

<b>Subject:</b>  <b>MIL ON - P2070 SET</b>	<b>Bulletin No:</b> 01-019/08
	<b>Last Issued:</b> 4/18/2008

## BULLETIN NOTE

This bulletin supersedes the previous bulletin 01-019/08, issued 3/21/2008. The WARRANTY INFORMATION has been revised.

## APPLICABLE MODEL(S)/VINS

2004-2007 RX-8 vehicles with VINs lower than JM1 FE\*\*\*\* \*\* 213322 (built before April 18, 2007)

## DESCRIPTION

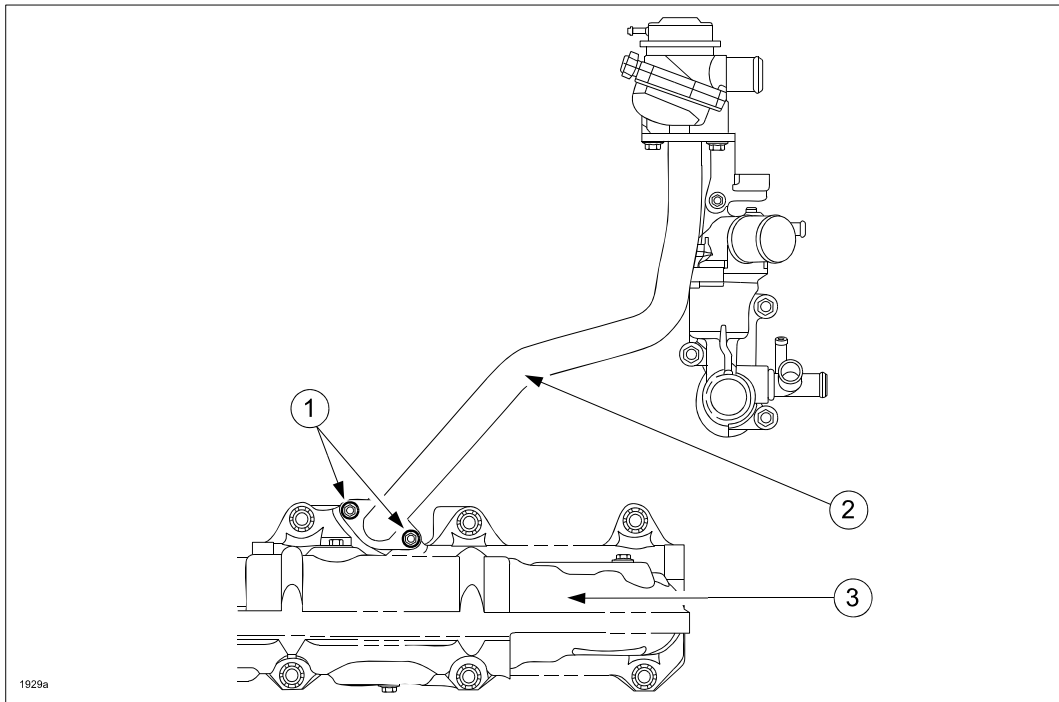
Some vehicles may experience a MIL with DTC P2070 (SSV Stuck Open). This may be caused by carbon build up near the SSV bushing, which may cause driveability concerns (hesitation and / or lack of power) and / or DTC P2070. A cleaning procedure and a revised SSV with stronger actuator force is now available.

Customers having this concern should have their vehicle repaired using the following repair procedure.

