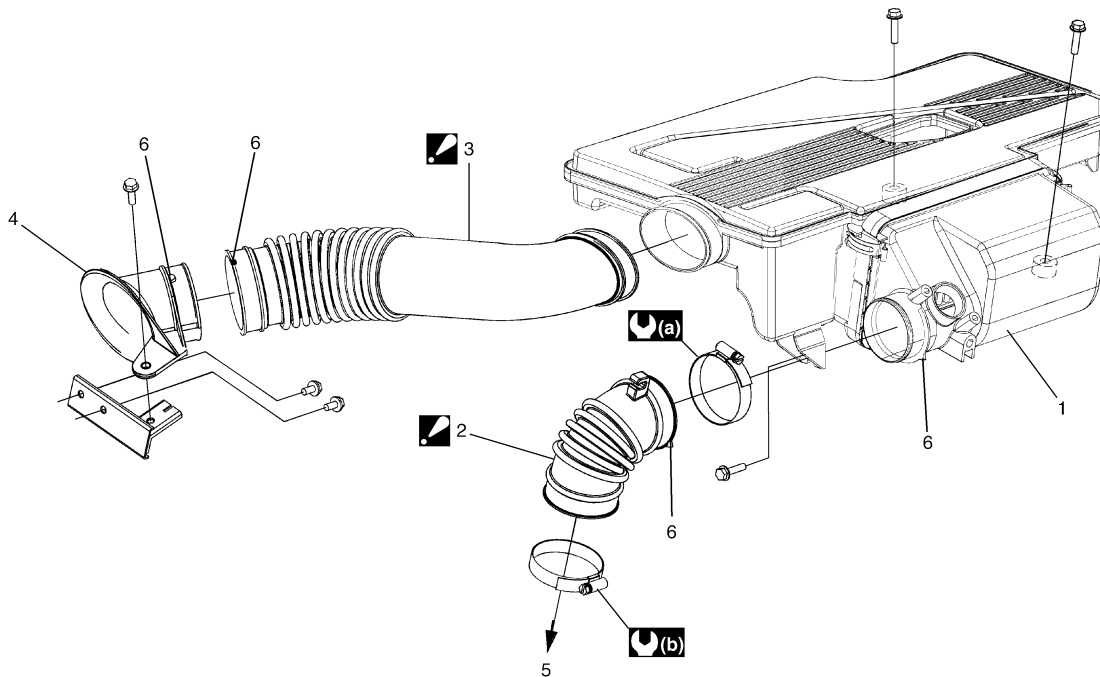


Repair Instructions

Air Intake System Components

S6RW0D1406045



I6RW0B140001-01

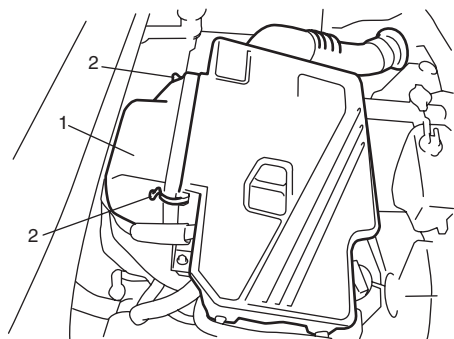
1. Air cleaner assembly	5. To throttle body
2. Air cleaner outlet hose : Align marking (6) of air cleaner assembly with marking (6) of air cleaner outlet hose.	6. Marking
3. Air cleaner inlet hose : Align marking (6) of air cleaner suction pipe with marking (6) of air cleaner inlet hose.	(a) : 2 N·m (0.2 kgf-m, 1.5 lb-ft)
4. Air cleaner suction pipe	(b) : 3 N·m (0.3 kgf-m, 2.5 lb-ft)

Air Cleaner Filter Removal and Installation

S6RW0D1406001

Removal

- 1) Open air cleaner case (1) by unhooking its clamps (2).



I5RW0C140004-01

- 2) Remove air cleaner filter from case.

Installation

Reverse removal procedure for installation.

