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<b>Viewed:</b>	991		

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Coding Information

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**Title: Eliminate Harness Rubbing at ECM Bracket**

**Applies To: 2010 Emmsions MaxxForce 11 & 13 Liter Engine built prior to 9/1/2012**

**DESCRIPTION**

Cut off harness support from ECM bracket and relocate harness to eliminate rubbing. Must be completed during any repair that requires removal of the ECM bracket.

**MODEL**

Models with MaxxForce 11 and 13 Liter Engine built prior to 9/1/2012

**TOOLS REQUIRED**

<b>Tools Required</b>
Hand Tools

**PARTS INFORMATION**

Part Number	Description	Quantity
31053R1	Bolt-8Mx16 (sold in box of 100)	1
3570838C1	Saddle (sold in packs of 10)	1
3626607C1	Tie-Strap-Large (sold in packs of 20)	1
289862C1	Tie-Strap-Small (sold in packs of 20)	4
Loc 37418	Loc-tite-Blue 242 (sold in packs of 12)	1

	<b>WARNING:</b>
Park vehicle on hard flat surface, turn the engine off, set the parking brake, and block the wheels to prevent the vehicle from moving in both directions. Failure to do so may result in property damage, personal injury, and/or death.	

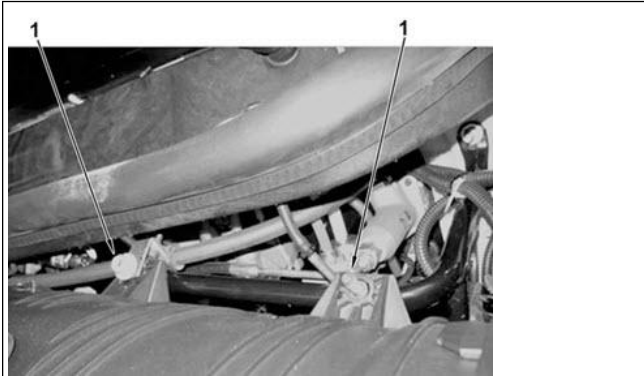
	<b>WARNING:</b>
If the vehicle must be raised, do not work under the vehicle supported only by jacks. Jacks can slip or fall over, potentially resulting in property damage, personal injury, and/or death.	

	<b>WARNING:</b>
Always wear safe eye protection when performing vehicle maintenance. Failure to do so may result in serious eye injury.	

**REPAIR PROCEDURE**

1. Park the vehicle inside the shop on flat surface.
2. Shift transmission to Park or Neutral, set parking brake, and block wheels.

- Unlatch and open hood.
- Remove 2 nuts that secure air cleaner to bracket (Figure 1, item 1).



**Figure 1**

1. Two nuts secure air cleaner.

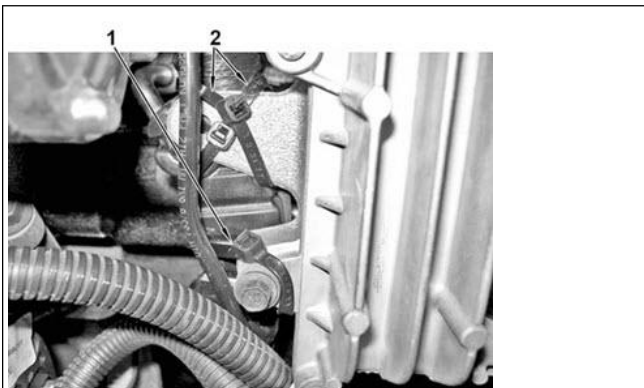
- Remove air cleaner and set aside (Figure 2, item 1).



**Figure 2**

1. Air cleaner removed.

- Cut one tie strap securing harness to lower front bolt and cut two tie straps securing harness to ECM bracket (Figure 3, Items 1 and 2).

