

1990
 BMW 525i/535i/M5 (E34)
 Electrical
 Troubleshooting
 Manual
 Vehicles Produced 09/89 to 08/90

CONTENTS

Index	0100.0-00
Introduction	0110.0-00
Systematic Troubleshooting	0130.0-00
Symbols	0140.0-00
Power Distribution Chart	0670.0-00
Fuse Chart	0670.1-00
Power Distribution	0670.2-00
Ground Distribution	0670.4-00
Component Location Chart	7000.0-00
Component Location Views	7100.0-00
Splice Location Views	8000.0-00
Connector Views Chart	8400.0-00
Connector Views	8500.0-00

Antenna	6424.0-01	— Fuse 14	0670.3-05
Antilock Brake System	3450.0-00	— Fuse 15	0670.3-05
Auxiliary Fan	6454.0-00	— Fuse 16	0670.3-06
Brake Lining Warning	6200.0-01	— Fuse 17	0670.3-07
CD Changer	6510.0-05	— Fuse 18	0670.3-08
Cellular Telephone (Provisions)	6561.0-00	— Fuse 19	0670.3-08
Central Body Electronics	6100.0-00	— Fuse 20	0670.3-09
ZKE Central Locking (ZV)	5126.0-00	— Fuse 21	0670.3-10
Charging Plug	6332.0-00	— Fuse 22	0670.3-11
Charging System	1230.0-00	— Fuse 23	0670.3-11
Check Control	6200.0-00	— Fuse 24	0670.3-11
Cigar Lighter	6332.0-01	— Fuse 25	0670.3-12
Component Location Chart	7000.0-00	— Fuse 26	0670.3-12
Component Location Views	7100.0-00	— Fuse 27	0670.3-12
Connector Views	8500.0-00	— Fuse 28	0670.3-13
Connector Views Chart	8400.0-00	— Fuse 29	0670.3-13
Cruise Control (TEMPOMAT)	6571.0-00	— Fuse 30	0670.3-14
Diagnostic Link	0670.5-00	— Fuse 31	0670.3-14
ZKE Door Lock Heating (TSH)	5120.0-00	— Fuse 32	0670.3-15
E-Box Fan	1290.0-00	— Fuse 40	0670.3-15
Electronic Transmission Control (AEGS)	2460.0-00	— Fuse 41	0670.3-15
Fuse Details		— Fuse 42	0670.3-15
— Fuse 1	0670.3-00	— Fuse 43	0670.3-16
— Fuse 2	0670.3-00	— Fuse 44	0670.3-16
— Fuse 3	0670.3-01	— Fuse 46	0670.3-16
— Fuse 4	0670.3-01	— Fuse 47	0670.3-17
— Fuse 5	0670.3-01	— Fuse 48	0670.3-17
— Fuse 6	0670.3-01	— Fuse 49	0670.3-17
— Fuse 7	0670.3-02	Gauges	
— Fuse 9	0670.3-02	— Fuel	6200.0-08
— Fuse 10	0670.3-02	— Fuel Economy	6200.0-07
— Fuse 11	0670.3-02	— Speedometer	6200.0-07
— Fuse 12	0670.3-03	— Tachometer	6200.0-05
— Fuse 13	0670.3-05	— Temperature	6200.0-05



Ground Distribution

- X165 0670.4-00
- X166 0670.4-01
- X167 0670.4-02
- X173 0670.4-02
- X175 0670.4-03
- X179 0670.4-02
- X490 0670.4-04
- X491 0670.4-05
- X492 0670.4-06
- X493 0670.4-09
- X495 0670.4-10
- X496 0670.4-12
- X497 0670.4-14
- X818 0670.4-17
- X955 0670.4-17
- X1541 (525i) 0670.4-18
- X1541 (535i) 0670.4-21
- X1542 (M5) 0670.4-25
- X1542 (525i) 0670.4-23
- X1542 (535i) 0670.4-22
- X1541 (M5) 0670.4-24
- X2008 0670.4-22
- Heated Seats 5203.0-00
- Horn 6133.0-00
- IHKR Air Delivery 6450.1-06
- IHKR Auxiliary Water Pump 6450.1-10
- IHKR Blower Controls 6450.1-01
- IHKR Compressor Controls 6450.1-08
- IHKR Compressor Controls (M5) 6450.1-09
- IHKR Temperature Controls 6450.1-03
- IHKR Water Valves 6450.1-02
- IHKR 2 Air Delivery 6450.3-03
- IHKR 2 Auxiliary Water Pump 6450.3-09
- IHKR 2 Compressor Controls 6450.3-06
- IHKR 2 Power 6450.3-00

- IHKR 2 Temperature Controls 6450.3-02
- IHKR 2 Water Valves 6450.3-04
- Indicators
 - “ABS” 3450.0-02
 - “Air Bag” 3234.0-00
 - Brake Lining Wear 6200.0-01
 - “Check Engine” 6200.0-00
 - Charge 6200.0-00
 - Fog Lights 6312.0-01
 - High Beam 6312.0-00
 - Left Turn 6313.0-02
 - Low Fuel Warning 6200.0-08
 - Oil Pressure Warning 6200.0-00
 - Park Brake 6200.0-02
 - Right Turn 6313.0-02
- Injection Electronics (DME 1.3) 1210.2-00
- Injection Electronics (DME 1.2, 6 Cylinder) (M5) 1210.4-00
- Instrument Cluster 6200.0-00
- Lamp Monitor (LKM) 6301.0-00
- Lights
 - Back Up 6322.0-00
 - Brake 6325.0-00
 - Front Fog 6312.0-01
 - Glove Box 6332.0-00
 - Hazard 6313.0-01
 - Headlights/Fog Lights 6312.0-00
 - Interior Lights (IB) (ZKE) 6330.0-00
 - License 6320.0-00
 - Makeup Mirror 6300.0-01
 - Park/Tail 6314.0-00
 - Turn/Hazard 6313.0-00
 - Trunk 6320.0-01
 - Underhood 6314.0-00
- Light Switch Details 6300.0-00
- On-Board Computer (BCIV) 6581.0-00
- Power Assist Steering 3240.0-00

