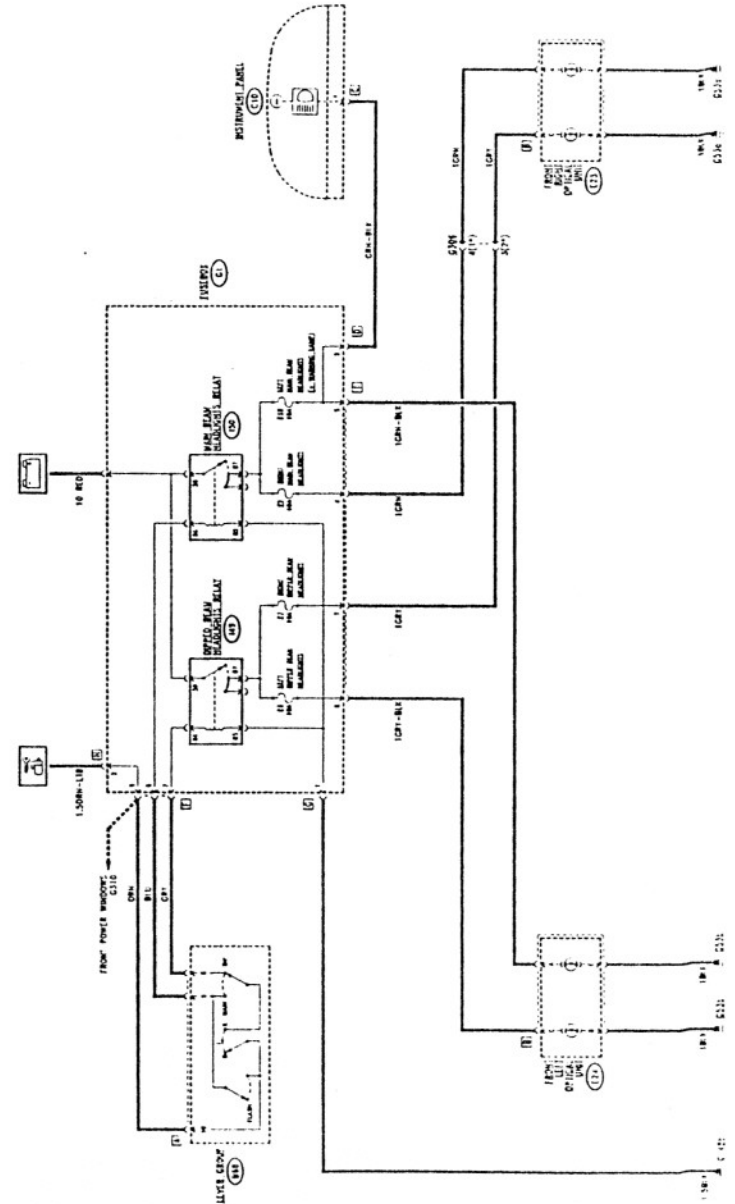


MAIN AND DIPPED BEAM HEADLIGHTS

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WIRING DIAGRAM



GENERAL DESCRIPTION

The vehicle is equipped with two lamps for the dipped beam and two for main-beam.

Dipped beam is selected by rotating the switch located on the lever group one position on from the sidelights position. From this position the main-beam can be permanently selected by acting on the main/dipped beam switch; lightly pulling the lever activates the mainbeam "flashing" function which will continue to flash for as long as the lever is pulled.

A warning lamp on the dashboard signals the selection of the main-beam.

For safety reasons each light is protected by two fuses, one for the right-hand lamp and the other for the left.

NOTE: some versions are equipped with an electrically operated device which regulates the alignment of the headlights (see "Adjusting headlight alignment") however a manual device permits a rapid and simple adjustment of the beam to the loading conditions of the vehicle.

FUNCTIONAL DESCRIPTION

The circuit of the dipped beam headlights is activated by relay 149 located in fusebox G1.

