

**A. VEHICLE INSPECTION PROCEDURE**

**NOTE:**

- North American market vehicles were not produced between December 20, 2004 and March 22, 2005. This will explain the void in production dates and VIN numbers.

1. Verify the vehicle is within the following ranges:

- **GROUP 1 - 2004-2005 RX-8 built from April 10, 2003 through December 20, 2004.**

2004 VIN Range: JM1 FE17\*\* 40 100053 – 140891

2005 VIN Range: JM1 FE17\*\* 50 140892 – 151508

- If the vehicle is within the above range, proceed to step 2.
- If the vehicle's VIN is later than JM1 FE17\*\*50151508 or vehicle was built after December 20, 2004, check if vehicle falls under **GROUP 2** range.

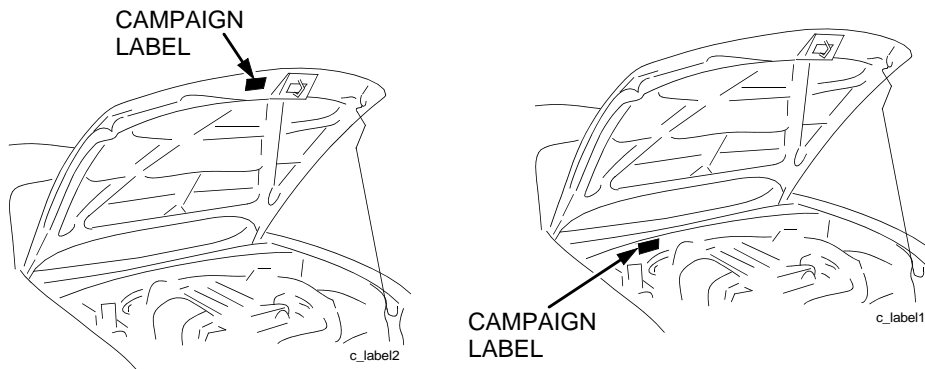
- **GROUP 2 - 2005 RX-8 built from March 22, 2005 through July 7, 2005.**

VIN Range: JM1 FE17\*\*50 151929 – 158051

- If the vehicle is within the above range, proceed to step 2.
- If the vehicle's VIN is later than JM1 FE17\*\*50158051 or vehicle was built after July 7, 2005, return the vehicle to the customer or inventory.

2. Perform a Warranty Vehicle Inquiry using your eMDCS System and inspect vehicle for a Campaign Label **3305G** attached to the vehicle's hood or bulkhead. Refer to eMDCS System - Warranty Vehicle Inquiry Results table below.

**NOTE:** Verify Recall number as the vehicle may have multiple Recalls.



CAMPAIGN LABEL	
CAMPAIGN NO:	_____
DEALER CODE:	_____
DATE:	/  /
P/N 9999-95-065A-05	

1326b

**eMDCS System - Warranty Vehicle Inquiry Results**

<b>If eMDCS displays:</b>	<b>Campaign Label is:</b>	<b>Action to perform:</b>
RECALL 3305G OPEN	Present	Contact the Mazda Corporate Dealer Assistance Group at (877) 727-6626 to update vehicle history.
	Not present	Proceed to "PCM REPROGRAMMING" under "B. REPAIR PROCEDURE".
RECALL 3305G CLOSED	Present	Return vehicle to inventory or customer.
	Not present	Complete a label and apply to vehicle's hood or bulkhead.
RECALL 3305G is not displayed	Does not apply	Recall does not apply to this vehicle. Return vehicle to inventory or customer.

**B. REPAIR PROCEDURE**

**PCM REPROGRAMMING**

1. Reboot the WDS PTU to clear memory before reprogramming.
2. Using WDS B38.3 or later software, reprogram the PCM to the latest calibration (refer to "Calibration Information" table) by following the "Module Reprogramming" procedure.

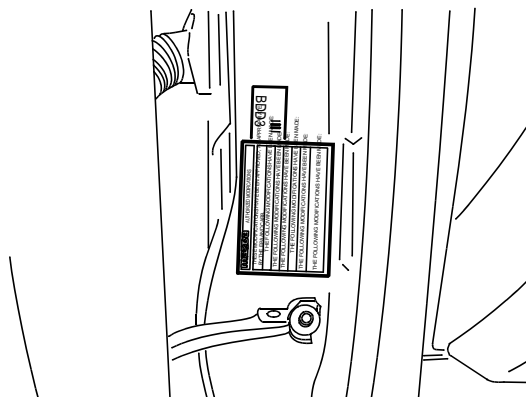
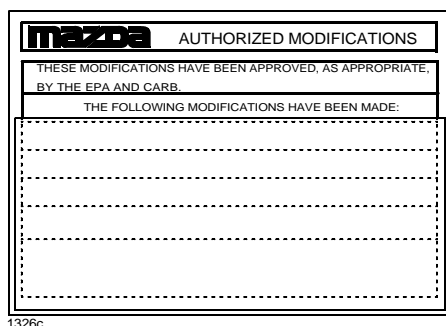
**NOTE:**

