
PARTIAL SCAN OF 1974 DODGE / PLYMOUTH A BODY ELECTRICAL	NOT FOR PROFIT or SALE
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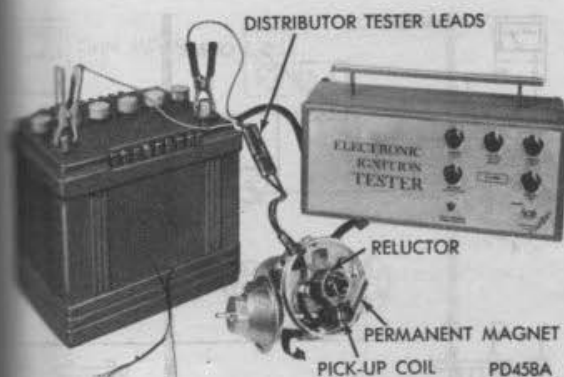


Fig. 7—Testing Pick-Up Coil Off Vehicle

grounded for this test. The control unit green light must come on to indicate a good control unit. If light does not come on check all connector pins for corrosion and security. Check all plug holes to be sure they are clean. If light still does not come on the control unit is defective.

Pick-Up Coil (Fig. 7)

The pick-up coil may be tested while assembled in distributor or as a separate unit. Disregard all other lights on the tester except the ignition input circuit light and the pick-up circuit light.

(1) Connect clips to battery and connect the pick-up lead to the proper tester lead. Red pick-up light will be "off" if pick-up is good. Check pick-up lead by flexing it to be sure that there are no intermittent faults in the lead. If pick-up light blinks during flexing the pick-up coil assembly is malfunctioning and must be replaced.

(2) If pick-up light comes "on" replace the pick-up coil assembly.

ELECTRONIC IGNITION TEST (WHEN TESTER C-4166 WITH ADAPTER C-4166-1 OR C-4166-A ARE NOT AVAILABLE)

NOTE: DO NOT SUBSTITUTE THIS TEST IF TESTERS ARE AVAILABLE.

To properly test the Electronic Ignition System (Fig. 8), the testers C-4166 with adaptor, C-4166-1 or C-4166-A should be used. But in the event they are not available, the system, (Fig. 11) may be tested using a voltmeter with a 20,000 ohm/volt rating and an ohmmeter which uses a 1-1/2 volt battery for its operation. Both meters should be in calibration. When Ignition System problems are suspected, the following procedure should be followed:

(1) Visually inspect all secondary cables at the coil, distributor and spark plugs for cracks and tightness.

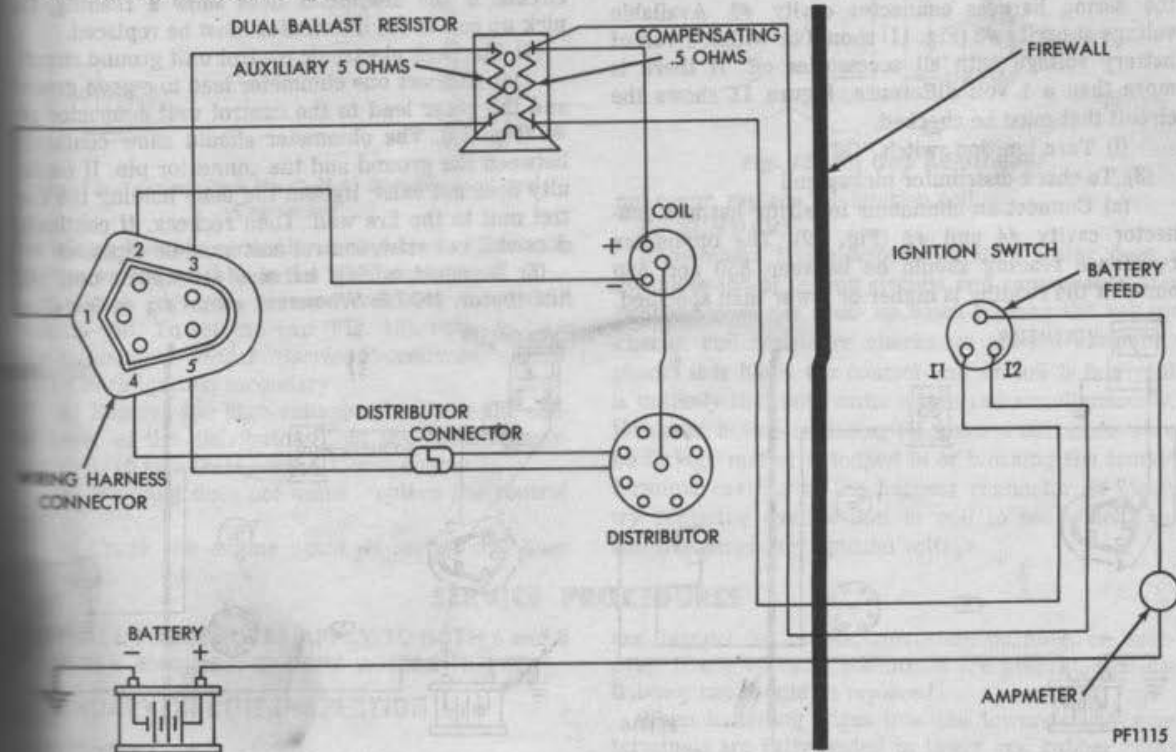


Fig. 8—Electronic Ignition System

(2) To check wiring harness and connections.

(a) Check primary wire at the ignition coil and ballast resistor for tightness. If the above checks do not determine the problem, the following steps will determine if a component is faulty.

(b) Check and note battery voltage reading using voltmeter.

(c) Remove the multi-wiring connector from the control unit.

CAUTION: Whenever removing or installing the wiring harness connector to the control unit, the ignition switch must be in the "Off" position.

(d) Turn the ignition switch "On".

(e) Connect the negative lead of a voltmeter to a good ground.

(f) Connect the positive lead of the voltmeter to the wiring harness connector cavity #1. Available voltage at cavity #1 (Fig. 9) should be within 1 volt of battery voltage with all accessories off. If there is more than a 1 volt difference, Figure 9 shows the circuit that must be checked.

(g) Connect the positive lead of the voltmeter to the wiring harness connector cavity #2. Available voltage at cavity #2 (Fig. 10) should be within 1 volt of battery voltage with all accessories off. If there is more than a 1 volt difference, Figure 10 shows the circuit that must be checked.

(h) Connect the positive lead of the voltmeter to the wiring harness connector cavity #3. Available voltage at cavity #3 (Fig. 11) should be within 1 volt of battery voltage with all accessories off. If there is more than a 1 volt difference, Figure 11 shows the circuit that must be checked.

(i) Turn ignition switch "Off".

(3) To check distributor pickup coil

(a) Connect an ohmmeter to wiring harness connector cavity #4 and #5 (Fig. 12). The ohmmeter resistance reading should be between 350 and 550 ohms. If the reading is higher or lower than specified,

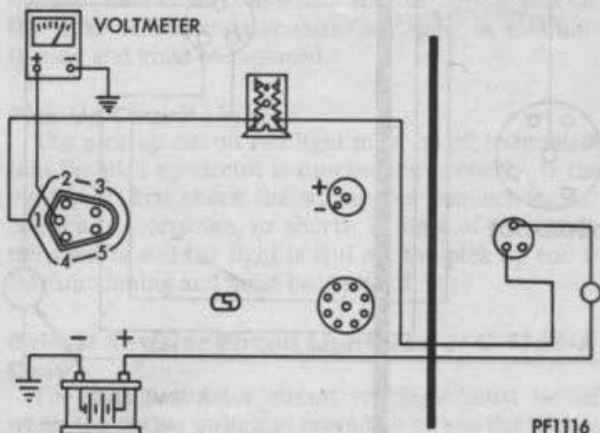


Fig. 9—Testing Cavity Number One

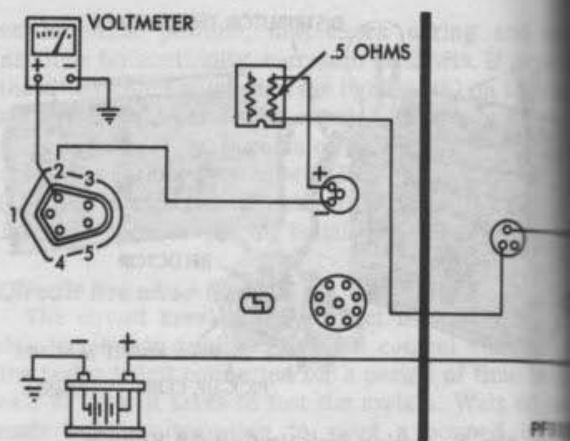


Fig. 10—Testing Cavity Number Two

disconnect the dual lead connector coming from the distributor (Fig. 13). Using the ohmmeter, check the resistance at the dual lead connector. If the reading is not between 350 and 550 ohms, replace the pick up coil assembly in the distributor. If reading is within above specifications check the wiring harness between the control unit and dual lead connector.

(b) Connect one ohmmeter lead to a good ground and the other lead to either connector of the distributor (Fig. 13). Ohmmeter should show an open circuit. If the ohmmeter does show a reading, the pick up coil in the distributor must be replaced.

(4) To check electronic control unit ground circuit

(a) Connect one ohmmeter lead to a good ground and the other lead to the control unit connector pin #5 (Fig. 14). The ohmmeter should show continuity between the ground and the connector pin. If continuity does not exist, tighten the bolts holding the control unit to the fire wall. Then recheck. If continuity does still not exist, control unit must be replaced.

(5) Reconnect wiring harness at control unit and distributor. **NOTE:** Whenever removing or installing

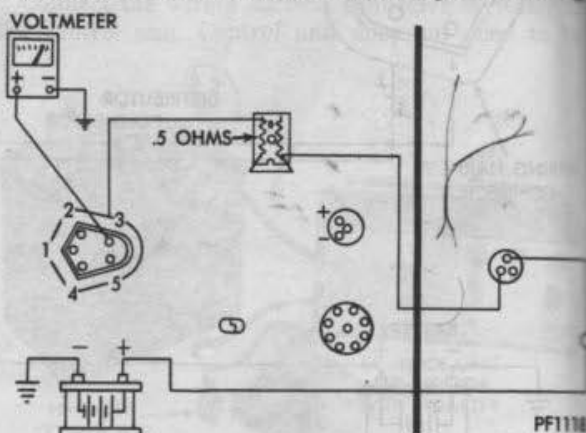


Fig. 11—Testing Cavity Number Three

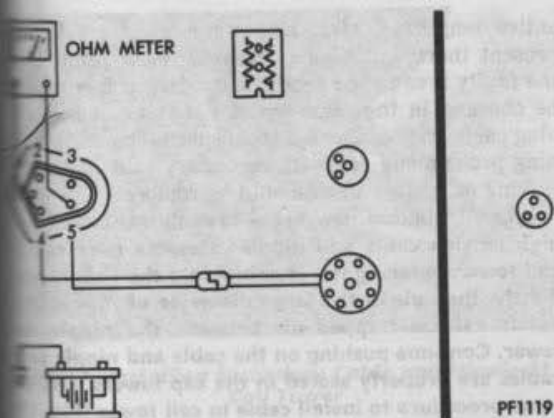


Fig. 12—Testing Pick Up Coil At Wiring Harness Connector, Cavities Four and Five

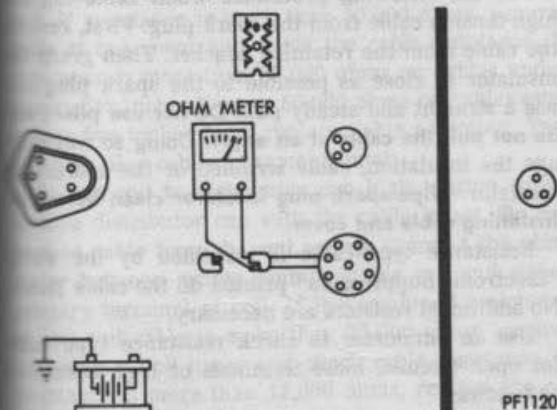


Fig. 13—Testing Pick Up Coil At Distributor Lead Connector

the wiring harness connector to the control unit, the ignition switch must be in the "Off" position.

(5) Check air gap between reluctor tooth and pick up coil. To set the gap (Fig. 15), refer to "Air Gap Adjustment" under "Service Procedures."

(7) Check ignition secondary

(a) Remove the high voltage cable from the center tower of the distributor. Hold the cable approximately 3/16 inch from engine. Crank engine.

(b) If arcing does not occur, replace the control unit.

(c) Crank the engine again. If arcing still does

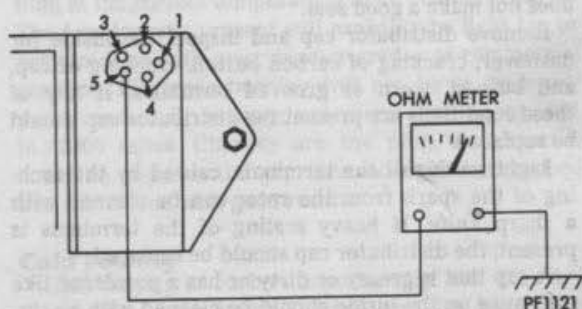


Fig. 14—Testing Ground Circuit

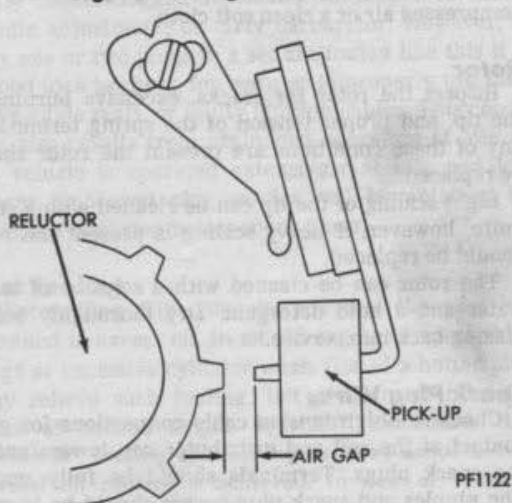


Fig. 15—Air Gap Adjustment

not occur, replace the ignition coil.

(8) SUMMARY

Remember: The electronic ignition tester does a complete job of testing circuits and components. If a problem **does not** show up when making the voltage checks, coil resistance checks, or ground continuity checks it is likely the control unit or coil is faulty. It is unlikely that both units would fail simultaneously. However, before replacing the control unit make sure no foreign matter is lodged in or blocking the female terminal cavities in the harness connector. If clear, try replacing control unit or coil to see which one restores secondary ignition voltage.

SERVICE PROCEDURES

NOTE: ALL PROCEDURES APPLY TO BOTH 6 and 8 CYLINDER ENGINES, EXCEPT WHERE NOTED

SECONDARY CIRCUIT INSPECTION

Distributor Cap

Remove wires from towers in cap, one at a time,

and inspect for cracks, corrosion, burning, or flash-over. If any of these conditions are present, the distributor cap should be replaced.

When installing wires into the towers make sure terminals are fully seated in tower and rubber boots are fully seated around towers. Replace any boot that

TWO SPEED WINDSHIELD WIPER MOTOR

SERVICE PROCEDURES

VOLTAGE TESTING WIPER SYSTEM (TWO SPEED) (Fig. 6)

Remove the arm and blade assemblies to simulate no glass load. Note that a faulty circuit may damage the wiper system if allowed to run continuously on the glass.

Measure the voltage at four motor terminals while the motor is operated. Compare the measured voltages to those in the "Wiper System Voltage Chart—Two Speed". Measured voltages within 2 volts of the chart usually indicate that the motor, park switch, panel switch, and circuit are satisfactory. However, it may be necessary to run the motor (with the ignition switch in the accessory position) for a half hour to warm the motor to observe intermittent conditions or to cause the motor to run faster and possibly coast through park. Switching the motor from low to off several (twenty) times will detect open commutator bars on the armature. The motor must be allowed adequate time to park during the open commutator test.

WIPER SYSTEM VOLTAGE CHART (TWO SPEED NON-CONCEALED)

Instrument Panel Switch Position	L	H	*P2	POS P1 Battery
Low	11	8	12 or 0*	12 12
High	18	12	12 or 0*	12 12
Off (While Parking)	11	8	12	12 12
Off (Parked)	0	0	0	12 12

*The P2 Terminal will have a 12 volt potential except for a momentary drop to "0" volts when the park switch opens during each wipe cycle near the Park position.

WIPER SYSTEM VOLTAGE CHART (TWO SPEED CONCEALED)

Instrument Panel Switch Position	L	H	P2	POS P1 Battery
Low	11	8	0	0 12
High	18	12	0	0 12
Off (While Parking)	1	4	12	12 12
Off (Parked)	0	0	0	12 12

A motor that fails to run may have the following symptoms:

L-12 volts and H-12 volts at both low and high switch positions. Possible causes are: a stuck common brush (see Motor Repair—Two Speed), a spring off the common brush, an open P2 circuit, an open panel switch ground, an open ground strap to the body, or an open commutator bar under the common brush (see Testing Armature).

L-12 volts and H-"0" volts at low speed and motor

doesn't run on low speed. Investigate for stuck low speed brush or the spring off the low speed brush.

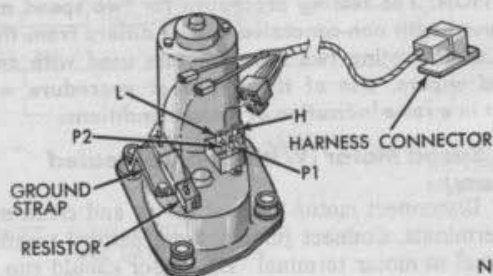
L-"0" volts and H-12 volts at high speed switch position and the motor does not run on high speed. Investigate for a stuck high speed brush or the spring off the high speed brush.

L-8 volts and H-5 volts at low speed and L-9 volts and H-12 volts at high speed and the motor does not run. The circuit breaker should be cycling. Therefore, much of the time there is "0" volts at the motor terminals. The motor is stalled due to broken magnets, loose motor bearing and retainer, stripped gears, or binding linkage. Remove the output crank nut and crank to isolate linkage. Repeat the voltage test to isolate whether the cause is in the linkage or motor.

If "0" volts is observed at P1 when the panel switch is turned off the circuit to the motor may be open in the wiring, the panel switch circuit breaker or a short in the park switch. Remove the connector from the motor assembly. Measure the voltage at the P1 and H female conductors in the connector at off and high control switch positions. Allow a minute for an open circuit breaker to close. If 12 volts recurs, remove the P1 lead from the connector, (otherwise, check the circuit and switch). Retest the motor with the P1 lead isolated at low and high speeds for L and H voltage measurements. If the motor now operates correctly, this test identifies the failure as a shorted park switch.

If the motor does not function properly test the circuit breaker at its rated 6 amps load which it should be able to carry indefinitely. If the circuit breaker cycles at a 6 amp load, replace the control switch. After replacing a panel switch, repeat the above voltage measurements since the motor may have overloaded the circuit breaker causing switch failure. Be cautious that the faulty circuit is rectified so that the failure does not recur.

NOTE: Operate the motor for a half hour after repairs are made (with the arms and blades removed)



NR530B

Fig. 6—Two Speed Motor

to ascertain that proper service has been effected and to allow the brushes to reseal minimizing noise.

If P2 measures "O" volts and P1 measures 12 volts, the park switch circuit is open in the motor. The switch may be improperly adjusted or contaminated with greasy materials. Adjust the switch or replace the gear housing, brush holder and park switch assembly to correct.

PANEL SWITCH TESTS (Figs. 7 and 8)

Two-Speed

To test the switch, disconnect the wiring and remove from the instrument panel. For removal and installation of the wiper switch see "Instrument Panels".

