

<b>Subject:</b>  MILKY SUBSTANCE ON OIL LEVEL GAUGE (DIPSTICK)	<b>Bulletin No:</b> 01-050/06
	<b>Last Issued:</b> 11/21/2006

## BULLETIN NOTE

This bulletin supersedes the previous bulletin 01-009/05, issued 2/7/2005. The APPLICABLE MODEL(S) / VINS, DESCRIPTION, REPAIR PROCEDURE and PART(S) INFORMATION sections have been changed.

## APPLICABLE MODEL(S)/VINS

2004-2005 RX-8

## DESCRIPTION

On some vehicles, during engine oil level check, the customer may find a milky substance sticking to the oil level gauge. When you encounter a customer complaint for this concern, explain to the customer that this milky substance does not affect engine performance or any other functions of the vehicle.

During cold weather, moisture contained in blow-by gases (exhaust, oil, fuel, water vapor) is cooled by the intermediate housing wall and condenses due to difference in temperature. The moisture reacts chemically with the engine oil in the intermediate housing and the milky substance appears. The substance eventually dissipates when engine reaches full operating temperature.

This milky substance does not affect the quality of the engine oil and engine performance is not affected. Mazda Motor Corporation has verified the amount of moisture in the oil is within the acceptable standard for motor oils commonly found in the market. Verify the coolant reservoir is full and there is no sign of engine coolant leakage.

A ventilation kit has been developed as a countermeasure to keep the milky substance off of the oil level gauge. When you encounter a customer complaint for this concern, explain to the customer that this is a normal characteristic of the rotary engine. If this characteristic presents problems for customer inspection of engine oil level, or customer does not wish to see this substance on the oil level gauge, install the ventilation kit using the following repair procedure.

## REPAIR PROCEDURE

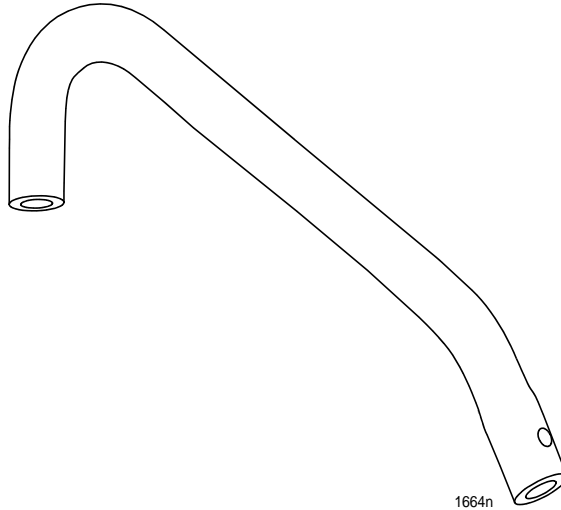
1. Remove engine and battery cover.
2. Record customer radio station presets. Disconnect negative battery cable.

3. Disconnect intake air hose from throttle body.

**NOTE:**

- Remove and discard the existing hose from between the intake air hose and the oil filler pipe.