Moving the lever group switch B68 to position II - one position on from the sidelights position - and with the switch at the dipped beam position, the coil of relay 149 is "turn key" supplied closing the circuit supplying the lamps E24 (left)

and E23 (right). Each circuit is protected by a fuse in box G1: F7 (10A) for the right-hand lamp and F10 (10A) for the left.

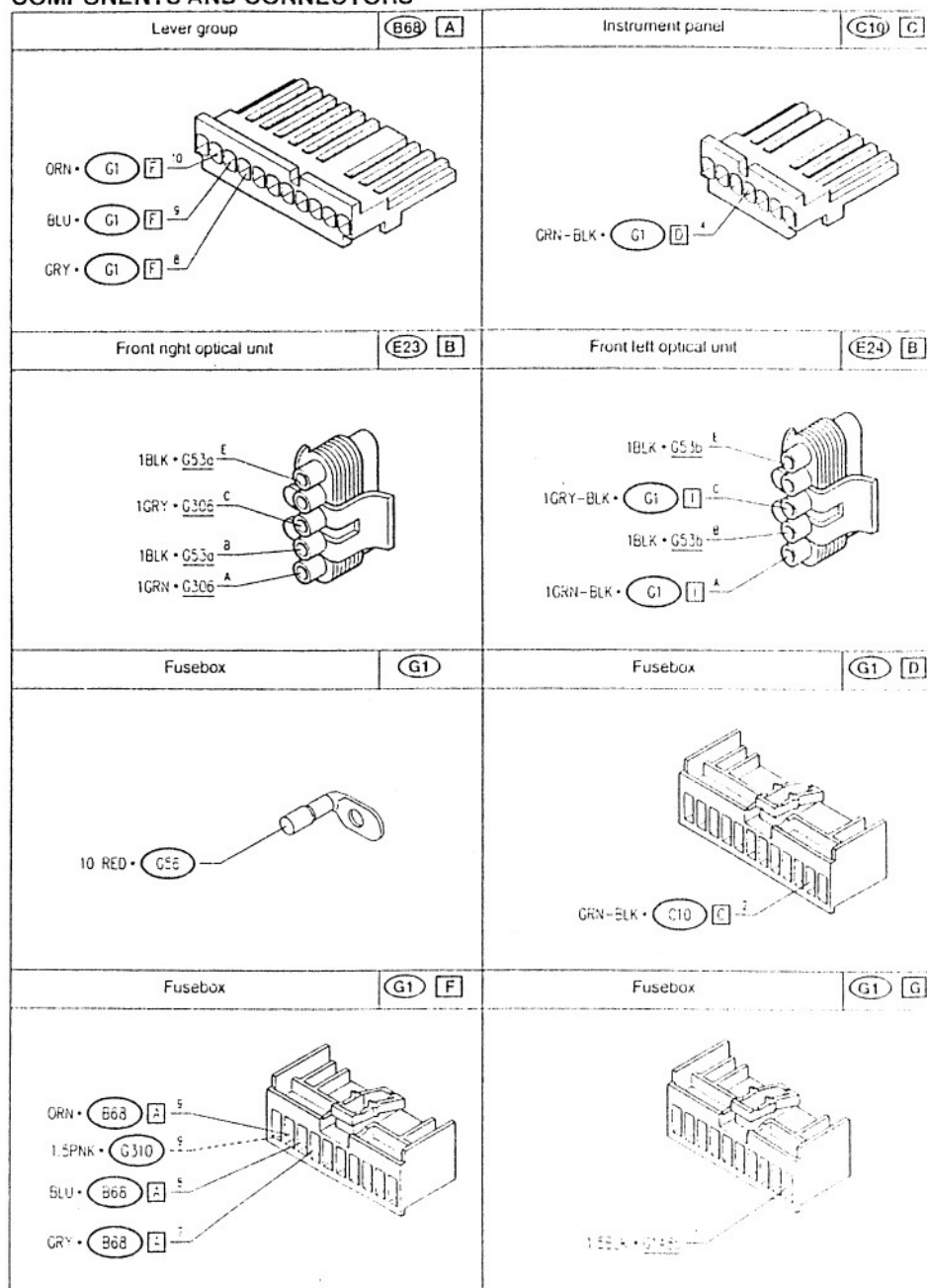
The main-beam circuit is activated by relay 150 located in fusebox G1. Moving the switch to the main-beam position, with the switch on the lever group B68 to position II, or by closing the "flashing" contact, the coil of relay 150 is "turn key" supplied and closes the circuit which supplies the lamps E24 (left) and E23 (right). Each circuit is protected by a fuse in fusebox G1: F9 (10A) for the right-hand lamp and F10 (10A) for the left.