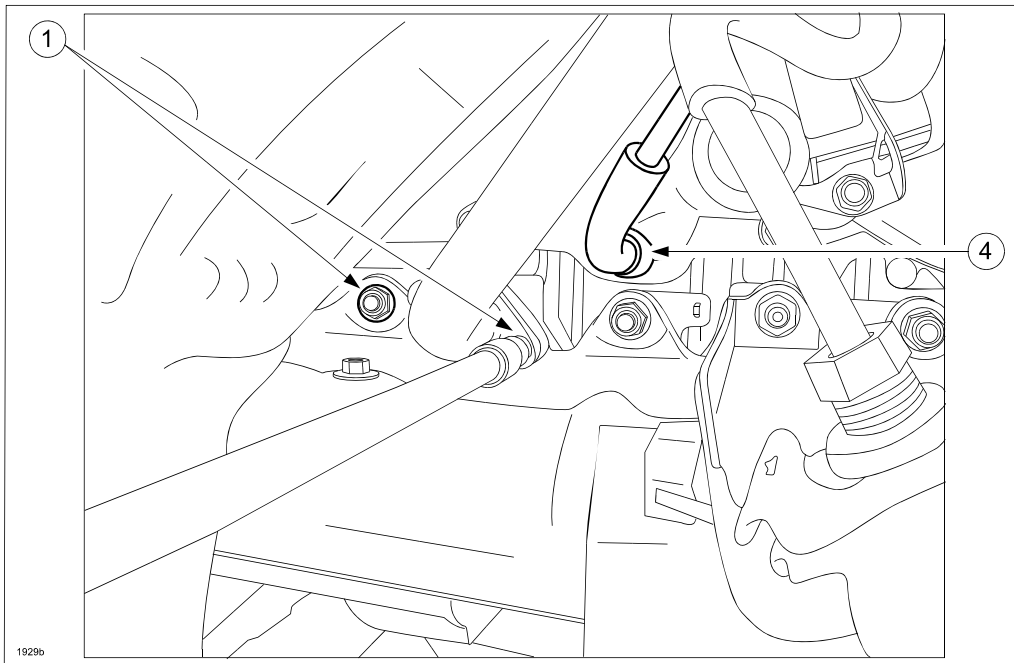
## REPAIR PROCEDURE

1. Verify the following:
  - P2070 is set.
  - SSV sticks without failure of SSV solenoid valve switch.
2. Record freeze frame data.
3. Record customer radio station presets.
4. Disconnect negative battery cable.
5. Raise and support vehicle.
6. Drain engine coolant into a clean container for reuse after repair. Refer to Workshop Manual section 01-12 ENGINE COOLANT REPLACEMENT.
7. Remove right front wheel.
8. Remove rubber splash shield from inner fender to access right side of engine.

9. Remove 2 nuts (1) attaching air pipe (2) to exhaust manifold (3).



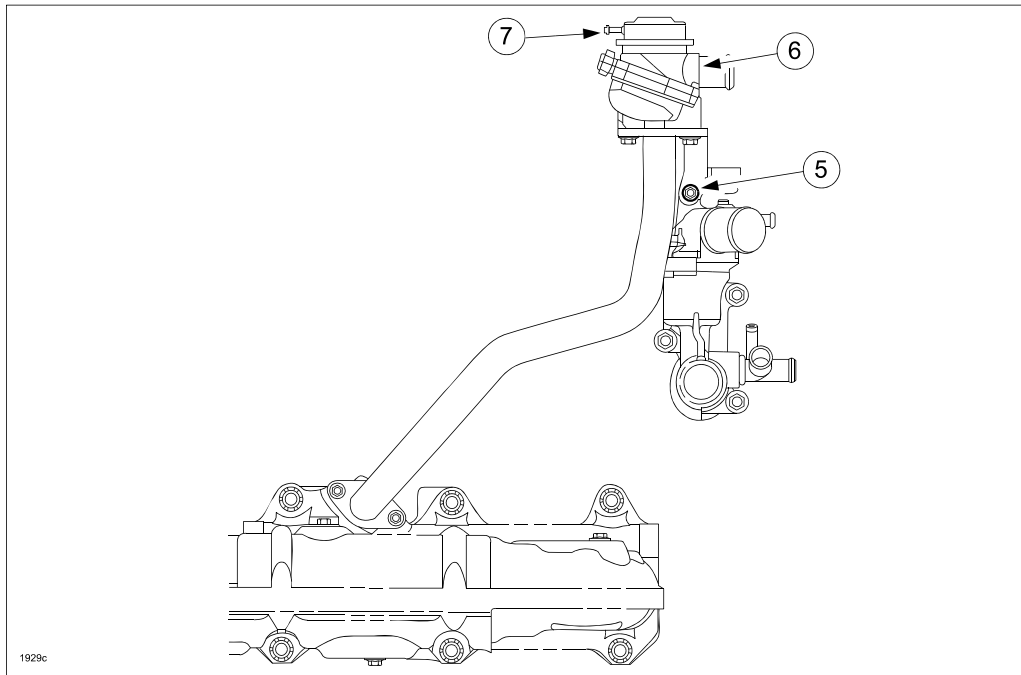
10. Disconnect port air bleed vacuum hose (4) from intake manifold.