Using a continuity tester or an ohmmeter, test for continuity (no resistance) between the contact terminals of the switch as shown in the following chart. For test purposes, the first position is the "Off" position. The "Low" position is the first detent past the "Off" position. The "High" position is the second detent of the switch. The bench test of the switch does not require the use of a twelve volt battery. "Ground" is the case of the switch.

SWITCH CONTINUITY CHART

Two Speed Motor (With Non-Concealed Wipers)

Off	Low	High
B to B/U.	B to B/U.	B to B/U.
B to P1.	B to P1.	B to P1.
A to P2.	B to A.	B to H.
H-open	P-2 open	P2-open
	H-open	A-open

SWITCH CONTINUITY CHART

Two Speed Motor (With Concealed Wipers)

Off	Low	High
B to P.	B to A.	B to H.
A to Ground	F2 to Ground	F2 to Ground
F2-Open	P-Open	P-Open
H-Open	H-Open	A-Open

MOTOR TESTING AND ON CAR REPAIRS

CAUTION: The testing procedure for two speed motors used with non-concealed wipers differs from that used when testing two speed motors used with concealed wipers. Use of the improper procedure will result in a false indication of motor conditions.

Two Speed Motor (With Non-Concealed Wipers)

(1) Disconnect motor leads at motor and clean motor terminals. Connect jumper from battery positive terminal to motor terminal "H". Motor should run at high speed. (The ground circuit is completed to the car body through a brass ground strap. Be certain that

this is a good connection). Remove jumper.

(2) Connect jumper from battery positive terminal to resistor terminal. Connect second jumper from terminal "L" to the second resistor terminal. The motor should run at low speed. If motor does not run proceed to step (4). Remove jumpers.

(3) Connect jumper from battery positive terminal to motor terminal "P1". Connect a second jumper from motor terminal "P2" to terminal "L". The motor should park. (If the wiper blades are near the bottom of the glass, the motor may be parked. Run the motor as in step (2) until the blades are high on the glass. Then repeat step (3) to observe parking).

(4) Connect jumper wire from battery positive post to terminal "L" on motor. If the motor runs now but did not run in step (2), replace resistor assembly by using a resistor assembly package. After doing so repeat steps (1), (2), and (3).

Two Speed Motor (With Concealed Wipers)

(1) Disconnect motor leads at motor and clean motor terminals. Connect jumper from battery positive terminal to motor terminal "H". Connect second jumper from (terminal "P2") to ground. Motor should run at high speed. The ground circuit is completed to vehicle body through a brass ground strap. Be certain there is a good connection. Remove jumpers.

(2) Connect jumper from battery positive terminal to resistor terminal. Connect second jumper from (terminal "L") to the second resistor terminal. Connect a third jumper from (terminal "P2") to ground. The motor should run forward at low speed. If motor does not run proceed to step (4). Remove jumpers.

(3) Connect jumper from battery positive terminal to motor (terminal "P1"). Connect a second jumper from motor (terminal "L") to ground. Connect a third jumper from the motor ground strap to ground. The motor should run in reverse rotation for at least a half revolution and park.

(4) Connect jumper wire from battery positive post to terminal "L" on motor. If the motor runs now but did not run in step (2), replace resistor assembly by using a resistor assembly package. After doing so repeat steps (1), (2), and (3).

MOTOR REPAIR (OFF CAR) TWO SPEED (Fig. 9)

If the motor is found to be defective after tests under "Motor Testing and On Car Repairs" disassemble the motor as follows:

Disassembly

- (1) Remove wiper motor.
- (2) Mount motor assembly in a vise.
- (3) Remove motor housing through bolts.
- (4) Remove motor housing and armature assembly.
- (5) Remove flat washers and spring washer.

Repair

- (1) Visual inspection of magnets and bearing in mo-

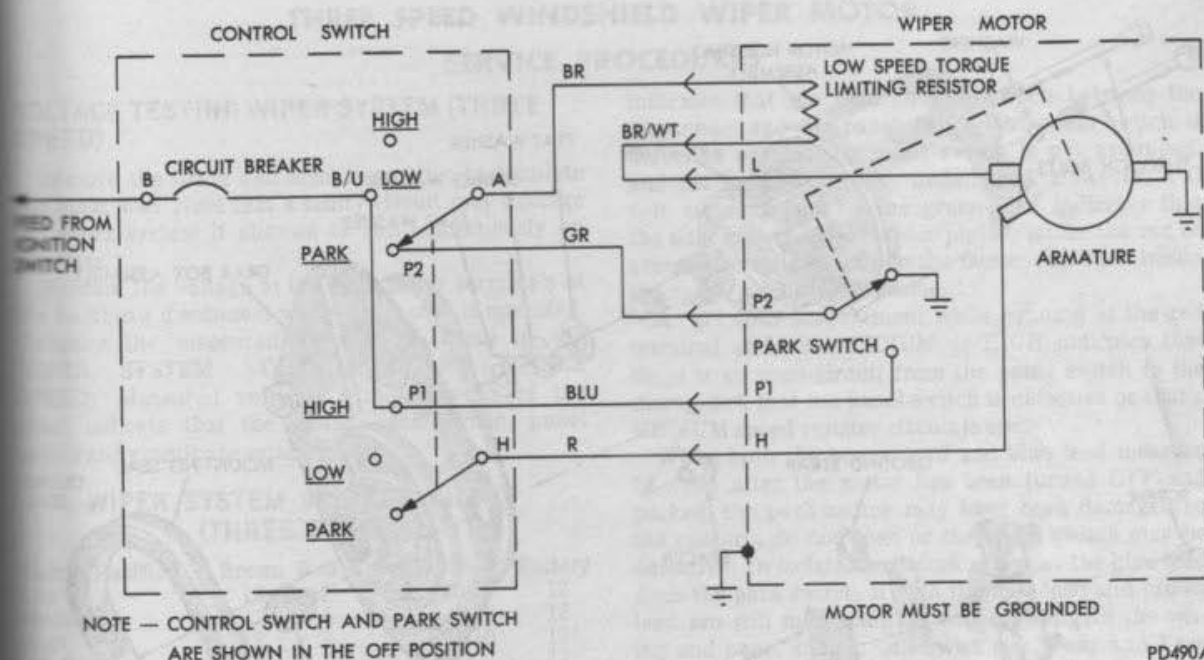


Fig. 7—Two Speed Wiper Motor Wiring Schematic (Non Concealed Wipers)

the housing will show if housing needs to be replaced.

- (2) Test armature. Refer to "Armature Testing".
- (3) If motor housing and armature are not defective, replace gearbox assembly by using the correct gearbox assembly package.

Assembly

- (1) Place gear box assembly in bench vise.
- (2) Install all of brushes in their respective slots and retain by locking brush lead wire into notches in rear of slots.

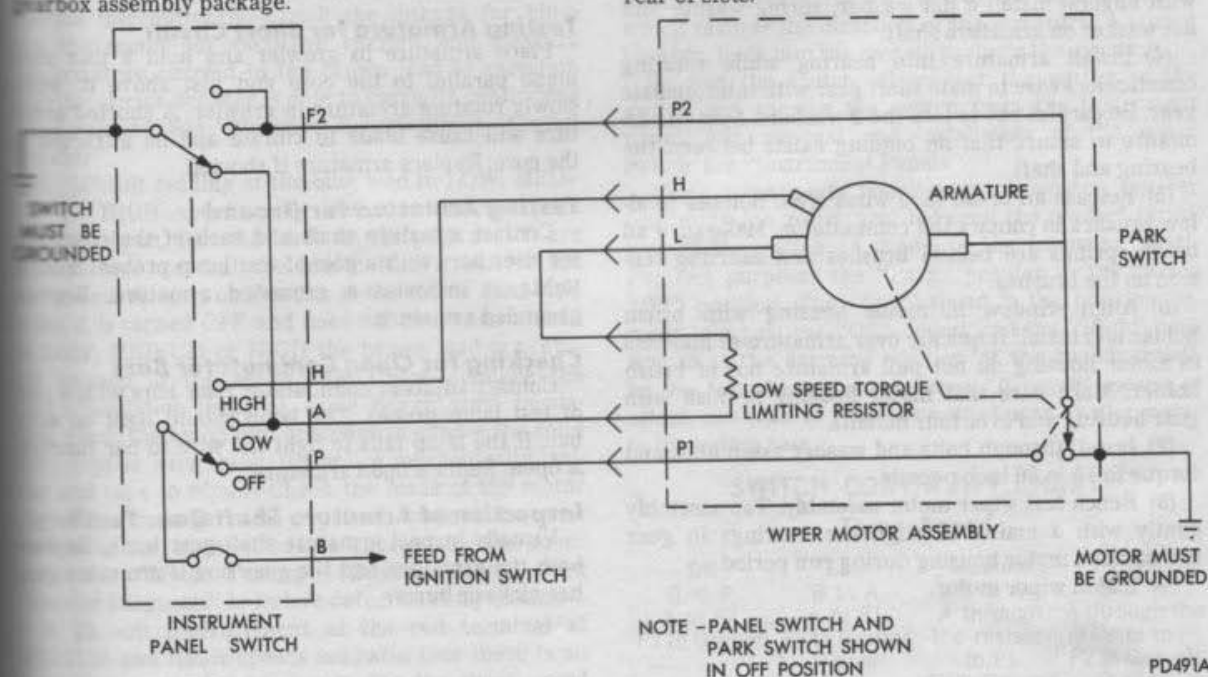


Fig. 8—Two Speed Wiper Motor Wiring Schematic (Concealed Wipers)

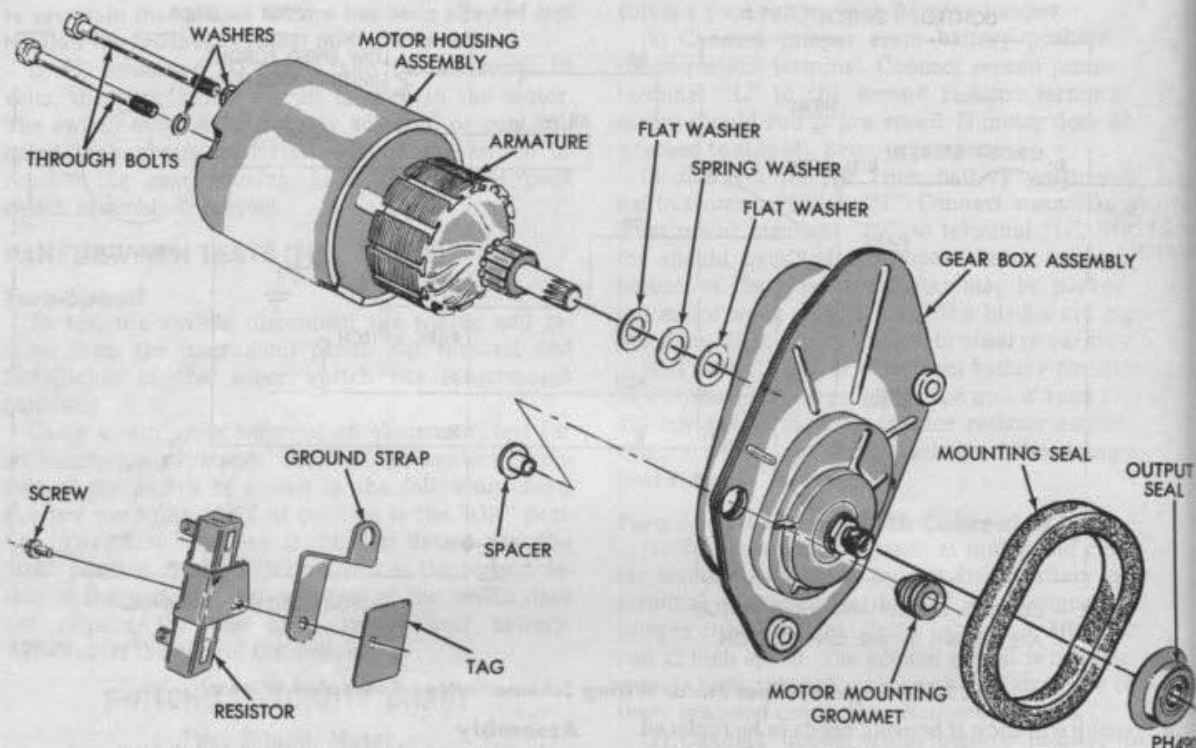


Fig. 9—Two Speed Wiper Motor (Exploded View)

(3) Clean commutator with ink eraser. (Do not touch with fingers) install a flat washer, spring washer and flat washer on armature shaft.

(4) Install armature into bearing while rotating counterclockwise to mate shaft gear with intermediate gear. Be careful not to lose the 3 washers. Spin the armature to assure that no binding exists between the bearing and shaft.

(5) Release all brush lead wires from notches to allow brushes to contact the commutator. Make sure all brush springs are behind brushes and exerting tension on the brushes.

(6) Align window in motor housing with brush holder and install it quickly over armature so magnets in motor housing do not pull armature out of brush holder. Make sure that motor housing is flush with gear housing and over four detents.

(7) Install through bolts and washer assemblies and torque to 15 to 30 inch-pounds.

(8) Bench test wiper motor assembly. Tap assembly gently with a mallet to align the bearings in gear housing and motor housing during run period.

(9) Install wiper motor.

TESTING ARMATURE

Testing Armature for Short Circuit

Place armature in growler and hold a thin steel blade parallel to the core and just above it, while slowly rotating armature in growler. A shorted armature will cause blade to vibrate and be attracted to the core. Replace armature if shorted.

Testing Armature for Ground

Contact armature shaft and each of the commutator riser bars with a pair of test lamp probes. If lamp lights, it indicates a grounded armature. Replace grounded armature.

Checking for Open Commutator Bars

Contact adjacent commutator riser bars with a pair of test lamp probes. The lamp should light on each bar. If the lamp fails to light the wire to bar junction is open. Replace open armature.

Inspection of Armature Shaft Gear Teeth

Visually inspect armature shaft gear teeth. Replace both the armature and the gear box if armature gear has nicks or burrs.

THREE SPEED WINDSHIELD WIPER MOTOR SERVICE PROCEDURES

VOLTAGE TESTING WIPER SYSTEM (THREE SPEED)

Remove the blade and arm assemblies to simulate wet glass load. Note that a faulty circuit may damage the wiper system if allowed to run continuously on dry glass.

Measure the voltage at the four motor terminals at the bulkhead disconnect while the motor is operated. Compare the measured voltages to those in the **WIPER SYSTEM VOLTAGE CHART (THREE SPEED)**. Measured voltages within 2 volts of the chart indicate that the motor, park switch, panel switch and circuit are satisfactory.

WIPER SYSTEM VOLTAGE CHART (THREE SPEED)

Switch Position	Brown	Red	Green	Blue	Battery
Low	12	12	0	8 to 10	12
Medium	12	6	0	8 to 10	12
High	12	3	0	8 to 10	12
Off (While Parking)	12	0	12	12	12
Off (Parked)	0	0	0	12	12

Voltages less than 8 volts at the blue lead may indicate excessive current draw, voltage cycling to 0 volts indicates that there may be excessive current cycling the circuit breaker. A defective circuit breaker located in the panel switch may cause the motor to operate intermittently. Check the linkage for binding the motor for excessive current and measure the armature current in the brown lead to ascertain that the circuit breaker is able to carry its continuous rated current. See "Electrical Specifications—Circuit Breaker".

A "0" volt reading at the blue lead in LOW, MEDIUM or HIGH speeds may indicate that the park switch is open, that the leads on the park switch are not soldered, or that the brown lead circuit to the series field is open or shorted. If the motor runs only when it is turned OFF and does not run when turned to LOW, MEDIUM or HIGH the brown lead is probably opened at the series field splice. Remove the splice insulation material, some brown vinyl insulation, clean the nylon film or solder to expose the solid bare copper wire, twist the splice mechanically, solder and tape to repair. Check the leads in the motor pigtail for damage to be repaired. Inspect the park switch to see if the blade is shorted to the cover plate. See "Motor Testing", "Switch Testing", and "Service Diagnosis" to isolate defective components.

A 12 volt measurement at the red terminal at MEDIUM and HIGH speeds indicates that there is an open in the shunt field circuit. See the three speed wiring (Fig. 3). A 12 volt reading at the green lead

indicates that the field circuit is open between the disconnect and the panel switch, the panel switch is defective or that the panel switch is not grounded, and the motor is usually undamaged. However, a 0 volt measurement on the green lead indicates that the field is open in the motor pigtail, either the red or green wire splice or inside the motor. (An open inside the motor requires replacement.)

A "0" volt measurement while running at the red terminal at LOW, MEDIUM or HIGH indicates that there is an open circuit from the panel switch to the disconnect, that the panel switch is defective or that a MEDIUM speed resistor circuit is open.

When both the brown lead and blue lead measure 12 volts after the motor has been turned OFF and parked, the park switch may have been damaged so the contacts do not open or the panel switch may be defective. To isolate the defect, unsolder the blue lead from the park switch. If both the blue lead and brown lead are still measuring 12 volts investigate the wiring and panel switch. Otherwise see "Gear and Park Switch Replacement" to repair.

THREE-SPEED (Fig. 10)

The three speed switches control the current flow through the motor shunt field to effect motor speed. The switch is designed to provide a circuit to the motor to reverse the current to the field windings which reverse the direction of the armature. A circuit breaker, built into the switch, protects the circuitry.

To test the switch, disconnect the wiring to the switch and remove the switch from the instrument panel. For removal and installation of the wiper switch, see "Instrument Panels".

Using a continuity tester or an ohmmeter, test for continuity (no resistance) between the contact terminals of the switch as shown in the following chart. For test purposes the "Park" position is the switch "Off" position. The "Low" speed is the position immediately past the "Off" detent and the "High" position is at the extreme position of the switch travel. In the test chart the reference "Ground" means to attach one lead of the continuity tester or ohmmeter to the switch case.

