
INTAKE AND EXHAUST

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GENERAL

OUTLINE OF CHANGES

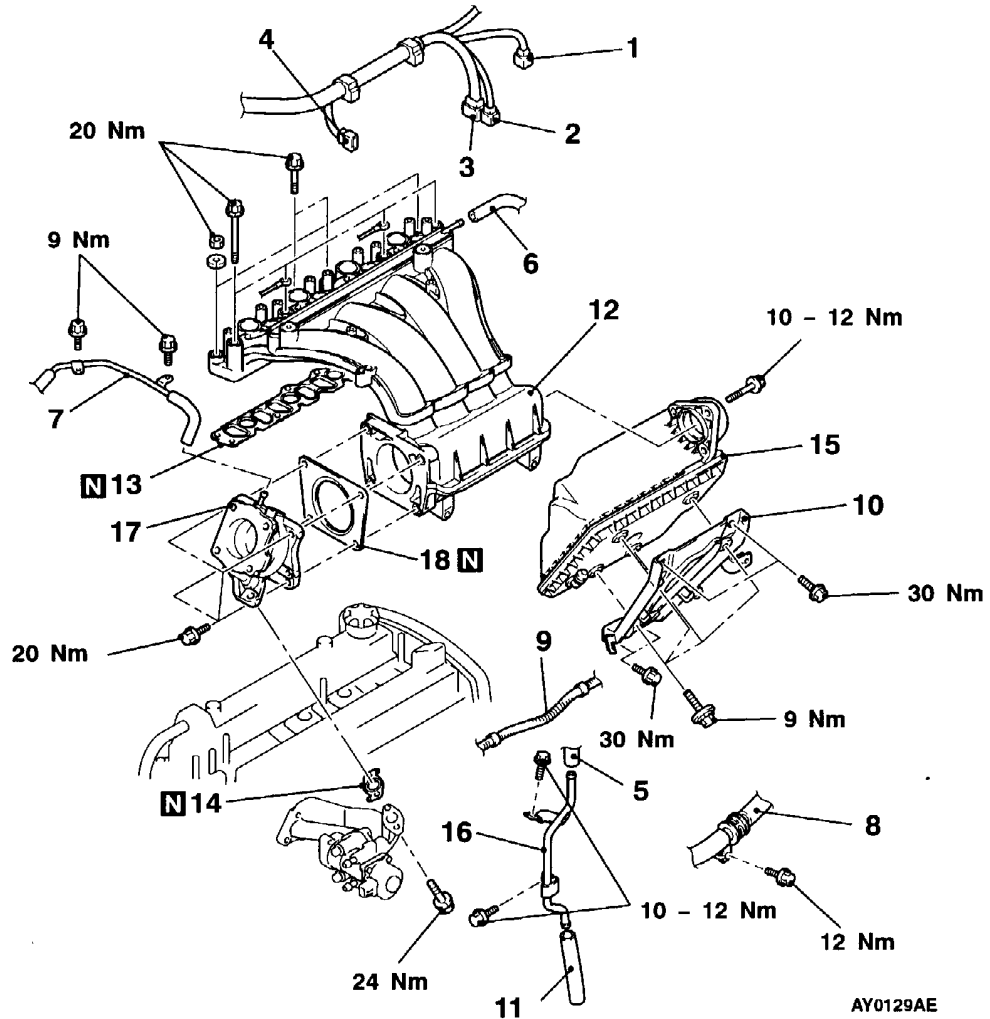
- The following service procedures have been established in line with the addition of vehicles with 4G63-MPI engine. Furthermore, other items are the same as for the 4G64-GDI engine.<SPACE WAGON>
- The following service procedures have been established in line with the introduction of the 4G64-GDI engine with Variable Valve Timing. The other items are the same as for the previous 4G64-GDI engine.

INTAKE MANIFOLD<4G6-GDI>

REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation

- Engine Coolant Draining and Supplying
- Engine Cover Removal and Installation
- Air Cleaner Assembly Removal and Installation
- Ignition Coil Removal and Installation (Refer to GROUP 16.)
- Throttle Body Removal and Installation (Refer to GROUP 13A.)



