Section M10

Electrically operated front seats

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T.S.D. 4200

Section M10

Electrically operated front seats

Description

An electric motor drives a worm shaft via a worm and wheel gear. Roll pins are fitted to the worm shaft to divide the shaft into three lengths. Three solenoid operated clutches are also fitted onto the shaft, one for each length.

The rear clutch provides the fore and aft movement of the seat mechanism, the centre clutch provides up and down movement at the rear of the seat and the front clutch provides up and down movement at the front of the seat.

Fuses 10 and 11 protect the electric motors (one for each seat) and fuse 21 protects the seat switch and solenoid operated clutches.

Note

Fuse 21 also protects the windscreen wiper circuit therefore if the fuse 'blows', the wiper circuit should be isolated to determine which circuit is faulty.

Electrically operated seat mechanism

To remove and dismantle (see Fig. M86)

1. Remove the seat from the car as described in Chapter S.
2. Remove the setscrews securing the clutches to the seat actuating levers.
3. Remove the screw securing the motor to the motor support strut.
4. Remove the split pin and washer retaining the motor gear housing to the pivot; withdraw the assembly from the pivot.
5. Unscrew and remove the setscrews securing the motor to the gear housing then separate the two units.
6. Remove the first 4 roll pins from the actuating screw (counting from the front of the seat).
7. Rotate each clutch nut anti-clockwise (viewed from the front of the seats) and remove the three clutch assemblies from the actuating screw. Note the position of each clutch assembly on the actuating screw to ensure correct assembly.
8. Remove the setscrews securing the cover plate to the gear housing.
9. Withdraw the actuating screw together with the bearing and gear assembly.
10. Using a punch, tap out the pin securing the worm gear to the actuating screw.
11. Using either a press or 'claw' type extractor, remove the gear and bearing from the shaft.
12. Remove the spacer, thrush washer and small worm shaft from the gear housing.

Seat mechanism - To inspect

1. Examine the links and link pins for wear and fracture; worn pins will cause the mechanism to rattle.
2. Peel back the rubber covering surrounding the motor and examine the general condition of the brush gear and commutator. If these components are in poor condition or if their serviceable life is limited, a service exchange motor should be fitted.

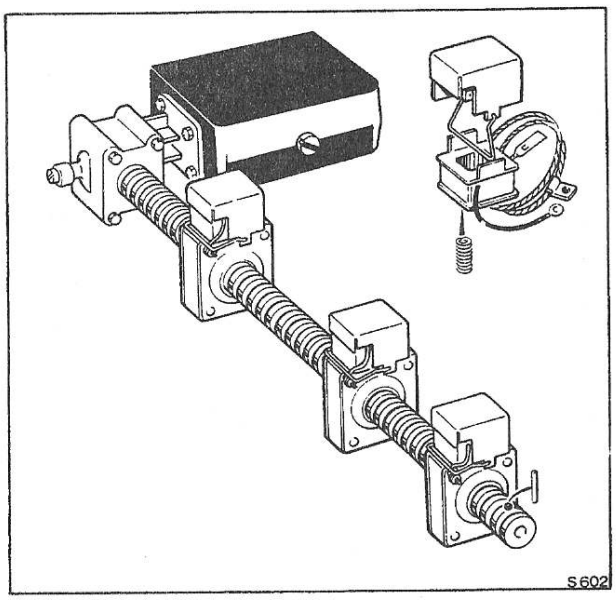

Fig. M86 Seat mechanism

3. If the general condition of the motor is satisfactory, the commutator and brushgear should be cleaned with a petrol-soaked cloth and any particles of carbon dust remaining should be blown away with dry compressed air; ensure that the spent air is directed away from the working parts of the motor.
4. If the surface of the commutator is lightly scored or blackened by embedded carbon, the brushes should be lifted away from the commutator and the commutator cleaned with a piece of fine glasspaper. **Do not use emery cloth or similar abrasive.**
5. Apply light pressure to the glass paper and rotate the armature until the surface of the commutator is thoroughly clean and free from score marks. Remove particles of dust and dirt using dry compressed air, ensure that the spent air is directed away from the working parts of the motor.
6. Verify that the carbon brushes are free in the holders.

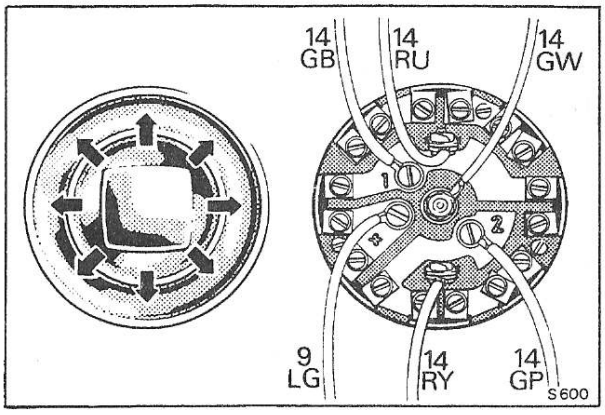

Fig. M87 Seat switch terminals

7. Fit the rubber covering.
8. Thoroughly wash the bearing in clean petrol or white spirit (not paraffin), then examine the bearing for signs of pitting, corrosion or cracking of the balls or tracks.
9. Examine the bearing bushes for signs of excessive wear and replace if necessary. Before removing worn bushes, note their position relative to their respective housing face to ensure correct assembly of the new bushes.
10. Examine the worm and wheel for worn or damaged teeth.

Seat mechanism - To assemble and fit
Reverse the procedure given for removal and dismantling, noting the following points:
1. The worm and wheel gear should have a backlash of between 0,08 mm. and 0,18 mm. (0.003 in. and 0.007 in.).
2. With the exception of the actuating screw all non-electrical working parts should be lubricated with 'Rocol' MT265 grease, the actuating screw should be lubricated with 'Moly tone' anti-scuffing paste.

Extreme care must be taken not to disturb the thermal cut-out, (bi metal blade, slightly concave, approximately 12 x 18 mm. (½ in. x ¾ in.) with a contact at the centre). **Do not** attempt to operate this switch by hand, any cold mechanical operation will alter the current/thermal switching characteristics.

Section M10

Electrically operated front seats
Fault diagnosis

Malfunction	Possible cause	Action
Both seat mechanisms inoperative (Fuse 21 blown)	Short circuit on 9 LG cable	Check fuse. If fuse has 'blown' disconnect the two main distribution loom plugs then replace fuse. If the fuse blows again the fault is in the Windscreen Wiper circuit. (Refer to Section M6). If the fuse remains intact disconnect the 9 LG cables at both seat switches then connect the two main distribution loom plugs observing the fuse after each connection. If the fuse 'blows', the seat loom is faulty. Check for loose connections at relays and seat switches.
	Short circuit on cables to seat motor clutches or relay windings	Disconnect the seat motor connections and check for short to earth on the 14 RU and 14 RY cables of seat switch and also the 14 GP, 14 GB and 14 GW cables.
One or more seat movement positions on seat switch inoperative	Faulty switch	Verify that voltage is available on the 9 LG cable (+) at seat switch. Refer to table 1 and test for voltage at the appropriate cable when operating the seat switch. If the necessary voltage is not present the switch is faulty.
	Faulty relay wiring or faulty relay	Check relay connections are secure. Refer to table 1 and test for voltage on the 14 RY and 14 RU cables at relay when operating the seat switch. Test for live feed at relay C2 when operating the relay.
	Faulty clutch	At clutch, check connections. Refer to table 1 and test for voltage at each clutch. If incorrect examine plug connections. Test for open circuit in clutch winding.
	Faulty seat motor	Refer to table 1 and test for voltage on the 28 Y and 28 UG cables at the seat motor connections. If voltage is available, the motor or motor cable is faulty. Verify that the 28 B cable to earth is secure or connect a temporary cable from the 28 B cable to a good earth.
	Short circuit to earth on 28 NR cable	Verify that fuse has blown then test each section of cable for short to earth including the squab locking switch and solenoid.

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Malfunction	Possible cause	Action
Seat mechanism sluggish	Motor mechanism obstructed	Inspect the mechanism and lubricate the screw shaft with 'Molytone' anti-scuffing paste.
	Motor torque low	Replace seat mechanism.
Squab locking inoperative	Short circuit to earth on 28 NR cable (Fuse 10 or 11 blown)	Test each section of cable including seat mechanism.
	Faulty connection to solenoid or switch	Examine connections and rectify if necessary.
	Faulty earth cable from solenoid	Connect a temporary cable between the solenoid and a good earth. Recheck system and fit a new earth cable if necessary.
Squab locking solenoid permanently energised	Faulty switch	One of the squab locking switches is permanently closed. Disconnect each 28 NP cable in turn to locate faulty switch.
Squab locking solenoid fails to function from one switch	Faulty switch connection	Check switch connections.
	Switch fails to operate correctly	Test for voltage on 28 NR cable. If voltage is present, operate switch and test for voltage on 28 NP cable.
		Replace switch if voltage is not present.

	Cable size and colour						
Switch position	14 RY	14 RU	14 GB	14 GW	14 GP	28 Y	28 UG
Up	●			●	●	●	
Down		●		●	●		●
Forward		●	●				●
Backward	●		●			●	
Back Up	●			●		●	
Back Down		●		●			●
Front Up	●				●	●	
Front Down		●			●		●

