

## CONTENTS

OPERATION	OPERATION NO.
Absorption canister Remove and refit . . . . .	17.15.13
Air cleaner filter element Remove and refit . . . . .	17.25.03
Air delivery pipe Remove and refit – Left hand . . . . .	17.25.17
– Right hand . . . . .	17.25.18
Air delivery pump Remove and refit . . . . .	17.25.07
Air delivery pump air cleaner filter Remove and refit . . . . .	17.25.03
Air delivery pump air cleaner Remove and refit . . . . .	17.25.05
Air delivery pump driving belt Remove and refit . . . . .	17.25.15
Air delivery pump driving belt Tensioning . . . . .	17.25.13
Carburettor emission pack – red Fitting . . . . .	17.20.07
Engine breather filter Remove and refit . . . . .	17.10.02
Fault finding . . . . .	17.00.00
Gulp valve Remove and refit . . . . .	17.25.30
Non-return valve Remove and refit . . . . .	17.25.21
Outlet pipe Remove and refit . . . . .	17.25.24
Temperature sensor unit Remove and refit . . . . .	17.30.10

## 17.00.01 FAULT FINDING

**CAUTION:** The checks and procedures covered in the fault finding chart must be carried out on all four carburetters if satisfactory results are to be obtained.

SYMPTOM	CAUSE	CURE
Erratic or Poor Idling	<ol style="list-style-type: none"> <li>1. Float height incorrect</li> <li>2. Dirty or worn needle valve</li> <li>3. Piston sticking</li> <li>4. Carburetter inlet obstructed</li> <li>5. Diaphragm damaged</li> <li>6. Temperature compensator not operating correctly</li> <li>7. Leakage at induction manifold joints</li> <li>8. Leakage from vacuum pipe connections</li> <li>9. Carburetters not tuned correctly</li> </ol>	<ol style="list-style-type: none"> <li>1. Check float height; rectify if necessary.</li> <li>2a. Wash valve in petrol; check filter gauze is clean.</li> <li>2b. Renew needle valve if sticking or worn.</li> <li>3. Clean piston and rod, lubricate with clean engine oil. Top up piston rod to correct level.</li> <li>4. Check that air cleaner and case are correctly fitted and that gaskets are not causing obstruction.</li> <li>5. Check for splits in diaphragm; renew if necessary.</li> <li>6. Refer to operation 17.20.07 items 22 and 23.</li> <li>7. Check all joints for leakage and renew gaskets as necessary.</li> <li>8. Check all vacuum pipe connections for security and rectify as necessary.</li> <li>9. Carry out operation 19.15.02.</li> </ol>
Hesitation or Flat Spot	<ol style="list-style-type: none"> <li>1. Check items 1 to 9 enumerated above</li> </ol>	<ol style="list-style-type: none"> <li>1. If trouble still persists proceed to 2 below.</li> <li>2. Check that piston return spring is not broken and that spring colour coded RED is fitted.</li> </ol>
Air delivery pump inoperative or amount of air pump delivers is low	<ol style="list-style-type: none"> <li>1. Driving belt tension</li> <li>2. Poor hose connections</li> <li>3. Symptoms persist after checking 1 and 2</li> </ol>	<ol style="list-style-type: none"> <li>1. Carry out operation 17.25.13.</li> <li>2. Check all connections for tightness; rectify as necessary.</li> <li>3. Replace pump.</li> </ol>

**CAUTION:** It is essential that an exhaust emission check is carried out immediately after completing any operation detailed in this section.

**NOTE:** To improve engine accessibility it is advantageous to place both front wheels on blocks of wood and disconnect bonnet stay; this allows bonnet to hinge further forward. The blocks should be approximately 30.5 cm (12 in) long, 25.4 cm (10 in) wide and 15 cm (6 in) high. Ensure bonnet is adequately supported after disconnecting stay.

## ENGINE BREATHER FILTER

### Remove and refit

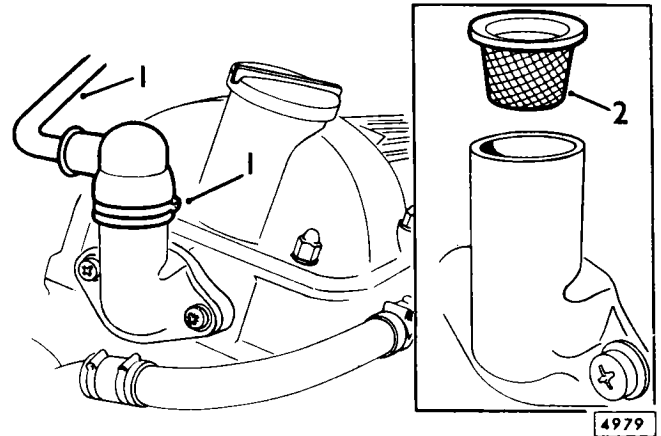
17.10.02

#### Removing

1. Remove clip securing rubber elbow to filter housing; lift off elbow.
2. Lift out filter.

#### Refitting

Reverse operations 1 and 2; use new clip to secure rubber elbow to filter housing.