- Always update the WDS PTU first, then install the needed calibration file that WDS shows during PCM reprogramming. Go to "WDS Calibration" on ESI and download the "update" file. If the PTU is not updated to the latest WDS calibration level, the calibration file will not install into the PTU.
  - It is not necessary to remove any fuses or relays during PCM reprogramming when the WDS screen prompts you to do so. You may accidentally stop power to one of the PCM terminals and cause the PCM to be blanked, or you may receive error messages during the WDS reprogramming procedure.
  - WDS shows the calibration part numbers after programming the PCM.
  - Please be aware that PCM calibration part numbers and file names listed in any Service Bulletin may change due to future releases of WDS software, and additional revisions made to those calibrations for service related concerns.
  - When reprogramming a PCM, WDS will always display the "latest" calibration P/N available for that vehicle. If any calibration has been revised/updated to contain new information for a new service concern/issue, it will also contain all previously released calibrations.
  - **When performing this procedure, if the WDS PTU is not docked and connected to 115V-120V, we recommend that a battery charger be installed on the vehicle battery and turned ON to a maximum charge of no more than 20 AMPS to keep the vehicle battery up to capacity. If you exceed 20 AMPS, it will damage the WDS PTU. Also the external battery power supply cable should be connected to the vehicle battery and the PTU.**
3. After performing the PCM reprogramming procedure, verify the repair by starting the engine and making sure there are no MIL illumination or abnormal warning lights present.

**NOTE:**

- If any DTCs should remain after performing DTC erase, diagnose the DTCs according to the appropriate Troubleshooting section of the Workshop Manual.
- After PCM reprogramming, it is no longer necessary to road test the vehicle to "relearn" KAM (Keep Alive Memory).

4. Place an “Authorized Modifications” label (P/N 9999-95-AMDC-97) with the new calibration information on the front of the door jamb (vehicle body side). **After performing PCM reprogramming and “Authorized Modifications” label placement, go to “PARTS INSPECTION”.**



**CALIBRATION INFORMATION**

Year	Transmission	New PCM Calibration Part Number	File Name
2004	A/T	N3Z1-18-881S	SW-N3Z1ES000
2004	M/T	N3Z2-18-881R	SW-N3Z2ER000
2005	A/T (Federal)	N3K6-18-881F	SW-N3K6EF000
2005	M/T (Federal)	N3K7-18-881E	SW-N3K7EE000
2005	A/T (California)	N3K8-18-881F	SW-N3K8EF000
2005	M/T (California)	N3K9-18-881E	SW-N3K9EE000

**CALIBRATION CHANGE INFORMATION**

The revised PCM calibrations will change throttle control in order to prevent thermal damage due to exhaust overheating while the vehicle is stopped, and engine RPM is high for an extended period of time. There are two PCM logic modes that have been modified to prevent extended high engine RPM while the vehicle is stopped.

**ELECTRONIC THROTTLE FAILSAFE MODE**

If the PCM detects a problem with the electronic throttle control system, the PCM failsafe mode will fix the engine RPM to 2700. This is to allow limited driving even when throttle control does not exist.

**- FAILSAFE MODE PRIOR TO PCM PROGRAMMING**

PCM fixes engine RPM at 2700 until ignition is switched off. The PCM will remain in failsafe mode until the malfunction has been repaired.

**- FAILSAFE MODE AFTER PCM PROGRAMMING**

When the PCM is in failsafe mode, the PCM will default to 2700 RPM to allow the vehicle to be driven if there is an electronic throttle error. However, the PCM will cut the failsafe mode and RPM will default to 1100 when the following conditions have been met for more than 5 minutes:

- Engine temperature more than 140°F.
- Transmission in neutral or park.
- Vehicle speed is less than 2 MPH.

**FREE REV MODE**

When the engine RPM is held at high levels and the vehicle is stopped, the PCM will reduce the engine RPM to prevent thermal damage.

**- FREE REV MODE PRIOR TO PCM PROGRAMMING**

RPM is limited to 2500 to prevent overheating when the conditions below are met for more than 5 seconds.

- Shift lever is in N position and/or the clutch pedal is stepped on (AT vehicle: the shift lever is in P or N position)
  - Temperature of coolant is 221°F or more.
  - Engine RPM is 5,000 or more.
- When the engine RPM is 1100 or less, and/or the temperature of coolant becomes 212°F or less, PCM returns to the normal control mode.

**- FREE REV MODE AFTER PCM PROGRAMMING**

The PCM will reduce RPM to 900 if the throttle is held above certain RPM levels (free-reving) for pre-determined time periods under the following conditions:

- Engine temperature more than 140°F.
- Transmission in neutral or park.
- Vehicle speed is less than 3 MPH.