● Indicates voltage should be present

Table 1

Electrically operated front seats

Component location

Fig. M88

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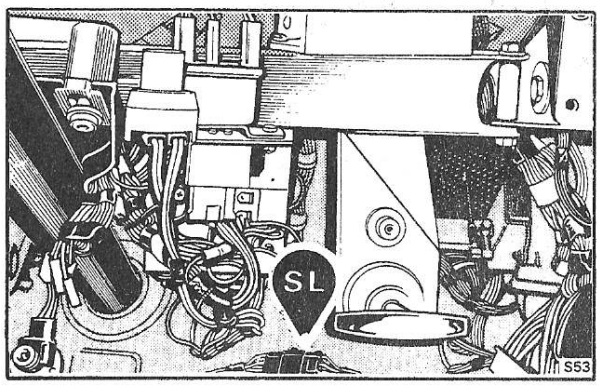
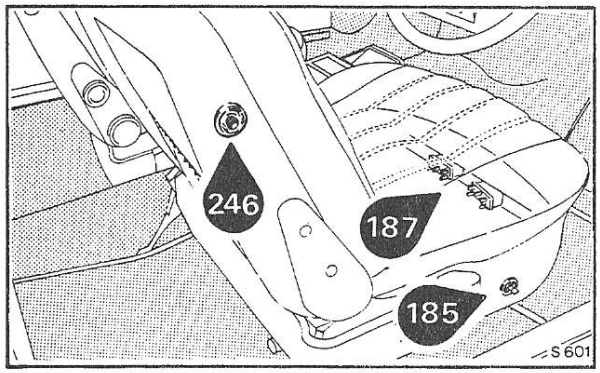
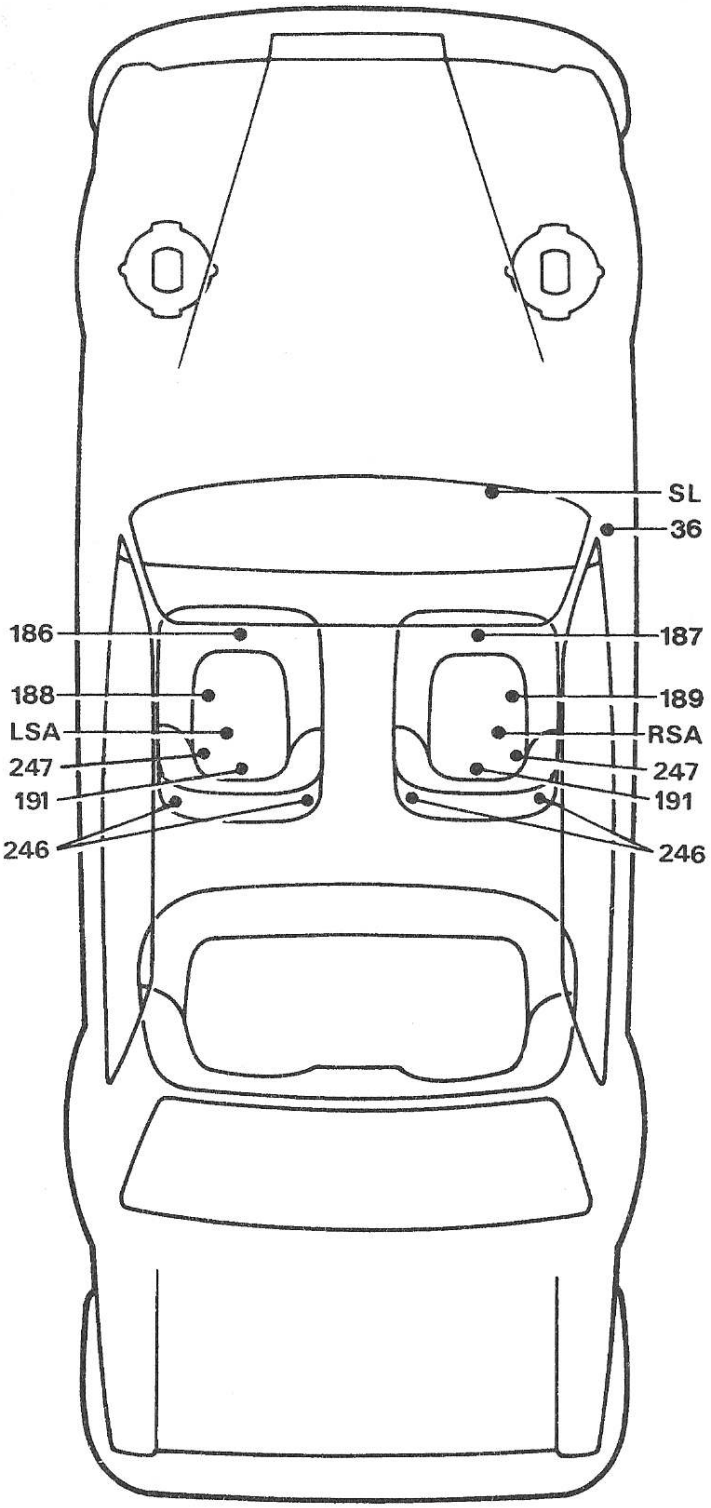






Components

17	Fuseboard
36	Right-hand 'A' post earth
184	Left-hand seat switch
185	Right-hand seat switch
186	Left-hand seat relays
187	Right-hand seat relays
188	Left-hand seat actuators
189	Right-hand seat actuators
190	Left-hand seat motor
191	Right-hand seat motor
246	Front seat backrest release buttons
247	Front seat backrest release solenoids
SL	Seat loom socket
RSA	RH seat actuator socket
LSA	LH seat actuator socket

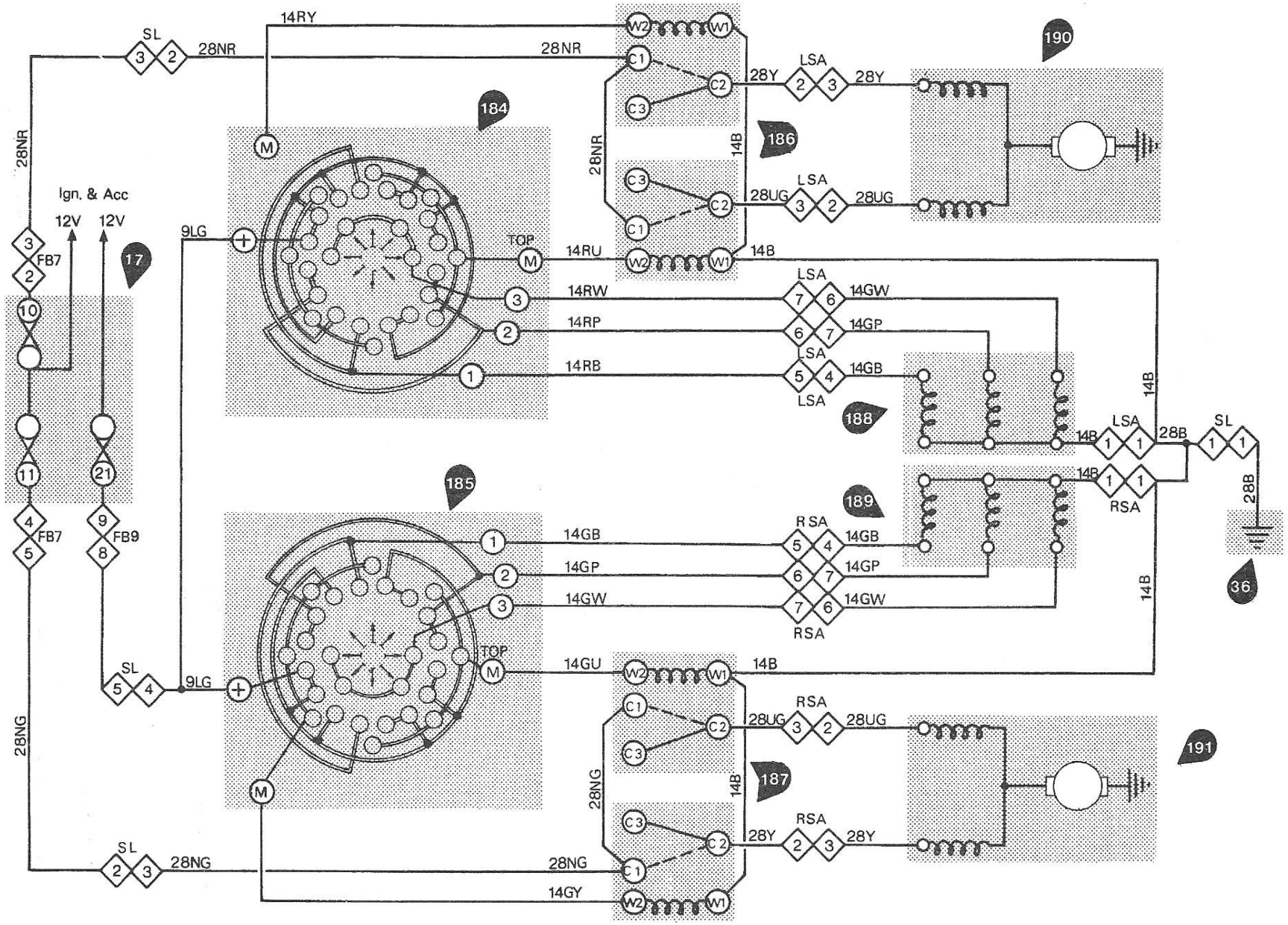
Electrically operated front seats

Schematic wiring diagram

Fig. M89

Sheet 1 of 2

Refer to Fig. M89 sheet 2 page M10 - 11 for the backrest release mechanism fitted to Corniche and Camargue cars.



Electrically operated front seats, backrest release mechanism

Schematic wiring diagram

Fig. M89

Sheet 2 of 2

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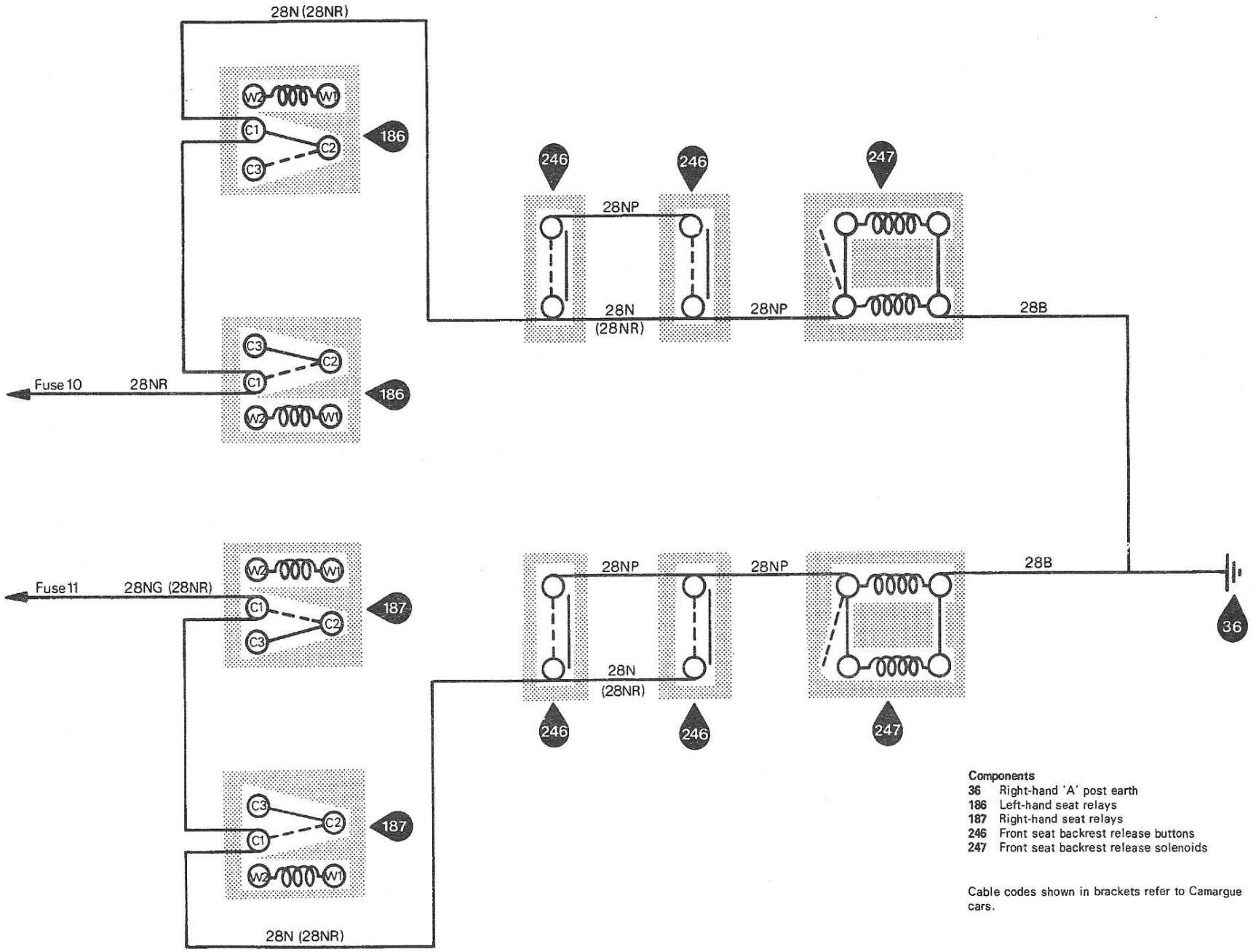

Components

36	Right-hand 'A' post earth
186	Left-hand seat relays
187	Right-hand seat relays
246	Front seat backrest release buttons
247	Front seat backrest release solenoids

Cable codes shown in brackets refer to Camargue cars.

Section M11

Electrically operated window lifts

Contents

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Section M11

Electrically operated window lifts

Window lift mechanism - To check

Remove the mechanism from the door as described in Chapter S - Body.

Disconnect the motor from the mechanism ensuring that the nylon body of the one-way clutch remains in the gear casing by inserting a thin blade between the adaptor plate and the gear case. Note also that a loose fitting rubber pad is fitted between the motor and clutch which may drop out.

Carry out torque tests with the motor running in both directions, the performance figures that shall be obtained are as follows:

Ambient temperature 20 - 22 C.