SWITCH CONTINUITY CHART

Three Speed

Off	Low	Medium	High
B to P A to F2 F1 to Ground	B to A A to F1 F2 to Ground P-open	B to A A through the resistor to F1 F2 to Ground P-open	B to A A through the resistor to F1 F2 to Ground P-open

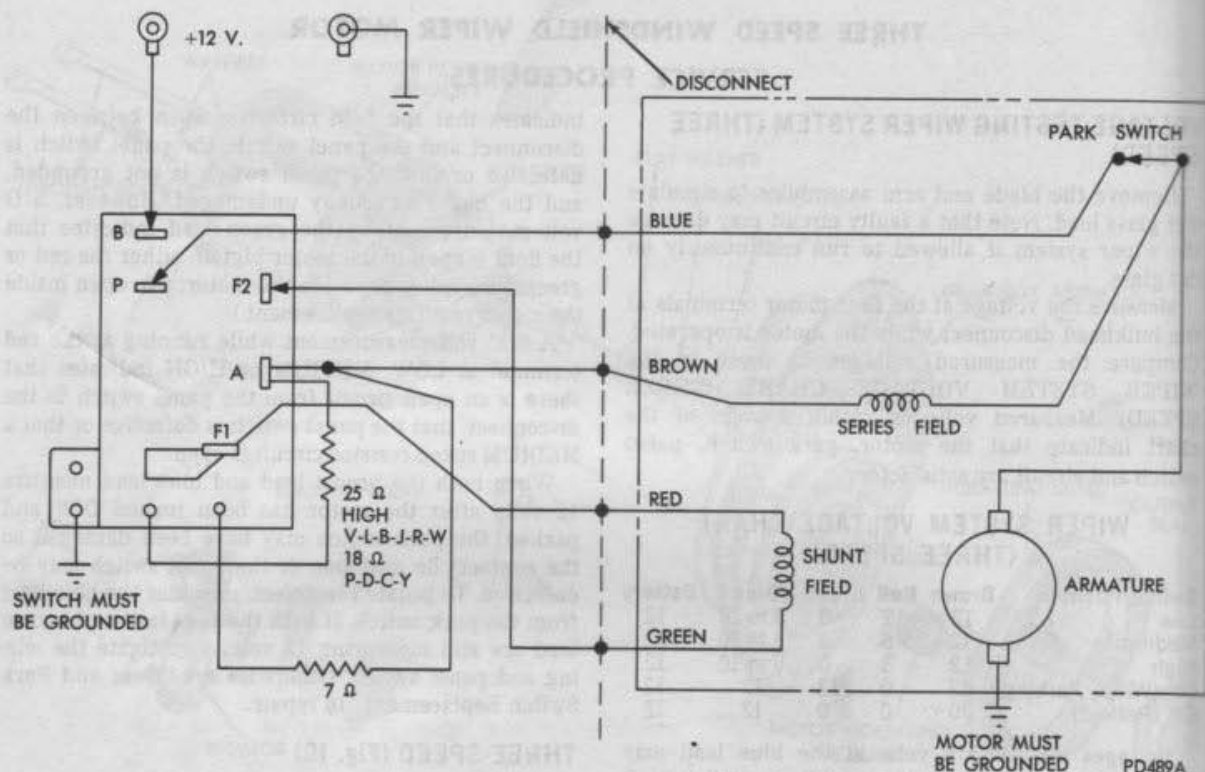


Fig. 10—Three Speed Wiper Motor Wiring Schematic

Three Speed Motor

(1) Disconnect motor leads at bulkhead disconnect. Connect a jumper from the green lead to ground. Connect a second jumper wire from the battery positive terminal to the brown and red leads in bulkhead disconnect. (The ground circuit is completed through the car body, be certain of a good connection at the motor ground strap). The motor should run continuously. If the motor runs disconnect leads as the blades sweep downwards. Proceed with step (2). If the motor does not run but appears to be shorted analyze the excessive current draw as follows while the motor is still on the car. Unsolder the two green leads at the park switch. Fasten the two green leads together, isolated from the motor frame. Connect the test leads as previously described. If the motor runs replace the park switch. The park switch may or may not be shorted after running the motor. If motor continues to draw excessive current look for binding linkage. If linkage is not binding, remove the park switch plate, see "Gear and Park Switch Replacement." If switch plate is jammed and difficult to remove or motor runs when jumpers are connected again replace the latch assembly as it is unlatched. If motor continues to draw excessive current, remove and replace motor assembly. Do not proceed with step 2 until the green wires are resoldered to the park switch. Disconnect leads as the wiper blades

sweep downward.

(2) Connect jumper wire from green lead to brown lead. Connect red lead to ground. Connect third jumper wire from battery positive terminal to blue lead. The wiper should run to the park position.

CAUTION: Motor can be damaged if not wired correctly.

Gear and Park Switch Replacement (Three Speed Motors)

(1) Run motor out of park to close hook and to prevent damage to park switch. If motor does not run check for open or excessive current. See "Motor Testing".

(2) Remove the five switch plate screws and ground strap.

(3) Carefully remove park switch plate and gasket. Hook should be closed, as shown in (Fig. 11). If the latch is open the motor is unlatched. Replace latch assembly.

(4) Remove motor from car if necessary to replace park switch. See "Motor Removal".

(5) Remove gear and latch assembly from gear box.

(6) Inspect all components for damage or wear paying special attention to the following.

(a) Bent parking switch blade.

(b) Melted switch cam.

Installation

- (1) Attach the hoses first.
- (2) Mount pump assembly and install mounting screws.

- (3) Tighten the mounting screws securely.
- (4) Remove clamp from hose at reservoir.
- (5) Check for leaks and test the operation of the system, making sure the nozzles are aimed properly.

SPECIFICATIONS**BATTERY**

Ampere Hours	Cranking Rating @ 0° F	Reserve Capacity	Engine Cubic Inch Displacement	Carline Application
48*	305 amps	68 minutes	198, 225, 318, 360	VLBJ RWPD PD RWPD C VL
55*	315 amps	81 minutes	360	
59*	375 amps	86 minutes	400	
70**	333 amps	101 minutes	198, 225, 318, 360	
70***	440 amps	102 minutes	225, 318, 360, 360, 400, 440	BJRW PDCY PDCY
70**	380 amps	105 minutes	318, 360, 400, 440	

*Standard

**Optional or Standard with Special Equipment

***Standard with 440 C.I.D.

CRANKING RATING is the current a battery can deliver for 30 seconds and maintain a terminal voltage of 7.2 volts or greater at a specified temperature.

RESERVE CAPACITY RATING is the amount of time a battery can deliver 25 amperes and maintain a minimum terminal voltage of 10.5 volts at 80° F.

REDUCTION GEAR STARTING MOTOR

Starting Motor Model	3656575
Make	Chrysler Built
Voltage	12
Number of Fields	4 Series Parallel
Number of Poles	4
Brushes	4
Spring Tension	32 to 36 Ounces
Drive	Solenoid Shift Overrunning Clutch
End Play	.010"—.045"
*Cranking Amperage Draw	155 to 170 Amps. 198 Cu. In. Engines 165 to 180 Amps. 225, 318, Cu. In. Engines 180 to 200 Amps. 360, 400, 440 Cu. In. Engines
Free-Running Test	
Voltage	11
Amperage Draw	90
Minimum Speed RPM	3700-4200
Locked Resistance Test	
Voltage	4
Amperage Draw	475 to 550
Solenoid Switch	
Pull-In Coil	13 to 15 Amps. @ 6 Volts @ 77°F.
Hold-In Coil	8 to 9 Amps. @ 6 Volts @ 77°F.

*Engine should be at operating temperature.

ALTERNATOR**Identification**

Yellow Tag	34 Amp
Red Tag	41 Amp.
Green Tag	50 Amp.
Blue Tag	60 Amp.
Natural Tag	60 Amp.
Black Tag	65 Amp.

Rotation	Clockwise at Drive End
Voltage	12 Volt System
Current Output	Design Controlled
Voltage Output	Limited by Voltage Regulator
Brushes (Field)	2
Condenser Capacity	50 Microfarad plus or minus 20%
Field Current Draw	
Rotating by Hand	2.5 to 3.7 Amperes @ 12V
Current Rating	Current Output
34 Amp.	36 Amp. Minimum
41 Amp.	40 Amp. Minimum
50 Amp.	47 Amp. Minimum
60 Amp.	57 Amp. Minimum
65 Amp.	62 Amp. Minimum

Current output is measured at 1250 engine rpm and 15 volts at the alternator. If measured at the battery, current output will be approximately 5 amperes lower than above value.

Voltage is controlled by variable load (carbon pile) across the battery.

ELECTRONIC VOLTAGE REGULATOR

Part Number 3438150

The battery specific gravity should be above 1.200 when checking the regulated voltage.
The voltage regulator is working properly if the voltage is in accordance with the following chart:—

Ambient Temperature 1/4" From Voltage Regulator

—20°F.

80°F.

140°F.

Above 140°F.

Voltage Range

14.3—15.3

13.8—14.4

13.3—14.0

Less than 13.8

IGNITION SYSTEM

ENGINE

Carburetor

Transmission

Application

DISTRIBUTOR

Part Number

Rotation

Firing Order

Advance-Centrifugal

(Distributor Degrees

at Distributor RPM)

Advance-Vacuum

(Distributor Degrees

at Inches of Mercury)

Shaft Side Play*

Shaft End Play

IGNITION TIMING

SPARK PLUGS

Size

Gap

Gasket Required

Torque

*Refer to "Shaft and Bushing Wear Test"

198

1-bbl.

Manual and Automatic

Federal Only

Electronic

3656859

Clockwise

1-5-3-6-2-4

0.5° to 4.0° @ 550

8.0° to 10.5° @ 800

11.5° to 14.0° @ 2000

0.5° to 2.5° @ 7"

7.0° to 10.0° @ 11.5"

not to exceed .006"

.003" to .017"

2-1/2° BTC ±2°

N14Y

14mm 3/4" reach

.035"

No

30 ft. lbs.

ENGINE

Carburetor

Transmission

Application

225

1-bbl.

Manual

Federal

225

1-bbl.

Automatic

Federal

IGNITION SYSTEM

DISTRIBUTOR	
Part Number	
Rotation	
Firing Order	
Advance-Centrifugal	
(Distributor Degrees	
at Distributor RPM)	
Advance-Vacuum	
(Distributor Degrees	
at Inches of Mercury)	
Shaft Side Play*	
Shaft End Play	
IGNITION TIMING	
SPARK PLUGS	
Size	
Gap	
Gasket Required	
Torque	
*Refer to "Shaft and Bushing Wear Test"	

Electronic
3755037
Clockwise
1-5-3-6-2-4
1.0° to 4.0° @ 550
9.0° to 11.5° @ 900
11.5° to 14.0° @ 2000
0.5° to 2.0° @ 9"
7.0° to 10.0° @ 15.5"

not to exceed .006"
.003" to .017"
TDC $\pm 2^\circ$
N14Y
14mm 3/4" reach
.035"
No
30 ft. lbs.

Electronic
3755042
Clockwise
1-5-3-6-2-4
1.0° to 4.0° @ 550
9.0° to 11.5° @ 900
11.5° to 14.0° @ 2000
0.5° to 2.5° @ 7"
7.0° to 10.0° @ 11.5"

not to exceed .006"
.003" to .017"
TDC $\pm 2^\circ$
N14Y
14mm 3/4" reach
.035"
No
30 ft. lbs.

ENGINE	
Carburetor	
Transmission	
Application	
DISTRIBUTOR	
Part Number	
Rotation	
Firing Order	
Advance-Centrifugal	
(Distributor Degrees	
at Distributor RPM)	
Advance-Vacuum	
(Distributor Degrees	
at Inches of Mercury)	
Shaft Side Play*	
Shaft End Play	
IGNITION TIMING	
SPARK PLUGS	
Size	
Gap	
Gasket Required	
Torque	
*Refer to "Shaft and Bushing Wear Test"	

225
1-bbl.
Manual
California
Electronic
3755467
Clockwise
1-5-3-6-2-4
0.5° to 3.5° @ 550
7.0° to 9.5° @ 950
12.0° to 14.0° @ 2000
0.5° to 2.0° @ 9"
7.0° to 10.0° @ 15.5"

not to exceed .006"
.003" to .017"
TDC $\pm 2^\circ$
N14Y
14mm 3/4" reach
.035"
No
30 ft. lbs.

225
1-bbl.
Automatic
California
Electronic
3755470
Clockwise
1-5-3-6-2-4
0.5° to 3.5° @ 550
7.0° to 9.5° @ 950
12.0° to 14.0° @ 2000
0.5° to 2.5° @ 7"
7.0° to 10.0° @ 11.5"

not to exceed .006"
.003" to .017"
TDC $\pm 2^\circ$
N14Y
14mm 3/4" reach
.035"
No
30 ft. lbs.

ENGINE	
Carburetor	
Transmission	
Application	
DISTRIBUTOR	
Part Number	
Rotation	
Firing Order	
Advance-Centrifugal	
(Distributor Degrees	
at Distributor RPM)	
Advance-Vacuum	
(Distributor Degrees	
at Inches of Mercury)	
Shaft Side Play*	
Shaft End Play	
IGNITION TIMING	

318
2-bbl.
Manual and Automatic
Federal and California
Electronic
3656763
Clockwise
1-8-4-3-6-5-7-2
1.5° to 5.5° @ 550
6.0° to 8.5° @ 700
13.5° to 16.0° @ 2100
0.5° to 2.5° @ 9"
9.5° to 12.5° @ 15.5"

not to exceed .006"
.003" to .017"
TDC $\pm 2^\circ$

IGNITION SYSTEM

SPARK PLUGS

Size	.....
Gap	.....
Gasket Required	.....
Torque	.....

*Refer to "Shaft and Bushing Wear Test"

N12Y
14mm 3/4" reach
.035"
Yes
30 ft. lbs.

ENGINE

Carburetor	.....
Transmission	.....
Application	.....

DISTRIBUTOR

Part Number	.....
Rotation	.....
Firing Order	.....
Advance-Centrifugal	.....
(Distributor Degrees	.....
at Distributor RPM)	.....
Advance-Vacuum	.....
(Distributor Degrees	.....
at Inches of Mercury)	.....

Shaft Side Play*	.....
Shaft End Play	.....

IGNITION TIMING

SPARK PLUGS

Size	.....
Gap	.....
Gasket Required	.....
Torque	.....

*Refer to "Shaft and Bushing Wear Test"

360
2-bbl.
Automatic
Federal Only
Electronic
3755475
Clockwise
1-8-4-3-6-5-7-2
0.5° to 4.0° @ 550
8.0° to 10.5° @ 800
11.5° to 14.0° @ 2000
0.5° to 2.5° @ 7"
10.0° to 12.0° @ 12.5"

not to exceed .006"
.003" to .017"
5° BTC ±2°

N12Y
14mm 3/4" reach
.035"
Yes
30 ft. lbs.

360
4-bbl.
Automatic
California Only
Electronic
3755475
Clockwise
1-8-4-3-6-5-7-2
0.5° to 4.0° @ 550
8.0° to 10.5° @ 800
11.5° to 14.0° @ 2000
0.5° to 2.5° @ 7"
10.0° to 12.0° @ 12.5"

not to exceed .006"
.003" to .017"
5° BTC ±2°

N12Y
14mm 3/4" reach
.035"
Yes
30 ft. lbs.

ENGINE

Carburetor	.....
Transmission	.....
Application	.....

DISTRIBUTOR

Part Number	.....
Rotation	.....
Firing Order	.....
Advance-Centrifugal	.....
(Distributor Degrees	.....
at Distributor RPM)	.....
Advance-Vacuum	.....
(Distributor Degrees	.....
at Inches of Mercury)	.....

Shaft Side Play*	.....
Shaft End Play	.....

IGNITION TIMING

SPARK PLUGS

Size	.....
Gap	.....
Gasket Required	.....
Torque	.....

*Refer to "Shaft and Bushing Wear Test"

360 High Performance

4-bbl.
Manual and Automatic
Federal and California
Electronic
3755486
Clockwise
1-8-4-3-6-5-7-2
1.0° to 5.0° @ 600
8.0° to 10.0° @ 850
12.0° to 14.0° @ 2000
0.5° to 2.5° @ 8"
10.0° to 12.0° @ 13.5"

not to exceed .006"
.003" to .017"

Federal Manual and Automatic Transmission
5° BTC ±2°

California Manual Transmission 2-1/2° BTC ±2°
California Automatic Transmission 5° BTC ±2°

N12Y
14mm 3/4" reach
.035"
Yes
30 ft. lbs.

ENGINE

Carburetor	.....
Transmission	.....
Application	.....

400
2-bbl.
Automatic
Federal Only

IGNITION SYSTEM

DISTRIBUTOR	Electronic
Part Number	3755681
Rotation	Counterclockwise
Firing Order	1-8-4-3-6-5-7-2
Advance-Centrifugal	1.0° to 4.5° @ 650
(Distributor Degrees	8.5° to 11.0° @ 950
at Distributor RPM)	13.5° to 16.0° @ 2150
Advance-Vacuum	0.5° to 2.5° @ 8"
(Distributor Degrees	9.0° to 11.0° @ 14"
at Inches of Mercury)	
Shaft Side Play*	not to exceed .006"
Shaft End Play	.003" to .017"
IGNITION TIMING	All except wagons 7-1/2° BTC $\pm 2^\circ$
	Wagons 5° BTC $\pm 2^\circ$
SPARK PLUGS	J13Y
Size	14mm 3/8" reach
Gap	.035"
Gasket Required	Yes
Torque	30 ft. lbs.
*Refer to "Shaft and Bushing Wear Test"	

ENGINE	400	400 High Performance
Carburetor	4-bbl.	4-bbl.
Transmission	Automatic	Automatic
Application	Federal and California	Federal
DISTRIBUTOR	Electronic	Electronic
Part Number	3755681	3755512
Rotation	Counterclockwise	Counterclockwise
Firing Order	1-8-4-3-6-5-7-2	1-8-4-3-6-5-7-2
Advance-Centrifugal	1.0° to 4.5° @ 650	0.5° to 3.5° @ 650
(Distributor Degrees	8.5° to 11.0° @ 950	5.5° to 8.0° @ 900
at Distributor RPM)	13.5° to 16.0° @ 2150	9.5° to 12.0° @ 2000
Advance-Vacuum	0.5° to 2.5° @ 8"	0.5° to 2.5° @ 8"
(Distributor Degrees	9.0° to 11.0° @ 14"	9.0° to 11.0° @ 14"
at Inches of Mercury)		
Shaft Side Play*	not to exceed .006"	not to exceed .006"
Shaft End Play	.003" to .017"	.003" to .017"
IGNITION TIMING	5° BTC $\pm 2^\circ$	5° BTC $\pm 2^\circ$
SPARK PLUGS	J13Y	J11Y
Size	14mm 3/8" reach	14mm 3/8" reach
Gap	.035"	.035"
Gasket Required	Yes	Yes
Torque	30 ft. lbs.	30 ft. lbs.
*Refer to "Shaft and Bushing Wear Test"		

ENGINE	400 High Performance	400 High Performance
Carburetor	4-bbl.	4-bbl.
Transmission	Automatic	Manual
Application	California	Federal Only
DISTRIBUTOR	Electronic with Start Only	Electronic with Start Only
Part Number	Advance Solenoid	Advance Solenoid
Rotation	3755508	3755508
Firing Order	Counterclockwise	Counterclockwise
Advance-Centrifugal	1-8-4-3-6-5-7-2	1-8-4-3-6-5-7-2
(Distributor Degrees	1.0° to 4.5° @ 650	1.0° to 4.5° @ 650
at Distributor RPM)	8.0° to 10.5° @ 950	8.0° to 10.5° @ 950
Advance-Vacuum	11.5° to 14.0° @ 2000	11.5° to 14.0° @ 2000
(Distributor Degrees	0.5° to 2.5° @ 8"	0.5° to 2.5° @ 8"
at Inches of Mercury)	9.5° to 12.0° @ 16"	9.5° to 12.0° @ 16"
Shaft Side Play*	not to exceed .006"	not to exceed .006"
Shaft End Play	.003" to .017"	.003" to .017"
IGNITION TIMING	2-1/2° BTC $\pm 2^\circ$	5° BTC $\pm 2^\circ$
SPARK PLUGS	J11Y	J11Y
Size	14mm 3/8" reach	14mm 3/8" reach

IGNITION SYSTEM

Gap	.035"	.035"
Gasket Required	Yes	Yes
Torque	30 ft. lbs.	30 ft. lbs.
*Refer to "Shaft and Bushing Wear Test"		
ENGINE	440	440
Carburetor	4-bbl.	4-bbl.
Transmission	Automatic	Automatic
Application	Federal	California
DISTRIBUTOR	Electronic	Electronic
Part Number	3755518	3755522
Rotation	Counterclockwise	Counterclockwise
Firing Order	1-8-4-3-6-5-7-2	1-8-4-3-6-5-7-2
Advance-Centrifugal	0.5° to 3.5° @ 650	0.5° to 3.0° @ 650
(Distributor Degrees	5.5° to 8.0° @ 900	4.0° to 6.5° @ 900
at Distributor RPM)	9.5° to 12.0° @ 2000	8.0° to 10.0° @ 2000
Advance-Vacuum	0.5° to 2.5° @ 8"	0.5° to 2.5° @ 8"
(Distributor Degrees	9.0° to 11.0° @ 14"	9.0° to 11.0° @ 14"
at Inches of Mercury)		
Shaft Side Play*	not to exceed .006"	not to exceed .006"
Shaft End Play	.003" to .017"	.003" to .017"
IGNITION TIMING	10° BTC $\pm 2^\circ$	10° BTC $\pm 2^\circ$
SPARK PLUGS	J11Y	J11Y
Size	14mm 3/8" reach	14mm 3/8" reach
Gap	.035"	.035"
Gasket Required	Yes	Yes
Torque	30 ft. lbs.	30 ft. lbs.
*Refer to "Shaft and Bushing Wear Test"		

