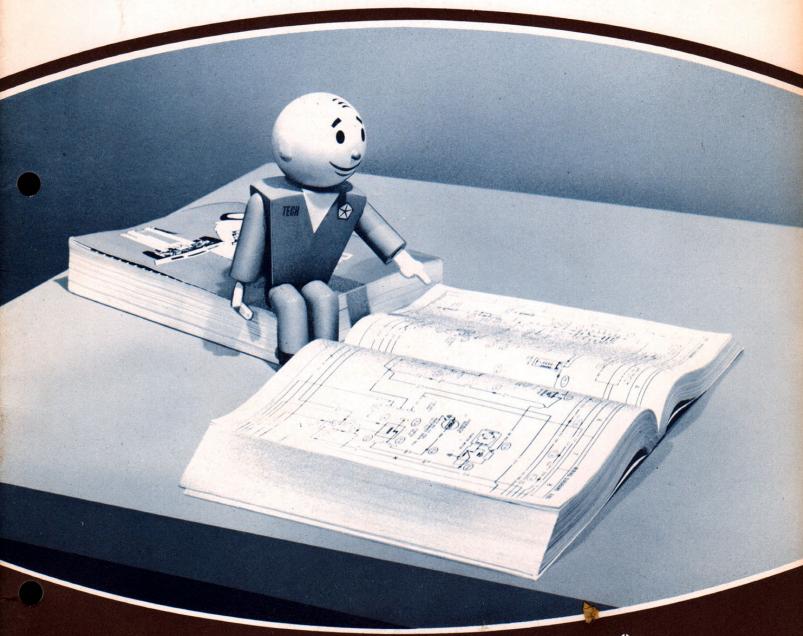
MASTER TECHNICIANS SERVICE CONFERENCE



WIRING DIAGRAM ORIENTATION



CHRYSLER MOTORS CORPORATION



INTRODUCTION

This MTSC Session covers Wiring Diagram Orientation. In a nutshell . . . this is a book on how to read a book. The book we're going to learn how to read is the wiring diagram section of the Chrysler/Plymouth and Dodge Service Manuals. Surely it must seem odd to some people that someone would take the time to cover what appears to be such a simple subject. However, there is a reason. The wiring diagrams are "pictures" more than they are words.

Pictures are an excellent means of communication, providing everybody interprets what is shown exactly the same way. That is the objective of this session.

The Wiring Diagrams are new, by design. There are symbols and methods of circuitry which you probably have not seen before. But, after you get into tracing a circuit or two you will find the new diagrams are the easiest means of tracking down electrical circuits you've ever encountered.

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WIRING DIAGRAM ORIENTATION

This session covers the use of the 1974 Chrysler/ Plymouth and Dodge Chassis Service Manuals for finding solutions to electrical problems. The Wiring Diagrams in the Electrical Section are, in a sense, new, and deserve special attention.

WHAT'S NEW?

The wiring diagrams have been simplified to a great degree. In fact, if you compare the new diagrams to the ones from a few years ago, you'll find very little similarity between the two. What this means, of course, is everyone is going to have to learn the new system. Here's the good news — the new wiring diagrams are really easy to read.

BEGIN AT THE BEGINNING

Let's assume you've never seen a wiring diagram before. The wiring in an automobile is divided into three areas:

- Engine Compartment
- Instrument Panel
- Body

ENGINE COMPARTMENT

In addition to the wires for the engine, the engine compartment contains the wiring for various other components: windshield wiper, horn, back-up lamp, headlights, etc. For instance, some of these components are controlled by switches in the instrument panel. Therefore, it is necessary to run these wires through the firewall to the instrument panel. There are two ways to do this. First . . . run the wires to a bulkhead disconnect block. Second . . . run the wires through a grommet in the firewall.

BULKHEAD DISCONNECT

Here's where you start to use the Service Manual. The Index for the Bulkhead Disconnect is on page 8-168 in the Chrysler/Plymouth Service Manual and on page 8-149 in the Dodge Manual. Let's cover the Bulkhead Disconnect for the "V-L" car lines (Valiant, Dart, Duster, Scamp, and Sport).

The Index lists the page number for the various car lines (8-169 for Chrysler/Plymouth and 8-150 for Dodge).

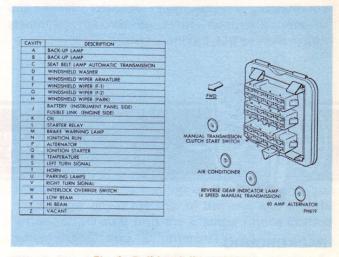


Fig. 1-Bulkhead disconnect

The illustration shows a line drawing of the block. Each of the cavities is labeled ... A through Z. The chart, to the left of the illustration, lists the letters in alphabetical order and a description of what each cavity serves as a connection point. "A" and "B" for instance are for the back-up lamp. The wiring from the back-up lamp would run from the transmission back-up lamp switch to cavities "A" and "B".

The back-up lamp wiring in the car body runs to the back side of the disconnect block.

