

2018 TRANSMISSION

Transmission Cooling - Equinox & Terrain

SPECIFICATIONS

FASTENER SPECIFICATIONS

Single Use Non-Threaded Fasteners/Components

NOTE: <i>All fasteners/components listed in this table MUST BE DISCARDED and replaced with NEW after removal.</i>
Application
Transmission Fluid Cooler Pipe Fitting Retainer
Transmission Fluid Cooler Pipe Fitting Seal

Reusable Threaded Fastener Tightening Specifications

NOTE: <i>All fasteners listed in this table can be reused after removal.</i>	
Application	Specification
	Metric (English)
Transmission Fluid Cooler Inlet and Outlet Pipe Bolt	10 N.m (89 lb in)
Transmission Fluid Cooler Inlet and Outlet Pipe Nut @ Transmission	10 N.m (89 lb in)
Transmission Fluid Cooler Inlet and Outlet Pipe Nut @ Transmission Fluid Cooler Inlet and Outlet Pipe Bracket	22 N.m (16 lb ft)
Transmission Fluid Cooler Pipe Bolt	9 N.m (80 lb in)
Transmission Fluid Cooler Pipe Connector	20 N.m (15 lb ft)
Transmission Fluid Cooler Pipe Nut	22 N.m (16 lb ft)

DIAGNOSTIC INFORMATION AND PROCEDURES

TRANSMISSION FLUID COOLER FLOW TEST AND FLUSHING

GM studies indicate that plugged or restricted transmission oil coolers and pipes cause insufficient transmission lubrication and elevated operating temperatures which can lead to premature transmission failure. Many repeat repair cases could have been prevented by following published procedures for transmission oil cooler flushing and flow checking. This procedure includes flow checking and flushing the auxiliary transmission oil cooler, if equipped.

NOTE: Use the DT-45096 transmission oil cooling system flush and flow test tool to flush and flow test the transmission oil cooler and the oil cooler pipes after the transmission is removed for repairs.

Only use the appropriate GM automatic transmission fluid when doing a repair on a GM transmission.

If the fluid in the DT-45096 transmission oil cooling system flush and flow test tool is different than what is used in the transmission, after performing the flush and flow test, use compressed air to blow the residual transmission fluid out of the oil cooler and lines.

Time allowance for performing the cooler flow checking and flushing procedure has been included in the appropriate labor time guide operations since the 1987 model year. The service procedure steps for oil cooler flushing and flow testing are as follows:

Cooler Flow Check and Flushing Steps

1. Machine Set-up
2. Determine Minimum Flow Rate
3. Back Flush
4. Forward Flush
5. Flow Test
6. Code Recording Procedure
7. Clean-up

Special Tools

- **DT-45096** Transmission Oil Cooling System Flush and Flow Test Tool
- **DT-45096-50** Transmission Cooler Flush Adapter
- Shop air supply with water/oil filters, regulator and pressure gauge - minimum 90 psi
- Eye protection
- Rubber gloves

Machine Set-up

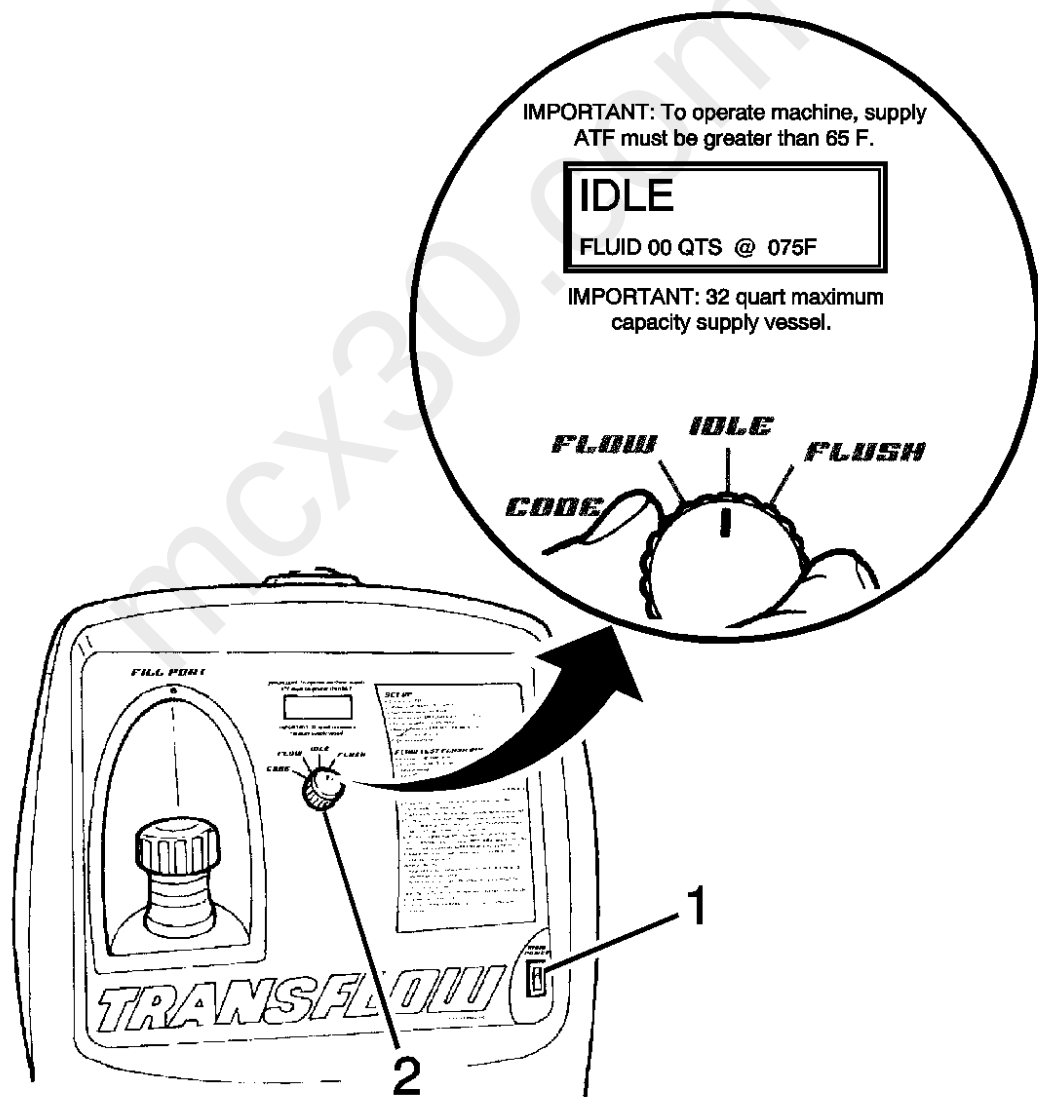


Fig. 1: View Of Main Power Switch & Main Function Switch
Courtesy of GENERAL MOTORS COMPANY

1. Verify that the main power switch (1) is in the OFF position.
2. Place the main function switch (2) in the IDLE position.

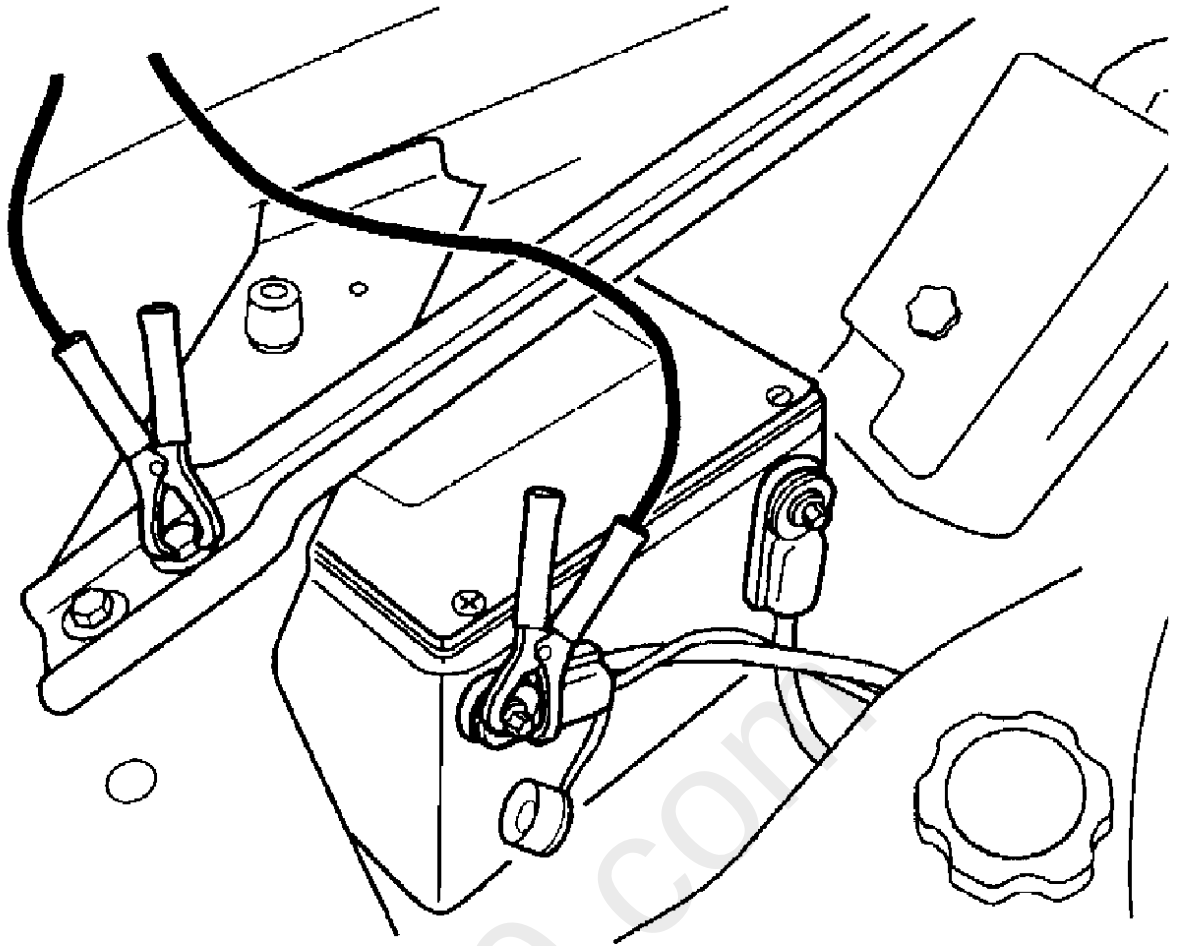


Fig. 2: Connecting To 12V DC Power Source
Courtesy of GENERAL MOTORS COMPANY

3. Connect **DT-45096** flush and flow test tool to the vehicle 12V DC power source by connecting the red battery clip to the positive, +, battery post on the vehicle and connect the negative lead to a known good chassis ground.
4. Turn the main power switch to the ON position.

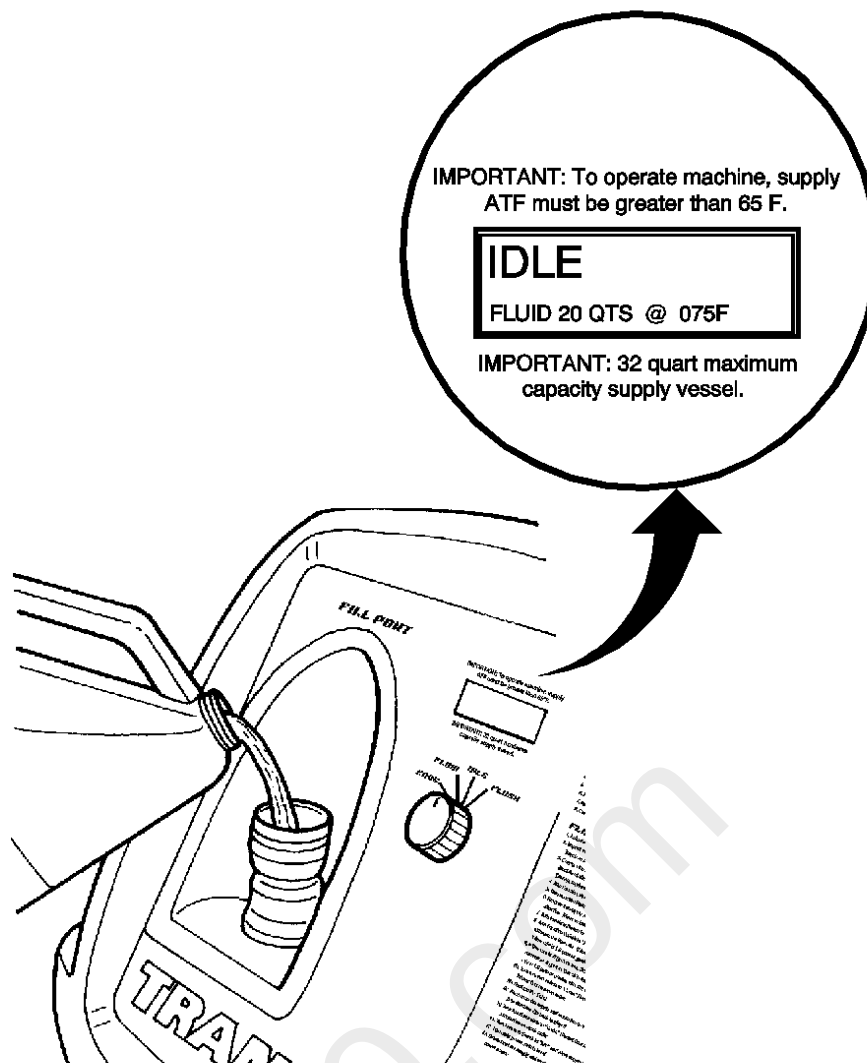


Fig. 3: Filling Supply Tank With Transmission Fluid
Courtesy of GENERAL MOTORS COMPANY

CAUTION: Do not overfill the supply vessel. Damage to the unit may result. To verify the fluid level, view the LCD screen display while filling the unit, to ensure the fluid level does not exceed 30 L (32 qt).

5. Fill the supply tank with the appropriate GM automatic transmission fluid through the fill port.
6. Reinstall and tighten the fill cap.

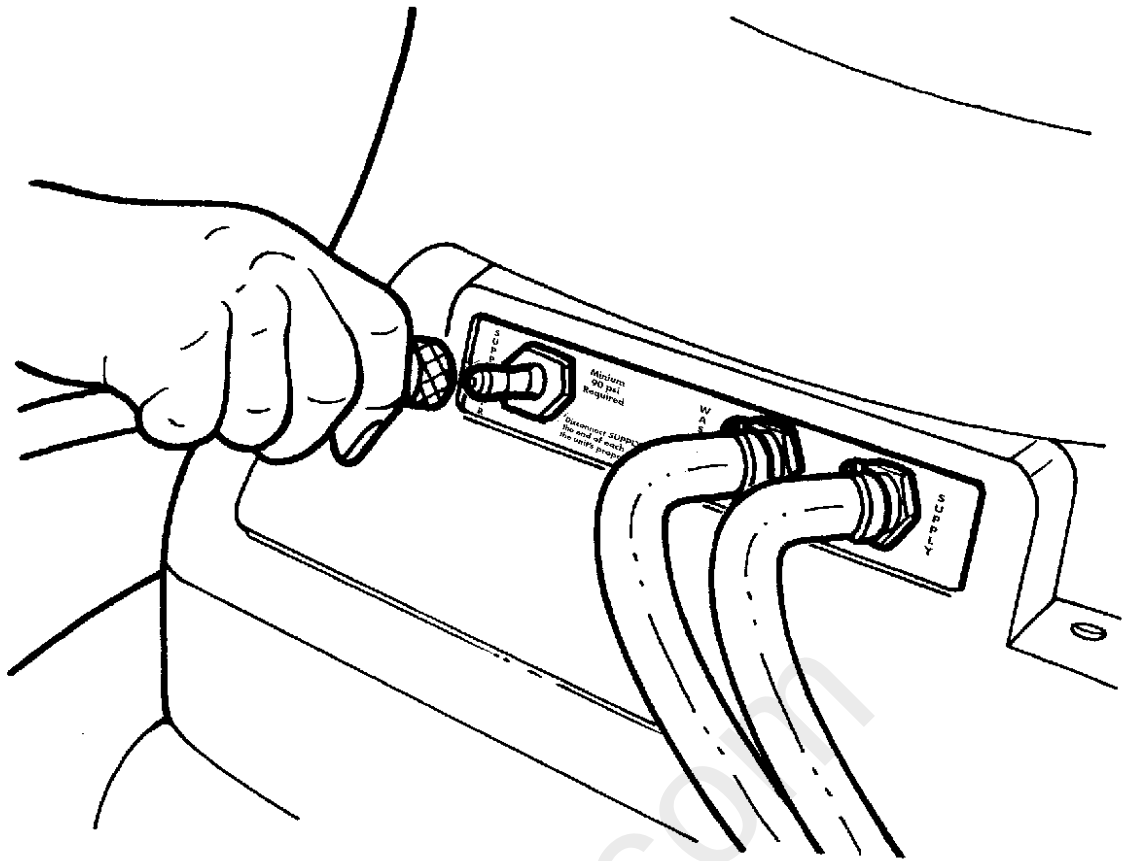


Fig. 4: Applying Shop Air Supply Hose To Quick-Disconnect
Courtesy of GENERAL MOTORS COMPANY

7. Connect a shop air supply hose to the quick-disconnect on the rear panel marked SUPPLY AIR.

Determine Minimum Flow Rate

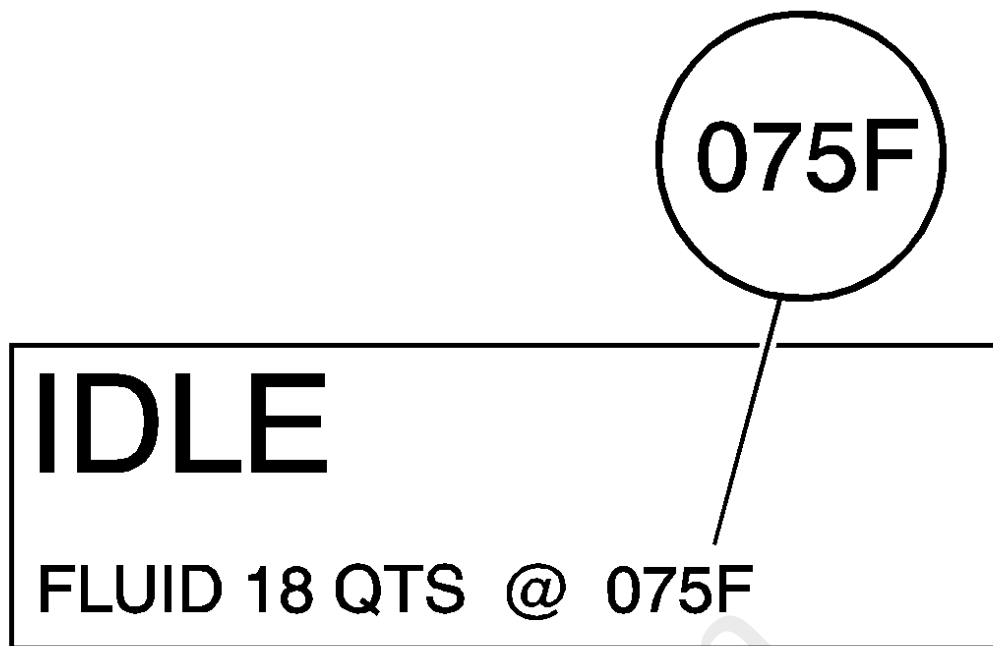


Fig. 5: Identifying Machine Display Of Automatic Transmission Fluid Temperature
Courtesy of GENERAL MOTORS COMPANY

1. From the machine display, identify the temperature of the automatic transmission fluid that is stored in the supply vessel of **DT-45096** flush and flow test tool.

