
GROUP 15

**INTAKE AND
EXHAUST**

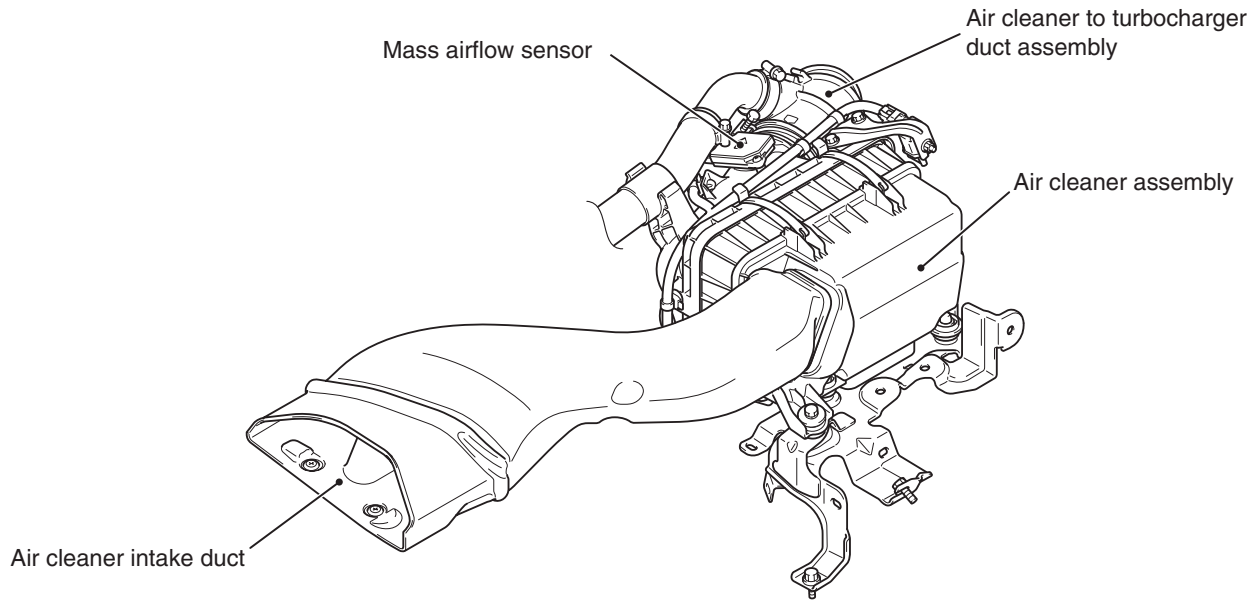
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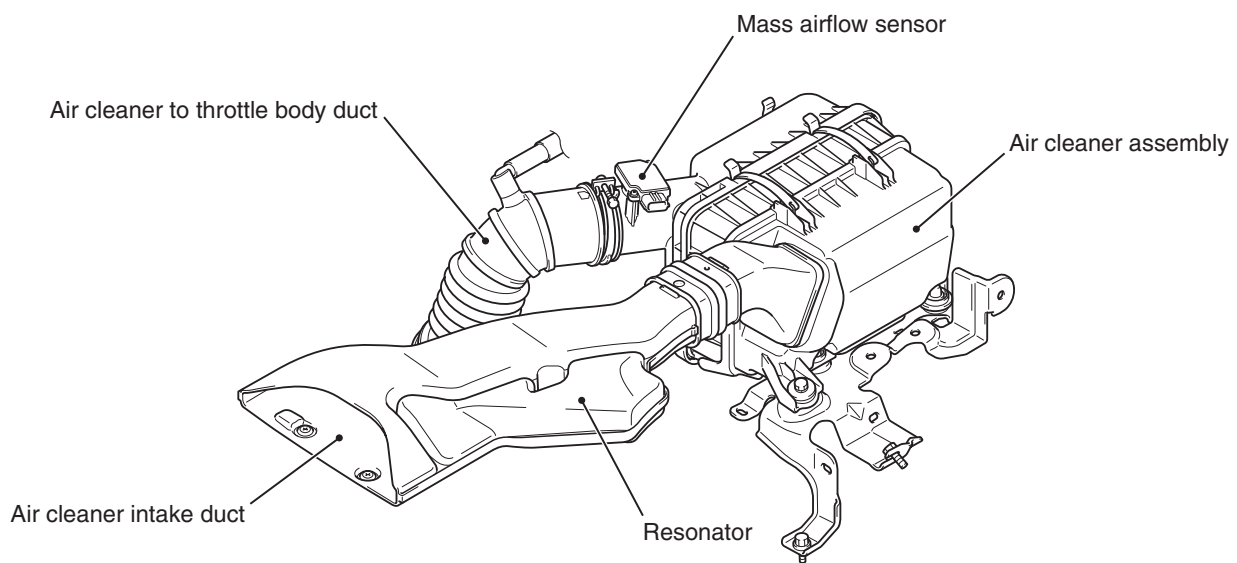
AIR INTAKE SYSTEM**AIR DUCT AND AIR CLEANER**

