



MANUAL N° 814 - 2

## THIRD SECTION

# ELECTRICAL SYSTEM

THIRD SECTION

PART TO BE CUT OFF

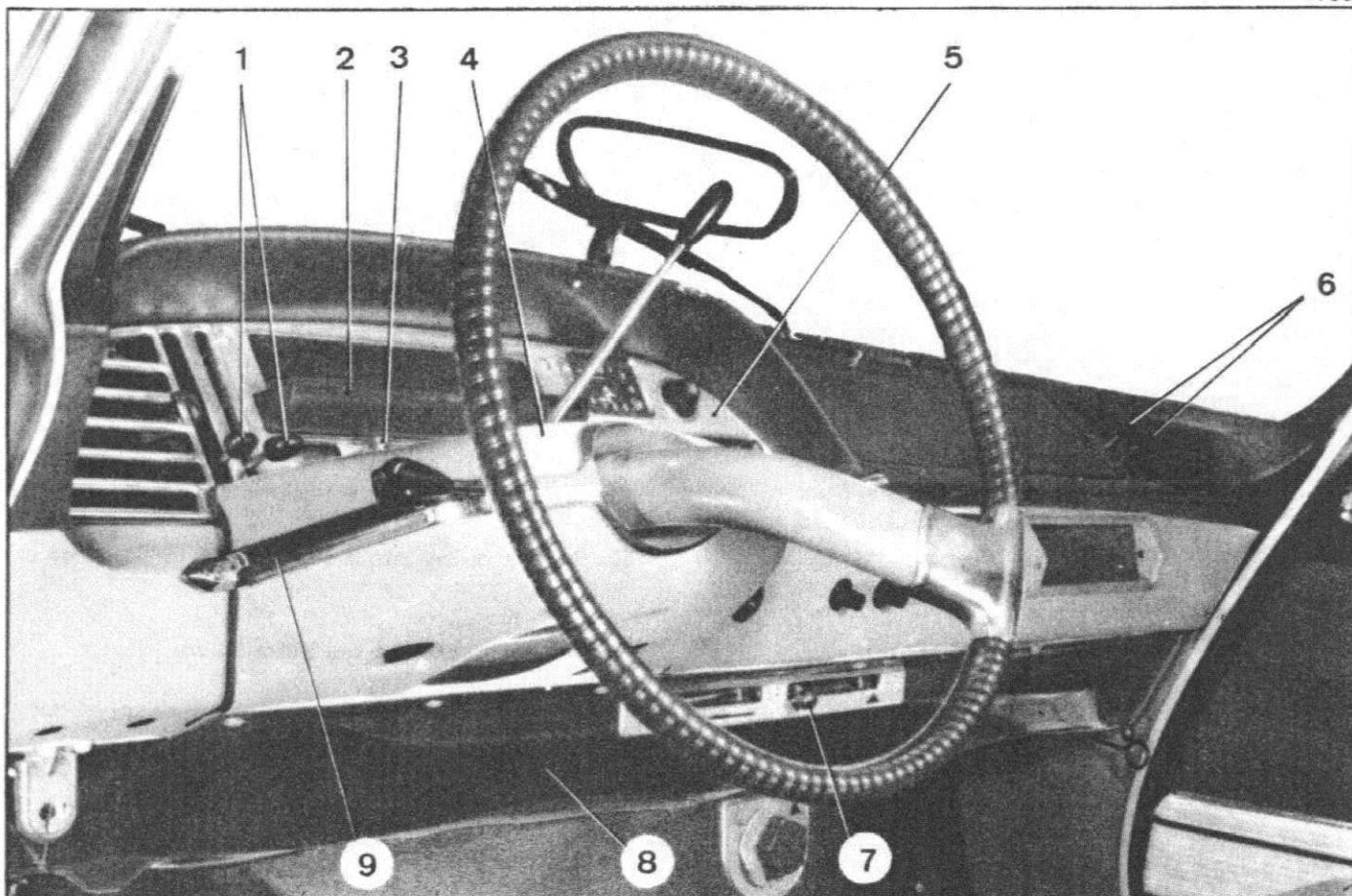
VEHICLES ALL TYPES

→ 9/1969

except DV, DT, DE

## REMOVAL AND INSTALLATION OF DASHBOARD

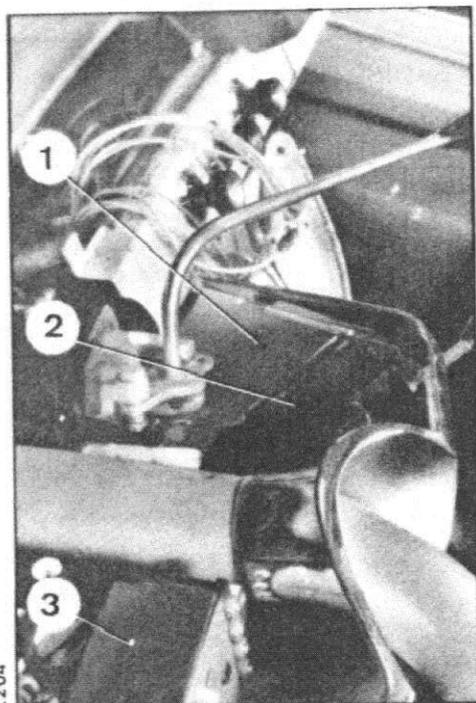
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Manual 814-2

## REMOVAL

1. Disconnect negative lead from battery.
2. Remove steering column housing trim fixing screws.  
Free trim (9).
3. Removal of electrical control support cover (4) :  
Remove :
  - speedometer frame fixing screws,
  - zeroing button (3) for trip counter,
  - right and left-hand air flap knobs (6) and (1).
 Remove speedometer panel frame (5).
4. Removal of speedometer (2) :  
Disconnect wiring harness from instrument panel (2) and free the panel.  
  
Disconnect speedometer cable and electrical connections.
5. Remove heating ventilator control knobs (7).
6. Remove fixing screws holding moulded trim cover under dashboard sill.  
  
Remove trim cover (8).



2204

7. Remove nuts holding lighting and horn switches (2).  
Remove switch (2) with its wiring harness.

8. Remove fixing screws of flasher and direction indicator switch. Disconnect wiring.

Remove electrical controls bracket (1) with switch (3).

9. Remove fixing screws of lower left-hand dashboard section and demister duct fixing screw (4).

Remove upper (9) and lower (8) left-hand sections of dashboard.

Disconnect nozzle of flexible tube (7) from duct connection.

10. Remove ashtray.

11. Remove glove box fixing screw and remove glove box by withdrawing it backwards.

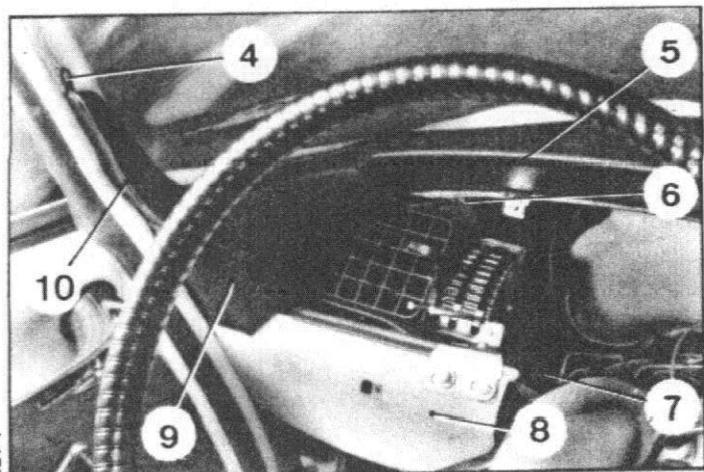
12. Remove rubber mirror support stop and remove mirror.

13. Remove right-hand ventilator louvre.

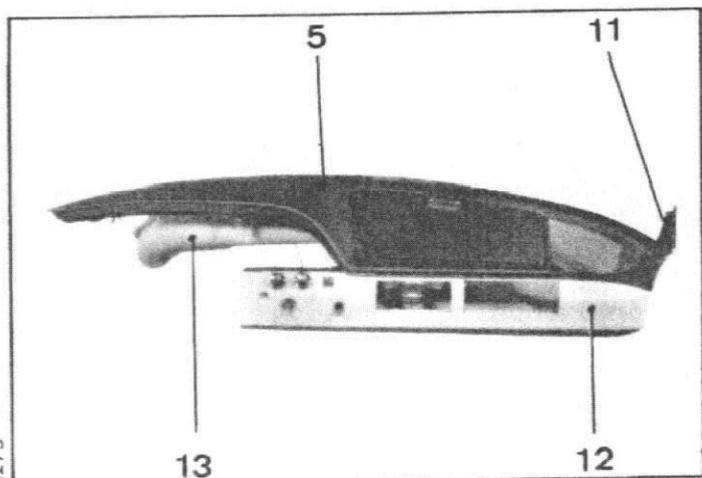
14. Disconnect choke control cable from carburettor.

15. Removal of right-hand section of dashboard :

- a) Remove fixing screws (6) holding upper section (5),
- b) Free rubber windscreen moulding from demisting duct.
- c) Disconnect electrical connections.
- d) Disconnect rubber tubes from windscreen washer pump ( vehicles equipped with push button pump )
- e) Free upper (5) and lower right (12) dashboard section, demister nozzle (11) of front right-hand side window and windscreen demister duct (13) assembly.
- f) Disconnect tube connecting right-hand side defroster and windscreen defroster ducts.
- g) Remove right-hand section of dashboard assembly.

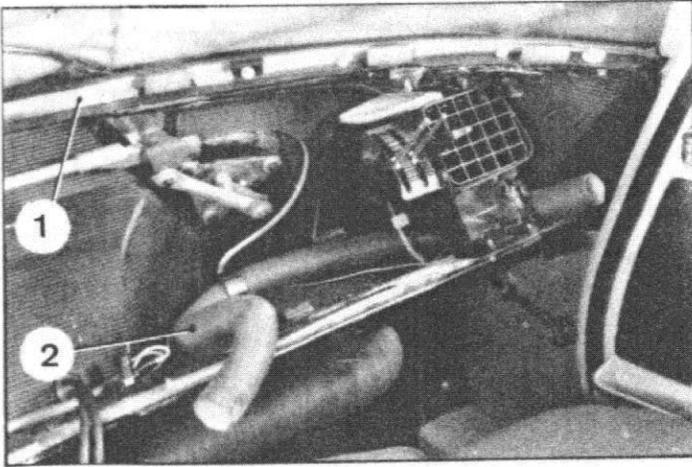


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16. Remove metal trim strip (1) between windscreen and dashboard.

## INSTALLATION

## 17. Fitting of right-hand dashboard section :

- Position and fix metal trim (1) between windscreen and dashboard.
- Position right-hand demister duct (5) windscreen defroster duct (3) and upper (4) and lower (6) dashboard section assembly.
- Connect defroster duct to front right hand flexible heating tube, connect flexible tube (2) to side nozzle and to defroster duct.
- Press upper section of dashboard fully home under metal trim strip.
- Fit and tighten two right and left hand holding nuts for upper right-hand dashboard section.

18. Fix interior mirror and position correctly.

19. Position glove box. Fit fixing screw.

20. Connect rubber pipes to the windscreen washer pump ( vehicles equipped with push button pump ). Make electrical connections to lower right hand dashboard section.

21. Connect choke cable to carburettor, allowing slight play.

22. Fit right-hand ventilator louvre.

## 23. Fitting of left-hand dashboard section :

- Position lower dashboard (9) upper dashboard (10) and left-hand demister duct (7).
- Fit lower left-hand side dashboard fixing screws and left-hand side demister duct fixing screw (8).

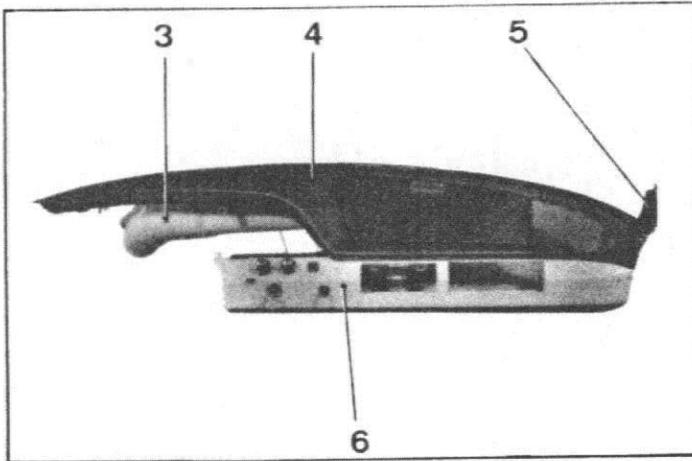
24. Fit electrical controls bracket (12).

Thread wiring for horn and lighting switches under steering column tunnel support lug. Fit switch (13).

Fit fixing screw (11) for direction indicator lights and flasher switches.

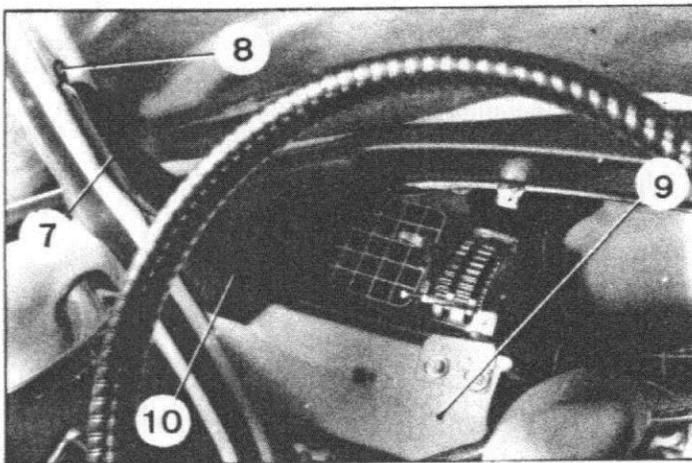
Make electrical connections to switches.

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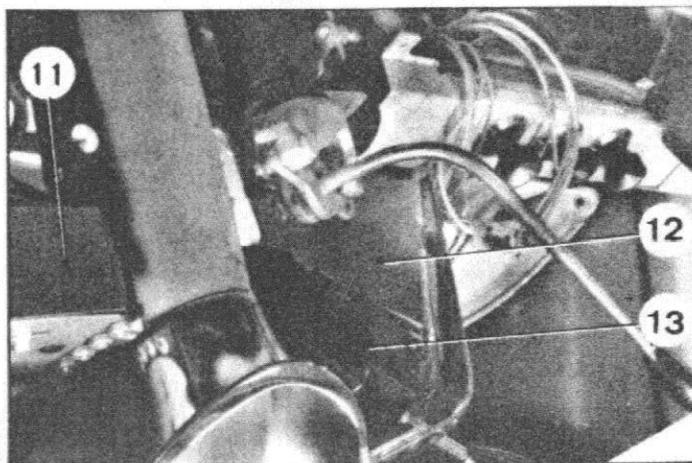


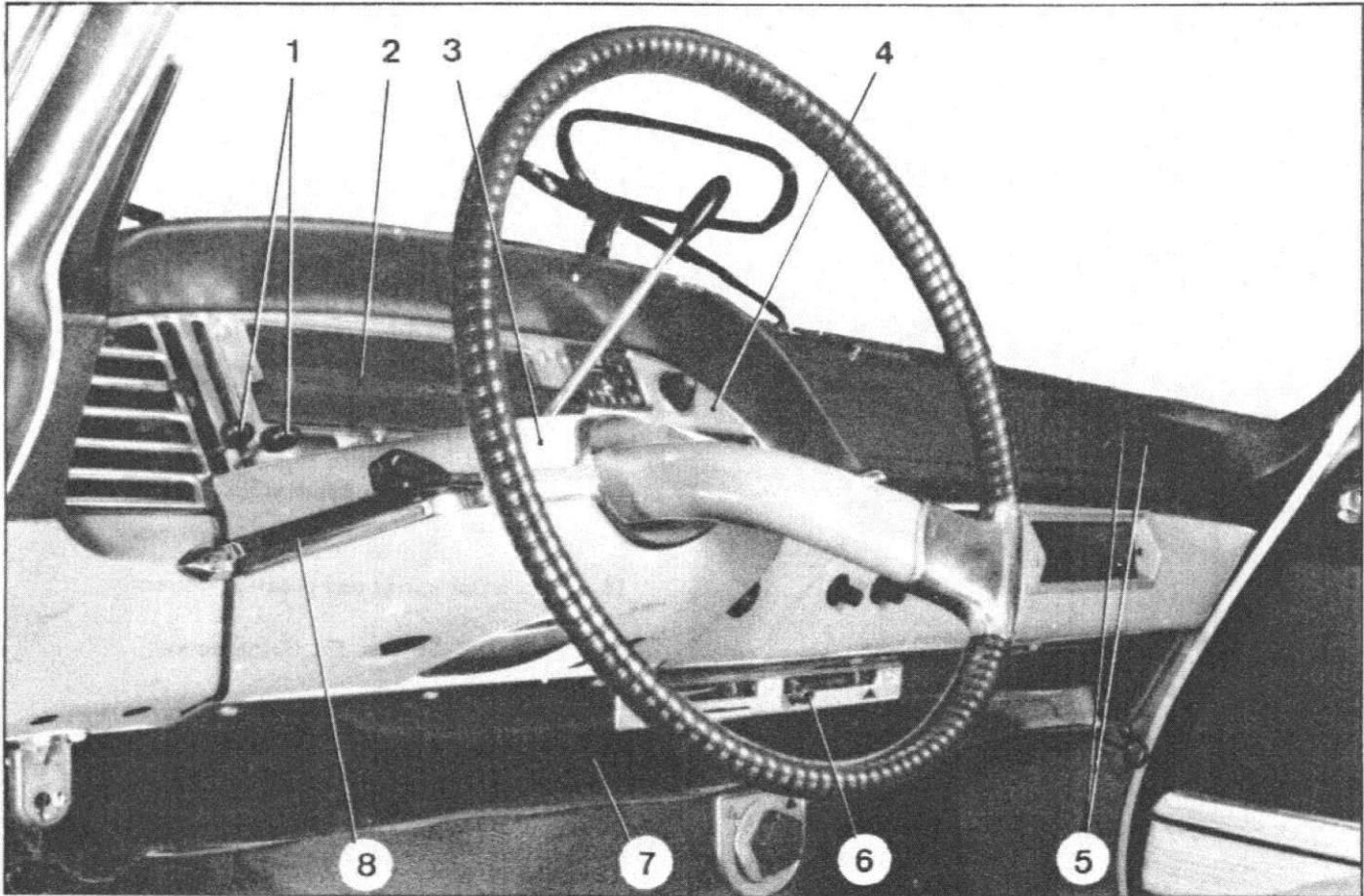
Manual 814-2

2274



2204





25. Fit moulded trim cover (7) under dashboard sill.  
Screw on heater control lever knobs (6).

26. Position speedometer panel (2)  
Connect :  
- wiring and speedometer cable to speedometer

Position speedometer cable to speedometer.  
Position instrument panel (4).  
Connect wiring.  
Fix speedometer panel.

