





## CERTAIN 2022-2023 MODEL YEAR BRONCO SPORT AND 2022 MODEL YEAR ESCAPE VEHICLES WITH A 3-CYLINDER 1.5L ENGINE — PCM PROGRAMMING AND DRAIN TUBE INSTALLATION

### SERVICE PROCEDURE

-  **WARNING:** When jacking or lifting the vehicle, block all wheels remaining on the ground. Set the parking brake if the rear wheels will remain on the ground. These actions help prevent unintended vehicle movement. Failure to follow these instructions may result in serious personal injury.
-  **WARNING:** Never get underneath a vehicle that is supported only by a jack. The jack could unintentionally lower. Always support vehicle with floor stands. Failure to follow these instructions may result in serious personal injury.
-  **WARNING:** Only raise the vehicle when positioned on a hard, level surface. Attempting to raise the vehicle on an uneven or soft surface may result in vehicle slipping or falling from the jack or jackstand. Failure to follow this instruction may result in serious personal injury.
-  **WARNING:** Turn off (disable) the power running boards (if equipped) before jacking, lifting or placing any object under the vehicle. Never place your hand between the power running board and the vehicle. Extended power running boards will retract when doors are closed. Failure to follow these instructions may result in serious personal injury.

**NOTICE:** When raising a vehicle on a hoist, use care when positioning the hoist adapters prior to lifting the vehicle so that hoist arms do not interfere with the surrounding suspension or steering linkage components.

1. Inspect vehicle for the presence of a fuel smell. Is there a fuel smell present?

Yes - Is the fuel smell coming from the high pressure fuel injectors?

Yes - Contact the Special Service Support Center (SSSC).

No - Repair this vehicle outside of this FSA.

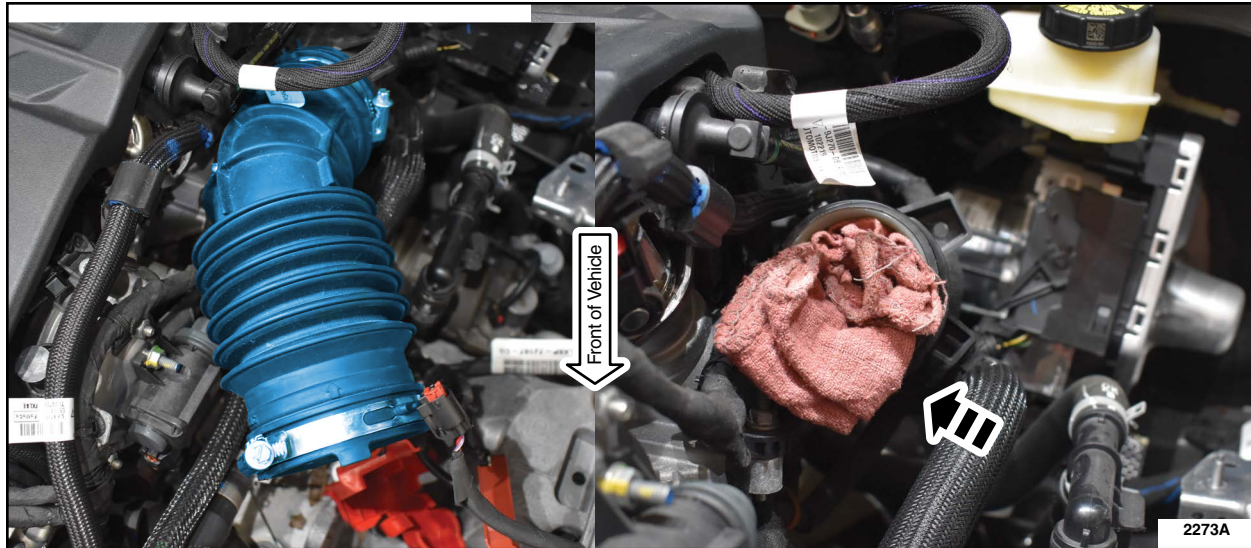
No - Proceed to Step 2.