ENGINE	440 High Performance
Carburetor	4-bbl.
Transmission	Automatic
Application	Federal and California
DISTRIBUTOR	Electronic
Part Number	3755518
Rotation	Counterclockwise
Firing Order	1-8-4-3-6-5-7-2
Advance-Centrifugal	0.5° to 3.5° @ 650
(Distributor Degrees	5.5° to 8.0° @ 900
at Distributor RPM)	9.5° to 12.0° @ 2000
Advance-Vacuum	0.5° to 2.5° @ 8"
(Distributor Degrees	9.0° to 11.0° @ 14"
at Inches of Mercury)	
Shaft Side Play*	not to exceed .006"
Shaft End Play	.003" to .017"
IGNITION TIMING	10° BTC $\pm 2^\circ$
SPARK PLUGS	J11Y
Size	14mm 3/8" reach
Gap	.035"
Gasket Required	Yes
Torque	30 ft. lbs.
*Refer to "Shaft and Bushing Wear Test"	

IGNITION COIL AND BALLAST RESISTOR

Coil	Chrysler Prestolite	Chrysler Essex
Identification	2444242	2444211
Primary Resistance @ 70—80°F	160 to 1.79 ohms	1.41 to 1.55 ohms
Secondary Resistance @ 70—80°F	9400 to 1170 ohms	8000 to 10200 ohms
Ballast Resistor	3656199	
Resistance @ 70—80°F		
Compensating (Coil Side)	.50-60 ohms	
Auxiliary (Control Unit Side)	4.75-5.75 ohms	

EXTERIOR LIGHT BULBS

Carline	Body Type	Headlamps Qty. No.	Side Marker Qty. No.	Park & Turn Signal Qty. No.	Tail, Stop & Turn Signal Qty. No.	Fender Turn Signal Indicator Qty. No.	License Qty. No.	Back-Up Qty. No.	Cornering Qty. No.
V	All	(2) 6014	(4) 168	(2) 1157NA	(2) 1157	(2) 168*	(1) 168	(2) 1156	
L	All	(2) 6014	(4) 168	(2) 1157NA	(2) 1157	(2) 168*	(1) 168	(2) 1156	
B	All	(2) 6014	(4) 168	(2) 1157NA	(2) 1157	(2) 168*	(1) 67	(2) 1156	
J	All	(2) 4000 (2) 4001	(4) 168	(2) 1157	(2) 1157	(2) 168*	(1) 67	(2) 1156	
R	41	(2) 4000 (2) 4001	(4) 168	(2) 1157	(2) 1157	(2) 168*	(1) 168	(2) 1156	
	21 & 23	(2) 4000 (2) 4001	(4) 168	(2) 1157NA	(2) 1157	(2) 168*	(1) 67	(2) 1156	
R(Wagons)	All	(2) 4000 (2) 4001	(2F) 168 (2R) **	(2) 1157	(4) 1157	(2) 168*	(1) 168	(2) 1156	
W	41	(2) 4000 (2) 4001	(4) 168	(2) 1157	(4) 1157	(2) 168*	(1) 168	(2) 1156	
	21,23,29	(2) 4000 (2) 4001	(4) 168	(2) 1157NA	(4) 1157	(2) 168*	(1) 67	(2) 1156	
W(Wagons)	All	(2) 4000 (2) 4001	(2F) 168 (2R) **	(2) 1157	(4) 1157	(2) 168*	(1) 168	(2) 1156	
P	All	(2) 4000 (2) 4001	(4) 168	(2) 1157NA	(4) 1157	(2) 168*	(1) 168	(2) 1156	
P(Wagons)	All	(2) 4000 (2) 4001	(4) 168	(2) 1157NA	(4) 1157	(2) 168*	(2) 67	(2) 1156	
D	All	(2) 4000 (2) 4001	(4) 168	(2) 1157NA	(4) 1157	(2) 168*	(1) 168	(2) 1156	
D(Wagons)	All	(2) 4000 (2) 4001	(4) 168	(2) 1157NA	(4) 1157	(2) 168*	(2) 67	(2) 1156	
C	Royal & Newport	(2) 4000 (2) 4001	(4) 168	(2) 1157NA	(4) 1157	(2) 168*	(2) 168	(2) 1156	(2) 1156*
	New Yorker	(2) 4000 (2) 4001	(4) 168	(2) 1157NA	(6) 1157***	(2) 168*	(1) 168	(2) 1156	(2) 1156*
C(Wagons)	All	(2) 4000 (2) 4001	(4) 168	(2) 1157NA	(6) 1157***	(2) 168*	(2) 67	(2) 1156	(2) 1156*
Y	All	(2) 4000 (2) 4001	(4) 168	(2) 1157NA	(4) 1157		(2) 168	(2) 1141	(2) 1156*

* Optional

** (2) 1157 bulbs serve as both rear side marker and tail, stop & turn signal.

*** (2) 1157 bulbs used as tail only.

NOTE: All of the above bulbs are brass or glass wedge base. Aluminum base bulbs are not approved and not to be used.

INTERIOR LIGHT BULBS

(V-L)

Headlight Switch, Rheostat Dimming

Speedometer and Instrument Cluster	#158
Heater and Air Conditioner Controls	#1892
Radio	#1893
Transmission Gear Selector	#161
Ash Tray Lamp	#161
Switch Callouts	Note (A)

Non-Dimming

Brake Indicator	#158
Reverse 4-Speed Transmission Indicator ...	#53

High Beam Indicator	#158
Oil Pressure Indicator	#158
Turn Signal Indicator	#158
Ignition Lamp	#1445
Glove Compartment	#1891
Dome Lamp	#1004
Trunk and/or Under Hood Lamp	#1004
Map and Courtesy Lamp	#89
Fasten Belts	#1445
Accessory Switches	#1445

NOTE: (A) Included in instrument cluster lighting.

(B) All of the above bulbs are brass or wedge base. Aluminum base bulbs are not approved and not to be used.

(R-W)

With Rallye Instrument Cluster

Headlight Switch, Rheostat Dimming

Speedometer and Instrument Cluster	#57
Heater and Air Conditioner Controls	#1892
Clock	Note (A)
Tachometer	Note (A)
Radio AM	#1816
Radio AM-FM	#1816
Transmission Gear Selector—Column	#161
Transmission Gear Selector—Console	#57
Ash Tray	#161
Accessory Switches	#161

Non-Dimming

Brake Indicator	#57
High Beam Indicator	#57
Turn Signal Indicators	#57
Ignition Lamp	#1445
Glove Compartment	#1891
Dome Lamp	#1004
Trunk and/or Under Hood Lamp	#1003-#1004
Map Lamp	#562
Reverse 4-Speed Transmission Indicator ...	#53
Stereo Indicator	#1445
Fasten Belts	#1816
Heated Rear Window Switch	#161

NOTE: (A) Included in instrument cluster lighting.

(B) All of the above bulbs are brass or wedge base. Aluminum base bulbs are not approved and not to be used.

(P-D)

Headlight Switch, Rheostat Dimming

Speedometer and Instrument Cluster	#158
Clock (Conventional)	#158
Clock (Digital)	#158
Heater and Air Conditioner Control	#363
Headlight and Wiper/Washer Switch	#1815
Rear Unlock Switch	#1892
Rear Defrost Switch	#1892
Rear Window Switch	Note (B)
Transmission Gear Selector	Note (A)
Ash Tray	Note (C)
Cigar Lighter	#158
Radios all except	#168
Radio 8-Track Stereo	#1893

Non-Dimming

Brake Indicator	#158
High Beam Indicator	#158
Oil Pressure Indicator	#158
Turn Signal Indicator	#158
Ignition Lamp	#1445
Glove Compartment	#1891
Dome Lamp	211-2
Courtesy Lamp	#90
Trunk and/or Under Hood Lamp	#1003
Fasten Belts	#158
Door Ajar	#158
Hot Temperature Indicator	#158
Washer Fluid Indicator	#158

NOTE: (A) Included in instrument cluster lighting.

(B) Included in Headlight Switch Lighting.

(C) Included in Heater Control Lighting.

(D) All of the above bulbs are brass or wedge base. Aluminum base bulbs are not approved and not to be used.

FUSES

(V-L)

CAVITY ONE

3 Amp

Instrument Cluster Lamps (Also in Cavity 8)
 Radio Lamp
 Ash Tray Lamp
 Gear Selector Lamp—Column
 Gear Selector Lamp—Console
 Heater and Air Conditioner Control

CAVITY TWO

20 Amp

Radio
 Heater Blower Motor
 Back-up Lamps
 Turn Signal Circuit
 Reverse Gear Indicator

CAVITY THREE

20 Amp

Air Conditioner Compressor Clutch
 Rear Window Defogger

CAVITY FOUR

20 Amp

Air Conditioner Blower Motor

CAVITY FIVE

Vacant

CAVITY SIX

3 Amp

Interlock Control Unit
 Ignition Run Feed
 Voltage Limiter
 Fuel Gauge

Low Oil Indicator Lamp
Brake Warning Indicator Lamp
Heated Rear Window Relay

CAVITY SEVEN 20 Amp

Ignition Switch Lamp Time Delay Relay
Ignition Switch Lamp
Cigarette Lighter
Seat Belt-Key In-Buzzer
Seat Belt Lamp
Hazard Flasher Circuit
Stop Lamps
Dome Lamps
Map Lamp
Glove Box Lamp
Trunk Lamp

CAVITY EIGHT

Horn
Horn Relay
Instrument Cluster Lamps (Also in Cavity One)
Taillamps
License Lamp
Side Marker Lamps
Parking Lamps

20 Amp**CAVITY NINE****Vacant****CAVITY TEN****Vacant****(B-J)****CAVITY ONE 20 Amp**

Brake Warning Lamp
Low Oil Pressure Warning Lamp
Interlock Control Unit
Ignition Run Feed

CAVITY TWO 20 Amp

Horn Relay
Horns

CAVITY THREE 20 Amp

Stop Lamps
Dome Lamp
Trunk Lamp
Hazard Flasher Circuit

CAVITY FOUR 20 Amp

Cigarette Lighter
Ignition Switch Lamp Time Delay Relay
Ignition Switch Lamp
Glove Box Lamp
Map Lamp
Seat Belt Warning Lamp
Seat Belt-Key in Buzzer
Taillamps
License Lamp
Side Marker Lamps
Instrument Cluster Lamps (Also Cavity 5)
Parking Lamps

Switch Title Lamp
Clock (Rallye Only)

CAVITY FIVE**5 Amp**

Gear Selector Lamp—Column
Radio Lamp
Instrument Cluster Lamps (Also in Cavity 4)
Gear Selector Lamp—Console
Ash Tray Lamp
Heater and Air Conditioner Control Lamp

CAVITY SIX**20 Amp**

Air Conditioner Compressor Clutch
Rear Window Defogger
Temperature Gauge
Fuel Gauge
Oil Gauge (Rallye Only)
Voltage Limiter
Tachometer (Rallye Only)

CAVITY SEVEN**20 Amp**

Heater Blower Motor
Air Conditioner Blower Motor

CAVITY EIGHT**20 Amp**

Backup Lamps
Turn Signal Circuit
Radio
Reverse Gear Indicator Lamp

(R-W)**CAVITY ONE 20 Amp**

Interlock Control Unit
Ignition Run Feed
Brake Warning Lamp
Power Window Safety Relay
Heated Rear Window Relay
Trunk Lid Release Solenoid
Voltage Limiter (Standard Cluster)
Oil Pressure Indicator Lamp
Temperature Gauge (Standard Cluster)
Fuel Gauge

CAVITY TWO**20 Amp**

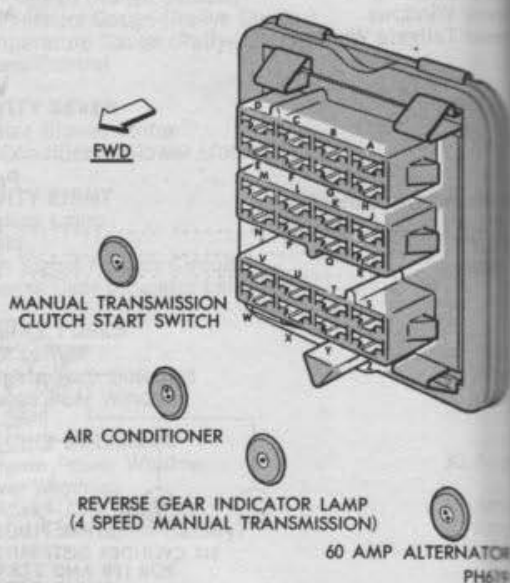
Horn Relay
Horns
Seat Belt—Key In—Headlamp on Buzzer
Seat Belt Lamp
Clock (Standard Cluster)

CAVITY THREE**20 Amp**

Hazard Flasher Circuit
Stop Lamps
Dome and Aft Lamp
Trunk Lamp

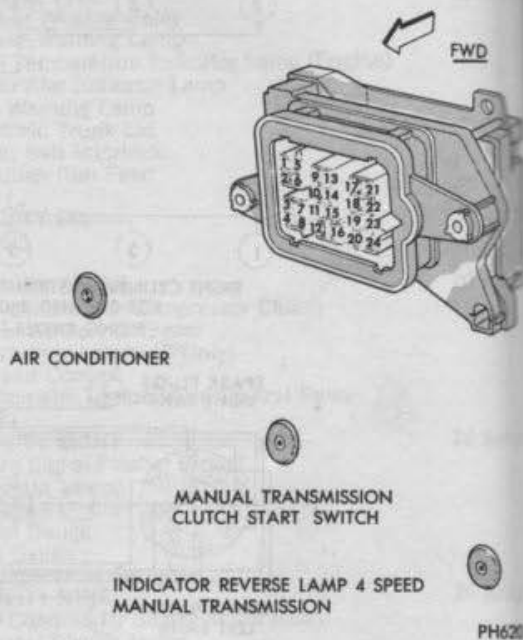
8-150 WIRING DIAGRAMS

CAVITY	DESCRIPTION
A	BACK-UP LAMP
B	BACK-UP LAMP
C	SEAT BELT LAMP AUTOMATIC TRANSMISSION
D	WINDSHIELD WASHER
E	WINDSHIELD WIPER ARMATURE
F	WINDSHIELD WIPER (F-1)
G	WINDSHIELD WIPER (F-2)
H	WINDSHIELD WIPER (PARK)
J	BATTERY (INSTRUMENT PANEL SIDE) FUSIBLE LINK (ENGINE SIDE)
K	OIL
L	STARTER RELAY
M	BRAKE WARNING LAMP
N	IGNITION RUN
P	ALTERNATOR
Q	IGNITION STARTER
R	TEMPERATURE
S	LEFT TURN SIGNAL
T	HORN
U	PARKING LAMPS
V	RIGHT TURN SIGNAL
W	INTERLOCK OVERRIDE SWITCH
X	LOW BEAM
Y	HI BEAM
Z	VACANT



Bulkhead Disconnect V-L

CAVITY	DESCRIPTION
1	WINDSHIELD WIPER
2	WINDSHIELD WIPER
3	SEAT BELT AUTOMATIC TRANSMISSION
4	TACHOMETER
5	WINDSHIELD WIPER
6	WINDSHIELD WIPER
7	BACK-UP LAMP
8	BACK-UP LAMP
9	WINDSHIELD WASHER
10	PARKING LAMPS
11	RIGHT TURN SIGNAL
12	HORN
13	LEFT TURN SIGNAL
14	HIGH BEAM
15	LOW BEAM
16	BATTERY
17	OIL PRESSURE
18	ALTERNATOR
19	STARTER
20	SEAT BELT INTERLOCK OVERRIDE SWITCH
21	TEMPERATURE
22	IGNITION START
23	IGNITION RUN
24	BRAKE WARNING LAMPS



Bulkhead Disconnect B-J

MASTER WIRING DIAGRAMS

LOCATING A SYSTEM OR COMPONENT

Using the alphabetical index, locate the item and determine the zone location. This code corresponds to the numbers across the top and the letters down the side of each page of a diagram, just like a road map. For example: in the V-L index the Ballast Resistor is shown in zone "E-3". Go across the top of the wiring diagram until you come to "3", then go down the left side until you find the letter "E". Where these sections intersect you will find the Ballast Resistor and the corresponding components of the circuit. All switches are shown in the normal off position, when vehicle is parked, with key out of ignition switch.

Adjacent to the component on the diagram is a small code number inside an oval. The one beside the Ballast Resistor is **CE-7**. Turning to the section marker "Connectors" we find the one corresponding to **CE-7** is entitled, "Ignition Ballast Resistors". It also states that they are located on the left side of the dash panel in the engine compartment.

There are three groups of these sections entitled, "Connectors", marked CB, CE and CI. CB—indicates parts and connectors located in the body of the car, CE—the engine compartment and CI—the instrument panel.