27. Fit electrical controls support cover (3).

28. Position and fix steering column housing trim (8).

29. Fit right (5) and left-hand (1) ventilator control knobs.

30. Fit ashtray.

NOTE : To make electrical connections refer to wiring diagram.

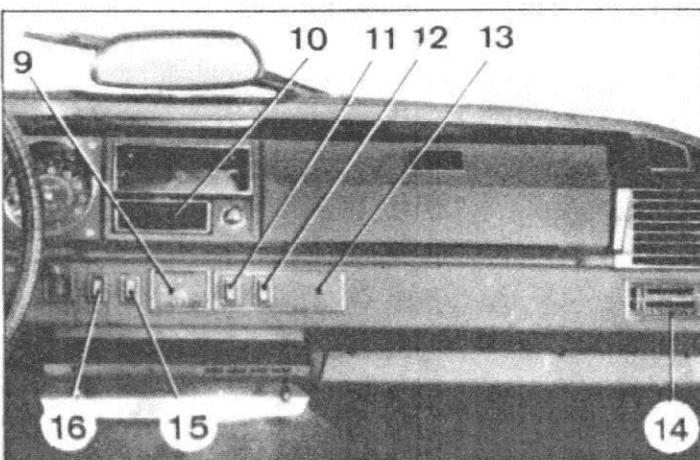
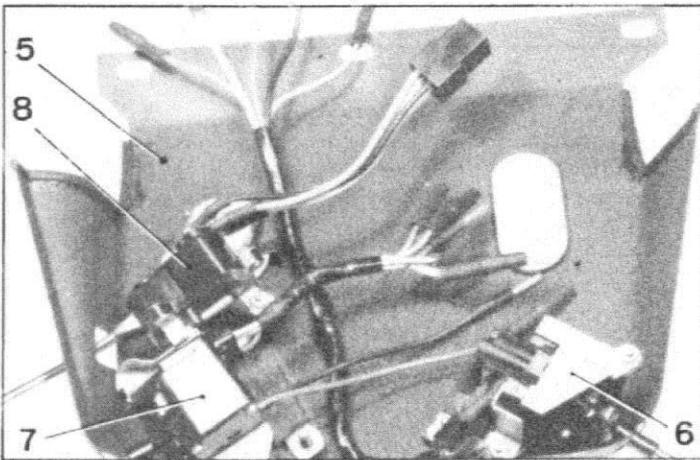
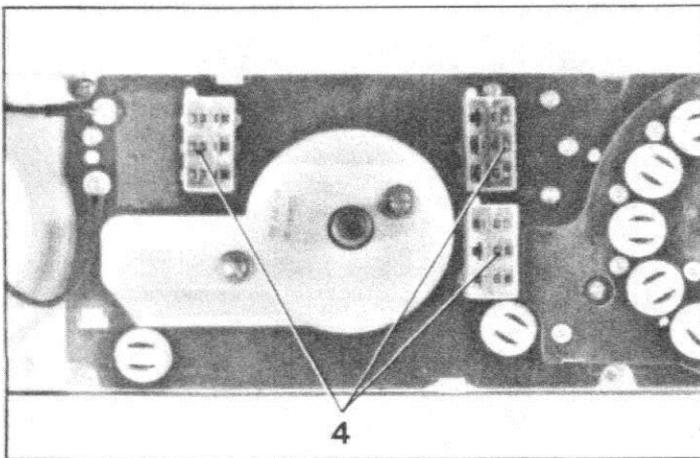
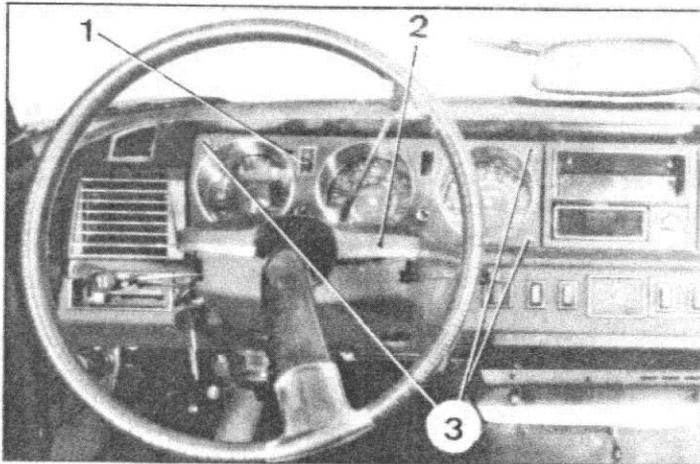
31. Connect earth lead to the negative terminal of battery.

32. Check operation of electrical equipment.

REMOVAL AND INSTALLATION OF DASHBOARD

VEHICLES ALL TYPES

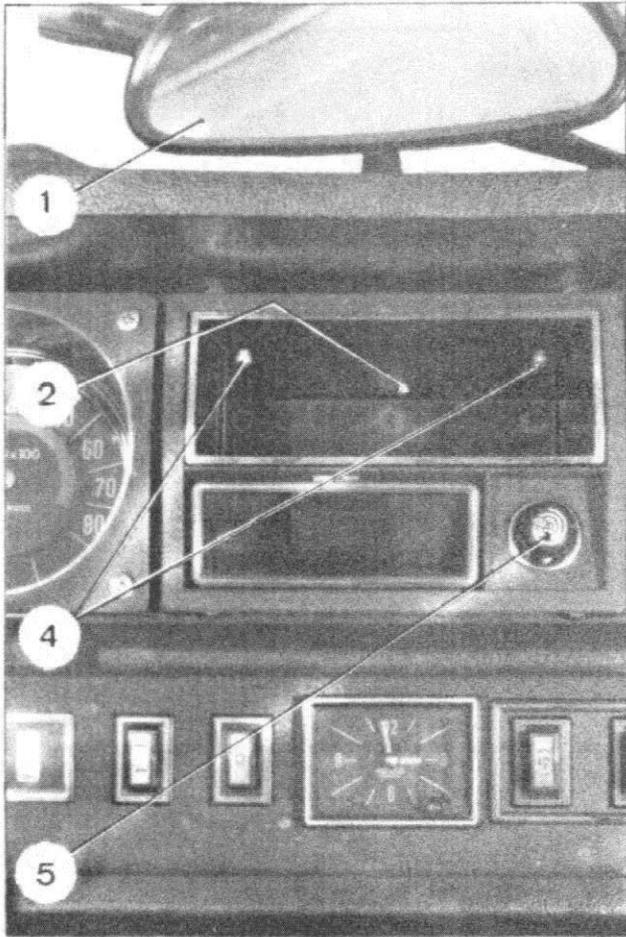
→ 9/1969



REMOVAL

1. Disconnect lead from negative terminal of battery. Disconnect choke control from carburettor (except type D.I.E.) (Electronic fuel injection).
2. Remove fixing screws of electrical control support cover (2). Remove cover (2).
3. Removal of instrument panel (1) :
  - a) Remove screws (3) fixing instrument panel (1). Disconnect the two sections of the speedometer cable ( in engine compartment ).
  - b) Freeing instrument panel
    - disconnect speedometer flexible drive
    - disconnect three current supply boxes (4) from instrument panel.
  - c) Remove instrument panel (1).
4. Removal of electrical control support panel (5) :
  - a) Remove lower fixing screw and upper retaining nuts and washers.
  - b) Disconnect wiring and remove support complete with controls for :
    - windscreen wiper and washer (8),
    - direction indicators (7).
    - lights (6).
5. Remove right and left hand ventilator control trim panels (14).
6. Free support panel (13). Disconnect wiring of switches (11) and (12).
7. Free the clock (9). Disconnect the clock wires.
8. Free switches (15 and 16) for interior lamps and « parking » lamps. Disconnect electrical connections to switches (15) and (16).
9. Remove ashtray (10).

Manual 814-2



10. Remove radio loudspeaker housing cover (8).

11. Remove radio housing (2) by unscrewing holding screws (4).

12. Remove interior driving mirror (1) and its rubber boss.

13. Remove cigar lighter (5) and detach electrical connection.

14. Remove screws (9) and (14) and free heater control trim panel.

15. Remove heater controls (10 and 13).

16. Removal of dashboard assembly (7) :

From inside the glove box :

a) Remove plastic cover

b) Remove nut holding upper part of dashboard.

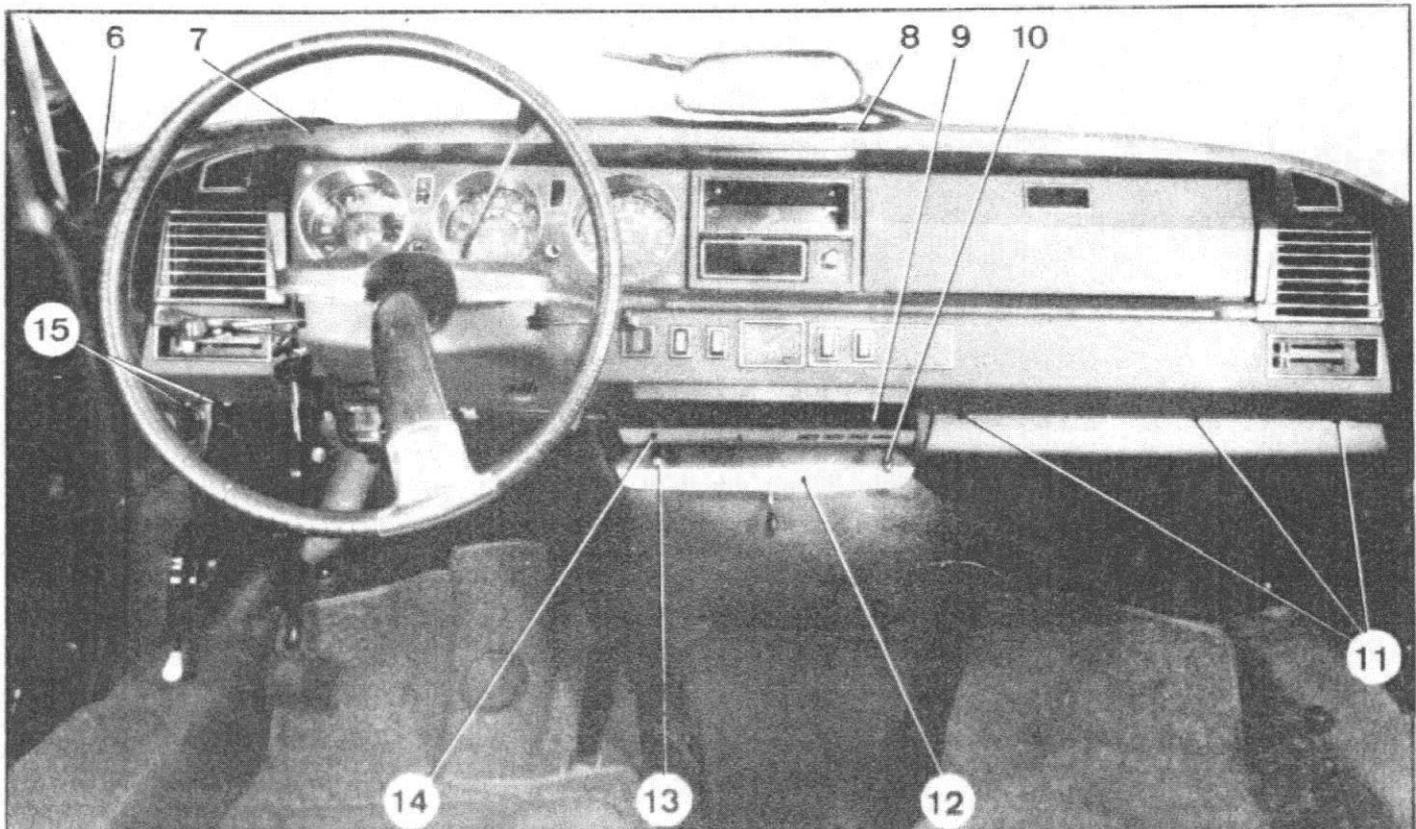
Remove screws (11) and (15) holding lower part of dashboard.

Remove the two upper dashboard holding nuts.

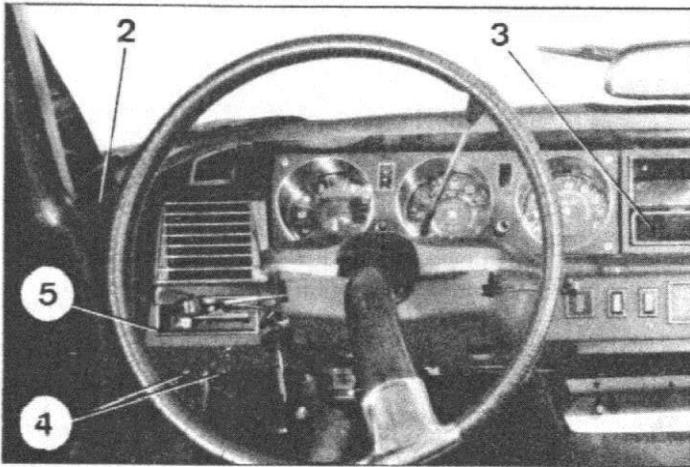
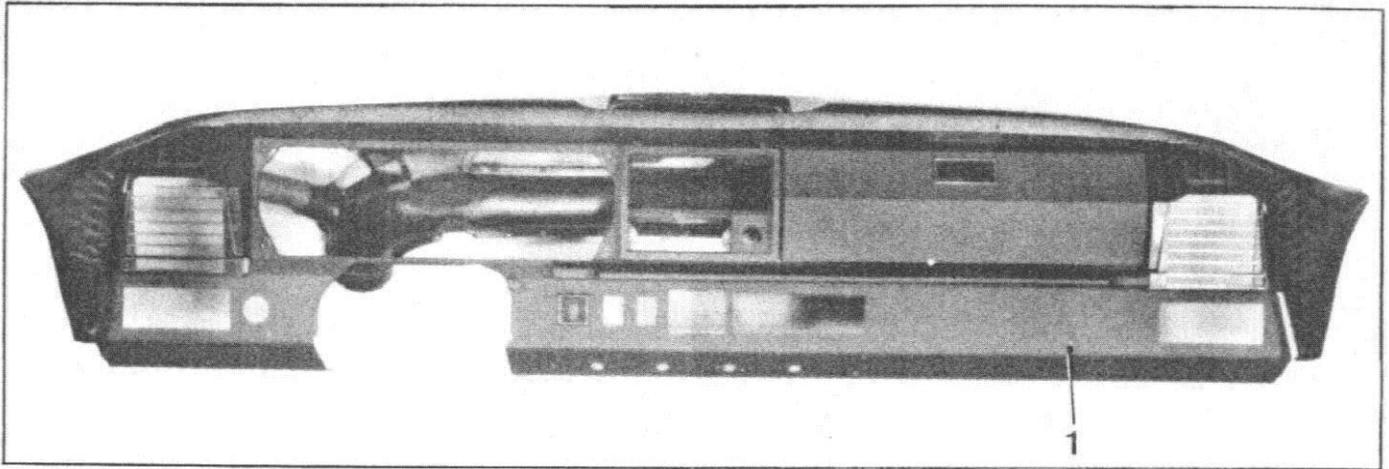
Remove left and right-hand dashboard fixing screws (6).

Remove ignition lock trim.

Remove dashboard (7).



5770



INSTALLATION

17. Installing dashboard (1) :

- a) Locate and position the dashboard.
- b) Fixing dashboard (1) :
  - Fit upper holding nuts and washers
  - Fit side fixing screws (2) and (8).
  - Fit lower fixing screws (4) and (10)
  - Fit ignition lock trim.

18. Position plastic plug inside glove box.

19. Position and fix heater controls (14) and (15).  
Position and fix heater control trim (13).

20. Fit ventilator trim frames (5) and (9).

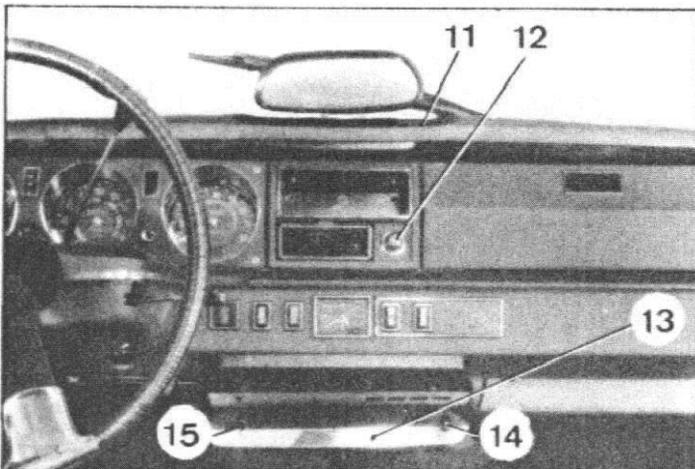
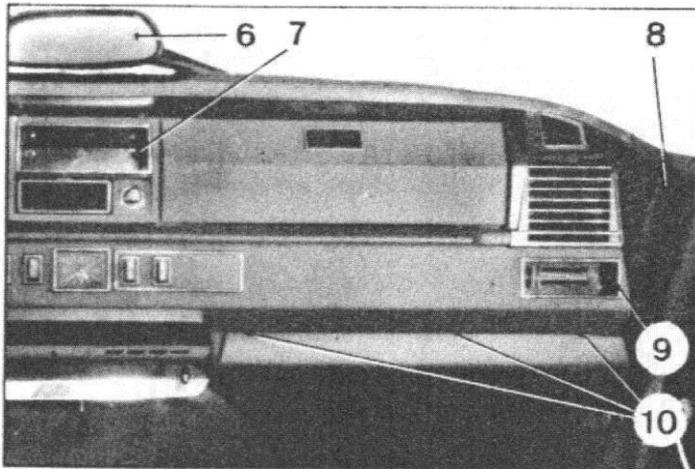
21. Make electrical connections to cigar lighter.  
Fit cigar lighter (12).

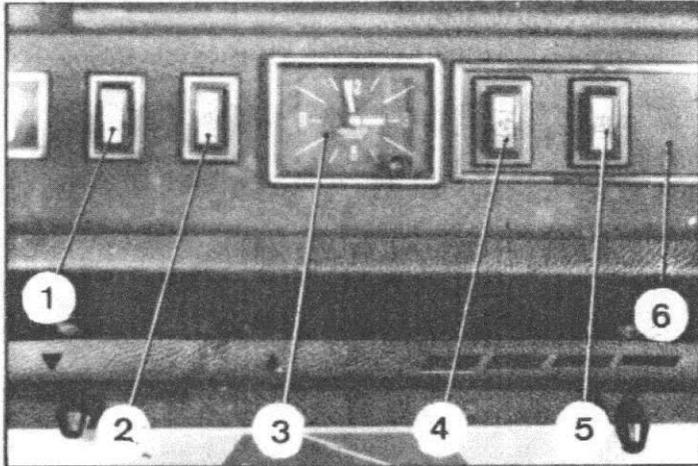
22. Position and fix interior driving mirror with its rubber stop.

23. Position and fix radio housing (7).  
Fit radio loudspeaker housing cover (11).

24. Replace ashtray (3).

Manual 814-2





25. Connect wiring to courtesy light switches (2) and sidelight switches (1).

Fit switches (1) and (2).