2. Turn steering wheel all the way to the left.

3. Remove Battery Tray. Please follow Workshop Manual (WSM) procedures in Section 414-01.

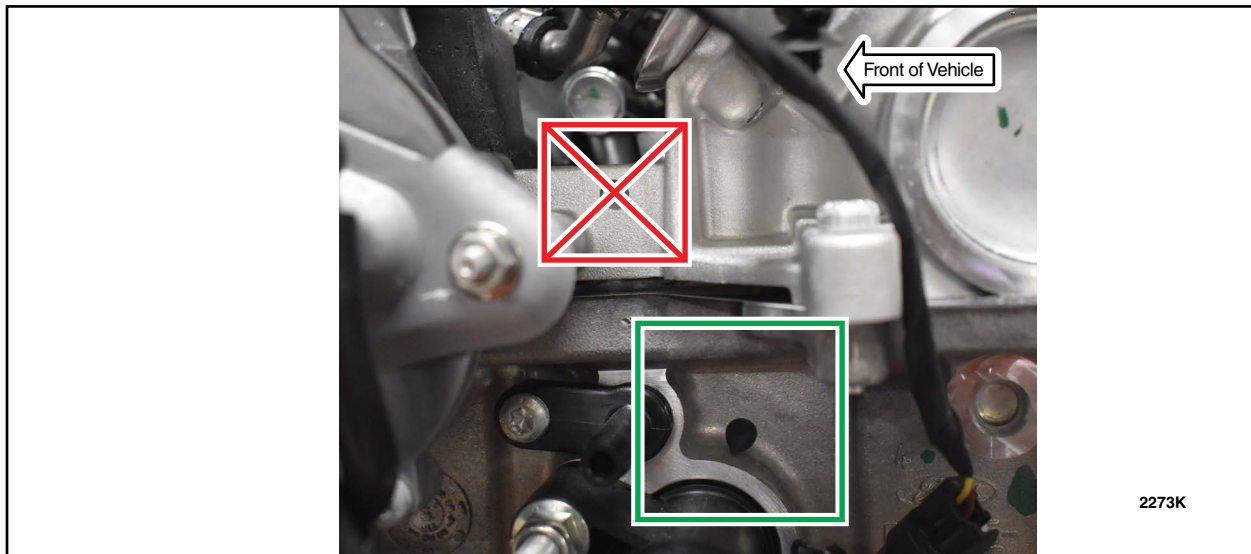


4. Remove air cleaner outlet pipe. Use a clean shop towel to cover the opening left behind. See Figure 1.



**FIGURE 1**

5. Clean area with Motorcraft Brake Cleaner. See Figure 2.



**FIGURE 2**



6. Inspect the part label on the drain tube. Is the suffix of the part an AA or AB? See Figure 3.  
If the suffix is AA continue to Step 7.  
If the suffix is AB Continue to Step 11.

