## EMISSION CONTROL SYSTEM DESCRIPTION AND OPERATIONS

## EMISSION AND EVAPORATION CONTROL SYSTEM

### Introduction 17.00.00

Land Rover models are equipped with emission control features designed to comply with all current regulations for the particular sales market; however, due to varying regulations between different countries all of the features described may not be applicable to or incorporated on a particular model.

Three independent and separate systems are employed for emission control, namely crankcase emission control, evaporative loss control and exhaust emission control.

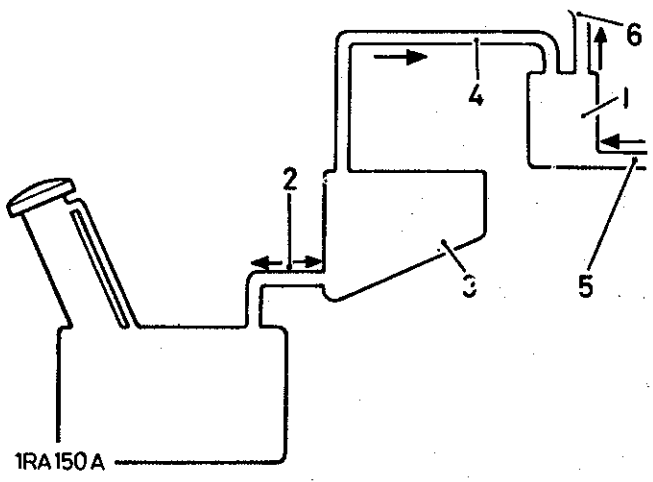
This vehicle being fitted with crankcase emission and evaporative loss control systems.

## EVAPORATIVE LOSS CONTROL

### —Description 17.15.00

Fuel tank evaporative emissions are vented to an activated charcoal filled container where they are adsorbed, then vented through a flame trap to the combustion air intake system during engine running as follows:

1. A charcoal-filled adsorption container is situated in the engine compartment, to deal with evaporative emissions from the fuel tank.
2. From the main fuel tank there is a main tank breather pipe.
3. This is fed into a separate expansion tank.
4. From the expansion tank a further breather pipe leads to the charcoal container.
5. At the side of the container, an air inlet pipe is open to atmosphere.
6. From the top, a pipe leads to the carburettor air cleaner elbow.
7. Normal fuel tank breathing is through the air inlet pipe on the charcoal container and then through the two breather pipes via the expansion tank.
8. Any vapours from the fuel in the main or expansion tanks are fed via the main breather and expansion tank breather pipes into the charcoal container, where they are adsorbed on the charcoal and do not escape to atmosphere.
9. During engine accelerating conditions air is drawn in through the air inlet pipe at the side of the container, purging the trapped emissions into the engine through the carburettor air cleaner elbow.
10. The function of the expansion tank is to provide an overflow reservoir for the main tank, as it is possible when the main tank is completely filled in high ambient temperature conditions for the fuel to expand and force a large quantity along the breather pipe. The size of the expansion tank allows for maximum fuel expansion; under such conditions evaporative emissions are still controlled by the charcoal and, due to the location of the breather pipe at the bottom of the expansion tank, the overflow fuel will eventually be drawn back into the main tank as fuel is used.



## CHARCOAL CONTAINER AIR FILTER

**–Remove and refit** 17.15.07

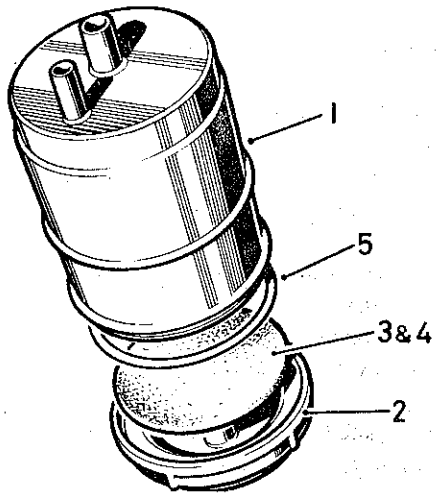
**Removing**

1. Remove the container. 17.15.13
2. With canister inverted, unscrew the end cap from the container base.
3. Withdraw the filter.

**NOTE:** Taking care not to spill charcoal granules.

**Refitting**

4. Reverse 3 with smooth side inward.
5. Reverse 1 and 2, using a new end cap seal.



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## CHARCOAL CONTAINER

**–Remove and refit** 17.15.13

**Removing**

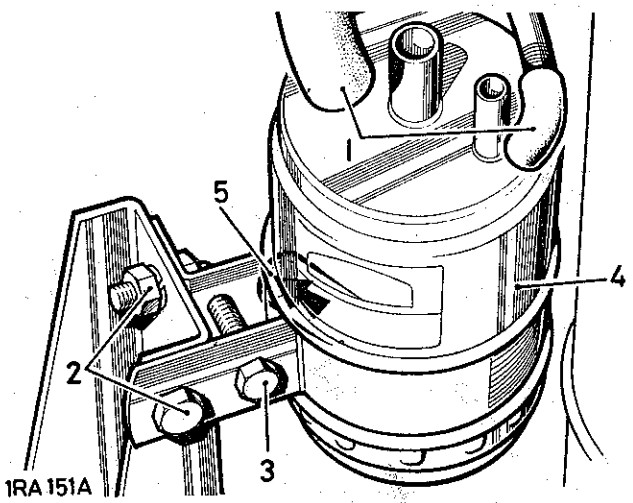
**NOTE:** Under normal operating conditions the charcoal container, situated at the right-hand rear of the engine compartment, should require replacement only at the specified maintenance intervals. If for any reason liquid fuel should find its way into the charcoal container, indicated by fuel weeping at the air inlet pipe, replace the container immediately regardless of mileage.

**WARNING: No attempt should be made to cleanse the container. The use of compressed air could cause the activated charcoal filling to ignite.**

1. Note the hose positions and disconnect at container.
2. Remove the fixings, container strap to mounting bracket.
3. Slacken the pinch bolt on the strap.
4. Withdraw the container.

**Refitting**

5. Reverse 1 to 4. Position the container such that the 'open-to-atmosphere' pipe faces inboard and toward the rear of the engine compartment.



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