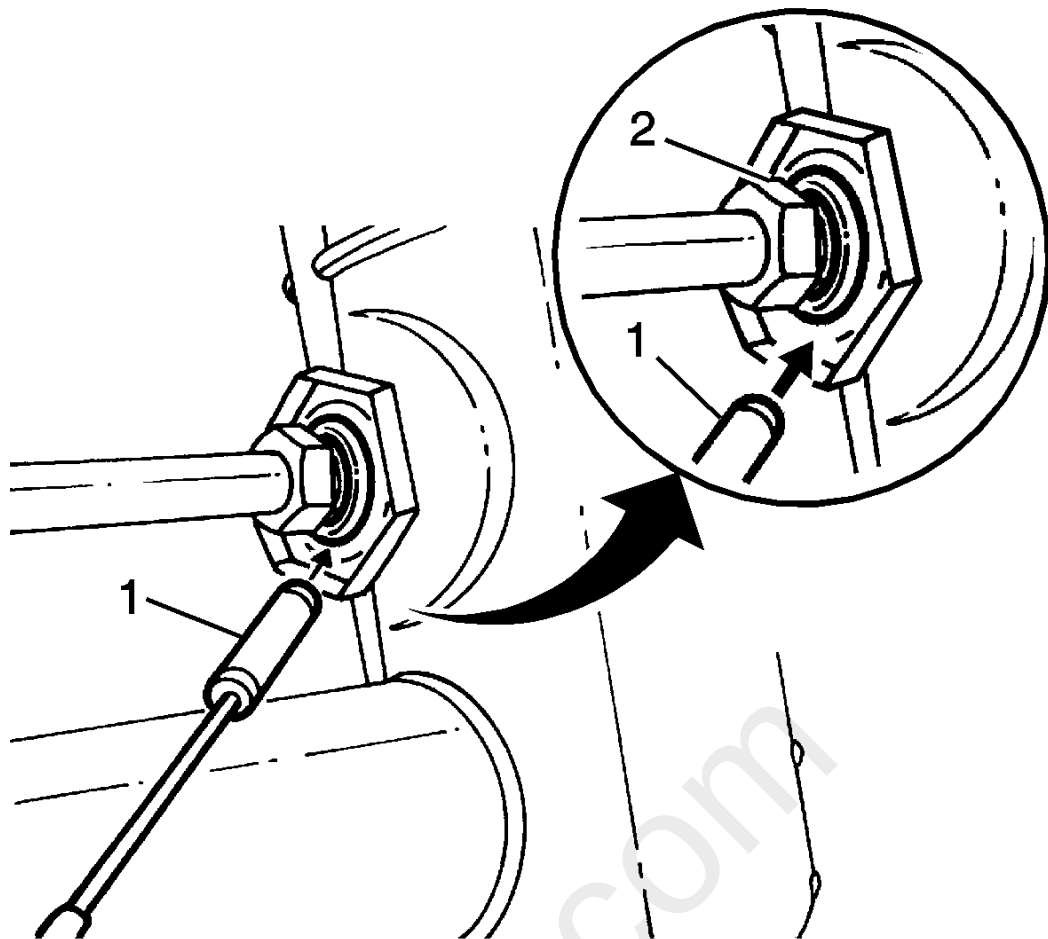


Fig. 6: Identifying Transmission Oil Cooler Metal Composition

Courtesy of GENERAL MOTORS COMPANY

2. Determine whether the transmission oil cooler is steel or aluminum by using a magnet (1) at the cooler flange (2) at the radiator.
3. Refer to the table below. Using the temperature from step 1, locate on either the Steel MINIMUM Flow Rate table or the Aluminum MINIMUM Flow Rate table the minimum flow rate in gallons per minutes (GPM). Record the minimum flow rate in GPMs and the supply fluid temperature for further reference.

Example

- Fluid temperature: 75°F
- Cooler type: Steel

The MINIMUM flow rate for this example would be 0.8 GPM.

4. Inspect transmission oil cooler lines for damage or kinks that could cause restricted oil flow. Repair as needed and refer to the appropriate GM service information procedures.

Minimum Flow Rate in Gallons Per Minute (gpm)

Temperature Range	Steel	Aluminum
65 - 66°F	0.6 gpm	0.5 gpm
67 - 70°F	0.7 gpm	0.6 gpm
71 - 75°F	0.8 gpm	0.7 gpm
76 - 80°F	0.9 gpm	0.8 gpm
81 - 84°F	1.0 gpm	0.9 gpm
85 - 89°F	1.1 gpm	1.0 gpm
90 - 94°F	1.2 gpm	1.1 gpm

Temperature Range	Steel	Aluminum
95 - 98°F	1.3 gpm	1.2 gpm
99 - 103°F	1.4 gpm	1.3 gpm
104 - 108°F	1.5 gpm	1.4 gpm
109 - 112°F	1.6 gpm	1.5 gpm
113 - 117°F	1.7 gpm	1.6 gpm
118 - 120°F	1.8 gpm	1.7 gpm

Back Flush Procedure

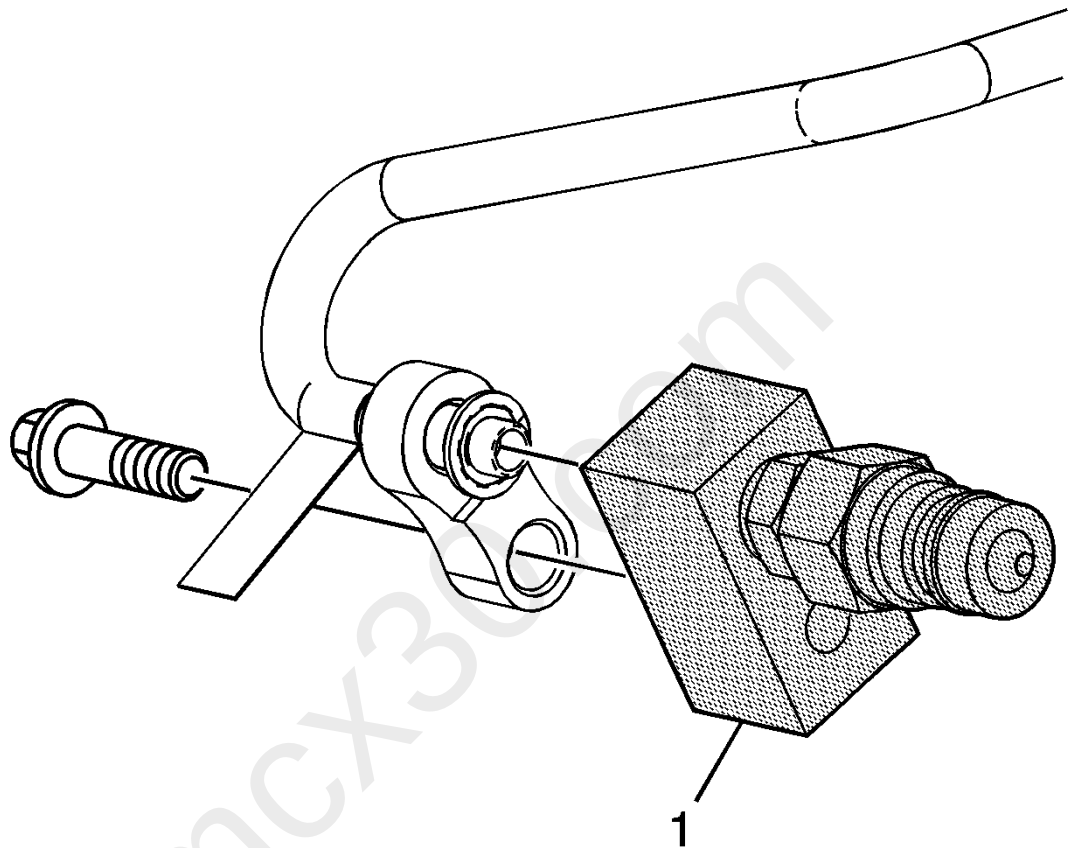


Fig. 7: Cooler Flush Adapter

Courtesy of GENERAL MOTORS COMPANY

1. Connect the **DT-45096-50** cooler flush adapter (1) to the vehicle transmission oil cooler supply and return lines at the transmission.

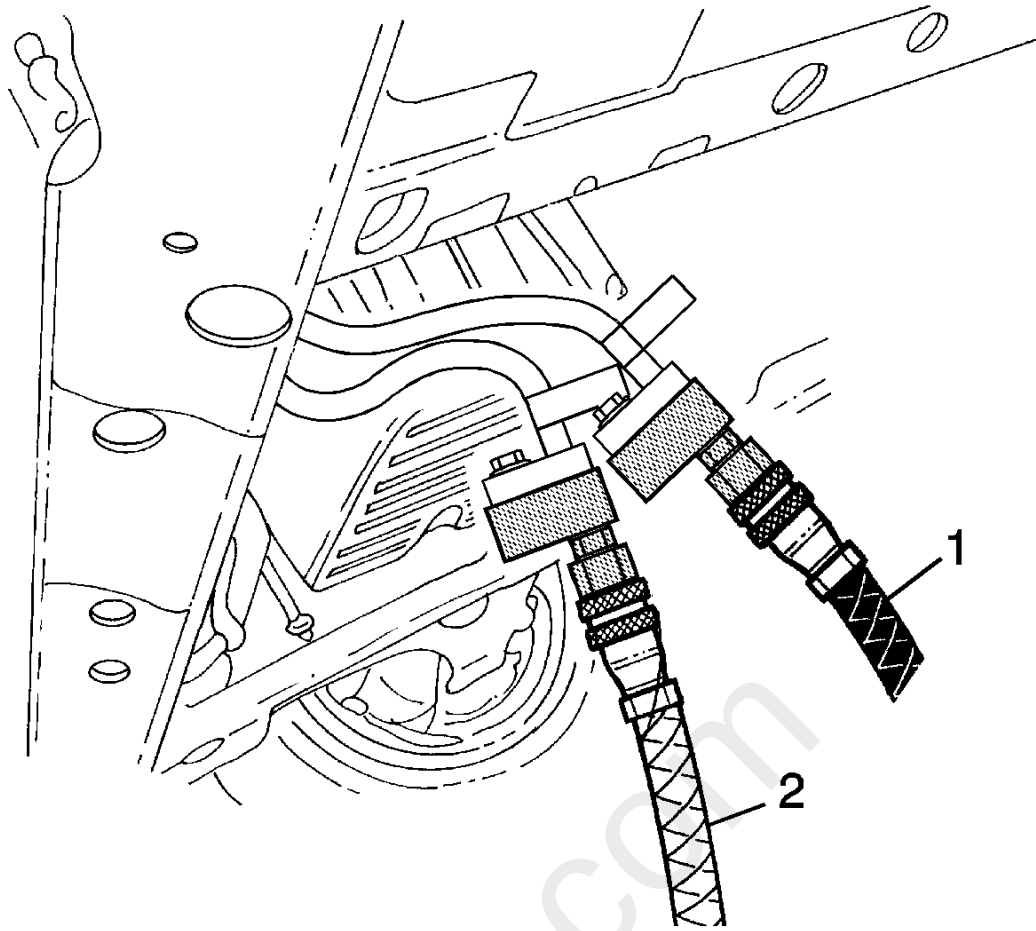


Fig. 8: View Of Black Supply Hose And Clear Waste Hose
Courtesy of GENERAL MOTORS COMPANY

2. Connect the black supply hose (1) to the return line, top connector of the transmission, and the clear waste hose (2) to the feed line, bottom connector of the transmission, to the vehicle cooler lines. This is the reverse flow - backflush direction.

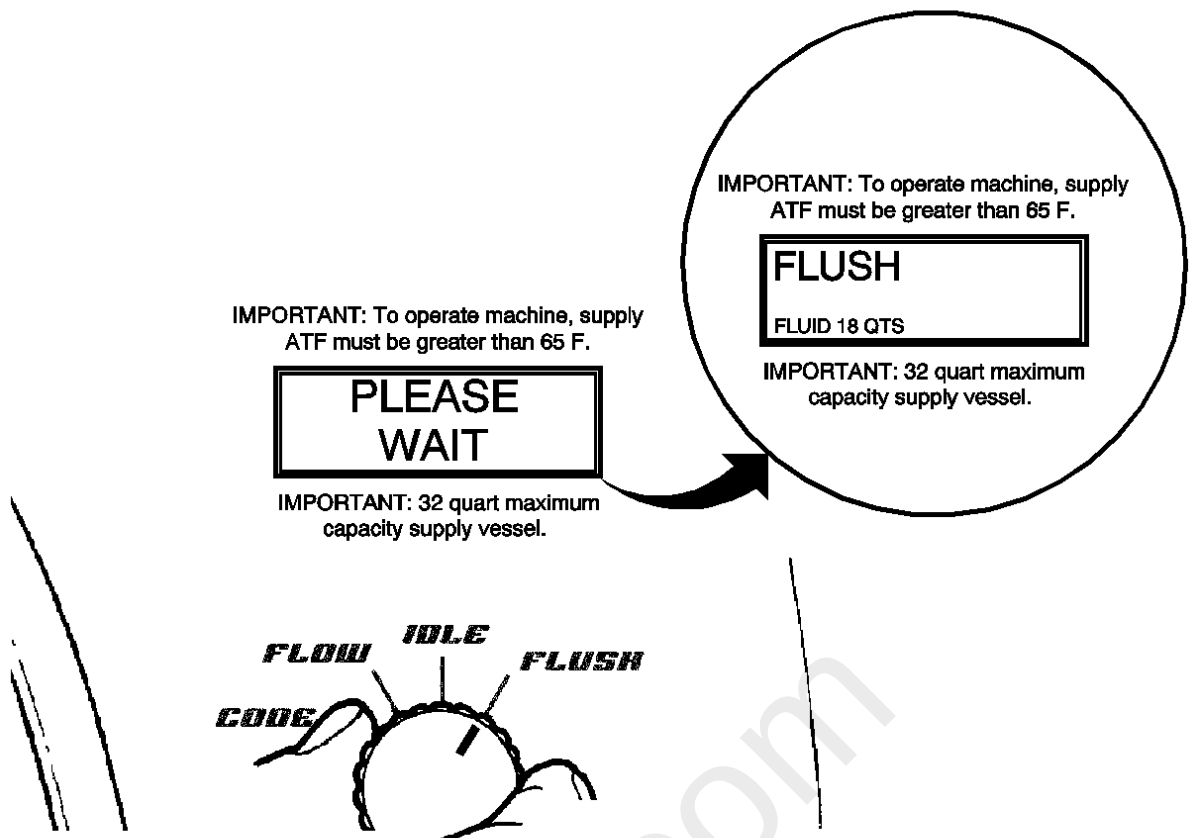


Fig. 9: View Of Main Function Switch FLUSH Position
Courtesy of GENERAL MOTORS COMPANY

3. Turn the main function switch to the FLUSH position. Allow the machine to operate for 30 seconds.

IMPORTANT: To operate machine, supply
ATF must be greater than 65 F.

IDLE
FLUID 16 QTS @ 075F

IMPORTANT: 32 quart maximum
capacity supply vessel.