Volts DC	Amps	RPM	Minimum torque
12	4-6	2900	11 gram metres (15 oz. ins.)
12	18-22	1500	47 gram metres (65 oz. ins.)

Measure the insulation resistance between all conductors and the motor frame, this must not be less than 1 megohm at a test potential of 500 volts D.C.

If the motor does not meet the performance figures quoted, it should be replaced with a new motor. However, if the motor is perfectly satisfactory, the fault is with the window lift mechanism which should be checked.

If the system was removed for being noisy, check the motor for noise when carrying out the torque test, if the motor is satisfactory the mechanism should be checked as follows:

Carefully remove the clutch nylon body and rubber pad from the gearcase including the two small peripheral rollers and inspect for damage and wear.

Detach the grommet from the end of the gear case and remove the circlip retaining the wormshaft. Remove the wormshaft at the clutch end and inspect for wear and damage.

Remove the circlip retaining the wormshaft bearing, withdraw and inspect the bearing.

When assembling the clutch nylon body in the gear case, lightly smear the peripheral rollers with Retinax A grease to retain them in the body when assembling around the wormshaft driving dog.

Inspect the top and bottom sprockets for freedom of movement and wear.

Check the freedom of the chain pick-up bracket by loosening the four screws then re-check the mechanism speed. Tighten the screws.

Verify that the chain tension is not too high causing the sprockets to bind.

Window lift relay

The coil of the relay is connected to fuse number 1 and is energised whenever the ignition switch is switched on thereby completing an earth path for the window lift motors. It is only fitted to cars destined for U.S.A. and Australia.

Section M11

Electrically operated window lifts Fault diagnosis

Malfunction	Possible cause	Action
Complete system failure	Failure of feed to thermal cut-outs	Check the feed to the thermal cut-outs.
Failure of one window lift mechanism only	Motor stalled causing the thermal cut-out to trip	The thermal cut-out protects the window lift motor winding and under normal stalled conditions will take approximately 10 seconds to trip out. Therefore, if the motor is in the stalled condition, the thermal cut-out will trip approximately 10 seconds after being reset. This trip can be heard as a 'click' at the cut-out or by measuring the voltage at the fuseboard socket. If the motor is stalled, ensure that the door switches operate freely and that they can be heard to 'click' when pressed and released. If the switches operate satisfactorily, remove the lower door trim and measure the voltage at the motor connections.
	Short circuit on one of the motor circuits causing thermal cut-out to trip	If the reset button is depressed and the cut-out trips almost immediately, a short circuit is indicated which can be identified as follows: a) Determine which door assembly has short circuit b) Disconnect the motor connections and check the motor windings for short circuit c) If the motor is satisfactory, trace back through the door 'A' post sockets and door switches to identify the short
	Open circuit on the motor feed or earth circuits	Depress the thermal cut-out and check the cut-out for continuity. Verify that the drivers door 'A' post socket is sound and check the continuity of the earth connection between the switches remaining and 'A' post earth. Repeat the procedure for the remaining doors after ensuring that the drivers door switches are satisfactory.

Electrically operated window lifts

Component location

Right-hand drive

Fig. M90

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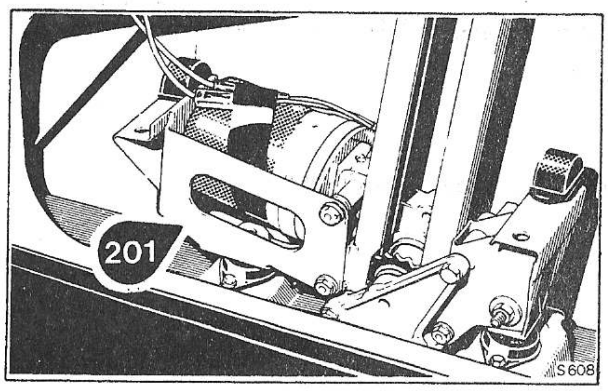

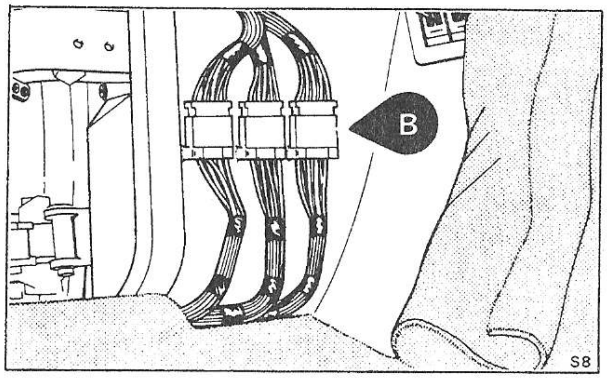

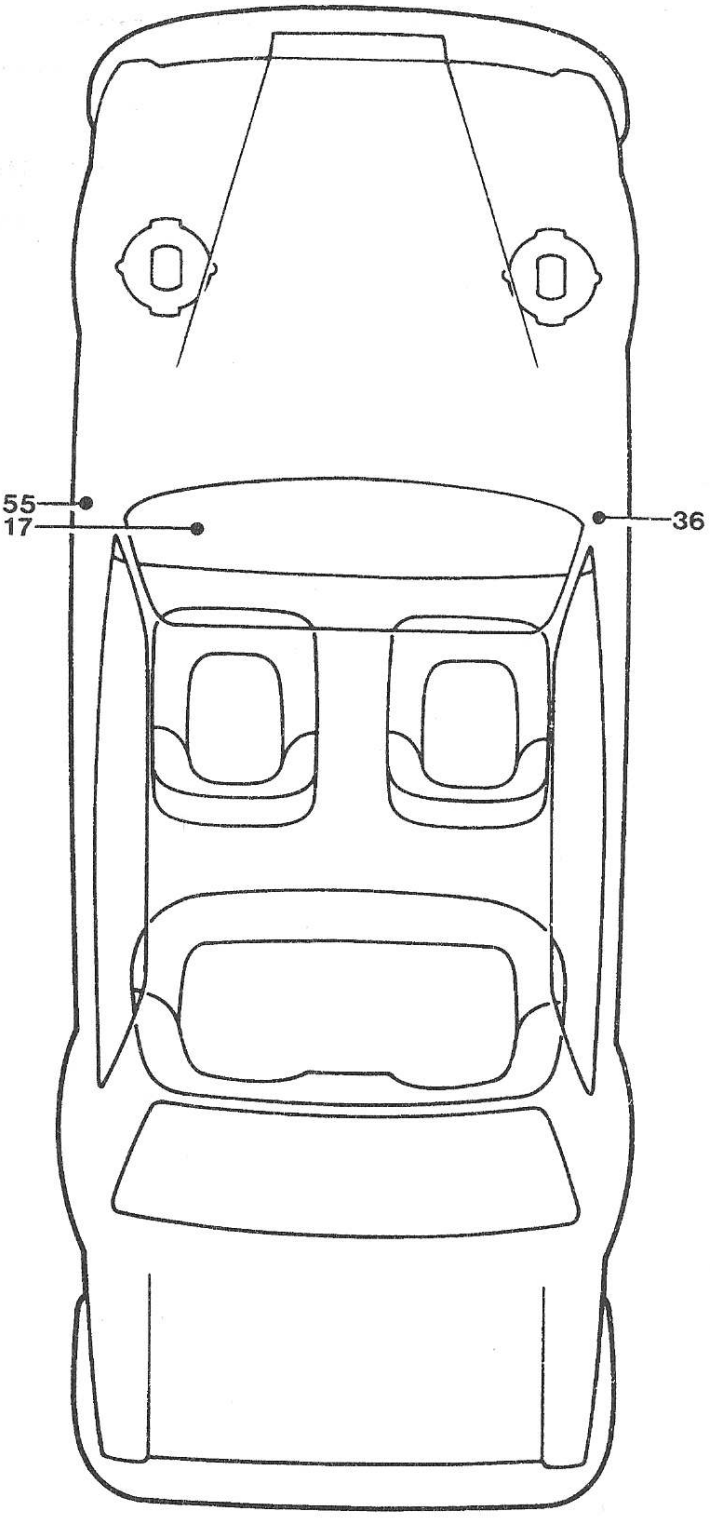

Components

17 Fuseboard
36 Right-hand 'A' post earth
55 Left-hand 'A' post earth
192 Drivers door - Drivers window lift switch
193 Drivers door - Left-hand rear window lift switch
194 Drivers door - Passengers window lift switch
195 Drivers door - Right-hand rear window lift switch
198 Left-hand rear door window lift switch
199 Front passengers door window lift switch
200 Right-hand rear door window lift switch
201 Drivers door window lift motor
202 Left-hand rear door window lift motor
203 Front passengers door window lift motor
204 Right-hand rear door window lift motor

Electrically operated window lifts

Schematic wiring diagram

Right-hand drive
Fig. M91

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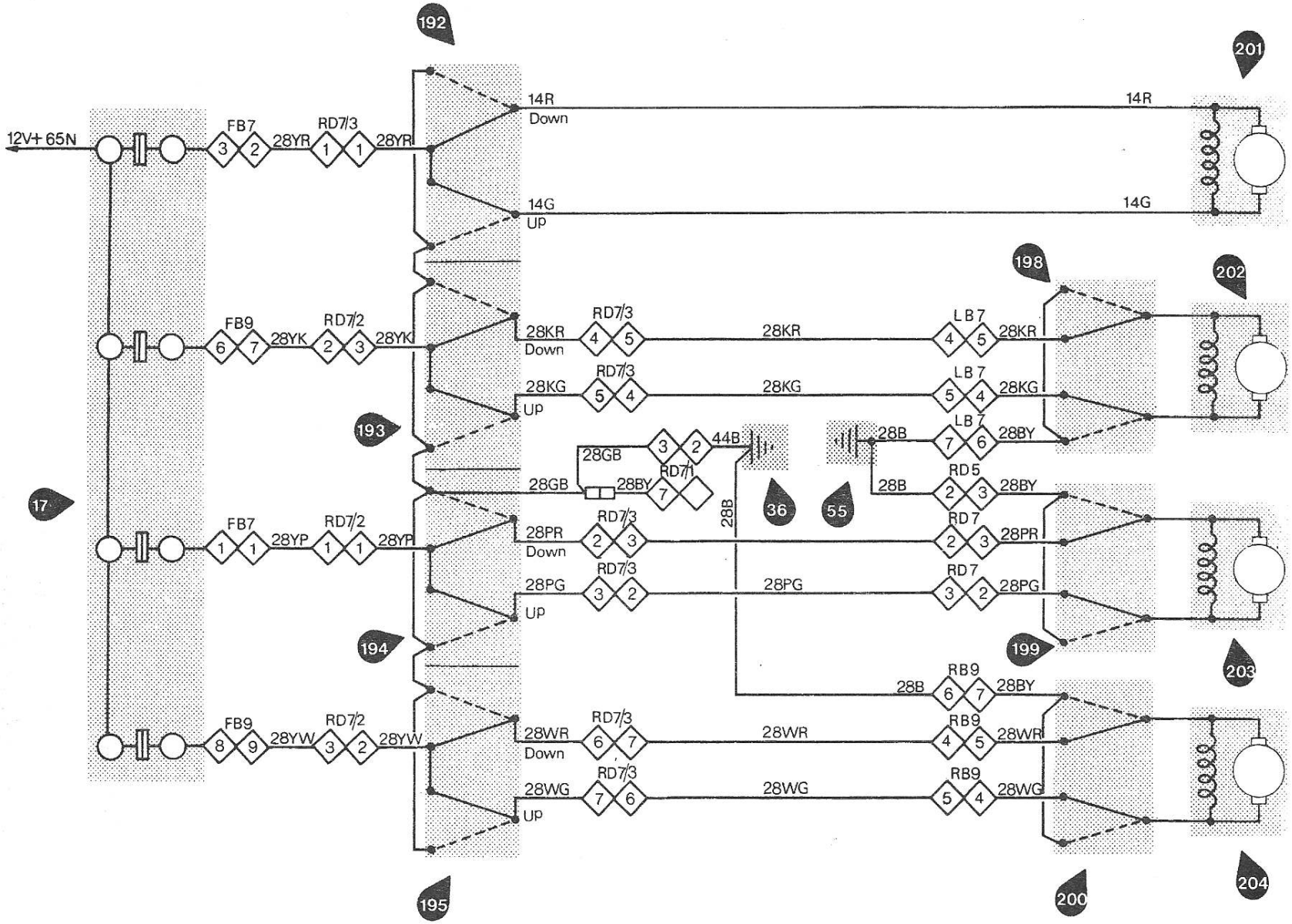