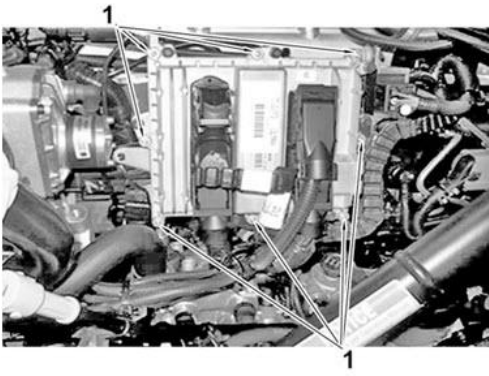


**Figure 3 - ECM Tie Straps**

1. Tie strap securing harness around bolt.  
2. Tie straps securing harness to ECM Bracket.

- Remove 8 bolts that secure the ECM to the bracket (Figure 4, Item 1).

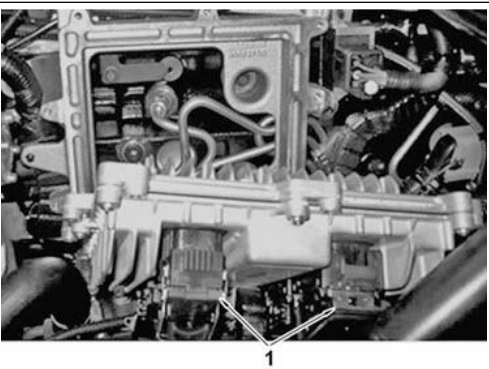




**Figure 4 - ECM Bolts**

1. Bolt (8)

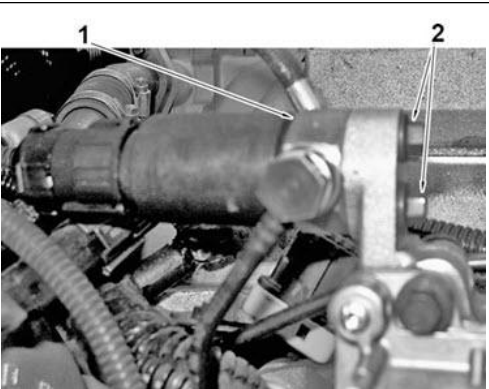
8. Fold ECM toward steer shaft for access to ECM bracket (do not remove ECM connectors) (Figure 5, item 1).



**Figure 5**

1. ECM folded toward steer shaft.

9. Remove 2 bolts and remove cold start solenoid from bracket (take care not to kink nylon supply line) (Figure 6, Items 1 and 2).

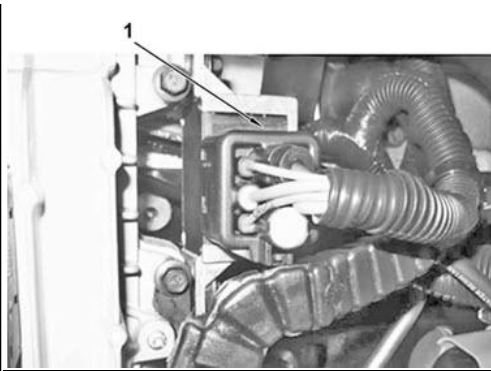


**Figure 6 - Cold Start Fuel Solenoid**

1. Cold start solenoid.  
2. Bolt (2)

10. Disconnect cold start relay (push tab on bottom of connector to unlock) tape or otherwise cover open connector to prevent contamination from cutting chips (Figure 7, Item 1).

