

Instruction Sheet  
Magnum 5.2/5.9 V8 2bbl MPI Direct Replacement Intake Manifold (M1)  
MOPAR Part #P5007398

The P5007398 Magnum MPI intake manifold package contains: 1-manifold  
This intake manifold is a single plane intake for use with multi-point fuel injection. The manifold installs the same way as a production Magnum manifold.

This manifold fits all production Chrysler small block Magnum engines with Magnum cylinder heads. The Magnum engine is a 1992 & newer 5.2L Magnum or 1993 & newer 5.9L Magnum engine. They do not fit the 1955-67 polyspherical 318 heads or the 1964 thru 1992 standard "A" engine, unless the heads have been changed to Magnums. This manifold is designed to work with all stock Magnum components and accessories (i.e. A/C, fuel rails, injectors, throttle body, wiring, etc.). The spacers in the installation kit are required to re-use the fuel rails, A/C and Alternator brackets.

It is suggested that you purchase the following additional parts and accessories for this installation:

<u>MOPAR Part #</u>	<u>Description</u>
P5007638	Manifold Installation Kit
P4876049	Intake manifold gasket set
53021051AB	Gasket-thermostat
53030541	Gasket-throttle body
	RTV sealant
	Teflon sealant or tape

The basic procedure is to remove the old intake manifold from your vehicle and replace it with this new high performance manifold. Please read the whole instruction sheet before starting the process.

Removing the old manifold:

1. Disconnect the negative battery cable.
2. Drain the coolant from the radiator.
3. Remove the air cleaner and ducting assembly.
4. Loosen the fan felt.
5. Disconnect all vacuum lines and wiring to the injectors, sensors, and throttle body.
6. Remove throttle linkage and throttle body assembly.
7. Remove the whole fuel rail w/ the injectors still attached. Do not remove the injectors from the fuel rail or disconnect the fuel lines since they are under high pressure. Be sure that you do not lose the o-rings from the injectors (they may get stuck in the old intake manifold). Replace any damaged or worn o-rings. Move the whole assembly out of the way so that you can remove the intake manifold (while leaving the lines still attached). **Important:** If you must remove the fuel

lines be sure to release the fuel pressure in the system (please see the service manual for the procedure for your vehicle).

8. Remove the alternator and A/C compressor and the brackets that attach them to the intake manifold / Cylinder Heads / Block. Do not remove the A/C lines since this will allow the A/C charge to escape into the atmosphere. Move the A/C compressor off to the side so that you can work on the manifold (with A/C lines still attached).
9. Remove the heater hose, by-pass hose, wiring, and EGR tube (if your vehicle has EGR), and thermostat housing / thermostat.
10. Remove the old intake manifold. It may be necessary to remove one valve cover if you have the aluminum die cast MOPAR performance valve covers.

### Installation:

1. Transfer the following components over from the old intake manifold to the new one before it is installed on the engine (by-pass nipple, heater hose nipple, air charge temp. sensor, EGR valve, coolant temp. sensor(s), thermostat & housing, and EGR valve). You may need to use some of the adapters included in the installation kit (P5007638) in some applications. Use a new gasket on the thermostat housing. Seal the pipe threads on the sensors and fittings with Teflon seal tape or Teflon sealant.
2. The air charge temp sensor has been relocated to a new position on the new manifold. The sensor must be screwed into the tapped hole in the front of the manifold plenum (the old location in the stock production manifold was in the runner for the #2 cylinder). This sensor was relocated to reduce the restriction in airflow in the runner.
3. Plug any extra coolant holes in the intake manifold with the plugs included in the installation kit (P5007638). Some applications will use all of the threaded holes in the manifold and others will have an extra hole or two which must be plugged.
4. If your vehicle has an EGR system (1992 to 1996 vehicles), install a ½ inch NPT pipe plug in the tapped hole in the cast passage about midway between the EGR valve and the plenum of the manifold. Use Teflon seal tape or sealant on the threads of this plug.
5. If your vehicle does not have an EGR system (1997 & up vehicles) install a ½ inch NPT plug in the tapped hole in the bottom of the plenum. Use Teflon seal tape or sealant on the threads of this plug. Note: you must install this plug in one of the two locations described above. Failure to install this plug will create a very large vacuum leak or EGR leak. Be sure to install this plug before you install the manifold on the engine since you don't want to accidentally drop the plug into one of the intake passages.
6. Prior to installing the new intake manifold, clean all of the mating surfaces to remove old gasket material and all grease and oil. Place approximately a ¼ inch bead of silicone gasket sealer in the 4 "corners" where the end seals meet the paper gaskets.
7. Set the 4 intake gaskets in place on the clean block. On the two side gaskets, the words "Manifold Side" should be visible on both and the tabs on the manifold

gasket should fit in with the tabs on the head gasket. The front seal is basically straight and the rear seal has a big hook in it. They fit on the front and rear block crossovers.

8. Carefully place the intake manifold into position on the engine. Use a five-step procedure to torque the intake bolts in steps up to 12 ft-lbs. See Figure for sequence. **Caution: Do NOT over torque** – over tightening the bolts can cause the heads to crack, sealing problems, or other failures.
9. Apply small amount of clean engine oil to each fuel injector o-ring.
10. Position the fuel rail/fuel injector assembly to injector openings on intake manifold.
11. Guide each injector into intake manifold. Be careful not to damage the injector o-rings.
12. Push right fuel rail down until fuel injectors have bottomed on injector shoulder. Push left fuel rail down until fuel injectors have bottomed on injector shoulder.
13. Use the tubular spacers and 5/16" screws included in the installation kit (P5007638) to connect the fuel rail to the manifold. Three tubular spacers are used between the fuel rail brackets and the bosses on the intake manifold. One common spacer (w/ two holes in it) is used in the front of the manifold on the passenger side to hold the fuel rail and the alternator support rod. You may have to pull the fuel rails up slightly to insert the spacers. Tighten all of the 5/16" long screws holding fuel rail to 20 ft-lbs.
14. Re-connect the wiring to the manifold air temperature sensor. The sensor has been re-located to the front of the plenum and will require that the wiring be extended about 12". Cut off the old connector and splice in an extension to reach the new location of the sensor (reuse the connector w/ the extension). The installation kit (P5007638) includes the needed wire, connectors, and shrink sleeve to modify the wiring harness.
15. Connect the wiring to all injectors. The injector wiring harness is numerically tagged to show the proper cylinder.
16. Re-connect the EGR, heater hose, and coolant by-pass hose, wiring to the coolant temp. sensor(s) and vacuum lines. Re-route any vacuum lines were needed.
17. Plug any of the extra vacuum nipples on the intake manifold w/ the plugs in the installation kit.
18. Re-install alternator and A/C compressor and brackets. Use the long 3/8" screw included in the installation kit for the alternator support rod (this goes through the common spacer w/ 2 holes in it). Re-install the A/C bracket and use the remaining short tubular spacer to attach this bracket to the intake manifold w/ the 5/16" screw. Re-install the fan belt.
19. Install throttle body to intake manifold. Replace the gasket if it is damaged. Torque the 4 mounting screws to 17 ft-lbs. Reconnect the wiring to the throttle body.
20. Reconnect the throttle linkage. Check the linkage for smooth operation and make sure it does not bind or interfere with any wiring or vacuum lines.
21. Refill the cooling system with anti-freeze (50/50 mixture)
22. Install air cleaner.
23. Check hood clearance (the new manifold is the same height as the stock manifold, so this should not be a problem).
24. Reconnect battery cable.

25. Start it up and check for leaks

**Intake manifold bolt tightening sequence**