Air Cleaner Filter Inspection and Cleaning

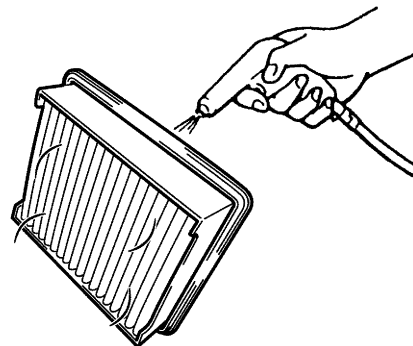
S6RW0D1406002

Inspection

Check air cleaner filter for dirt. Replace excessive dirty filter.

Cleaning

Blow off dust by compressed air from air outlet side of filter.



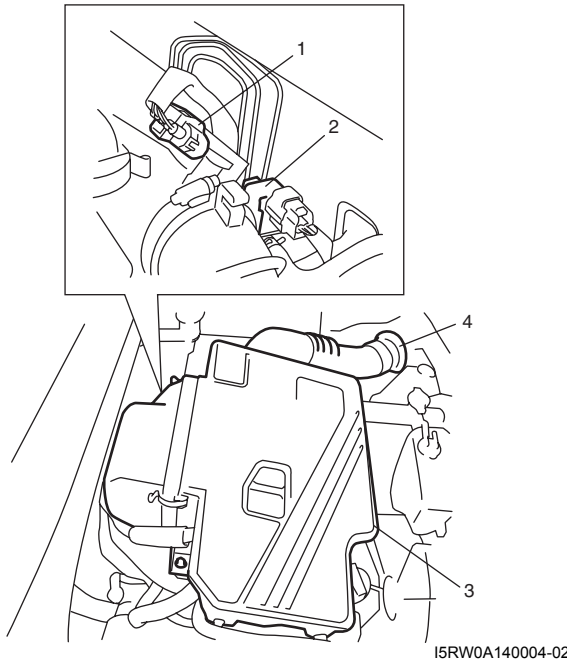
I2RH0B140150-01

Air Cleaner Assembly Removal and Installation

S6RW0D1406046

Removal

- 1) Disconnect negative cable at battery.
- 2) Disconnect MAF sensor connector (1).
- 3) Remove EVAP canister purge valve (2).
- 4) Remove air cleaner assembly (3) with air suction hose (4).



Installation

Reverse removal procedure noting the following.

- Tighten EVAP canister purge valve bracket bolt to specified torque.

Tightening torque

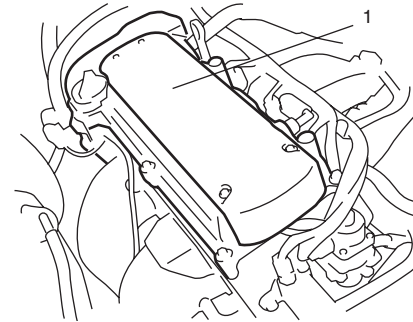
EVAP canister purge valve bracket bolt: 5 N·m (0.5 kgf-m, 4.0 lb-ft)

Cylinder Head Cover Removal and Installation

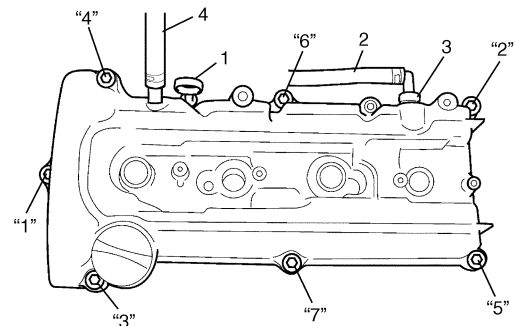
S6RW0D1406003

Removal

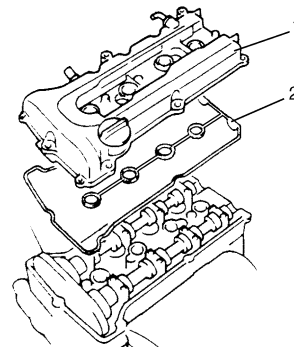
- 1) Disconnect negative cable at battery.
- 2) Remove air cleaner assembly with air suction hose referring to "Air Cleaner Assembly Removal and Installation".
- 3) Remove cylinder head upper cover (1).