11. Lower vehicle.

12. Remove battery cover, battery and battery tray to make work space. Refer to Workshop Manual section 01-17 BATTERY REMOVAL / INSTALLATION.

13. Remove air control valve bracket bolt (5).

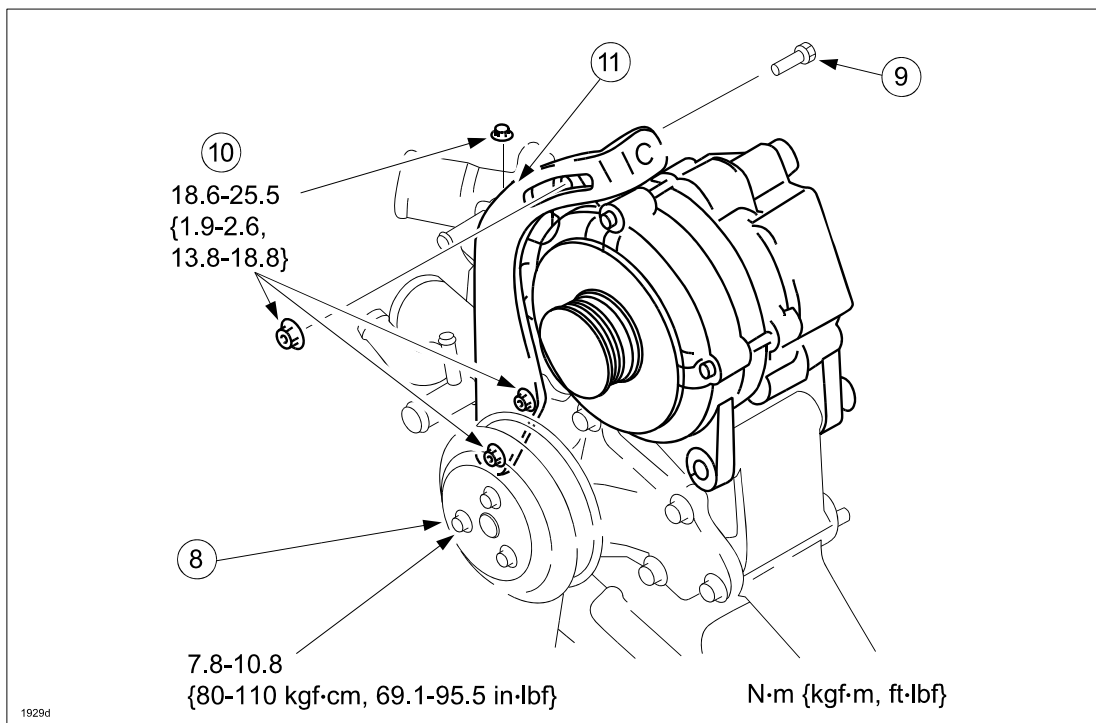


