INSTALLATION OF TRIPLE SU MANIFOLD AND CARB ASSEMBLY

1) Remove the air cleaner, carburetors, throttle linkage, and intake manifold from engine noting the location of vacuum hoses for refitting. Loosen the flexible carb shaft couplers before removing the carbs.

2) Replace the gasket between the manifolds and head.

3) Optional: Install a 5⁄16" x ¾" roll pin if your head is drilled for one between intake ports 3 and 4. This will help to align the center manifold.

4) As you are installing the manifold/carb assembly, check clearances to the body and bonnet. The critical areas are the rear carb float bowl to the bulkhead and the top of the front carb to the bonnet. Engine position in the frame/body varies a bit from one car to the next so make sure you have operating clearance in these areas. Close the bonnet carefully the first time, perhaps with a piece of soft Styrofoam or a cardboard tube affixed to the top of the front carb that can crush when the bonnet is closed to indicate the clearance. If the bonnet contacts the carb, check if the engine can be lowered in its mounts. If the mount bolts were tightened while the engine was suspended on a lift, you may be able to lower it just by loosening the bolts to leave the engine settle down then re-tightening the bolts.

5) Bolt the manifold/carb assembly to the head. Tighten the bolts evenly so the gasket is not compressed more in one area, misaligning the manifold. Check that the throttle shafts continue move freely as you tighten the bolts. It may be necessary to shift an individual manifold slightly in its bolt hole clearance to keep the shafts from binding. Also, you may need to loosen one or more of the levers clamped on the ends of the throttle shafts between the carbs if the distance between the carbs changes slightly as the manifolds are bolted to the head. Torque the 5⁄16" bolts to 12-14 ft/lbs. and the ⅜" bolts and studs to 20-22 ft/lbs. Note that the manifold clamps are rotated properly on the studs before tightening to specified torque. Tighten the water hose clamps. Hose clamps are not needed on the balance tube hoses.

6) Tighten the four nuts holding each carb to its manifold while again checking that the throttle shafts operate smoothly without binding. Make sure that the interconnecting throttle shafts have a small amount of end play so they are not binding. Be careful tightening the upper nut next to the throttle linkage. It is very easy to damage the idle stop screw with your wrench. More clearance for wrenching can be obtained by holding the throttle open. This nut also holds the throttle return spring bracket. Hold the bracket upright as you tighten the nut.

7) Adjust the throttle shaft levers on the interconnecting shaft between the rear and center carbs so that both throttles start to open at the same time. Now adjust the lever on the front interconnecting shaft so the front carb starts to open at the same time as the others. Adjust the bellcrank idle stop screw and/or the length of the vertical link or position of the lever on the throttle interconnecting shaft so the bell crank is about 1⁄16" away from the stop screw when the carb throttles start to move. Connect the horizontal link to the lever at the firewall, adjust its length for proper pedal position, and check for smooth operation. Move the linkage through full range, checking that the threaded rod clears the manifold flange and that nothing interferes with its operation. Check that the throttle operates smoothly and allows the butterflies to open and close fully. Check that the throttle returns freely to idle.

8) Connect any vacuum hoses needed. Connect the breather hose to the valve cover. Connect the fuel supply hoses but before making final connection at the carbs pump a little fuel into a glass container to clear any dirt from the lines. The carbs are tested at the factory for leaks and correct function. Most reported faults involve flooding and are due to the ingress of dirt from the fuel lines or tank. Fitment of an inline fuel filter where possible is recommended. If flooding occurs, remove the float needle valve, check, clean and refit.

9) Install the triple SU choke cable into the dash. Tying a string onto the old cable before pulling it out can help pulling the new cable into place. Insert the ferrule on the end of each sheath into the clamp on the carb body and tighten the bolt. Remove the small piece of wire and insert each inner cable into the fitting on the choke lever and tighten the screw while the choke knob is pushed fully in. Check that each choke is adjusted to actuate at the same time as you pull the knob. Check and adjust the fast-idle screws as needed to set desired fast idle speed.

10) Remove the damper assembly by unscrewing the black knob from the top of each carb. Oil must be added to provide the damping effect which will enrichen the mixture during acceleration. Think of it as the accelerator pump. The viscosity of the oil determines the amount of damping effect. A heavier weight oil will provide more enrichening during acceleration. Do not fill the well to the top. Fill only enough so that the damper assembly contacts the oil when the threads are about ¼" away from the carb body. Start with 20W-50 engine oil and then, if desired, experiment with different viscosities to find which performs best. To change oil, first "wick" out the existing oil using a straw size roll of absorbent paper towel or suck it out with a brake bleeder vacuum pump.

11) Mixture is adjusted by turning the big brass nut on the bottom of each carb. Adjustments should be made "one flat" or one sixth of a turn at a time. Turning clockwise as viewed from under the carb screws the jet up in the carb, leaning the mixture. To initially establish that all three are adjusted the same you can turn them all to full lean, mark each nut then turn them all to a starting point of four turns from full lean.

12) Start the engine and adjust the idle speed using the idle stop screws on each carb. Check the airflow into each carb with a flow indicator and adjust the idle screws until each carb is flowing the same amount of air. Next check the air flow into each carb while holding the throttle open slightly so that each carb is no longer resting on its idle stop screw. The bellcrank stop screw can temporarily be adjusted to hold the throttles just off their individual idle stop screws. Stop the engine and adjust the position of the levers on the throttle interconnecting shafts to balance the air flow. After confirming that the air flow is equal on all carbs when at idle and also at steady speed above idle, re-check that the bell crank is about $1/16$" off its idle stop when the throttles just start to move.

13) Install ram air box and remote air cleaner or individual air cleaners.

Idle Stop Screw

Bellcrank Stop Screw

Choke Cable attachment points and Fast Idle Screw

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