

Figure 1 – hose between the carburetors

### MGBGT V8 – renewing the fuel hose between the carburetors (and care points)

Leakage from the fuel hose linking the carburetors on a V8 (see **Figure 1**) is a relatively common theme in the V8NOTES and the procedure for its replacement has been described several times and most succinctly in V8NOTE90 written by John Dupont. Here in V8NOTE685 Jim Livingstone describes a couple of issues from his recent work on his carburetors and linkages.

#### Introduction

Though John Dupont's leak was from the carburettor base gasket the basic procedure is the same. Elements of the procedure are also covered in the V8 Workshop Manual Supplement AKD8468 under Induction Manifold – Remove and Refit 30.15.02. I have tried different approaches in the past but the removal of the complete carburettor and adaptor assembly has proved to be the most successful with only the reconnection of the engine breather hose to filter presenting any real problem. Incidentally, I have found the addition of a thin smear of Hylomar Universal Blue to be the most effective seal between the Adaptor and Induction Manifold. The justification for yet another note on this topic is that I encountered a couple of issues not mentioned in the previous accounts.

The first was an assembly error on my part and second a parts error with the replacement hose between the carburetors. I have added Care Points where I think they might help clarify the procedure.

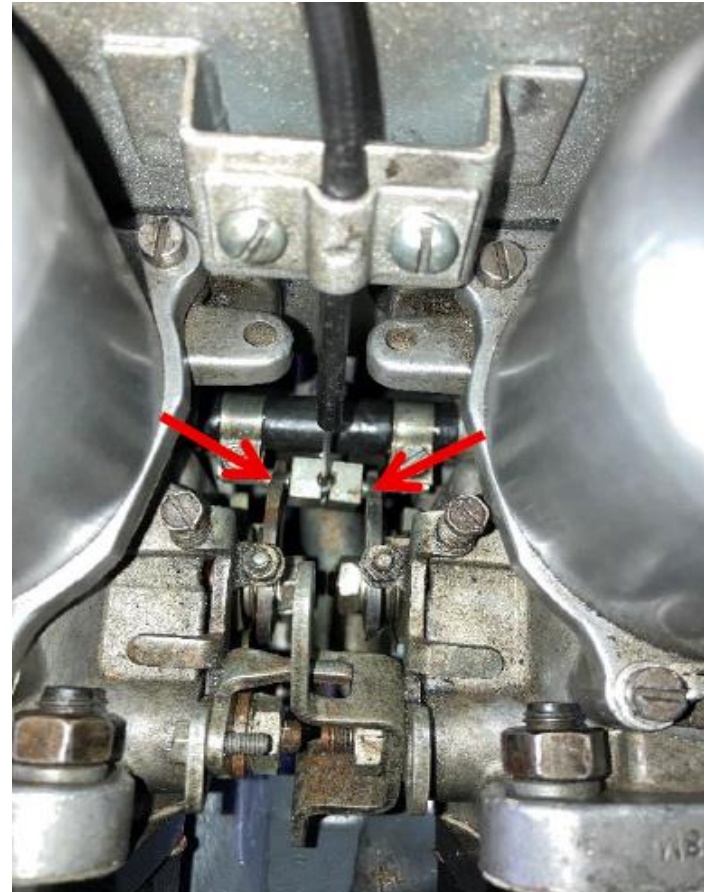


Figure 2 - ears of the hose clip must be oriented away from the choke trunnion



Figure 3 - ears of the hose clip must be oriented away from the choke trunnion

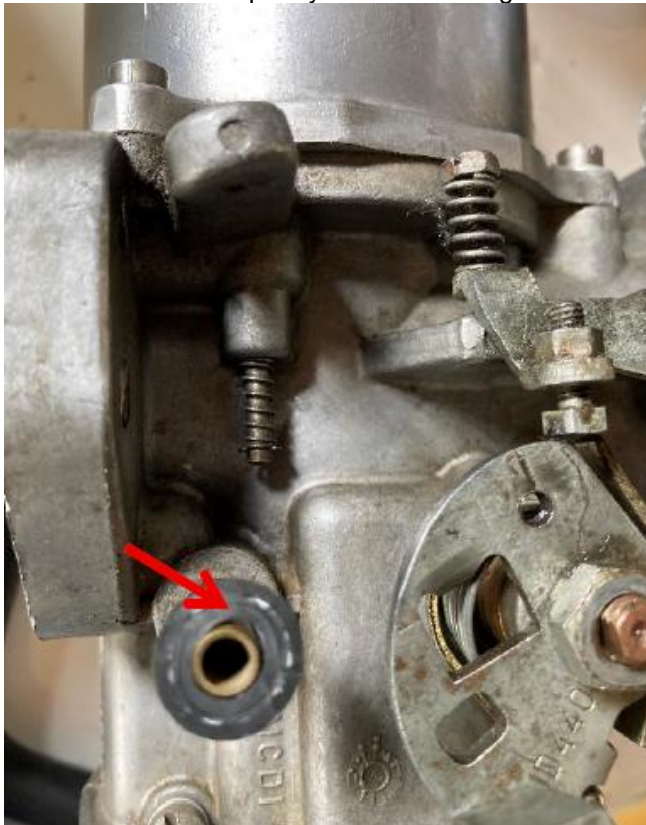
## Procedure notes

### 1. Assembly error

Accessibility for maintenance has been a personal obsession and I try wherever possible to arrange for tool access in the assembled condition. Orientation of hose clips is a case in point. In most circumstances there is no "wrong way" and it is up to the discretion of the assembler. In the case of the clips on the interconnecting fuel hose there is a definite "wrong way" as I was unfortunate enough to discover. As illustrated in **Figures 2 & 3** the ears of the hose clip must be oriented away from the choke trunnion, otherwise they will foul causing it to jam when raised and the choke cable to disengage when lowered. In manufacturing this would be addressed by a foolproof feature in the design or at the very least visible guides and operator training – see Footnote. As the error is not discovered until the assembly is complete, the consequences are a full disassembly.