14. Disconnect main harness from air control valve bracket.

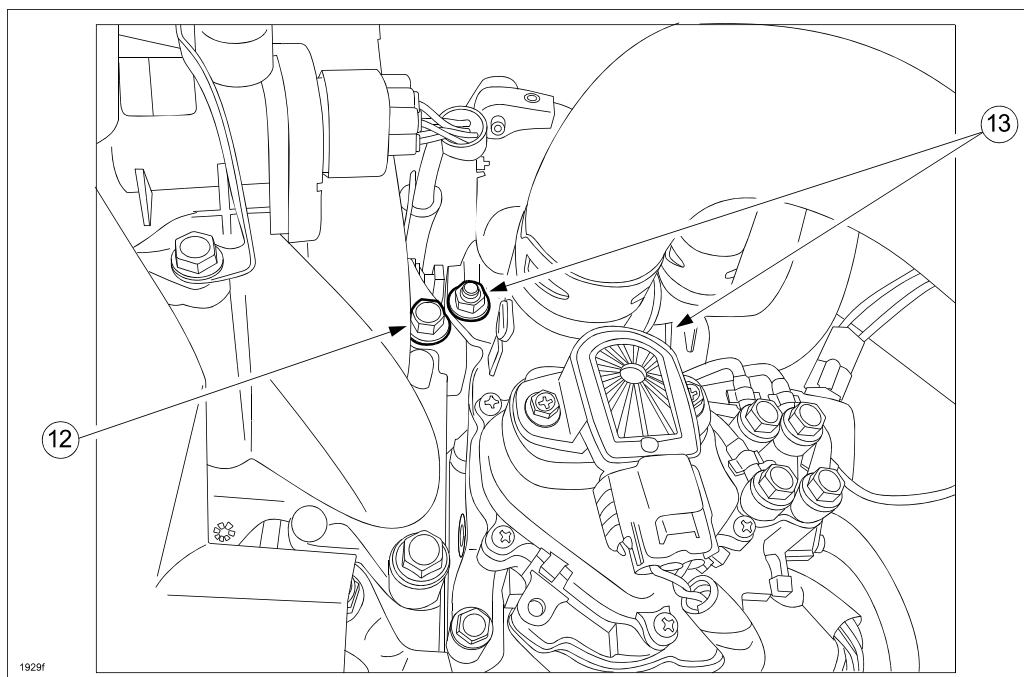
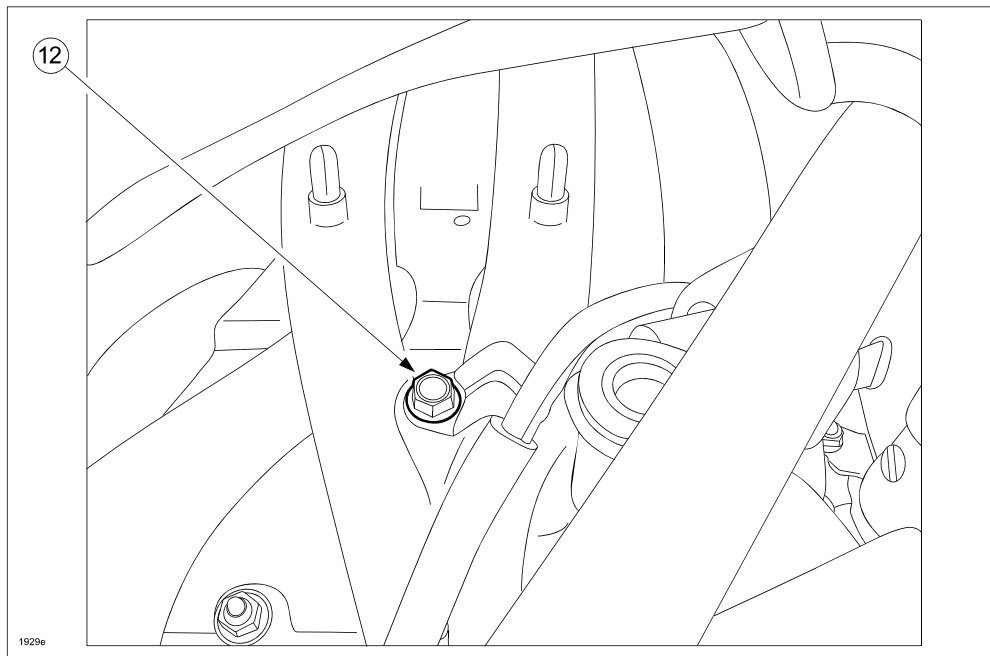
15. Disconnect upper hose (6) and vacuum line (7) from air control valve.

