

ENGINE

No63/7.

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TO: ALL ROOTES DEALERS

SUBJECT: AIR POLLUTION (CRANKCASE VENTILATION)
ALL MODELS (1963 - 1964)

To comply with regulations in force in various states of the U.S.A. a modified crankcase ventilation system is employed on cars exported to this area commencing from the following chassis numbers:-

CHASSIS NUMBER INTRODUCTION.

Humber Super Snipe	B. 8203274
Hillman Super Minx	B. 1328559
Alpine GT	9203887
Alpine Roadster	9204718

On Sunbeam Alpine Cars this latest crankcase ventilation system is used on all cars fitted with the Solex B. 32 P.A.I.A. twin choke carburettor and full details are given in Section C. in W.S.M. 124 and W.S.M. 134.

DESCRIPTION. (See illustration).

The modified crankcase ventilation system consists of an external hose (C) that connects a crankcase ventilation regulator (B) to the engine valve rocker cover, and a method of allowing air to be drawn into the engine crankcase.

The ventilation regulator is screwed into the inlet manifold. It allows crankcase fumes and air to pass directly into the inlet manifold and air to be drawn into the crankcase. This prevents the discharge of crankcase fumes into the atmosphere as the engine consumes all the crankcase fumes caused by normal blow by.

On Super Minx cars crankcase ventilation air enters the crankcase through an external hose pipe (A) that connects the engine tappet chamber to the clean side of the carburettor air cleaners.

On Super Snipe cars crankcase ventilation air enters the crankcase through a wire wool filter in the upper end of the breather down pipe on the left hand side of the engine.

OPERATION.

Idling Speed.

On Super Minx cars, when the engine is idling, fumes from the crankcase flow up the pipe (A) from the engine tappet (side) cover into the inlet manifold via the carburettor air cleaner. The valve (2) in the ventilation regulator is drawn against its seat (5) by manifold depression, closing the pipe (C) to the rocker cover.

On Super Snipe cars the valve (2) is closed except for a limited flow through a bleed in the centre of the valve to ensure sufficient ventilation at this condition.

Above idling speed.

As the engine speed increases the manifold depression decreases and the regulator spring (3) lifts the valve (2) off its seat (5) and fumes are drawn from the rocker cover into the inlet manifold direct, without passing through the carburettor.

This creates a slight depression in the crankcase and on Super Minx cars ventilation air will now flow down the pipe (A) from the carburettor air cleaner to the tappet (side) cover and into the crankcase. On Super Snipe cars the ventilation air will be drawn through the filter in the engine breather.

SERVICING THE REGULATOR.

Every 6,000 miles or more, frequently where short journey or slow speed driving is usual, the valve should be removed, dismantled and cleaned of any accumulated deposits by washing in paraffin.

When dismantled, check the condition of the valve seat (5) and if worn the assembly should be replaced.

The condition of the spring (3) is most important as it controls the opening and closing of the valve (2) against inlet manifold vacuum.

If the spring is damaged or corroded, a correct - replacement - spring must be fitted.

When re-assembling the valve unit, make sure that the spring (3) is correctly located in the body (4) and that the valve (2) is not tilted across the body (4).

Before refitting the valve unit to the inlet manifold make sure that the connecting rubber pipe is free from sludge deposits.

Testing.

Refit the valve unit in the inlet manifold leaving the rubber connecting hose off the unit inlet end, and run the engine to ensure that the valve is operating correctly. This is checked in the following manner:-

1. Check that the engine idles correctly. When idling it should be possible to push the valve (2) against its seat, with a small screwdriver, without altering the slow running performance.

2. Check that the valve (2) opens when the throttle is suddenly opened from idling. Do not exceed 3,000 R.P.M. This is done by putting a short length of thin wire (approx., $1\frac{1}{2}$ ins. - 4 cms.) into the inlet end of the valve unit. When the engine speed is increased the valve (2) should lift from its seat and this will be shown by the test wire lifting about 2-3 mm. After this, sudden closing of the throttle should allow the engine to idle correctly.

3. If the correct operation cannot be obtained another spring (3) should be fitted. THESE SPRINGS MUST NOT BE STRETCHED OR FULLY COMPRESSED.

4. Remove wire used to indicate valve movement and connect rubber hose to inlet end (1) of valve assembly.

CARBURETTOR SETTINGS.