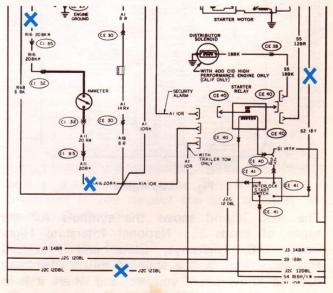


Fig. 2-Main grommet

Incidentally, the circles shown with the disconnect block represent grommets going through the firewall. The grommets are used for wiring that does not go to the bulkhead disconnect block. As you can see in the illustration, the manual transmission clutch start switch, air conditioner, reverse gear indicator lamp and 60-amp. alternator wires go through grommets rather than to the disconnect block.

TERMINAL BLOCK

1974 full-size cars (Plymouth Fury, Dodge Monaco, Chrysler, and Imperial) have a terminal block instead of a bulkhead disconnect. The terminal block is located in the inside of the car instead of being mounted on the firewall. The wires leading to the terminal block pass through a large Main Grommet in the firewall.



MASTER WIRING DIAGRAMS

BACKGROUND

A wiring diagram is like a map. To use a map effectively, however, you must know several things ... First, it has to be a map for the area you're working with — a map of Wyoming wouldn't do you a bit of good if you were interested in getting from Detroit, Michigan to Munising, Michigan. Next, you have to know what the symbols in the legend mean.

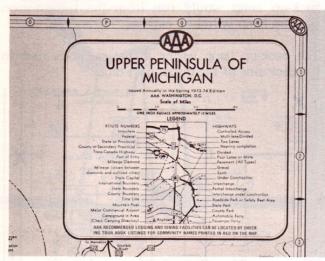


Fig. 3-Map legend

The map legend shows the symbols for the types of roads . . . National Interstate Highways, U.S. Highways, State and Provincial Highways, etc., and a scale of miles. Also, you have to know where you are, and where it is in relation to where you're going.

MAP INDEX

A map usually has another feature — an Index. The index lists the names of the towns in alphabetical order. Next to each town is a letter and a number. To locate a town on the map, you find the name of the town in the index and the appropriate letter and number next to the name. Next, you locate the letter and number across the top and down the side of the map. The town is in the general area where the letter and number intersect on the map.

6 11-20	Nellsville I-15	rear E
I F-20	Nelson K-20	Pearlin
oids I-21	Nessen City E-15	Peck
lge L-16		*Pelki
	*NestoriaG-4	The second secon
1 F-5	Newark N-22	Pellsto
F-13	Newaygo E-19	*Pellst
ley J-15	New Baltimore . Q-23	Penfiel
E-25	*NewberryM-4	Penn
1-24	New Boston N-25	*Pento
o C-4	New Buffalo A-26	Pentw
ty R-23	New Era C-19	*Pequi
H-16	New Greenleaf . P-18	*Perki
rs K-20	New Haven K-21	Perrint
I-15	New HavenQ-22	*Perro
P-20	New Haven	Perry
E-21	Center 1-20	Peters

Fig. 4-Locating a town

LOCATING A SYSTEM OR COMPONENT

The contents for the car lines are located on page 8-171 in the Chrysler/Plymouth Manual and page 8-152 in the Dodge Manual.

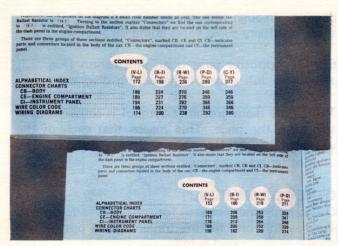


Fig. 5-Contents

The wiring diagrams are divided into separate sections for each car line. The Chrysler/Plymouth Service Manual has five sections, and the Dodge Manual has four sections. Each car line has a letter designation.

"V-L" "V" – Valiant, Duster, Scamp "L" – Dart, Sport
"B-J" "B" – Barracuda "J" – Challenger
"R-W""R"—Satellite, Roadrunner "W"—Coronet, Charger
"P-D""P"—Fury "D"—Monaco
"C-Y""C"—Chrysler "Y"—Imperial

Fig. 6-Letter designation

ALPHABETICAL INDEX

Find the car line in the alphabetical index. (Plymouth/Dodge for instance.) Turn to page with the index (page 289 in the Chrysler/Plymouth Manual or page 271 in the Dodge Manual).

Use the alphabetical index to locate the item you're looking for and determine the Zone Location. Let's say you're looking for the Electric Choke Control. You find Electric Choke Control in the NAME column, follow the dots across to the ZONE LOCATION column. In this case, it's "D2". The letter and number correspond to the numbers across the top and the letters down the side of each page of a wiring diagram . . . just like the road map.