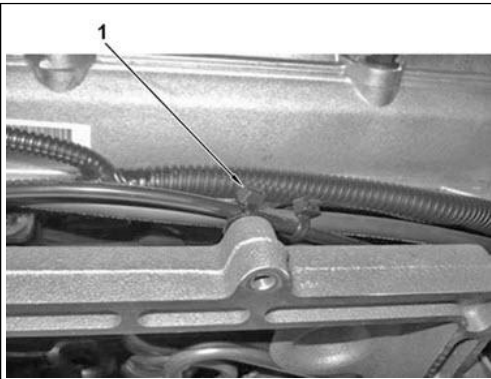




**Figure 7 - Cold Start Relay**

1. Cold start relay connector.

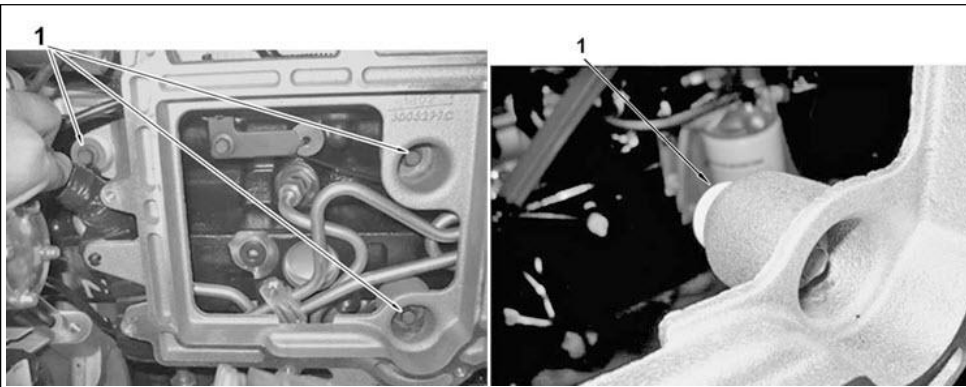
11. Remove 2 fir-tree type push pin connectors that secure the air line to ECM bracket (Figure 8, Item 1).