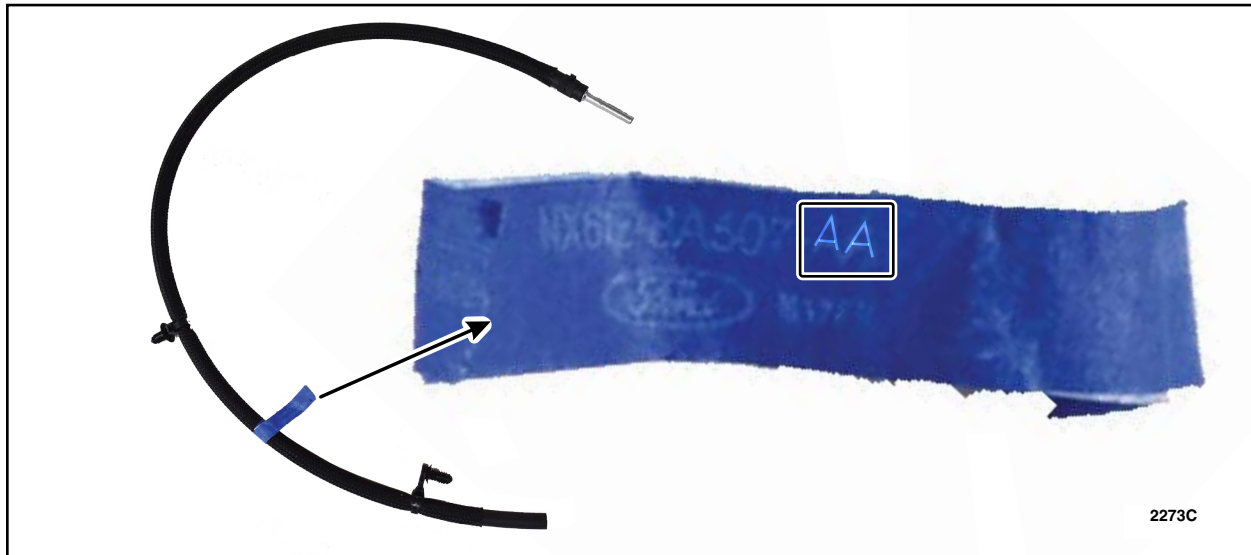


FIGURE 3

7. Remove the fir tree fastener highlighted in the figure below. See Figure 4.

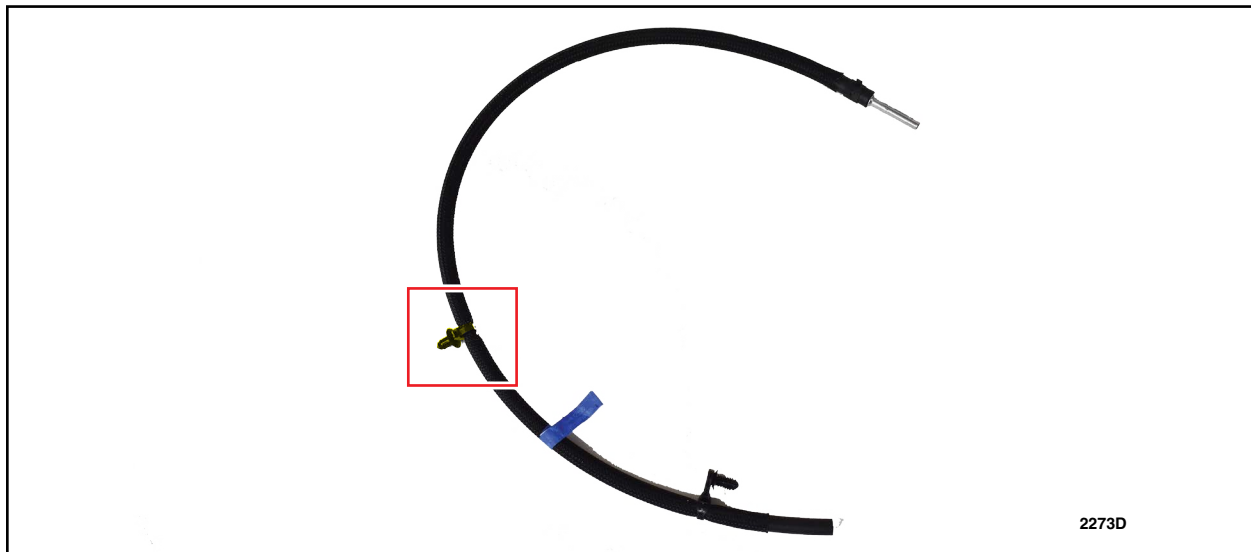
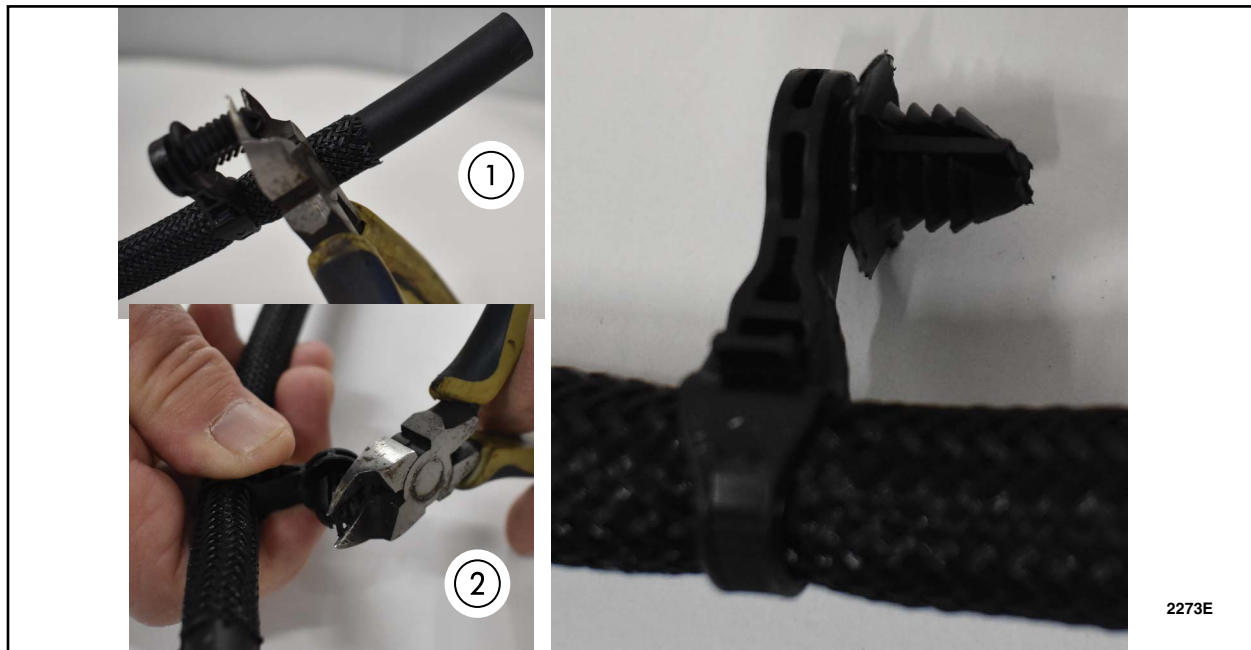