26. Connect the electrical clock wires.  
Fit clock (3).

27. Connect heating switch (4) and rear window heater switch (5) wiring.

28. Connect wiring for windscreen wiper, windscreen washer (7) lighting (9) and direction indicator controls (10).

29. Position and fit electrical control support panel (8).

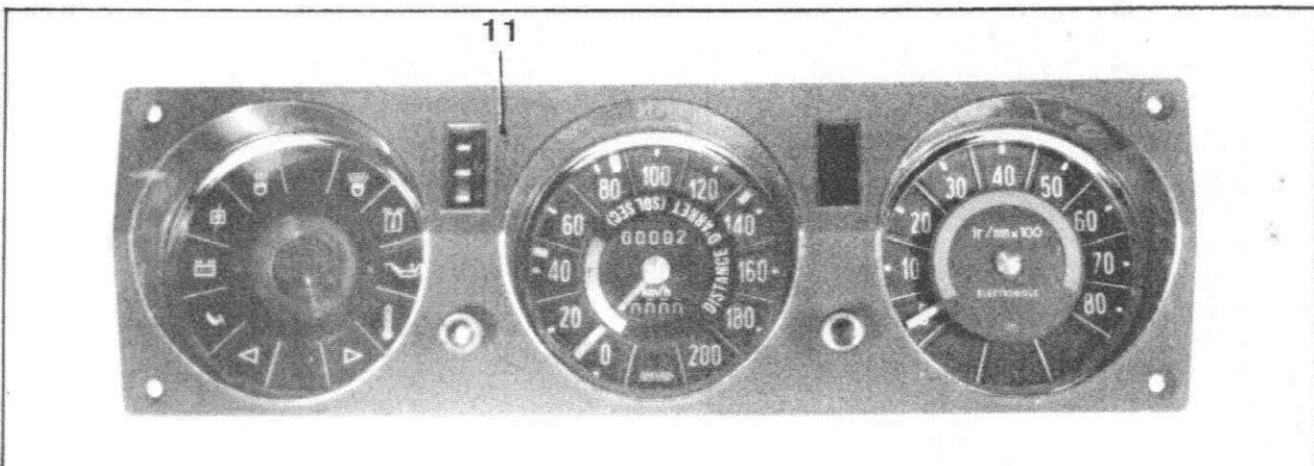
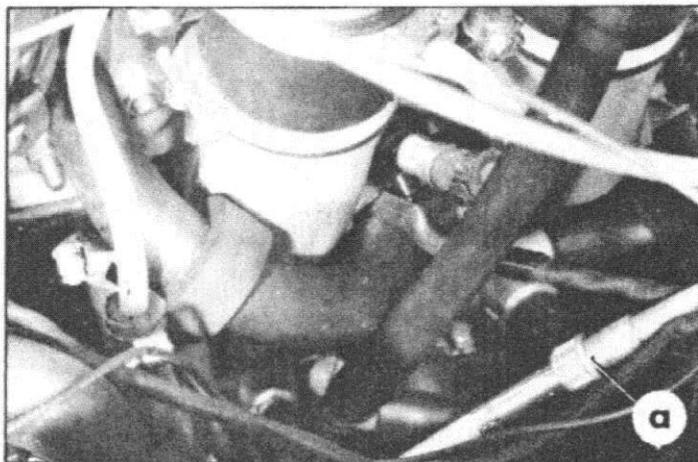
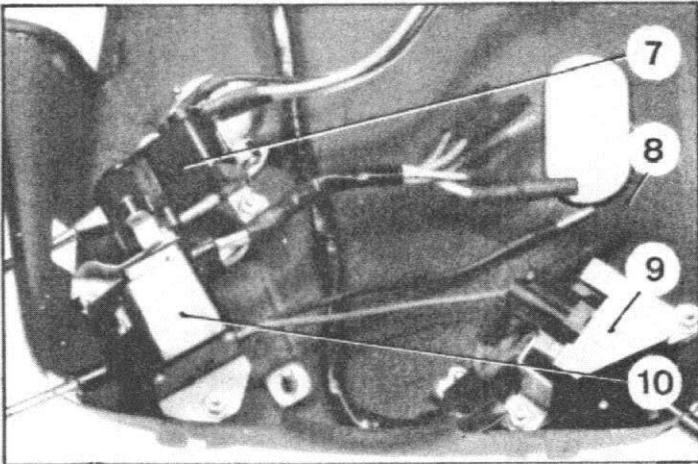
30. Make wiring connections for the control panel (11).  
a) Connect speedometer drive cable to the speedometer and at the fixing point in the engine compartment.  
b) Position and fit control panel (11).

31. Position and fit electrical control support panel cover.

32. Connect choke control to the carburettor ( *except type D.I.E.* ) ( Electronic fuel injection ).

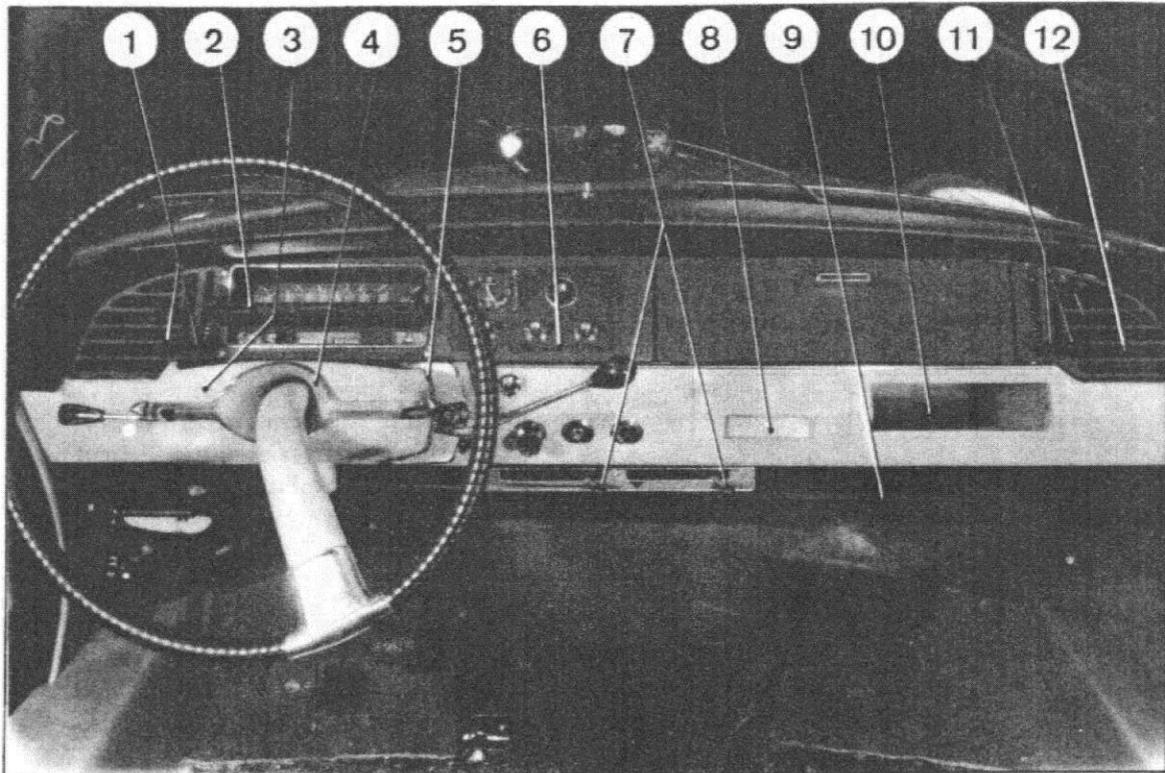
33. Connect the earth lead to the negative battery terminal.

34. Check correct operation of electrical equipment.



DV, DT, DE VEHICLES  
 —→ 9/1969

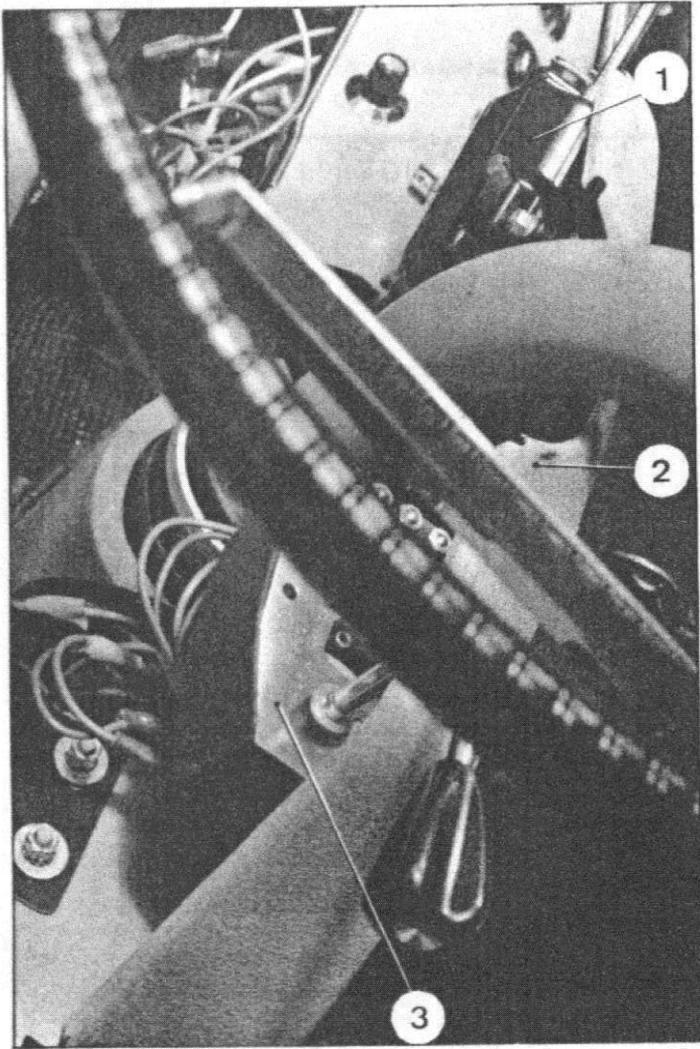
## REMOVAL AND INSTALLATION OF DASHBOARD



Manu of 814-2

## REMOVAL.

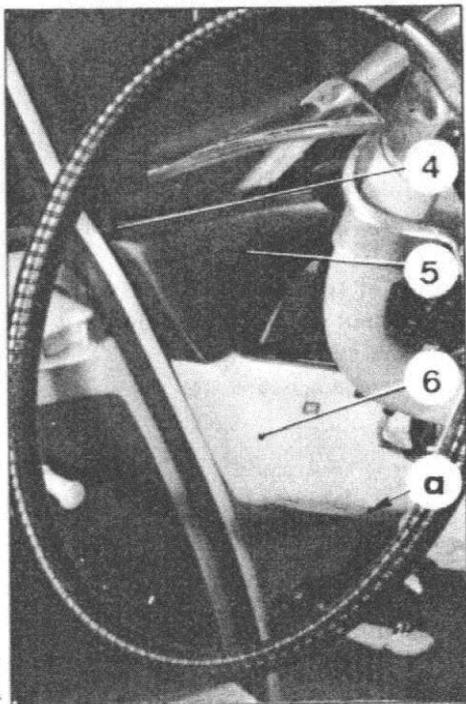
1. Disconnect lead from the negative terminal of the battery.
2. Remove steering column and gear change lever housing trim fixing screws (4) and (5).
3. Free gear change lever housing (5).  
Free steering column housing (4).
4. Remove rubber inserts under housing trim.
5. Remove the electrical controls cover (3).
6. Removal of speedometer panel :  
Remove :
  - four screws around speedometer panel,
  - screw on bracket under glove box cover,
  - control knobs of left-hand ventilator (1).
 Disconnect wiring harness from clock and control knobs.  
Remove windscreen washer knob from pump.  
Remove panel.
7. Removal of speedometer :
  - Disconnect speedometer cable and wiring.
  - Free the speedometer.
  - Remove the speedometer.
8. Remove knobs (11) from right-hand ventilator control and ventilator louvres (12).
9. Removing finishing panel under scuttle shelf (9)  
Remove control knobs (7)  
Remove finishing panel (9).
10. Remove ashtray (8) and glove box (10).



11. Disconnect wiring connections of :
- panel light rheostat,
  - direction indicator switch (3).

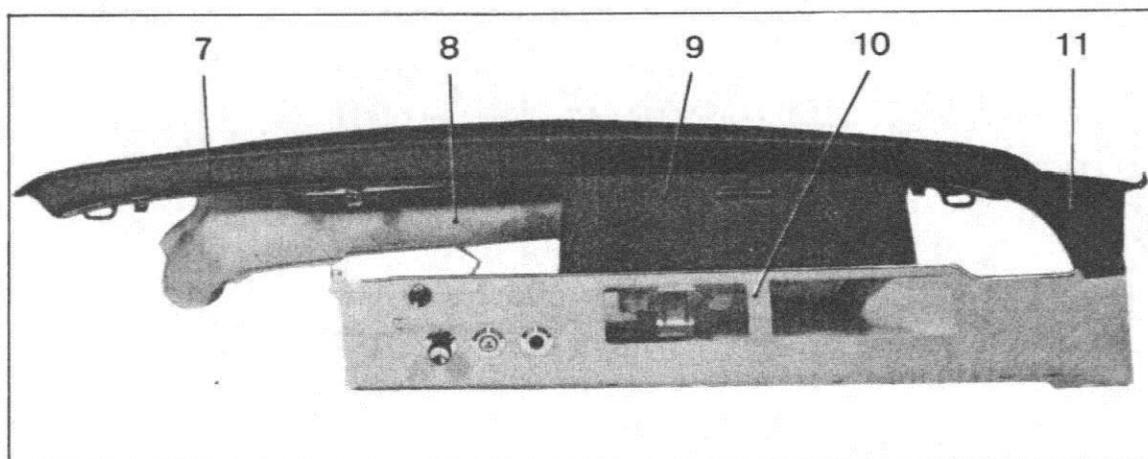
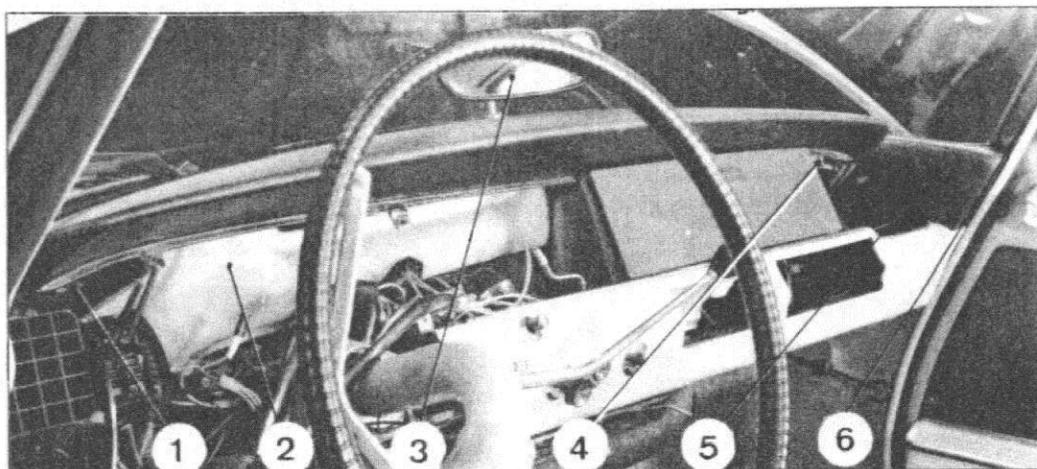
12. Remove fixing screws of :
- lighting and horn switch (1),
  - fixing screw for direction indicator switch (3) on steering column tunnel lug.

13. Remove electrical controls support bracket (2) with direction indicator lights switch (3).



14. Remove :
- lower left-hand dashboard panel fixing screw at « a »,
  - upper left-hand screw (4).

15. Free and remove the upper and lower dashboard panel assembly (5) and (6).



Manual 814-2

16. Disconnect wiring from the lower right-hand dashboard section.

Choke control wire from the carburettor.

17. Remove :

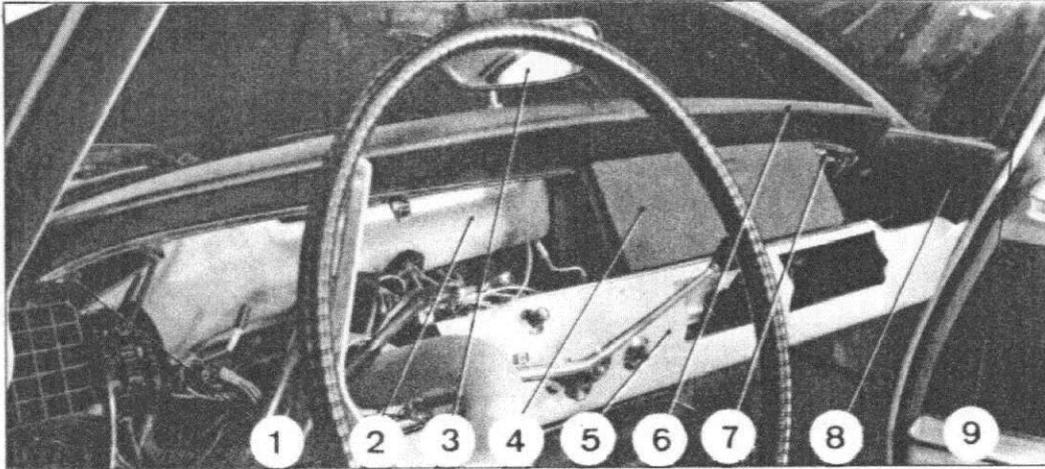
- fixing screw (6) of left-hand trim panel (5),
- driving mirror (3),
- upper dashboard fixing screws (4) and (1).

18. Disconnect flexible hose between air distributor duct and windscreen demister nozzle (2).

19. Remove :

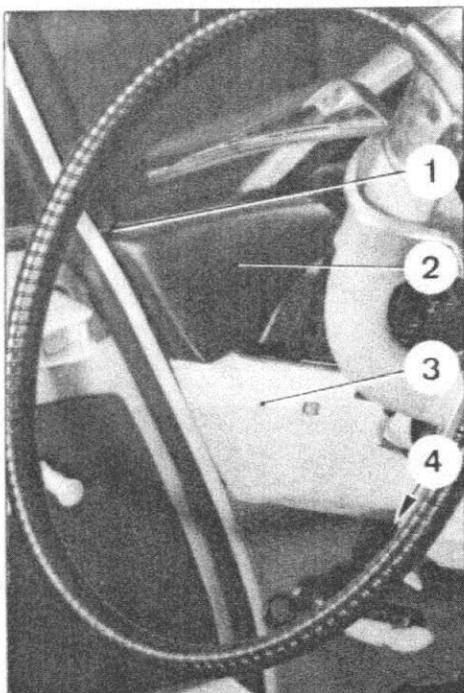
- upper right-hand dashboard section (7),
- lower right-hand dashboard section (10),
- right-hand trim panel (11),
- defroster nozzle (8),
- glove box (9)

20. Remove finishing strip between windscreen and upper section of dashboard.



## INSTALLATION

21. Fix finishing strip between windscreen and upper fascia panel.
22. Position :
  - upper right-hand section of dashboard (6) with trim panel (8),
  - lower right-hand dashboard section (5),
  - glove box (4),
  - windscreen defroster nozzle (2).
23. Position this assembly so that fixing lug passes between the two defrosting nozzle outlets and fixing screws (1) and (7) are located in the dashboard lugs.
24. Thread choke control wire through aperture in engine bulkhead.
25. Connect the flexible hose to air distribution duct and to the windscreen defroster nozzle (2)
26. Press fully home the upper portion of the fascia under the metal finishing strip.
27. Tighten the two fascia fixing screws (1) and (7).
28. Fit driving mirror (3) and set it correctly.
29. Fit and tighten screw (9) holding trim panel (8).
30. Connect the wiring harness to the lower right-hand section of the dashboard.