4979

## ABSORPTION CANISTER

### Remove and refit

17.15.13

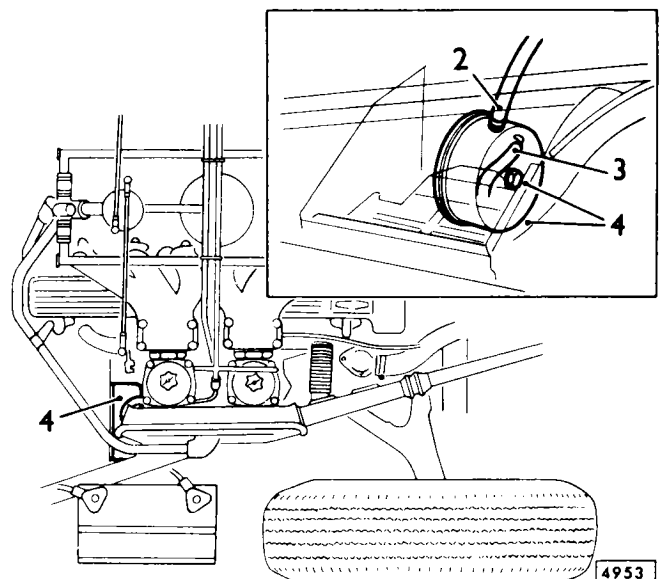
#### Removing

1. Remove battery – 86.15.01.
2. Slacken clip and disconnect outlet pipe.
3. Disconnect inlet pipe.
4. Remove bolt and lockwasher securing canister to bulkhead; lift out canister.

#### Refitting

Reverse operations 1 to 4.

**NOTE:** When a new canister is to be fitted it will be necessary to glue a new mounting pad on to rear of canister. The adhesive used should be petroleum based and should be applied to the **SMOOTH** side of pad.



4953

## CARBURETTER EMISSION PACK – RED

### Fitting

17.20.07

**NOTE:** Four red emission packs, part number 12883 will be required for this operation. As each carburetter has its own individually matched components, it is advisable to deal with one carburetter at a time.

### Dismantling

1. Remove carburetters from car – 19.15.11.
2. Remove lead plug from cover securing screw.
3. Mark relative position of cover to carburetter body.
4. Remove cover securing screws; lift off cover.
5. Remove piston return spring.
6. Withdraw piston and diaphragm assembly.
7. Remove screws securing diaphragm retaining ring to piston. Lift off ring; remove and discard diaphragm.

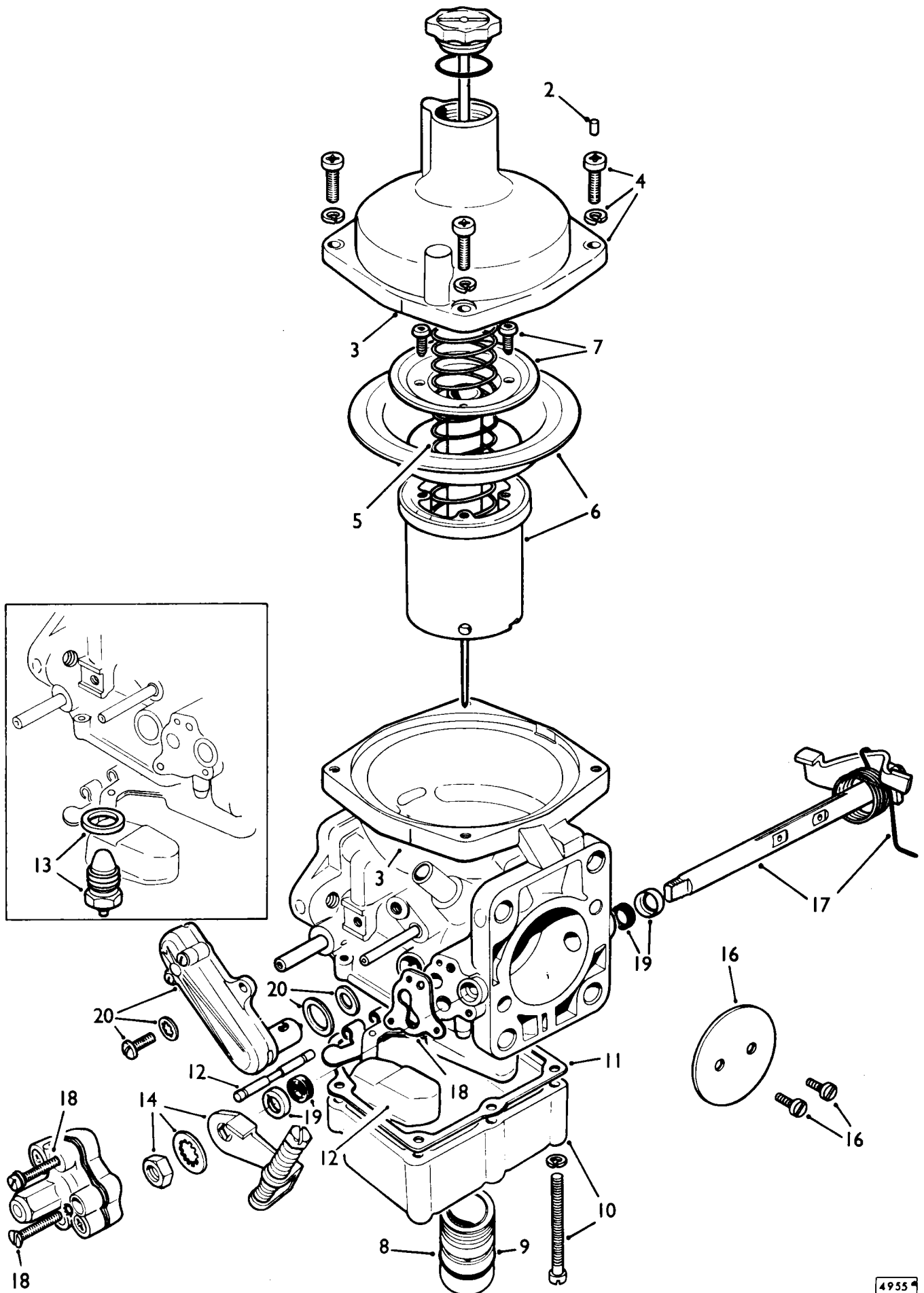
**NOTE:** Do not attempt to remove needle retaining screw or needle. The position and size of needle is determined during manufacture and on no account may either be altered.