Fig. 10: View Of Main Function Switch IDLE Position
Courtesy of GENERAL MOTORS COMPANY

4. Turn the main function switch to the IDLE position and allow the supply vessel pressure to dissipate.

Forward Flush

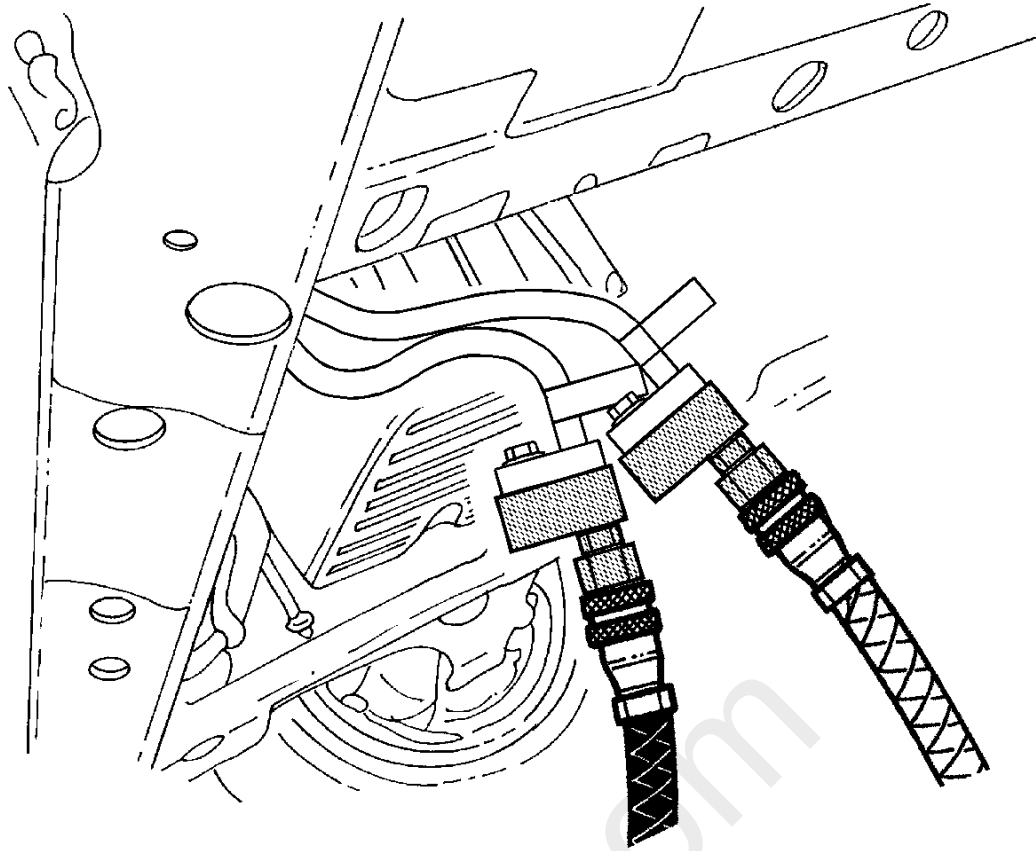


Fig. 11: Identifying Supply And Waste Hoses

Courtesy of GENERAL MOTORS COMPANY

1. Disconnect the supply and waste hoses from the vehicle cooler lines. Reverse the supply and waste hoses to provide a normal flow direction.

IMPORTANT: To operate machine, supply
ATF must be greater than 65 F.

FLUSH

FLUID 18 QTS

IMPORTANT: 32 quart maximum
capacity supply vessel.

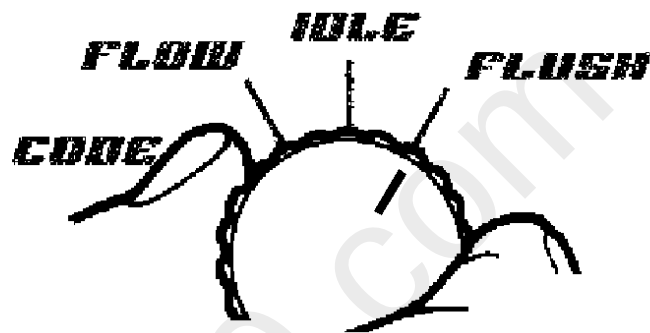


Fig. 12: View Of Main Function Switch FLUSH Position

Courtesy of GENERAL MOTORS COMPANY

2. Turn the main function switch to the FLUSH position and allow machine to operate for 30 seconds.

Flow Test

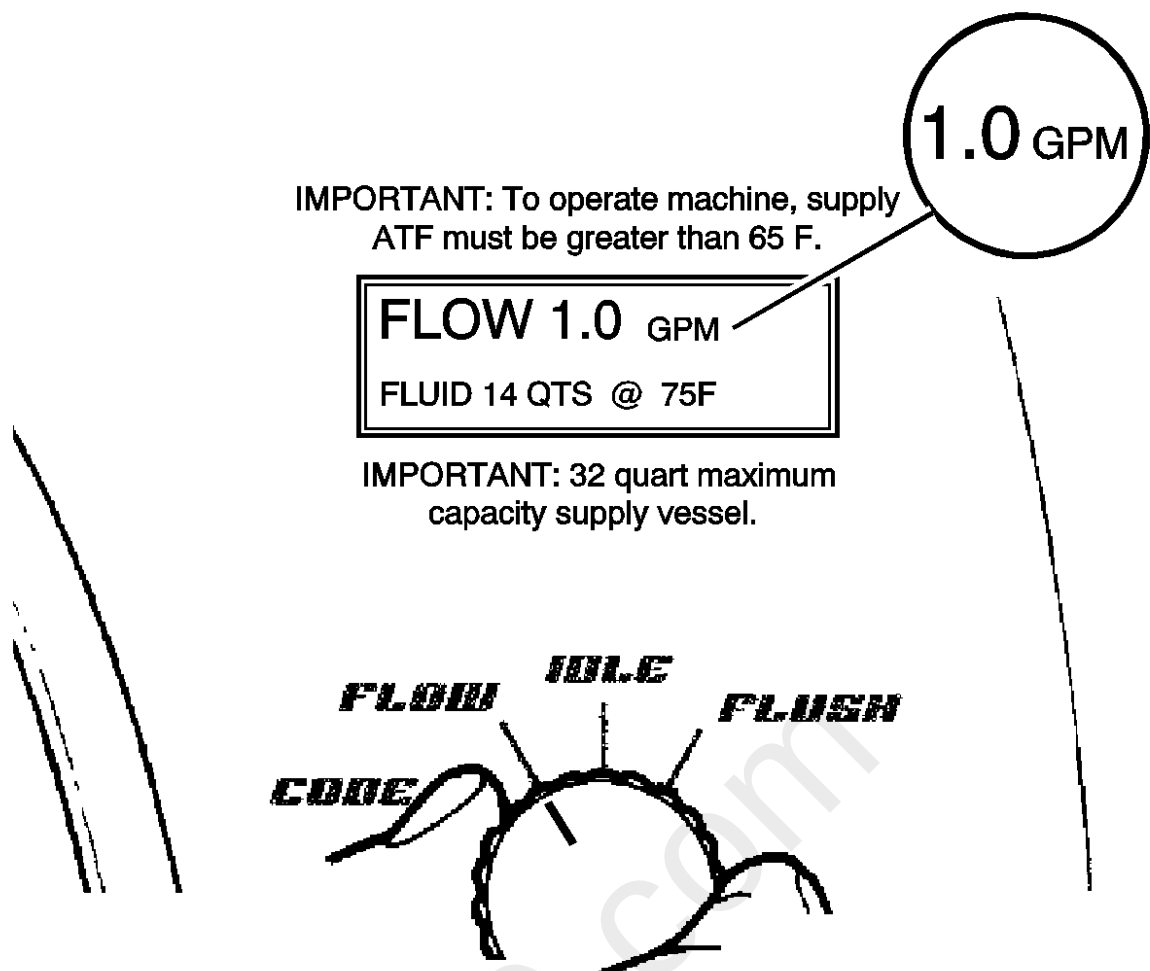


Fig. 13: View Of Main Function Switch FLOW Position

Courtesy of GENERAL MOTORS COMPANY

NOTE: If the flow rate is less than 0.5 gpm, the LCD displays an error message. Refer to the Troubleshooting section of the operation manual.

1. Turn the main function switch to the FLOW position and allow the oil to flow for 15 seconds. Observe and note the flow rate; this is the TESTED flow rate.
2. Compare the TESTED flow rate to the MINIMUM flow rate information previously recorded.
 - If the TESTED flow rate is equal to or greater than the MINIMUM flow rate recorded, the oil cooling system is functioning properly. Perform [Code Recording Procedure](#).
 - If the TESTED flow rate is less than the MINIMUM flow rate previously recorded, repeat the back flush and forward flush procedures.
3. If the TESTED flow rate is less than the MINIMUM flow rate after the second test, perform [Code Recording Procedure](#).
 1. Replace the transmission oil cooler.
 2. Reconnect supply and waste hoses to the cooler lines in the normal flow direction. Perform Flow Test.
 3. Perform [Code Recording Procedure](#).

[Code Recording Procedure](#)

IMPORTANT: To operate machine, supply
ATF must be greater than 65 F.

FLOW 1.0 @ 75F CYCLE 6
A10DFB2

IMPORTANT: 32 quart maximum
capacity supply vessel.



Fig. 14: View Of Main Function Switch CODE Position

Courtesy of GENERAL MOTORS COMPANY

1. Turn the main function switch to the CODE position.

NOTE:

- If power is interrupted prior to the recording of the seven-character code, the code will be lost and the flow rate test will need to be repeated.
- The flow test must run for a minimum of 8 - 10 seconds and be above 0.5 GPM for a code to be generated.

2. Record TESTED flow rate, temperature, cycle and seven-character flow code information on repair order.

Clean-up

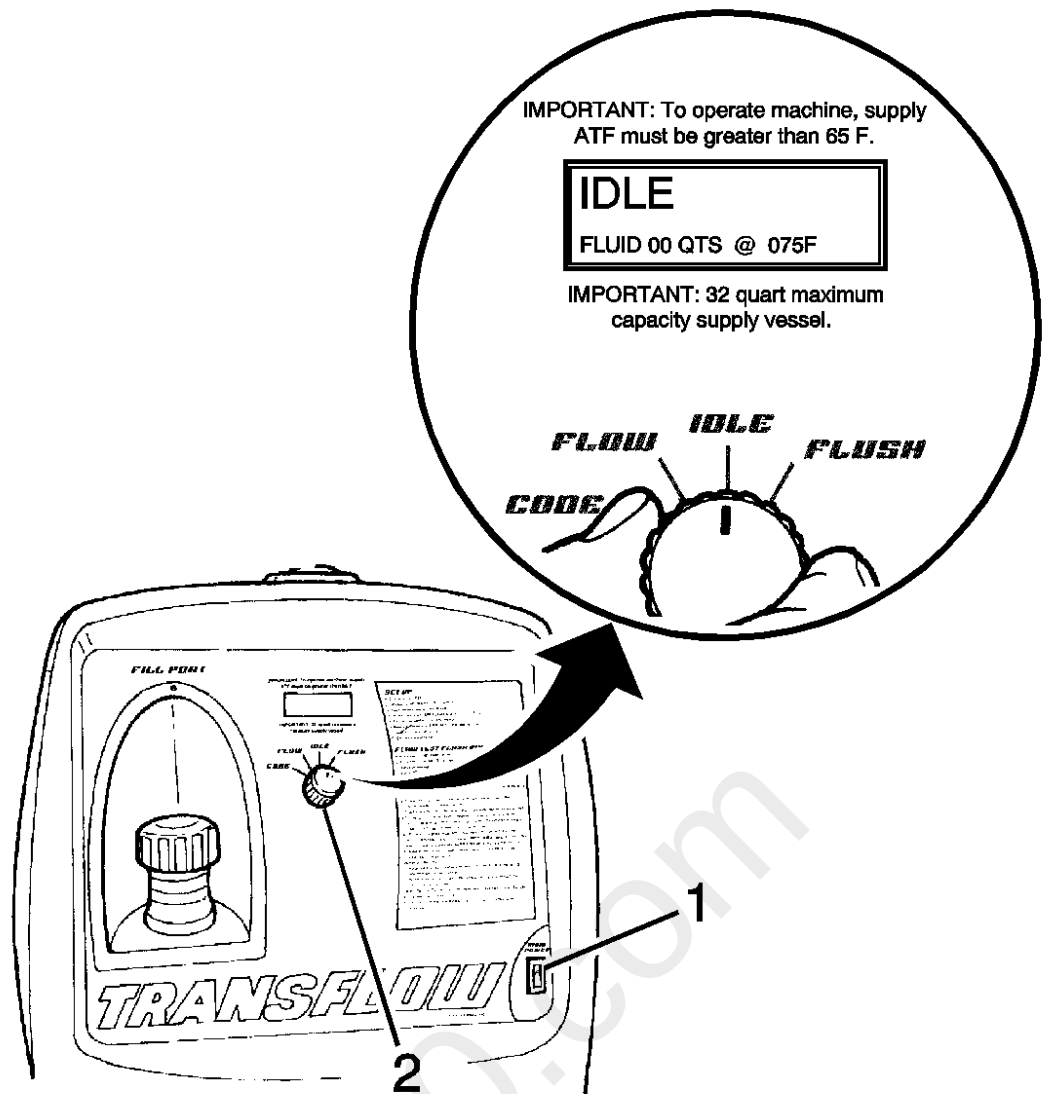


Fig. 15: View Of Main Power Switch & Main Function Switch

Courtesy of GENERAL MOTORS COMPANY

1. Turn the main function switch (2) to the IDLE position and allow the supply vessel pressure to dissipate.
2. Turn the main power switch (1) to the OFF position.

NOTE:

- A small amount of water may drain from the bottom of the unit when the air supply is disconnected. This is a normal operation of the built-in water separator.
- If the fluid in the DT-45096 transmission oil cooling system flush and flow test tool is different than what is used in the transmission, use compressed air to blow the residual transmission fluid out of the oil cooler and lines.

3. Disconnect the supply and waste hoses and the 12-volt power source from the vehicle.

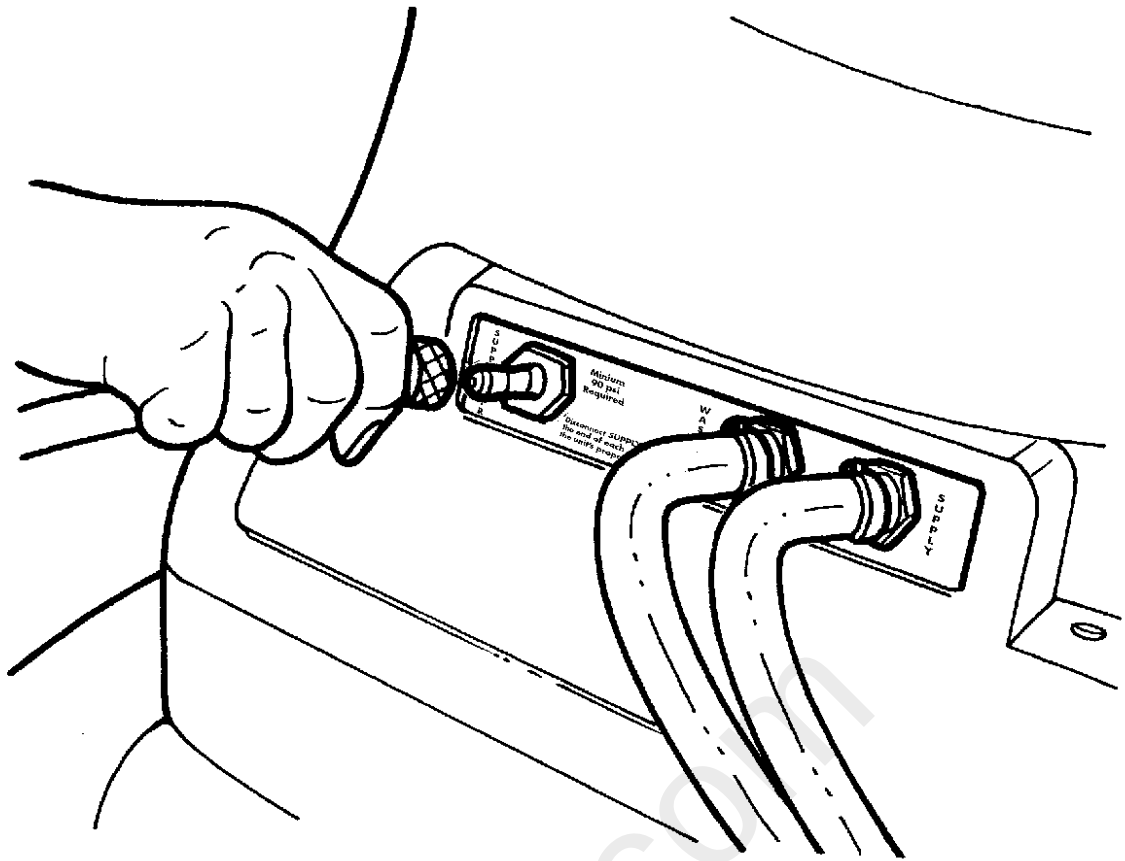


Fig. 16: Applying Shop Air Supply Hose To Quick-Disconnect
Courtesy of GENERAL MOTORS COMPANY

4. Disconnect the air supply hose from **DT-45096** flush and flow test tool.
5. Remove the **DT-45096 - 50** adapters.
6. Dispose of the waste automatic transmission fluid in accordance with all applicable federal, state, and local requirements.

