

Installation of the Fuel Rails –

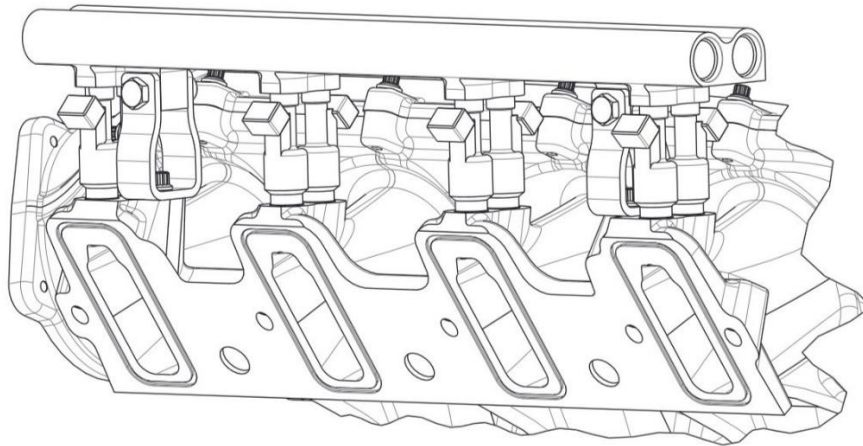
All of the LS1/2/6 Lo-Ram intake manifold kits contain a fuel rail kit.

IM Kits including the single injector per cylinder fuel rail kit are P/N's: 300-600 & 300-600BK
300-602 & 300-602BK
300-620 & 300-620BK
300-621 & 300-621BK
300-623 & 300-623BK

IM Kits including the two injectors per cylinder fuel rail kit are P/N's: 300-601 & 300-601BK
300-603 & 300-603BK
300-624 & 300-624BK
300-625 & 300-625BK

The fuel rail kits have two sets of mounting brackets. The longer brackets position the fuel rail to install an injector of the longer length of a standard Bosch style EV-1 fuel injector. The shorter set of brackets position the fuel rail to install an injector of the shorter of length of a Magneti Marelli Pico style fuel injector.

For the dual-injector, two-injectors per cylinder, fuel rail kit the center to center distance of the paired injectors is 0.880". A result of this spacing is that if the average overall diameters of the two injectors being paired together exceeds about 0.820" the injectors will not fit with the dual-injector fuel rail configuration. For example, two EV1 type injectors which may have an outer diameter of up to 0.945" may not be paired together. There are many injectors available with outer diameters that can be paired together. Injectors with flow volumes as much as 220PPH, which dimensionally may be paired together, are available from Holley. See <https://www.holley.com>



Fuel Rail & Injector Installation

Installation Steps

1. Install the fuel rail mounting brackets. Use the appropriate length bracket supplied for the injectors being used. Using a drop of oil on the fastener threads, thread the 5/16-18 x 7/8" long 12-point capscrews through the bracket until the capscrews are hand tight. To orient the brackets install the fuel rails in the brackets with the supplied hex bolts being inserted from outside-in, threading into the threaded boss on the bracket which should be turned towards the plenum. Tighten the 5/16-18 capscrews to 20-22 ft-lbs being careful that the brackets remain correctly oriented while being tightened.
2. Remove the fuel rail from the brackets so that the injectors may be inserted into the fuel rail.
3. Apply a silicone lubricant to the O-ring on the inlet end of fuel injectors and insert the fuel injectors into the ports of the fuel rail. To insert each injector without tearing the O-ring, gently rock the injector in the inlet of the port while applying pressure to insert the injector.
4. Position the injectors to properly orient the wiring plugs, apply silicone lubricant to the injector outlet O-rings. Place the fuel rail into position, inserting all four (or eight) injectors into the injector bosses in the base intake manifold applying gentle downward pressure on the fuel rail. The proper orientation for the fuel rail is with the logo facing inward toward the plenum.
5. Once the injectors are inserted into the intake manifold and the fuel rail is in position, apply a drop of oil to the threads of the 5/16-24 x 1.47 hex bolts. Insert both into the brackets through the fuel rail, threading the bolts into the opposite ear of the bracket until snug. Tighten the hex bolts to 18-20 ft-lbs.
6. Check and make sure each injector is floating on the O-rings. Rotate the injectors back and forth to confirm that there are no loads on any of the installed fuel injectors.
7. Repeat the installation for the second set of fuel rail and injectors.

The fuel rail is designed to provide enough flow and volume to dampen fuel pressure oscillations and variations at the inlet of the fuel injectors. The fuel rails are machined to receive an adapter fitting for 3/4"-16 (AN-8) O-ring port.

Available Earl's -6AN & -8AN male flare to 3/4"-16 AN O-ring port adapter fittings are:

Standard 7/8" wrench hex

P/N – 985068ERL – Adapter, Earl's -6AN male to 3/4"-16 (AN8) O-ring Port – Blue Anodized Aluminum
P/N – AT985068ERL – Adapter, Earl's -6AN male to 3/4"-16 (AN8) O-ring Port – Black Anodized Aluminum
P/N – 985008ERL – Adapter, Earl's -8AN male to 3/4"-16 (AN8) O-ring Port – Blue Anodized Aluminum
P/N – AT985008ERL – Adapter, Earl's -8AN male to 3/4"-16 (AN8) O-ring Port – Black Anodized Aluminum

Reduced Size 3/4" wrench hex

P/N – 991959ERL – Adapter, Earl's -6AN male to 3/4"-16 (AN8) O-ring Port – Red Anodized Aluminum
P/N – AT991959ERL – Adapter, Earl's -6AN male to 3/4"-16 (AN8) O-ring Port – Black Anodized Aluminum
P/N – 991958ERL – Adapter, Earl's -8AN male to 3/4"-16 (AN8) O-ring Port – Red Anodized Aluminum
P/N – AT991958ERL – Adapter, Earl's -8AN male to 3/4"-16 (AN8) O-ring Port – Black Anodized Aluminum

Fuel Plumbing Recommendations:

- For power levels below 700-750HP, AN-6 (3/8") plumbing to and from the fuel rails should be sufficient.
- For power levels above 750HP, AN-8 (1/2") plumbing is recommended.
- It is always recommended to only use tubular hose ends when a non-straight hose end is required.
- The best configuration for plumbing the fuel rails is to split from the supply line with a "Y" type distribution block or fitting, then feed into the inlet end of each fuel rail. The hoses from the exit end of each fuel rail would then feed into each inlet port of a fuel pressure regulator with two inlet ports or into another "Y" type distribution block or fitting connecting to a hose leading to the fuel pressure regulator.