M2150004001206

A front air intake system that sucks cooling air from the front through the top of the radiator has been adopted.

CONSTRUCTION DIAGRAM**<2.0L ENGINE>**

AC800104 AE

<2.4L ENGINE>

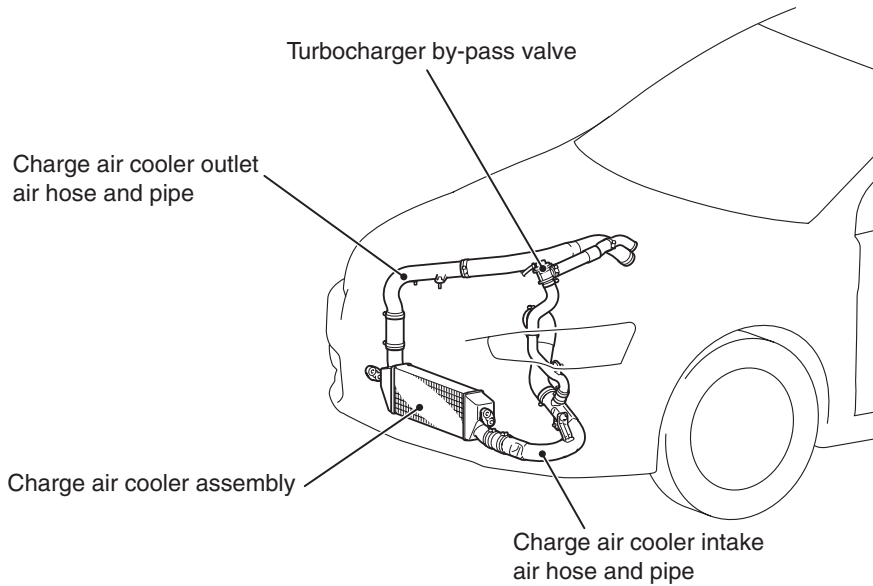
AC613345AF

CHARGE AIR COOLER <2.0L ENGINE>

M2150007000699

By mounting an air cooled charge air cooler to reduce the intake air temperature after boosting, engine output has been improved.

