SPECIFICATIONS

FASTENER SPECIFICATIONS

Single Use Non-Threaded Fasteners/Components

NOTE: *All fasteners/components listed in this table MUST BE DISCARDED and replaced with NEW after removal.*
Application
Transmission Fluid Cooler Pipe Fitting Retaining Clip
Transmission Fluid Cooler Pipe Fitting Seal
Transmission Fluid Cooler Pipe O-ring Seal
Transmission Fluid Cooler Thermal Bypass valve Gasket

Reusable Threaded Fastener Tightening Specifications

NOTE: *All fasteners listed in this table can be reused after removal.*	
Application	**Specification** **Metric (English)**
Transmission Fluid Auxiliary Cooler Fastener(LC8, L96 with MYD)	8 (71 lb in)
Transmission Fluid Auxiliary Cooler Fastener(L5P with MW7)	9 (80 lb in)
Transmission Fluid Cooler Pipe Bolt	22 (16 lb ft)
Transmission Fluid Cooler Pipe Connector@Auxiliary Cooler	20 (15 lb ft)
Transmission Fluid Cooler Pipe Connector Bolt	22 (16 lb ft)
Transmission Fluid Cooler Thermal Bypass Valve Bolt	22 (16 lb ft)
Transmission Oil Cooler Fitting @Radiator	24 (18 lb ft)

DIAGNOSTIC INFORMATION AND PROCEDURES

TRANSMISSION OVERHEATS (ALLISON)

cardiagn.com

Condition	Action
Aerated fluid- incorrect fluid level	• Adjust fluid to the proper level. Refer to **Transmission Fluid Level and Condition Check** . • Inspect for a defective pump.
Air flow to cooler obstructed	Remove the air flow obstruction.
Engine overheat	Correct the overheating condition. Refer to **Symptoms - Engine Cooling** .
Inaccurate temperature gauge or sending unit	Replace the gauge and/or sending unit.
Inaccurate sump temperature sensor	Replace the pressure switch manifold (PSM) or internal harness. Refer to **Pressure Switch Manifold Replacement** , or **Wiring Harness Replacement** .
Excessive cooler circuit pressure drop	Inspect for plugged cooler, lines too small, collapsed hose, too many elbows in circuit.
Transmission cooler lines reversed	Connect the cooler lines properly. Oil and water should flow in opposite directions.
Fluid cooler lines restricted	Remove restrictions and clean or replace the lines. Refer to **Transmission Fluid Cooler Inlet Pipe Replacement (L5P with MW7)**.
Torque converter- wrong converter, no torque converter clutch, stuck stator, or slipping stator	Replace or repair the converter assembly. Refer to **Torque Converter Replacement** . A stuck stator will not allow cool down in Neutral.
Cooler flow loss due to internal transmission leakage	Overhaul the transmission.

TRANSMISSION FLUID COOLER FLOW TEST AND FLUSHING (6L80 OR 6L90)

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

cardiagn.com

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-45096-30** Transmission Cooler Flush Adapter
- **J-35944-200A** Cooler Flushing Adapter
- Shop air supply with water/oil filters, regulator and pressure gauge - minimum 90 psi
- Eye protection
- Rubber gloves

Machine Set-up

cardiagn.com

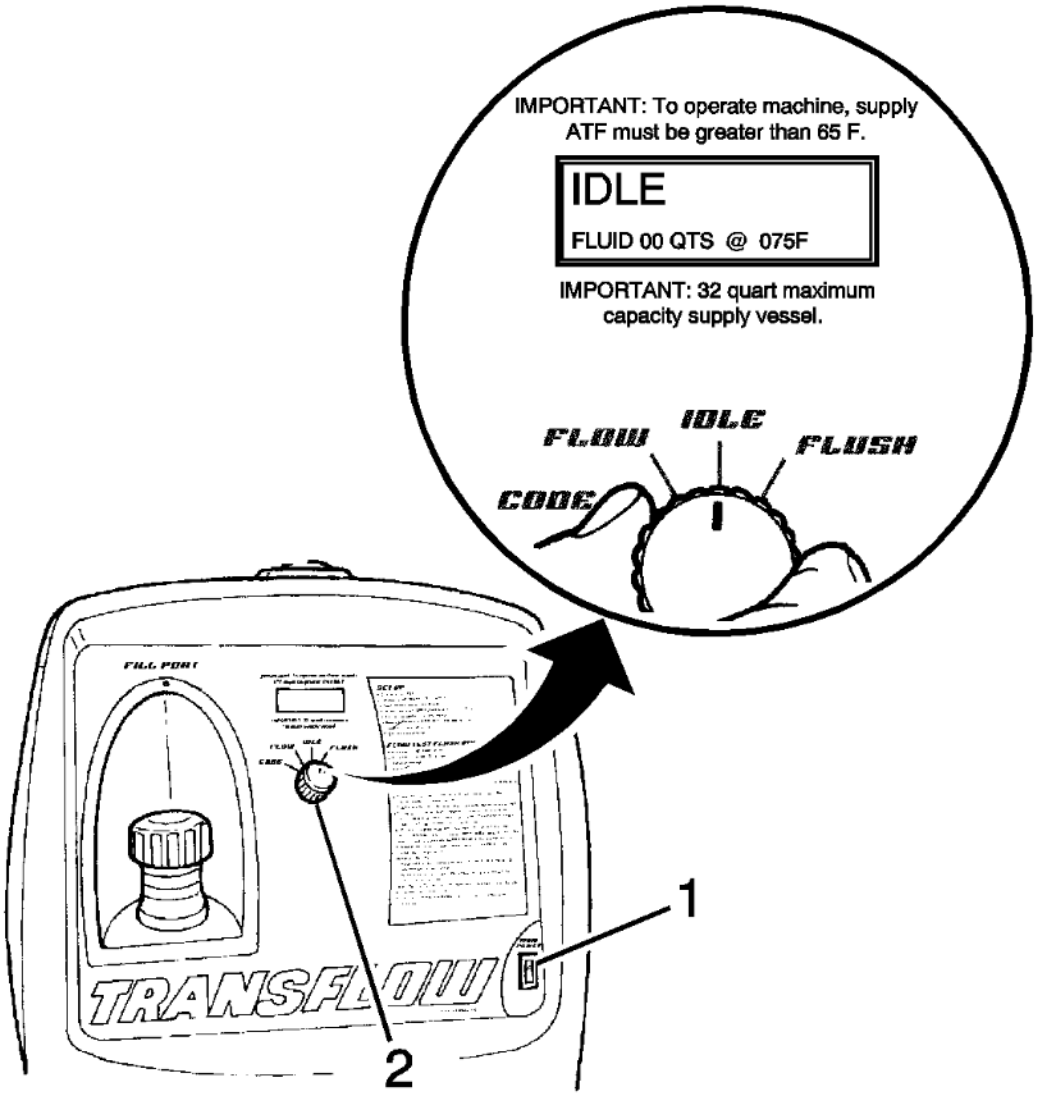


Fig. 1: View Of Main Power Switch & Main Function Switch
Courtesy of GENERAL MOTORS COMPANY

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

cardiagn.com

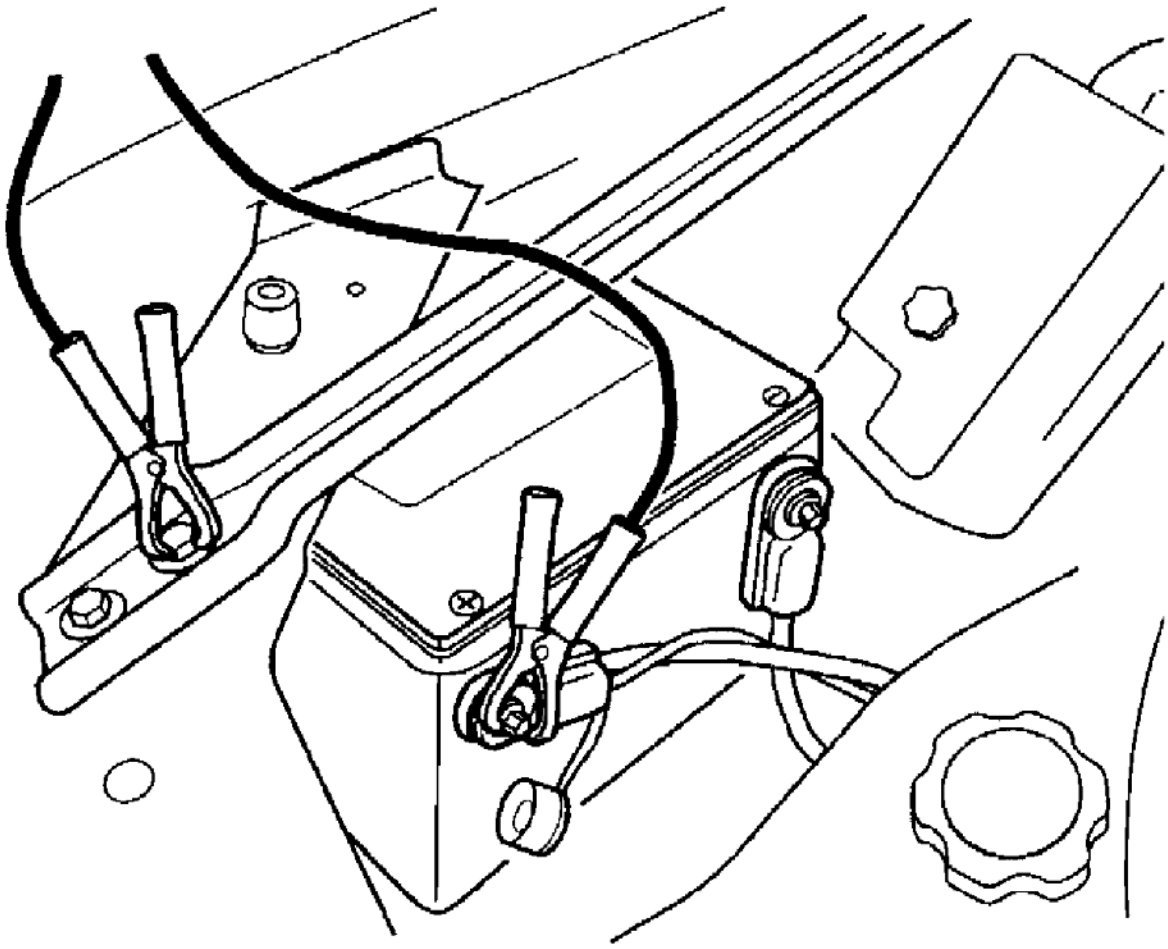


Fig. 2: Connecting To 12V DC Power Source
Courtesy of GENERAL MOTORS COMPANY

3. Connect **DT-45096** transmission oil cooling system 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.

cardiagn.com

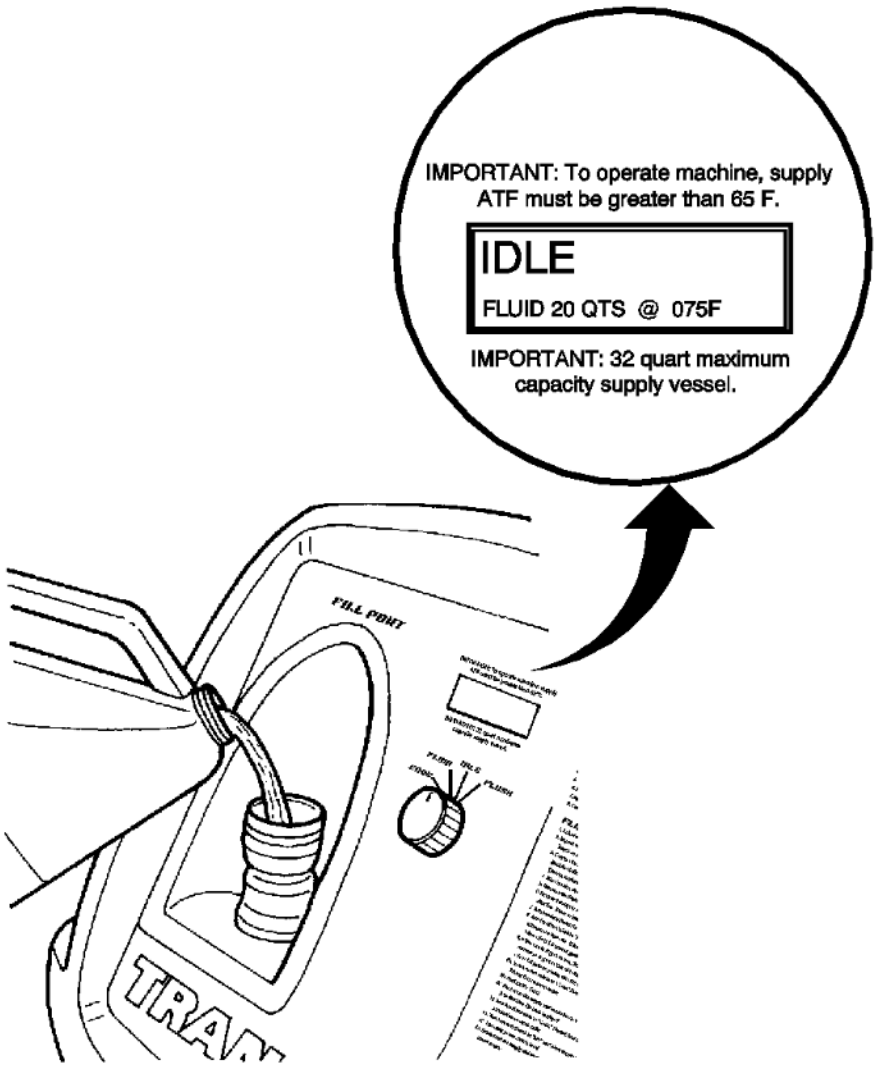


Fig. 3: Filling Supply Tank With Transmission Fluid
Courtesy of GENERAL MOTORS COMPANY

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.

cardiagn.com

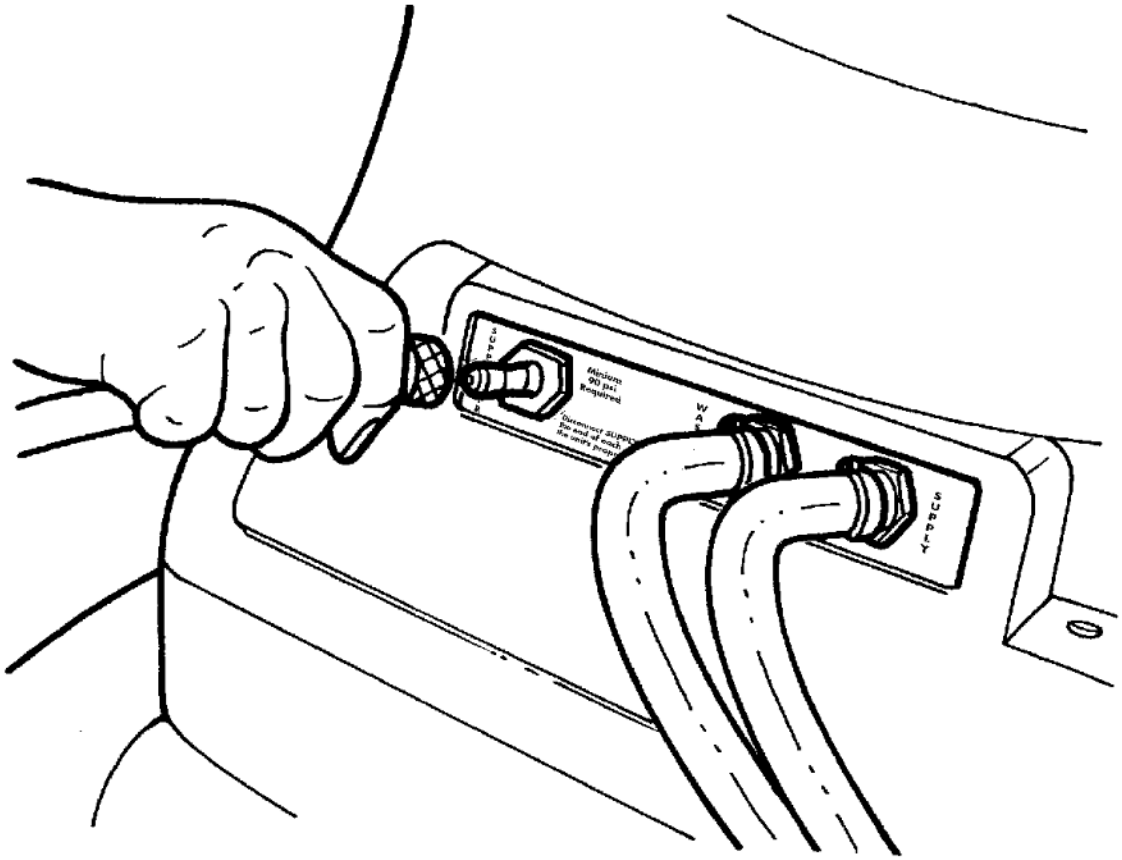


Fig. 4: Applying Shop Air Supply Hose To Quick-Disconnect
Courtesy of GENERAL MOTORS COMPANY

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

Determine Minimum Flow Rate

cardiagn.com

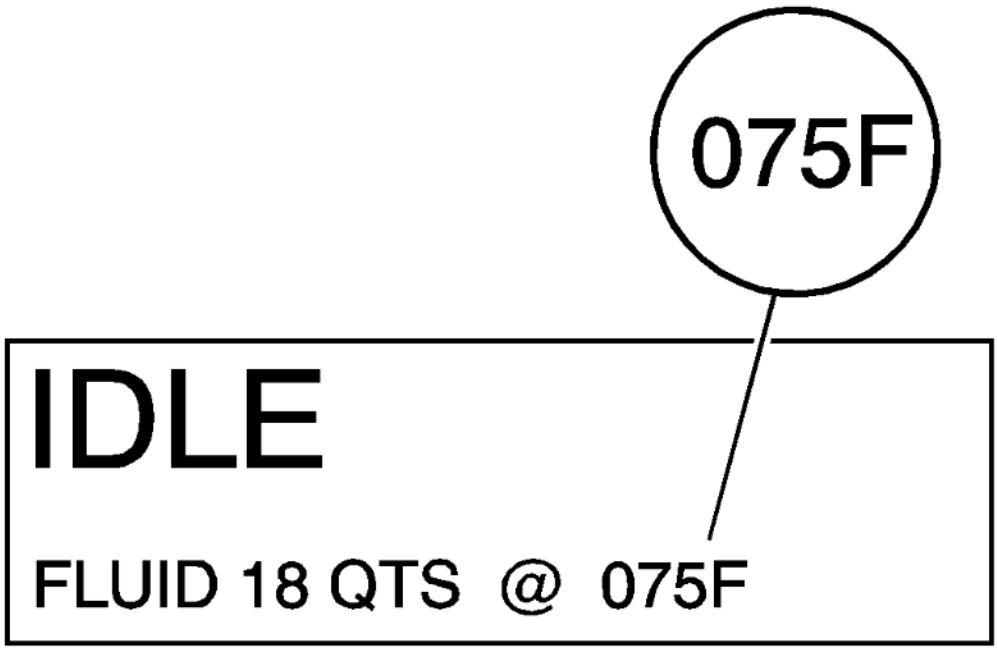


Fig. 5: Identifying Machine Display Of Automatic Transmission Fluid Temperature
Courtesy of GENERAL MOTORS COMPANY

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.

cardiagn.com

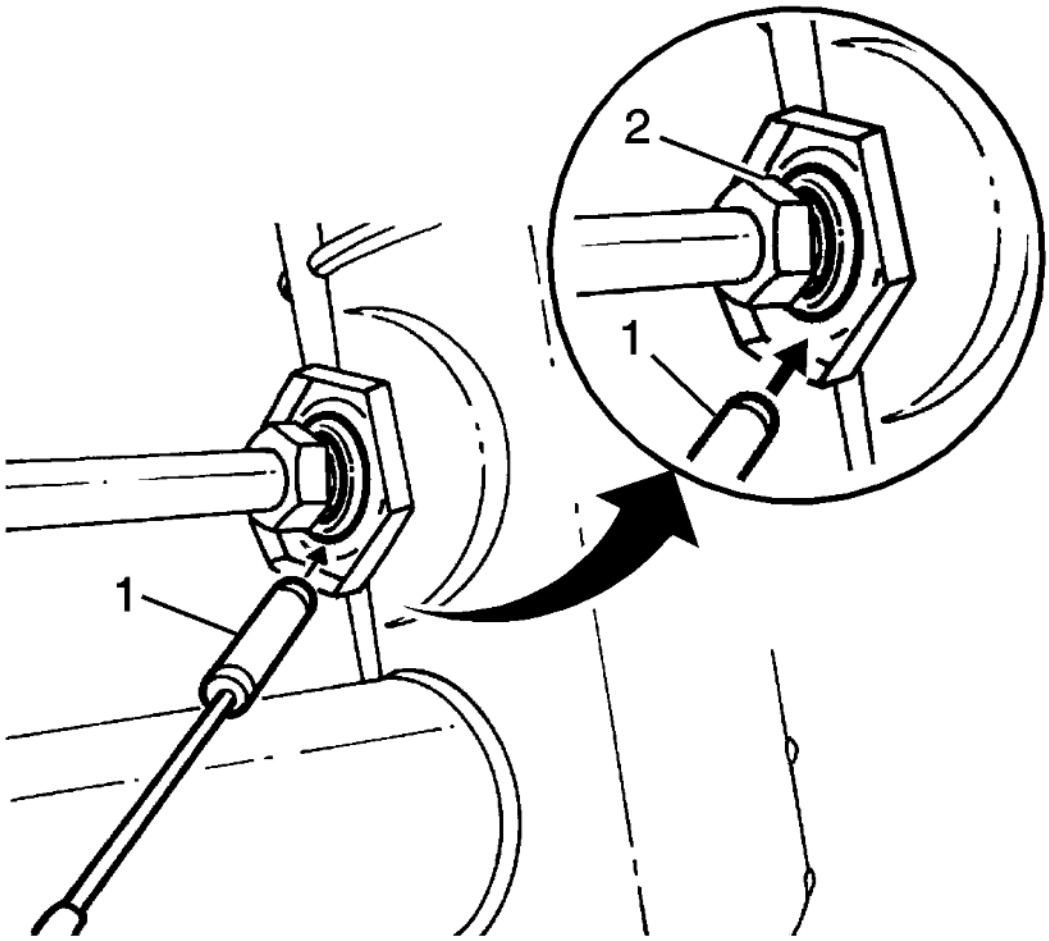


Fig. 6: Identifying Transmission Oil Cooler Metal Composition
Courtesy of GENERAL MOTORS COMPANY

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: 75Â°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 manual procedures.

***Minimum Flow Rate in Gallons Per Minute (gpm)**

Temperature Range	Aluminum

cardiagn.com

Temperature Range	Aluminum
65 - 77Â°F	0.5 gpm
78 - 86Â°F	0.6 gpm
87 - 94Â°F	0.7 gpm
95 - 101Â°F	0.8 gpm
102 - 105Â°F	0.9 gpm
106 - 108Â°F	1.0 gpm
109 - 112Â°F	1.1 gpm
113 - 115Â°F	1.2 gpm
116 - 118Â°F	1.3 gpm
119 - 120Â°F	1.4 gpm

*A measured flow rate that is 0.1 gpm lower than the minimum flow rate specification does not necessarily indicate a failed cooling system. Variation in fluid temperature, air pressure and the tool rounding variation can cause a lower minimum flow reading.

Back Flush Procedure

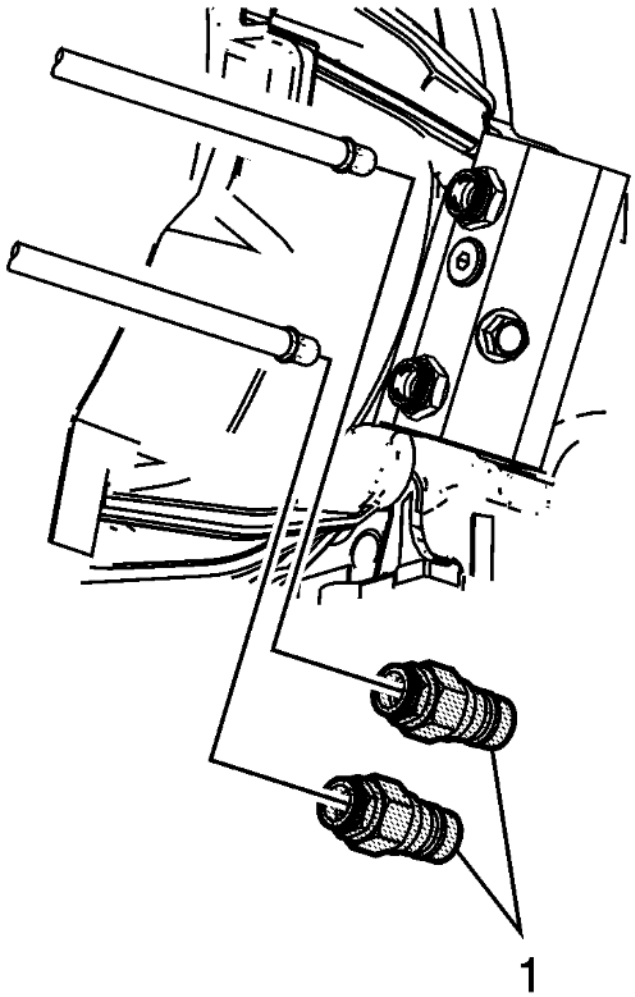


Fig. 7: Cooler Flushing Adapters
Courtesy of GENERAL MOTORS COMPANY

cardiagn.com

1. If equipped with bypass valve, disconnect the oil cooler lines from the bypass valve.
2. If equipped with bypass valve, connect the **J-35944-200A** cooler flushing adapter (1) to the vehicle transmission oil cooler supply and return lines at the transmission.

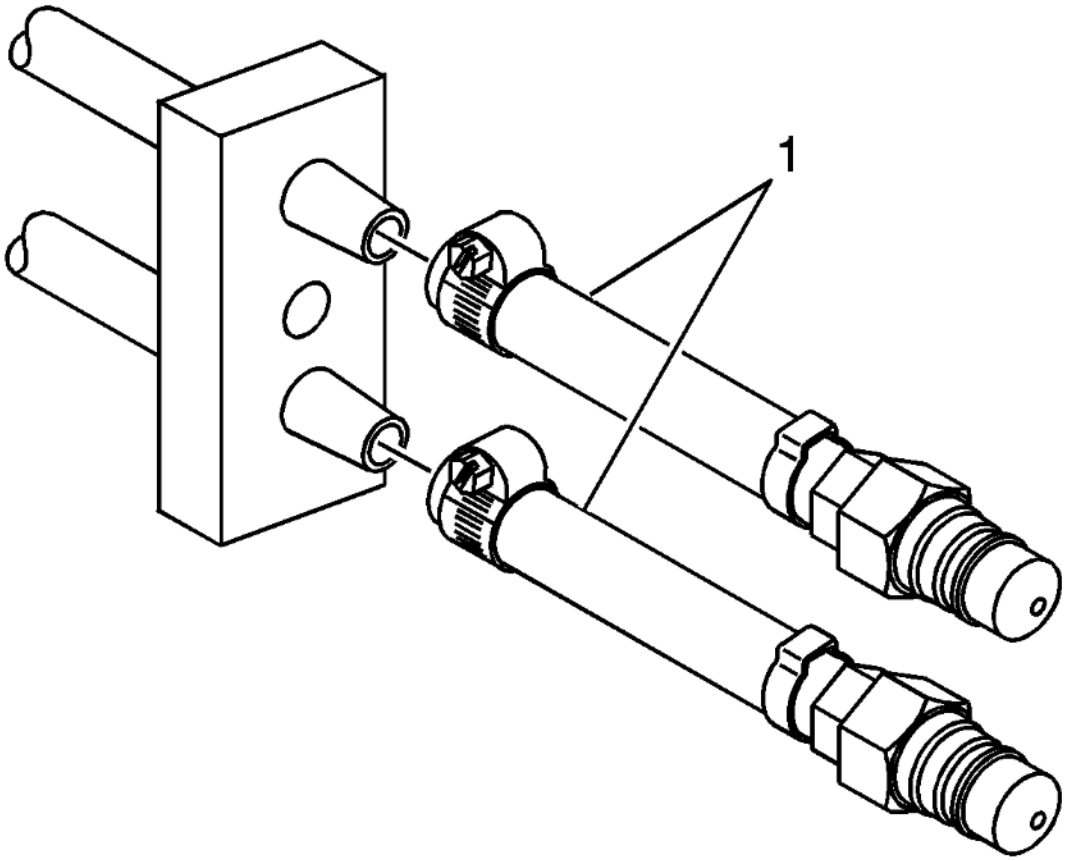


Fig. 8: Cooler Flush Adapters
Courtesy of GENERAL MOTORS COMPANY

3. If not equipped with the bypass valve, connect the **DT-45096-30** cooler flush adapter (1) to the vehicle transmission oil cooler supply and return lines at the transmission.

cardiagn.com

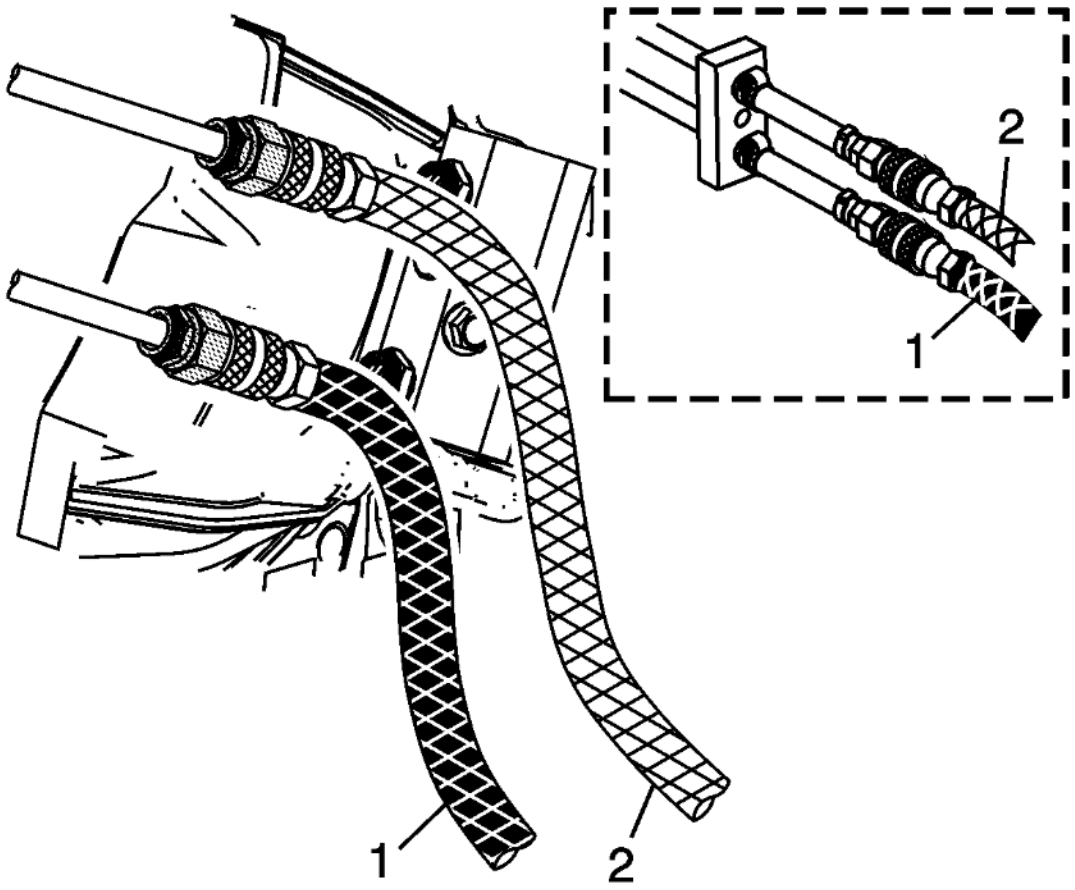


Fig. 9: Black Supply Hose
Courtesy of GENERAL MOTORS COMPANY

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

cardiagn.com

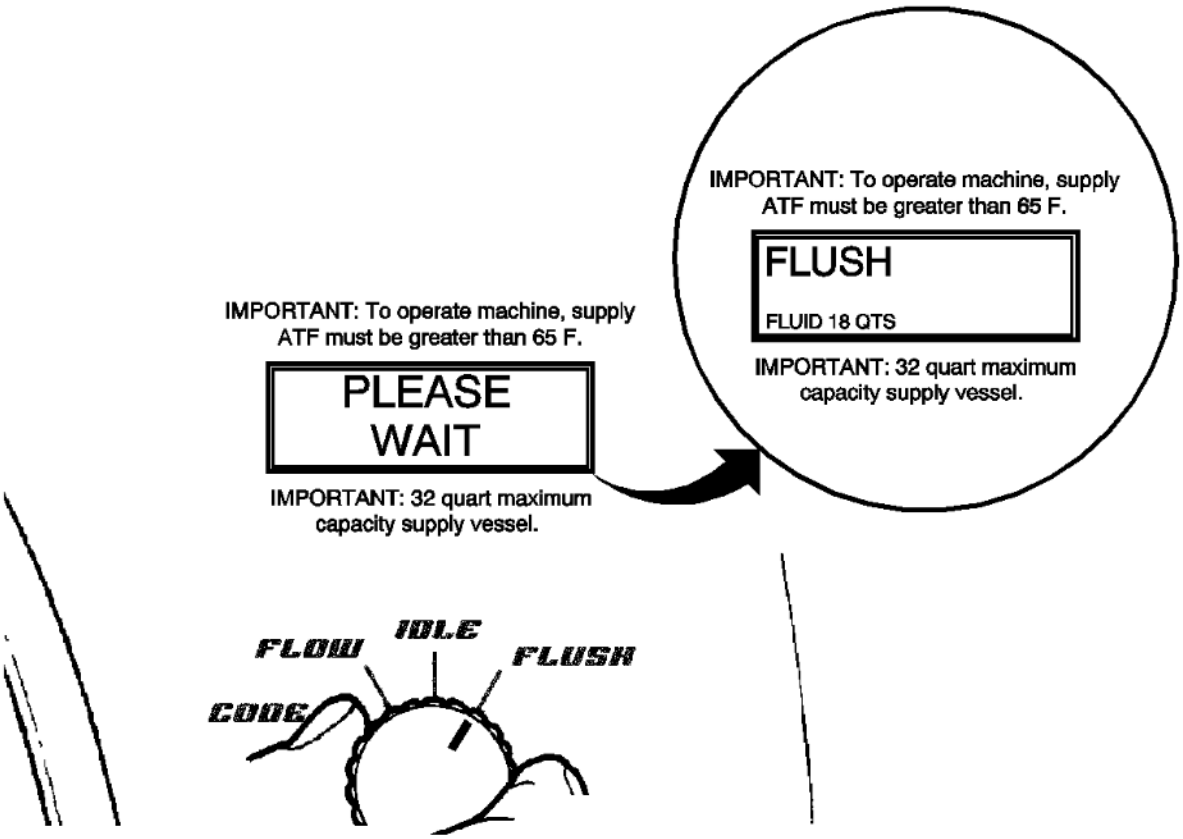


Fig. 10: View Of Main Function Switch FLUSH Position
Courtesy of GENERAL MOTORS COMPANY

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

cardiagn.com

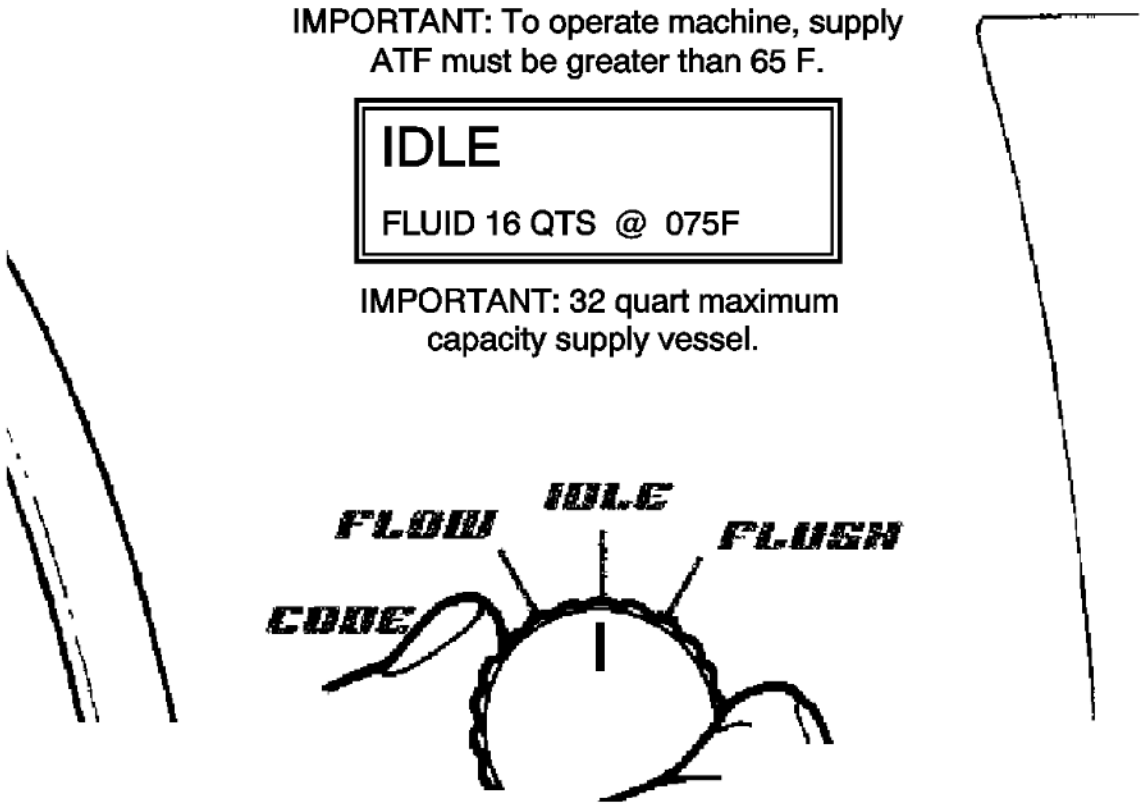


Fig. 11: View Of Main Function Switch IDLE Position
Courtesy of GENERAL MOTORS COMPANY

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

Forward Flush

cardiagn.com

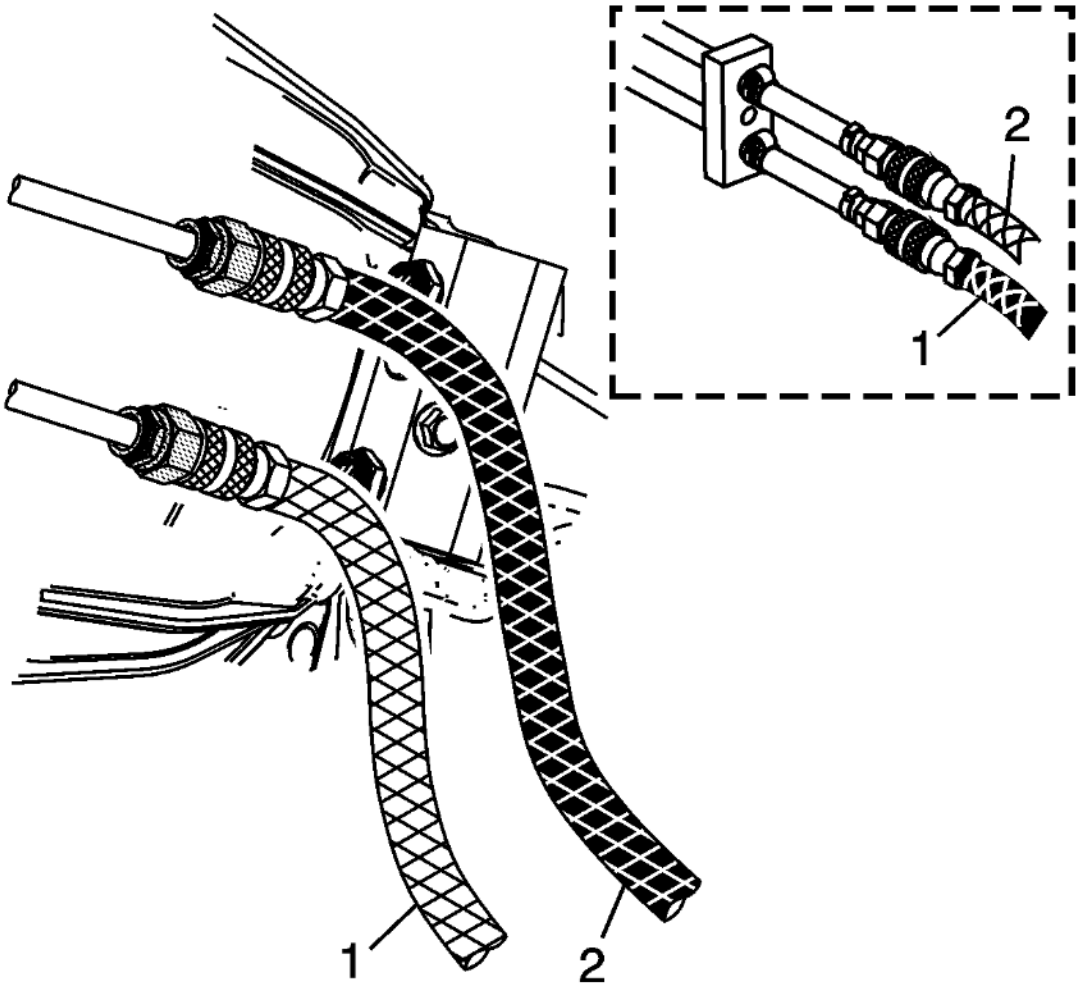


Fig. 12: Supply And Waste Hoses
Courtesy of GENERAL MOTORS COMPANY

1. Disconnect the supply and waste hoses from the vehicle cooler lines. Reverse the supply hose (2) and waste hose (1) to provide a normal flow direction.

cardiagn.com

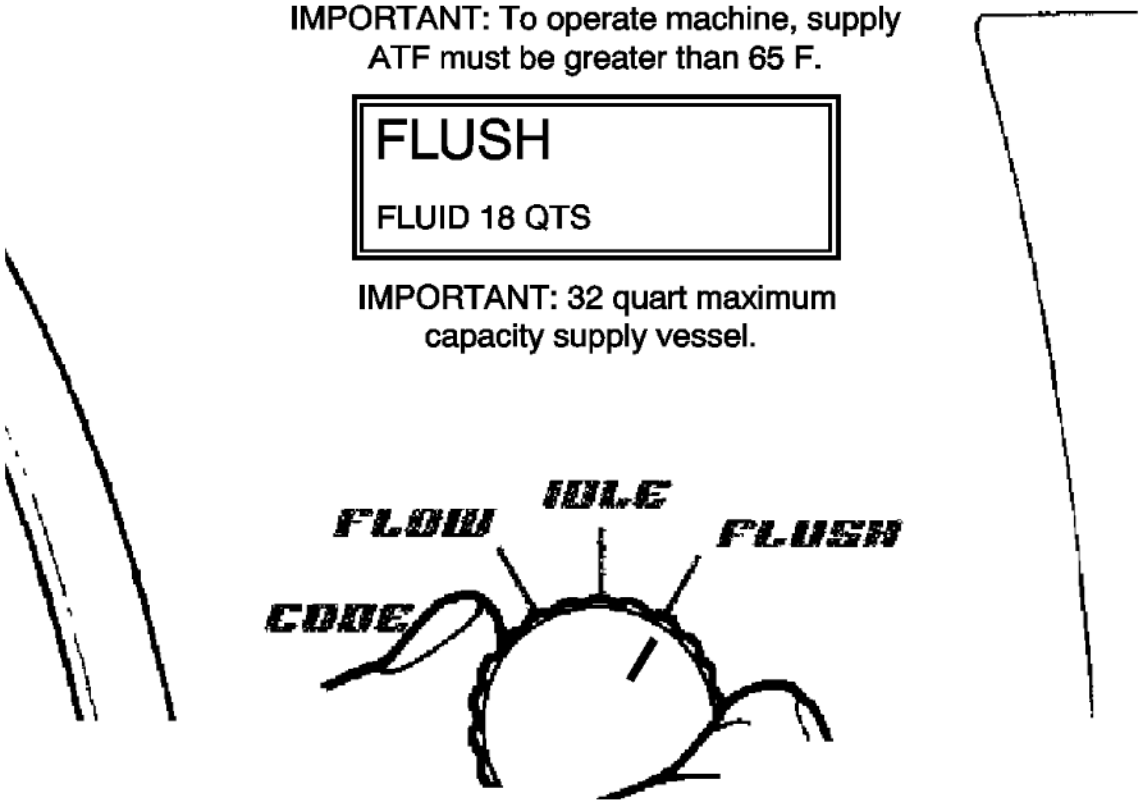


Fig. 13: View Of Main Function Switch FLUSH Position
Courtesy of GENERAL MOTORS COMPANY

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

Flow Test

cardiagn.com

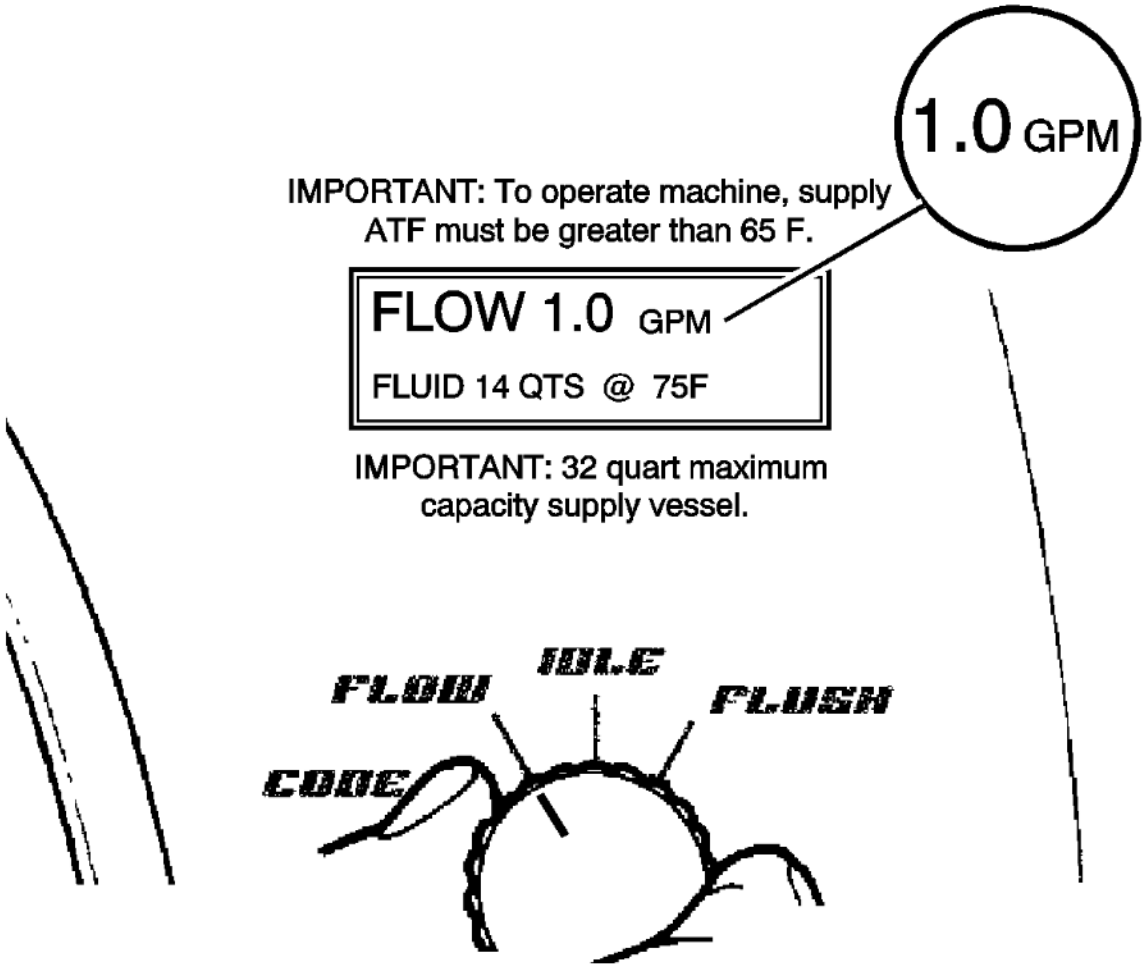


Fig. 14: View Of Main Function Switch FLOW Position
Courtesy of GENERAL MOTORS COMPANY

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

cardiagn.com

Test.

3. Perform Code Recording Procedure.

Code Recording Procedure

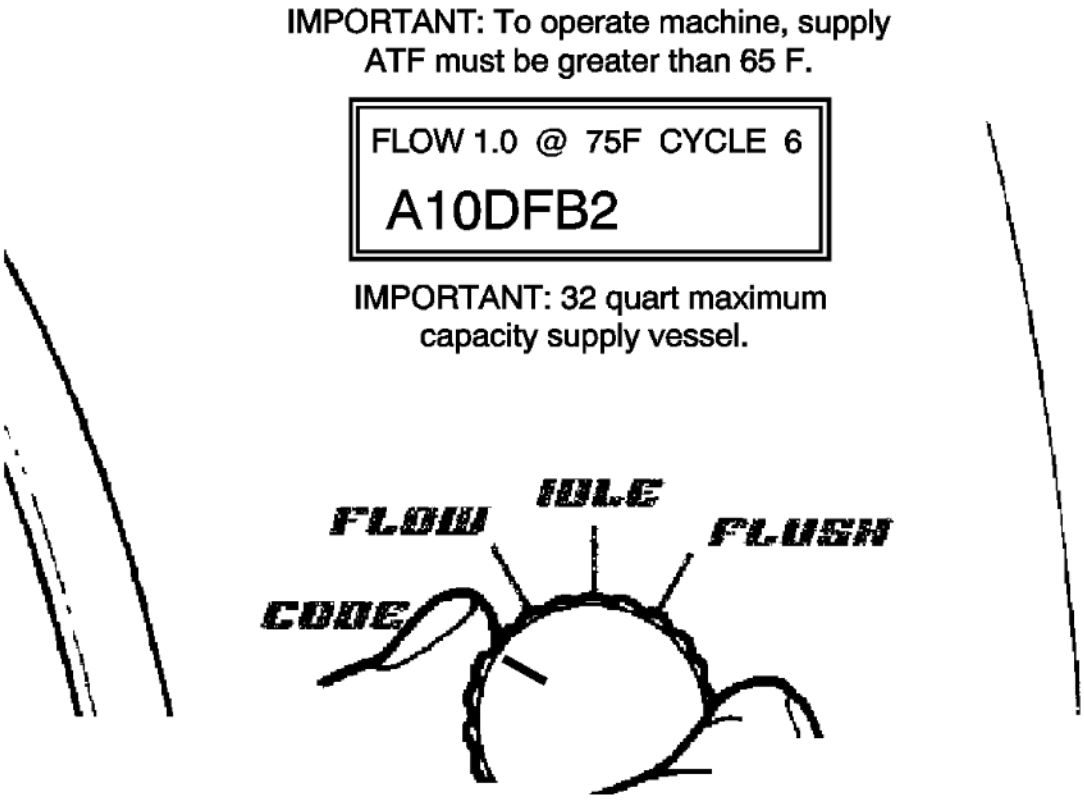


Fig. 15: View Of Main Function Switch CODE Position
Courtesy of GENERAL MOTORS COMPANY

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.

cardiagn.com

Clean-up

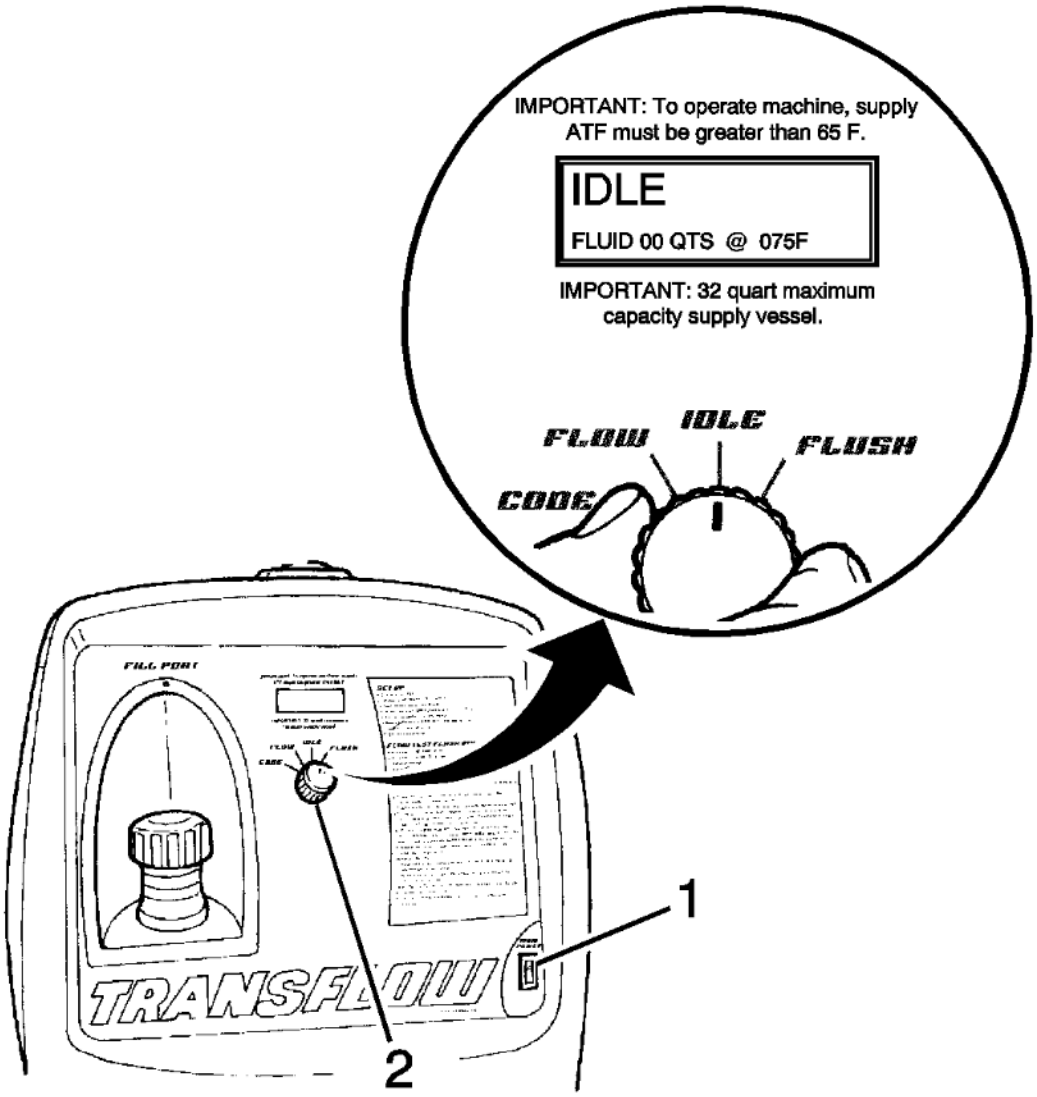


Fig. 16: View Of Main Power Switch & Main Function Switch
Courtesy of GENERAL MOTORS COMPANY

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.

cardiagn.com

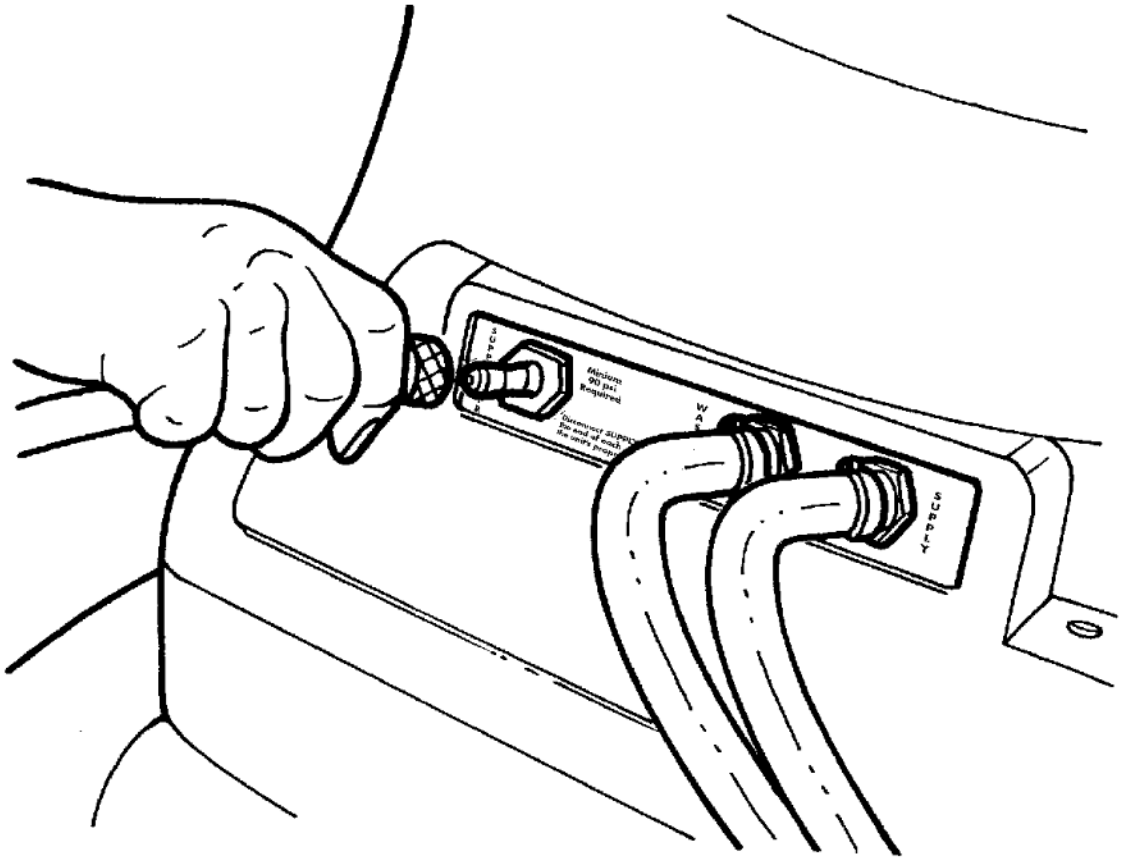


Fig. 17: Applying Shop Air Supply Hose To Quick-Disconnect
Courtesy of GENERAL MOTORS COMPANY

4. Disconnect the air supply hose from **DT-45096** flush and flow test tool.
5. Remove the **DT-45096-30** or the **J-35944-200A** adapters.
6. Dispose of the waste automatic transmission fluid in accordance with all applicable federal, state, and local requirements.

TRANSMISSION FLUID COOLER FLOW TEST AND FLUSHING (ALLISON)

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**

cardiagn.com

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-45096-23** TransFlow Adapters.
- Shop air supply with water/oil filters, regulator and pressure gauge - minimum 90 psi
- Eye protection
- Rubber gloves

For equivalent regional tools, refer to **Special Tools**.

Machine Set-up

cardiagn.com

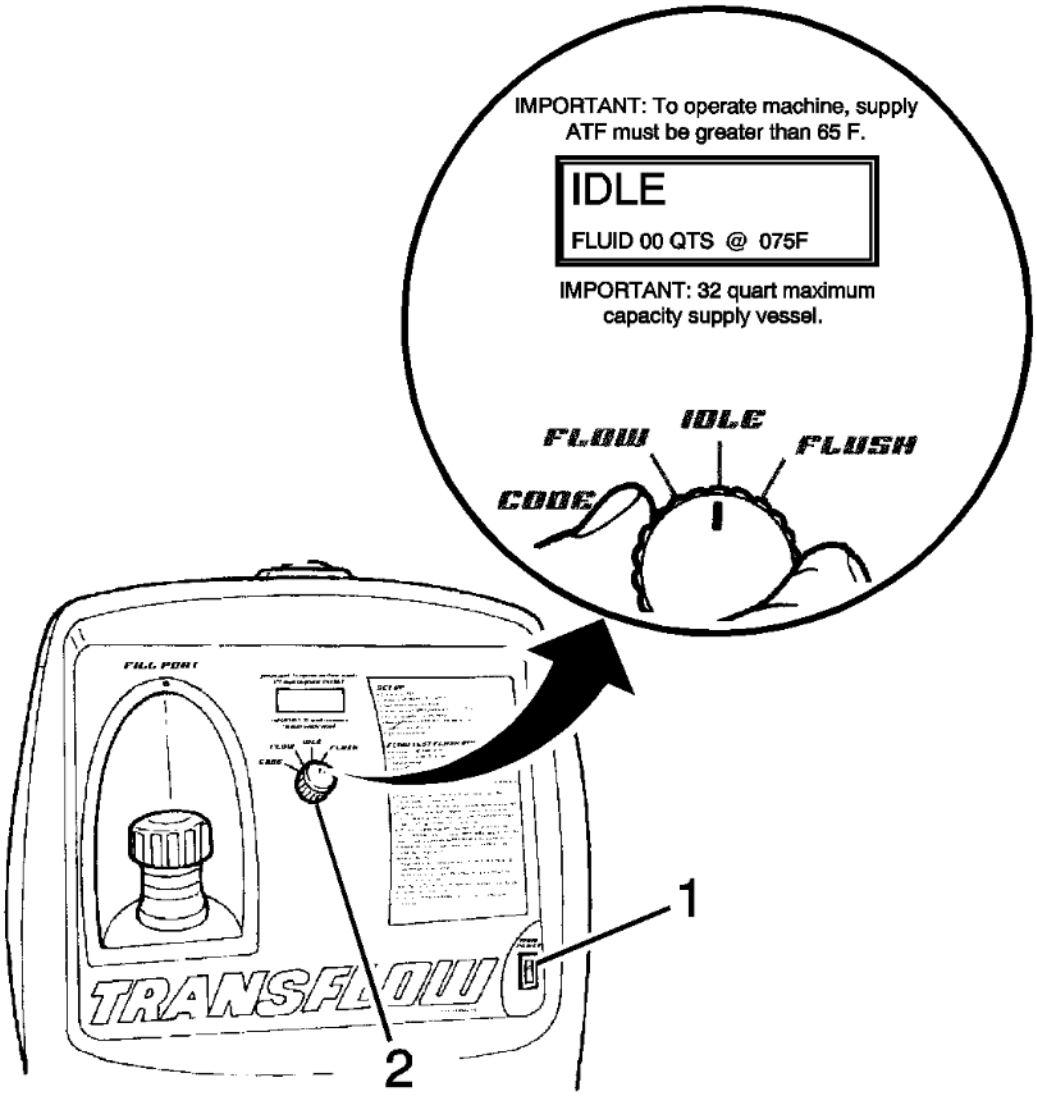


Fig. 18: View Of Main Power Switch & Main Function Switch
Courtesy of GENERAL MOTORS COMPANY

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

cardiagn.com

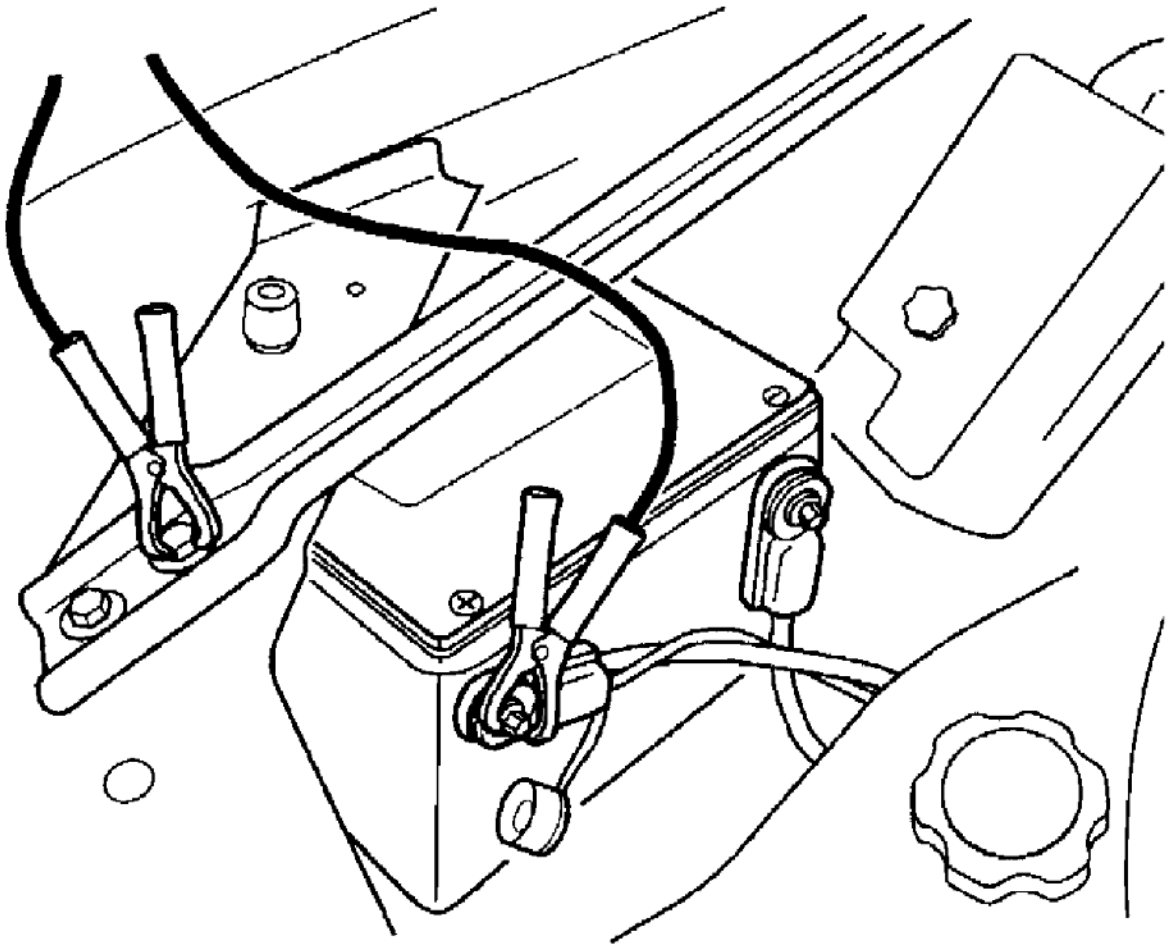


Fig. 19: Connecting To 12V DC Power Source
Courtesy of GENERAL MOTORS COMPANY

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.

cardiagn.com

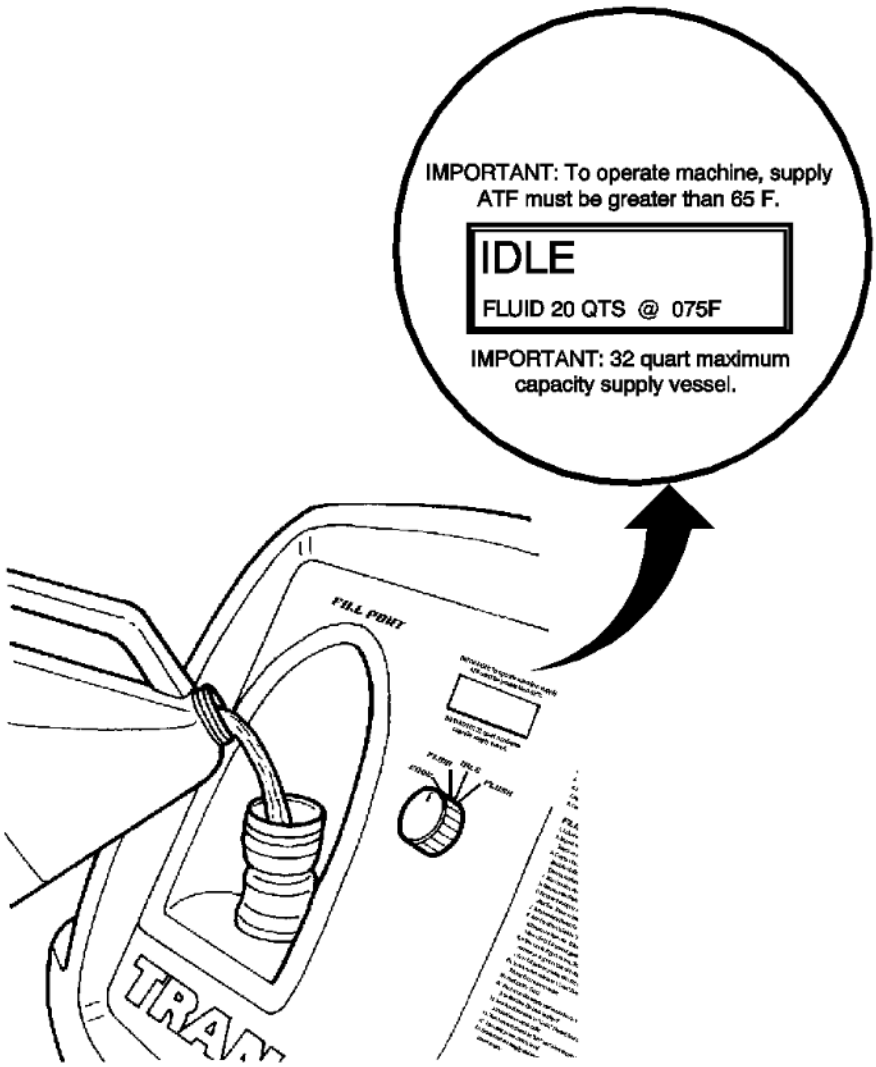


Fig. 20: Filling Supply Tank With Transmission Fluid
Courtesy of GENERAL MOTORS COMPANY

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.

cardiagn.com

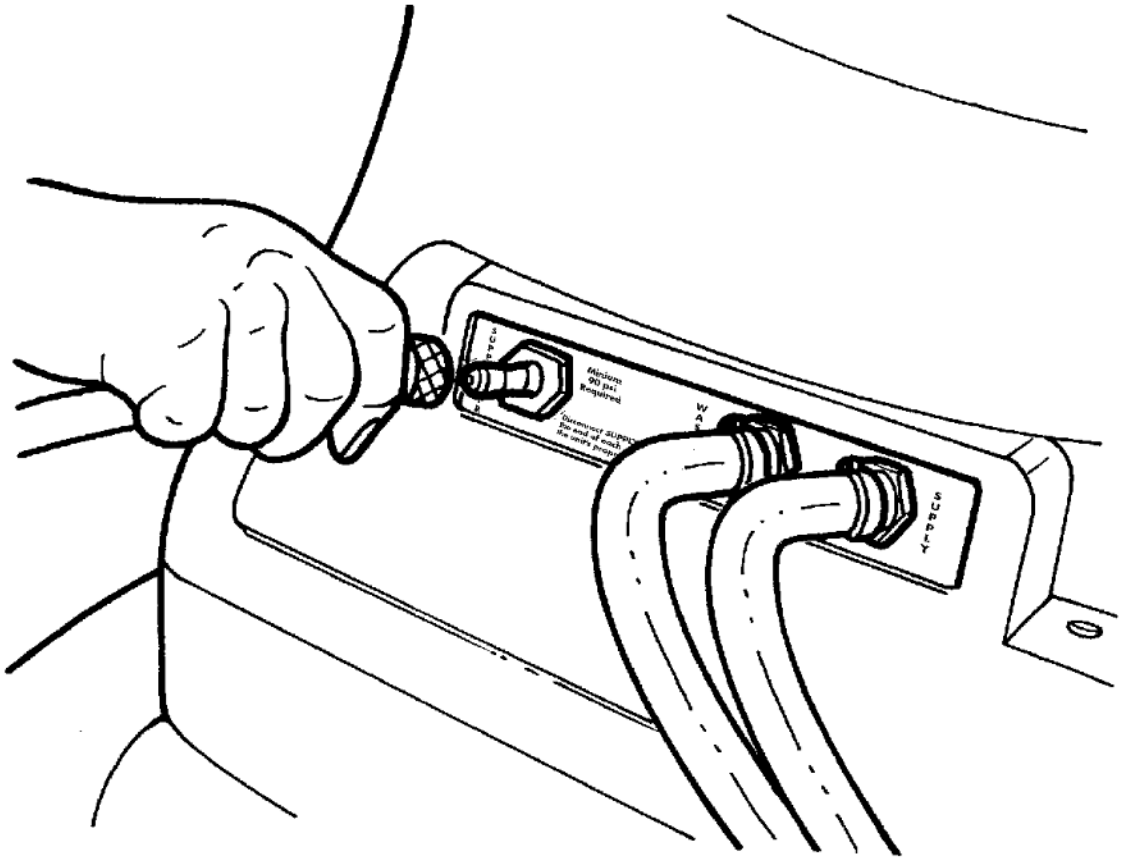


Fig. 21: Applying Shop Air Supply Hose To Quick-Disconnect
Courtesy of GENERAL MOTORS COMPANY

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

Determine Minimum Flow Rate

cardiagn.com

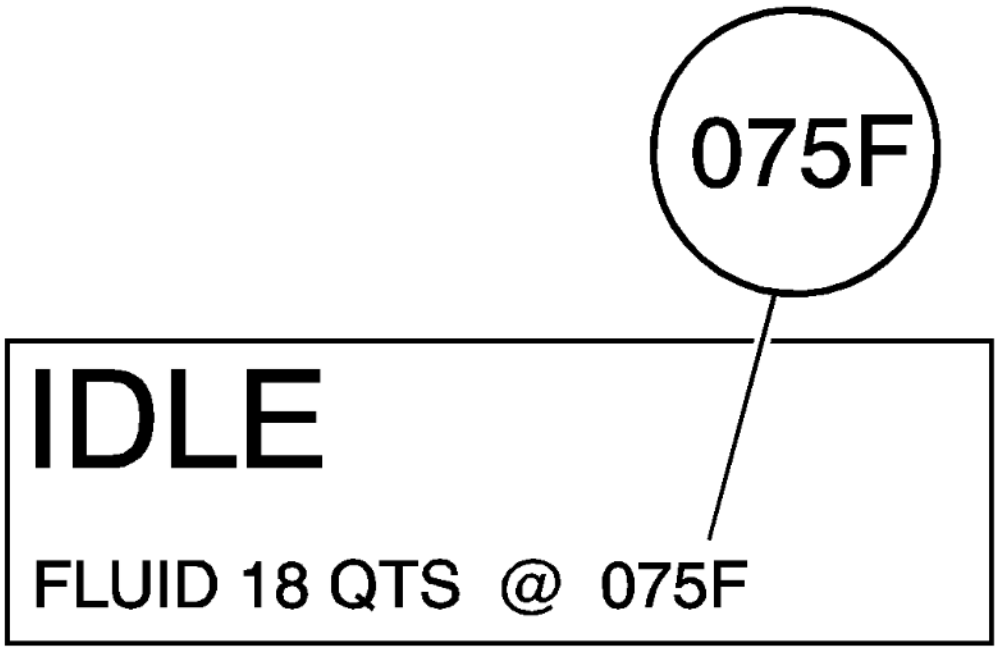


Fig. 22: Identifying Machine Display Of Automatic Transmission Fluid Temperature
Courtesy of GENERAL MOTORS COMPANY

NOTE: **Due to the large size of the oil cooling system components and the flow capacity of the DT-45096 flush and flow test tool , the fluid temperature in excess of 100 degrees Fahrenheit can cause inaccurate flow readings.**

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.
2. Refer to the table below. Using the temperature from step 1, locate on MINIMUM Flow Rate table the minimum flow rate in gallons per minute. Record the minimum flow rate in gallons per minute and the supply fluid temperature for further reference.