		WIRING DIAGR	AMS 8-271
	(P	P-D)	
	ALPHABETI	CAL INDEX	
NAME	ZONE	NAME	ZONE
Air Conditioning Compressor Clutch .	D182	Clock:	
Air Conditioning Resistor Block	C183	Standard	C45
Alternator	81	Digital	845
Ammeter	C5	Cluster Lamps	D34, D35
ATC Amplifier	D174	Door Aiar Indicator Lamp	816
ATC Air Conditioning Clutch		Front Center Dome Lamp	B50
ATC Diode Assembly	C170	Front End Lighting	
ATC Resistor Block	D171	Headlamps:	
ATC Servo Unit	E175	Left Dual	D142
Ballast Resistor	F3	Right Dual	B142
Battery	86	Left Cornering Lamp (D Only)	D138
Battery Isolator (Trailer Tow)	A2	Left Fender Turn Signal	0136
Cigarette Lighter	B39	Indicator Lamp	B135
Circuit Breakers:	033	Left Park and Turn Signal Lamp	C135
(30 Amp.) Trailer Tow (Heavy Duty)	C72	Left Side Marker Lamp	D138
(40 Amp.) Trailer Tow (Heavy Duty)	B78	Right Cornering Lamp (D Only)	B138
(40 Amp.) Trailer Tow with Wagons .	B84	Right Fender Turn Signal	0138
(30 Amp.) Trailer Tow (Light Duty)	A98	Right Fender Turn Signal	-
(15 Amp.) Electric Door Locks	B106	Indicator Lamp	B135
(30 Amp.) Power Window and/or	B100	Right Park and Turn Signal Lamp .	B135
Power Seats	B100	Right Side Marker Lamp	C138
Clock:	8100	Glove Box Lamp	D57
Conventional	C40	High Beam Indicator Lamp	B33
Digital		Ignition Switch Lamp	C41
Diode Assembly (Title Lamp	C40	Instrument Panel Courtesy Lamps	D59
Didde Assembly (Title Lamp		Left Turn Signal Indicator Lamp	C33
Ignition Time Delay)	D42	Low Fluid Level Indicator Lamp	D150
Distributor Solenoid	C7	Map/Courtesy Lamps	D59
Electric Brake Control (Trailer Tow)	D72	Oil and Temperature—Illumination	
Electric Brake Control Resistor	-	Lamp	D45
(Trailer Tow)		Oil Warning Lamp	B15
Electric Choke Control	D2	Radio Lamp	C38
Electric Choke Heater	El	Rear End Lighting:	
Electronic Ignition Control	D3	DP Model (except Wagons)	

Fig. 7-Alphabetical index

Turn to the wiring diagrams and look for the number "2" across the top of the page. Next, run your finger down the side of the page and find the letter "D". You'll find the Electric Choke Control where the "2" and "D" intersect.

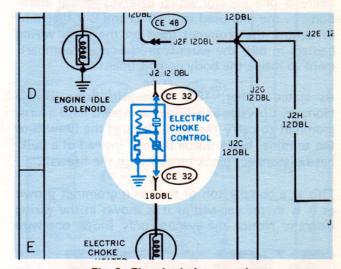


Fig. 8-Electric choke control

NOW THAT YOU'VE FOUND IT

Now that you've found the Electric Choke Control, let's get into it a little deeper. Notice the internal circuitry of the electric choke control is shown. It contains a resistor, a normally open contact, a normally closed contact, a thermal element, and a ground connection. This information is important if you suspect the unit is faulty and want to check it out.

CHECK THE LEGEND

The symbols for the components shown in the circuitry are in the legend. The legend is located at the beginning of the diagram section. It would be

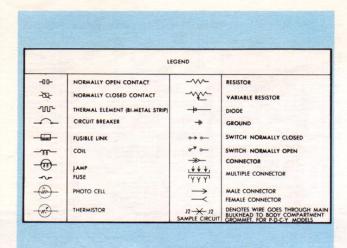


Fig. 9-Legend

worth your while to memorize the symbols in the legend.

MAIN GROMMET

There is one symbol which deserves special attention . . . the one used in the P-D and C-Y diagrams to denote the grommet used on the main wiring harness to pass the wires from the engine compartment to inside the body compartment.

As stated earlier, 1974 Plymouth Fury, Dodge Monaco, Chrysler and Imperial models have a large grommet to carry the wires through the firewall to the terminal block inside the car, instead of a bulkhead disconnect block mounted on the firewall.

This is a comparison of the main grommet shown as it is in the car and as it is shown in the wiring diagram. Notice the *symbol* only shows one wire

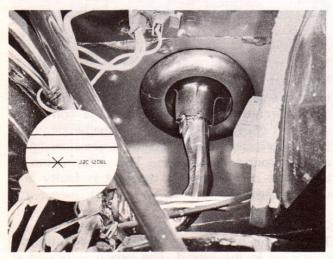


Fig. 10-Main grommet comparison

passing through the grommet, when in reality, there are thirty-some wires going through it.

On the opposite page is an illustration (Fig. 13) showing a full page of the wiring diagram.

Notice the main grommet symbol is shown several times on the page. This means that each of the wires go through the main grommet in the firewall . . . not separate grommets.

OTHER GROMMETS

Other grommets, used for optional equipment, such as this one for the trailer-towing option, are shown as illustrated below.

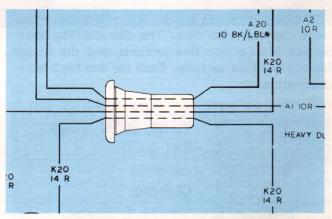


Fig. 11-Other grommets

SYMBOL FOR A SPLICE

There is one symbol which is not shown in the legend which you should know. It is the symbol for a splice. A splice is represented by a black dot where three or more wires come together.