REPAIR INSTRUCTIONS

TRANSMISSION FLUID COOLER PIPE CONNECTOR REPLACEMENT

Removal Procedure

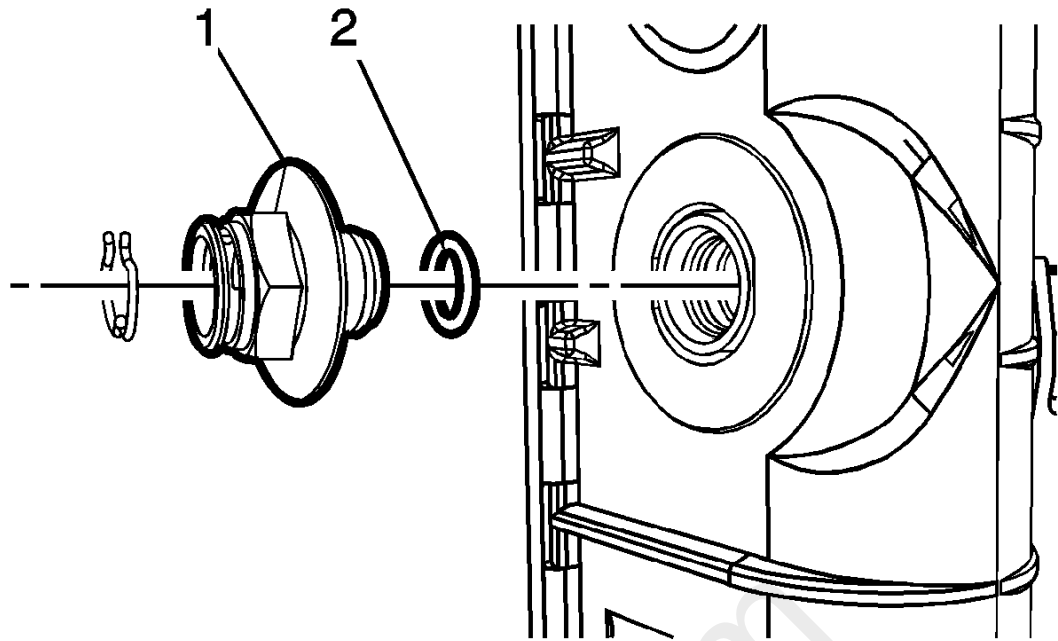


Fig. 17: Transmission Fluid Cooler Pipe Fitting
Courtesy of GENERAL MOTORS COMPANY

1. Remove Transmission Fluid Cooler Pipe@Transmission Fluid Cooler Pipe Connector - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection.**
2. Remove Transmission Fluid Cooler Pipe Connector (1) @ Transmission Fluid Auxiliary Cooler
3. Remove Transmission Fluid Cooler Pipe Fitting Seal (2) and DISCARD

Installation Procedure

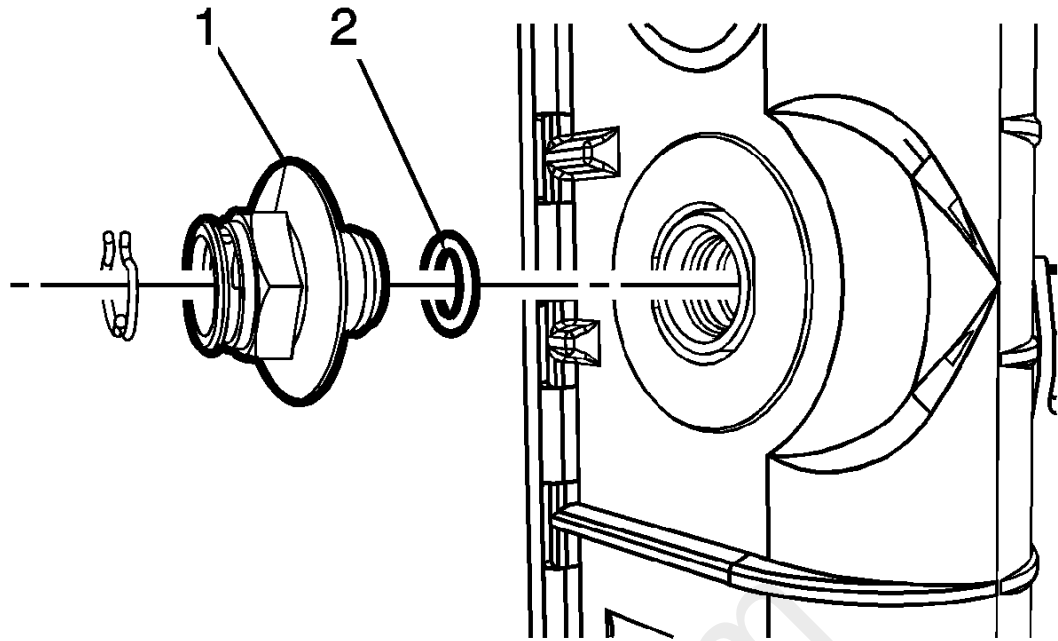


Fig. 18: Transmission Fluid Cooler Pipe Fitting
Courtesy of GENERAL MOTORS COMPANY

1. Install NEW Transmission Fluid Cooler Pipe Fitting Seal (2)

NOTE: The correct thread engagement is critical. Cross-threaded fittings can achieve proper tightness and still leak.

CAUTION: Refer to [Fastener Caution](#)

2. Install Transmission Fluid Cooler Pipe Connector (1) @Transmission Fluid Auxiliary Cooler and tighten 20 N.m (15 lb ft)
3. Install Transmission Fluid Cooler Pipe @ Transmission Fluid Cooler Pipe Connector - [Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection](#).
4. Fill and inspect the transmission fluid level. [Transmission Fluid Level and Condition Check](#)
5. Inspect for transmission fluid leaks.

TRANSMISSION FLUID COOLER HOSE/PIPE QUICK-CONNECT FITTING DISCONNECTION AND CONNECTION

Removal Procedure

Special Tools

- **J-41623-B** Cooler Quick Connect Tool

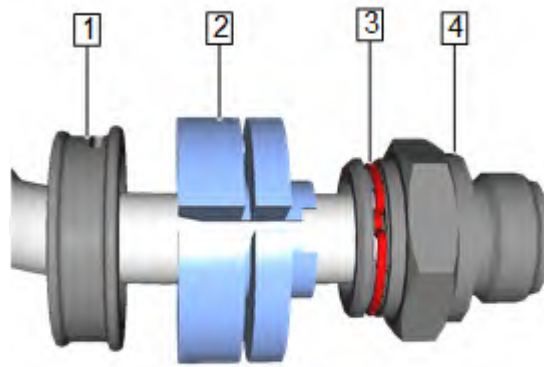


Fig. 19: Quick Connect Fitting And Quick Connect Tool

Courtesy of GENERAL MOTORS COMPANY

1. Pull the plastic cap (1) back from the quick connect fitting (4) and down along the cooler pipe enough to expose the transmission fluid cooler pipe fitting retainer (3)
2. Install the J-41623-B cooler quick connect tool (2) onto the cooler pipe.
3. While pushing the J-41623-B cooler quick connect tool (2) into the quick connect fitting (4) twist slightly to release the cooler pipe fitting retainer (3)

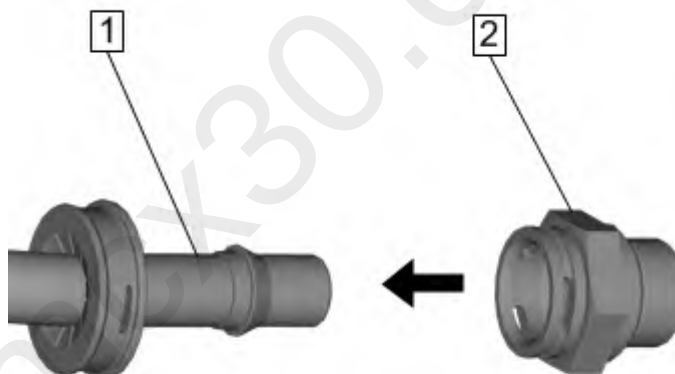


Fig. 20: Cooler Pipe And Quick Connect Fitting

Courtesy of GENERAL MOTORS COMPANY

4. Pull the cooler pipe (1) straight out from the quick connect fitting (2)

Installation Procedure

NOTE:

- Do not reuse any of the existing transmission fluid cooler pipes or transmission fluid cooler pipe fittings if there is excessive corrosion.
- Ensure the following procedures are performed when installing the new retainer onto the fittings.

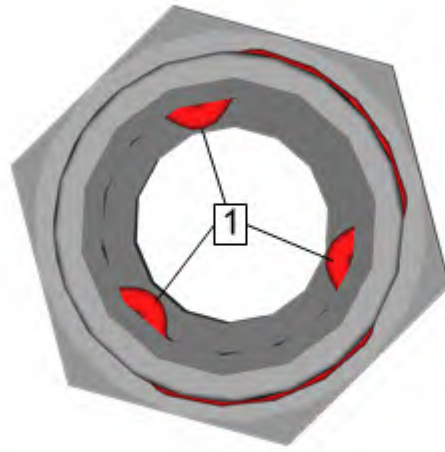


Fig. 21: Retainer And Retainer Ears

Courtesy of GENERAL MOTORS COMPANY

1. Ensure that the three retainer ears (1) are seen from inside the fitting and that the retainer moves freely in the quick connect fitting slots.
2. If the retainer (1) is not centered correctly, rotate the retainer around the quick connect fitting until the retainer is positioned with all three ears through the three slots on the quick connect fitting.

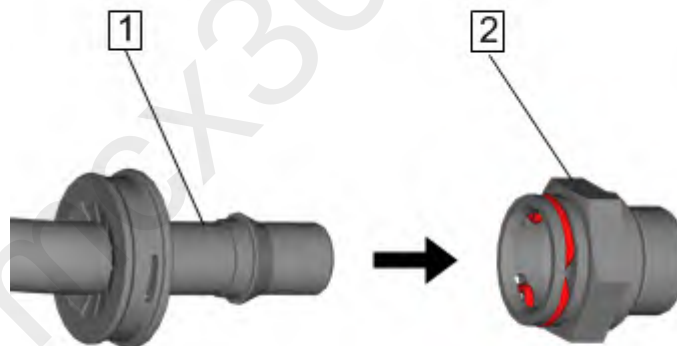


Fig. 22: Cooler Pipe And Quick Connect Fitting

Courtesy of GENERAL MOTORS COMPANY

3. Install the cooler pipe (1) into the quick connect fitting (2) until a click is either heard or felt.
4. Pull back sharply on the cooler pipe in order to ensure that the cooler pipe is fastened into the quick connect fitting.

NOTE: Do not manually depress the retaining clip when installing the plastic cap.

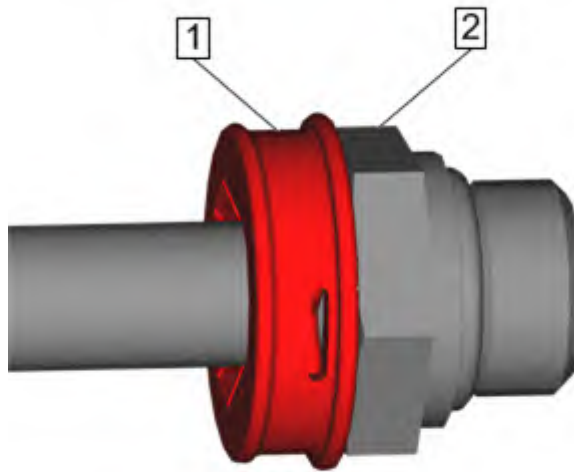


Fig. 23: Plastic Cap And Quick Connect Fitting
 Courtesy of GENERAL MOTORS COMPANY

5. Position (snap) the plastic cap (1) onto the fitting.
6. Ensure that the plastic cap (1) is fully seated against the quick connect fitting.
7. Ensure that no gap is present between the plastic cap (1) and the quick connect fitting (2)

NOTE: A visible yellow identification band indicates an improper joint seating.

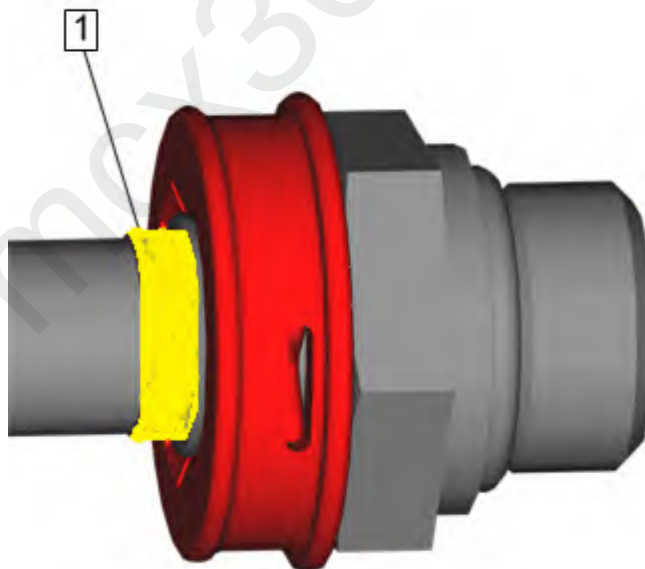


Fig. 24: Yellow Identification Band
 Courtesy of GENERAL MOTORS COMPANY

8. Make sure that the yellow indicator band (1) **IS NOT** present when completely installed.
9. Fill the transmission to the proper level.

TRANSMISSION FLUID COOLER INLET AND OUTLET PIPE REPLACEMENT (MNH, MHG)

Removal Procedure

1. Partially raise the vehicle. Refer to [Lifting and Jacking the Vehicle](#) , [Lifting and Jacking the Vehicle](#)

2. Remove the left front tire and wheel assembly. Refer to [Tire and Wheel Removal and Installation](#)
3. Place a drain pan under the vehicle.

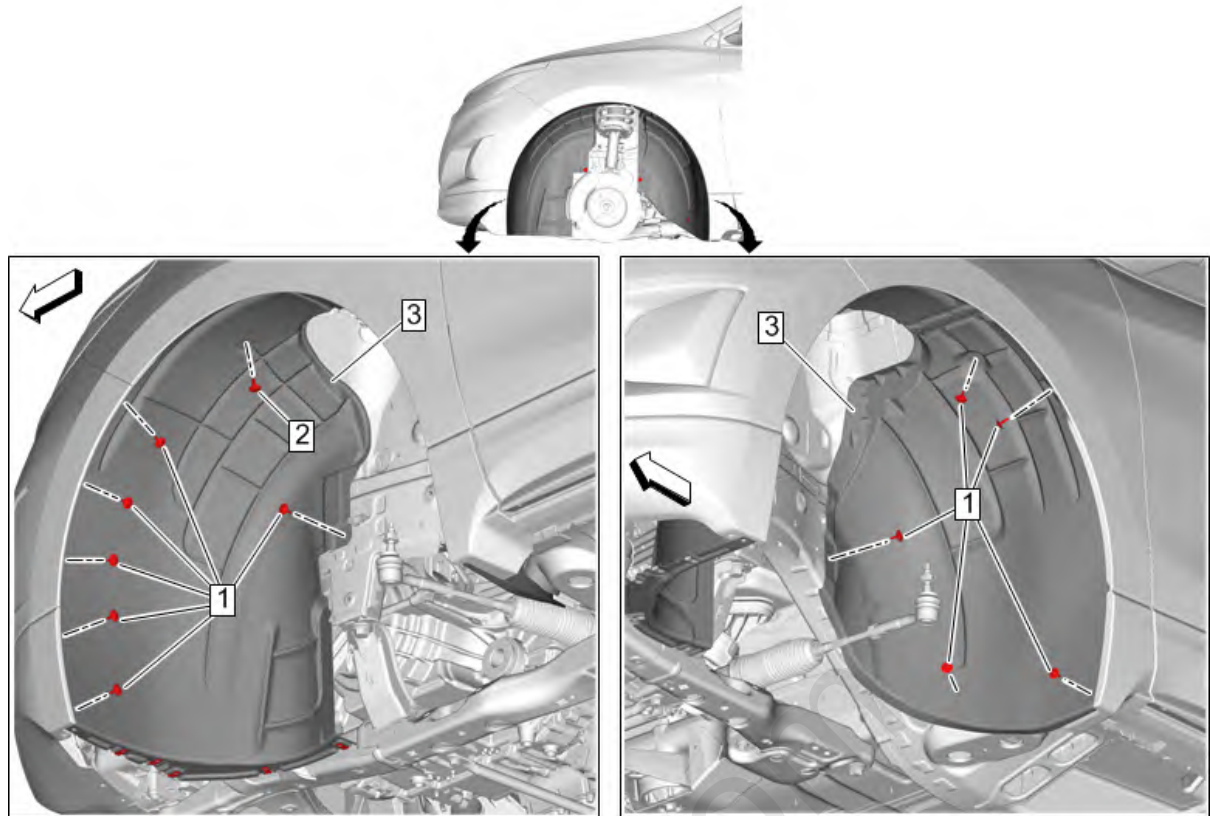


Fig. 25: Front Wheelhouse Liner - Left Side

Courtesy of GENERAL MOTORS COMPANY

4. Remove Front Wheelhouse Liner-Left Side (3) - [Front Wheelhouse Liner Replacement - Left Side \(Equinox\)](#) [Front Wheelhouse Liner Replacement - Left Side \(Terrain\)](#)

NOTE: Cover or plug all open transmission fluid cooler pipe connection points to help avoid any accidental contamination.

