



Mercedes-Benz

Electrical Troubleshooting Manual
Passenger Cars
Model Years 1975 – 1979

USA

Mercedes-Benz of North America, Inc.

S-2379-000

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Service and Parts Literature

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HOW TO USE THIS MANUAL

This manual contains electrical information needed to troubleshoot vehicles for Model Years 1975 to 1979.

How To Read Wiring Diagrams

The power buses (power sources) are drawn at the top of each diagram and ground buses near the bottom. The components of the circuits have been arranged such that the flow of the current can easily be traced. Notes are included on the diagrams to assist in understanding circuit operation.

The two power buses used in the diagrams are the "Battery Bus" and the "Start-Run Bus". The Battery Bus is connected directly to the battery and is "Hot" or energized at all times, regardless of the position of the ignition key switch. The Start-Run Bus is "Hot" only when the ignition key switch is in the start or run positions. This enables the technician to determine when to expect voltage at various locations.

All switches, relays and other components are shown on the diagrams as they exist when the vehicle is at "rest". At rest means doors closed, seats unoccupied, engine off, shift lever in park or neutral, engine temperature stabilized at 68° F / 20° C, key out of ignition, lights switched off, etc. The operation of many of the components is explained in the notes, as in the case of Oil Temperature Switch which closes at 63° F / 17° C.

When a component is shown in only one location on the wiring diagrams, it is outlined with a solid black line. When it is necessary to show a component in more than one location, it is outlined with a dashed line. For example, fuses tend to be represented by dashed lines because they appear in several circuits.

All wiring between components is shown exactly as it exists on the vehicle. Wiring inside complicated components, such as the Ignition Switch or the Light Switch has been simplified to aid in understanding its electrical operation. Multiple throw switches are shown side-by-side. When tracing current flow for a particular situation, mentally route all the switches to the same position.

How To Find The Circuit You Are Working On

At the bottom right corner of each wiring diagram (model year 1975 to 1977 vehicles only) is an index of the vehicles electrical circuits along with the respective location coordinates.

How To Find The Component On The Vehicle

The Component Index at the bottom right of each diagram (model year 1975 to 1977 vehicles only) verbally describes the location of various items which are difficult to find. The column labeled "LOC. FIG. NO." refers to photographs on the diagram which will further assist you in locating components.

How To Identify Wire Terminals On Components



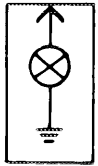






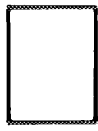
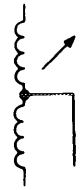




The terminals on all components are labeled on the wiring diagrams. To identify the terminals on the components, terminal photographs are provided in the front of the manual. The "TERM. FIG. NO." column of the Circuit Index refers to specific component terminal photographs.

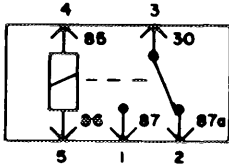




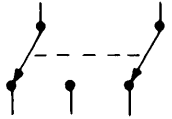








How To Troubleshoot Electrical Problems

1. Verify the complaint.
2. Locate the faulty circuit on the schematic page.
3. Analyze the circuit.
4. Correct the failure.
5. Check for proper circuit operation.

Refer to the "How To Use" page in front of the 1978/1979 section for changes and additions to the instructions for those model year vehicles

SYMBOLS AND DEFINITIONS

		
Capacitor	Connector	Ground shown elsewhere
		
Clutch, electric	Diode	Light bulb
		
Coil	Fuse	Motor, permanent magnet
		
Component, shown complete in one position on Diagram	Electric gauge	Motor, series field
		
Component, shown in more than one position on Diagram	Ground on chassis	Spark gap

 <p>Relay (contacts as shown with no voltage applied to coil)</p>	 <p>Resistor, variable value</p>	 <p>Switch, one pole, two positions</p>
 <p>Relay coil, time delay</p>	 <p>Screw terminal</p>	 <p>Switch, two poles, two positions (Dashed line indicates the two poles move together)</p>
 <p>Relay coil, two windings</p>	 <p>Solenoid valve</p>	 <p>Temperature switch</p>
 <p>Switch, momentary (Returns to center off position when released)</p>	 <p>Switch, normally closed</p>	 <p>Transistor</p>
 <p>Resistor, fixed value</p>	 <p>Switch normally open</p>	