**DISCARD OLD HOSE FROM  
BETWEEN INTAKE AIR HOSE  
AND OIL FILLER PIPE**

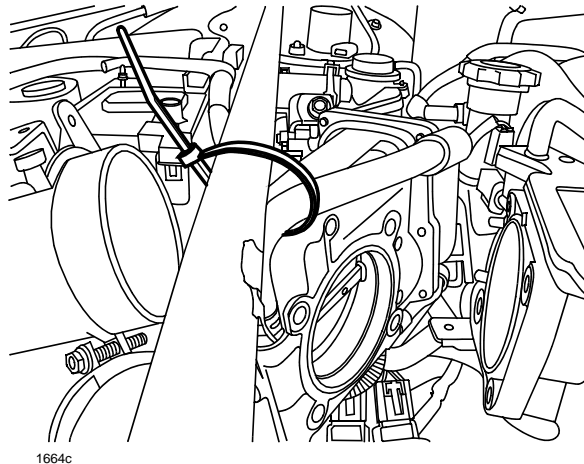


4. Remove throttle body bolts and tie-wrap throttle body to the strut tower brace.

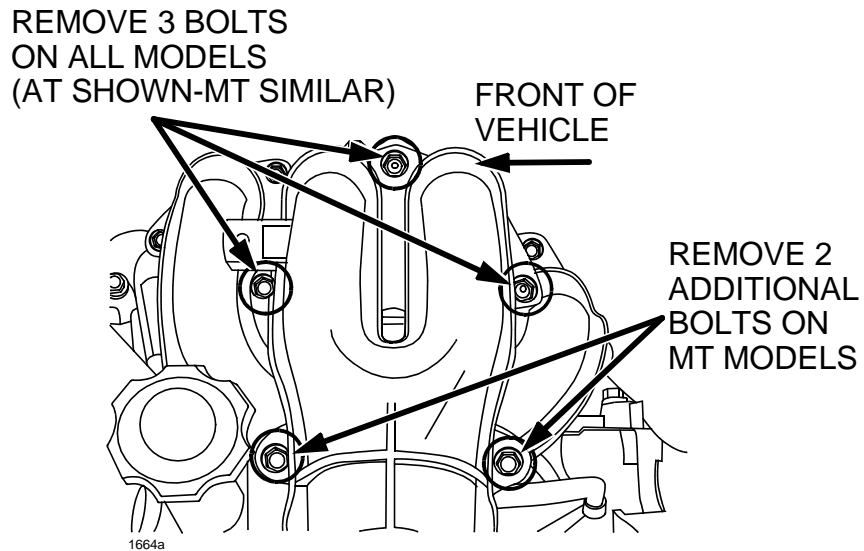
**NOTE:**

- DO NOT disconnect the throttle body coolant hoses.

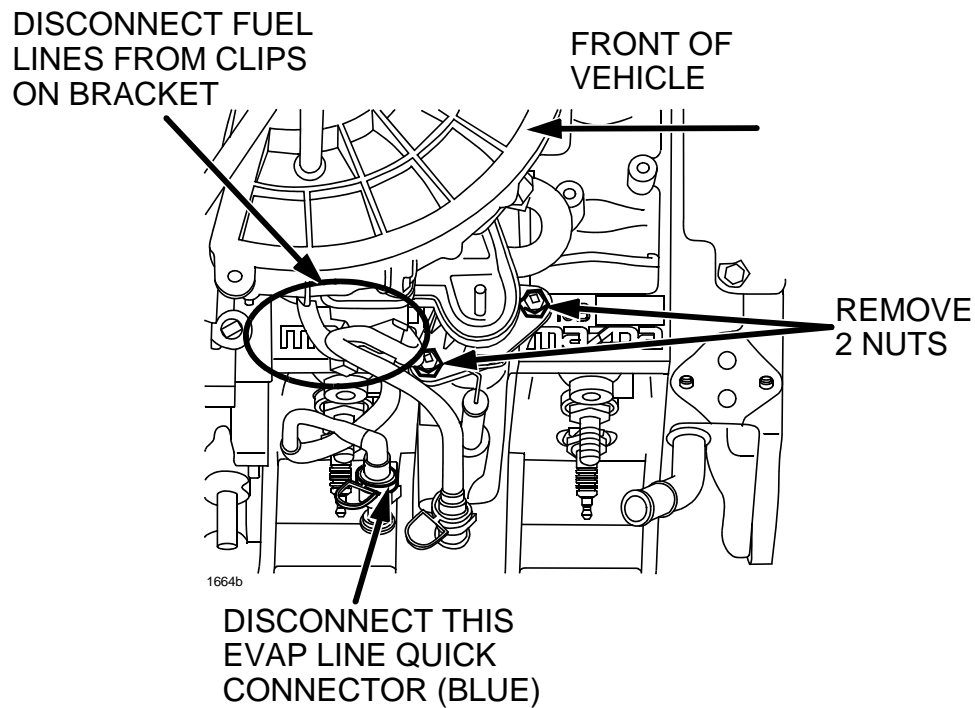
**DO NOT DISCONNECT THROTTLE  
BODY HOSES-TIE WRAP THROTTLE  
BODY TO BRACE AS SHOWN**