CONTENTS

	(V-L) Page	(B-J) Page	(R-W) Page	(P-D) Page
ALPHABETICAL INDEX	153	180	218	271
CONNECTOR CHARTS				
CB—BODY	168	206	252	328
CE—ENGINE COMPARTMENT	171	209	258	341
CI—INSTRUMENT PANEL	176	213	264	348
WIRE COLOR CODE	168	206	252	328
WIRING DIAGRAMS	156	182	220	274

LEGEND

	NORMALLY OPEN CONTACT		RESISTOR
	NORMALLY CLOSED CONTACT		VARIABLE RESISTOR
	THERMAL ELEMENT (BI-METAL STRIP)		DIODE
	CIRCUIT BREAKER		GROUND
	FUSIBLE LINK		SWITCH NORMALLY CLOSED
	COIL		SWITCH NORMALLY OPEN
	LAMP		CONNECTOR
	FUSE		MULTIPLE CONNECTOR
	PHOTO CELL		MALE CONNECTOR
	THERMISTOR		FEMALE CONNECTOR
			DENOTES WIRE GOES THROUGH MAIN BULKHEAD TO BODY COMPARTMENT GROMMET, FOR P-D-C-Y MODELS

J2  J2
SAMPLE CIRCUIT

PF735A

(V-L)

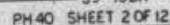
ALPHABETICAL INDEX

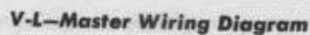
NAME	ZONE LOCATION	NAME	ZONE LOCATION
Air Conditioning Resistor Block	D44	Turn Signal Indicator Lamp—Left...	A26
Air Conditioning Compressor Clutch ..	E43	Right..	A27
Alternator	B1	Motors:	
Battery	B2	Air Conditioning Blower Motor	D44
Ballast Resistor	E3	Heater Blower Motor	A44
Choke Control	D1	Rear Window Defogger Blower Motor	D42
Choke Heater	E1	Starter Motor	B3
Cigarette Lighter	A20	Windshield Washer Motor	A39
Distributor	C3	Windshield Wiper Motor (2 speed) ..	A37
Electronic Ignition Control	D3	Windshield Wiper Motor (3 speed) ..	B39
Engine Idle Solenoid	C1	Radio	D46
Flashers:		Rear Window Defogger Blower	
Hazard	B22	Motor Resistor	D42
Turn Signal	A27	Relays:	
Flexible Link	B3, C3	Heated Rear Window Relay	B6
Gauges:		Horn Relay	B21
Ammeter	C3	Horn Relay New York City	A32
Fuel	D8	Starter Relay	B4
Temperature	D8	Time Delay Relay	D19
Heated Rear Window	B8	Seat Belt—Key In Buzzer	B11
Heater Resistor Block	A43	Seat Belt Interlock Control Unit	D11
Horn	B23	Sending Units:	
New York City Horn	B31	Fuel	E8
Ignition Coil	C4	Temperature	E7
Lamps:		Speakers:	
Air Conditioning Switch Lamp	D48	Front	A45, C45
Ash Tray Lamp	C48	Rear	A47
Back-Up-Lamp—Left	D27	Switches:	
Right	D26	Air Conditioning Blower Motor	
Brake Warning Lamp	D6	Switch	C43
Console Lamp	E48	Air Conditioning Low Pressure	
Door Lamp	C20	Switch	D42
Gear Shift Selector Lamp	E46	Air Conditioning Vacuum Switch ..	B43
Glove Box Lamp	D20	Back-up Lamp Switch:	
Head Lamp—Left	E23	Automatic Transmission	C34
Right	E24	Manual Transmission	C34, C35
High Beam Indicator Lamp	D21	Brake Warning Switch	E6
Ignition Switch Lamp	D18	Clutch Start Switch	C4
Instrument Cluster Lamps	C23, C24	Defogger Switch	C42
License Lamp	C25	Door Switch—Left	D18
Map Lamps	D20	Right	E18
Oil Pressure Indicator Lamp	D22	Fader Switch	B46
Park and Turn Signal Lamp—Left...	D22	Foot Dimmer Switch	E22
Right..	C30	Glove Box Lamp Switch	A42
Reverse Gear Indicator Lamp	B7	Hand Brake Release Switch	B22
Seat Belt Warning Lamp	B10	Hazard Flasher Switch	B18
Side Marker, Lamps, Front—Left...	D21	Headlight Switch	D19
Right..	C31	Heated Rear Window Switch	E6
Side Marker Lamps, Rear—Left...	C26	Heated Blower Switch	E19
Right..	C26	Horn Switch	D20
Tail, Stop and Turn Signal		Ignition Switch	E6
Lamp—Left	B26	Key Switch	A23
Right	C26	Low Oil Pressure	C18
Trunk Lamp	D20	Map Lamp Switch	B5

ALPHABETICAL INDEX (Cont'd)

NAME	ZONE LOCATION	NAME	ZONE LOCATION
Neutral Starter Switch	C34	Stop Lamp Switch	A21
Seat Belt Buckle Switches	B14, C14, D14, E14	Trunk Lamp Switch	C20
Seat Switches	B14, C14, D14, E14	Turn Signal Switch	B24
Start and Ignition Switch	B18	Windshield Wiper Switch (2-Speed) .	D37
Starter Interlock By Pass Switch ...	B7	Windshield Wiper Switch (3-Speed) .	D39
		Voltage Limiter	C7
		Voltage Regulator	C2