**TIME / RPM HELD FOR PCM TO DEFAULT TO IDLE**

Engine RPM	Time
+8500	+ 10 Seconds
3000-8500	+ 2 Minutes
1300-3000	+ 5 Minutes

**EXAMPLE:**

- Engine running at operating temp, trans in "N" & stopped. Hold RPM at 4000, after 2 minutes have elapsed at this RPM, the engine will return to idle regardless of throttle input. Throttle will return after accelerator pedal is fully released, or ignition is shut off.

**PARTS INSPECTION**

Check the parts in the list below for heat deformation or heat damage. If you find any heat deformed or heat damaged parts, replace the deformed or damaged parts. See Workshop manual for appropriate replacement procedures.

If during inspection, no damaged parts are found / or after replacement of any of the following parts:

- If vehicle falls under **GROUP 1**: Go to "FUEL TANK INSPECTION (GROUP 1 VEHICLES ONLY)".
- If vehicle falls under **GROUP 2**: Go to "C. CAMPAIGN LABEL INSTALLATION".

**NOTE:**

- Refer to the following figures to identify related parts.

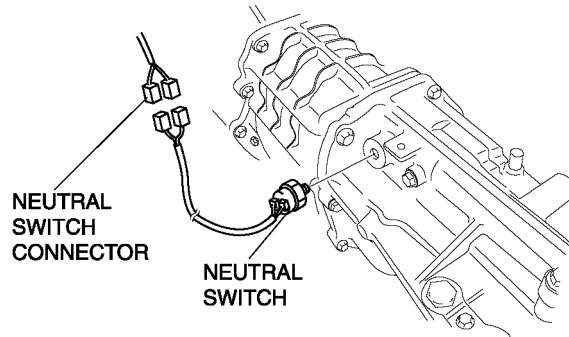
Check the following parts for heat damage:

- Neutral Switch Connector / Harness Cover (for MT vehicle only).
- Rear O2 Sensor Connector / Harness Cover.
- Parking Brake Cable bellows covers.
- Plastic parking brake cable clip attaching the parking brake cables to the fuel tank metal insulator.
- Urethane pads located in bottom of cup holder (may shrink in size).
- Body grommets at the side of the rear frame, above the muffler.
- Back up light switch connector / harness cover
- Engine harness protector / cover

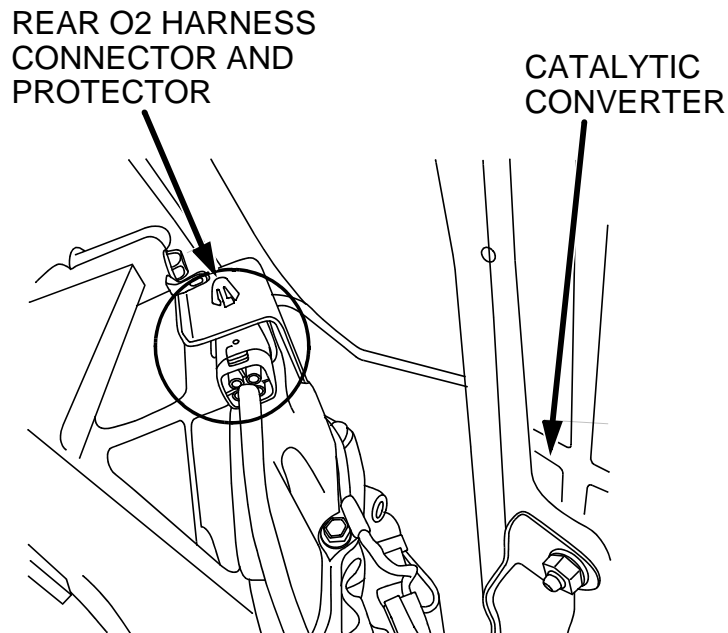
**ATTACHMENT II**  
**RECALL 3305G GROUP 1 & 2**

After inspecting the parts listed above, if you find any heat deformed or heat damaged parts (even if only one part was identified), inspect the plastic socket under the shift lever for heat deformation (6MT vehicles only). If the plastic socket is deformed, replace the plastic socket. See Workshop manual section 05-11 MANUAL TRANSMISSION. Poor shifting may result if the plastic seat is deformed by heat and not replaced.