The carburettor settings on the light cars remain unaltered but on Super Snipe cars the following settings are changed to:-

Main jet - 157.

By pass - 110.

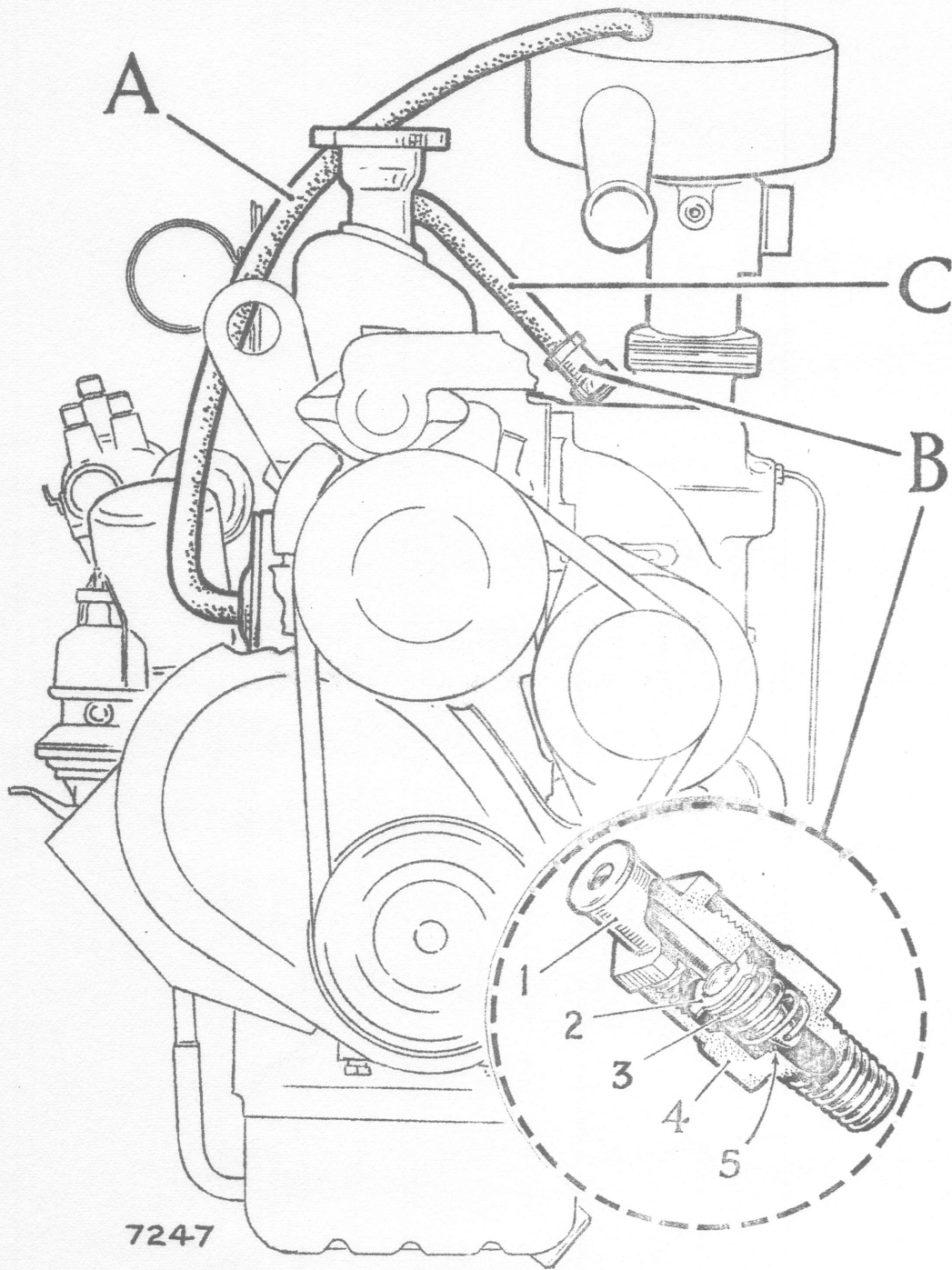
Economy Vacuum Springs are cadmium plated.

SLOW RUNNING.

Incorrect operation, or faulty seating of the valve (2) in the crankcase regulator will cause bad or erratic slow running. This must not be overlooked when dealing with complaints such as a faulty idling of the engine, stalling at traffic lights, flat spot and etc.

ROOTES MOTORS INCORPORATED


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