Electrically operated window lifts

Component location
Left-hand drive and
right-hand drive, Australia
Fig. M92

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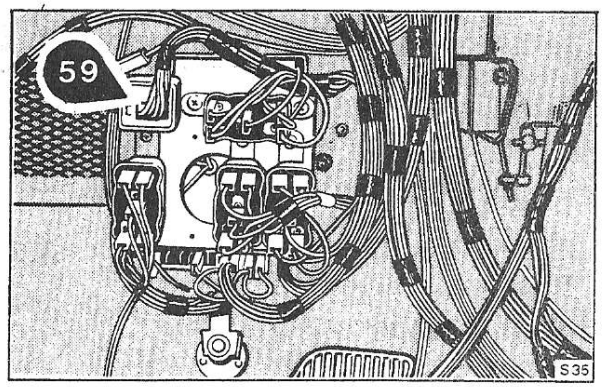
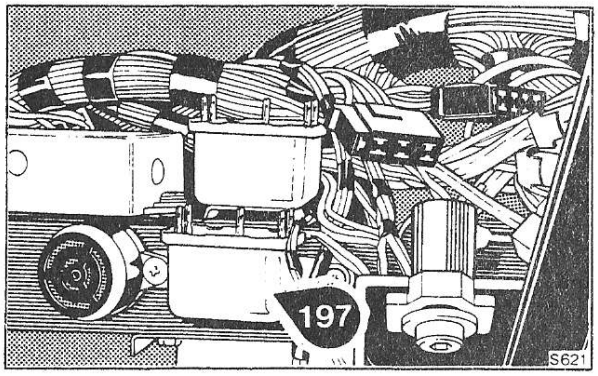
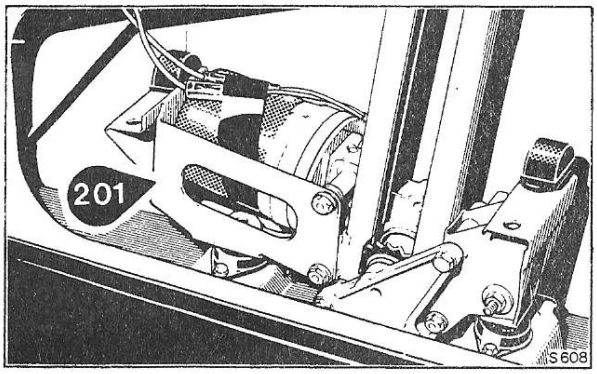
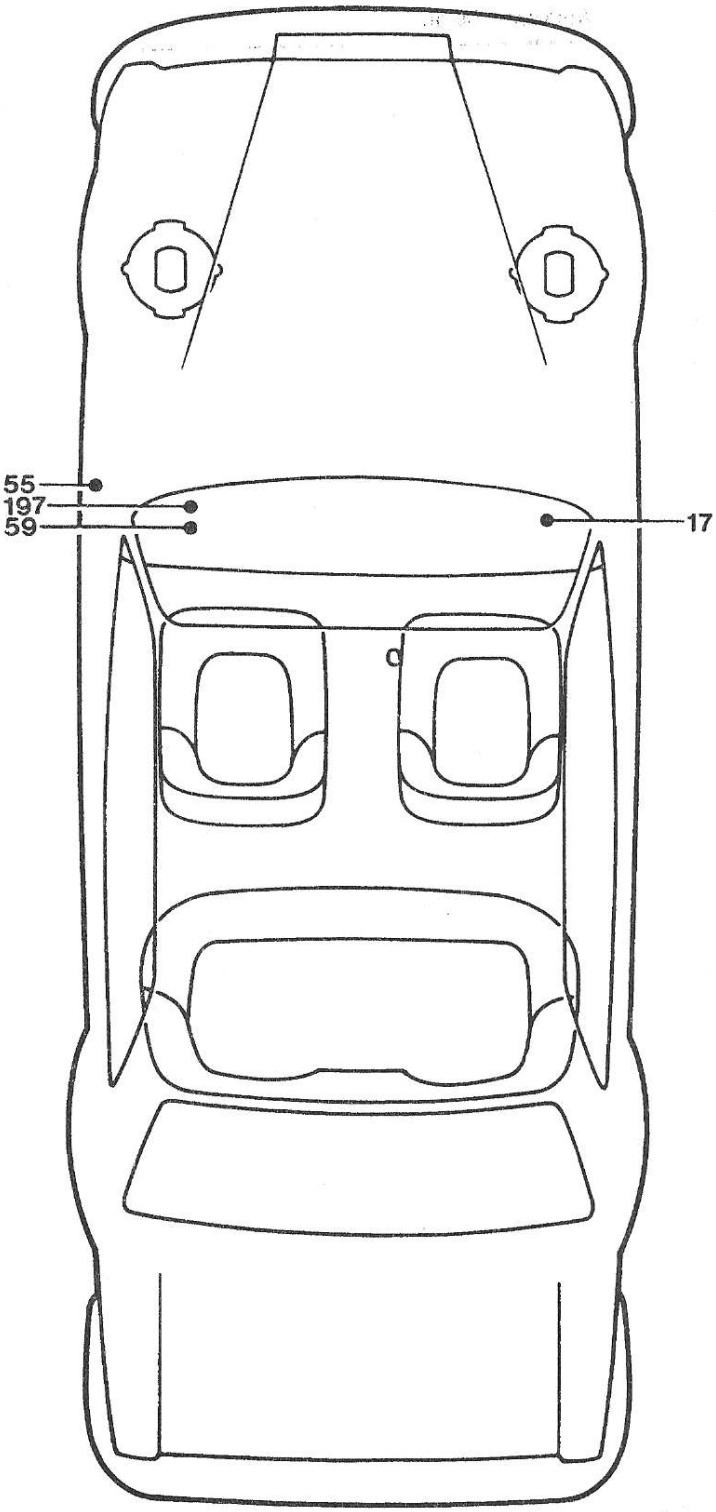






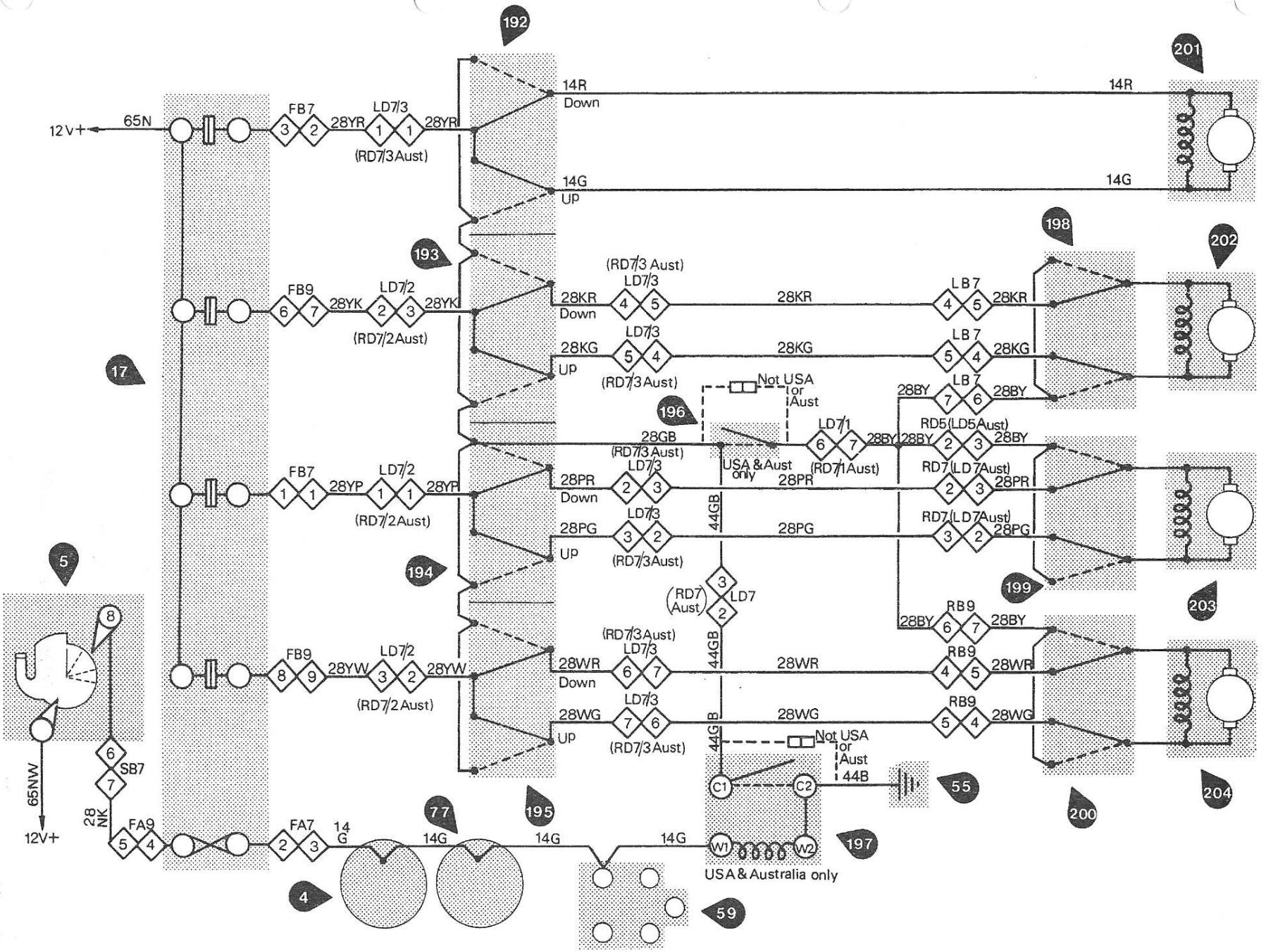


Components

4 4 in 1 instrument
5 Ignition switch
17 Fuseboard
55 Left-hand 'A' post earth
59 Washer fluid level amplifier
77 Speedometer
192 Drivers door - Drivers window lift switch
193 Drivers door - Left-hand rear window lift switch
194 Drivers door - Passengers window lift switch
195 Drivers door - Right-hand rear window lift switch
196 Drivers door - Window lift master switch
197 Window lift relay
198 Left-hand rear door window lift switch
199 Front passengers door window lift switch
200 Right-hand rear door window lift switch
201 Drivers door window lift motor
202 Left-hand rear door window lift motor
203 Front passengers door window lift motor
204 Right-hand rear door window lift motor

Electrically operated window lifts

Schematic wiring diagram
Left-hand drive and
right-hand drive, Australia
Fig. M93