5. Remove the extension manifold (upper) bolts from passenger side of engine.



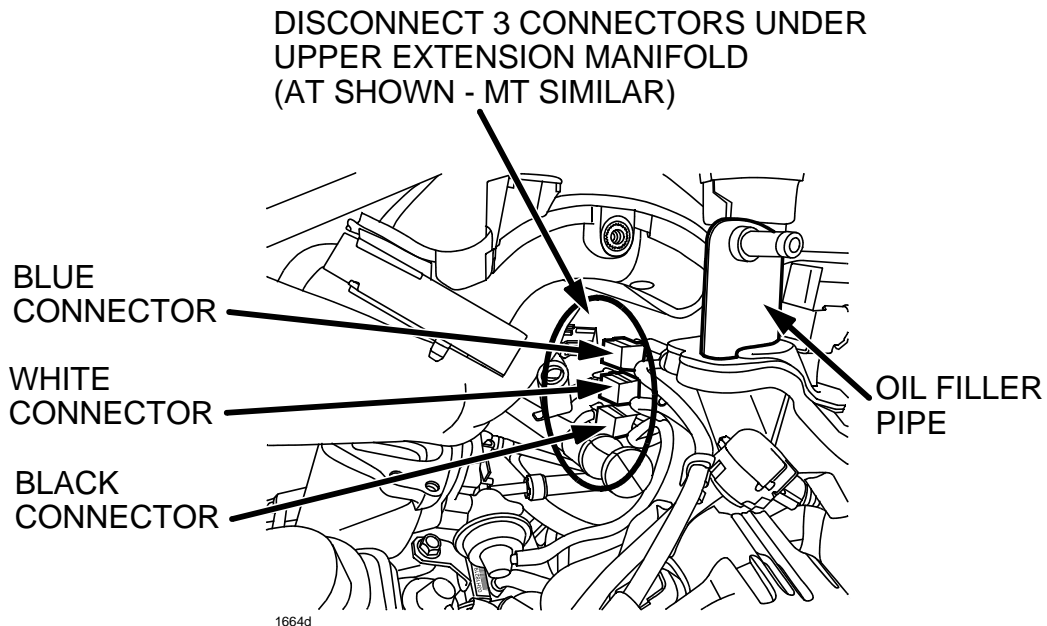
6. Remove 2 nuts attaching oil filler pipe to engine. Remove EVAP and fuel lines from clips. Disconnect Blue EVAP line quick connector.



7. Slightly raise extension manifold (upper) for access. Disconnect 3 solenoid valve connectors and hoses located under extension (intake) manifold (upper).

**NOTE:**

- Do not disconnect the hoses from the solenoids, disconnect them from thier components at the front passenger side of the engine. New hoses are included, already attached to the solenoids.
- Note connection location of connectors and hoses for installation of new oil filler pipe assembly.



8. Remove extension manifold (upper) along with existing oil filler pipe from vehicle together as an assembly. Disconnect vacuum hoses (2) located at driver's rear of extension manifold (upper) during removal.

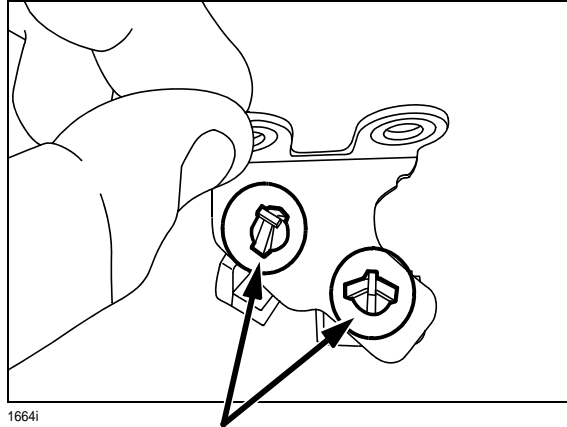
**NOTE:**

- If necessary, loosen the 2 bolts attaching the EVAP / fuel line clip bracket and oil filler pipe to the extension manifold (upper) to aid in removal.
- Note connection location of hoses for installation.