Power Distribution	0670.2-00
Power Mirrors	5116.0-00
Power Seats	5200.0-00
Power Windows (FH) (ZKE)	5133.0-00
Radio/CD Player (Provisions)	6510.0-00
Rear Window Defogger	6424.0-00
Splice Location Views	8000.0-00
Start	
— Automatic Transmission	1240.0-00
— Manual Transmission	1240.0-00
Sunroof (SHD) (ZKE)	5410.0-00
Supplemental Restraint System (Air Bag)	3234.0-00
Thigh Support (M5)	5200.0-04
Windshield Wiper Control (SWS) (ZKE)	6160.0-00
Windshield Washer Jet Heaters	6169.0-00

Schematics

The schematics divide the entire vehicle electrical system into individual circuits, interacting electrical components are shown on one common schematic.

Switches and other components are represented in such a way that their general layout and function are self-explicit. They are arranged on the sheet such that the current path can be followed from positive (top) to negative (bottom).

Important: The components and wires are not drawn to scale. For instance, a lead with a length of over 1m can be shown as a lead which is only a few cm long. To ensure clear arrangement, all connectors, line branches and connected components from the fuses to the component and from the component to ground connection are not shown within the individual cells. If required, reference can be made to the cells 0670.3 Fuse Details and 0670.4 Ground Distribution where all lines are illustrated with all plug connections, line branches and connected components.

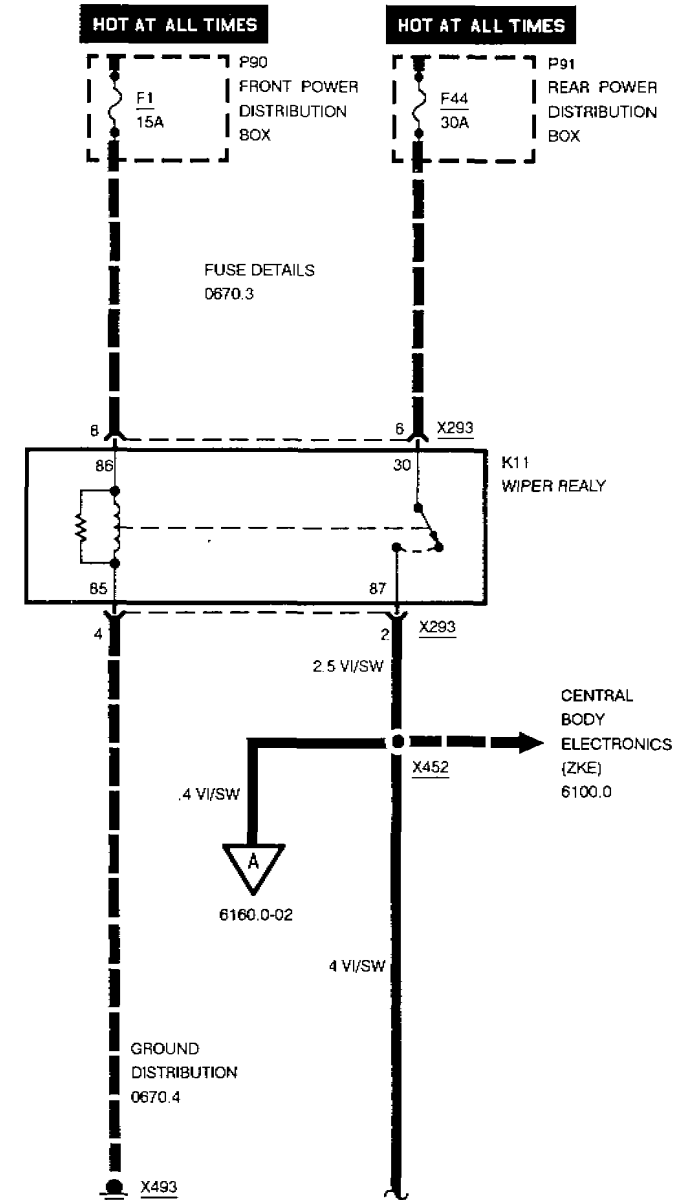
All circuit symbols used are listed and explained in the **0140.0 Symbols**.

In cell **7000.0 Component Location Chart** all important connectors, ground points and components are listed in tabular form. It provides a precise description of the component locations in the vehicle.

In cell **7100.0 Component Location Views** the locations of the connectors and components which are difficult to locate are shown in photographs. –**This cell is not included in the first issue and will be supplied as a supplement.**– In cell **8400.0 Connector Views Chart**, all connectors with more than 2 pins are listed in tabular form. This chart references the page and figure in cell 8500.0 where a view of the connector can be found. In cell **8500.0 Connector Views** diagrams of all connectors with more than 2 pins are illustrated.

Example

General conventions can be explained based on the following schematic example.





General Conventions

1. Switches and relays are always shown in rest position (e.g. K11).
2. A component shown in a dashed frame signifies that the component is illustrated only in part (e.g. P90 and P91).
3. A component shown in a completely drawn frame signifies that the component is illustrated in full (e.g. K11).
4. The dashed line between pin 8 and pin 6 of connector X293 indicates that both pins belong connector X293.
5. The dashed line from fuse 1 to pin 8 of the connector X293 shows the positive supply of the relay K11. If required, refer to cell 0670.3 Fuse Details at fuse F1 for the complete line progression with a plug connections, line branches, wire colors and cross sections.
6. The dashed line with arrow at connector X452 indicates that several wires lead to connector X452. All lines leading to the connection are illustrated in cell 6100.0 Central Body Electronics (ZKE). An interrupted line with arrow indicates that only this one wire leads to another circuit.
7. The dashed line from pin 4 of connector X293 to ground X493 shows the ground supply for relay K11. If required, refer to cell 0670.4 Ground Distribution at ground X493 for the complete line progression with all plug connections, line branches, wire colors and cross sections.
8. The interrupted line from connector X452 with an A in the open arrow is continued on Page 6160.0-02. Termination of the wire 4 VI/SW from connector X452 with a wavy line indicates that the wire is continued on the opposite page.