Removal steps

- | | | |
|--|------------|---|
| <ol style="list-style-type: none"> 1. Oil control valve connector 2. Knock sensor connector 3. Injection harness connector 4. EGR harness connector 5. Brake booster vacuum hose connection 6. PCV hose connection 7. Vapor pipe and hose assembly connection 8. Power steering hose clamp 9. Battery harness clamp | <p>◀A▶</p> | <ol style="list-style-type: none"> 10. Intake manifold stay 11. Brake booster vacuum hose connection 12. Intake manifold 13. Intake manifold gasket 14. EGR pipe gasket 15. Air intake plenum resonator 16. Brake booster vacuum pipe 17. Throttle body fitting 18. Throttle body fitting gasket |
|--|------------|---|

REMOVAL SERVICE POINT

◀▶ INTAKE MANIFOLD REMOVAL

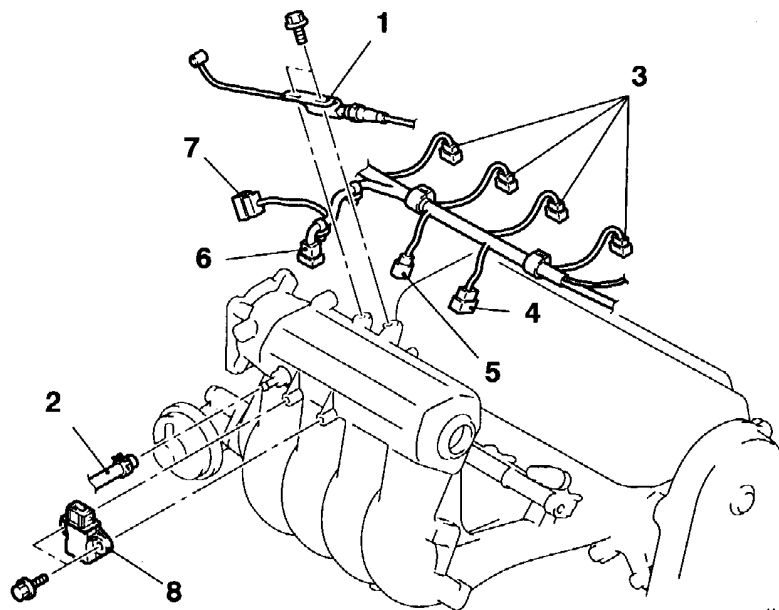
Disconnect the intake manifold resonator, and remove the intake manifold.

