

VOLVO

Service Manual

Fault tracing

Design

Repairs

Function

Maintenance

Section 3 (39)

Wiring Diagrams

760 1990

TP 31565/1

October 1989



Volvo Car North America

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Volvos are sold in versions adapted for different markets. These adaptations depend on many factors including legal, taxation and market requirements.

For those reasons, some wiring diagrams found in this manual may show electrical systems which do not apply to your market. The manual will also not show electrical systems for accessories which have been added to the car after it was imported into your market.

Unless otherwise noted, all systems apply to both saloon and estate models.

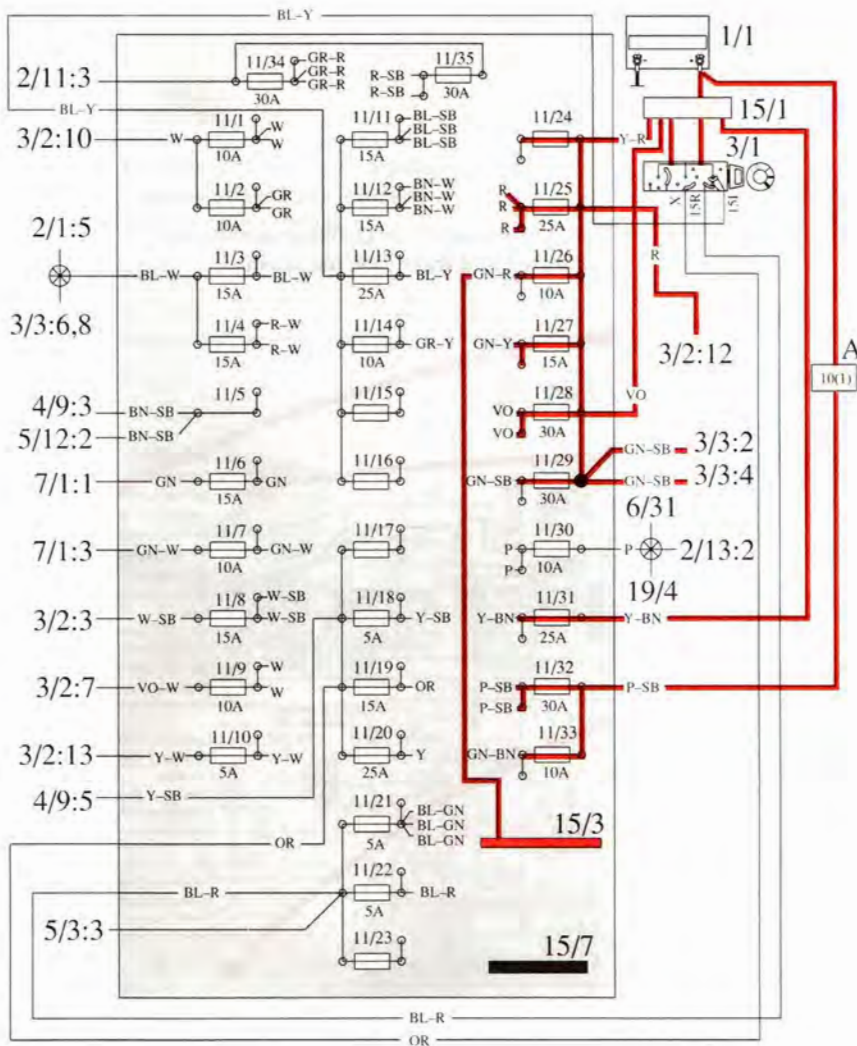
Details on how to use this manual are given on pages 2 and 3.

Order No. TP 31565/1

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We reserve the right to make alterations
without prior notification

Fuses



- 1/1 Battery
- 2/1 Headlight relay
- 2/11 Electric fan
- 2/13 Relay, Motronic, LH-jetronic
- 3/1 Ignition switch
- 3/2 Headlight switch
- 3/3 Dipped/main beam switch
- 4/9 Crash sensor SRS
- 5/3 3-pole connector for combined instrument panel
- 5/12 12-pole connector for combined instrument panel
- 6/31 Fuel pump
- 7/1 Bulb failure warning sensor, rear
- 11/1-35 Fuses
- 15/1 Positive terminal
- 15/3 30 strip in fusebox
- 15/7 Ground contact strip via door switch
- 19/4 Clock

A Connector, left A-post (Connector, right A-post, B280E/F)