TROUBLESHOOTING PROCEDURES

Diagnostic procedures for many of the circuits in this manual are included with the schematics. These procedures are based on a logical problem-solving method. The steps listed below are provided for those circuits that do not include diagnostic procedures. Following these steps will enable you to make a quick diagnosis of the problem.

1. Verify the Problem

Operate the problem circuit to check the accuracy of the complaint. Note the symptoms of the inoperative circuit.

2. Analyze the Problem

Refer to the schematic of the problem circuit in the ETM. Determine how the circuit is supposed to work by tracing the current path(s) from the power feed through the circuit components to ground. Then, based on the symptoms you noted in step 1 and your understanding of circuit operation, identify one or more causes of the problem.

3. Isolate the Problem

Make circuit tests to prove or disprove the preliminary diagnosis made in step 2. Keep in mind that a logical, simple procedure is the key to efficient troubleshooting. Test for the most likely cause of failure first. Try to make tests at points which are easily accessible.

4. Repair the Problem

Once the specific problem is identified, make the repair using the proper tools and safe procedures.

5. Check the Problem

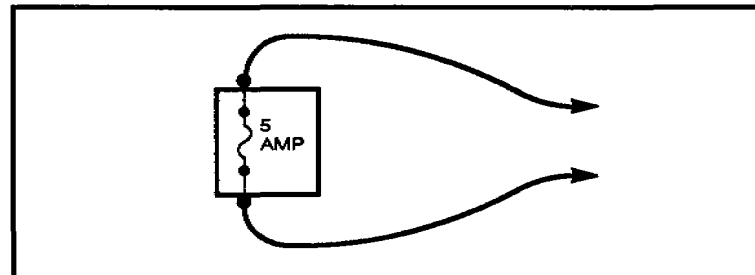
Operate the circuit to check for satisfactory circuit operation. Good repair practice calls for rechecking all circuits you have worked on.

TROUBLESHOOTING TOOLS

Isolating the problem (Step 3 of TROUBLESHOOTING PROCEDURES) requires the use of a voltmeter and/or ohmmeter. A voltmeter measures voltage at selected points in a circuit. An ohmmeter measures a circuit's resistance to current flow. It has an internal battery that provides current to the circuit under test. Disconnect the car battery when using an ohmmeter because the battery voltage will cause the ohmmeter to give false readings. Also, do not use an ohmmeter on solid-state components. The voltage that the ohmmeter applies to the circuit could damage these components.

Fused Jumper Wire

A jumper wire is made up of an in-line fuse holder connected to a set of test leads. It should have a five ampere fuse. Use it for bypassing open circuits. Never use a jumper wire across any load (motors, etc.). This direct battery short will blow the fuse.



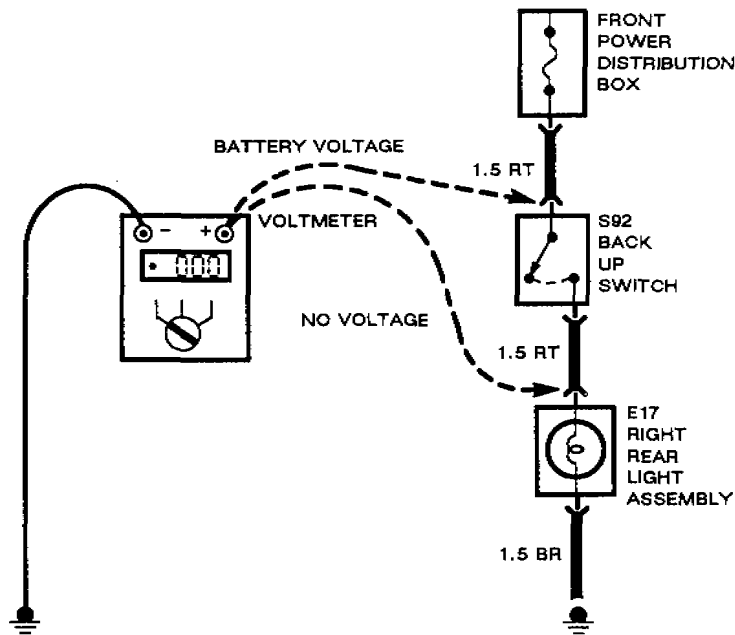
Fused Jumper Wire

TRUBLESHOOTING TESTS

Voltage Test

This test measures voltage in a circuit. By taking measurements at several points (terminals or connectors) along the circuit, you can isolate the problem.

To take a voltage measurement, connect the negative lead of the voltmeter to the battery's negative terminal or other known good ground. Then connect the positive lead of the voltmeter to the point you want to test. The voltmeter will measure the voltage present at that point in the circuit.

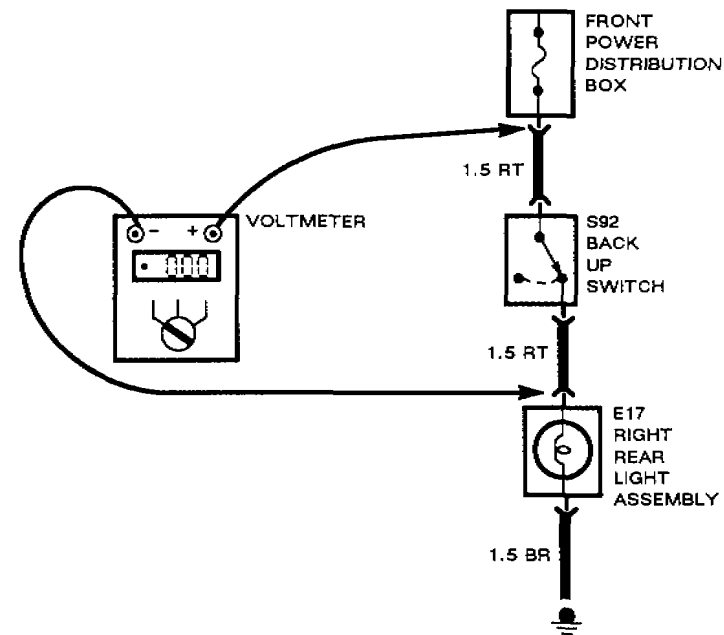


Voltage Test

Voltage Drop Test

Wires, connectors and switches are designed to conduct current with a minimum loss of voltage. A voltage drop of more than one volt indicates a problem.

