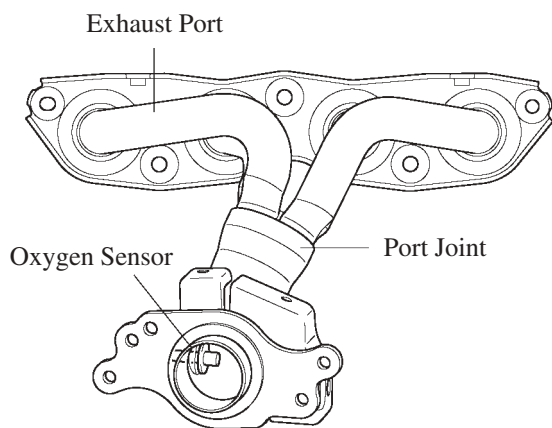


4. Exhaust System

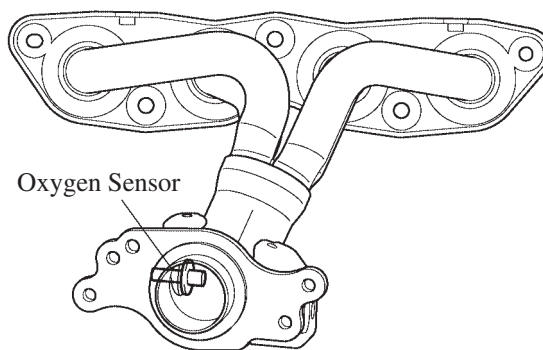
- The exhaust manifold pipe length has been shortened and the pipe diameter reduced in order to increase low to mid range torque and ensure proper warm-up performance of the TWC (Three-Way Catalytic Converter).
- The thickness of the exhaust port and port joint of the exhaust manifold for the 1NZ-FE engine has been changed to ensure proper warm-up performance of the TWC. These specifications are already used for the 2NZ-FE engine.
- The heat insulator is now interchangeable between the 1NZ-FE engine and 2NZ-FE engine.
- A heated oxygen sensor (Bank 1, Sensor 1) has been installed on the exhaust manifold.

► Exhaust Manifold ◀



1NZ-FE Engine

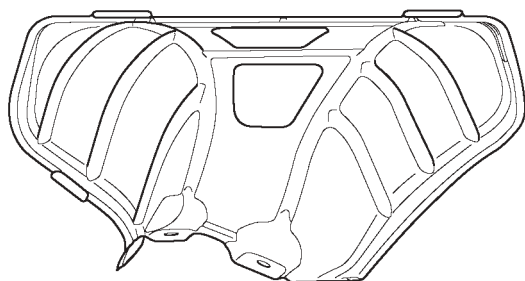
229VS07



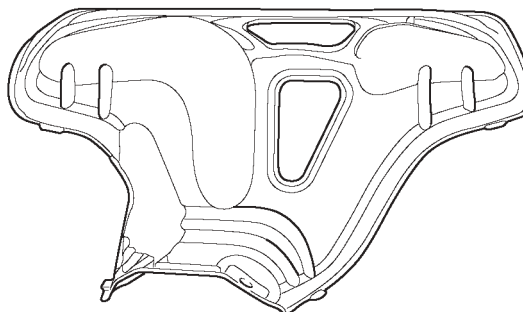
2NZ-FE Engine

229VS08

► Heat Insulator ◀



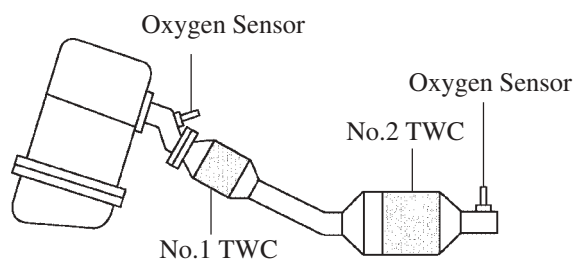
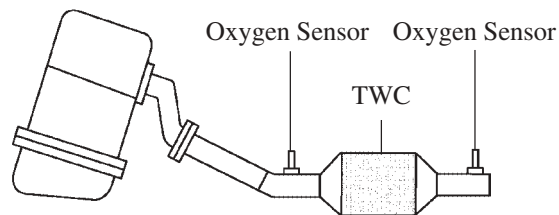
New



Previous

229VS09

- Two TWC have been adopted for the exhaust pipe. No.1 TWC is used an ultra thin-wall, high-cell density substrate in order to achieve higher warm-up performance.

**New****Previous**

229VS10