Fuse No. Circuits

- 1 Left parking light
- 2 Right parking light
- 3 Left main beam
- 4 Right main beam
- 5 Test outlet - SRS
- 6 Left dipped beam
- 7 Right dipped beam
- 8 Foglight front
- 9 Foglight rear
- 10 Instrument and control panel lights
- 11 Back-up lights
- 12 Reduced dipped beam (DIM-DIP)
- 13 Heated rear window

Fuse No. Circuits

- 14 15 strip in main relay console
- 15 Spare
- 16 Spare
- 17 Spare
- 18 Radio
- 19 Climate control, ECC
- 20 Horn
- 21 Windscreen wipers
- 22 Glow plug controls, diesel
- 23 Spare
- 24 Spare
- 25 Hazard lights

Fuse No. Circuit

- 26 30 strip in fusebox
- 27 Brake lights
- 28 Heater fan, ECC
- 29 Power antenna
- 30 Tank pump
- 31 Fuel injection
- 32 Radio amplifier
- 33 Radio
- 34 Power windows
- 35 Heated seats

How to use the diagrams

First look in the index for the electrical component you want information on.

Let's assume you want to look at the Central Locking system. According to the index, you should turn to page 100.

The component number in bracket refers to the component list at the back of the manual

Here you can see how the components are connected and their internal wiring.

Component names

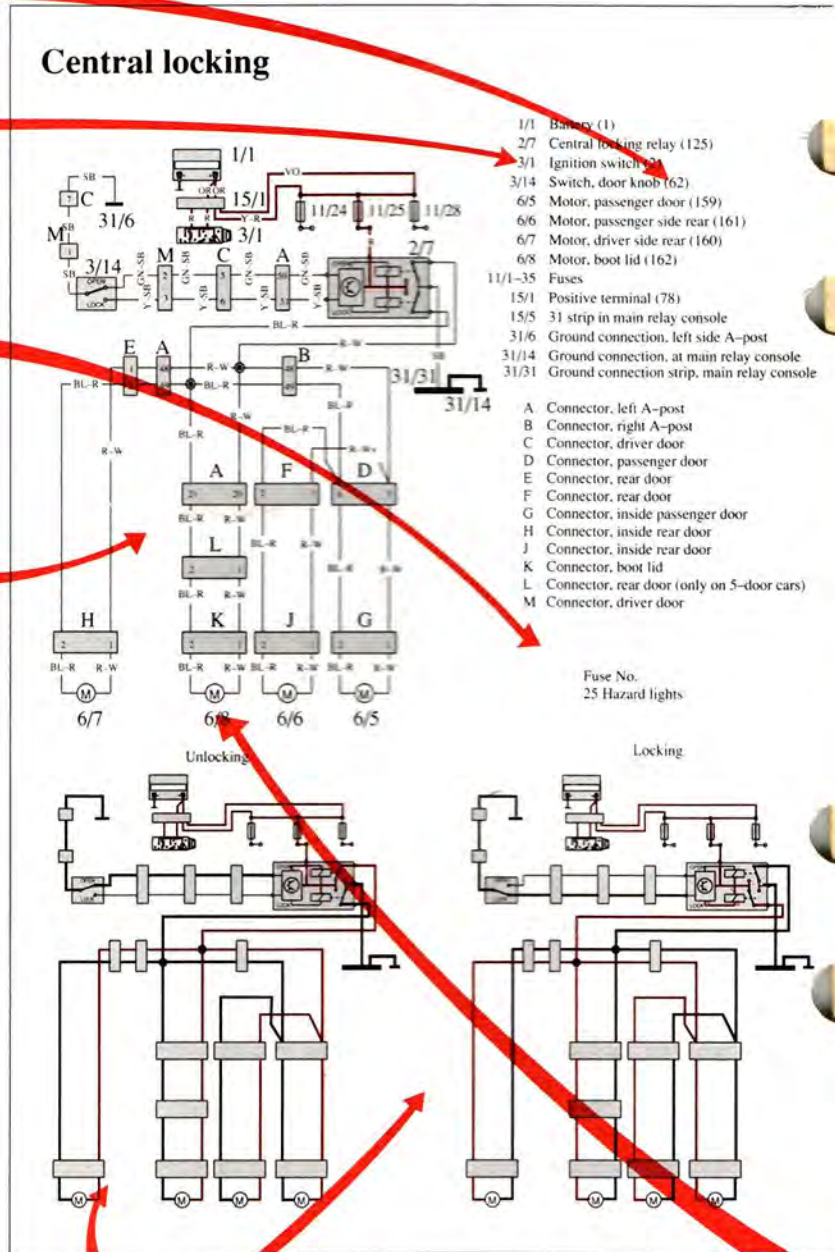
Fuse numbers and the component they protect. Also indicated are other systems which can be used to check if the fuse has blown.