16. Position air control valve and air pipe out of the way by moving toward washer fluid reservoir.

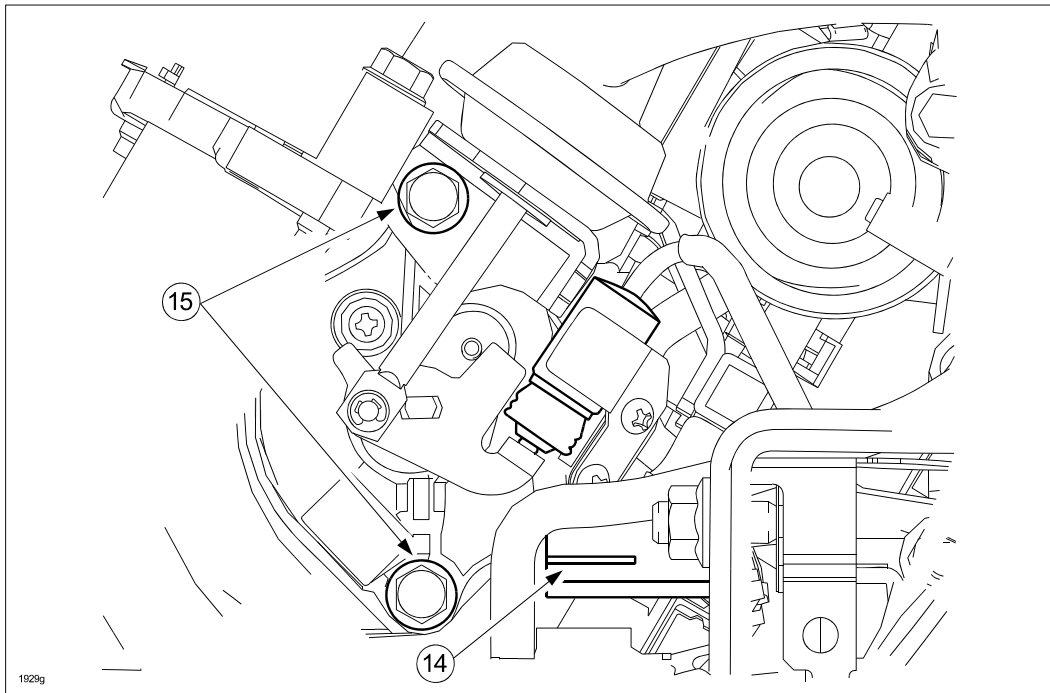
17. Loose 3 water pump pulley bolts (8) but do not remove.



18. Loosen alternator belt tension bolt and remove attaching bolt and nut (9) from alternator and bracket.
19. Remove alternator belt.
20. Remove water pump pulley.
21. Remove 3 nuts (10) and alternator bracket (11).
22. Raise and support vehicle.
23. Remove 2 bolts (12) attaching port air bleed vacuum pipe.



24. Remove 2 lower nuts (13) on thermostat housing.
25. Lower vehicle.
26. Remove 1 upper nut on thermostat housing.
27. Carefully position oil metering lines and bracket away from upper thermostat housing stud as to be able to remove thermostat housing from mounting studs.
28. Remove thermostat housing from mounting studs and position toward front of vehicle to allow access to SSV.
29. Position main harness to the side to allow access to SSV.
30. Disconnect SSV switch connector (14).



31. Remove 2 bolts (15) attaching SSV.

**NOTE:**

- The upper SSV bolt will not be reused for assembly. A longer bolt is provided.

32. Pull out SSV using a slow twisting motion.

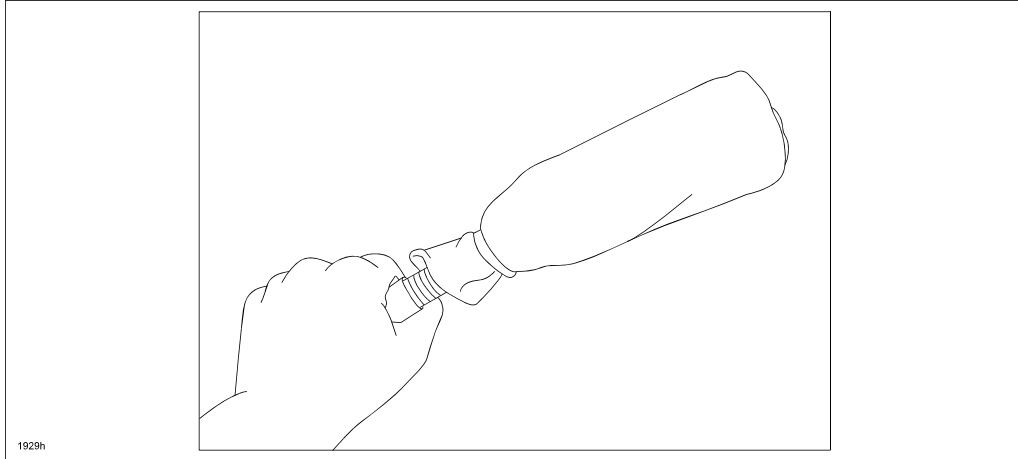
**NOTE:**

- Ensure sufficient working space is available to access the SSV port in the next steps.