Example

- Fluid temperature: 75Â°F
- The MINIMUM flow rate for this example would be 1.7 gpm.

cardiagn.com

3. 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 manual procedures.

***Minimum Flow Rate in Gallons Per Minute**

Temperature Range	Steel
65 - 66Â°F	0.7 gpm
67 - 71Â°F	1.0 gpm
72 - 74Â°F	1.2 gpm
75 - 79Â°F	1.3 gpm
80 - 82Â°F	1.4 gpm
83 - 86Â°F	1.5 gpm
87 - 92Â°F	1.6 gpm
93 - 96Â°F	1.7 gpm
97 - 101Â°F	1.8 gpm
102 - 104Â°F	1.9 gpm
105 - 109Â°F	2.0 gpm
110 - 112Â°F	2.1 gpm
113 - 116Â°F	2.2 gpm
117 - 119Â°F	2.3 gpm
120 + Â°F	2.4 gpm

*A measured flow rate that is 0.1 gpm lower than the minimum flow rate specification does not necessarily indicate a failed cooling system. Variation in fluid temperature, air pressure and the tool rounding variation can cause a lower minimum flow reading.

Back Flush Procedure

cardiagn.com

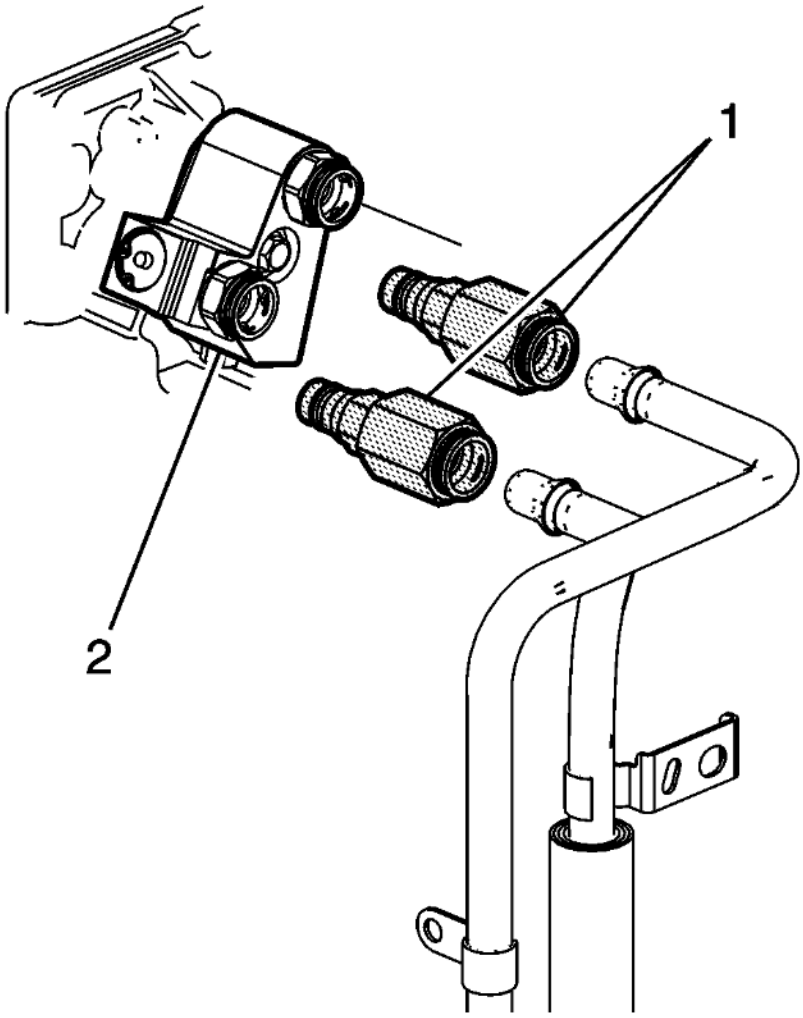


Fig. 23: Transmission Fluid Cooler Bypass Valve
Courtesy of GENERAL MOTORS COMPANY

1. Connect the **DT-45096-23** adapters (1) to the transmission fluid cooler supply and return lines at the transmission fluid cooler bypass valve (2), if equipped.

cardiagn.com

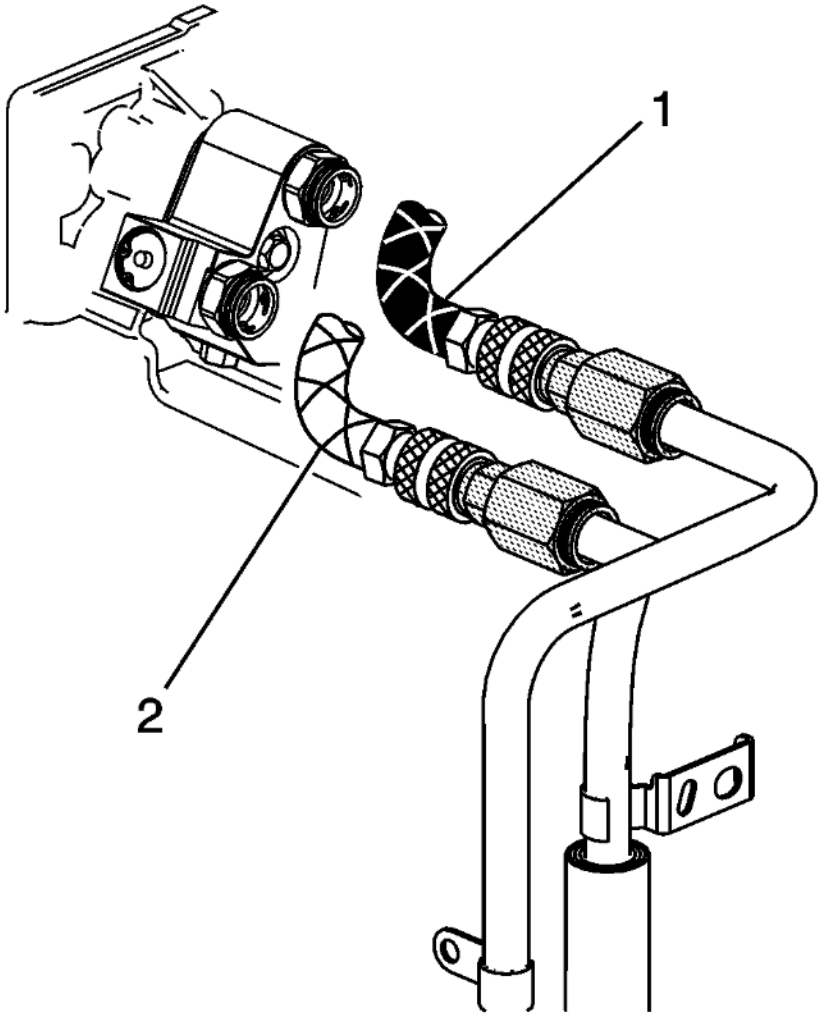


Fig. 24: Black Supply Hose And Clear Waste Hose
Courtesy of GENERAL MOTORS COMPANY

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

cardiagn.com

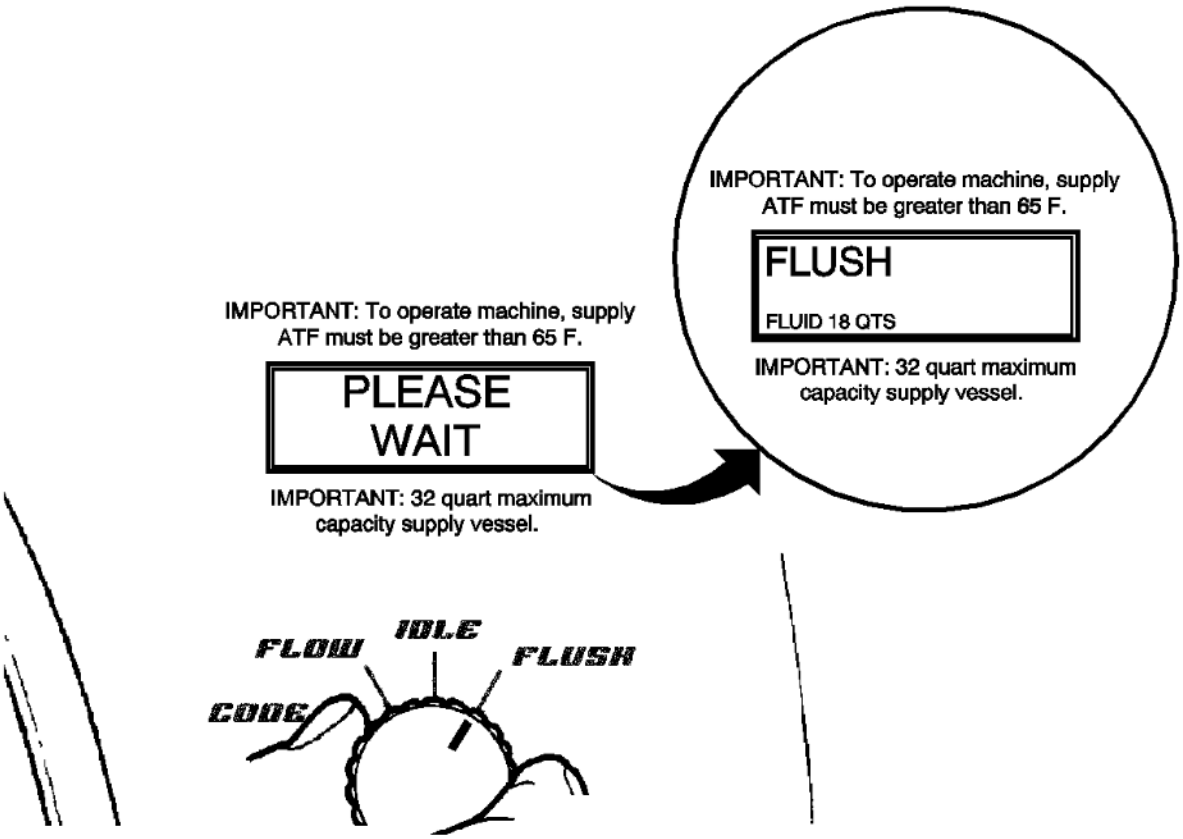


Fig. 25: View Of Main Function Switch FLUSH Position
Courtesy of GENERAL MOTORS COMPANY

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

cardiagn.com

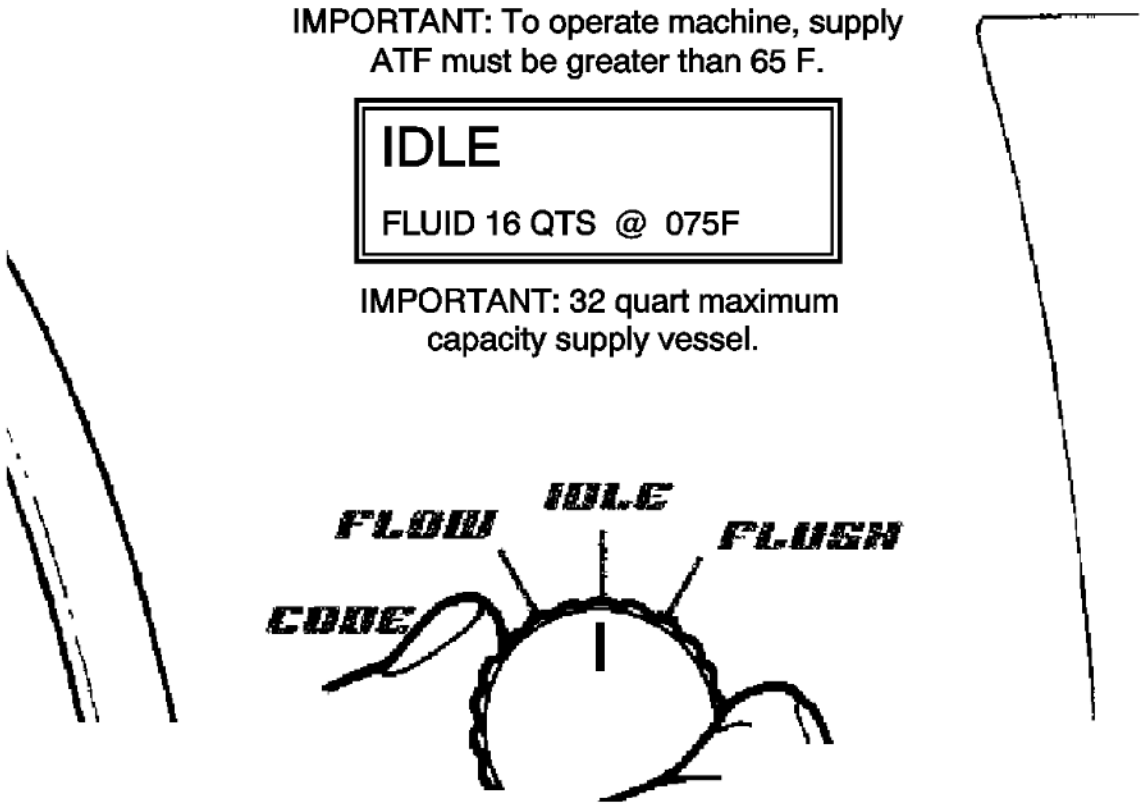


Fig. 26: View Of Main Function Switch IDLE Position
Courtesy of GENERAL MOTORS COMPANY

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

Forward Flush

cardiagn.com

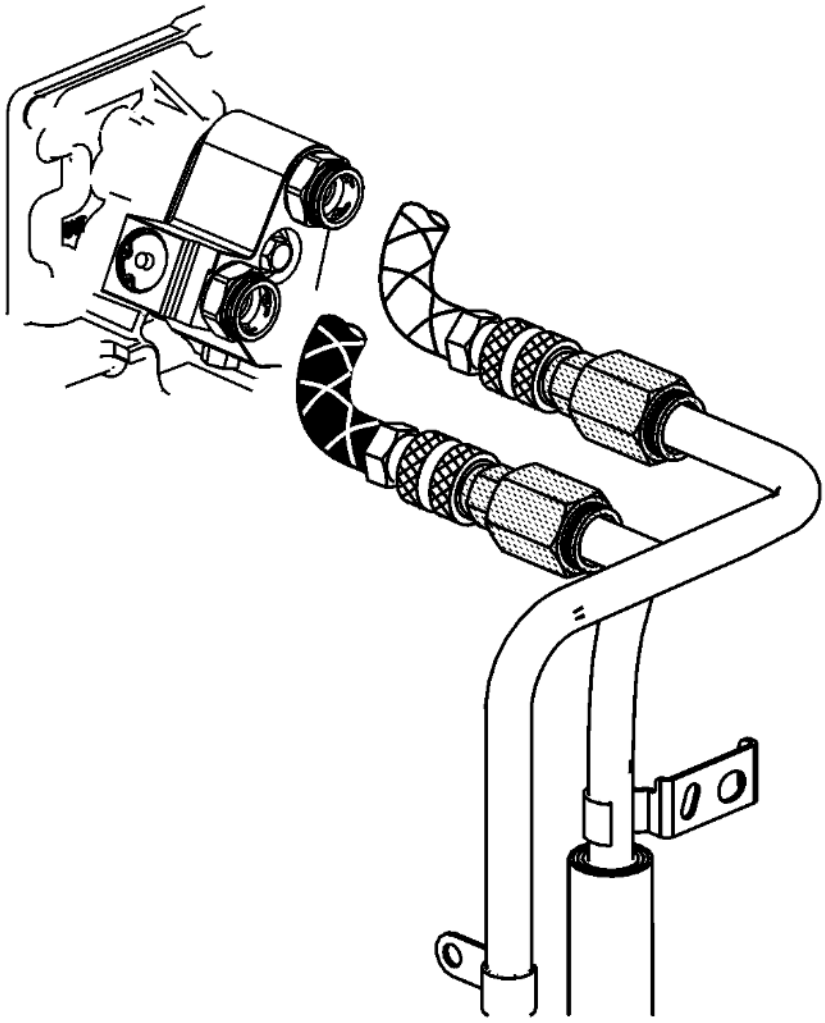


Fig. 27: Disconnecting Supply And Waste Hoses From Vehicle Cooler Line
Courtesy of GENERAL MOTORS COMPANY

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

cardiagn.com

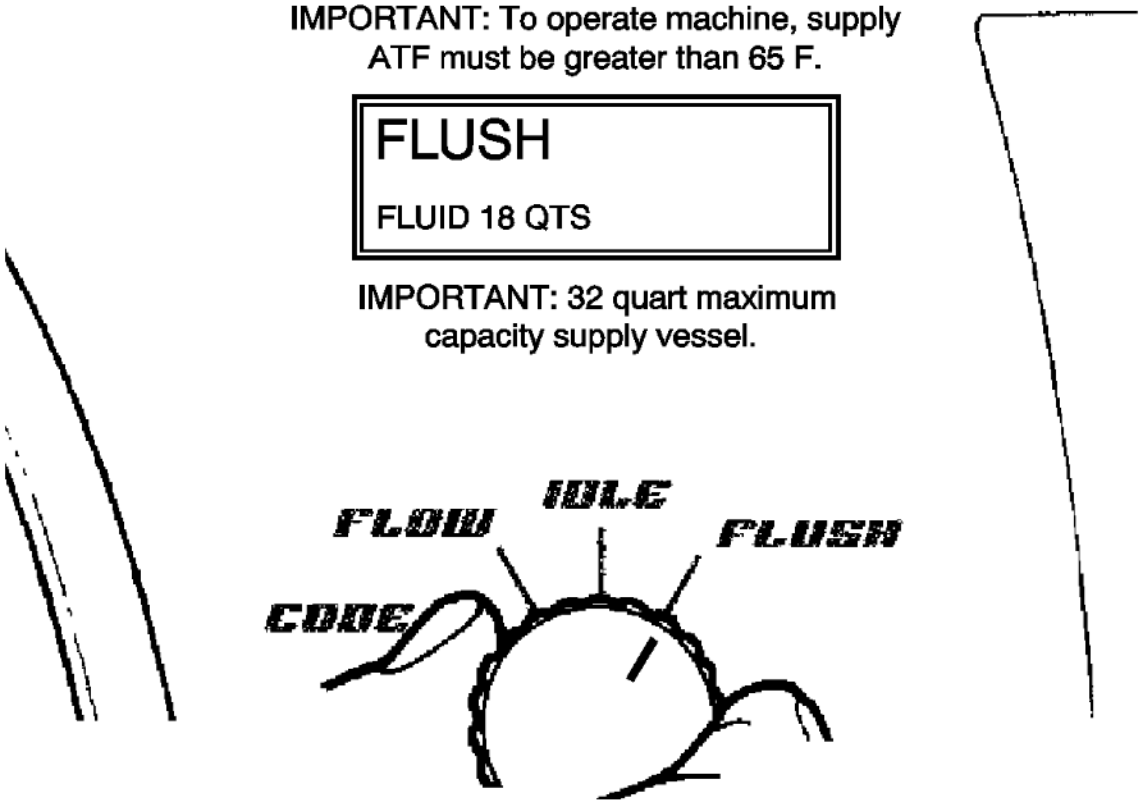


Fig. 28: View Of Main Function Switch FLUSH Position
Courtesy of GENERAL MOTORS COMPANY

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

Flow Test

cardiagn.com

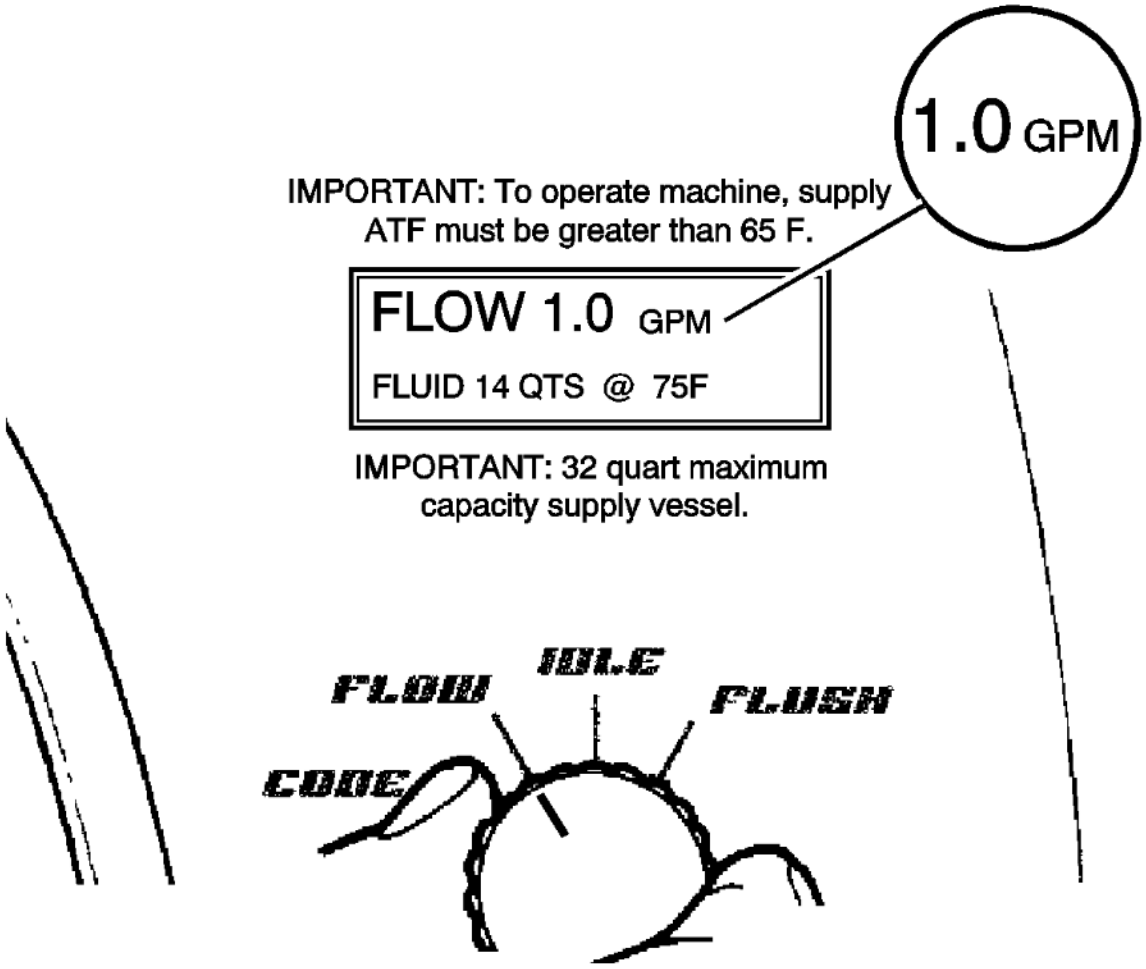


Fig. 29: View Of Main Function Switch FLOW Position
Courtesy of GENERAL MOTORS COMPANY

NOTE: **If the flow rate is less than 0.5 gallons per minute, 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.

cardiagn.com

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

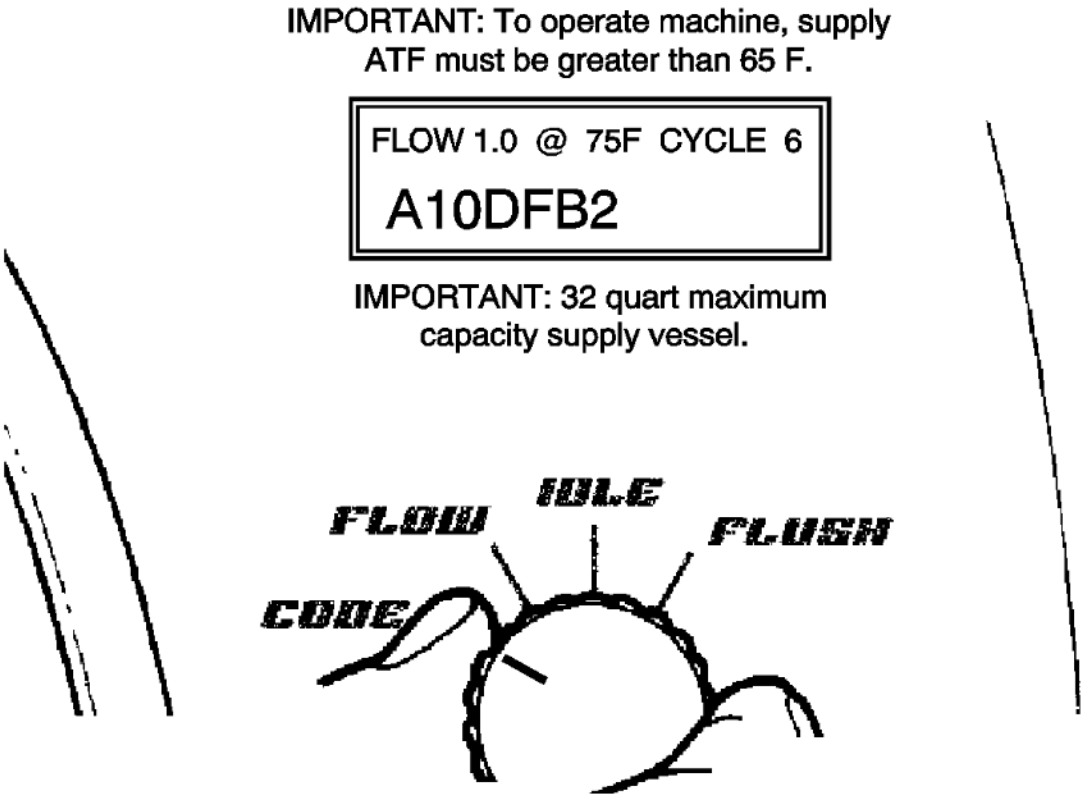


Fig. 30: View Of Main Function Switch CODE Position
Courtesy of GENERAL MOTORS COMPANY

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 gallons per minute for a code to be generated.**

1. Turn the main function switch to the CODE position.
2. Record TESTED flow rate, temperature, cycle and seven-character flow code information on repair order.

cardiagn.com

Clean-up

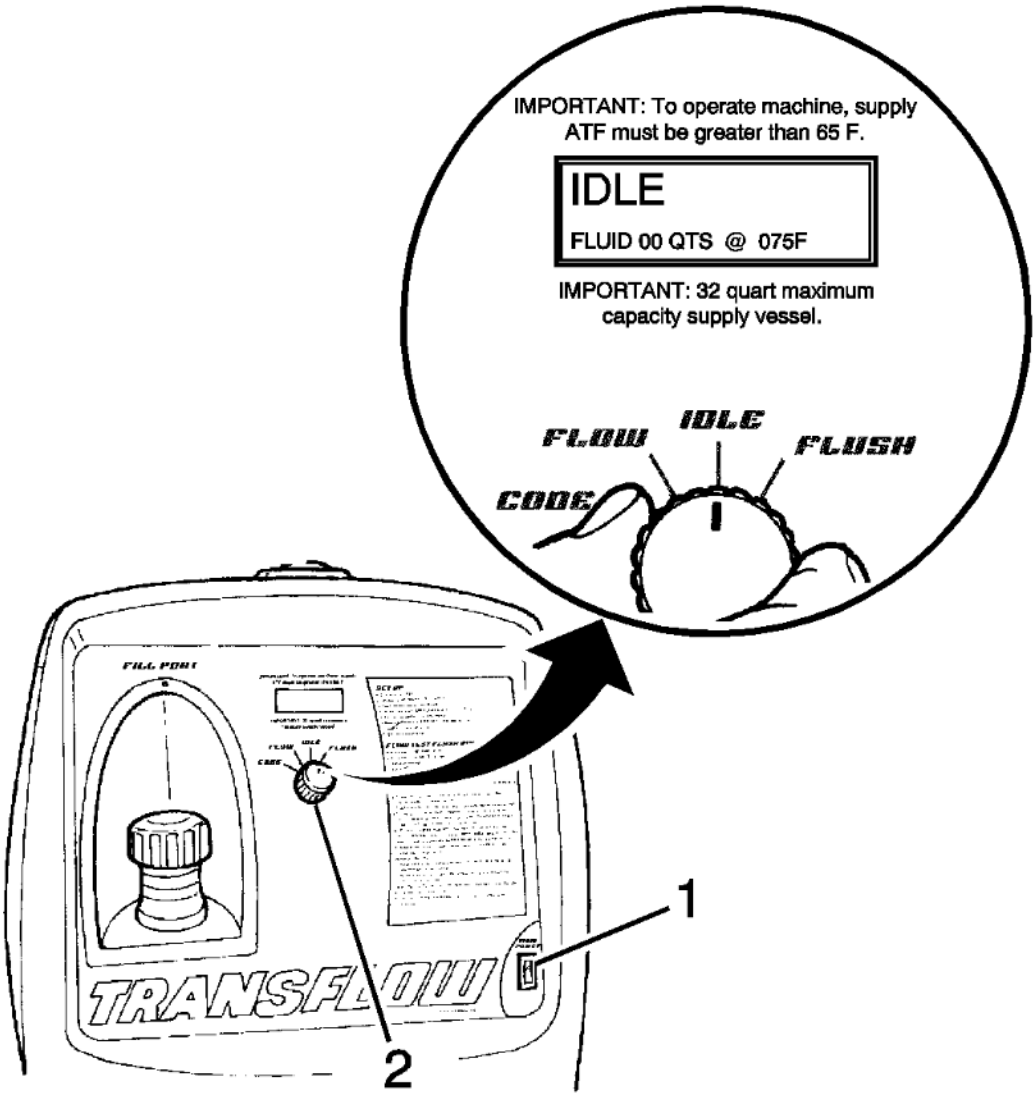


Fig. 31: View Of Main Power Switch & Main Function Switch
Courtesy of GENERAL MOTORS COMPANY

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.

cardiagn.com

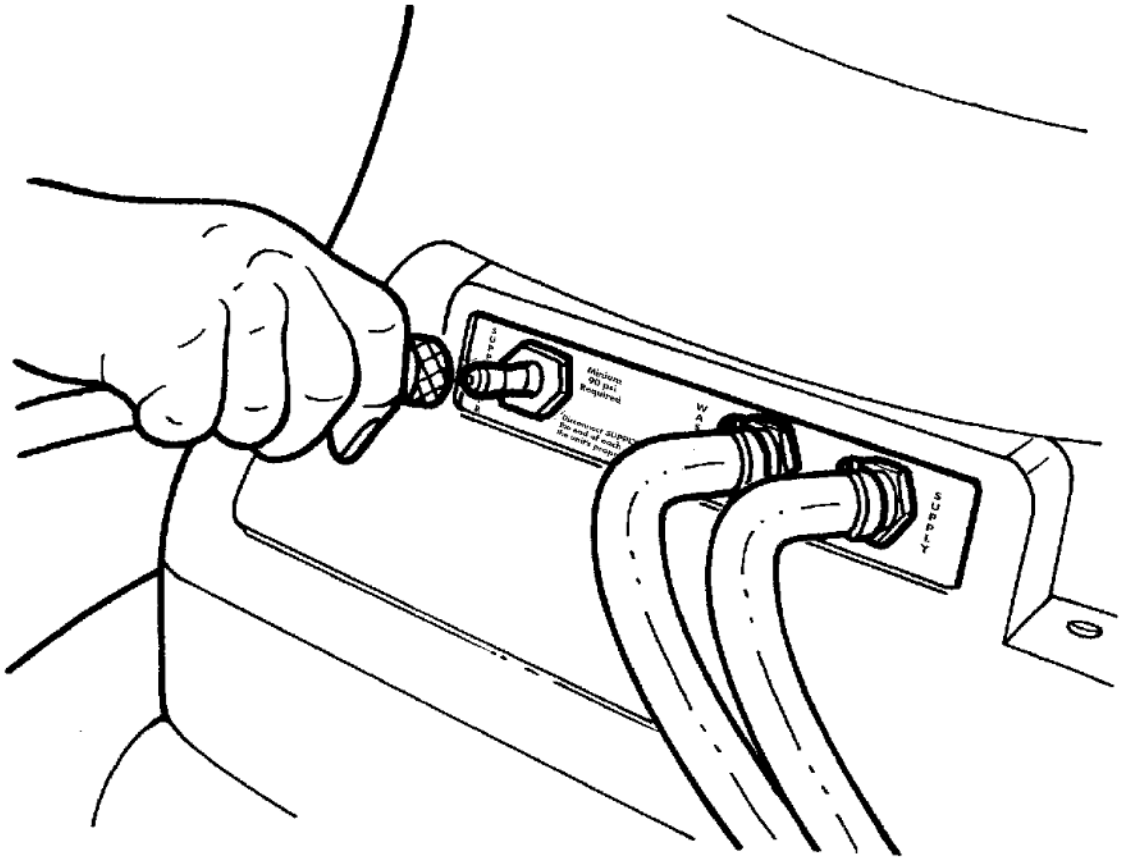


Fig. 32: Applying Shop Air Supply Hose To Quick-Disconnect
Courtesy of GENERAL MOTORS COMPANY

4. Disconnect the air supply hose from **DT-45096** flush and flow test tool.
5. Remove the **DT-45096-23** adapters.
6. Dispose of the waste automatic transmission fluid in accordance with all applicable federal, state, and local requirements.

TRANSMISSION FLUID COOLER FLOW TEST AND FLUSHING (8L90)

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**

cardiagn.com

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-45096-30** 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

cardiagn.com

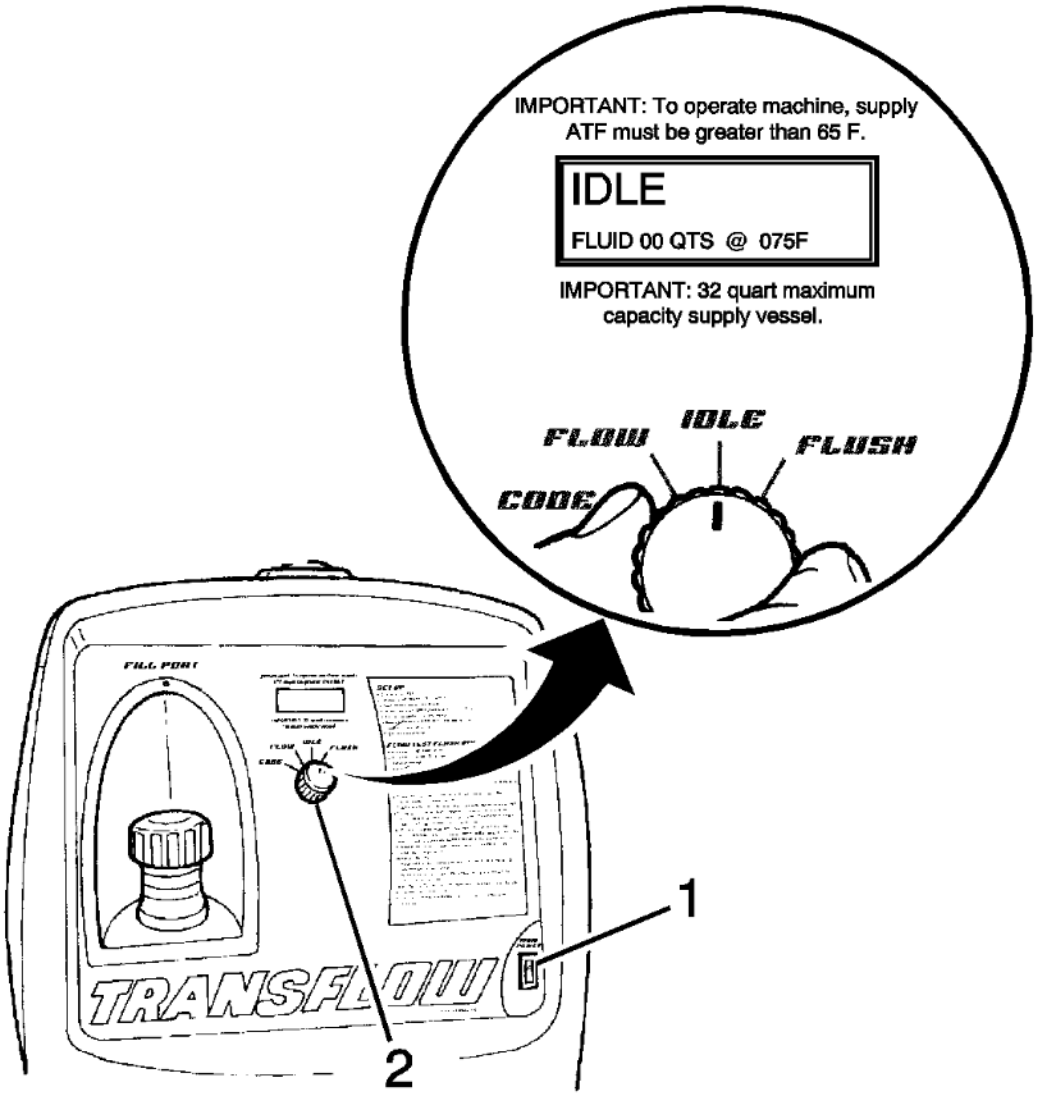


Fig. 33: View Of Main Power Switch & Main Function Switch
Courtesy of GENERAL MOTORS COMPANY

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

cardiagn.com

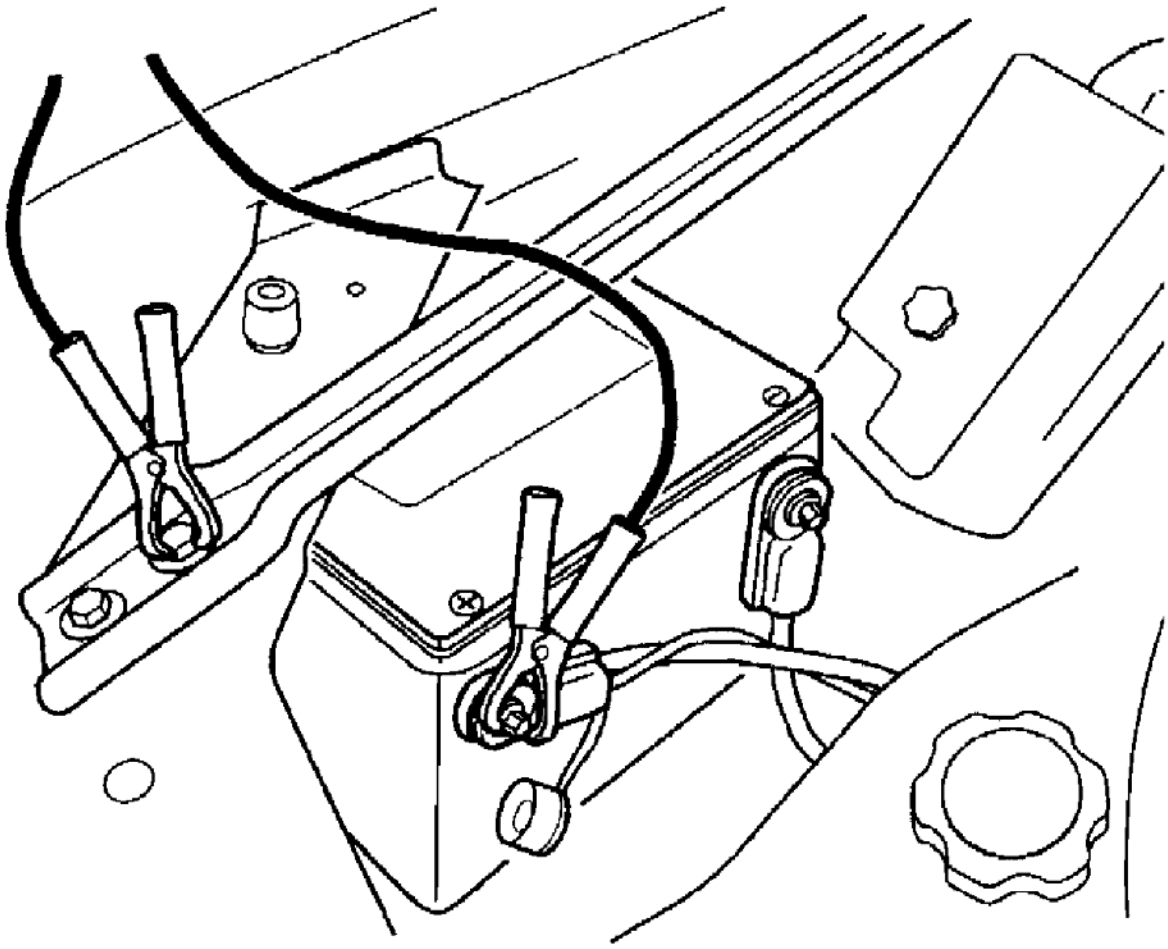


Fig. 34: Connecting To 12V DC Power Source
Courtesy of GENERAL MOTORS COMPANY

3. Connect **DT-45096** transmission oil cooling system 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.

cardiagn.com

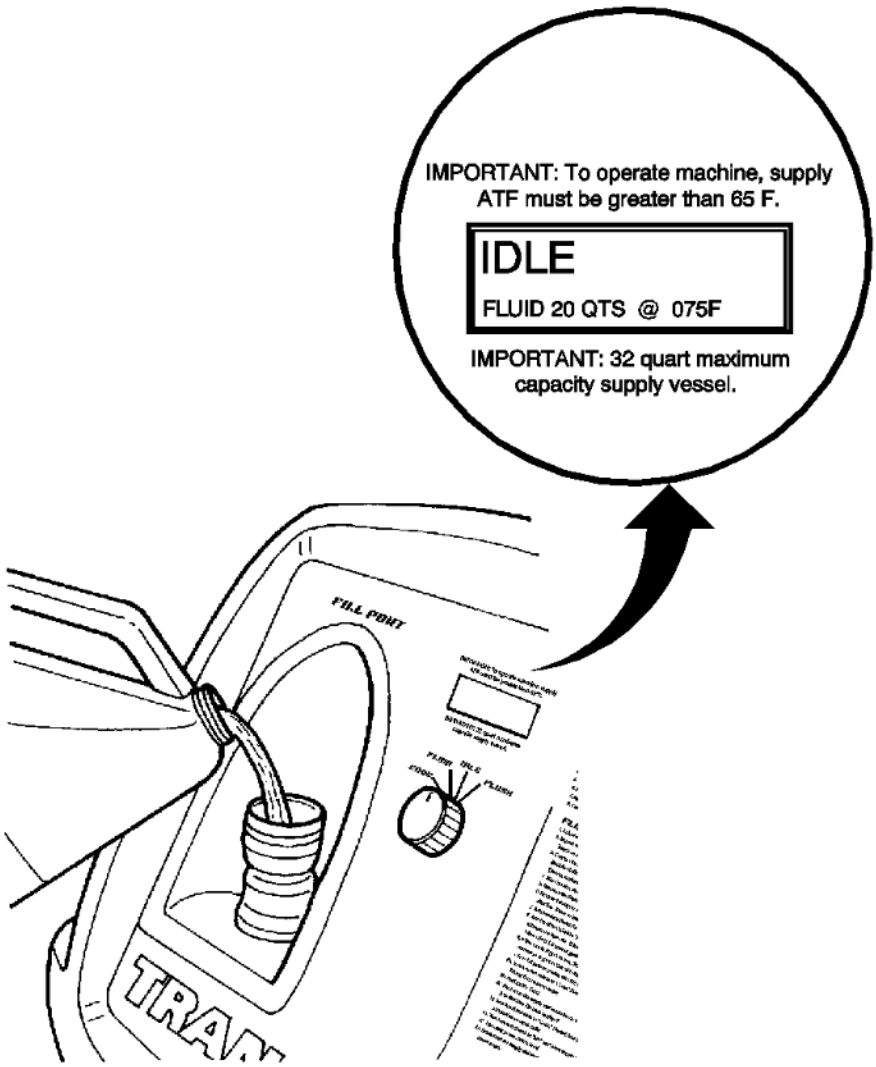


Fig. 35: Filling Supply Tank With Transmission Fluid
Courtesy of GENERAL MOTORS COMPANY

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.

cardiagn.com

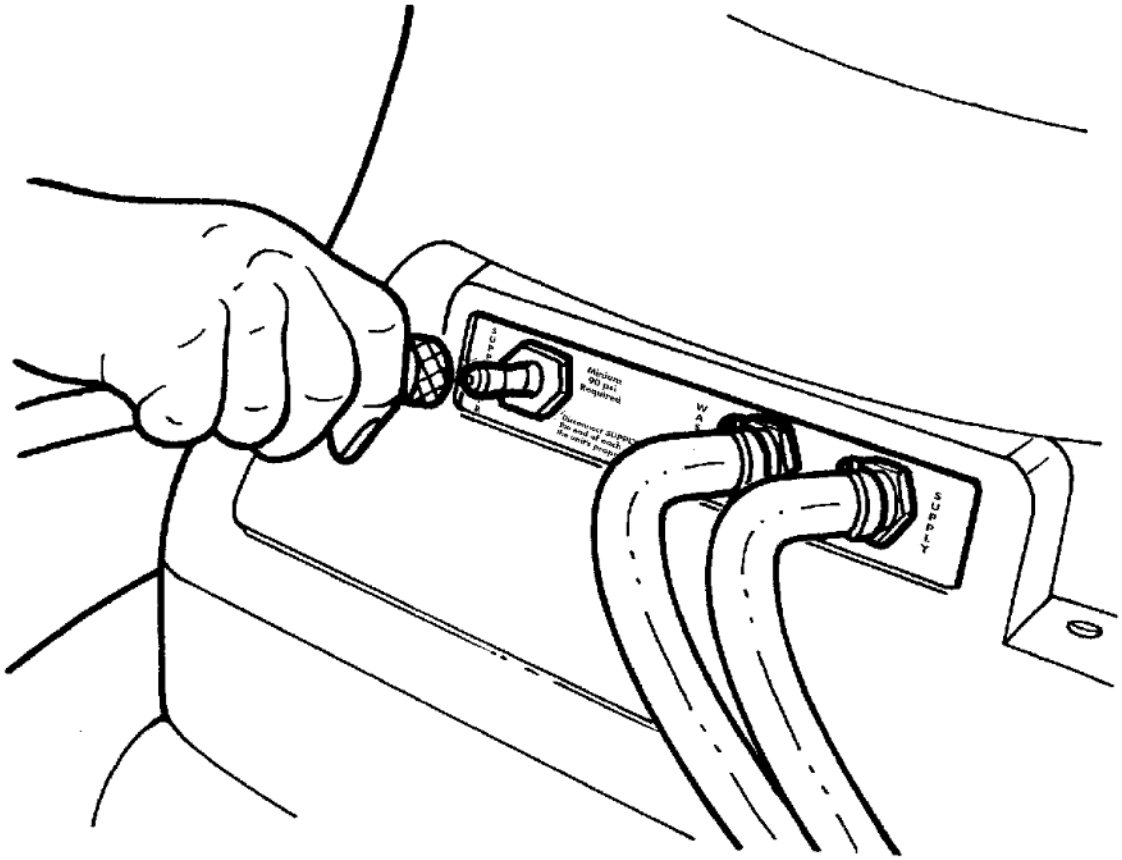


Fig. 36: Applying Shop Air Supply Hose To Quick-Disconnect
Courtesy of GENERAL MOTORS COMPANY

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

Determine Minimum Flow Rate

cardiagn.com

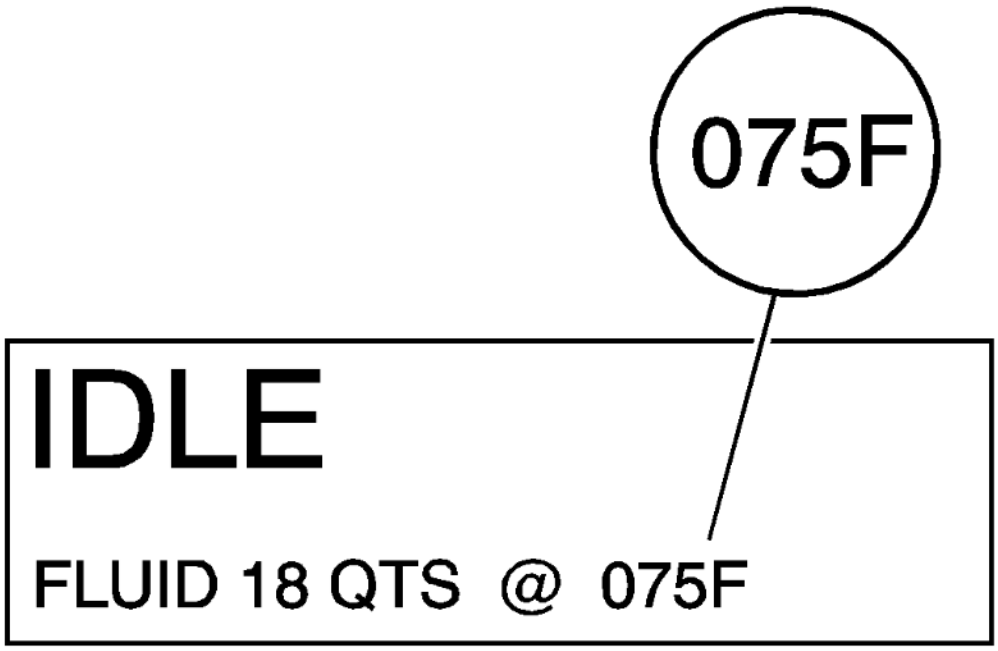


Fig. 37: Identifying Machine Display Of Automatic Transmission Fluid Temperature
Courtesy of GENERAL MOTORS COMPANY

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.

cardiagn.com

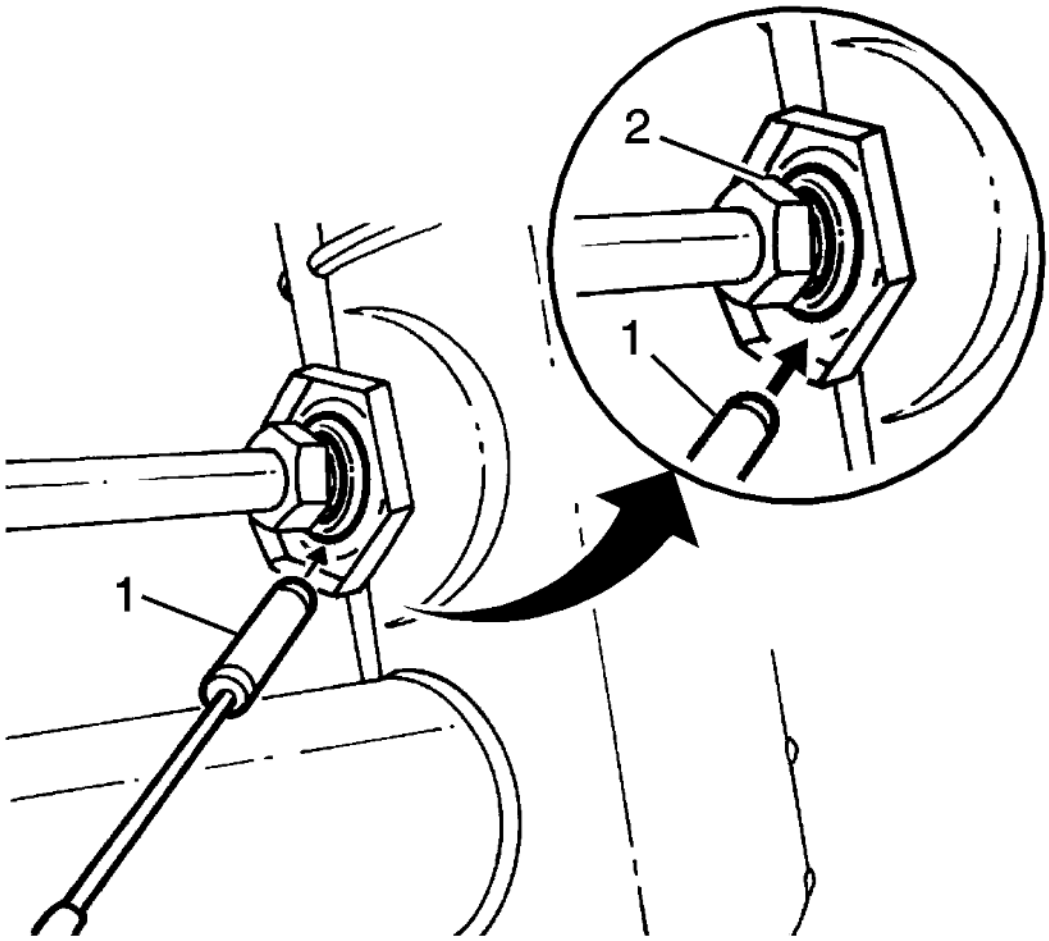


Fig. 38: Identifying Transmission Oil Cooler Metal Composition
Courtesy of GENERAL MOTORS COMPANY

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: 75Â°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 manual procedures.

***Minimum Flow Rate in Gallons Per Minute (gpm)**

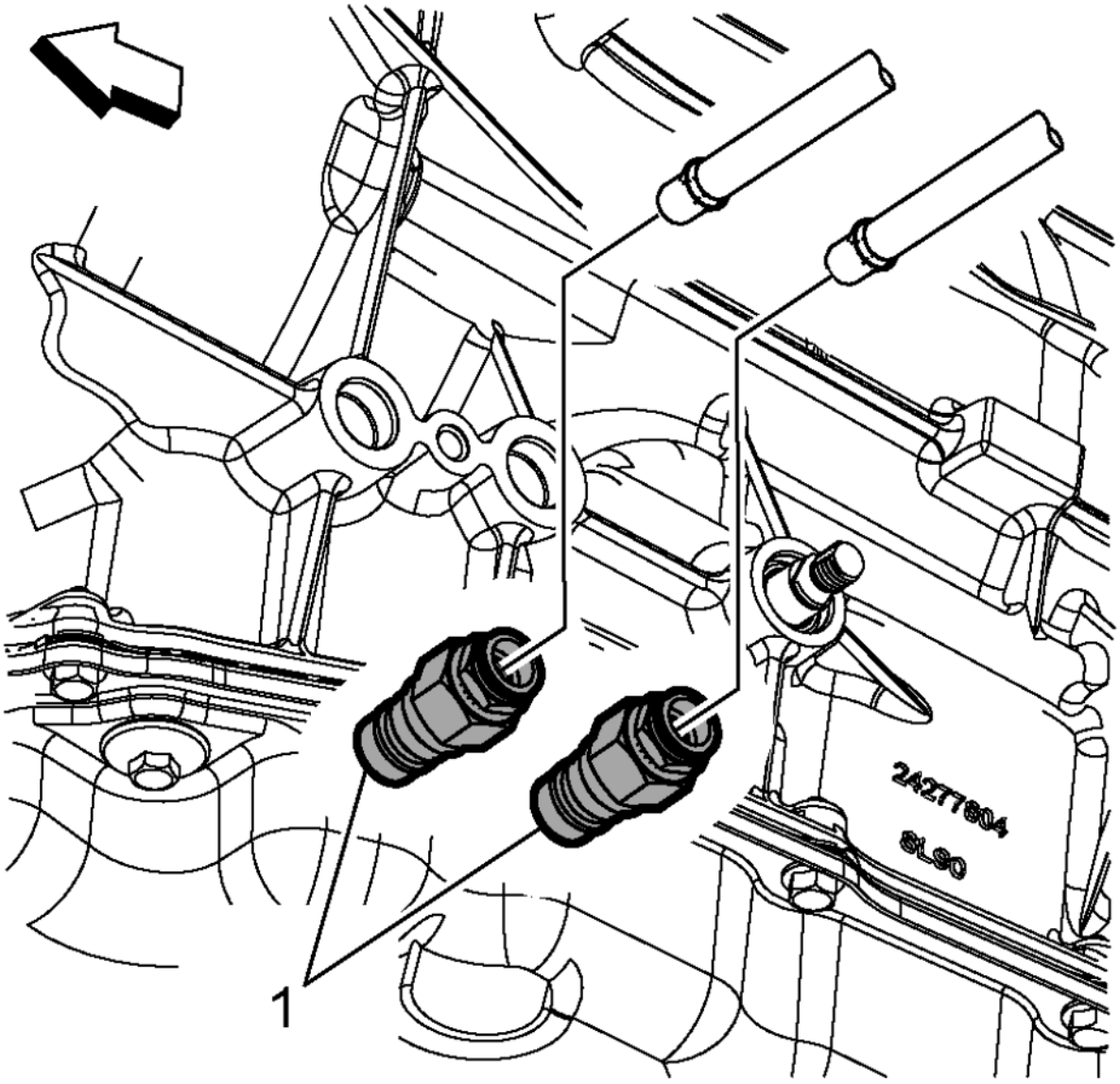
Temperature Range	Aluminum

cardiagn.com

Temperature Range	Aluminum
65 - 77Â°F	0.5 gpm
78 - 86Â°F	0.6 gpm
87 - 94Â°F	0.7 gpm
95 - 101Â°F	0.8 gpm
102 - 105Â°F	0.9 gpm
106 - 108Â°F	1.0 gpm
109 - 112Â°F	1.1 gpm
113 - 115Â°F	1.2 gpm
116 - 118Â°F	1.3 gpm
119 - 120Â°F	1.4 gpm

*A measured flow rate that is 0.1 gpm lower than the minimum flow rate specification does not necessarily indicate a failed cooling system. Variation in fluid temperature, air pressure and the tool rounding variation can cause a lower minimum flow reading.

Back Flush Procedure



cardiagn.com

Fig. 39: Cooler Flushing Adapter
Courtesy of GENERAL MOTORS COMPANY

1. If equipped with bypass valve, disconnect the oil cooler lines from the bypass valve.
2. If equipped with bypass valve, connect a commercially available barbed fitting and 1/2 inch ID rubber hose to the vehicle transmission oil cooler supply and return lines at the transmission.

