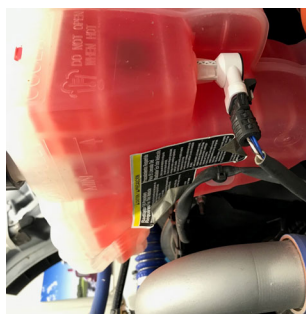




Technical Information Bulletin

42-058



Section

Cooling - 42

Subject

T680/T880/W990 Intermittent Low Coolant Indicator Illumination

Release Date

8/23/2019

Condition

The low coolant indicator may illuminate intermittently even though the coolant level is at or slightly above the MIN line on the surge tank. In some cases, the low coolant indicator may remain illuminated. This condition may be accompanied by a P1560 DTC.

The low coolant indicator may also illuminate when climbing a long hill. By the time the vehicle is stopped and the coolant level is checked, the coolant level has risen back to or above the MIN line on the surge tank and the low coolant indicator has shut off.

Chassis Affected

All T680, T880, and W990 chassis.

Action

Fix-As-Fail

If a customer comes into your dealership and demonstrates the condition above, proceed with the diagnostics and repairs as described in the procedures below.

Warranty

Through Standard Warranty (includes Extended Warranty) Kenworth will pay for parts at dealer net plus applicable mark-up and labor:

- 0.3 hours to inspect the harness, and install a fir-tree cable tie assembly if required. File a long-form claim.
- If the harness requires repair, use appropriate –xxx time for the repair. File a long-form claim.

Take-Off Parts Disposition: Destroy take-off parts 30 days after claim is paid.

CLAIM CODING			
Failure Location:	042-002-009	Work Accomplished:	21
Failure Type:	700	Responsibility Code:	01
SRT Code:	042-xxx 0.3 hours to inspect harness and coolant level. Also includes time to top-off coolant level when possible.	Claim Type:	N/E

Parts

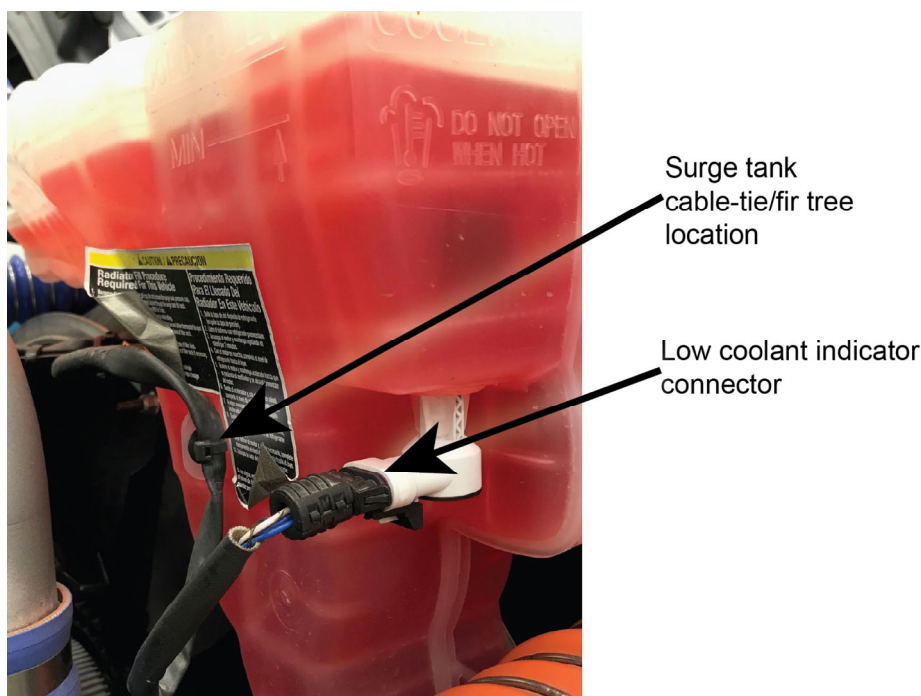
Parts are available from PACCAR Parts.

Quantity	Part Number	Description
1	P16-1006-100	Clip Assembly-Fir tree
1	EC3501 (US) EC7501 (Canada)	Coolant

Procedure

1. [Inspect the coolant level sensor harness for damage where it is retained by a cable tie to a tab on the surge tank.](#)

 NOTE
The routing of this harness is inconsistent. PACCAR Engineering is investigating the optimum harness routing and repair method. This bulletin will be updated when better information becomes available.



- If no obvious damage is found, and the cable was retained to the surge tank tab with only a cable tie, replace the cable-tie with a fir-tree cable tie assembly. The cable tie only needs to be tight enough to prevent the harness from moving. If the cable tie is tightened too tightly, it may cause this condition again.
 - If damage is found, refer to [TIB 34-081](#) for repair guidance.
2. If no issue was identified in Step 1, the coolant level may be slightly low. If the engine cannot be allowed to cool to ambient temperature, then provide the customer with 1 gal of premixed coolant.
- Slightly low coolant level is the likely cause of the problem. The coolant is drawn down when the engine is under load. This usually occurs while climbing a long grade.
 - Confirm that the coolant level is ½ in. (13 mm) above Cold Min Line for a cold engine or ½ in. (13 mm) above the Full Cold Line for a warm engine. For the cold fill range indicated on the surge tank to be accurate, the coolant must be at ambient temperature. It can take 12 hours or more for the coolant temperature to cool down to ambient temperature.
 - Advise the customer to top off the coolant when they check the coolant level as part of their daily maintenance.
 - Provide the customer with a copy of the coolant fill procedure.