To test for voltage drop, connect the voltmeter leads to connectors at either end of the circuit's suspected problem area. The positive lead should be connected to the connector closest to the power source. The voltmeter will show the voltage drop between these two points. Any switches in the circuit should be on during this test.

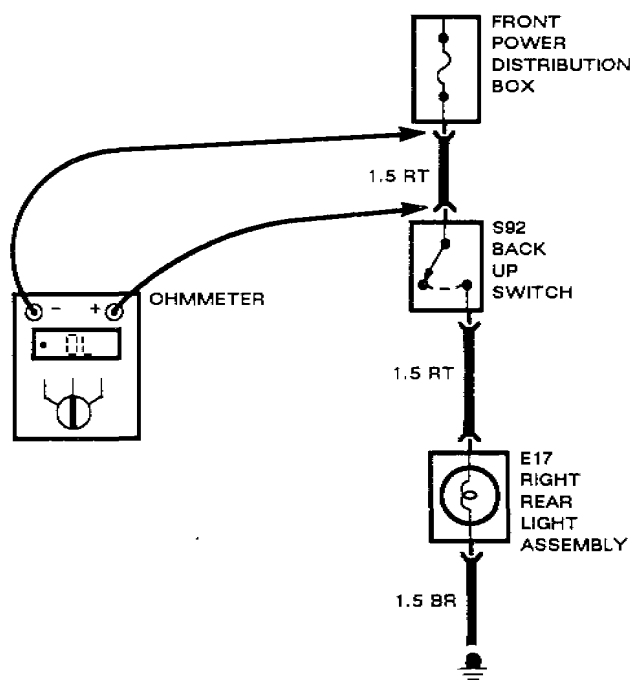


Voltage Drop Test

BMW 5 SYSTEMATIC TROUBLESHOOTING

Continuity Test

To perform a continuity test, first disconnect the car battery. Then, while holding the leads together, adjust the ohmmeter to read zero. Connect the ohmmeter leads to connector or terminals at either end of the circuit's suspected problem area. The ohmmeter will show the resistance across that part of the circuit.

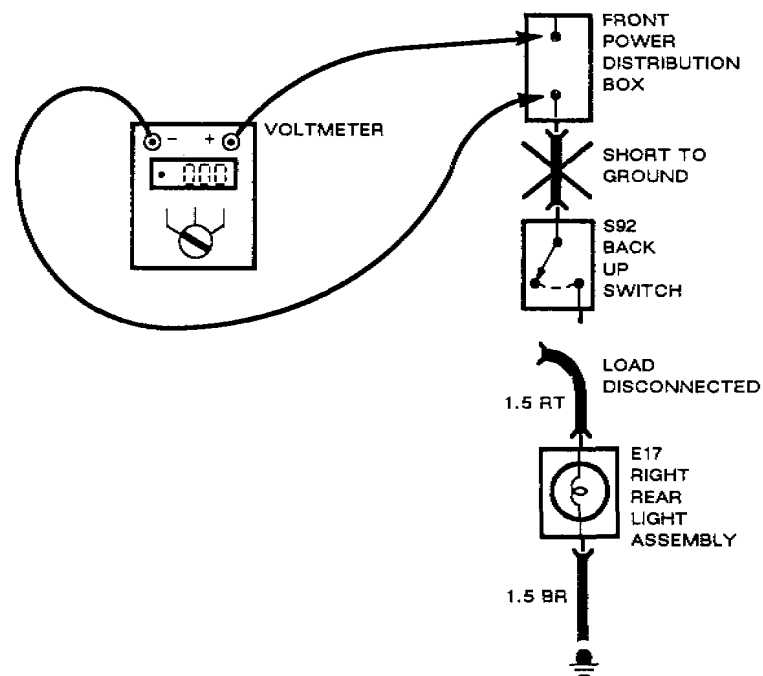


Continuity Test

Short Test Using Voltmeter

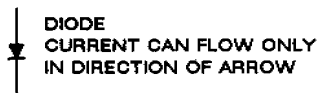
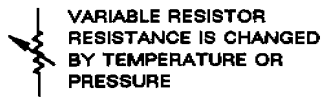
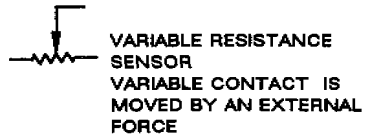
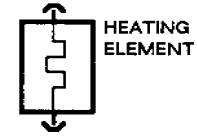
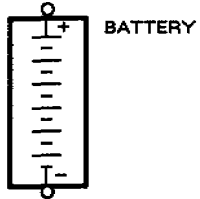
To locate a wiring short to ground, remove the blown fuse and disconnect the load. Connect the voltmeter leads to the fuse terminals. The positive lead should be connected to the terminal closest to the power source.

Starting near the FRONT POWER DISTRIBUTION BOX, move the wire harness back and forth and watch the voltmeter reading. If the voltmeter registers a reading, there is a short to ground in the wiring. Somewhere in the area of the harness being moved, the wire insulation is worn away and the circuit is grounding.



