

**Technical Bulletin No:**  
**Issue Date:**

**R0100BU**  
30/04/97

**Vehicle:**

111, 114, New 214/216/200 Vi, New 414/416,  
Metro1.1/1.4, XW 214/414

**Vin:**

Vehicles with 'K' Series 8 and 16 valve engines only.

### 8 Valve engines:

Derivative:	Vin:	Engine number:
111	118777	11K2FK42 371601
114	118777	14K2FK43 379772 14K2FK44 361456 14K2FK45 376063
New 214	068081	14K2FH67 375871

### 16 Valve engines:

Derivative:	Vin:	Engine number:
New 214	139725	14K4FH71 466213 14K4FH72 466449 14K4FH71 756609 14K4FH72 758037
New 216	139725	16K4FH75 444799 16K4FH76 460238 16K4FK88 465497
New 200 Vi	139725	18K4KH78 454144
New 414	217040	14K4FK76 464958 14K4FK77 467548 14K4FK76 758655 14K4FK77 763198
New 416	217040	16K4FK79 465983 16K4FK80 466148 16K4FK79 756490 16K4FK80 757967
216 Coupe/Cabriolet	921678	16K4FK88 465466

## Description

### LOSS OF POWER/MISFIRE - VALVE STICKING

Temporary loss of power, hesitation or misfire is normally intermittent and is likely to occur during warm-up period but can also occur when fully warm and at random engine speeds. Vehicles which have covered a mileage of around 5000 miles (8000 Kilometers) upwards may be affected.

### CAUSE:

Valve stems (particularly exhaust), contaminated with carbon deposits, causing valves to stick open momentarily resulting in loss of compression. Root causes of this condition are varied, however it is suggested the prime contributing factors are as follows:-

A regular vehicle driving cycle involving many short start-stop journeys.  
(Such a cycle does not allow the engine sufficient time to warm-up.)

Vehicle being driven within regular short driving cycles and engine speed never reaching high RPM.

It should be noted that the symptoms described are not unique to this engine but also occurs on many other petrol engines with similar design features built by other manufacturers.

## **ACTION:**

The new carbon break exhaust valve replaces previous valve part number, (parts fiche will indicate this). Close examination of the new valves will show a slight narrowing of the valve stem in the area arrowed in illustration. The purpose of this under-cut portion of stem is to allow a small amount of carbon deposit which occur naturally to form without fouling guide.

### **Reliability;**

Subsequent to modifications, reports have shown a marked reduction in exhaust valve sticking. However if a vehicle is driven or continues to be driven within a regular driving cycle as described in 'Cause', there is a very slight chance the condition may occur or re-occur at some point in the vehicle life.

Note: Earlier bulletins suggested the application of 'Forte Treatment' as the initial action; although in certain instances we believe this treatment still to be successful it is not now however recommended as the first action to be taken.

## **Preparation:**

For vehicles with engine numbers prior to introduction of carbon break valves (see Range Information").

Obtain 4 exhaust valves part number - LGH101180 (8 valve engines).

Obtain 8 exhaust valves part number - LGH101190 (16 valve engines)

Note: In some instances engines built prior to the factory introduction range may have had carbon break valves fitted in service, vehicle job cards may record such instances.

### **All repairs**

Obtain cylinder head gasket set ensuring cylinder head gasket is correct for engine range. Remove and strip cylinder head;

1) Refer to the 'K' Series overhaul manual and remove the cylinder head, camshaft and all valves, Take care to ensure that all gasket and oil sealing surfaces are protected from damage.

2) Using parallel 7mm diameter reamer part number 18G1772 (8 valve engine) or a 6mm diameter reamer part number 18G 1771 (16 valve engine), hand ream the exhaust valve guide bores (from the head face side) to remove any carbon deposits, take care when applying reamer ensuring that only carbon is removed. Remove any loose deposits from the combustion chamber.

3) Thoroughly wash the cylinder head.

4) Clean the inlet valves.

### **ALL VEHICLES**

#### **CLEANLINESS CARE POINT!**

**DO NOT ALLOW CARBON OR DEBRIS TO ENTER CYLINDER BORES AS SEVERE BORE DAMAGE WILL RESULT**

5) Loosely fit the new carbon break exhaust valves and the cleaned inlet valves, grind in all to ensure good seat contact. Reassemble and fit the cylinder head using new gaskets and valve stem seals (ensure correct cylinder head gasket is used).

**Tools Required:**

18G1772 - 7 mm diameter reamer (8 valve engine)

18G1771 - 6 mm diameter reamer (16 valve engine)

One only of each reamer will be supplied direct from VL Churchill to every UK dealer shortly, if additional reamers are required these may be obtained direct from VL Churchill Tools Sales Department Tel: 01327 303493.

[www.rover-400-series.co.uk](http://www.rover-400-series.co.uk)