

Ready to Tune and Synchronize Your Carburetors!

Once you have completed the pre tune check list and corrected all problems you are ready to tackle the intricacies of tuning and synchronizing the multiple carburetor setup on your MGB or TR4. How difficult is this? Not difficult at all, even for a first time novice you should be able to precisely tune your carburetors in 15 minutes or less - **only IF you have completed the pre-tune check list** and corrected all problems.

If you are adjusting an existing carburetor or set

- If the engine is running reasonably well you may skip these first steps. If you are having problems or if the car has sat for a long time first set the carbs to a base line. With a felt tipped marker, mark a line where the dashpots (piston chamber) meets the carb body. This will be used to reinstall the dashpots. Remove the dashpots and pistons. With a soft cloth and some carburetor cleaner clean the deposits from the inside of the piston chamber and the both the small and large diameters of the piston. Clean the steel rod in the center of the piston and the bore inside the piston chamber. **DO NOT USE ANY ABRASIVE** such as sand paper - never sand blast or glass bead! Liberally coat the steel center rod with WD40 or similar light oil. The piston and side wall of the chamber should be clean and dry. Be careful to avoid bending or damaging the needle - avoid removing it, they bend easily and often stick in the piston.
- Raise the jet until the top of the jet is even with the bridge. Back out the idle adjusting screw until it is clear of its stop, turn it back until it just touches the stop and then 1 .5 turns. Replace the piston, spring and dashpot being sure to put the same piston back into the dashpot that it came out of - do one at a time to be safe.
- Raise the piston using the lift pin on the underside of the dashpot mounting flange, when released, the piston should drop cleanly to the bridge with a distinctive 'clank'. If the piston does not drop cleanly you may need to [center the jet](#). If the piston drops cleanly lower the jet adjusting nut 2 complete turns. You now have a base line adjustment and are ready to tune your carburetors.

After you have a base line or if installing new carburetors

- Bring the engine to normal operating temperature
- Loosen the screws on the interconnecting linkage - each carburetor should operate independently of the other
- disconnect the choke cable or any automatic enrichment device - loosen the cable stop nut or accelerator linkage
- Using a tachometer, adjust the idle speed to factory specifications. Make your adjustment increment ally, turn the adjusting screw 1/4 turn at a time, adjusting each one equally.
- Raise the jet adjusting nut, on one carburetor at a time, until the engine RPM just begins to drop. Depending on where your base line settings were you may first notice a rise in RPM before it begins to fall. Lower the jet adjusting nut until the RPM begins to rise and then 1/6 turn (one flat).

- Readjust idle to manufacturers specifications.
- Test fuel mixtures - using the lift pin on the underside of the dashpot mounting flange, press up until you feel contact with the piston and then lift slightly (specs are 1/32 of an inch - good luck). If the engine RPM increases when the pin is lifted, and remains elevated, your mixture is rich - raise the mixture adjusting nut. If the engine RPM drops when the pin is lifted your mixture is too lean, lower the mixture adjusting nut. If the engine RPM initially raises as the pin is lifted, and then settles back to the original RPM or very slightly above, your mixture is right.
- Readjust idle speed if necessary. To synchronize the carburetors use a length of fuel hose. Hold one end of the hose just in front of the carburetor inlet - not so that it obstructs air flow - and listen to the 'hiss' of the air as it enters the carb. You will easily notice any difference in airflow by the intensity of the 'hiss'. Alternatively reduce the idle speed of the 'fast' carb and increase the idle speed of the 'slow' carb until both produce the same 'hiss'. Evenly adjust both idle speed screws to reach the desired engine idle speed. Recheck fuel mixture, and carburetor synchronization.
- Adjust the pegs on the ends of the interconnecting linkage until there is approximately 1/16 inch clearance (free play) before the peg contacts the slot on the carburetor tab. Tighten all screws on the interconnecting linkage. Tighten the cable stop, accelerator linkage and choke cables.
- Pull the choke until the jets are just at the point of moving but have not moved. Screw both fast idle screws in until they just touch the fast idle cam. Alternately turn each fast idle screw until the idle speed is increased to 1,000 RPM with the engine warm. Push the choke back in - put on your air filters - close the hood - You are done!

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