

Dear Greg:

The spark plug is Champion J12Y. J12YC is similar with a copper core. RJ12Y or YC is a resistor type. Resistor plugs tend to emit less radio RF interference. I use a RJ12YC. Yes, there have been many spark plug design and application changes since Studebaker's Shop Manuals were published.

I coat lifter tips and cam lobes with moly paste available from Crane Cams and/or Comp Cams. I use SAE 30 Brad

Penn break-in oil with a can of EOS (Engine Oil Supplement). EOS used to be a General Motors product sold over the counter at GM dealerships. It is now sold in the aftermarket, so you don't have to find a GM dealer to buy it.

Pre-lube the engine oil system. You should be able to generate about 20 PSI oil pressure during the pre-lube operation. If not, did you remember to install the oil galley plug ahead of the distributor's lower housing, located inside the block's distributor "silo" at the rear of the block, just to the left [driver] side? Check the oil and top off if needed after priming.

Install the distributor and set the static timing. Make sure the cooling system is full. I put a flushing "T" in the top heater hose and leave the cap off when filling the radiator. That allows air to escape. When the cooling system is full, install the flushing T cap and fill the remainder of the radiator.

Start the engine and immediately bring the RPM up to about 2500 for about 5 minutes. Then drop the speed down to about 1700 RPM. The engine should not run below 1500 RPM for the first 30 minutes. All the while you should be monitoring oil pressure and temperature, and looking for leaks of any kind. If a problem exists, shut the engine down.

After 30 minutes, bring the idle down. Set the timing and adjust the carburetor. Shut the engine down and double-check everything, especially the oil level.

Restart the engine and run it for about another 30 minutes. Vary the engine RPM during this time, but do not exceed 4000 RPM. At the end of this segment, shut the engine down and let it cool overnight. At this point, the camshaft and valve lifters should be broken in and the piston rings should have seated.

The next day while cold, change the oil and filter. Fill the oil filter before installing it. I use Brad Penn 20W50 as "regular" oil. However, as we have discussed here, there are many good, flat-tappet camshaft-compatible oils on the market. Use the one of your choice. Then, still while cold, remove the valve covers and re-torque the heads. Reset (adjust) the valves. I set the valves cold by adding .002" to the spec.

Do not make any full throttle acceleration past 4500 RPM during the first 1000-miles. Do your first regular oil

edited by Bob Palma

change and filter at about 1000 miles. Try to vary the speed and load during this time.

There are many opinions on how to treat a fresh engine. I just told you mine. That has been my procedure for 40-some years, whether for a Chevy 6 or a Chrysler Hemi V8, and everything in between.

My 1979 F-250 that towed Ron Hall's Avanti to Bonnaville got a fresh 351M between 1992 and 1993. I completed the engine, fired it and ran it in as described above. A few days later, we got dumped on with about 10" of snow. I plowed snow with the truck for about 12 hours with an engine that had a little over one hour of running time on it when I left the driveway. The varying load and speed with no high-speed operation was perfect for it. I changed oil and filter the next day. The 12 hours plowing was my 1000-mile break-in. It ran great from that point forward.

Good luck.

JP