9. Remove EVAP / fuel line clip bracket from under extension manifold (upper). These bolts also attach the oil filler pipe to the underside of the extension manifold (upper).

**NOTE:**

- Remove both clips from bracket as shown to aid in installation.



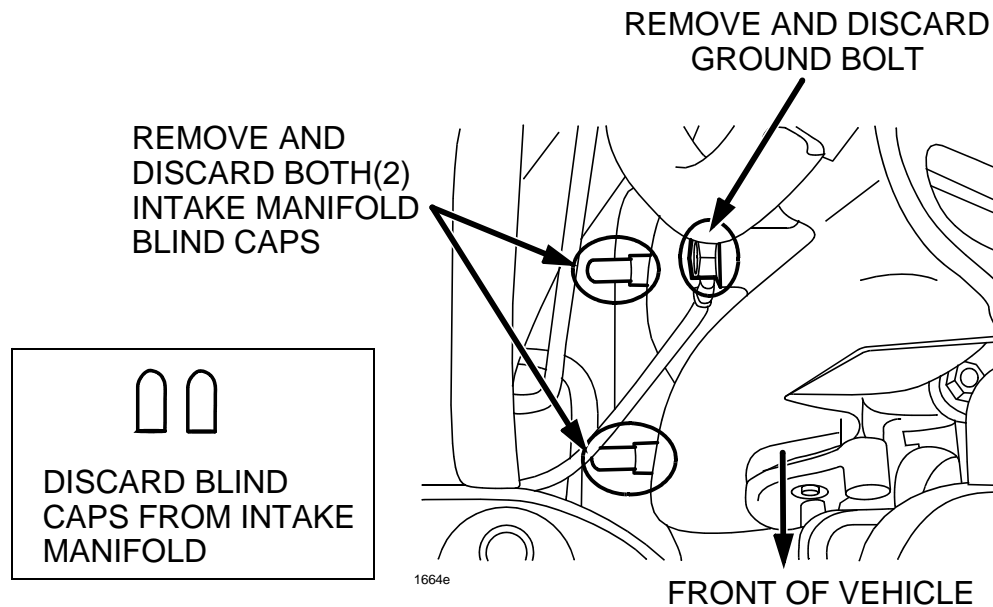
REMOVE BOTH EVAP AND FUEL LINE CLIPS BEFORE INSTALLING BRACKET. THIS WILL AID IN ACCESSING THE BOLTS AFTER THE OIL FILLER PIPE AND EXTENSION MANIFOLD (UPPER) HAVE BEEN INSTALLED

10. Remove existing oil filler pipe assembly from extension manifold (upper).
11. Transfer the existing oil filler cap to the modified oil filler pipe.
12. Install the modified oil filler pipe and EVAP / fuel line bracket to the extension manifold (upper) using new bolts provided in the kit.
- NOTE:**
- Do not tighten these bolts. These will be tightened after the extension manifold (upper) and oil filler pipe are installed to the engine.
  - Install EVAP / fuel line clips to bracket after installation of extension manifold (upper) and oil filler pipe and bolts have been tightened.
13. Replace the gaskets on the extension manifold (upper), with ones supplied in the kit. There will be unused gaskets.
- 3 gaskets on AT vehicles - throttle body (1), upper to lower extension manifold (2)
  - 4 gaskets on MT vehicles - throttle body (1), upper to lower extension manifolds (3)
14. Install the extension manifold (upper) in reverse of removal. Tightening Torque: 69-96 in. ibf. (7.8-10.8 N.m)

