

1 07 07-17



Service Information Bulletin

SUBJECT	DATE
SPN 111 (CPC)	July 2017

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0193	DD Medium Duty	SPN 111 FMI 1	Updated diagnostic procedures.
		SPN 111 FMI 18	
DDC-SVC-MAN-0200		SPN 111 FMI 1	Updated diagnostic procedures.
		SPN 111 FMI 18	
DDC-SVC-MAN-0191	DD Heavy Duty	SPN 111 FMI 1	Updated diagnostic procedures.
		SPN 111 FMI 18	
DDC-SVC-MAN-0084			SPN 111 FMI 18

DiagnosticLink users: Please update the troubleshooting guides in DiagnosticLink with this newest version. To update the tool troubleshooting guide, open DiagnosticLink and from the Help – Troubleshooting Guides menu, select the appropriate troubleshooting manual, then click Update.



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2 SPN 111/FMI 1 - GHG17

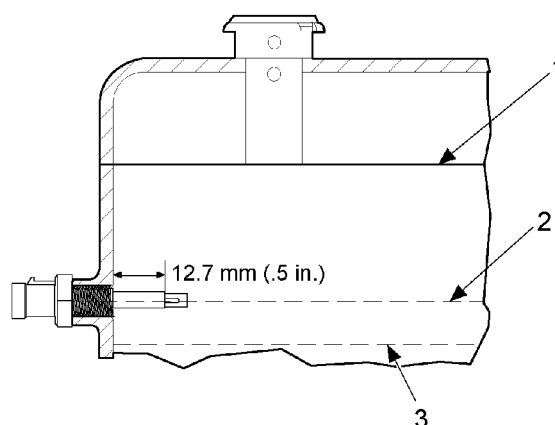
Coolant Level Very Low

Table 1.

SPN 111/FMI 1	
Description	Coolant Level Below Normal Range
Monitored Parameter	Coolant Level
Typical Enabling Conditions	Always On
Monitor Sequence	None
Execution Frequency	Continuous When Enabling Conditions Met
Typical Duration	Two Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Cycle Key

Check as follows:

1. Check for multiple codes. Are there any coolant level circuit codes?
 - a. Yes; repair those codes first.
 - b. No; Go to step 2.
2. Check the coolant level in the reservoir. Is the coolant level in the reservoir below limit level 2.
 - a. Yes; Refer to section "Symptom Diagnostics - Coolant Loss".
 - b. No; Go to step 3.



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NOTE: Make sure that the coolant is not overfilled. The min/low and max/full marks on the coolant surge tank represent the acceptable operating range of the coolant level. During normal operation, the coolant level will expand and contract between the two lines, depending on temperature. Overfilling the coolant reservoir will cause the surge tank to push coolant out.

3. With the coolant filled to the proper level (1), clear the code and run the engine for five minutes. Check for codes. Did SPN 111/FMI 1 return?
 - a. Yes; replace the Engine Coolant Level (ECL) sensor and verify the repair.

- b. No; the code was likely caused by a previously low coolant level condition. Ask the driver about coolant loss. If necessary, Refer to section "Symptom Diagnostics - Coolant Loss".

3 SPN 111/FMI 18 - GHG17

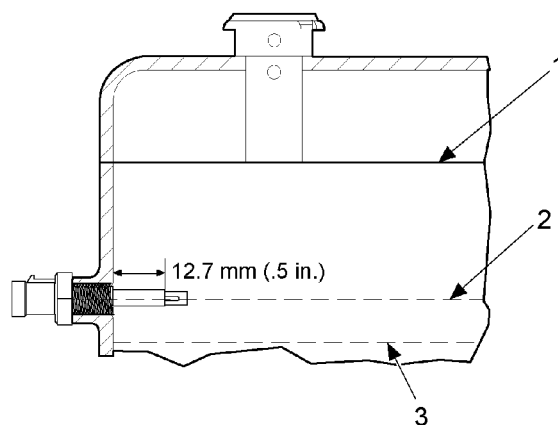
Coolant Level Low

Table 2.

SPN 111/FMI 18	
Description	Coolant Level Below Normal Range
Monitored Parameter	Coolant Level
Typical Enabling Conditions	Always On
Monitor Sequence	None
Execution Frequency	Continuous When Enabling Conditions Met
Typical Duration	Two Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Cycle Key

Check as follows:

1. Check for multiple codes. Are there any coolant level circuit codes?
 - a. Yes; repair those codes first.
 - b. No; Go to step 2.
2. Check the coolant level in the reservoir. Is the coolant level in the reservoir below limit level 2?
 - a. Yes; Refer to section "Symptom Diagnostics - Coolant Loss".
 - b. No; Go to step 3.



