

Engine Checkup

Many of the problems experienced by the classic car owner, that are frequently blamed on the carburetors, are very often caused by other issues. Rebuilding the carburetors without addressing these issues, is not only a waste of money, but the problem will still exist when you get your newly-rebuilt carbs installed.

So, let's go through a checklist of ALL the things you should check before blaming your SU's, and removing them for a rebuild.

- 1) **Do a compression check.** If you don't own a tester, it's an inexpensive item that will be used many times. Remove the spark plugs, insert the tester into spark plug hole #1 and spin the engine a few times on the starter. Note the maximum reading. Repeat for the remaining cylinders, and then compare the results. As long as the pressure is over 100psi it's fine; what's critical is that they should all be within 10% of each other. If they are not, you need to investigate further to discover the cause; worn or broken piston rings, worn cylinder bores, worn valve guides etc. If all is well, be sure and check the spark plug gaps, before replacing them, and refitting the leads in the correct sequence. Check that the leads are in good condition, and if they look doubtful; replace them, otherwise you run the risk of a misfire.
- 2) **Points.** Be sure to check that your points are in good condition, with no obvious burn marks on the faces. If all looks well, check the gap, and while you're in there clean the inside of the cap.
- 3) **Valve Clearances.** Check your manual if you are not sure of the correct clearances, and make sure that the stated setting is for either a hot, or cold engine. Incorrect clearances will seriously affect your ignition timing.
- 4) **Ignition Timing.** This is a critical step. Even if the static timing has been checked, use a timing light to verify that the advance/retard is working in the distributor. Check the manual for the correct advance readings at specific rpm's. If you notice the timing mark moving erratically this indicates a worn timing chain.
- 5) **Check the Fuel Filter.** These do not last forever, and replacements are not expensive. If you notice an excessive build up of the rust flakes in the filter, consider removing, and flushing out the fuel tank.
- 6) **Vacuum Leaks.** One of the most common problems is rough running at idle, and before it is assumed that a rebuild is required there are a couple of easy things to check, which may solve the problem. The most likely culprit is a vacuum leak. You need to check that all the tubes and hoses connected to the carburetor(s) and the inlet manifold are connected properly, and are not damaged, or perished. If everything looks OK, one more check is needed. With the engine running, take a can of starting fluid and carefully spray all of the hoses, their connections, and the inlet manifold gasket area. If the engine speeds up at any time, you have found a vacuum leak. Fix that leak, or leaks (don't stop checking the whole system if you find one) before you do anything else.

If your car has a brake booster, don't forget to check the hose that runs from the check valve fitting on the manifold, to the booster. Check the condition of the hose, and each end for leaks. Spray along the whole length of this hose; they tend to perish, and develop cracks.

Even the smallest leak in any of these areas will cause problems. If the engine is drawing air in from anywhere except through the carburetor, the mixture will be excessively weak.

SAFETY WARNING: Working on cars can be dangerous. Please follow ALL equipment safety guidelines, and if you are not absolutely sure about any task you are considering doing, PLEASE seek the assistance of someone with experience of that task.