INTAKE MANIFOLD <4G6-MPI>

REMOVAL AND INSTALLATION

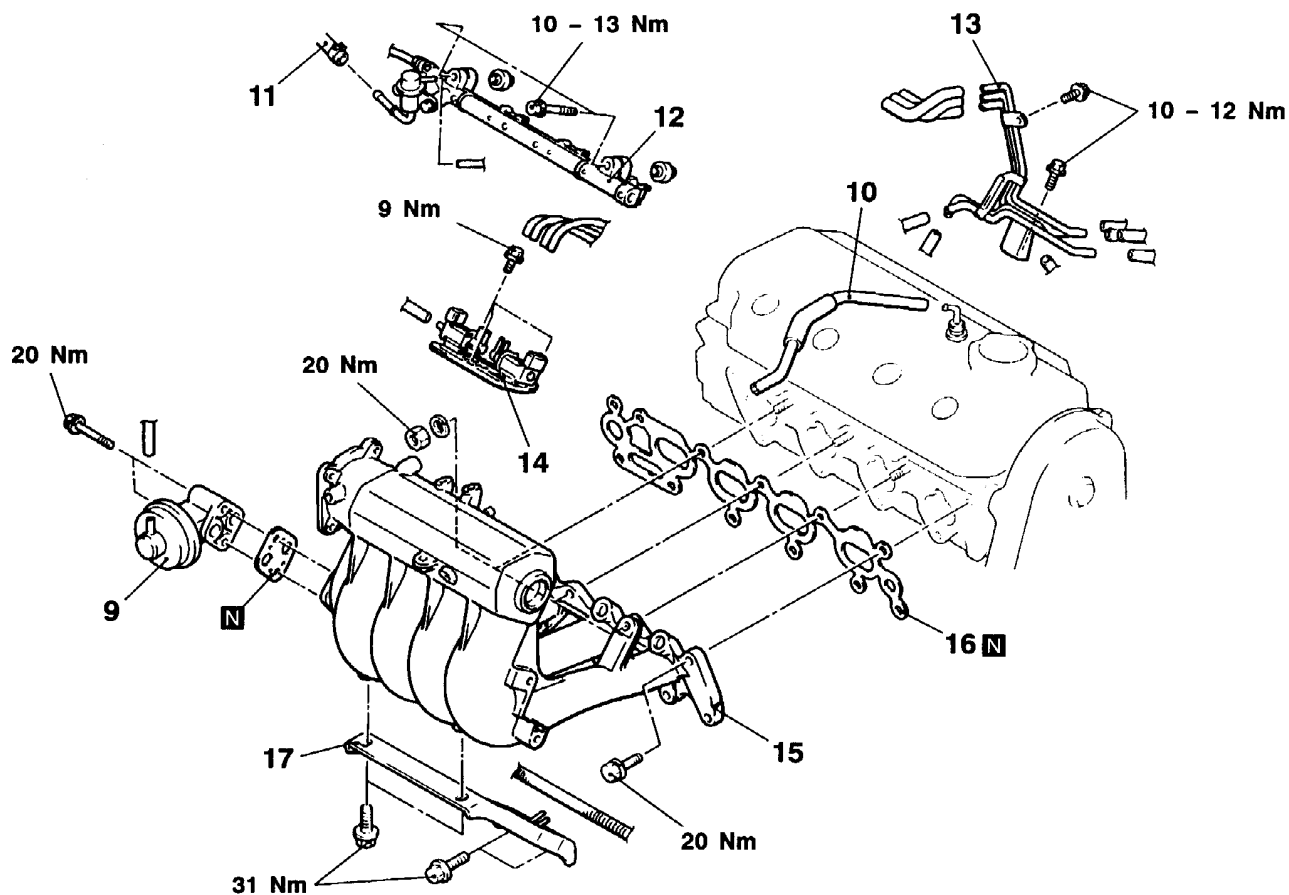
Pre-removal and Post-Installation Operation

- Engine Coolant Draining and Supplying
- Air Cleaner Removal and installation
- Throttle Body Removal and installation (Refer to GROUP 13A.)
- Accelerator Cable Adjustment (Refer to GROUP 17 – On-vehicle Service.) <Post-installation operation>



Removal steps

1. Accelerator cable
2. Brake booster vacuum hose connection
3. Injector connector
4. EGR solenoid valve connector
5. Purge control solenoid valve connector
6. Ignition failure sensor connector
7. Throttle position sensor
8. Ignition failure sensor



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- 9. EGR valve
- 10. PCV hose
- 11. Fuel return hose connection
- 12. Delivery pipe, injector and pressure regulator

- 13. Vacuum pipe assembly
- 14. Solenoid valve assembly
- 15. Intake manifold
- 16. Intake manifold gasket
- 17. Intake manifold stay



REMOVAL SERVICE POINT**◀A▶ DELIVERY PIPE, INJECTOR AND PRESSURE
REGULATOR REMOVAL**

Remove the delivery pipe (with the injectors and pressure regulator attached to it).

