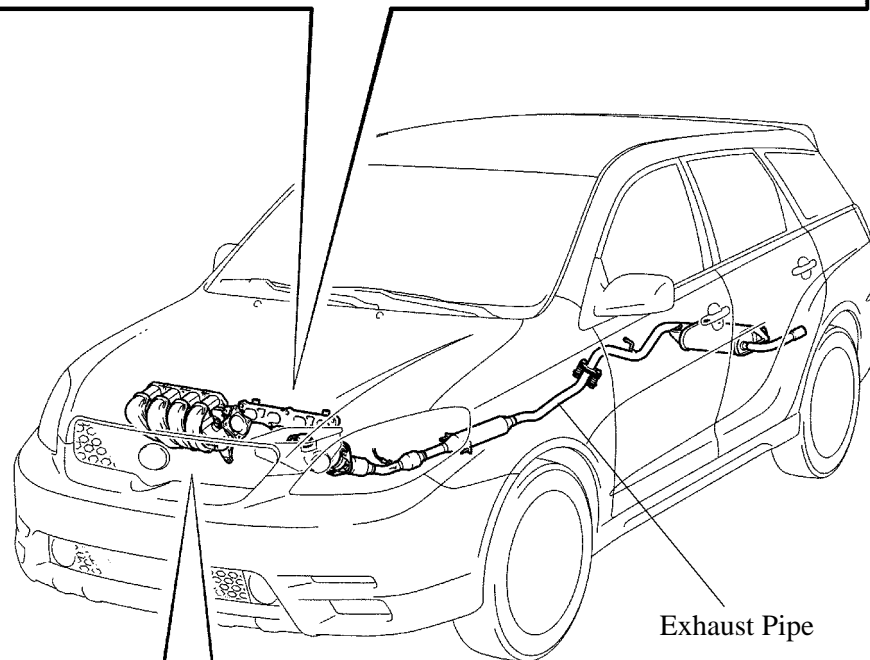
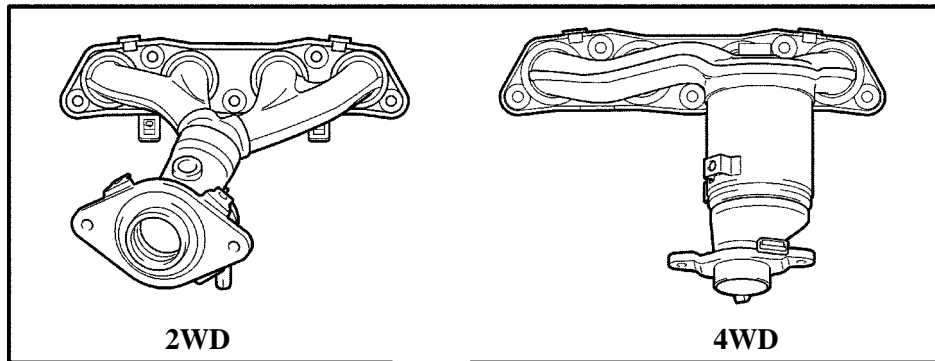


■ INTAKE AND EXHAUST SYSTEM

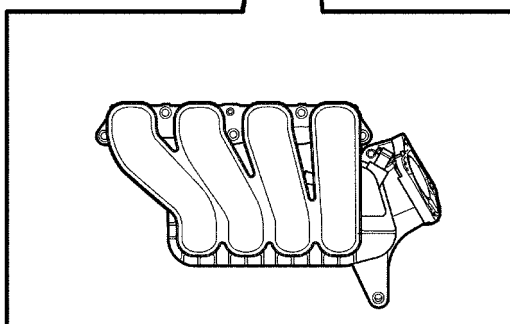
1. General

- A plastic intake manifold is adopted for weight reduction.
- A stainless steel exhaust manifold is used for weight reduction.
- By routing the exhaust rearward, the front exhaust pipe has been shortened and higher warm-up performance of the TWC (Three-Way Catalytic Converter) has been achieved.