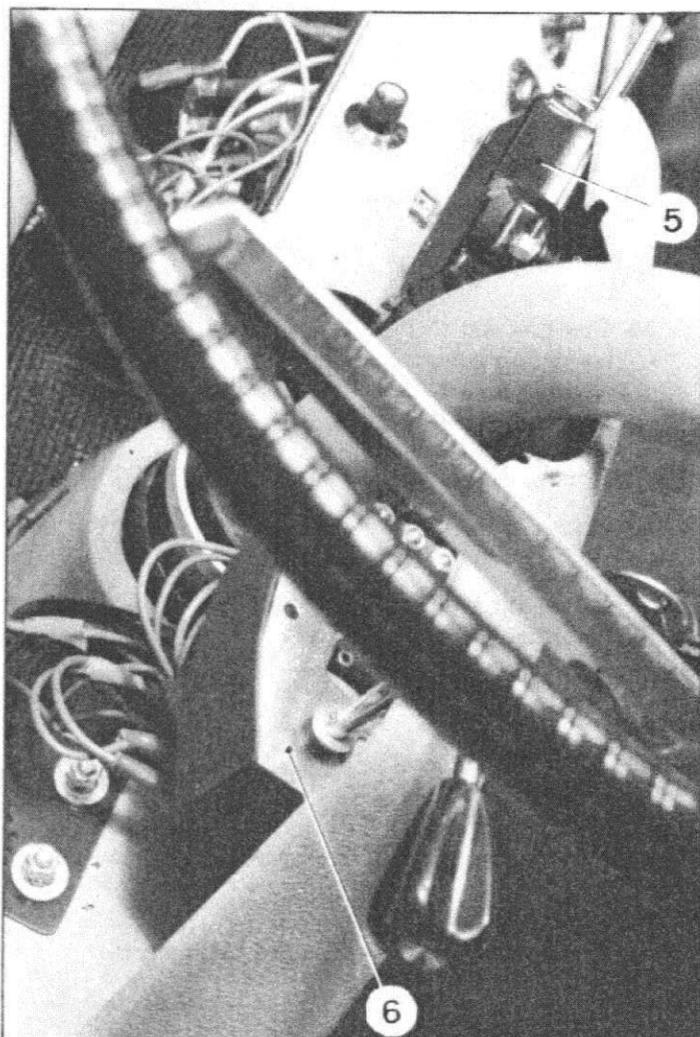


31. Position the assembled upper left-hand and lower left-hand sections of the fascia (2) and (3).

Press fully home the upper left-hand section of the fascia under the metal finishing strip and under the upper right-hand section.

Fit :

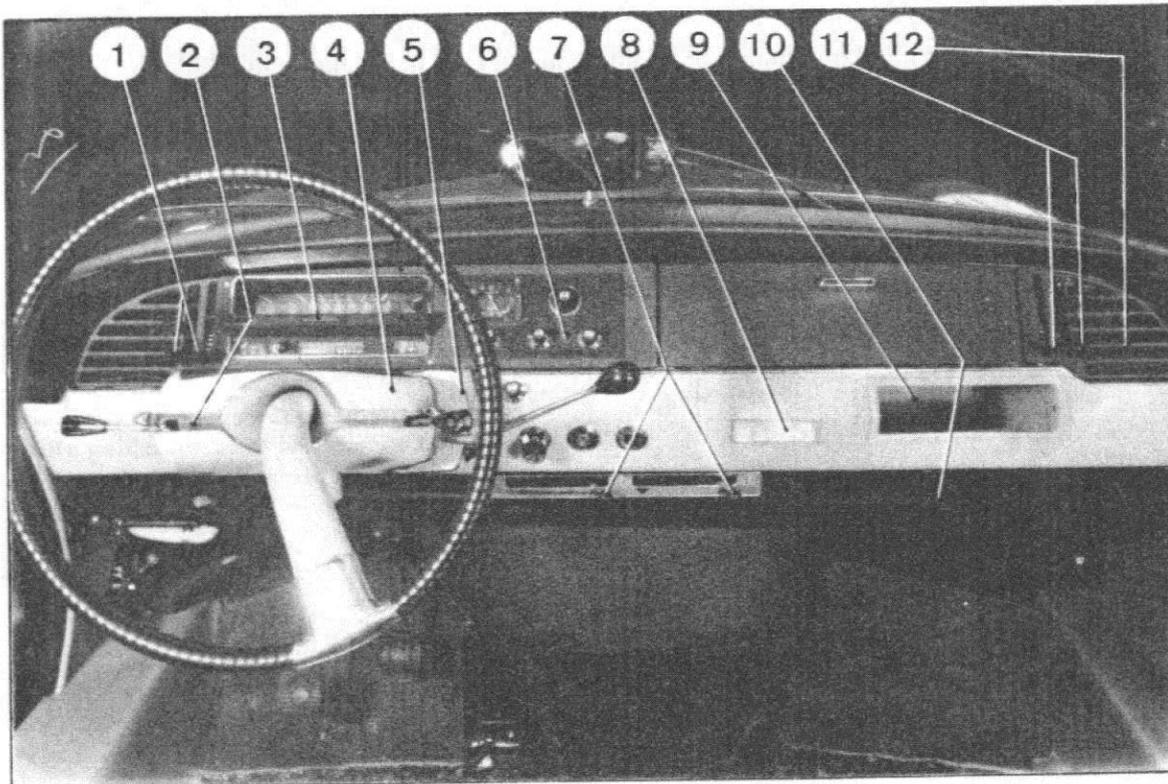
- fixing screw (1),
- the screw (4) securing upper and lower left-hand dashboard sections.



32. Thread the lighting and horn switch wiring harness under the steering column tunnel support lug.

33. Fix :

- lightening and horn switch (5),
- steering wheel tube support lug to the lightening and horn switch bracket,
- direction indicator light switch (6) on the steering column tunnel support lug.



34. Position speedometer unit (3).  
Make electrical connections to speedometer unit.

Instal speedometer (3)  
Connect speedometer cable.

Position speedometer panel frame (6).  
Make electrical connections.  
Connect windscreen washer control button to  
washer pump.

Fix speedometer panel frame (6).

35. Fit left-hand ventilator control knobs (1).

36. Fit right hand ventilator louvre (12).  
Fit right hand ventilator control knobs (11).

37. Position and fit electrical controls support  
cover (4).

38. Position and fit :  
- steering column housing trim (2), with its  
rubber insert,  
- gear change lever housing (5) with its rubber  
insert.

39. Position and fit glove box (9).

40. Fit the ashtray (8).

41. Position and fix finishing panel under scuttle  
shelf (10).

42. Screw heating and ventilation lever control  
knobs (7).

43. Connect earth lead to negative battery terminal.  
Check correct operation of electrical equipment.

## FITTING WATER TEMPERATURE GAUGE

D VEHICLES ALL TYPES

9/1969

All D type vehicles produced since September 1969 can be fitted with water temperature gauge :

Proceed as follows :

## A. OBTAIN FROM REPLACEMENT PARTS DEPARTMENT :

- 1 Water temperature gauge ..... DX. 521-215 A
- 3 Water temperature gauge fixing screws ..... ZD 9 096 100 U

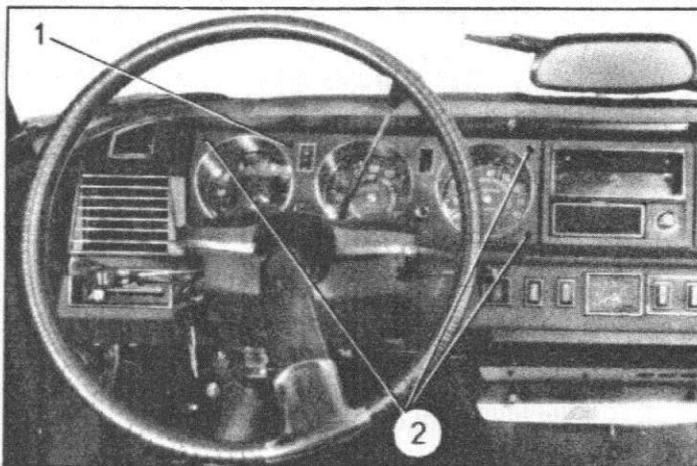
For D vehicles All Types ( and D.IE vehicles All Types → 9/1972 )

- 1 Thermometer sensor  $\phi = 18$  mm thread pitch 1.50 ..... 1 D 5 413 327 L
- 1 Copper gasket ..... ZD 9 246 600 U

For D.IE vehicles All Types → 9/1972

- 1 Thermometer sensor  $\phi = 16$  mm thread pitch 1.50 ..... 1 D 5 428 845 K
- 1 Copper gasket ..... ZD 9 247 800 U
- 1 Flat spur connector ..... DX 511-99
- 1 Flat terminal lug  $\phi = 4$  mm ..... ZC 9 614 541 U
- 1 Female Gelbey plug ..... 1 M 5 420 487 M
- 1 Male Gelbey plug ..... 1 A 5 412 276 M
- 1 Rubber ring ..... 1 M 5 420 488 Y
- 1.600 m. electric wire  $\phi = 12/10$  mm ..... ZC 9 003 733 U
- 3 green insulators
- 1.500 m. insulation sleeving  $\phi = 5$  mm

Manuel 814-2



## B. INSTALLATION PROCEDURE

1. Disconnect lead from negative terminal of battery.

## 2. Removal of instrument panel :

Uncouple speedometer drive cable gearbox side, ( on a level with alternator ).

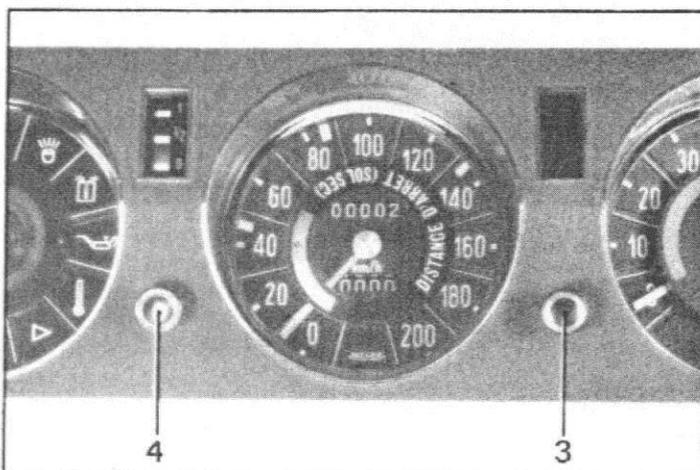
Remove four fixing screws ( 2 ) of instrument panel ( 1 ).

Freeing instrument panel ( 1 ) :

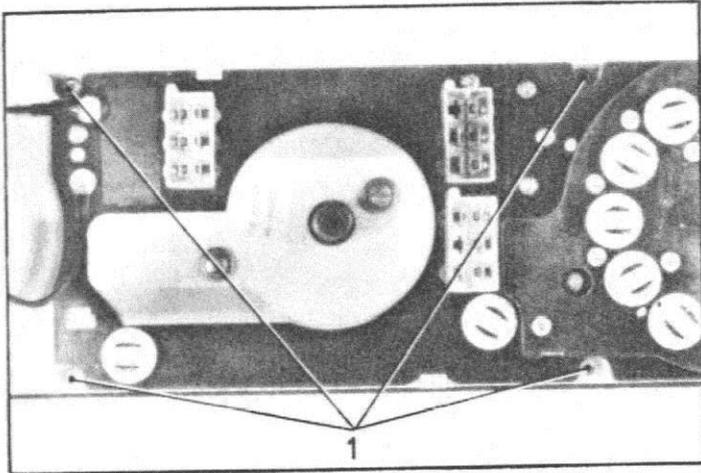
- Uncouple speedometer drive cable.
  - Remove the three connectors from the sockets on the instrument panel.
- Remove the instrument panel.

## 3. Remove :

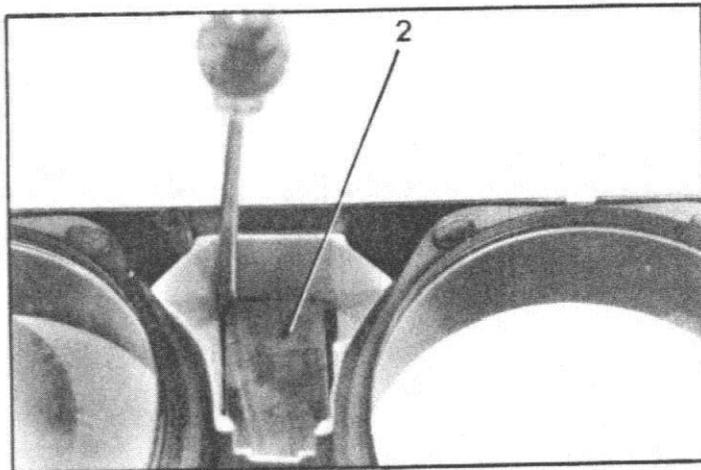
- Red « STOP » indicator lamp cluster control knob ( 4 ),
- Trip totaliser re-set knob ( 3 ).



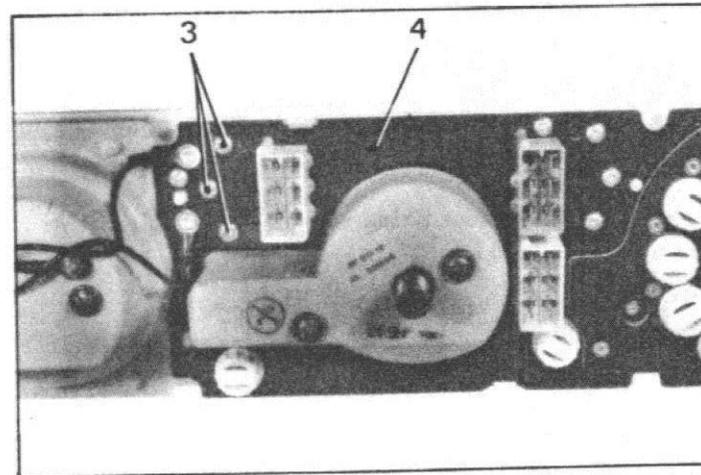
NOTE : These two knobs are a « push-on » fit. To remove, pull off.



4. Remove the four screws ( 1 ) and disconnect front of instrument panel from the rear part of electrical equipment support bracket.



5. Free metal cover ( 3 ) from housing provided for water temperature gauge ( symmetrically positioned with petrol gauge ) Use a screwdriver to free the cover ( 2 ) from its upper and lower notches.



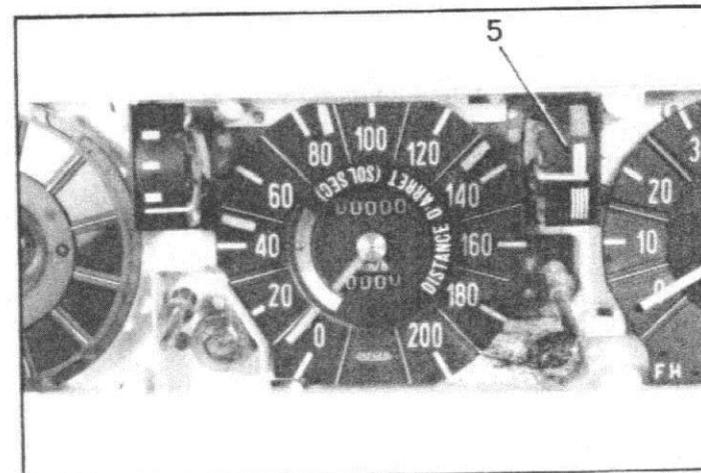
6. Fix water temperature gauge ( 5 ) with three screws ( 3 ).

Proceed as follows :

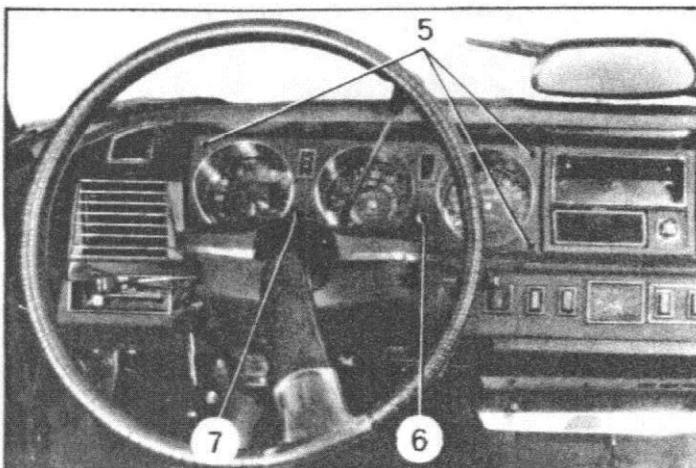
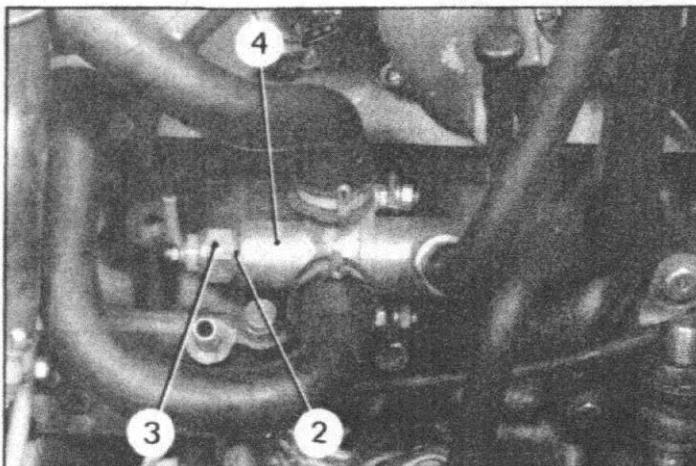
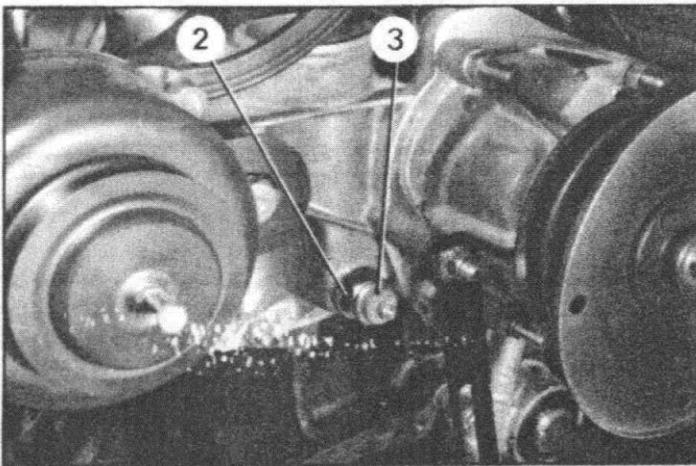
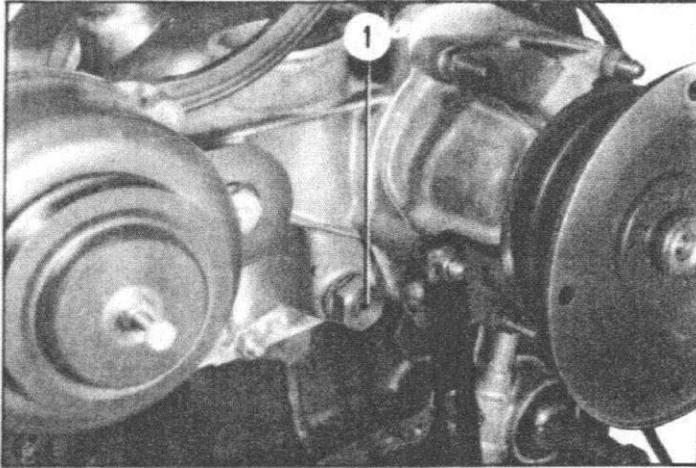
a) Detach adhesive masking tape covering fixing holes in rear panel ( 4 ) ( printed circuit )

b) Locate the two rear connectors of temperature gauge into sockets provided in rear panel ( 4 ) ( printed circuit ).

c) Tighten the three screws ( 3 ).