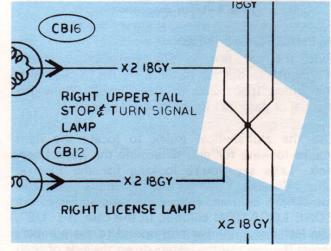


Fig. 12-Symbol for a splice

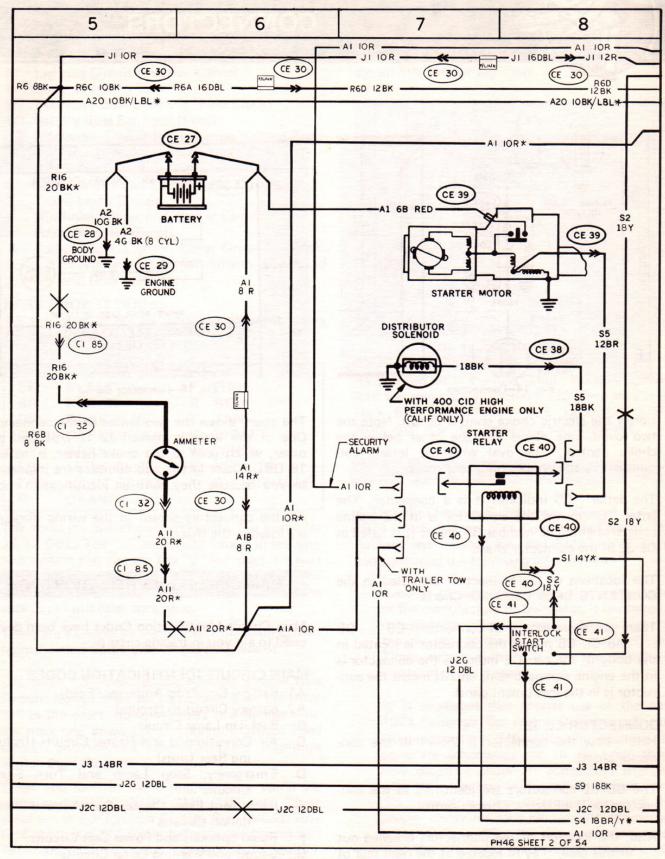


Fig. 13-Wiring diagram page



CONNECTORS

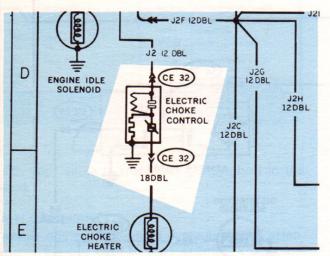


Fig. 14-Connectors

Here's the electric choke control circuit. Note the two ovals, one above and the other below the choke control. The oval with the letters and numbers is the symbol for a connector.

The letter "C" indicates it is a connector. The letter "E" means the connector is in the engine compartment. The number 32 means it is listed as CE 32 in the connector chart.

The locations of the connectors are listed in the CONTENTS, under Connector Charts.

There are three groups of connectors: CB... CE... and CI. CB means the connector is located in the body of the car. CE indicates the connector is in the engine compartment, and CI means the connector is in the instrument panel.

CONNECTOR CE 32

Here's how the connector is shown in the connector chart:

The CE 32 connectors are identified as the connectors for the Electric Choke Control.

Also, the location of the connectors is called out ... in this case, they're located at the right rear of the engine.

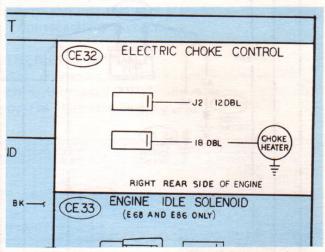


Fig. 15-Connector CE 32

The chart shows the two halves of the connector. One of the wires is marked J2 12 DBL and the other, which goes to the choke heater, is marked 18 DBL. These letters and numbers are important to you because they form an identification code.

All the connectors shown in the wiring diagrams are listed in the charts.

MAIN CIRCUIT IDENTIFICATION CODE

Main Circuit Identification Codes have been developed to aid you in tracing circuits.

MAIN CIRCUIT IDENTIFICATION CODES

- A1 Battery Circuit to Ammeter (Feed)
- A2 Battery Circuit to Ground
- B Back-Up Lamp Circuit
- C Air Conditioning and Heater Circuits (Including Rear Units)
- D Emergency, Stop Lamp and Turn Signal Circuits
- E Instrument Panel Cluster, Switches and Illumination Circuits
- F Radio Speakers and Power Seat Circuits
- G Gauges and Warning Lamp Circuits
- H Horn Circuit

- J Ignition System Run Circuit
- J1 Ignition Switch Feed Circuit
- J3 Ignition Switch Start Circuit
- L Lighting Circuit (Exterior Lights)
- M Lighting Circuit (Interior Lights)
- P Brake Checking Circuit
- Q2 Accessory Buss Bar Feed (Fuse Block)
- Q3 Battery Buss Bar Feed (Feed)
- R3 Alternator Circuit to Electronic Voltage Regulator (Field)
- R6 Alternator Circuit to Ammeter (Feed)
- S Starter Motor and Starter Relay Circuit
- T Trunk Lamp Circuit
- V Windshield Wiper and Washer Circuit
- W Power Window Circuit
- X Radio, Cigar Lighter, Lamp Grounds, Clock, Speed Control, Power Antenna, Deck Lid and Door Locks