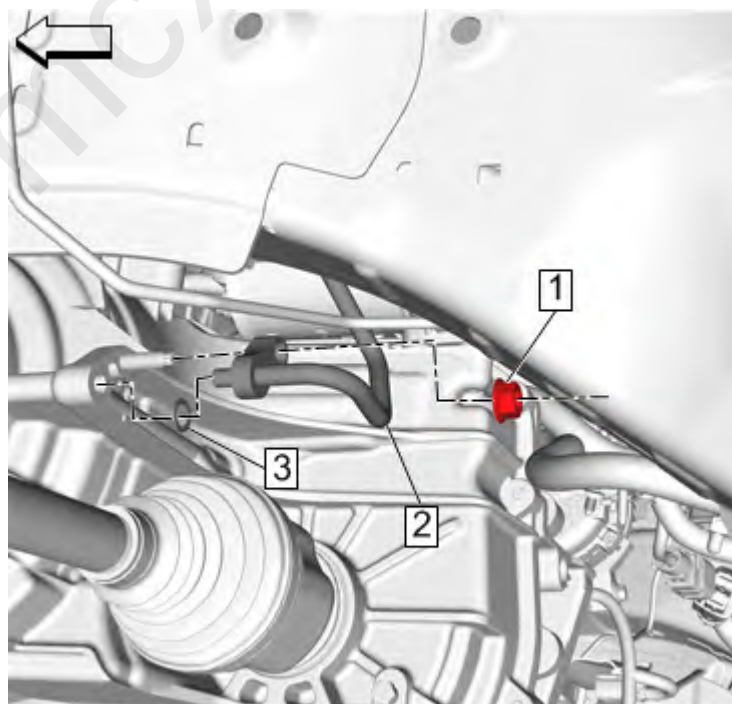


Fig. 26: Transmission Fluid Cooler Pipe Nut

Courtesy of GENERAL MOTORS COMPANY

5. Remove Transmission Fluid Cooler Pipe Nut (1)
6. Remove Transmission Fluid Cooler Pipe (2)

7. Remove Transmission Fluid Cooler Pipe Fitting Seal (3) and DISCARD
8. Lower the vehicle.

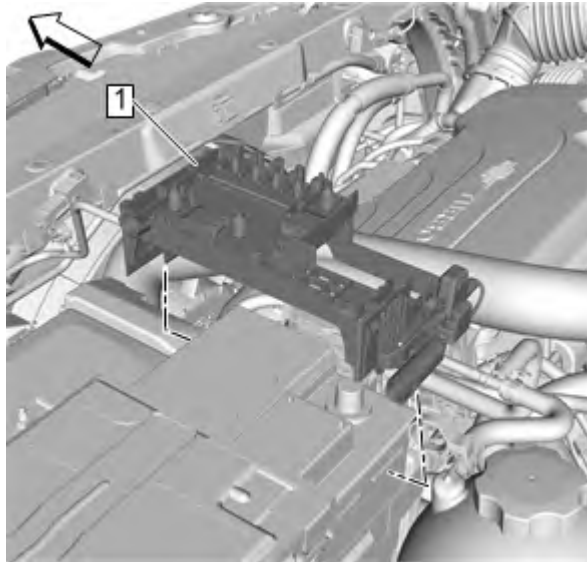


Fig. 27: Fuse Block Tabs

Courtesy of GENERAL MOTORS COMPANY

9. Remove Battery Distribution Engine Compartment Fuse Block (1) - **Battery Distribution Engine Compartment Fuse Block Replacement**

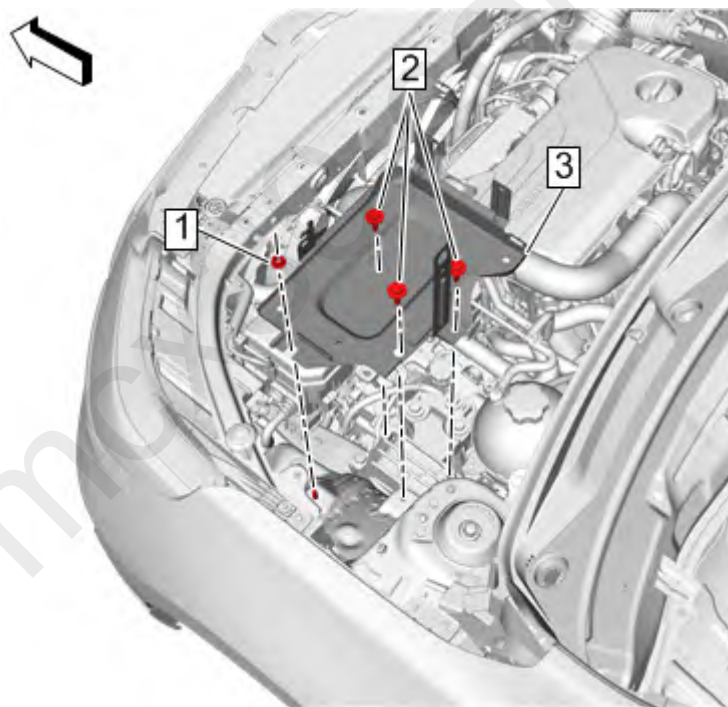


Fig. 28: Battery Tray

Courtesy of GENERAL MOTORS COMPANY

10. Remove Battery Tray (3) - **Battery Tray Replacement**
11. Disconnect and reposition harness as necessary.

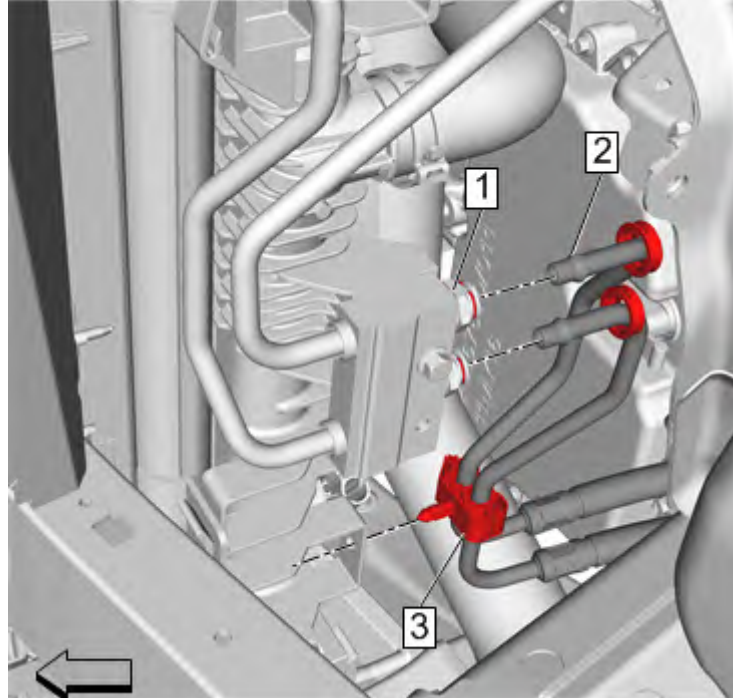


Fig. 29: Transmission Fluid Cooler Inlet and Outlet Pipe

Courtesy of GENERAL MOTORS COMPANY

12. Disconnect Transmission Fluid Cooler Inlet and Outlet Pipe (2) @ Transmission Fluid Cooler Pipe (1) - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**
13. Remove Transmission Fluid Cooler Pipe Clip (3) @ Radiator

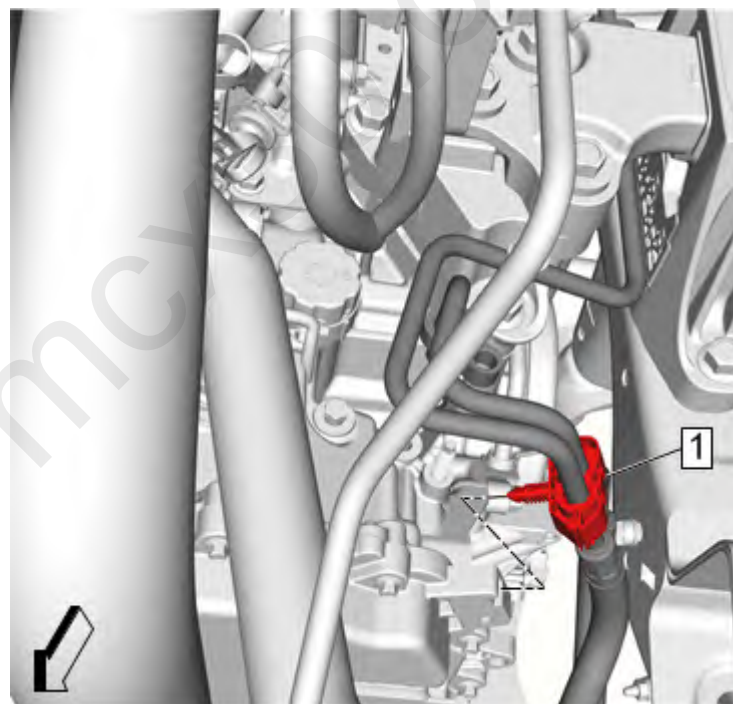


Fig. 30: Transmission Fluid Cooler Pipe Clip

Courtesy of GENERAL MOTORS COMPANY

14. Remove Transmission Fluid Cooler Pipe Clip (1) @ Transmission Case

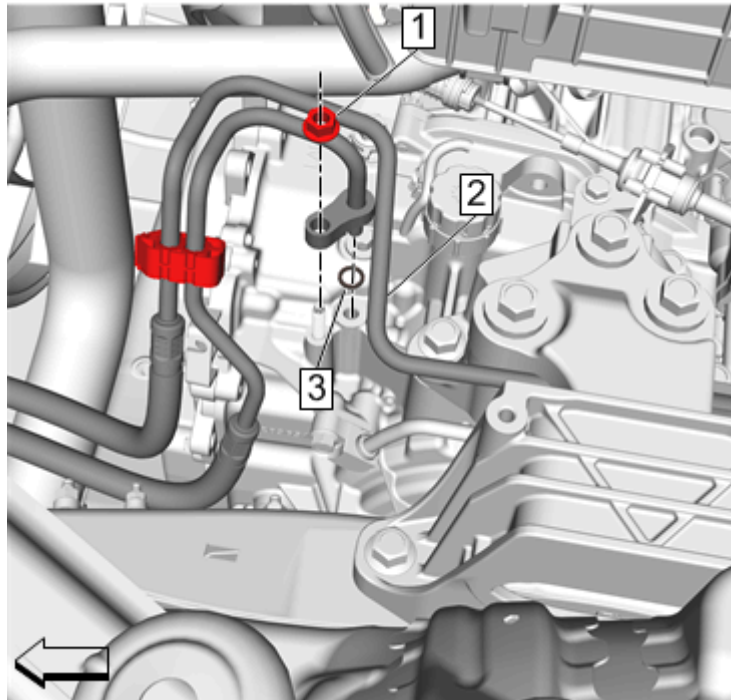


Fig. 31: Transmission Fluid Cooler Pipe Nut, Pipe And Fitting Seal
 Courtesy of GENERAL MOTORS COMPANY

15. Remove Transmission Fluid Cooler Pipe Nut (1)
16. Remove Transmission Fluid Cooler Pipe (2)
17. Remove Transmission Fluid Cooler Pipe Fitting Seal (3) and DISCARD
18. Remove the transmission fluid cooler pipe from vehicle.

Installation Procedure

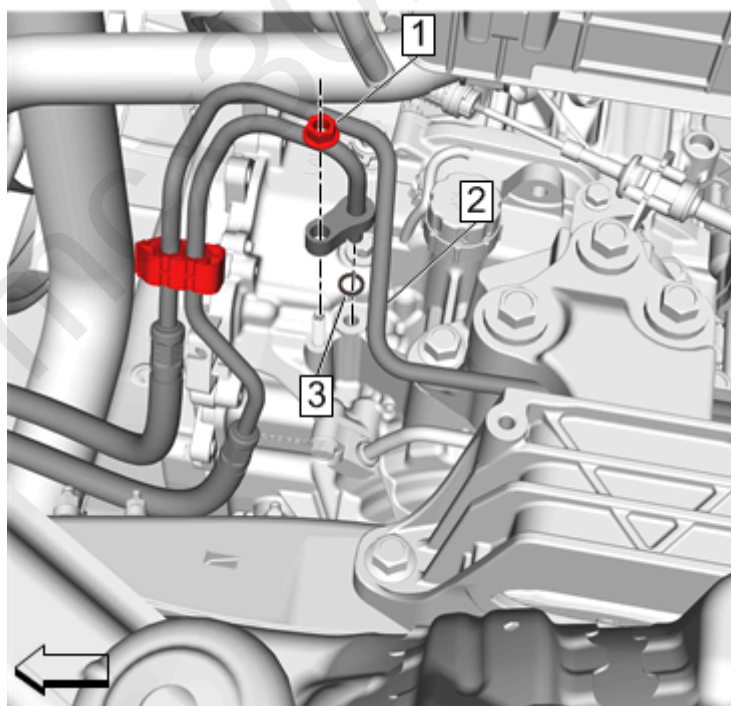


Fig. 32: Transmission Fluid Cooler Pipe Nut, Pipe And Fitting Seal
 Courtesy of GENERAL MOTORS COMPANY

1. Install a NEW Transmission Fluid Cooler Pipe Fitting Seal (3).
2. Install Transmission Fluid Cooler Pipe (2)

CAUTION: Refer to **Fastener Caution** .

3. Install Transmission Fluid Cooler Pipe Nut (1) and tighten 22 N.m (16 lb ft)

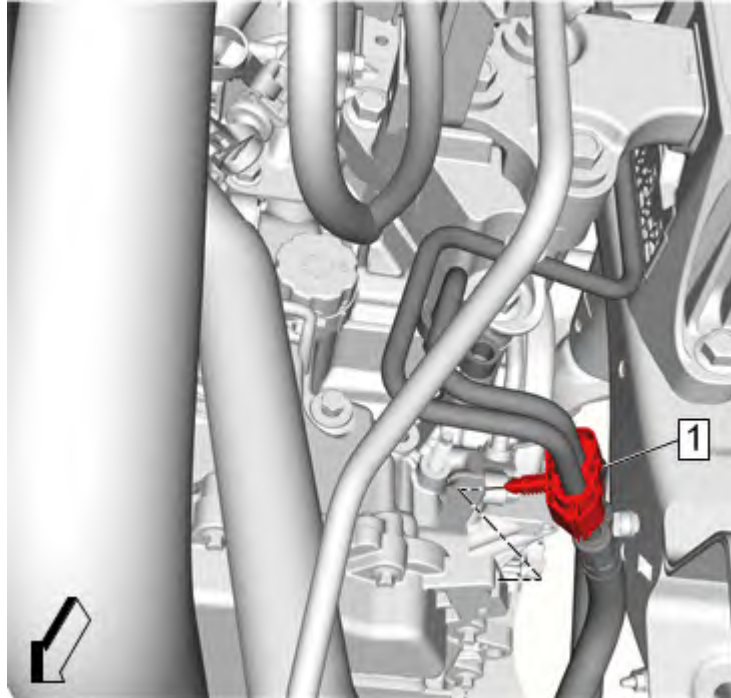


Fig. 33: Transmission Fluid Cooler Pipe Clip
 Courtesy of GENERAL MOTORS COMPANY

4. Install Transmission Fluid Cooler Pipe Clip (1) @ Transmission Case

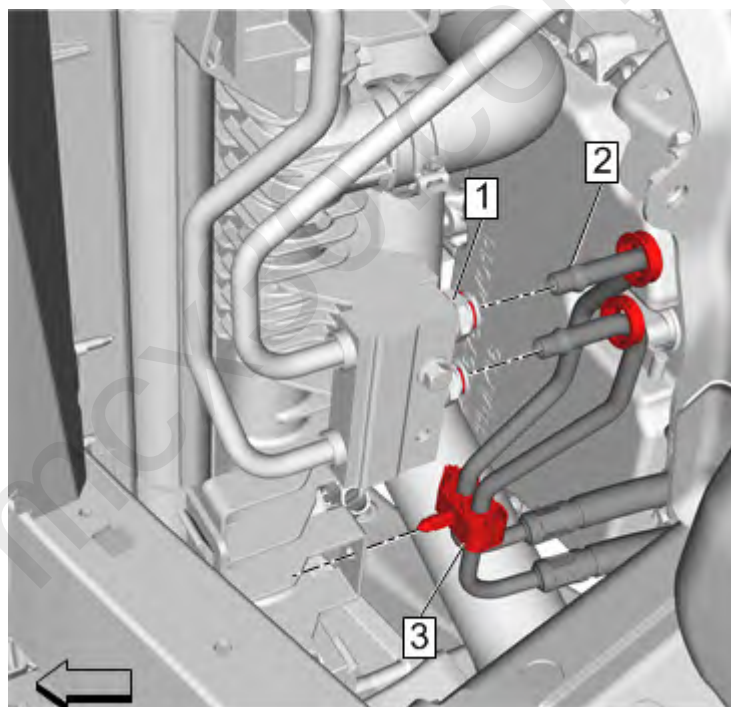


Fig. 34: Transmission Fluid Cooler Inlet and Outlet Pipe
 Courtesy of GENERAL MOTORS COMPANY

5. Install Transmission Fluid Cooler Pipe Clip (3) @ Radiator
6. Connect Transmission Fluid Cooler Inlet and Outlet Pipe (2) @ Transmission Fluid Cooler Pipe (1) - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**
7. Position and secure the wire harness back to it's proper location.