WIRE SIZE AND COLOR

Wire size and insulation color for each wire is shown on the Schematic/Wiring Diagrams to aid in locating specific wires. Wire size (cross-sectional area) is given in square millimeters, 0.5, 0.75, 1.0, 1.5, 2.5, 4.0, 6.0, 10, 25, 35. The first color given on the diagrams is the base or overall insulation color. Second and third colors, if any, designate stripes. Solid brown insulation is used only for ground wires.

The color code used in this Manual is somewhat different from the code used in Mercedes-Benz documents prepared in Germany. All color codes used in the Manual are two letter, selected to closely relate to the English word they represent. Notice that lower case letters are used.

COLOR	GERMAN EQUIVALENT	CODE USED IN ETM
White	ws	wt
Green	gn	gn
Brown	br	br
Yellow	ge	yl
Gray	gr	gy
Pink	rs	pk
Blue	bl	bu
Red	rt	rd
Black	sw	bk
Ivory	el	iv
Natural	nf	nt
Violet	vi	vi

Example:

Wire designation: 1.5 gy/rd
 Wire size: 1.5 mm²
 Insulation base color: gray
 Insulation strip color: red

The following table shows wire size in American Wire Gauge (AWG) to be used if metric sized wire is unavailable.

METRIC (Cross-sectional area in mm ²)	AWG
.75	18
1	16
2.5	12
4	10
6	8
8	8
16	4

RELAY CODE DESIGNATION

Since the exact position of relays varies due to manufacturing convenience, the harness leading to each relay is tagged as a means of identifying each relay. The following listing identifies the code numbering system.

<u>Code Number</u>	<u>Function</u>
1	Fuel pump
2	Cold start valve
3	Fuel injection
4	A/C starter
5	Change-over valve
6	Auxiliary fan
7	Seat belt warning system
8	Change-over valve with additional fan
9	Window regulator
10	Window regulator
11	Starter terminal 50
12	Air conditioning system
13	Headlight cleansing equipment
16	Headlight flasher
17	Carburetor heater
19	EGR/ignition advance
20	Heater coil choke cover
21	Fuel Pump Relay

CONNECTOR LIST

- C 101 Battery
- C 102 Impulse trigger (trigger points)
- C 103 Fuel injection circuit
- C 104 Rear harness circuits
- C 105 Charge/start circuit (3 or 4 pin)
- C 106 Combination switch
- C 107 Electric window circuit
- C 108 Electric window circuit
- C 109 Front dome light
- C 110 Rear dome light
- C 111 Hot start circuit
- C 112 Windshield wiper/washer
- C 116 Ignition points terminal block
- C 117 Heater controls lights
- C 118 Cruise control
- C 119 Cruise control
- C 120 Cruise control
- C 121 Cruise control
- C 122 Heater control valves
- C 123 Heated rear window
- C 131 Brake pad sensor
- C 132 Brake pad sensor
- C 133 Air conditioner
- C 134 Heater circuit
- C 135 Power antenna
- C 140 Cruise control

