

HOLLEY CONTENDER MANIFOLD FOR SMALL BLOCK CHEVROLET ENGINES (300-36)

INSTALLATION INSTRUCTIONS

INSTRUCTIONS MUST BE READ AND FOLLOWED BEFORE AND DURING INSTALLATION TO PRESERVE THE WARRANTY.

PURPOSE: The Holley Dominator II Manifold, 300-36 has been designed for use on small block Chevrolet engines (265-400 C.I.D.). Its low-end torque and usable power range off idle to 7200 RPM makes it ideal for street and street-strip applications.

NOTE: It may be necessary to purchase some of the parts listed below (or the equivalent) in order to properly complete the manifold installation. Determination of equivalency is the responsibility of the consumer, and Holley does not assume that responsibility.

PARTS REQUIRED:

- A. Intake Manifold Gasket Set
1955-68 Holley No. 301-101, GM No. 3931600
1969-72 Holley No. 301-101, GM No. 3957985
1973-on Holley No. 301-102, GM No. 6258833
- B. Thermostat Housing Gasket
GM No. 3701777
- C. Air Conditioning Bracket
GM No. 3973372 (may be required on some 1972 and later applications)
- D. Throttle cable mounting bracket on 2 barrel to 4 barrel conversions.
GM No. 6261814 (this part supplied in Holley Kit No. 301-1).
- E. Transmission Kickdown Bracket on 2 barrel to 4 barrel conversions.
GM No. 3973000 (this part supplied in Holley Kit No. 301-1).
- F. Alternator Bracket (for 1975 and later vehicles only).
GM No. 6262956
- G. Silicon based sealant such as Permatex Silicone Form-A-Gasket, Dow Corning Silastic RTV or equivalent.

Additional parts required for installation are provided in:
Holley Kit No. 301-1 (2 barrel to 4 barrel conversion).
Holley Kit No. 301-2 (4 barrel to 4 barrel conversion).

NOTE: This is a general instruction sheet that covers a wide range of vehicle applications. If your vehicle is not equipped with items referred to in these instructions, (transmission kickdown linkage, air conditioning, power brakes, etc.) just go on to the next step.

TOOLS NEEDED FOR INSTALLATION:

- Socket Set—3/8 Drive
- Open End Wrenches
- 10" Adjustable Wrench
- Ignition Wrench Set
- Screwdriver Set
- Gasket Scraper
- Needle Nose Pliers
- Drain Bucket
- Timing Light
- Torque Wrench
- Flare Wrenches
- Hammer

NOTE: To reduce chances of engine contamination by dirt or other foreign material, it is advisable to clean the engine exterior before starting the manifold change.

INSTALLATION INSTRUCTIONS:

1. Remove the air cleaner.
2. Prior to removing any vacuum lines, identify the routing of the lines, and also, whether or not the source of vacuum is a "timed (ported) vacuum" source or "direct vacuum" source. (It is helpful to make a schematic sketch of the vacuum line routing). "Timed vacuum" sources and "direct vacuum" sources can be determined as follows:
 - A. Start the engine and allow it to warm up to operating temperature.
 - B. With the engine idling, disconnect each vacuum line (one at a time) and note if there is manifold vacuum. If there is vacuum, the source is a "direct vacuum" source. If there is no vacuum, the source is probably "timed". Check by slowly opening the throttle to approximately 2000 RPM. You should now feel vacuum from the "timed" source. Mark and remove the vacuum lines.
3. Disconnect the ground cable from the battery.
4. Drain the radiator. (It may be necessary to remove the bottom radiator hose, if there is no drain plug in the radiator).
WARNING: Be careful of hot water and steam if the engine is still warm.
5. Disconnect the throttle linkage, transmission kickdown linkage, and choke from the carburetor.
6. Remove the gas cap to relieve pressure from the fuel system. Disconnect and plug the fuel line at the carburetor.
7. Disconnect the power brake line and remove the carburetor.
8. Tag and remove the coil wires and bracket.
9. Remove the top alternator bracket and rear air conditioning bracket. It may be necessary to remove the air pump hose from the left air injection manifold for clearance.
10. Remove the heater hose and top radiator hose complete with the thermostat housing. Remove the thermostat.
11. Remove the distributor cap.
12. Carefully note the position of the rotor and distributor vacuum advance can, (a sketch is helpful here).
13. Remove the distributor hold-down clamp and remove the distributor. **NOTE:** Do not crank the engine while the distributor is out of the engine.
14. Remove the manifold "hold-down" bolts.
15. Loosen or remove one valve cover (it may be necessary to use a new gasket to prevent oil leakage).
16. Carefully remove the manifold.
17. Clean the old gaskets from the cylinder head and block surfaces. (Before cleaning, stuff intake ports in the head with paper towels or rags and lay clean, **lint-free** rags in valley or take equal precaution to prevent scrapings from entering cylinder head ports and engine). See Figure 1.
18. It is advisable to run a 3/8-16 tap in each manifold bolt hole in each cylinder head to clean the holes to assure even manifold sealing. If a tap is not available, run a manifold bolt through each hole before installing the manifold. Carefully remove port stuffing and valley rags assuring that no dirt or foreign material has entered the engine. See Figure 1.
19. Before installing the new manifold, transfer all fittings from the old manifold. Pipe plugs are provided to close off all unused openings. To prevent water leaks, a thin film of silicone sealant should be applied to all threads. See Figure 2.
20. Apply a thin coat of silicone sealant to the cylinder head gasket surface. Lay the new manifold gaskets in place by aligning the bolt holes. **NOTE:** Do not use the sealant on rubber end seals. See Figure 2.