33. Wrap a shop towel around the handle of a screwdriver (or equivalent) and use a zip-tie to secure the towel at the handle end.

**NOTE:**

- Ensure the screwdriver handle (or equivalent) is as close to 1/2" (12mm) as possible.



34. Place a rag in SSV port of intake manifold to catch carbon deposits (debris).

**NOTE:**

- A shop rag may need to be cut in half to fit properly to allow access to the bushing at the rear of the port.

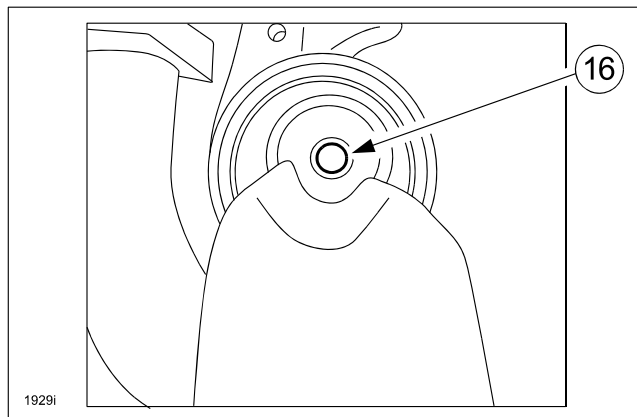
35. Hold engine cleaner up-right and spray inside the SSV port, focusing on the bushing (16) located at the rear of the port.

**WARNING:**

- **PLEASE USE CAUTION WHEN USING ENGINE CLEANER.**
- **WEAR EYE PROTECTION AND GLOVES WHEN HANDLING.**
- **ENGINE CLEANER IS FLAMMABLE.**

**NOTE:**

- 1 can of engine cleaner is sufficient for 2 engine cleanings.

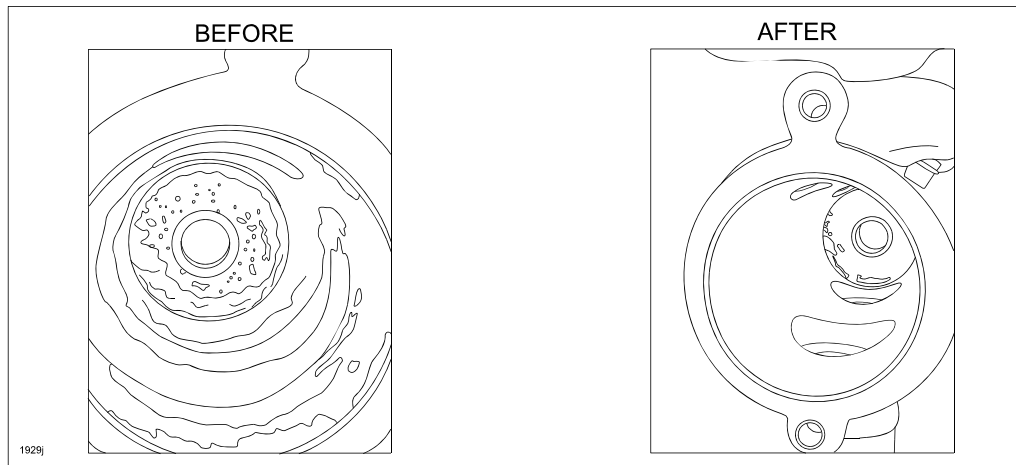


36. Wait five (5) minutes after spraying.

37. Using screwdriver with rag wrapped around the end, clean inner surface of SSV port.

**CAUTION:**

- Use care to restrict the amount of carbon debris that falls into the intake manifold ports.