Colour codes

SB = Black BN = Brown GN = Green
 GR = Grey Y = Yellow OR = Orange
 W = White P = Pink VO = Violet
 R = Red BL = Blue CU = Copper

BL-R means Blue-Red

Central locking



- 1/1 Battery (1)
- 2/7 Central locking relay (125)
- 3/1 Ignition switch (22)
- 3/14 Switch, door knob (62)
- 6/5 Motor, passenger door (159)
- 6/6 Motor, passenger side rear (161)
- 6/7 Motor, driver side rear (160)
- 6/8 Motor, boot lid (162)
- 11/1-35 Fuses
- 15/1 Positive terminal (78)
- 15/5 31 strip in main relay console
- 31/6 Ground connection, left side A-post
- 31/14 Ground connection, at main relay console
- 31/31 Ground connection strip, main relay console

- A Connector, left A-post
- B Connector, right A-post
- C Connector, driver door
- D Connector, passenger door
- E Connector, rear door
- F Connector, rear door
- G Connector, inside passenger door
- H Connector, inside rear door
- J Connector, inside rear door
- K Connector, boot lid
- L Connector, rear door (only on 5-door cars)
- M Connector, driver door

Fuse No.
25 Hazard lights

Here you can see the current flow and voltage when component is switched on.

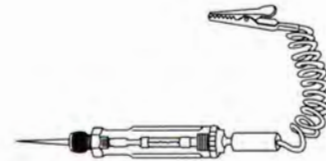
Colour code for diagrams

- = no voltage
- = ground
- = system voltage potential
- = current less than system voltage

How to use the diagrams

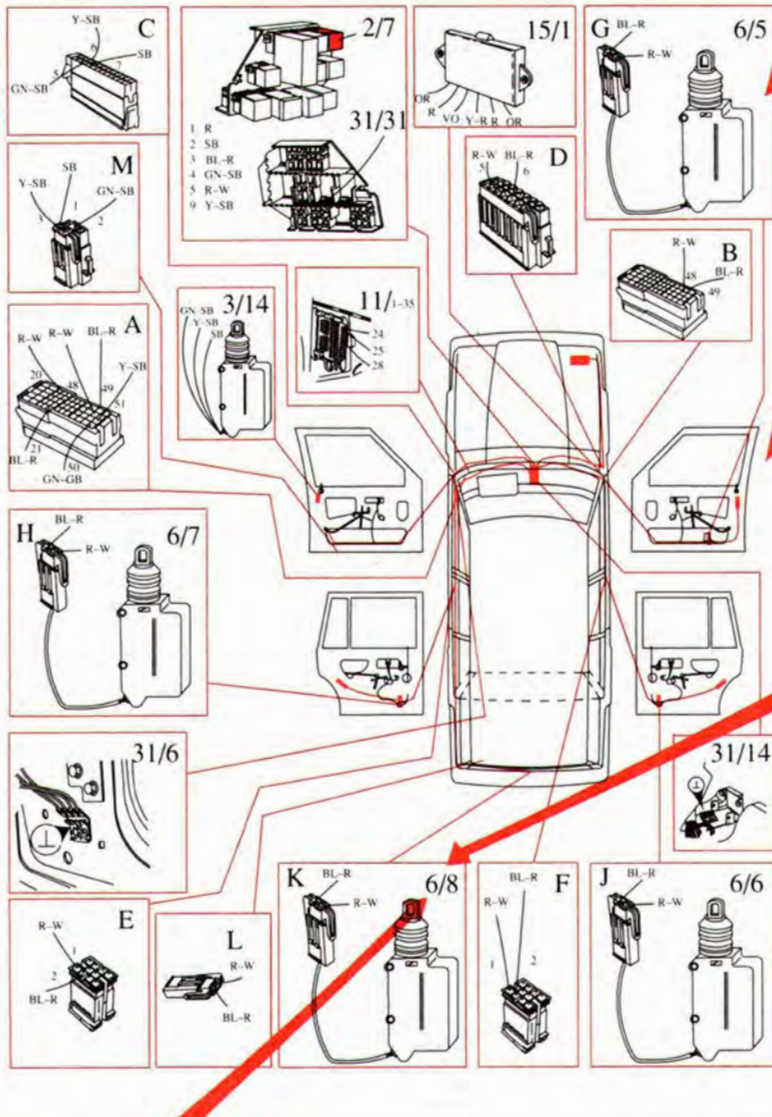
Trouble shooting

Use a circuit tester with a pointed probe so you can pierce the insulation when checking wiring.



