM SPECIFICATIONS**

**a. Ignition Coil and Resistor**

Item	Delco-Remy
Make . . . . .	1315087
Coil Number (Less Bracket) . . . . .	
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 . . . . .	AC 44S
Thread and Shell Hex. Sizes . . . . .	14MM, 13/16"
Gap at Points . . . . .	.035"
Terminal Nut Length . . . . .	3/8"
Tightening Torque (ft. lbs.) . . . . .	25

**c. Distributor**

	Auto. Trans. (Prem. Gas)	Auto. Trans. (Reg. Gas)
Make . . . . .	Delco-Remy	
Drive . . . . .	From Camshaft	
Rotation, Top View . . . . .	Clockwise	
Firing Order . . . . .	1-2-7-8-4-5-6-3	
Number (Less Cap) . . . . .	1110993	1110999
Timing, Crankshaft Degrees Before U. D. C. . . . .	12	12
Spark Advance - Crankshaft Degrees (In Addition to Initial Timing Advance)		
Vacuum, Max. . . . .	14 - 18	18 - 21
Centrifugal, Max. . . . .	18 - 22	18 - 22
Vacuum Control Number . . . . .	1116163	1116164
Vacuum Advance Test, Inches of Vacuum		
Vacuum Needed to Start Advance . . . . .	8 - 10	6.5 - 8.5
Vacuum Needed for Max. Advance . . . . .	16 - 18	12 - 14
Centrifugal Advance Test, Dist. Degree and RPM (1/2 Eng. Degrees and RPM)		
Start Advance - 450 RPM . . . . .	0° to 2°	0° to 2°
Medium Advance - 1000 RPM . . . . .	3° to 6°	3° to 6°
Maximum Advance - 1900 RPM . . . . .	9° to 11°	9° to 11°
Contact Point Opening . . . . .	.013" to .019"	
Adjust to . . . . .	.016"	
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 . . . . .	10 Amp. - 1 1/4"
Clock . . . . .	2 Amp. - 5/8"
Direction Signal, Signal Indicator, and Stop Lights . . . . .	10 Amp. - 1 1/4"
Dome Light, Trunk Compartment Light and Rear Cigar Lighter . . . . .	20 Amp. - 1 1/4"
Courtesy Lights and Glove Box . . . . .	5 Amp. - 1 1/4"
Heater-Defroster Blower, Air Conditioner Blower and Compressor Clutch . . . . .	30 Amp. - 1 1/4"
Panel Lights and Rheostat . . . . .	3 Amp. - 1 1/4"
Radio (Except Wonder Bar) . . . . .	2.5 Amp. - 7/8"
Radio (Wonder Bar) . . . . .	7.5 Amp. - 7/8"
Speedometer Warning Buzzer, Parking Brake Warning Light, and Automatic Light Switch Amplifier . . . . .	5 Amp. - 1 1/4"

**b. Fuses and Circuit Breakers (Cont'd.)**

Tail Lights, License Light, Panel Lights and Rheostat . . . . .	10 Amp. - 1 1/4"
Wiper and Washer Motor . . . . .	25 Amp. - 1 1/4"
Antenna Motor . . . . .	15 Amp. - 1 1/4"
Location . . . . .	In Wiring Connector Near Switch
Cigar Lighter . . . . .	Special
Location . . . . .	In Back of Lighter
Generator Regulator	
Standard (White Porcelain) . . . . .	Special 40 Amp.
Air Condition (Brown Porcelain) . . . . .	Special 50 Amp.
Location . . . . .	Regulator Battery Terminal
Guide-Matic . . . . .	4 Amp. - 1 1/4"
Location . . . . .	In Wiring Connector Near Amplifier
Headlights and Front Parking Lights . . . . .	15 Amp. Circuit Breaker
Location . . . . .	In Lighting Switch
Power Windows, Vents, Seat, and Top . . . . .	40 Amp. Circuit Breaker
Location . . . . .	Left Shroud Panel
	<u>plus</u> Circuit Breaker in Each Motor
Rear Window Defroster . . . . .	5 Amp. - 1 1/4"
Location . . . . .	In Wiring Connector Near Switch

**c. Lamp Bulbs**

Arm Rest, Center . . . . .	68; 4 CP
Ash Tray . . . . .	53; 1 CP
Automatic Transmission Control Dial . . . . .	57; 2 CP
Back-Up . . . . .	1073; 32 CP
Clock Dial . . . . .	57; 2 CP
Courtesy . . . . .	68; 4 CP
Dome . . . . .	1004; 15 CP
Direction Signal Indicator . . . . .	158; 2 CP
Gas Gauge . . . . .	53; 1 CP
Glove Box . . . . .	57; 2 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
Ignition and Heater-Defroster Control Dial . . . . .	53; 1 CP
Ignition Switch . . . . .	53; 1 CP
Indicator Lights (Cold and Oil) . . . . .	158; 2 CP
Indicator Lights (Hot and Gen.) . . . . .	1816; 3 CP
Instrument Dial Lights . . . . .	158; 2 CP
License Plate, Rear . . . . .	67; 4 CP
Parking Brake Warning Signal . . . . .	1816; 3 CP
Parking and Dir. Signal, Front . . . . .	1034; 32-4 CP
Radio Dial . . . . .	1893; 1 CP
Side Rail or Arm Rest, Rear . . . . .	90; 6 CP
Tail, Stop and Direction Signal, Rear . . . . .	1034; 32-4 CP
Trunk Compartment . . . . .	89; 6 CP
Vent or Air Conditioner Control Dial . . . . .	53; 1 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, AP 273
Lamp Bulbs - No. and Candle 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, High Note (Left Location) . . . . .	9000448
Low Note (Right Location) . . . . .	9000447
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
Speed Warning Buzzer Number . . . . .	1351924
Point Opening . . . . .	.020 - .025"
Amperage Draw @ 13.5 - 14.5 Volts . . . . .	.05 - .07