**NOTE:**

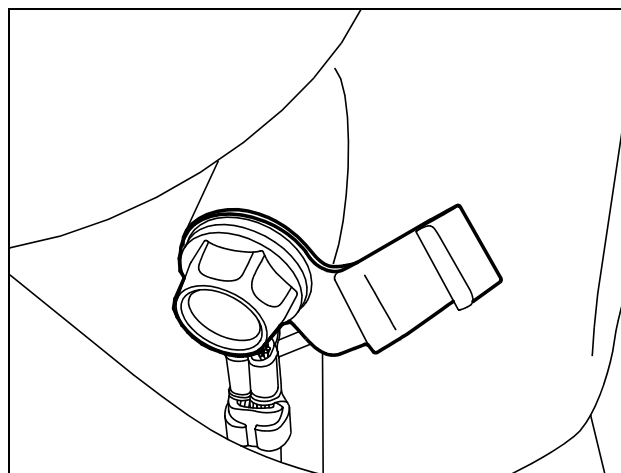
- When reconnecting the solenoid valves, pay special attention to the connector color of each solenoid valve and the layout of vacuum hose. The connectors are installed in order from top to bottom; Blue, White, Black.
  - Ensure PCV hoses are properly routed and not kinked or pinched. Ensure the new PCV hose attached to modified oil filler pipe exits between the throttle body and oil filler cap and above the alternator.
  - Before tightening the bolts and nuts, adjust the position of the extension manifold (upper).
15. Tighten the nuts attaching the oil filler pipe to the engine. Tightening Torque: 79-112 in. ibf. (8.9-12.7 N.m)

16. Tighten the bolts attaching the oil filler pipe and EVAP / fuel line bracket to the extension manifold (upper).
17. Install the EVAP and fuel line clips.
18. Reconnect EVAP line quick connect and install EVAP and fuel lines into clips on bracket.
19. Install throttle body. Tightening Torque: 69-96 in. ibf. (7.8-10.8 N.m)
20. Install intake air hose.
21. Remove and discard:
  - Both (2) intake manifold blind caps (vacuum plugs) located on extension (intake) manifold (lower)
  - Remove and discard the ground bolt located on the extension manifold (lower) above the blind caps.



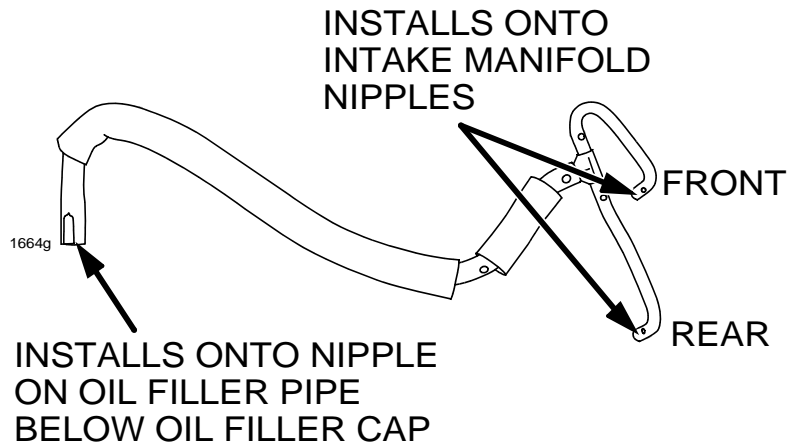
22. Install hose clip new bolt for ground. Ensure ground wire is installed above clip. (Tightening Torque: 18.6 – 23.2 N.m)