NOTE: Holley strongly recommends the use of new, original equipment intake manifold gaskets (or their equivalent) due to their superior sealing characteristics in the severe operating environment of late model, street-driven engines.

21. Apply sealant to manifold gaskets. See Figure 3.

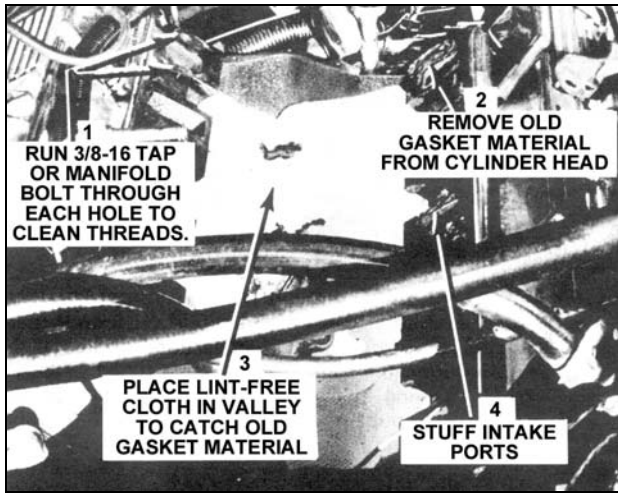


Figure 1

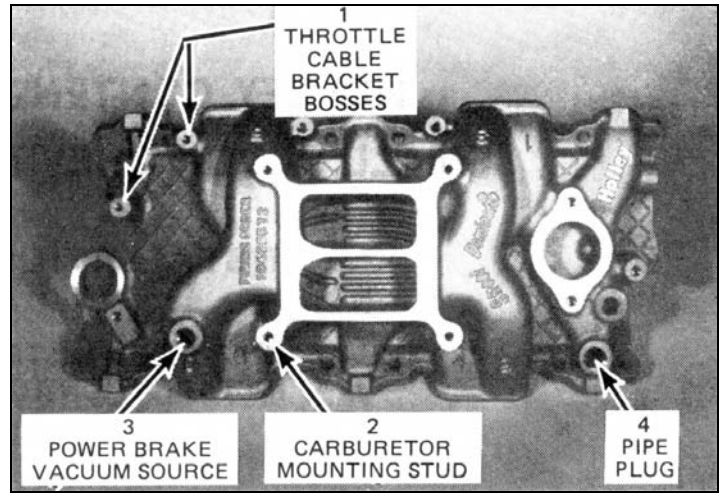


Figure 2

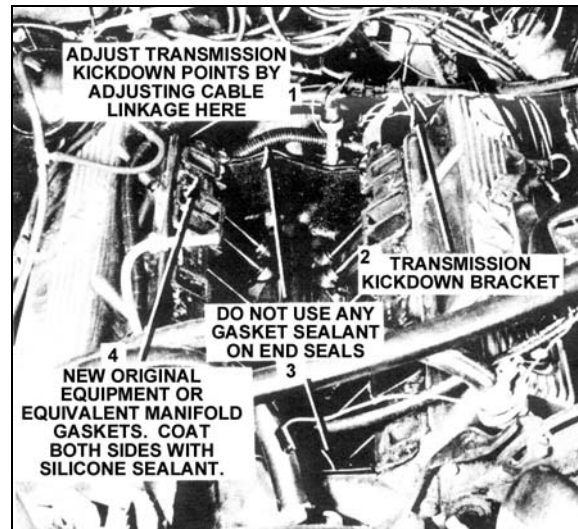


Figure 3

22. Carefully lay intake manifold in place. Applications with air conditioning—it will be necessary to notch the A/C compressor rear bracket (if used) to clear the intake manifold. The shaded areas of the template indicate the amount of material to be removed. **Do not** use washers on the one inch manifold bolts for the A/C brackets. See Figure 5.
23. Start all hold-down bolts by hand; be sure all brackets are under proper bolts.
24. Tighten bolts to 15 ft./lbs. and progress to 25 ft./lbs. in 5 ft./lbs. increments, noting the torquing sequence in Figure 4. Retighten the valve cover.