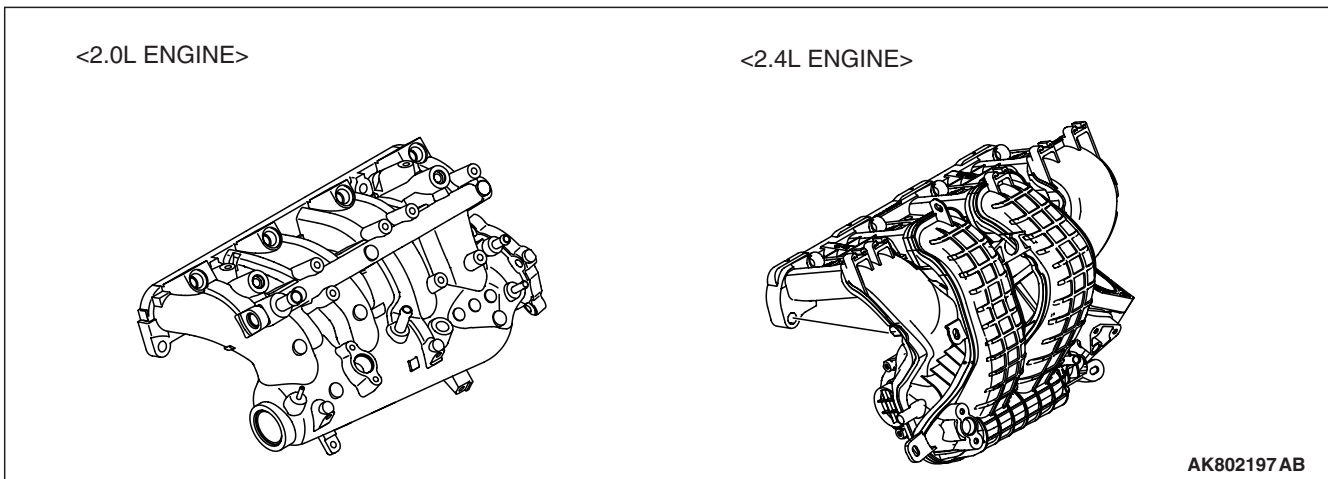
CONSTRUCTION DIAGRAM



AC801297 AC

INTAKE MANIFOLD

M2150005000347



The intake manifold integrated into aluminum surge tank is used. <2.0 L ENGINE>

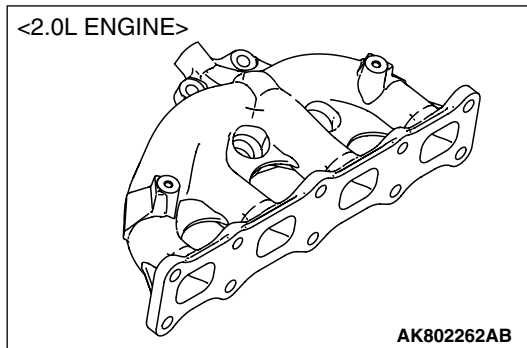
The intake manifold is made of plastic for weight reduction, and the surface roughness of the inner walls of the ports has been improved to reduce intake resistance. <2.4L ENGINE>

EXHAUST SYSTEM

EXHAUST MANIFOLD

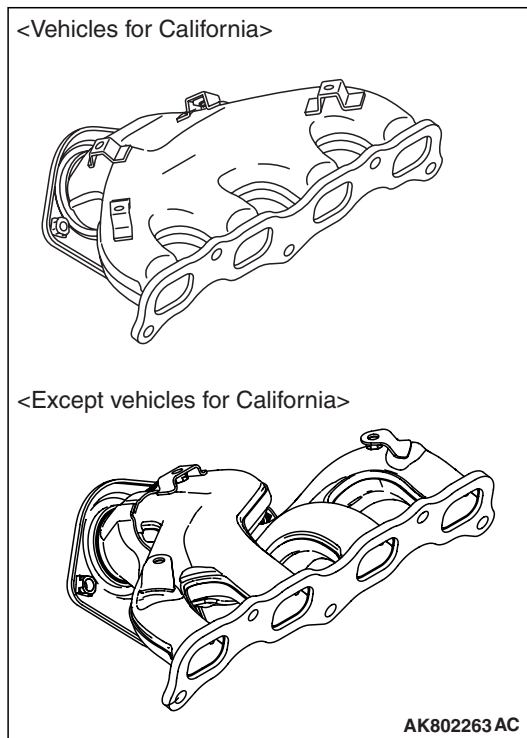
M2150006000942

<2.0L ENGINE>



The exhaust manifold made of stainless cast iron is used.

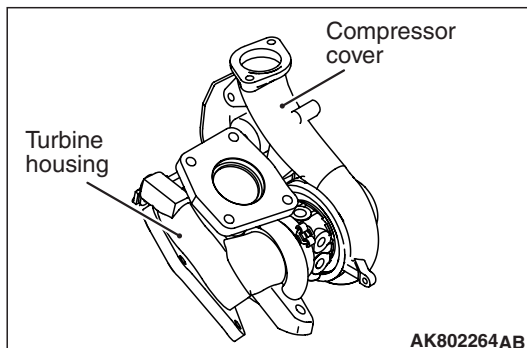
<2.4L ENGINE>



The exhaust manifold is made of sheet metal for weight reduction. The area up to the front pipe has a dual construction, and the joint is a spherical joint. As a result, both the thermal capacity and the weight of the exhaust system have been reduced.

TURBOCHARGER <2.0L ENGINE>

M2150009000394



The turbocharger uses TD04HL-15T-7: Inconel turbine wheel/ aluminum alloy compressor wheel.