- 4) Remove ignition coil assemblies with high-tension cord from cylinder head cover referring to "Ignition Coil Assembly (Including Ignitor) Removal and Installation in Section 1H".
- 5) Remove oil level gauge (1).
- 6) Disconnect PCV hose (2) from PCV valve (3) and disconnect breather hose (4) from cylinder head cover.
- 7) Remove cylinder head cover mounting bolts in numerical order ("1" through "7") as shown in figure.

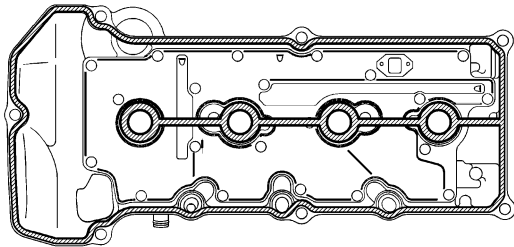
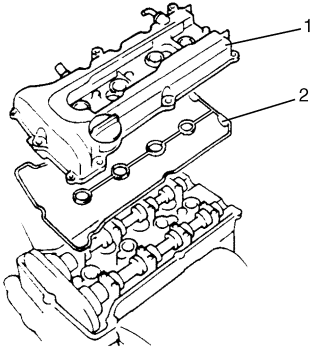


- 8) Remove cylinder head cover (1) with cylinder head cover gasket (2) and spark plug hole gasket (3).



Installation

- 1) Install new spark plug hole gaskets (1) and new cylinder head cover gasket (2) to cylinder head cover (3) as shown in figure.

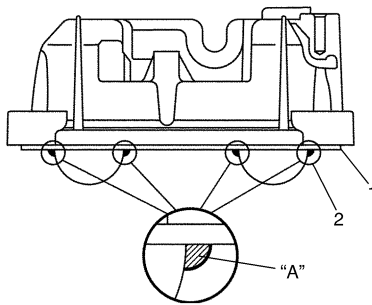


I6RS0B141005-01

- 2) Remove oil, old sealant, and dust from sealing surfaces on cylinder head and cover. After cleaning, apply sealant "A" to the following point.

- Cylinder head cover gasket (1) sealing surface area (2) as shown.

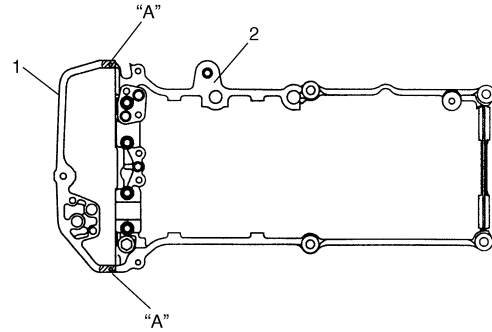
"A": Water tight sealant 99000-31250 (SUZUKI Bond No.1207F)



I2RH0B140036-01

- Timing chain cover (1) and cylinder head (2) mating surface as shown.

"A": Water tight sealant 99000-31250 (SUZUKI Bond No.1207F)



I2RH0B140037-01

- 3) Install cylinder head cover to cylinder head.

NOTE

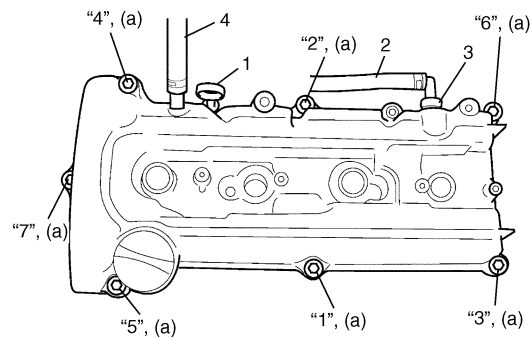
When installing cylinder head cover, use care so that cylinder head cover gasket or spark plug hole gaskets will not get out of place or fall off.

- 4) Tightening bolts in numerical order ("1" through "7") as shown in figure a little at a time till they are tightened to specified torque.