8. Unscrew jet cover from float chamber.
9. Remove and discard 'O' ring.
10. Remove screws and spring washers securing float chamber to carburetter body; lift off float chamber.
11. Remove and discard float chamber gasket.
12. Disengage float hinge pin from spring clip; lift out float.
13. Unscrew needle valve; discard valve and alloy seating washer.
14. Remove nut and serrated washer securing lever to butterfly spindle; withdraw lever.
15. Mark relative position of throttle disc to spindle.
16. Remove screws securing throttle disc; slide disc out of spindle.
17. Note position of spindle return spring; withdraw spindle.
18. Remove screws and lockwashers securing by-pass valve and cover to carburetter body, remove gasket and discard.

**CAUTION:** The by-pass valve is correctly adjusted during manufacture and this adjustment will be lost if any attempt is made to separate by-pass valve cover from body. If it is suspected that diaphragm is damaged; complete by-pass valve assembly must be replaced.

19. Prise spindle seals out of carburetter body, discard seals.
20. Remove screws securing temperature compensator assembly to carburetter body, withdraw compensator, remove and discard seals.





4935



## Reassembling

21. Fit new seals to temperature compensator assembly; fit compensator to carburettor body.
22. Remove screws securing compensator cover; lift off cover.
23. Check that tapered plug is free to move in housing. If plug movement is satisfactory, refit cover. Should plug stick in housing, temperature compensator assembly must be renewed.
24. Press new spindle seals into carburettor body.
25. Position new gasket on carburettor body; fit by-pass valve and secure with screws and lockwashers.
26. Fit spindle ensuring that return spring is located correctly.
27. Fit lever, lockwasher and nut.
28. Slide throttle disc into spindle, fit securing screws but do not tighten at this stage.
29. Adjust position of disc until it closes fully; tighten securing screws.
30. Fit new needle valve, use new alloy seating washer, DO NOT overtighten.
31. Refit float; invert carburettor, ensure needle valve is closed and measure distance from face of carburettor body to highest point on each float. Dimension obtained should be 16.5 mm  $\pm$  .5 mm. If this dimension is not obtained, bend float arm slightly and recheck.
32. Fit new gasket to float chamber, fit chamber to carburettor body. Tighten retaining screws by diagonal selection to avoid distorting chamber.
33. Fit new 'O' ring on jet cover, smear periphery of 'O' ring with petroleum jelly; screw cover into carburettor.
34. Check by means of a straight edge that needle is not bent or distorted in any way.

**NOTE:** Needle is permanently biased to one side and this must not be confused with damage to needle. If needle is found to be damaged, a new piston and needle assembly must be fitted.