Short Test Using Voltmeter

SYMBOLS

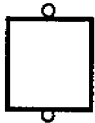




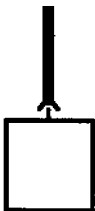
ENTIRE COMPONENT SHOWN



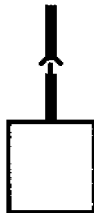
PART OF A COMPONENT SHOWN



COMPONENT WITH SCREW TERMINALS



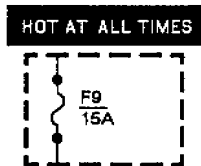
CONNECTOR ATTACHED TO COMPONENT



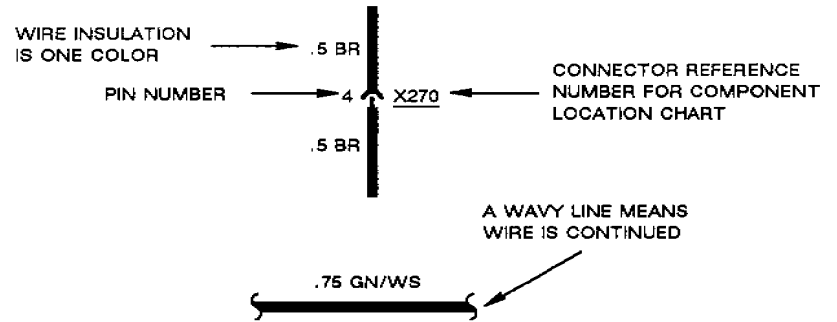
CONNECTOR ATTACHED TO COMPONENT LEAD (PIGTAIL)



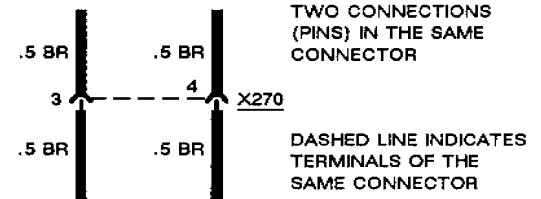
COMPONENT CASE DIRECTLY ATTACHED TO METAL PART OF CAR (GROUNDED)



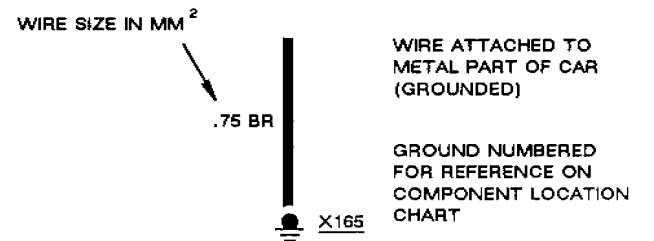
INDICATES THAT FUSE 9 IS SUPPLIED WITH POWER AT ALL TIMES



1. FIRST COLOR IS THE WIRE INSULATION.
2. SECOND COLOR IS THE "TRACER" OR "STRIPE" COLOR.
3. THIRD COLOR IS THE COLOR OF THE DOTS.



TERMINAL NUMBER	DESCRIPTION
50	VOLTAGE: IGNITION SWITCH IN START
30	VOLTAGE: SUPPLIED AT ALL TIMES
15	VOLTAGE: IGNITION SWITCH IN RUN OR START
15I	VOLTAGE: IGNITION SWITCH IN RUN
R	VOLTAGE: IGNITION SWITCH IN ACCESSORY, RUN OR START
31	GROUND