Tightening torque

Cylinder head cover bolt (a): Tighten 8 N-m (0.8 kgf-m, 6.0 lb-ft) by the specified procedure

- 5) Connect PCV hose (2) to PCV valve (3).
- 6) Connect breather hose (4).
- 7) Install oil level gauge (1).

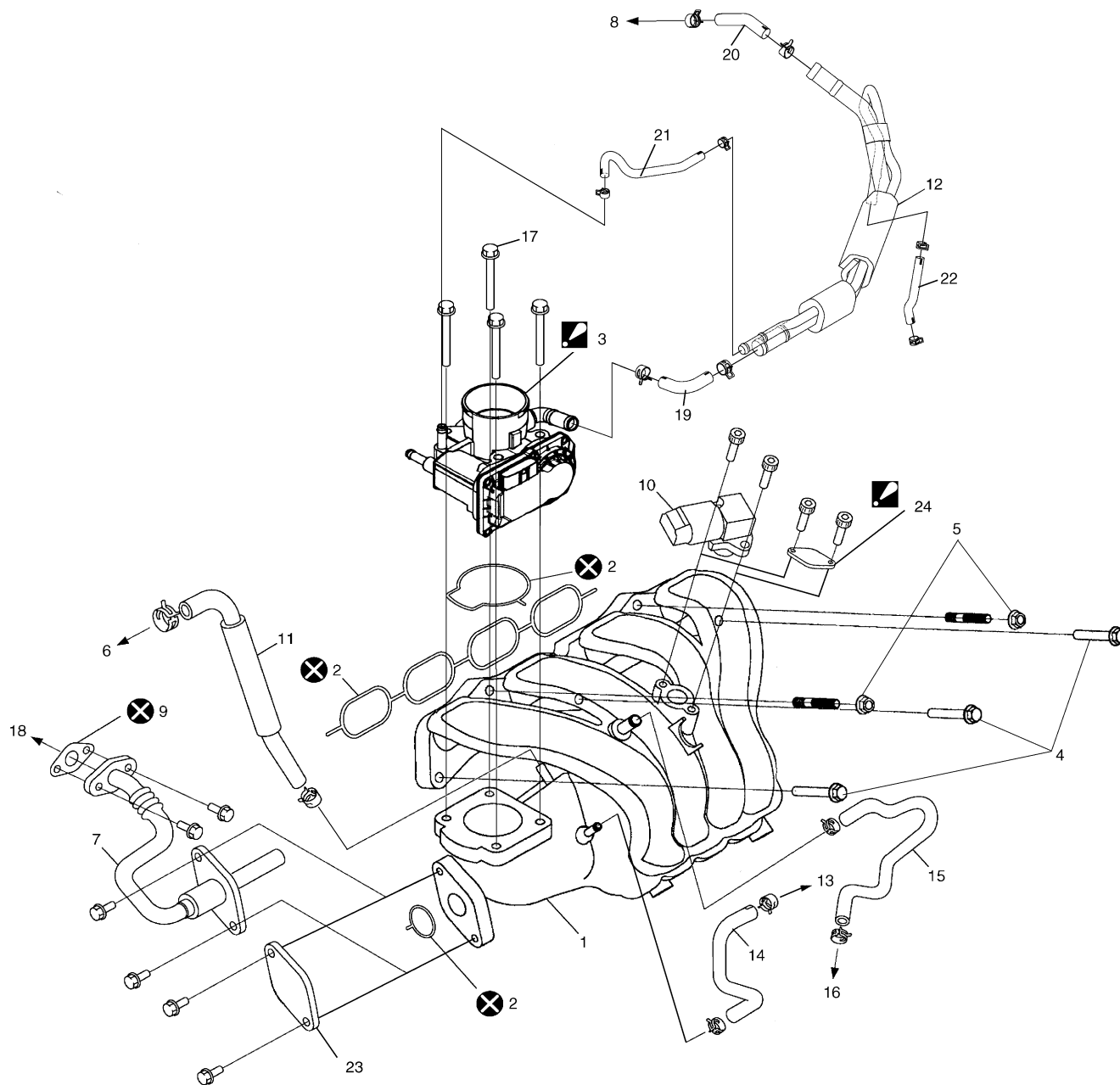


I3RH0B140016-01

- 8) Install ignition coil assemblies to cylinder head cover referring to "Ignition Coil Assembly (Including Ignitor) Removal and Installation in Section 1H".
- 9) Connect ignition coil couplers and clamp harness securely.
- 10) Install cylinder head upper cover.
- 11) Install air cleaner assembly referring to "Air Cleaner Assembly Removal and Installation".
- 12) Connect negative cable at battery.