HERE'S HOW IT WORKS

All the wires in the circuitry are different colors for identification purposes:

CU	LU	IK	CC	טנ	E
				-	

BK	BLACK	P	PINK
BR	BROWN	R	RED
DBL	DARK BLUE	T	TAN
DGN	DARK GREEN	V	VIOLET
GY	GRAY	W	WHITE
LBL	LIGHT BLUE	Y	YELLOW
LGN	LIGHT GREEN	*	WITH TRACER
0	ORANGE		

The wires are identified individually. For example: J2 12 DBL. The "J" means the wire is in the ignition system run circuit. The "2" indicates it is part of the main circuit. The "12" is the gauge of the wire used. The "DBL" indicates the color of the wire . . . in this case, dark blue.

There are a couple of things about the Main Circuit Identification Codes you should be aware of.

The letter "J" denotes the Ignition System Run Circuit. Notice there isn't a number after the letter "J" in the chart. However, there is a number after the next one down (J1 . . . Ignition Switch Feed Circuit) and the one after that (J3 . . . Ignition Switch Start Circuit).

When you look in the wiring diagram, you'll see wires marked "J", "J2", "J4", "J5", etc. These wires are in the Ignition System Run Circuit. Any time there is a "J" prefix before a number, except "J1" and "J3", it means it is part of the Ignition System Run Circuit.

Here's another thing to look for — a letter after the number following the Main Circuit Identification prefix letter. Example: J2K 12 DBL. This additional letter is used to break the identification of a circuit into smaller segments.

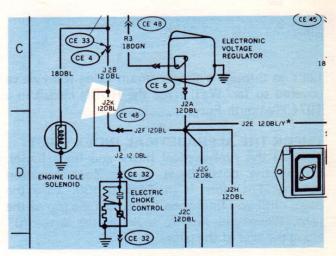


Fig. 16-Wire identification

As you can see in the illustration, the wires coming into the splice are all prefixed "J2", and they're all Dark Blue except one — J2E 12 DBL/Y*. The letter after the "J2" helps you sort them out.

A WORD ABOUT COLOR CODES

A Technical Service Bulletin was released in April, 1974 which covered Wire Color Code Change. The Bulletin was released for INFORMATION ONLY, and contained the following information:

Because of temporary material shortages used in the manufacture of bulk wire, it has become necessary to substitute wire colors in some of the circuitry in the 1974 model year vehicles. These substitutions will have no effect on electrical performance.

It is suggested that greater use of the new 1974 Passenger Car Wiring Diagrams will ease trouble-shooting difficulties. In addition, to complete schematics for all car lines, these new diagrams show all connectors together with their location in the car. They also show the circuits running through them and the proper cavity for each circuit with the circuit nomenclature. Using the circuit number rather than the wire color should eliminate any problems due to incorrect wire color.



LOCATING A CIRCUIT

Let's go through a simple circuit using what we've covered so far. We'll trace the HORN circuit in a 1974 Plymouth Fury.

CHECK THE ALPHABETICAL INDEX FIRST

Turn to the Alphabetical Index and find HORN. Follow the dots across to the Zone Location column. The Horn is in Zone B 130. Turn the pages until you find Zone 130 across the top of the page. When you find it, look for the letter "B" along the side of the page.

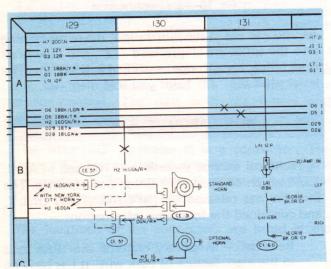


Fig. 17-Locating the horn

YOU'VE FOUND IT

Now that you've located the Horn, you can begin tracing the circuit. The first thing you encounter is a connector . . . CE 31.

Look the connector up in the Connector Chart, at the end of the P-D Wiring Diagram section.

First, we know the connector is in the engine compartment because it has a CE prefix. The chart tells us the connector is located near the left front yoke . . . it has a dark green wire with a red tracer, and there is an additional connector available for an optional horn.

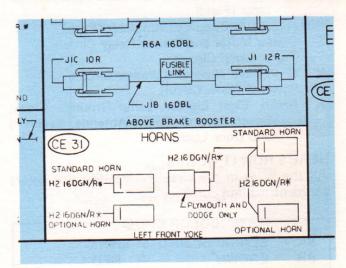


Fig. 18-Connector CE 31

TRACE IT BACK

Okay, let's trace the circuit back from the horn to the switch. The wiring diagram shows there is a symbol for the main grommet, so we know the wire goes through the firewall into the interior of the car. Continue to follow the wire to the edge of the page. The code number for the wire is shown near the point where the line representing the wire runs

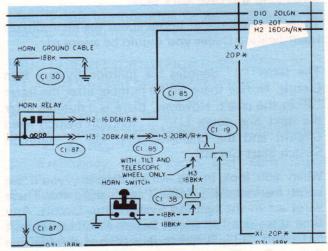


Fig. 19-Trace circuit

off the page — H2 16 DGN/R*. Turn the page and look for the same code number near the page edge. When you've found it, follow the wire across the page. You really don't have to follow the line completely across the page every time . . . simply glance at the page farthest to the left (or right) and see if the wire code number you're following is shown. If it is, you know you have to turn back another page. If it isn't, you know it must lead to somewhere on the two pages the book is opened to.