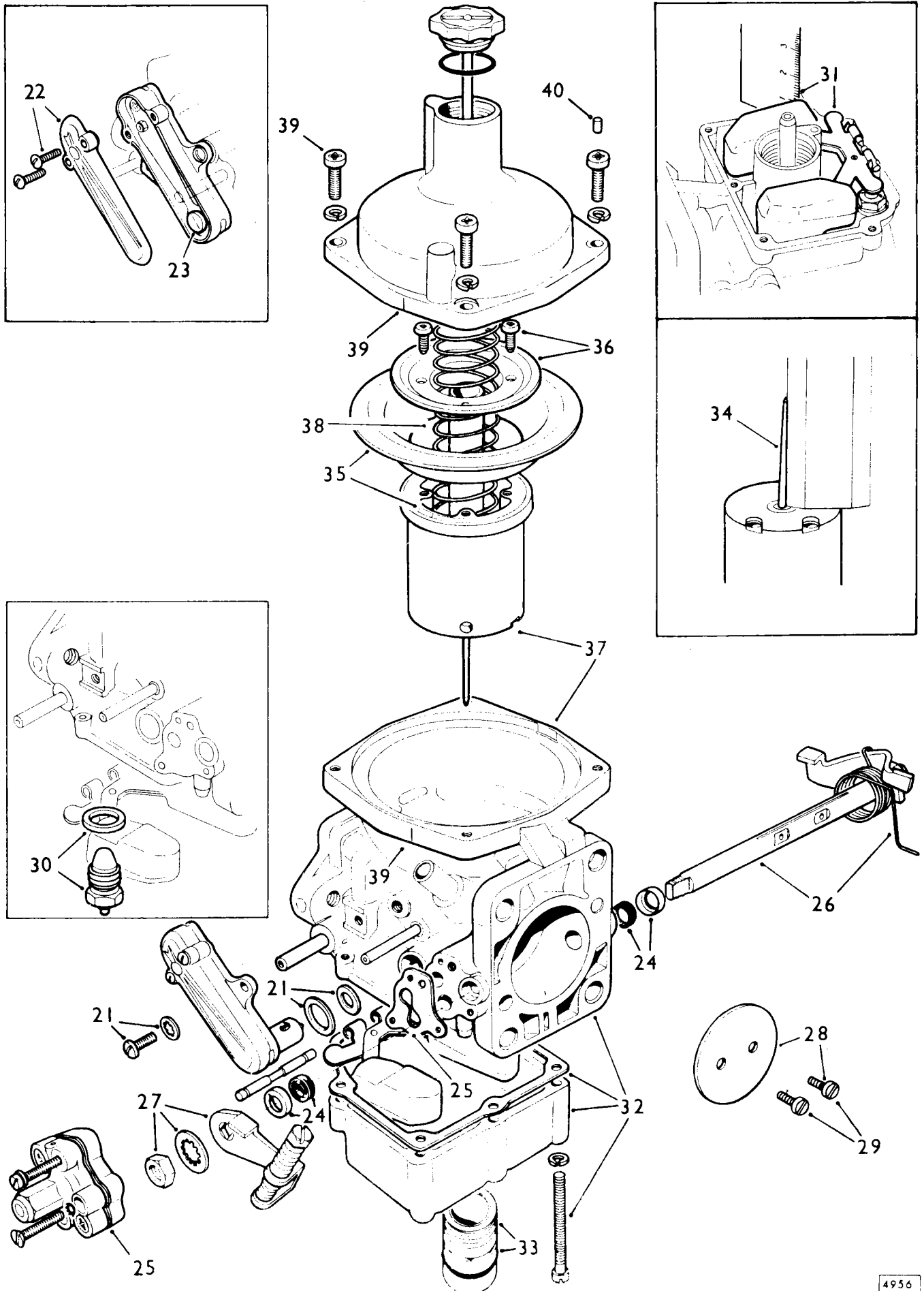
35. Fit new diaphragm to piston ensuring that lip on underside of diaphragm is seated in recess in piston.
36. Fit diaphragm retaining ring, tighten securing screws evenly.
37. Fit piston assembly in carburettor body ensuring that lip on outer periphery of diaphragm is seated in recess in body.
38. Position piston return spring on piston.
39. Fit cover in position marked during dismantling, tighten securing screws by diagonal selection to avoid distorting cover.
40. Drive new lead plug into a cover securing screw.
41. Carry out operations 2 to 40 on remaining carburetters.
42. Refit carburetters to car.
43. Tune carburetters - 19.15.02.

**CAUTION:** The following items must not be changed in service.

1. The jet assembly.
2. The air valve.
3. The depression chamber cover.
4. The position of the metering needle.

The following items must not be adjusted in service.

5. The temperature compensator.
6. The piston return spring loading. Correct spring is colour coded RED.
7. The by-pass valve spring loading.