TERMINAL PHOTOGRAPHS

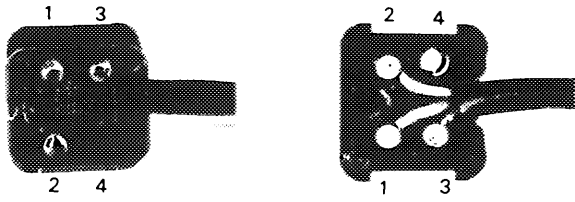


Fig. T1
Connector, 4 terminal

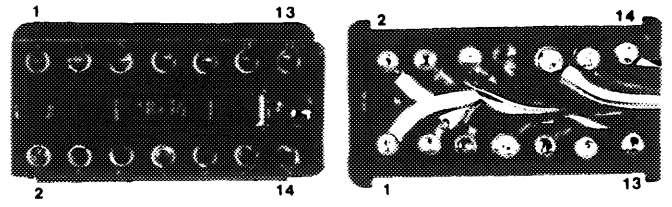


Fig. T5
Connector, 14 terminal

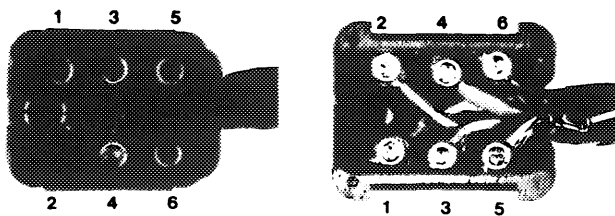


Fig. T2
Connector, 6 terminal

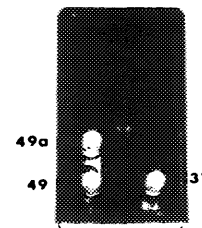


Fig. T6
Turn signal flasher relay

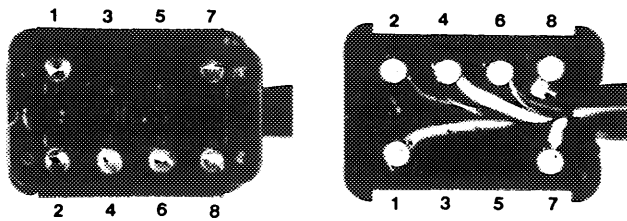


Fig. T3
Connector, 8 terminal

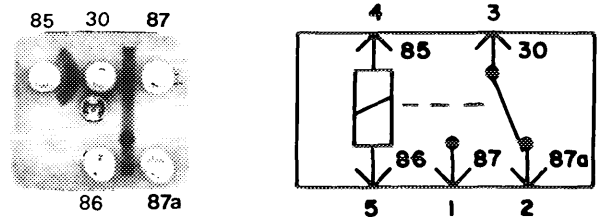


Fig. T7
Relay

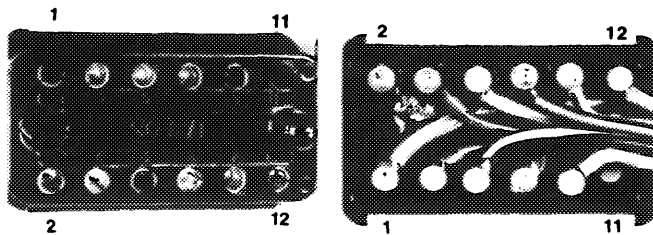


Fig. T4
Connector, 12 terminal

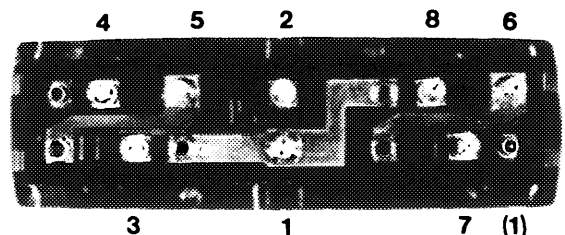


Fig. T8
Window switch group
(the 1 terminal has two alternate positions)

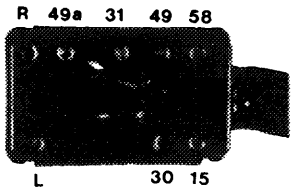


Fig. T9
Connector, flasher switch

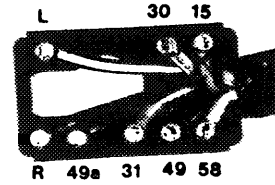
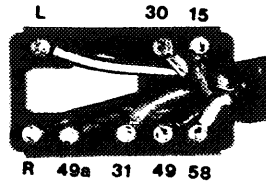