Circuit tester

Central locking



Here you can see how the different leads are connected to the component.

You can also see the location in the car of the main components and how the wiring is laid out.

The component ID is made up of a type number and a component number.

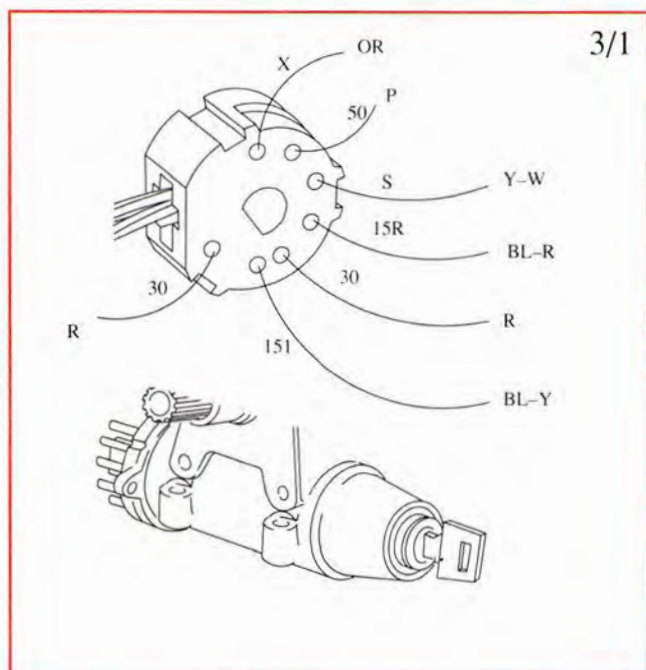
The type number (in this case 6) indicates the type of component, such as switch, electric motor or sensor, according to the list below. The component number (8) identifies the specific item in question, such as light switch, central locking motor for the boot lid or the fuel sensor.

Type numbers

- 1 Battery
- 2 Relay
- 3 Switch
- 4 Control unit
- 5 Combined instrument
- 6 Electric motor
- 7 Sensor
- 8 Positioner (actuator)
- 9 Heater
- 10 Lamp
- 11 Fuse
- 15 Distribution strip, current supply
- 16 Audio
- 17 Service outlet
- 19 Gauge
- 20 Sound source
- 21 Ignition component
- 31 Ground connection
- 31/31 Ground in relay console

Using the component ID makes it easy to go from the component illustration to the diagram itself.

Ignition switch and relays



Ignition switch

Inputs

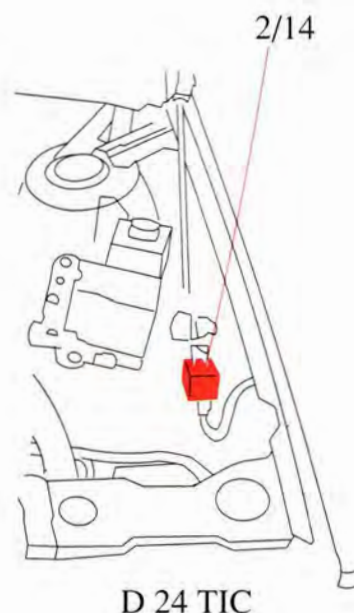
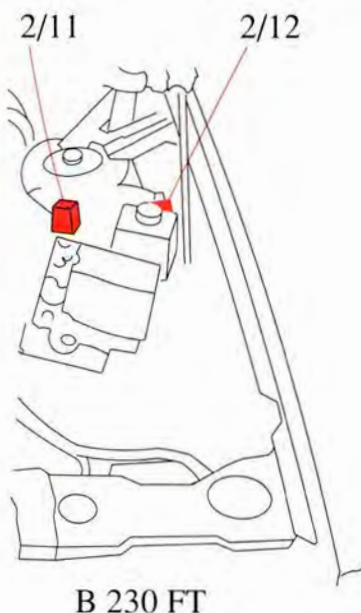
30: Two leads from battery positive terminal post