Attachments



[Coolant fill procedure](#)

Authored by: OF

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PACCAR^{Inc} ADD COOLANT PROCEDURE

How to Add Coolant to the Cooling System

42-056, 42-058



WARNING!

DO NOT remove the surge tank fill cap (1) while the engine is hot. Scalding steam and fluid under pressure may escape and cause serious burns. Failure to follow this instruction may result in personal injury or death.

Note: If frequent filling is necessary and there are no visible signs of coolant leaks when the engine is cold, check for leaks while the engine is operating at normal temperature.

Note: DO NOT remove the pressure cap (2) or use it to add coolant to the surge tank.

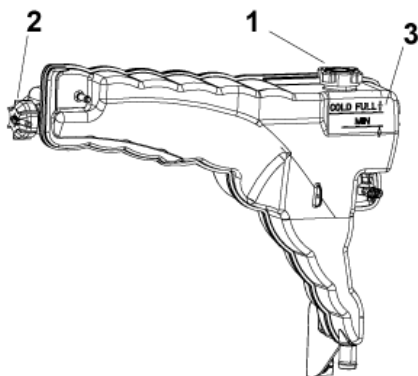
Note: DO NOT overfill the cooling system. Excess coolant may result in overflow, loss of antifreeze, and reduced corrosion protection.

Note: If frequent filling is necessary or there are any signs of coolant leakage, consult a PACCAR Service dealer.

Check the coolant level before and after each trip. Add coolant as necessary. Coolant may not immediately appear at the correct level after the radiator is filled. Air may be trapped in the cooling system, which will affect the coolant level, until the air is purged.

Refer to your Engine Operator's Manual for coolant mix specifications.

After servicing the cooling system, continue monitoring it for 3-5 days. The coolant level in the surge tank will lower when air trapped in the cooling system is purged. During each pre-trip inspection you should inspect recently-serviced components of the cooling system for signs of coolant leaks.



1. Fill cap (service point)
2. Pressure cap (never to be removed)
3. Cold Full line



WARNING!

Do not remove the surge tank fill cap when the engine is running or the cooling system is hot. Wait 10 minutes for the cooling system to cool down. If the surge tank is still warm to the touch, cover the fill cap with a thick cloth to prevent the possibility of scalding and then slowly remove the cap. Failure to follow this instruction could result in personal injury or death.



CAUTION

Due to thermal expansion the coolant level CANNOT be accurately checked if the coolant is above ambient temperature or the engine has not completely cooled. The coolant level indicated on a warmed system will be inaccurate and can lead to low coolant conditions during cold-starts.

1. Turn off the engine and let it cool for a minimum of 10 minutes.
2. If your cooling system is built with an air bleed valve in the upper engine coolant pipe, open the air bleed valve before filling the surge tank.
3. Close any open coolant drain valves in the lower engine coolant pipe.
4. Remove the surge tank fill cap (1). DO NOT remove the surge tank pressure cap (2).
5. Fill the system with premixed coolant through the surge tank fill port. Pour coolant at a steady rate until it reaches the "MIN" line in the surge tank. Wait for one minute after adding coolant. If the coolant level drops, add coolant until it returns to the "MIN" line.
6. Close the air bleed valve that was opened in Step 1.
7. Start the engine and maintain an idle at low rpm.
8. While the engine is idling air will purge from the cooling system through the surge tank's coolant fill port, which will lower the coolant level in the surge tank. Continue to add coolant to the surge tank until the coolant level remains approximately 1/2 in. (13 mm) above the "MIN" line. This may take up to 2 minutes depending upon the outside temperature.
9. Maintain a low idle until the thermostat opens and the operating temperature stabilizes. A sign that the thermostat has opened is when the upper coolant pipe gets hot on the bottom side indicating hot coolant is now running through it.
10. Add coolant to the surge tank until the coolant remains 1/2 in. (13 mm) above the "MIN" level.
11. Operate the engine at high idle for 10 minutes. Afterward, add coolant to the surge tank until the coolant remains 1/2 in. (13 mm) above the "COLD FULL" line.
12. Reinstall the surge tank fill cap.



42-058

Section

42 - Cooling

Description

Intermittent Low Coolant Indicator Illumination

Release Date

8/23/2019

Introduction

The low coolant indicator may illuminate intermittently even though the coolant level is at or slightly above the MIN line on the surge tank. In some cases, the low coolant indicator may remain illuminated. This condition may be accompanied by a P1560 DTC.

The low coolant indicator may also illuminate when climbing a long hill. By the time the vehicle is stopped and the coolant level is checked, the coolant level has risen back to or above the MIN line on the surge tank and the low coolant indicator has shut off.