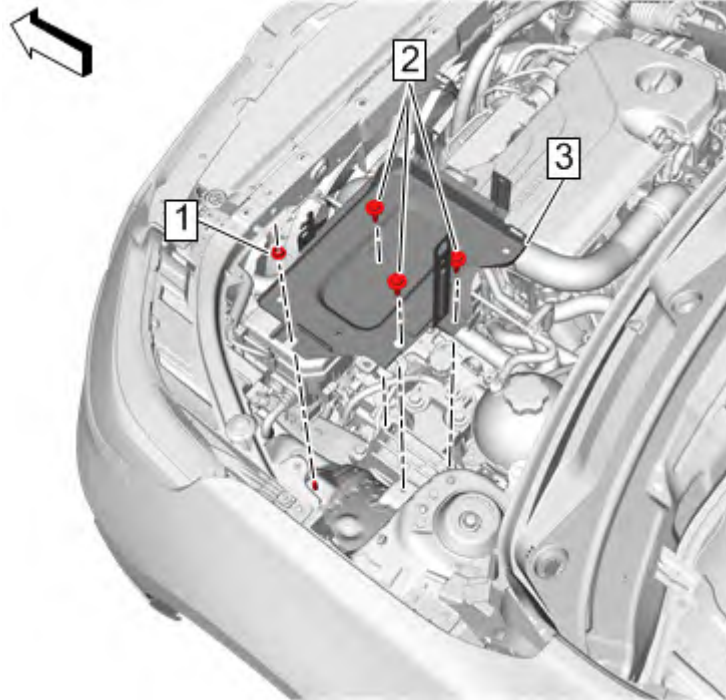


Fig. 35: Battery Tray

Courtesy of GENERAL MOTORS COMPANY

8. Install Battery Tray (3) - [Battery Tray Replacement](#)

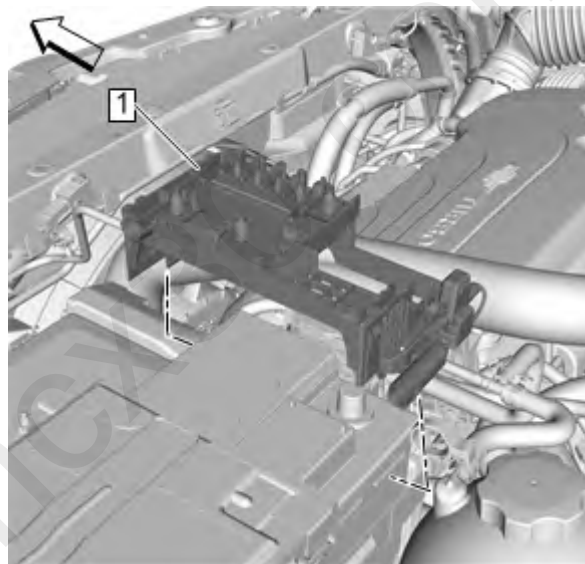


Fig. 36: Fuse Block Tabs

Courtesy of GENERAL MOTORS COMPANY

9. Install Battery Distribution Engine Compartment Fuse Block (1) - [Battery Distribution Engine Compartment Fuse Block Replacement](#)
10. Partially raise the vehicle. Refer to [Lifting and Jacking the Vehicle](#) , [Lifting and Jacking the Vehicle](#)

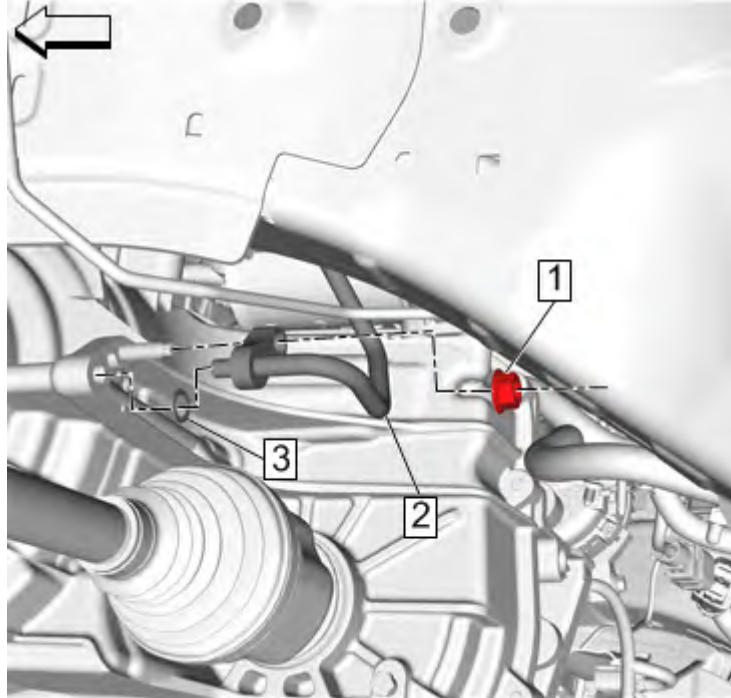


Fig. 37: Transmission Fluid Cooler Pipe Nut
 Courtesy of GENERAL MOTORS COMPANY

11. Install a NEW Transmission Fluid Cooler Pipe Fitting Seal (3)
12. Install Transmission Fluid Cooler Pipe (2)
13. Install Transmission Fluid Cooler Pipe Nut (1) and tighten 22 N.m (16 lb ft)

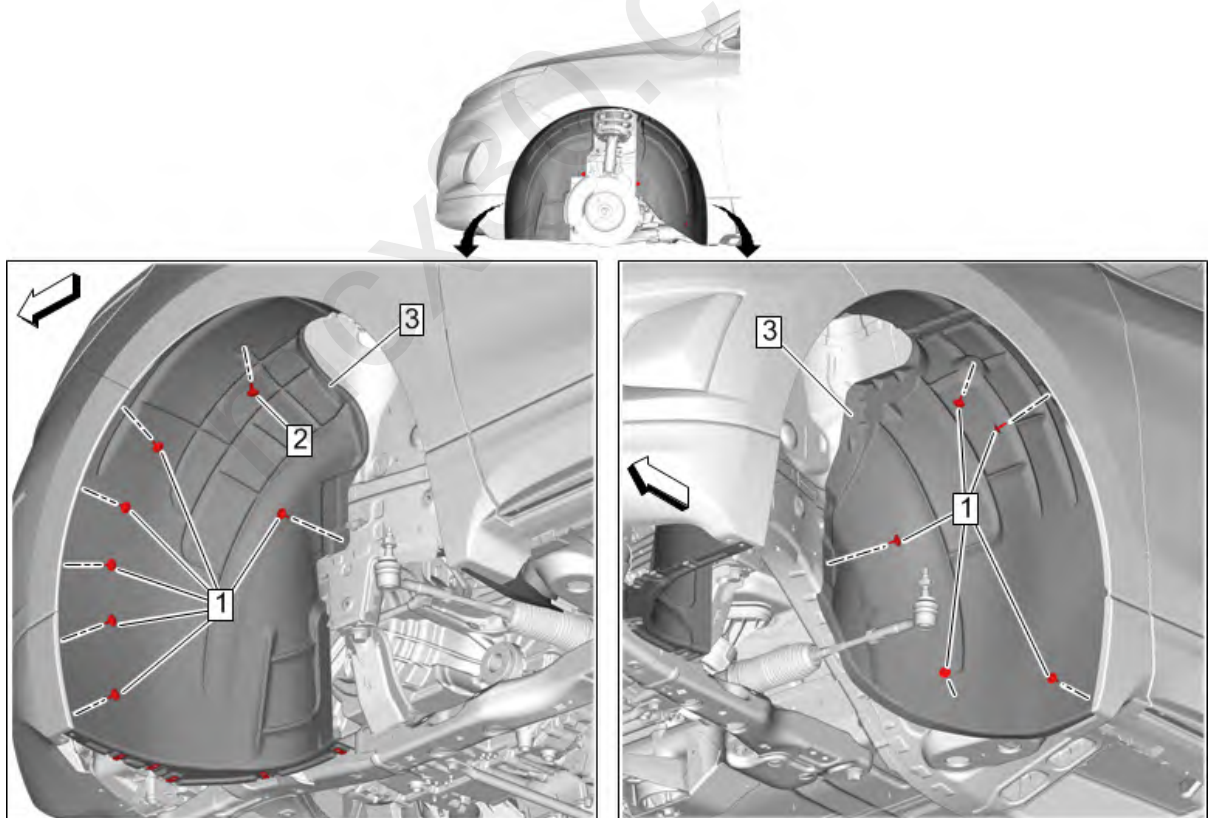


Fig. 38: Front Wheelhouse Liner - Left Side
 Courtesy of GENERAL MOTORS COMPANY

Install Front Wheelhouse Liner-Left Side (1) - **Front Wheelhouse Liner Replacement - Left Side (Equinox)** **Front Wheelhouse Liner Replacement - Left Side (Terrain)**

14. Remove the drain pan.
15. Install the tire and wheel assembly. Refer to **Tire and Wheel Removal and Installation**
16. Lower the vehicle.

17. Fill and inspect the transmission fluid level. Refer to [Transmission Fluid Level and Condition Check](#)

18. Inspect for transmission fluid leaks.

TRANSMISSION FLUID COOLER INLET AND OUTLET PIPE REPLACEMENT (M3D, M3H, M3U)

Removal Procedure

1. Place a drain pan under the vehicle.

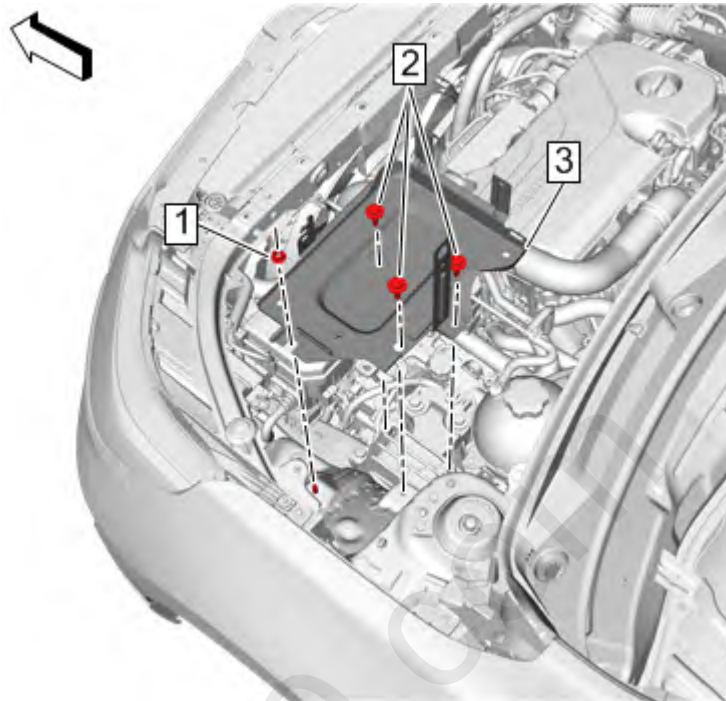


Fig. 39: Battery Tray

Courtesy of GENERAL MOTORS COMPANY

2. Remove Battery Tray (3) - [Battery Tray Replacement](#)

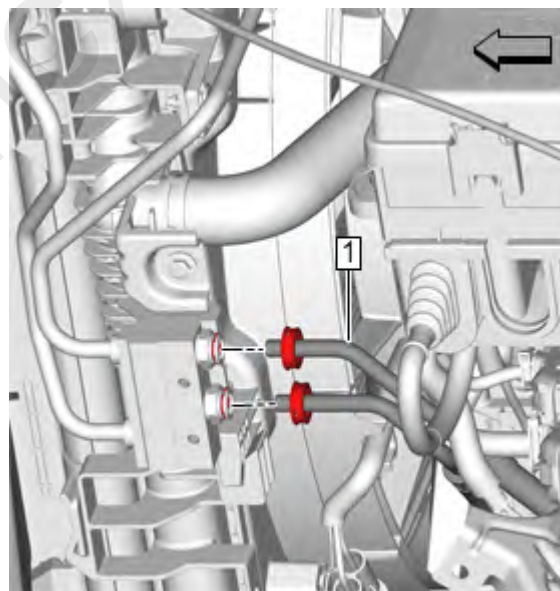


Fig. 40: Transmission Fluid Cooler Inlet and Outlet Pipe

Courtesy of GENERAL MOTORS COMPANY

NOTE: Cover or plug all open transmission fluid cooler pipe connection points to help avoid any accidental contamination.

3. Disconnect Transmission Fluid Cooler Inlet and Outlet Pipe (1) @ Transmission Fluid Cooler Pipe - [Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection](#)

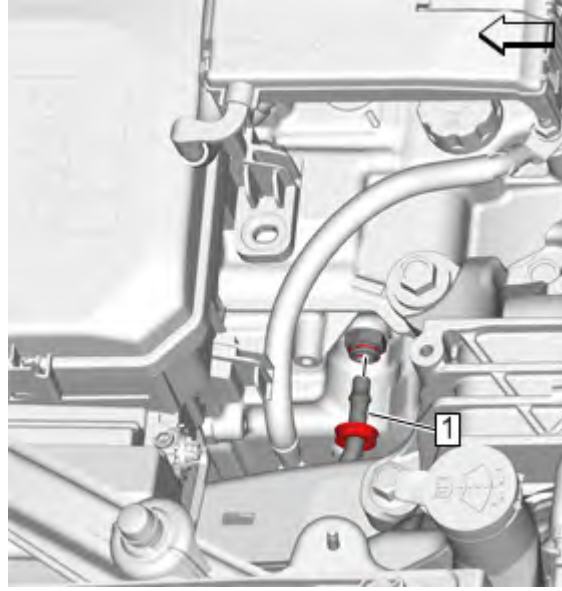


Fig. 41: Transmission Fluid Cooler Inlet and Outlet Pipe
 Courtesy of GENERAL MOTORS COMPANY

4. Disconnect Transmission Fluid Cooler Inlet and Outlet Pipe (1) @ Transmission - [Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection](#)

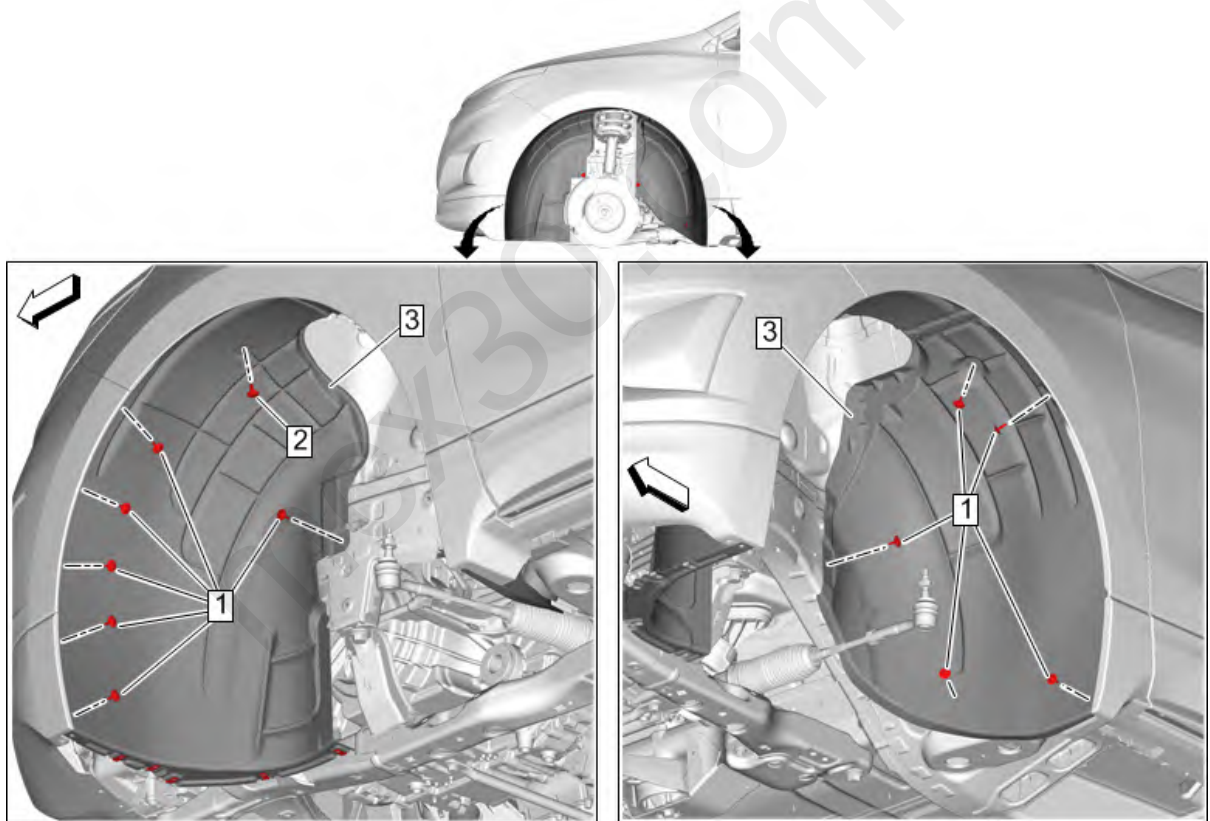


Fig. 42: Front Wheelhouse Liner - Left Side
 Courtesy of GENERAL MOTORS COMPANY

5. Remove Front Wheelhouse Liner-Left Side (3) - [Front Wheelhouse Liner Replacement - Left Side \(Equinox\)](#), [Front Wheelhouse Liner Replacement - Left Side \(Terrain\)](#)

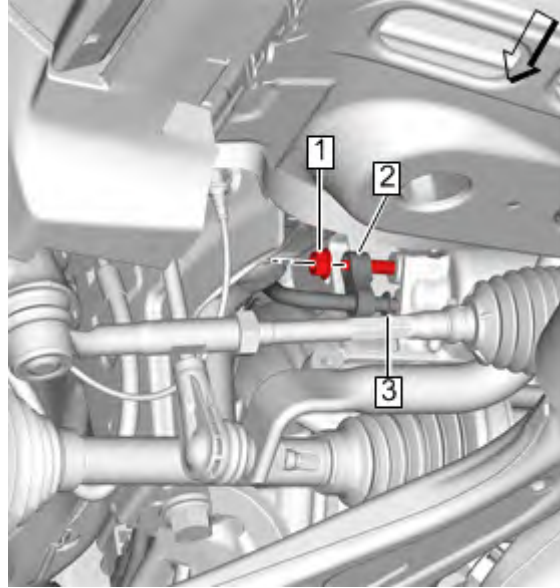


Fig. 43: Transmission Fluid Cooler Inlet and Outlet Pipe And Nut
Courtesy of GENERAL MOTORS COMPANY

6. Remove Transmission Fluid Cooler Inlet and Outlet Pipe Nut (1) @ Transmission
7. Remove Transmission Fluid Cooler Inlet and Outlet Pipe (2) @ Transmission
8. Remove Transmission Fluid Cooler Inlet and Outlet Pipe Seal (3) @ Transmission and DISCARD

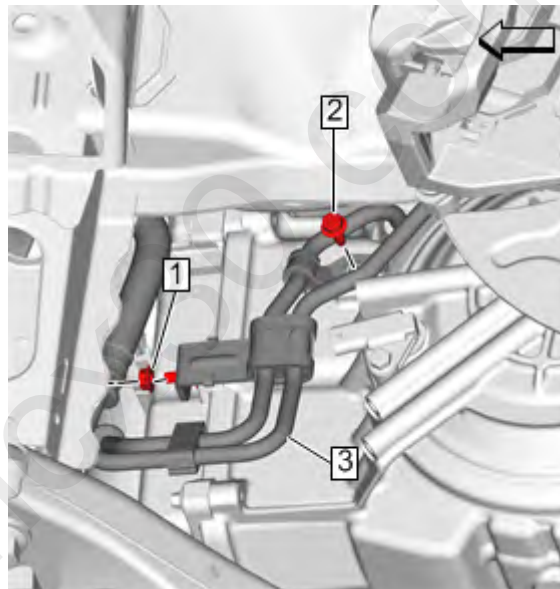


Fig. 44: Transmission Fluid Cooler Inlet and Outlet Pipe, Nut And Bolt
Courtesy of GENERAL MOTORS COMPANY

9. Disconnect the electrical connector.
10. Remove Transmission Fluid Cooler Inlet and Outlet Pipe Nut (1) @ Transmission
11. Remove Transmission Fluid Cooler Inlet and Outlet Pipe Bolt (2) @ Transmission
12. Remove the transmission fluid cooler inlet and outlet pipe (3) from vehicle.