FIGURE 4

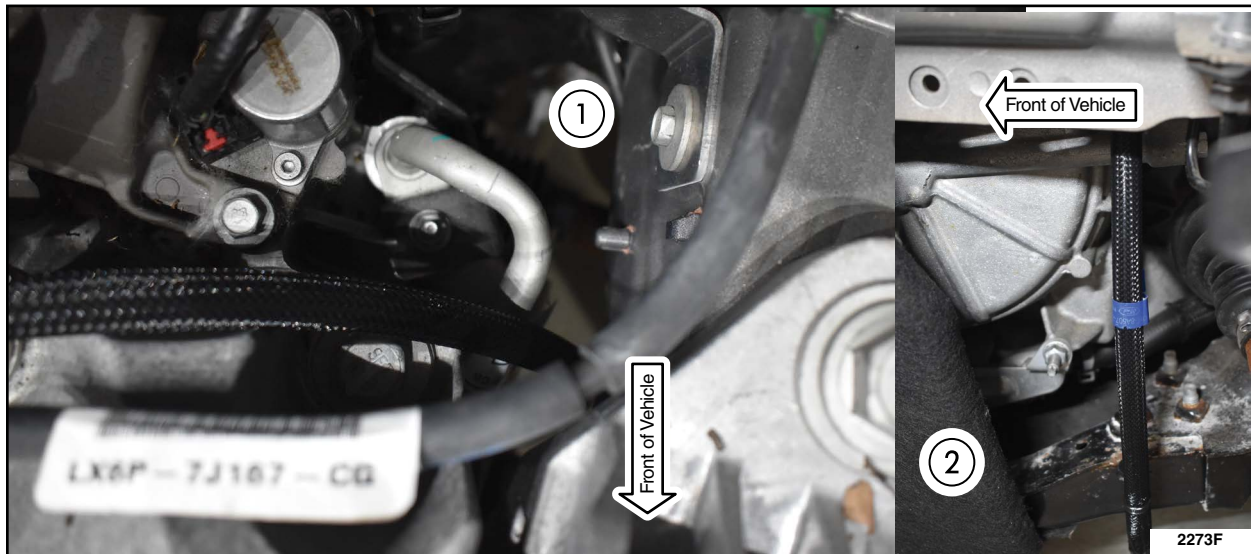


8. Cut the tip from fir tree fastener at the end of the tube. Trim the sides of the top 2 barbs at a 45-degree angle on the fir tree fastener to more easily allow fitment through the subframe hole. See Figure 5.



**FIGURE 5**

9. Feed the rubber hose end through the engine compartment and down into the wheel well. See Figure 6.



**FIGURE 6**



10. Attach hose to subframe. Position fir tree fastener and push in as far as possible. If needed you can use groove joint pliers to secure fir tree fastener fully into the hole in the subframe. See Figure 7. Continue to Step 15.

NOTE: Wheel removed for clarity.

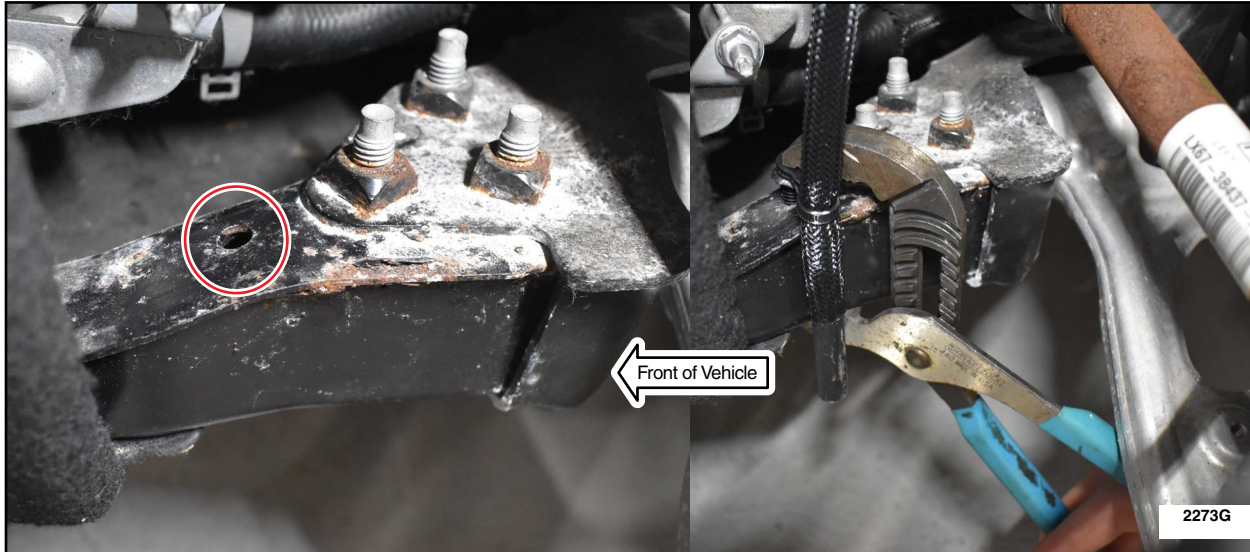
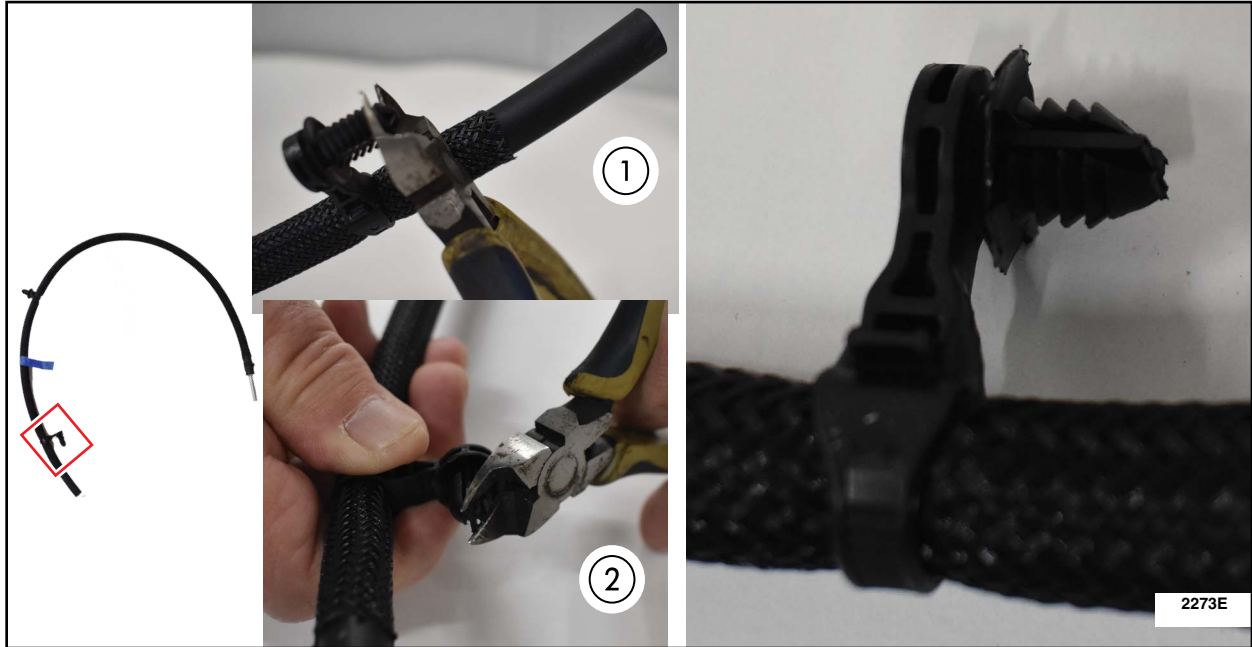