### 2. Parts error

The initial leak in the interconnecting pipe between the carburettors was detected by the higher than usual frequency of pulsing of the fuel pump when the ignition was switched on. Tightening the hose clips only made matters worse and the leakage went from a drip to a stream of fuel and I quickly turned off the ignition.



**Figure 4** - ovality remained with a clear gap between hose and pipe

I had purchased two metres of Gates Barricade ¼" fuel hose (GFH1025X) in anticipation of future requirements to replace perished hose. Having recently used a section of this to replace the hose in question I was surprised that it was already leaking. On examination the existing hose appeared in good condition without signs of hardening or perishing from exposure to E10 fuel. However, the **bore was noticeably oval** on both the removed part and the coil of 'new' hose. I cut off a narrow section of this and slid it over the fuel feed pipe of the left carburettor in expectation that the ovality would disappear when assembled. However, as illustrated in **Figure 4** the **ovality remained** with a clear gap between hose and pipe evident.

I next measured the outside diameter of the pipe which came to 0.235" which probably explains its inability to remove ovality from a nominal ¼" (0.250") bore hose. Anxious to return the car to a roadworthy condition and unwilling to risk more oval hose I turned to a short section of braided hose (GGT101) I had purchased last Autumn. At 2½" this was over long for this application but was easily shortened with the aid of a rotary hand tool and cutting disc.

I have often wondered why the remainder of the flexible fuel feed uses braided flexible hose yet this section between the carburettors has this thicker unbraided hose. Maybe a more knowledgeable V8 owner can supply an explanation.

### 3. Other Care Points

As mentioned in V8NOTE90 there are other opportunities for errors when reassembling. The first is failing to ensure that the choke trunnion is engaged in the choke operating levers (fast idle cams) of both carburettors. The second is the vacuum advance tube which should be fitted to the connection on the underside of the left carburettor before the **Adaptor is lowered on to the Induction Manifold** - **Figure 5**



**Figure 5** - Adaptor is lowered on to the Induction Manifold

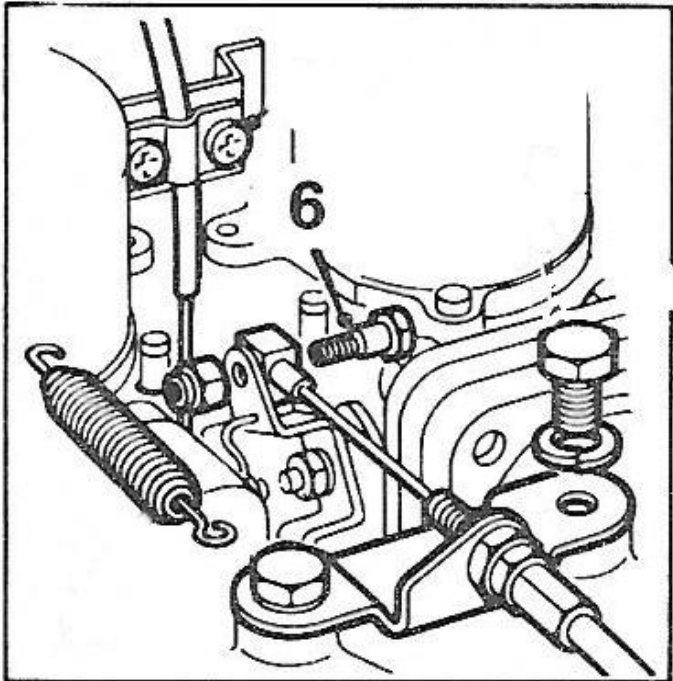


### Footnote

Assembly error prevention has traditionally been left to the designer's ingenuity to incorporate foolproof features. Failing this it became the responsibility of the manufacturing plant to ensure correct assembly through process control. This was rarely formalised until the Japanese introduction of **Poka-Yoke** as an essential part of production control. As demonstrated in this example it is difficult to apply those rules retrospectively on classic cars and it is down to the restorer's experience and diligence to avoid such errors. In this the V8 Workshop Notes are an invaluable aid and hopefully this note will help others avoid repeating my error.

**Poka-yoke** (poka joke) is any mechanism in a process that helps an equipment operator to avoid mistakes and defects by preventing, correcting, or drawing attention to human errors as they occur. It is a Japanese term that means "mistake-proofing" or "error prevention", and is also sometimes referred to as a forcing function or a behavior-shaping constraint.

### Accelerator inner cable to the carburettor linkage



6 – bolt and nut connecting the accelerator inner cable to the carburettor linkage

Source: Induction Manifold – Remove and Refit 30.15.02 (V8 Workshop Manual Supplement AKD8468). A copy of the supplement is on a full set of V8 Workshop Notes.

### Where is the adaptor?

The vacuum hose connector is located on the underside of the left carburettor.