EXHAUST PIPE AND MAIN MUFFLER

M2150012000082

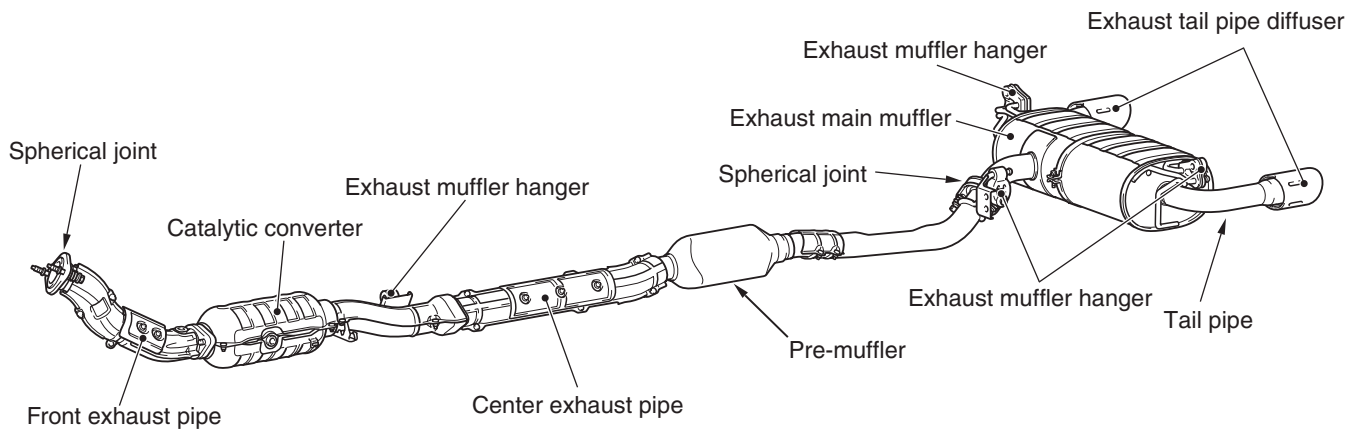
<2.0L ENGINE>

A 4-piece type of exhaust pipe and muffler which consists of the front exhaust pipe, catalytic converter, center exhaust pipe and exhaust main muffler has been adopted, and has the following features:

- Due to the adoption of rear exhaust layout, the exhaust pipe length has been shortened, the exhaust gas temperature drop at engine start has been prevented, and the early-activation of catalytic converter has been accelerated, which reduces the exhaust gas.
- The diameter of front exhaust pipe has been increased, and the exhaust pressure has been reduced, which improves the engine performance.
- Enlarged pre-muffler reduces exhaust noise.

- The capacity of exhaust main muffler has been increased, and two tail pipes have been adopted, which improves the engine performance.
- A 4-point exhaust muffler hanger has been adopted for optimization of position, which reduces vibration to the vehicle.
- The spherical joint has been adopted for connection between the front exhaust pipe and the exhaust manifold, and between the exhaust main fitting and the center exhaust pipe, which reduces vibration to the vehicle.
- The two tail pipes for the exhaust main muffler and the large-diameter elliptic exhaust tail pipe diffuser have been adopted, which enhances the sporty image.

CONSTRUCTION DIAGRAM



AC800106AD

<2.4L ENGINE>

The 3-piece type of exhaust pipe and muffler which consists of the front exhaust pipe, center exhaust pipe, and exhaust main muffler has been adopted, and has the following features:

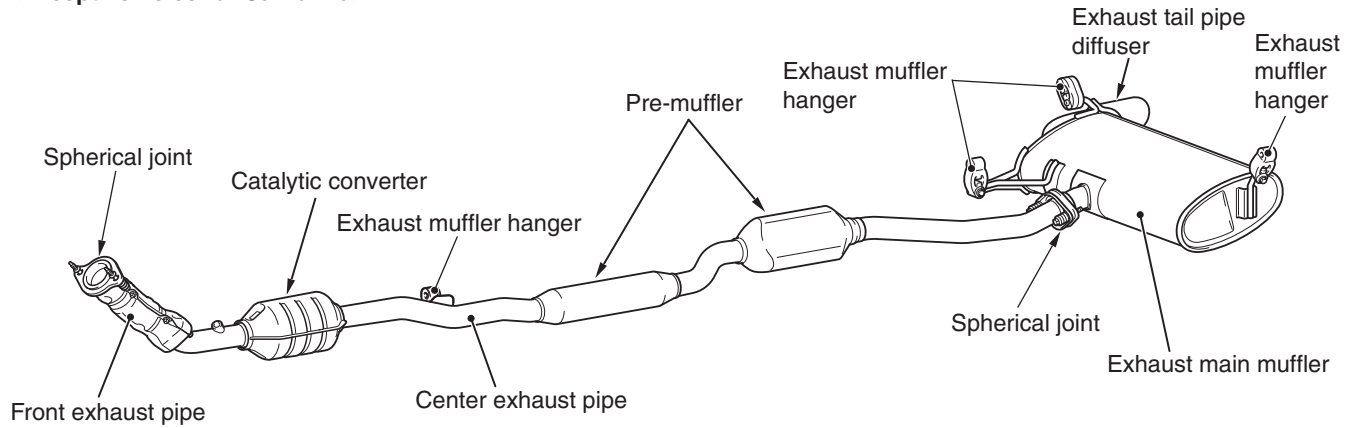
- Due to the adoption of rear exhaust layout, the exhaust pipe length has been shortened, the exhaust gas temperature drop at engine start has been prevented, and the early-activation of catalytic converter has been accelerated, which reduces the exhaust gas.
- The front exhaust pipe are integrated with the catalytic converter to reduce the exhaust emission <vehicles for California.>

- The center exhaust pipe are integrated with the catalytic converter to reduce the exhaust emission.
- Due to the rear exhaust layout, the exhaust pipe length has been shortened, and the exhaust pressure has been reduced, which improves the engine performance.
- The diameter of center exhaust pipe has been increased, and the exhaust pressure has been reduced, which improves the engine performance.
- Enlarged pre-muffler reduces exhaust noise.
- The large exhaust main muffler has been adopted to reduce the exhaust noise.
- A 4-point exhaust muffler hanger has been adopted for optimization of position, which reduces vibration to the vehicle.

- The spherical joint has been adopted for connection between the front exhaust pipe and the exhaust manifold, and between the exhaust main fitting and the center exhaust pipe, which reduces vibration to the vehicle.

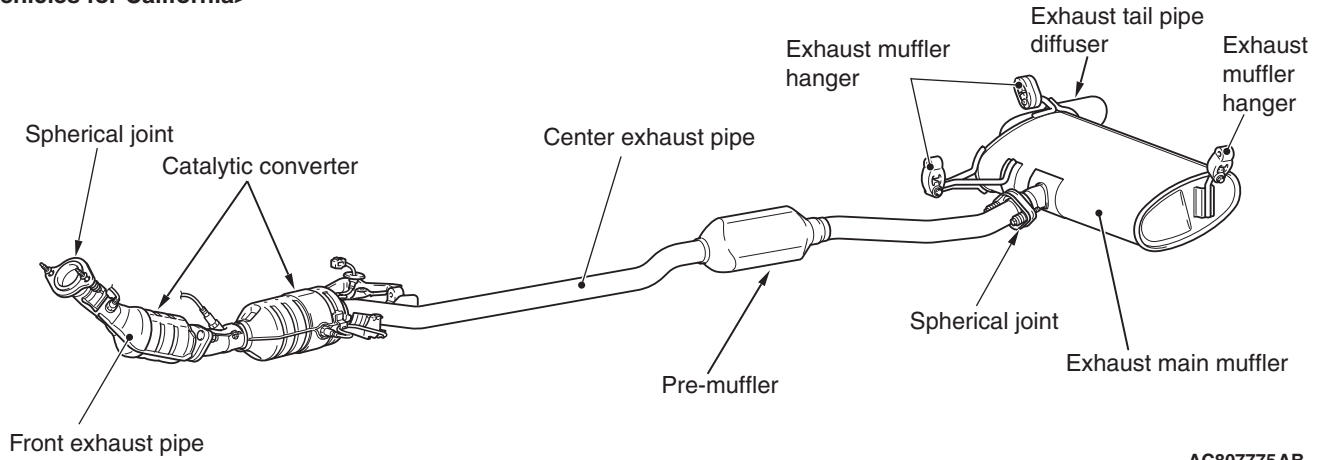
CONSTRUCTION DIAGRAM

<Except vehicles for California>



AC807372 AC

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AC807775 AB