Throttle Body and Intake Manifold Components

S6RW0D1406010



I6RW0D140001-01

1. Intake manifold	8. To cylinder head cover	15. Brake booster hose	22. Throttle body outlet water hose No.2
2. O-ring	9. Gasket (with EGR)	16. To brake booster	23. EGR pipe plate (without EGR)
3. Throttle body: Do not disassemble	10. MAP sensor	17. Throttle body mounting bolt	▣ 24. MAP sensor plate (without MAP sensor) : Be sure to direct paint mark to upward.
4. Intake manifold bolt	11. PCV valve hose	18. To EGR valve	⊗ : Do not reuse.
5. Intake manifold nut	12. Breather pipe	19. Breather hose No.1	
6. To PCV valve	13. To EVAP canister purge valve hose	20. Breather hose No.2	
7. EGR pipe	14. EVAP canister purge valve hose	21. Throttle body outlet water hose No.1	

Throttle Body On-Vehicle Inspection

S6RW0D1406006

Check electric throttle body assembly referring to "Throttle Valve Operation Check" and "Electric Throttle Body Assembly Operation Check" under "Electric Throttle Body Assembly On-Vehicle Inspection in Section 1C".

Electric Throttle Body Assembly Removal and Installation

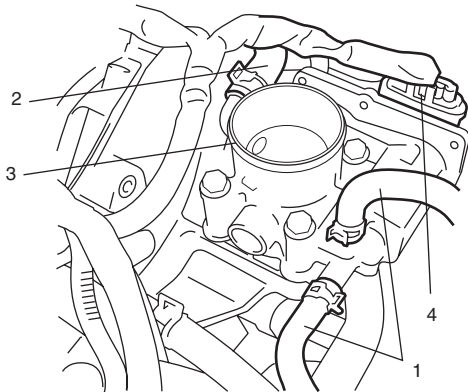
S6RW0D1406047

⚠ CAUTION

Never disassemble electric throttle body. Disassembly will spoil its original performance. If faulty condition is found, replace it with new one.

Removal

- 1) Disconnect negative cable at battery.
- 2) Drain coolant referring to "Cooling System Draining in Section 1F".
- 3) Remove air cleaner assembly referring to "Air Cleaner Assembly Removal and Installation".
- 4) Disconnect engine coolant hoses (1) and breather hose (2) from electric throttle body assembly (3).
- 5) Disconnect connector (4) from electric throttle body assembly.

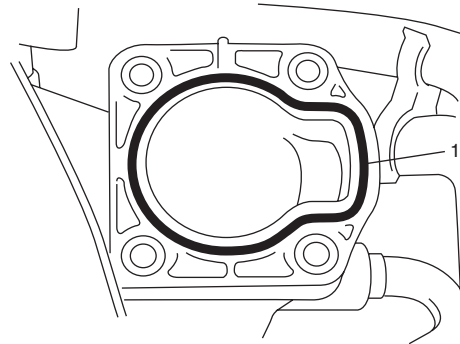


I5RW0C140006-01

- 6) Remove electric throttle body assembly from intake manifold.

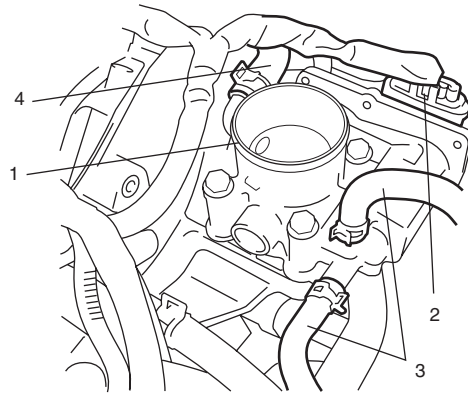
Installation

- 1) Clean mating surfaces and install new throttle body gasket (1) to intake manifold.



