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Title: MaxxForce 11 and 13 Coolant Fill Procedure (Pre- 2010 emissions)

Applies To: MaxxForce 11 and 13 engines (pre- 2010 emissions) in ProStar and TranStar Trucks

DESCRIPTION

ProStar and TranStar with MaxxForce 11 or 13 Coolant Fill Procedure (pre 2010 Emissions)

NOTES

When equipped with the pre 2010 emissions MaxxForce 11 or 13 engine, the International ProStar and TranStar series trucks are equipped with an additional expansion tank as part of the cooling system. This tank supplies all the expansion volume required by the system which has enabled the level of coolant in the deaeration tank mounted on the radiator system to be raised. Along with this additional tank comes a revised service fill procedure.

The recommended fill level has been moved to the top of the deaeration tank.

When using a vacuum fill tool, care must be taken to assure that the expansion tank is not filled with coolant. This can be done by clamping the hose between the two tanks off or by detaching the hose from the deaeration tank and sealing the port.

WARNING:

To prevent unexpected movement of the vehicle and possible serious personal injury or death, park the vehicle on a flat, level surface, set the parking brake, turn the engine off and chock the wheels to prevent vehicle from moving in both directions.

WARNING:

To prevent personal injury or death, do not let engine fluids stay on your skin. Clean skin and nails using hand cleaner and wash with soap and water. Wash or discard clothing and rags contaminated with engine fluids. .

NOTE:

Engine fluids (oil, fuel and coolant) are a threat to the environment. Recycle or dispose of engine fluids according to local regulations. Never put engine fluids in the trash, on the ground, in sewers, or bodies of water.

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SERVICE PROCEDURE

Fill Procedure Without Vacuum Fill Tools (vacuum filling is strongly recommended)

1. Install pressure cap on cowl mounted expansion tank (Do not add coolant at this location) Figure 1.



Figure 1 - Pressure Cap Installed on Expansion Tank

2. Close drain valve on the lower radiator pipe (Drain Valve - HTR High Temperature Radiator) Figure 2

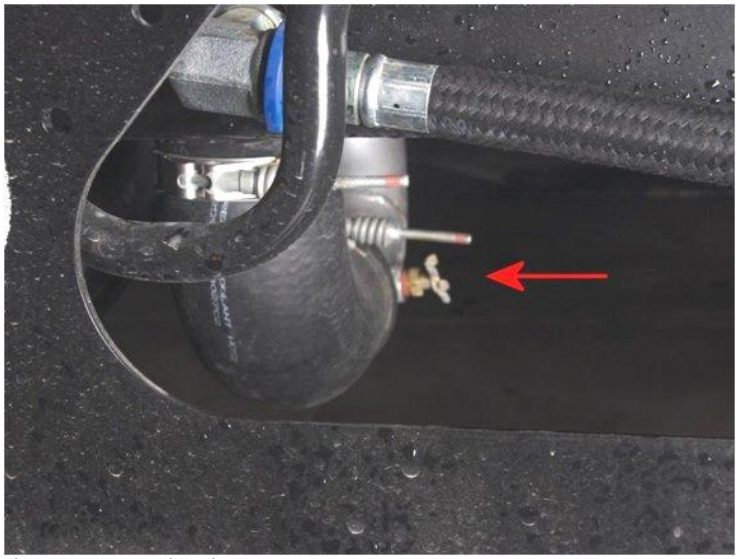
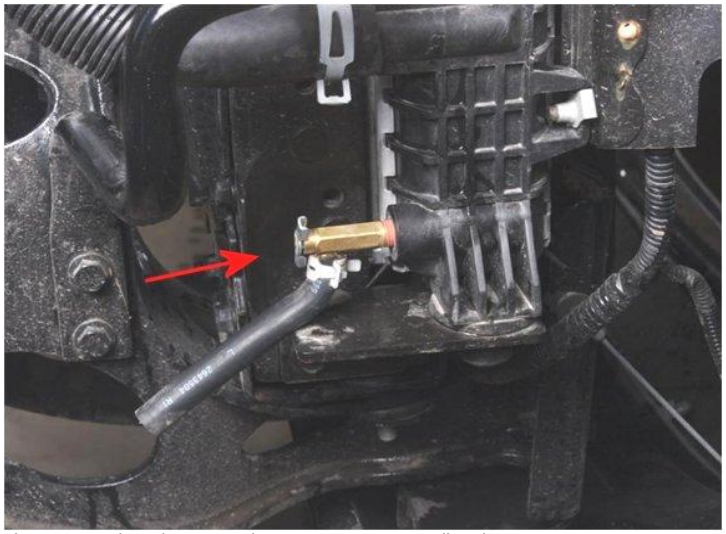