**Figure 8**

1. Fir-tree push pin connector (2).

12. Remove three bolts that secure ECM bracket to engine (do not lose vibration isolators) (Figure 9, Item 1).

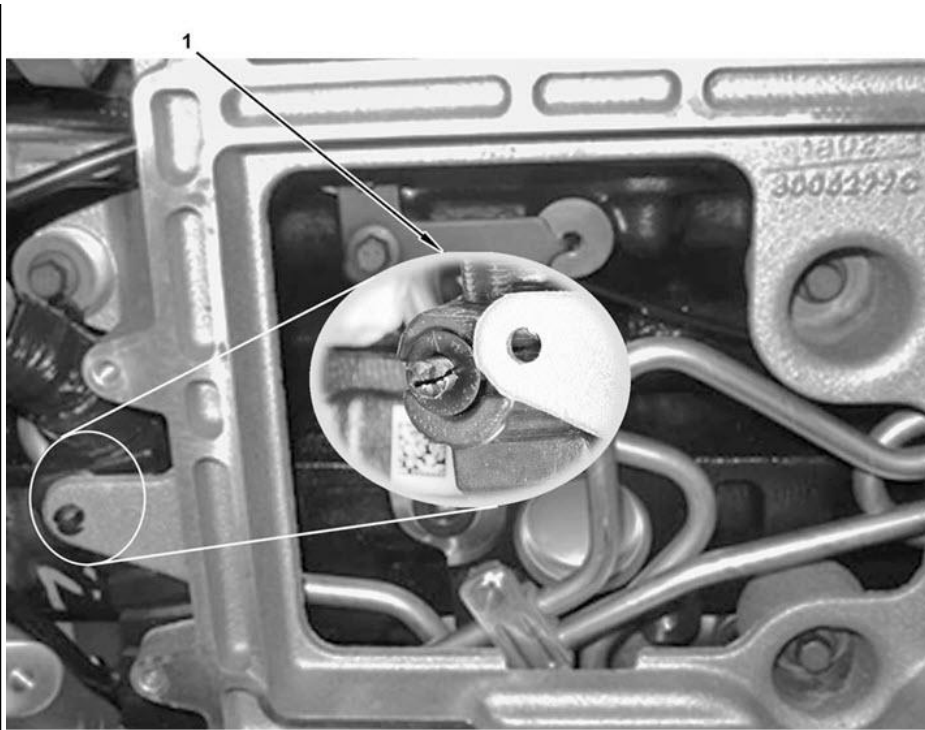


**Figure 9 - ECM Bracket**

1. Three bolts secure ECM Bracket.

13. Remove fir-tree type push pin that secures engine harness to ECM bracket (Figure 10, item 1).

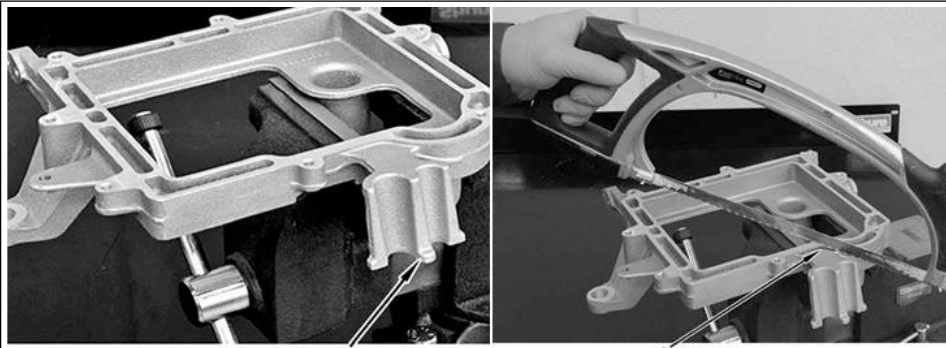




**Figure 10**

1. Fir-tree type push pin.

14. Using hack-saw or other acceptable method, cut off harness support bracket from bottom of ECM bracket (Figure 11, Item 1).

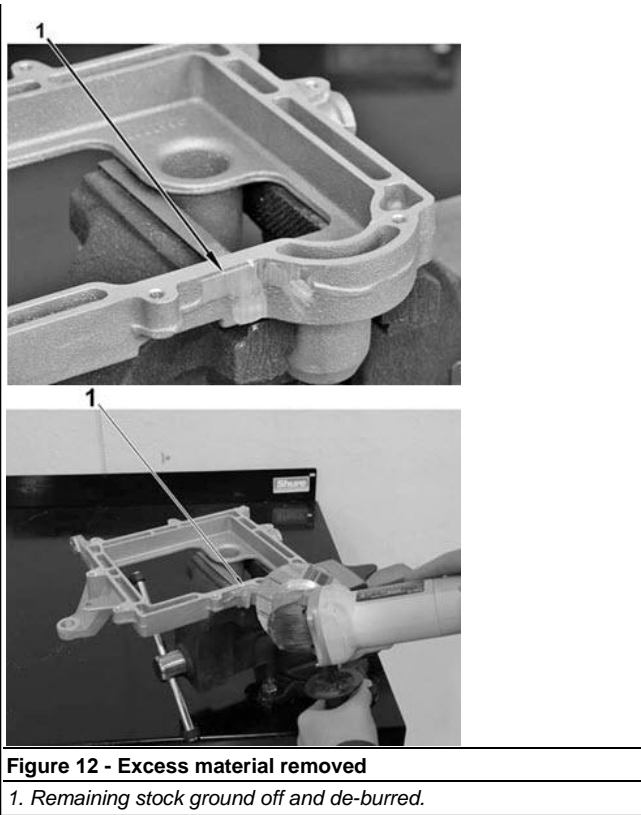


**Figure 11 - ECM Bracket**

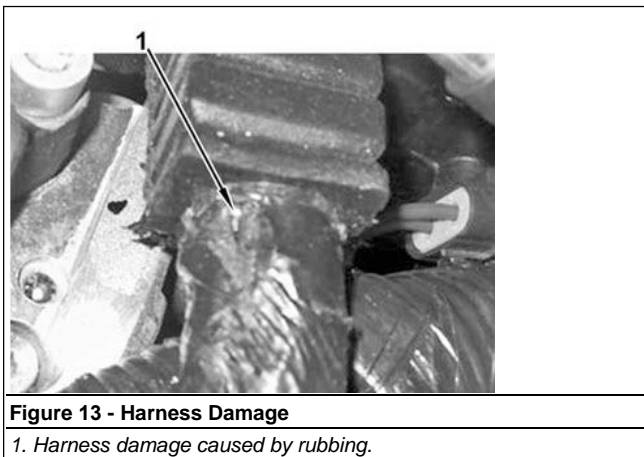
1. Harness support bracket removal.