Fig. T16
Flasher switch

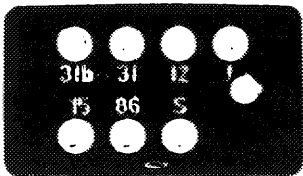


Fig. T10
Windshield wiper interval relay

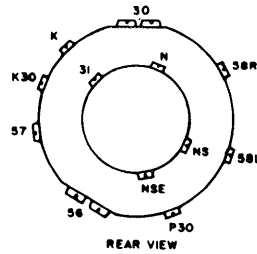


Fig. T13
Light switch

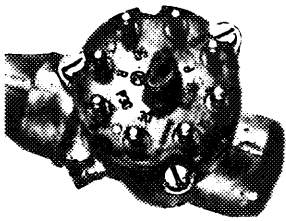


Fig. T11
Ignition switch

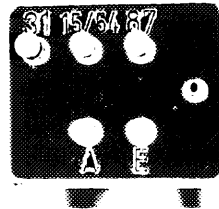


Fig. T14
Heated rear window delay relay

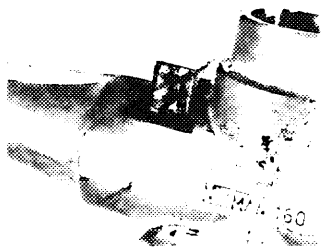


Fig. T12
Ignition lock warning switch

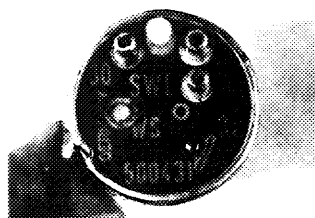


Fig. T15
Buzzer, warning

1977 UPDATE TERMINAL PHOTOGRAPHS



Fig. T17
2 Terminal Connector

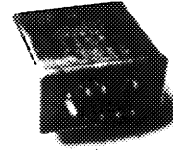


Fig. T21
Seatbelt and Door Relay and Buzzer



Fig. T19
2 Terminal Connector
(mates to component: e.g. Cruise Control)



Fig. T22
Time Delay Relay for Sedan Dome Light



Fig. T20
Hazard Switch and Flasher Unit

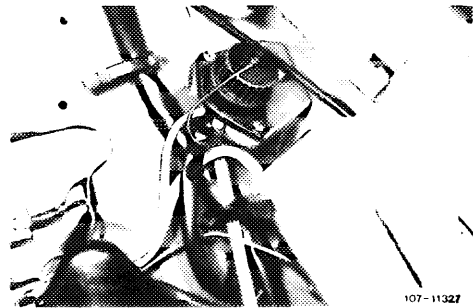


Fig. T23
Diagnostic Plug

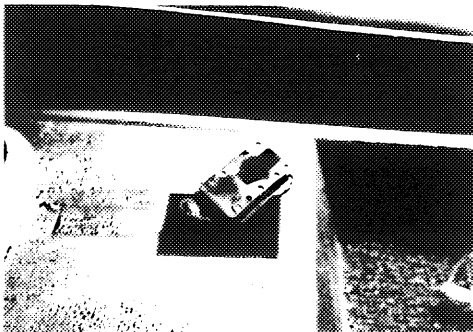


Fig. T20a
Female of Hazard/Flasher Unit

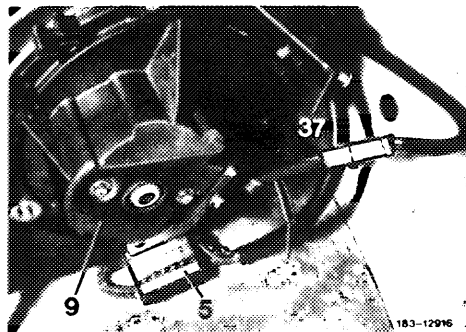


Fig. T24
5 - C133

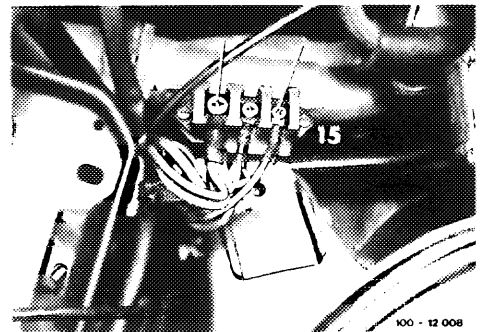


Fig. T25
15 - C105