13

14

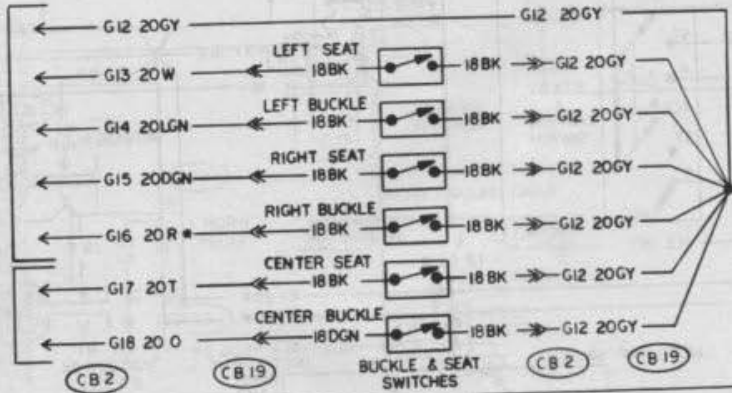
15

16

H4 20 BK
Q3 12R *
L1 12BK *
J1 12R
20R
18P

WITH
BUCKET
SEAT

WITH
CENTER
CUSHION



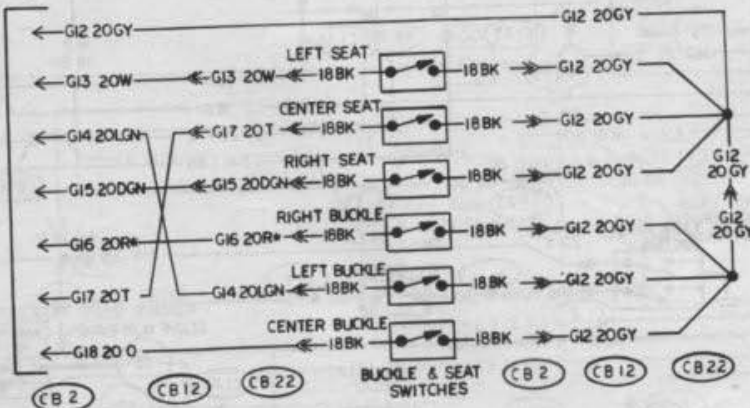
H4 20 BK
Q3 12R *
L1 12BK *
J1 12R

X1 20R
X1 18P

S2 12Y

CB 18

WITH
BENCH
SEAT



J3 12BR

J3 12BR

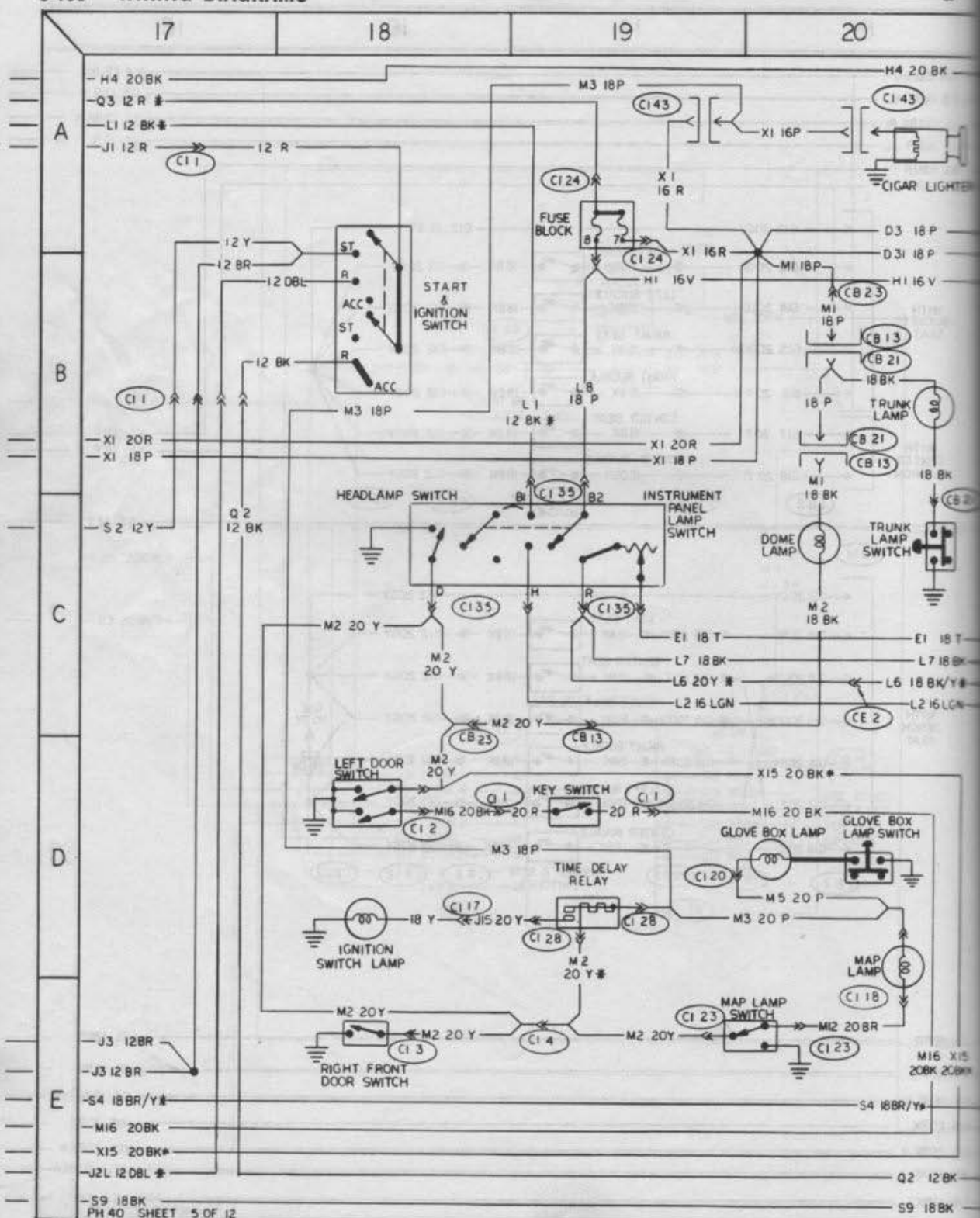
S4 18BR/Y *

M16 20BK

X15 20BK *

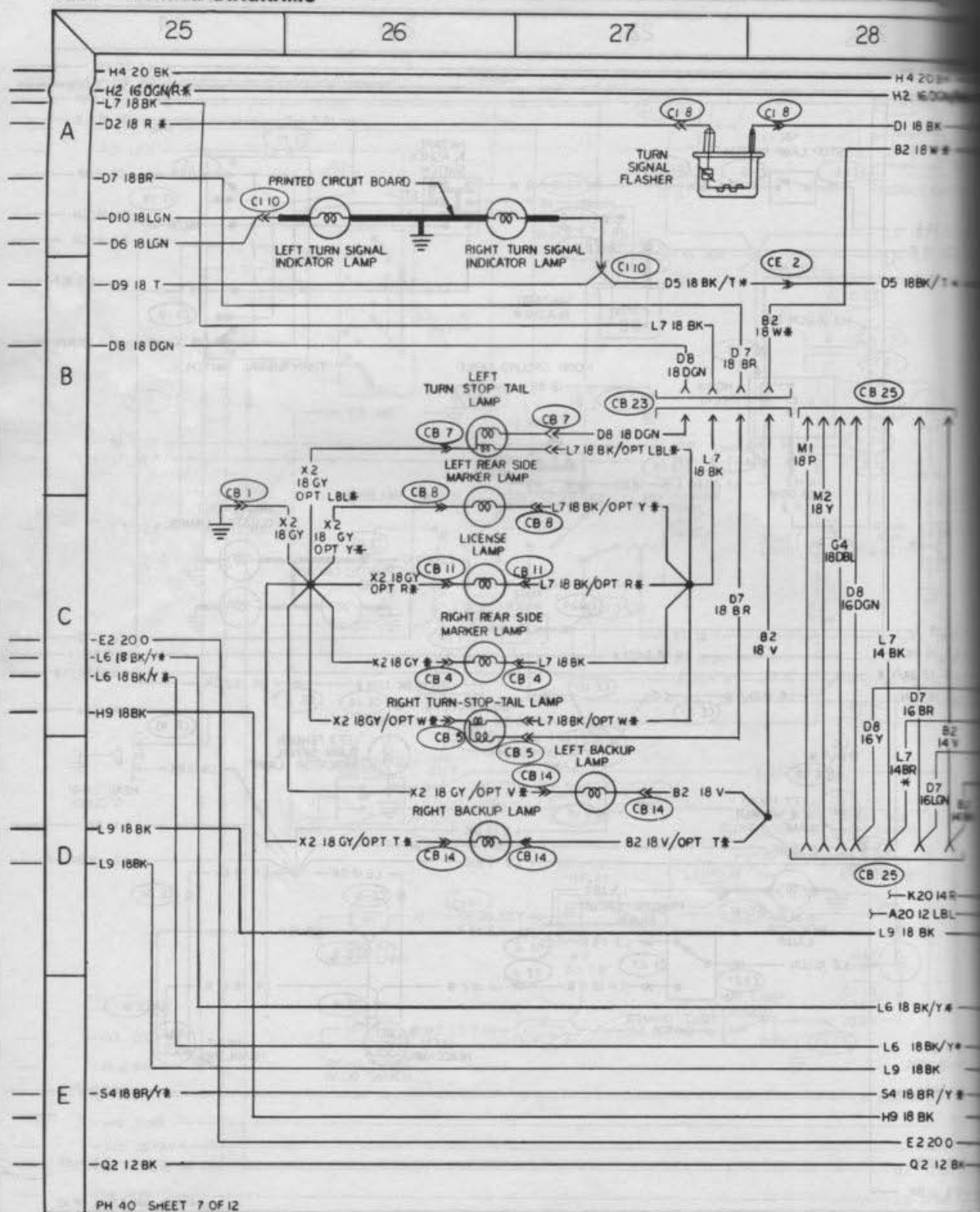
J2 L 12DBL *

S9 18BK



V-L—Master Wiring Diagram





PH 40 SHEET 7 OF 12

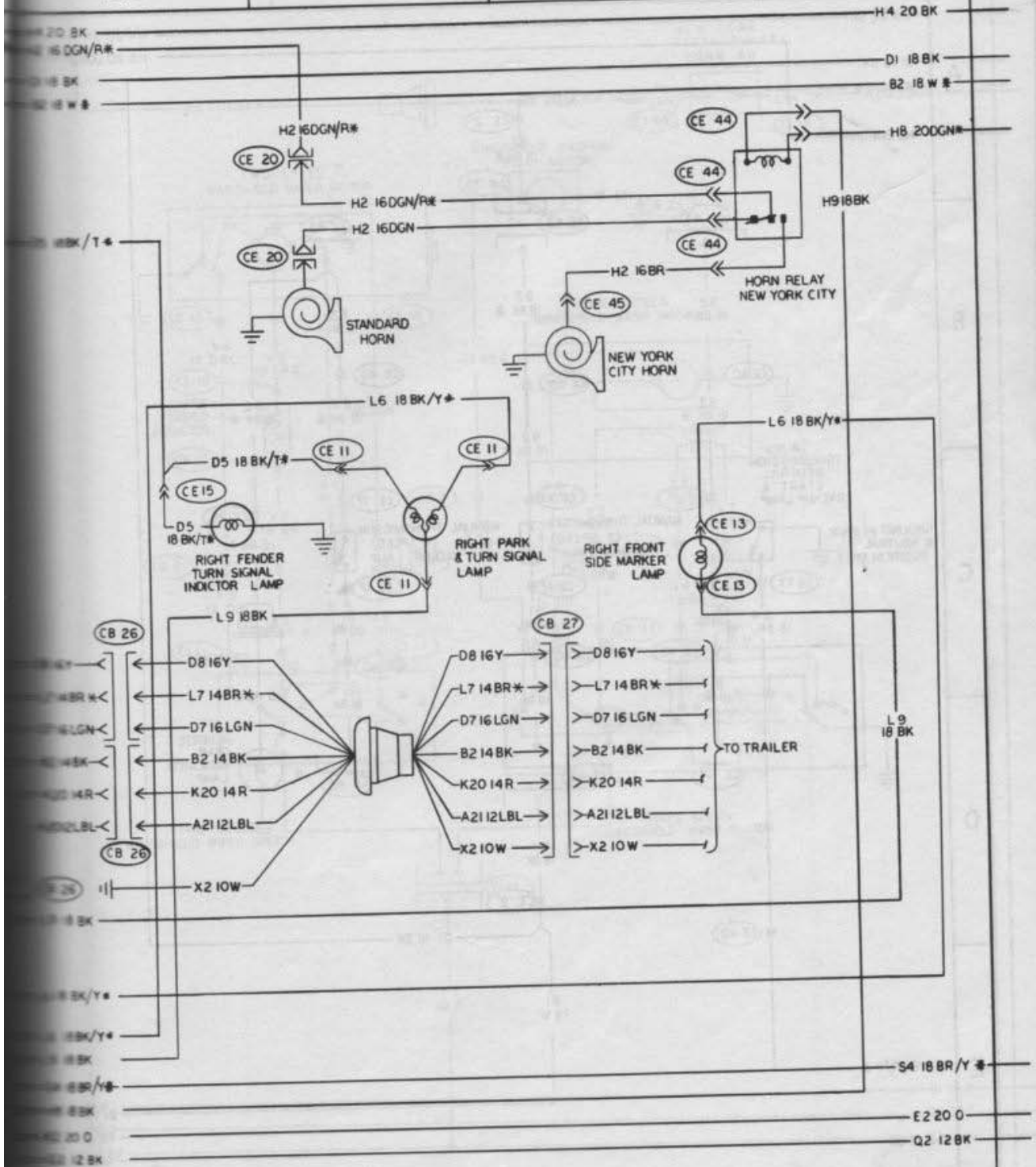
V-L—Master Wiring Diagram

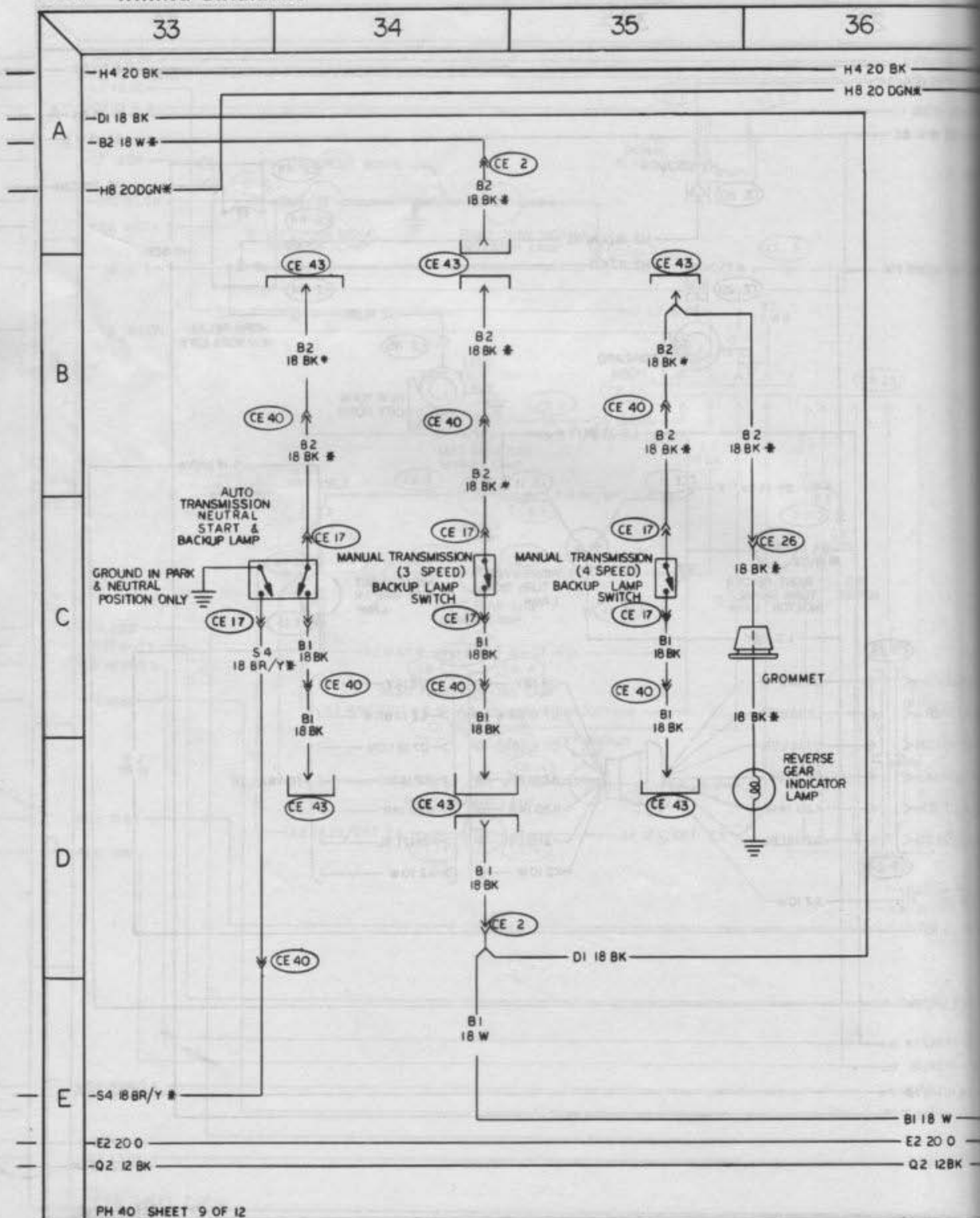
29

30

31

32





PH 40 SHEET 9 OF 12

V-L—Master Wiring Diagram

37

38

39

40

H4 20 BK

H4 20 BK

H8 20 DGN

H8 20 DGN

20 LGN

H7 20 DGN

NEW YORK
CITY-COUNTRY
HORN SW

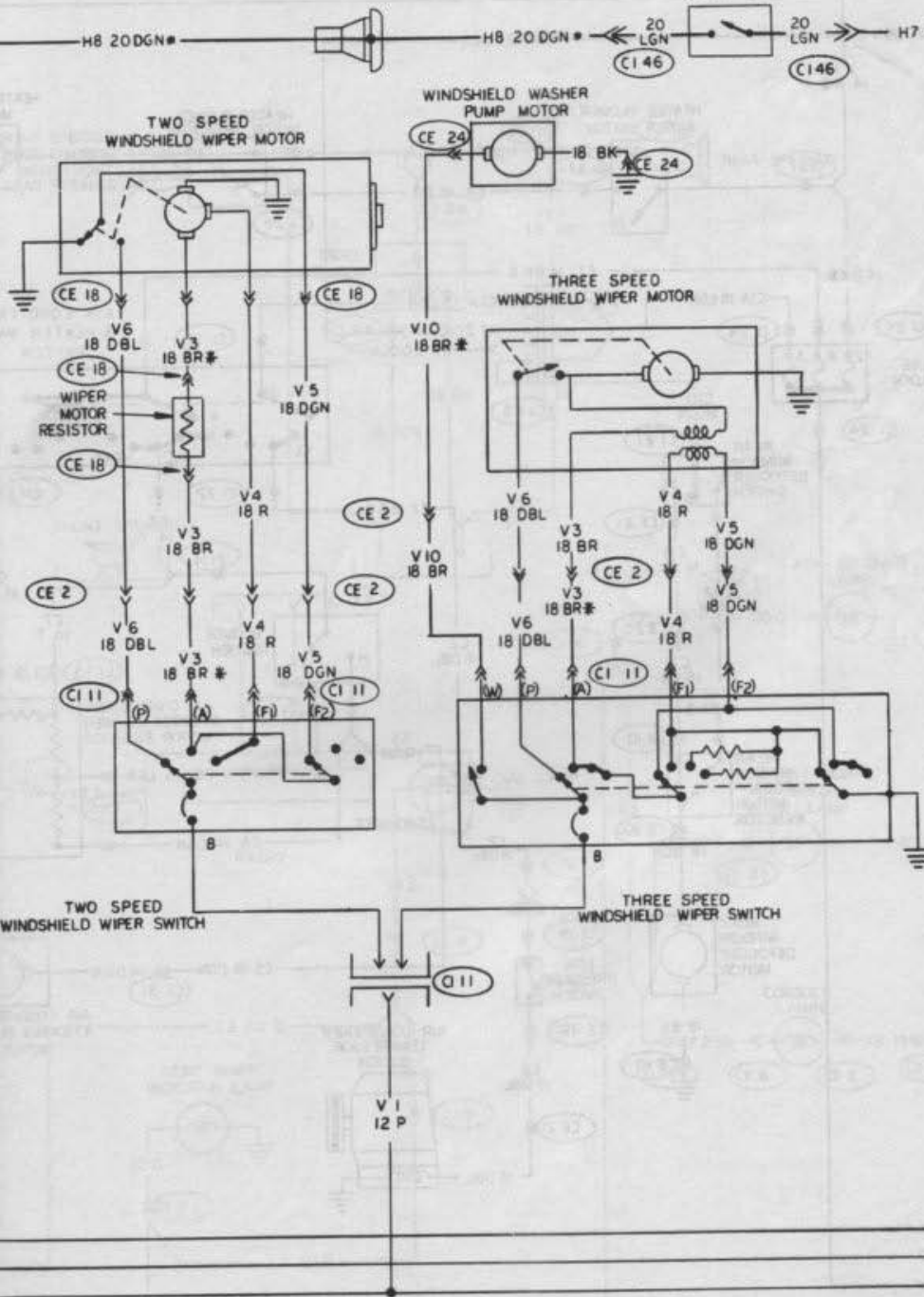
TWO SPEED
WINDSHIELD WIPER MOTOR

WINDSHIELD WASHER
PUMP MOTOR

THREE SPEED
WINDSHIELD WIPER MOTOR

TWO SPEED
WINDSHIELD WIPER SWITCH

THREE SPEED
WINDSHIELD WIPER SWITCH



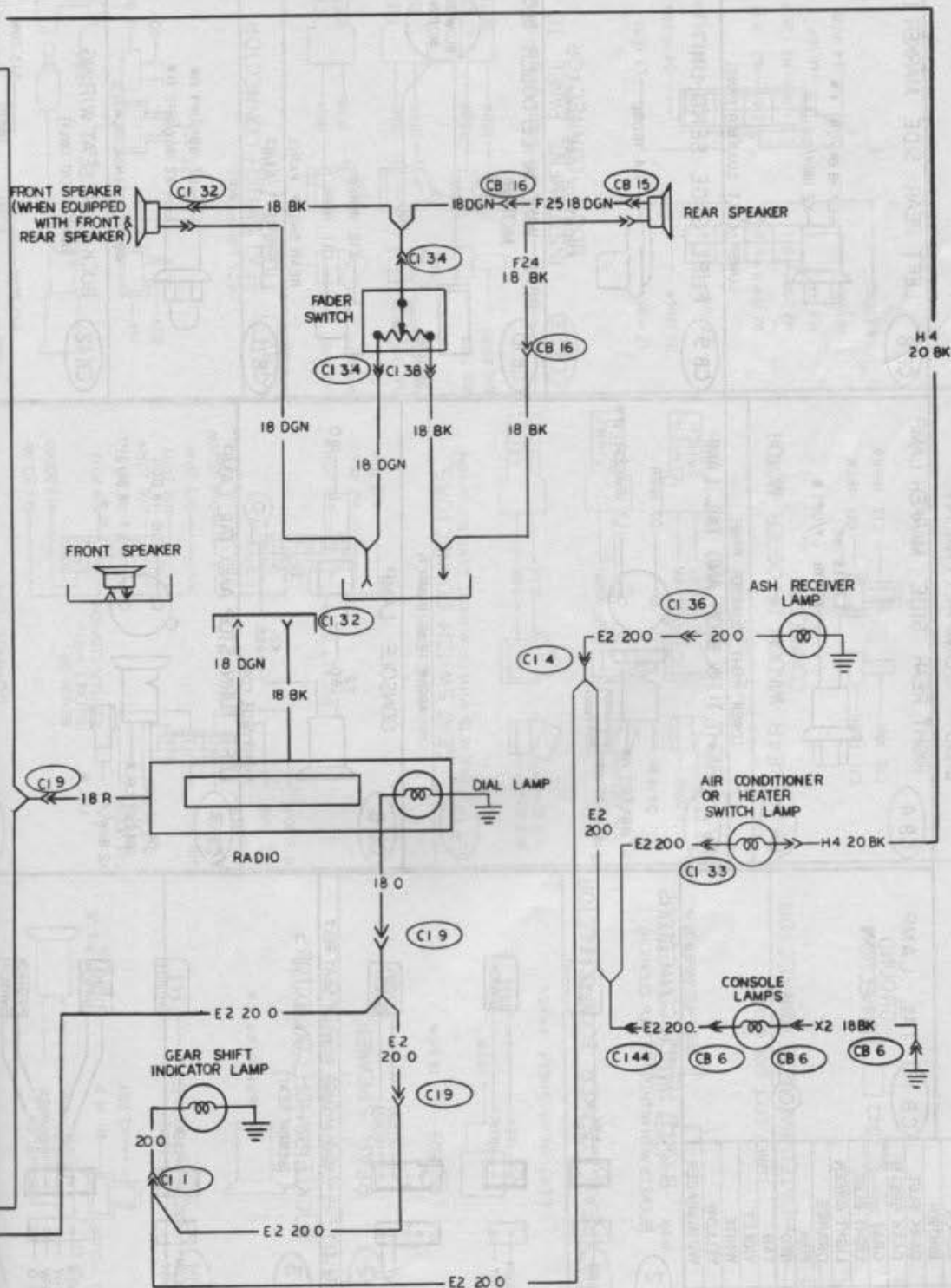


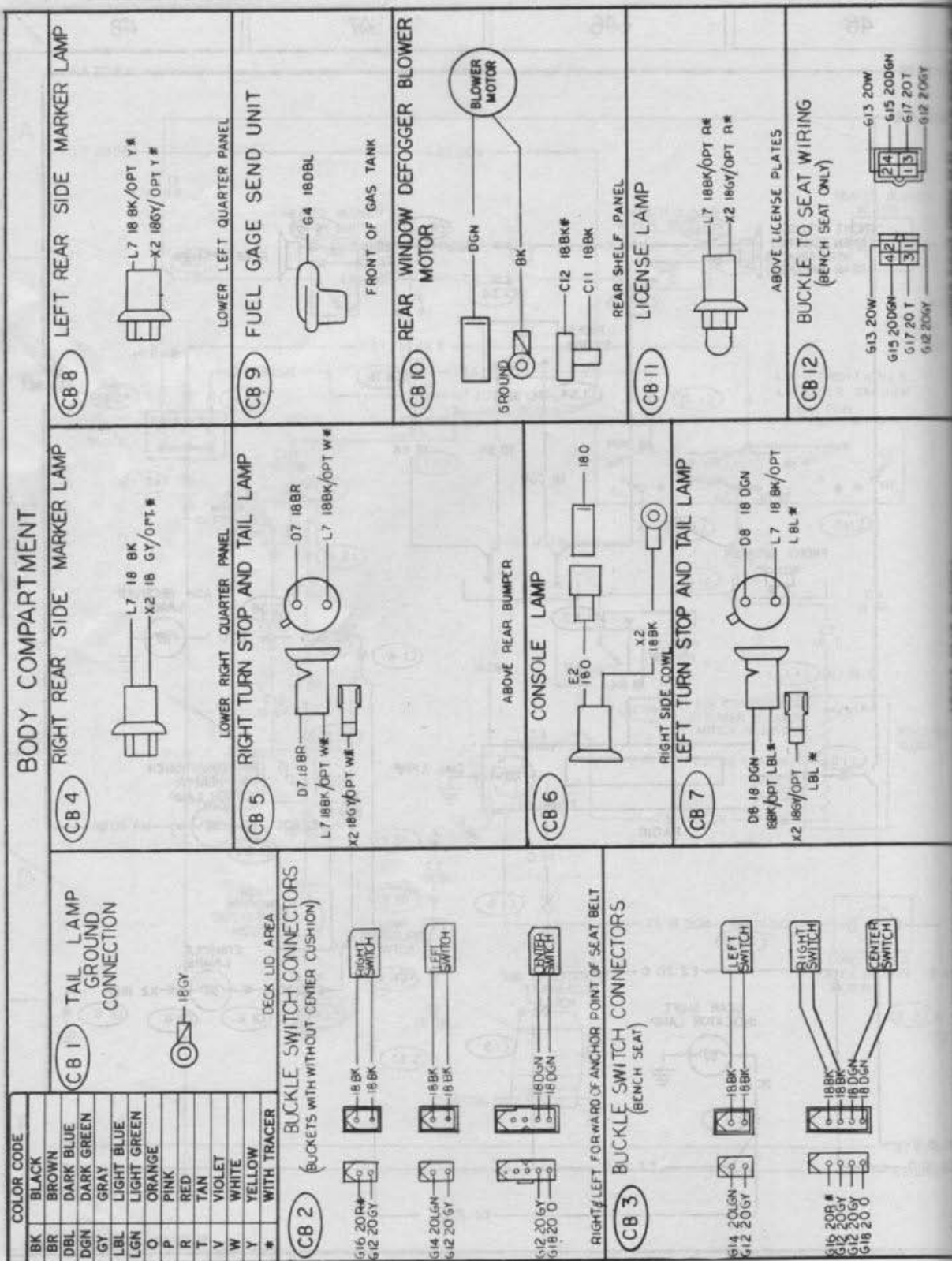
45

46

47

48





BODY COMPARTMENT

DOME LAMP CONNECTOR

CB 13



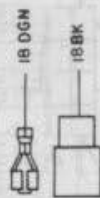
BACK UP LAMP

CB 14



REAR SPEAKER

CB 15



REAR SPEAKER BODY CONNECTOR

CB 16



LOWER LEFT SIDE COWL

HEATED BACKLITE CONNECTOR

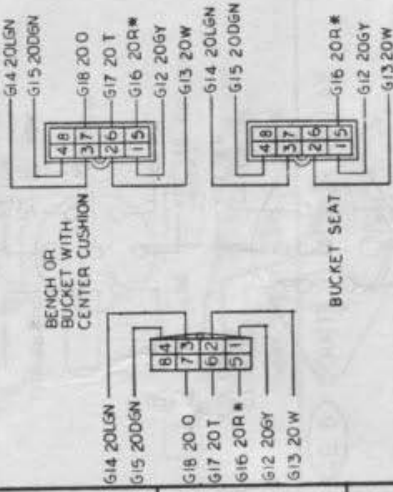
CB 17



LEFT SIDE COWL

SEATBELT INTERLOCK BODY CONNECTOR

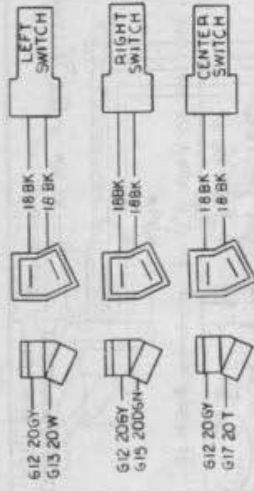
CB 18



RIGHT SIDE COWL

SEAT SWITCH CONNECTORS (BUCKETS WITH OR WITHOUT CENTER CUSHION)

CB 19



UNDER SEAT

REAR WINDOW DEFOGGER MOTOR CONNECTOR

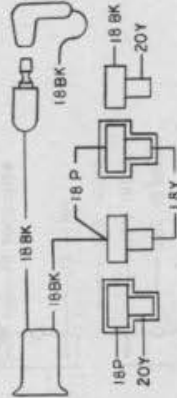
CB 20



LEFT SIDE COWL

TRUNK LAMP

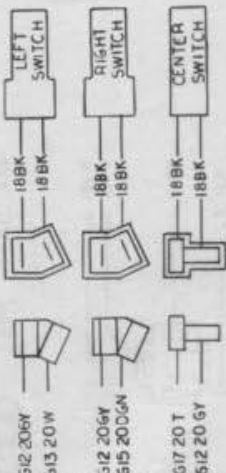
CB 21



DECK LID OPENING

SEAT SWITCH CONNECTOR (BENCH SEAT)

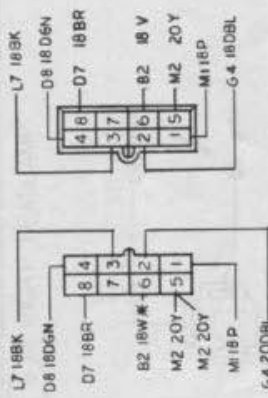
CB 22



UNDER SEAT

INSTRUMENT PANEL TO BODY CONNECTOR

CB 23



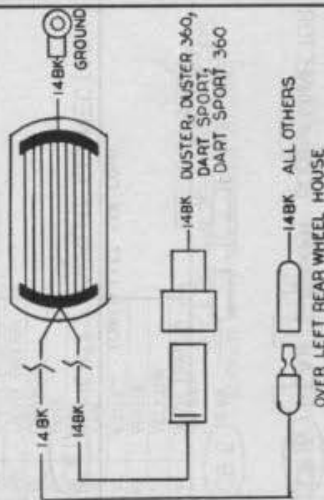
LOW LEFT COWL

PH 41 SHEET 2 OF 12

BODY COMPARTMENT

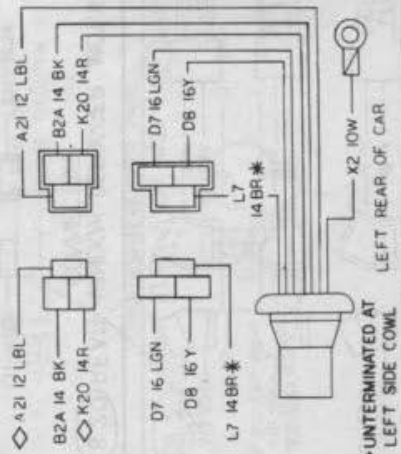
HEATED BACKLITE GLASS

CB 24



TRAILER TOW BODY CONNECTOR

CB 26



UNTERMINATED AT LEFT SIDE COWL

LEFT REAR OF CAR

X2 10W

L7 14BR*

D8 16Y

D7 16 LGN

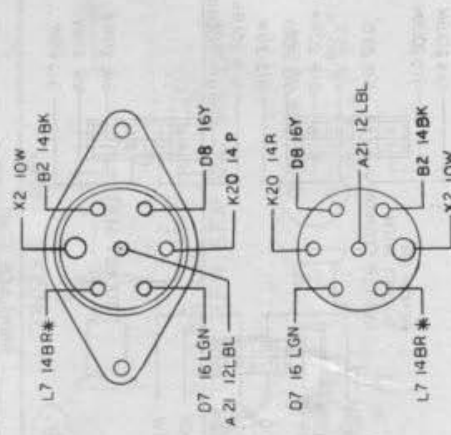
K20 14R

B2A 14 BK

A21 12 LBL

TRAILER TOW CONNECTOR

CB 27

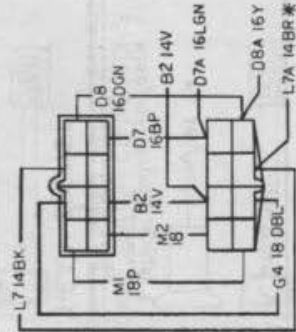


REAR OF CAR AND TRAILER

TRAILER TOW CONNECTOR

CB 25

SEE CB 23

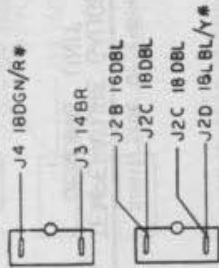


SEE CB 23

LEFT SIDE COWL

IGNITION BALLAST RESISTORS

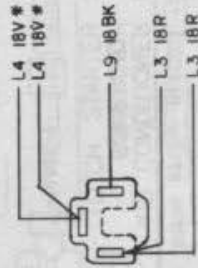
CE 7



COWL TOP PANEL—LEFT SIDE

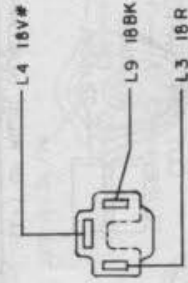
LEFT HEADLAMP

CE 8



RIGHT HEADLAMP

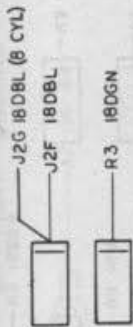
CE 9



PH 41 SHT 4 OF 12

ALTERNATOR

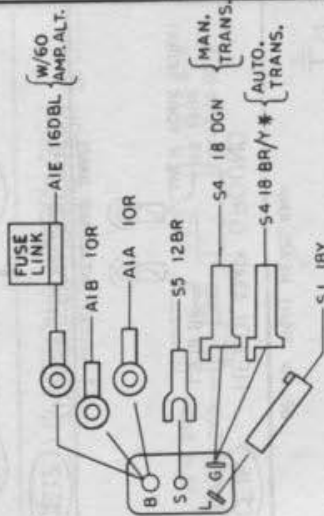
CE 4



RIGHT FRONT SIDE OF ENGINE

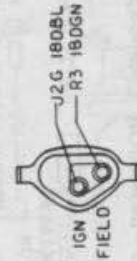
STARTER MOTOR RELAY

CE 5



ELECTRONIC VOLTAGE REGULATOR

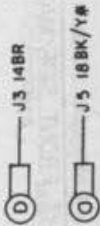
CE 6



RIGHT FENDER—SIDE SHIELD

IGNITION COIL

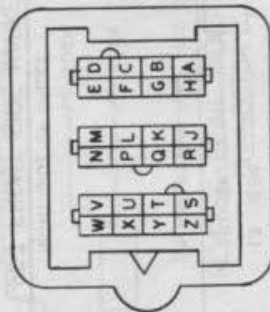
CE 1



INTAKE MANIFOLD RIGHT REAR SIDE

BULKHEAD DISCONNECT

CE 2

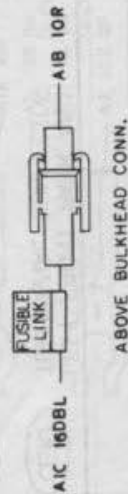


A	B2	18BK/*	N	J2	16DBL/*
B	B1	18BK	P	R6A	12BK
C	S4	20BR/Y*	Q	J3	14BR
D	V10	18BR/*	R	G2	20V
E	V3	18BR	S	D6	18BK/LGN*
F	V4	18R	T	H2	16DGN/R*
G	V5	18DGN	U	L6	18BK/Y*
H	V6	18DBL	V	D5	18BK/T*
J	AIC	16DBL	W	S2	18V/*
K	G6	20GY	X	L4	18V/*
L	S1	18Y	Y	L3	18R
M	P5	20BK	Z		