4956



## AIR CLEANER FILTER ELEMENT

### Remove and refit

17.25.03

**NOTE:** Filter element, A.C. Delco reference number A.224C will be required for this operation.

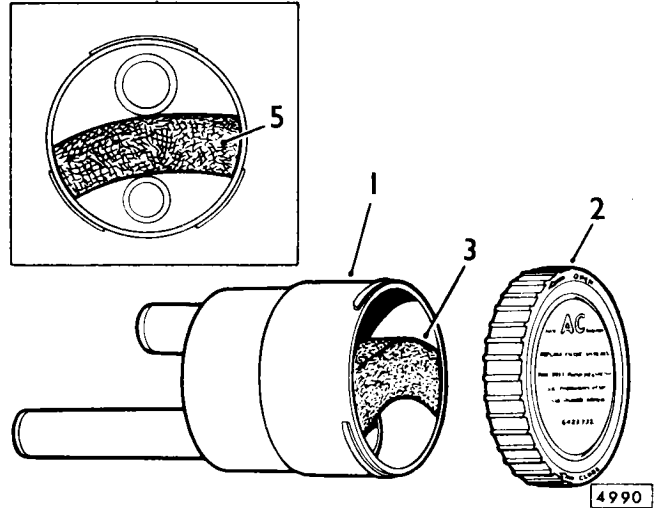
#### Removing

1. Remove air cleaner – 17.25.05.
2. Unscrew end cover.
3. Remove and discard element.
4. Thoroughly wash filter casing in petrol and dry.

**CAUTION:** On no account may casing be washed in trichlorethylene.

#### Refitting

5. Squeeze excess fluid out of filter element and position in cover.
6. Reverse operations 1 and 2.



## AIR PUMP AIR CLEANER

### Remove and refit

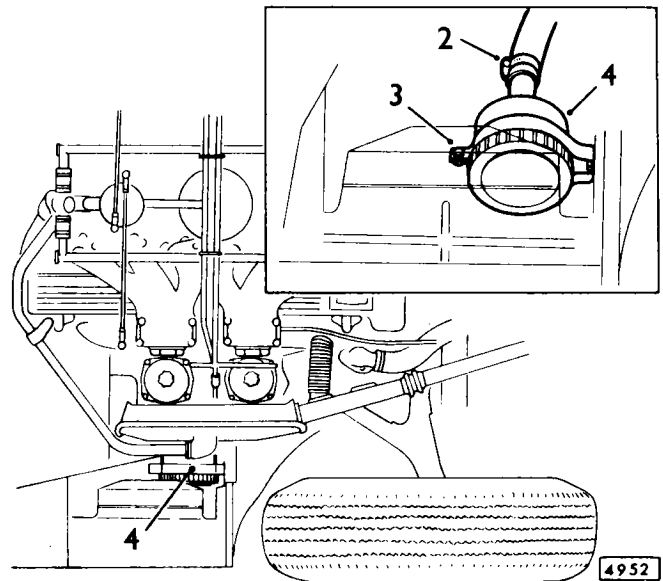
17.25.05

#### Removing

1. Remove battery – 86.15.01.
2. Disconnect outlet hose from air cleaner.
3. Slacken off retaining clamp pinch bolt.
4. Withdraw air cleaner.

#### Refitting

Reverse operations 1 to 4.



## AIR DELIVERY PUMP

### Remove and refit

17.25.07

#### Removing

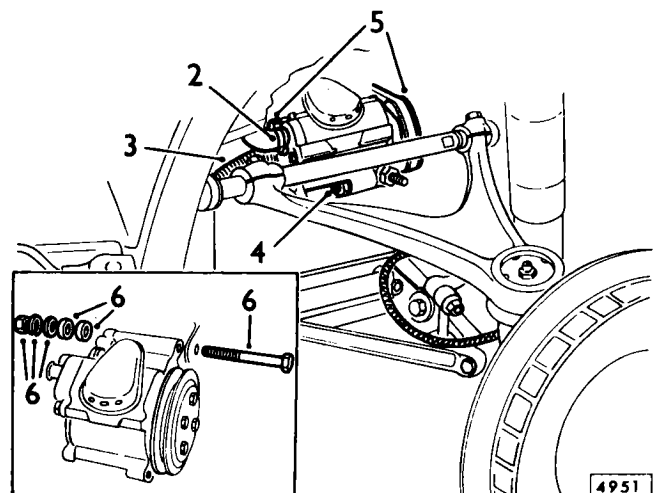
1. Remove front right hand road wheel – 74.20.01.
2. Slacken clip and disconnect rubber outlet pipe.
3. Slacken clip and disconnect flexible inlet pipe.
4. Remove nut and bolt securing pump trunnion to pump.
5. Slacken nut securing pump mounting bolt, swing pump toward engine and remove driving belt.
6. Remove nut, washers and pump mounting bolt; collect spacers.
7. Lift pump off mounting bracket and withdraw between upper and lower wishbones.