**INSTALL NEW BOLT AND CLIP-ORIENT CLIP AND GROUND WIRE AS SHOWN**

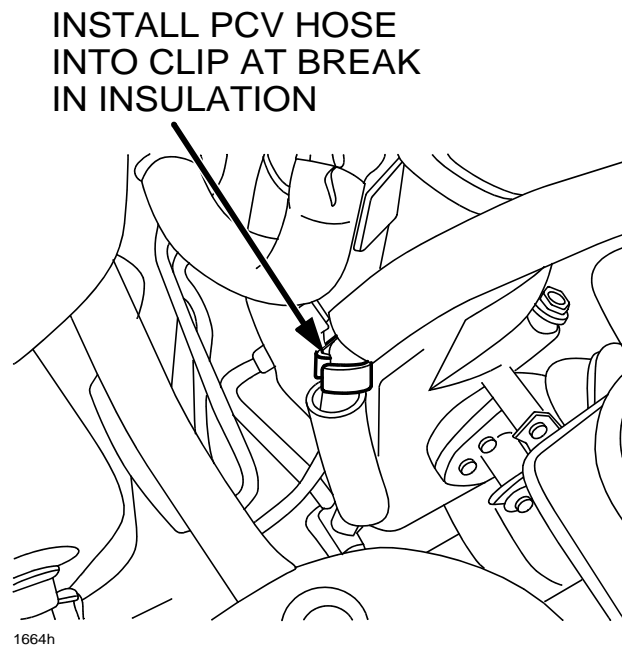


23. Install new PCV hose to the engine. Plug the small vacuum lines into the lower intake manifold nipples as described.

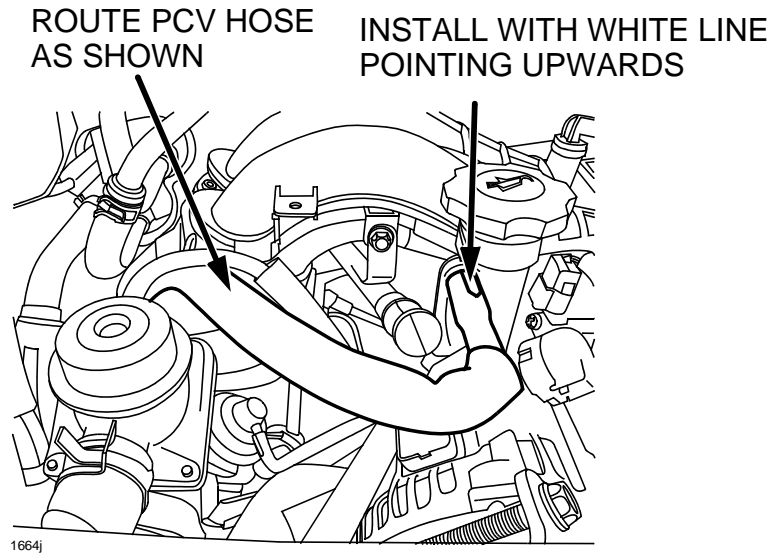
### NEW PCV HOSE



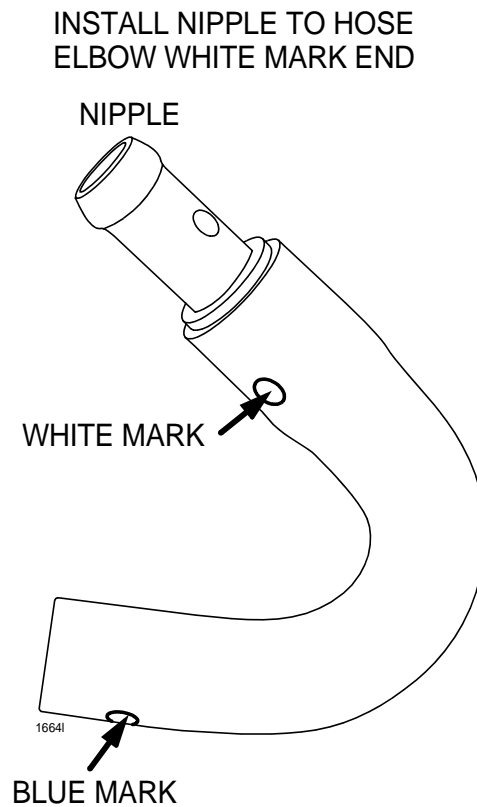
24. Route new PCV hose and through new clip at break in hose insulation.