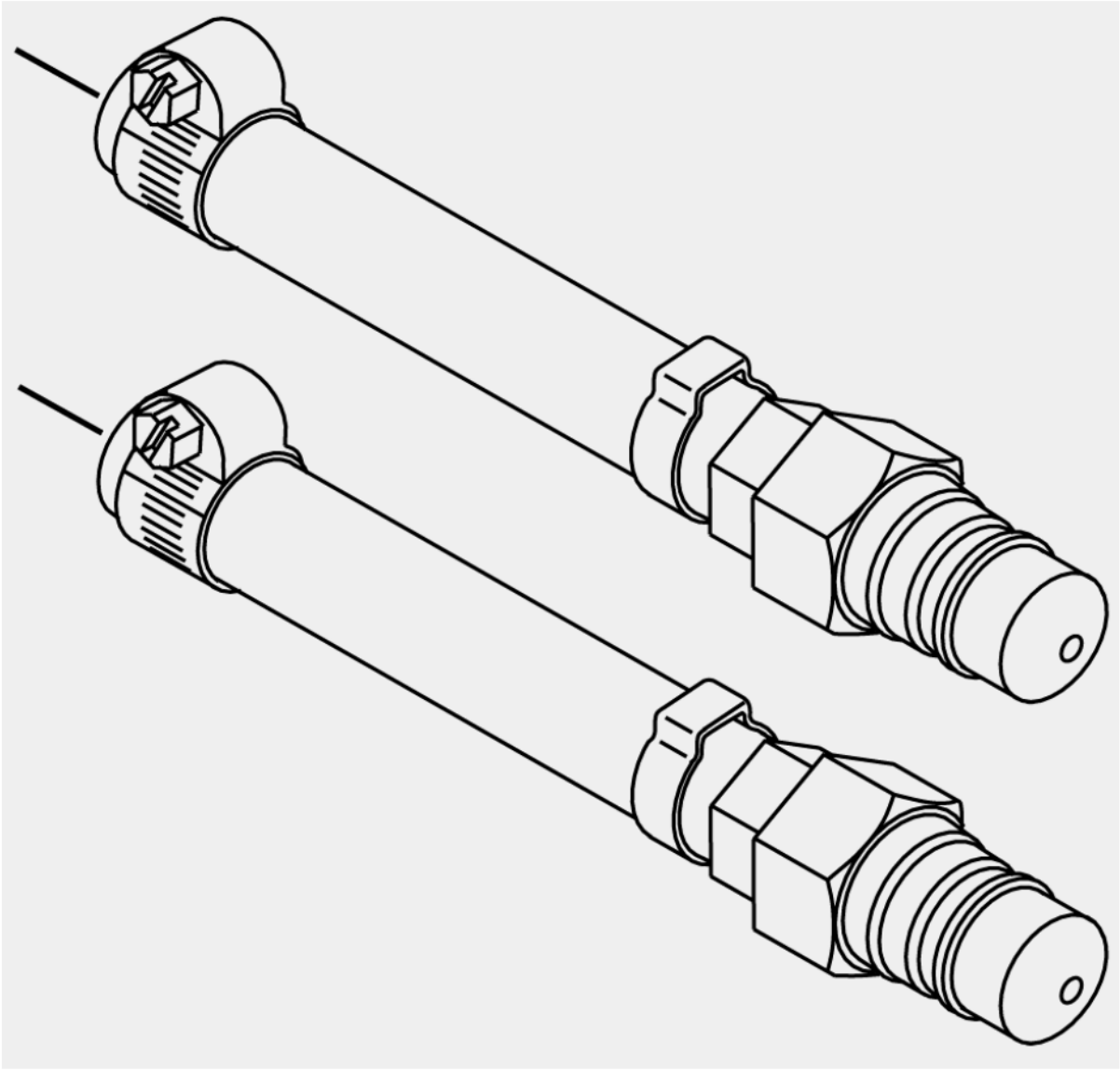


Fig. 40: Cooler Flush Adapter
Courtesy of GENERAL MOTORS COMPANY

3. If not equipped with the bypass valve, connect the **DT-45096-30** cooler flush adapter (1) to the vehicle transmission oil cooler supply and return lines at the transmission.

cardiagn.com

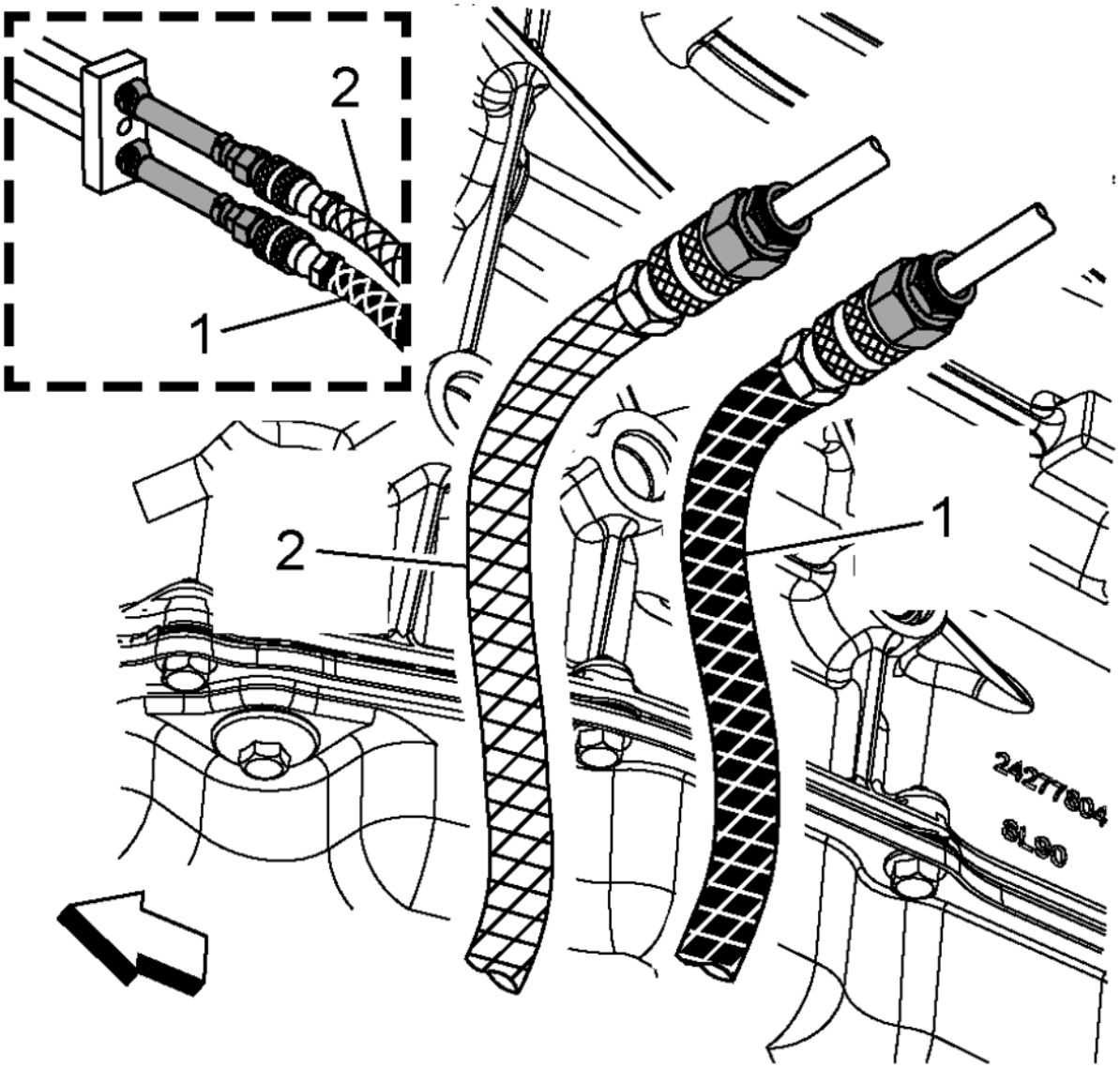


Fig. 41: Black Supply Hose Aand Clear Waste Hos
Courtesy of GENERAL MOTORS COMPANY

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

cardiagn.com

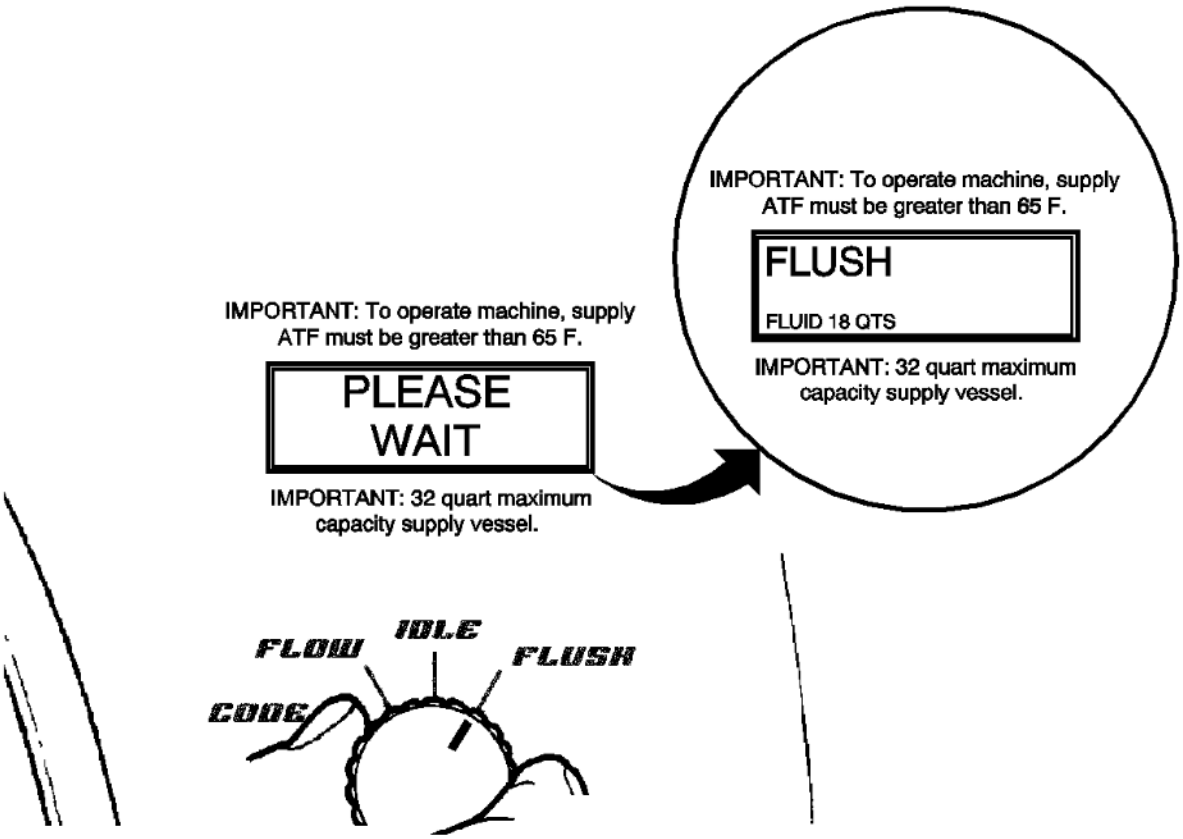


Fig. 42: View Of Main Function Switch FLUSH Position
Courtesy of GENERAL MOTORS COMPANY

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

cardiagn.com

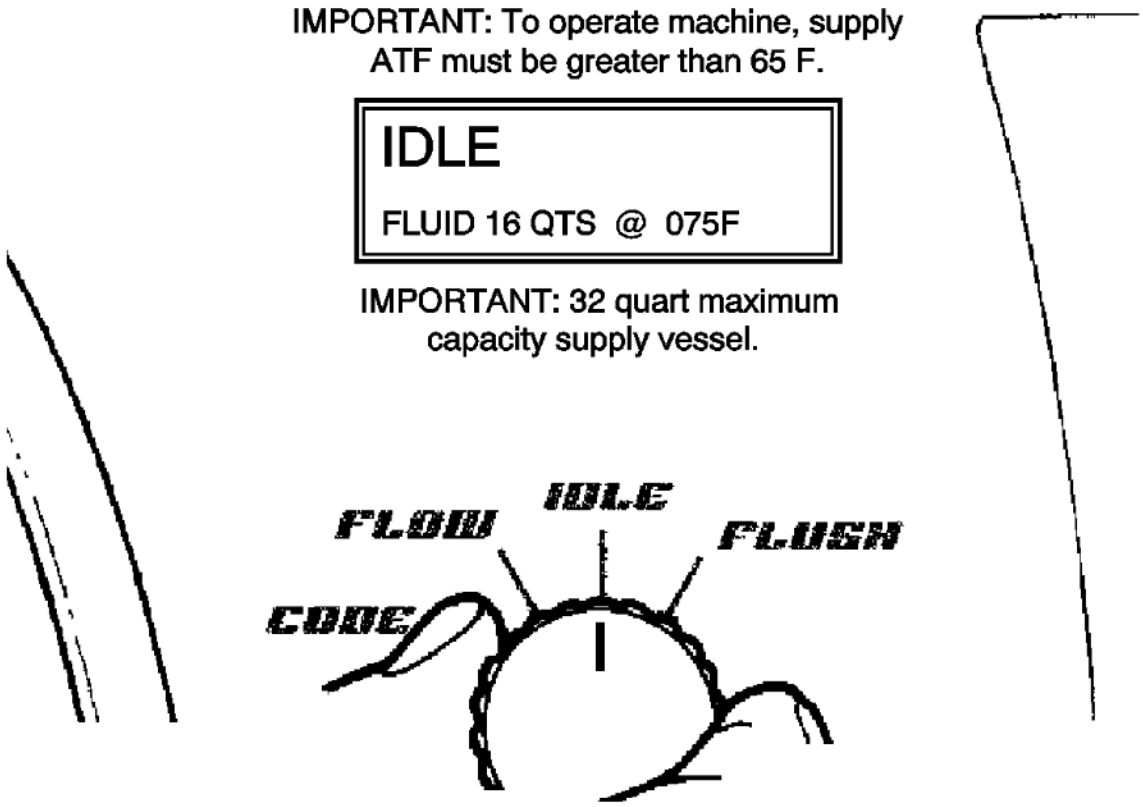


Fig. 43: View Of Main Function Switch IDLE Position
Courtesy of GENERAL MOTORS COMPANY

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

Forward Flush

cardiagn.com

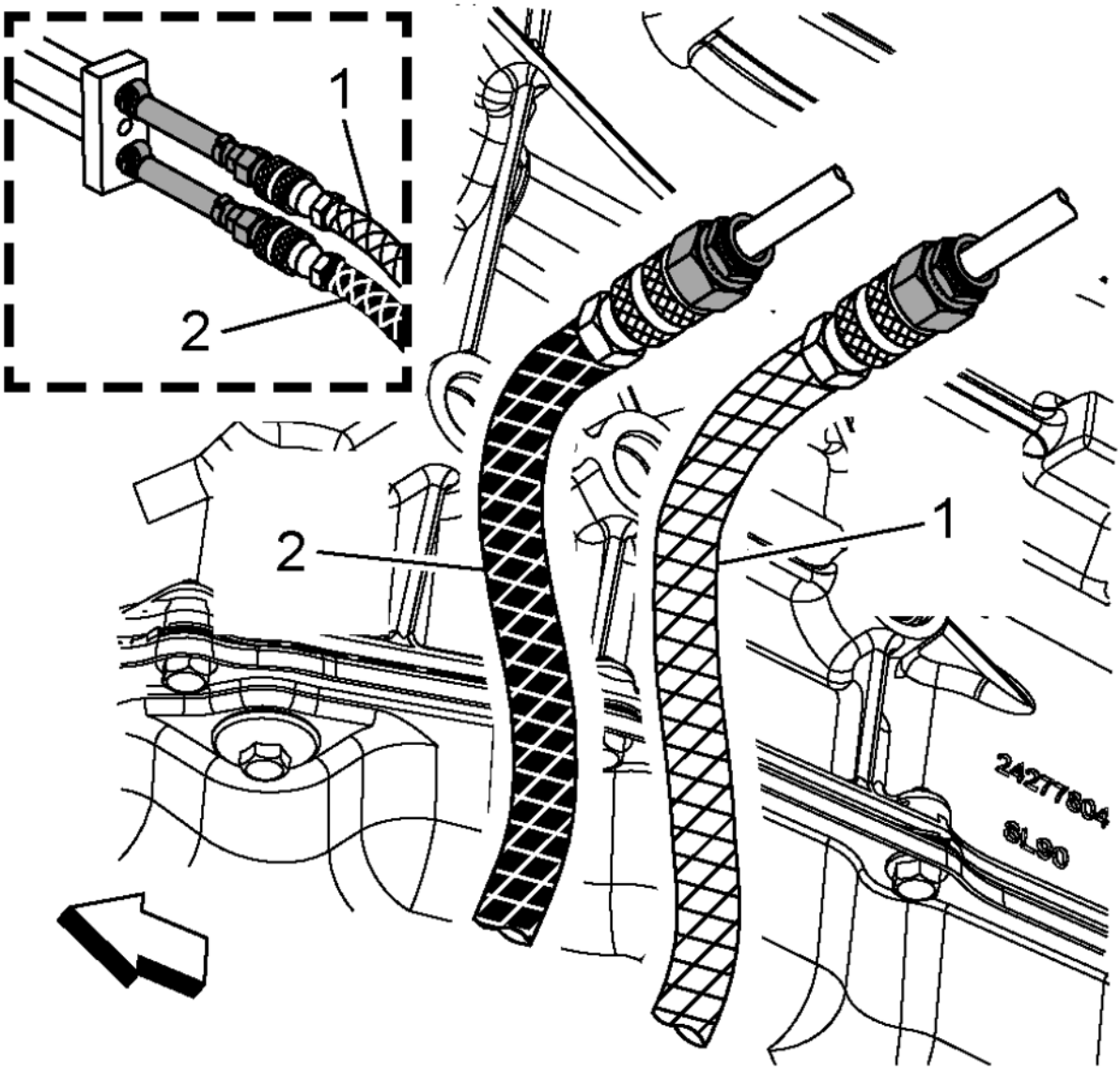


Fig. 44: Supply Hose And Waste Hose
Courtesy of GENERAL MOTORS COMPANY

1. Disconnect the supply and waste hoses from the vehicle cooler lines. Reverse the supply hose (2) and waste hose (1) to provide a normal flow direction.

cardiagn.com

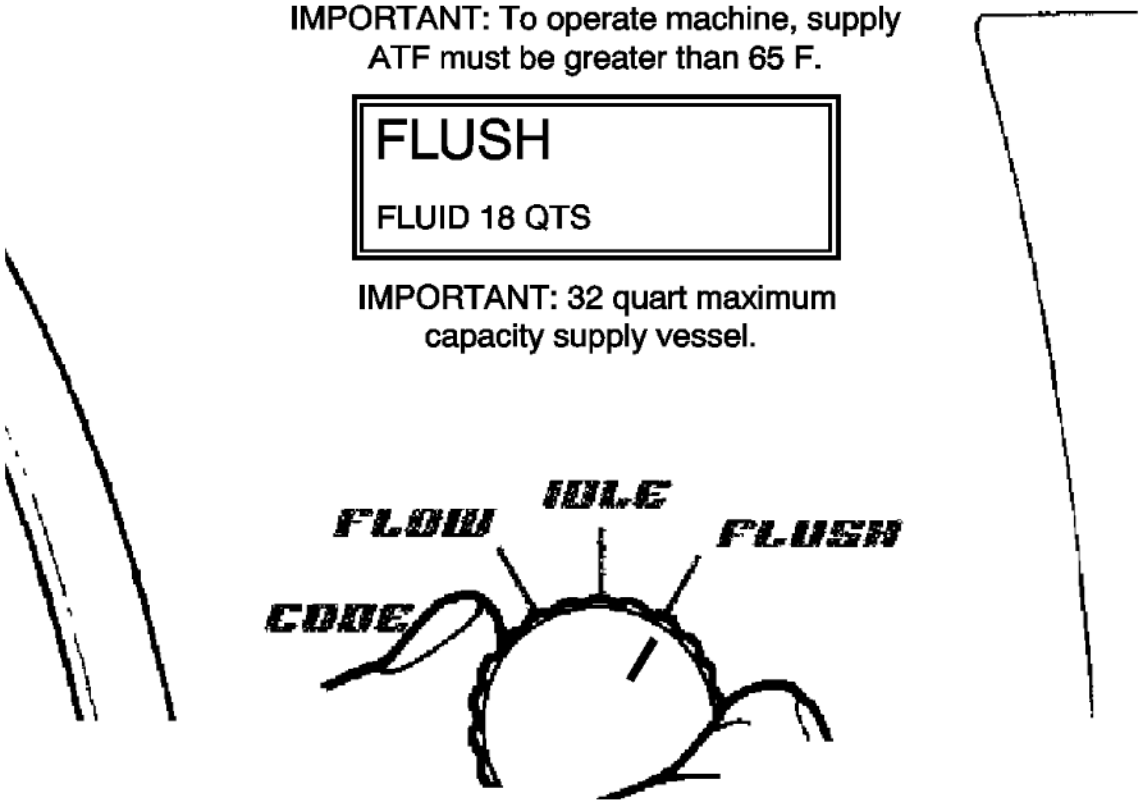


Fig. 45: View Of Main Function Switch FLUSH Position
Courtesy of GENERAL MOTORS COMPANY

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

Flow Test

cardiagn.com

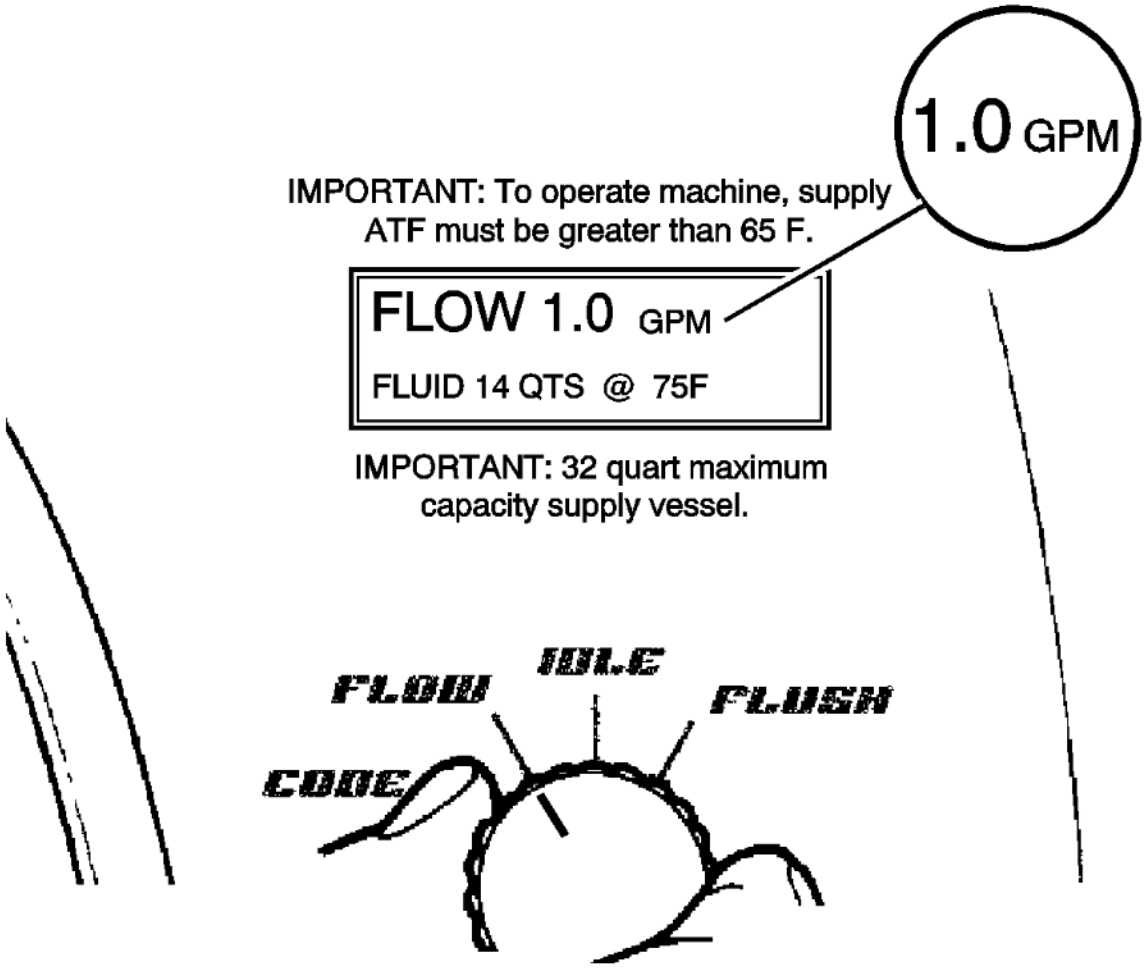


Fig. 46: View Of Main Function Switch FLOW Position
Courtesy of GENERAL MOTORS COMPANY

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

cardiagn.com

Test.

3. Perform Code Recording Procedure.

Code Recording Procedure

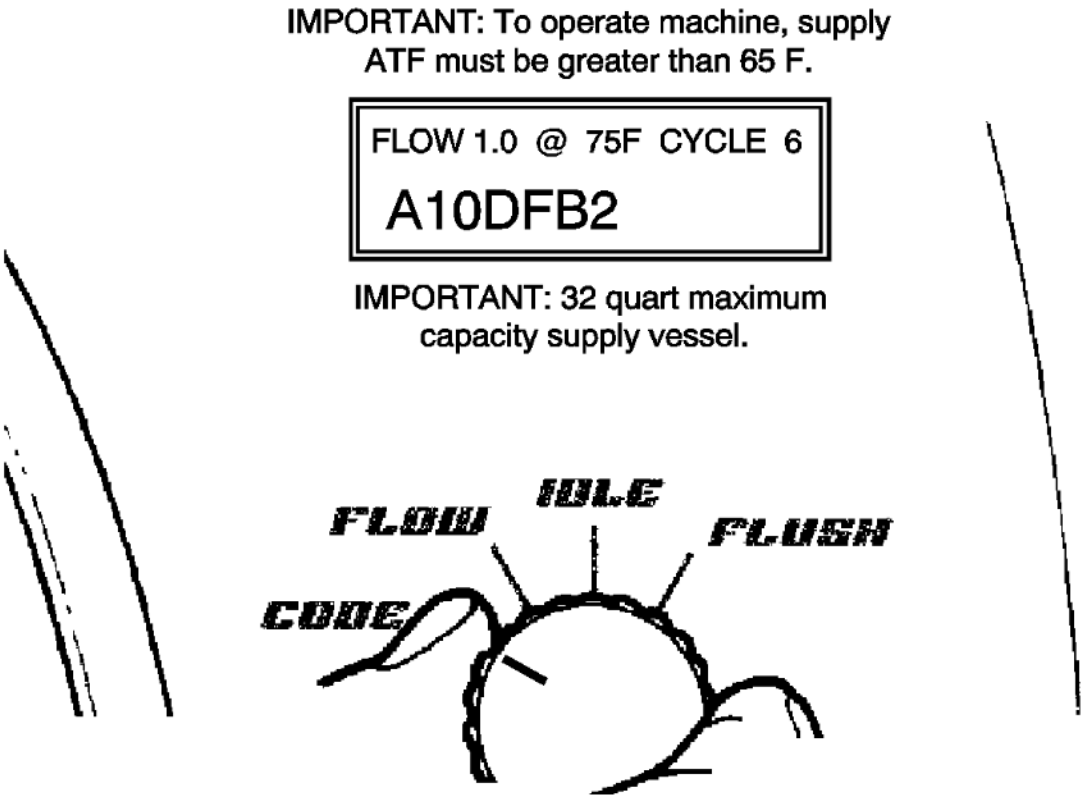


Fig. 47: View Of Main Function Switch CODE Position
Courtesy of GENERAL MOTORS COMPANY

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.

cardiagn.com

Clean-up

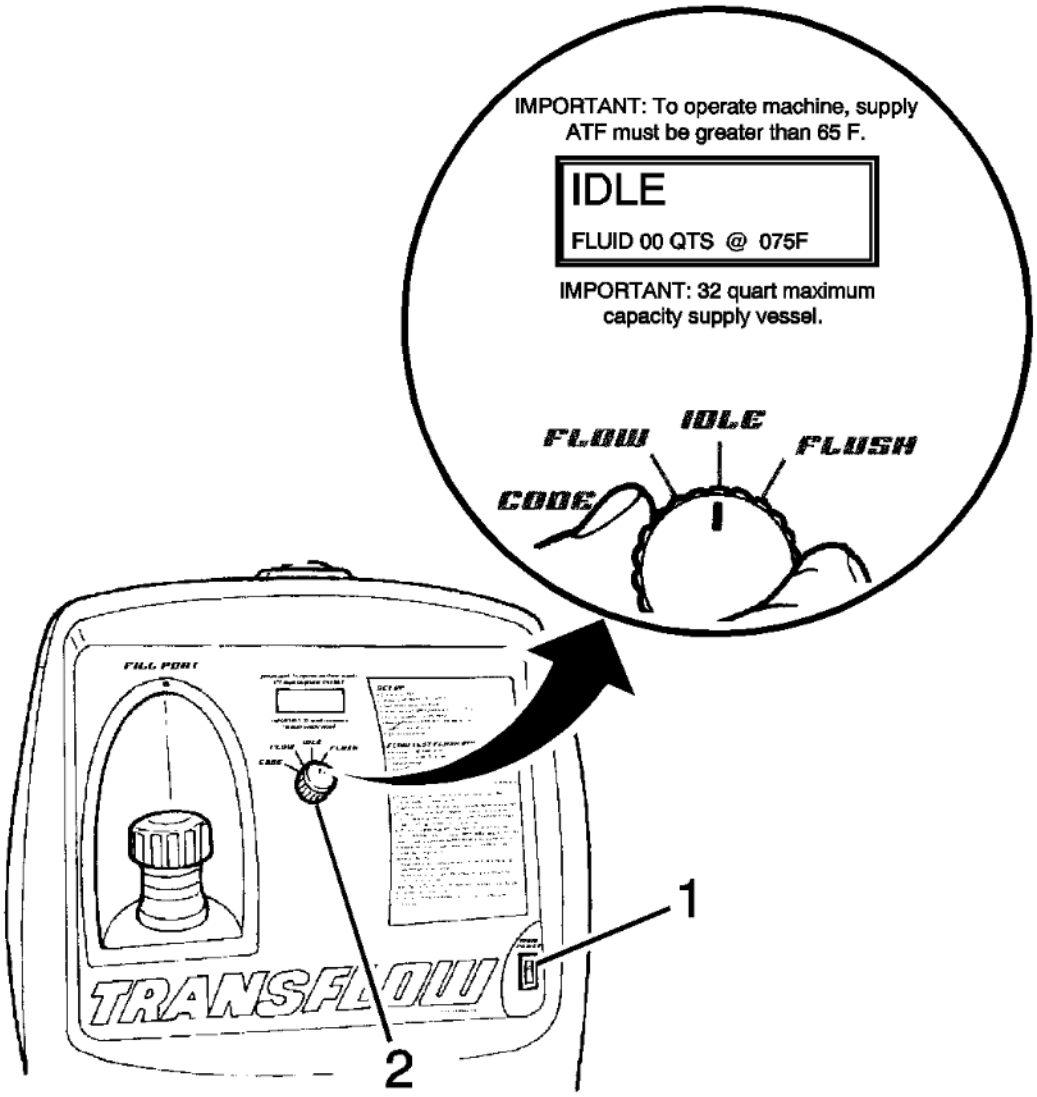


Fig. 48: View Of Main Power Switch & Main Function Switch
Courtesy of GENERAL MOTORS COMPANY

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.

cardiagn.com

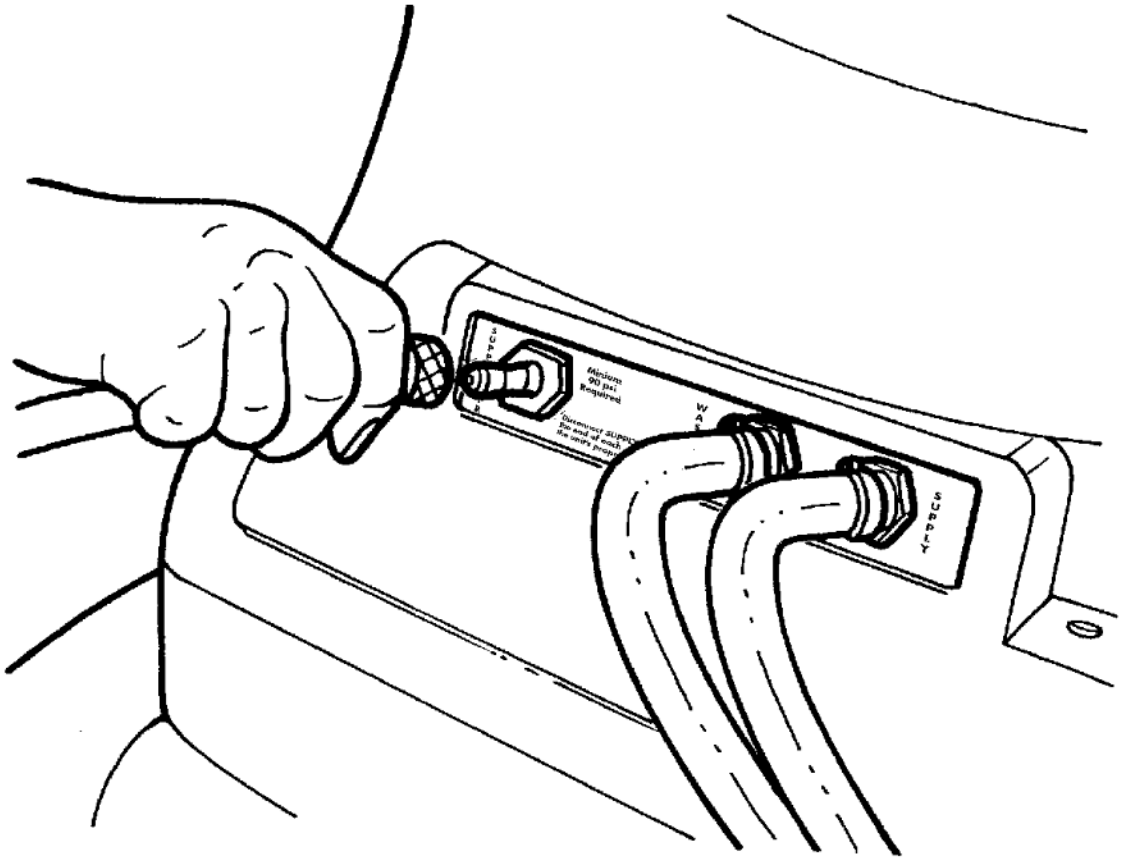


Fig. 49: Applying Shop Air Supply Hose To Quick-Disconnect
Courtesy of GENERAL MOTORS COMPANY

4. Disconnect the air supply hose from **DT-45096** flush and flow test tool.
5. Remove the **DT-45096-30** or the hose 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 SEAL REPLACEMENT (EXCEPT M5U TRANSMISSION)

Special Tools

- **DT-45201** Cooler Line Seal Remover
- **DT-47770** Seal Installer

For equivalent regional tools, refer to **Special Tools** .

cardiagn.com

Removal Procedure

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** .
2. Remove the catalytic converter. Refer to **Three-Way Catalytic Converter Replacement (LC8, L96)** **Three-Way Catalytic Converter Replacement (LV3, L83, L8B, or L86)** .

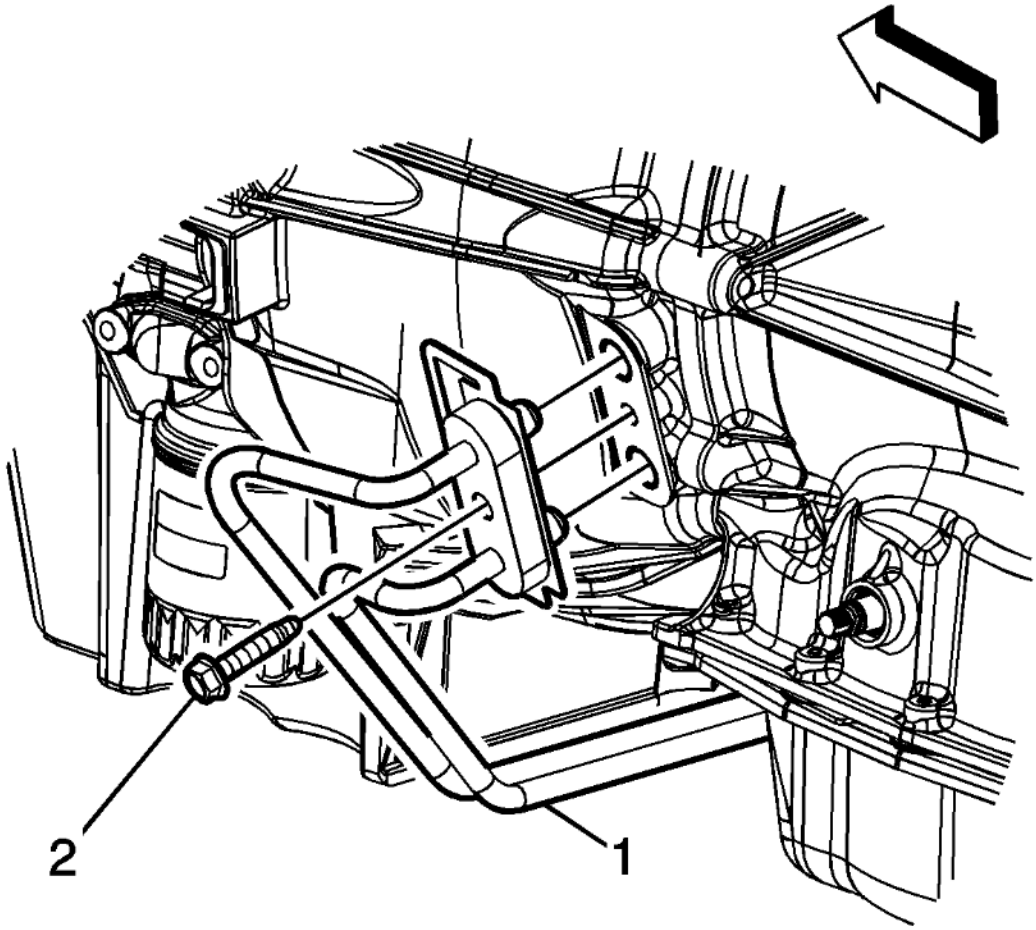


Fig. 50: View Of Oil Cooling Lines & Bolt
Courtesy of GENERAL MOTORS COMPANY

3. Remove the transmission fluid cooler pipe bolt (2) from the transmission.
4. Remove the transmission fluid cooler pipes from the transmission.

cardiagn.com

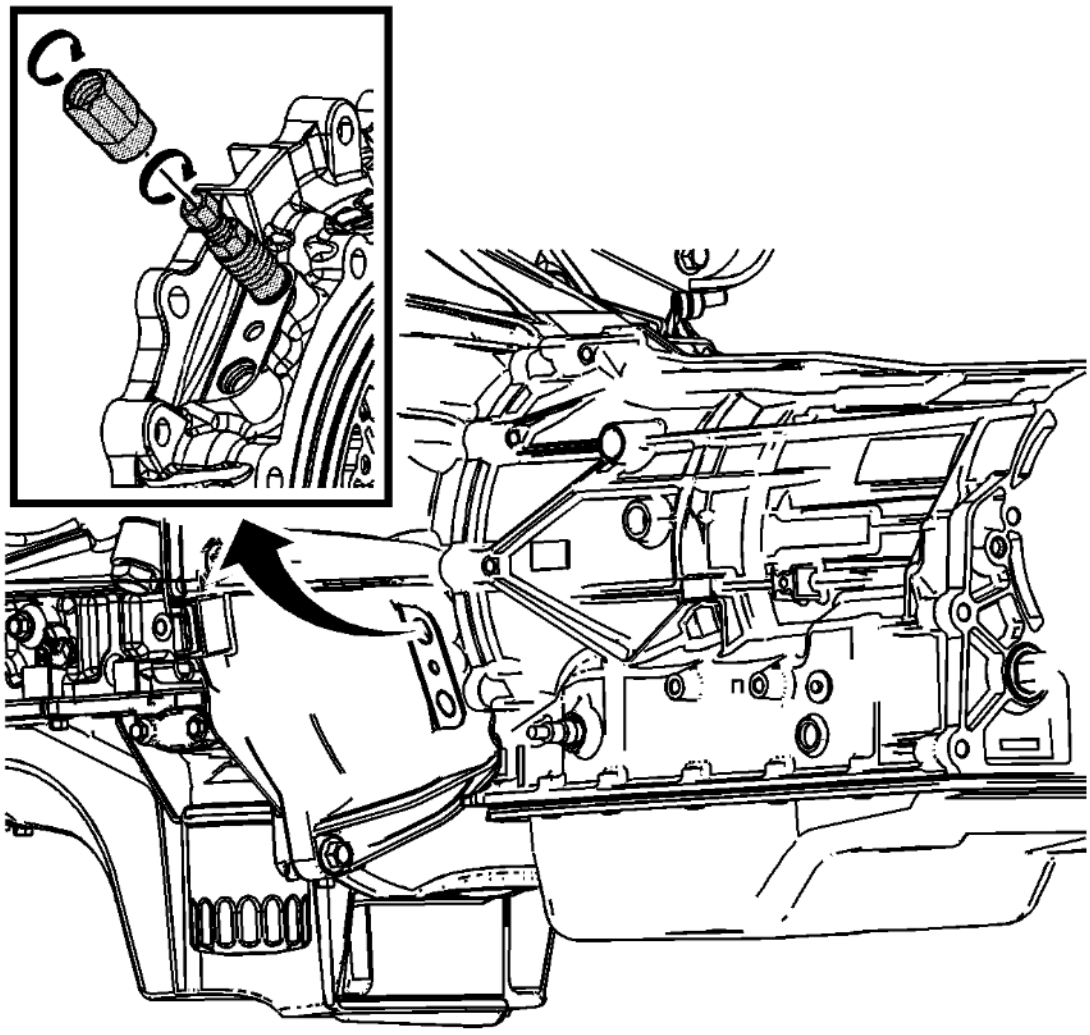


Fig. 51: Transmission Fluid Cooler Pipe Seals
Courtesy of GENERAL MOTORS COMPANY

5. Using **DT-45201** remover , remove the transmission fluid cooler pipe seals from the transmission.

Installation Procedure

cardiagn.com

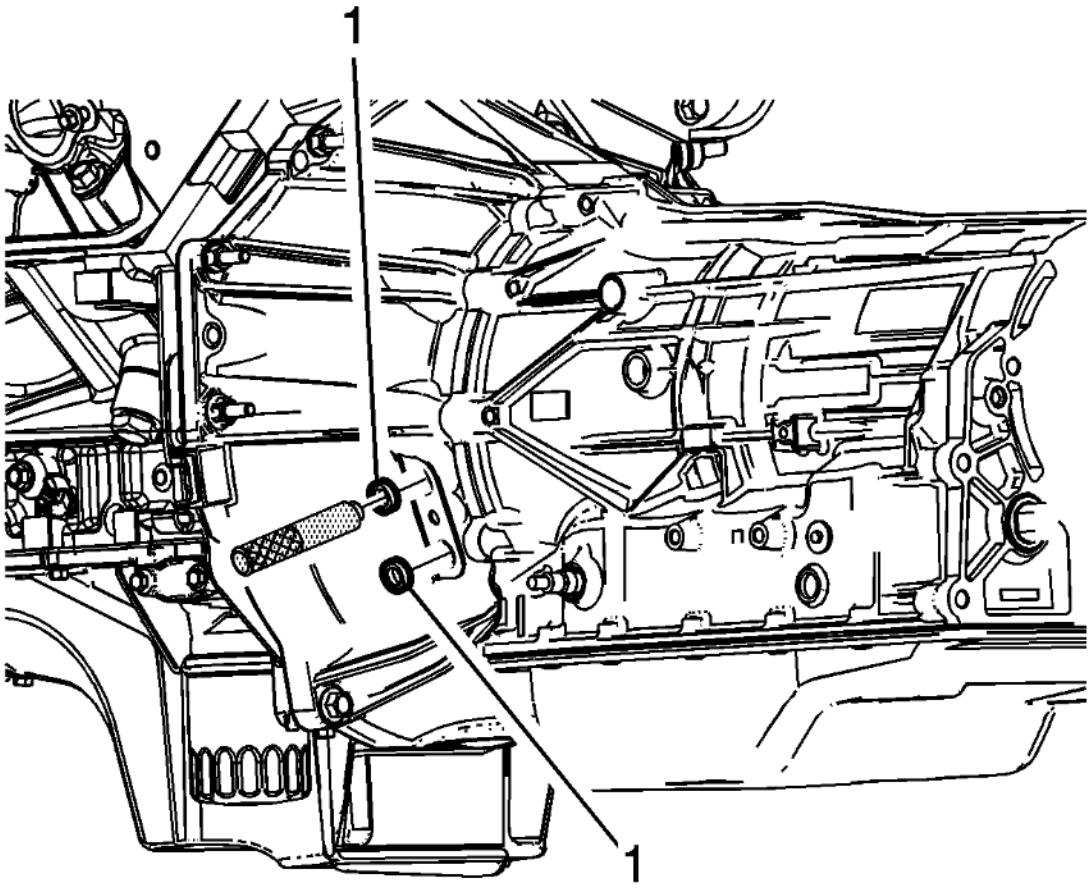


Fig. 52: Transmission Fluid Cooler Pipe Seals
Courtesy of GENERAL MOTORS COMPANY

1. Using **DT-47770** installer , install the transmission fluid cooler pipe seals (1) in the transmission.

cardiagn.com

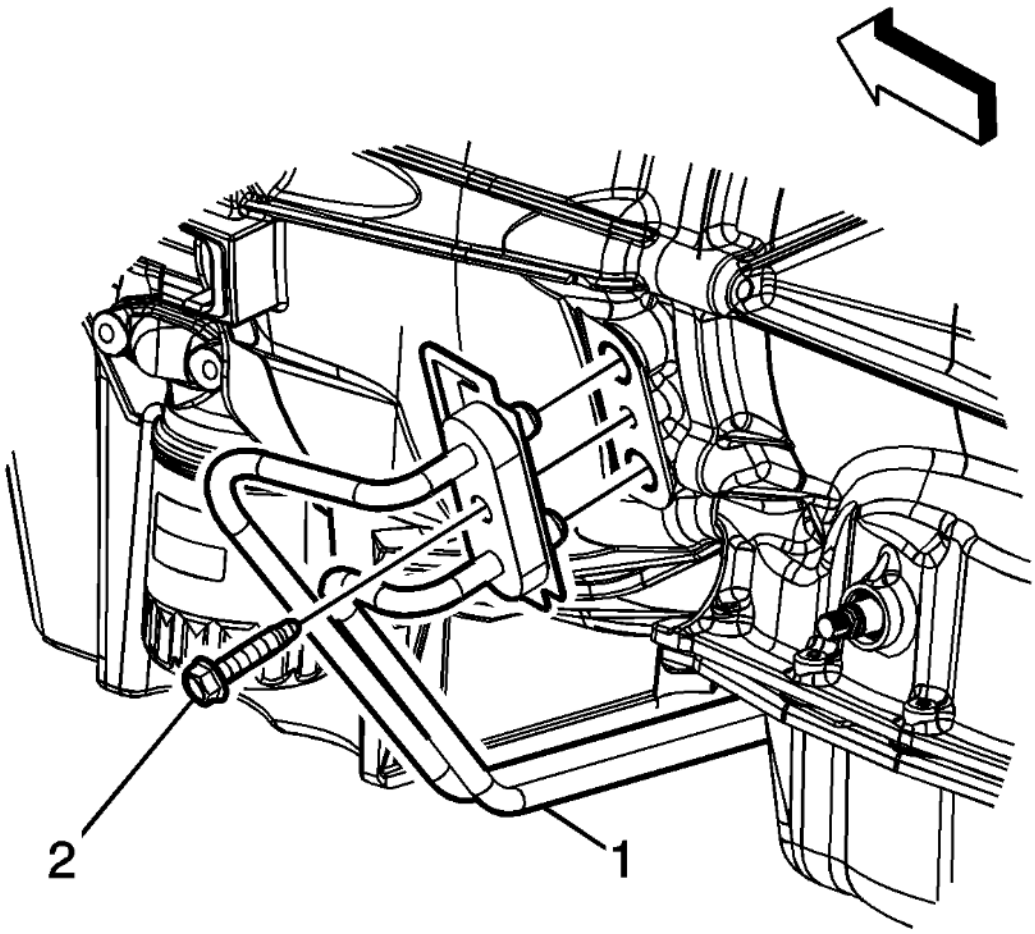


Fig. 53: View Of Oil Cooling Lines & Bolt
Courtesy of GENERAL MOTORS COMPANY

2. Install transmission fluid cooler pipes (1) the to the transmission.

CAUTION: Refer to Fastener Caution .

3. Install the transmission fluid cooler pipe bolt (2) to the transmission and tighten to 22 (16 lb ft).
4. Install the catalytic converter. Refer to **Three-Way Catalytic Converter Replacement (LC8, L96)** **Three-Way Catalytic Converter Replacement (LV3, L83, L8B, or L86)** .
5. Lower the vehicle.
6. Check the transmission fluid level.

TRANSMISSION FLUID COOLER PIPE SEAL REPLACEMENT (M5U TRANSMISSION)

Special Tools

- **DT-45201** Cooler Line Seal Remover
- **DT-47770** Seal Installer

For equivalent regional tools, refer to **Special Tools** .

cardiagn.com

Removal Procedure

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** .
2. Remove the catalytic converter. Refer to **OXIDATION CATALYTIC CONVERTER REPLACEMENT (L5P)** .

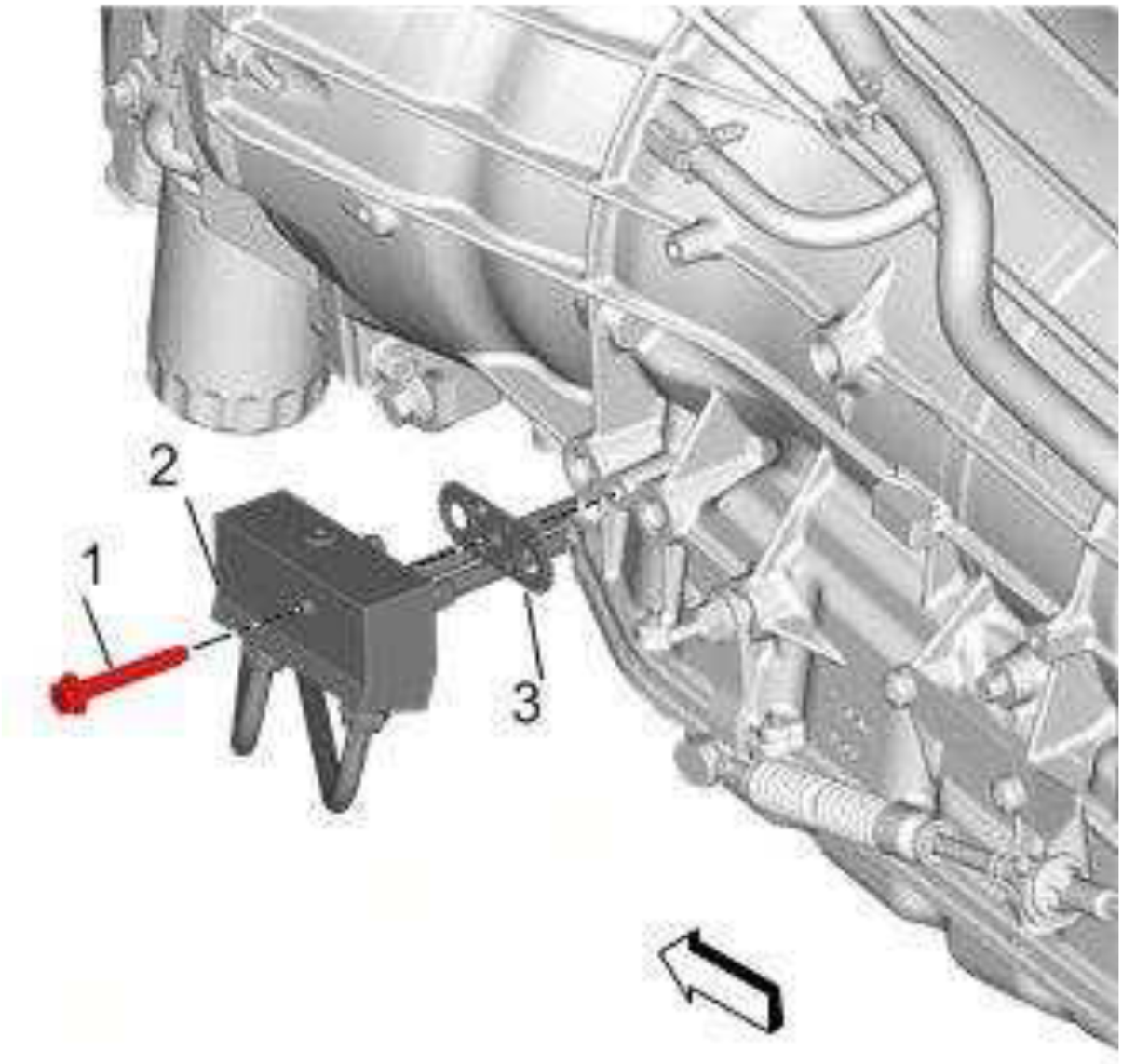


Fig. 54: Oil Cooler Lines
Courtesy of GENERAL MOTORS COMPANY

3. Remove the transmission fluid cooler pipe bolt (1) from the transmission.
4. Remove the transmission fluid cooler pipes (2) and the gasket (3) from the transmission.

cardiagn.com

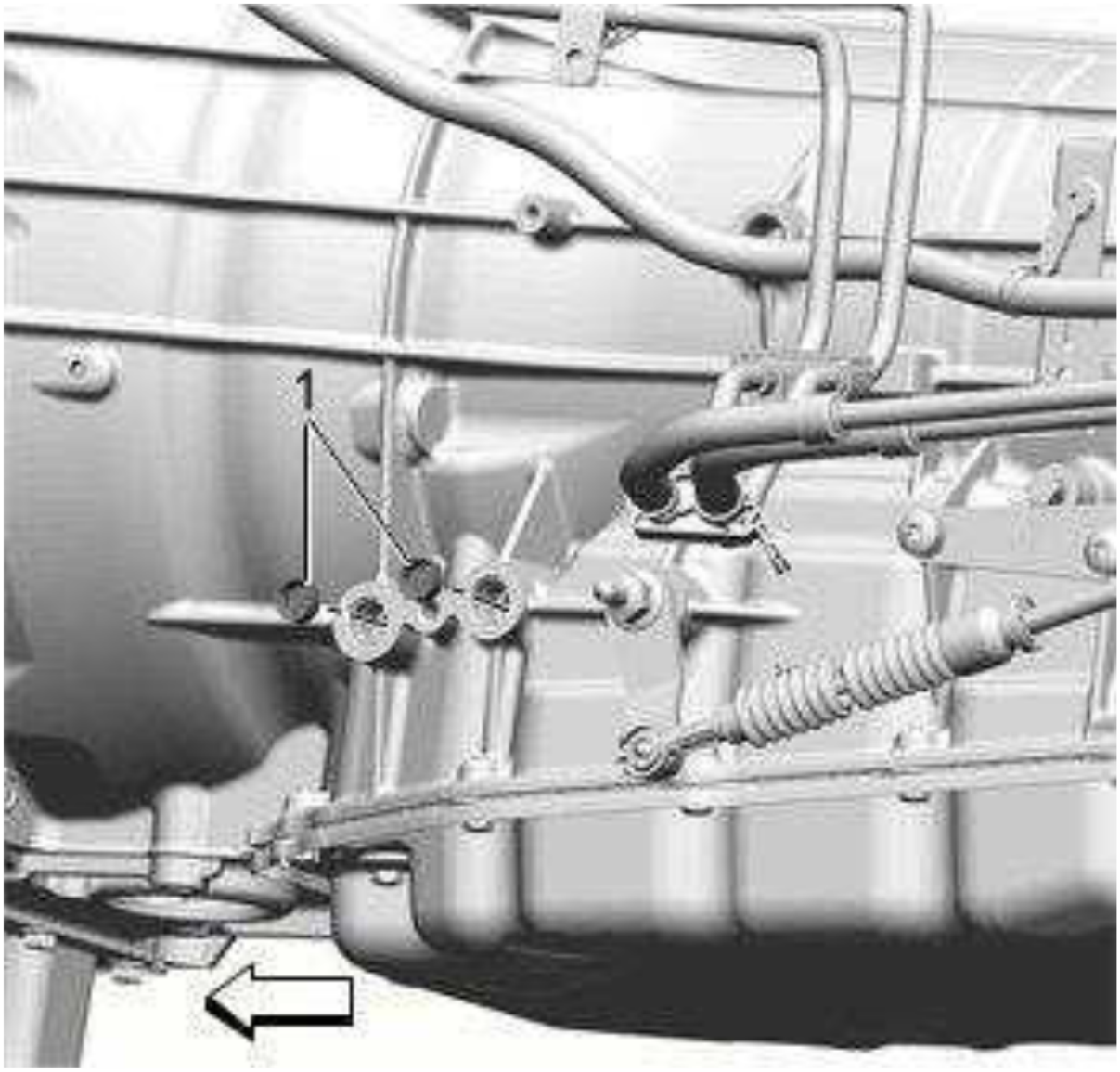


Fig. 55: Fluid Cooler Pipe Seals
Courtesy of GENERAL MOTORS COMPANY

5. Using **DT-45201** remover , remove the transmission fluid cooler pipe seals (1) from the transmission.

Installation Procedure

cardiagn.com

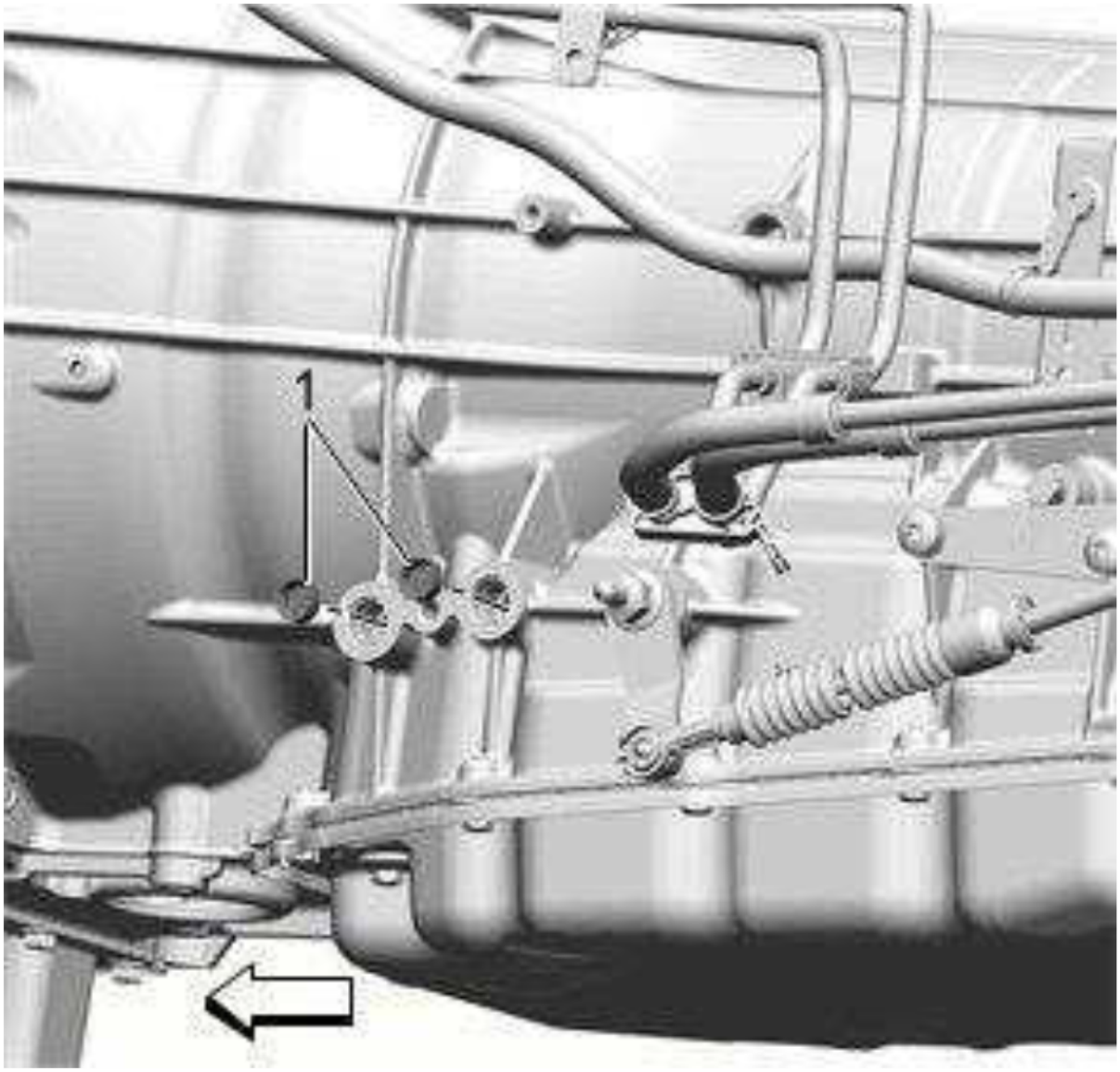


Fig. 56: Fluid Cooler Pipe Seals
Courtesy of GENERAL MOTORS COMPANY

1. Using **DT-47770** installer , install the transmission fluid cooler pipe seals (1) in the transmission.

cardiagn.com

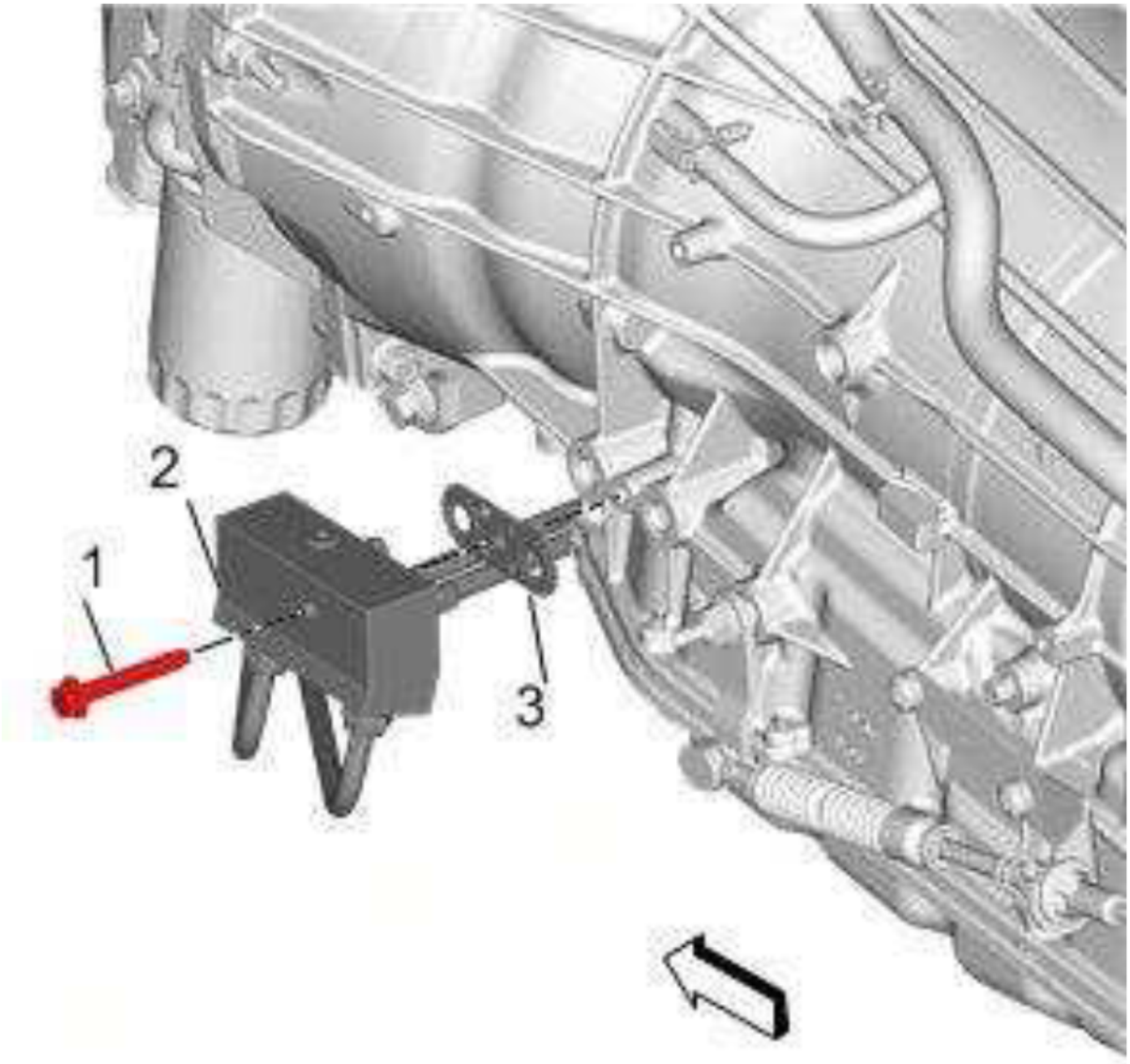


Fig. 57: Oil Cooler Lines
Courtesy of GENERAL MOTORS COMPANY

2. Install transmission fluid cooler pipe gasket (3) and the fluid pipes (2) the to the transmission.

CAUTION: Refer to Fastener Caution .

3. Install the transmission fluid cooler pipe bolt (1) to the transmission and tighten to 22 (16 lb ft).
4. Install the catalytic converter. Refer to **OXIDATION CATALYTIC CONVERTER REPLACEMENT (L5P)** .
5. Lower the vehicle.
6. Check the transmission fluid level.

TRANSMISSION FLUID AUXILIARY COOLER REPLACEMENT (LC8, L96 WITH MYD)

cardiagn.com

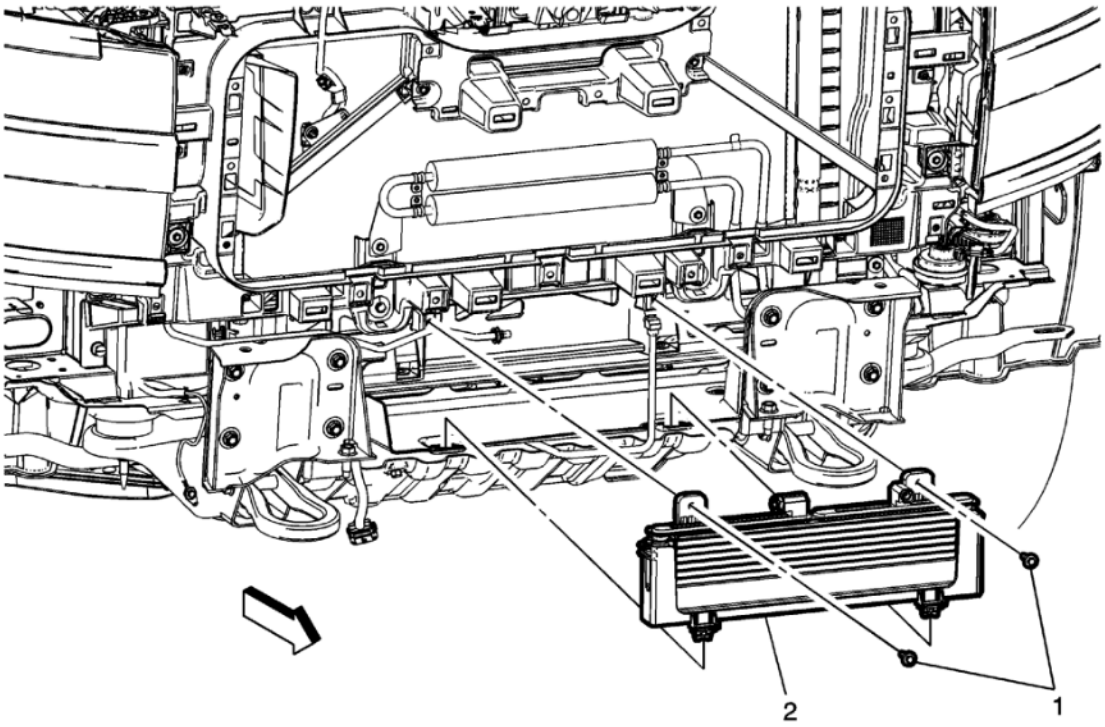


Fig. 58: Transmission Fluid Auxiliary Cooler (LC8, L96 with MYD)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure 1. Remove the Front Bumper Impact Bar. Refer to **Front Bumper Impact Bar Replacement (1500)** **Front Bumper Impact Bar Replacement (2500, 3500)** . 2. Place a drain pan under the transmission fluid cooler inlet and outlet pipe. 3. Disconnect the transmission fluid cooler inlet and outlet pipe from the transmission fluid auxiliary cooler. Refer to **Transmission Fluid Cooler Inlet and Outlet Pipe Replacement (LC8, L96 with MYD)**. 4. Disconnect the transmission fluid auxiliary cooler inlet pipe from the transmission fluid auxiliary cooler. Refer to **Transmission Fluid Auxiliary Cooler Inlet Pipe Replacement - Radiator Transmission Cooler Pipe to Auxiliary Cooler (LC8, L96 with MYD)**. 5. Cap the fittings and plug the holes when removing the transmission fluid cooler.	
1	Transmission Fluid Auxiliary Cooler Fastener (Qty: 2) **CAUTION:** **Refer to** **Fastener Caution** . **Tighten** 8 (71 lb in)

cardiagn.com

Callout	Component Name
2	Transmission Fluid Auxiliary Cooler **Procedure** 1. Unclip the transmission fluid auxiliary cooler from the radiator air lower baffle. 2. Fill the transmission to the proper fluid level. Refer to **Transmission Fluid Level and Condition Check** . 3. Inspect for transmission fluid leaks.