Electrically operated window lifts

Schematic wiring diagram

Division lift

Fig. M94

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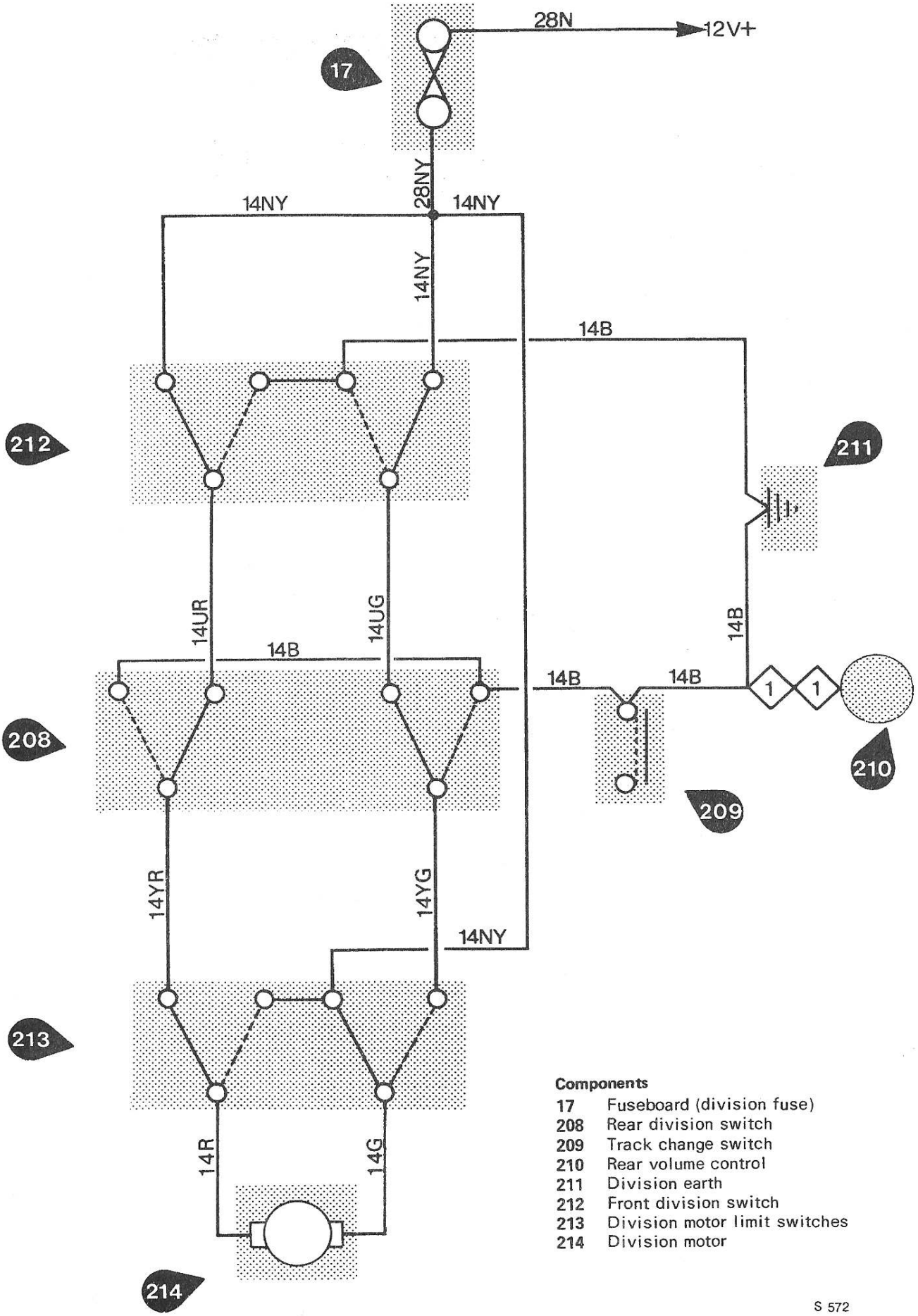

Components

17	Fuseboard (division fuse)
208	Rear division switch
209	Track change switch
210	Rear volume control
211	Division earth
212	Front division switch
213	Division motor limit switches
214	Division motor

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Section M12

Centralised door locking
Contents

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Section M12

Centralised door locking

Introduction

Two wiring diagrams are included in this section, one for four door cars and one for two door cars.

Door locking and unlocking solenoid

When the solenoid plunger or linkage is sticking it can usually be felt by the increased load necessary to manually operate the sill control. If the solenoid is suspected of being faulty it should be removed from the car and tested.

Door locking and unlocking solenoid - To test

1. Remove the door trim as described in Chapter S.
2. Remove the solenoid from the car.
3. With a maximum of 10 volts applied to one solenoid 'flying lead' and earth, the solenoid plunger must be capable of lifting and holding a load of 0,907 kg. (2 lb.) at an ambient temperature of 20° C.
4. Repeat the test with the remaining 'flying lead'.

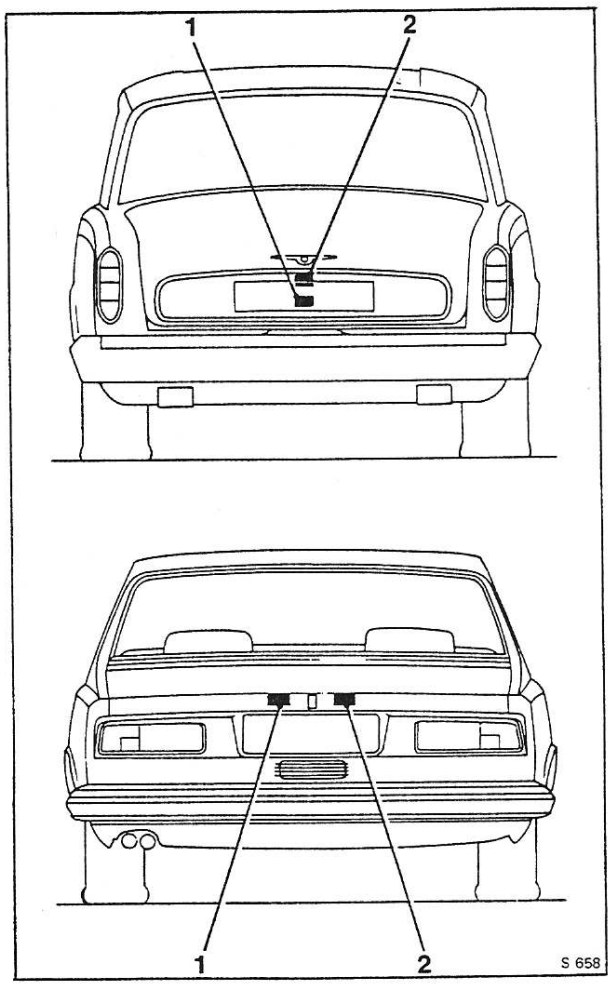

Fig. M95 Boot locking and unlocking solenoids
1 Locking solenoids
2 Unlocking solenoids

Section M12

Centralised door locking Fault diagnosis

Malfunction	Possible cause	Action
Complete system failure	Feed failure to thermal cut-out	Check the feed from the ammeter shunt.
	Thermal cut-out tripped NB. When the cut-out has been tripped due to an overload or short circuit it will take approximately 30 seconds for the bi-metal to cool down before the cut-out can be reset	Reset the cut-out by depressing the red button on the cut-out. If the cut-out trips out as soon as it has been reset, there is a short circuit in the system. However, if it takes approximately 30 seconds to trip out then one of the solenoids is permanently live, therefore ensure that all the door switches are in the neutral positions. This can be done by slowly operating the switch rockers in each direction and listening for the micro-switch clicking as it is depressed. If the rocker is stiff or the micro-switch cannot be heard to operate then the switch assembly should be removed and inspected. If a short circuit is suspected after depressing the cut-out, remove fuseboard A socket and determine whether the fault is on the doors or seat looms.
	Fuseboard A socket loose	Refit the socket.
Complete system failure following a switch operation	Short circuit in the switched circuit	Determine whether the cut-out trips immediately any door switch is put to the lock or unlock positions or the boot switch to the unlock position. After identifying which switch operation trips the cut-out, trace the fault through the door looms or body loom to the solenoid assembly. Note: On two-door cars, the unlock loading resistor is mounted in the drivers door and the lock loading resistor is in the passengers door.
	Faulty switch causing a permanent feed to a solenoid thus making the cut-out operate	Check the operation of the door switches to determine if they are sticking.
Failure of both lock and unlock facility on one door	Failure of feed	Check the 28 RN cable to the switch assembly.
	Faulty earth	Check the earth cable to the appropriate earth point.
	Mechanical failure in the solenoid linkage	Sticking of the solenoid plunger or linkage can usually be felt by the increased load necessary to manually operate the sill control.
Failure of one function on any door	Solenoid winding failure	Disconnect the solenoid and provide an external feed with an ammeter in the circuit. If there is no current flowing, the solenoid winding is open circuit.
	Switch failure	Ensure that both sides of the switch is live.

Malfunction	Possible cause	Action
	Open circuit between the switch and the solenoid	Check for live feed at switch and solenoid.
	Mechanical failure in the solenoid linkage	Sticking of the solenoid plunger or linkage can usually be felt by the increased load necessary to manually operate the sill control.
Failure of boot locking and unlocking facility	Poor earth connection	Check the earth connection at the left-hand boot earth point
	Mechanical failure	Check the freedom of movement of the linkage and solenoid assembly
Failure of boot locking facility only	Failure of live feed to solenoid	If the boot will not lock when any door switch is operated, check the 28 BK cable at left-hand 'A' post body socket.
	Faulty earth	Check the earth connection in the boot lid connecting block.
	Solenoid winding failure	At the boot lid connection block, verify that 28 SK connection is live and the earth connection is sound. If both connections are satisfactory, the solenoid winding should be checked for open circuit.
Failure of boot unlocking facility only	Failure of live feed to boot unlocking switch	Check the feed on the 28 RN and 28 SK cables at boot unlocking switch,left-hand 'A' post sockets and boot lid connecting block.
	Faulty earth	Check the earth connection at the boot lid connecting block.
	Failure of solenoid winding	If both feed and earth connection are sound at the boot connecting block check the solenoid winding.

Centralised door locking

Schematic wiring diagram
4 door cars
Fig.M96

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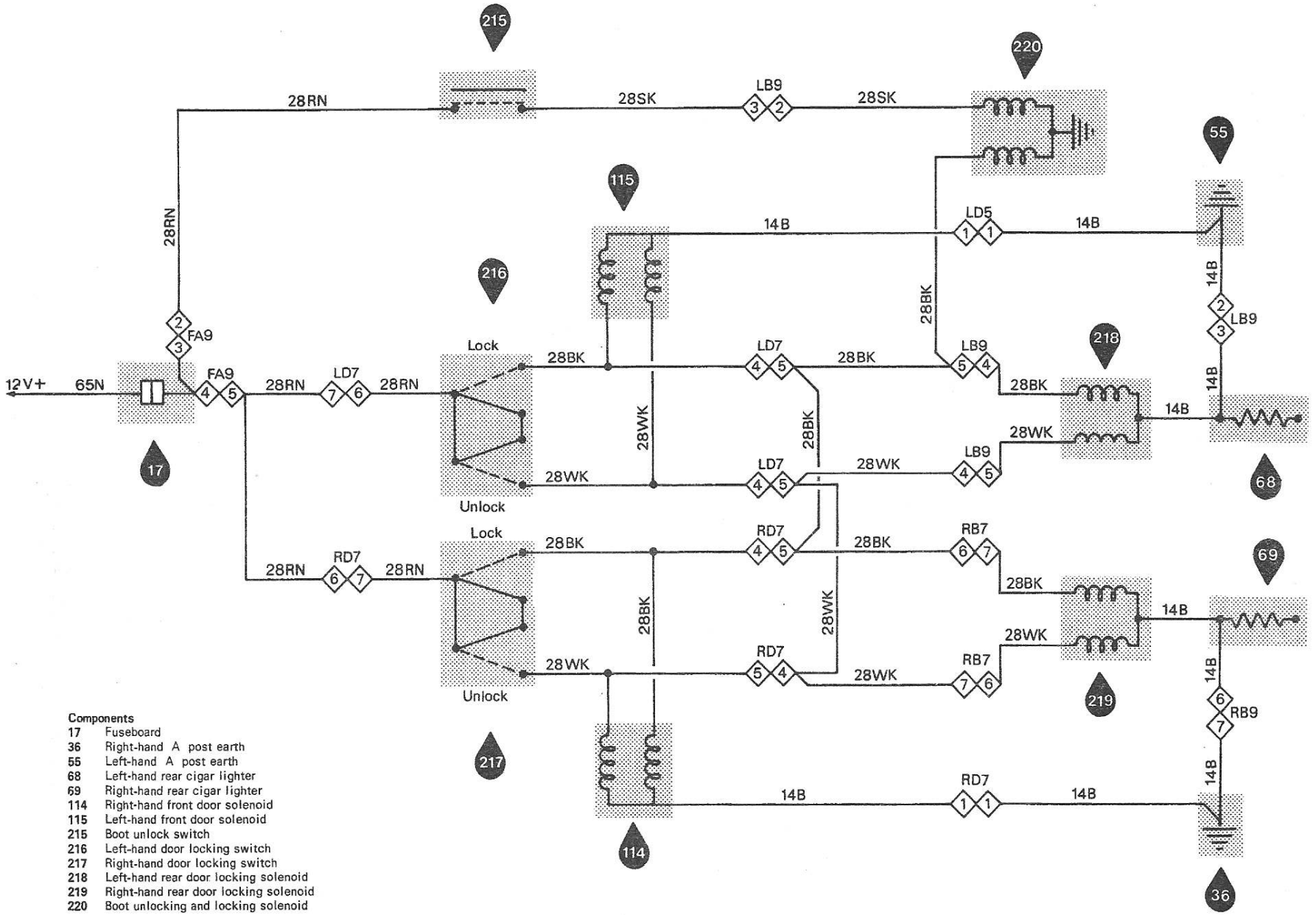