Figure 2 - HTR -Drain Valve - Lower Hose

3. Close the drain valve on the LTR (Low Temperature Radiator) Right Side Figure 3


Figure 3 - Drain Valve - LTR (Low Temperature Radiator)

4. Open the air bleed on the top tank of the HTR (High Temperature Radiator) Figure 4


Figure 4 - Open air bleed on the top tank of the HTR

5. Open the air bleed on the LTR (Low Temperature Radiator) Left side Figure 5



Figure 5 - Open the air bleed on the LTR (Low Temperature Radiator)

6. Fill the cooling system through the radiator mounted deaeration tank . Fill to the top of the tank. Figure 6



Figure 6 - Fill cooling system at deration tank **(Fill to top of tank)**

7. Watch HTR and LTR air bleeds for evidence of coolant. once coolant is evident form both vents close the HTR and LTR vents. Figure 7

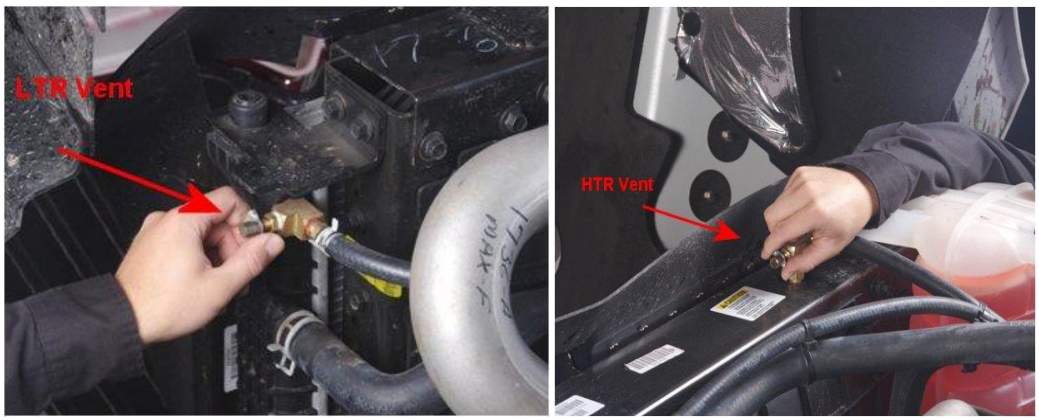


Figure 7 - Close the LTR and HTR vents when coolant is evident.

8 . Top the coolant off in the dearation tank.

9. Start the engine and allow to idle for 5 minutes.

10 . While idling, open the LTR vent and bleed air out .

NOTE: Maintain the coolant level in the dearation tank while bleeding.

11. Close the LTR when steady stream of coolant is evident.

12. After 5 minutes of idling, adjust the coolant level in the dearation tank and install and tighten the NON VENTED dearation tank cap. Figure 8



Figure 8 - Adjust coolant level and install NON VENTED Cap

13. Start and run the engine at high idle until the engine temperature reaches 190 deg and the engine fan has cycled on and off once. (this may require moving the vehicle outdoors and / or blocking the radiator with cardboard).

14. Monitor the engine coolant level in the dearation tank.

15. Allow the engine to cool and carefully remove the dearation tank cap .

16. **Adjust the coolant level to the top of the dearation tank.**

17. Install and tighten the NON VENTED dearation tank cap.

SERVICE PROCEDURE

Fill Procedure With Vacuum Fill Tools

1. Install pressure cap on cowl mounted expansion tank (Do not add coolant at this location) Figure 1.



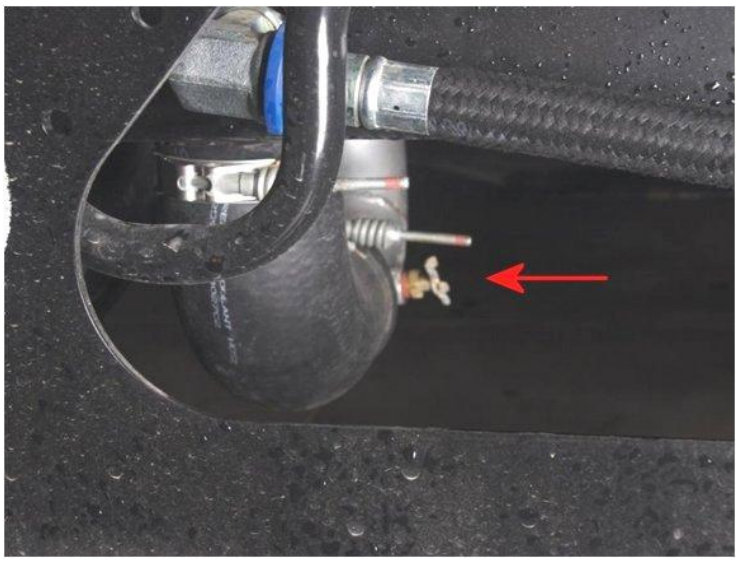
Figure 1 - Pressure Cap Installed on Expansion Tank