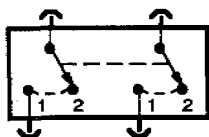




SYMBOLS

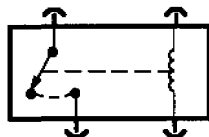


ONE POLE,
TWO POSITION
SWITCH



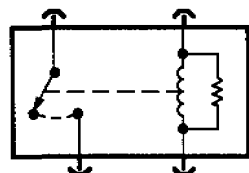
SWITCHES THAT MOVE
TOGETHER

DASHED LINE SHOWS
A MECHANICAL
CONNECTION BETWEEN
SWITCHES

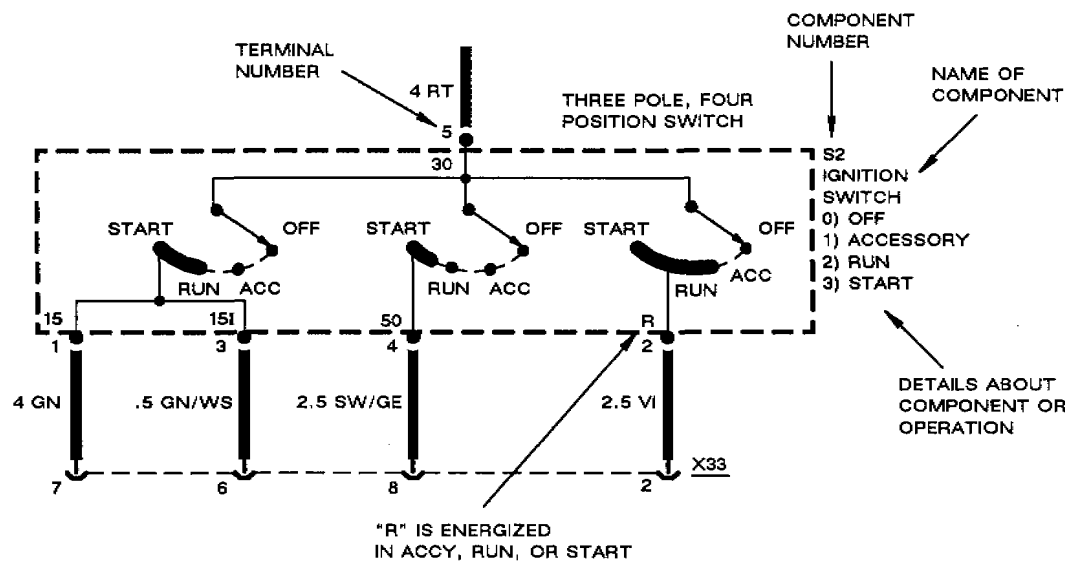


RELAY WITH NO
CURRENT FLOWING
THROUGH COIL

WHEN COIL IS
ENERGIZED,
SWITCH IS
PULLED CLOSED



RELAY WITH
RESISTOR ACROSS
COIL

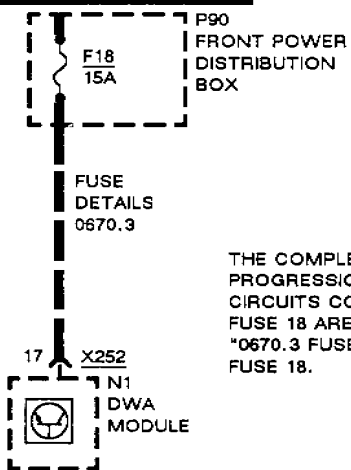


TERMINAL NUMBER	DESCRIPTION
50	VOLTAGE: IGNITION SWITCH IN START
30	VOLTAGE: SUPPLIED AT ALL TIMES
15	VOLTAGE: IGNITION SWITCH IN RUN OR START
15I	VOLTAGE: IGNITION SWITCH IN RUN
R	VOLTAGE: IGNITION SWITCH IN ACCESSORY, RUN, OR START
31	GROUND

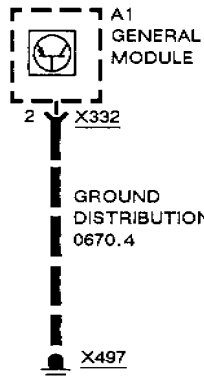
WIRE COLORS	
BL	BLUE
BR	BROWN
GE	YELLOW
GN	GREEN
GR	GRAY
OR	ORANGE
RS	PINK
RT	RED
SW	BLACK
VI	VIOLET
WS	WHITE

SYMBOLS

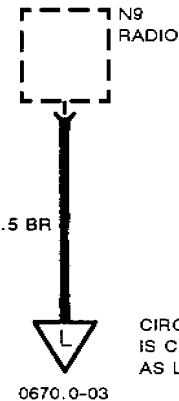
HOT IN ACCY RUN OR START



THE COMPLETE WIRE
PROGRESSION AND FURTHER
CIRCUITS CONNECTED TO
FUSE 18 ARE SHOWN IN CELL
"0670.3 FUSE DETAILS" AT
FUSE 18.



THE COMPLETE WIRE
PROGRESSION AND FURTHER
CIRCUITS CONNECTED AT
GROUND X497 ARE SHOWN IN
CELL "0670.4 GROUND
DISTRIBUTION" AT GROUND
X497.



CIRCUIT PATH
IS CONTINUED
AS LABELED

ARROW SHOWS
DIRECTION OF
CURRENT FLOW AND
IS REPEATED WHERE
CURRENT PATH
CONTINUES

0670.0-02

2.5 BR

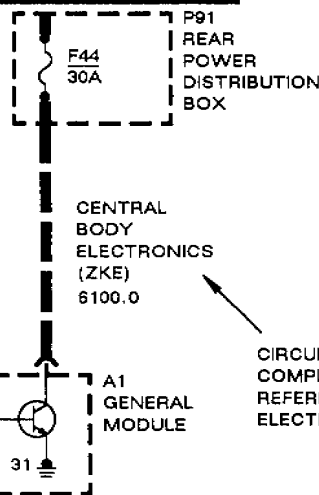
X491

CIRCUIT REFERENCE-
A WIRE WHICH CONNECTS
TO ANOTHER CIRCUIT

1.5 GN/RT

INJECTION
ELECTRONICS
(DME)
1210.1

HOT IN ACCY RUN OR START



SYMBOL INDICATES
A SOLID STATE
DEVICE (INCLUDES
ONLY ELECTRONIC PARTS)

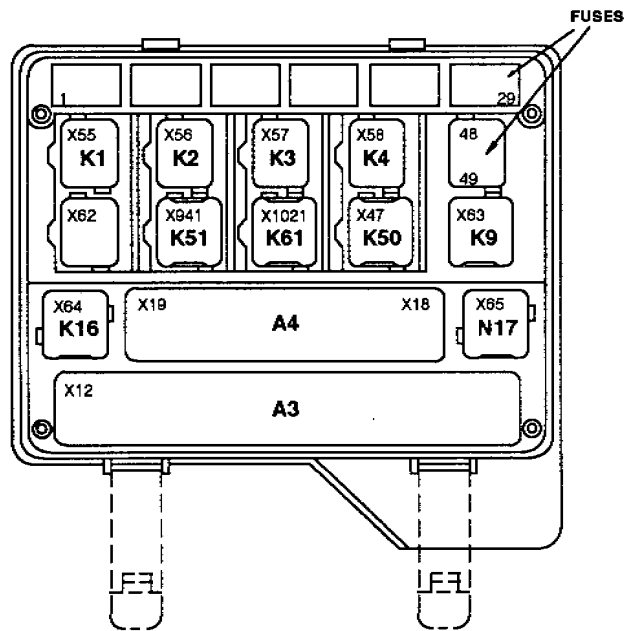
CIRCUIT SHOWN IS INCOMPLETE
COMPLETE CIRCUIT CAN BE
REFERENCED IN CENTRAL BODY
ELECTRONICS (ZKE)