TRANSMISSION FLUID AUXILIARY COOLER REPLACEMENT (L5P WITH MW7)

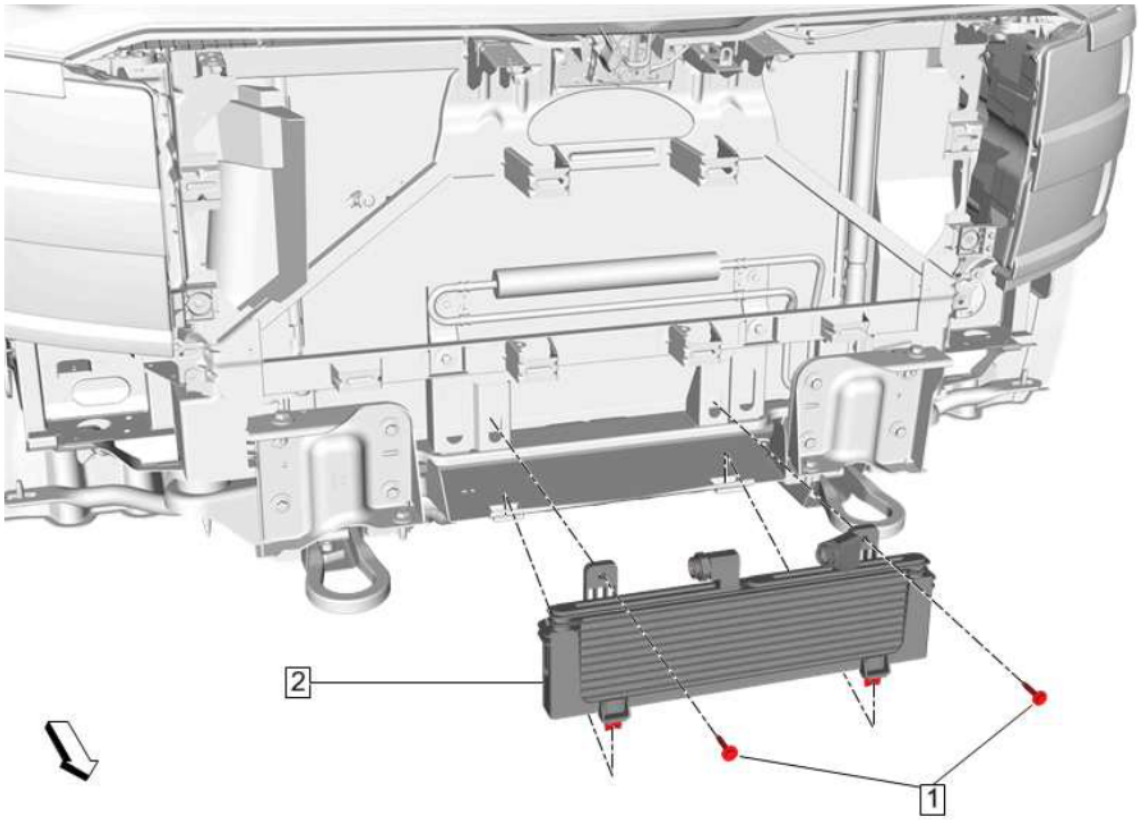


Fig. 59: Transmission Fluid Auxiliary Cooler (L5P with MW7)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure 1. **Front Bumper Impact Bar Replacement (1500)** **Front Bumper Impact Bar Replacement (2500, 3500)** 2. Place a drain pan under the vehicle. 3. Transmission Cooler Bypass Valve@Transmission Fluid Cooler Pipe Fitting-Remove - **Transmission Fluid Cooler Thermal Bypass Valve Replacement (L5P With MW7)** 4. Cap the fittings and plug the holes when removing the transmission fluid cooler.	

cardiagn.com

Callout	Component Name
1	Transmission Fluid Auxiliary Cooler Bolt(Qty: 2) **CAUTION:** **Refer to** **Fastener Caution** . **Tighten** 8 (71 lb in)
2	Transmission Fluid Auxiliary Cooler **Procedure** 1. Unclip the transmission fluid auxiliary cooler from the radiator air lower baffle. 2. Fill the transmission to the proper fluid level. **Transmission Fluid Level and Condition Check** 3. Inspect for transmission fluid leaks.

TRANSMISSION FLUID AUXILIARY COOLER INLET PIPE REPLACEMENT (L83, L86)

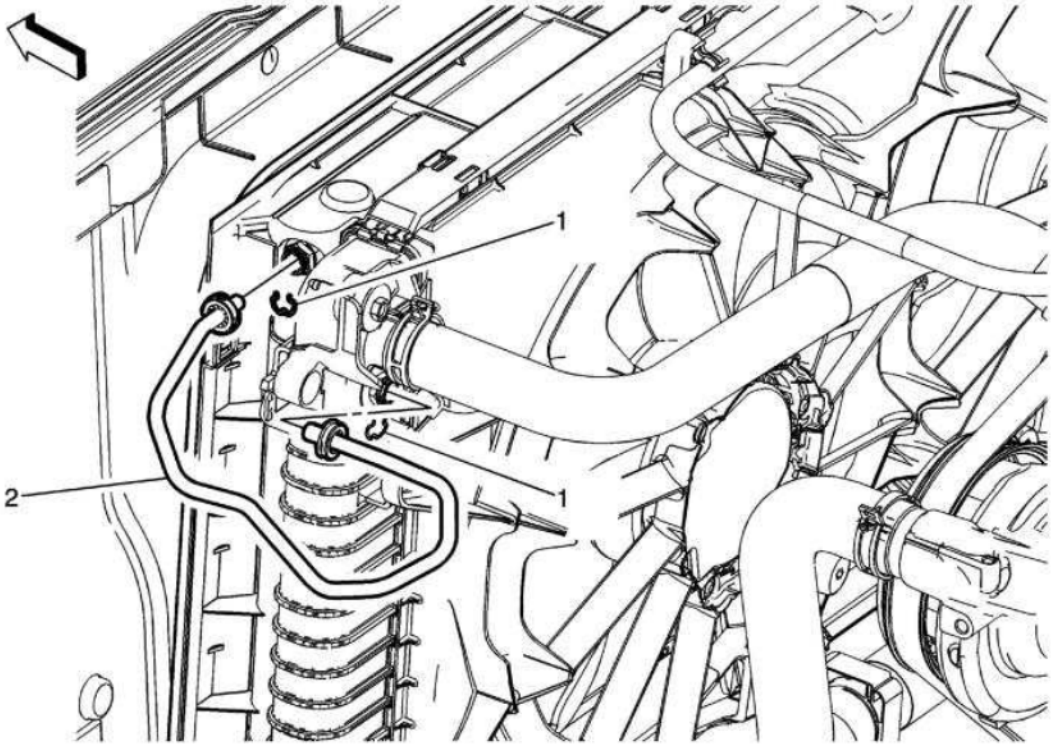


Fig. 60: Transmission Fluid Auxiliary Cooler Inlet Pipe (L83, L86)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name

cardiagn.com

Callout	Component Name
Preliminary Procedures 1. Remove the front end upper tie bar support . Refer to **Front End Upper Tie Bar Support Replacement** . 2. Place a drain pan under the transmission fluid auxiliary cooler inlet pipes. 3. Cap the fittings and plug the holes when removing the transmission fluid auxiliary cooler inlet pipe.	
1	Transmission Fluid Auxiliary Cooler Inlet Pipe Retaining Ring (Qty: 2) **Procedure** Disconnect the quick connect fittings from the transmission fluid auxiliary cooler inlet pipe. Refer to **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**.
2	Transmission Fluid Auxiliary Cooler Inlet Pipe **Procedure** 1. Inspect the transmission fluid level. 2. Inspect for transmission fluid leaks.

TRANSMISSION FLUID AUXILIARY COOLER INLET PIPE REPLACEMENT (L8B)

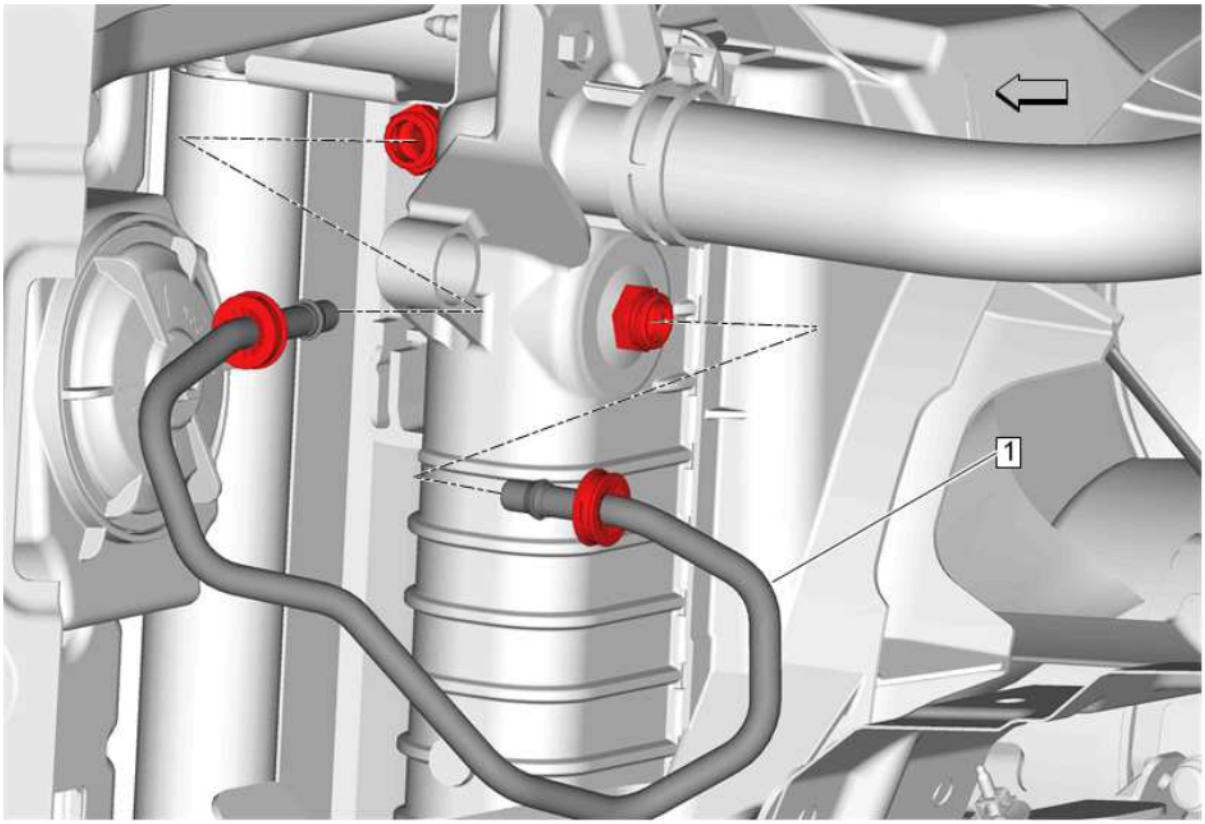


Fig. 61: Transmission Fluid Auxiliary Cooler Inlet Pipe (L8B)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name

cardiagn.com

Callout	Component Name
Preliminary Procedures 1. **Front End Upper Tie Bar Support Replacement** 2. **Windshield Washer Solvent Container Replacement (LD) Windshield Washer Solvent Container Replacement (Diesel) Windshield Washer Solvent Container Replacement (HD)** 3. Place a drain pan under the vehicle. 4. Cap the fittings and plug the holes when removing the transmission fluid cooler pipes.	
1	Transmission Fluid Auxiliary Cooler Inlet Pipe **Procedure** 1. Transmission Fluid Auxiliary Cooler Inlet Pipe@Radiator-Disconnect - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection** 2. Transmission Fluid Auxiliary Cooler Inlet Pipe@Transmission Fluid Auxiliary Cooler-Disconnect - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection** 3. Check the transmission fluid level. 4. Inspect for transmission fluid leaks.

TRANSMISSION FLUID AUXILIARY COOLER INLET PIPE REPLACEMENT (L5P WITH MW7)

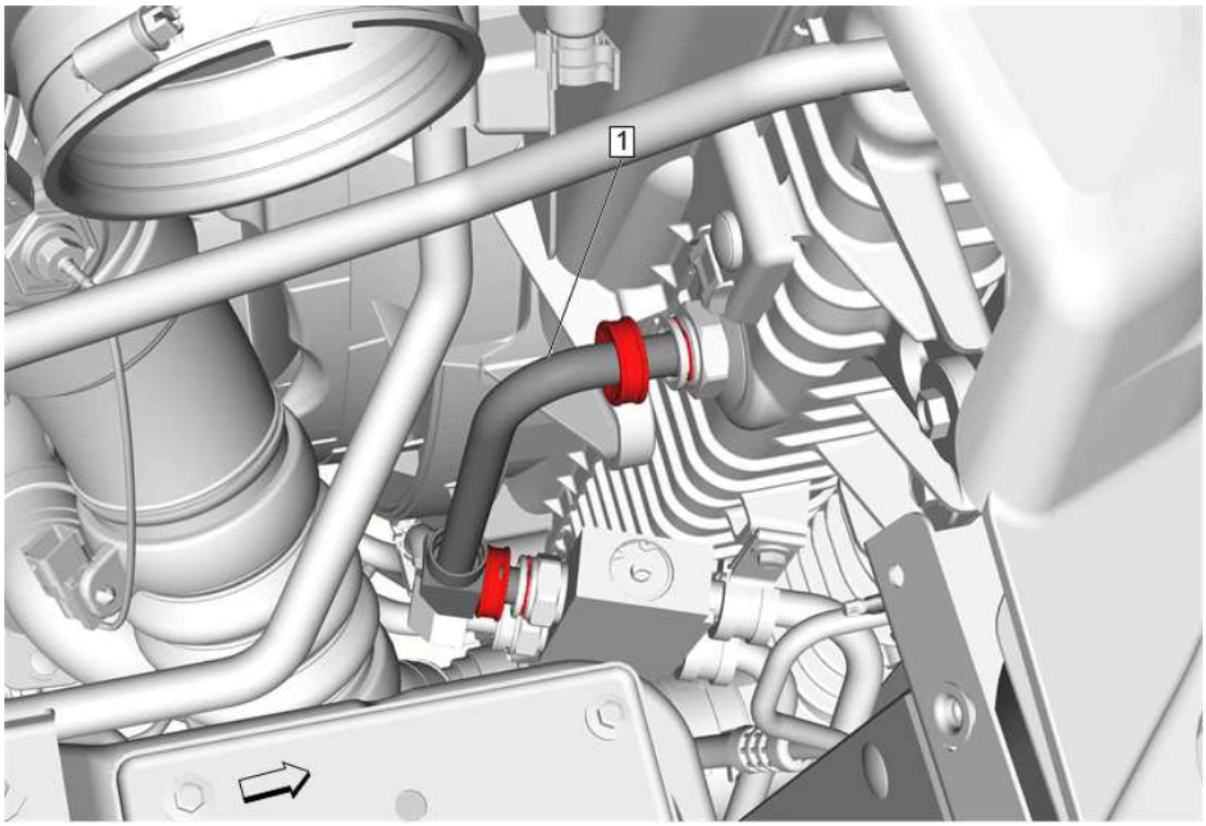


Fig. 62: Transmission Fluid Auxiliary Cooler Inlet Pipe And Transmission Cooler Bypass Valve
Courtesy of GENERAL MOTORS COMPANY

cardiagn.com

Callout	Component Name
Preliminary Procedures 1. **Air Cleaner Assembly Replacement** 2. Place a drain pan under the vehicle. 3. Cap the fittings and plug the holes when removing the transmission fluid cooler pipes.	
1	Transmission Fluid Auxiliary Cooler Inlet Pipe **Procedure** 1. Transmission Fluid Auxiliary Cooler Inlet Pipe@Radiator-Disconnect - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection** 2. Transmission Fluid Auxiliary Cooler Inlet Pipe@Transmission Fluid Cooler Thermal Bypass Valve-Disconnect - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection** 3. Check the transmission fluid level. 4. Inspect for transmission fluid leaks.

TRANSMISSION FLUID AUXILIARY COOLER INLET PIPE REPLACEMENT - RADIATOR TRANSMISSION COOLER PIPE TO AUXILIARY COOLER (LC8, L96 WITH MYD)

Removal Procedure

1. Remove the Front Bumper Impact Bar. Refer to **Front Bumper Impact Bar Replacement (1500)** **Front Bumper Impact Bar Replacement (2500, 3500)** .
2. Place a drain pan under the transmission fluid auxiliary cooler inlet pipe.

cardiagn.com

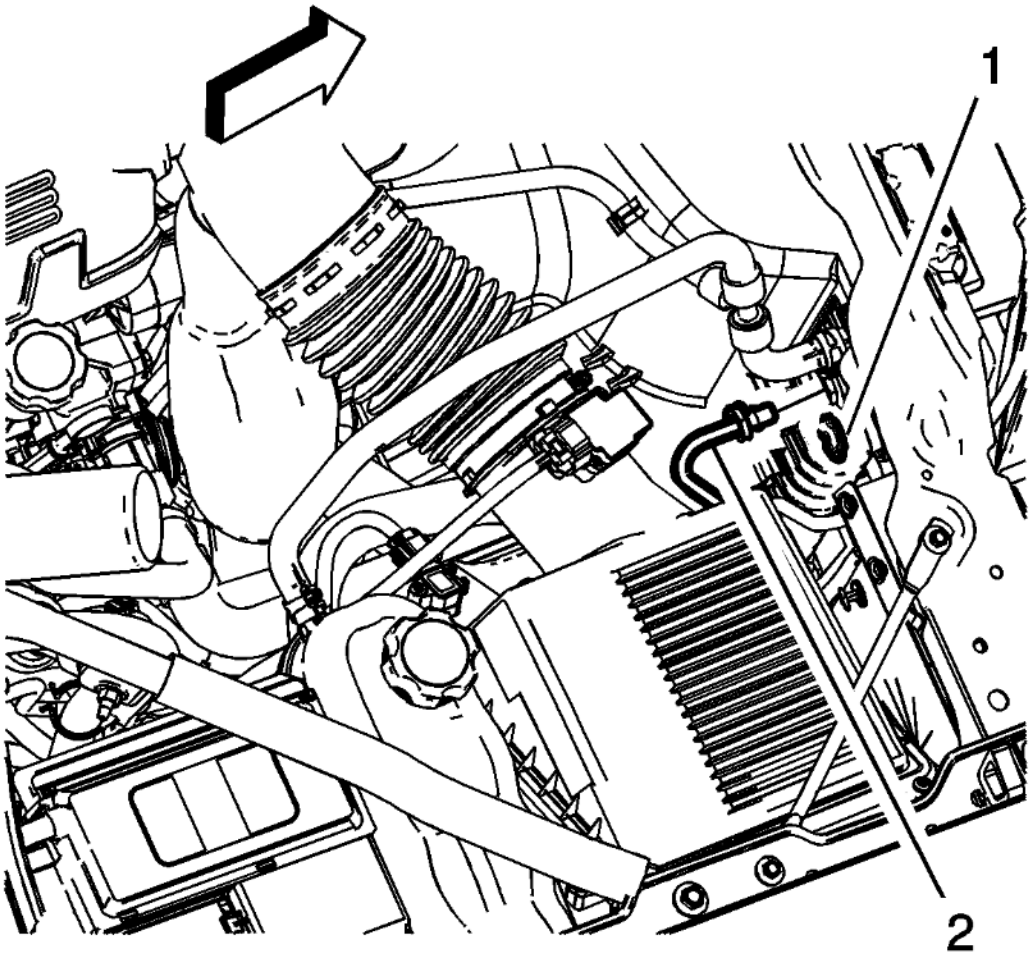


Fig. 63: Transmission Fluid Auxiliary Cooler Inlet Pipe
Courtesy of GENERAL MOTORS COMPANY

3. Remove the transmission fluid auxiliary cooler inlet pipe retainer (1) from the radiator. Refer to **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**.
4. Remove the transmission fluid auxiliary cooler inlet pipe (2) from the radiator.
5. Cap the fittings and plug the holes when removing the transmission fluid cooler inlet and outlet.

cardiagn.com

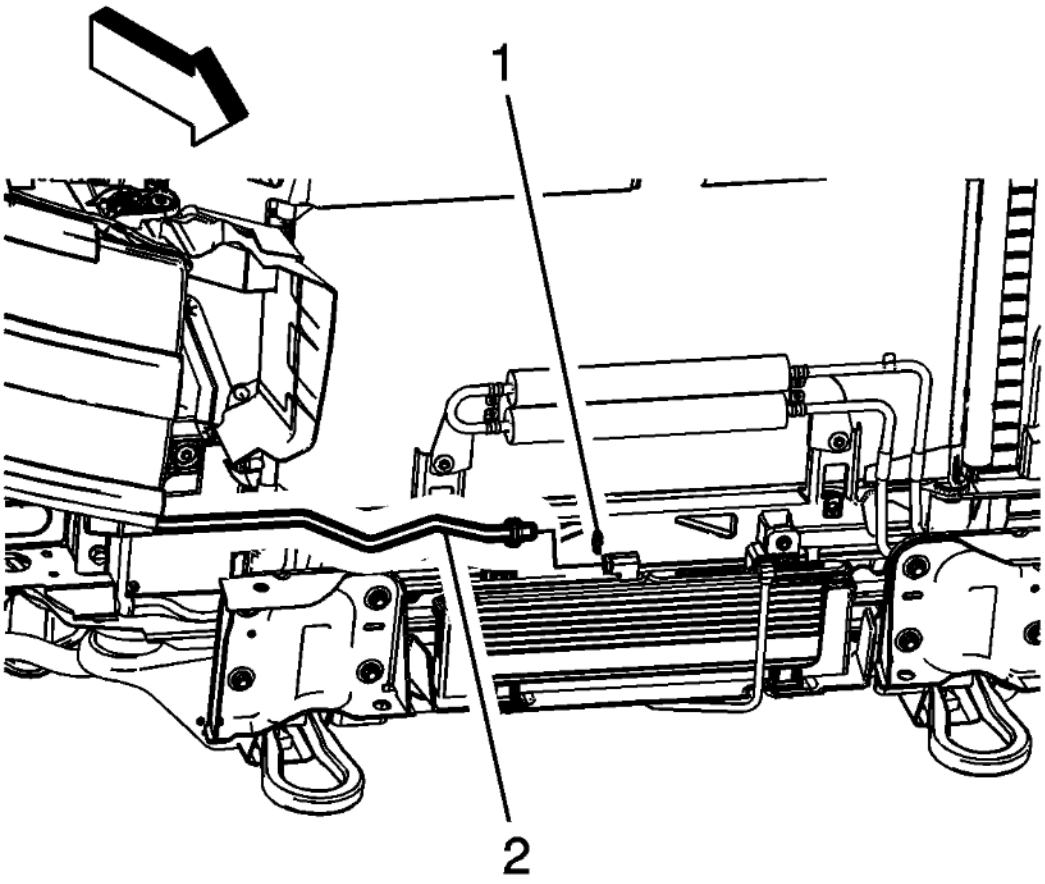


Fig. 64: Transmission Fluid Auxiliary Cooler Inlet Pipe Retainer
Courtesy of GENERAL MOTORS COMPANY

6. Remove the transmission fluid auxiliary cooler inlet pipe retainer (1) from the transmission fluid auxiliary cooler. Refer to **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**.
7. Remove the transmission fluid auxiliary cooler inlet pipe (2) from the transmission fluid auxiliary cooler.
8. Cap the fittings and plug the holes when removing the transmission fluid auxiliary cooler inlet pipe.
9. Remove the transmission fluid auxiliary cooler inlet pipe (2) from the vehicle.

Installation Procedure

cardiagn.com

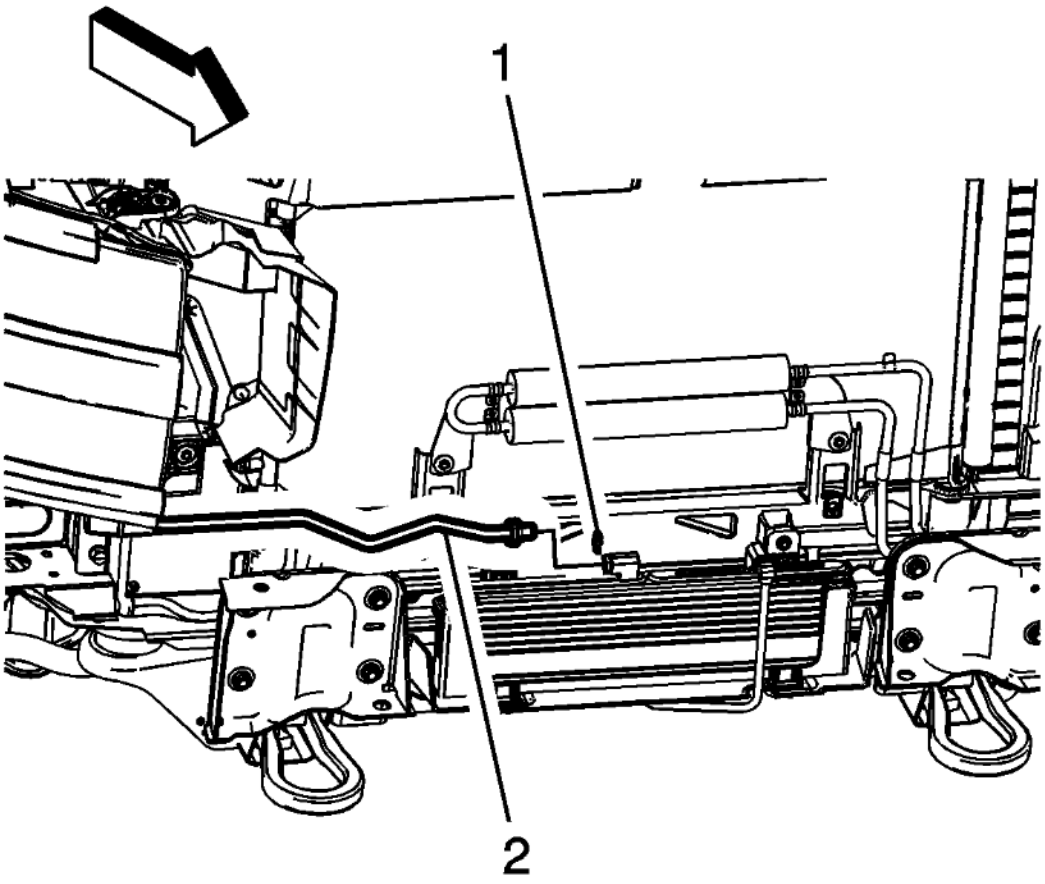


Fig. 65: Transmission Fluid Auxiliary Cooler Inlet Pipe Retainer
Courtesy of GENERAL MOTORS COMPANY

1. Remove the caps and plugs from the fittings and holes before installing the transmission fluid auxiliary cooler inlet pipe.
2. Install the transmission fluid auxiliary cooler inlet pipe (2) to the transmission fluid auxiliary cooler.
3. Install the transmission fluid auxiliary cooler inlet pipe retainer (1) to the transmission fluid auxiliary cooler. Refer to **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**.

cardiagn.com

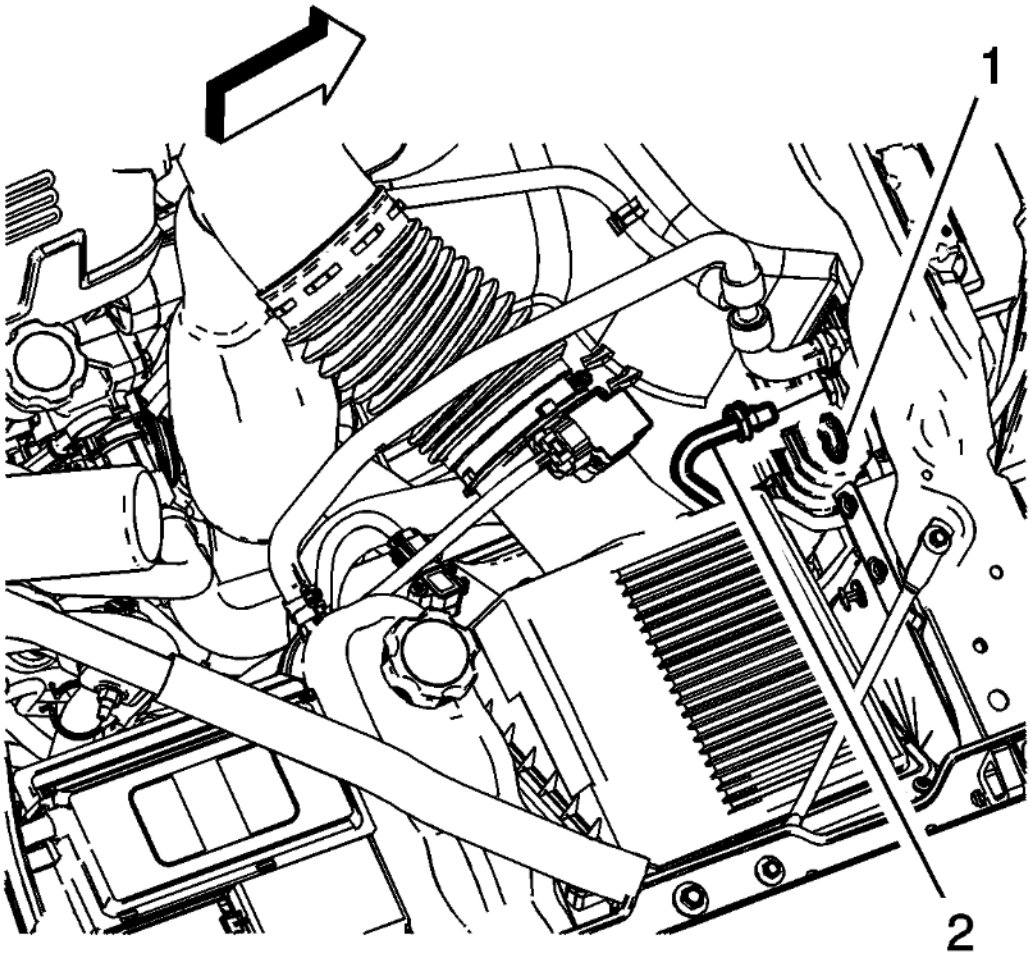


Fig. 66: Transmission Fluid Auxiliary Cooler Inlet Pipe
Courtesy of GENERAL MOTORS COMPANY

4. Remove the caps and plugs from the fittings and holes before installing the transmission fluid auxiliary cooler inlet pipe.
5. Install the transmission fluid auxiliary cooler inlet pipe (2) to the radiator.
6. Install the transmission fluid auxiliary cooler inlet pipe retainer (1) to the radiator. Refer to **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**.
7. Remove the drain pan from under the transmission fluid auxiliary cooler inlet pipe.
8. Install the Front Bumper Impact Bar. Refer to **Front Bumper Impact Bar Replacement (1500)** **Front Bumper Impact Bar Replacement (2500, 3500)** .
9. Fill the transmission to the proper fluid level. Refer to **Transmission Fluid Level and Condition Check** .
10. Inspect for transmission fluid leaks.

TRANSMISSION FLUID AUXILIARY COOLER OUTLET PIPE REPLACEMENT (L83, L86)

cardiagn.com

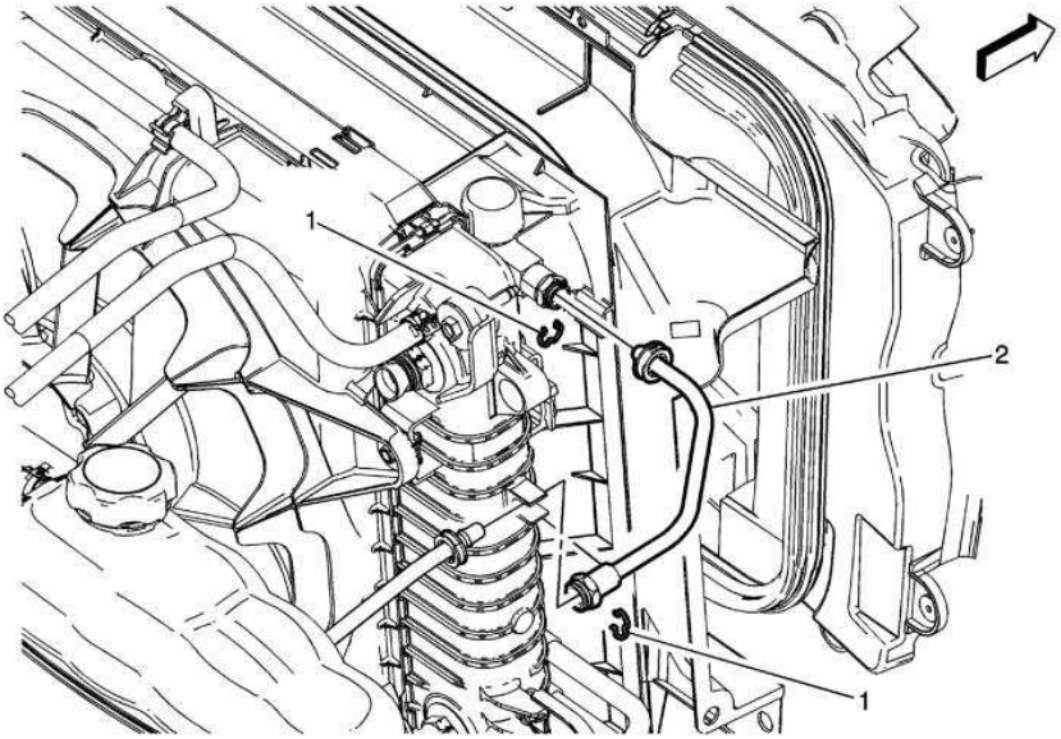


Fig. 67: Transmission Fluid Auxiliary Cooler Outlet Pipe (L83, L86)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. Remove the air cleaner assembly. Refer to **Air Cleaner Assembly Replacement** . 2. Remove the front end upper tie bar support. Refer to **Front End Upper Tie Bar Support Replacement** . 3. Place a drain pan under the transmission fluid auxiliary cooler outlet pipes. 4. Cap the fittings and plug the holes when removing the transmission fluid auxiliary cooler outlet pipe.	
1	Transmission Fluid Auxiliary Cooler Outlet Pipe Retaining Ring (Qty: 2) **Procedure** Disconnect the quick connect fittings from the transmission fluid auxiliary cooler outlet pipe. Refer to **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**.
2	Transmission Fluid Auxiliary Cooler Outlet Pipe **Procedure** 1. Inspect the transmission fluid level. 2. Inspect for transmission fluid leaks.

TRANSMISSION FLUID AUXILIARY COOLER OUTLET PIPE REPLACEMENT (L8B)

cardiagn.com

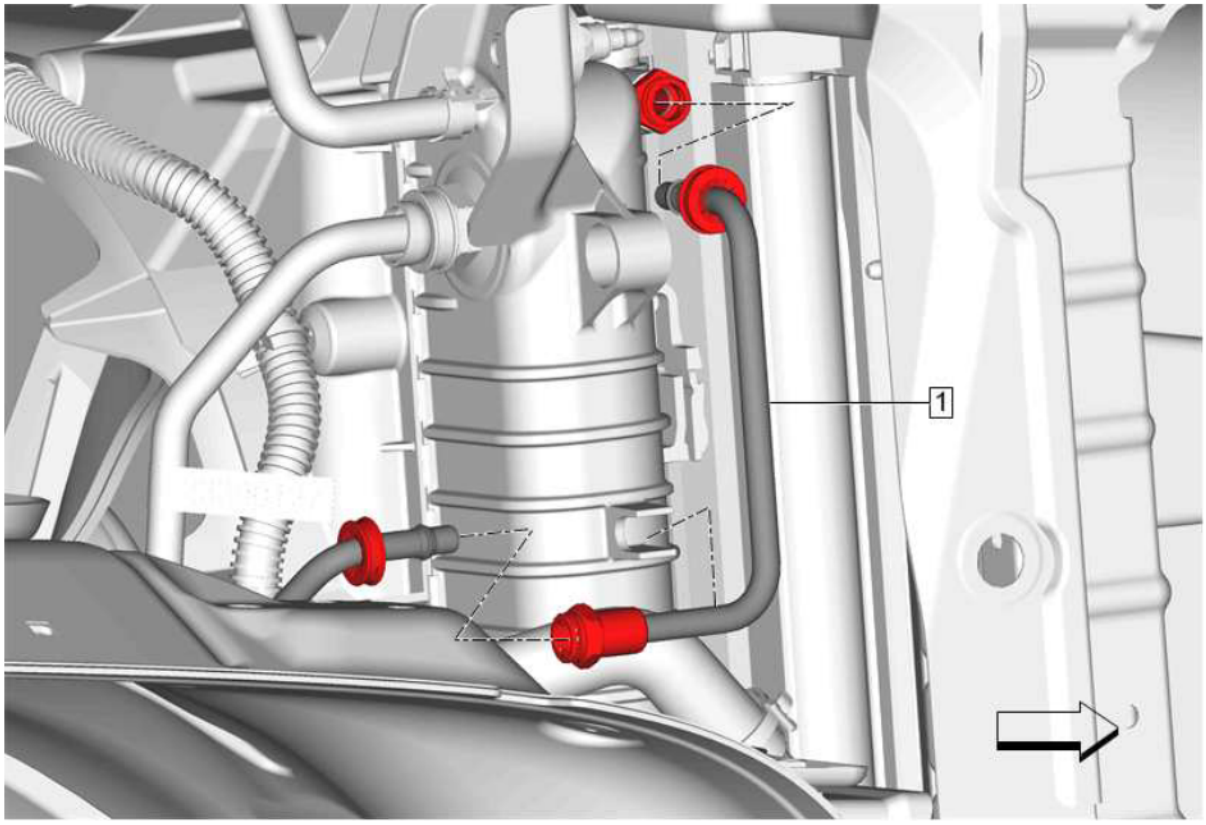


Fig. 68: Transmission Fluid Auxiliary Cooler Outlet Pipe (L8B)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. **Front End Upper Tie Bar Support Replacement** 2. **Air Cleaner Assembly Replacement** 3. Place a drain pan under the vehicle. 4. Cap the fittings and plug the holes when removing the transmission fluid cooler pipes.	
1	Transmission Fluid Auxiliary Cooler Outlet Pipe **Procedure** 1. Transmission Fluid Auxiliary Cooler Outlet Pipe@Transmission Fluid Cooler Inlet and Outlet Pipe-Disconnect - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection** 2. Transmission Fluid Auxiliary Cooler Outlet Pipe@Transmission Fluid Auxiliary Cooler-Disconnect - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection** 3. Check the transmission fluid level. 4. Inspect for transmission fluid leaks.

TRANSMISSION FLUID COOLER THERMAL BYPASS VALVE REPLACEMENT (L83, L86, LV3)

cardiagn.com

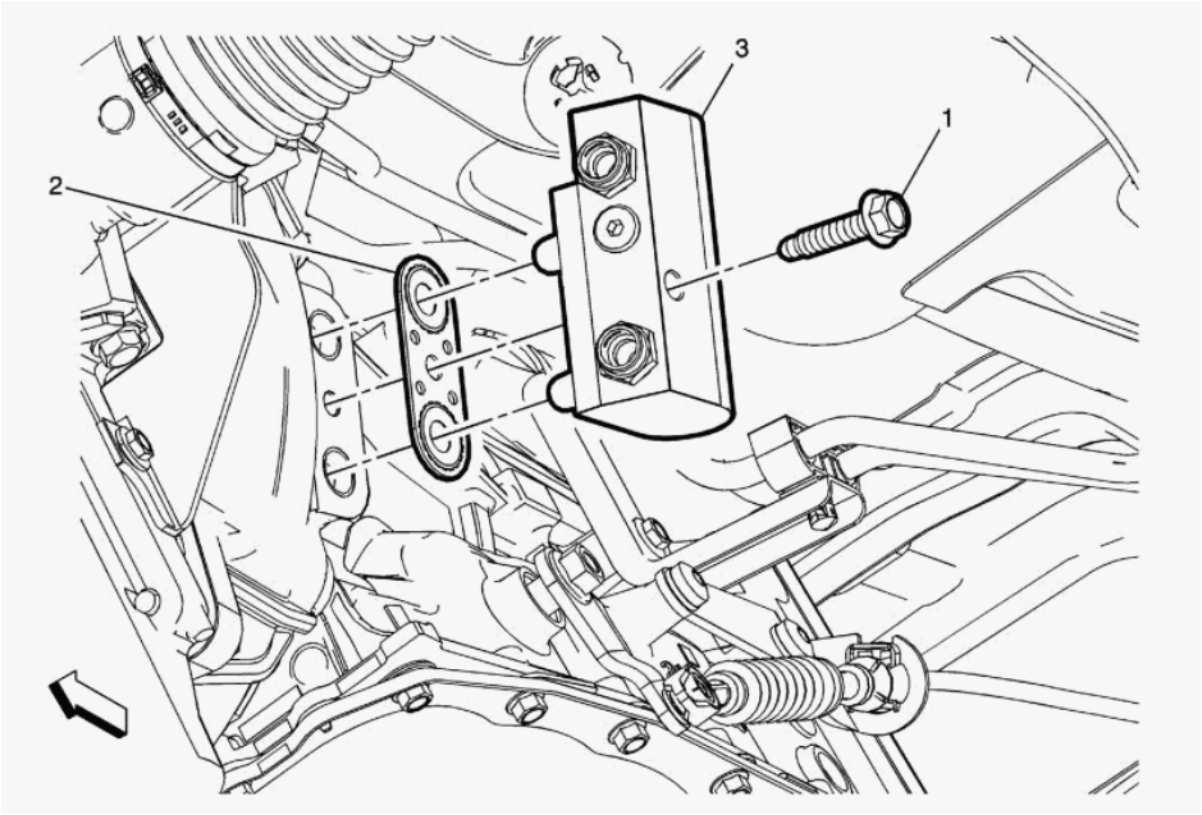


Fig. 69: Transmission Fluid Cooler Thermal Bypass Valve (L83, LV3)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. **Lifting and Jacking the Vehicle** . 2. Place a drain pan under the Transmission Fluid Cooler Inlet and Outlet Pipe. 3. Remove the Transmission Fluid Cooler Inlet and Outlet Pipe from the bracket retainer at the right lower side of the transmission. 4. Transmission Fluid Cooler Inlet and Outlet Pipe@Transmission Fluid Cooler Thermal Bypass Valve- **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection** 5. Cap the fittings and plug the holes when removing the Transmission Fluid Cooler Inlet and Outlet Pipefrom the Transmission Fluid Cooler Thermal Bypass Valve.	
1	Transmission Fluid Cooler Pipe Connector Bolt **CAUTION:** **Refer to Fastener Caution** . **Tighten** 22 (16 lb ft)

cardiagn.com

Callout	Component Name
2	Transmission Fluid Cooler Pipe Fitting Seal **Procedure** Remove and discard the old transmission fluid cooler pipe fitting seal and replace with a new transmission fluid cooler pipe fitting seal.
3	Transmission Fluid Cooler Thermal Bypass Valve 1. Inspect the transmission fluid level. 2. Inspect for transmission fluid leaks.

TRANSMISSION FLUID COOLER THERMAL BYPASS VALVE REPLACEMENT (M5U)

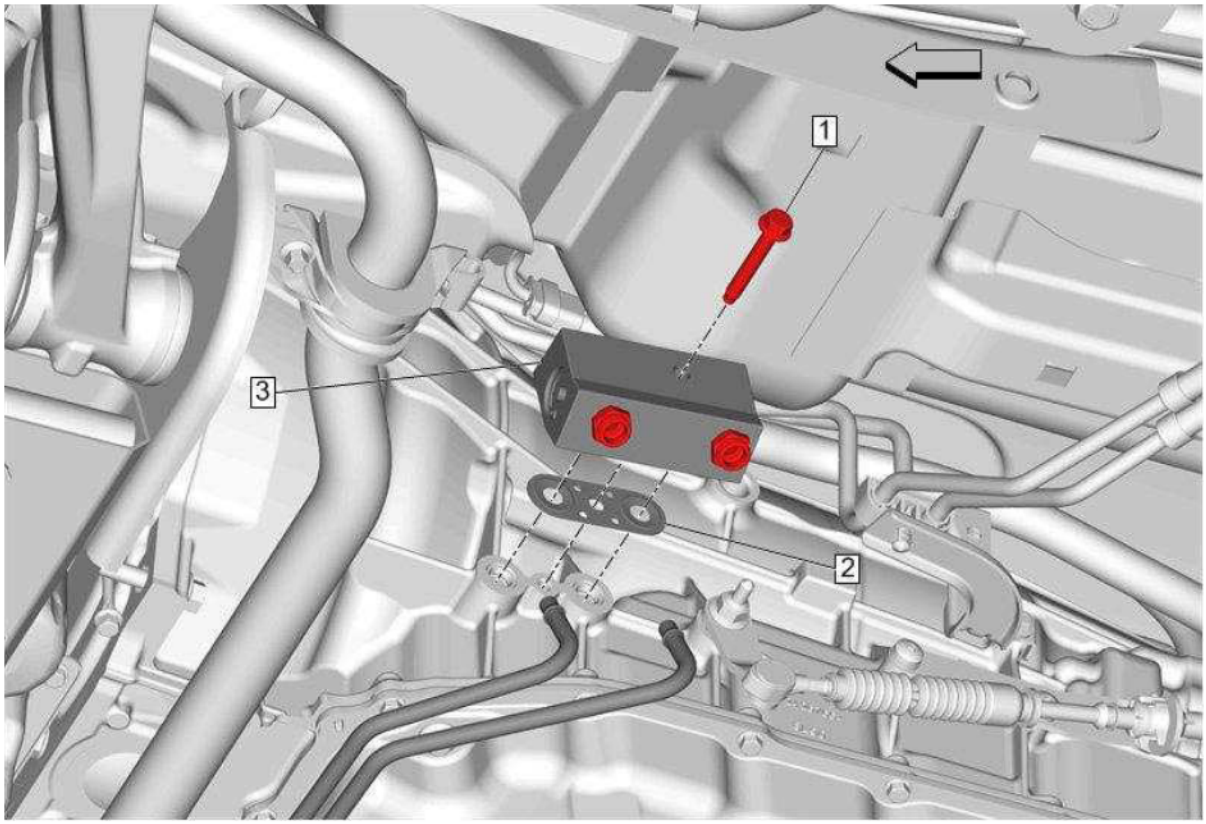


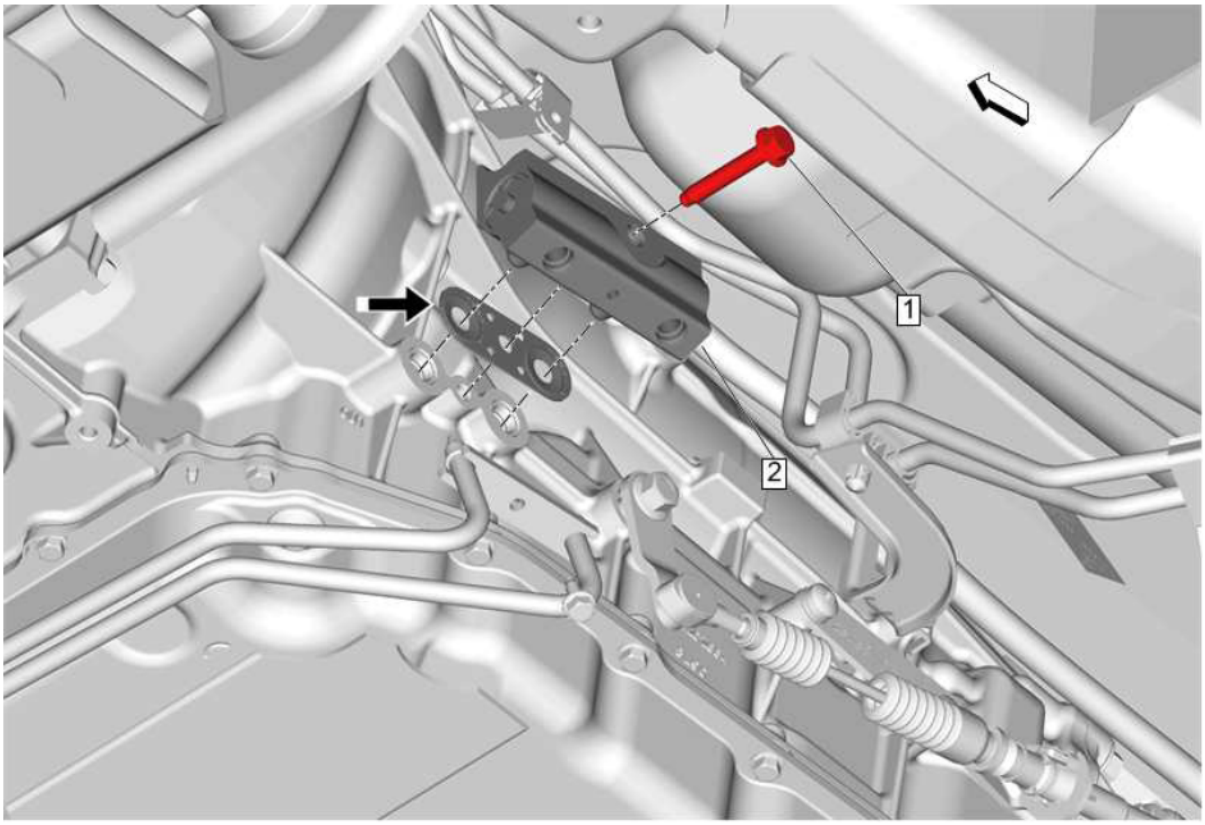
Fig. 70: Transmission Fluid Cooler Thermal Bypass Valve (M5U)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. **Lifting and Jacking the Vehicle** 2. Place a drain pan under the vehicle. 3. Transmission Fluid Cooler Inlet and Outlet Pipe@Transmission Fluid Cooler Thermal Bypass Valve-Remove - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection** 4. Cap the opening to prevent contamination.	

cardiagn.com

Callout	Component Name
1	Transmission Fluid Cooler Pipe Connector Bolt **CAUTION:** **Refer to** **Fastener Caution** . **Tighten** 22 (16 lb ft)
2	Transmission Fluid Cooler Pipe Fitting Seal **Procedure** 1. Remove and DISCARD the gasket. 2. Use a NEW gasket.
3	Transmission Fluid Cooler Thermal Bypass Valve **Procedure** 1. Fill and inspect the transmission fluid level. 2. Inspect for transmission fluid leaks.

TRANSMISSION FLUID COOLER THERMAL BYPASS VALVE REPLACEMENT (L8B)



cardiagn.com

Fig. 71: Transmission Fluid Cooler Thermal Bypass Valve (L8B)
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. Place a drain pan under the vehicle. 2. Transmission Fluid Cooler Inlet and Outlet Pipe@Transmission Fluid Cooler Thermal Bypass Valve-Remove - **Transmission Fluid Cooler Inlet and Outlet Pipe Replacement (LV3)Transmission Fluid Cooler Inlet and Outlet Pipe Replacement (L83, L86 with MYD)Transmission Fluid Cooler Inlet and Outlet Pipe Replacement (LC8, L96 with MYD)Transmission Fluid Cooler Inlet and Outlet Pipe Replacement (L86 with M5U)Transmission Fluid Cooler Inlet and Outlet Pipe Replacement (L8B)**.	
1	Transmission Fluid Cooler Thermal Bypass Valve Bolt **CAUTION:** **Refer to Fastener Caution .** **Tighten** 22 N.m (16 lb ft)
2	Transmission Fluid Cooler Thermal Bypass Valve **Procedure** 1. Remove and DISCARD the gasket. 2. Install a NEW gasket.

TRANSMISSION FLUID COOLER THERMAL BYPASS VALVE REPLACEMENT (L5P WITH MW7)

Removal Procedure

cardiagn.com

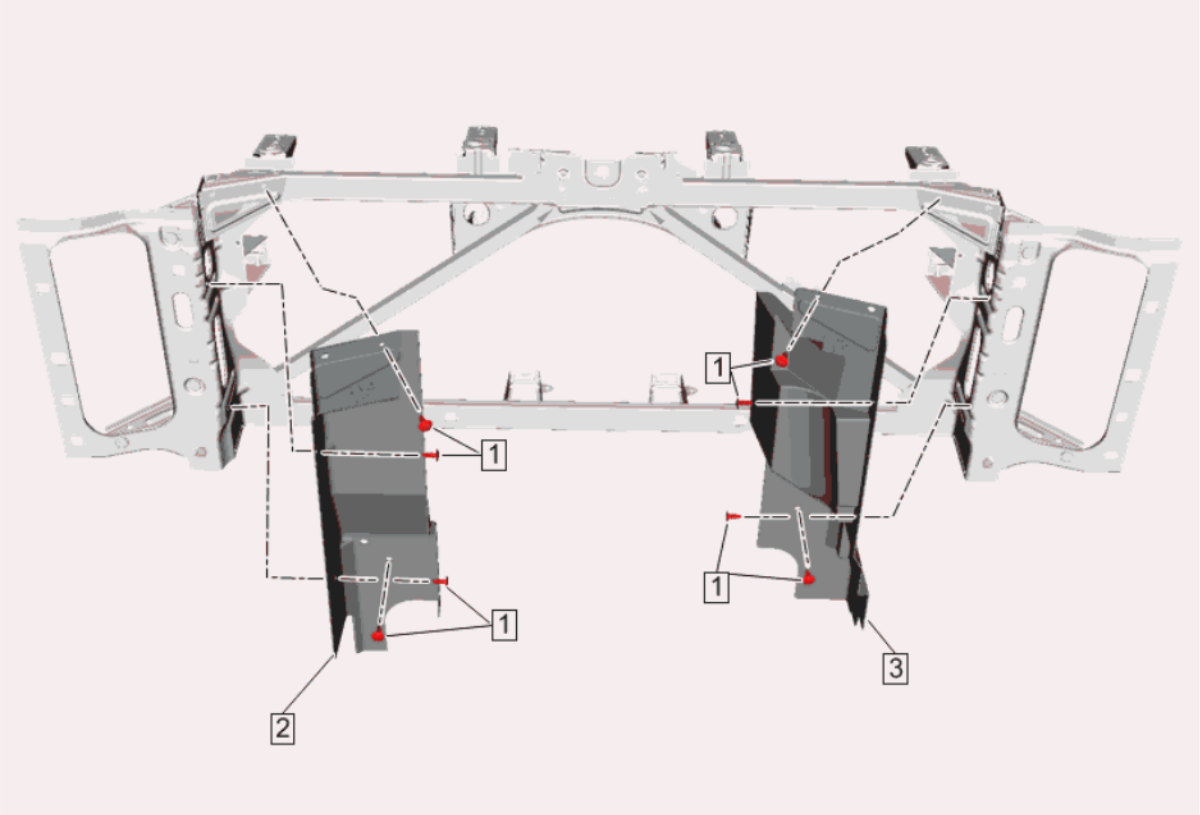


Fig. 72: Radiator Air Seal
Courtesy of GENERAL MOTORS COMPANY

1. Radiator Air Seal 3 -Right Side -Remove - **Radiator Air Seal Replacement (L5P)**
2. Place a drain pan under the right side of the radiator.

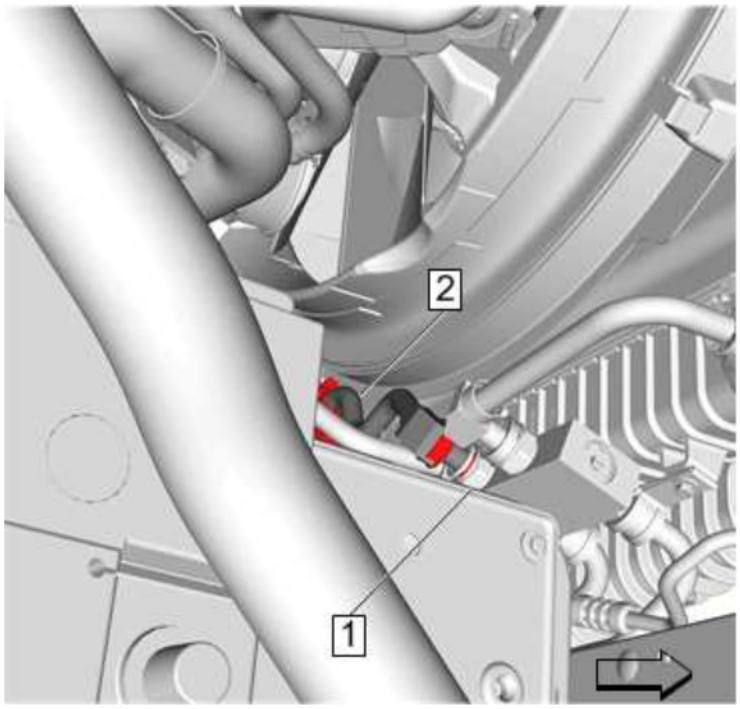


Fig. 73: Transmission Fluid Cooler Outlet Pipe And Transmission Cooler Bypass Valve
Courtesy of GENERAL MOTORS COMPANY

cardiagn.com

3. Transmission Fluid Cooler Outlet Pipe 2 @Transmission Cooler Bypass Valve 1 -Remove - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**

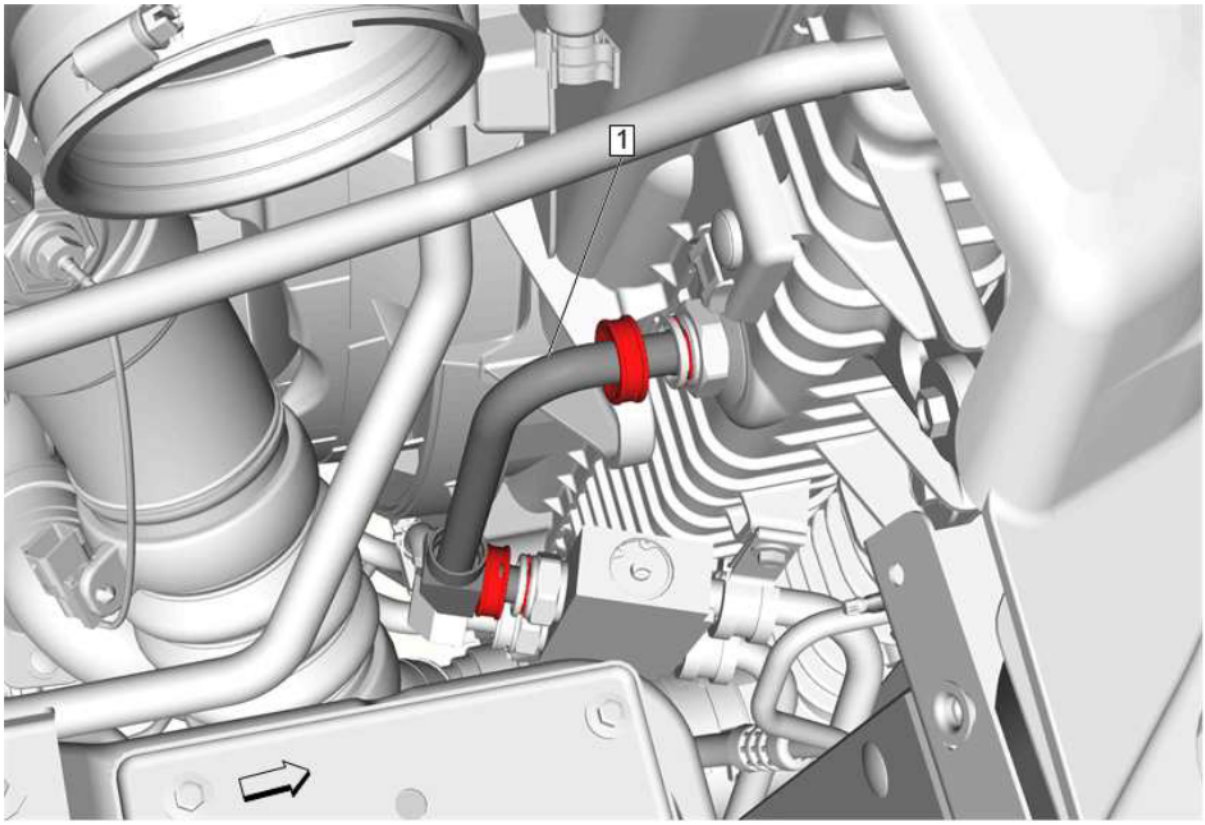
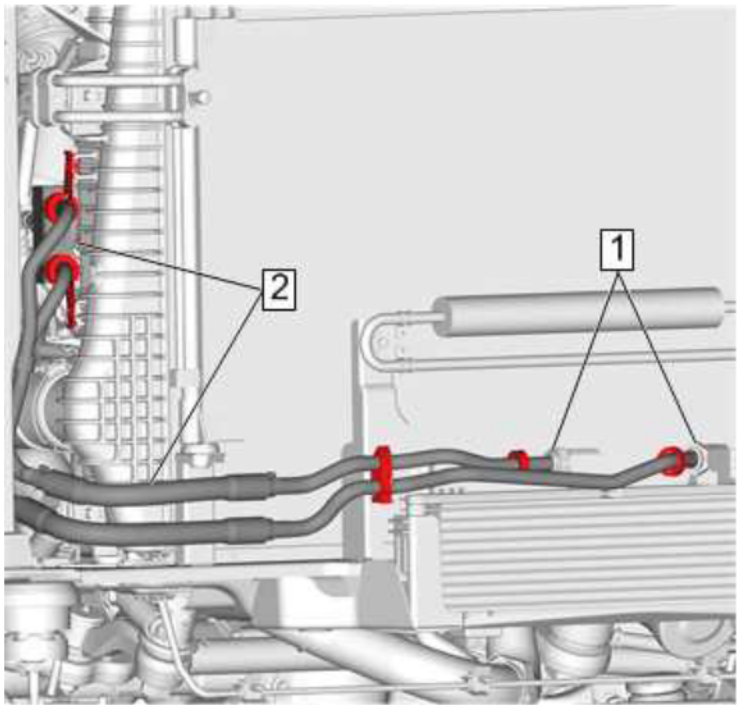


Fig. 74: Transmission Fluid Auxiliary Cooler Inlet Pipe And Transmission Cooler Bypass Valve
Courtesy of GENERAL MOTORS COMPANY

4. Transmission Fluid Auxiliary Cooler Inlet Pipe 1 @Transmission Cooler Bypass Valve-Remove - **Transmission Fluid Auxiliary Cooler Inlet Pipe Replacement (L5P With MW7)**



cardiagn.com

Fig. 75: Transmission Cooler Bypass Valve
Courtesy of GENERAL MOTORS COMPANY

5. Transmission Cooler Bypass Valve 2 @Transmission Fluid Auxiliary Cooler 1 -Remove - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**

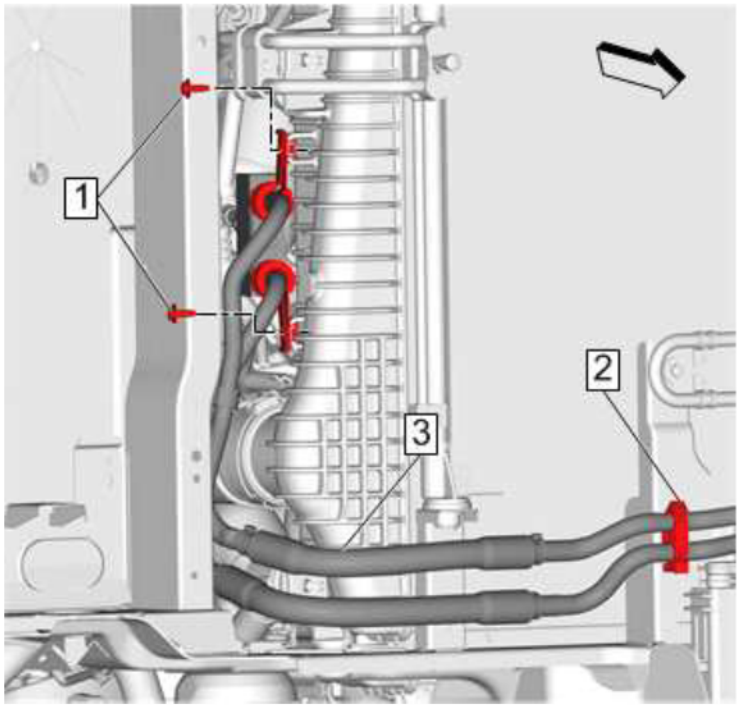


Fig. 76: Transmission Fluid Cooler Pipe Clip And Support Bracket
Courtesy of GENERAL MOTORS COMPANY

6. Transmission Fluid Cooler Pipe Clip 2 @Support Bracket-Remove
7. Transmission Cooler Bypass Valve Clamp Bolt 1 -Remove
8. Transmission Cooler Bypass Valve 3 -Remove

Installation Procedure

cardiagn.com

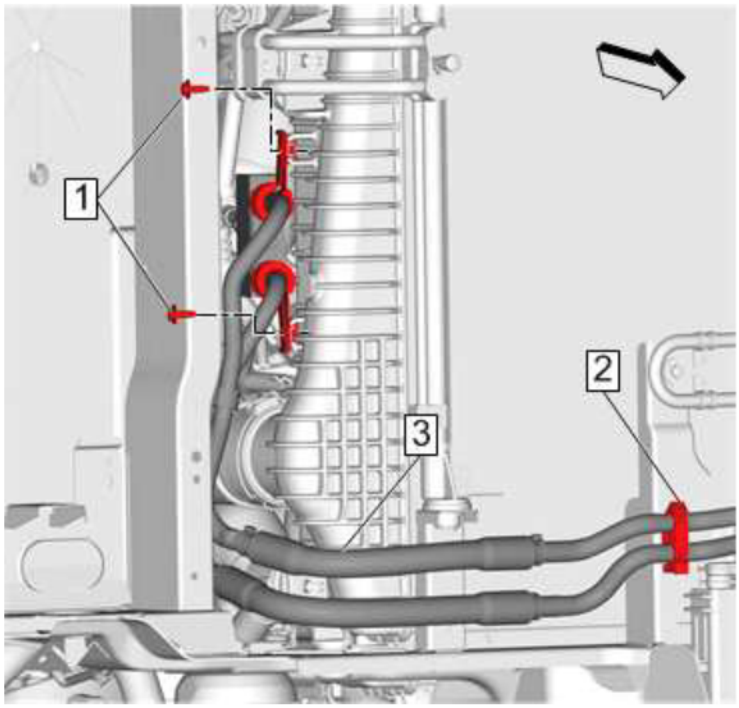


Fig. 77: Transmission Fluid Cooler Pipe Clip And Support Bracket
Courtesy of GENERAL MOTORS COMPANY

1. Transmission Cooler Bypass Valve 3 -Install

CAUTION: Refer to Fastener Caution .