Exhaust Manifold

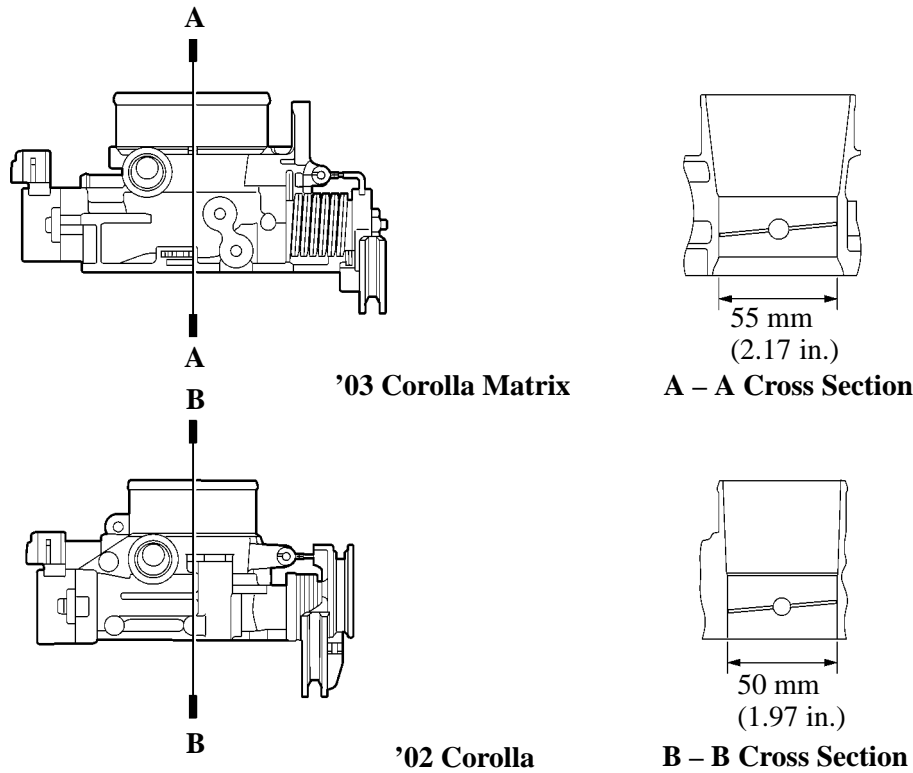


Intake Manifold



2. Throttle Body

The diameter of the throttle valve of the '03 Corolla Matrix has been increased from the '02 Corolla for increased output.

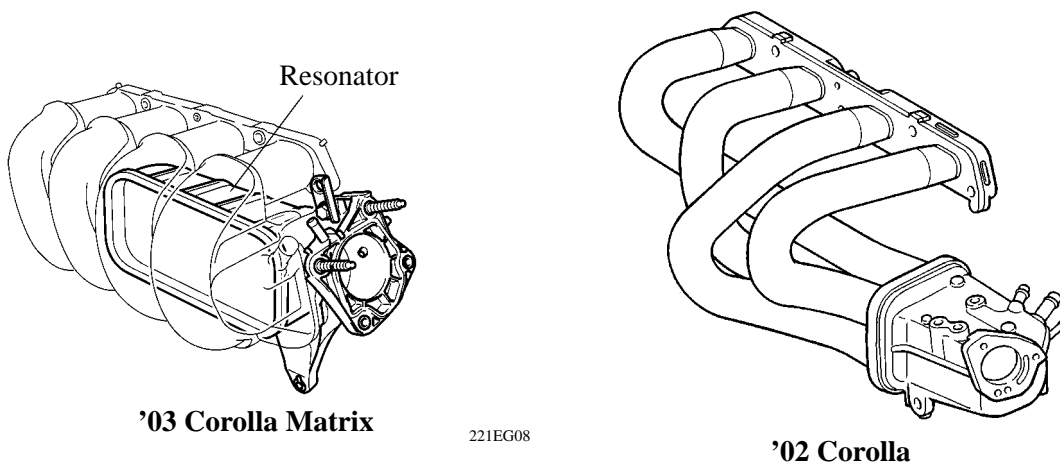


221EG03

3. Intake Manifold

On the '03 Corolla Matrix, the material (aluminum → plastic) and the shape of the intake manifold have been changed from the '02 Corolla.

- The intake manifold is manufactured of plastic to reduce the weight and the amount of heat transferred from the cylinder head. As a result, it has become possible to reduce the intake air temperature and improve the intake volumetric efficiency.
- A resonator is provided in the air intake chamber to optimize the intake pulsation in order to improve the engine performance in the mid-speed range.



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4. Exhaust Manifold

The shape of the exhaust manifold differs between the 2WD and 4WD models due to installation differences.