7. Fix front of instrument panel to rear part of electrical equipment support bracket, using the four screws ( 1 ).



### 8. Fitting thermal sensor (3) :

#### a) On water pump casing :

*D vehicles All Types ( and D.1E All Types  
—> 9/1972 )*

Remove plug (1) and place thumb over hole in water pump casing to prevent escape of coolant.

Position thermal sensor (3) complete with its gasket (2) on water pump housing, working as quickly as possible to avoid loss of coolant.

#### b) On supplementary air control (4) :

*D.1E vehicles All Types —> 9/1972*

Drain unit, recovering cooling water.

Remove plug mounted at the end of supplementary air control (4) and fit thermal sensor (3) complete with gasket (2).

Fill cooling system circuit, using water recovered.

### 9. Connect as shown at figure 1 ( see page 4 ).

### 10. Fitting instrument panel :

Position instrument panel.

Connect flexible cable to speedometer.

Plug in the three connectors on the sockets on the instrument panel.

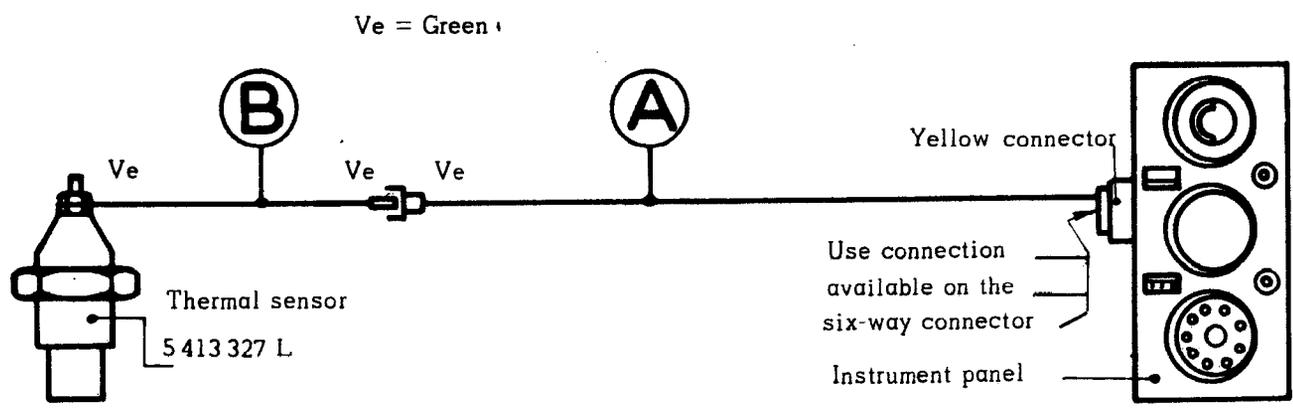
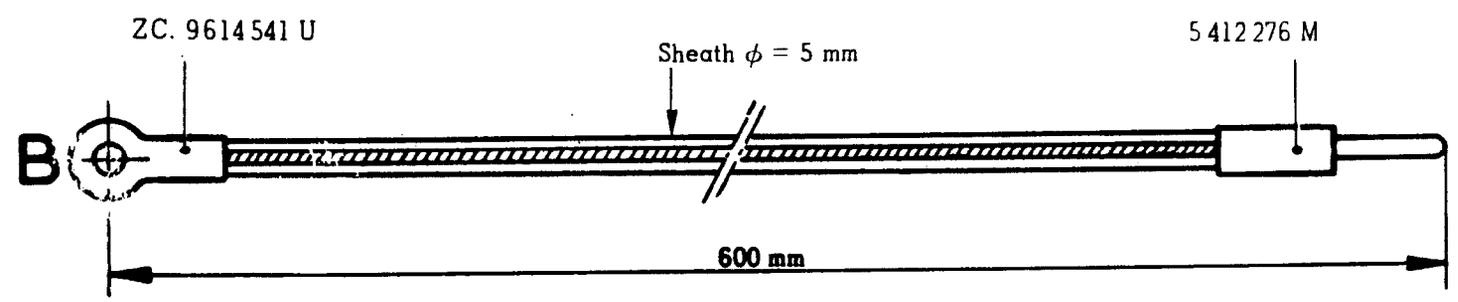
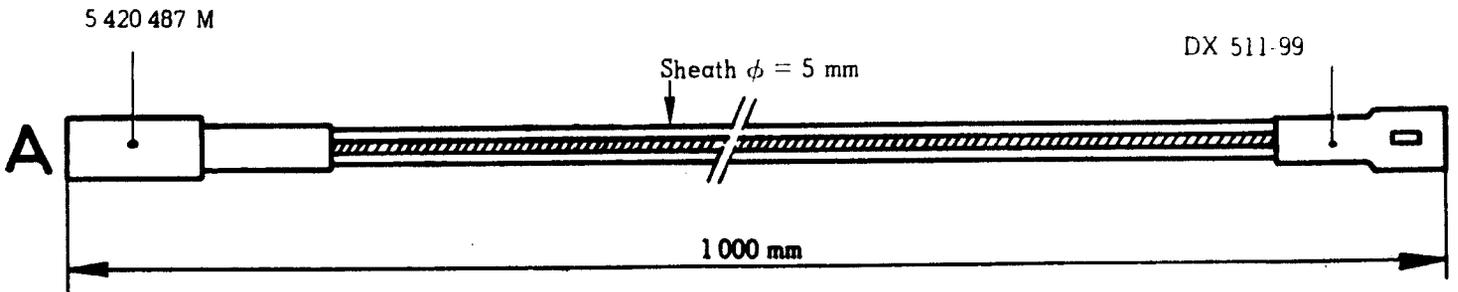
Fix panel with four screws (5).

Connect speedometer cable to gearbox ( at alternator level ) taking care to fit the insulating sleeve over the cable joint to prevent it short circuiting the alternator terminals.

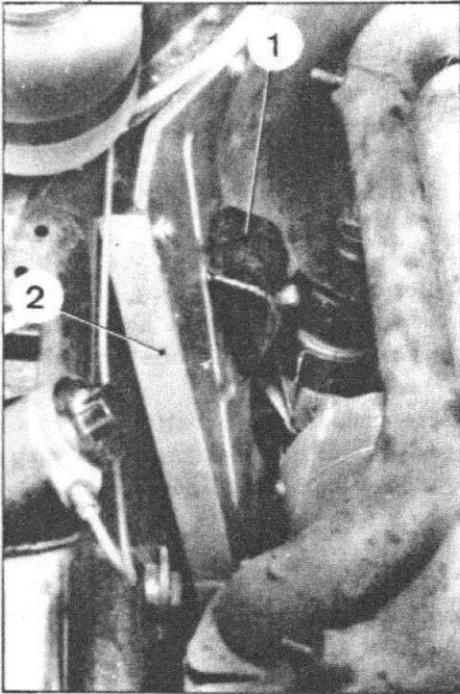
### 11. With their notches correctly positioned, install the two knobs (6) and (7) and press them fully home.

### 12. Connect lead to negative terminal of battery.

D. 51-31



NOTE : Wires A and B should follow the same path as front right-hand wiring harness of the vehicle, and should be secured with rubber clips at intervals of about 300 mm.



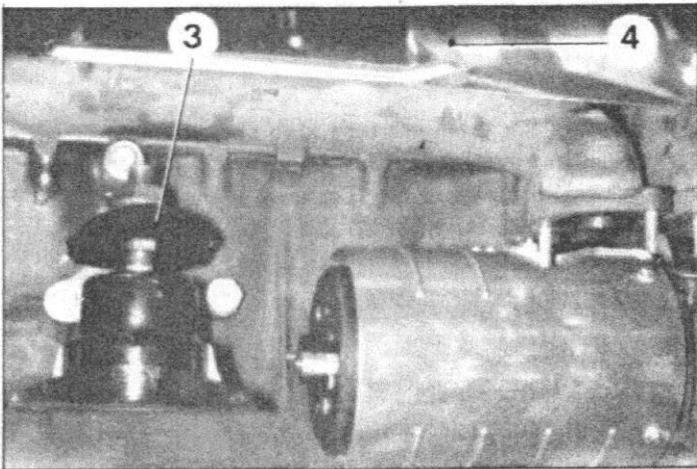
## 13. Fit :

- soundproof shield ( 2 ),
- sound dampening weight ( 1 ).

## 14. Reposition engine mounting protective cover ( 3 ).

## 15. Fit :

- exhaust manifold protective shield ( 4 ),
- air filter and its bracket,
- battery mounting and battery  
( *vehicles with battery fitted on right-hand side* ).



## 16. Connect the\*lead to the positive terminal of the battery.

( *vehicles with battery fitted on right-hand side* )

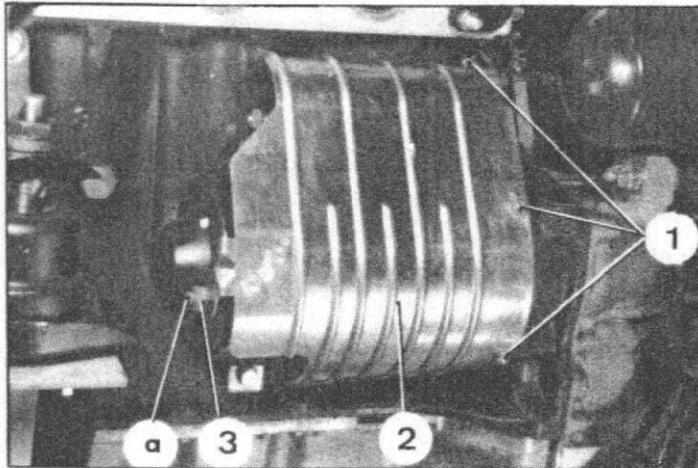
Connect the earth cable to the negative terminal of the battery and the feed lead to the starter motor.

## 17. Fit the front right-hand suspension sphere.

|          |        |  |   |          |
|----------|--------|--|---|----------|
| VEHICLES | DX. DJ |  | → | 12/ 1967 |
|          | DY. DL |  | → | 7/ 1968  |
|          | DV. DT |  | → | 9/ 1968  |

## II - REMOVAL AND INSTALLATION OF SOLENOID TYPE STARTER

### REMOVAL



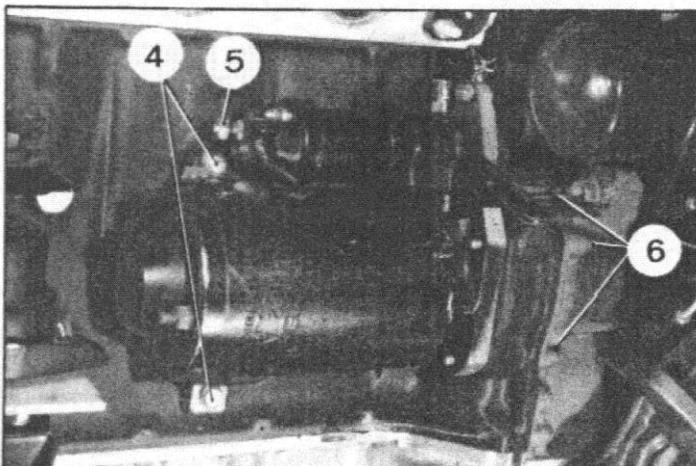
1. Disconnect lead from negative battery terminal.  
If battery is fitted on right-hand side, remove it and its mounting.
2. Place the manual height control in « low » position and remove front right-hand suspension sphere.
3. Remove exhaust manifolds.
4. Removal of shield (2) :
  - Loosen the three screws (1).
  - Remove nut (3) with its spring washer from the fixing stud on the rear starter bearing plate.
  - Remove shield (2) by freeing it towards the rear.

5. Disconnect feed lead from solenoid terminal (5).

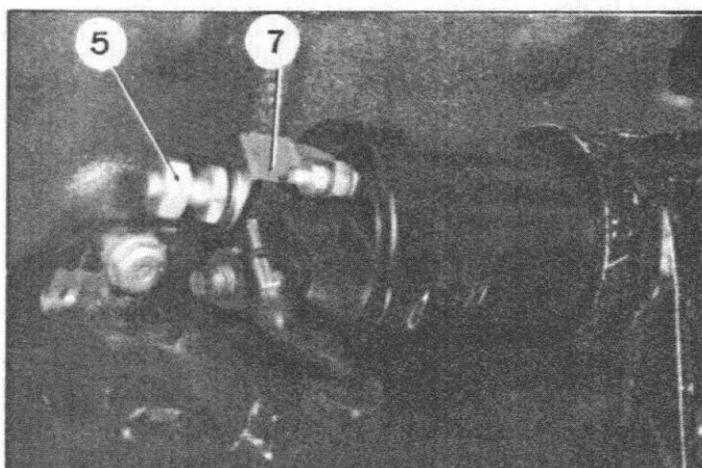
6. Remove :
  - the three front screws (6),
  - the two rear screws (4).
  - the starter motor

### INSTALLATION

7. Position starter on engine. Fix in position with :
  - the three front screws (6)
  - the two rear screws (4) using shakeproof washers under screw heads.
8. If the vehicle is equipped with a starter relay, check that the shunt (7) is correctly positioned as shown opposite.
9. Connect feed lead to solenoid terminal (5).
10. Fitting shield (2) :
  - Insert screen (2) under the three flat washers of screws (1) ( locate by open-ended slots on screen ) and over rear stud « a ».
  - Tighten nut (3) ( spring washer ).
  - Tighten the three screws (1) using flat and shake-proof washers.



11. Fit exhaust manifolds.
12. Fit front right-hand suspension sphere.
13. If the battery is installed on the right :
  - fix battery mounting,
  - install battery.



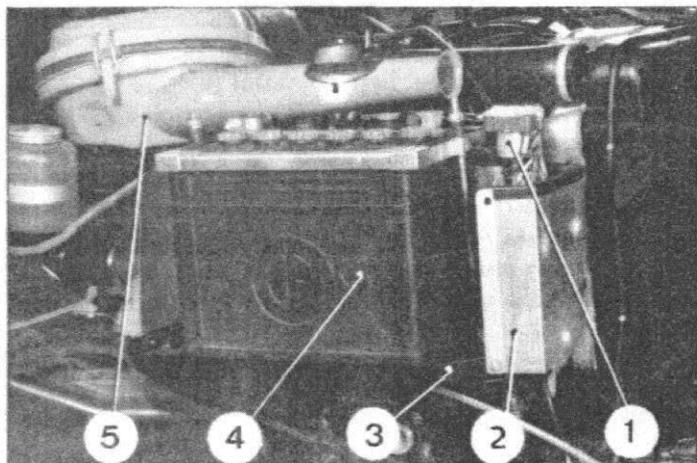
14. Connect earth cable to negative terminal of battery.

VEHICLES DY. DL → 7/1968

DV. DT → 9/1968

## III - REMOVAL AND INSTALLATION OF BENDIX TYPE STARTER

## REMOVAL

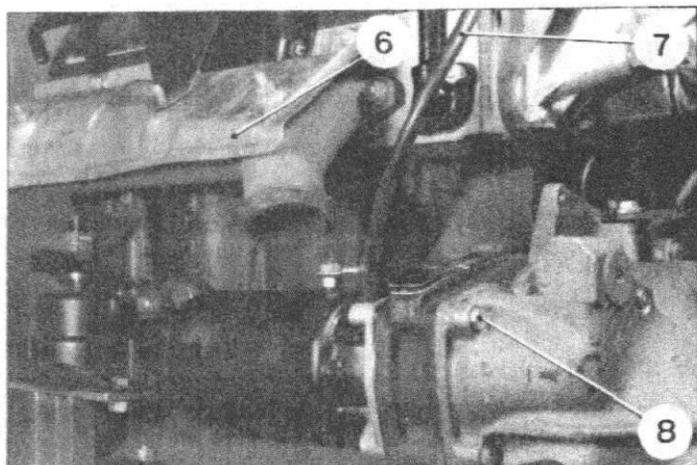


1. Disconnect :
  - lead from negative terminal of battery,
  - lead from positive terminal of battery
  - starter relay leads (1).

2. If battery is installed on the right :

Remove battery (4).  
Free battery support (3) from right-hand side with shield (2) and regulator.

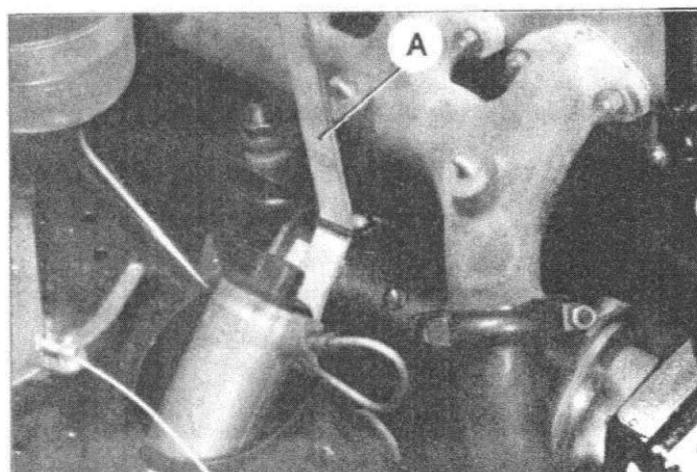
3. Place vehicle in « low » position.