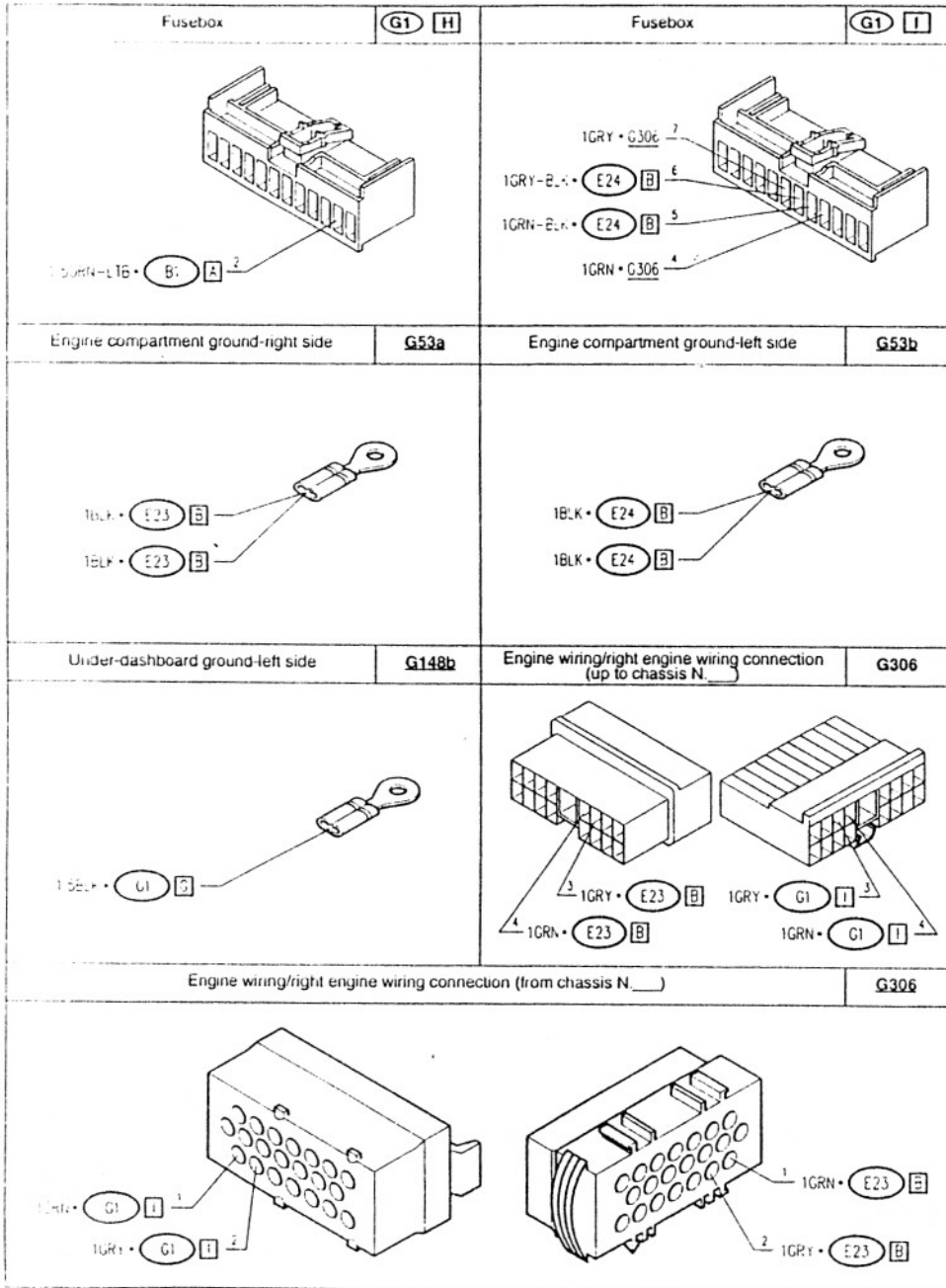
The supply line of the left lamp also sends a signal to the instrument panel C10 which illuminates the "main-beam on" warning lamp.