Components

17	Fuseboard
36	Right-hand A post earth
55	Left-hand A post earth
68	Left-hand rear cigar lighter
69	Right-hand rear cigar lighter
114	Right-hand front door solenoid
115	Left-hand front door solenoid
215	Boot unlock switch
216	Left-hand door locking switch
217	Right-hand door locking switch
218	Left-hand rear door locking solenoid
219	Right-hand rear door locking solenoid
220	Boot unlocking and locking solenoid

Centralised door locking

Schematic wiring diagram

2 door cars

Fig. M97

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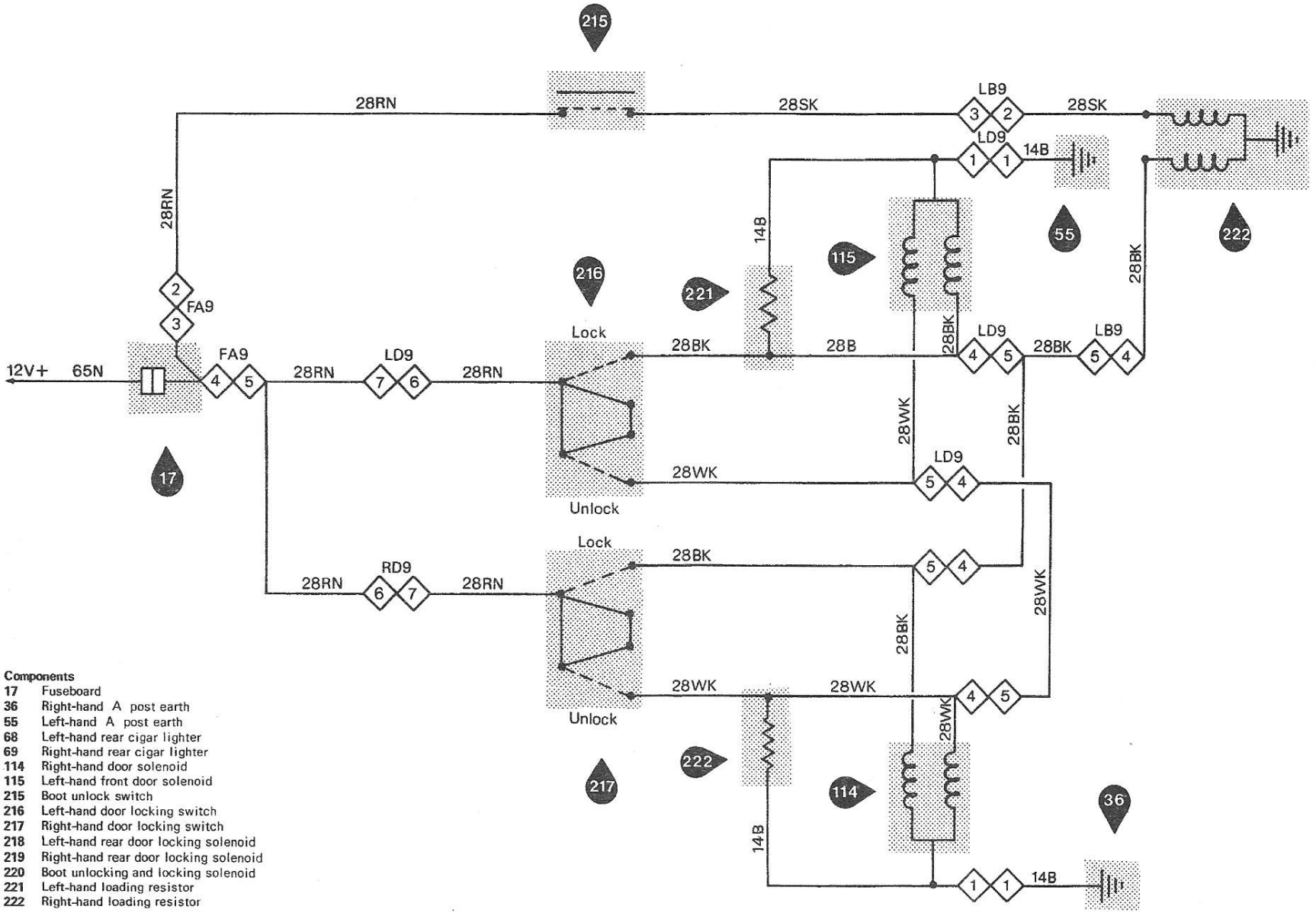

Components

17	Fuseboard
36	Right-hand A post earth
55	Left-hand A post earth
68	Left-hand rear cigar lighter
69	Right-hand rear cigar lighter
114	Right-hand door solenoid
115	Left-hand front door solenoid
215	Boot unlock switch
216	Left-hand door locking switch
217	Right-hand door locking switch
218	Left-hand rear door locking solenoid
219	Right-hand rear door locking solenoid
220	Boot unlocking and locking solenoid
221	Left-hand loading resistor
222	Right-hand loading resistor

Section M13

Electric gear change
Contents

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Section M13

Electric gear change

Introduction

This section deals only with fault diagnosing and shows the wiring diagram for the system. Details of actuator removal and testing and gear selector removal are given in Chapter T.

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Section M13

Electric gear change Fault diagnosis

Malfunction	Possible cause	Action
Complete system failure	Thermal cut-out failure	Ensure that the 28 N cable at fuseboard B socket is 'live'. Remove the thermal cut-out and either replace with a known good cut-out or test the cut-out to verify that it is not permanently open circuit. N.B. Allow the cut-out to cool down after tripping for at least 30 seconds before pressing the reset button.
	Failure of feed to actuator	Remove the plug from the gear change actuator and trace the fault as follows: Check 14 NB cable to socket N, left-hand toeboard socket (engine side and saloon side) and fuseboard.
	Failure of feed to selector switch	Remove the top half of the steering column cowl and ensure that the NB centre contact is live. Ensure that each selector fixed contact is live where selected by the moving contact.
	Short circuit on 'feed' line causing the thermal cut-out to operate	Remove the actuator plug. If the thermal cut-out can now be reset, the actuator should be removed and replaced or stripped and rebuilt in accordance with the workshop manual. If the short circuit persists after removing the actuator plug, inspect the selector switch feed moving contact to ascertain if it is short circuited to earth. Insert a piece of insulating material (e.g. paper) between the fixed and moving contacts and determine whether the fixed contact is down to earth. If the short circuit persists, inspect the left-hand toeboard socket and fuseboard socket.
	Actuator failure	If the actuator feed cables are live and the actuator fails to function under any circumstances then the actuator should be removed and checked or replaced. N.B. An earth failure is unlikely because the actuator is internally earthed and also has a separate earth lead.
Complete system failure after ignition key has been removed, re-inserted and turned to the OFF or ON position	As complete system failure	As complete system failure.
	Poor earth connection to switchbox	Remove the 7-way plug from the switchbox and determine whether the 14 BS cable is earthed when the ignition key is turned to the OFF position. If the cable is not earthed the switchbox is faulty or earth lead to switchbox

Malfunction	Possible cause	Action
		Connect the BS cable to earth at the 7-way switch-box plug and both sides of the left-hand toeboard socket. If the actuator still fails to function the fault is with the actuator or actuator plug. Note: The following procedure can be followed to check the general operation of an actuator: Remove the actuator from the car. Connect a permanent 12 volt positive feed to the N connection of the actuator plug. Connect the outside of the actuator or the H connection of the actuator plug to earth. Connect the F socket of the actuator plug to earth. Provide a positive feed in turn to the following connections of the actuator plug, M, A, B, C, D & E; the actuator should move to PARK, REVERSE, NEUTRAL, INTERMEDIATE and LOW respectively. Remove the earth connection from connection F, the actuator should now only move towards the PARK position, i.e. the lever should move towards the plug end of the actuator. The actuator should only move away from the PARK position when connection F is reconnected to earth. If the actuator functions correctly during these bench tests after failing to function in-situ, the fault is in the actuator plug and socket.
Failure to select any one gear position	Selector switch faulty	This may show as a failure to select a gear when the actuator arm is moving in one direction although the gear can be selected when the arm is moving in the opposite direction, e.g. failure to select N after being in D, I or L but capable of selecting N after being in P or R. At the selection switch, check the position of the fixed contact relative to the moving contact and adjust if necessary. (Refer to Chapter T) Check the contact pressure and continuity of the moving contact in each selected position (Refer to Chapter T)
	Selector cable open circuit	If the selector switch functions correctly, check for continuity at both sides of the left-hand toeboard socket.
	Actuator faulty	If the electrical circuit is satisfactory, check the actuator as previously described. If the actuator selects each position correctly during bench testing, the fault is with the actuator plug and socket.
Failure to automatically select 'P' when the ignition key is removed	Failure of ignition key switch	Remove the ignition key and verify that the 14 LGS cable is connected to 14 WP cable at switchbox socket. Insert the ignition key and ensure that 14 LGS cable is connected to earth.

Malfunction	Possible cause	Action
	Failure of actuator park micro-switch	With the actuator in P, check that the LGS cable at the switchbox socket is connected to earth via the left-hand toeboard socket. If the LGS cable is not earthed, remove the plug from the actuator and verify that with the actuator in PARK, connection P only goes to earth. Failure to do so indicates a faulty micro-switch in the actuator.