2. Clamp off the hose between the dearation tank and expansion tank. Use appropiate hose clamping tool to prevent hose damage. Figure 2

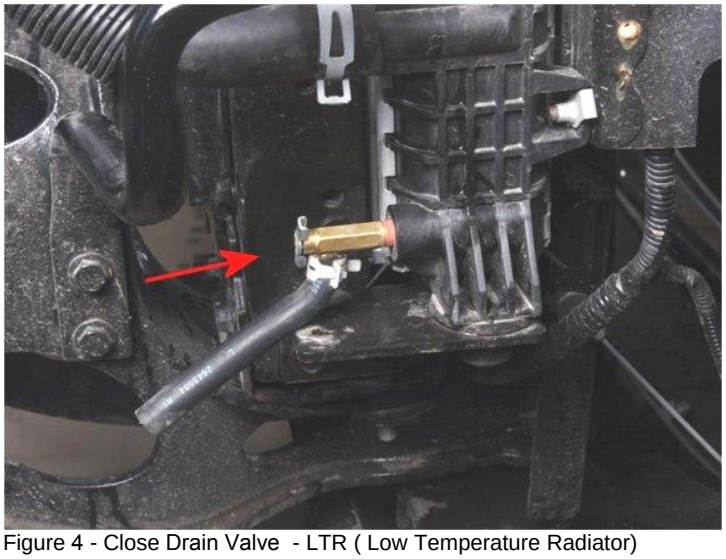


Figure 2 - Clamp expansion tank hose with hose clamp off tool.

3. Close drain valve on the lower radiator pipe (Drain Valve - HTR High Temperature Radiator) Figure 3


Figure 3 - Close HTR -Drain Valve - Lower Hose

4. Close the drain valve on the LTR (Low Temperature Radiator) Right Side Figure 4


Figure 4 - Close Drain Valve - LTR (Low Temperature Radiator)

5. Close the air bleed on the top tank of the HTR (High Temperature Radiator) Figure 5


Figure 5 - Close air bleed on the top tank of the HTR

6. Close the air bleed on the LTR (Low Temperature Radiator) Left side Figure 6



Figure 6 - Close the air bleed on the LTR (Low Temperature Radiator)

7. Install the Vacuum fill tool in the dearation tank. Figure 7



Figure 7 - Install Vacuum Fill Tool

8. Attach shop air to the Vaccum Fill Tool and turn the air supply on.

9. Allow the system to reach a vacuum in the green zone of the tool guage.

10. If a vacuum can not be created in the cooling system, check for cooling system leak.

11. Allow the tool to pull the vaccum for at least 5 minutes.

12. Place the coolant pickup tube on the vacuum tool into the new coolant supply.

13. Open the blue coolant supply valve on the tool to fill the cooling system (make sure there is enough coolant supply to properly fill the system). When the system is 1/2 full, close the coolant supply valve and re-vacuum the system until in the green zone. Stop vacuuming and open the blue coolant supply valve.

14. Once the system is full and the vacuum has depleted, remove the Vacuum Fill Tool.

15. Start the engine and allow to idle for 5 minutes.

16. While idling, open the LTR vent and allow air to bleed out.

NOTE: Maintain the coolant level in the dearation tank while bleeding.

17. Close the LTR Vent when steady stream of coolant is evident.

18. After 5 minutes of idling, adjust the coolant level in the dearation tank and install and tighten the NON VENTED dearation tank cap. Figure 8



Figure 8 - Adjust coolant level and install NON VENTED Cap

19. Remove the clamp tool from the expansion tank hose. Figure 9.


Figure 9 - Remove Clamp Tool.

20. Start and run the engine at high idle until the engine temperature reaches 190 deg and the engine fan has cycled on and off once. (this may require moving the vehicle outdoors and / or blocking the radiator with cardboard).

21. Monitor the engine coolant level in the dearation tank.

22. Allow the engine to cool and carefully remove the dearation tank cap .

23. **Adjust the coolant level to the top of the dearation tank.**

24. Install and tighten the NON VENTED dearation tank cap.

RESOURCES

IK0900051 MaxxForce 11 and 13 Surge Tank Label Part Numbers and Mounting Location

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