2. Transmission Cooler Bypass Valve Clamp Bolt 1 -Install and tighten 9 (80 lb in)
3. Transmission Fluid Cooler Pipe Clip 2 @Support Bracket-Install

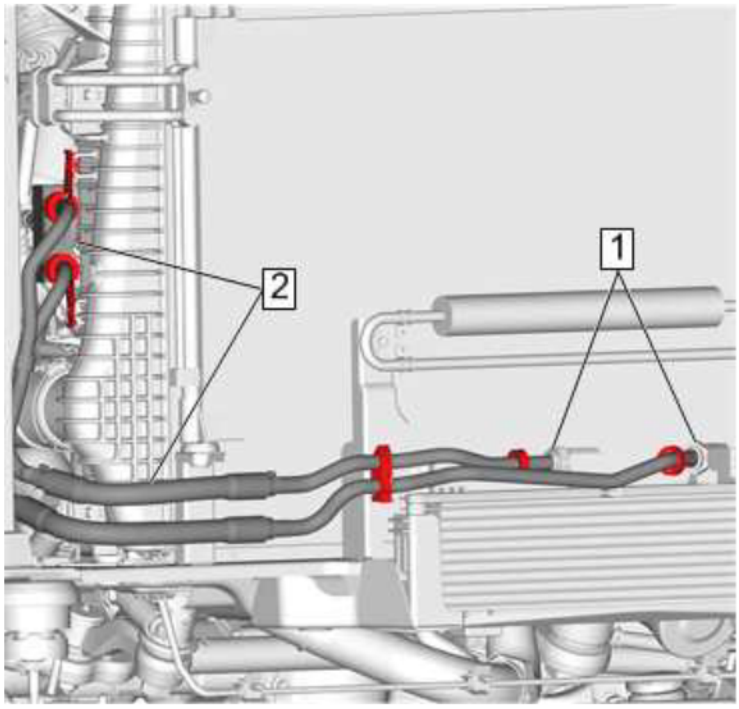


Fig. 78: Transmission Cooler Bypass Valve
Courtesy of GENERAL MOTORS COMPANY

cardiagn.com

4. Transmission Cooler Bypass Valve 2 @Transmission Fluid Auxiliary Cooler 1 -Install - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**

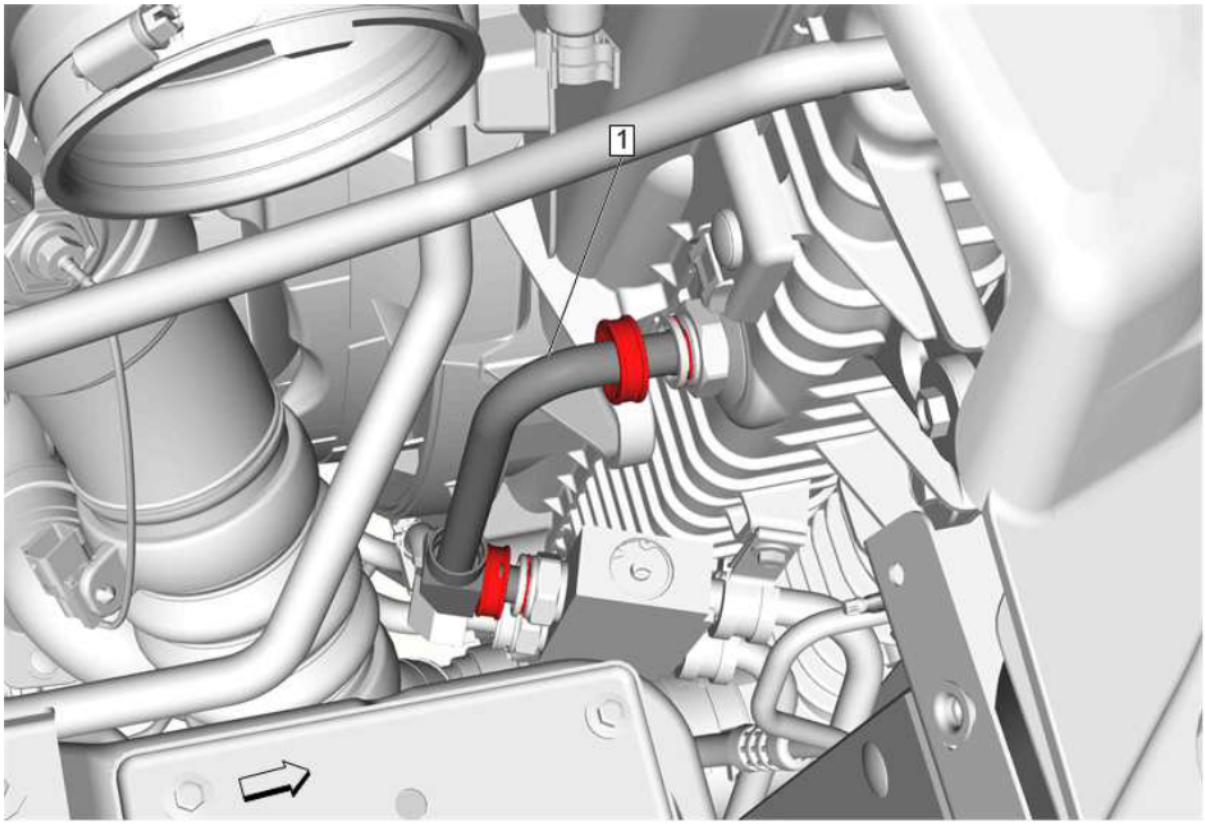
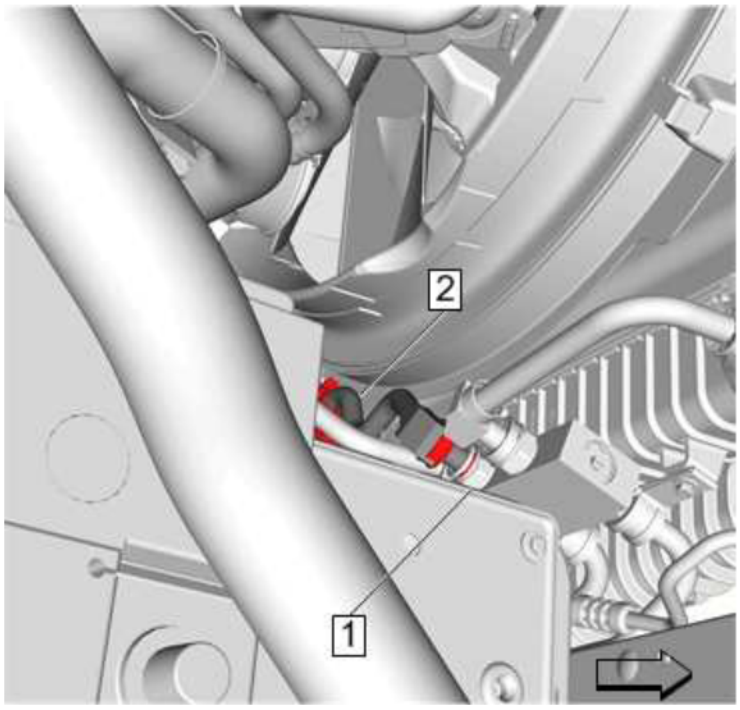


Fig. 79: Transmission Fluid Auxiliary Cooler Inlet Pipe And Transmission Cooler Bypass Valve
Courtesy of GENERAL MOTORS COMPANY

5. Transmission Fluid Auxiliary Cooler Inlet Pipe 1 @Transmission Cooler Bypass Valve-Install - **Transmission Fluid Auxiliary Cooler Inlet Pipe Replacement (L5P With MW7)**



cardiagn.com

Fig. 80: Transmission Fluid Cooler Outlet Pipe And Transmission Cooler Bypass Valve
Courtesy of GENERAL MOTORS COMPANY

6. Transmission Fluid Cooler Outlet Pipe 2 @Transmission Cooler Bypass Valve 1 -Install - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**
7. Remove the drain pan.

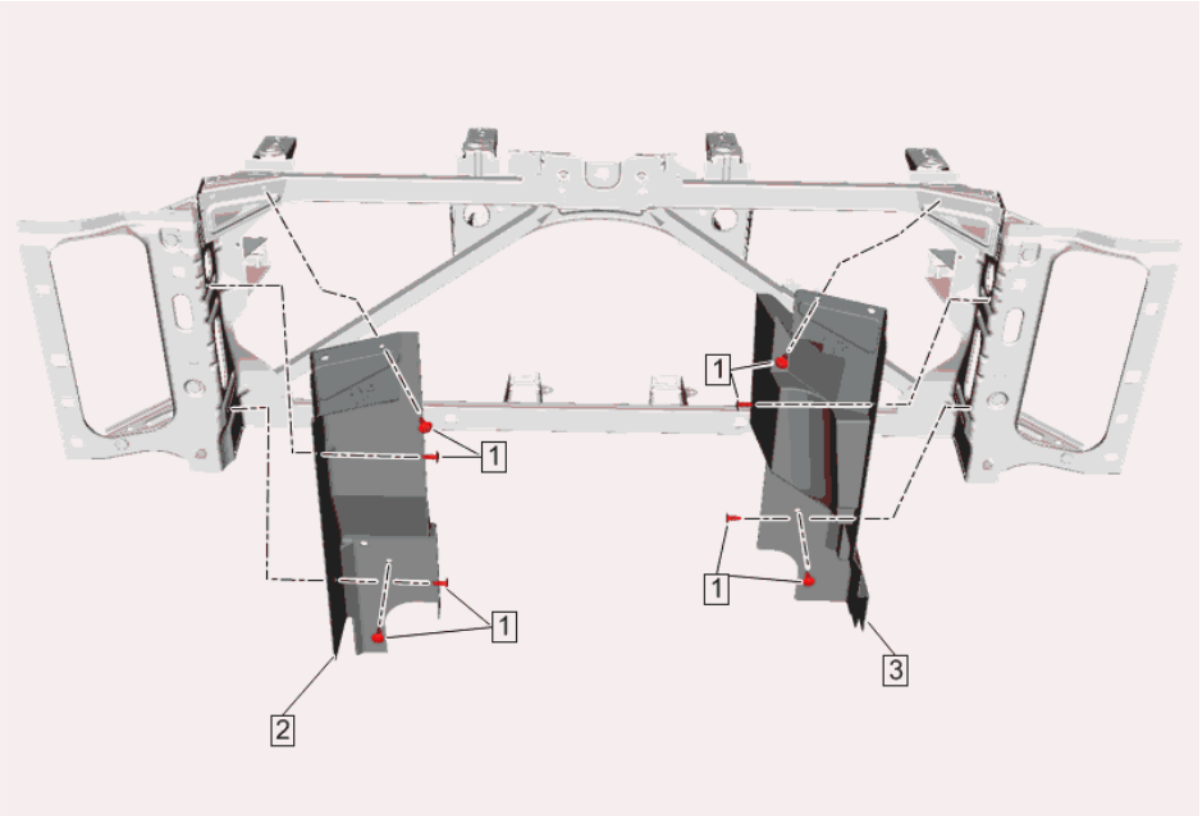


Fig. 81: Radiator Air Seal
Courtesy of GENERAL MOTORS COMPANY

8. Radiator Air Seal 3 - Right Side -Install - **Radiator Air Seal Replacement (L5P)**
9. Check the transmission fluid level. **Transmission Fluid Level and Condition Check**
10. Inspect for transmission fluid leaks.

TRANSMISSION FLUID COOLER PIPE CONNECTOR REPLACEMENT - AUXILIARY COOLER

cardiagn.com

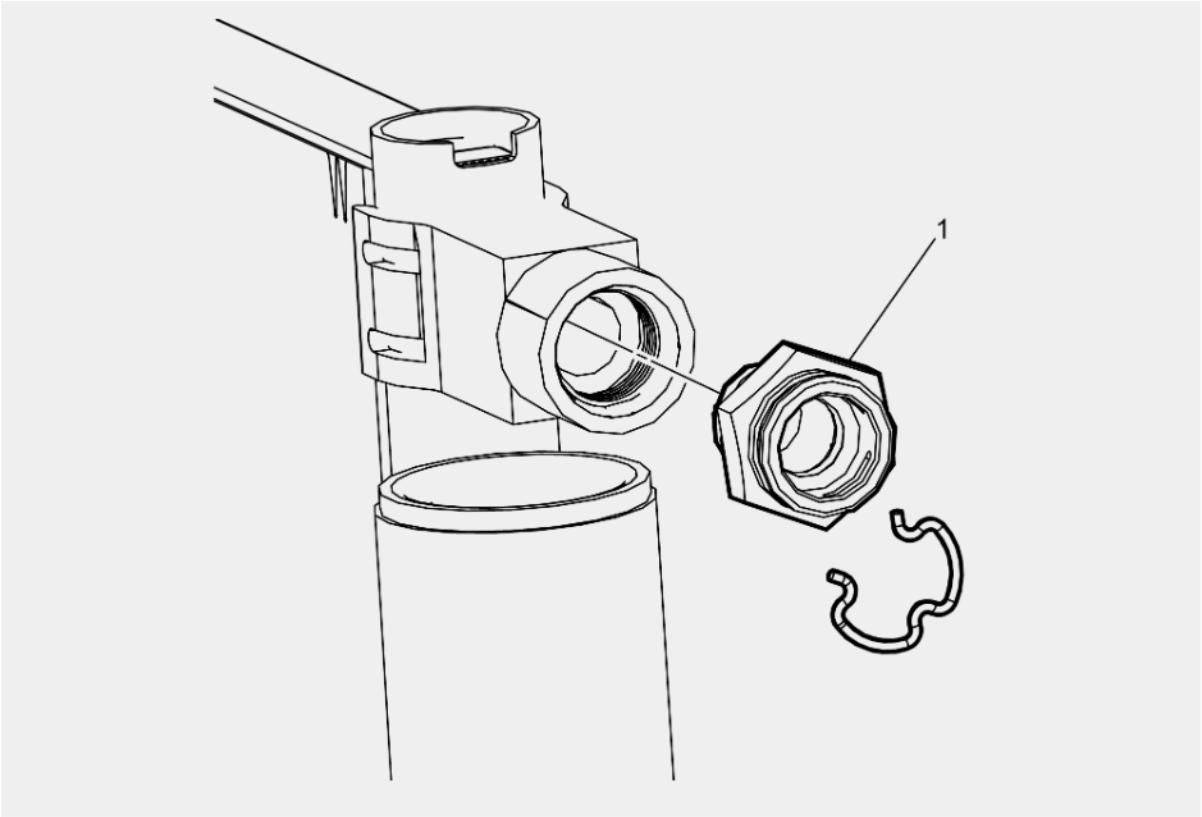


Fig. 82: Transmission Fluid Cooler Pipe Connector - Auxiliary Cooler
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. Place a drain pan under the transmission fluid cooler pipe. 2. Remove the transmission fluid cooler pipe from the auxiliary oil cooler. Refer to **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**. 3. Cap the fittings and plug the holes when removing the transmission fluid cooler pipe from the auxiliary oil cooler.	
1	Transmission Fluid Cooler Pipe Connector **CAUTION:** **Refer to Fastener Caution .** **Procedure** 1. Inspect the transmission fluid level. 2. Inspect for transmission fluid leaks. **NOTE:**

cardiagn.com

Callout	Component Name
	The correct thread engagement is critical, hand start the fitting. Cross-threaded fittings can achieve proper tightness and still leak. **Tighten** 20 N.m (15 lb ft)

TRANSMISSION FLUID COOLER PIPE CONNECTOR REPLACEMENT - RADIATOR

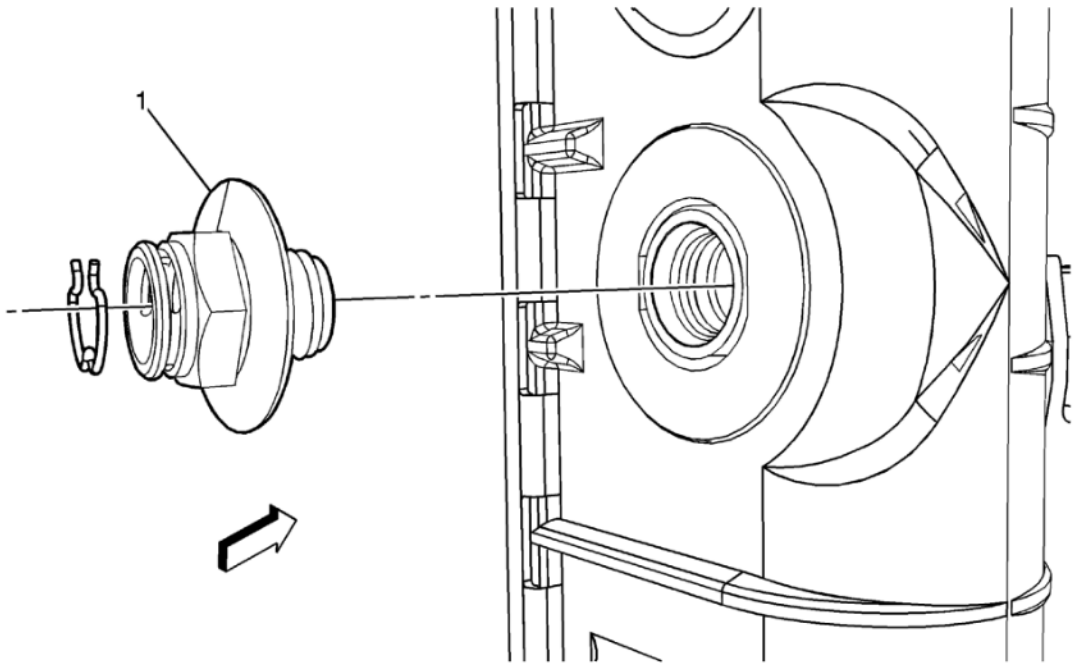


Fig. 83: View Of Transmission Fluid Cooler Hose/Pipe Connector
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures	

cardiagn.com

Callout	Component Name
	NOTE: **Do not remove the upper and lower transmission fluid cooler inlet and outlet pipe oil cooler fittings from the radiator at the same time otherwise the transmission fluid cooler inlet and outlet pipe oil cooler may fall inside the radiator end tank.** 1. Drain the cooling system. Cooling System Draining and Filling (Static Fill LC8 L96) Cooling System Draining and Filling (Vac N Fill LC8 L96) Cooling System Draining and Filling (Vac N Fill L83 L86) Cooling System Draining and Filling (Static Fill L83 L86) Cooling System Draining and Filling (Static Fill LV3) Cooling System Draining and Filling (Vac N Fill LV3) Cooling System Draining and Filling (Vac N Fill L8B) Cooling System Draining and Filling (GE 47716 L5P) Cooling System Draining and Filling (Static L5P) . 2. Place a drain pan under the transmission fluid cooler inlet and outlet pipe. 3. Unclip the transmission fluid cooler inlet and outlet pipe from the retainer on the engine coolant fan lead shroud. 4. Remove the transmission fluid cooler inlet and outlet pipe from the oil cooler fittings on the radiator. Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection. 5. Cap the fittings and plug the holes when removing the transmission fluid cooler pipes.
1	Transmission Oil Cooler Fitting **CAUTION:** **Refer to Fastener Caution .** **Procedure** 1. Inspect the transmission fluid level. 2. Inspect for transmission fluid leaks. **NOTE:** **The correct thread engagement is critical, hand start the fitting. Cross-threaded fittings can achieve proper tightness and still leak.** **Tighten** 24 N.m (18 lb ft)

cardiagn.com

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

Special Tools

- **DT-28585** Universal Snap Ring Remover for the 5/8 inch Line
- **DT-41623-B** 3/8 inch Line Quick Release Tool

Removal Procedure

1. Remove the plastic cap from the quick connect fitting by pulling the cap back along the pipe.

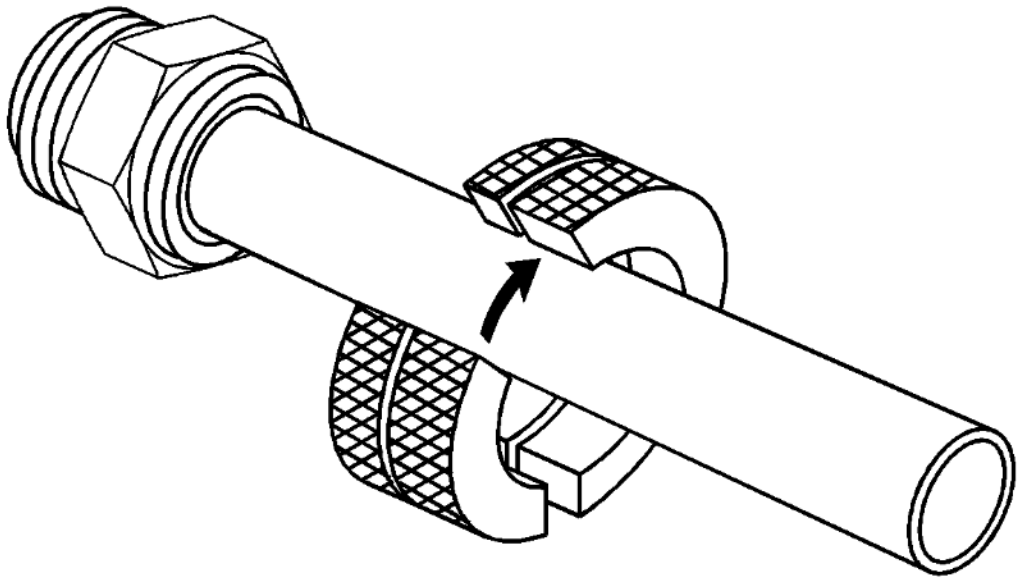


Fig. 84: Generator Cooling Inlet Pipe
Courtesy of GENERAL MOTORS COMPANY

2. Install the **DT-41623-B** 3/8 inch line quick release tool onto the transmission oil cooler (TOC) pipe, or use the **DT-28585** universal snap ring remover for the 5/8 inch line.

cardiagn.com

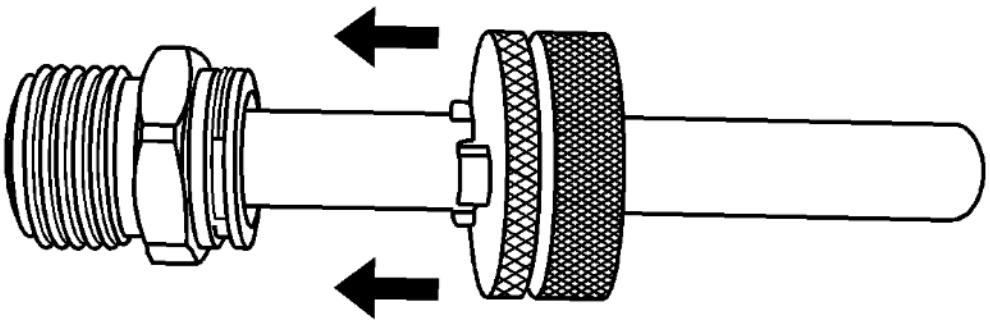


Fig. 85: Sliding Special Tool Toward TOC Pipe Fitting
Courtesy of GENERAL MOTORS COMPANY

3. Slide the **DT-41623-B** 3/8 inch line quick release tool toward the TOC pipe fitting, or use the **DT-28585** universal snap ring remover for the 5/8 inch line.

cardiagn.com

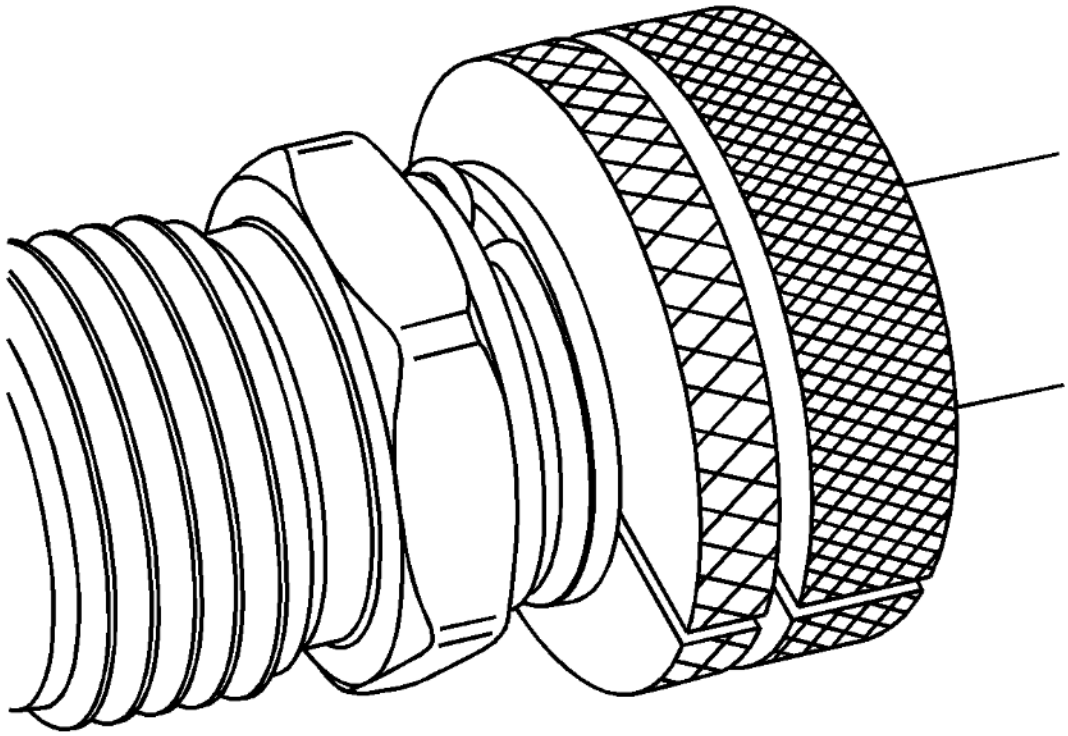


Fig. 86: Rotating Quick-Connect On Coolant Pipe
Courtesy of GENERAL MOTORS COMPANY

NOTE: **Rotate the DT-41623-B 3/8 inch line quick release tool to engage the TOC pipe fitting's retainer slots.**

The DT-41623-B 3/8 inch line quick release tool should be nearly flush with the fitting.

4. Connect the **DT-41623-B** 3/8 inch line quick release tool onto the TOC pipe fitting.

cardiagn.com

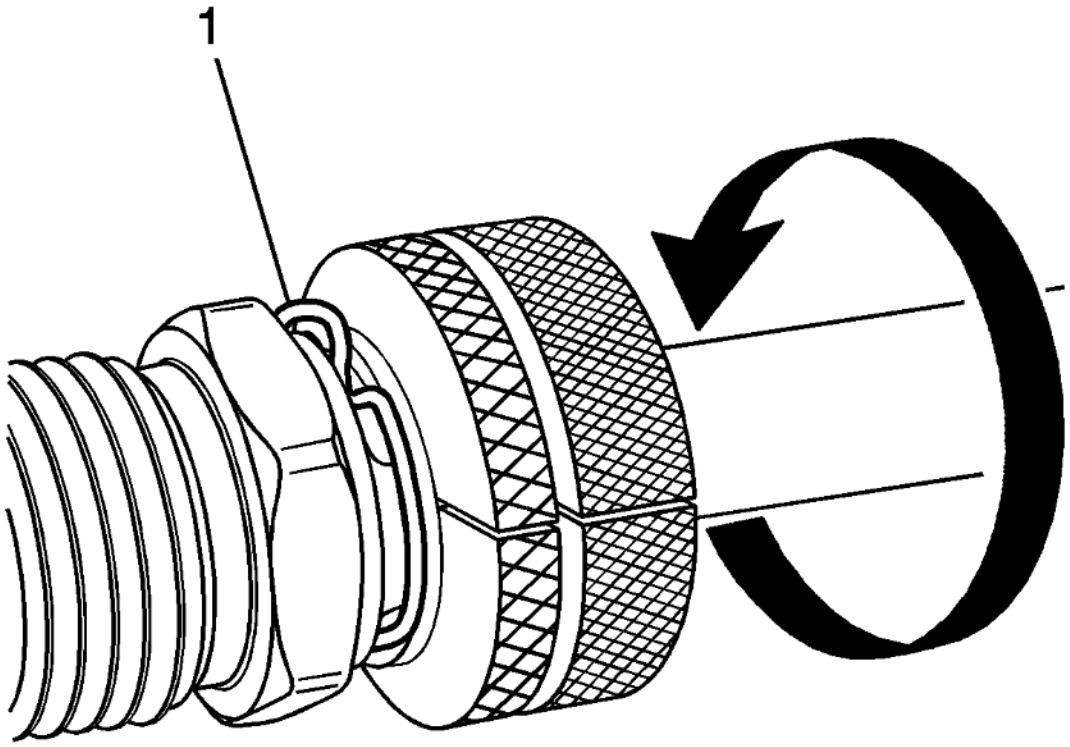


Fig. 87: Identifying Retainer Clip
Courtesy of GENERAL MOTORS COMPANY

5. Rotate the **DT-41623-B** 3/8 inch line quick release tool or use the **DT-28585** universal snap ring remover for the 5/8 inch line until the retainer clip (1) rises above the fitting retainer seat.

cardiagn.com

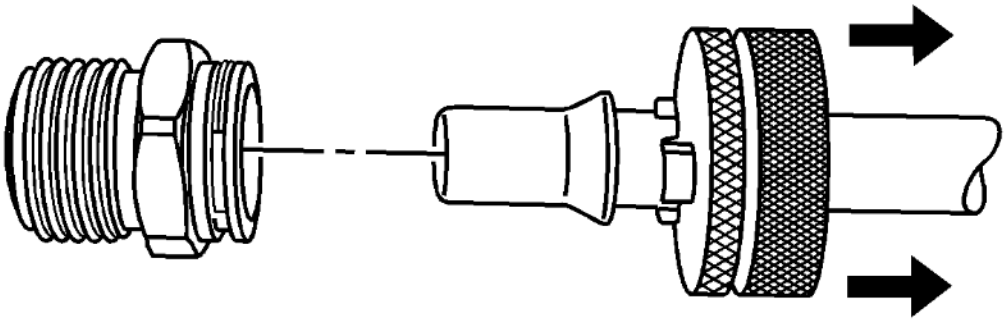


Fig. 88: Generator Cooling Inlet Pipe
Courtesy of GENERAL MOTORS COMPANY

6. Pull back on the TOC pipe to disengage the pipe from the TOC pipe fitting.
7. Remove the **DT-41623-B** 3/8 inch line quick release tool or the **DT-28585** universal snap ring remover for the 5/8 inch line from the TOC pipe.

Installation Procedure

cardiagn.com

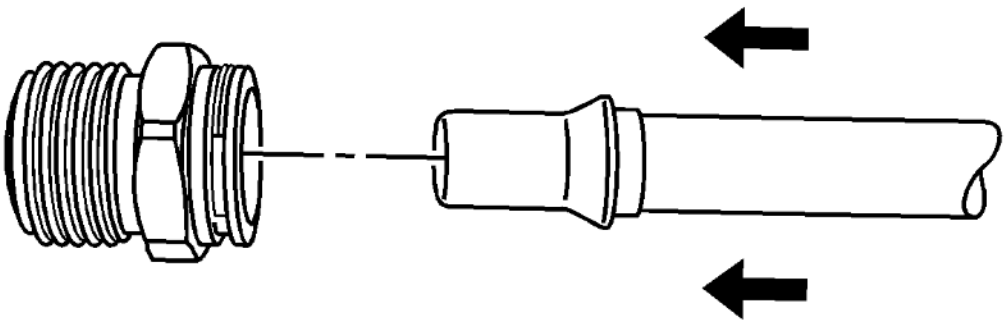


Fig. 89: View Of Generator Cooling Inlet Pipe & Generator Cooling Inlet Pipe Fitting
Courtesy of GENERAL MOTORS COMPANY

NOTE: **Discard the TOC retaining clip and install a new retaining clip.**

1. Install the TOC pipe into the TOC pipe fitting.

   A distinct snap should be heard or felt when assembling the TOC pipe to the fitting.

2. Install the plastic cap onto the quick connect fitting. The plastic cap should snap onto fitting and spin freely by hand.
3. To ensure the cooler line is properly installed, give the cooler pipe a gentle pull.

TRANSMISSION FLUID COOLER INLET PIPE REPLACEMENT (L5P WITH MW7)

Removal Procedure

1. Place a drain pan under the vehicle.
2. Air Cleaner Assembly-Remove - **Air Cleaner Assembly Replacement**
3. Air Cleaner Outlet Front Duct-Remove - **Air Cleaner Outlet Front Duct Replacement**
4. Charge Air Cooler Outlet Air Hose-Remove - **Charge Air Cooler Outlet Air Hose Replacement**

cardiagn.com

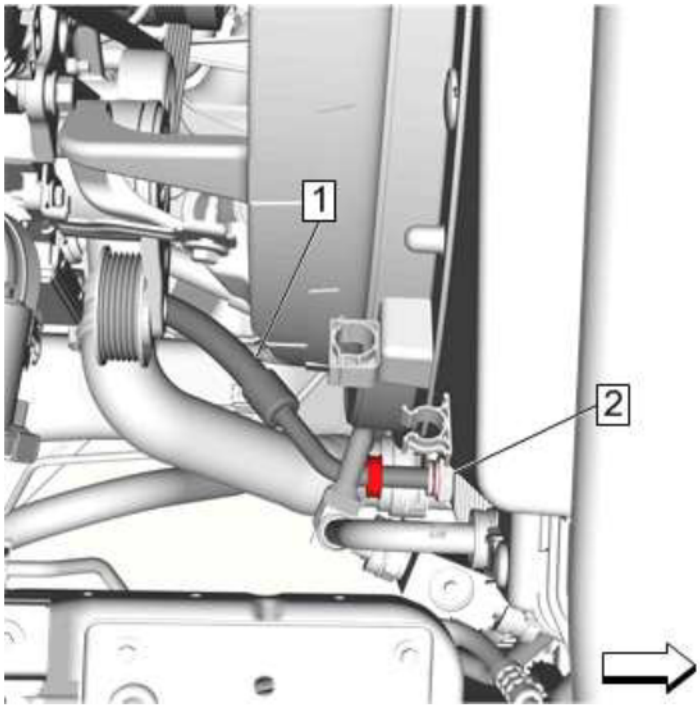


Fig. 90: Transmission Fluid Cooler Inlet Pipe
Courtesy of GENERAL MOTORS COMPANY

5. Transmission Fluid Cooler Inlet Pipe 1 @Radiator 2 -Remove - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**
6. Raise and support the vehicle. **Lifting and Jacking the Vehicle** .

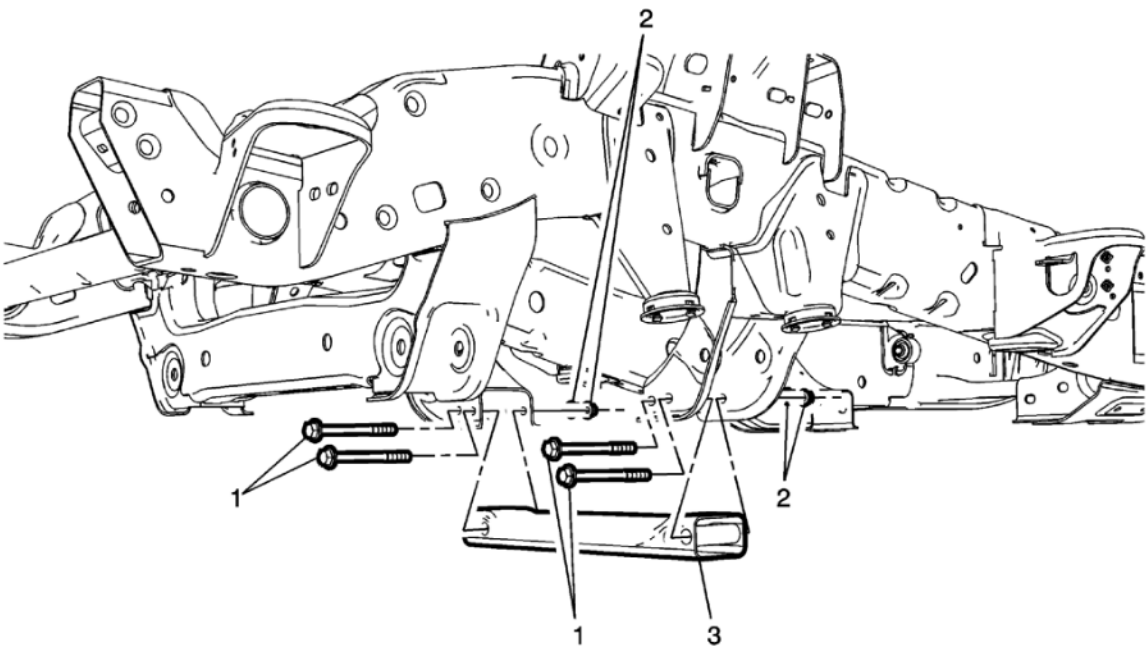


Fig. 91: View Of Lower Control Arm Crossmember, Front Crossmember Bolts And Nuts (2500/3500 Series)

cardiagn.com

Courtesy of GENERAL MOTORS COMPANY

7. Drivetrain and Front Suspension Frame Front Crossmember 3 -Remove - **Drivetrain and Front Suspension Frame Front Crossmember Replacement (Light Duty)** **Drivetrain and Front Suspension Frame Front Crossmember Replacement (Heavy Duty)**

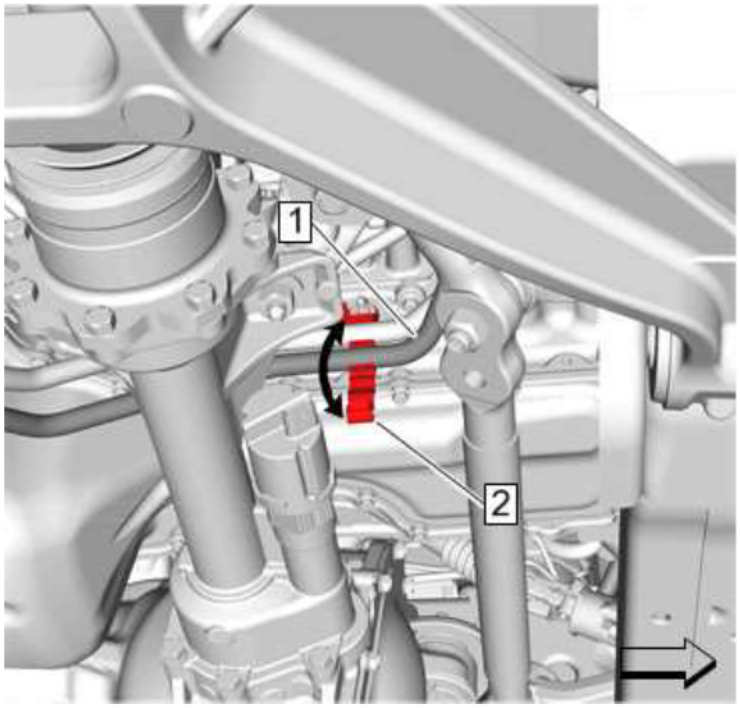


Fig. 92: Transmission Fluid Cooler Inlet Pipe And Transmission Fluid Cooler Pipe Clip
Courtesy of GENERAL MOTORS COMPANY

8. Transmission Fluid Cooler Inlet Pipe 1 @Transmission Fluid Cooler Pipe Clip 2 -Remove

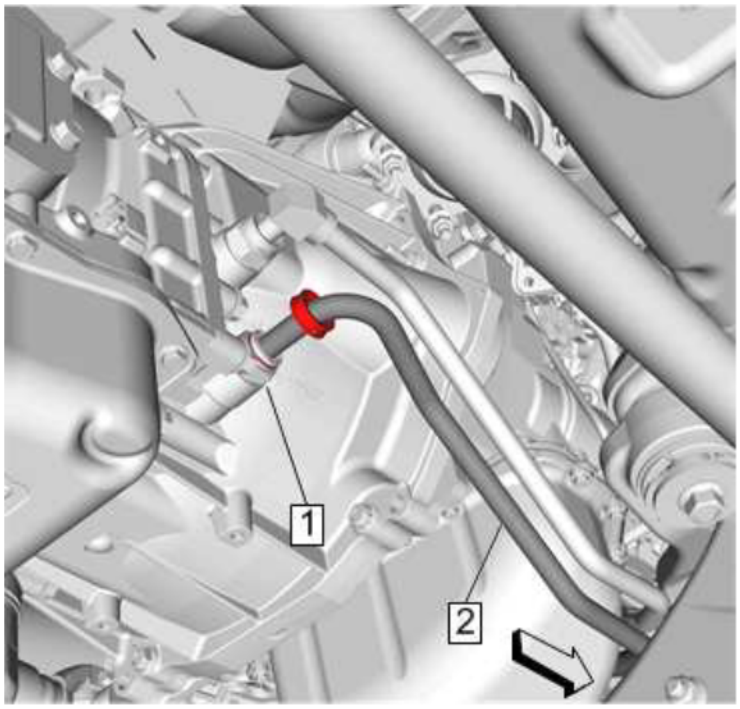


Fig. 93: Transmission Fluid Cooler Inlet Pipe At Transmission

cardiagn.com

Courtesy of GENERAL MOTORS COMPANY

9. Transmission Fluid Cooler Inlet Pipe 2 @Transmission 1 -Remove - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**
10. Remove the transmission fluid cooler inlet pipe from the vehicle.

Installation Procedure

1. Position the cooler pipe on the vehicle for installation.

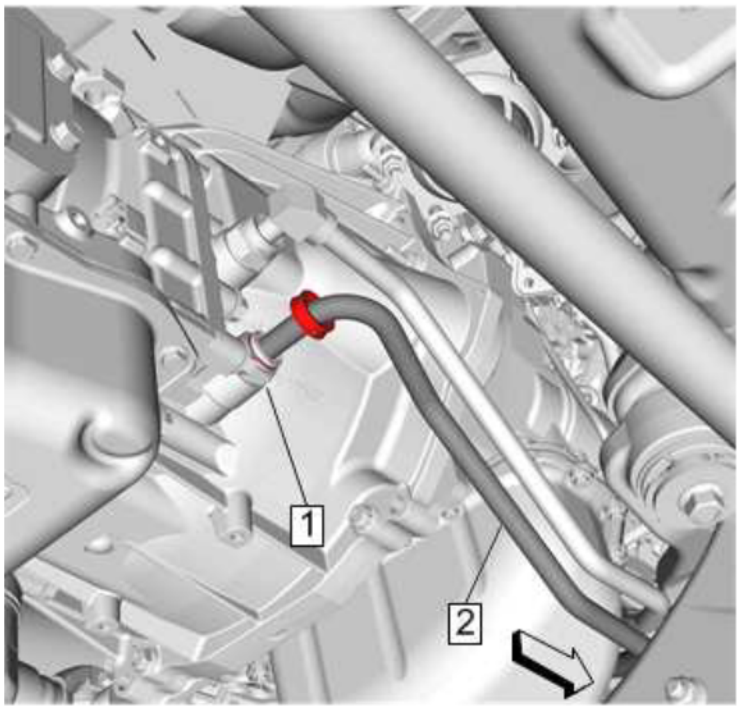


Fig. 94: Transmission Fluid Cooler Inlet Pipe At Transmission
Courtesy of GENERAL MOTORS COMPANY

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

cardiagn.com

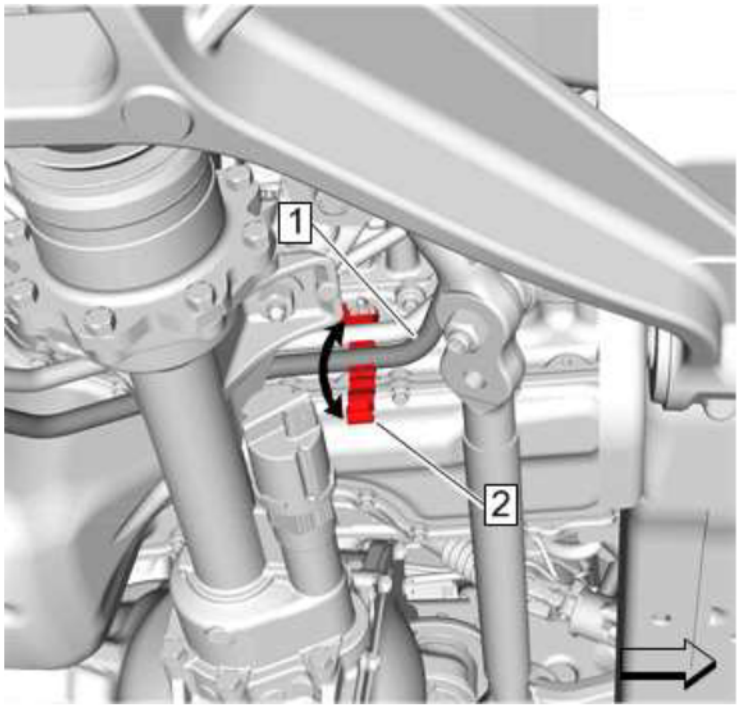


Fig. 95: Transmission Fluid Cooler Inlet Pipe And Transmission Fluid Cooler Pipe Clip
Courtesy of GENERAL MOTORS COMPANY

3. Transmission Fluid Cooler Inlet Pipe 1 @Transmission Fluid Cooler Pipe Clip 2 -Install

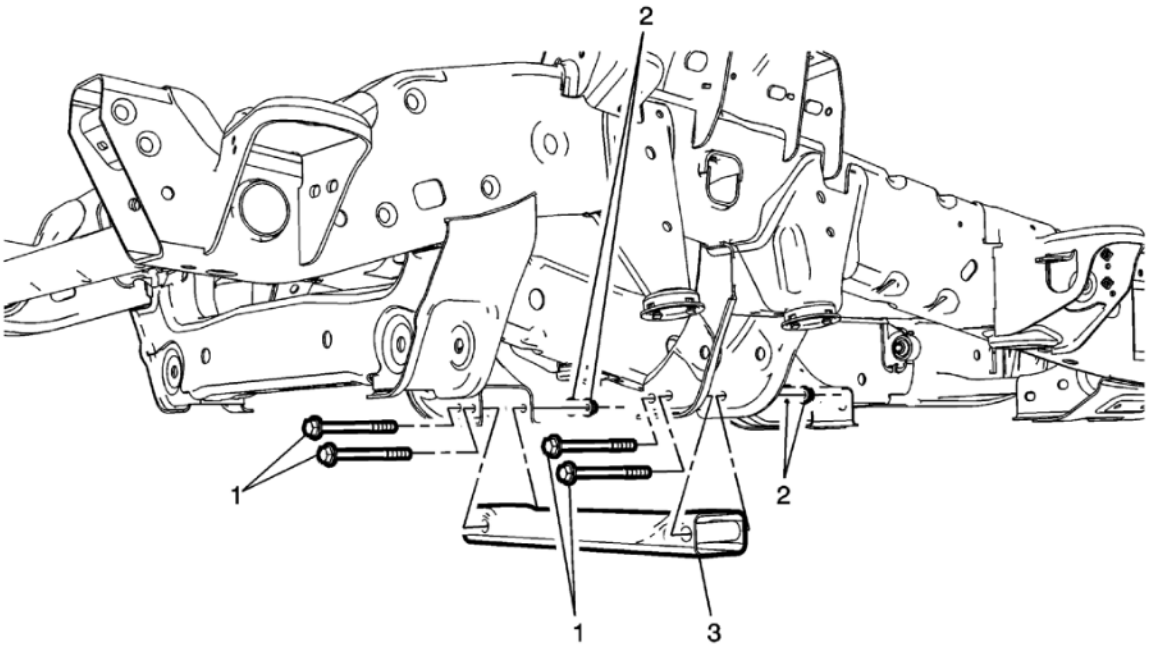


Fig. 96: View Of Lower Control Arm Crossmember, Front Crossmember Bolts And Nuts (2500/3500 Series)
Courtesy of GENERAL MOTORS COMPANY

cardiagn.com

4. Drivetrain and Front Suspension Frame Front Crossmember 2 -Install - **Drivetrain and Front Suspension Frame Front Crossmember Replacement (Light Duty)** **Drivetrain and Front Suspension Frame Front Crossmember Replacement (Heavy Duty)**
5. Remove the supports and lower the vehicle. **Lifting and Jacking the Vehicle**

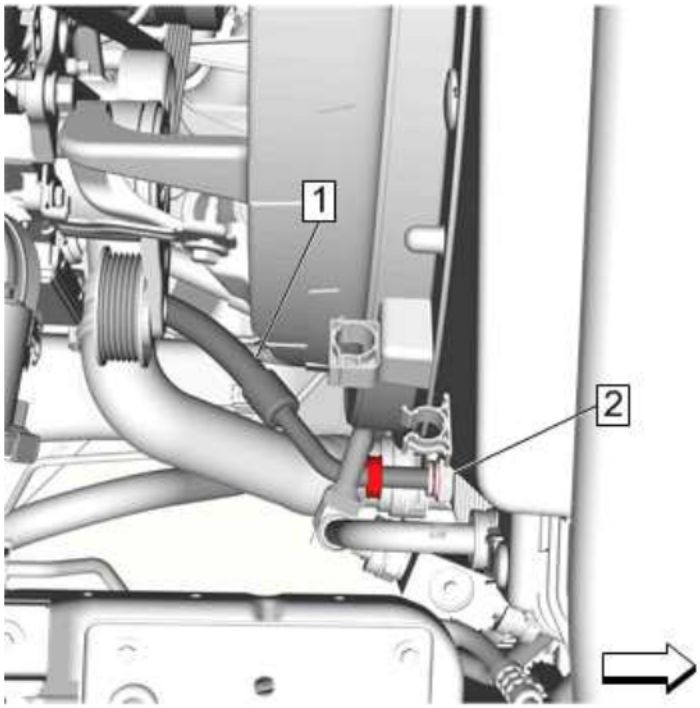


Fig. 97: Transmission Fluid Cooler Inlet Pipe
Courtesy of GENERAL MOTORS COMPANY

6. Transmission Fluid Cooler Inlet Pipe 1 @Radiator 2 -Install - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**
7. Charge Air Cooler Outlet Air Hose-Install - **Charge Air Cooler Outlet Air Hose Replacement**
8. Air Cleaner Outlet Duct-Install - **Air Cleaner Outlet Front Duct Replacement**
9. Air Cleaner Assembly-Install - **Air Cleaner Assembly Replacement**
10. Check the transmission fluid level. **Transmission Fluid Level and Condition Check**
11. Inspect for transmission fluid leaks.
12. Remove the drain pan.

TRANSMISSION FLUID COOLER OUTLET PIPE REPLACEMENT (L5P WITH MW7)

Removal Procedure

1. Place a drain pan under the vehicle.
2. Air Cleaner Assembly-Remove - **Air Cleaner Assembly Replacement**
3. Air Cleaner Outlet Front Duct-Remove - **Air Cleaner Outlet Front Duct Replacement**
4. Charge Air Cooler Outlet Air Hose-Remove - **Charge Air Cooler Outlet Air Hose Replacement**

cardiagn.com

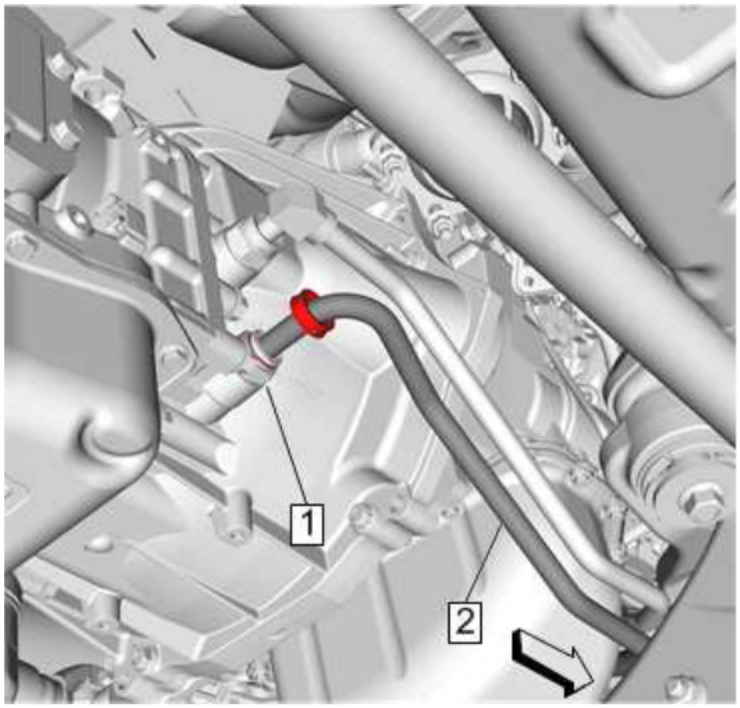


Fig. 98: Transmission Fluid Cooler Inlet Pipe At Transmission
Courtesy of GENERAL MOTORS COMPANY

5. Transmission Fluid Cooler Inlet Pipe@Transmission-Remove - **Transmission Fluid Cooler Inlet Pipe Replacement (L5P with MW7)**

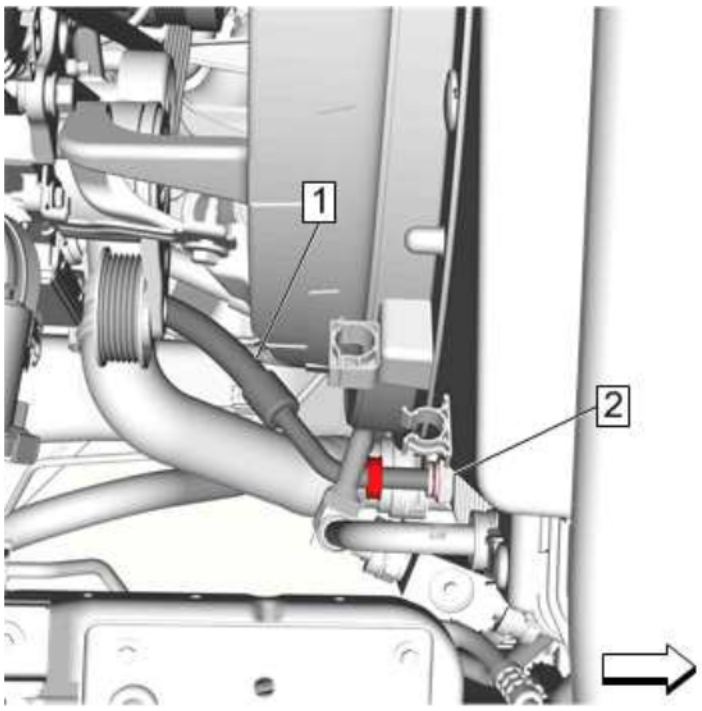


Fig. 99: Transmission Fluid Cooler Inlet Pipe
Courtesy of GENERAL MOTORS COMPANY

6. Transmission Fluid Cooler Inlet Pipe@Radiator-Remove - **Transmission Fluid Cooler Inlet Pipe Replacement (L5P with MW7)**

cardiagn.com

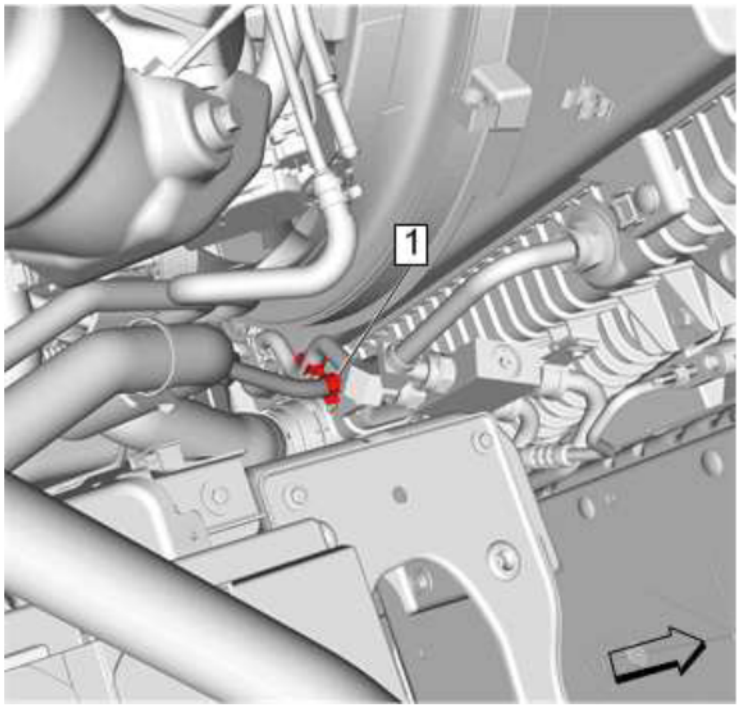


Fig. 100: Transmission Fluid Cooler Pipe Retainer
Courtesy of GENERAL MOTORS COMPANY

7. Transmission Fluid Cooler Pipe Retainer 1 -Remove

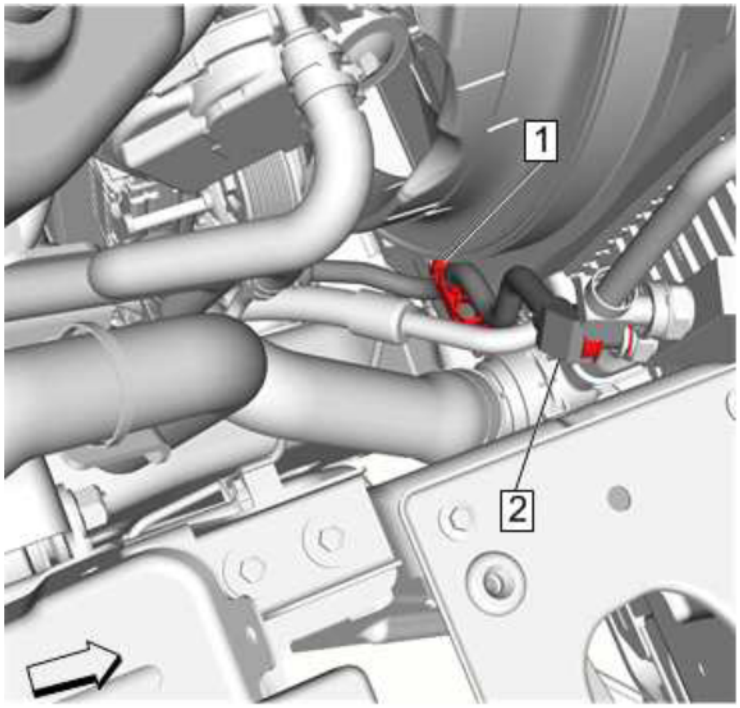


Fig. 101: Transmission Fluid Cooler Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

8. Transmission Fluid Cooler Outlet Pipe 2 @Transmission Fluid Cooler Pipe Clip 1 -Remove

cardiagn.com

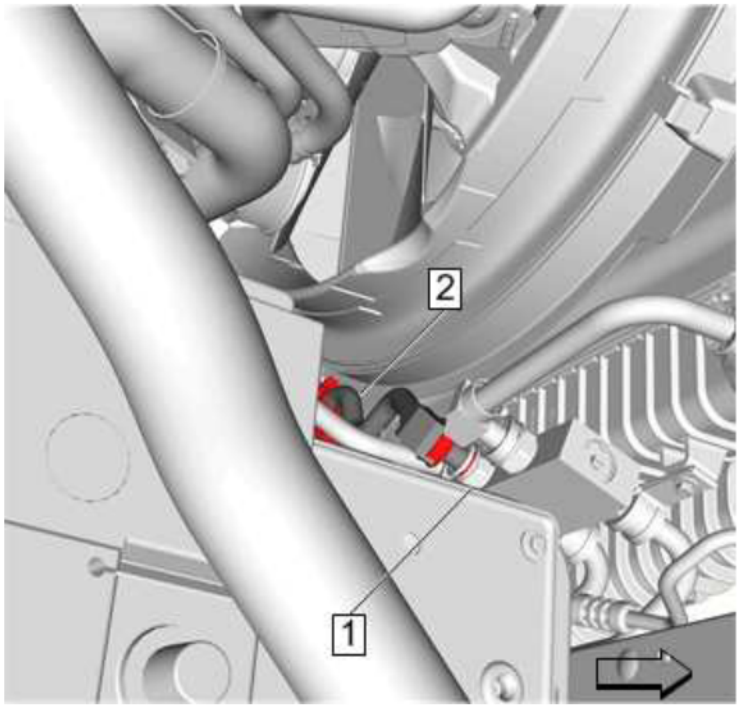


Fig. 102: Transmission Fluid Cooler Outlet Pipe And Transmission Cooler Bypass Valve
Courtesy of GENERAL MOTORS COMPANY

9. Transmission Fluid Cooler Outlet Pipe 2 @Transmission Cooler Bypass Valve 1 -Remove - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**
10. Raise and support the vehicle. **Lifting and Jacking the Vehicle** .

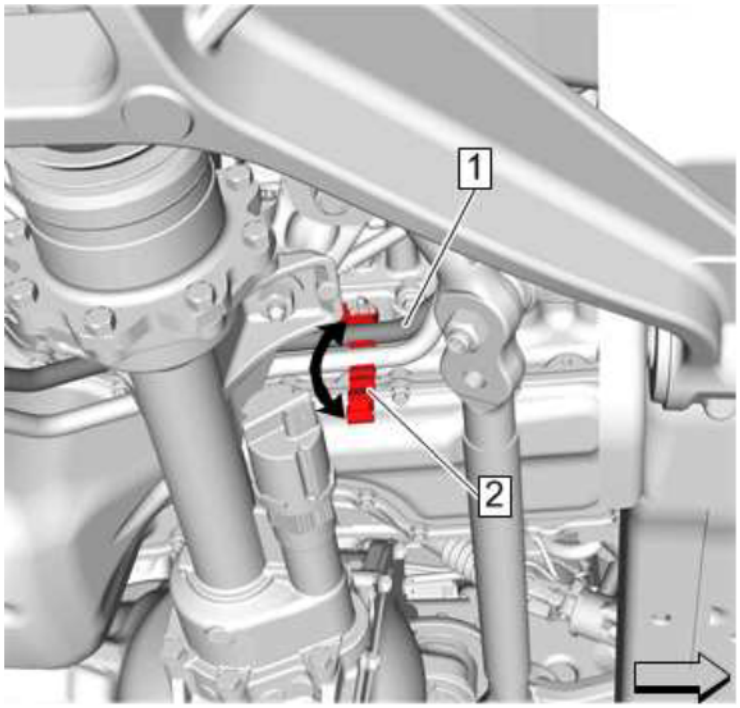


Fig. 103: Transmission Fluid Cooler Outlet Pipe And Transmission Fluid Cooler Pipe Clip
Courtesy of GENERAL MOTORS COMPANY

11. Transmission Fluid Cooler Outlet Pipe 1 @Transmission Fluid Cooler Pipe Clip 2 -Remove

cardiagn.com

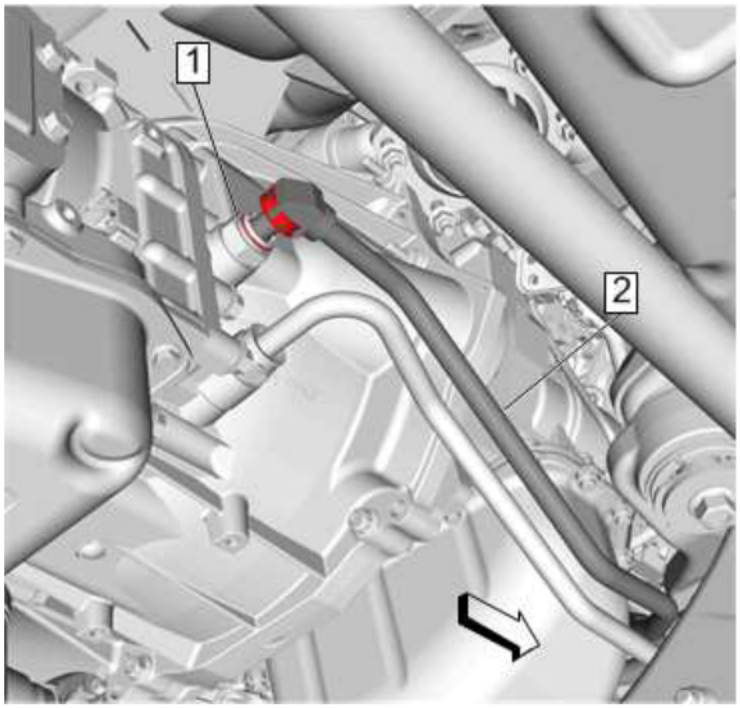


Fig. 104: Transmission Fluid Cooler Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

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

Installation Procedure

1. Position the cooler pipe on the vehicle for installation.

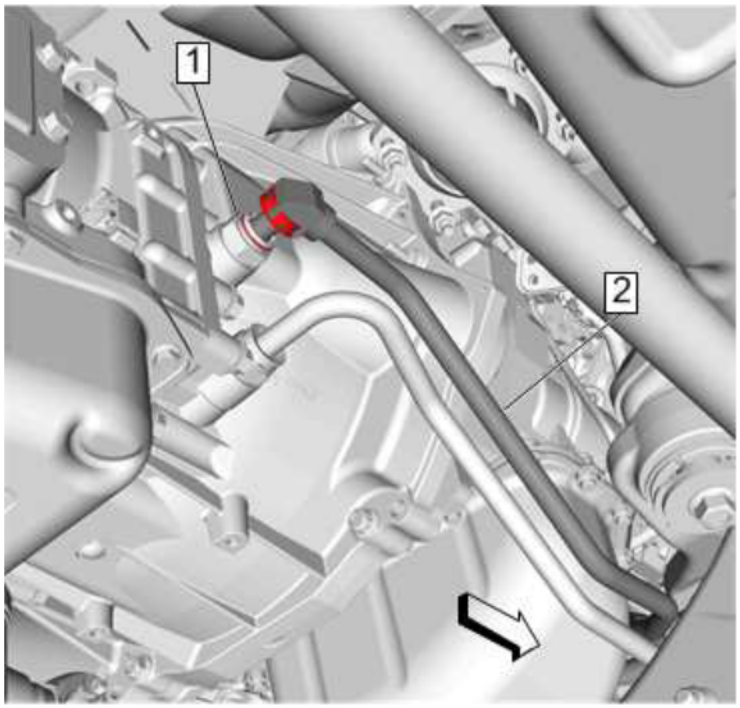


Fig. 105: Transmission Fluid Cooler Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

cardiagn.com

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

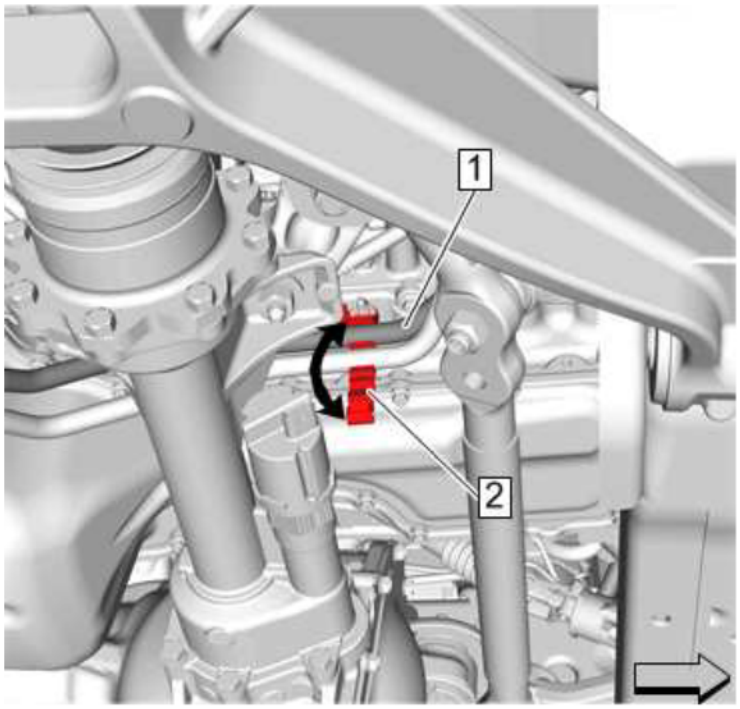


Fig. 106: Transmission Fluid Cooler Outlet Pipe And Transmission Fluid Cooler Pipe Clip
Courtesy of GENERAL MOTORS COMPANY

3. Transmission Fluid Cooler Outlet Pipe 1 @Transmission Fluid Cooler Pipe Clip 2 -Install
4. Remove the supports and lower the vehicle. **Lifting and Jacking the Vehicle**

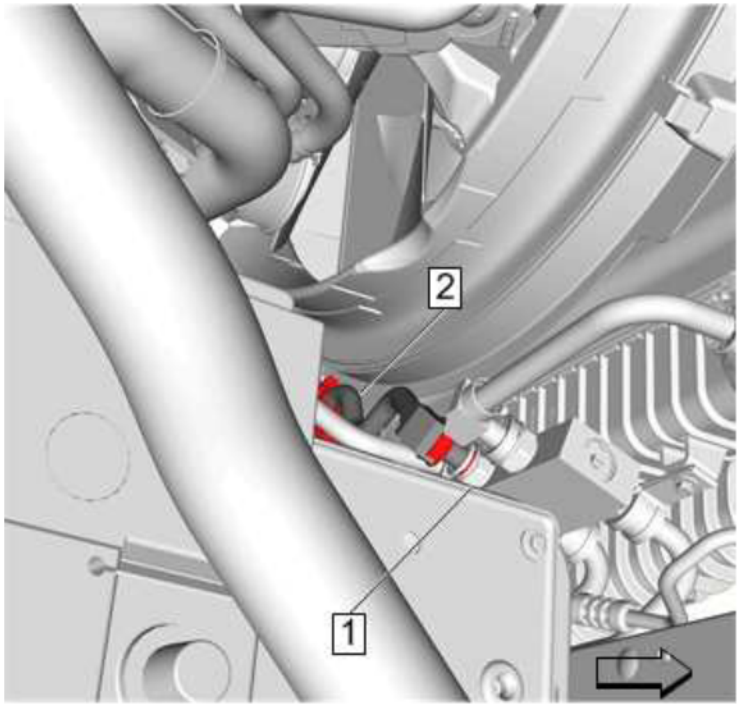


Fig. 107: Transmission Fluid Cooler Outlet Pipe And Transmission Cooler Bypass Valve
Courtesy of GENERAL MOTORS COMPANY

cardiagn.com

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

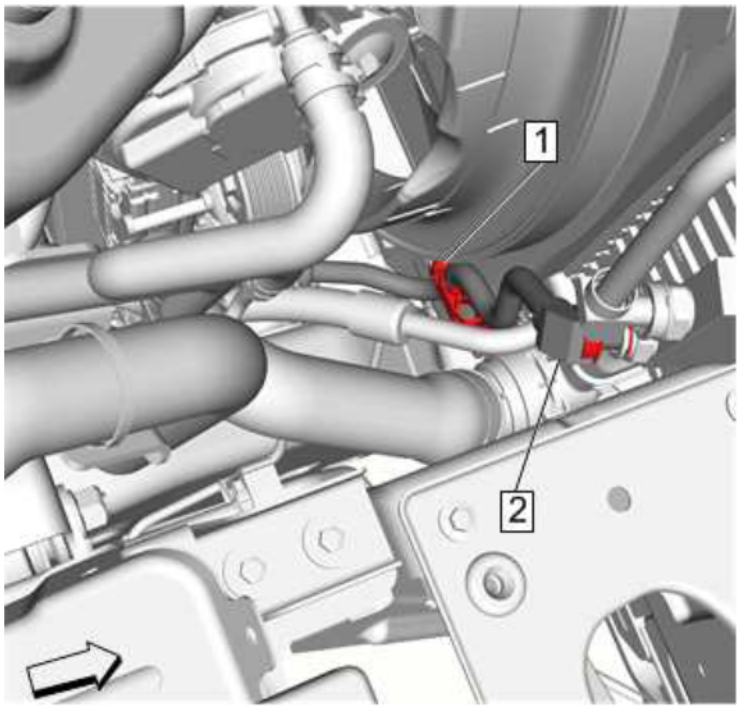


Fig. 108: Transmission Fluid Cooler Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

6. Transmission Fluid Cooler Outlet Pipe 2 @Transmission Fluid Cooler Pipe Clip 1 -Install

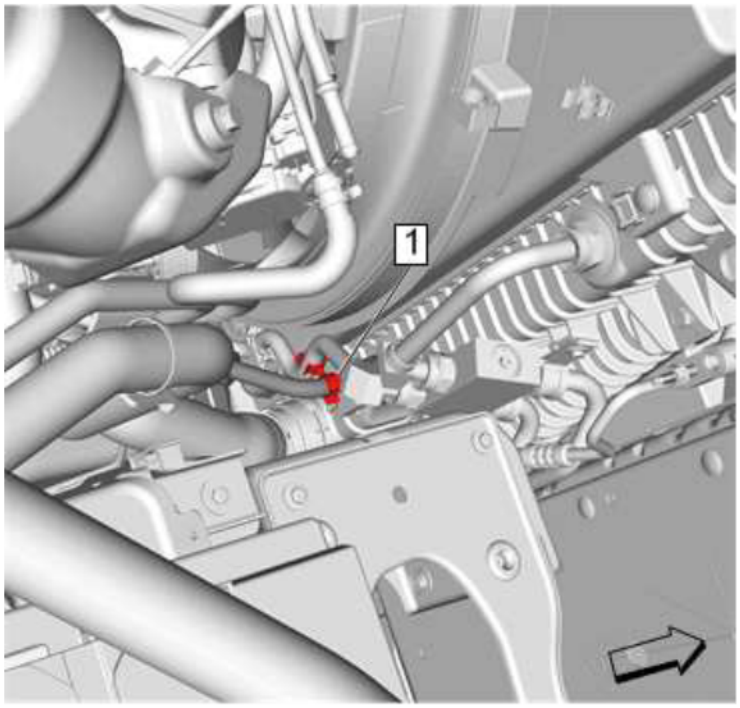


Fig. 109: Transmission Fluid Cooler Pipe Retainer
Courtesy of GENERAL MOTORS COMPANY

7. Transmission Fluid Cooler Pipe Retainer 1 -Install

cardiagn.com

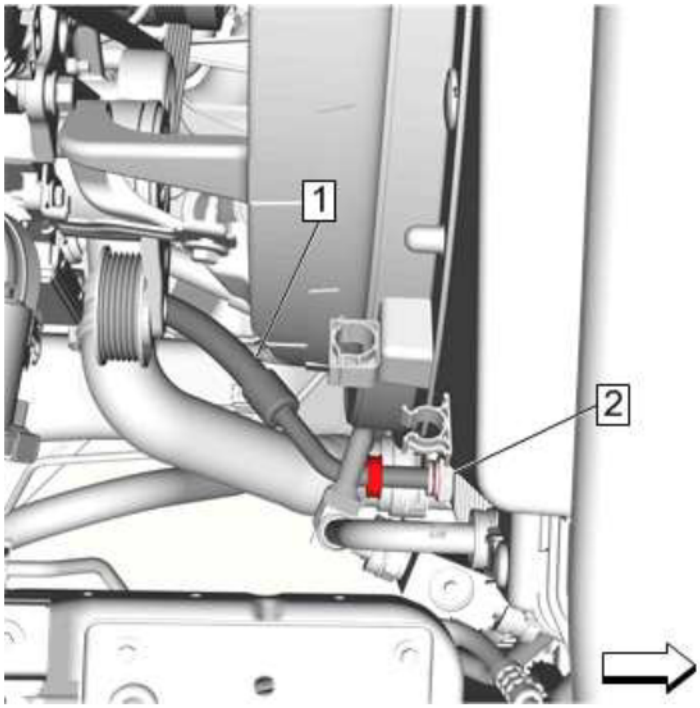


Fig. 110: Transmission Fluid Cooler Inlet Pipe
Courtesy of GENERAL MOTORS COMPANY

8. Transmission Fluid Cooler Inlet Pipe@Radiator-Install - **Transmission Fluid Cooler Inlet Pipe Replacement (L5P with MW7)**

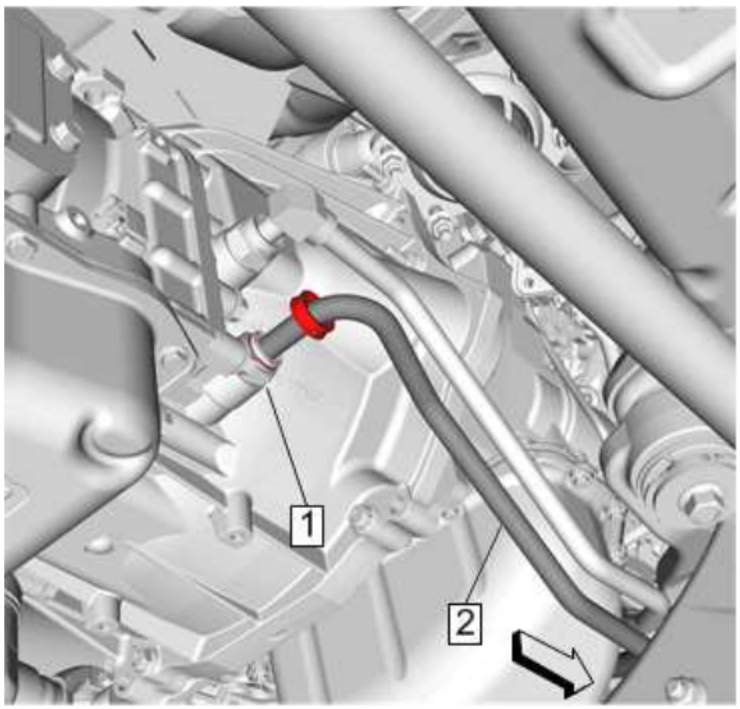


Fig. 111: Transmission Fluid Cooler Inlet Pipe At Transmission
Courtesy of GENERAL MOTORS COMPANY

9. Transmission Fluid Cooler Inlet Pipe@Transmission-Install - **Transmission Fluid Cooler Inlet Pipe Replacement (L5P with MW7)**
10. Charge Air Cooler Outlet Air Hose-Install - **Charge Air Cooler Outlet Air Hose Replacement**

cardiagn.com

11. Air Cleaner Outlet Front Duct-Install - **Air Cleaner Outlet Front Duct Replacement**
12. Air Cleaner Assembly-Install - **Air Cleaner Assembly Replacement**
13. Check the transmission fluid level. **Transmission Fluid Level and Condition Check**
14. Inspect for transmission fluid leaks.
15. Remove the drain pan.