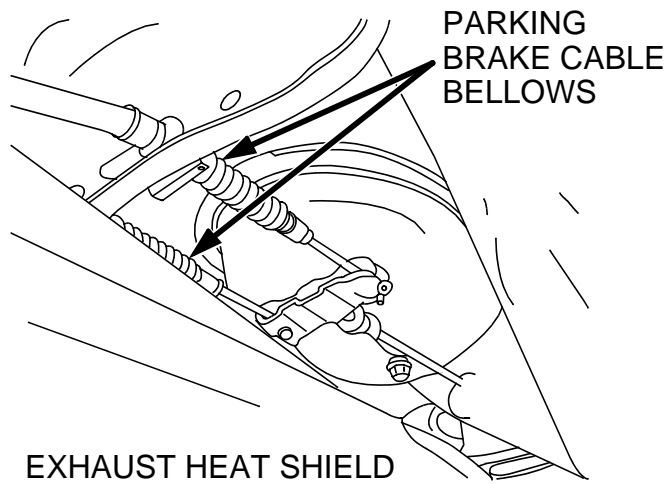
**Neutral Switch Connector / Harness Cover**



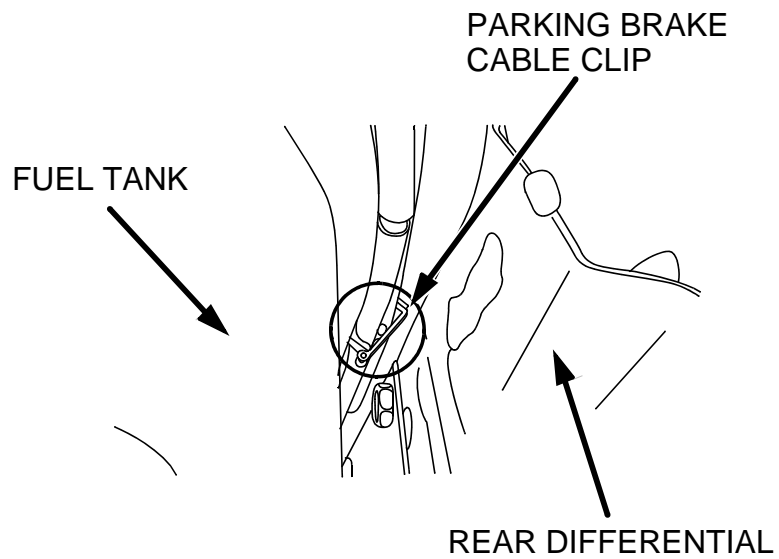
**Rear O2 Sensor Connector / Harness Cover**