YOU'VE REACHED THE END OF THE CIRCUIT

Wire H2 16 DGN/R* leads to connector CI 85. We know the connector is in the vicinity of the instrument panel, but we don't know what it looks like. Look it up in the Connector Chart.

The Connector Chart tells us CI 85 is the Left Side Cowl Connectors and Disconnect. Wire H2 16 DGN/R* leads to cavity No. 3

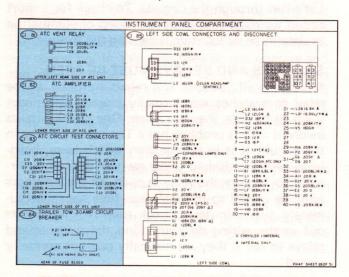


Fig. 20-Left-side cowl connectors and disconnect

HORN RELAY

Wire Hw 16 DGN/R* runs to connector CI 87. CI 87 is the Relay Bank. The Connector Chart shows the relay bank and gives the location — Left of Steering Column behind lower skirt.

Two wires lead from the horn relay — H1 16V leads to cavity No. 4 in the fuseblock, and H3 20 BK/R* leads back to Left Side Cowl Connectors and Disconnect, cavity No. 40. H3 20 BK/R* leads to connector CI 19. CI 19 is the Turn Signal Switch Connector and is located to the Left of the Steering Column.

Notice the wire enters CI 19 as H3 20 BK/R* on the female side of the connector. On the male side of the connector, however, the wire is 18 BK*, and leads to the Horn Switch.

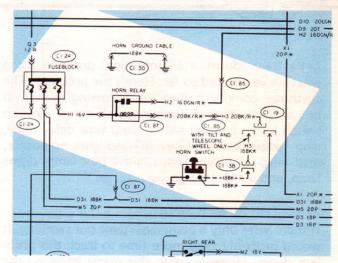


Fig. 21-Horn circuit

AN EXCEPTION TO THE RULE

Earlier, we checked the alphabetical index to locate the Zone Location for the Horn Circuit. We found the horn. The wire leading from the horn was H2 16 DGN/R*. Later, we found two more wires with an "H" prefix in the wire identification code — H1 16V, and H3 20 BK/R*. It would be easy to assume that wires with an "H" prefix would be for the Horn Circuit. There is an exception to the rule . . . some wires with an "H" prefix are used for a Ground Circuit. For example: If you look in Zone 43 B you'll see wire H4 16 BK which runs from a splice to ground.

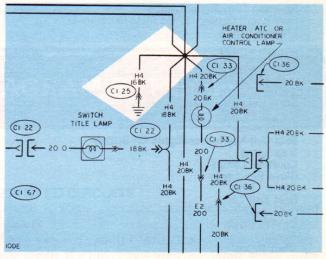


Fig. 22-H4 16BK leads to ground



PROBLEM SOLVING

Let's track down a hypothetical problem using what we've covered so far. Here's the problem: The customer complains that the following items will not work — hazard flasher, trunk lamp, ignition switch lamp, ignition switch lamp time delay relay, stop lamps, seat belt-key in-headlights on-buzzer, map lamp, courtesy lamps, glove box lamp, dome lamp, and seat belt lamp.

FIND THE POWER SOURCE

If there were only a couple of items not working, it would probably take more time to track this problem down. However, with this many items on the fritz, it appers a fuse has burned open.

There are two immediate courses of action:

- (1) Check the fuse block for a burned open fuse.
- (2) Check the Service Manual to find out which fuse cavity serves all the items which are not working.

Fuses are listed in the Specifications portion of the Electrical Section (page 8-165 in the Chrysler/Plymouth Manual and page 8-146 in the Dodge Manual).

Park and Turn Signal Lamps Instrument Cluster Lamps (Also in Cavity 1) License Lamps

CAVITY THREE
Trunk Lamp
Ignition Switch Lamp
Ignition Switch Lamp Time Delay Relay
Aft Dome Lamp (Wagons Only)
Hazard Flasher Circuit
Stop Lamps
Seat Belt-Key In-Headlights On-Buzzer
Map Lamp
Courtesy Lamps
Glove Box Lamp
Dome Lamp
Seat Belt Lamp

CAVITY FOUR Horns Horn Relay 20 Amp

20 Amp

Fig. 23-Fuse block cavity identification

Cavity Three in the fuse block contains a 20-amp. fuse. This fuse protects the circuitry for the trunk lamp, ignition switch lamp, ignition switch lamp time delay relay, aft dome lamp (wagons only), hazard flasher circuit, stop lamps, seat belt-key in-headlight on-buzzer, map lamp, courtesy lamps, glove box lamp, dome lamp and seat belt lamp.

OPEN FUSE - SHORT CIRCUIT?

Let's assume the fuse has burned open. This means there is a possibility of a short circuit in one of the circuits. But which one?