Outputs

Key position Voltage at connection

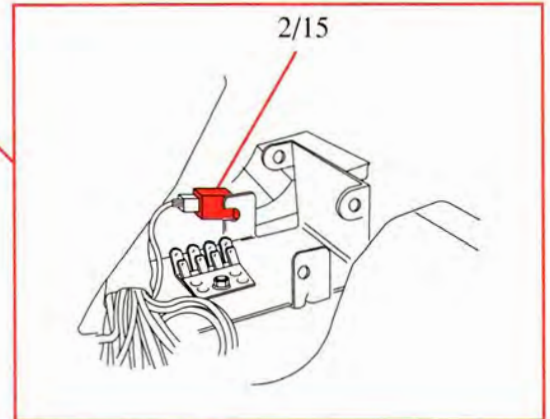
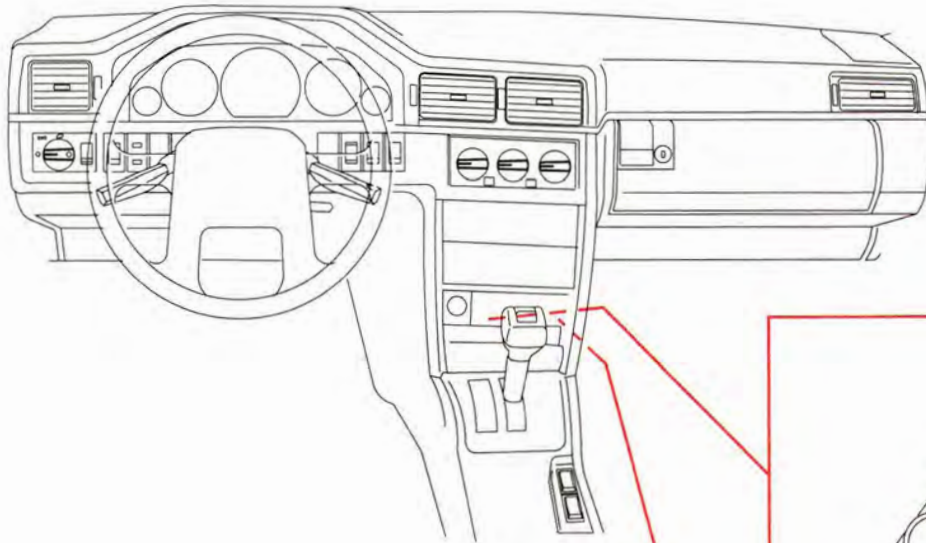
Key position	Voltage at connection
O Off	S
I Radio	X,S
II Drive	X,15R,151,S
III Start	15R,50,S

Location of relays in engine compartment



- 2/11 Electric fan relay
- 2/12 Radio interference suppression relay
- 2/14 Glow plug relay