**WARNING:** Utmost care must be exercised to ensure that pump does not foul brake flexi-pipe when carrying out operation 7.

#### Refitting

8. Reverse operations 1 to 7.
9. Adjust driving belt tension – 17.25.13.

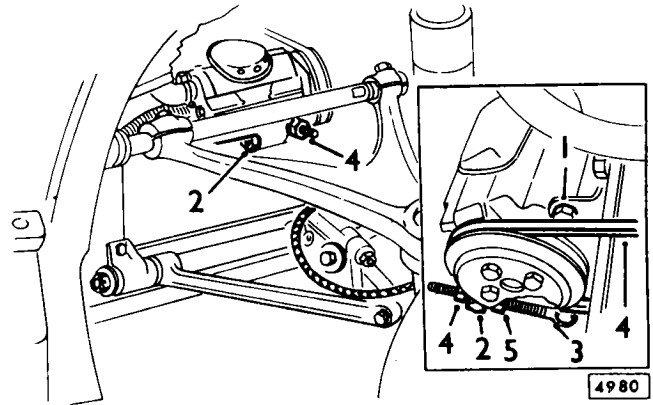
**CAUTION:** No servicing or overhaul of the air delivery pump is possible. In the event of failure, service exchange unit **MUST** be fitted.





**AIR DELIVERY PUMP DRIVING BELT****Tensioning****17.25.13**

1. Slacken off mounting bolt securing nut.
2. Slacken off trunnion retaining bolt.
3. Slacken off adjusting link securing bolt.
4. Slacken off locknut.
5. Adjust driving belt tension by screwing adjusting link nut up or down until total belt deflection of 9,5 mm (3/8 in) is obtained. Deflection should be measured at mid point of belt.
6. Reverse operations 1 to 4.



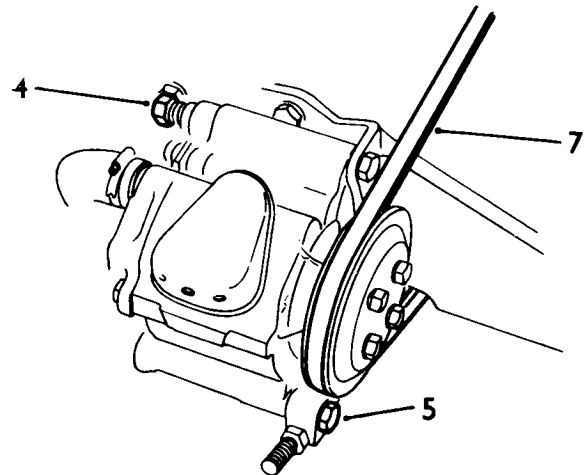
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**AIR DELIVERY PUMP DRIVING BELT****Remove and refit****17.25.15****Removing**

1. Remove alternator drive belts – 86.10.03.
2. Remove compressor drive belt – 82.10.02 – Cars fitted with air conditioning only.

**WARNING: ON NO ACCOUNT MUST ANY PORTION OF THE AIR CONDITIONING SYSTEM BE DISCONNECTED BY ANYONE OTHER THAN A QUALIFIED REFRIGERATION ENGINEER; BLINDNESS CAN RESULT IF THE GAS CONTAINED WITHIN THE SYSTEM COMES INTO CONTACT WITH THE EYES.**

3. Remove power assisted steering pump belt – 57.20.02.
4. Slacken off mounting bolt securing nut.
5. Remove trunnion retaining bolt.
6. Swing air delivery pump towards cylinder block.
7. Disengage driving belt from pulleys.