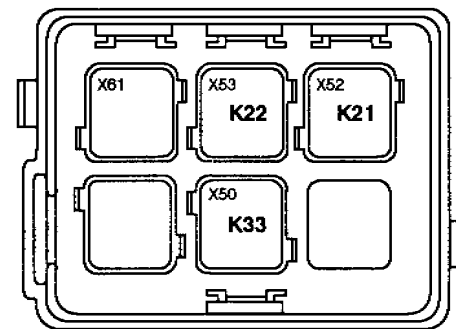
POWER DISTRIBUTION CHARTS

FRONT POWER DISTRIBUTION BOX, AUXILIARY RELAY BOX

P90 FRONT POWER DISTRIBUTION BOX



P92 AUXILIARY RELAY BOX





POWER DISTRIBUTION CHARTS

FRONT POWER DISTRIBUTION BOX, AUXILIARY RELAY BOX

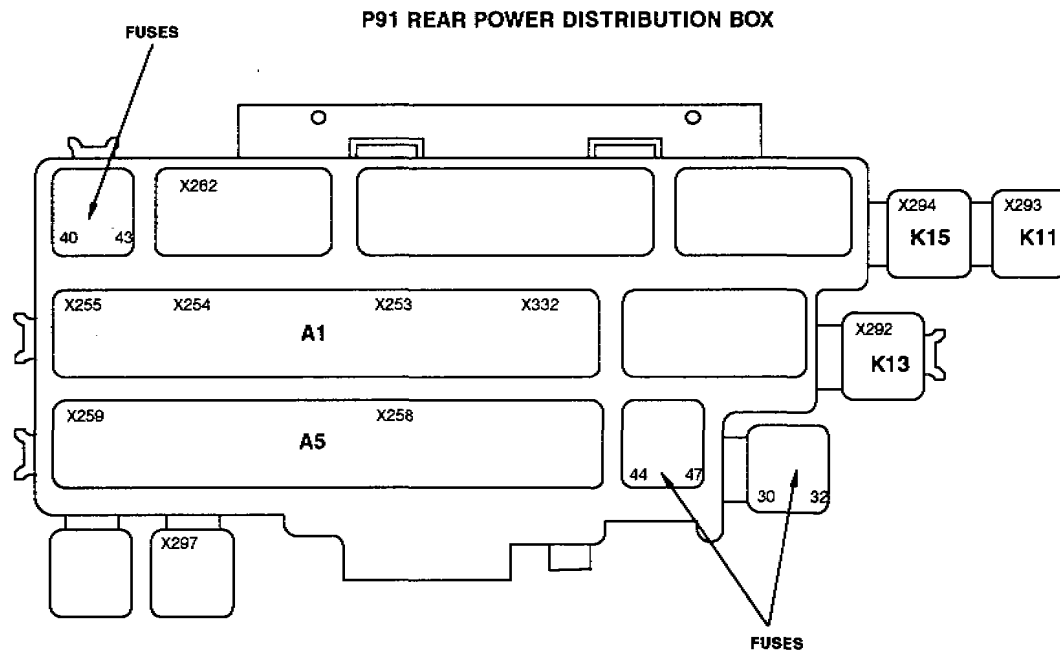
COMPONENTS IN FRONT POWER DISTRIBUTION		
NUMBER	CONNECTOR	DESCRIPTION
A3	X12	LAMP CONTROL MODULE
A4	X18, X19	CHECK CONTROL MODULE
K1	X55	STARTER RELAY
B900	X55	JUMPER PLUG (MANUAL)
K2	X56	HORN RELAY
K3	X57	UNLOADER RELAY, KLR
K4	X58	BLOWER RELAY
	X62	NOT IN U.S.
K9	X63	UNLOADER RELAY, KL 15
K16	X64	HAZARD FLASHER RELAY
K50	X47	WATER PUMP RELAY
K51	X941	PHONE ALERT RELAY
K61	X1021	UNLOADER RELAY KL61
N17	X65	CRASH CONTROL UNIT

COMPONENTS IN AUXILIARY RELAY BOX		
NUMBER	CONNECTOR	DESCRIPTION
K21	X52	NORMAL SPEED RELAY
K22	X53	HIGH SPEED RELAY
K33	X50	AIR CONDITIONING RELAY
	X61	NOT IN U.S.



POWER DISTRIBUTION CHARTS

REAR POWER DISTRIBUTION BOX





POWER DISTRIBUTION CHARTS

REAR POWER DISTRIBUTION BOX

COMPONENTS IN REAR POWER DISTRIBUTION		
NUMBER	CONNECTOR	DESCRIPTION
A1	X253, X254 X255, X332	GENERAL MODULE
A5	X258, X259	RELAY MODULE
K11	X293	WIPER RELAY
K13	X292	REAR DEFOGGER RELAY
K15	X294	ELECTRIC POWER PROTECTION RELAY
	X297	NOT IN U.S.



FUSE CHARTS

FUSE	CIRCUIT PROTECTED
F1 15A	3450.0 ABS Antilock Brake System (Also Fuse 17) 6200.0 Instrument Cluster Check Control (K/CC) (Also Fuses 17, 20, 29) 6301.0 Lamp Monitor (LKM) (Also Fuses 2, 3, 4, 5, 7, 10, 11, 13, 14, 15) 6325.0 Brake Lights (Also Fuse 15) 6571.0 Cruise Control (Tempomat) (Also Fuse 17) 6581.0 On-Board Computer (BCIV) (Also Fuses 17, 20)
F2 7.5A	6300.0 Light Switch Details (Also Fuses 3, 4, 5) 6301.0 Lamp Monitor (LKM) (Also Fuses 1, 3, 4, 5, 7, 10, 11, 13, 14, 15) 6312.0 Headlights/Fog Lights (Also Fuses 3, 5, 7, 10, 11, 13, 14) 6313.0 Turn/Hazard Lights (Also Fuses 3, 6, 13, 14)
F3 7.5A	6100.0 Central Body Electronics (ZKE) (Also Fuses 5, 17, 30, 44, 47) 6300.0 Light Switch Details (Also Fuses 2, 4, 5) 6301.0 Lamp Monitor (LKM) (Also Fuses 1, 2, 4, 5, 7, 10, 11, 13, 14, 15) 6312.0 Headlights/Fog Lights (Also Fuses 2, 5, 7, 10, 11, 13, 14) 6313.0 Turn/Hazard Lights (Also Fuses 2, 6, 13, 14)
F4 7.5A	6300.0 Light Switch Details (Also Fuses 2, 3, 5) 6301.0 Lamp Monitor (LKM) (Also Fuses 1, 2, 3, 5, 7, 10, 11, 13, 14, 15) 6314.0 Park/Tail/Underhood Lights (Also Fuses 5, 15, 20)
F5 10A	6100.0 Central Body Electronics (ZKE) (Also Fuses 3, 17, 30, 44, 47) 6300.0 Light Switch Details (Also Fuses 2, 3, 4) 6301.0 Lamp Monitor (LKM) (Also Fuses 1, 2, 3, 4, 7, 10, 11, 13, 14, 15) 6312.0 Headlights/Fog Lights (Also Fuses 2, 3, 7, 10, 11, 13, 14) 6314.0 Park/Tail/Underhood Lights (Also Fuses 4, 15, 20) 6320.0 License/Trunk Lights (Also Fuses 15, 21) 6330.0 ZKE Interior Lights (Also Fuses 17, 18, 21, 30, 44) 6332.0 Glove Box Light/Cigar Lighter/Charging Plug (Also Fuses 18, 21, 26)
F6 15A	6313.0 Turn/Hazard Lights (Also Fuses 2, 3, 13, 14)
F7 15A	6301.0 Lamp Monitor (LKM) (Also Fuses 1, 2, 3, 4, 5, 10, 11, 13, 14, 15) 6312.0 Headlights/Fog Lights (Also Fuses 2, 3, 5, 10, 11, 13, 14)