Let's run through the circuits. To check for a short circuit we must go through a process of elimination to determine which item is causing the trouble.

SWITCHES AND RELAYS MUST BE OPEN

Make sure all switches and relays are open. If the relay or switches are normally closed, disconnect them to be sure they are open. One of the circuits involved in this problem has a Time Delay Relay in the circuit. It is in the ignition switch lamp, headlamp and windshield wiper switch title lamp circuit. To be sure the relay is open, all the car doors must be closed so the relay can time out (approximately two minutes). Check each of the circuits out in the wiring diagram. Find the switches and relays to see if they are normally open or normally closed.

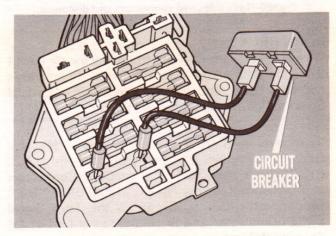


Fig. 24-Use a circuit breaker for testing

REPLACE THE FUSE

Temporarily replace the burned open fuse with a circuit breaker. In this case, the fuse in cavity No. 3 has a 20-amp. fuse, so you would use a 15-amp. circuit breaker.

We use a circuit breaker for testing purposes because it saves the time and trouble of replacing a fuse while you're trying to locate a short circuit. Also, the circuit breaker will cycle until you've isolated the short circuit.

CLOSE THE SWITCHES

The next step is to close the switches one by one to find out if a short exists; and if so, where it is. For example: pull the hazard flasher switch and observe the turn-signal indicators. If they continue to flash, the hazard flasher circuit is operating properly and a short does not exist in this circuit.

Let's say you've closed all the switches and the only circuit left to check is the time delay relay. You can check this circuit by simply opening one of the front doors and observing whether or not the ignition switch lamp and the switch title lamps are operating. In this case they do not operate and the circuit breaker in fuse cavity No. 3 begins opening and closing. This means you have isolated the problem to an area between the time delay relay and the ignition switch and switch title lamp.

CHECK THE FAULTY CIRCUIT

There are two procedures to follow to pinpoint the short circuit. Find the ignition switch lamp and the switch title lamp circuit in the wiring diagram. Note which connectors are used in this circuit and look them up in the connector charts. This will

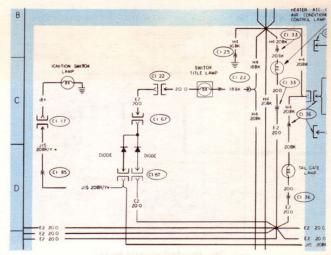


Fig. 25-Check the circuit

give you a good idea what the connectors look like and where they are located.

STEP ONE

Disconnect the ignition switch lamp connector (CI 17) and the diode package (CI 67). Use a test light to see if a short circuit exists between the time delay relay and these connectors (J15 circuit). Be sure that the doors are closed and the relay has timed out before you run the test. Let's say this circuit checked out okay.

STEP TWO

Check the switch title lamp circuit with the test light. It checks out okay. Next, pull the cap off the ignition switch lamp and remove the bulb. Use a test light to see if the short circuit exists between connector CI 17 and the ignition switch lamp. A short circuit exists, you've found the problem.



WIRING DIAGRAM SYMBOLS

Most of the symbols used in the wiring diagram are shown in the legend. There are some, however, which cannot really be classified as symbols. Rather, they are techniques used by the engineering department to simplify the drawing.

PRINTED CIRCUITS

There is some circuitry which includes a printed circuit board. For example, the instrument panel has a printed circuit board. The symbol for a printed circuit is a heavy line approximately three times as thick as the lines used to indicate wires.

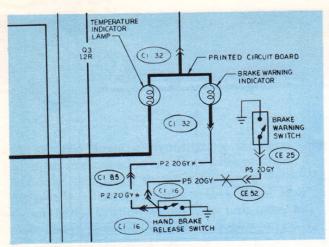


Fig. 26-Printed circuit board

OPTIONAL EQUIPMENT

Some cars contain the wiring for optional equipment. For example, the Plymouth Fury and Dodge Monaco have an optional horn available. The wiring for optional equipment is shown as a line made up of dashes.

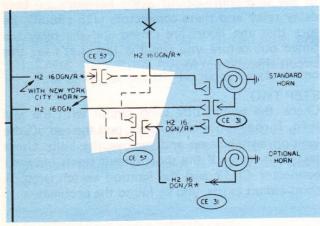


Fig. 27-Optional equipment wiring

This accounts for the occasional connector which is empty. It means the car is wired for the optional equipment, but the customer did not order it.

SWITCHES

Switches are shown in the OFF position in the wiring diagram. Switches used in Chrysler Corporation automobiles range from the simple on/off switch to the rather complex air-conditioner vacuum switch. Let's use the air-conditioner vacuum switch as an example and go through its function.

The illustration shows the air-conditioner vacuum switch in the OFF position. Notice there are three

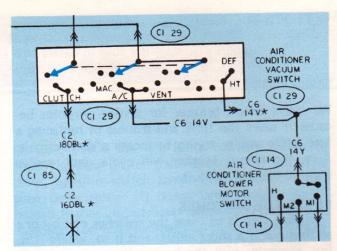


Fig. 28-Off position

arrows leading to a contact point and that a line made up of dashes runs through these arrows.