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NOTE: Make sure that the coolant is not overfilled. The min/low and max/full marks on the coolant surge tank represent the acceptable operating range of the coolant level. During normal operation, the coolant level will expand and contract between the two lines, depending on temperature. Overfilling the coolant reservoir will cause the surge tank to push coolant out.

3. With the coolant filled to the proper level (1), clear the code and run the engine for five minutes. Check for codes. Did SPN 111/FMI 18 return?
 - a. Yes; replace the Engine Coolant Level (ECL) sensor and verify the repair.

- b. No; the code was likely caused by a previously low coolant level condition. Ask the driver about coolant loss. If necessary, Refer to section "Symptom Diagnostics - Coolant Loss".

4 SPN 111/FMI 1 - GHG17

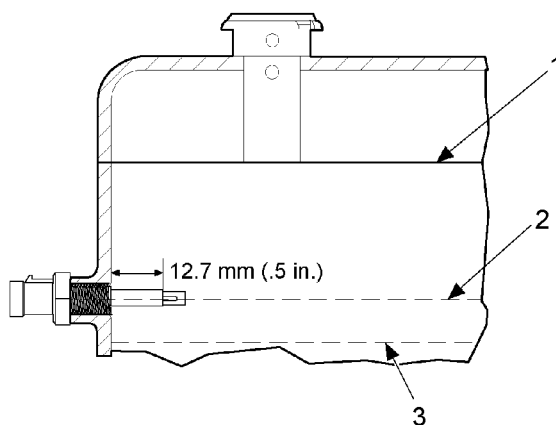
Coolant Level Very Low

Table 3.

SPN 111/FMI 1	
Description	Coolant Level Below Normal Range
Monitored Parameter	Coolant Level
Typical Enabling Conditions	Always On
Monitor Sequence	None
Execution Frequency	Continuous When Enabling Conditions Met
Typical Duration	Two Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Cycle Key

Check as follows:

1. Check for multiple codes. Are there any coolant level circuit codes?
 - a. Yes; repair those codes first.
 - b. No; Go to step 2.
2. Check the coolant level in the reservoir. Is the coolant level in the reservoir below limit level 2.
 - a. Yes; Refer to section "Symptom Diagnostics - Coolant Loss".
 - b. No; Go to step 3.



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NOTE: Make sure that the coolant is not overfilled. The min/low and max/full marks on the coolant surge tank represent the acceptable operating range of the coolant level. During normal operation, the coolant level will expand and contract between the two lines, depending on temperature. Overfilling the coolant reservoir will cause the surge tank to push coolant out.

3. With the coolant filled to the proper level (1), clear the code and run the engine for five minutes. Check for codes. Did SPN 111/FMI 1 return?
 - a. Yes; replace the Engine Coolant Level (ECL) sensor and verify the repair.

- b. No; the code was likely caused by a previously low coolant level condition. Ask the driver about coolant loss. If necessary, Refer to section "Symptom Diagnostics - Coolant Loss".

5 SPN 111/FMI 18 - GHG17

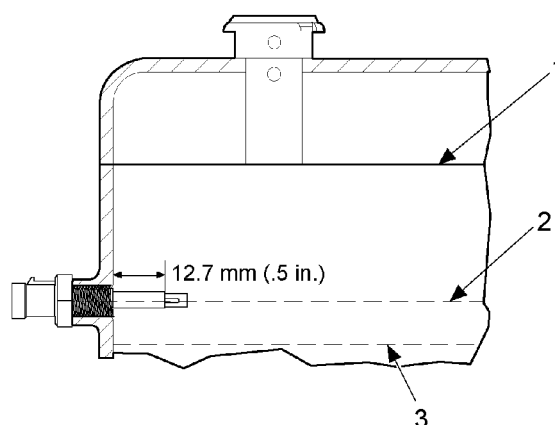
Coolant Level Low

Table 4.

SPN 111/FMI 18	
Description	Coolant Level Below Normal Range
Monitored Parameter	Coolant Level
Typical Enabling Conditions	Always On
Monitor Sequence	None
Execution Frequency	Continuous When Enabling Conditions Met
Typical Duration	Two Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Cycle Key

Check as follows:

1. Check for multiple codes. Are there any coolant level circuit codes?
 - a. Yes; repair those codes first.
 - b. No; Go to step 2.
2. Check the coolant level in the reservoir. Is the coolant level in the reservoir below limit level 2?
 - a. Yes; Refer to section "Symptom Diagnostics - Coolant Loss".
 - b. No; Go to step 3.



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NOTE: Make sure that the coolant is not overfilled. The min/low and max/full marks on the coolant surge tank represent the acceptable operating range of the coolant level. During normal operation, the coolant level will expand and contract between the two lines, depending on temperature. Overfilling the coolant reservoir will cause the surge tank to push coolant out.