FUSE CHARTS

FUSE	CIRCUIT PROTECTED
F9 15A	6133.0 Horn 6450.1 Integrated Climate Regulation (IHKR) (Also Fuses 19, 20, 27, 29, 46) 6450.3 Integrated Climate Regulation II (IHKR II) (Also Fuses 19, 20, 27, 29) 6561.0 Cellular Telephone (Provisions) (Also Fuses 18, 31)
F10 7.5A	6301.0 Lamp Monitor (LKM) (Also Fuses 1, 2, 3, 4, 5, 7, 11, 13, 14, 15) 6312.0 Headlights/Fog Lights (Also Fuses 2, 3, 5, 7, 11, 13, 14)
F11 7.5A	6301.0 Lamp Monitor (LKM) (Also Fuses 1, 2, 3, 4, 5, 7, 10, 13, 14, 15) 6312.0 Headlights/Fog Lights (Also Fuses 2, 3, 5, 7, 10, 13, 14)
F12 15A	5116.0 Power Mirrors 6169.0 Windshield Washer Jet Heaters 6322.0 Back Up Lights
F13 7.5A	6301.0 Lamp Monitor (LKM) (Also Fuses 1, 2, 3, 4, 5, 7, 10, 11, 14, 15) 6312.0 Headlights/Fog Lights (Also Fuses 2, 3, 5, 7, 10, 11, 14) 6313.0 Turn/Hazard Lights (Also Fuses 2, 3, 6, 14)
F14 7.5A	6301.0 Lamp Monitor (LKM) (Also Fuses 1, 2, 3, 4, 5, 7, 10, 11, 13, 15) 6312.0 Headlights/Fog Lights (Also Fuses 2, 3, 5, 7, 10, 11, 13) 6313.0 Turn/Hazard Lights (Also Fuses 2, 3, 6, 13)
F15 7.5A	6301.0 Lamp Monitor (LKM) (Also Fuses 1, 2, 3, 4, 5, 7, 10, 11, 13, 14) 6314.0 Park/Tail/Underhood Lights (Also Fuses 4, 5, 20) 6320.0 License/Trunk Lights (Also Fuses 5, 21) 6325.0 Brake Lights (Also Fuse 1)
F16 30A	5203.0 Heated Seats



FUSE CHARTS

FUSE	CIRCUIT PROTECTED
F17 7.5A	1210.2 Injection Electronics (DME 1.3) (Also Fuse 23) 1230.0 Charging System (Also Fuse 28) 1240.0 Start 1290.0 E-Box Fan (Also Fuse 28) 2460.0 Electronic Transmission Control (AEGS) 3450.0 Antilock Brake System (ABS) (Also Fuse 1) 5120.0 ZKE Door Lock Heating (TSH) (Also Fuse 30) 5133.0 ZKE Power Windows (FH) (Also Fuses 30, 31, 47) 5410.0 ZKE Sunroof (SHD) (Also Fuses 30, 31, 47) 6100.0 Central Body Electronics (ZKE) (Also Fuses 3, 5, 30, 44, 47) 6200.0 Instrument Cluster/Check Control (K/CC) (Also Fuses 1, 20, 29) 6330.0 ZKE Interior Lights (IB) (Also Fuses 5, 18, 21, 30, 44) 6571.0 Cruise Control (Tempomat) (Also Fuse 1) 6581.0 On Board Computer (BCIV) (Also Fuses 1, 20)
F18 15A	6330.0 ZKE Interior Lights (IB) (Also Fuses 5, 17, 21, 30, 44) 6332.0 Glove Box Light/Cigar Lighter/Charging Plug (Also Fuses 5, 21, 26) 6510.0 Radio/CD Player (Provisions) (Also Fuse 41) 6561.0 Cellular Telephone (Provisions) (Also Fuses 9, 31)
F19 30A	6450.1 Integrated Climate Regulation (IHKR) (Also Fuses 9, 20, 27, 29, 46) 6450.3 Integrated Climate Regulation II (IHKR II) (Also Fuses 9, 20, 27, 29)
F20 7.5A	6200.0 Instrument Cluster/Check Control (K/CC) (Also Fuses 1, 17, 29) 6314.0 Park/Tail/Underhood Lights (Also Fuses 4, 5, 15) 6450.1 Integrated Climate Regulation (IHKR) (Also fuses 9, 19, 27, 29, 46) 6450.3 Integrated Climate Regulation II (IHKR II) (Also fuses 9, 19, 27, 29) 6581.0 On Board Computer (BCIV) (Also Fuses 1, 17)
F21 10A	6320.0 License/Trunk Lights (Also Fuses 5, 15) 6330.0 ZKE Interior Lights (IB) (Also Fuses 5, 17, 18, 30, 44) 6332.0 Glove Box Light/Cigar Lighter/Charging Plug (Also Fuses 5, 18, 26)
F22 30A	NOT USED