3.8L 6G75 MIVEC Engine Conversion

(2000-2005 Mitsubishi Eclipse & 1999-2003 Mitsubishi Galant)

BlackHeart Motors - Denver CO - 2014

Required parts list -

6G74 Fuel Rails & 6G72/4 Fuel pressure regulator
(Modify Fuel Rail Mount Tabs for MIVEC Lower Intake)
6G72 Crankshaft Position Sensor w/Reluctor wheel
6G72 Distributor & BHM MIVEC Distributor Adapter Plate
6G74 Power Steering bracket
6G74 Lower Timing Belt Cover
6G74 Alternator Bracket
6G72 A/C Compressor bracket
6G74 Coolant Housing, Heater Pipes & Sensors
6G72 Side Engine Mount bracket
MIVEC Controller – MSD or Similar RPM Window Switch
Aftermarket Clutch (capable of holding 300+hp minimum)

Thermostat Housing

The 3.8L MIVEC thermostat housing requires additional fabrication whereas the 6G74 thermostat housing requires no fabrication, and offers a clean fit and finish. You will also need to use the Diamante heater core pipes instead of the OEM 6G72 heater pipes from the Eclipse or Galant platform.

Crankshaft Sensor

You need to change the 3.8L crankshaft sensor and reluctor/trigger wheel with the 3.0L 6G72 components. This is necessary as the ignition systems are different between the engines and the computer in the 3rd Gen Eclipse/8th Gen Galant is not capable of operating the coil on plug ignition system without extensive modifications and wiring.

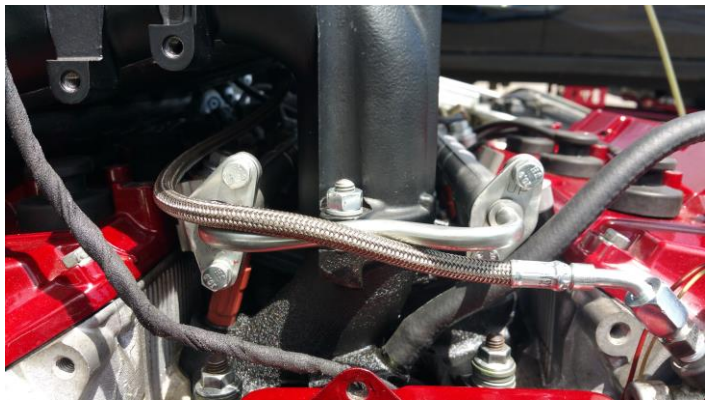
Intermediate Shaft Mount

This is required on the 3.5L, and both the 3.8L Non-MIVEC and MIVEC engine swaps. To mount the passenger side axle correctly you will need to use a grinder on the engine block to even out the mounting location. As shown in the pictures below you can see the tab on the right is raised and needs to be flush with the tab on the left. This is so the bracket will mount flush to the block.

Distributor Mounting

Retaining the OEM distributor mounting location in the rear cylinder head will require the BHM distributor adapter plate. This is precision machined for oil system operations including oil supply to the exhaust rocker shaft, as well as the intake rocker shaft for MIVEC operation.

With the BHM Distributor Adapter plate installed there is an oil line that runs from the front Oil Control Valve (OCV), to the adapter plate supply port. This allows MIVEC operation and valvetrain lubrication to the rear cylinder head. Be sure when routing the oil supply line that it does not rub against wiring, or fuel lines. Use a rubber hose as an "insulator" in places that the oil supply line may rub.



*6G74 Lower Intake Manifold

**(Skip if modifying fuel rail mounts to work with the MIVEC lower intake manifold)*

The fuel rail mounts on the 6G75 MIVEC lower intake manifold will not work with 6G72/6G74 fuel rails which is why we have provided this as a secondary option. The Diamante 3.5L (6G74) lower intake manifold can be fitted to the 3.8L (6G75) MIVEC engine and this will retain the OEM return style fuel rail system without modifying the fuel rails.

The photos below show the lower intake manifold with a 6G75 MIVEC Gasket. There is no change in port shape/sizing between the 3.5L or 3.8L MIVEC at the upper flange. The difference between the 6G74 and 6G75 MIVEC lower intake manifold is the spacing between the intake runners, and the lower flange port shape.

This shows the modified lower flange of the 3.5L 6G74 intake manifold. Here you can see the material to be removed for a MIVEC port match of the lower intake manifold to the 3.8L MIVEC cylinder heads.