15. Using grinder or other acceptable method, grind off any remaining stock close to profile of ECM bracket and deburr any sharp edges (Figure 12, Item 1).

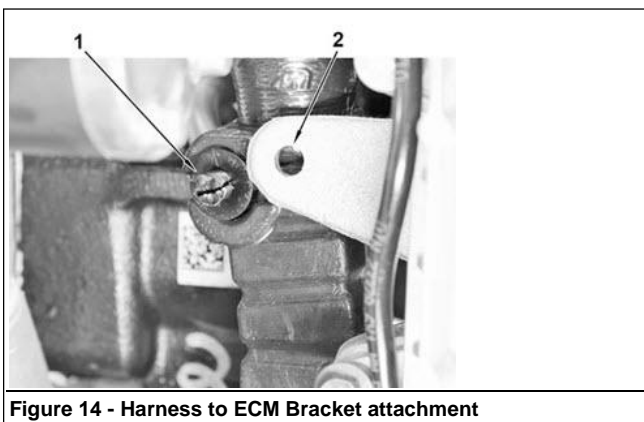




16. Repair or Replace harness if evidence of rubbing through to copper is observed (Figure 13, Item 1).



17. Reinstall fir-tree type push pin that secures engine harness to ECM bracket (Figure 14, Item 1 and 2).



1. Fir-tree type push pin
2. ECM Bracket

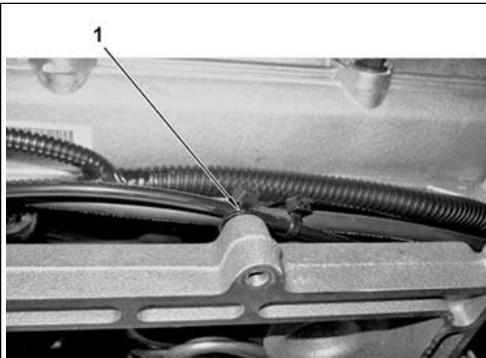
18. Install ECM bracket on to engine (use all 6 rubber isolators) (if back isolators are not installed, fuel lines can rub and cause fuel to leak) and torque ECM bracket bolts to 120 lb-in (13.6 N•m) (Figure 15, Item 1).