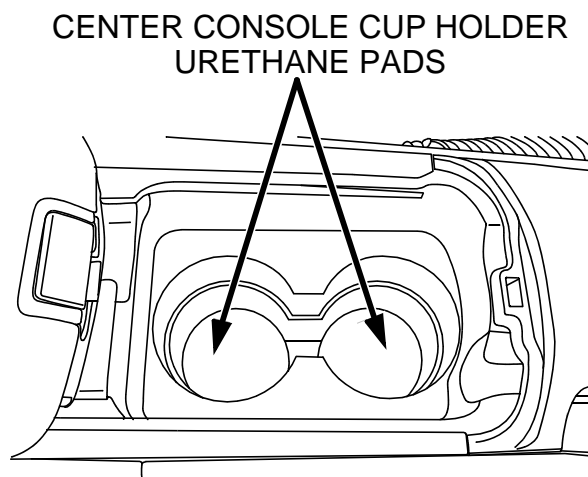
**Parking Brake Cable Bellows Covers**



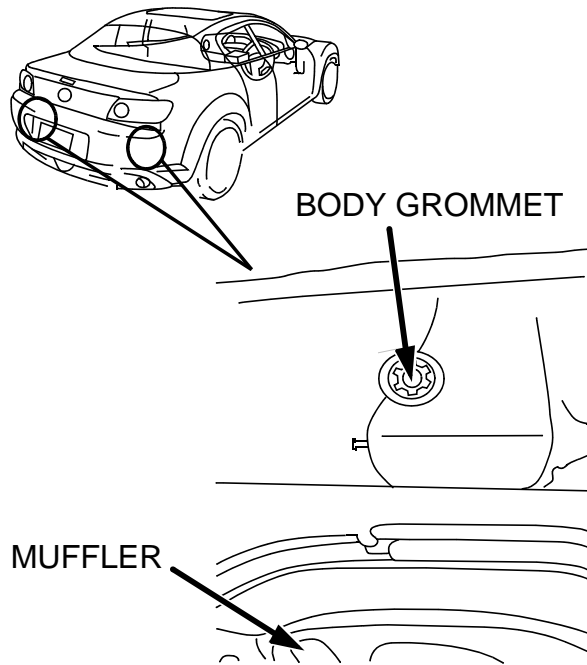
**Plastic Parking Brake Cable Clip**



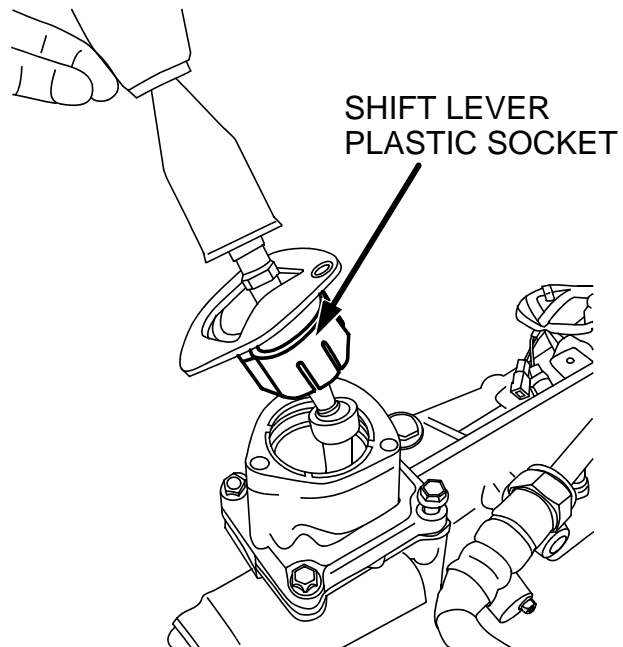
**Urethane Pads**



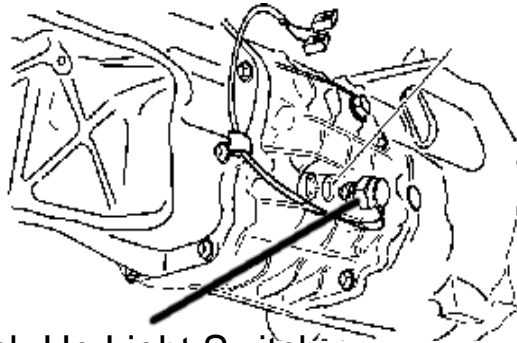
**Body Grommets**



**Shift Lever Plastic Socket**

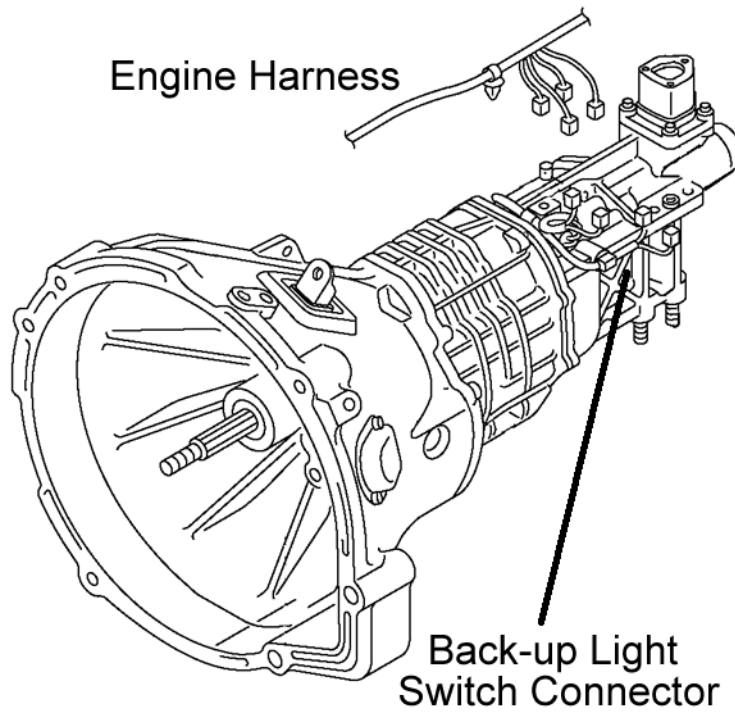


Back-Up Light Switch



Back-Up Light Switch

Engine Harness Protector / Connector



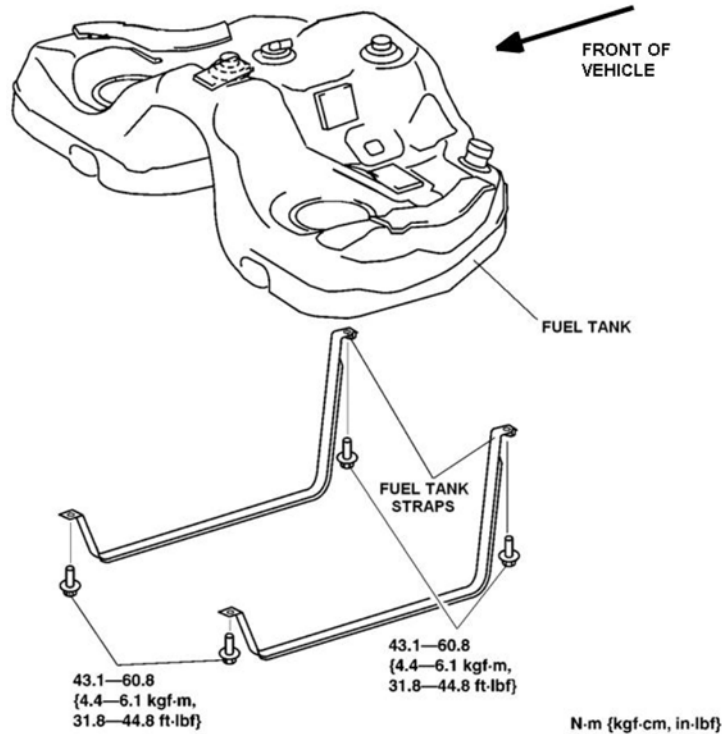
Engine Harness

Back-up Light  
Switch Connector



**FUEL TANK INSPECTION (GROUP 1 VEHICLES ONLY)**

1. Raise and support vehicle.
2. Support the fuel tank using a transmission jack or suitable device.
3. Remove the front fuel tank strap bolts and loosen the rear fuel tank strap bolts 10 turns.

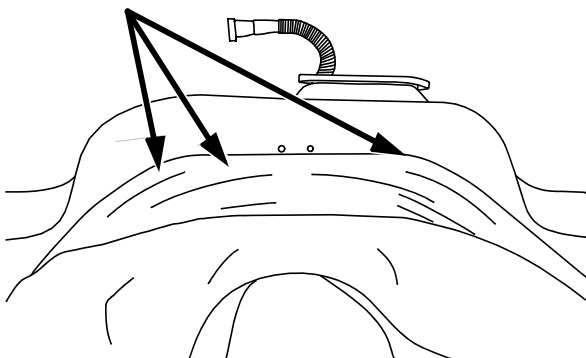


4. Lower the front of the fuel tank far enough to visually identify the horizontal fuel tank seam approximately 2" above the edge of the lower heat shield at the hump in the fuel tank.