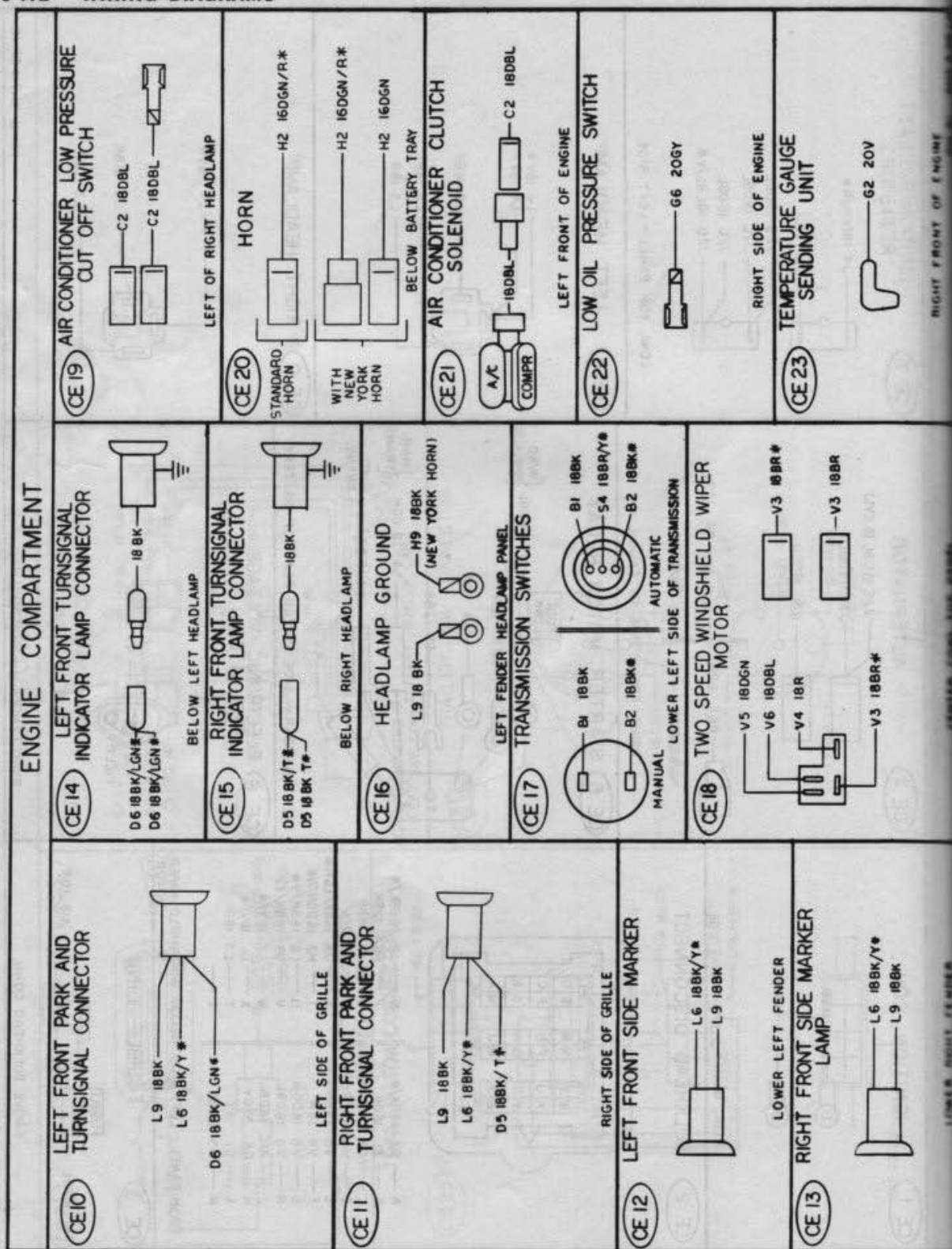
DASH PANEL—LEFT SIDE BELOW WINDSHIELD WIPER MOTOR

FUSIBLE LINK

CE 3



ABOVE BULKHEAD CONN.



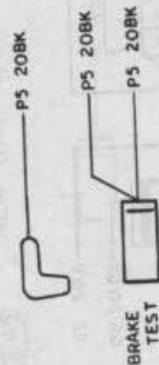
V-L—Electrical Connector Chart

ENGINE COMPARTMENT

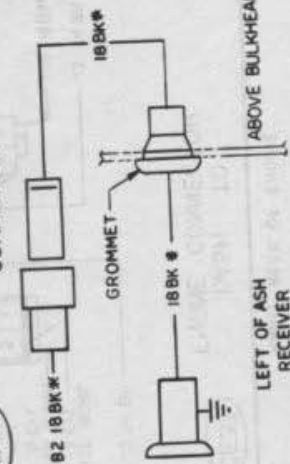
CE 24 WINDSHIELD WASHER MOTOR



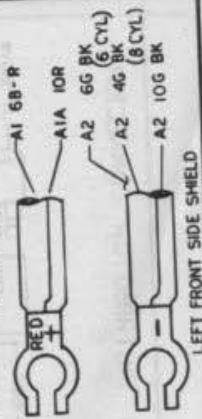
CE 25 BRAKE WARNING LAMP SWITCH



CE 26 REVERSE GEAR INDICATOR CONNECTOR



CE 27 BATTERY



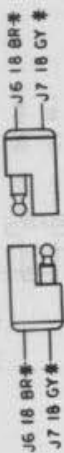
CE 28 BATTERY GROUND



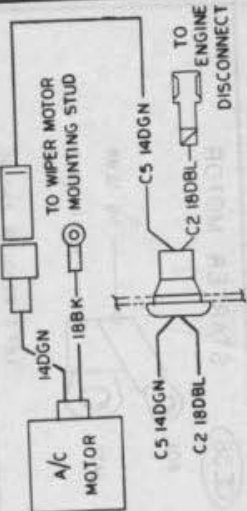
CE 29 ENGINE BATTERY GROUND



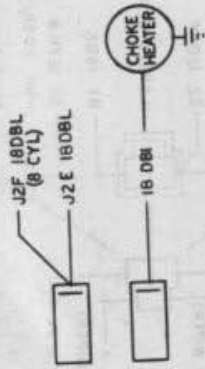
CE 30 ELECTRONIC IGNITION DASH TO ENGINE CONNECTOR (6 CYL)



CE 31 AIR CONDITIONER MOTOR CONNECTOR



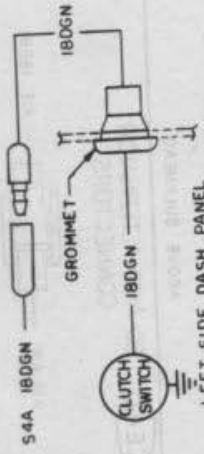
CE 32 ELECTRONIC CHOKE CONTROL



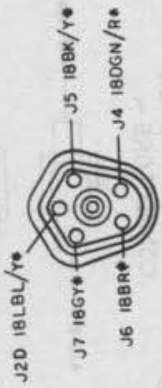
CE 33 ENGINE IDLE SOLENOID



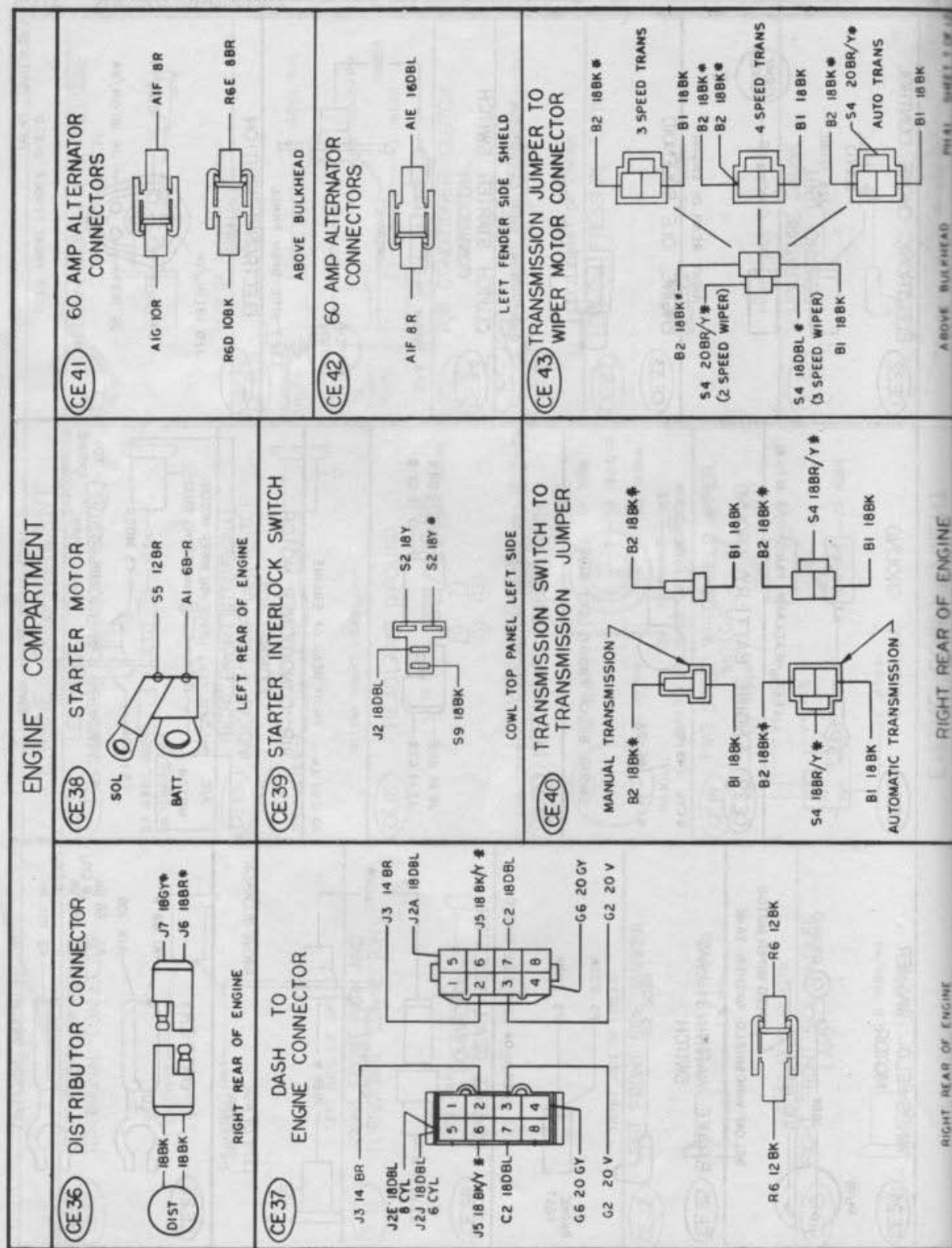
CE 34 CLUTCH STARTER SWITCH CONNECTOR



CE 35 ELECTRONIC IGNITION CONTROL

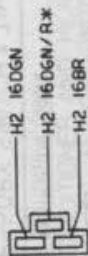


LEFT FRONT FENDER SHIELD PH 41 SHIT 6 OF 12



V-L—Electrical Connector Chart

NEW YORK HORN RELAY



FRONT LEFT FENDER SIDE SHIELD

NEW YORK HORN

(CE 45)

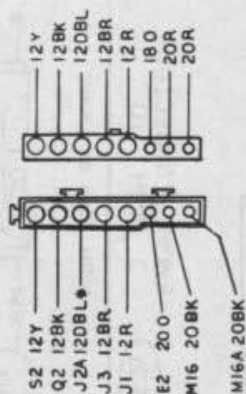
H2 16BR

BELOW BATTERY TRAY



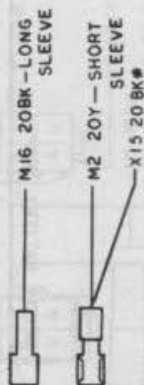
INSTRUMENT PANEL COMPARTMENT

(C11) STARTER AND IGNITION SWITCH CONNECTOR



ON STEERING COLUMN

(C12) LEFT FRONT DOOR SWITCH



LEFT SIDE COWL

(C13) RIGHT FRONT DOOR SWITCH



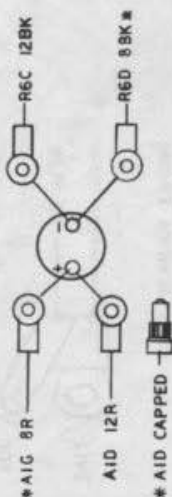
RIGHT SIDE COWL

(C14) ACCESSORY SWITCH & TIME DELAY RELAY



TAPED TO MAIN HARNESS INBOARD STEERING COLUMN

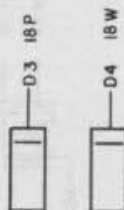
(C15) AMMETER



* WITH 60 AMPERE ALTERNATOR

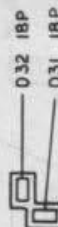
LEFT REAR OF CLUSTER

(C16) STOP LAMP SWITCH



BRAKE BRACKET — LEFT OF STEERING COLUMN

(C17) HAZARD FLASHER



BRAKE PEDAL SUPPORT BRACKET — LEFT SIDE

(C18) TURN SIGNAL FLASHER

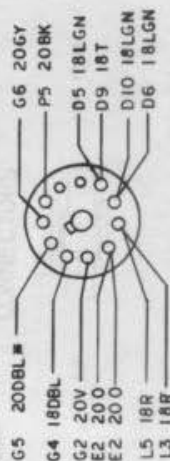


(C19) RADIO CONNECTOR



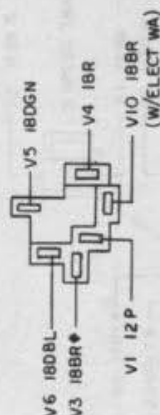
LEFT SIDE RADIO

(C110) PRINTED CIRCUIT BOARD



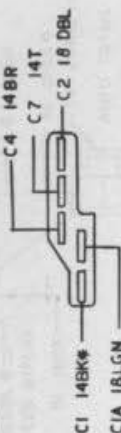
REAR CENTER OF CLUSTER

(C111) WINDSHIELD WIPER SWITCH



LEFT OF RADIO

(C112) AIR CONDITIONER AND HEATER VACUUM SWITCH



CENTER REAR INSTRUMENT PANEL

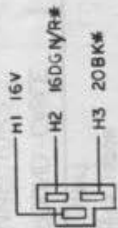
REAR INSTRUMENT PANEL - RIGHT SIDE OF AIR BATTERY (12V)