Caution

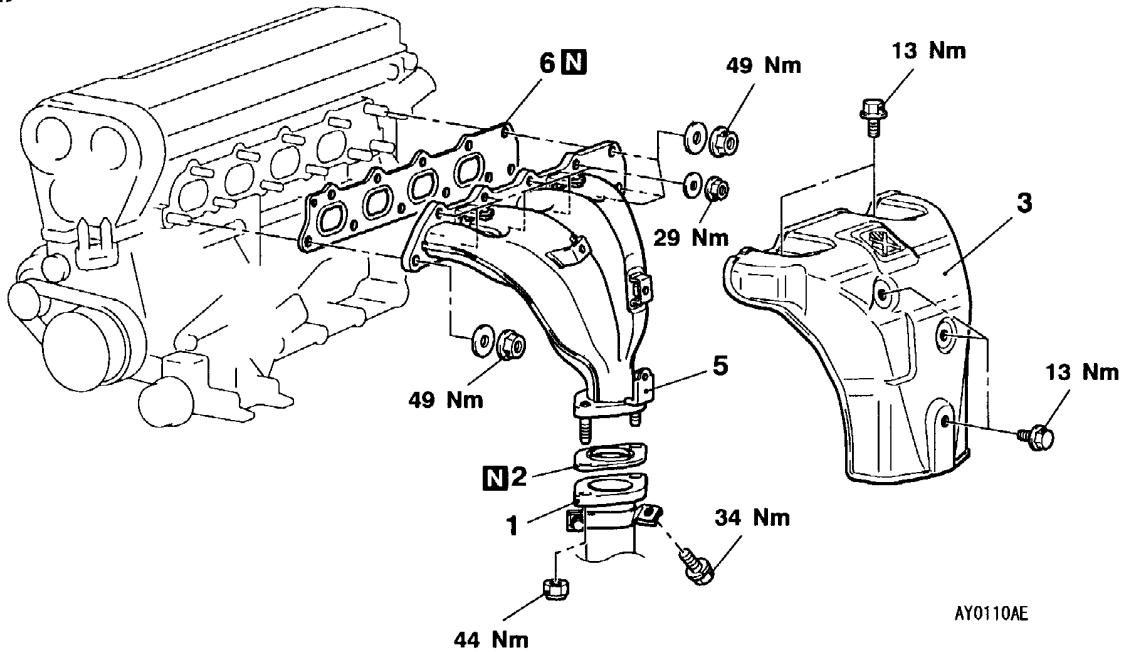
Care must be taken, when removing the delivery pipe, not to drop the injector.

EXHAUST MANIFOLD

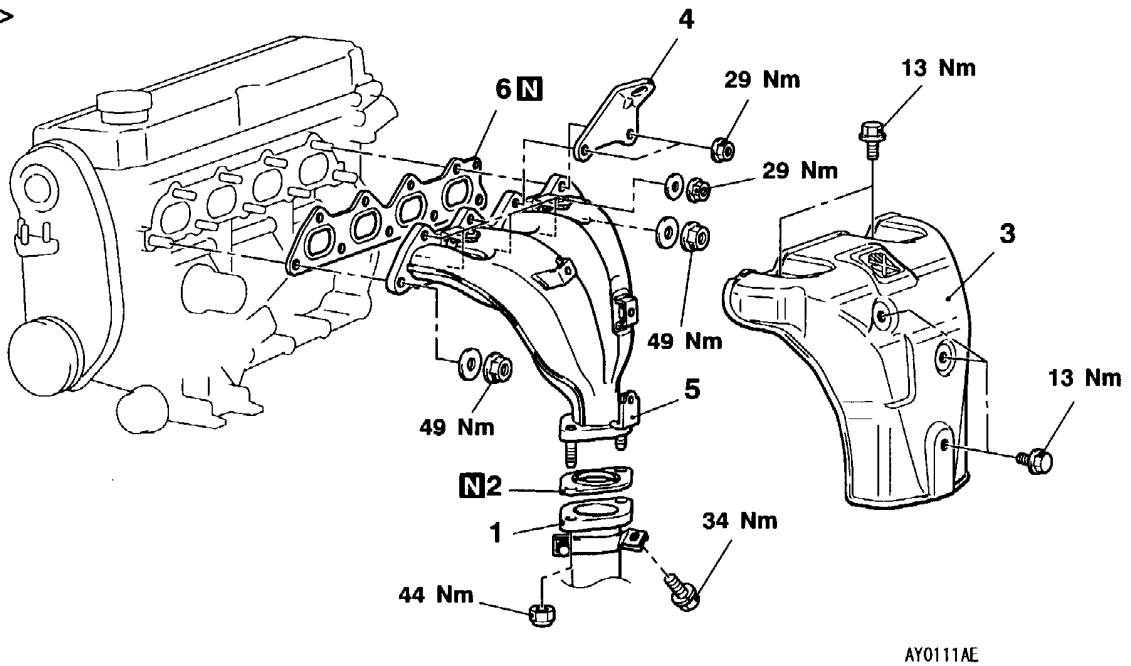
REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation
Under Cover Removal and Installation

<4G6-GDI>



<4G6-MPI>



Removal steps

1. Front exhaust pipe connection
2. Gasket
3. Heat protector

4. Engine hanger <4G6-MPI>
5. Exhaust manifold
6. Exhaust manifold gasket