4981

**Refitting**

8. Reverse operations 1 to 7.
9. Tension driving belt – 17.25.13.



## AIR DELIVERY PIPE

### Remove and refit

Left hand 17.25.17  
Right hand 17.25.18

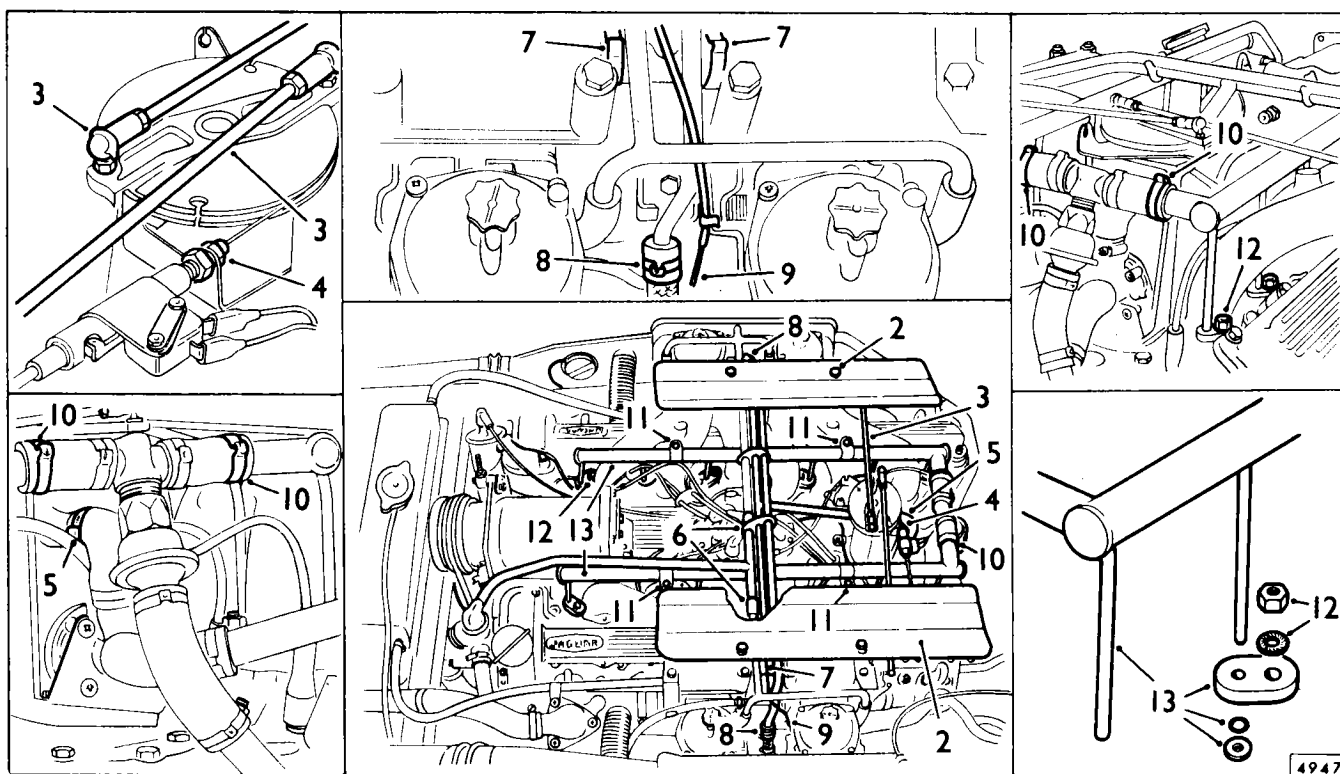
#### Removing

1. Disconnect battery earth lead – 86.15.19.
2. Slacken bolts securing heat shields to inlet manifolds; lift off heat shields.
3. Disconnect throttle linkage.
4. Disconnect accelerator cable – Left hand air delivery pipe only.
5. Slacken clip and disconnect manifold balance pipe from gulp valve hose.
6. Disconnect carburettor balance pipe from hoses.
7. Remove pipe clips securing manifold balance pipe hoses.

8. Remove pipe clips securing hoses to fuel pipe.
9. Disconnect choke cable from rear left hand carburettor.
10. Remove pipe clip securing hose to air delivery pipe.
11. Remove bolts securing delivery pipe clips to inlet manifolds.
12. Remove nuts and serrated washers securing delivery pipe feet to inlet manifolds.
13. Remove pipe followed by securing feet, 'O' rings and steel washers.

#### Refitting

Reverse operations 1 to 13, use new 'O' rings and pipe clips on delivery pipe, fuel pipe and manifold balance pipe hoses

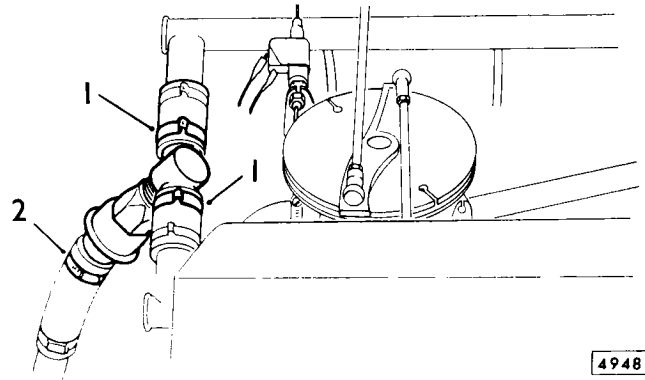


**NON RETURN VALVE****Remove and refit****17.25.21****Removing**

1. Remove clips securing air delivery rail hoses to non-return valve outlet.
2. Slacken clip securing air delivery pipe hose to non-return valve inlet; lift off non-return valve.

**Refitting**

Reverse operations 1 and 2; use new pipe clips on air delivery rail hoses.