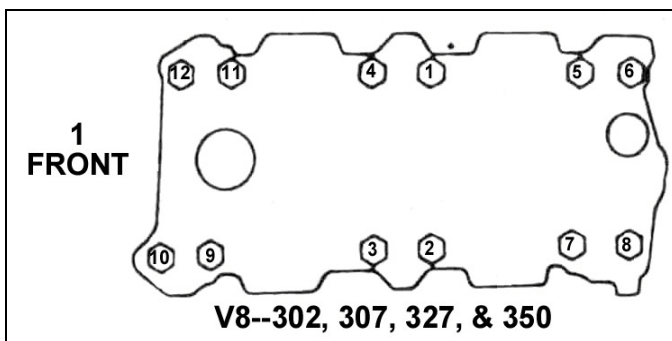


Figure 4

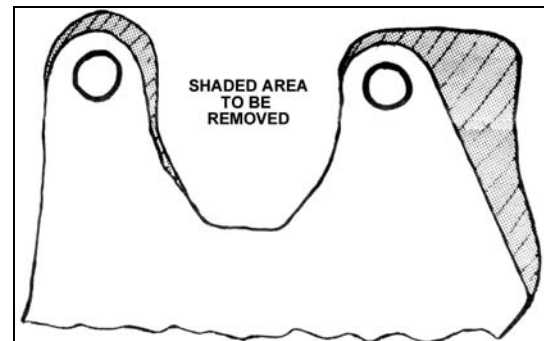


Figure 5

25. Install the thermostat, thermostat housing gasket, (using silicone sealant on both sides of gasket) and thermostat housing. Be sure the thermostat housing has been cleaned of any old gasket material.
26. Install the heater hose.

27. Replace the distributor, so that the rotor and vacuum can are in the original position.
28. Install the distributor hold-down clamp and “snug down.”
29. Install the ignition coil, reposition the coil in the bracket, if necessary, and attach all wires.
30. Install the studs in the manifold flange and lay the carburetor gasket in place. See Figure 2.
31. If the vehicle is equipped with power brakes, install the power brake line, (use power brake adapter, if necessary) in the tapped hole on runner no. 8. See Figure 2.
32. Install the new carburetor, connect the throttle linkage, automatic kick-down linkages, hoses, and fuel line according to the instructions supplied with the carburetor or install the original carburetor in reverse order of removal.

NOTE: Only electric or manual choke carburetors can be used.

NOTE: If the throttle cable bracket supplied with the installation kit is used on later model applications with a square grommet, some filing of the round retainer may be necessary.

33. Install the alternator bracket in the original location and tighten the belt. On 1975 and later cars, a new bracket may be required, if so use GM P/N 6262956.
34. Install the rear air conditioning bracket. On some 1972 and later cars GM P/N 3973372, may be required.
35. Connect the remaining vacuum lines in the original position as per sketch or tags.
36. Close the drain and fill the radiator to the proper level with coolant. Replenish as necessary.
37. Reinstall the gas cap.
38. Connect the battery.
39. Hook up the timing light and start the engine. Set the timing to factory specs. Tighten the distributor.
40. Check for leaks and proper choke operation.
41. Install the air cleaner. **CAUTION:** Check to be sure there is adequate clearance for the throttle and choke linkages through their range of travel. **IMPORTANT:** Check for adequate hood clearance before closing the hood.
42. Operate the engine for 30 minutes. Allow the engine to cool and retorque the manifold bolts to 25 ft./lbs.

GENERAL INFORMATION:

1. It is advisable to periodically recheck (every six months or 6000 miles) the torque on the manifold bolts to minimize the possibility of a manifold vacuum leak.
2. If the cylinder heads have been milled or the cylinder block “decked”, the cylinder head faces and the end surfaces of the manifold must be milled to compensate. This is necessary to maintain correct port alignment, minimize the possibility of manifold vacuum leaks, and assure proper engine performance. **NOTE:** The cylinder head faces of the manifold are each 35° from the horizontal.
3. For maximum fuel economy, it is advisable to use a “snorkel” type air cleaner with pre-heated inlet air (heated by a stove on the exhaust manifold) to help promote good fuel atomization and vaporization. This also helps prevent carburetor icing and is beneficial for good low-speed throttle response.
4. Ignition timing should be set to factory specifications. Any attempt to further advance the **initial** ignition setting will result in (1) an adverse effect on exhaust emissions levels and (2) improper engine operation. (Since idle speed increase as the ignition is advanced, the only way to bring the idle speed down to an acceptable level is to close the throttle plates with the idle speed adjusting screw. Closing the throttle plates in this manner will change the geometry between the throttle plates and the idle fuel ports. This can cause idle quality deterioration and make it difficult to get the idle mixture rich enough). If more advance is desired, it should be done in the distributor advance curve.
5. When changing from a 2 BBL intake manifold to a 4 BBL intake manifold (**NOTE:** Check legality in your state), it is sometimes necessary to adjust the transmission kickdown linkage to the carburetor in order to obtain wide-open throttle. This adjustment is made by loosening the locking grommet shown in Figure 3 and pulling enough kickdown cable through the grommet to achieve W.O.T. Lock the grommet against the kickdown cable and connect the kickdown linkage to the carburetor. Consult the appropriate chassis service manual for detailed adjustment instructions.