GM LS Gen III & IV
Dual-Plane Intake Manifold

INSTALLATION INSTRUCTIONS — CATALOG #300-129/130

PLEASE study these instructions carefully before beginning this installation. Most installations can be accomplished with common tools and procedures. However, you should be familiar with and comfortable working on your vehicle. if you do not feel comfortable performin g this installation, it is recommended to have the installation completed by a qualified mechanic. If you have any questions, please feel fr ee to contact us by email haytalras**@gmail.com**

IMPORTANT NOTE: Proper installation is the responsibility of the installer. Improper installation will void your warranty and may result in poor performance and engine or vehicle damage.

APPLICATIONS:

The LS dual-plane intake manifolds are designed for GM LS Gen III and IV engines used in retrofit engine installations into older classic /high performance cars and trucks. This product is intended for carbureted or throttle body EFI applications.

The LS dual-plane style intake manifolds are produced for street and performance engine applications 5.3 to 6.2+ liter displacement and maximum engine speeds of 6000-6500 rpm, depending on the engine combination. These intake manifolds are sold for (pre-emissions control) applications only and will not accept stock components and hardware.

300-129 – Designed for GM LS Gen III and IV engines equipped with OE or aftermarket LS3/L92 cylinder heads.
300-130 – Designed for GM LS Gen III and IV engines equipped with OE or aftermarket LS1/2/6 cathedral-port cylinder heads.

EMISSIONS EQUIPMENT:

LS dual-plane intake manifolds do not accept any emission-control devices. This part is not legal for sale or use for motor vehicles with pollution-controlled equipment.

IGNITION CONTROL:

For intake manifold P/N's 300-129 and 300-130, a retrofit carbureted application, ignition control will need to be accomplished with a separate ignition control module. It is recommended to use an MSD 6LS ignition controller, MSD P/N 6010 for LS1/LS6 (24 tooth crank trigger engines) or MSD P/N 6012 for LS2/LS7 (58 tooth crank trigger engines). The MSD ignition controller will function with the OE crank trigger, cam timing sensor, and coils.

DIMENSIONS:

NOTE: All heights measure to the lifter valley cover flange on the engine block.

- A-B Height (Carbureted or EFI): Same for both.
  300-129 – A - 5.07" (front), B - 6.14" (rear).
  300-130 – A - 5.07" (front), B - 6.14" (rear).
- Port Size:
  300-129 – 2.44" Height x 1.12" Wide
  300-130 – 2.72" Height x 1.00" Wide
- Mounting Flange Gasket Type – 3/32" Round Viton O-Rings (mounting gasket o-rings included with the intake manifold):
  300-129 – Size 2-146, 2-5/8" I.D.
  300-130 – Size 2-151, 3" I.D.
- Carburetor Flange – Standard 4150 for up to 1-3/4" diameter throttle bores
- As-Cast Runner Cross-Sectional area – Constant, 2.60 in^2.
- Vacuum Port Size and Thread – 3/8 NPT
- MAP Sensor Port Size and Thread – 1/8 NPT
- Mounting Bolt Thread and Lengths – M6 x 1 x 65mm long 6 places, M6 x 1 x 90mm long 4 places
  (bolts and washers included with the intake manifold installation kit).

INSTALLATION KIT CONTENTS:

- ❑ 6 – M6 x 1.0 x 65mm Long Hex Head Cap Screws, Zinc Plated, Class 8.8, Mounting Bolts
- ❑ 4 – M6 x 1.0 x 90mm Long Hex Head Cap Screws, Zinc Plated, Class 8.8, Mounting Bolts
- ❑ 10 – Washers, M6 x 12mm O.D x 1.6mm Thick, Intake Manifold to Cylinder Head Mounting
- ❑ 1 – 3/8 NPT Hex Socket Steel Pipe Plug
- ❑ 1 – 1/8 NPT Hex Socket Steel Pipe Plug

MOUNTING FLANGE GASKET KIT CONTENTS:

For 300-129 – use P/N 508-22

- ❑ 8 – O-Ring, 3/32" Dia. Round Sect. Viton, Size 2-146, 2-5/8" I.D. Port Flange Seals

For 300-130 – use P/N 508-23

- ❑ 8 – O-Ring, 3/32" Dia. Round Sect. Viton, Size 2-151, 3" I.D. Port Flange Seals

INSTALLATION INSTRUCTIONS:

Installation on Modified Engine Components

The LS Dual-Plane intake manifolds are designed to provide maximum performance for street/performance engine applications. The intake manifold will have the best fitment when the engine block and cylinder heads are machined to standard OE dimensions. If the engine block or cylinder head deck surfaces have been milled significantly, the alignment of the mounting bolt holes and the port flange openings to the cylinder head may be shifted and not match-up satisfactorily. If your engine has had the cylinder head or engine block deck surfaces milled, the following may be necessary for proper intake manifold installation.

- The bolt holes in the intake manifold would have to be slotted to allow the fastener to properly pass through the manifold mounting holes. The mounting fasteners must freely thread into the cylinder head while passing through the mounting holes or the manifold may not seat properly onto the cylinder head surfaces when the fasteners are tightened.

- As the o-ring grooves are located in the intake manifold mounting flanges, material may not be removed from the intake manifold mounting flanges without jeopardizing the sealing of the manifold. Any material removal required to align the port flange openings should be removed from the cylinder head not the intake manifold.