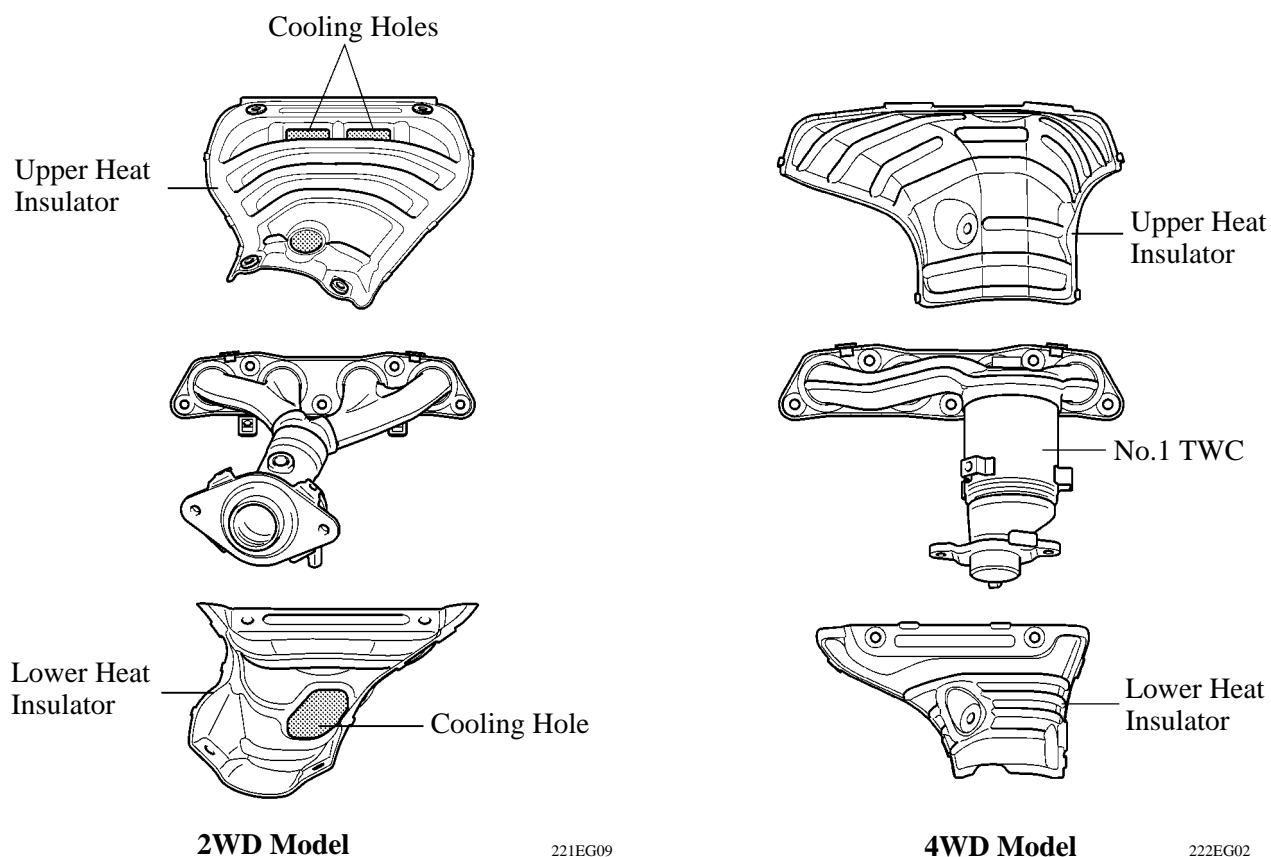
- The exhaust manifold for the 2WD model uses shorter branches and a convergence area that is constructed of dual pipe in order to ensure the proper warm-up performance of the No.1 TWC (Three-Way Catalytic Converter).
- The exhaust manifold for the 4WD model is directly joined to the No.1 TWC (Three-Way Catalytic Converter) to ensure the proper warm-up performance.

In addition, a heat insulator has been provided to protect the heated oxygen sensor.

Service Tip

An SST (09224-00010/O2 Sensor Wrench) has been newly adopted for the exhaust manifold (for 4WD). For details, refer to 2003 Corolla Matrix Repair Manual (Pub. No. RM940U).

- This heat insulator contains holes that facilitate the flow of the cooling air, which act as a radiation temperature countermeasure and ensure exhaust manifold cooling performance.



5. Exhaust Pipe

- This exhaust pipe uses two ball joints in order to achieve a simple construction and improved reliability.
- The 2WD model has adopted an ultra thin wall, high cell density substrate No.1 TWC to improve warm-up performance.

