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## GROUP 15

# INTAKE AND EXHAUST

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## AIR INTAKE SYSTEM

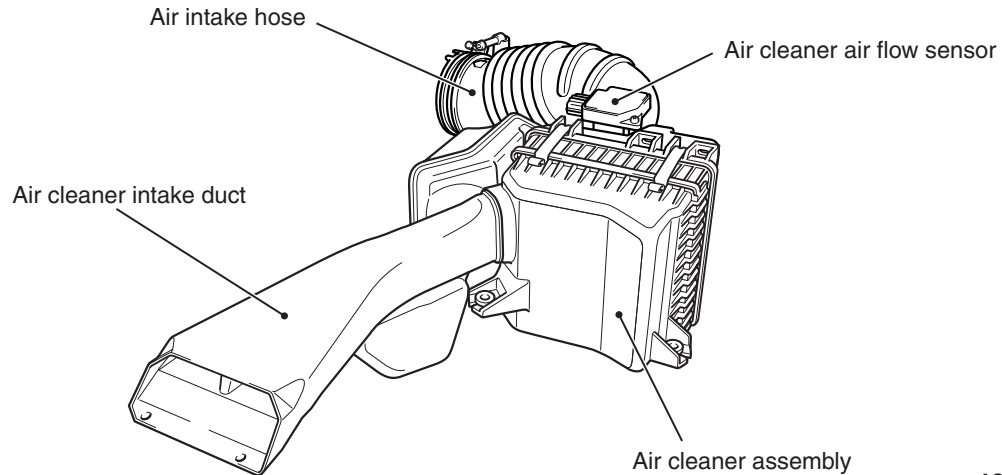
### AIR DUCT AND AIR CLEANER

M2150004000418

- A front air intake system that actively sucks cooling air from the front through the top of the radiator has been adopted in order to improve engine performance and reduce air intake noise.

- Recycled, burnable resin materials containing used paper are used to reduce industrial wastes and protect the environment.
- Environmentally friendly unleaded rubber materials are used to make the air intake hose.