- When port matching the intake manifold port openings to the cylinder head openings, care should be taken not to break into or damage the o-ring groove, or the o-ring seal will not be effective. The intake manifold mounting surfaces on the cylinder heads should be in good condition (free of nicks or scratches) where the sealing o-rings will seat to ensure proper sealing.

Installation of the Intake Manifold

1. Before installing the intake manifold, perform a test fit of the intake manifold without the o-rings installed. Make sure that the mounting bolts supplied can thread freely into the cylinder heads through the intake manifold mounting holes. The mounting flange should seat properly and the mounting bolts should not bottom in the threaded holes with the bolts installed without the washer during the test fit.

2. Check the port opening alignment. Test fit the carburetor (or throttle body EFI), fuel and vacuum plumbing, throttle linkage, wiring, etc. to ensure there are not any fit issues before performing the final intake manifold installation. Due to the nature of the design, the clearance of the intake manifold to the lifter valley cover may be close. Please ensure that there is no interference with the lifter valley cover that prevents the intake manifold from properly seating on the mounting flanges.

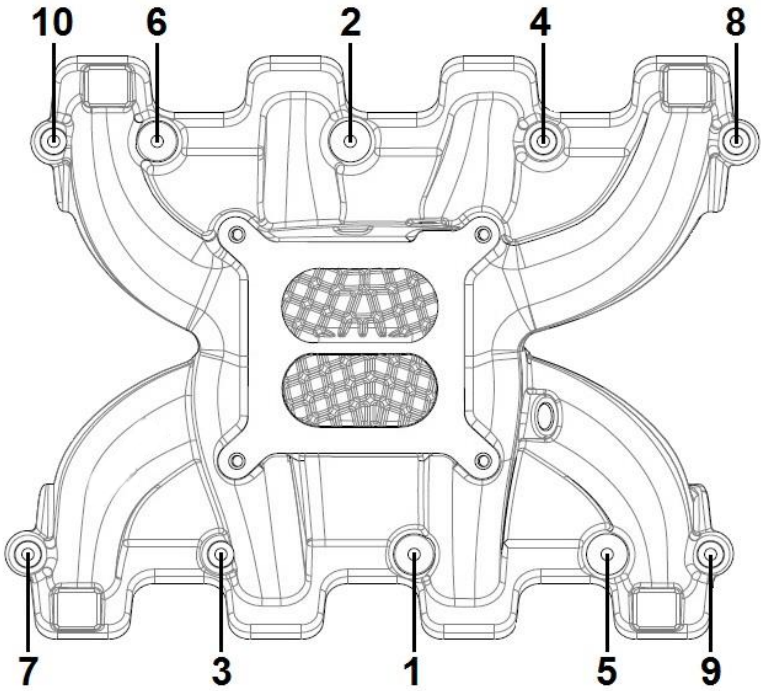
3. For final installation, install the eight o-rings provided in the mounting flange o-ring grooves. To make sure the o-rings do not fall from the grooves, apply a light coat of grease to the o-rings.

4. Place the intake manifold on the mounting flanges. Be sure that all of the o-rings are still in the grooves and are not being crushed between the flanges.

5. Apply engine oil to the threads of the bolts. Install the mounting bolts and washers into the manifold mounting holes and thread into the cylinder heads. Tighten the bolts lightly per the tightening sequence (see the tightening sequence diagram below), until the o-rings are compressed and the bolts are seated.

WARNING! The M6x1 threads in the aluminum cylinder head will not withstand abuse. Care must be taken to have proper thread engagement and to tighten the fasteners to the proper specifications.

6. In two steps, tighten the mounting bolts first to 50 in-lbs and then to 106 in-lbs following the tighten sequence diagram below.



Manifold Tightening Sequence

7. There is a 3/8 NPT port at the rear intake manifold for a major vacuum source. This port is connected to both the upper and lower planes of the manifold and can be used for power brakes, vacuum reservoir, etc. The carburetor or throttle body will normally also provide vacuum sources and ports for plumbing PCV (positive crankcase ventilation). If using a vacuum port on a carburetor or throttle valve, confirm whether the source is a full vacuum or a timed vacuum source. A 1/8 NPT port has been provided on the right side of the intake manifold carburetor flange for a MAP sensor signal. It is preferable to use the boss on the rear of the intake manifold as a vacuum supply, not for PCV. It is best to route PCV to the proper port on the carburetor or throttle body to ensure proper distribution of the crankcase oil vapor into the intake manifold. Confirm that all unused vacuum ports on the intake manifold and the carburetor or throttle body are plugged or capped. NPT plugs for the manifold have been provided.

Installation of the Carburetors or Throttle Bodies

1. When installing the carburetor or throttle body consult the manufacturer installation instructions for proper installation and tuning procedures. Confirm that the carburetor or throttle body to intake manifold gasket to be used will properly seal.

2. With the carburetor or throttle body mounted on the intake manifold and the throttle linkage connected, check to be sure that all throttle levers, linkage components, fuel lines, and vacuum lines have adequate clearance from the intake manifold and each other. Confirm that the throttle linkage has adequate return springs and that WOT is achieved when the throttle pedal is fully depressed.

3. Before starting the engine, run the fuel pump to build fuel pressure and confirm that there are no fuel leaks and that the fuel pressure is correct. To prevent the engine from flooding with fuel, confirm that there is not fuel running into the intake manifold from the carburetor boosters (proper needle and seat closing) or from the throttle body EFI fuel injectors (proper fuel injector closing).