TROUBLESHOOTING TABLE

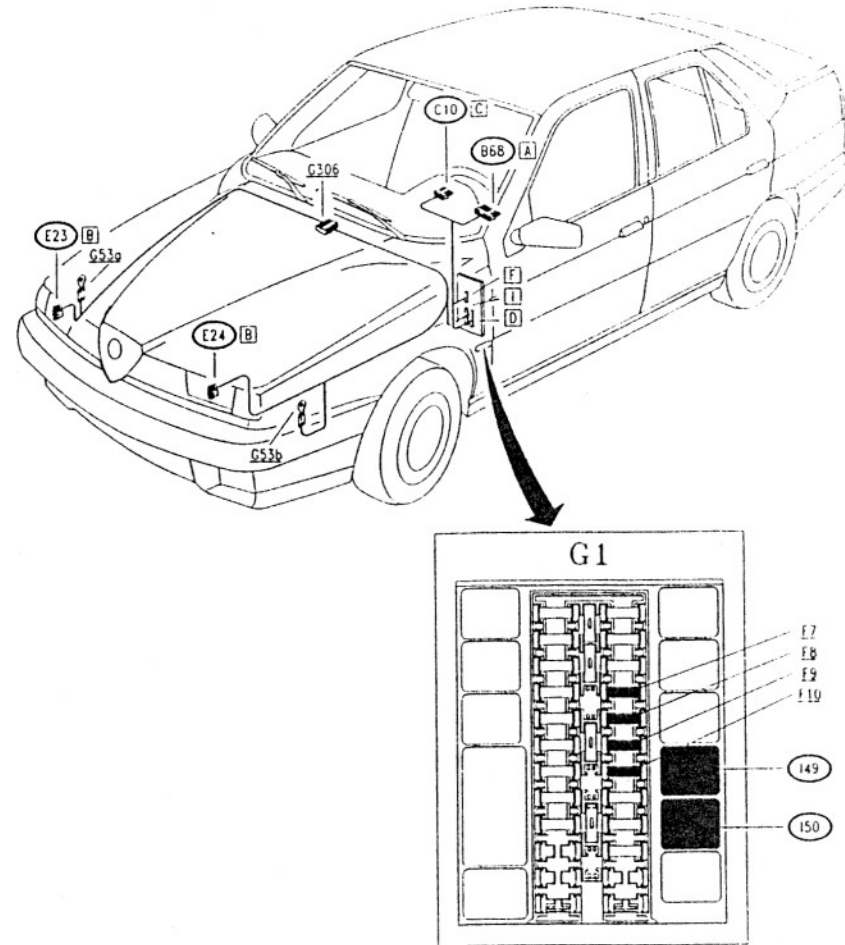
Malfunction	Component										Test	
	(149)	(150)	FZ	F8	F9	F10	(B68)	(E23)	(E24)	(C10)		
Both dipped beam lamps	•						•					A
RH dipped beam lamp			•					•				B
LH dipped beam lamp				•					•			C
Both main beam lamps		•					•					D
RH main beam lamp					•			•				E
LH main beam lamp						•			•			F
Main beam warning lamp										•		G