Installation Procedure

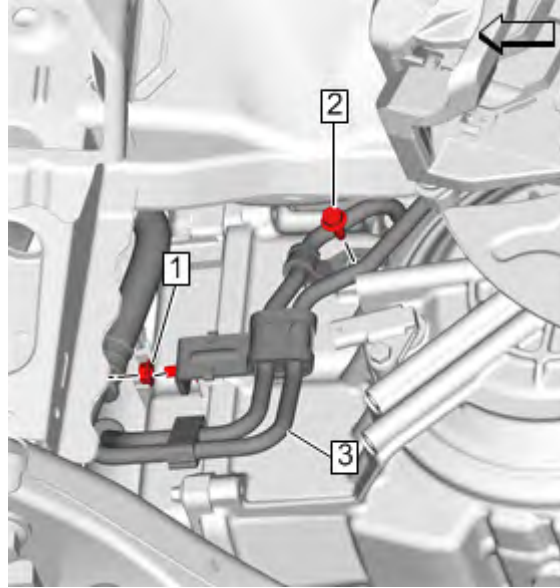


Fig. 45: Transmission Fluid Cooler Inlet and Outlet Pipe, Nut And Bolt
Courtesy of GENERAL MOTORS COMPANY

1. Install the transmission fluid cooler inlet and outlet pipe (3) to vehicle.

CAUTION: Refer to **Fastener Caution** .

2. Install Transmission Fluid Cooler Inlet and Outlet Pipe Bolt (2) @ Transmission and tighten 10 N.m (89 lb in)
3. Install Transmission Fluid Cooler Inlet and Outlet Pipe Nut (1) @ Transmission Fluid Cooler Inlet and Outlet Pipe Bracket and tighten 10 N.m (89 lb in)
4. Connect the electrical connector.

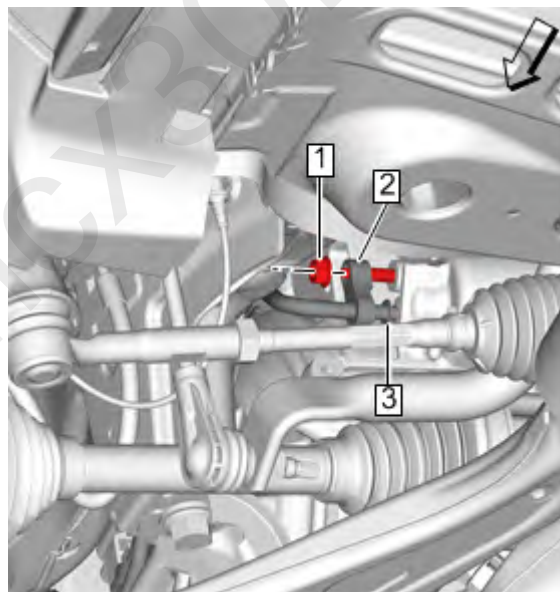


Fig. 46: Transmission Fluid Cooler Inlet and Outlet Pipe And Nut
Courtesy of GENERAL MOTORS COMPANY

5. Install a NEW Transmission Fluid Cooler Inlet and Outlet Pipe Seal (3) @ Transmission
6. Install Transmission Fluid Cooler Inlet and Outlet Pipe (2) @ Transmission
7. Install Transmission Fluid Cooler Inlet and Outlet Pipe Nut (1) @ Transmission and tighten 22 N.m (16 lb ft)

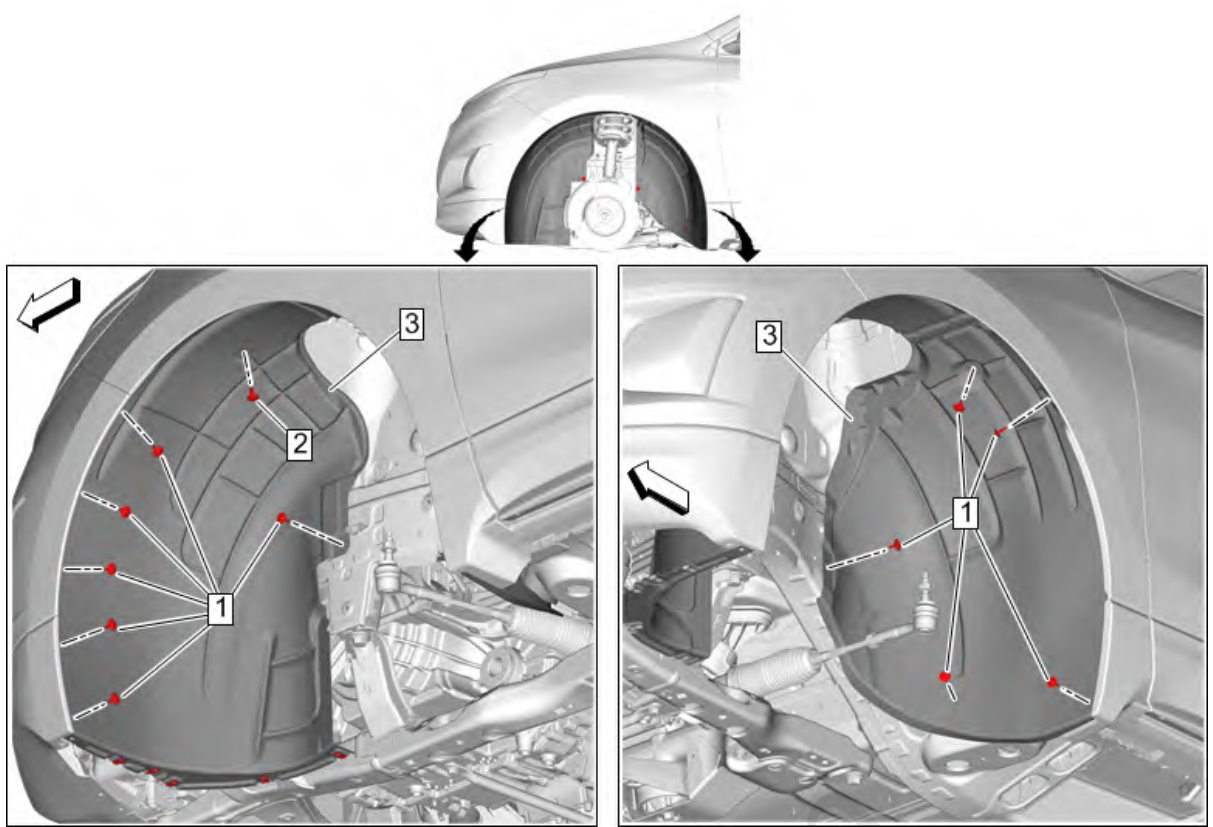


Fig. 47: Front Wheelhouse Liner - Left Side

Courtesy of GENERAL MOTORS COMPANY

8. Install Front Wheelhouse Liner-Left Side (3) - [Front Wheelhouse Liner Replacement - Left Side \(Equinox\)](#) [Front Wheelhouse Liner Replacement - Left Side \(Terrain\)](#)

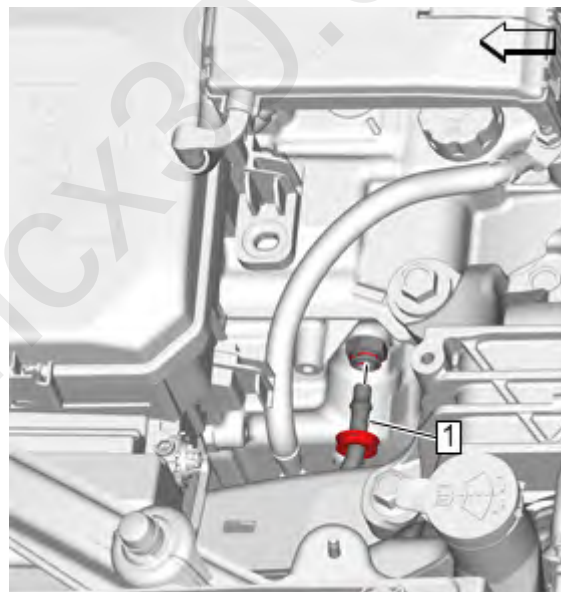


Fig. 48: Transmission Fluid Cooler Inlet and Outlet Pipe

Courtesy of GENERAL MOTORS COMPANY

9. Connect Transmission Fluid Cooler Inlet and Outlet Pipe (1) @ Transmission - [Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection](#)

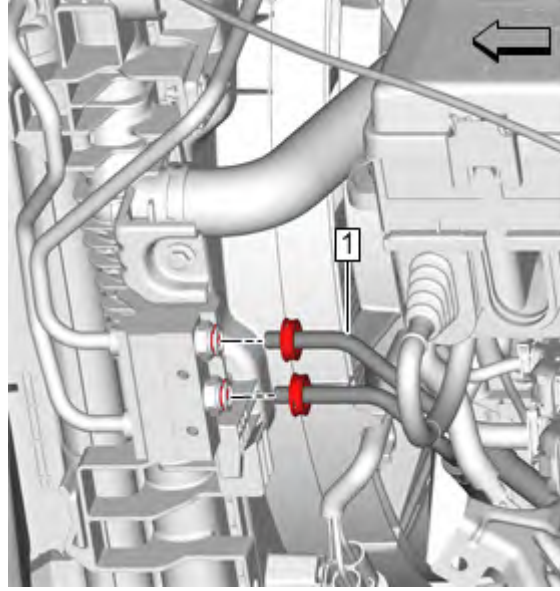


Fig. 49: Transmission Fluid Cooler Inlet and Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

10. Connect Transmission Fluid Cooler Inlet and Outlet Pipe (1) @ Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection

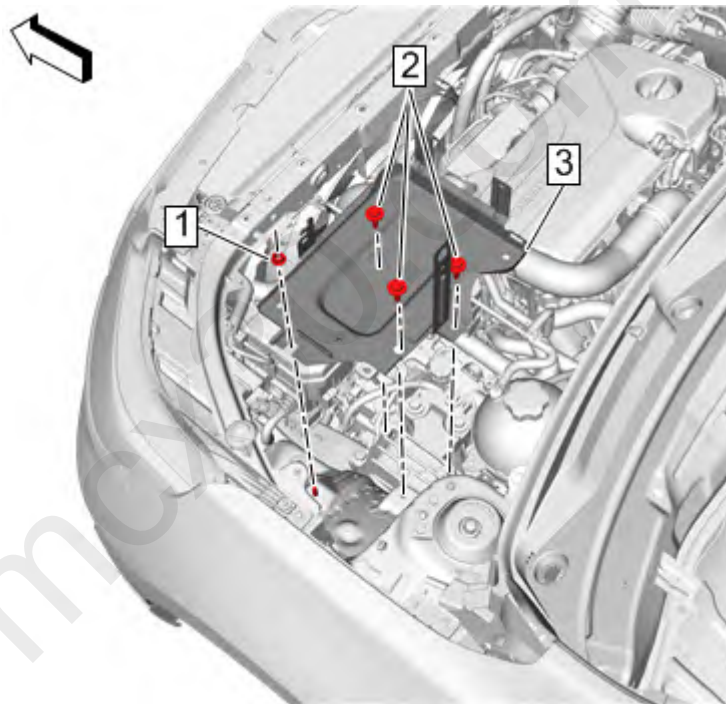


Fig. 50: Battery Tray
Courtesy of GENERAL MOTORS COMPANY

11. Install Battery Tray (3) - Battery Tray Replacement
12. Remove the drain pan.
13. Fill and inspect the transmission fluid level. Refer to Transmission Fluid Level and Condition Check
14. Inspect for transmission fluid leaks.

TRANSMISSION FLUID COOLER PIPE REPLACEMENT

Removal Procedure

1. Remove both headlamps. Headlamp Replacement (Chevrolet) Headlamp Replacement (GMC)
2. Place a drain pan under the vehicle.
3. Remove Dual Horn Dual Horn Replacement

NOTE: Cover or plug all open transmission fluid cooler pipe connection points

to help avoid any accidental contamination.

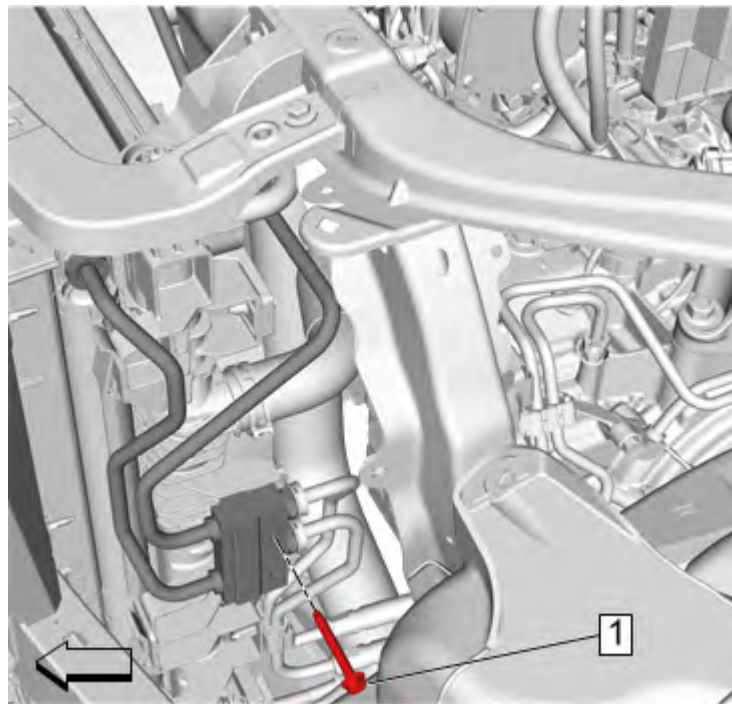


Fig. 51: Transmission Fluid Cooler Pipe Bolt
Courtesy of GENERAL MOTORS COMPANY

4. Remove Transmission Fluid Cooler Pipe Bolt (1)

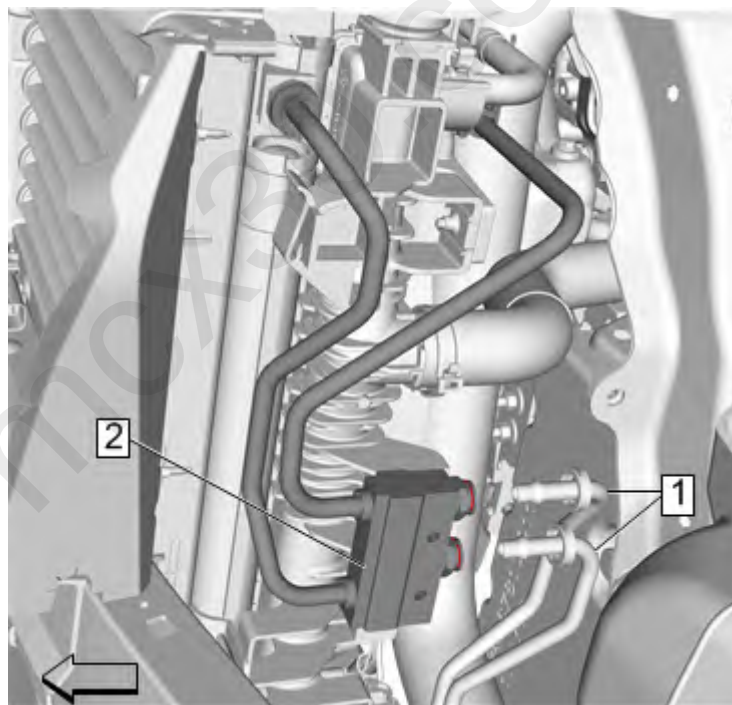


Fig. 52: Transmission Fluid Cooler Inlet and Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

5. Remove Transmission Fluid Cooler Inlet and Outlet Pipe (1) @ Transmission Fluid Cooler Pipe (2) - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**

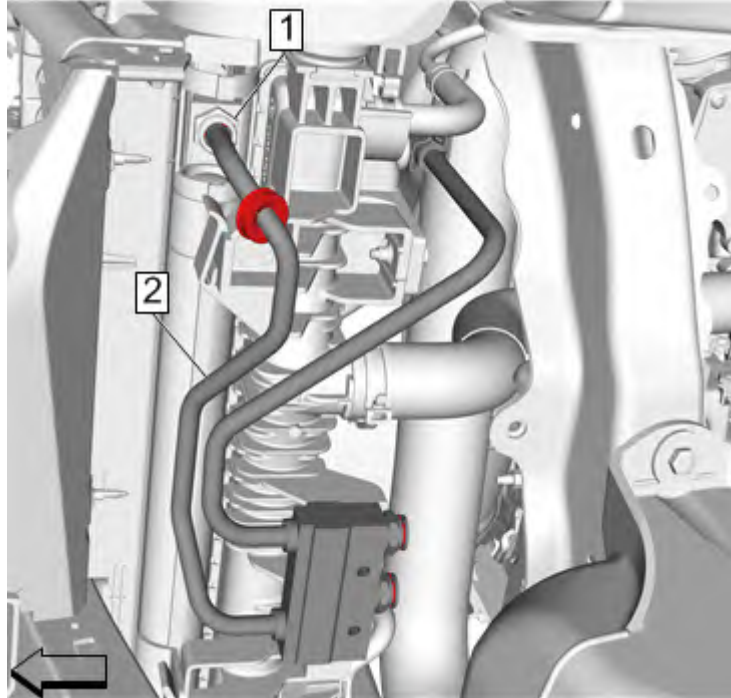


Fig. 53: Transmission Fluid Cooler Pipe

Courtesy of GENERAL MOTORS COMPANY

6. Remove Transmission Fluid Cooler Pipe (2) @ Transmission Fluid Cooler Pipe Connector (1) - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**