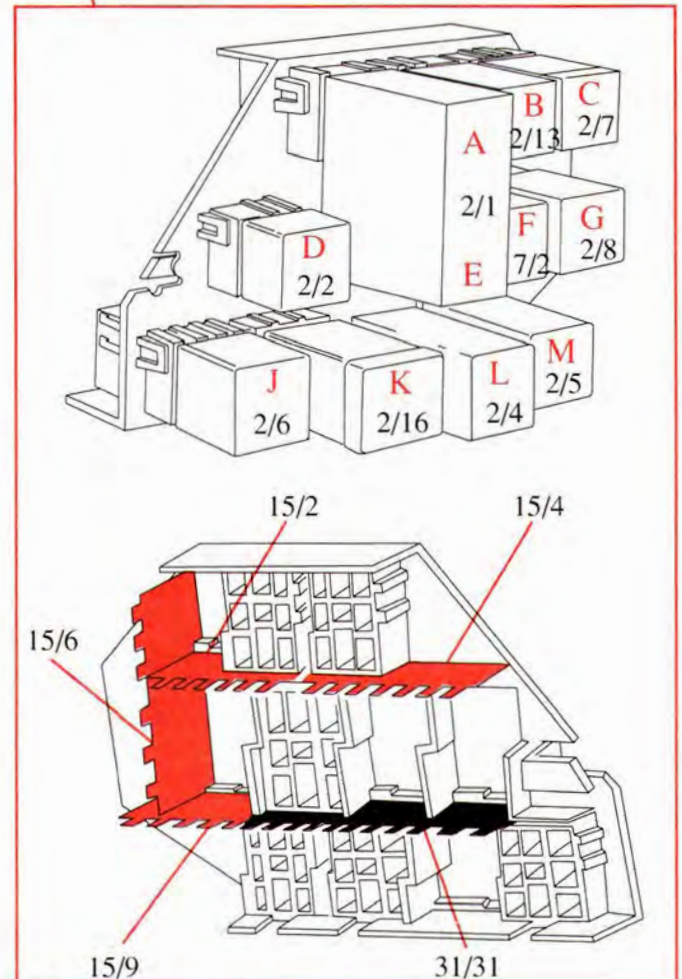
Main relay console



2/15 Temperature sensor (Japan)

Placement on relay console

- A and E Headlight relay (2/1)
- B Relay, Motronic, LH-jetronic (2/13)
- C Relay, central locking system (2/7)
- D Foglight relay (2/2)
- F Bulb failure warning sensor, front (7/2)
- G Overdrive relay (2/8)
- J Power relay 15I (2/6)
- K Intermittent relay, rear wiper (2/16)
- L Intermittent relay, windscreen wiper (2/4)
- M Seat belt reminder (2/5)



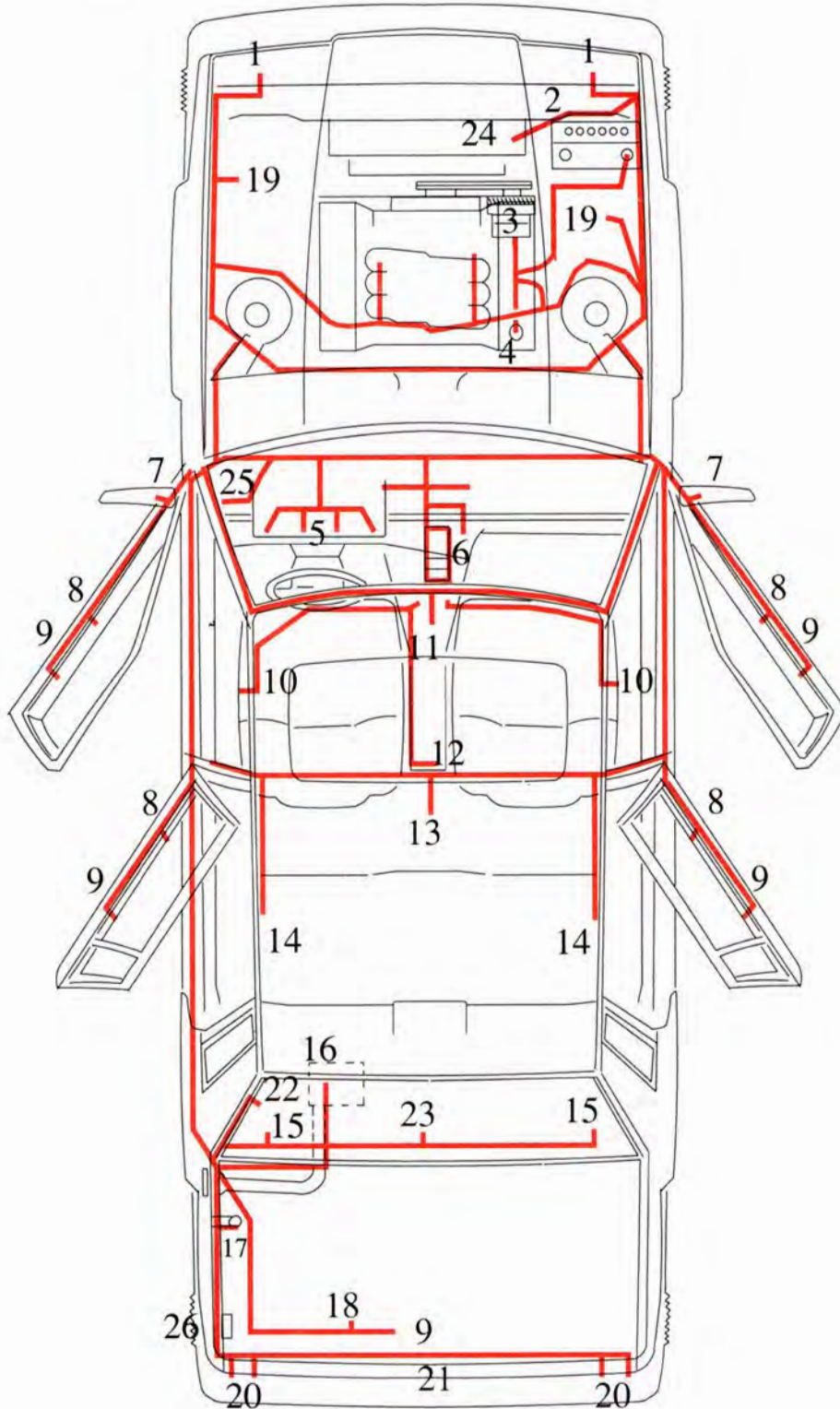
Distribution strips on main relay console