FIGURE 7

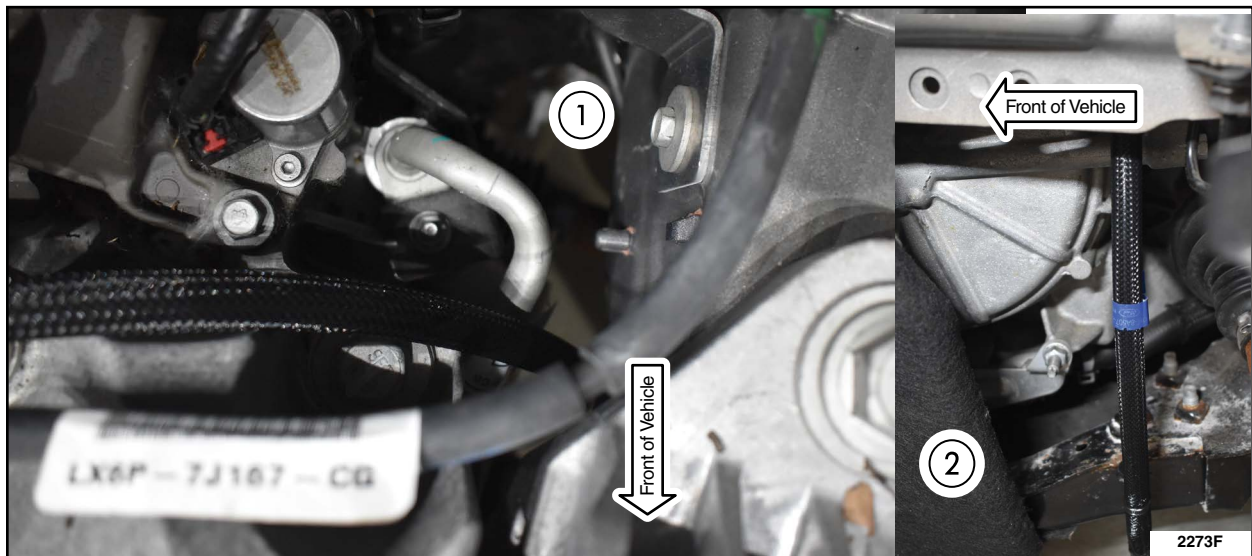


11. Cut the tip from fir tree fastener at the end of the tube. Trim the sides of the top 2 barbs at a 45-degree angle on the fir tree fastener to more easily allow fitment through the subframe hole. See Figure 8.



