Carburetor Checking and Adjustment

This operation should complete the 1000 km service, 5000 km service and subsequent yearly tune-up, or at any time when carburetor manifolds or linkages have been removed and reinstalled on engine.

Tools:

You will need:
STE synchrometer to balance vacuum between carburetors
A stubby slot screwdriver for idle speed screws
A "dime" for idle mixture screws
3/8" open end wrench
5/16" open end wrench for throttle cable connection and linkage drop links
A digital tachometer is also helpful, but not essential.

Procedure:

1. The engine should be at operating temperature. Allow to run for at least 10 minutes from cold start.

2. Start engine. If ignition parts have been replaced check distributor advance at idle and at 3000 RPM.
   Advance should be 7 deg. BTDC at idle and 30 to 32 deg. BTDC at 3000 RPM.

3. Stop engine. Remove air cleaners complete with covers.

4. Disconnect throttle cable at link arm in center of motor, disconnect upper ball pivot end on one side from aluminum linkage arm. Don't loose nylock nut. Place STE on rear throat of one carburetor, then the same throat on the other carburetor. Check the meter. If the reading is the same, the carburetors are in balance.

If one is "pulling" more or less, then an adjustment to the idle speed stop screw is needed. By screwing in the speed stop screw you will increase the flow and, of course, decrease it by unscrewing it. These screws are at the very back of the carburetors, where the link arm bolts are and where the return springs attach.

Adjust these screws until your meter has an equal reading on both carburetors and the overall idle speed is + or - 1000 RPM. The individual carburetor throats on each carburetor have been adjusted by Intermeccanica so no adjustment of the air bleed screw is needed or suggested.

5. With the carburetors now balanced and an idle speed around 1000 RPM, you can now adjust the idle mixture screws. There are two on the side of each carburetor just at the flange above the intake manifold. The heads have a slot and are knurled. The rear ones on each carburetor are easy to see. The front pair are a bit more hidden. If you have a digital tach, now is the time to hook it up. If not, use your ear and the tach on the dash. Pick any idle mixture screw and SLOWLY turn it clockwise. Keep watching your tach or listening to the motor. Within 1/2 or less of a turn you should see/hear the engine speed drop. This signifies a mixture that is too lean for combustion and that one cylinder has stopped firing. Now back that screw out until idle speed is back up and the engine sounds smooth. This is the "lean best" position. Repeat this step with all three remaining idle mixture screws. You should get approximately the same reaction from each idle mixture screw when you do this operation. A little variation on the amount of drop in speed is due to the pre-adjustment of the air bleed screws, which changes the idle mixture slightly from one throat to another.

6. However if you get NO drop in idle speed and you have closed off the idle mixture screws (never tighten firmly, just finger tighten lightly, these are adjusting screws), you may have a plugged idle jet. These can be removed and usually blown out with compressed air or a can of carb cleaner. Once you have

established the "lean best" position for your idle mixture screws, you may have to reset your idle speed stop screws using your STE to keep the carbs in balance. You should end up with an idle speed between 950 RPM and 1050 RPM and your idle mixture screws at the "lean best" position. From this point back out idle mixture screws 1/8 to 1/4 turn. This should give you a smooth, solid idle.

7. Shut off motor, reconnect upper ball pivot end onto aluminum linkage arm. Take care not to overtighten nylock nut. Now with your thumb gently push on central linkage arm where the throttle cable attaches, at the same time watch the tips of the idle speed stop screws and the throttle shaft arm on the carburetors. Both throttle shaft arms should be touching the screws when your thumb is off the central linkage arm and the opening of the carburetors should be simultaneous once you apply pressure to the central arm. If this is not the case, loosen the jamb nuts on the drop link on one side and turn the hex shaft between the two ball ends to lengthen or shorten as necessary. Recheck the simultaneous opening once you have re-tightened the jamb nuts.

8. Start the engine and operate the throttle with you hand from the central linkage arm. The engine should idle smoothly and at about 1000 RPM, and it should come off idle positively and evenly on either carburetor. With the engine running, hook up the throttle cable and make certain that the linkage returns to an idle position once released.

9. With the engine off, have someone in the car depress the throttle pedal all the way, while you check the throttle linkage. You should be within 95% of full throttle. If not, tighten up the throttle cable at the central aluminum link arm and retest.

10. Replace all cleaners and covers. If the air cleaner elements are dirty, they should be washed in solvent, then blown out from the inside out with compressed air and re-sprayed with air cleaner oil.

The key to this job is not to alter the adjustments excessively. Your carburetors were set up and re-checked at the factory. Minor adjustments are all that is required to deal with break-in and elevation variation. Any other question or problems, please contact Intermeccanica.