COMPONENTS AND CONNECTORS





LOCATION OF COMPONENTS



TROUBLESHOOTING

NEITHER OF DIPPED BEAM LAMPS WORKING TEST A

TEST PROCEDURE	RESULT	CORRECTIVE ACTION
A1 CHECK RELAY - Check correct functioning of dipped beam relay I49, located in G1	(OK) ▶ (X) ▶	Carry out step A2 Replace relay I49
A2 CHECK VOLTAGE - Rotate the ignition key and verify 12V at pin A10 of lever group B68	(OK) ▶ (X) ▶	Carry out step A3 Restore wiring between pin F9 of G1 and pin A10 of lever group B68 (ORN)
A3 CHECK LEVER GROUP - Check correct functioning of lever group: • with dipped beam selected, verify continuity between pin A8 and pin A10 of lever group B68	(OK) ▶ (X) ▶	Carry out step A4 Replace lever group B68, left part
A4 CHECK VOLTAGE - With key rotated and dipped beam selected, verify 12V at pin F7 of G1	(OK) ▶ (X) ▶	Carry out tests B and C Restore wiring between pin F7 of G1 and pin A8 of lever group B68 (GRY)

RIGHT-HAND DIPPED BEAM LAMP NOT WORKING TEST B

TEST PROCEDURE	RESULT	CORRECTIVE ACTION
B1 CHECK FUSE - Check for damage of fuse F7 in fusebox G1	(OK) ▶ (X) ▶	Carry out step B2 Replace fuse (10A)
B2 CHECK VOLTAGE - With key rotated and lights on, verify 12V between pin BC and BB of right-hand headlight assembly E23	(OK) ▶ (X) ▶	Carry out step B3 Carry out step B4
B3 CHECK BULB - Check for damage of right hand dipped beam lamp, located in headlight assembly E23	(OK) ▶ (X) ▶	Check and if necessary replace the entire headlight assembly E23 Replace bulb
B4 CHECK VOLTAGE - With ignition key rotated and lights on, verify 12V at pin BC of headlight assembly E23	(OK) ▶ (X) ▶	Restore wiring between pin BB of E23 and ground G53a (BLK) Restore wiring between pin I7 of G1 and pin 3(2*) of G306, and between pin 3(2*) of G306 and pin BC of E23 (GRY)

From chassis N

LEFT-HAND DIPPED BEAM LAMP NOT WORKING TEST C

TEST PROCEDURE	RESULT	CORRECTIVE ACTION
C1 CHECK FUSE - Check for damage of fuse F8 in fusebox G1	(OK) ▶ (X) ▶	Carry out step C2 Replace fuse (10A)
C2 CHECK VOLTAGE - With ignition key rotated and lights on, verify 12V between pin BC and BB of left-hand headlight assembly E24	(OK) ▶ (X) ▶	Carry out step C3 Carry out step C4
C3 CHECK BULB - Check for damage of left-hand dipped beam lamp, located in headlight assembly E24	(OK) ▶ (X) ▶	Check and if necessary replace the entire headlight assembly E24 Replace bulb
C4 CHECK VOLTAGE - With ignition key rotated and lights on, verify 12V at pin BC of headlight assembly E24	(OK) ▶ (X) ▶	Restore wiring between pin BB of E24 and ground G53b (BLK) Restore wiring between pin I6 of G1 and pin BC of E24 (GRY-BLK)

