Balancing the idle speed on MGBGTV8 carburettors

Many articles have been written on the topic of balancing the idle speed on SU carburettors and just as many suppliers have come up with products to synchronise two or more of these admirable instruments. With the exception of the tube in the ear method they require expenditure on a specialised tool which will lie unused in a toolbox for months if not years on end. Jim Livingstone feels that if you are not happy with the subjectivity of the tube in the ear approach, then the following method combines minimalism with objectivity.

The idea is not new and in fact a tool was marketed in the seventies relying on the same principle - that the SU carburettor is itself an airflow measurement device requiring only a readout mechanism. The airflow sensor is, of course, the piston and its height in the suction housing is its response to the airflow. As both carburettors are conveniently situated side by side in the MGBGTV8 (unlike its Rover cousin) it's a simple matter to rig up a means of reading the height of each piston. As the method relies on what are effectively two airflow meters, the matching of the carburettors is critical. This method is particularly suited to the MGBGTV8 in that it avoids the removal of the airbox between the carburettors and the heater box and the insertion of a bulky airflow measuring device in the very restricted space there. An added benefit is the ability to check the balance of both instruments at different points in the rev range.

It's worth mentioning this note describes only balancing the idle airflow of twin SU carburettors and not adjusting the air-fuel mixture. For mixture adjustment see pages 58 to 60 of the MGBGTV8 Driver's Handbook AKD8423.

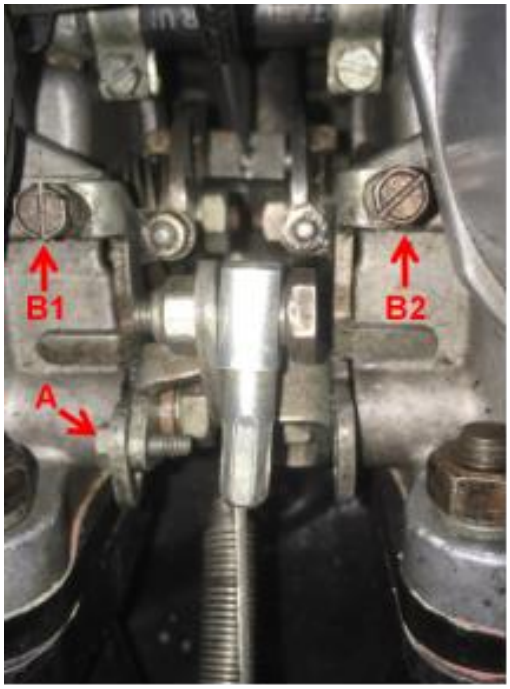
Material and fabrication

You need 50cm of 1.2mm dia. copper wire (an offcut of household mains electrical wiring will be fine) and the steps are straightforward:

1. Cut the wire into two 25 cm lengths.
2. Bend into an L shape 16cm x 9cm.
3. Fold over the end of the 16cm leg to remove the sharp edge.
4. Shape the bottom 5cm as shown in the image to be a tight fit in the 8.5mm dia. damper chamber.

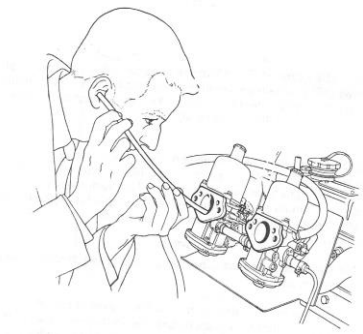
Application

1. Run the engine until the temperature gauge registers.
2. Having marked the damper assemblies to ensure correct replacement, remove them and store safely.
3. Fit the shaped wires into the damper chambers.
4. Rotate the wires to face one another.
5. Bend the horizontal legs to be level with one another.
6. Loosen the throttle interconnection clamping screw **A**.
7. Restart the engine.
8. By turning the throttle adjusting screws **B1** and **B2** adjust each carburettor individually until the wires align.
9. Retighten clamping screw **A**.
10. If the idle speed is incorrect turn both screws **B1** and **B2** by equal amounts to adjust it – the idle speed specification is 800/850 rpm.
11. Remove the wires, top up the damper oil level and replace the damper assemblies in their respective chambers.



As a footnote, a variation not checked by the author would permit the function of the damper to be tested. This would involve drilling a hole in each damper cap and modifying the ends of the vertical legs to sit on top of the damper tubes. By this modification the balance of enrichment could be checked.

Balancing with a tube in your ear



The traditional way of balancing the twin SUs is by using a length of tubing to the ear and then listening for the "hiss" of the airflow in each carburettor. But for an MGBGTV8 that needs the removal of the airbox which the method described by Jim usefully avoids. The "listening tube" diagram is from the book Tuning SU Carburettors, page 78 published by Speedsport (ISBN 85113-072-0).