**Figure 15 - ECM Bracket Mounting**

1. Rubber Isolator

19. Install two fir-tree type push pin connectors that secure air-line to top of ECM bracket (Figure 16, Item 1).

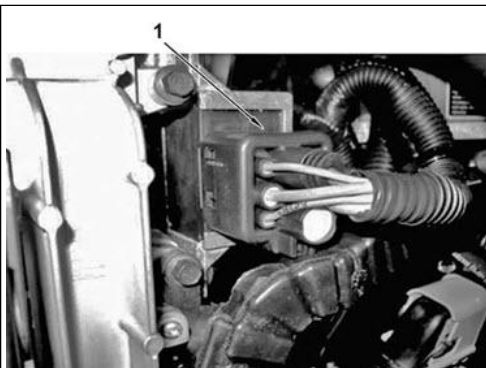


**Figure 16 - Air-line to ECM Bracket**

1. Fir-tree type push pin connector.

20. Remove tape and reconnect cold start relay connector (Figure 17, Item 1).

21. Tug on connector to verify it is secure (Figure 17, Item 1).

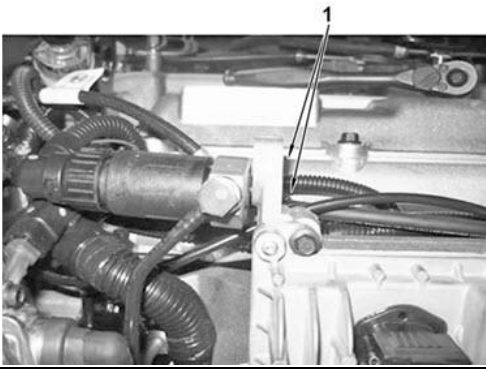


**Figure 17**

1. Cold start relay connector.

22. Reinstall cold start fuel solenoid to ECM bracket and torque 2 bolts to 53 in-lb (6N•m) (Figure 18, Item 1).

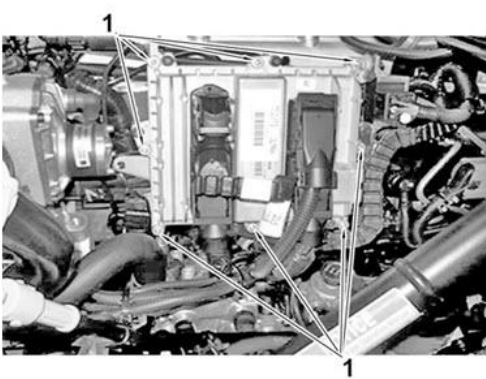




**Figure 18 - Cold Start Solenoid**

1. Bolt (2).

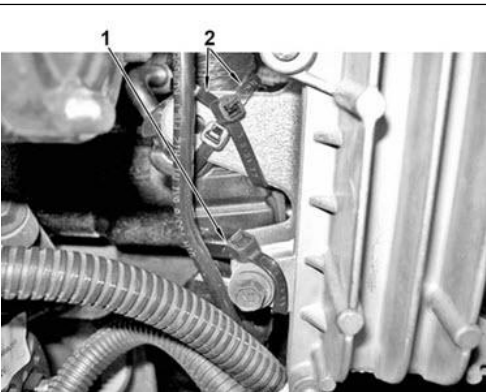
23. Secure ECM to ECM bracket using 8 bolts and torque bolts to 89 In-lb (10N•M) (Figure 19, Item 1 ).



**Figure 19**

1. ECM to bracket bolts.

24. Use one tie strap to anchor engine harness at lower forward bolt on ECM bracket and two crossed tie straps at ECM bracket cast-in ear (Figure 20, Item 1 and 2).



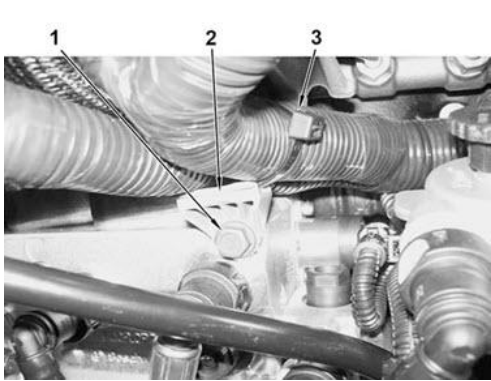
**Figure 20 - Engine Harness Tie Straps**

2. Two crossed tie straps securing harness to ECM Bracket.

25. Install saddle to rear of fuel pump using bolt and existing hole at rear of high pressure fuel pump. Apply blue loc-tite on bolt threads, and torque bolt to 7 ft-lb (9 N•m)(Figure 21, Item 1).

26. Secure harness to saddle with a large tie-strap (Figure 21, Item 3).





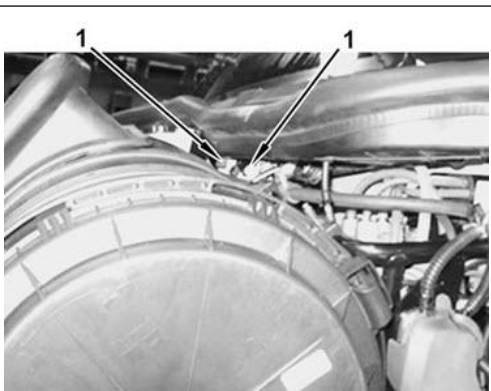
**Figure 21 - Saddle added to secure harness**

1. Bolt
2. Saddle
3. Large tie strap

**NOTE:**

Inspect harness routing to ensure there is no rubbing against the high pressure fuel tubes or other components.

27. Reinstall air cleaner assembly, install and tighten 2 nuts that secure air cleaner to framework (Figure 22, Item 1).



**Figure 22 - Air Cleaner Assembly**

1. Air cleaner attachment nuts.

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