**FIGURE 8**

12. Feed the rubber hose end through the engine compartment and down into the wheel well. See Figure 9.

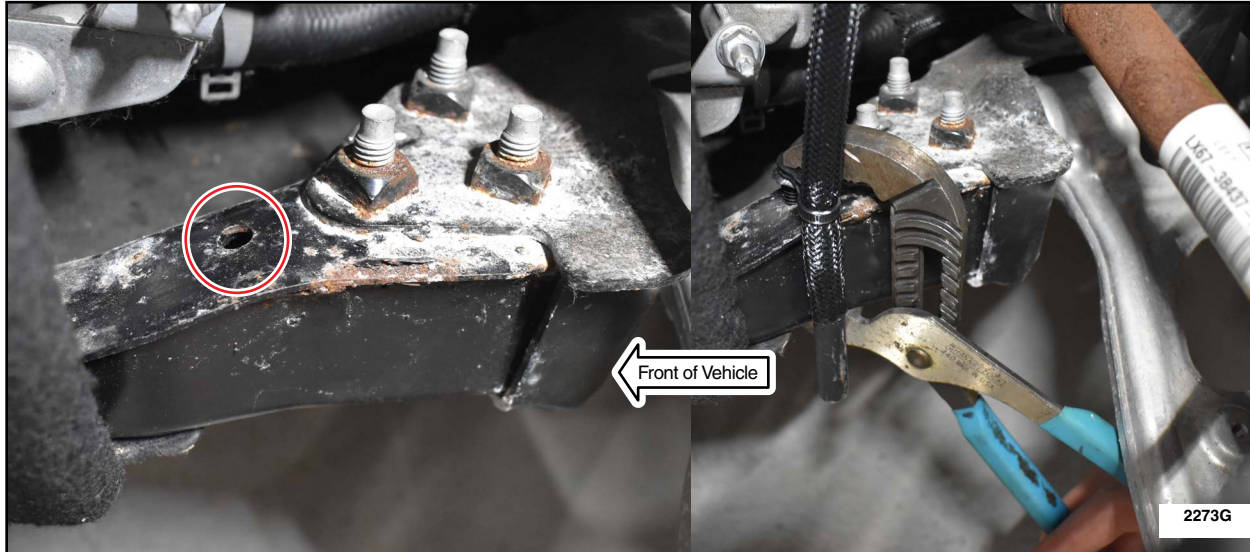


**FIGURE 9**



13. Attach hose to subframe. Position fir tree fastener and push in as far as possible. If needed you can use groove joint pliers to secure fir tree fastener fully into the hole in the subframe. See Figure 10.

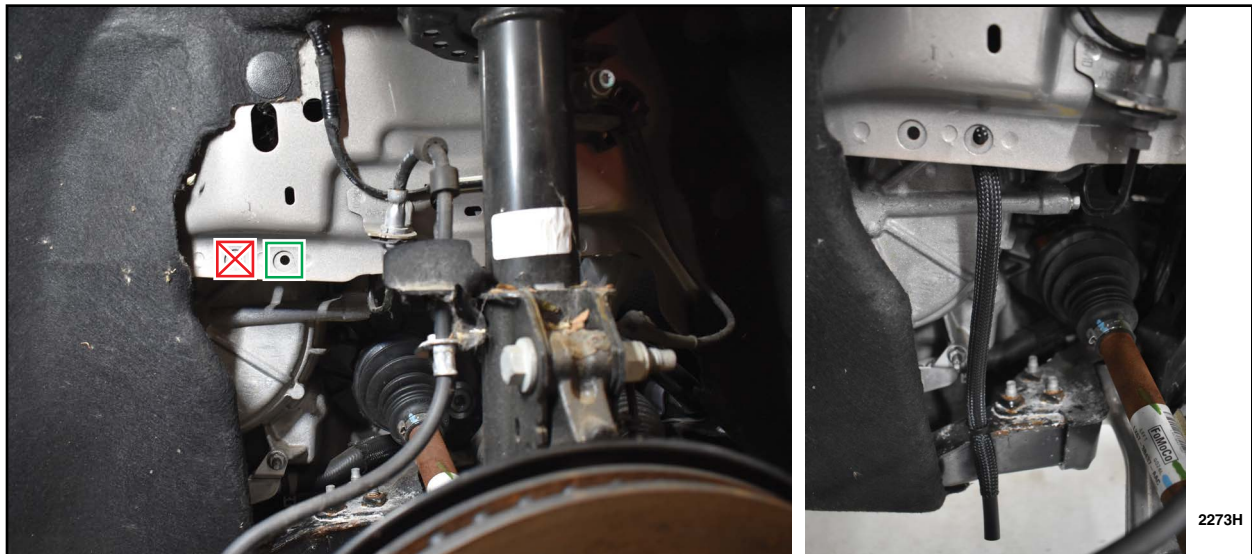
NOTE: Wheel removed for clarity.



**FIGURE 10**

14. With the steering wheel turned to the left install the christmas tree connector as shown in the figure below. See Figure 11.

NOTE: Wheel removed for clarity.



**FIGURE 11**



15. Apply Loctite® (SF) 7649™ Primer to the metal tube, as shown in the blue highlighted area. Allow one minute for primer to cure. See Figure 12.