Electric gear change

Schematic wiring diagram

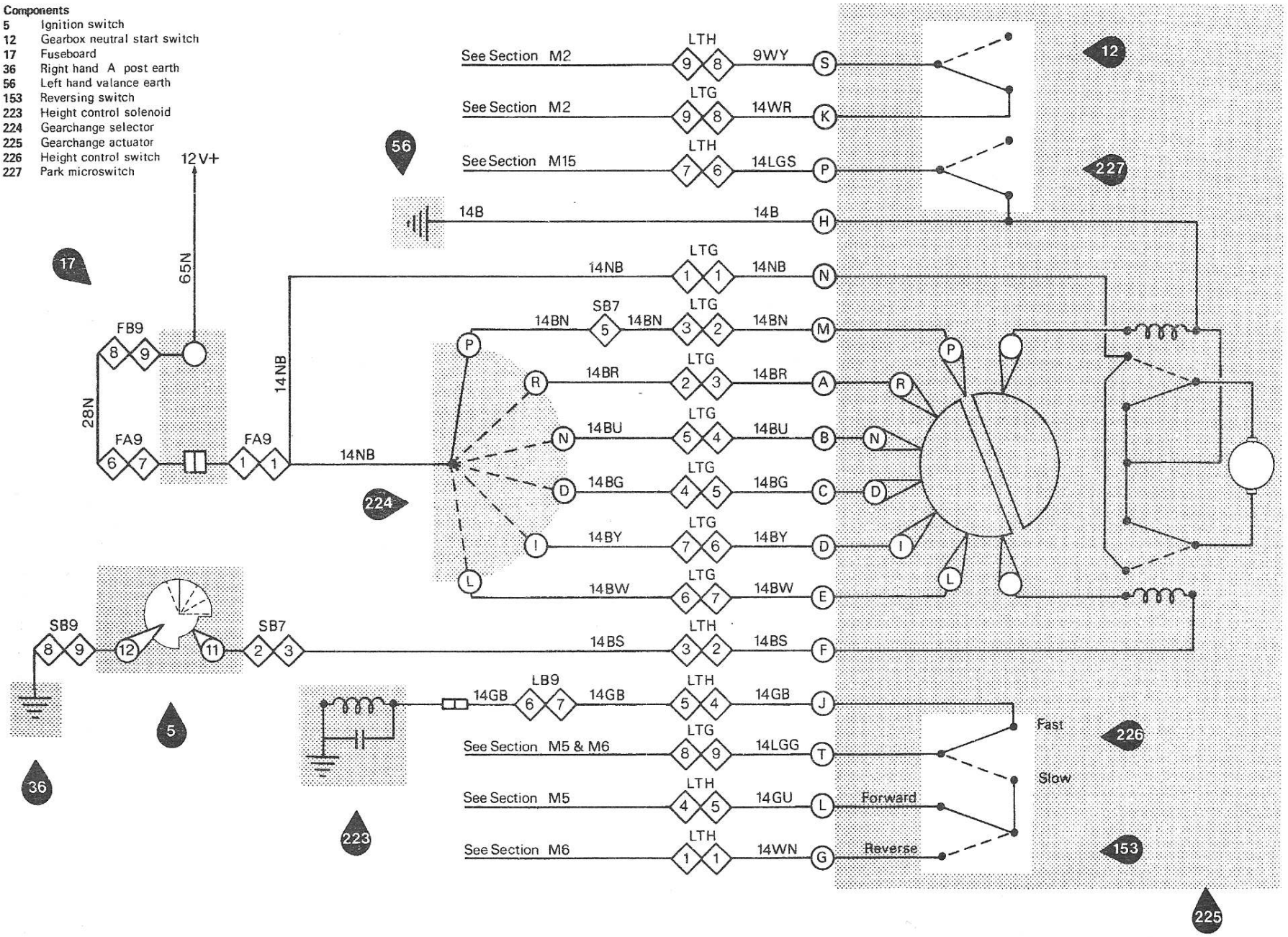
Fig. M98

S 581

T.S.D. 4200 August 1977

Components

5	Ignition switch
12	Gearbox neutral start switch
17	Fuseboard
36	Right hand A post earth
56	Left hand valance earth
153	Reversing switch
223	Height control solenoid
224	Gearchange selector
225	Gearchange actuator
226	Height control switch
227	Park microswitch



Section M14

Horns
Contents

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T.S.D. 420

Section M14

Horns

Horns

The horns are 'Mixo' TR 129 high and low note and are sealed units requiring no maintenance.

No attempt should be made to adjust the horns as they are manufactured and adjusted to European standards.

Horn circuit - To test

1. Verify that fuse 7 and fuse 14 are satisfactory.
2. At the relay, connect terminal C1 to the main battery terminal of the starter relay. If the horns are inoperative the fault is in the horns or wiring from relay to horns to earth.
3. If the horns were satisfactory connect relay terminal W2 to a good earth. This isolates the horn button and if the horns operate the horn button or wiring to the button is faulty. If the horns do not operate, the fault is with either the horn relay or wiring from the fuseboard to the relay.

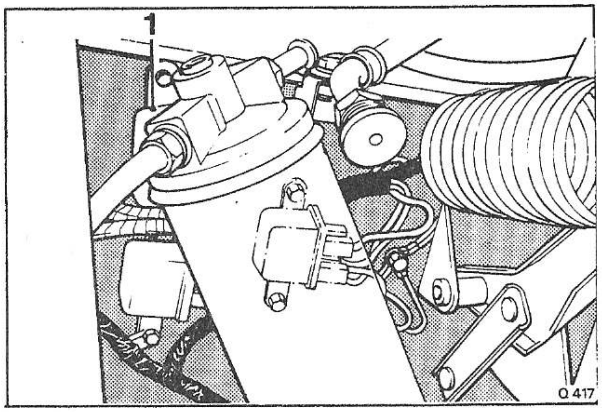

Fig. M99 Horn relay location
1. Horn relay

Section M14

Horns
Fault diagnosis

Malfunction	Possible cause	Action
Both horns inoperative	Fuse 7 or fuse 14 blown	Inspect fuses. If fuse 7 has blown the head flash circuit will also be inoperative. A faulty head flash relay or wiring could cause the fuse to blow.
	Faulty horn relay	Check horn circuit.
	Faulty horn switch or column earth brush	At horn switch connect purple/black cable to a good earth, if horns operate then the switch is faulty or the earth brush is faulty.
	Poor connection	Check 44 PN and 9 UG cables at relay and toeboard socket M. Check also 9 PB cable at toeboard L and horn switch.
One horn inoperative	Horn faulty	Substitute horn.
	Poor connection	Check 14 PY and 28 B cables to horn.
	Poor earth	Check 28 B cables at front earth (left-hand or right-hand).
Poor note	Horn faulty	Replace horn.

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Horns

Schematic wiring diagram
Fig. M100

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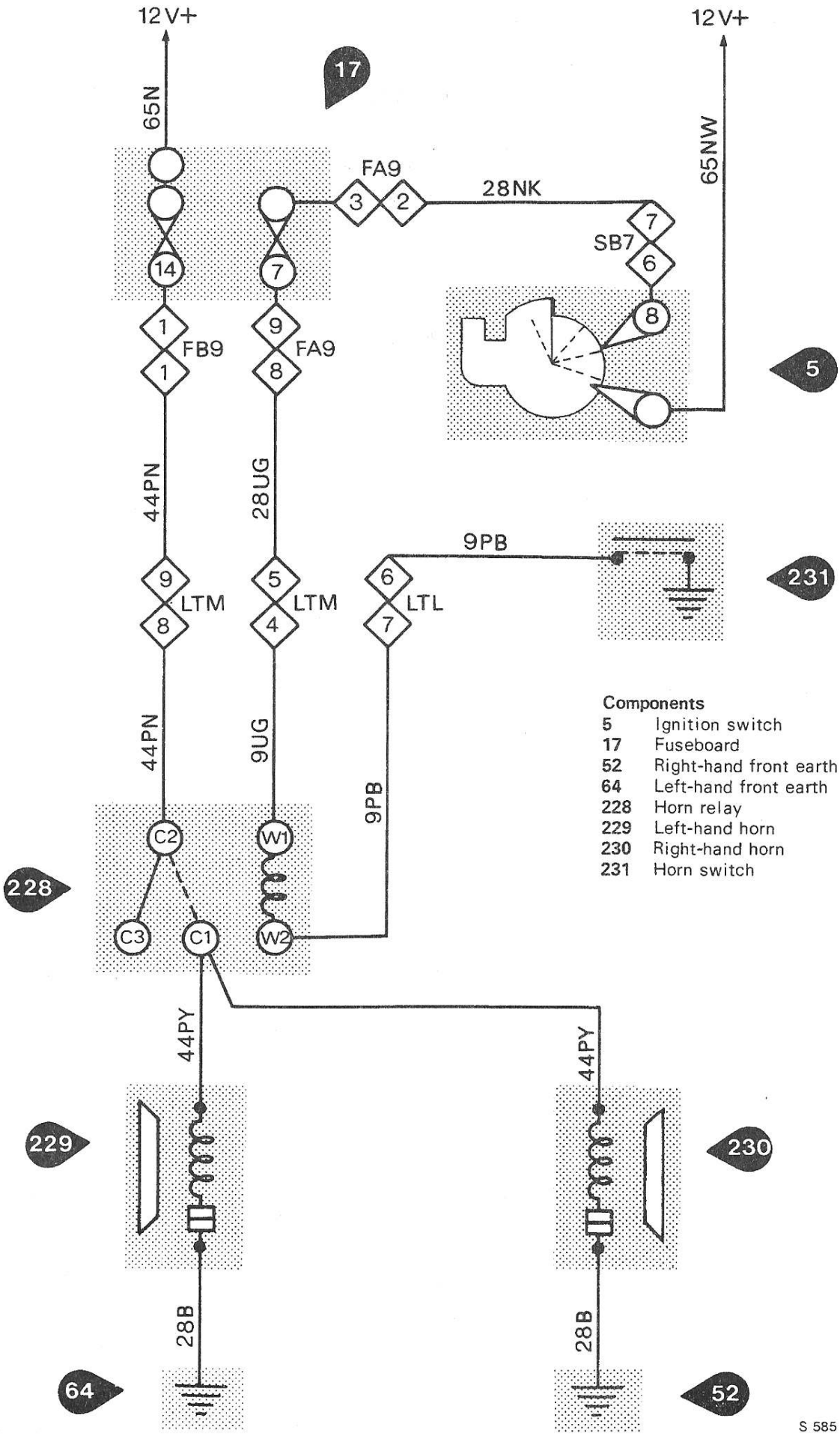
T.S.D. 4.



Components

5	Ignition switch
17	Fuseboard
52	Right-hand front earth
64	Left-hand front earth
228	Horn relay
229	Left-hand horn
230	Right-hand horn
231	Horn switch

S 585

Section M 15

Hood mechanism
Contents

September 1977
S.D. 420

Section M15

Hood mechanism

Motor/pump unit-To remove

1. Remove all hydraulic fluid from the reservoir as described in Chapter S - Body.
2. Disconnect the electrical connections from the motor/pump unit, noting the positions to facilitate assembly.
3. Disconnect the hydraulic fluid feed pipe and the hydraulic high pressure supply hose from the motor/pump unit.
4. Fit suitable blanking plugs into the vacant holes to prevent ingress of foreign matter.
5. Remove the two motor/pump unit securing straps
6. Remove the motor/pump unit.

Solenoid valves-To remove

1. Disconnect the battery-
2. Using a syringe, remove all hydraulic fluid from the reservoir.
3. Disconnect the appropriate cable at the junction box.
4. Disconnect the hydraulic connections.
5. Remove the two nuts and bolts securing the solenoid valve to the assembly box.
6. Remove the solenoid valve.

Motor/pump unit electrically operated switch-To remove

1. Disconnect the battery.
2. Disconnect the electrical connections, noting the position to facilitate assembly.
3. Unscrew and remove the two switch securing nuts and bolts.
4. Remove the switch.