I4RS0B140005-01

- 2) Install electric throttle body assembly (1) to intake manifold.
- 3) Connect connector (2) to electric throttle body assembly securely.
- 4) Connect engine coolant hoses (3) and breather hose (4) to electric throttle body assembly (1).



I5RW0C140008-01

- 5) Install air cleaner assembly referring to "Air Cleaner Assembly Removal and Installation".
- 6) Refill coolant referring to "Cooling System Flush and Refill in Section 1F".
- 7) Connect negative cable at battery.

Throttle Body Cleaning

S6RW0D1406048

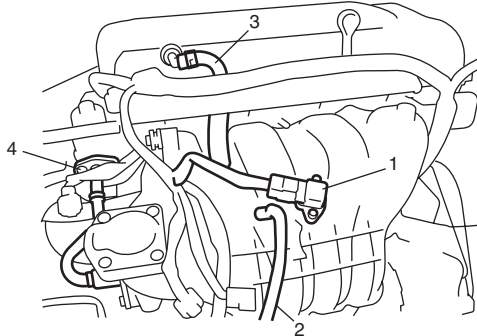
Clean electric throttle body assembly referring to "Throttle Valve Visual Check" under "Electric Throttle Body Assembly On-Vehicle Inspection in Section 1C".

Intake Manifold Removal and Installation

S6RW0D1406011

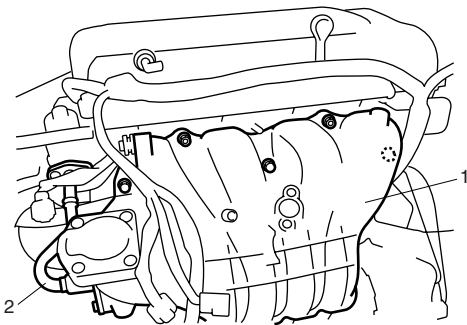
Removal

- 1) Remove throttle body referring to "Electric Throttle Body Assembly Removal and Installation".
- 2) Disconnect MAP sensor connector (1).
- 3) Disconnect the following hoses:
 - Brake booster hose (2) from cylinder head cover
 - PCV hose (3) from PCV valve
- 4) Remove EGR pipe bolt (4) from EGR valve.



I5RW0A140007-02

- 5) Remove intake manifold (1) and EGR pipe (2) from cylinder head, and then remove its gasket and O-ring.



I3RM0A140018-01

Installation

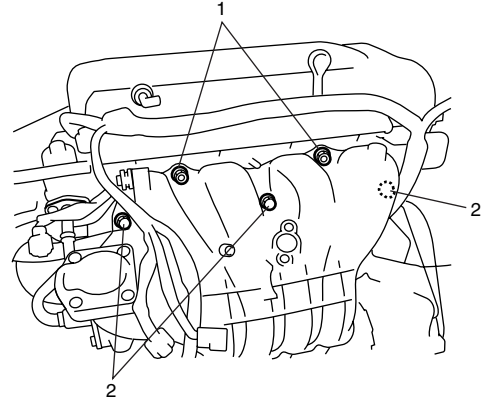
Reverse removal procedure for installation noting the following.

- Use new gasket and O-ring.
- Tighten EVAP canister purge valve bracket bolt to specified torque.

Tightening torque

EVAP canister purge valve bracket bolt: 5 N·m (0.5 kgf-m, 4.0 lb-ft)

- Install intake manifold bolt (2) and nut (1) as shown in figure.



I4RS0A140005-01

- Check to ensure that all removed parts are back in place. Reinstall any necessary parts which have not been reinstalled.
- Refill cooling system referring to "Cooling System Flush and Refill in Section 1F".
- Upon completion of installation, turn ignition switch ON but engine OFF and check for fuel leaks.
- Finally, start engine and check for engine coolant leaks.