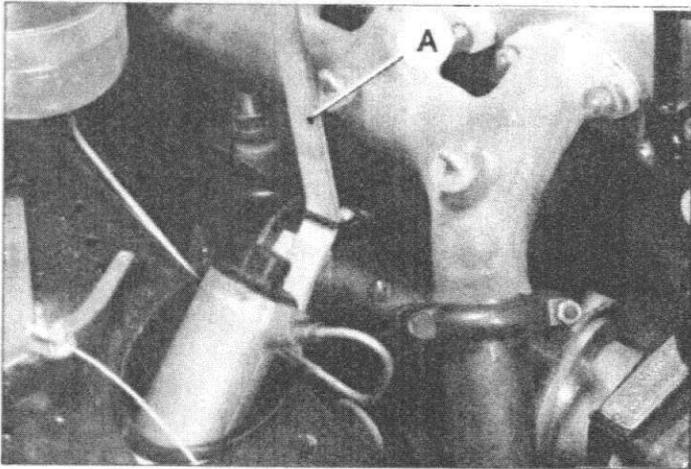
4. Remove :
  - front right-hand suspension sphere,
  - air filter (5) letting it rest on cylinder head,
  - exhaust shield (6),
  - right-hand dampening weight.

5. Disconnect starter lead (7).

6. Remove the three starter fixing screws (8) on the clutch housing.



7. Hold starter with belt A, and free it from behind the engine between the manifold and the body.



POSE.

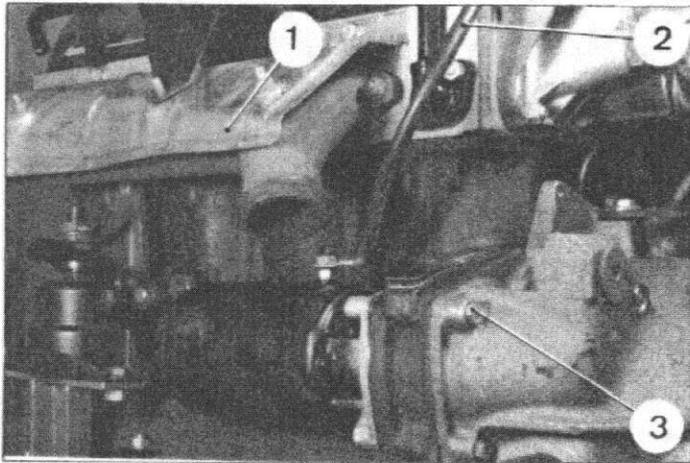
8. Position starter using belt A.

9. Tighten the three starter fixing screws (3).

10. Connect starter cable (2).

11. Fit :

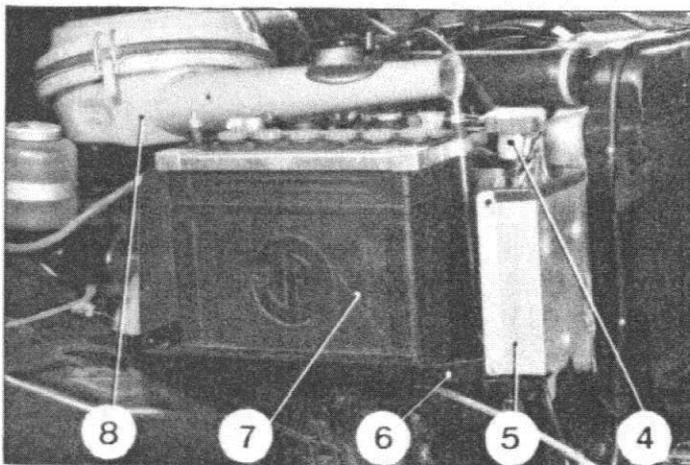
- dampening weight,
- exhaust shield (1) ( use flat and shakeproof washers ),
- air filter (8),
- front right-hand suspension sphere.



12. *If battery is fitted on right-hand side :*

Fit :

- battery mounting complete with shield (5) and regulator,
- battery.

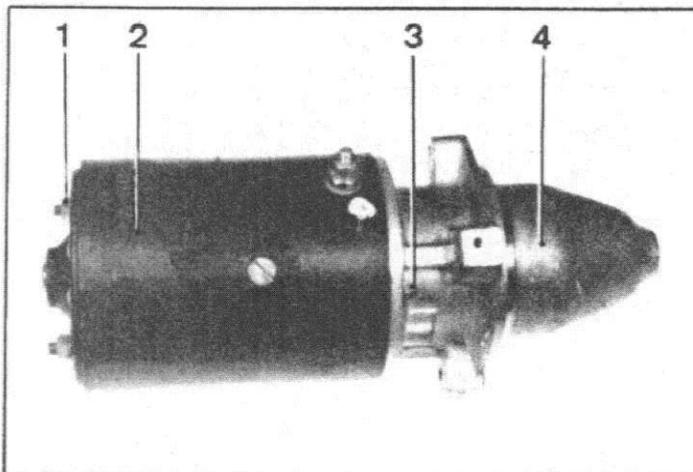


13. Connect :

- earth cable to negative terminal of battery,
- starter relay leads (4).

14. Put vehicle in « road » position.

## I - REPLACEMENT OF « BENADA » PINION ON PARIS-RHONE STARTER



## REMOVAL

1. Release lock washers and remove three nuts (3).  
Remove two nuts (1).  
Remove nose (4) from casing (2).
2. Free armature (6) with pinion (7).
3. Free circlip (9) from neck of armature.  
Unscrew holding screw (8) from « BENADA » pinion.  
Pull pinion (7) to free it from armature spindle (6).

## INSTALLATION.

4. Locate woodruff key in slot (10).
5. Fit stop bush (9) as shown in illustration.  
Grease « BENADA » pinions (7) with vaseline, fit to spindle and slide it over the woodruff key (10), so that screw (8) fits into hole « a ». Tighten screw until it is flush with spindle. Position one of the screw slots in the extension of armature neck and replace stop bush (9).
6. Introduce armature (6) into the casing (2) and rear bearing (5), keeping the four brushes raised by wedging them with their springs. When armature is correctly positioned, release the springs so that they press on to the brushes.
7. Fit nose (4) to casing (2) guiding the two threaded spindles (11) through rear bearing (5) : ( ensure that spindles are fitted with insulating sleeves ).

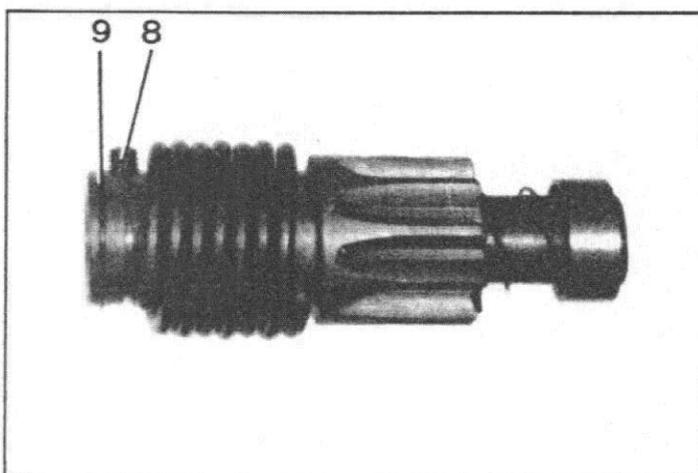
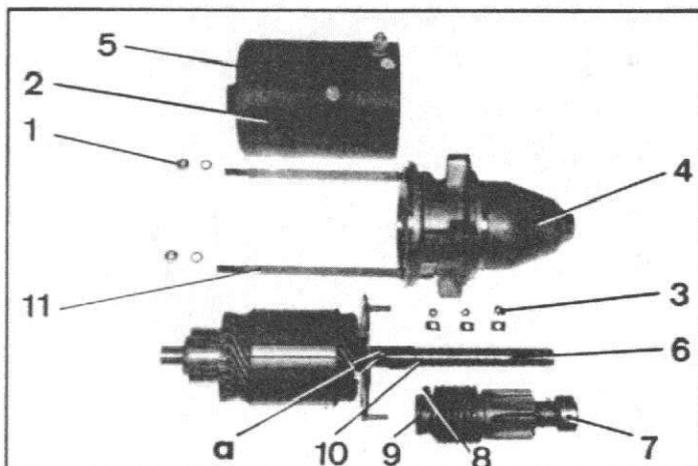
8. Tighten two nuts (1) ( use shakeproof washers ).

Fit lock washers and tighten nuts (3).

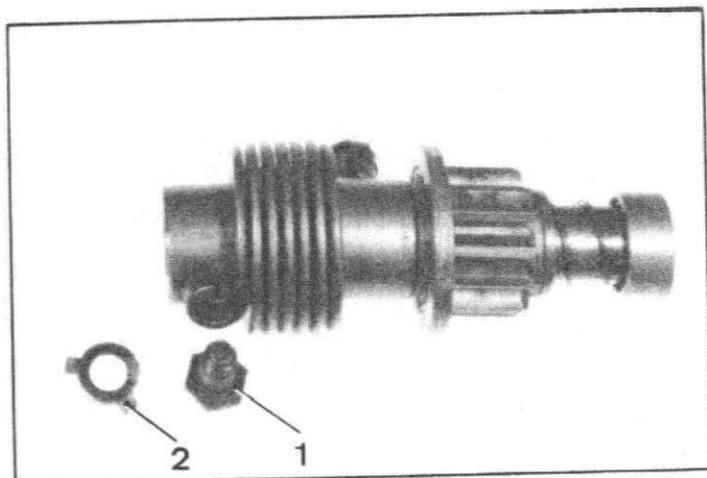
Lock nuts.

NOTE : *Since July 1966* « BENADA » pinions have undergone an anti-seizing treatment which gives them a matt grey appearance.

Manual 814-2



## II - REPLACEMENT OF « BENDIX » PINION ON DUCELLIER STARTER

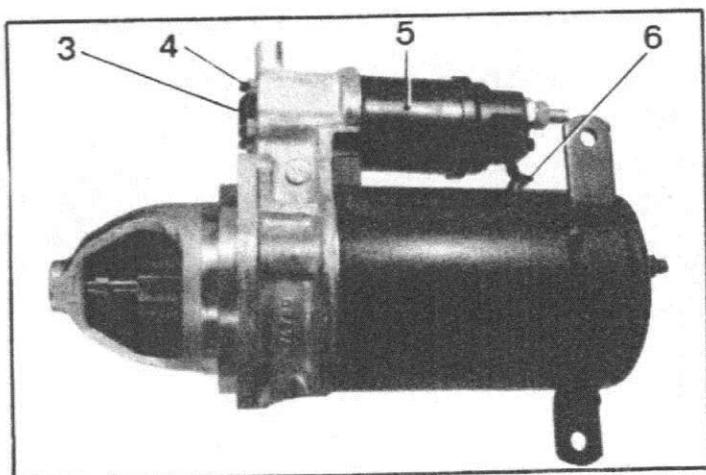


1. Removal and installation is exactly as for « BENADA » pinion.

2. Fixing of « BENDIX » pinion is different :  
The screw (1) is held by a metal lock washer (2).  
Tighten this screw to 45 mAN ( 4.5 m.kg ) ( use torque spanner ).

NOTE : *Since July 1966* « BENDIX » pinions have undergone an anti-seizing treatment which gives them a matt grey appearance.

## III - REPLACEMENT OF SOLENOID SWITCH ON PARIS-RHONE STARTER

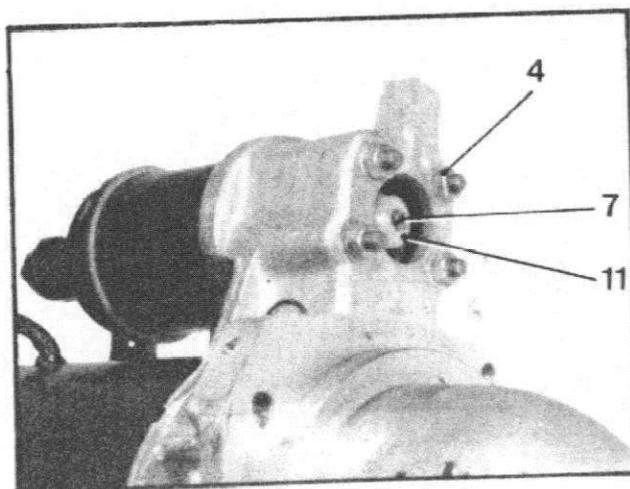
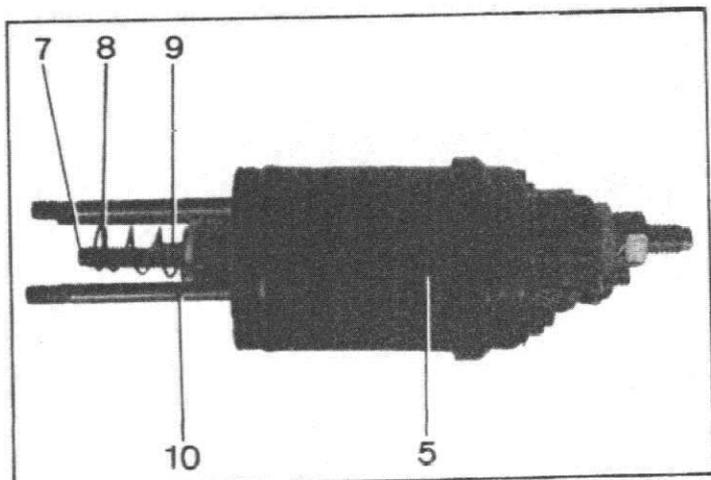


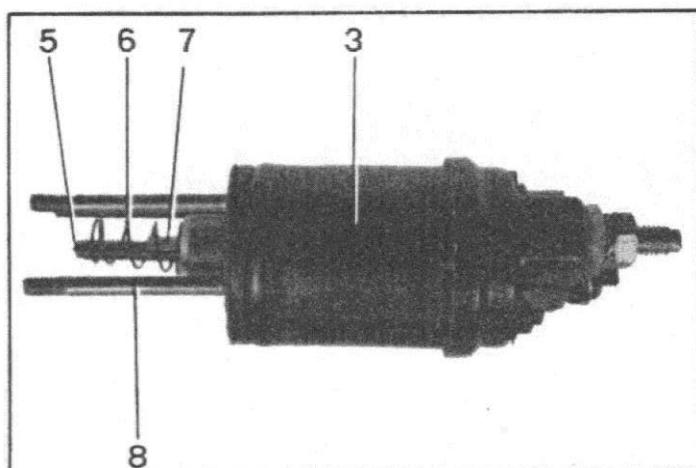
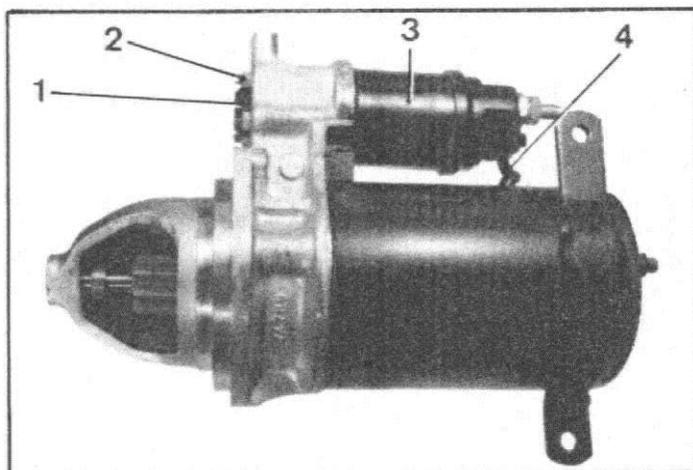
REMOVAL :

1. Disconnect lead (6) to inductors.

2. Remove :  
- rubber plug (3),  
- plastic nut (11) by screwing adjusting screw (7).

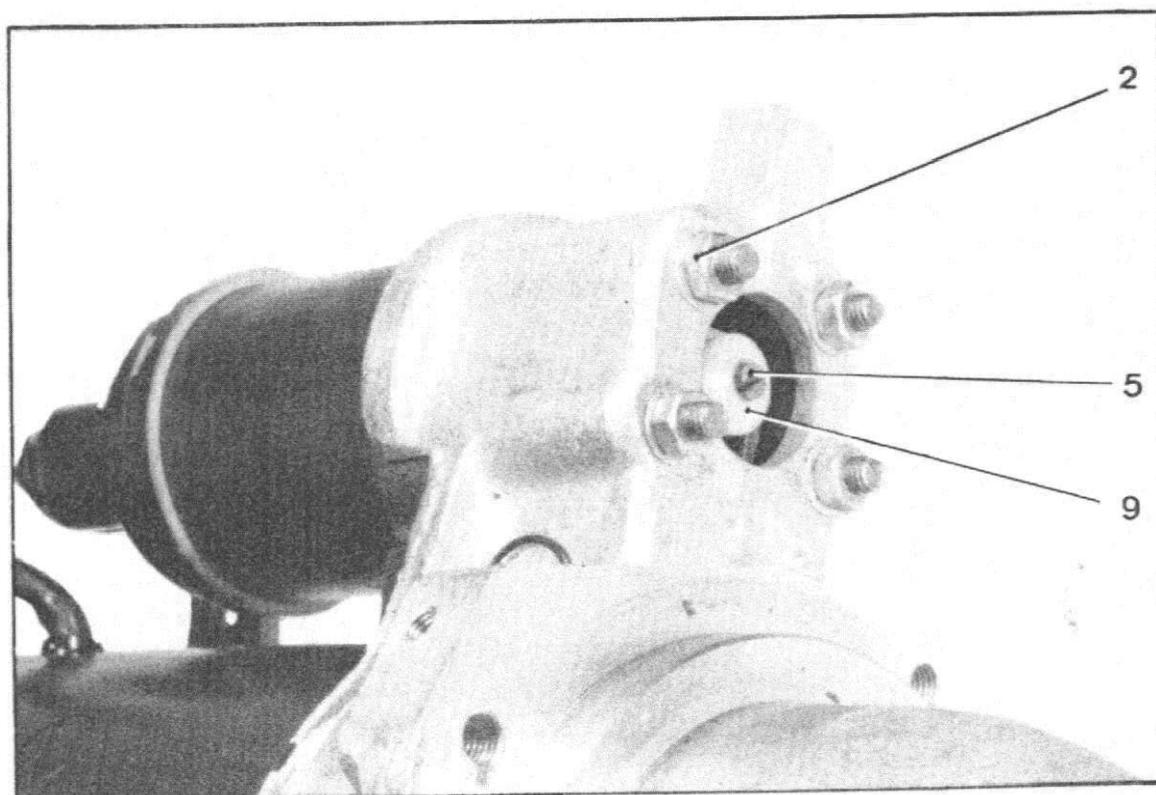
3. Remove :  
- four nuts (4),  
- solenoid (5),  
- return spring (8),  
- plastic thrust washer for spring,  
- four stud screws (10).