5. Check the area around the horizontal fuel tank seam for heat deformation or heat damage.

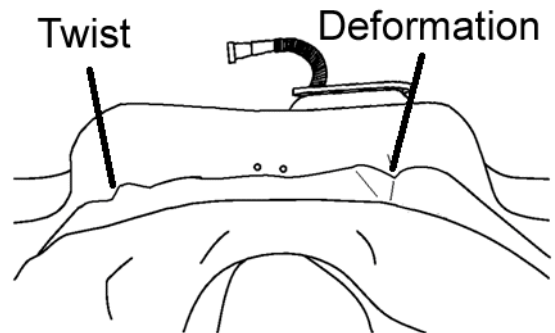
**NOTE:**

- Heat deformation / heat damage will be identified by twisting or wrinkling of the plastic fuel tank.

LOOK FOR HEAT  
DEFORMATION OR  
HEAT DAMAGE AT  
THIS SEAM



FUEL TANK WITH HEAT  
DEFORMATION



**ATTACHMENT II  
RECALL 3305G GROUP 1 & 2**

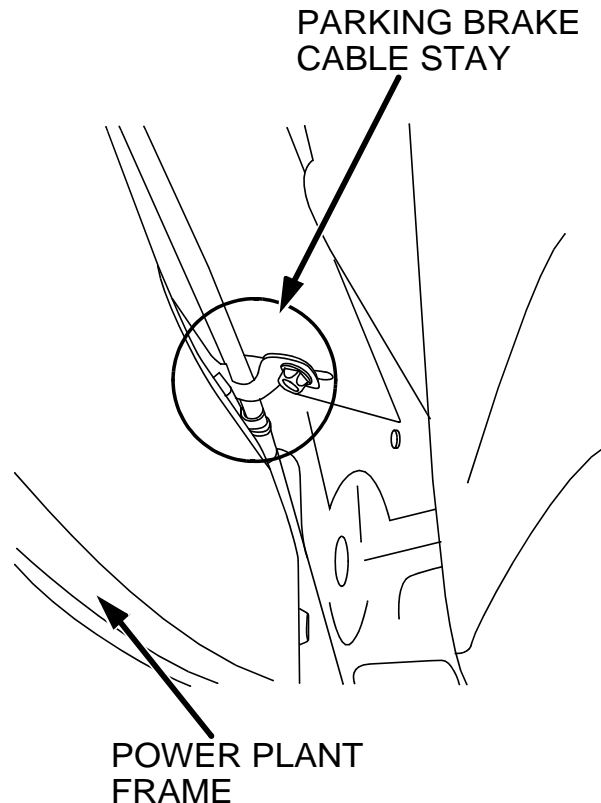
- If the fuel tank is deformed or damaged by heat, replace the fuel tank and the back-up light switch connector. See Workshop manual section 01-14 FUEL TANK REMOVAL / INSTALLATION. The new fuel tank comes with the heat insulation pad installed. After fuel tank replacement, proceed to “C. CAMPAIGN LABEL INSTALLATION”.
- If fuel tank is not deformed or damaged, go to “FUEL TANK HEAT INSULATION PAD INSTALLATION (GROUP 1 VEHICLES ONLY)”.