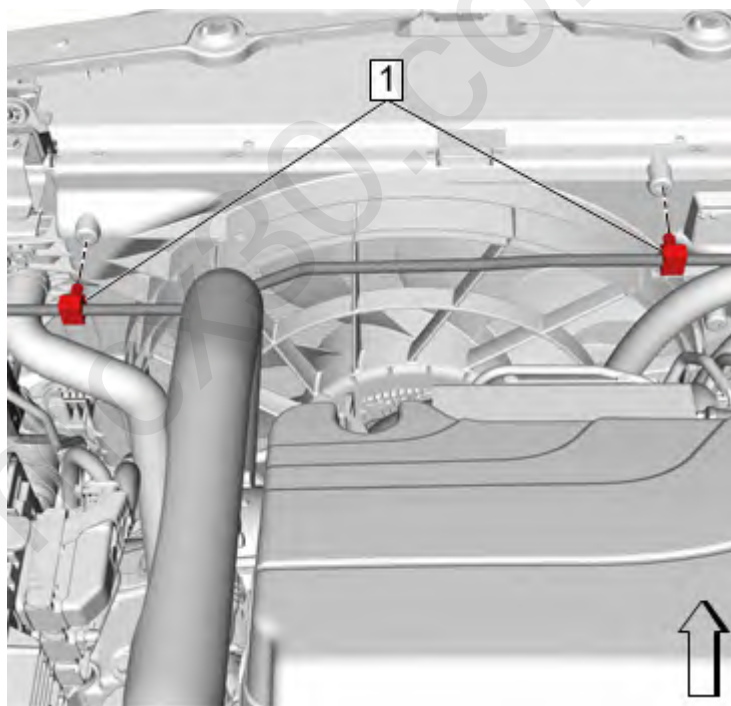


Fig. 54: Transmission Fluid Cooler Pipe Clip

Courtesy of GENERAL MOTORS COMPANY

7. Remove Transmission Fluid Cooler Pipe Clip (1) @ Engine Coolant Fan Shroud

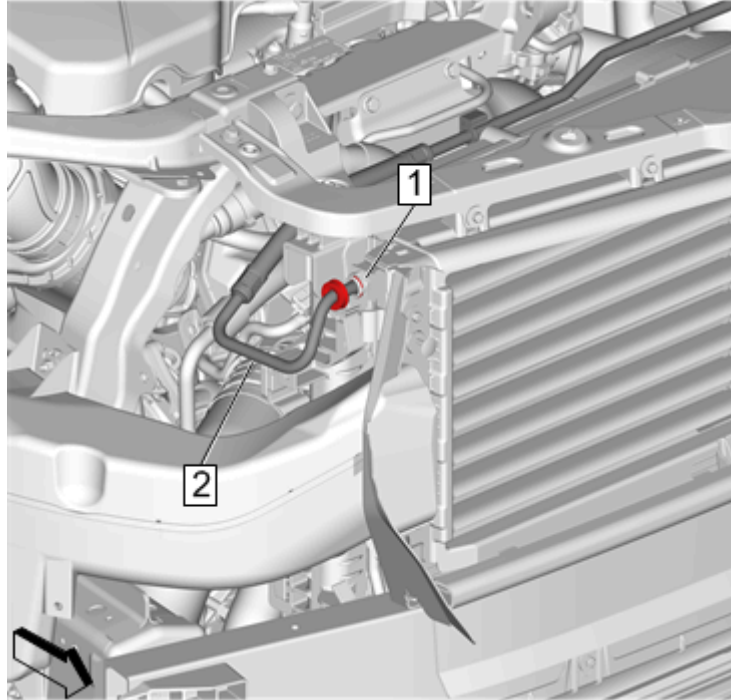


Fig. 55: Transmission Fluid Cooler Pipe

Courtesy of GENERAL MOTORS COMPANY

8. Remove Transmission Fluid Cooler Pipe (2) @ Transmission Fluid Cooler Pipe Connector (1) - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**
9. Remove the transmission fluid cooler pipe from vehicle.

Installation Procedure

1. Position the transmission fluid cooler pipe assembly in the vehicle for installation.

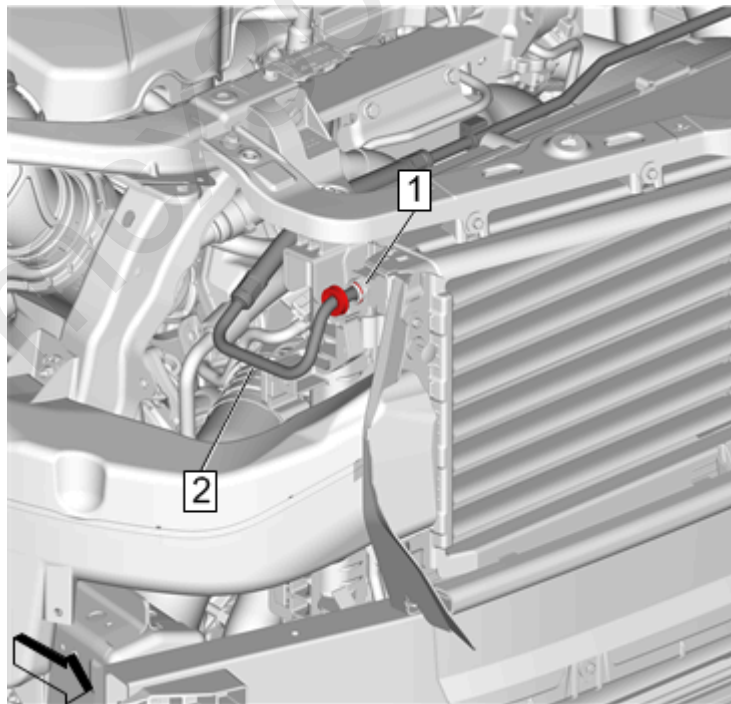


Fig. 56: Transmission Fluid Cooler Pipe

Courtesy of GENERAL MOTORS COMPANY

2. Install Transmission Fluid Cooler Pipe (2) @ Transmission Fluid Cooler Pipe Connector (1) - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**

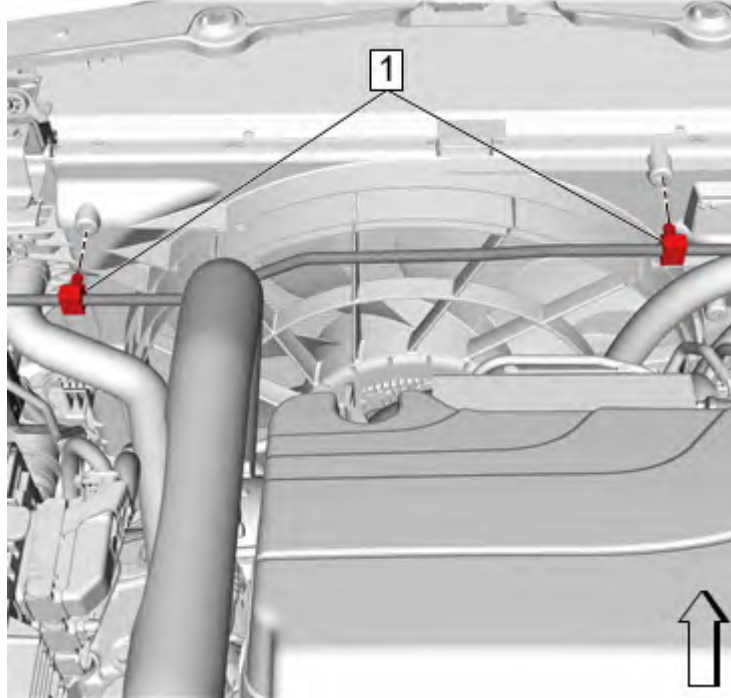


Fig. 57: Transmission Fluid Cooler Pipe Clip
 Courtesy of GENERAL MOTORS COMPANY

3. Install Transmission Fluid Cooler Pipe Clip (1) @ Engine Coolant Fan Shroud

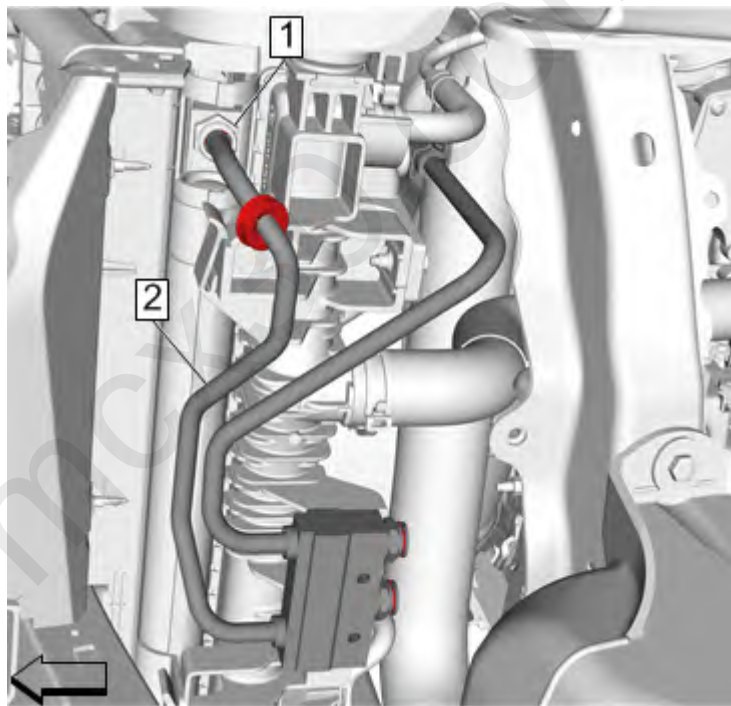


Fig. 58: Transmission Fluid Cooler Pipe
 Courtesy of GENERAL MOTORS COMPANY

4. Install Transmission Fluid Cooler Pipe (2) @ Transmission Fluid Cooler Pipe Connector (1) - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**

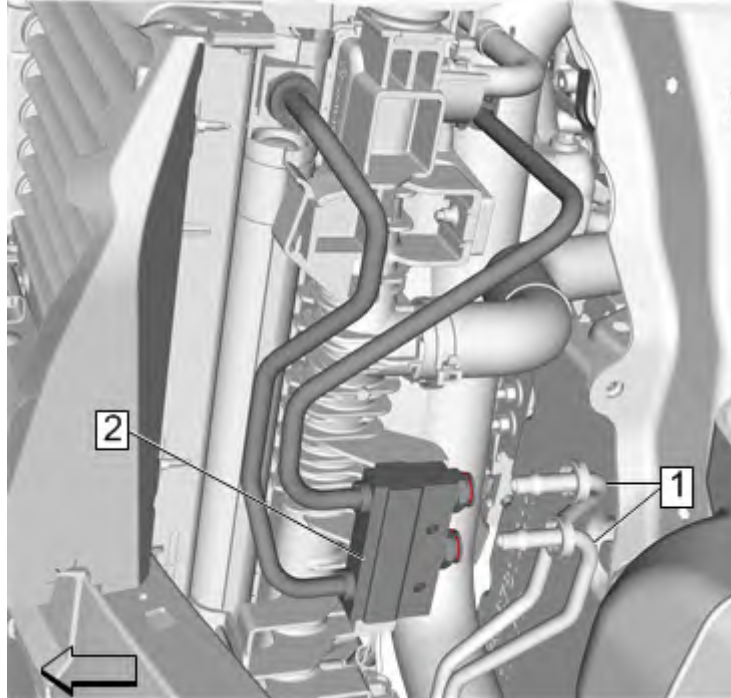


Fig. 59: Transmission Fluid Cooler Inlet and Outlet Pipe
 Courtesy of GENERAL MOTORS COMPANY

5. Install Transmission Fluid Cooler Inlet and Outlet Pipe (1) @ Transmission Fluid Cooler Pipe (2) - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**

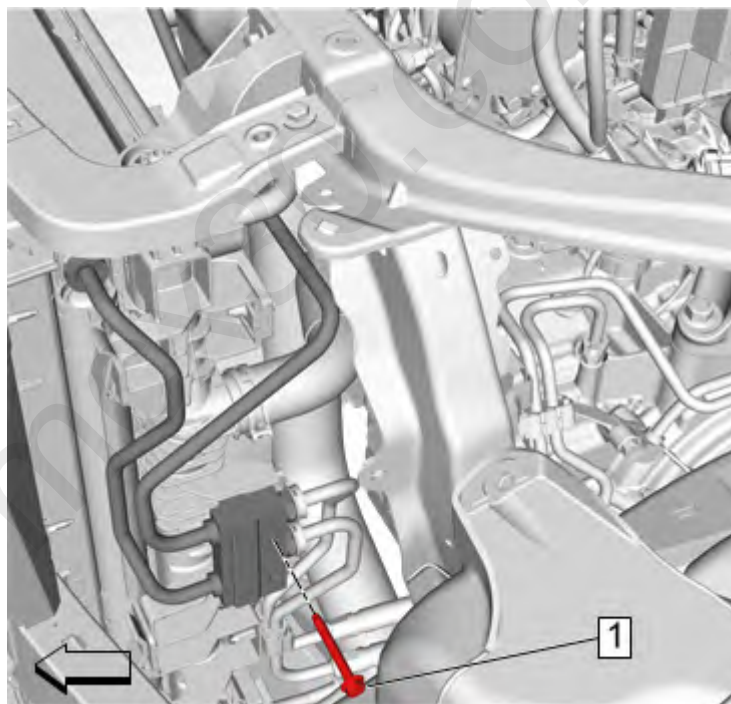


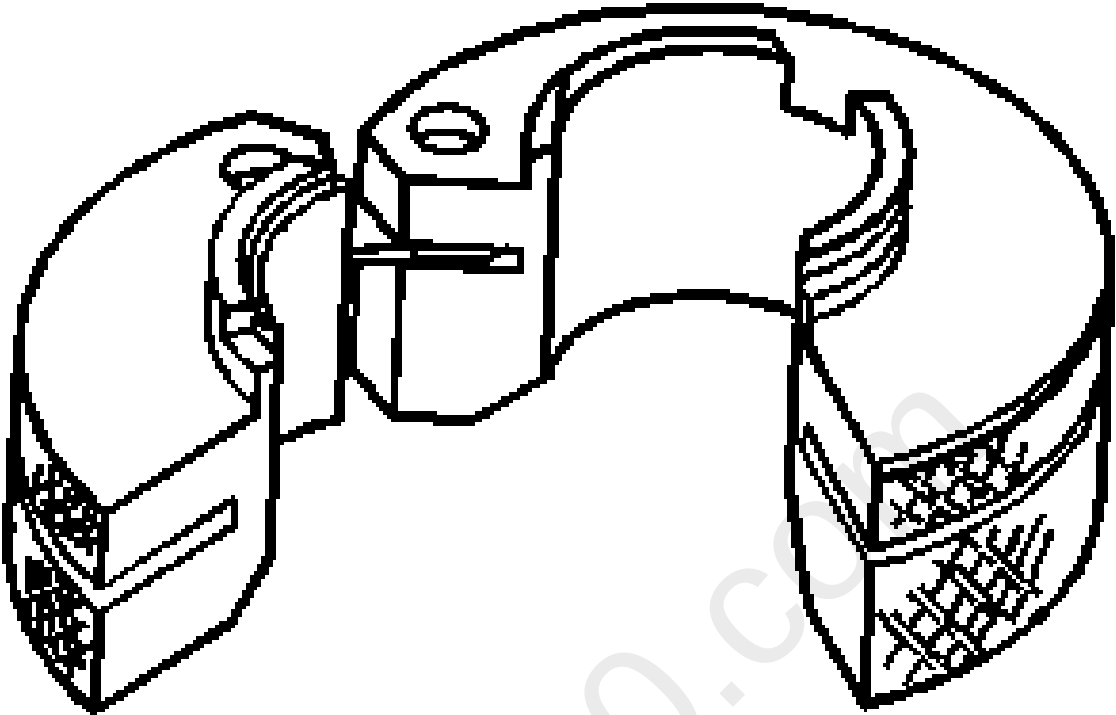
Fig. 60: Transmission Fluid Cooler Pipe Bolt
 Courtesy of GENERAL MOTORS COMPANY

CAUTION: Refer to **Fastener Caution** .

6. Transmission Fluid Cooler Pipe Bolt (1) and tighten 9 N.m (80 lb in)
7. Install Dual Horn **Dual Horn Replacement**
8. Remove the drain pan.
9. Install both headlamps. **Headlamp Replacement (Chevrolet)**, **Headlamp Replacement (GMC)**
10. Fill and inspect the transmission fluid level. **Transmission Fluid Level and Condition Check**
11. Inspect for transmission fluid leaks.

SPECIAL TOOLS AND EQUIPMENT

SPECIAL TOOLS

Illustration	Tool Number/ Description
	DT-41623-B J-41623-B Cooler Quick Connect Tool
	DT -45096 J-45096 Transmission Oil Cooling System Flush and Flow Test Tool

Illustration

Tool
Number/
Description



Illustration	Tool Number/ Description
	DT-45096-50 J-45096-50 Transmission Cooler Flush Adapter