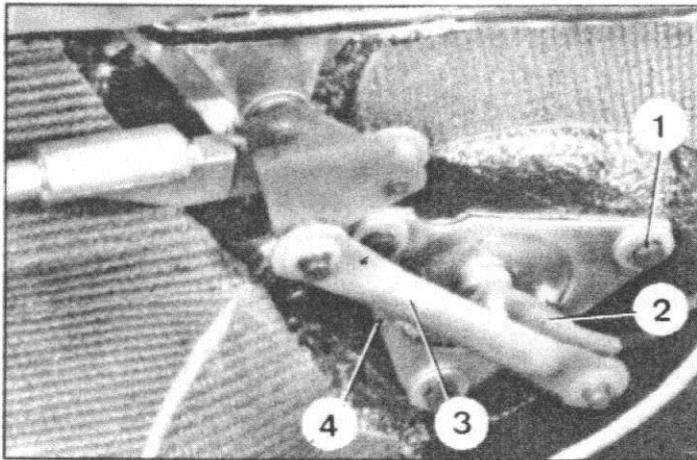
## INSTALLATION

4. Screw four stud screws (8) into solenoid (3) with shorter threaded ends towards solenoid.
5. Place on screw (5) :
  - plastic washer (7),
  - return spring (6).
6. Position solenoid (3) thus assembled on to starter and secure it with the four nuts (2) ( Use flat washers ).
7. Centre spring (6) in cup of plastic fork guide.
8. Pre-setting of control pinion :
  - Position plastic nut (9).
  - Screw it on to adjusting screw (5) and unscrew adjusting screw until it protrudes from plastic nut by one or two threads.
9. Connect leads to inductors (4) on the solenoid (3).
10. Adjust control pinion.
11. Fit rubber plug (1) to solenoid.



## VEHICLES ALL TYPES

## REMOVAL AND INSTALLATION OF WINDSCREEN WIPER MOTOR ( and of linkage )



### REMOVAL

1. Disconnect lead from negative terminal of battery.  
Disconnect leads to windscreen wiper motor.

2. Remove dashboard.

3. Removal of windscreen wiper motor :

a) Using a screwdriver, free nylon socket securing control rod (3) to ball joint on the motor connecting rod (2) and disconnect control rod.

b) Remove the three fixing screws (1) of clamp plate (4).

c) Free clamp plate (4) and remove wiper motor (5).

4. Removal of linkage :

a) Loosen screw (6) and remove wiper arm (7).

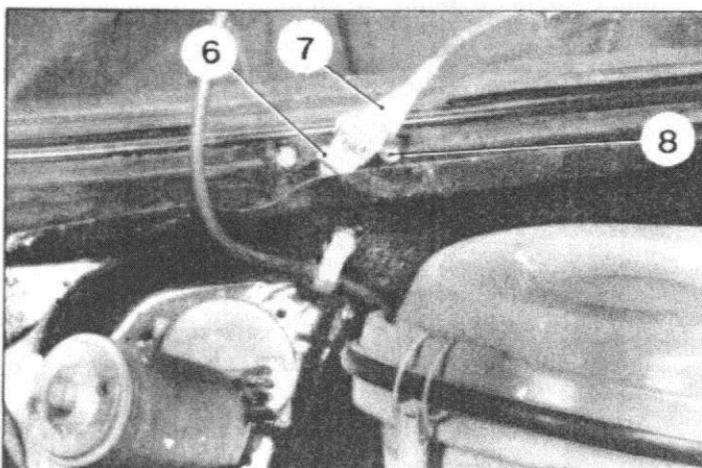
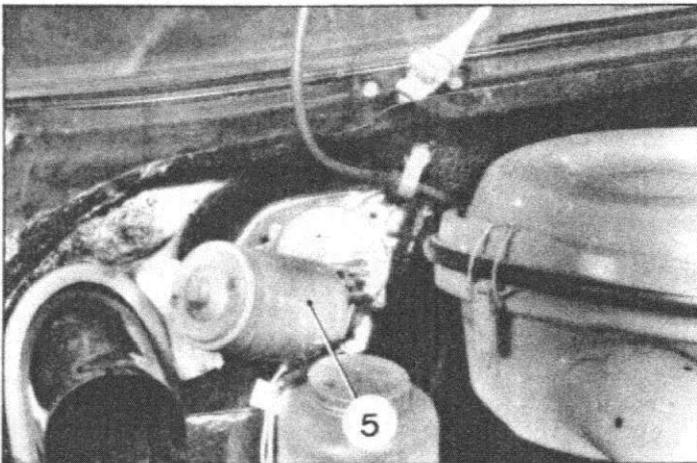
b) Free angled packing piece and rubber water-tight joint.

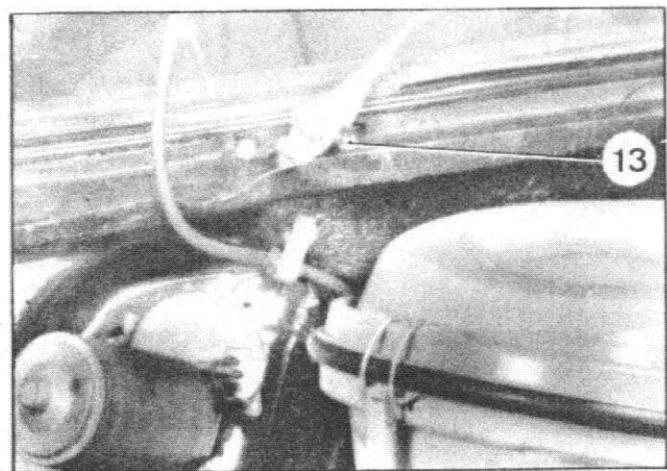
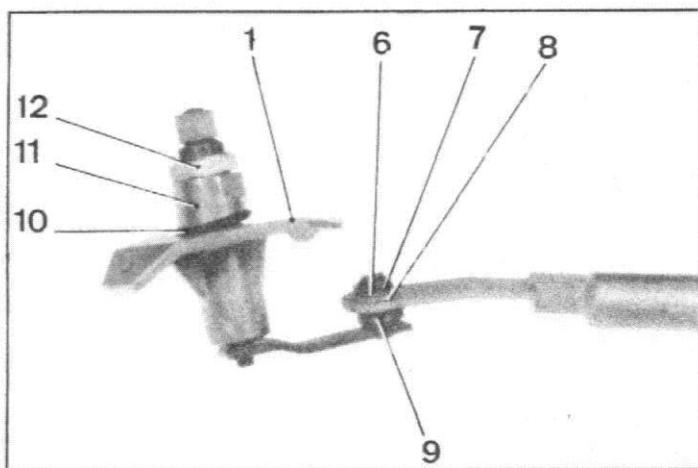
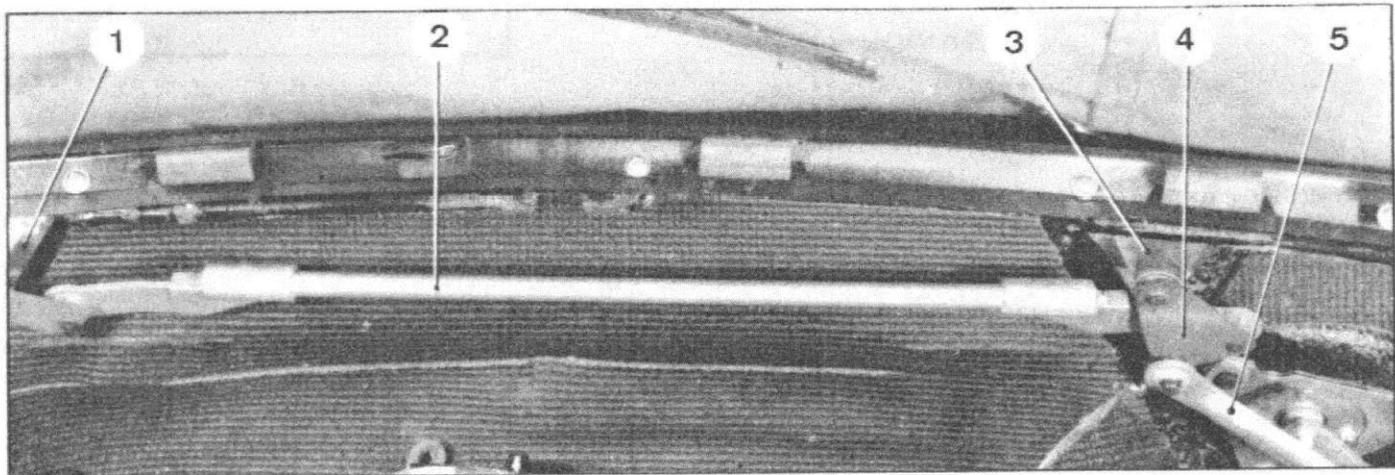
c) Using a screwdriver, remove windscreen sealing compound around heads of screws (8).

Remove three wiper spindle fixing screws (8) from wiper spindle bracket.

Follow same sequence for left and right-hand assemblies.

Manual 814-2





b) Remove left and right-hand wiper spindle brackets (1) and (3) with tie rod (2) and control rod (5).

#### 5. Dismantling linkage :

- a) Remove circlip (7) flat washer (6) and nylon washer (8).  
Free nylon socket, keeping tie rod (2) in position on the ball joint with a screwdriver.  
Remove left-hand wiper spindle (1) and nylon washer (9).
- b) Remove right-hand wiper spindle (3) in the same way.

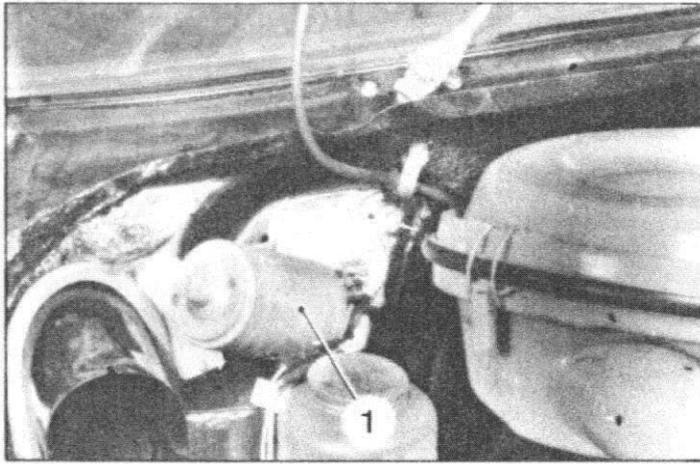
#### INSTALLATION

#### 6. Preparation of linkage :

- a) Fit nylon washer (9). Smear ball joint on left-hand wiper spindle support bracket (1) and nylon socket on tie rod (2) with special universal joint grease.  
Using adjustable pliers, fit tie rod (2) to joint, as shown in illustration.  
Fit nylon washer (8) flat washer (6) and circlip (7).
- b) Fit right hand spindle support bracket (3) onto tie rod (2) in same way.
- c) Position rod (5). Smear ball and nylon socket with special universal joint grease, then fit rod to crank-lever (4) using adjustable pliers.

#### 7. Installation of linkage :

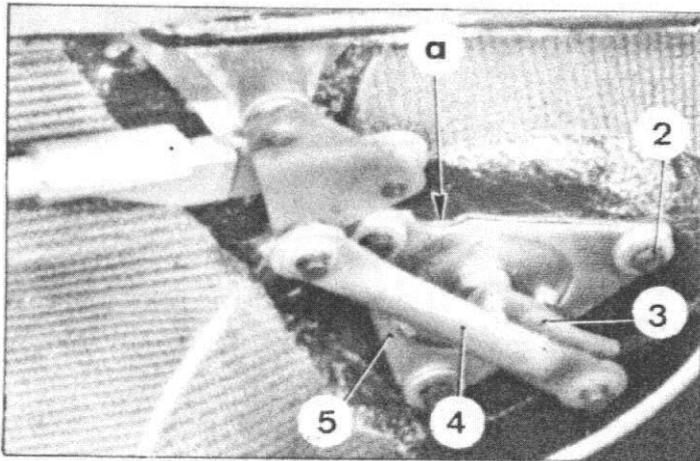
- a) Position left and right-hand wiper spindle support brackets (1) and (3) under cowling.
- b) Fix left and right-hand spindle support brackets with screws (13) ( use flat and shakeproof washers under the heads ).  
Tighten screws (13) to torque 5 mAN ( 0.5 m.kg ).  
Replace windscreen sealing compound around screw heads (13).
- c) Fit rubber water tight joints (10) and angled packing pieces (11) positioning them so that they are correctly angled on to the scuttle. Tighten nuts (12) to torque 5 mAN (0.5 m.kg).



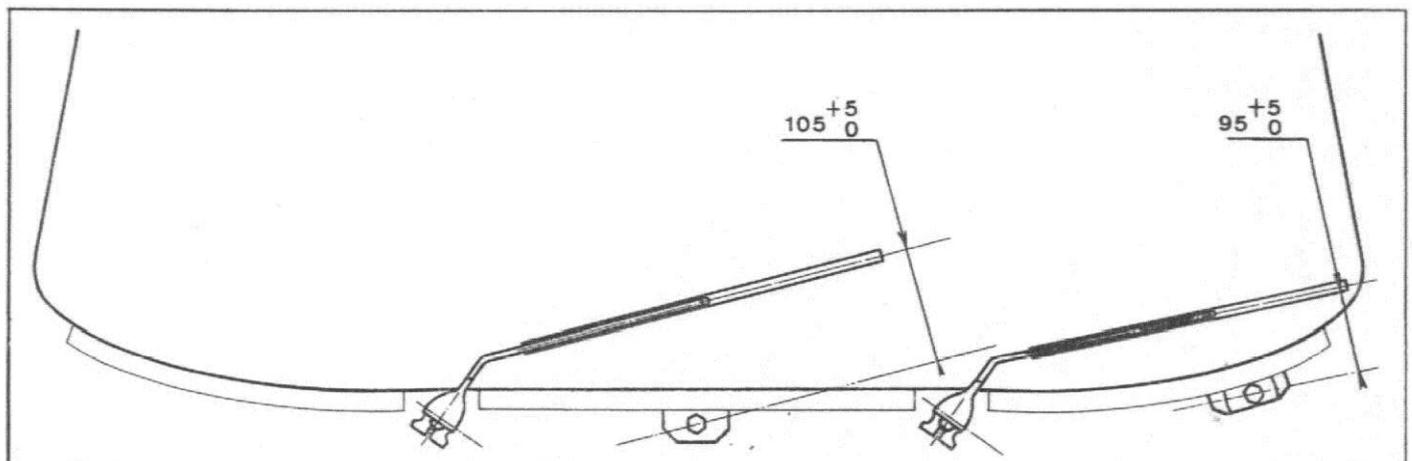
8. Installation of windscreen wiper motor (1) :
- Check that motor is in « automatic stop » position.
  - Position motor on the scuttle, with water tight joint between motor face plate and scuttle
  - Holding motor, position clamp plate (5) with cutaway portion « a » upwards.
  - Fit fixing screws (2) ( use flat and shakeproof washers ).
9. Connect control rod (4) to motor connecting rod (3). Smear ball and nylon socket with special universal joint grease, and assemble with adjustable pliers.

**IMPORTANT NOTE :** With the wiper motor in « automatic stop » position, the rod (4) should be superimposed over connecting rod (3). If this is not the case, disconnect the rod (3) from its spindle and align it with control rod.

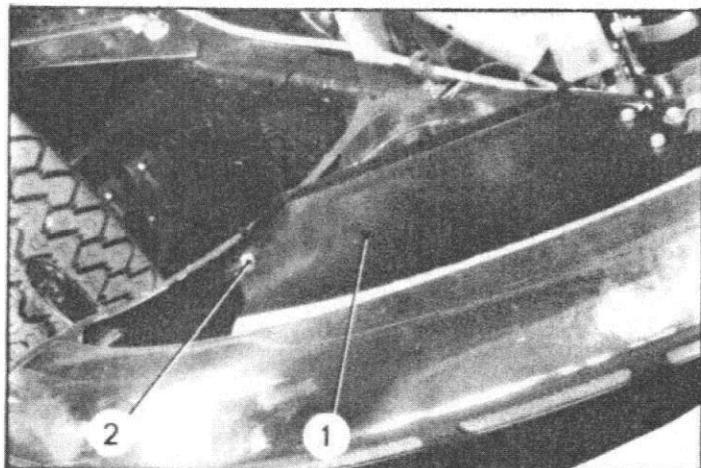
10. Fit dashboard.
11. Connect motor leads in correct position according to their colours.  
Connect negative battery terminal lead.
12. **Location of windscreen wiper blades :**  
Locate windscreen wiper blades on their spindles as shown in diagram below.  
Tighten blade fixing screws to torque 4 mAN ( 0.4 m.kg ).



Manual 814.2



## I - REMOVAL AND INSTALLATION OF CONDENSER

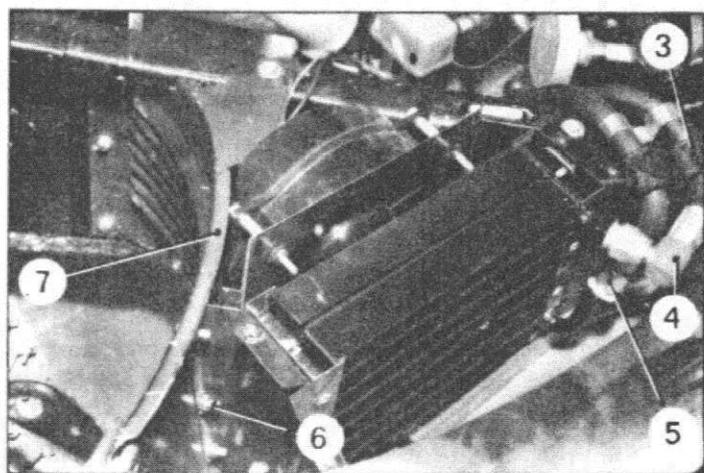


## REMOVAL

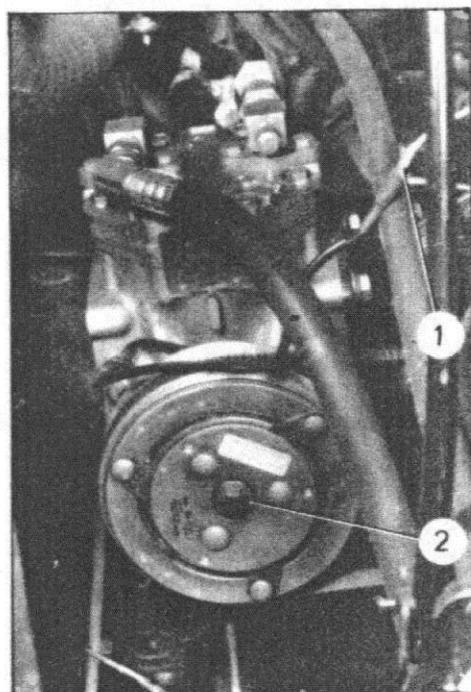
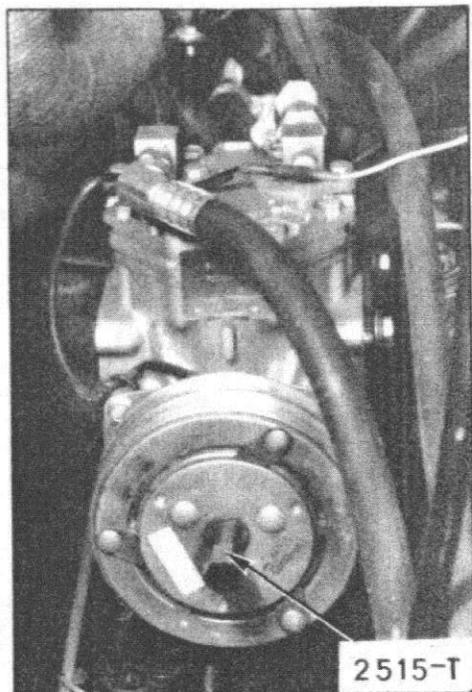
1. Remove front wing on side where condenser is to be replaced.
2. Remove upper condenser cover plate (1) eleven screws (2).
3. Remove condenser fixing screws (6) on wheel housing (7).
4. Remove wheel arch slatted closing panel (7).
5. Disconnect fan motor leads.
6. Remove cooling fluid hoses support bracket (3).
7. Remove condenser.
8. Do not bleed the cooling circuit or disconnect pipe units for mechanical or electrical work. When working on the circuit, first bleed, then disconnect the hoses.