Resolution

Fix-as-Fail

If a customer comes into your dealership and demonstrates the condition above, proceed with the diagnostics and repairs as described in the procedures below.

Warranty

Through Standard Warranty, Peterbilt will pay for parts at dealer net plus applicable mark-up and labor:

- 0.3 hours to inspect the harness, and install a fir-tree cable tie assembly if required. File a long-form claim.
- If the harness requires repair, use appropriate [SRT](#) and/ or non- time for the repair. File a long-form claim.

Take-Off Parts Disposition: Destroy take-off parts 30 days after claim is paid.

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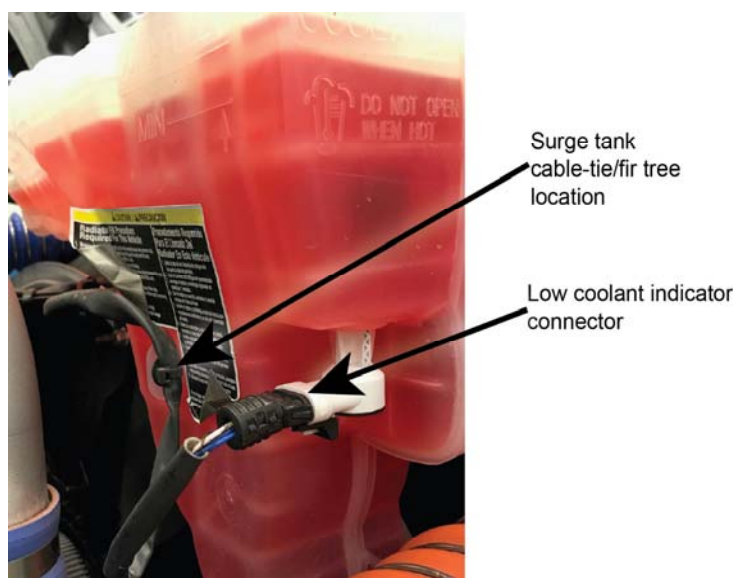
Failure Location	042-002-009
Failure Type	700
Claim Type	N
Campaign Number	42-058
Labor	042-058 0.3 hours to inspect the harness and coolant level. Also includes time to top-off coolant level when required.

Parts

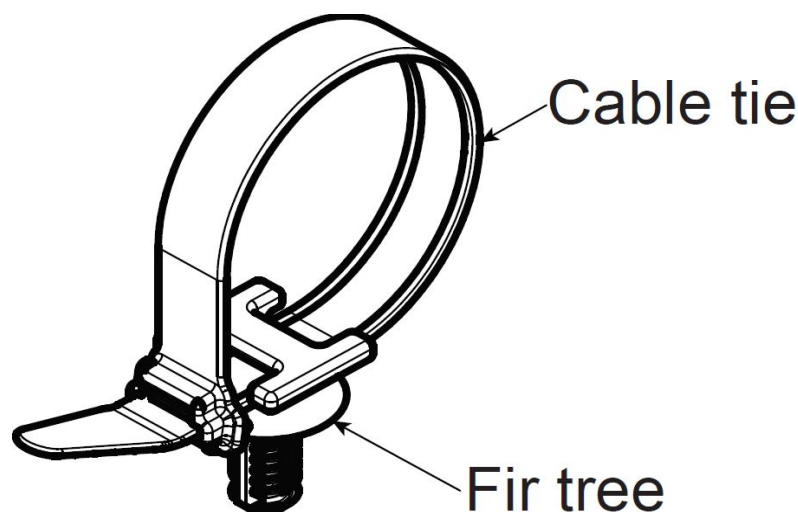
Quantity	Part Number	Description
1	P16-1006-100	Clip Assembly-Fir Tree
1	EC3501 (US) EC7501 (Canada)	Coolant

Procedure

1. Inspect the coolant level sensor harness for damage where it is attached by a cable tie to a tab on the surge tank.



- If no obvious damage is found, and the cable was attached to the surge tank tab with only a cable tie, replace the cable-tie with a fir-tree cable tie assembly. The cable tie only needs to be tight enough to prevent the harness from moving. If the cable tie is tightened too tightly, it may cause this condition to reoccur.



- If harness damage is found, refer to [34-066](#) for repair guidance.

2. If no issue was identified in Step 1, the coolant level may be slightly low. If the engine cannot be allowed to cool to ambient temperature, then provide the customer with 1 gal of premixed coolant.

- Slightly low coolant level is the likely cause of the problem. The coolant is drawn down when the engine is under load. This usually occurs while climbing a long grade.
- Confirm that the coolant level is ½ in. (13 mm) above Cold Min Line for a cold engine or ½ in. (13 mm) above the Full Cold Line for a warm engine. For the cold fill range indicated on the surge tank to be accurate, the coolant must be at ambient temperature. It can take 12 hours or more for the coolant temperature to cool down to ambient temperature.
- Advise the customer to top off the coolant when they check the coolant level as part of their daily maintenance.
- Provide the customer with a copy of the coolant fill procedure.

Attachments

[Coolant Fill Procedure](#)

Authored by: RP

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