**FUEL TANK HEAT INSULATION PAD INSTALLATION (GROUP 1 VEHICLES ONLY)**

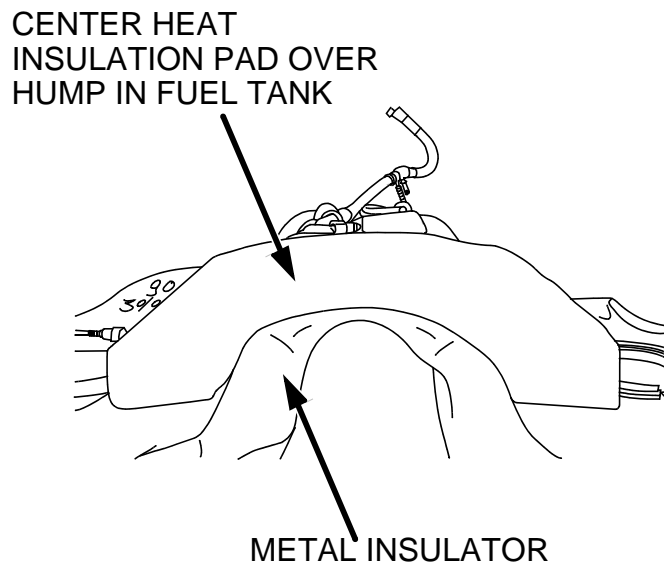
**CAUTION:** Use gloves when installing fuel tank heat pad insulation to avoid injury.

**NOTE:** Fuel tank will need to remain supported and in lowered position as outlined in “FUEL TANK INSPECTION (GROUP 1 VEHICLES ONLY)”.

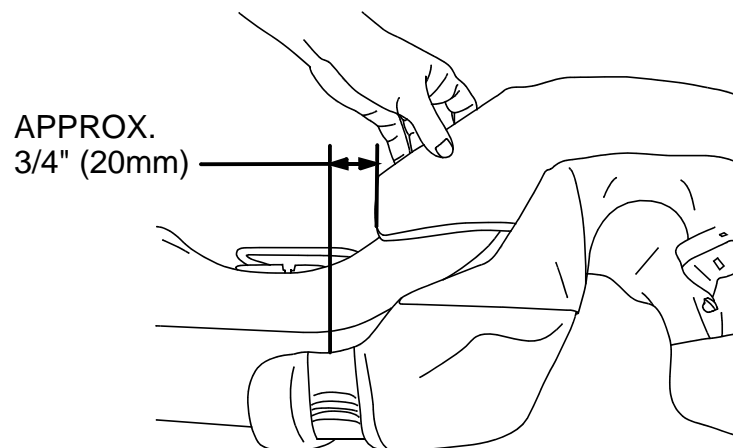
1. Position the parking brake cables out of the way by removing the bolt attaching the cable stay to the transmission tunnel mounted above the power plant frame and directly in front of the fuel tank. Slide the cable stay toward front of vehicle approximately 4” (100mm).



2. Center the heat insulation pad over the hump in the fuel tank metal insulator evenly between the body and the tank.



3. Position left end of heat insulation pad (looking at front of tank) approximately 3/4" (20mm) from the center line of the fuel tank strap.

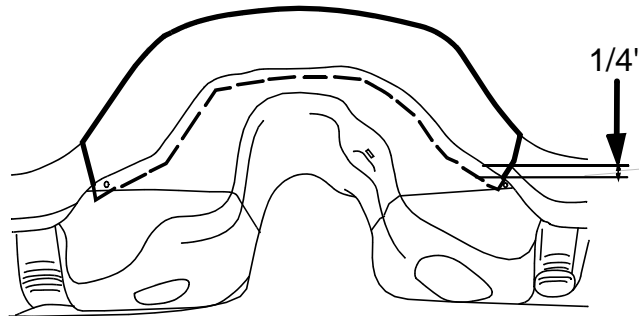


**NOTE:**

- The working area to perform this procedure is limited. Make sure you double check the placement of the heat insulation pad before installing the fuel tank and completing the repair.

4. Insert the bottom center of the heat insulation pad approx. 1/4" (5mm) between the hump in the fuel tank and the metal insulator. Using a spatula or equivalent, tuck the heat insulation pad approx. 1/4" (5mm) between the fuel tank and metal insulator. Do not wrinkle the pad. Note location of heat insulation pad for next step.