TRANSMISSION FLUID COOLER INLET AND OUTLET PIPE REPLACEMENT (LV3)

Removal Procedure

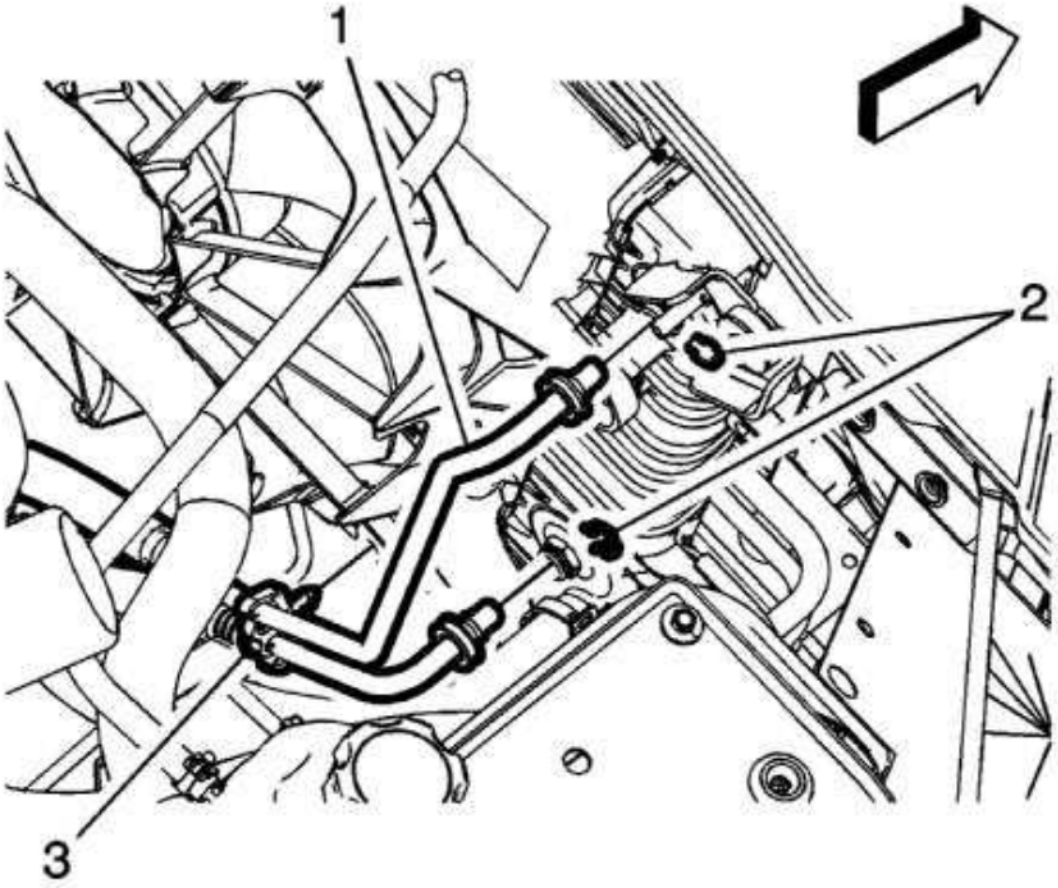


Fig. 112: Transmission Fluid Cooler Inlet And Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

1. Place a drain pan under the transmission fluid cooler inlet and outlet pipe (1).
2. Remove the air cleaner assembly. Refer to **Air Cleaner Assembly Replacement** .
3. Remove the transmission fluid cooler inlet and outlet pipe retainers (2) from the radiator quick disconnect. Refer to **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**.
4. Remove the transmission fluid cooler inlet and outlet pipe (1) from the radiator.
5. Cap the fittings and plug the holes when removing the transmission fluid cooler inlet and outlet.

cardiagn.com

6. Remove the transmission fluid cooler inlet and outlet pipe and retainer (3) from the engine coolant fan rear shroud.
7. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** .
8. Remove the steering gear skid shield. Refer to **Steering Gear Skid Shield Replacement** .

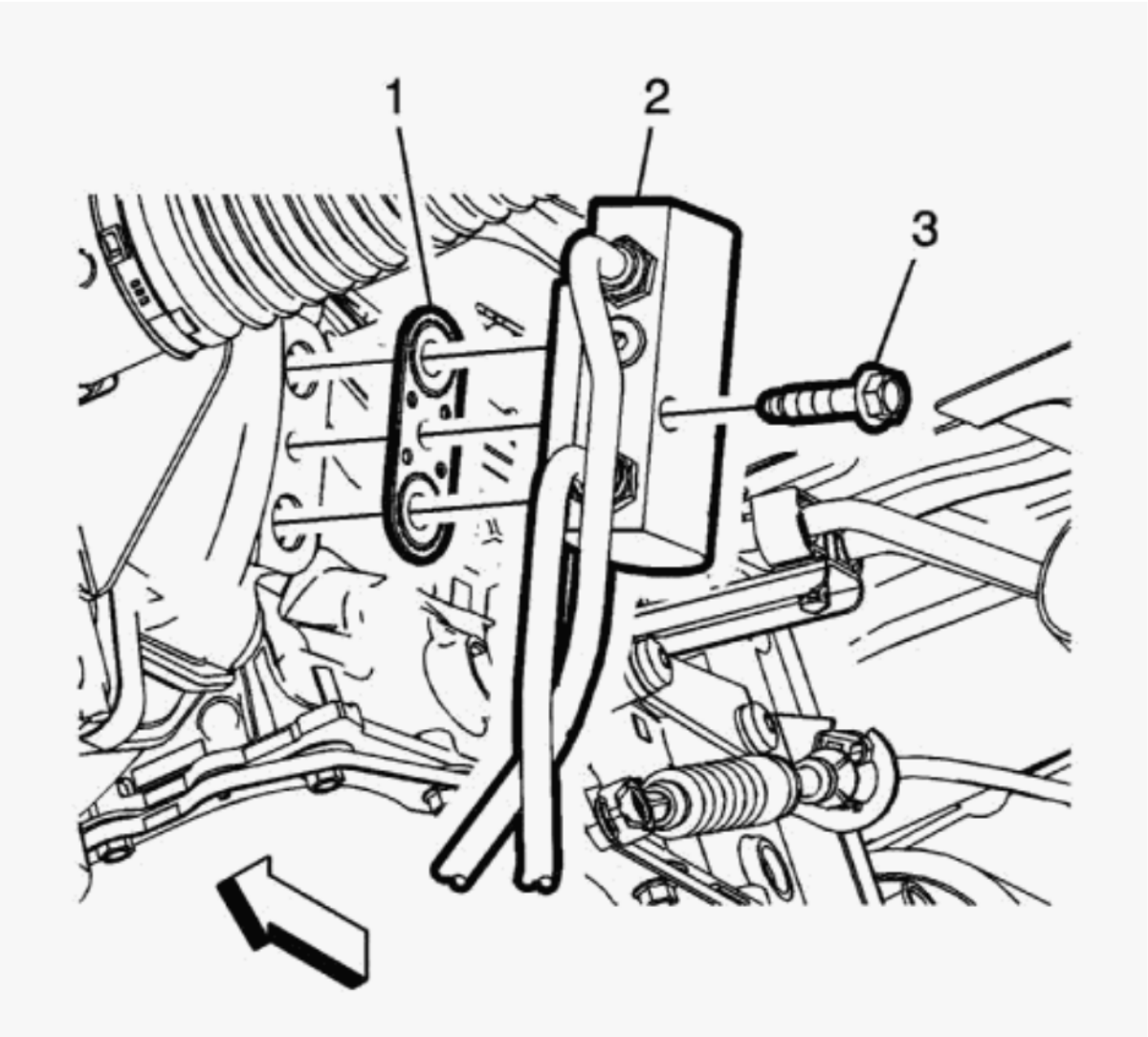


Fig. 113: Transmission Fluid Cooler Pipe Connector Bolt
Courtesy of GENERAL MOTORS COMPANY

9. Remove the transmission fluid cooler pipe connector bolt (3) from the transmission.
10. Remove the transmission fluid cooler inlet and outlet pipe (2) from the transmission.
11. Remove and discard the old transmission fluid cooler pipe fitting seal (1) and replace with a new transmission fluid cooler pipe fitting seal.

cardiagn.com

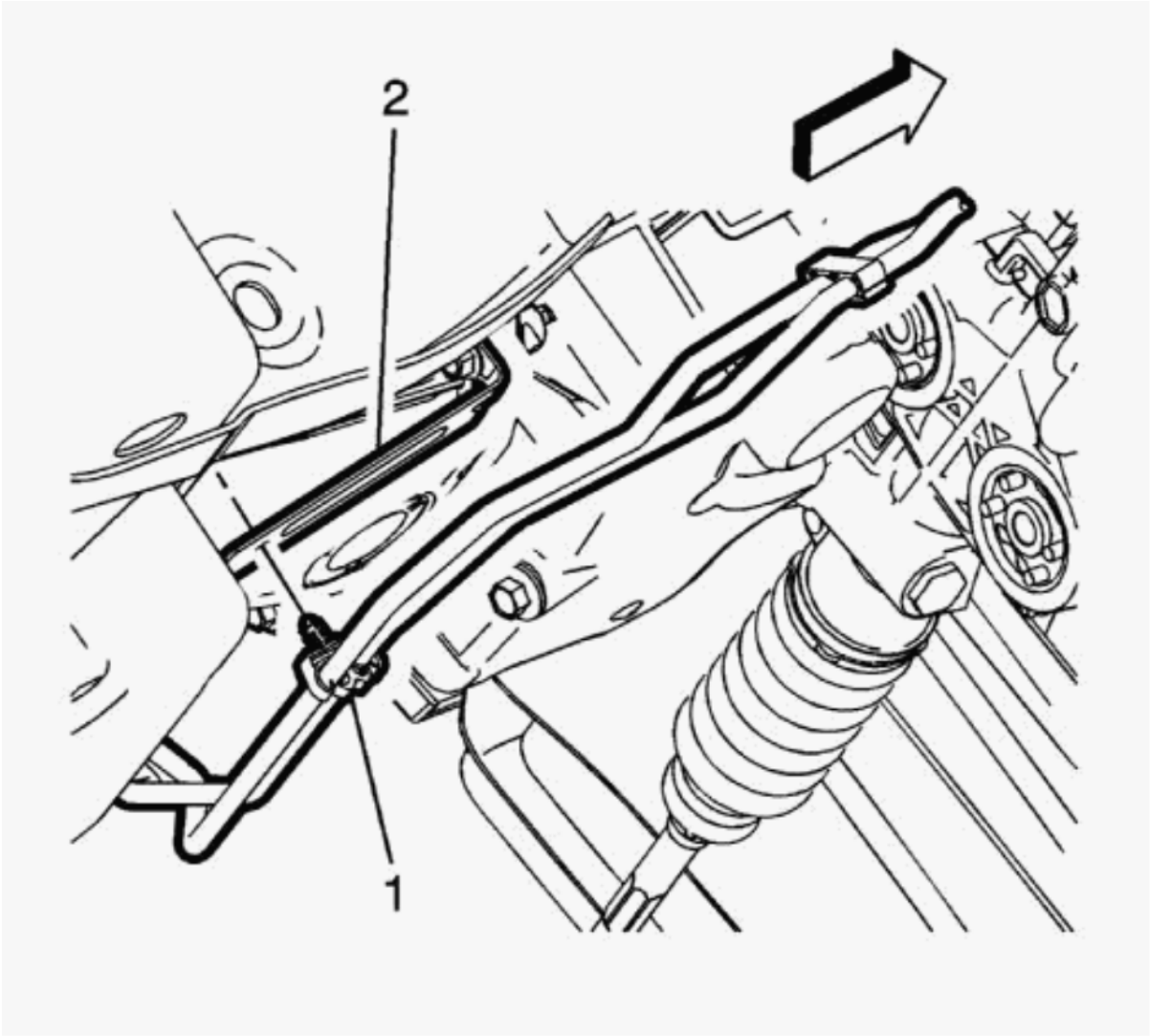


Fig. 114: Transmission Fluid Cooler Inlet And Outlet Pipe And Retainer
Courtesy of GENERAL MOTORS COMPANY

12. Remove the transmission fluid cooler inlet and outlet pipe and retainer (1) from the transmission fluid cooler bracket (2).

cardiagn.com

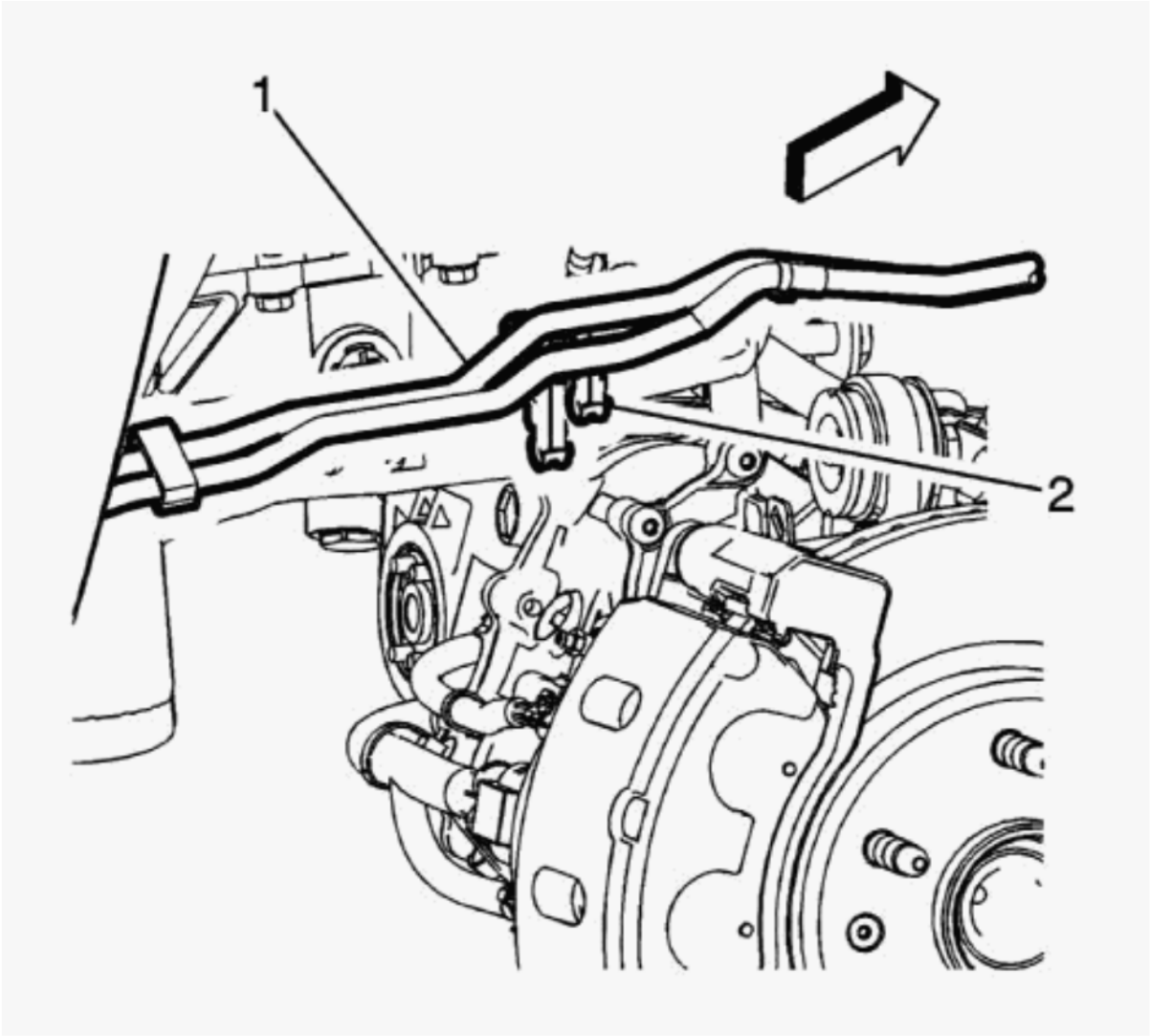


Fig. 115: Transmission Fluid Cooler Inlet And Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

13. Remove the transmission fluid cooler inlet and outlet pipe (1) from the transmission fluid cooler pipe clip (2).

cardiagn.com

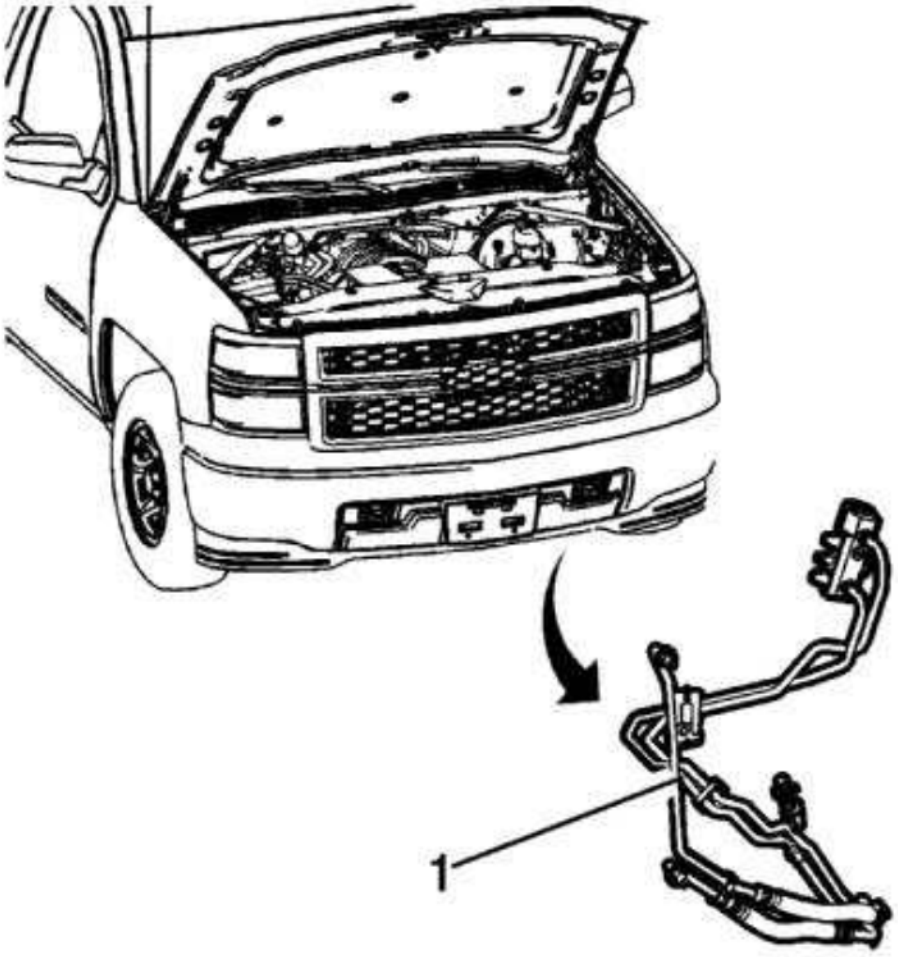


Fig. 116: Transmission Fluid Cooler Inlet And Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

14. Remove the transmission fluid cooler inlet and outlet pipe (1) from the vehicle.

Installation Procedure

cardiagn.com

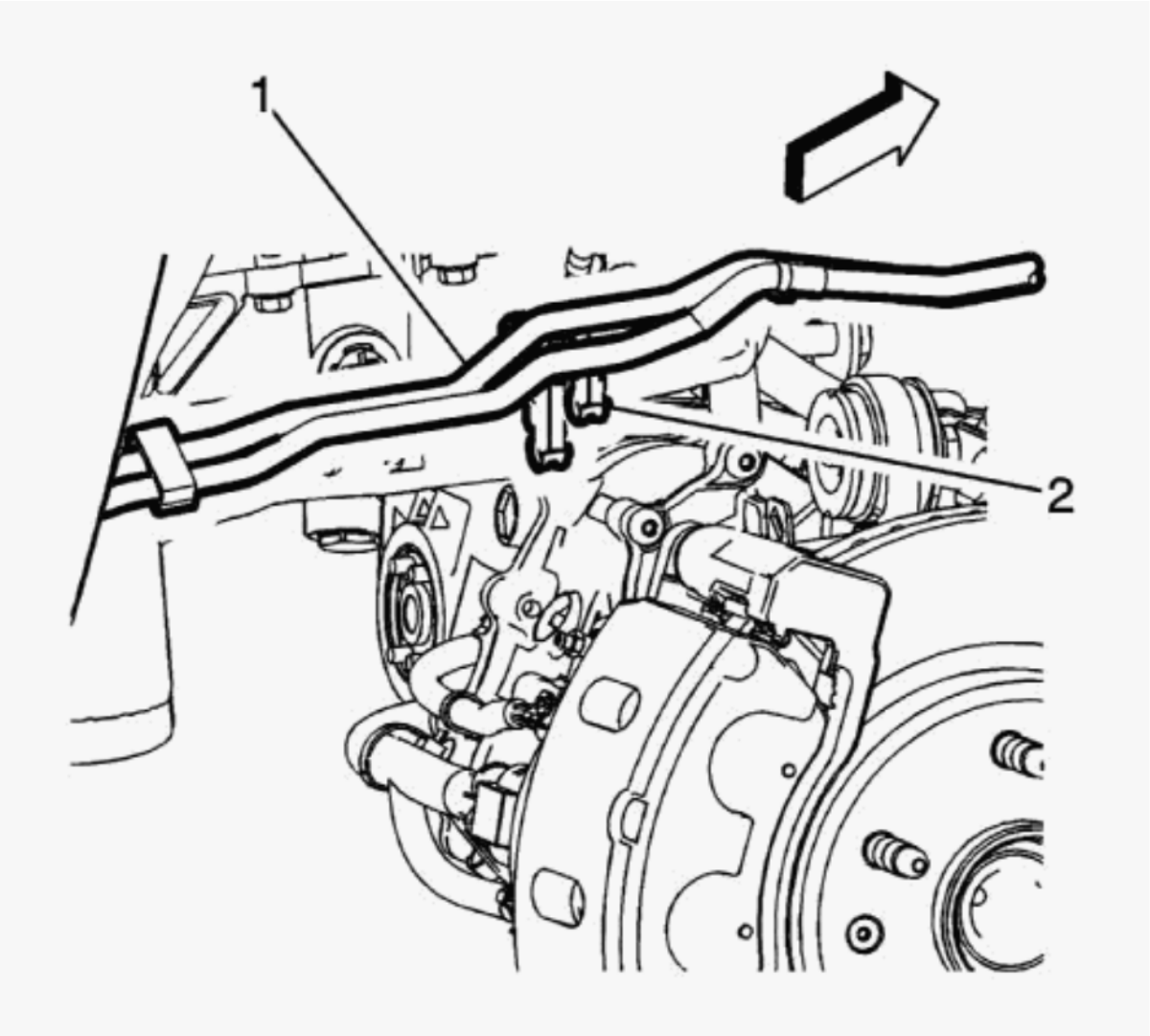


Fig. 117: Transmission Fluid Cooler Inlet And Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

1. Install the transmission fluid cooler inlet and outlet pipe (1) to the vehicle.
2. install the transmission fluid cooler inlet and outlet pipe (1) to the transmission fluid cooler pipe clip (2).

cardiagn.com

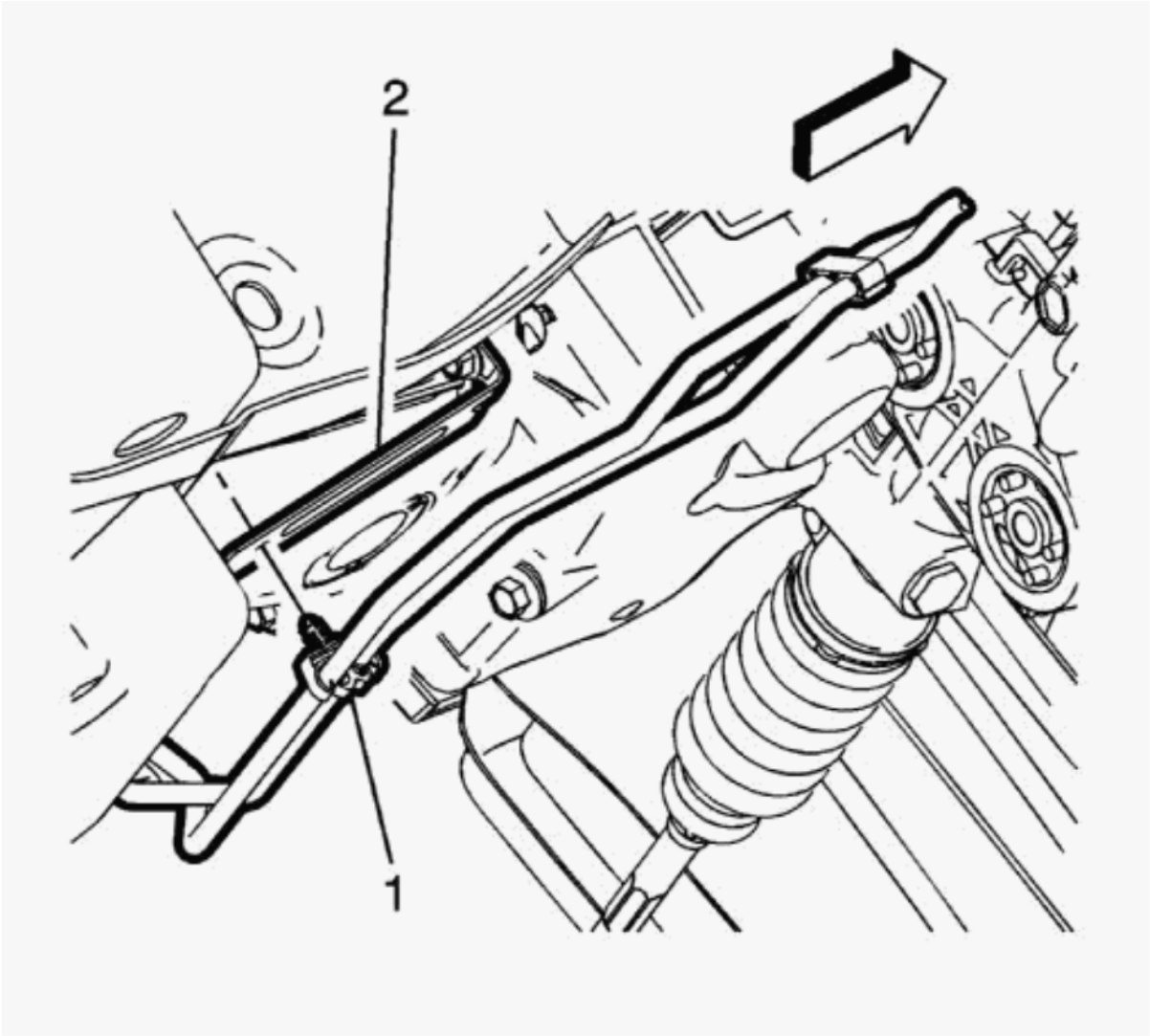


Fig. 118: Transmission Fluid Cooler Inlet And Outlet Pipe And Retainer
Courtesy of GENERAL MOTORS COMPANY

3. Install the transmission fluid cooler inlet and outlet pipe and retainer (1) to the transmission fluid cooler bracket (2).

cardiagn.com

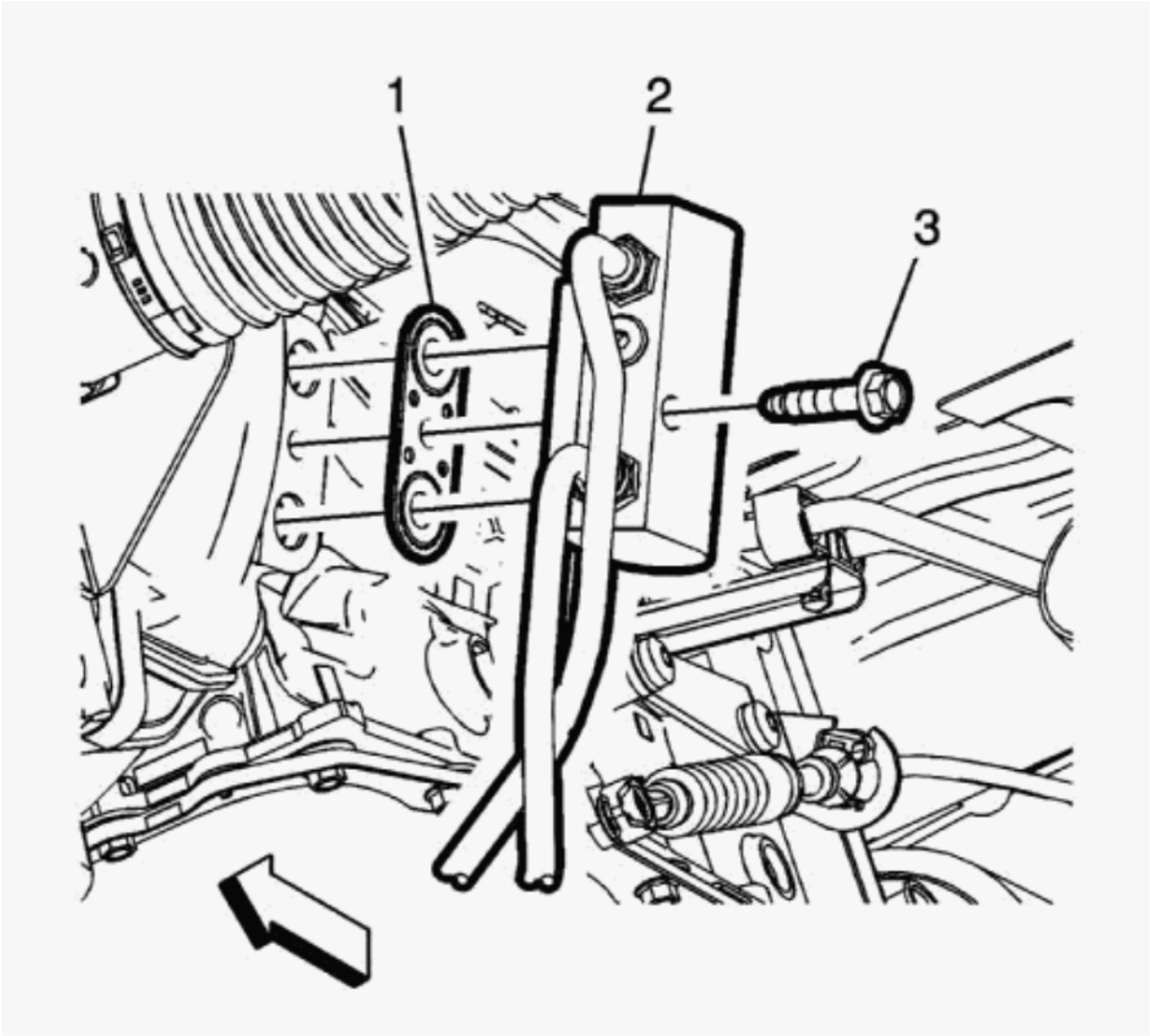


Fig. 119: Transmission Fluid Cooler Pipe Connector Bolt
Courtesy of GENERAL MOTORS COMPANY

CAUTION: **Refer to Fastener Caution .**

4. Install a NEW transmission fluid cooler pipe fitting seal (1) to the transmission fluid cooler inlet and outlet pipe.
5. Install the transmission fluid cooler inlet and outlet pipe (2) to the transmission.
6. Install the transmission fluid cooler pipe connector bolt (3) to the transmission and tighten to 22 (16 lb ft).
7. Install the steering gear skid shield. Refer to **Steering Gear Skid Shield Replacement** .
8. Lower the vehicle. Refer to **Lifting and Jacking the Vehicle** .

cardiagn.com

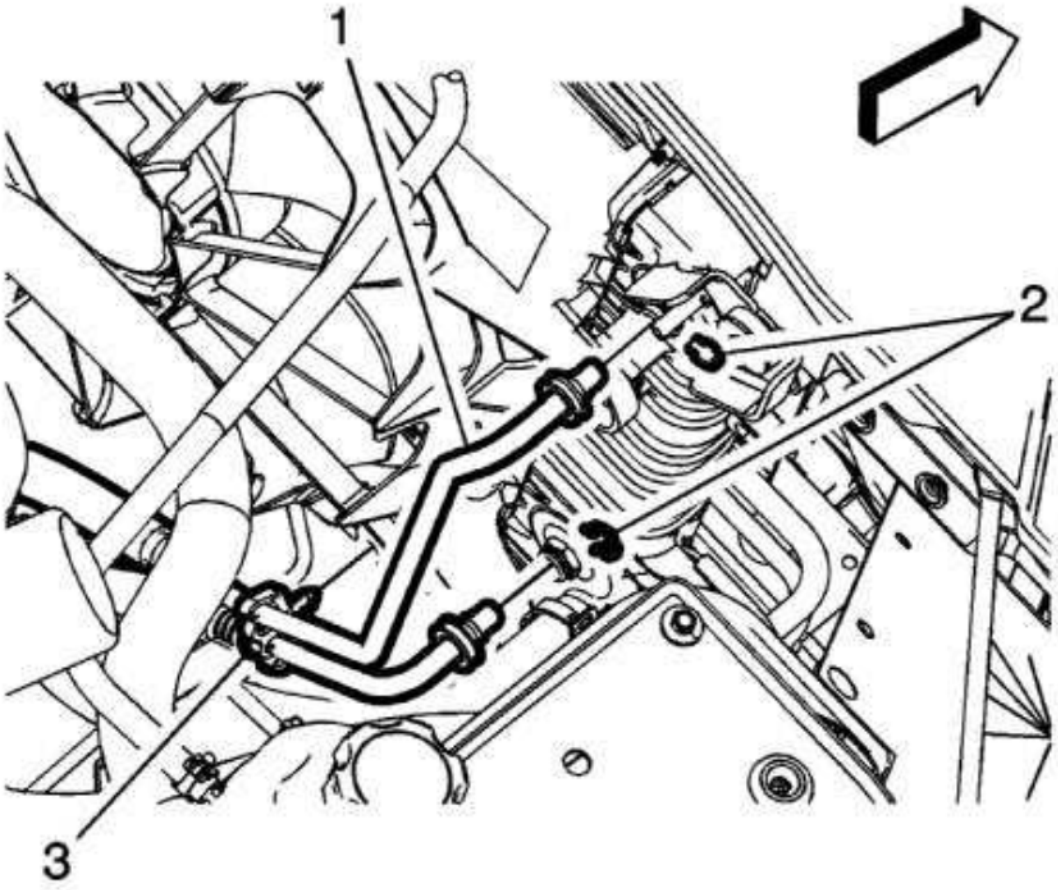


Fig. 120: Transmission Fluid Cooler Inlet And Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

9. Install the transmission fluid cooler inlet and outlet pipe (1) to the radiator.
10. Install the transmission fluid cooler inlet and outlet pipe and retainer (3) to the engine coolant fan rear shroud.
11. Install the air cleaner assembly. Refer to **Air Cleaner Assembly Replacement** .
12. Inspect the transmission fluid level.
13. Inspect for transmission fluid leaks.

TRANSMISSION FLUID COOLER INLET AND OUTLET PIPE REPLACEMENT (L83, L86 WITH MYD)

Removal Procedure

1. Place a drain pan under the transmission fluid cooler inlet and outlet pipe.
2. Remove the air cleaner assembly. Refer to **Air Cleaner Assembly Replacement** .
3. Remove the front compartment front sight shield. Refer to **Front Compartment Front Sight Shield Replacement** .

cardiagn.com

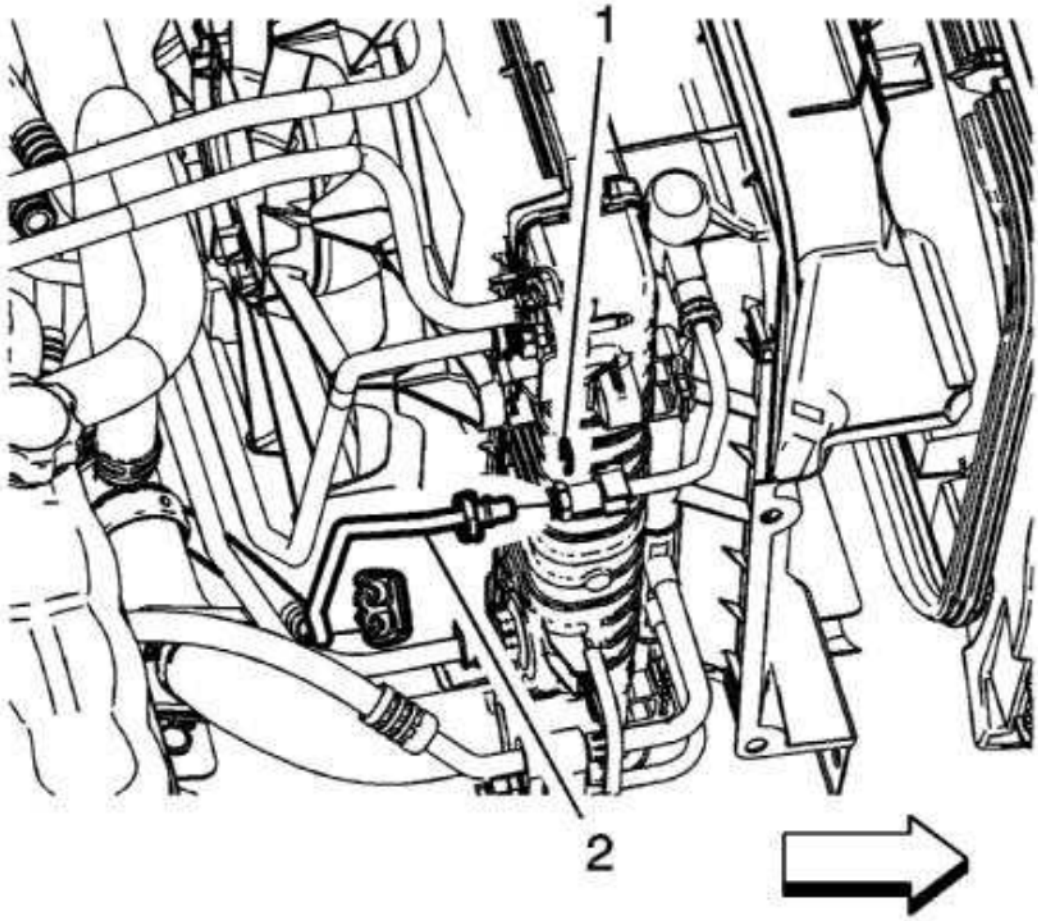


Fig. 121: Transmission Fluid Cooler Inlet And Outlet Pipe Retainer
Courtesy of GENERAL MOTORS COMPANY

4. Remove the transmission fluid cooler inlet and outlet pipe retainer (1) from transmission fluid auxiliary cooler outlet pipe. Refer to **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**.
5. Remove the transmission fluid cooler inlet and outlet pipe (2) from the transmission fluid auxiliary cooler outlet pipe.
6. Cap the fittings and plug the holes when removing the transmission fluid cooler inlet and outlet.

cardiagn.com

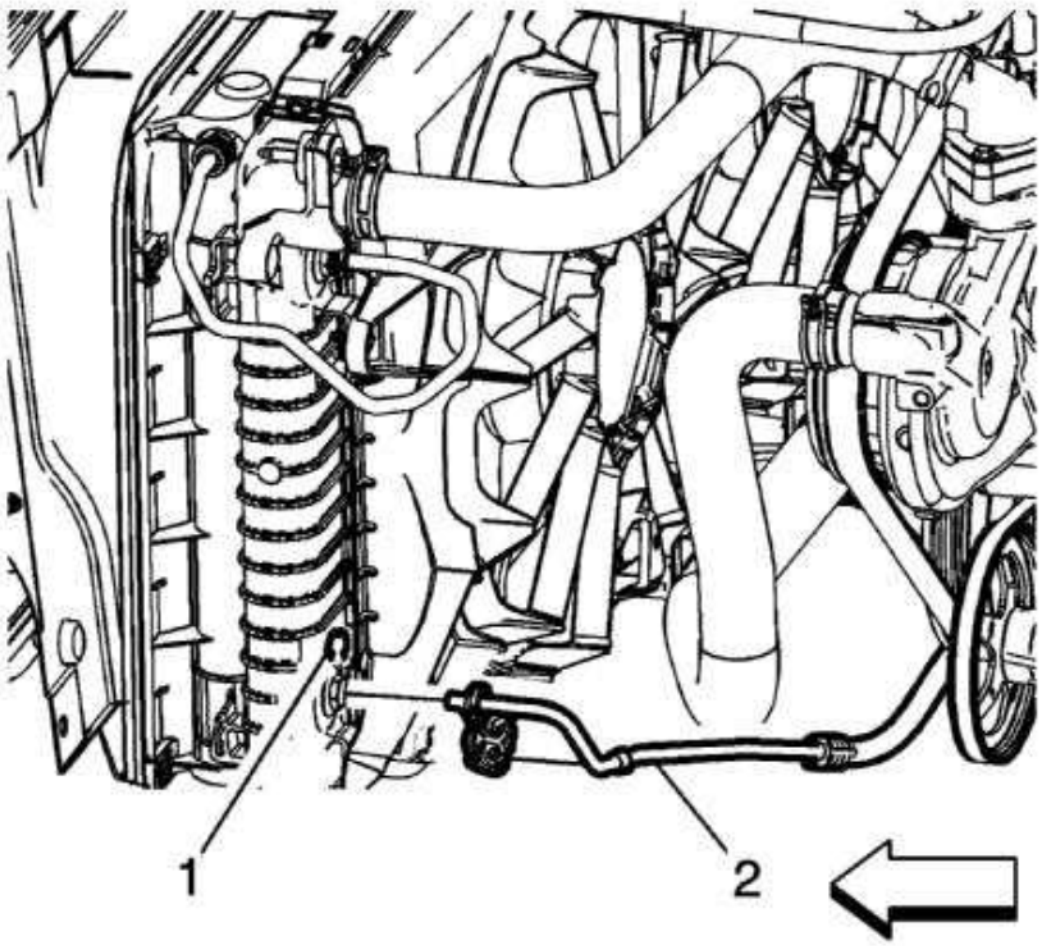


Fig. 122: Transmission Fluid Cooler Inlet And Outlet Pipe Retainer
Courtesy of GENERAL MOTORS COMPANY

7. Remove the transmission fluid cooler inlet and outlet pipe retainer (1) from the radiator. Refer to **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**.
8. Remove the transmission fluid cooler inlet and outlet pipe (2) from the radiator.
9. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** .
10. Remove the steering gear skid shield. Refer to **Steering Gear Skid Shield Replacement** .

cardiagn.com

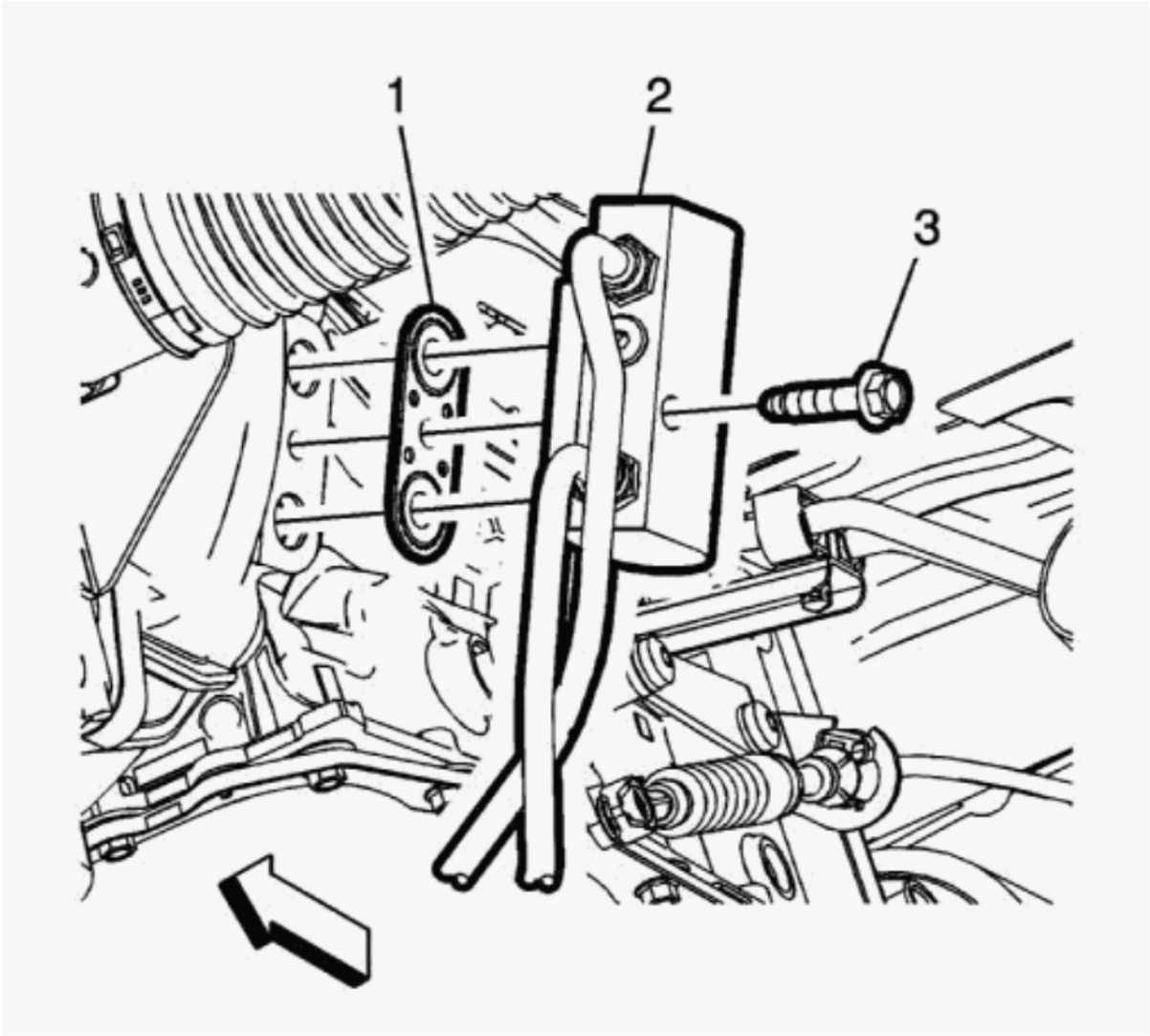


Fig. 123: Transmission Fluid Cooler Pipe Connector Bolt
Courtesy of GENERAL MOTORS COMPANY

11. Remove the transmission fluid cooler pipe connector bolt (3) from the transmission.
12. Remove the transmission fluid cooler inlet and outlet pipe (2) from the transmission.
13. Remove and discard the old transmission fluid cooler pipe fitting seal (1) and replace with a new transmission fluid cooler pipe fitting seal.

cardiagn.com

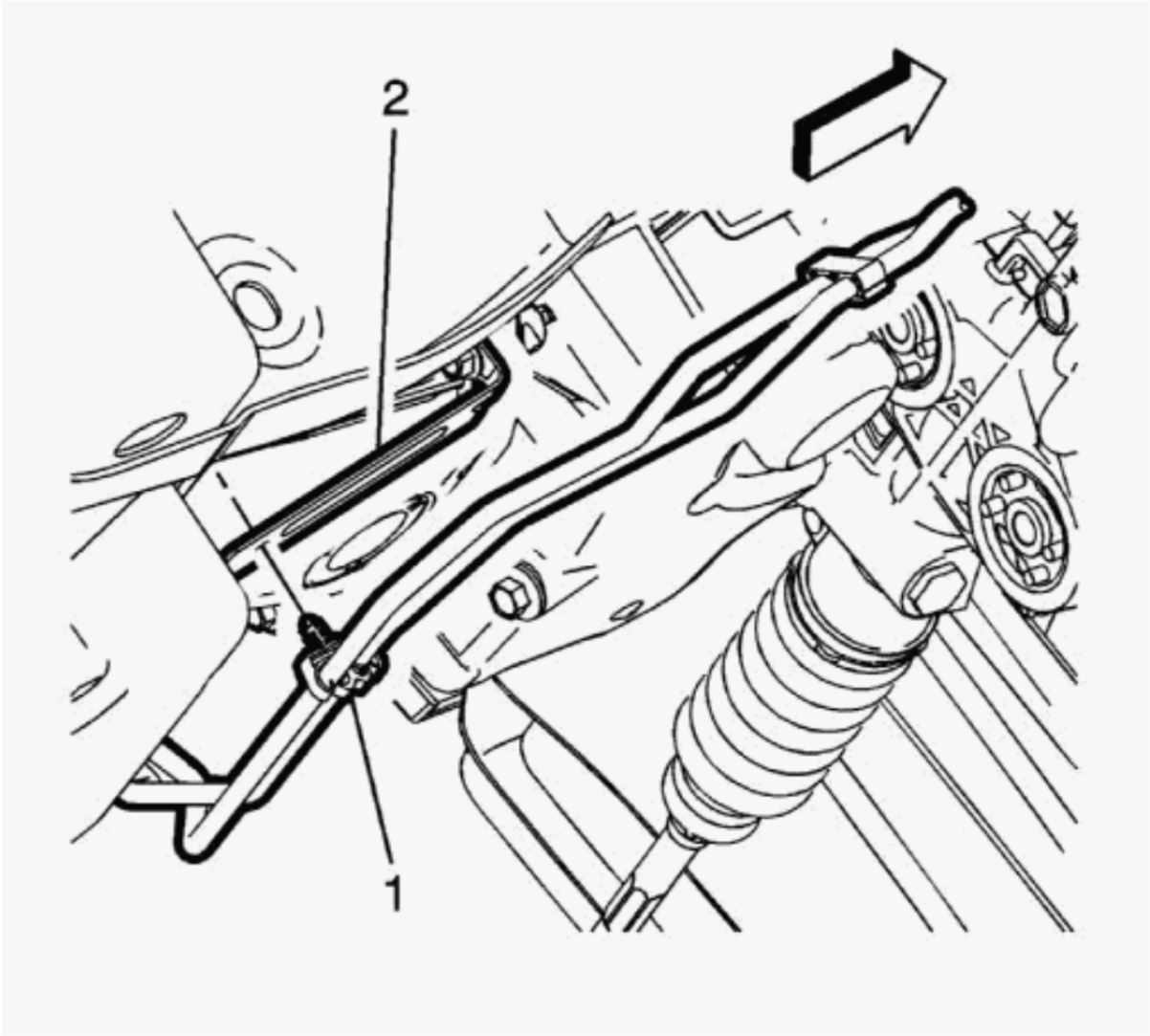


Fig. 124: Transmission Fluid Cooler Inlet And Outlet Pipe And Retainer
Courtesy of GENERAL MOTORS COMPANY

14. Remove the transmission fluid cooler inlet and outlet pipe and retainer (1) from the transmission fluid cooler bracket (2).

cardiagn.com

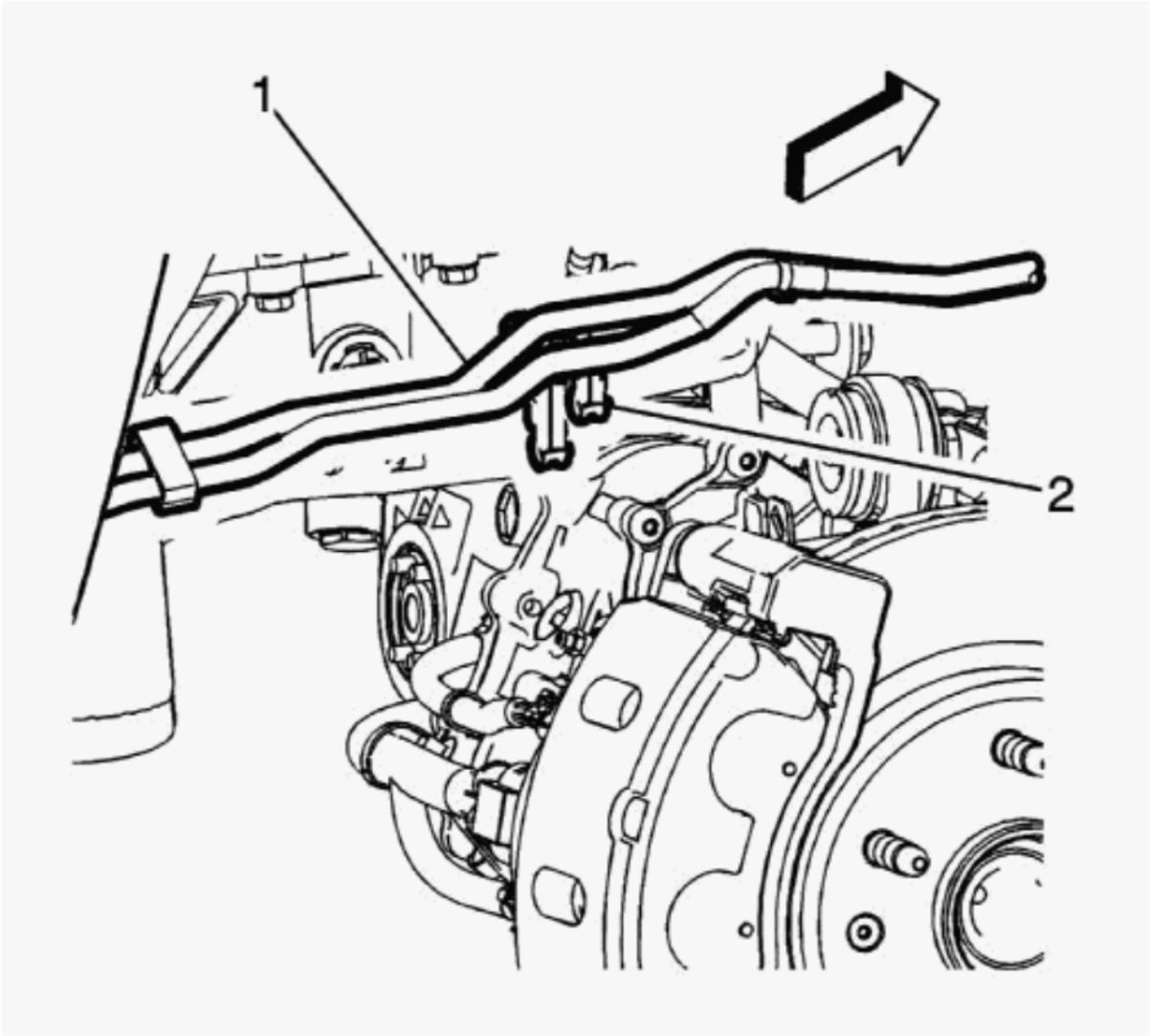


Fig. 125: Transmission Fluid Cooler Inlet And Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

15. Remove the transmission fluid cooler inlet and outlet pipe (1) from the transmission fluid cooler pipe clip (2).

cardiagn.com

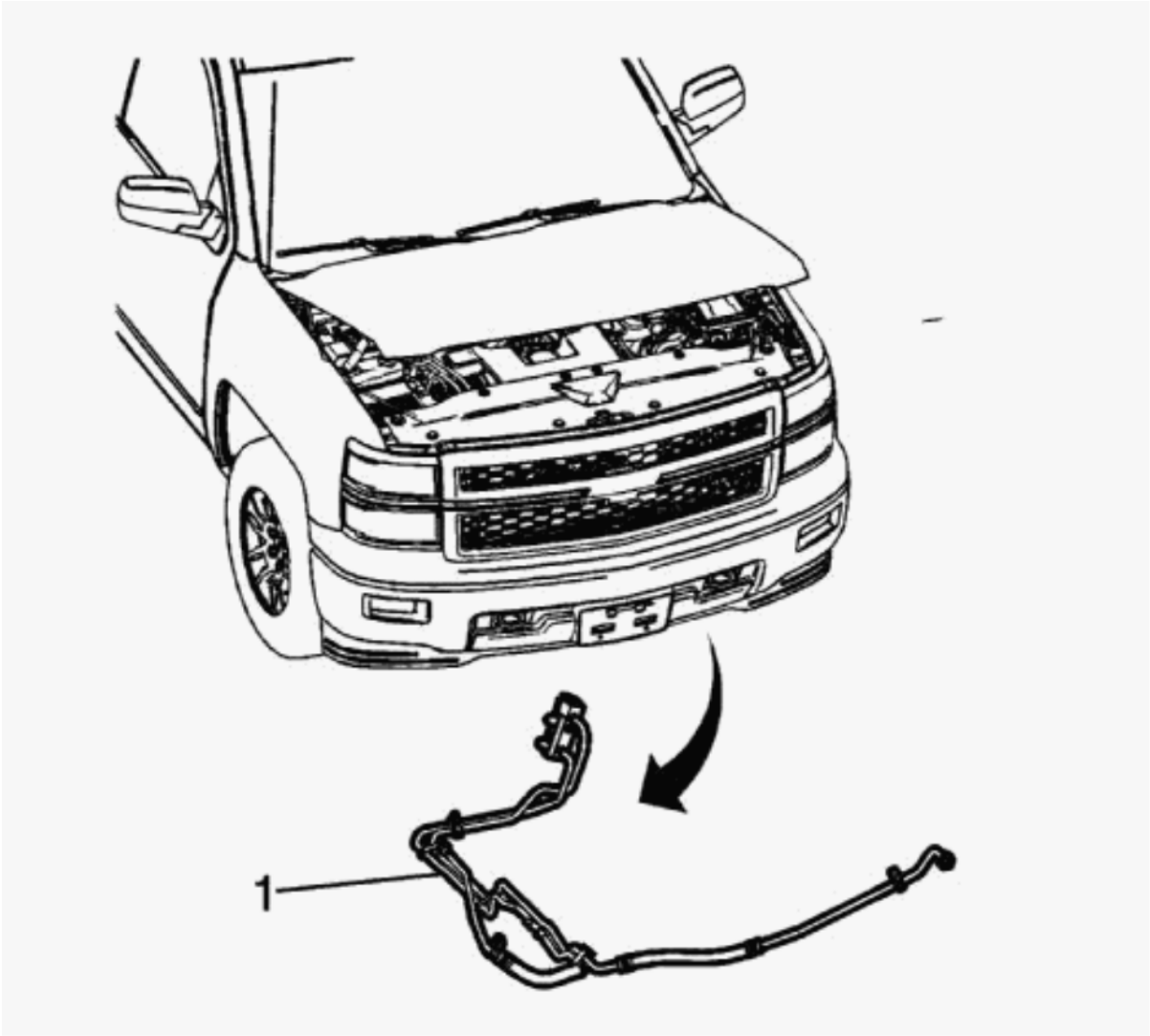


Fig. 126: Transmission Fluid Cooler Inlet And Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

16. Remove the transmission fluid cooler inlet and outlet pipe (1) from the vehicle.

Installation Procedure

cardiagn.com

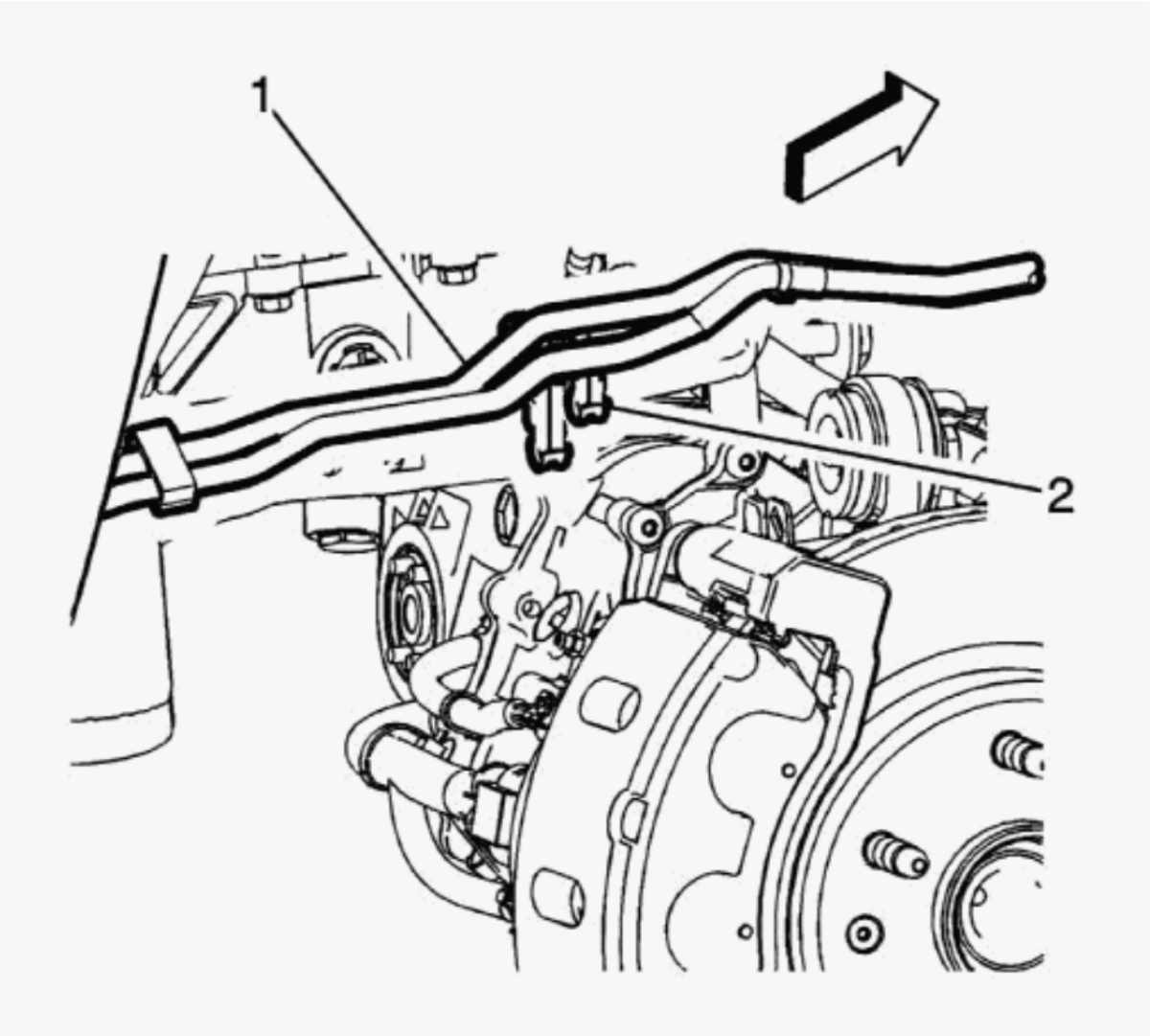


Fig. 127: Transmission Fluid Cooler Inlet And Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