Section M15

Hood mechanism Fault diagnosis

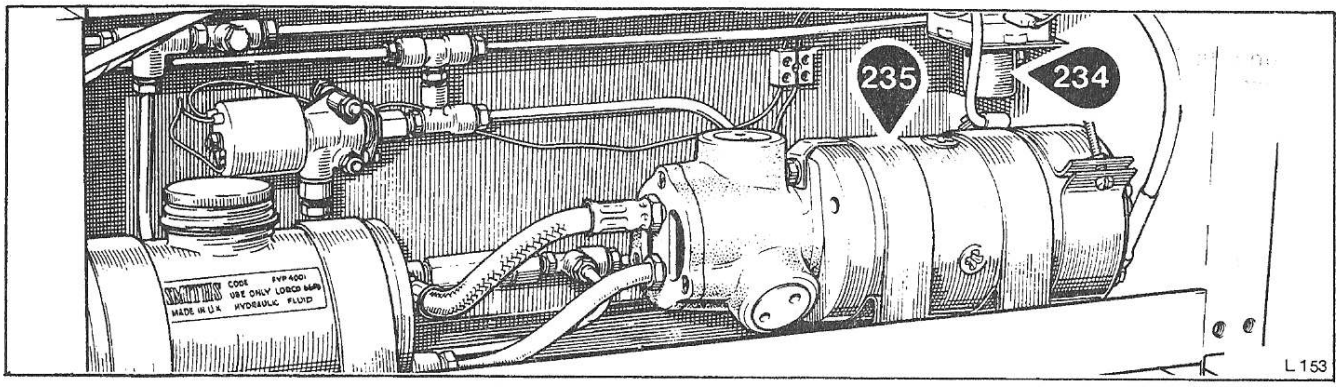
Malfunction	Possible cause	Action
Hood lift will not operate.	Fuse 8 faulty Hood interlock relay not operating.	Check for feed at and through fuse. A. Check for feed on N/S wire. If no feed, check connection at fuse-board. B. Check for earth on LG/S wire If no earth, check at toe-board socket 'H'. If no earth at this point, check gear-box actuator as detailed below. C. Check for feed on UN wire. If no feed, check the relay.
Hood lift will not operate	'Park' microswitch in gearbox actuator faulty.	Remove the actuator plug and connect pin P of the plug to earth. If the hood will now operate the gearbox actuator is faulty or there is an open circuit in the 14B cable from pin H to left-hand valance earth.
	Hood lift switch faulty.	Switch ignition to RUN. At the hood lift switch, connect the 14UN cable to the 14UP cable, if the motor operates, connect the 14UN cable to 14UY cable to close the hood or to 9UK cable to open the hood.If the hood operates satisfactorily, the switch is faulty.
	Hood lift relay faulty.	Remove the motor connection from the relay and connect a 12v test lamp from the relay to earth. Switch on the ignition and operate the hood switch, the test lamp should light. If the test lamp does not light test for live feed on 14UP cable at relay, if live feed is present then the relay is faulty.
	Hood lift motor inoperative.	If relay is satisfactory (i.e. test lamp is lit) the motor should operate if it is satisfactory. Check cable and battery connection.

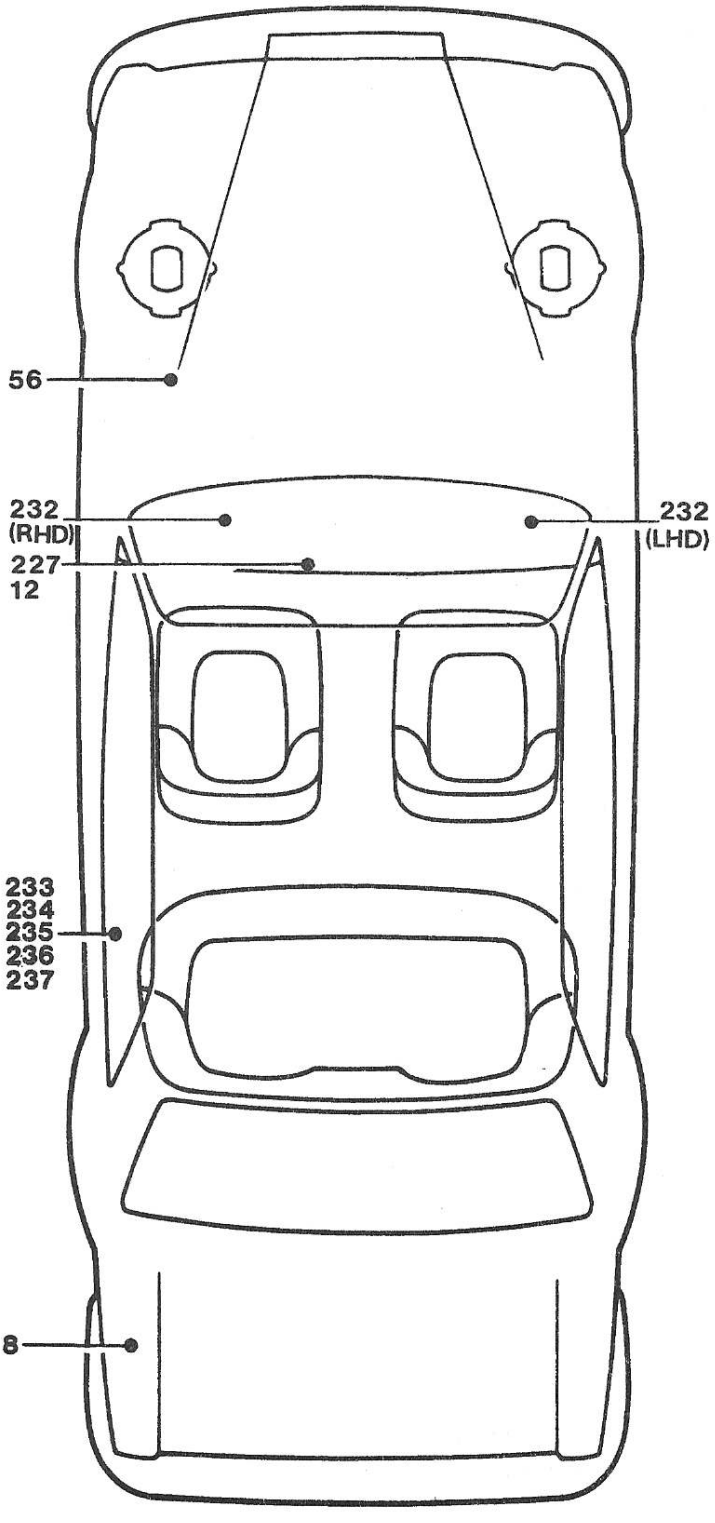
Hood mechanism

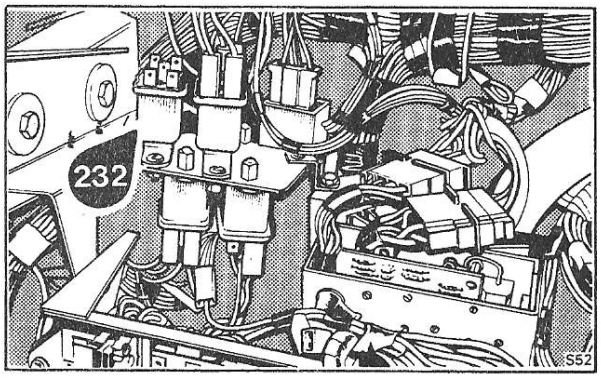
Component location
Fig. M101

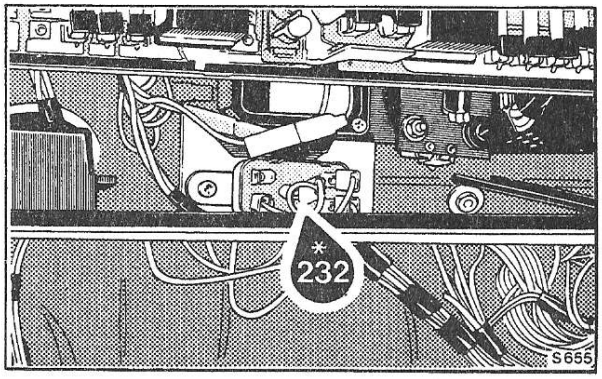
Schematic wiring diagram
Fig. M102

September 1977
P.S.D. 42C









Components

5	Ignition switch
8	Battery
12	Gearchange actuator
17	Fuseboard 'A'
56	Left-hand valance earth
227	'Park' microswitch
232	Hood interlock relay
233	Hood lift switch
234	Hood lift relay
235	Hood lift motors
236	Hood lift solenoid valve (close)
237	Hood lift solenoid valve (open)
*	All left-hand drive

Fig. M101
S 654

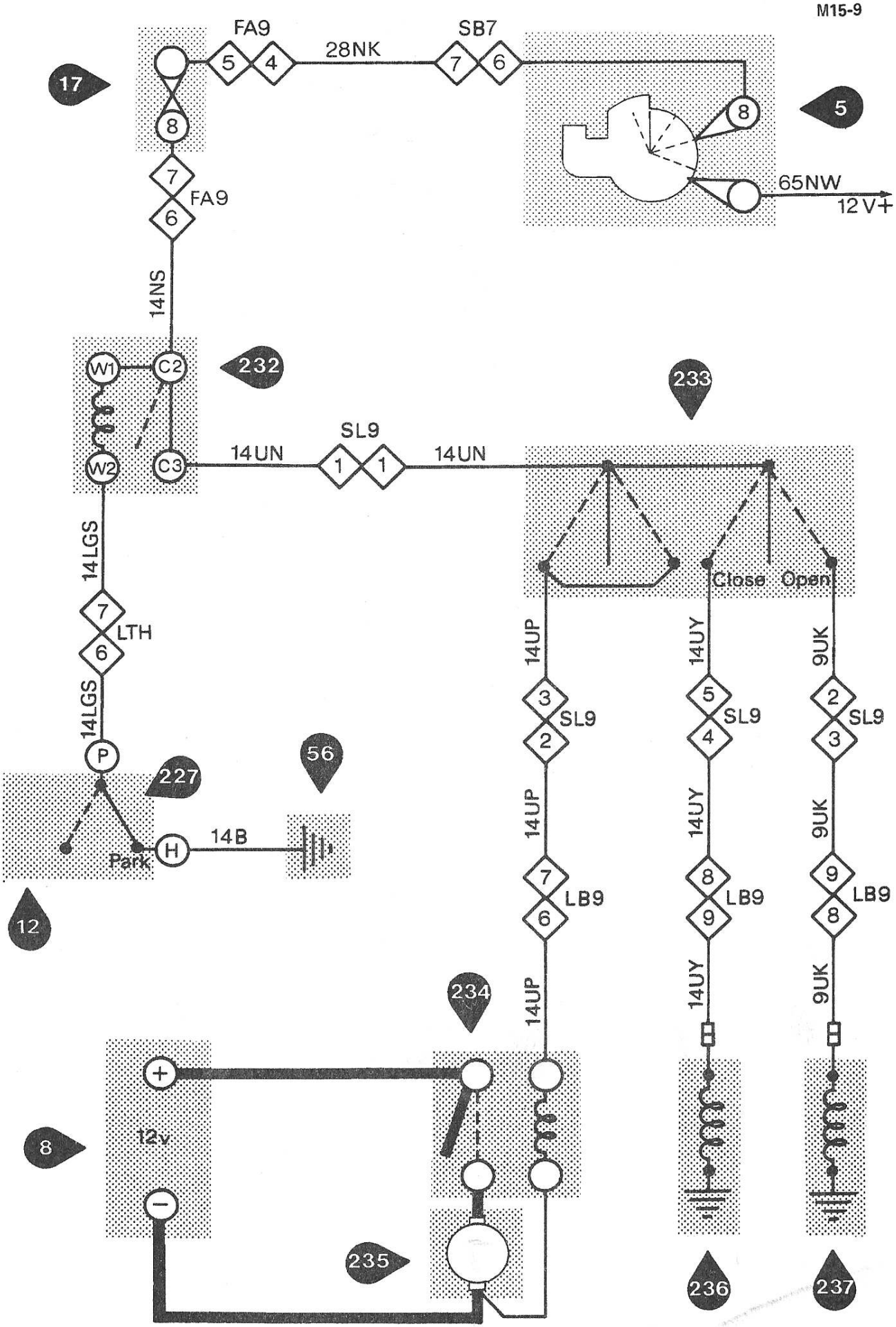


Fig. M102