25. Route new PCV hose across engine and install into new oil filler pipe nipple with White line pointing upward.

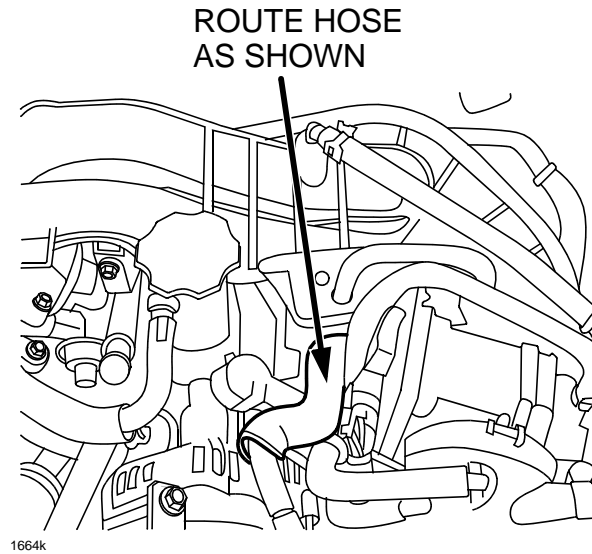


26. From the kit, install nipple into the White mark end of the elbow hose.

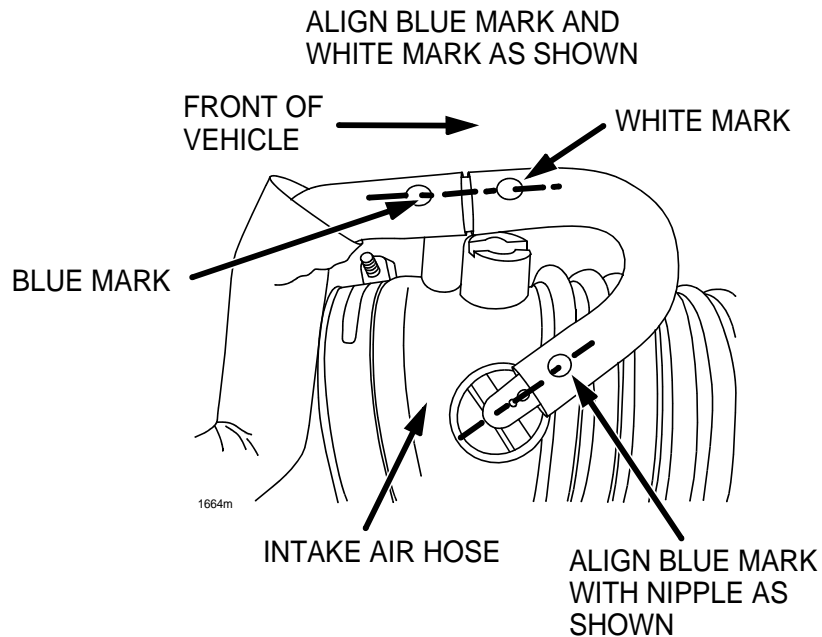




27. Route new PCV hose as shown.



28. Connect new elbow hose to intake air hose nipple and insert nipple of new hose into new PCV hose as shown. Ensure marks are aligned properly.



29. Connect negative battery cable and install battery end engine cover.

- If vehicle is equipped with DSC, perform the steering angle sensor adjustment. See appropriate Workshop Manual section 04-15 STEERING ANGLE SENSOR INITIALIZATION PROCEDURE.
- Initialize power windows if necessary.
- Enter customers radio station presets.



## WARRANTY INFORMATION

**NOTE:**

- This warranty information applies only to verified customer complaints on vehicles eligible for warranty repair. Refer to the Warranty Wizard for warranty term information.
- Additional diagnostic time cannot be claimed for this repair.

Warranty Type	A
Symptom Code	77
Damage Code	93
Part Number Main Cause	N3Y1-13-S80A
Quantity	1
Operation Number / Labor Hours:	XXB250RX / 1.2 Hrs