FRONT REAR INSTRUMENT PANEL

INSTRUMENT PANEL COMPARTMENT

HORN RELAY

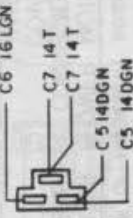
CI 13



LEFT SIDE COWL

AIR CONDITIONER AND HEATER BLOWER MOTOR SWITCH

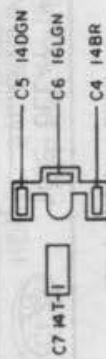
CI 14



CENTER INSTRUMENT PANEL

AIR CONDITIONER BLOWER MOTOR RESISTOR

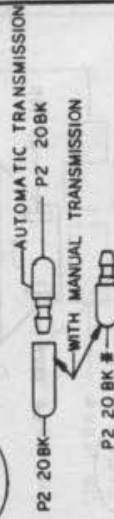
CI 15



RIGHT REAR FACE OF AIR CONDITIONER UNIT

HAND BRAKE RELEASE SWITCH

CI 16



LEFT INSTRUMENT PANEL

IGNITION SWITCH LAMP CONNECTION

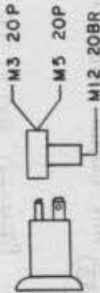
CI 17



LEFT OF STEERING COLUMN

MAP LAMP

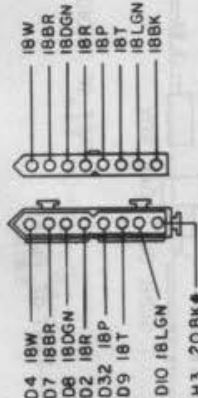
CI 18



RIGHT SIDE OF INSTRUMENT PANEL

TURN SIGNAL SWITCH CONNECTOR

CI 19



LEFT OF STEERING COLUMN

GLOVE BOX LAMP

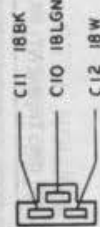
CI 20



RIGHT REAR SIDE OF GLOVE BOX

REAR WINDOW DEFOGGER SWITCH

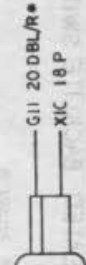
CI 21



LEFT OF STEERING COLUMN

SEAT BELT LAMP

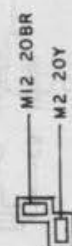
CI 22



LEFT REAR OF CLUSTER

MAP LAMP SWITCH

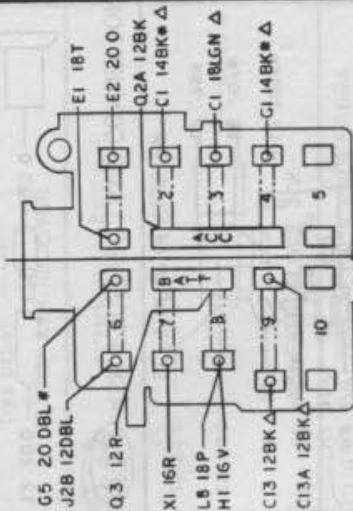
CI 23



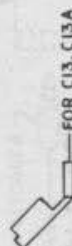
LEFT REAR OF INSTRUMENT PANEL

FUSE BLOCK

CI 24



Δ NOT PART OF MAIN HARNESS



FOR ALL EXCEPT C13, C13A, Q3, Q2A

INSTRUMENT PANEL LOWER REINFORCEMENT LEFT

SEAT BELT BUZZER

CI 25



LEFT SIDE COWL

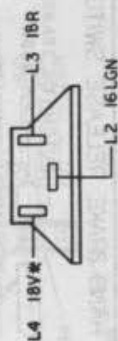
PH 41 SHEET 10 OF 12

INSTRUMENT PANEL COMPARTMENT

INTERLOCK GROUND



CI 26

LOWER REINFORCEMENT LEFT SIDE
FOOT DIMMER SWITCH

CI 27

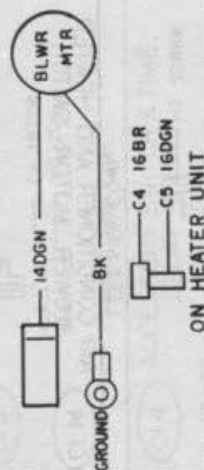
LEFT FRONT FLOOR

TIME DELAY RELAY



CI 28

REAR OF INSTRUMENT PANEL

HEATER BLOWER MOTOR TO
RESISTOR CONNECTOR

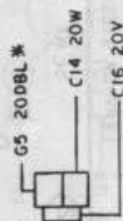
CI 29

HORN GROUND CABLE



CI 30

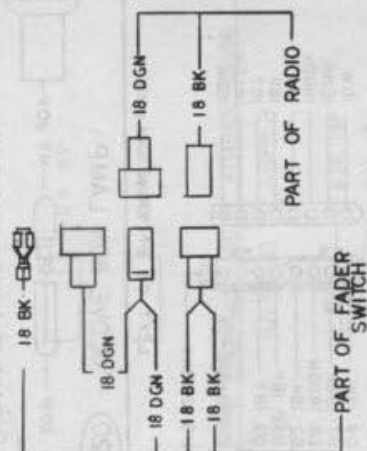
HEATED BACKLITE SWITCH



CI 31

LEFT SIDE OF INSTRUMENT PANEL

FRONT SPEAKER



CI 32

CENTER INSTRUMENT PANEL

AIR CONDITIONER LAMP



CI 33

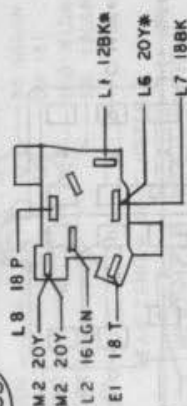
FADER SWITCH



CI 34

LEFT OF RADIO

HEADLAMP SWITCH



CI 35

LEFT REAR OF CLUSTER

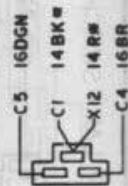
ASH RECEIVER LAMP CONNECTOR



CI 36

REAR OF ASH RECEIVER HOUSING

HEATER BLOWER MOTOR SWITCH

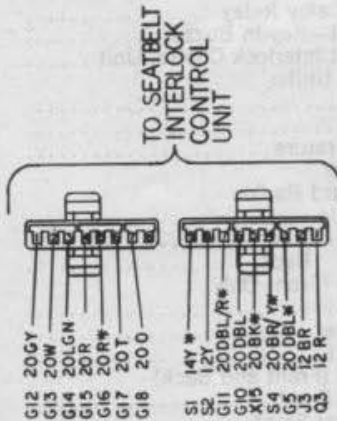


CI 37

CENTER REAR OF INSTRUMENT PANEL

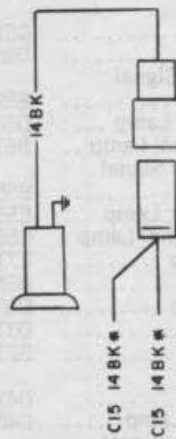
RIGHT SIDE STEERING COLUMN

CI 38 SEATBELT INTERLOCK CONTROL UNIT CONNECTORS



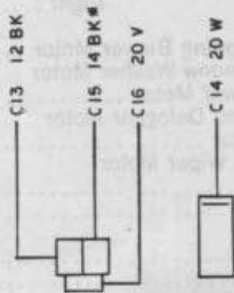
LEFT SIDE - LOWER REINFORCEMENT

CI 39 HEATED BACKLITE INDICATOR LAMP AND CONNECTOR



LEFT REAR INSTRUMENT PANEL

HEATED BACKLITE RELAY



RIGHT OF GLOVE BOX

CI 41 MANUAL TRANSMISSION SEATBELT INTERLOCK GROUND



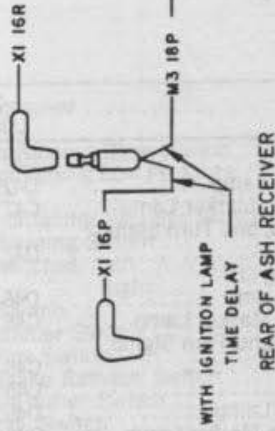
LEFT OF FUSE BLOCK

CI 42 HEATED BACKLITE IGNITION FEED



MIDDLE OF LEFT SIDE COWL

CI 43 CIGAR LIGHTER

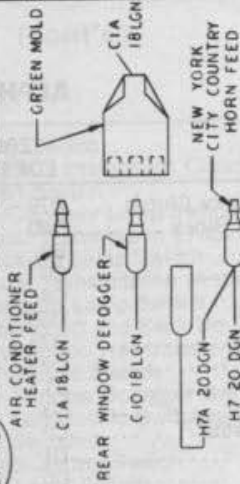


CI 44 CONSOLE FEED



BENEATH GLOVE BOX

CI 45 BATTERY FEED CANDLEABRA



LEFT OF FUSE BLOCK

CI 46 CITY-COUNTRY HORN SWITCH



RIGHT OF STEERING COLUMN PH 41 SHEET 12 OF 12

(3) Install outer rotor, and rotate it until it will slide forward over inner rotor cams. Turn compressor crankshaft with the oil pump in this position to determine that rotors do not bind.

(4) Install oil seal after wetting with compressor oil.

(5) Install oil pump cover plate and tighten bolts 100 to 150 inch-pounds.

EVAPORATOR HEATER ASSEMBLY

V and L Carlines

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GENERAL INFORMATION

The evaporator-heater housing assembly is installed in the passenger compartment, beneath the instrument panel. The air conditioner controls and the air outlet assembly are integral with the instrument panel.

In this unit air is pulled through the evaporator (cooling) coil and pushed toward the heater core by the blower. A blend air door proportions the amount of air through or around the heater core to control the temperature of the outlet air. This door position is controlled by the temperature lever through a flexible cable. The shut-off water valve is also controlled by this lever, through a vacuum switch mounted on the control. When the temperature lever is in the full cool (extreme left) position and the mode lever is on OFF, MAX A/C, A/C, or VENT, the coolant flow through the heater core will be shut off.

The doors in the unit, except for the blend air door, control the source of the incoming air and the outlet through which it will be discharged. These doors are moved into proper position, as determined by the position of the mode selector lever, by vacuum actuators.

CONTROLS

Mode Lever—Operates a six position vacuum-electric switch to select the operating mode of the system as follows: "OFF" shuts off entire system. "MAX A/C" Maximum air conditioning using inside air, "A/C" Air conditioning with outside air. "VENT" Ventilation, same as A/C except compressor is off. "HEAT" Heating, "DEF" windshield defrosting.

Temperature Lever—Controls the temperature of the discharge air in all mode lever positions. Moving the lever to the left provides cooler air and moving it to the right provides warmer air.

Blower Switch—The blower can be operated at three speeds, from low at the bottom switch position to medium at center to high at the top position. The blower will be on and operating at the fan speed selected in all mode lever positions except "OFF".

Air Conditioning Outlets—Three air outlets are contained in one unit secured to the lower edge of the instrument panel. Each outlet can be adjusted independently to direct the air up, down, or to either side. Fixed openings in the distribution duct directs cool air to the floor. Each outlet can be shut off independently by moving the vanes completely left.

Vacuum and Electrical Circuits—For an explanation of the vacuum and electrical logic that controls the operation of the unit see Fig. 1 and 2.

MODES—The combination vacuum and electrical switch is operated by the mode lever. The vacuum portion of the switch controls the shut-off water valve and positions all doors in the unit except the blend air door. The electrical portion of the switch controls the compressor and blower options. The following is a breakdown of the vacuum and electrical logic for each mode. See control chart in this section.

"OFF"—Vacuum application is as indicated in Figure 1. The inlet air door is closed to outside, open to recirculating air. The mode door is in the A/C position. The Heat/Defrost door is in the Heat position. The heater core coolant flow shut-off system is activated. No air flows through the unit and the compressor is idle because the blower and compressor clutch circuits are open.

MAX A/C

All of the doors are in the same position as they are in "OFF". The "MAX. A/C" mode merely closes the electrical circuits to the blower motor and the com-

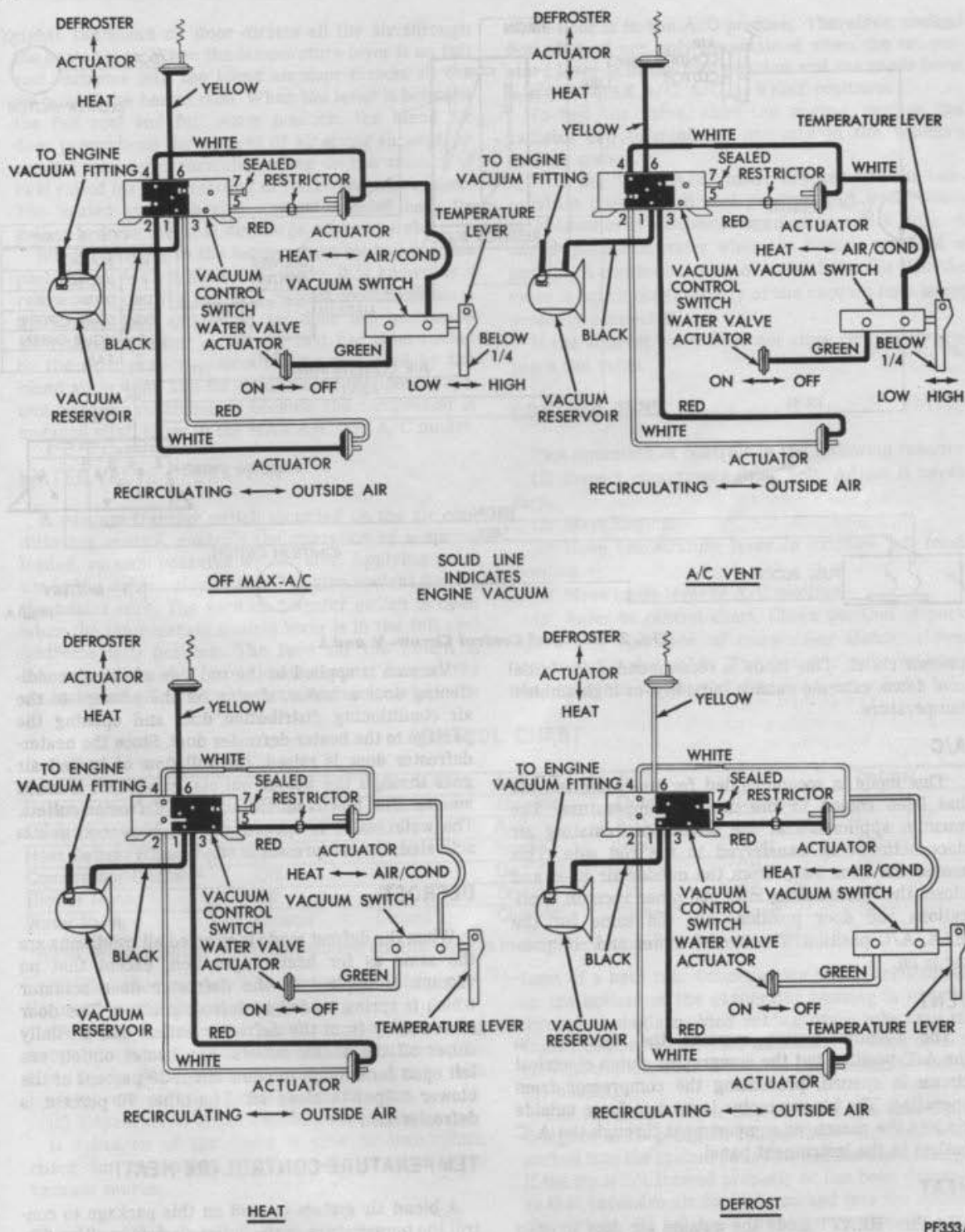


Fig. 1—Vacuum Circuits—Heater and Air Conditioning

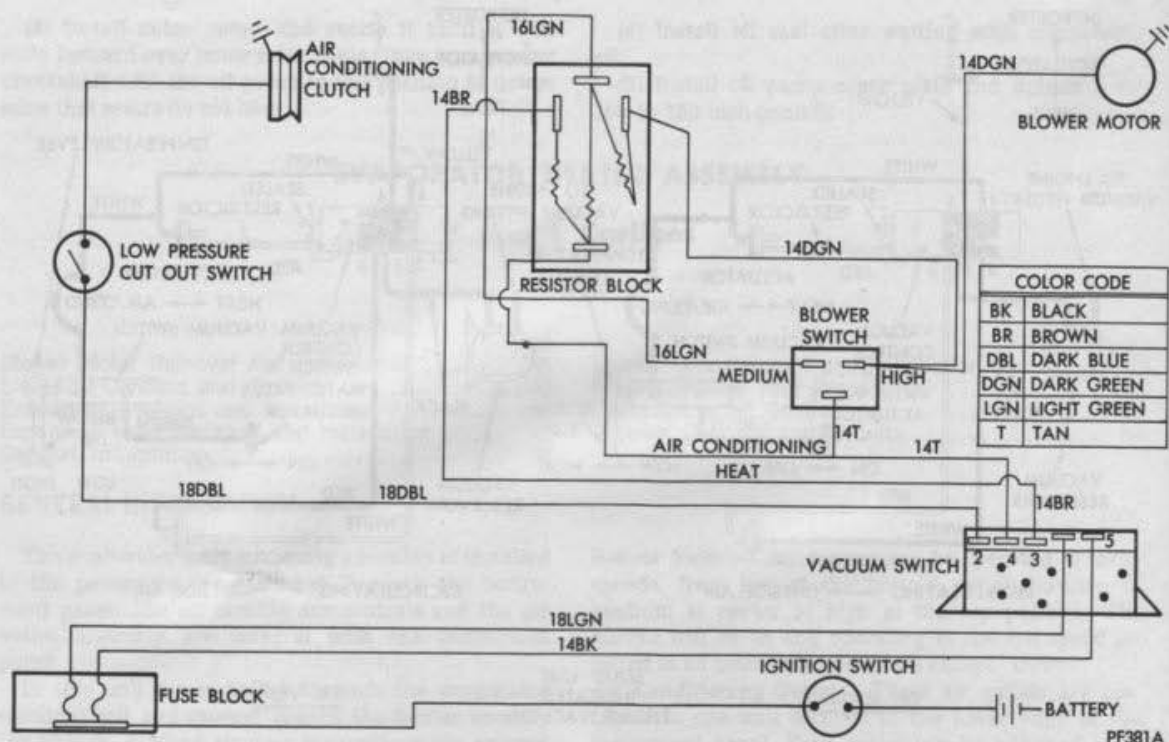


Fig. 2—Electrical Control Circuit—V and L

pressor clutch. This mode is recommended for initial cool down, extreme outside humidity, or high ambient temperature.

A/C

This mode is recommended for use after the car has been cooled to the desired temperature. The vacuum application at the outside-recirculating air door actuator is transferred to the rod side. This moves the door away from the outside-air inlet and closes the recirculating inlet. All other vacuum applications and door positions are the same for the MAX. A/C position. The blower motor and compressor is on.

VENT

The vacuum circuit remains the same as in the A/C position but the compressor clutch electrical circuit is opened, preventing the compressor from operating. The blower motor is used to force outside air into the passenger compartment through the A/C outlets in the instrument panel.

HEAT

In the "HEAT" mode the outside air door is open same as A/C mode.

Vacuum is applied to the rod side of the air-conditioning door actuator, closing off the passage to the air conditioning distribution duct and opening the passage to the heater-defroster duct. Since the heater-defroster door is raised, the full flow of heated air goes through the heater outlets, except for a small amount that bleeds off through the defroster outlets. The water valve is opened and the blower switch is activated, the compressor is off.

DEFROST

When the defrost mode is selected all conditions are the same as for heater operation, except that no vacuum is applied to the defroster door actuator which is spring loaded to defrost position. The door moves away from the defroster outlets and partially closes off the heater outlets. The heater outlets are left open far enough to allow about 30 percent of the blower output to bleed off. The other 70 percent is defroster air.

TEMPERATURE CONTROL (RE-HEAT)

A blend air system is used on this package to control the temperature of the outlet air flow in all modes. When the temperature lever is on full warm (extreme

right), the blend air door directs all the air through the heater core. When the temperature lever is on full cool (extreme left) the blend air door directs all the air around the heater core. When the lever is between the full cool and full warm position, the blend air door proportions the amount of air going through or around the heater core, depending on the amount of heat called for by the setting of the temperature lever. The heated and un-heated air are blended back together to form the final discharge air temperature.

When referring to the temperature control for this package on A/C or MAX A/C mode, it is known as a re-heat system. We call it a re-heat system because the heater core and blend air door are positioned after the evaporator so the air that has been cooled by the refrigeration system can be re-heated by the blend air system. The air conditioning refrigerant system operates continuously because the compressor is engaged at all times in the MAX A/C and A/C modes.

WATER VALVE OPERATION

A vacuum transfer switch mounted on the air conditioning control, controls the operation of a spring loaded, vacuum operated water valve. Applying vacuum to the water valve shuts off engine coolant flow to the heater core. The vacuum transfer switch is open when the temperature control lever is in the full cool (extreme left) position. The feed for the switch is taken from the A/C mode door vacuum line so the coolant shut-off system is activated only when the

mode door is in the A/C position. Therefore, coolant flow shut-off can only be obtained when the temperature lever is in the cool position and the mode lever is in OFF, MAX A/C, A/C, or VENT positions.

To test the valve, start the engine, remove the radiator cap to minimize pressure in the vehicle's cooling system.

With the "MAX A/C" mode selected and the temperature lever in full cool position, test water valve by momentarily disconnecting heater outlet hose. A slight spillage of water when the hose is removed is normal. A continuous flow of water indicates that the valve is not closing properly or the vacuum hose is not properly connected.

If the shut-off valve does not close completely, replace the valve.

CONTROL TEST

Test operation of controls in the following manner.

- (1) Inspect compressor drive belt. Adjust if necessary.
- (2) Start Engine.
- (3) Move temperature lever to extreme left (cool) position.
- (4) Move mode lever to A/C position.
- (5) Refer to control chart. Check position of package doors, operation of compressor clutch, blower motor and water valve. The water valve is on when the arm of the water valve actuator is extended.

CONTROL CHART

Control Position	Off	Max. A/C	A/C	Vent	Heat	Defrost
Inlet Air Door (Open To)	Inside	Inside	Outside	Outside	Outside	Outside
Mode Door (Open To)	A/C	A/C	A/C	A/C	Heat/Def.	Heat/Def.
Heat Defrost (Open To)	Heat	Heat	Heat	Heat	Heat	Defrost
Compressor Clutch	Off	On	On	Off	Off	Off
Blower Motor	Off	On	On	On	On	On
Water Valve	Closed*	Closed*	Closed*	Closed*	Open	Open

*Water valve is closed when temperature control lever is in the full cool position (extreme left).

(6) Check blower switch by moving to all three positions and noting airflow changes.

(7) Check operation of blend air door by moving temperature lever from full warm toward cool position. Discharge air temperature should change with lever movement if the engine coolant is warm.

(8) Repeat step 5 in each mode lever position.

If actuation of the doors is slow or incomplete, check for mechanical misalignment or binding or vacuum source.

Condensation Drain Tubes

The evaporator housing has been designed in the

form of a bath tub. Condensation which accumulates on the bottom of the evaporator housing is expelled through a single molded rubber drain tube into the engine compartment. This tube must be kept open to prevent condensation from collecting in the bottom of the housing.

The squeezed rubber flap at the drain tube tip is designed to keep engine compartment air from being sucked into the system yet allow condensate drainage. If the tip is not formed properly or has been damaged so that excessive air could be sucked into the system, the system will not drain properly, condensate could be ejected into the blower area and then leak out on

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