- 15/2 30 strip (6-pole)
- 15/4 15I strip (7-pole)
- 15/6 Fused 30 strip (6-pole)
- 15/9 X strip (5-pole)
- 31/31 Ground connection strip (11-pole)

Cable harnesses

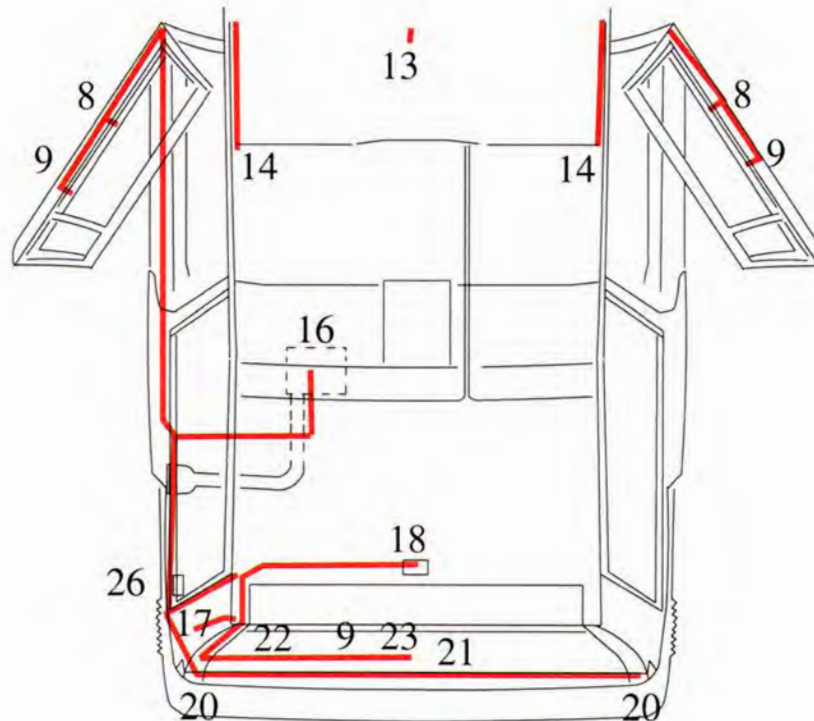
Cable routing

The routing of the main cable harnesses is shown in the illustration.

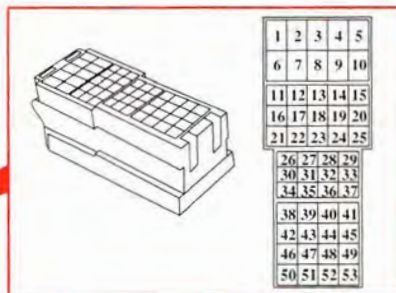
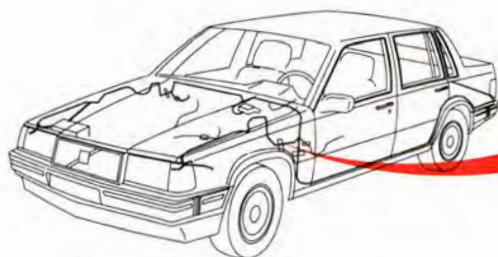