1. Install the transmission fluid cooler inlet and outlet pipe (1) to the vehicle.
2. install the transmission fluid cooler inlet and outlet pipe (1) to the transmission fluid cooler pipe clip (2).

cardiagn.com

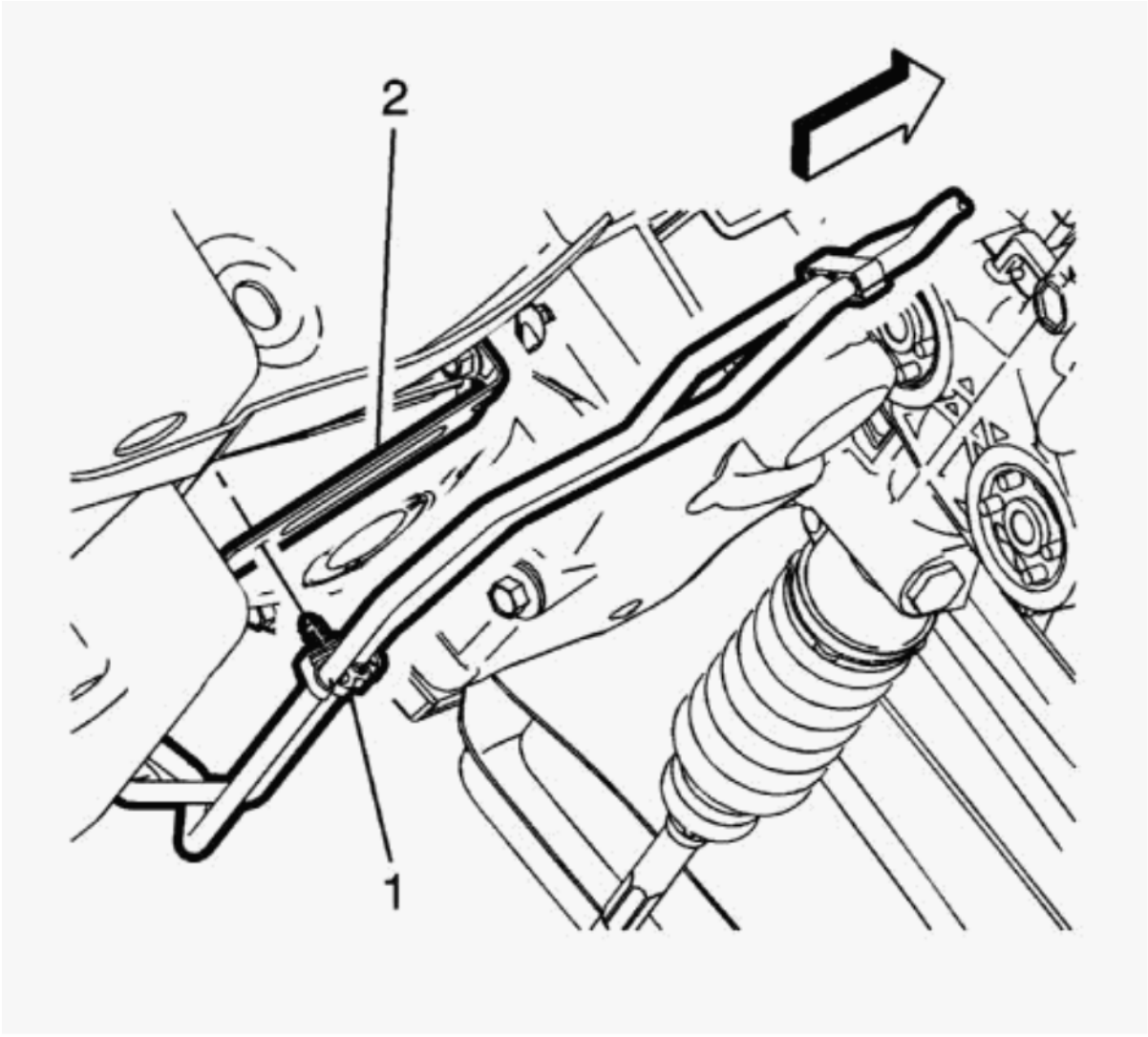


Fig. 128: Transmission Fluid Cooler Inlet And Outlet Pipe And Retainer
Courtesy of GENERAL MOTORS COMPANY

3. Install the transmission fluid cooler inlet and outlet pipe and retainer (1) to the transmission fluid cooler bracket (2).

cardiagn.com

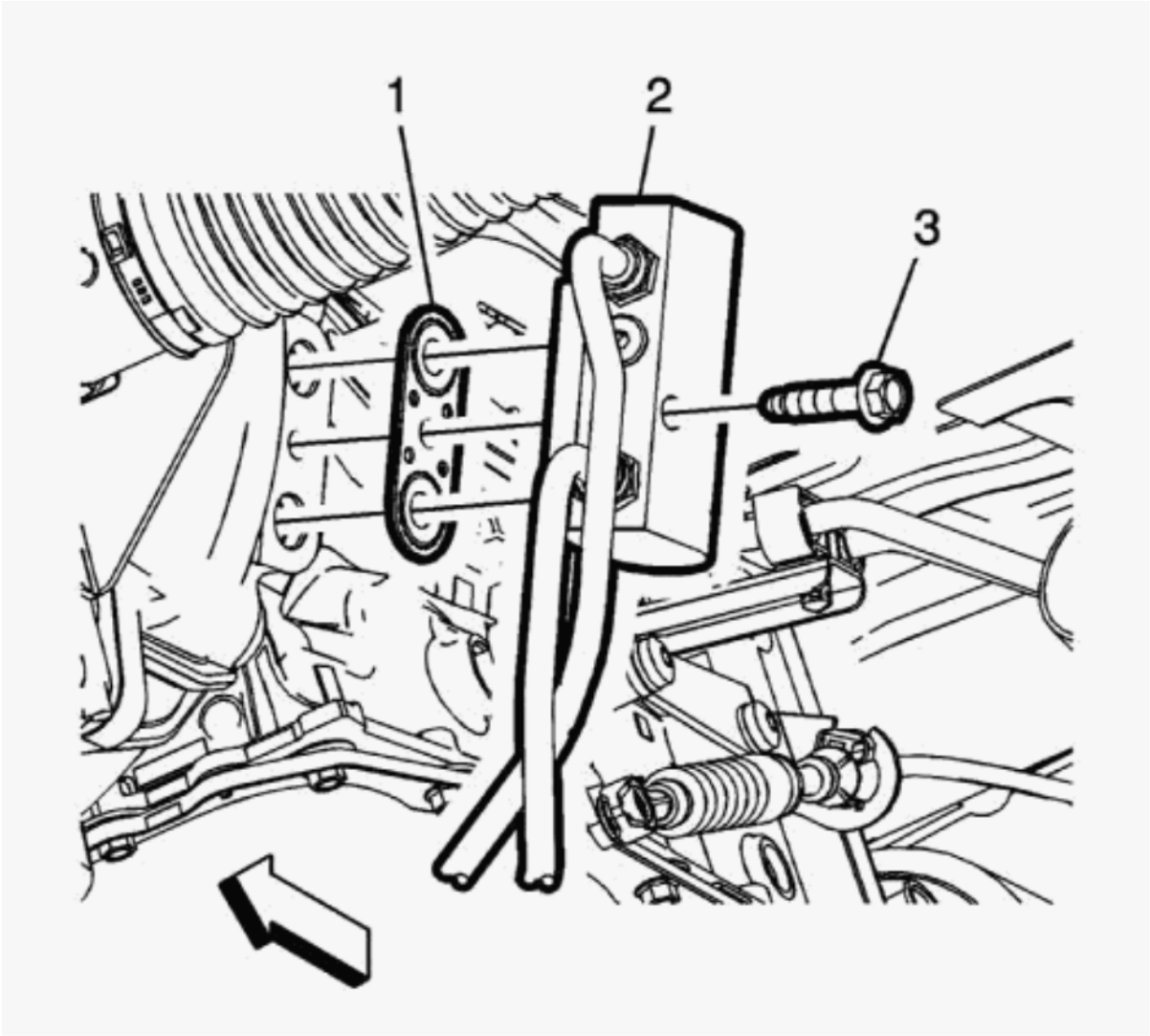


Fig. 129: Transmission Fluid Cooler Pipe Connector Bolt
Courtesy of GENERAL MOTORS COMPANY

CAUTION: **Refer to Fastener Caution .**

4. Install a NEW transmission fluid cooler pipe fitting seal (1) to the transmission fluid cooler inlet and outlet pipe.
5. Install the transmission fluid cooler inlet and outlet pipe (2) to the transmission.
6. Install the transmission fluid cooler pipe connector bolt (3) to the transmission and tighten to 22 (16 lb ft).
7. Install the steering gear skid shield. Refer to **Steering Gear Skid Shield Replacement** .
8. Lower the vehicle. Refer to **Lifting and Jacking the Vehicle** .

cardiagn.com

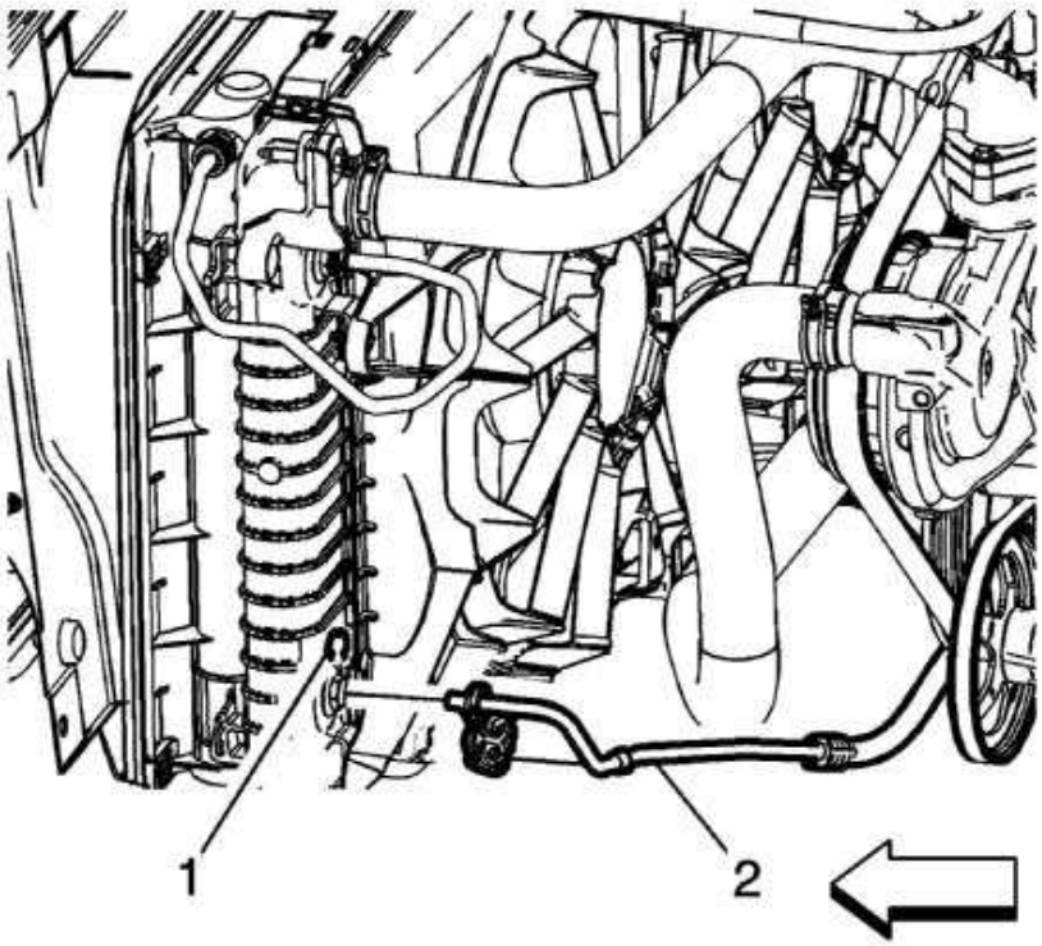


Fig. 130: Transmission Fluid Cooler Inlet And Outlet Pipe Retainer
Courtesy of GENERAL MOTORS COMPANY

9. Install the transmission fluid cooler inlet and outlet pipe (2) to the radiator.

cardiagn.com

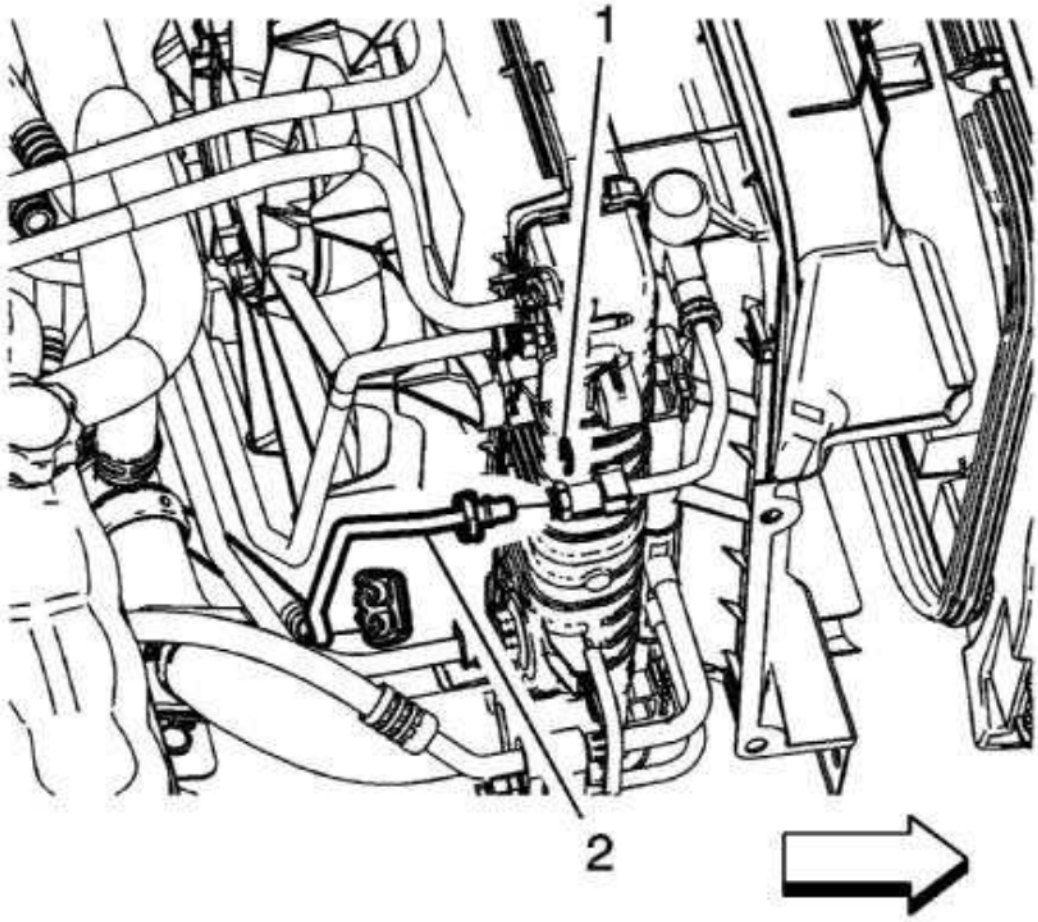


Fig. 131: Transmission Fluid Cooler Inlet And Outlet Pipe Retainer
Courtesy of GENERAL MOTORS COMPANY

10. Install the transmission fluid cooler inlet and outlet pipe (2) from the transmission fluid auxiliary cooler outlet pipe.
11. Install the front compartment front sight shield. Refer to **Front Compartment Front Sight Shield Replacement** .
12. Install the air cleaner assembly. Refer to **Air Cleaner Assembly Replacement** .
13. Inspect the transmission fluid level.
14. Inspect for transmission fluid leaks.

TRANSMISSION FLUID COOLER INLET AND OUTLET PIPE REPLACEMENT (LC8, L96 WITH MYD)

Removal Procedure

1. Remove the Front Bumper Impact Bar. Refer to **Front Bumper Impact Bar Replacement (1500)** **Front Bumper Impact Bar Replacement (2500, 3500)** .
2. Remove the underbody splash shield. Refer to **Underbody Splash Shield Replacement** .
3. Place a drain pan under the transmission fluid cooler inlet and outlet pipe.

cardiagn.com

4. Cap the fittings and plug the holes when removing the transmission fluid cooler inlet and outlet pipe.

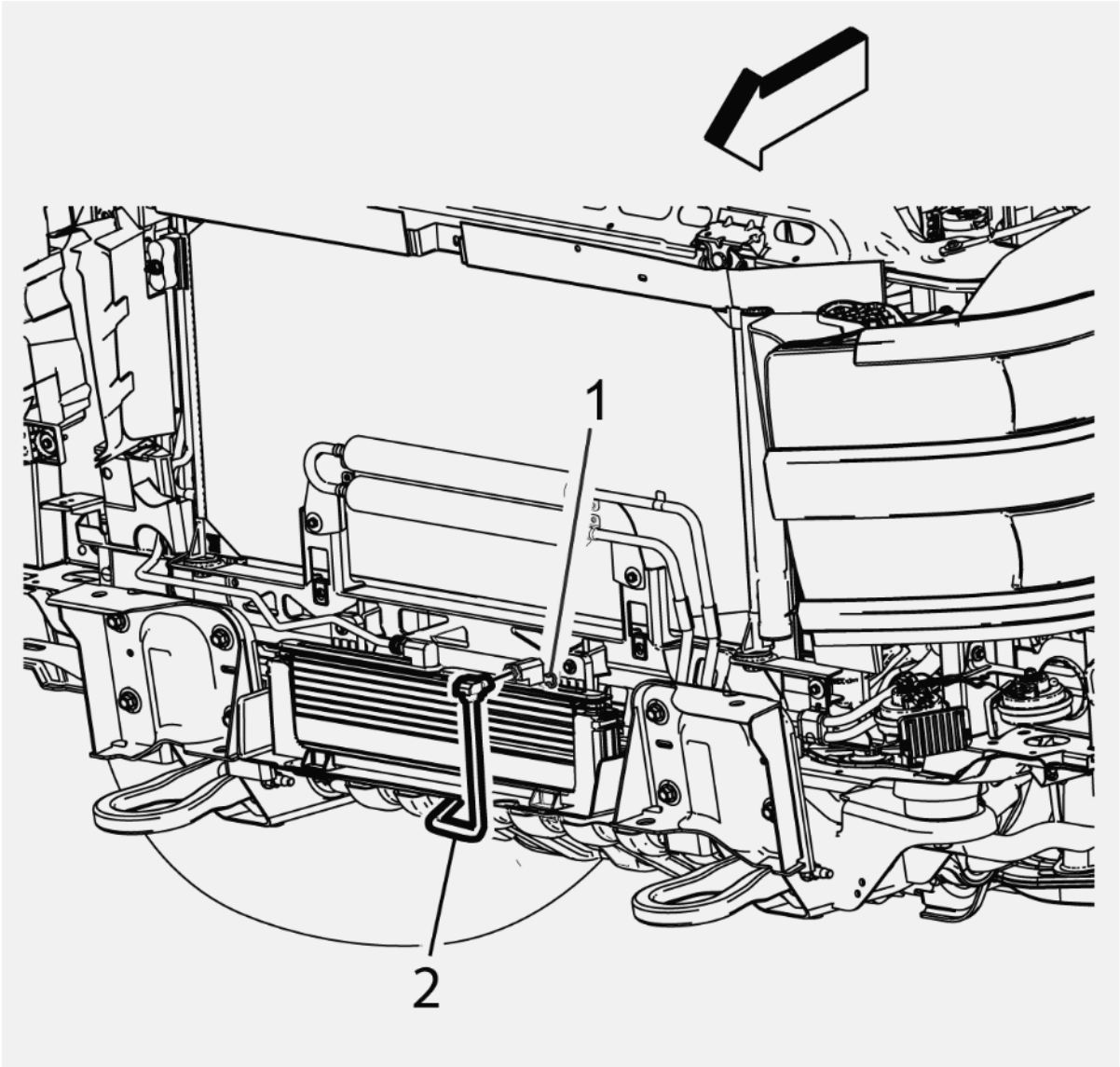


Fig. 132: Transmission Fluid Cooler Auxiliary Outlet Pipe Retainer
Courtesy of GENERAL MOTORS COMPANY

5. Remove the transmission fluid cooler inlet and outlet pipe retainer (1) from the transmission fluid auxiliary cooler. Refer to **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**.
6. Remove the transmission fluid auxiliary cooler inlet and outlet pipe (2) from the transmission fluid auxiliary cooler.

cardiagn.com

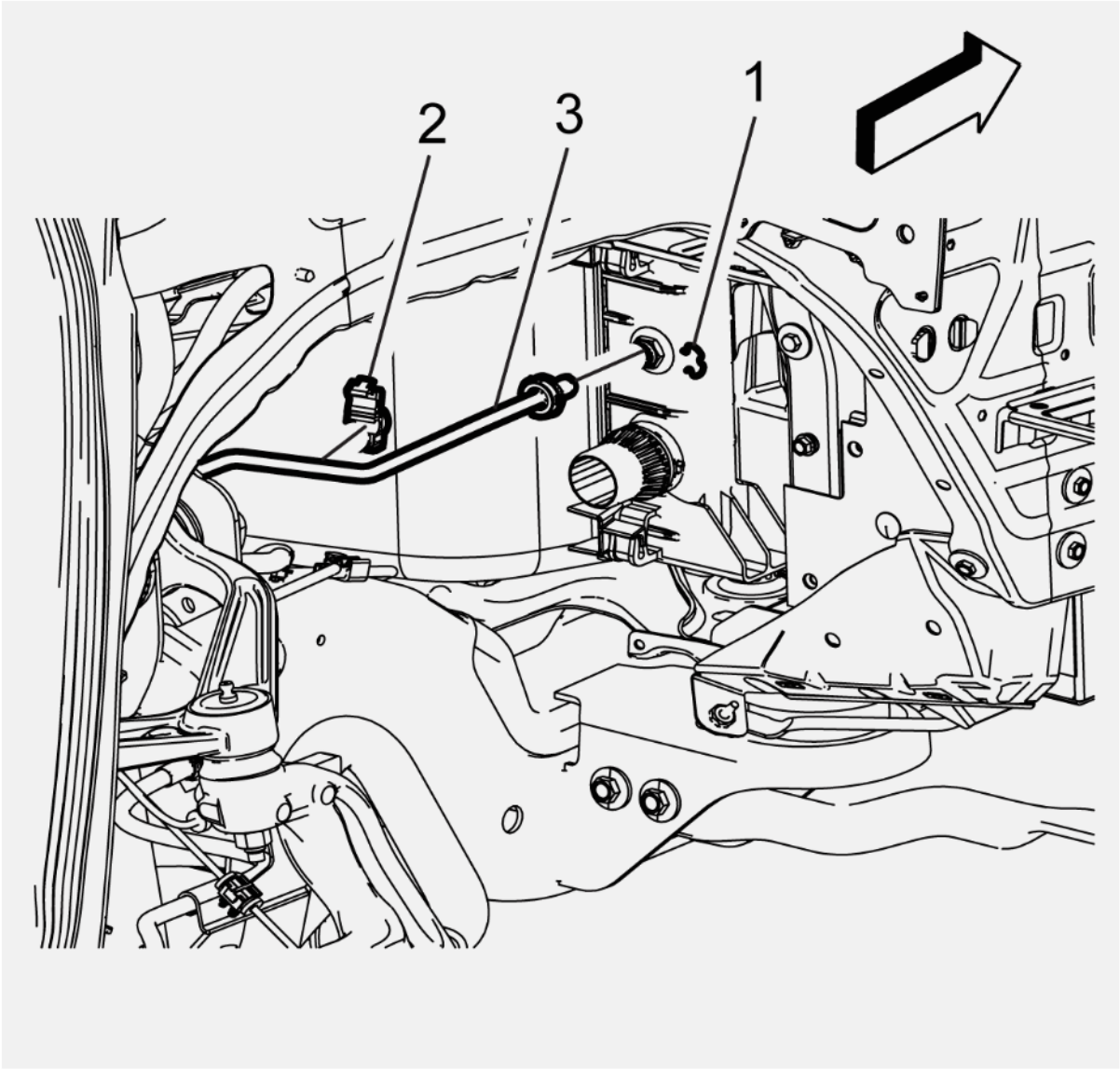


Fig. 133: Transmission Fluid Cooler Inlet And Outlet Pipe Retainer
Courtesy of GENERAL MOTORS COMPANY

7. Remove the transmission fluid cooler inlet and outlet pipe retainer (1) from the radiator. Refer to **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**.
8. Remove the transmission fluid auxiliary cooler inlet and outlet pipe (3) from the retaining clip (2) on the engine coolant fan lower shroud.
9. Remove the transmission fluid auxiliary cooler inlet and outlet pipe (3) from the radiator.

cardiagn.com

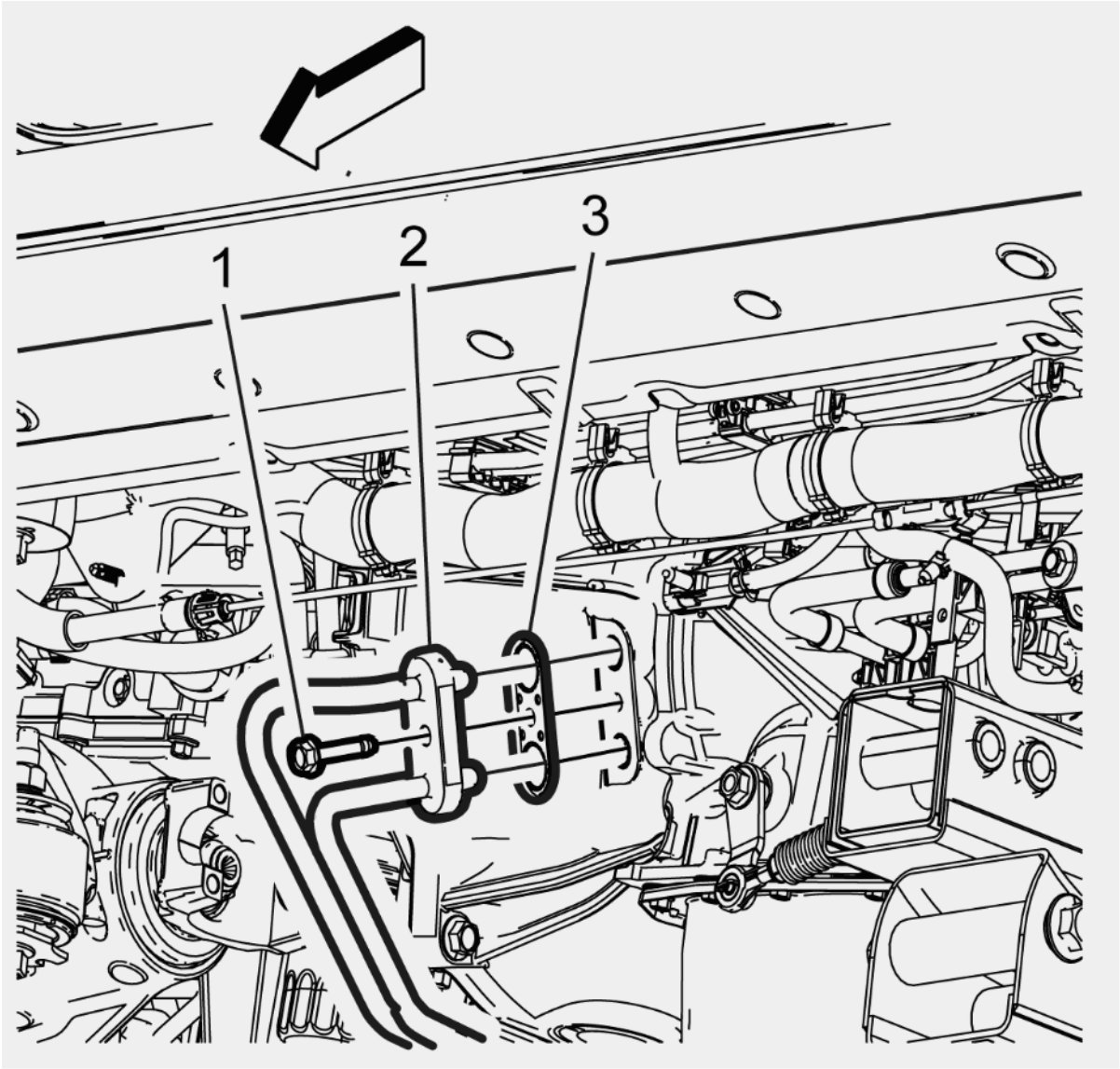


Fig. 134: Transmission Fluid Cooler Inlet And Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

10. Remove the transmission fluid cooler inlet and outlet pipe bolt (1) from the transmission.
11. Remove the transmission fluid cooler inlet and outlet pipe (2) from the transmission.
12. Remove and discard the old transmission fluid cooler pipe fitting seal (3) and replace with a new transmission fluid cooler pipe fitting seal.

cardiagn.com

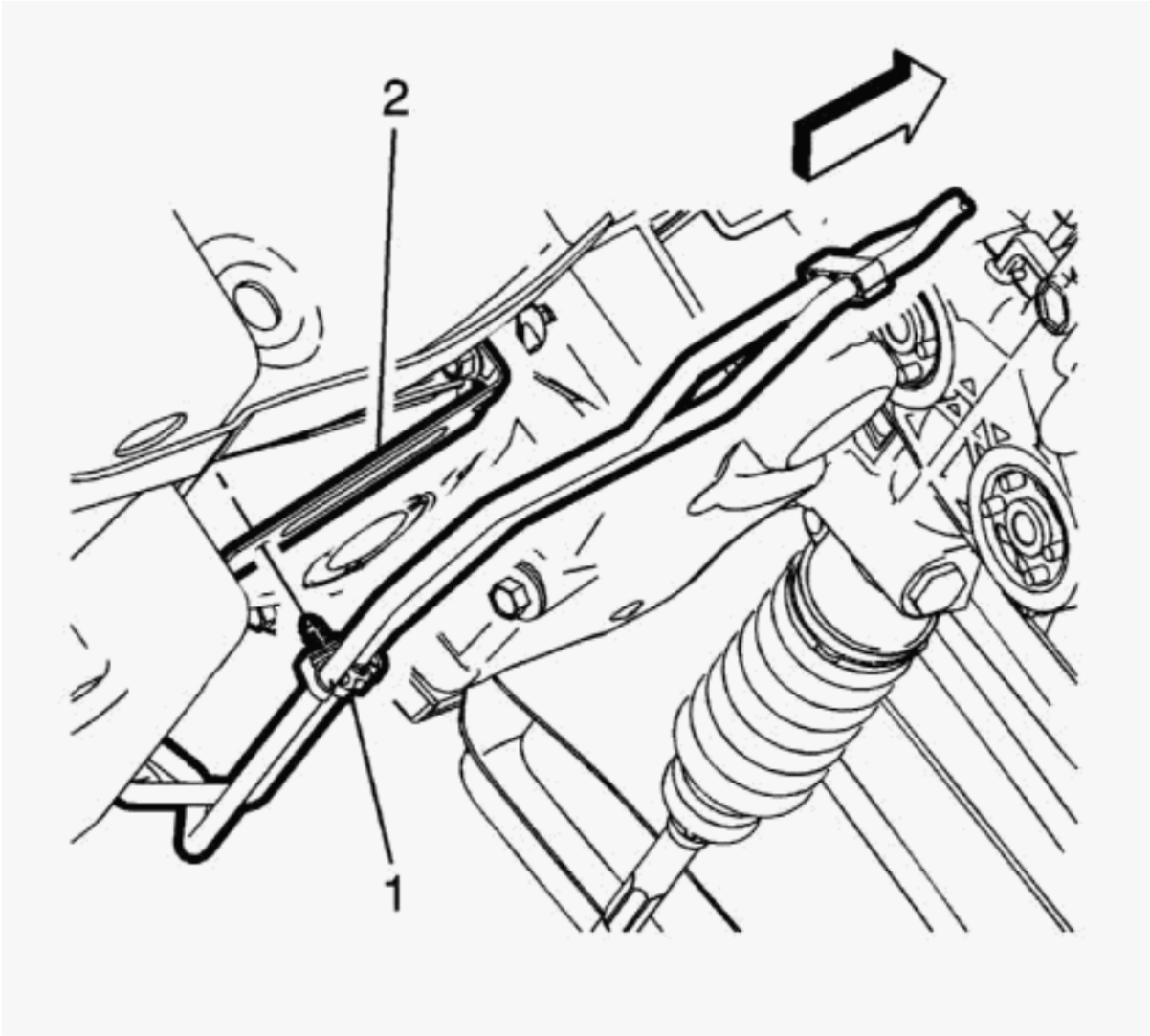


Fig. 135: Transmission Fluid Cooler Inlet And Outlet Pipe And Retainer
Courtesy of GENERAL MOTORS COMPANY

13. Remove the transmission fluid cooler inlet and outlet pipe and retainer (1) from the transmission fluid cooler bracket (2).

cardiagn.com

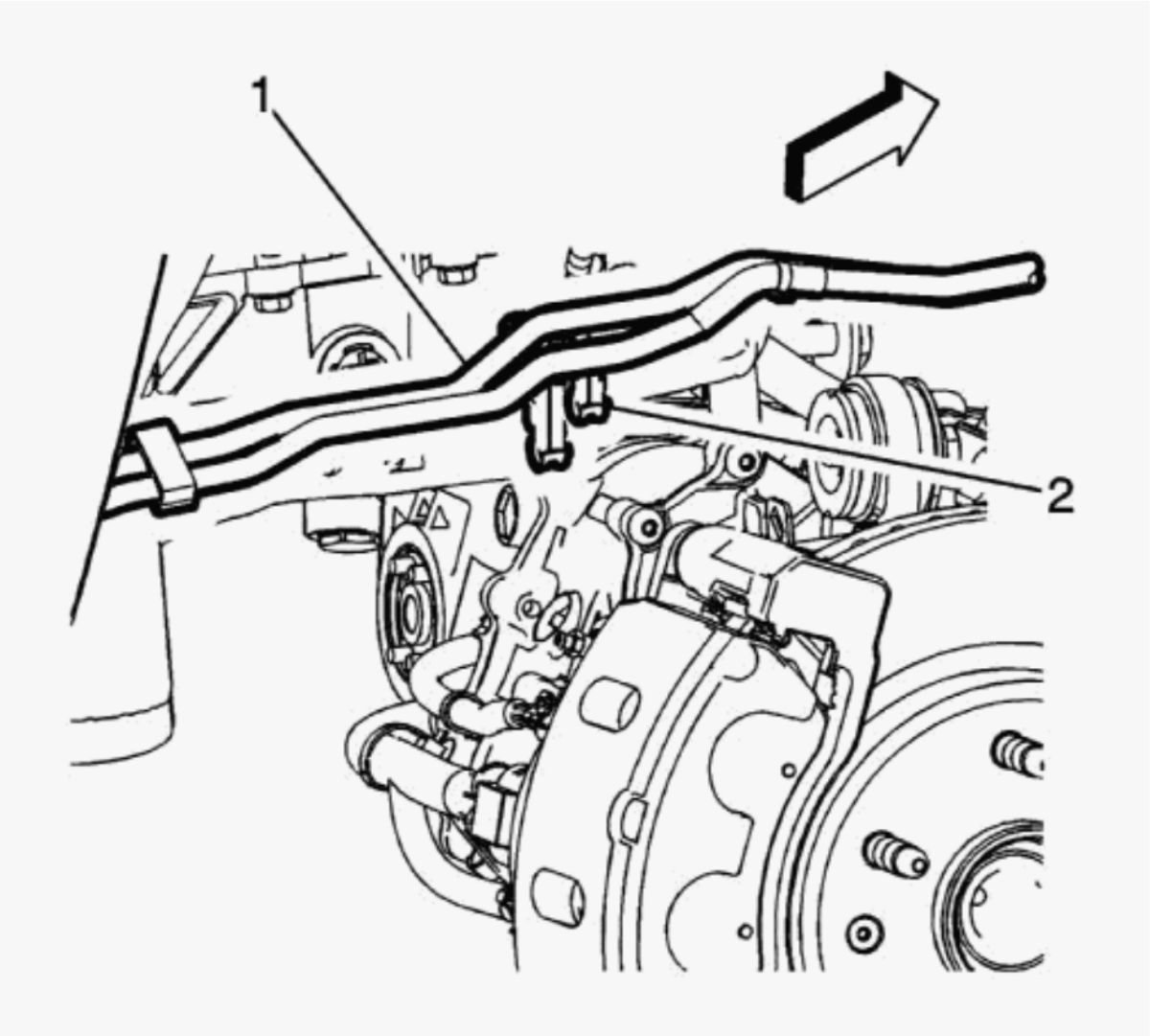


Fig. 136: Transmission Fluid Cooler Inlet And Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

14. Remove the transmission fluid cooler inlet and outlet pipe (1) from the transmission fluid cooler pipe clip (2).
15. Remove the transmission fluid auxiliary cooler inlet pipe from the vehicle.

Installation Procedure

cardiagn.com

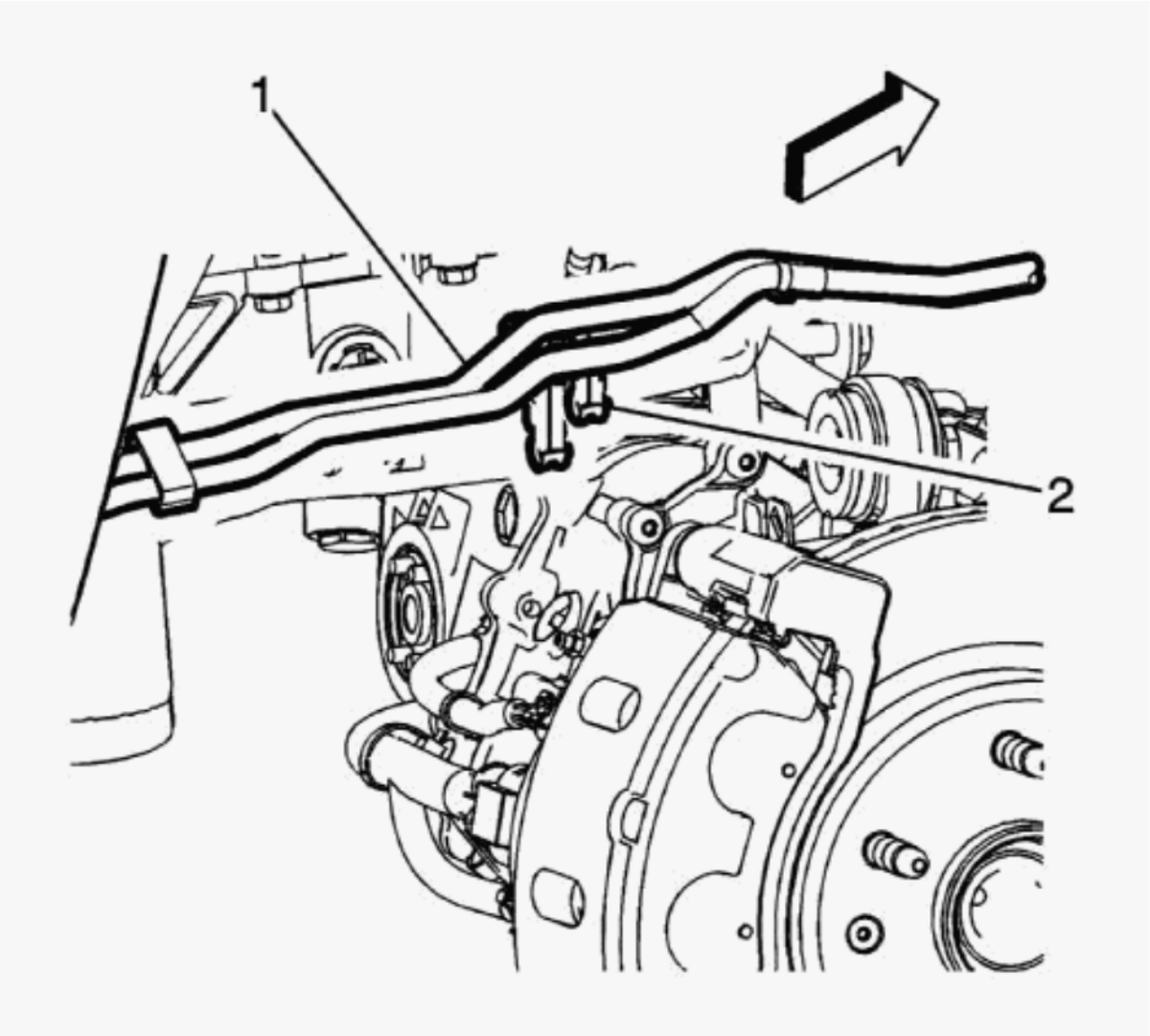


Fig. 137: Transmission Fluid Cooler Inlet And Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

1. Remove the caps and plugs from the fittings and holes before installing the transmission fluid auxiliary cooler inlet pipe.
2. Install the transmission fluid cooler inlet and outlet pipe (1) to the transmission fluid cooler pipe clip (2).

cardiagn.com

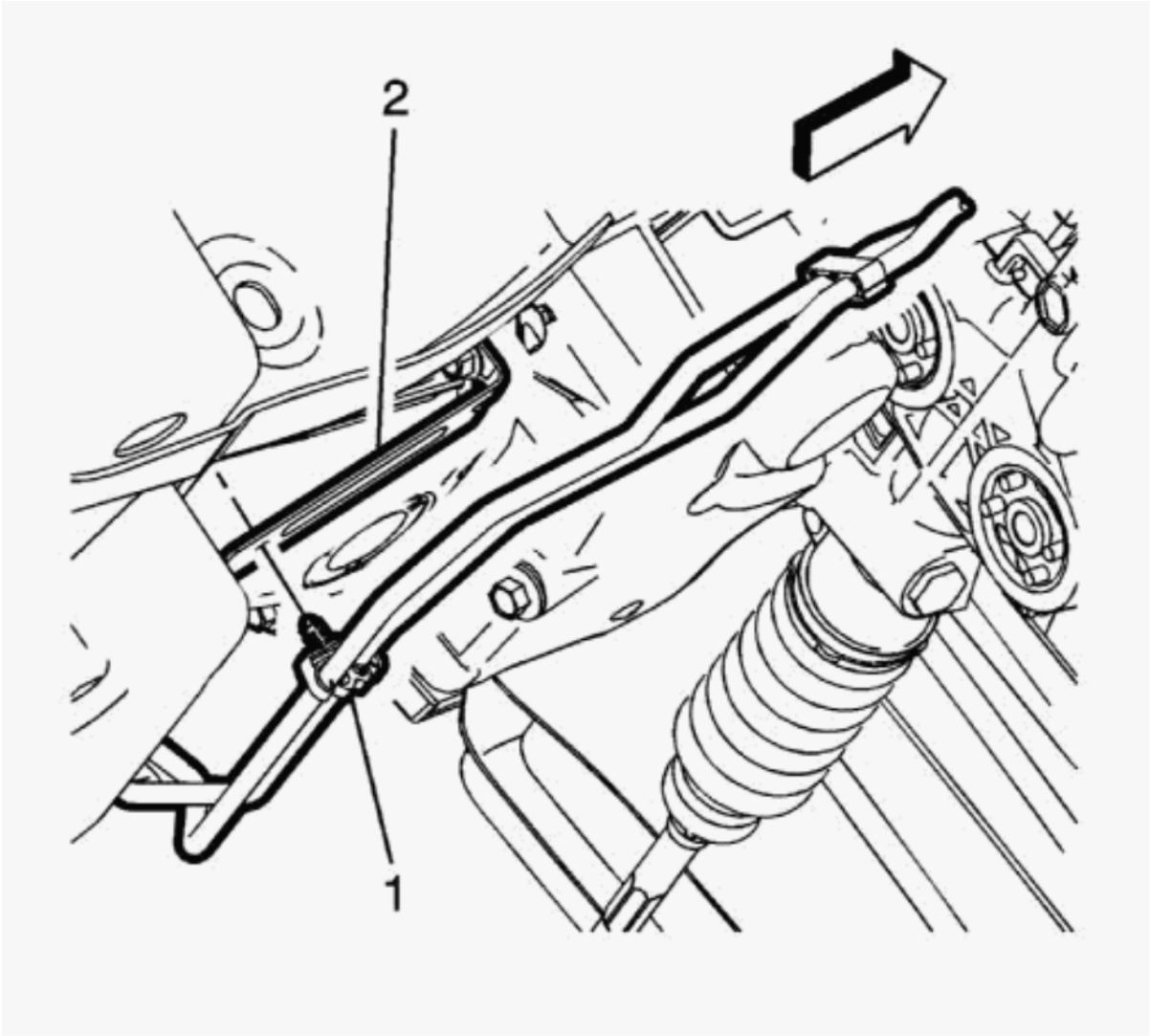


Fig. 138: Transmission Fluid Cooler Inlet And Outlet Pipe And Retainer
Courtesy of GENERAL MOTORS COMPANY

3. Install the transmission fluid cooler inlet and outlet pipe and retainer (1) to the transmission fluid cooler bracket (2).

cardiagn.com

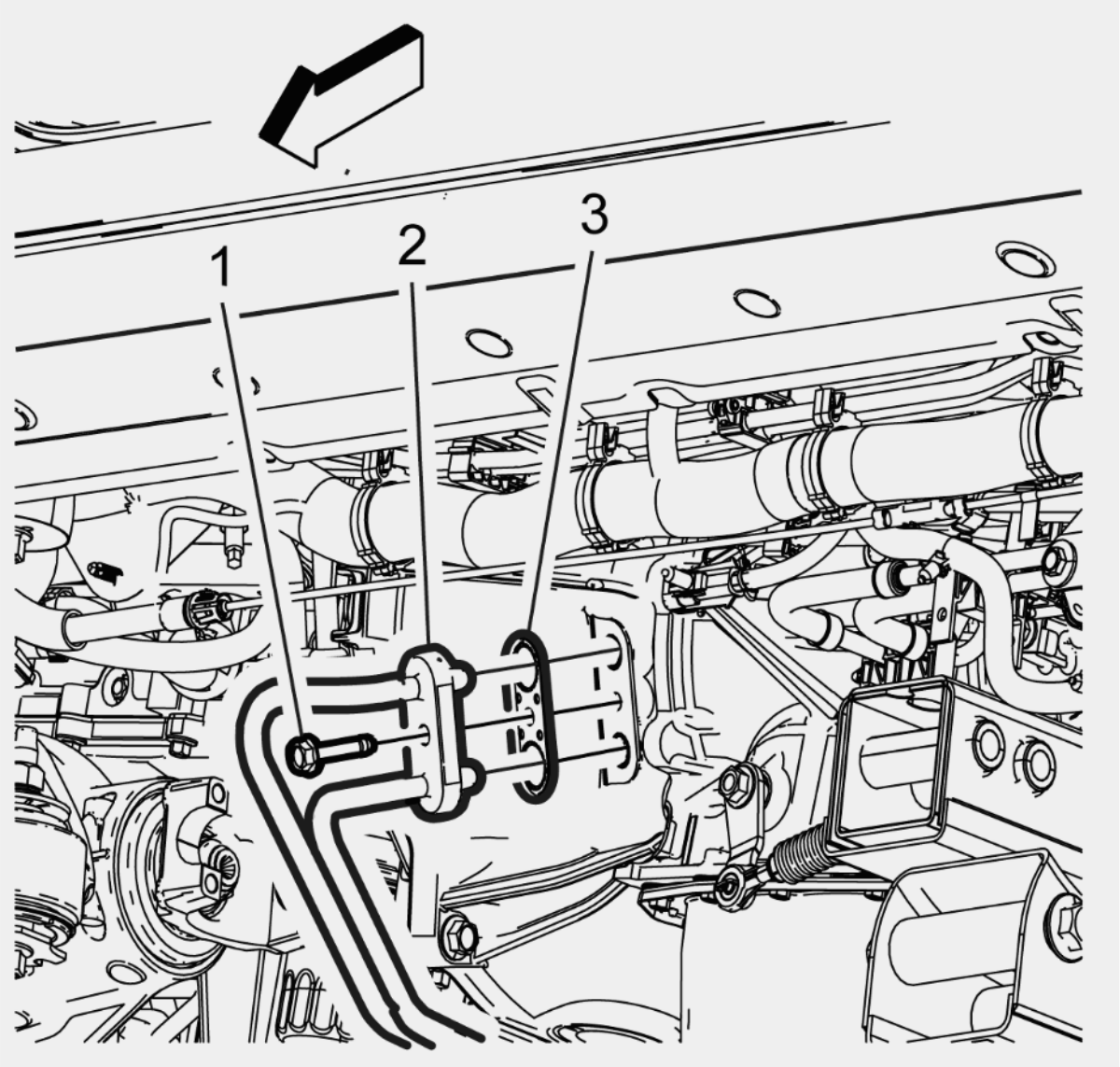


Fig. 139: Transmission Fluid Cooler Inlet And Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

CAUTION: **Refer to Fastener Caution .**

4. Install a NEW transmission fluid cooler inlet and outlet pipe fitting seal (3) to the transmission fluid cooler inlet and outlet pipe.
5. Install the transmission fluid cooler inlet and outlet pipe (2) to the transmission.
6. Install the transmission fluid cooler pipe connector bolt (1) to the transmission and tighten to 22 (16 lb ft).

cardiagn.com

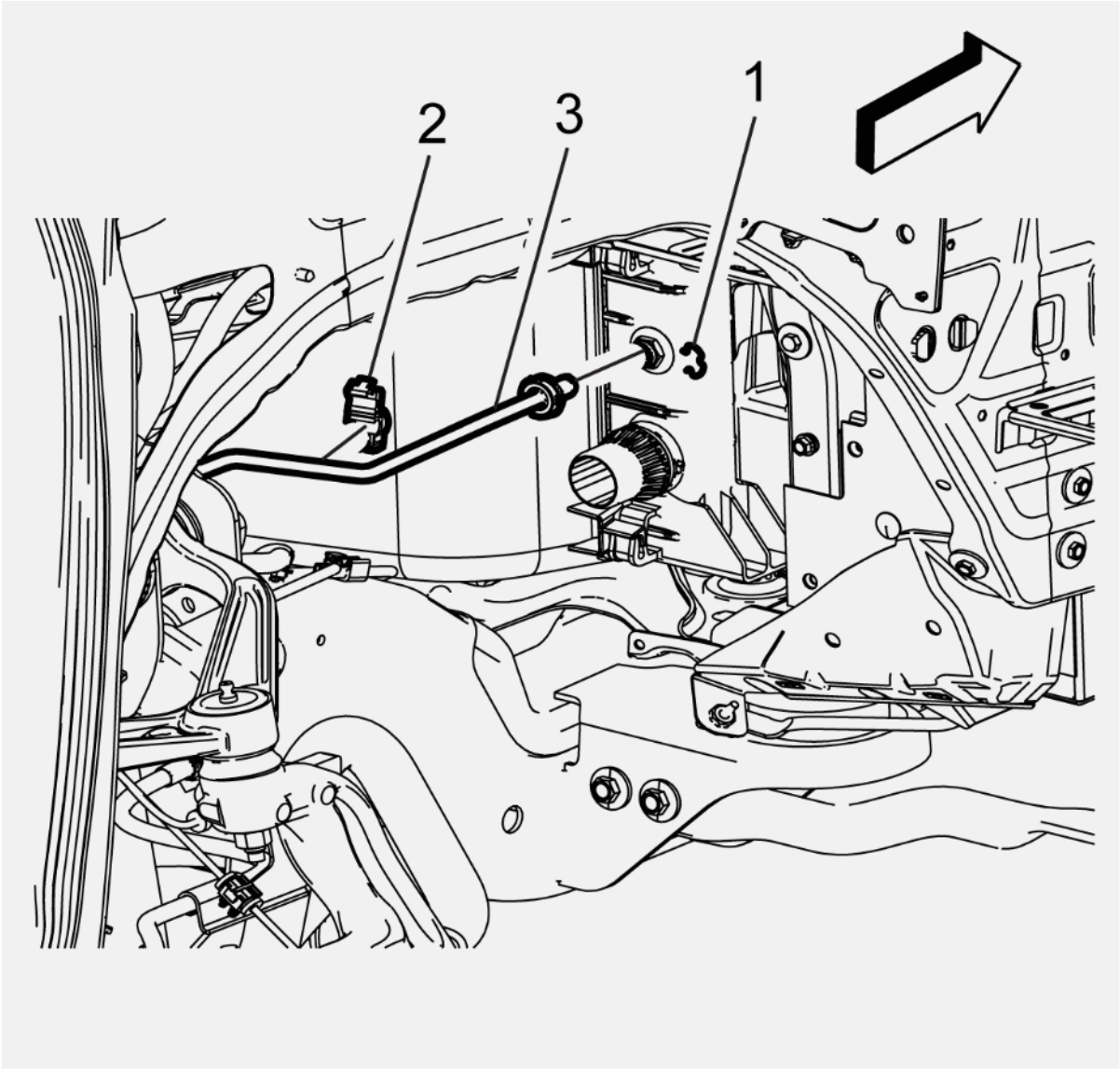


Fig. 140: Transmission Fluid Cooler Inlet And Outlet Pipe Retainer
Courtesy of GENERAL MOTORS COMPANY

7. Install the transmission fluid auxiliary cooler inlet and outlet pipe (3) to the radiator.
8. Install the transmission fluid auxiliary cooler inlet and outlet pipe (3) to the retaining clip (2) on the engine coolant fan lower shroud.
9. Install the transmission fluid cooler inlet and outlet pipe retainer (1) to the radiator. Refer to **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**.

cardiagn.com

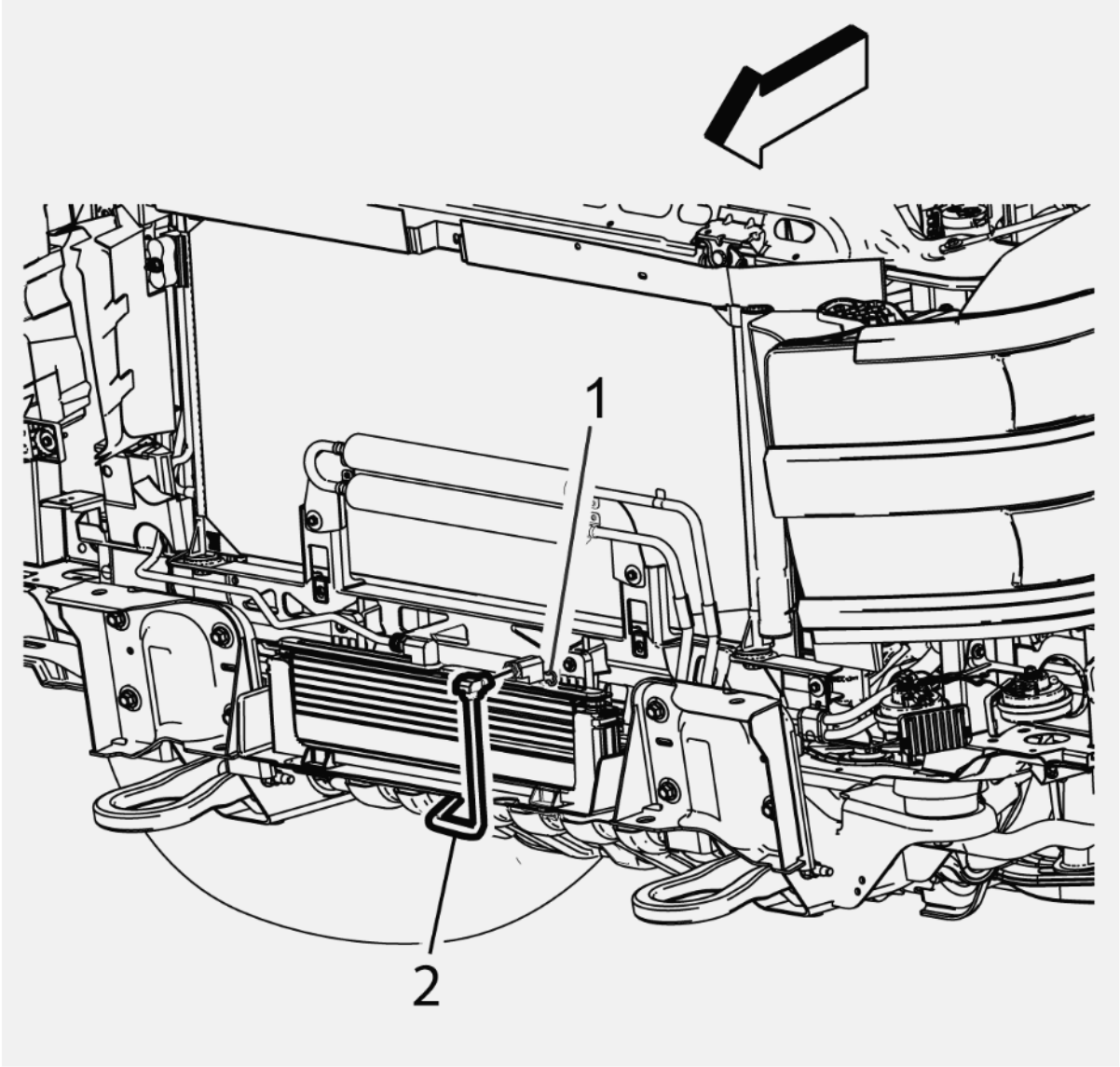


Fig. 141: Transmission Fluid Cooler Auxiliary Outlet Pipe Retainer
Courtesy of GENERAL MOTORS COMPANY

10. Install the transmission fluid auxiliary cooler inlet and outlet pipe (2) to the transmission fluid auxiliary cooler.
11. Install the transmission fluid cooler inlet and outlet pipe retainer (1) to the transmission fluid auxiliary cooler. Refer to **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**.
12. Remove the drain pan from under the transmission fluid auxiliary cooler inlet and outlet pipe.
13. Install the underbody splash shield. Refer to **Underbody Splash Shield Replacement** .
14. Install the Front Bumper Impact Bar. Refer to **Front Bumper Impact Bar Replacement (1500)** **Front Bumper Impact Bar Replacement (2500, 3500)** .
15. Fill the transmission to the proper fluid level. Refer to **Transmission Fluid Level and Condition Check** .
16. Inspect for transmission fluid leaks.

TRANSMISSION FLUID COOLER INLET AND OUTLET PIPE REPLACEMENT (L86 WITH M5U)

cardiagn.com

Removal Procedure

1. Place a drain pan under the transmission fluid cooler inlet and outlet pipe.
2. Remove the air cleaner assembly. Refer to **Air Cleaner Assembly Replacement** .
3. Remove the front compartment front sight shield. Refer to **Front Compartment Front Sight Shield Replacement** .