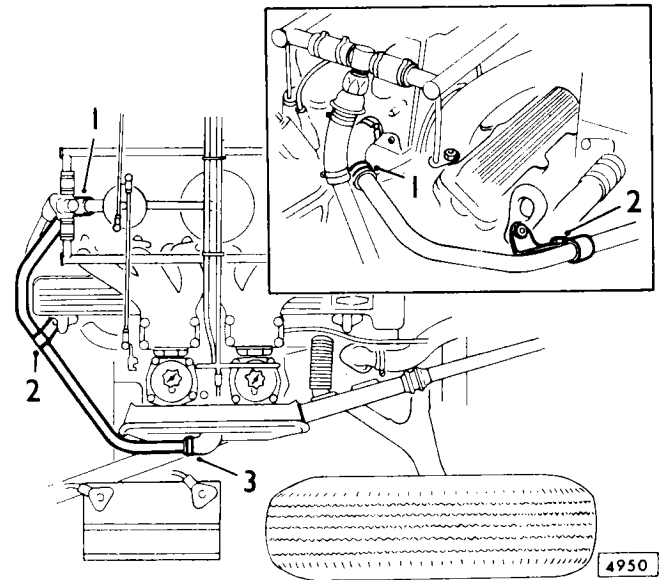
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**OUTLET PIPE****Remove and refit****17.25.24****Removing**

1. Remove clip securing outlet pipe hose to gulp valve.
2. Remove nut, bolt and washers securing clip to retaining strap.
3. Remove clip securing air cleaner hose to outlet pipe; withdraw pipe.

**Refitting**

Reverse operations 1 to 3; use new pipe clips.



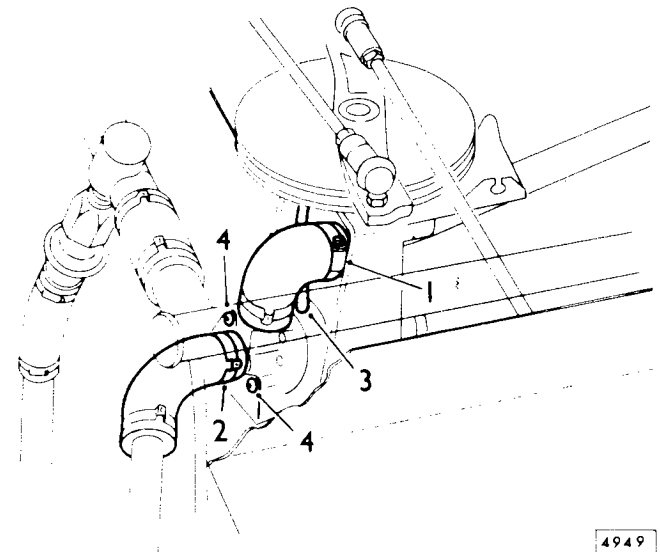
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**GULP VALVE****Remove and refit****17.25.30****Removing**

1. Slacken clip and disconnect inlet manifold balance pipe from hose.
2. Remove clip securing outlet pipe hose to gulp valve.
3. Disconnect vacuum pipe from gulp valve.
4. Remove screws securing gulp valve to mounting bracket; lift off valve.

**Refitting**

Reverse operations 1 to 4; use new pipe clip to outlet pipe hose.



4949



### TEMPERATURE SENSOR UNIT

#### Remove and refit

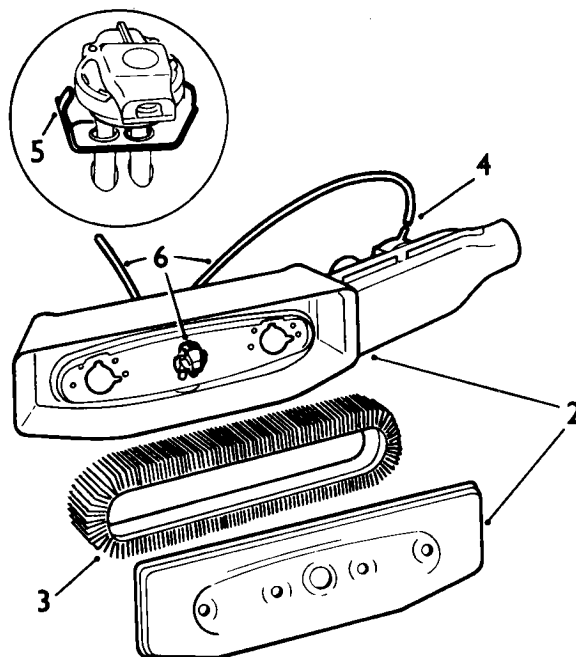
17.30.10

##### Removing

1. Remove air cleaner – Left hand – 19.10.01.  
– Right hand – 19.10.01/1.
2. Remove cover from backplate.
3. Lift out filter element.
4. Disconnect vacuum pipe from servo motor.
5. Carefully prise up tabs securing sensor unit to mounting.
6. Withdraw sensor unit together with vacuum pipes.

##### Refitting

Reverse operations 1 to 6.



4993