## INSTALLATION.

9. Connect cooling fluid hoses and tighten joints, after coating with TOTAL LUNARIA 25:
  - inlet (4) : ( 1/2" ) 29 to 38 mAN ( 3 to 4m.kg )
  - exhaust (5): (3/8" ) 21 to 25 mAN ( 2 to 2.5m.kg )
10. Fix condenser in its embrasure in lower cover plate and on sidemember.
11. Fix wheel arch slatted closing panel (7).
12. Fix condenser on wheel housing ( screw 6).
13. Fix hoses on sidemember, using a support (3) bracket fitted with protective lining.
14. Connect the fan motor leads:
15. Fit the upper condensers cover plate (1) with screws (2) ( use flat washers ).
16. Fit front wing.



## II - REMOVAL AND INSTALLATION OF COMPRESSOR CLUTCH



### REMOVAL

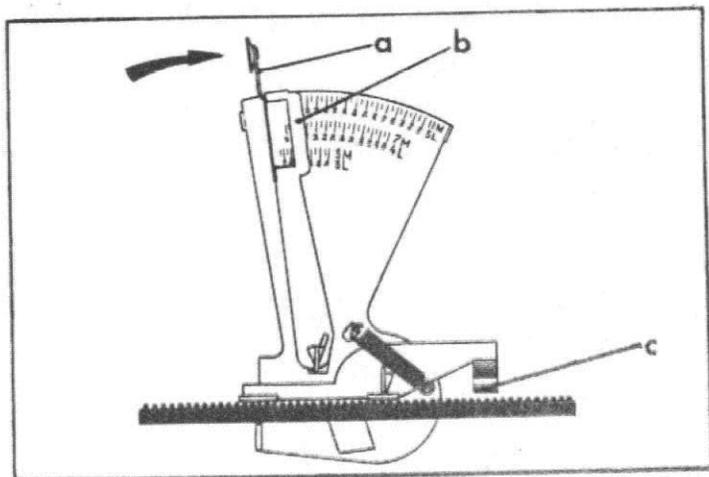
1. Remove air filter and its bracket.
2. With ignition on, and engine stopped, start the cooling system in order to lock the clutch while loosening central screw (2).
3. Remove central holding screw of compressor clutch and replace it with extractor bolt 2515-T. Tighten this bolt until the clutch pulley is freed from the cone.
4. Remove pulley.
5. Remove clutch plate, fixed by four screws on compressor housing.

### INSTALLATION

6. Fit clutch plate and fix by four screws tightened to 10 - 15 mAN ( 1 to 1.5 m.kg ).
7. Fit pulley onto cone. With its key in the groove and compressor belt in groove of clutch pulley. Tighten central screw to 22 - 30 mAN ( 2.1 to 3 m.kg )
8. Check that clutch pulley is aligned to within 1 mm of water pump pulley.  
Adjust by means of tie-rod and screws securing compressor onto bracket, if necessary. Tighten to 21 - 25 mAN ( 2.1 to 2.5 m.kg ).
9. Adjusting belt tension :

NOTE : A GATES 150 tensiometer, sold under reference number 1688-T is essential for this operation.

- a) Put the instrument on the belt as shown on diagram opposite, with indicator « b » touching lever « a ».  
Without touching the body of the instrument, push the end of lever « a » in the direction of arrow until feeler « c » contacts the belt.
- b) Then release lever « a » and read off belt tension on the appropriate scale : that is, the scale 11 M-5 L which corresponds to the belt.  
The tension should be between 40 and 45 mkg ( 90 and 100 lbs ). If not, adjust the tensioning stay.



10. Connect leads (1) to air conditioner harness.
11. Fit air filter and its bracket.

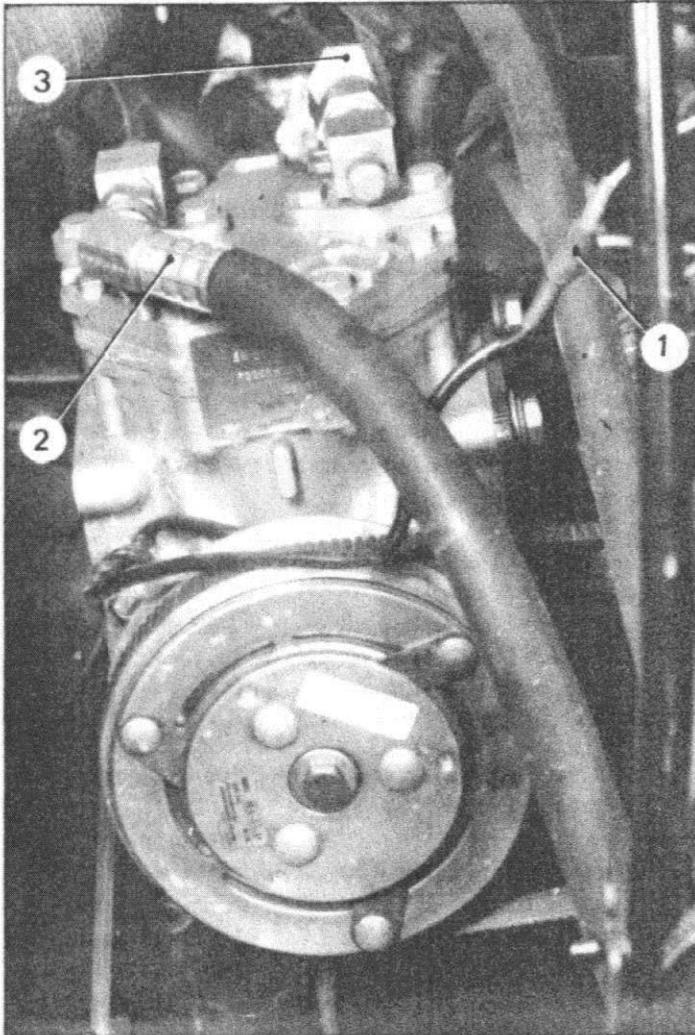
## REMOVAL AND INSTALLATION OF COMPRESSOR

## REMOVAL

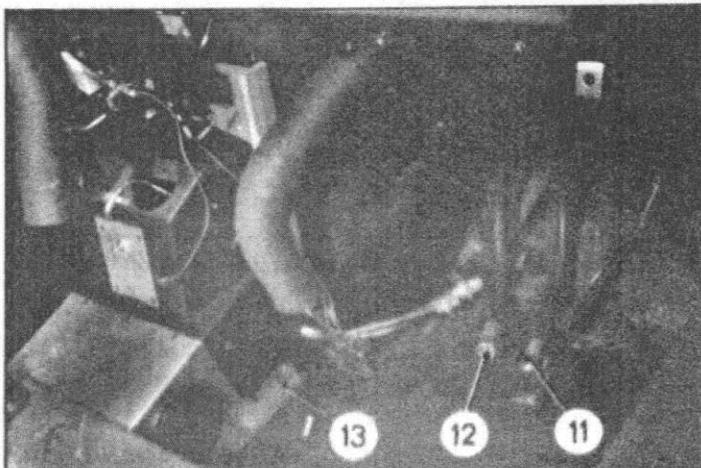
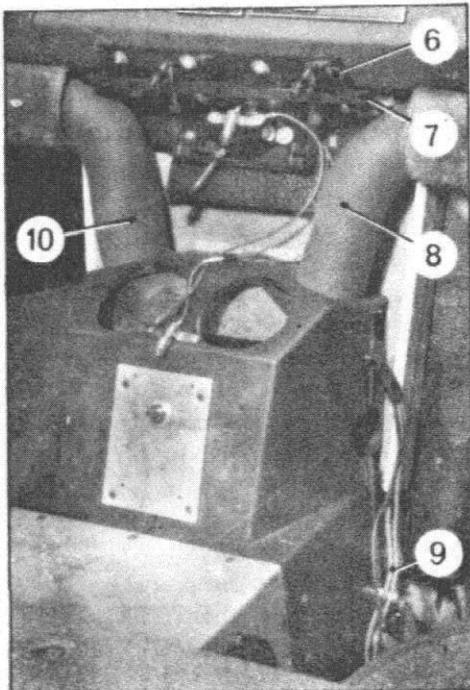
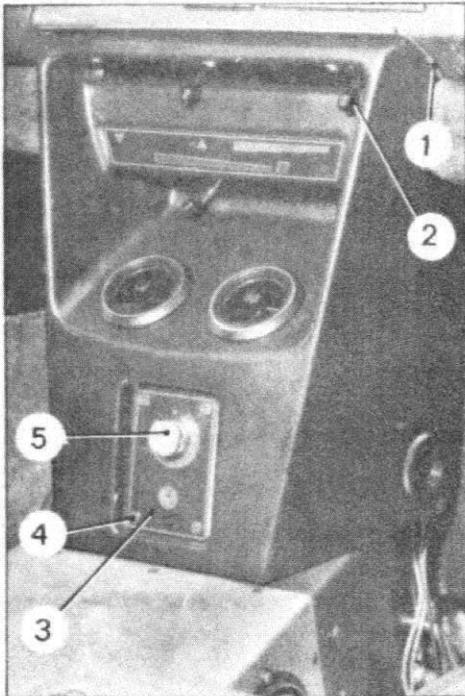
1. Drain refrigerant fluid from the circuit ( see Op. D. 640-0 )
2. Remove air filter and its bracket.
3. Loosen alignment bar and tensioner securing screws.
4. Remove belt.
5. Disconnect plug ( 1 ) on electro magnetic clutch feed line.
6. Disconnect exhaust ( 3 ) and delivery hose joints ( 2 ).
7. Remove the four screws securing the compressor on its mounting.  
Remove compressor.

## INSTALLATION

8. Position compressor on its support and fit the fixing screws. Do not tighten.
9. Align approximately compressor pulley and water pump pulley.  
Fit and tighten belt ( see Chapter II, section 9 )  
Tighten tensioner fixing screws.  
Check that compressor pulley is aligned to within 1 mm with water pump pulley and tighten compressor fixing screws on compressor mounting.  
Tighten to 20 - 25 mAN ( 2 to 2.5 m.kg ).  
Tighten alignment bar.
10. Connect fluid hoses to compressor.  
Lubricate connections with TOTAL LUNARIA 25.  
Tighten connections ( 3 ) ( 5/8" ) to 58 - 65 mAN ( 6 to 6.5 m.kg ).  
Tighten delivery hose connection ( 2 ) ( 1/2" ) to 48 - 55 mAN ( 5 to 5.5 m.kg ).
11. Connect clutch feed line connector plug ( 1 ).
12. Fit air filter and its bracket.
13. Replenish refrigerant circuit and check that circuit and connections are leakproof ( see Op. D. 640-0 ).



## IV - REMOVAL AND INSTALLATION OF EVAPORATOR ( Console block )



## REMOVAL

1. Remove right-hand floor trim.
2. Remove left-hand ventilator louvre, by prizing it out from console block by its flange.
3. Remove console block trim.
4. Remove trimming under dashboard on dashframe left-hand side, held by three screws ( *five on fuel injection vehicles* ) and three spring clips.
5. Removal of control panel :  
Remove :
  - main control button (5) by pulling off,
  - indicator panel (3) held by four screws (4),
  - the three screws (2) securing panel and trim (1),
  - withdraw panel assembly and ventilators by pulling them towards the rear.
6. Free left-hand fresh air ducts (10) and right-hand ducts (8) by pulling them off the console.
7. Remove the first section framing holding right-hand fresh air duct, on right-hand side of console.
8. Remove heating and air distribution controls bracket (7) fixed to dashboard by four screws (6). Free assembly without disconnecting controls.
9. Disconnect dashboard lights ( live and earth ) and three leads (9).
10. Remove four fixing console block screws (13) on floorboard.

## INSTALLATION

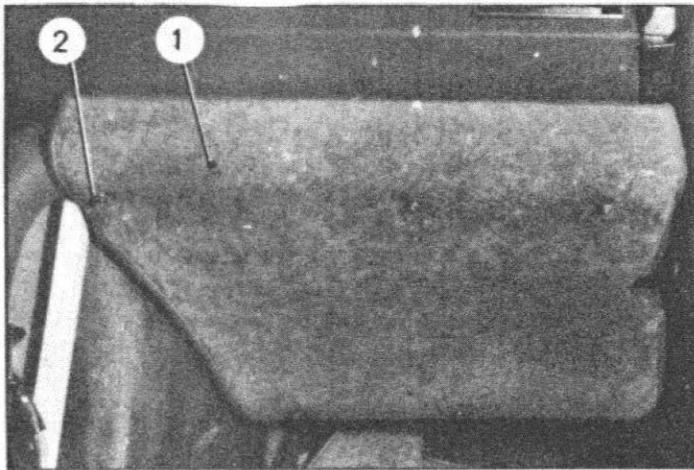
Reverse sequence of operations.

## NOTES :

- For mechanical or electrical work console block, remove bridge clamp holding cooling fluid hoses, then remove block by raising it to free the water drain pipe through the floorboard, and sliding towards the right-hand side.
- For work on cooling circuit, first bleed circuit ( see Op. D. 640-0 ) and disconnect hoses (11) and (12) from console block before removing it.

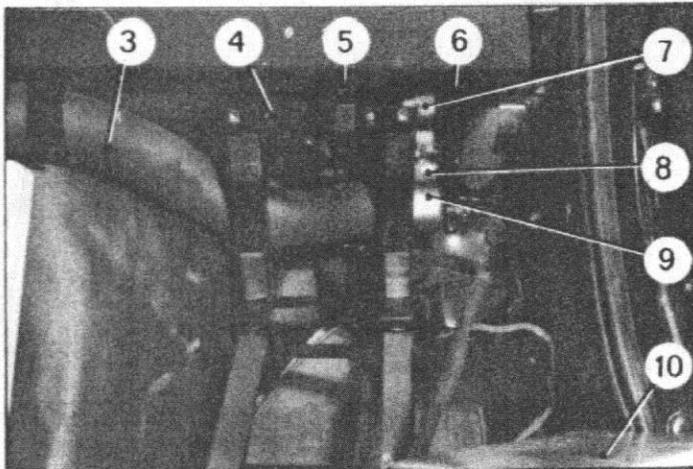
## Y - REMOVAL AND INSTALLATION OF AIR DISTRIBUTION CASINGS

### REMOVAL OF FAN, RIGHT-HAND SIDE

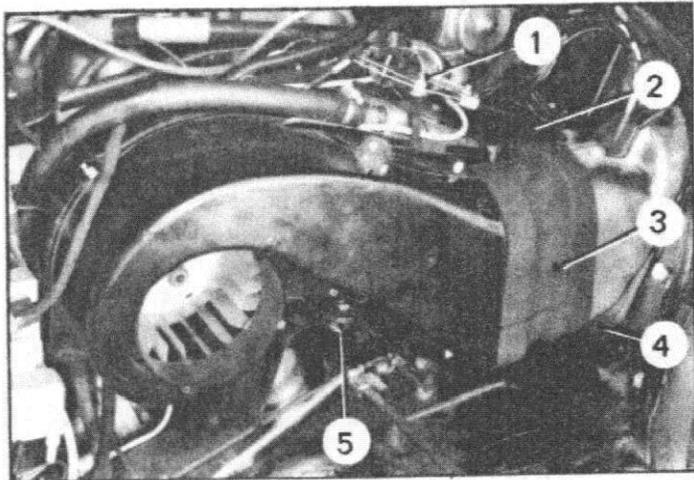


1. **Removal of trim, passenger side :**  
Remove the three screws (2) (*five on fuel injection vehicles*).  
Free the trim (5) held by three clips (1) to curved brackets.
2. Remove electronic control unit (10) (*on fuel injection vehicles*) without disconnecting it.  
Remove electronic control unit bracket fixed by four screws (4) under dash cowling.
3. Remove screw (8) on joint (9) connecting tube (3) to fan (7).  
Free joint (9).
4. Remove the two fan fixing screws (6) under dash cowling.
5. Remove front right-hand wing.
6. Free fan and watertight joint after having removed air duct joint (engine side).

### INSTALLATION OF FAN, RIGHT-HAND SIDE



7. **Installation of fan :**  
Position fan, motor side, in dashboard aperture  
Fit rubber joint in aperture.  
Insert fan, taking care that the joint remains in position around the nozzle in dashboard aperture.  
With an assistant holding fan, fix it under dashboard in its housing (two fixing screws (6) with flat washers).
8. Fit front wing. Ensure flexible pipe connections between air duct and fan are properly made,
9. Fit joint (4) of flexible air cooling tube (3) on fan (7).  
Tighten fixing screw (5) (use flat washers).
10. Fit electronic control unit bracket and control unit (*Fuel injection vehicles*).
11. Fit trim by first locating the three hooks (1) in position on curved brackets (5) then tighten the fixing screws (2) (*Five on fuel injection vehicles*).



#### REMOVAL OF FAN, LEFT-HAND SIDE

12. **Removal of trim on left-hand side :**  
Remove three headband fixing screws.  
Free headband held by three hooks on curved brackets.
13. Remove fixing screw holding flexible cold air pipe on fan joint and free joint.
14. Remove the two fan fixing screws under dashboard cowling.
15. Remove front left-hand wing.
16. Free the two warm air and fresh air joints on heating unit.
17. Loosen heating unit control cable screw and free cable.
18. Remove three heating unit support fixing screws and remove heating unit to allow removal of fan.
19. Free fan from engine side and remove fan and fan connection from dash.

#### INSTALLATION OF FAN, LEFT-HAND SIDE

20. **Installation of fan :**  
Position fan, motor side, in dashboard aperture.  
Fit the rubber joint (4) in aperture.  
Insert fan, taking care that joint does not slide out of position.  
With an assistant holding fan, fix it under dashboard in its housing ( two fixing screws with flat washers ).
21. **Installation of heating unit :**  
Fix unit with three screws on silent-bloc mountings (5).  
Fit the two joints for fresh air (3) and warm air (2) outlets.  
Fix heating unit control cable (1) and adjust in relation to control lever position.
22. Fit front left-hand wing.
23. Connect fan in its housing.  
Position the flexible cold air duct in lower fan nozzle and tighten fixing screw, using flat washer.
24. Fit trim by first inserting the three hooks in position on curved brackets, then tighten the three fixing screws.