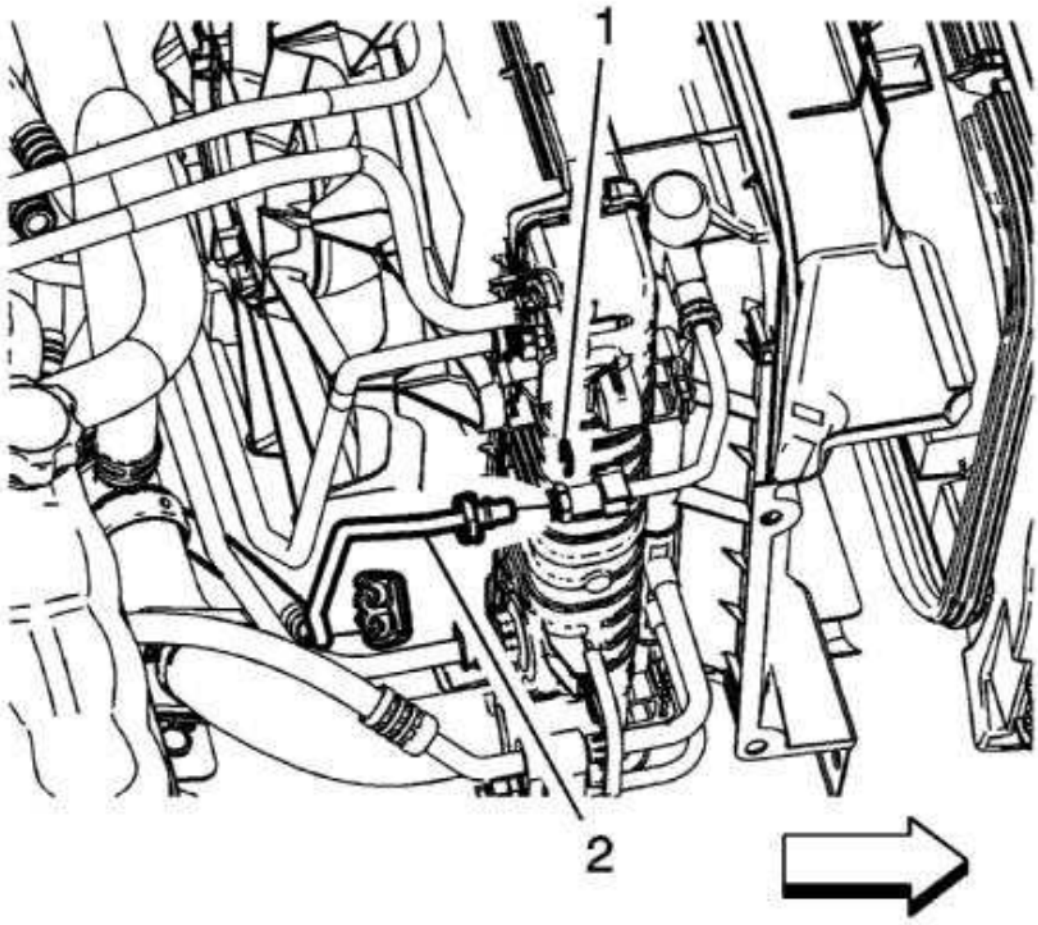


Fig. 142: Transmission Fluid Cooler Inlet And Outlet Pipe Retainer
Courtesy of GENERAL MOTORS COMPANY

4. Remove the transmission fluid cooler inlet and outlet pipe retainer (1) from transmission fluid auxiliary cooler outlet pipe. Refer to **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**.
5. Remove the transmission fluid cooler inlet and outlet pipe (2) from the transmission fluid auxiliary cooler outlet pipe.
6. Cap the fittings and plug the holes when removing the transmission fluid cooler inlet and outlet.

cardiagn.com

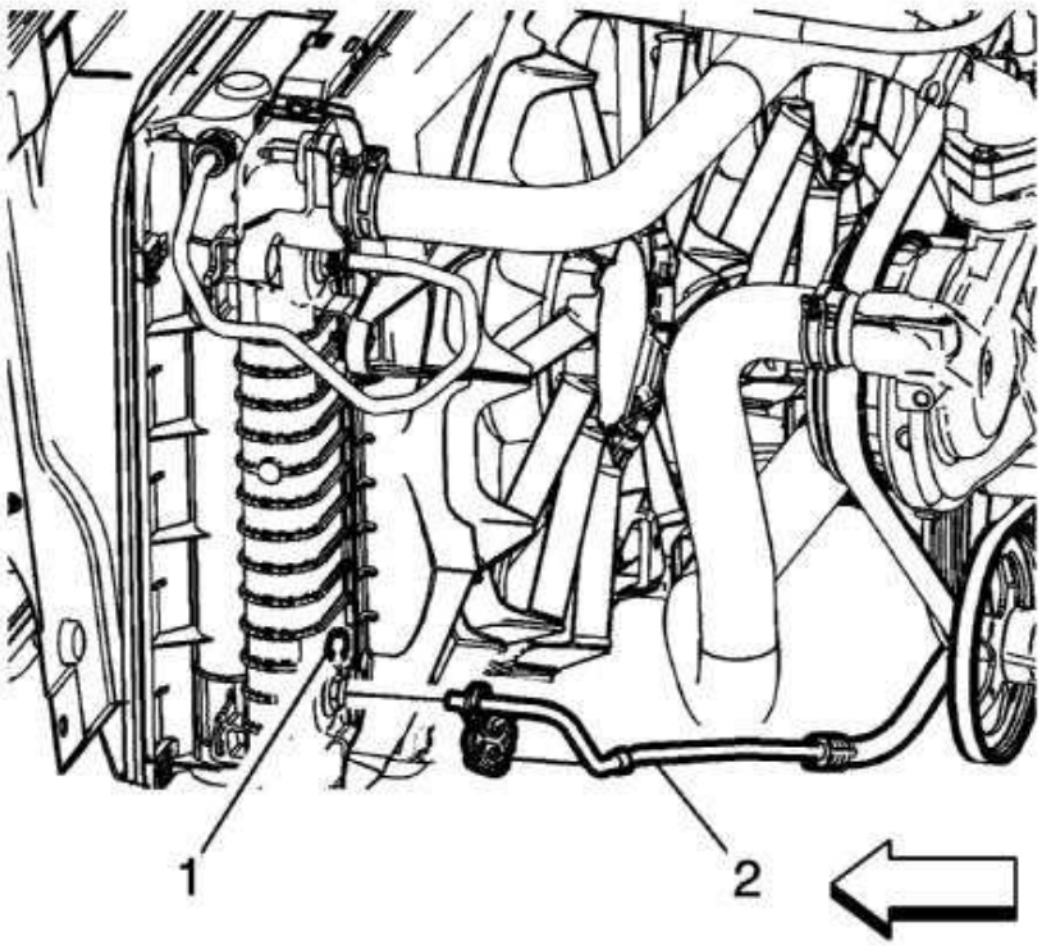


Fig. 143: Transmission Fluid Cooler Inlet And Outlet Pipe Retainer
Courtesy of GENERAL MOTORS COMPANY

7. Remove the transmission fluid cooler inlet and outlet pipe retainer (1) from the radiator. Refer to **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**.
8. Remove the transmission fluid cooler inlet and outlet pipe (2) from the radiator.
9. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** .
10. Remove the steering gear skid shield. Refer to **Steering Gear Skid Shield Replacement** .

cardiagn.com

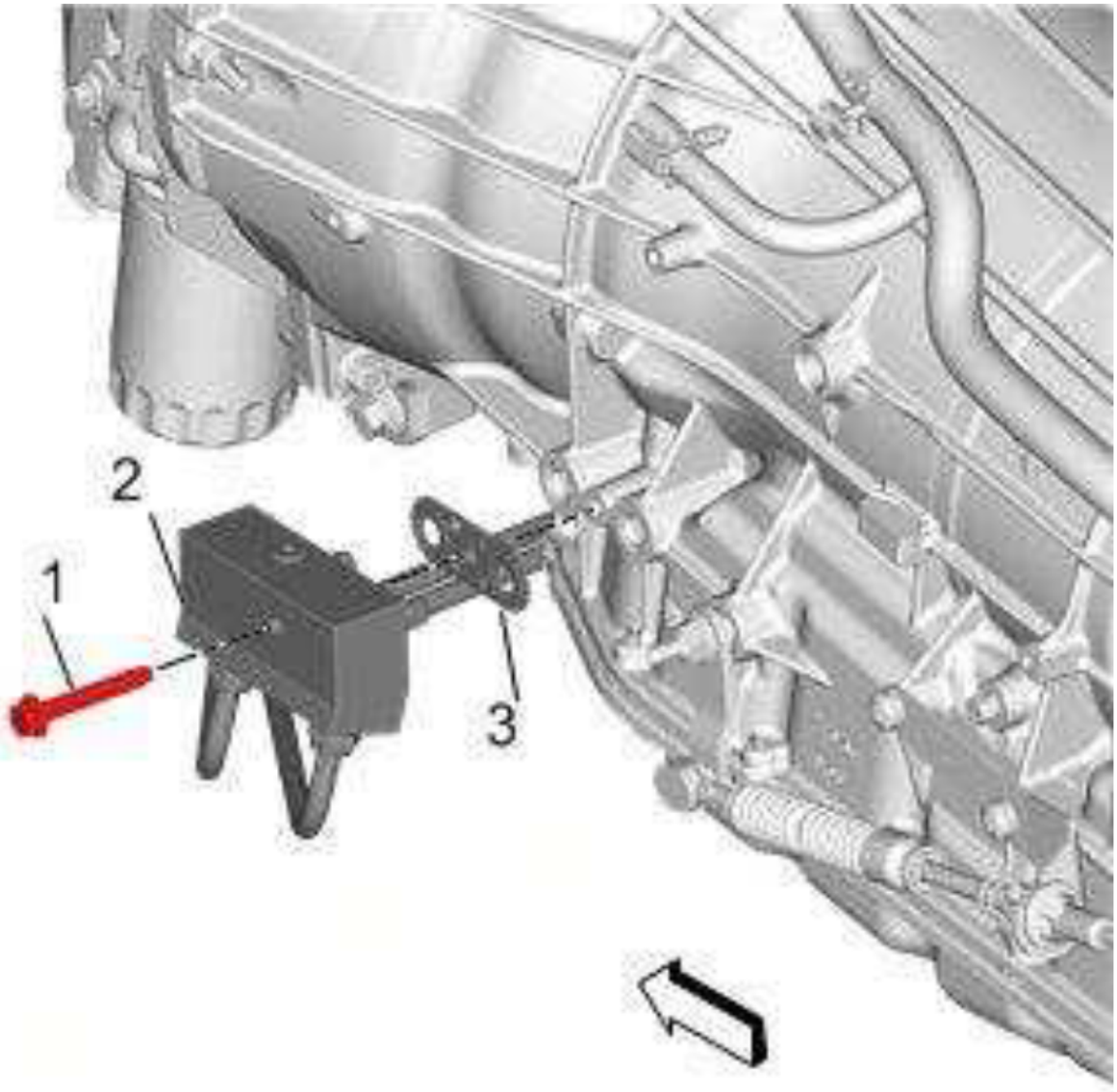


Fig. 144: Oil Cooler Lines
Courtesy of GENERAL MOTORS COMPANY

11. Remove the transmission fluid cooler pipe connector bolt (1) from the transmission.
12. Remove the transmission fluid cooler inlet and outlet pipe (2) from the transmission.
13. Remove and discard the old transmission fluid cooler pipe fitting seal (3) and replace with a NEW transmission fluid cooler pipe fitting seal.

cardiagn.com

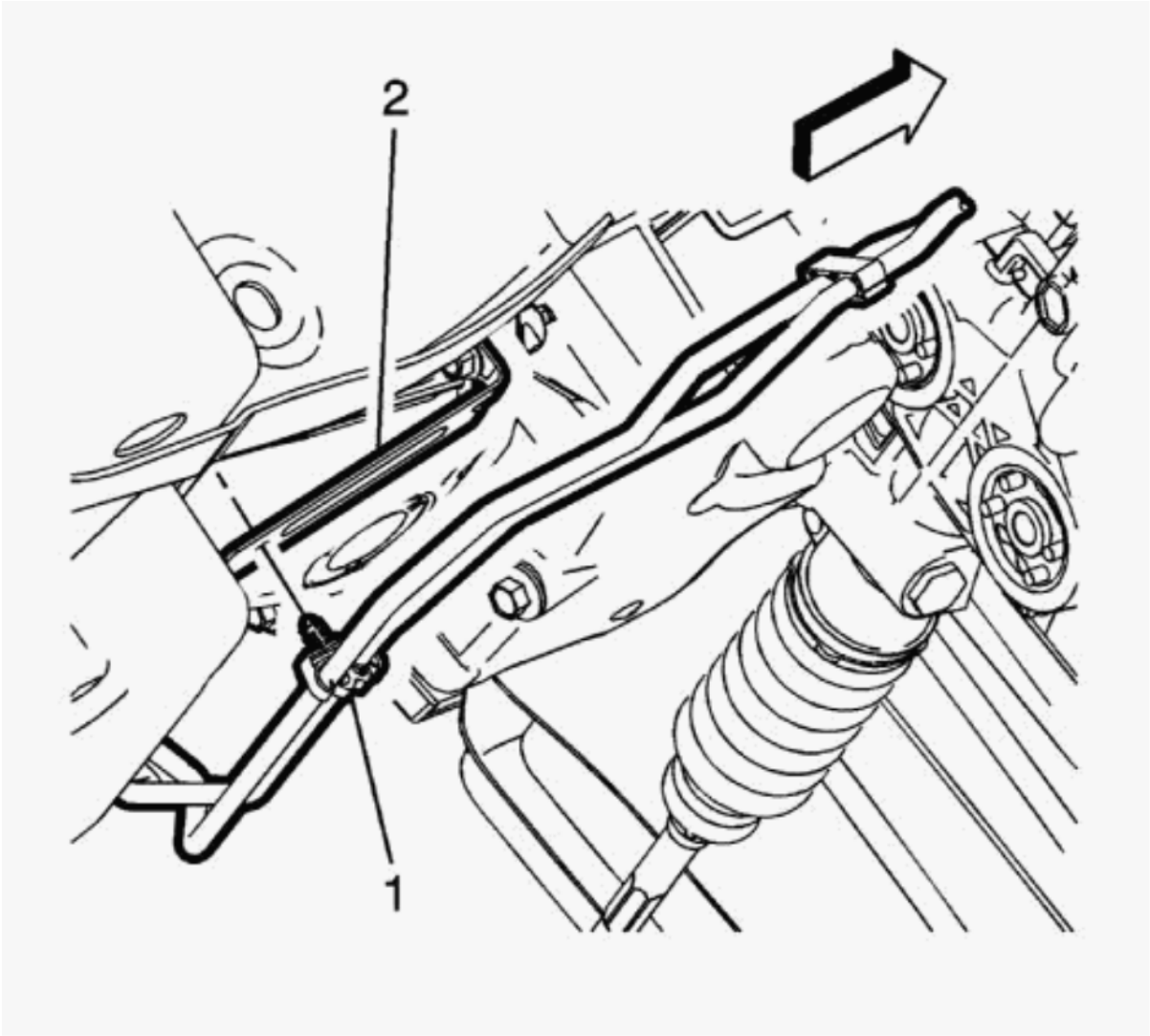


Fig. 145: Transmission Fluid Cooler Inlet And Outlet Pipe And Retainer
Courtesy of GENERAL MOTORS COMPANY

14. Remove the transmission fluid cooler inlet and outlet pipe and retainer (1) from the transmission fluid cooler bracket (2).

cardiagn.com

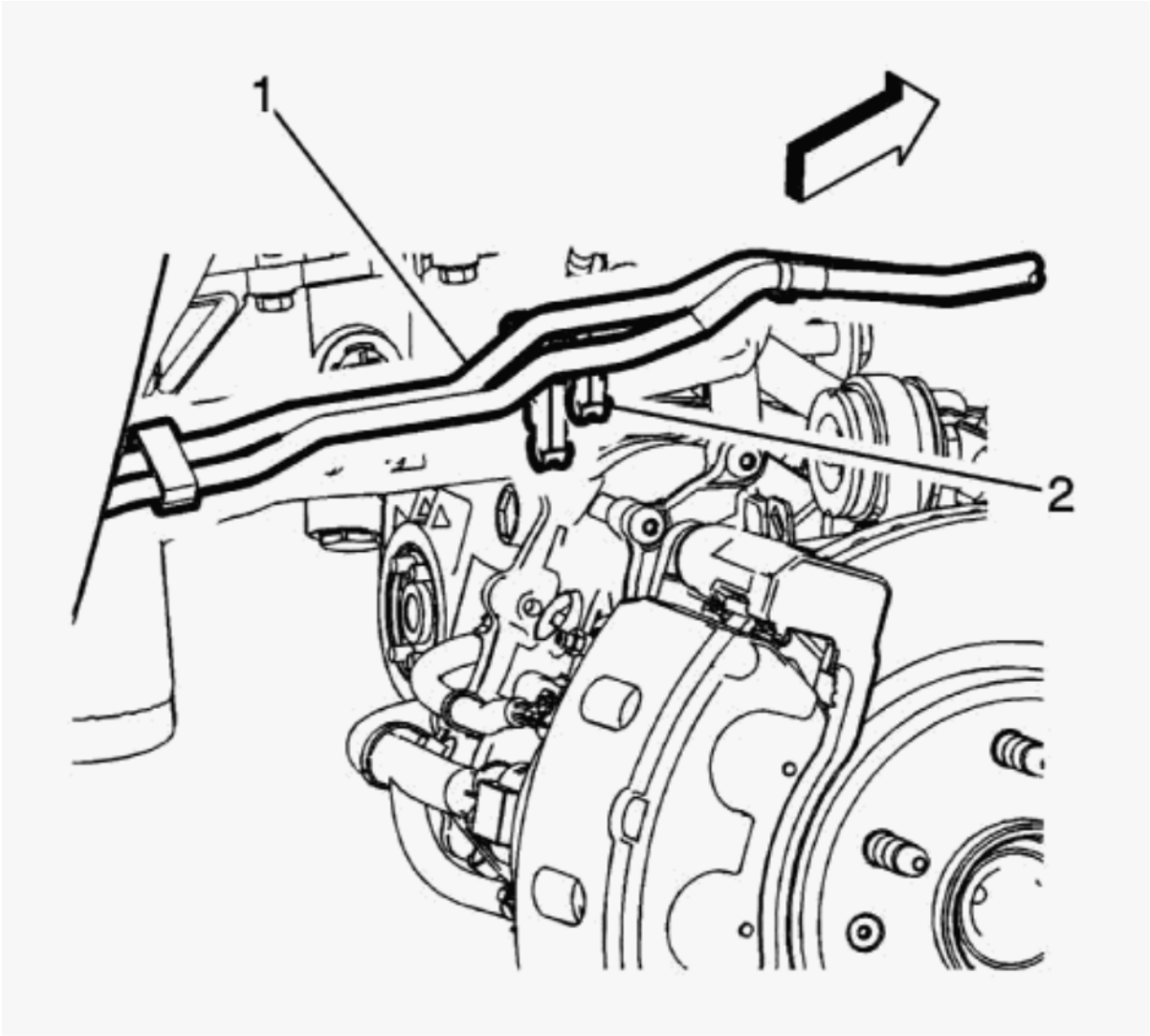


Fig. 146: Transmission Fluid Cooler Inlet And Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

15. Remove the transmission fluid cooler inlet and outlet pipe (1) from the transmission fluid cooler pipe clip (2).
16. Remove the transmission fluid cooler inlet and outlet pipe (1) from the vehicle.

Installation Procedure

cardiagn.com

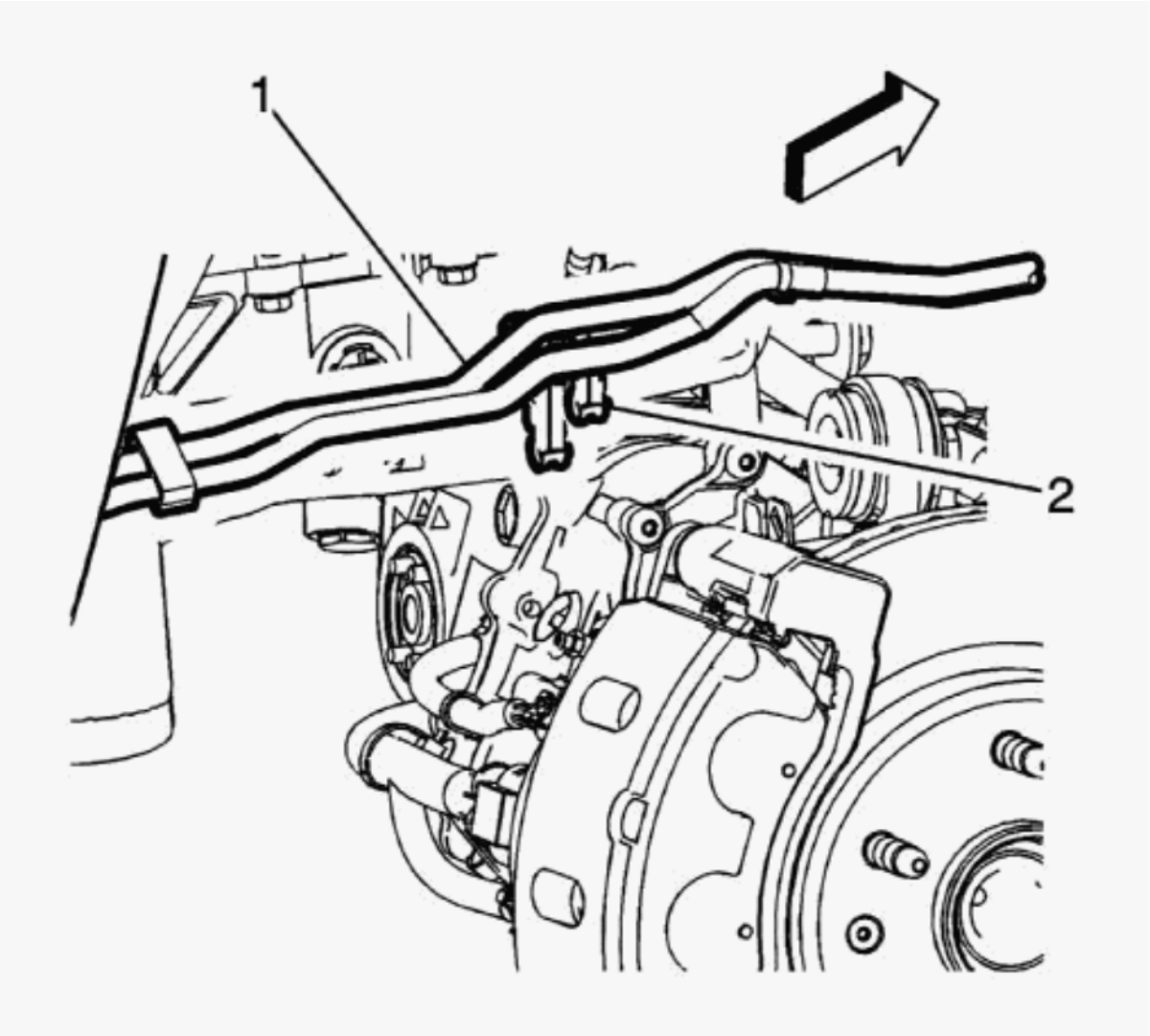


Fig. 147: Transmission Fluid Cooler Inlet And Outlet Pipe
Courtesy of GENERAL MOTORS COMPANY

1. Position the transmission fluid cooler inlet and outlet pipe (1) to the vehicle.
2. Install the transmission fluid cooler inlet and outlet pipe (1) to the transmission fluid cooler pipe clip (2).

cardiagn.com

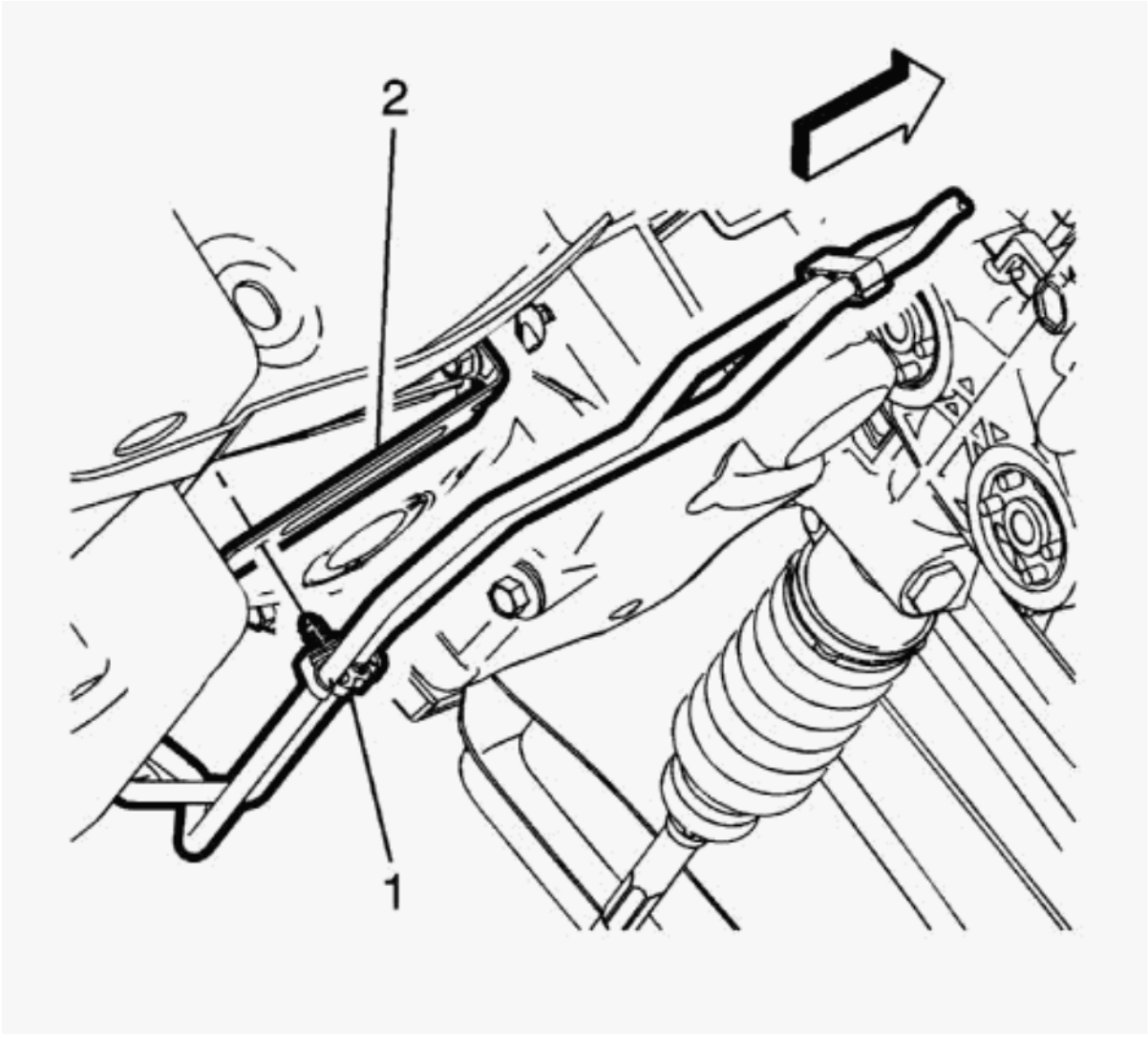


Fig. 148: Transmission Fluid Cooler Inlet And Outlet Pipe And Retainer
Courtesy of GENERAL MOTORS COMPANY

3. Install the transmission fluid cooler inlet and outlet pipe and retainer (1) to the transmission fluid cooler bracket (2).

cardiagn.com

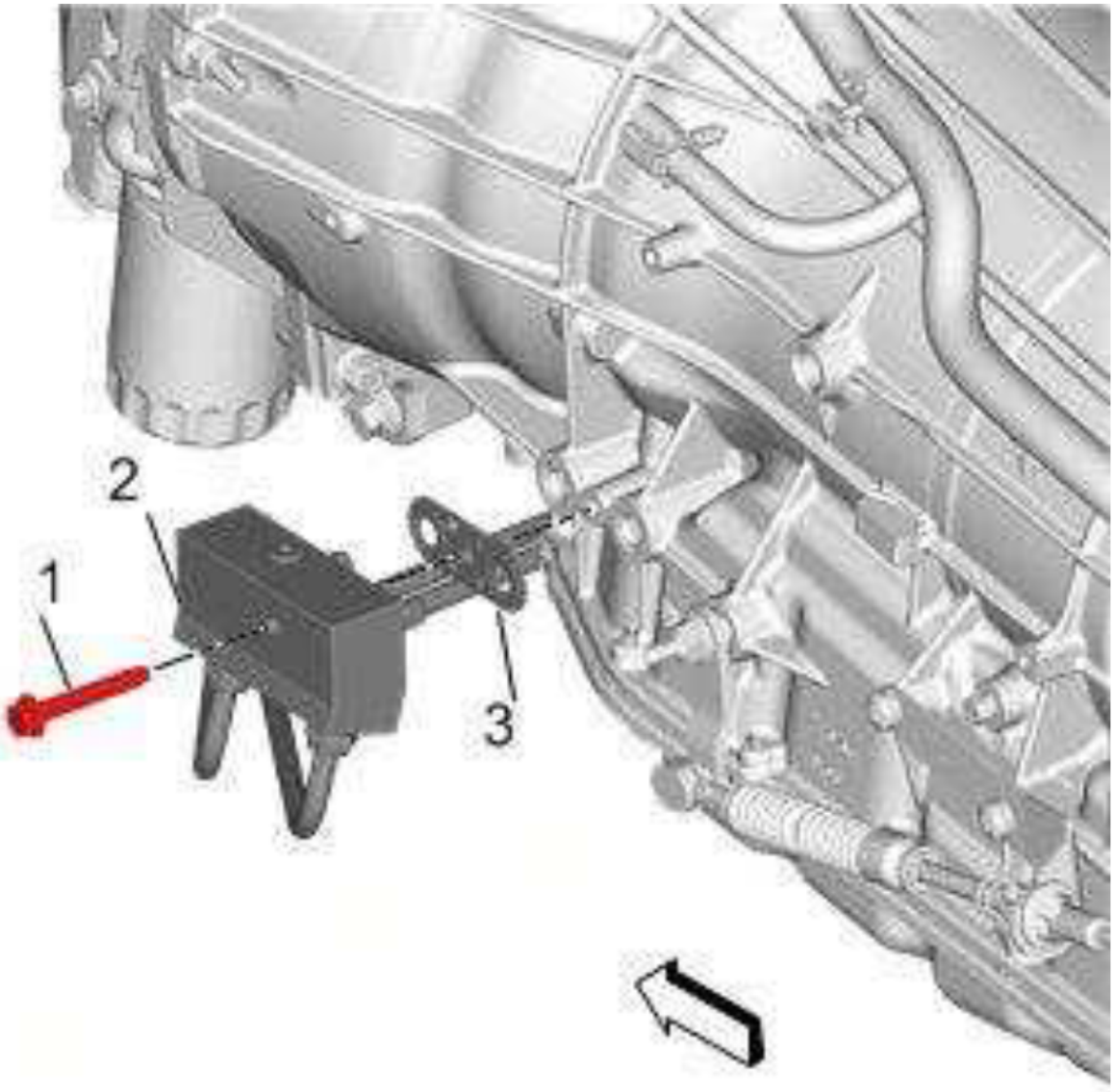


Fig. 149: Oil Cooler Lines
Courtesy of GENERAL MOTORS COMPANY

CAUTION: **Refer to Fastener Caution .**

4. Install a NEW transmission fluid cooler pipe fitting seal (3) to the transmission fluid cooler inlet and outlet pipe.
5. Install the transmission fluid cooler inlet and outlet pipe (2) to the transmission.
6. Install the transmission fluid cooler pipe connector bolt (1) to the transmission and tighten to 22 (16 lb ft).
7. Install the steering gear skid shield. Refer to **Steering Gear Skid Shield Replacement** .
8. Lower the vehicle. Refer to **Lifting and Jacking the Vehicle** .

cardiagn.com

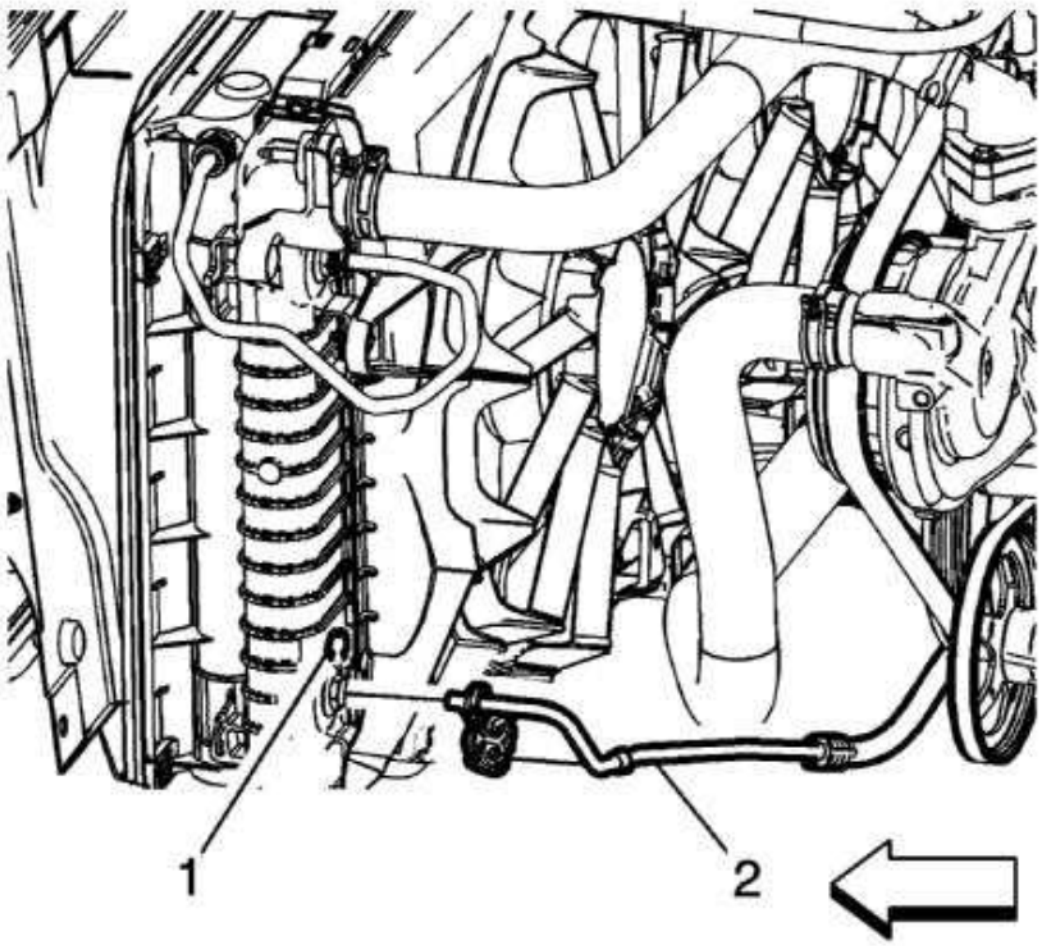


Fig. 150: Transmission Fluid Cooler Inlet And Outlet Pipe Retainer
Courtesy of GENERAL MOTORS COMPANY

9. Install the transmission fluid cooler inlet and outlet pipe (2) to the radiator.

cardiagn.com

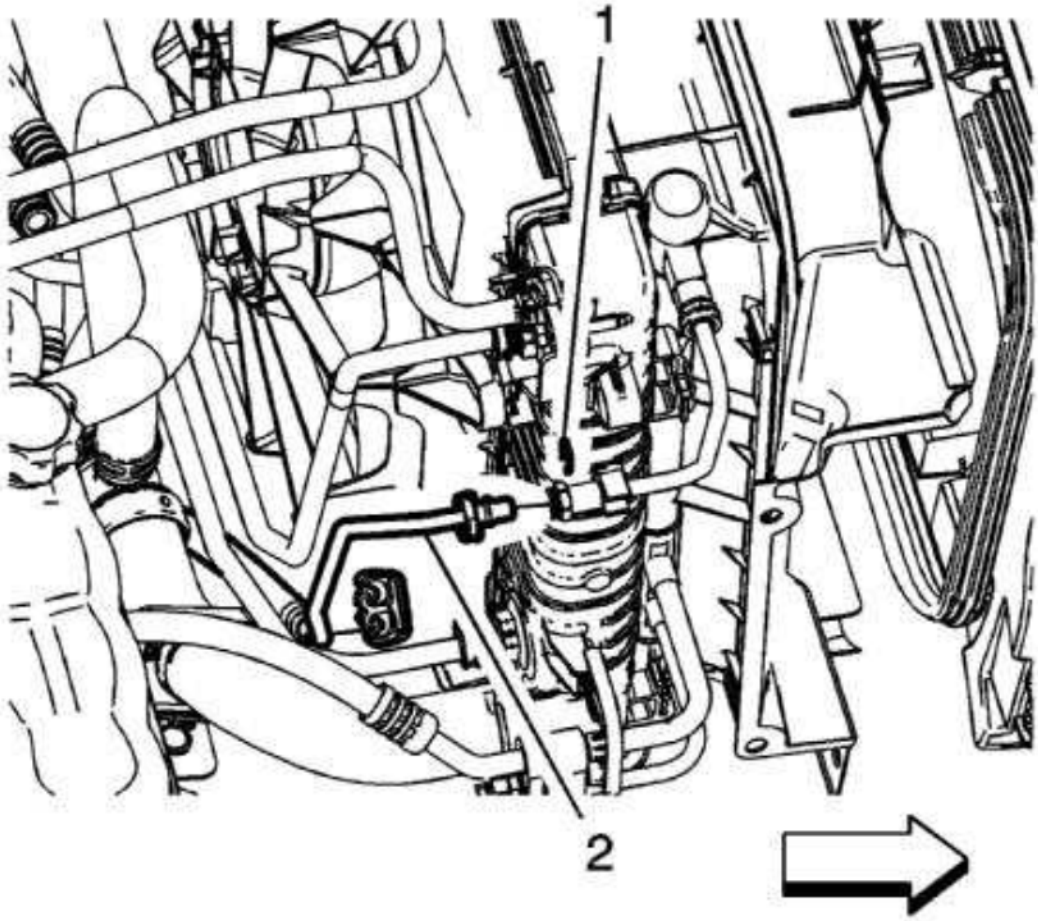


Fig. 151: Transmission Fluid Cooler Inlet And Outlet Pipe Retainer
Courtesy of GENERAL MOTORS COMPANY

10. Install the transmission fluid cooler inlet and outlet pipe (2) from the transmission fluid auxiliary cooler outlet pipe.
11. Install the front compartment front sight shield. Refer to **Front Compartment Front Sight Shield Replacement** .
12. Install the air cleaner assembly. Refer to **Air Cleaner Assembly Replacement** .
13. Inspect the transmission fluid level.
14. Inspect for transmission fluid leaks.

TRANSMISSION FLUID COOLER INLET AND OUTLET PIPE REPLACEMENT (L8B)

Removal Procedure

1. Place a drain pan under the vehicle.
2. Air Cleaner Assembly-Remove - **Air Cleaner Assembly Replacement**
3. Air Cleaner Outlet Duct-Remove - **Air Cleaner Outlet Duct Replacement**
4. Raise and support the vehicle. **Lifting and Jacking the Vehicle** .
5. Steering Gear Skid Shield-Remove - **Steering Gear Skid Shield Replacement**

cardiagn.com

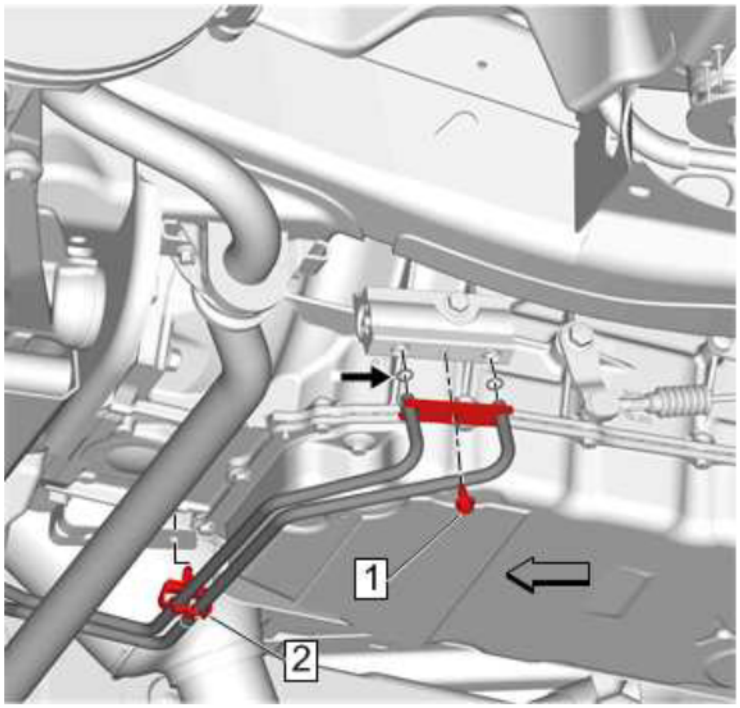


Fig. 152: Transmission Fluid Cooler Pipe Bolt And Transmission Cooler Bypass Valve
Courtesy of GENERAL MOTORS COMPANY

6. Transmission Fluid Cooler Pipe Bolt 1 @Transmission Cooler Bypass Valve-Remove
7. Remove and DISCARD the O-ring seals.
8. Transmission Fluid Cooler Inlet Pipe Clip 2 -Remove

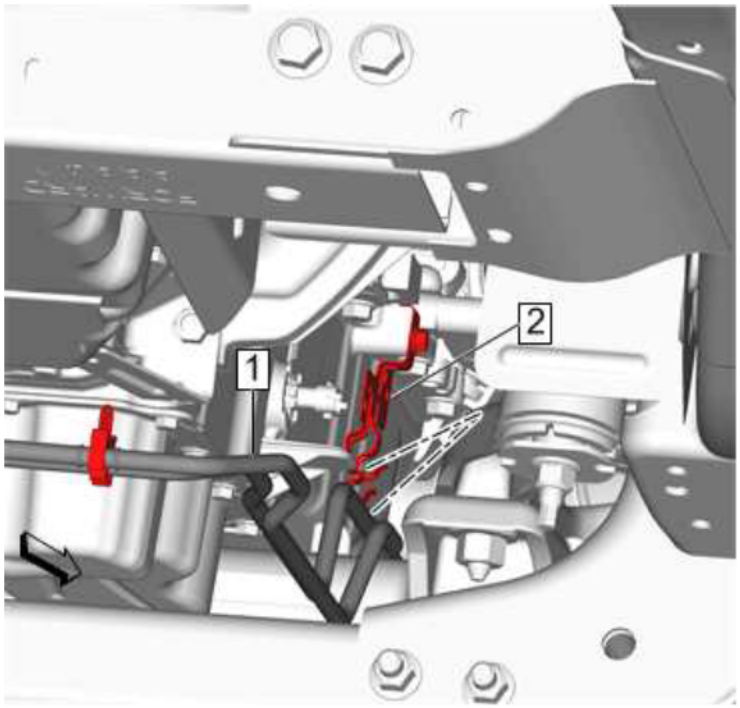


Fig. 153: Transmission Fluid Cooler Inlet and Outlet Pipe At Transmission Fluid Cooler Pipe Retainer Mount Plate
Courtesy of GENERAL MOTORS COMPANY

9. Transmission Fluid Cooler Inlet and Outlet Pipe 1 @Transmission Fluid Cooler Pipe Retainer Mount

cardiagn.com

Plate 2 Remove

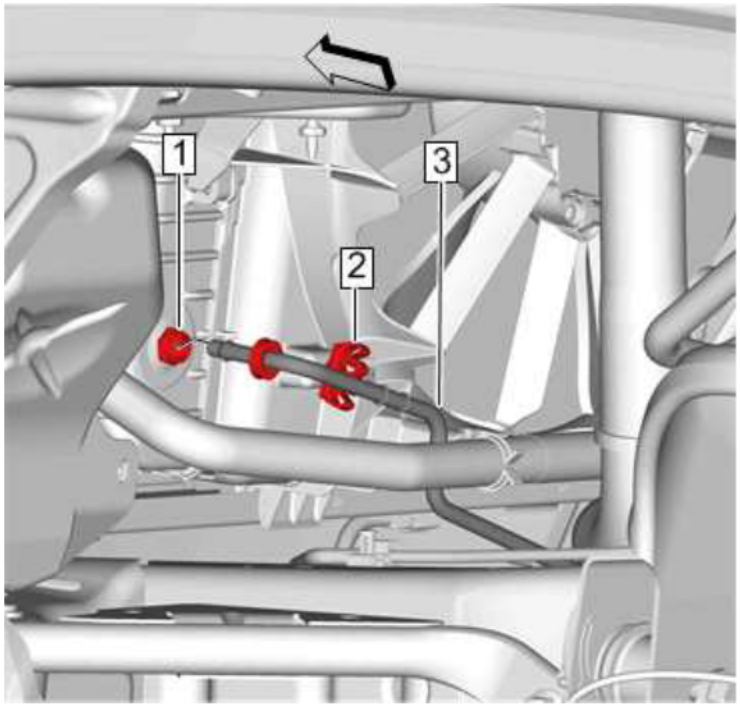


Fig. 154: Transmission Fluid Cooler Inlet and Outlet Pipe @ Radiator
Courtesy of GENERAL MOTORS COMPANY

10. Transmission Fluid Cooler Inlet and Outlet Pipe 3 @Radiator 1 -Remove - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**
11. Transmission Fluid Cooler Inlet and Outlet Pipe 3 @Transmission Fluid Cooler Inlet and Outlet Pipe Retainer 2 -Remove
12. Lower the vehicle.

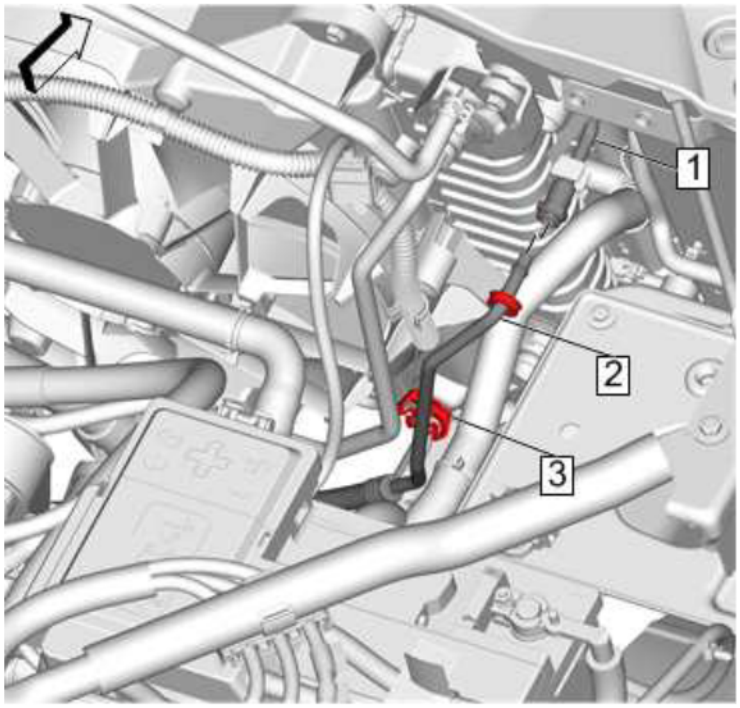


Fig. 155: Transmission Fluid Cooler Inlet and Outlet Pipe @ Transmission

cardiagn.com

Courtesy of GENERAL MOTORS COMPANY

13. Transmission Fluid Cooler Inlet and Outlet Pipe 2 @Transmission Fluid Cooler Inlet and Outlet Pipe Retainer 3 -Remove
14. Transmission Fluid Cooler Inlet and Outlet Pipe 2 @Transmission Fluid Auxiliary Cooler Outlet Pipe 1 -Remove - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**
15. Cap the openings to prevent contamination.
16. Transmission Fluid Cooler Inlet and Outlet Pipe-Remove

Installation Procedure

1. Raise and support the vehicle. **Lifting and Jacking the Vehicle** .
2. Route the transmission fluid cooler inlet and outlet pipes into proper position.

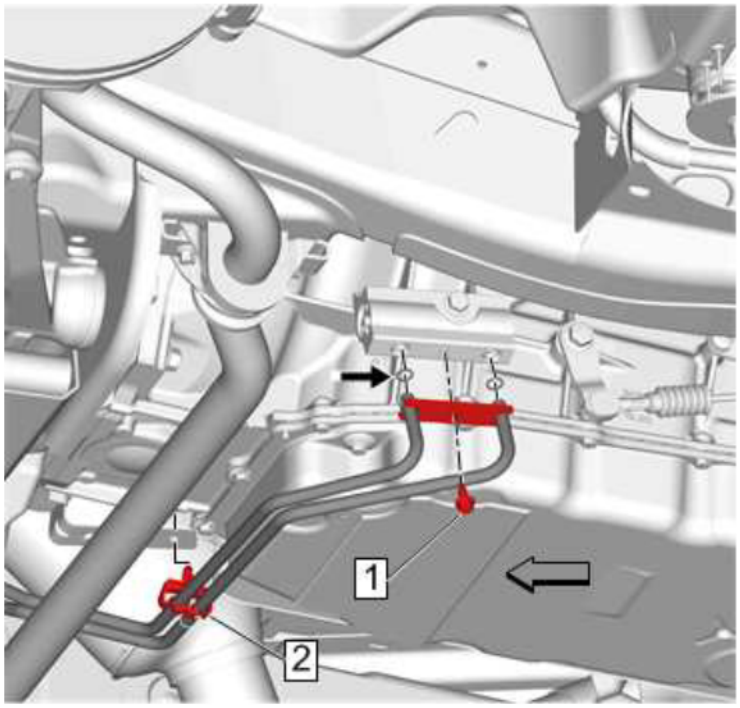


Fig. 156: Transmission Fluid Cooler Pipe Bolt And Transmission Cooler Bypass Valve
Courtesy of GENERAL MOTORS COMPANY

3. Remove the caps from the fittings and plugs from the holes before installing the transmission fluid cooler pipes.
4. Install NEW O-rings. Do NOT reuse old O-rings.

CAUTION: Refer to Fastener Caution

5. Transmission Fluid Cooler Pipe Bolt 1 @Transmission Cooler Bypass Valve-Install and tighten 22 (16 lb ft)
6. Transmission Fluid Cooler Inlet Pipe Clip 2 -Install

cardiagn.com

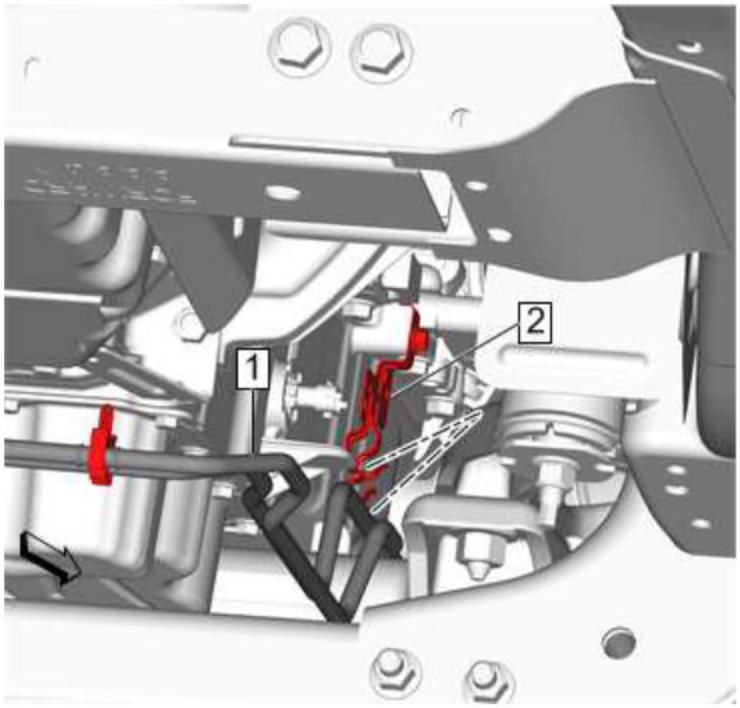


Fig. 157: Transmission Fluid Cooler Inlet and Outlet Pipe At Transmission Fluid Cooler Pipe Retainer Mount Plate
Courtesy of GENERAL MOTORS COMPANY

7. Transmission Fluid Cooler Inlet and Outlet Pipe 1 @Transmission Fluid Cooler Pipe Retainer Mount Plate 2 Install

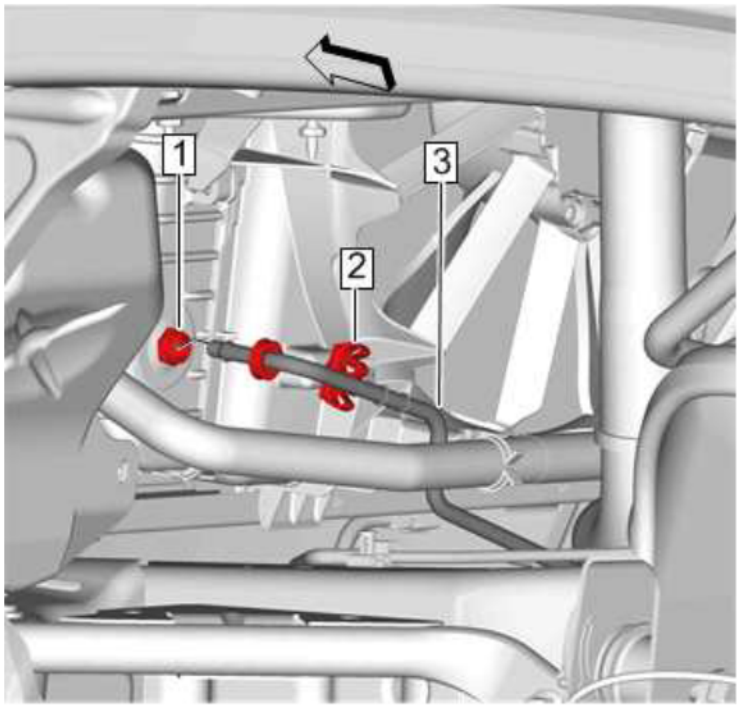


Fig. 158: Transmission Fluid Cooler Inlet and Outlet Pipe @ Radiator
Courtesy of GENERAL MOTORS COMPANY

8. Transmission Fluid Cooler Inlet and Outlet Pipe 3 @Radiator 1 -Install - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**

cardiagn.com

9. Transmission Fluid Cooler Inlet and Outlet Pipe 3 @Transmission Fluid Cooler Inlet and Outlet Pipe Retainer 2 Install
10. Lower the vehicle.

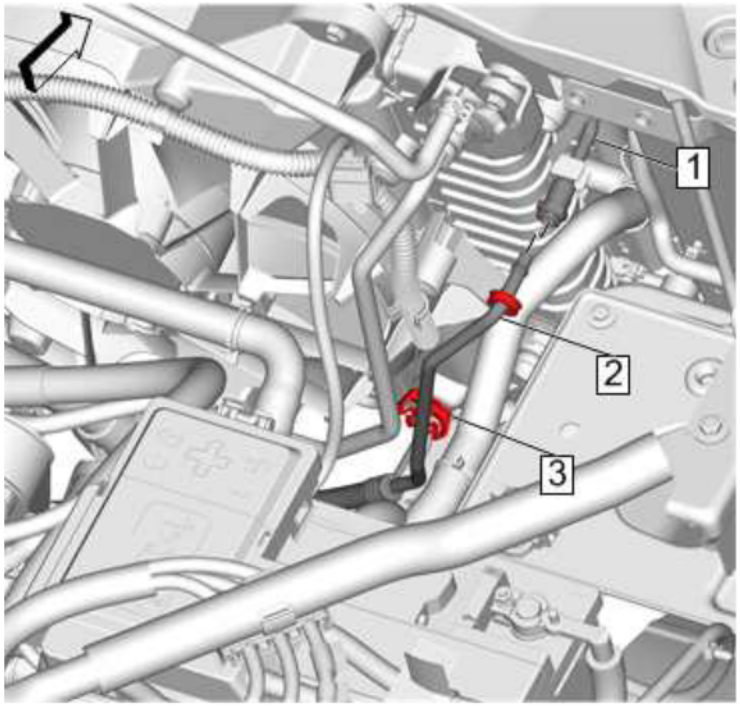


Fig. 159: Transmission Fluid Cooler Inlet and Outlet Pipe @ Transmission
Courtesy of GENERAL MOTORS COMPANY

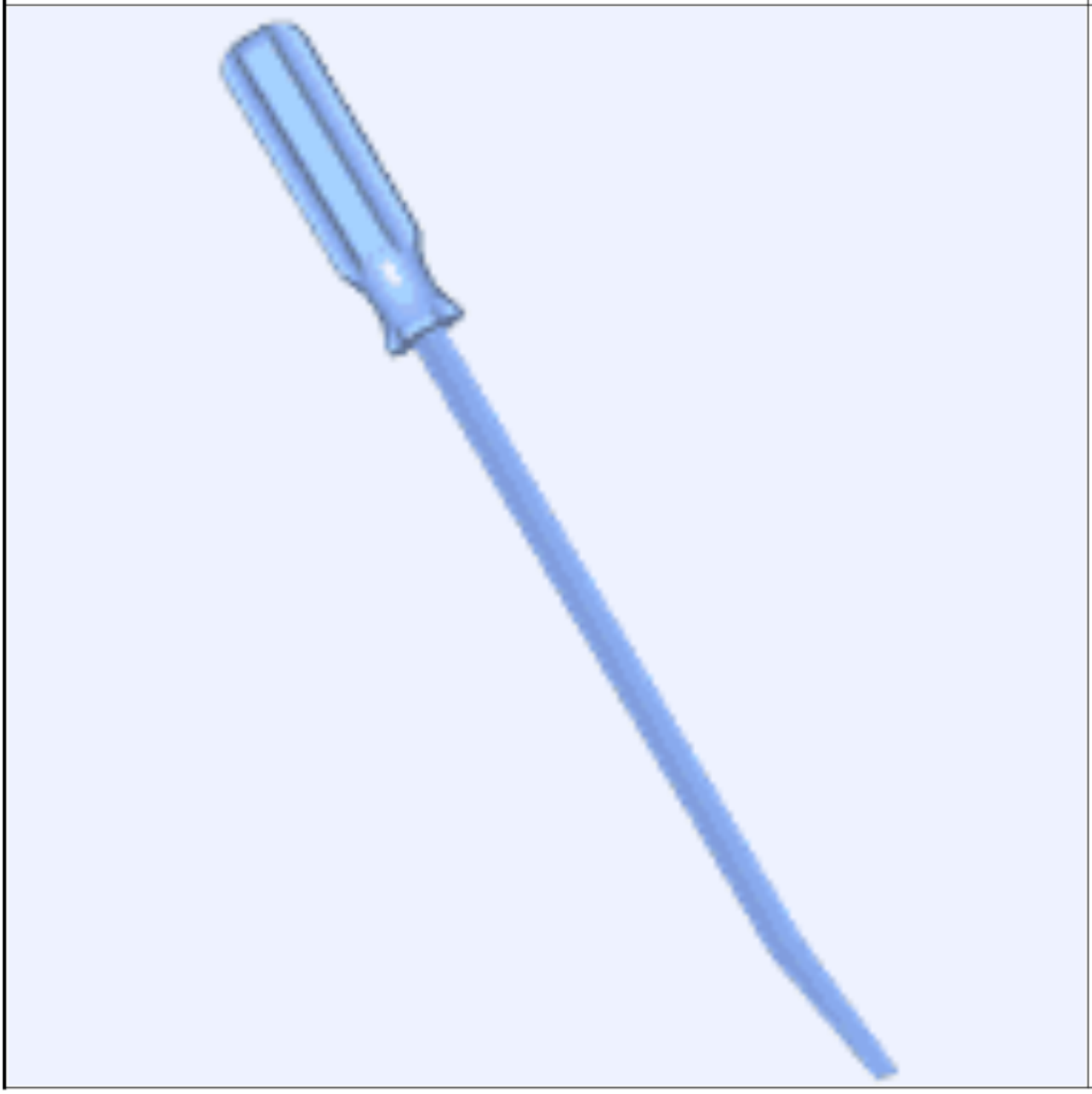
11. Transmission Fluid Cooler Inlet and Outlet Pipe 2 @Transmission Fluid Cooler Inlet and Outlet Pipe Retainer 3 -Install
12. Transmission Fluid Cooler Inlet and Outlet Pipe 2 @Transmission Fluid Auxiliary Cooler Outlet Pipe 1 -Install - **Transmission Fluid Cooler Hose/Pipe Quick-Connect Fitting Disconnection and Connection**
13. Air Cleaner Outlet Duct-Install - **Air Cleaner Outlet Duct Replacement**
14. Air Cleaner Assembly-Install - **Air Cleaner Assembly Replacement**
15. Check the transmission fluid level.
16. Inspect for transmission fluid leaks.
17. Remove the drain pan.
18. Steering Gear Skid Shield-Install - **Steering Gear Skid Shield Replacement**
19. Lower the vehicle. **Lifting and Jacking the Vehicle** .

SPECIAL TOOLS AND EQUIPMENT

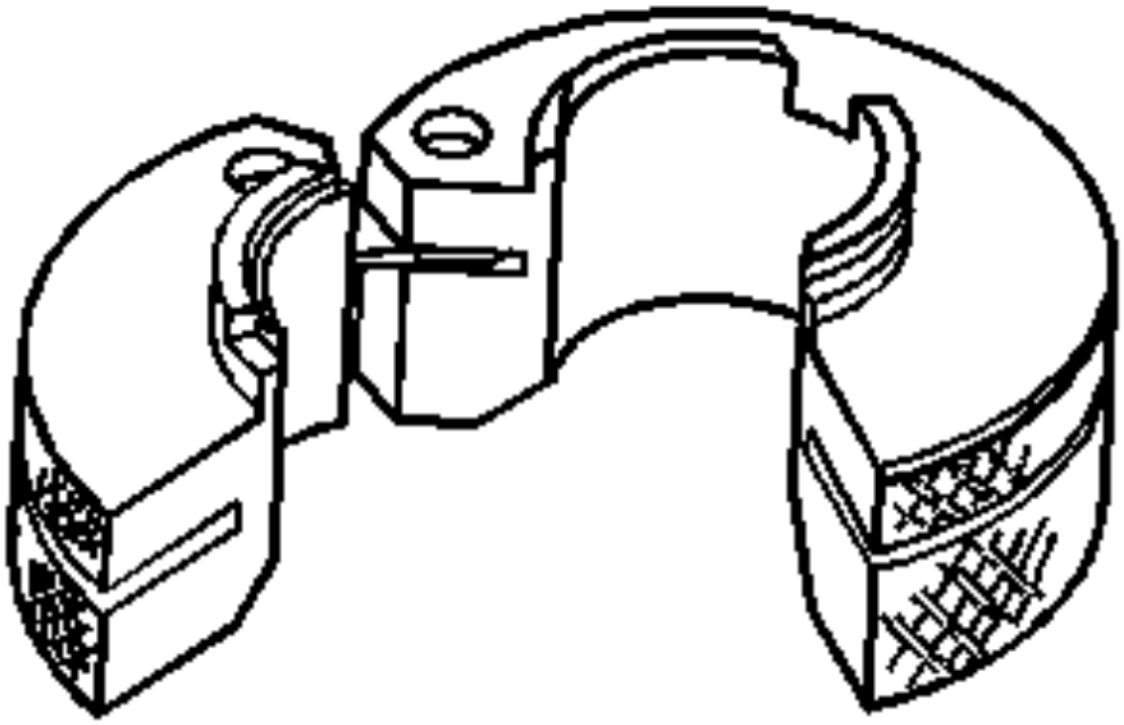
SPECIAL TOOLS

Illustration	Tool Number/ Description

cardiagn.com

Illustration	Tool Number/ Description
	DT 28585 J 28585 Snap Ring Remover

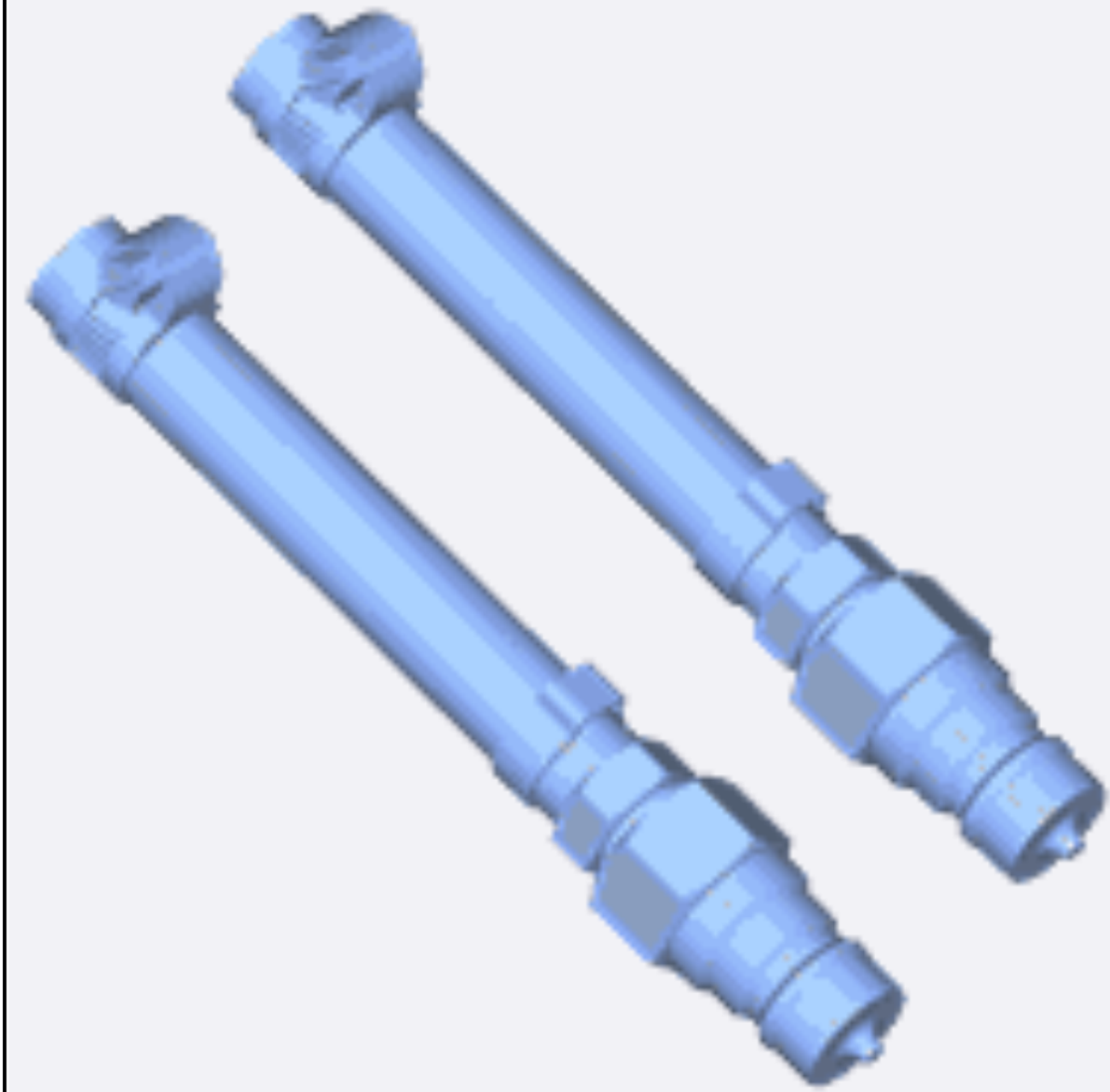
cardiagn.com

Illustration	Tool Number/ Description
	DT 41623-B J 41623-B Cooler Quick Connect Tool

cardiagn.com

Illustration	Tool Number/ Description
	DT 45096 J 45096 Transmission Oil Cooling System Flush and Flow Test Tool

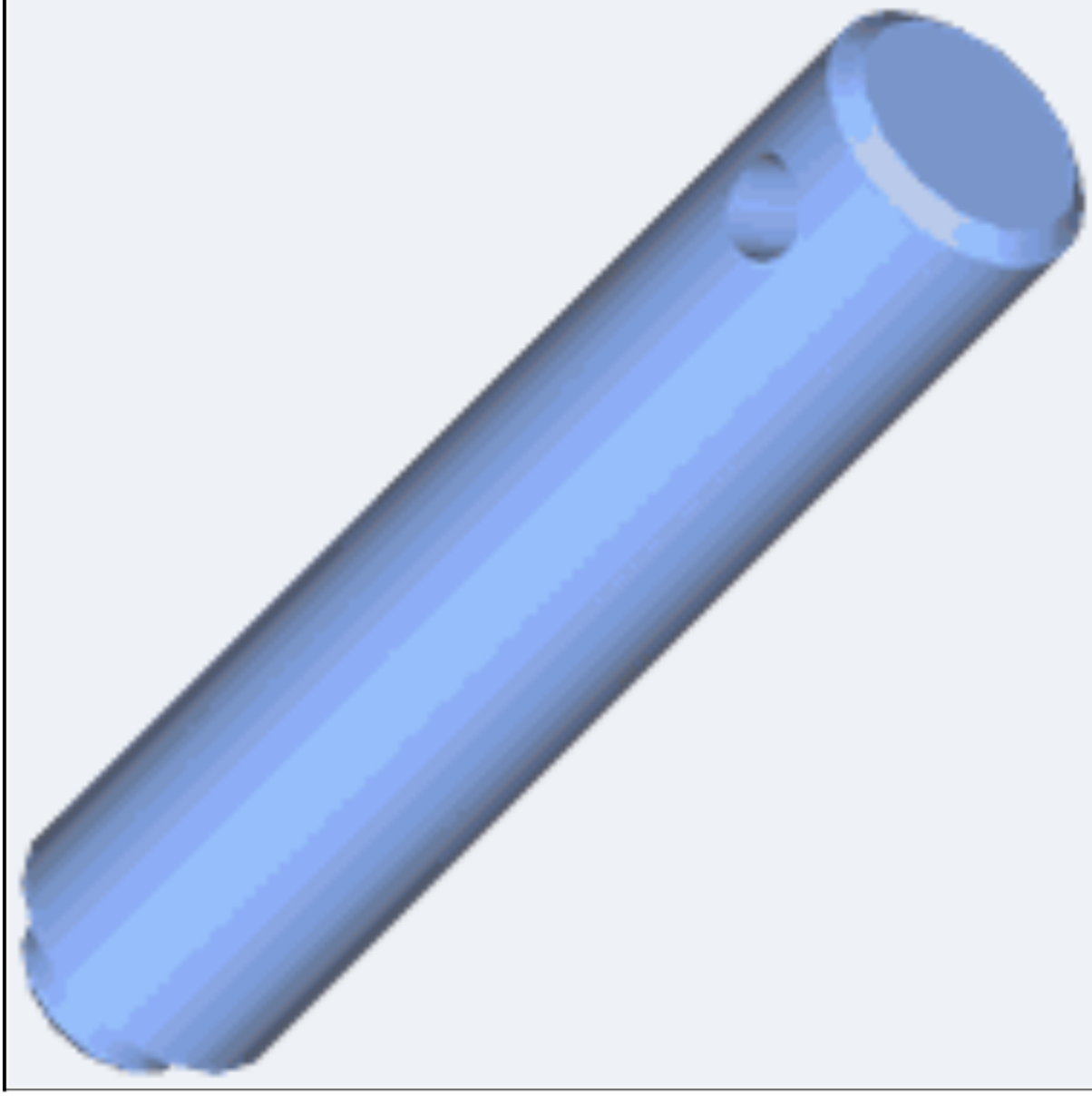
cardiagn.com

Illustration	Tool Number/ Description
	DT 45096-30 J 45096-30 Cooler Flushing Adapter

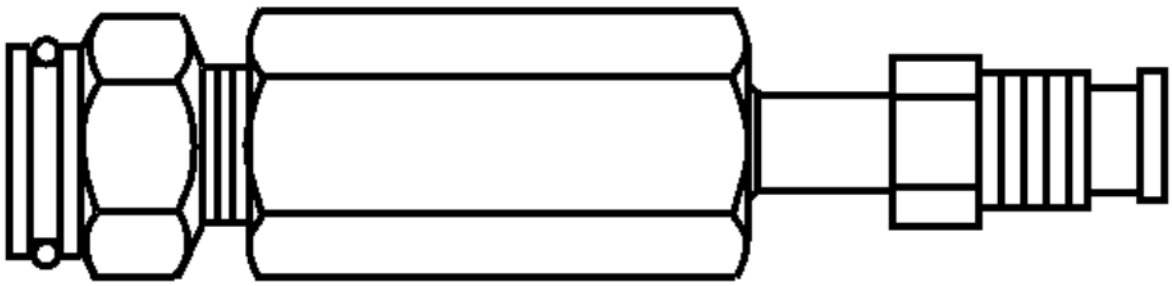
cardiagn.com

Illustration	Tool Number/ Description
	DT 45201 J 45201 Cooler Line Seal Remover

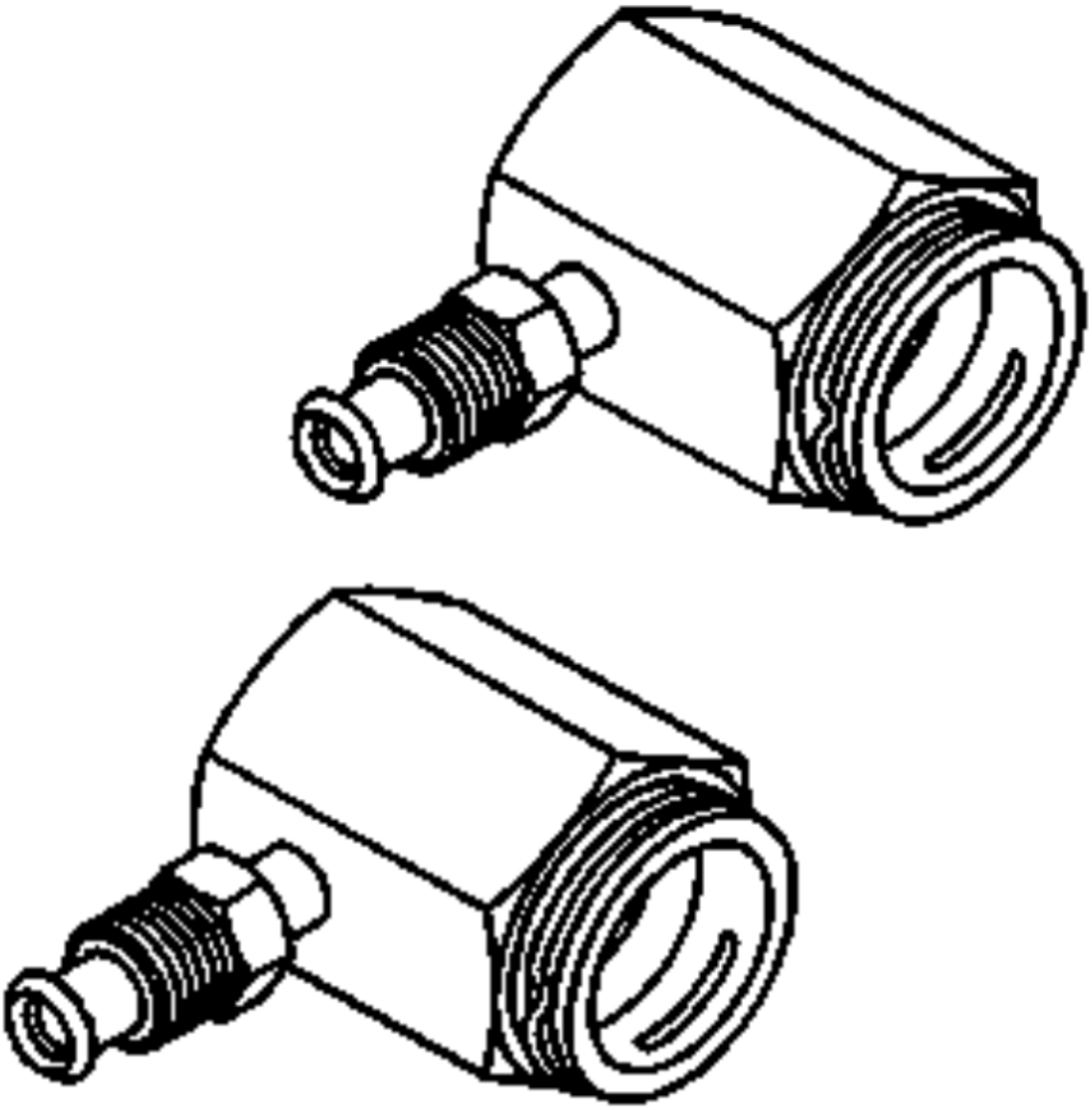
cardiagn.com

Illustration	Tool Number/ Description
	DT 47770 Seal Installer

cardiagn.com

Illustration	Tool Number/ Description
	J 35944-200A Cooler Flushing Adapter

cardiagn.com

Illustration	Tool Number/ Description
	J 44835 Transmission Cooler Flush Adapters

Article GUID: A00854637

cardiagn.com