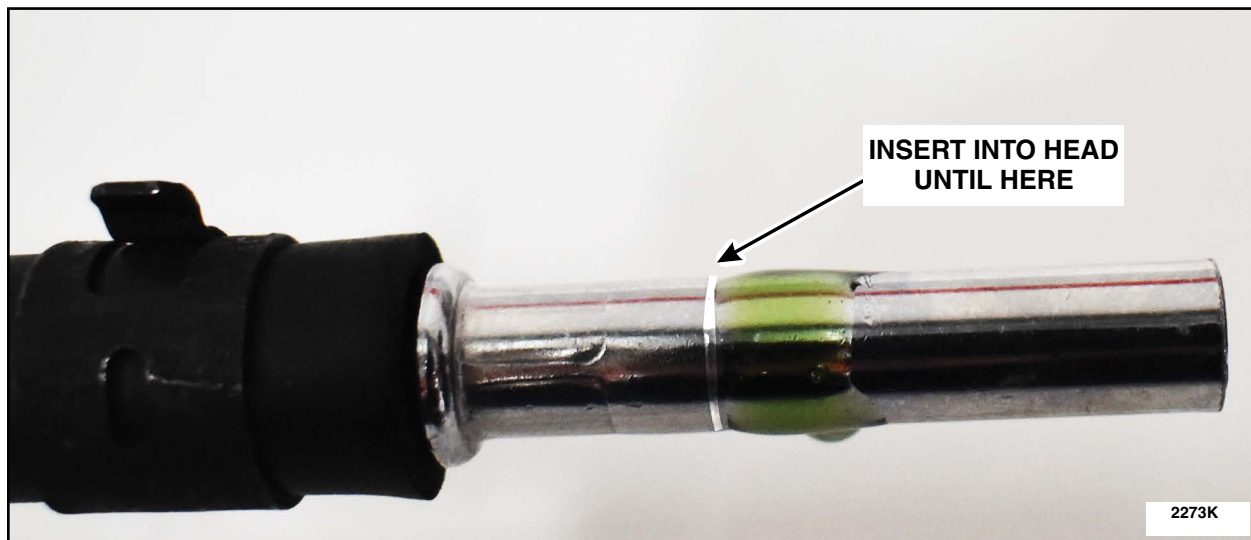


**FIGURE 12**

16. Apply Loctite® 638™ to the metal tube, in the area shown in Figure 13.

**NOTE:** When applying the Loctite® 638™, ensure that a full bead of the Loctite® 638™ is applied to the circumference of the metal tube in the area shown in Figure 13.

**NOTE:** To minimize poor adhesion risk, ensure tube is inserted into the head within 15 minutes of applying Loctite® 638™ to tube.