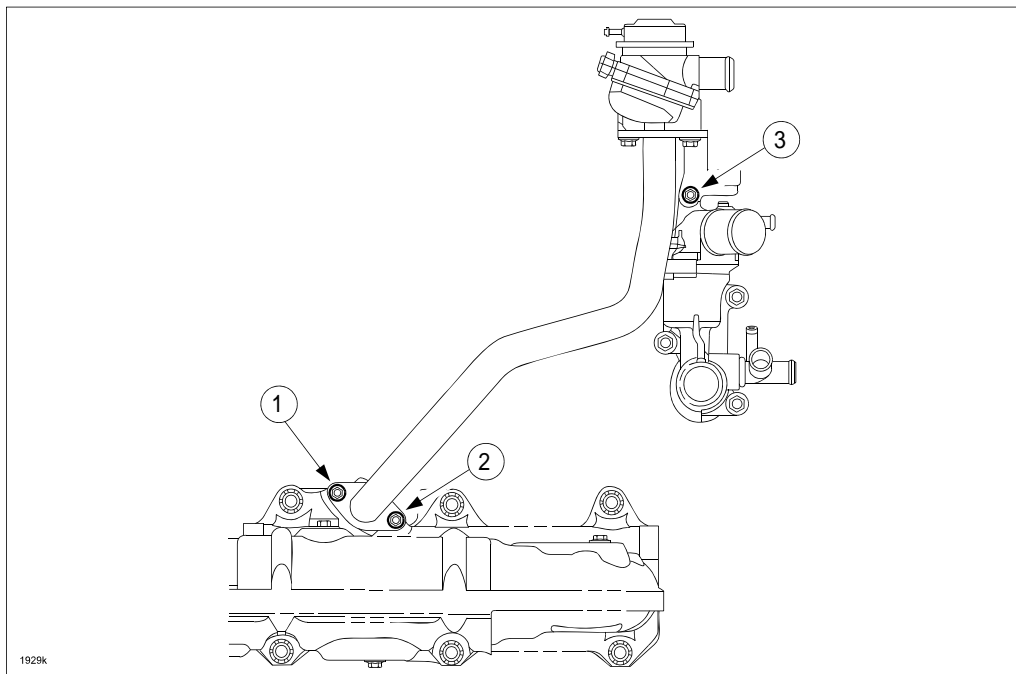


38. Install modified SSV and gasket. Install modified longer bolt (9979-60-640) in the upper mounting hole.

39. Assemble in the reverse order of removal.

**IMPORTANT:**

- Follow the tightening procedure below when installing air pipe and air control valve.
- Hand-tighten nuts (1, 2) first then hand-tighten bolt (3). Tighten nuts (1, 2 then 3) to 69.1-95.5 in-lbf. (7.8-10.8Nm).



40. Connect negative battery cable.

41. Fill engine coolant system using coolant removed from engine and purge air out of the cooling system. Refer to Workshop Manual section 01-12 ENGINE COOLANT REPLACEMENT.

42. Check SSV function. Refer to workshop manual section 01-03 - SECONDARY SHUTTER VALVE (SSV) OPERATION INSPECTION.
43. Set recorded customer radio station presets.
44. Set clock.
45. In equipped with DSC, perform steering angle sensor initialization procedure. Refer to Workshop Manual section 04-15 - STEERING ANGLE SENSOR INITIALIZATION PROCEDURE.
46. Verify repair.

## **PART(S) INFORMATION**

Part Number	Description	Qty.	Notes
N3H5-20-160F	Vavle, Shutter-Manifold (SSV)	1	---
N3H4-20-155A	Gasket, SSV	1	---
9979-60-640	Bolt	1	Longer upper SSV bolt
N3H1-13-996	Gasket, ACV	1	---
0000-77-A86	Engine Cleaner	1	Quantity 1 = 1 can of engine cleaner when ordered through eMDCS. 1 can of engine cleaner is sufficient for 2 engine cleanings.



## WARRANTY INFORMATION

### NOTE:

- This warranty information applies only to verified customer complaints on vehicles eligible for warranty repair.
- This repair will be covered under Mazda's New Vehicle Limited Warranty term.
- Additional diagnostic time cannot be claimed for this repair.

Warranty Type	A
Symptom Code	6X
Damage Code	93
Part Number Main Cause	N3H5-20-160F
Quantity	1
Related Part Number - Reimbursement Engine cleaner	5555-08-008A Allowance applies to 1/2 can of engine cleaner per repair
Related Part Number Quantity	1
Operation Number / Labor Hours:	XXC31XRX / 1.6 Hrs