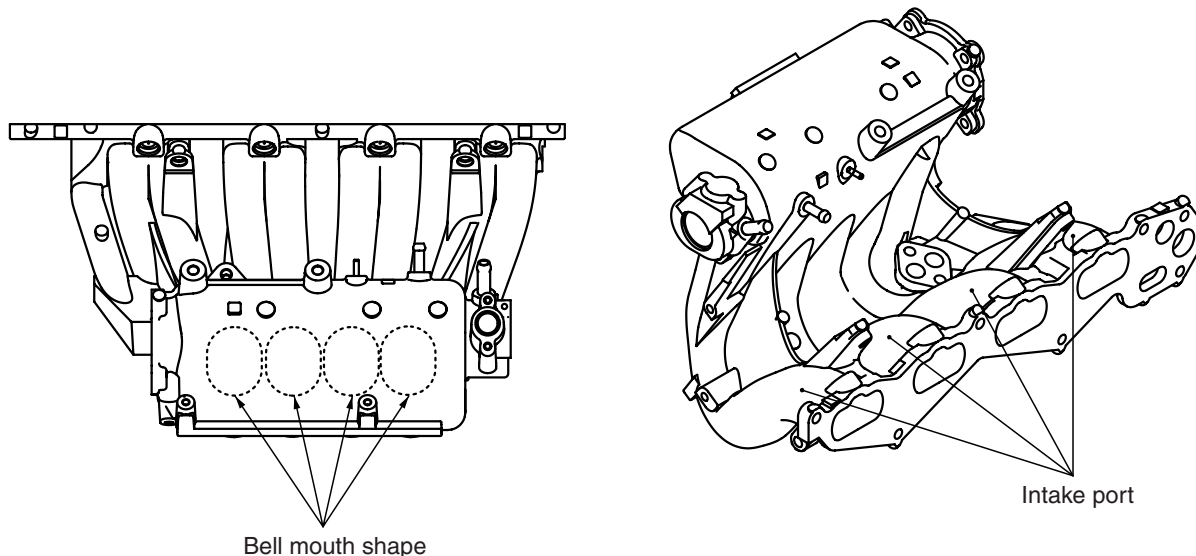
### CONSTRUCTION DIAGRAM



AC305907AC

### INLET MANIFOLD

M2150010000031



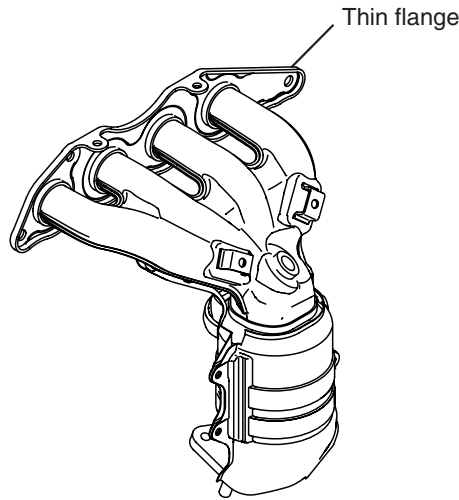
AK302279AD

The inlet manifold is designed to improve the low, middle and high torque by optimizing the port diameter and length. A port opening with an optimized bell mouth shape and improved the inside roughness of the port reduces airflow resistance.

## EXHAUST SYSTEM

### EXHAUST MANIFOLD

M2150006000340



AK403317AB

A clam shell exhaust manifold with incorporated catalytic converter has been adopted. This has helped to reduce the time for activating catalyst when starting the engine and to reduce weight. The weight reduction is designed by reducing the flange plate thickness.

### EXHAUST PIPE AND MUFFLER

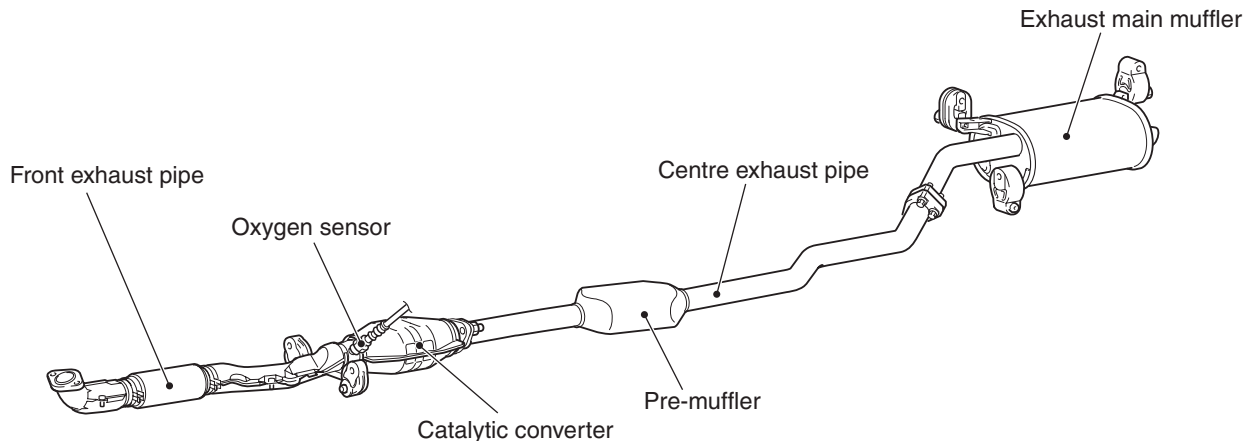
M2150003000460

Exhaust pipe consisting of 3 separation system: front exhaust pipe, centre exhaust pipe, and exhaust main muffler, has the following features:

- Use of large pre-muffler has reduced exhaust noise.

- Straight layout of exhaust piping has reduced vibration and exhaust pressure in exhaust system.
- The front exhaust pipe incorporates a flexible tube to reduce vibration when the engine is idling.
- The adoption of exhaust hanger with lower spring constant and the decreased number of exhaust hangers have reduced vibration in exhaust piping.
- The adoption of all stainless exhaust piping has enhanced resistance to corrosion and heat.
- Installation of thermal insulating cover and materials on front exhaust pipe has improved emission control performance.

### CONSTRUCTION DIAGRAM



AC504871AB