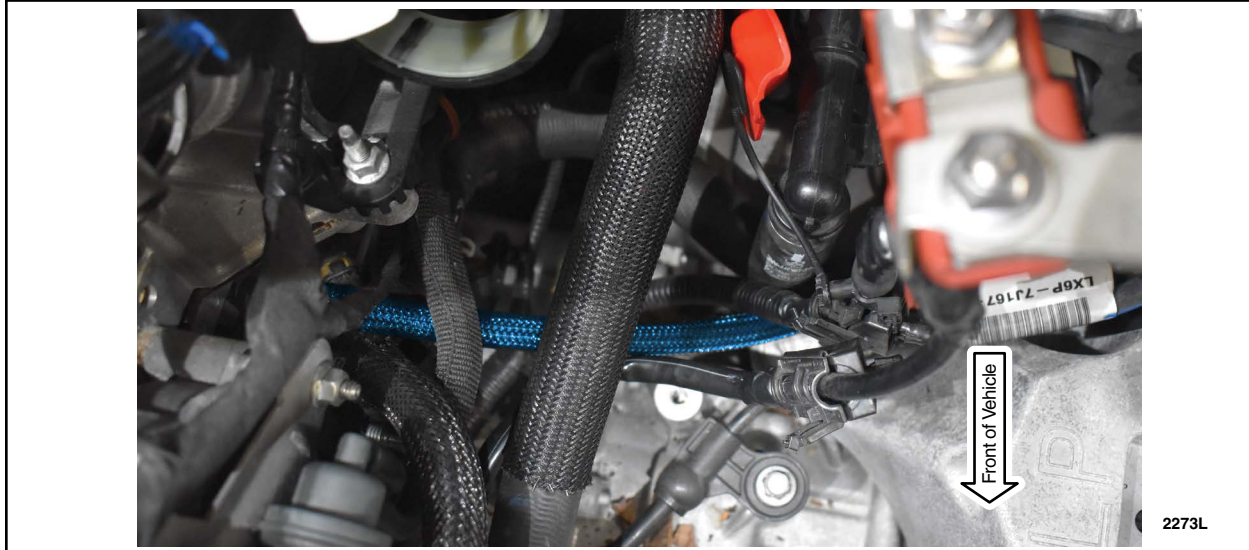


**FIGURE 13**



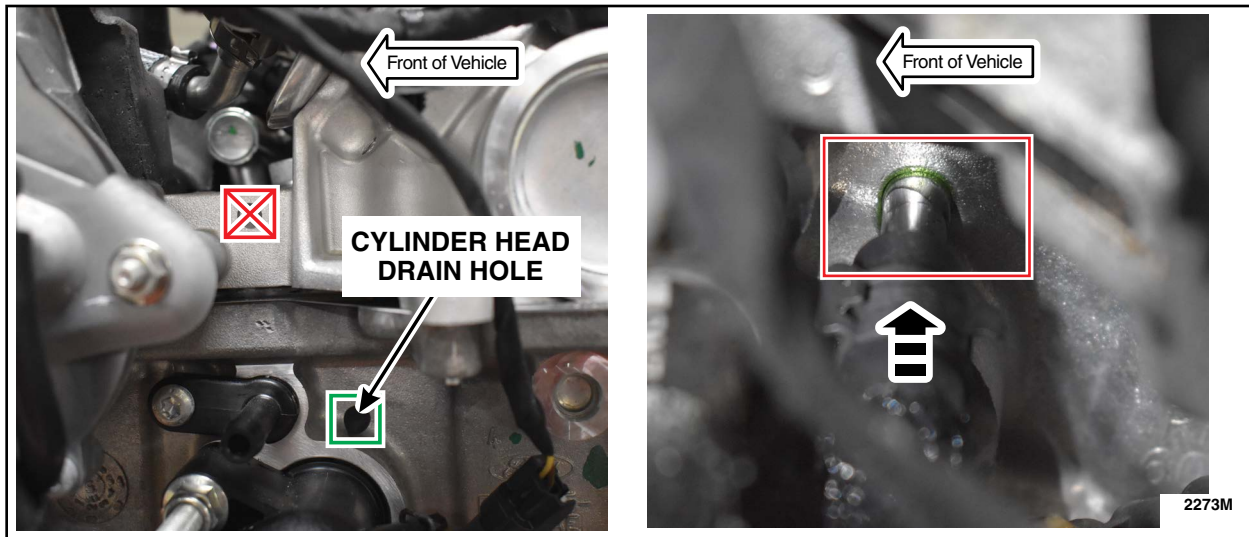
17. Route hose as shown in Figure 14.

**NOTE:** Route the metal end of the hose between the two battery positive leads and make sure the hose does not interfere with the transmission shift cable(s), and that it runs under the engine hoses.



**FIGURE 14**

18. Insert tube into the cylinder head drain hole until fully seated against the larger diameter flange section, as shown. See Figure 15.



**FIGURE 15**

19. Remove shop towel and reinstall air cleaner outlet pipe.  
Torque: 42 lb.in (4.8 Nm)

20. Reinstall Battery Tray, Battery, and Air Cleaner. Please follow WSM procedures in Section 414-01.

**Module Programming on next page**



## Module Programming

21. Connect a battery charger to the 12V battery.

**NOTE:** Verify that the negative cable of the charger is installed on a chassis or engine ground, and not the 12 volt battery negative terminal to prevent the battery saver mode from activating on the vehicle.

**NOTE:** If the diagnostic software does not load or if the vehicle cannot be identified properly, make sure there is a good internet connection and the Vehicle Communication Module II (VCM II) is properly connected to the Data Link Connector (DLC).

**NOTE:** Make sure the Ford Diagnostic and Repair System (FDRS) does not enter sleep mode during module configuration.

22. Launch Ford Diagnostic and Repair System (FDRS).

**NOTE:** Vehicle information is automatically retrieved by the diagnostic software and a Network Test is run. Vehicle identification data appears on the screen when this is complete.

23. Click 'Read VIN from Vehicle' or manually enter the Vehicle Identification Number (VIN).

**NOTE:** Available modules are shown on the left hand (LH) side of the screen, and available procedures are listed on the right hand (RH) side of the screen. Modules that are communicating are highlighted in green.

24. Select **Toolbox** tab.

25. From the list on the LH side of the screen, select the **PCM**.

26. From the list on the RH side of the screen, select **PCM - Powertrain Control Module (PCM) Software Update**.

27. From the list on the RH side of the screen, select **Self-Test** and click **RUN**.

28. Click the **Run Selected Tests** button in the lower right.

29. Click the Clear & Retest button at the top of the screen to clear Diagnostic Trouble Codes (DTC's) in all modules.

30. Disconnect the battery charger from the 12V battery once the programming has completed.

**IMPORTANT NOTE: Federal law prohibits selling motor vehicle parts or components that are under safety, compliance, or emissions recall. Unless a part is requested to be returned to Ford, all parts replaced under this FSA must be scrapped in accordance with all applicable local, state and federal environmental protection and hazardous material regulations. Refer to the Parts Retention, Return, & Scrapping section of the FSA dealer bulletin for further information.**