**TUCK HEAT INSULATION PAD  
IN BETWEEN FUEL TANK AND  
INSULATOR. DO NOT WRINKLE**

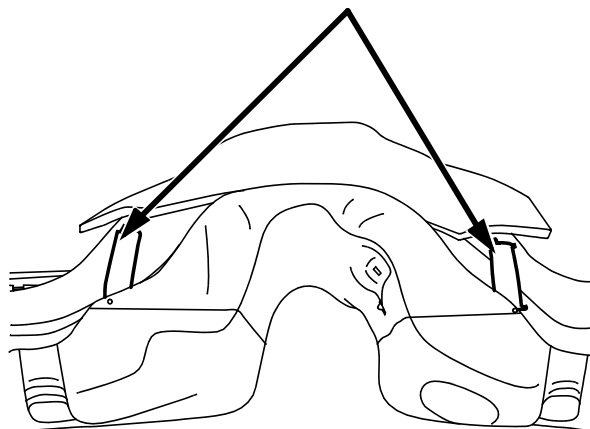


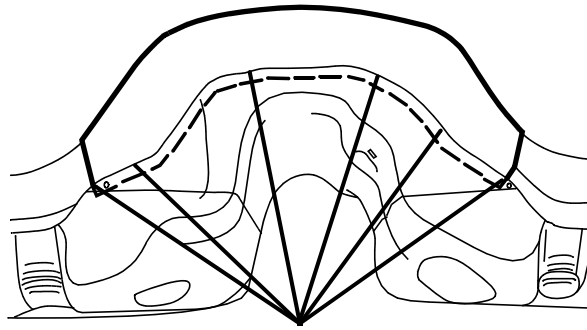
5. Pull out ends of heat insulation pad from metal insulator, noting where best to place double-sided tape. Attach double-sided tape on the both ends of the tank to attach the heat insulation pad temporarily. Tuck heat insulation pad back in between metal insulator and fuel tank approx. 1/4" (5mm) as previously performed in step 4. Ensure no gaps exist between the heat insulation pad and the metal insulator. Do not wrinkle the pad. Reposition pad if necessary.

**NOTE:**

- Before attaching the tape, clean the surface of the tank with a cloth or equivalent.
- The purpose of the tape is to hold the heat insulation pad while installing the fuel tank into the vehicle. The heat insulation pad will be sandwiched between the body and the fuel tank after installation.

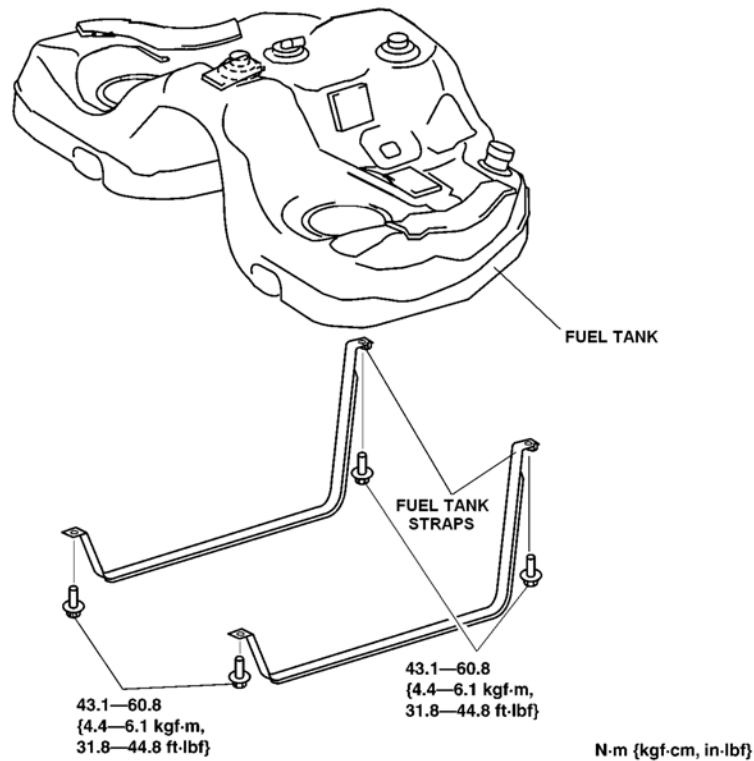
**DOUBLE SIDED TAPE**





ENSURE NO GAPS EXIST BETWEEN HEAT INSULATION PAD AND METAL INSULATOR

6. Slowly raise the fuel tank back into position and reattach the straps to hold fuel tank in place.



7. Confirm that the bottom end of the heat insulation pad is properly inserted between the fuel tank and the metal insulator.
8. Reinstall the parking brake cable stay for the parking brake cable onto the original position.
  - Tightening Torque: 18.6–25.5 Nm
9. After fuel tank heat insulation pad installation, proceed to “C. CAMPAIGN LABEL INSTALLATION”.

### C. CAMPAIGN LABEL INSTALLATION

Complete a “Campaign Label” with the Recall number written on the sticker and affix it to the vehicle’s hood or bulkhead. Refer back to the illustration under “A. VEHICLE INSPECTION PROCEDURE”.