NONE OF THE MAIN-BEAM LAMPS WORKING TEST D

TEST PROCEDURE	RESULT	CORRECTIVE ACTION
D1 CHECK RELAY - Check correct functioning of main-beam relay I50 located in G1	(OK) ▶ (X) ▶	Carry out step D2 Replace relay I50
D2 CHECK VOLTAGE - Rotate the ignition key and verify 12V at pin A10 of lever group B68	(OK) ▶ (X) ▶	Carry out step D3 Restore wiring between pin F9 of G1 and pin A10 of lever group B68 (ORN)
D3 CHECK LEVER GROUP - Check correct functioning of lever group: • with main-beam selected or operating the "flashing" device, check continuity between pin A9 and pin A10 of lever group B68	(OK) ▶ (X) ▶	Carry out step D4 Replace lever group B68, left part
D4 CHECK VOLTAGE - With ignition key rotated and main-beam selected, verify 12V at pin F8 of G1	(OK) ▶ (X) ▶	Carry out tests E and F Restore wiring between pin F8 of G1 and pin A9 of lever group B68 (BLU)

RIGHT-HAND MAIN-BEAM LAMP NOT WORKING		TEST E	
TEST PROCEDURE	RESULT	CORRECTIVE ACTION	
E1 CHECK FUSE - Check for damage of fuse F9 in fusebox G1	(OK) ▶ (OK) ▶	Carry out step E2 Replace fuse (10A)	
E2 CHECK VOLTAGE - With ignition key rotated and lights on, verify 12V between pin BA and BE of right-hand headlight assembly E23	(OK) ▶ (OK) ▶	Carry out step E3 Carry out step E4	
E3 CHECK BULB - Check for damage of right-hand main-beam bulb, located in headlight assembly E23	(OK) ▶ (OK) ▶	Check and if necessary replace the complete headlight assembly E23 Replace the bulb	
E4 CHECK VOLTAGE - With ignition key rotated and lights on, verify 12V at pin BA of headlight assembly E23	(OK) ▶ (OK) ▶	Restore wiring between pin BE of E23 and ground G53a (BLK) Restore wiring between pin I4 of G1 and pin 4(1*) of G306, and between pin 4(1*) of G306 and pin BA of E23 (GRN)	

(*) from chassis N _____

LEFT-HAND MAIN-BEAM LAMP NOT WORKING		TEST F	
TEST PROCEDURE	RESULT	CORRECTIVE ACTION	
F1 CHECK FUSE - Check for damage of fuse F10 in fusebox G1	(OK) ▶ (OK) ▶	Carry out step F2 Replace fuse (10A)	
F2 CHECK VOLTAGE - With ignition key rotated and lights on, verify 12V between pin BA and BE of left-hand headlight assembly E24	(OK) ▶ (OK) ▶	Carry out step F3 Carry out step F4	
F3 CHECK BULB - Check for damage of left-hand main-beam bulb, located in the headlight assembly E24	(OK) ▶ (OK) ▶	Check and if necessary replace the complete headlight assembly E24 Replace the bulb	
F4 CHECK VOLTAGE - With ignition key rotated and lights on, verify 12V at pin BA of headlight assembly E24	(OK) ▶ (OK) ▶	Restore wiring between pin BE of E24 and ground G53b (BLK) Restore wiring between pin I5 of G1 and pin BA of E24 (GRN-BLK)	

HEADLIGHTS WARNING LAMP ON INSTRUMENT PANEL NOT WORKING		TEST G	
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NOTA: the dipped beam headlights however are functioning correctly

TEST PROCEDURE	RESULT	CORRECTIVE ACTION	
G1 CHECK VOLTAGE - With ignition key rotated and main-beam selected, verify 12V at pin C4 of instrument panel C10	(OK) ▶ (OK) ▶	Carry out step G2 Restore wiring between pin D2 of G1 and pin C4 of C10 (GRN-BLK)	
G2 CHECK WARNING LIGHT BULB - Check for damage of main-beam warning lamp, located in the instrument panel C10	(OK) ▶ (OK) ▶	Check and if necessary replace the complete instrument panel C10 Replace the warning lamp	