The dashed line indicates that the arrows are "ganged" together. When the switch is moved to the next position, all the arrows move to the next contact point.

MAX A/C POSITION

The illustration below shows the switch in the Max A/C position. When the arrows are in this position, current flows through the clutch circuit and through the Max A/C contact to the Air-Conditioner Blower Motor Switch.

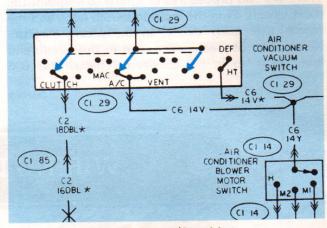


Fig. 29-Max A/C position

A/C POSITION

When the switch is moved to the A/C position, the clutch circuit is still energized and the circuit to the air-conditioner blower motor switch is complete. Notice the arrow on the right is on a contact point but there is no wire leading to it.

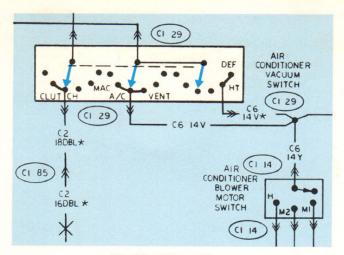


Fig. 30-A/C position

VENT POSITION

Now the switch is in the Vent position. The clutch is no longer energized, but the air-conditioner blower motor switch circuit still is. This means when the switch is in the Vent position the blower will operate in the same speed ranges as in the air-conditioning modes.

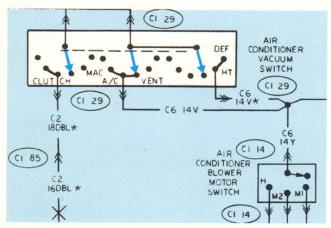


Fig. 31-Vent position

HEAT POSITION

In the Heat position the air-conditioner compressor clutch is off and the center arrow is on a contact which does not have a wire leading to it. The arrow on the right is on the Heat contact and completes a circuit to the blower switch.

DEFROSTER POSITION

When the switch is in the defroster position, the only circuit that is energized is the blower circuit. Notice that the air conditioner and heater blower operate when the air-conditioner vacuum switch is in any position except OFF.

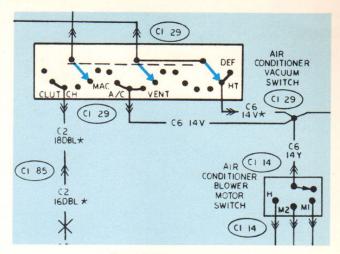


Fig. 32-Heat position

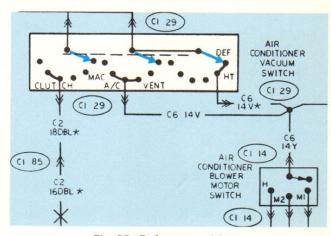


Fig. 33-Defroster position

SUMMARY

The wiring diagrams in the Service Manuals are really one of the most useful tools available for tracking down electrical problems in Chrysler Corporation automobiles. Trust the book. Perhaps it's human nature, but many people are always looking for shortcuts. There's nothing wrong with finding a faster way to do the job. The problem comes in when people second-guess a job and they find they've guessed wrong. Second-guessing an electrical problem can lead to very expensive consequences. As you probably know, replacing a burned-up wiring harness can be a very time-consuming job.

It doesn't take that much longer to check the wiring diagram before you begin a job. And, you are armed with the correct information right from the start.

TEST QUESTIONS

INSTRUCTIONS: The first three questions are multiple-choice type. Circle the letter in front of the statement which you think is correct. For example, if you think the correct answer to question number 1 is B, put a circle around it . . . like this B. Questions 4 through 10 are TRUE and FALSE type. Put a mark after TRUE To for each statement you think is correct. Put a mark after FALSE for each statement you think is incorrect. Write your name in the space provided and turn it in to your Meeting Leader.

. Ovals are shown throughout the wiring diagram.	4. There are three groups of Connectors.
A. Ovals indicate grommets.	True True False
B. The oval with the letters and numbers is the symbol for a connector.	5. Main Circuit Identification Codes tell you the gauge of wire. True False
C. Ovals indicate an in-line fuse.	True Traise
2. Full-size cars do not have a bulkhead disconnect block.	6. All wires with an "H" prefix belong in the Horn Circuit.
A. Wires run from the engine compartment to the body compartment in a large piece of conduit next	True False
to the rocker panel. B. The bulkhead disconnect block is optional	7. The symbol for the Main Grommet on full-size cars shows many wires passing through it.
equipment.	True False
C. Full-size cars have a large grommet to carry the	8. The new Wiring Diagrams are very difficult to read.
wires through the firewall.	True False
3. The symbol for a splice is not shown in the legend, but you should know what it is.	9. The Alphabetical Index is used to find the Zone Location of an item.
A. A splice is shown as an oval next to the wire.	True False
B. A splice is represented by a black dot where three or more wires come together.	10. The wiring diagrams are divided into separate sections
C. A splice is shown as an "X" across the wire.	for each car line. True False

NAME

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