Cable harnesses

- | | | | |
|----|----------------------------|----|-----------------------------------|
| 1 | Front headlights | 13 | Interior lights |
| 2 | Battery | 14 | Reading lamp |
| 3 | Alternator | 15 | Loudspeaker |
| 4 | Starter motor | 16 | Fuel level sensor |
| 5 | Combined instrument panel | 17 | Power antenna |
| 6 | Central relay console | 18 | Boot lighting |
| 7 | Power door mirrors | 19 | ABS control unit |
| 8 | Power windows | 20 | Tail lights |
| 9 | Central locking motor | 21 | Number plate lighting |
| 10 | Control panel, power seats | 22 | Heated rear window |
| 11 | Motor, power sunroof | 23 | High level brake light |
| 12 | Ashtray lighting | 24 | Electric fan, radiator |
| | | 25 | Fusebox |
| | | 26 | Bulb failure warning sensor, rear |



Connector, left A-post (wheel house harness)



Code:
 = same as column to the left
 - not used
 * double connection
 ** junction

	B280E/F	B230FT	D24TIC
1	Starter motor 50 (BL-GN)	=	=
2	** Headlight, left (BL-W)	=	=
3	** Dipped light, rear (GN) ** Beam control (BN-GN)	=	=
4	** Windscreen wiper motor, pos 1 (Y) ** Horn ** Headlight wiper motor (not USA/CAN)	=	=
5	Windscreen wiper motor, pos 2 (BN)	=	=
6	Windscreen wiper motor, pos 3 (GN-SB)	=	=
7	-	Radio interf. suppr. relay, pos 2 (BL-Y)	-
8	Foglight, auxiliary main beams (W-SB)	=	=
9	Windscreen wiper motor, pos 4 (BL)	=	=
10	-	Battery + (Y-BN)	-
11	-	-	-
12	Direction indicator, left (GN)	=	=
13	Parking light, left (W)	=	=
14	-	-	-
15	Control unit EZK, pos 17 (Y-GR)	Control unit EZK, pos 17 (Y-GR)	-
16	Control unit EZK, pos 8 (Y)	Control unit EZK, pos 8 (Y)	-
17	** Washer motor (BL-R) ** Headlight wiper motor	=	=
18	Brake fluid level warning (GR-W)	=	=
19	Coolant temperature sensor + (Y-W)	=	=
20	Oil pressure sensor (SB)	=	=
21	* Alternator D+ (R) * Control unit, ABS, pos 15 (P)	=	=
22	Engine compartment lights (GN-R)	=	=
23	Service outlet 50 (P)	=	=
24	-	** Electric fan, radiator, relay (Y-R) ** Electric fan, (radiator) thermostat	-
25	-	Control unit EZK, pos 15 (R-SB)	-
26	* Control unit EZK, pos 6 (BL) * Power stage EZK, pos 4 (BL)	** Control unit EZK, pos 6 (BL) ** Electric fan, (radiator), relay ** Power stage EZK, pos 4	-
27	Horn - (BN-SB)	=	=
28	Beam control (GR)	=	=
29	Washer liquid level sensor (BL-W)	=	=
30	Coolant temperature sensor - (BN)	=	=
31	Rear washer pump (BL-Y)	=	=
32	-	-	AC-compressor (GN-Y)
33	-	-	Turbo pressure sensor (Y-R)
34	Ignition coil 1 (R-W)	=	Alternator W+ (R-W)
35	-	-	* Glow plug relay (BL-GN) ** Fuel valve (BL) ** Overload protection solenoid (BL)
36	-	-	-
37	-	-	Glow plug relay (OR)
38	* Hydraulic unit ABS, pos 7 (GN) * Control unit ABS, pos 29	=	=
39	Control unit ABS, pos 25 (Y-BN)	=	=
40	Transient surge protector ABS, pos 4 (BL-R)	=	=
41	-	=	=
42	Control unit ABS, pos 7 (GN-W)	=	=
43	Control unit ABS, pos 9 (BN-W)	=	=
44	Control unit, cruise control, pos 3 1) (W-SB)	=	=
45	Control unit, cruise control, pos 1 1) (BL-SB)	=	=
46	Control unit, cruise control, pos 2 1) (BL)	=	=
47	Control unit, cruise control, pos 6 1) (W)	=	=
48	Control unit, cruise control, pos 9 1) (Y-R)	=	=
49	Control unit, cruise control, pos 5 1) (Y)	=	=
50	Ground connection (Y-SB)	=	=
51	-	Control unit EZK, pos 3 (BL-P)	-
52	-	Control unit EZK, pos 5 (Y-BN)	-
53	-	Test socket, pos 2 (GN-GR)	-

1) USA/CAN