3. With the coolant filled to the proper level (1), clear the code and run the engine for five minutes. Check for codes. Did SPN 111/FMI 18 return?
 - a. Yes; replace the Engine Coolant Level (ECL) sensor and verify the repair.

- b. No; the code was likely caused by a previously low coolant level condition. Ask the driver about coolant loss. If necessary, Refer to section "Symptom Diagnostics - Coolant Loss".

6 SPN 111/FMI 1 - GHG17

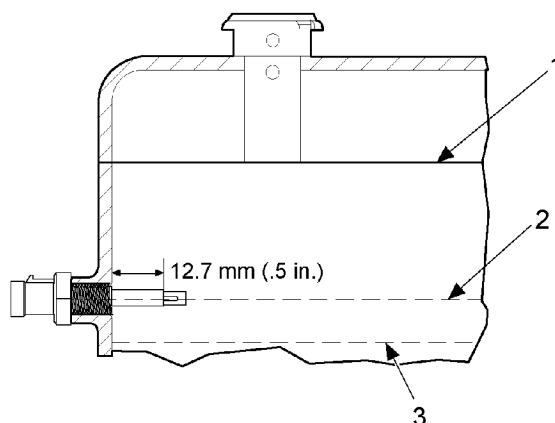
Coolant Level Very Low

Table 5.

SPN 111/FMI 1	
Description	Coolant Level Below Normal Range
Monitored Parameter	Coolant Level
Typical Enabling Conditions	Always On
Monitor Sequence	None
Execution Frequency	Continuous When Enabling Conditions Met
Typical Duration	Two Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Cycle Key

Check as follows:

1. Check for multiple codes. Are there any coolant level circuit codes?
 - a. Yes; repair those codes first.
 - b. No; Go to step 2.
2. Check the coolant level in the reservoir. Is the coolant level in the reservoir below limit level 2.
 - a. Yes; Refer to section "Symptom Diagnostics - Coolant Loss".
 - b. No; Go to step 3.



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NOTE: Make sure that the coolant is not overfilled. The min/low and max/full marks on the coolant surge tank represent the acceptable operating range of the coolant level. During normal operation, the coolant level will expand and contract between the two lines, depending on temperature. Overfilling the coolant reservoir will cause the surge tank to push coolant out.

3. With the coolant filled to the proper level (1), clear the code and run the engine for five minutes. Check for codes. Did SPN 111/FMI 1 return?
 - a. Yes; replace the Engine Coolant Level (ECL) sensor and verify the repair.

- b. No; the code was likely caused by a previously low coolant level condition. Ask the driver about coolant loss. If necessary, Refer to section "Symptom Diagnostics - Coolant Loss".

7 SPN 111/FMI 18 - GHG17

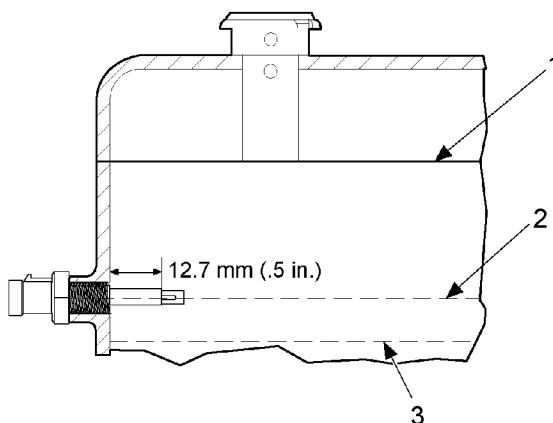
Coolant Level Low

Table 6.

SPN 111/FMI 18	
Description	Coolant Level Below Normal Range
Monitored Parameter	Coolant Level
Typical Enabling Conditions	Always On
Monitor Sequence	None
Execution Frequency	Continuous When Enabling Conditions Met
Typical Duration	Two Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Cycle Key

Check as follows:

1. Check for multiple codes. Are there any coolant level circuit codes?
 - a. Yes; repair those codes first.
 - b. No; Go to step 2.
2. Check the coolant level in the reservoir. Is the coolant level in the reservoir below limit level 2?
 - a. Yes; Refer to section "Symptom Diagnostics - Coolant Loss".
 - b. No; Go to step 3.



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NOTE: Make sure that the coolant is not overfilled. The min/low and max/full marks on the coolant surge tank represent the acceptable operating range of the coolant level. During normal operation, the coolant level will expand and contract between the two lines, depending on temperature. Overfilling the coolant reservoir will cause the surge tank to push coolant out.

3. With the coolant filled to the proper level (1), clear the code and run the engine for five minutes. Check for codes. Did SPN 111/FMI 18 return?

- a. Yes; replace the Engine Coolant Level (ECL) sensor and verify the repair.
- b. No; the code was likely caused by a previously low coolant level condition. Ask the driver about coolant loss. If necessary, Refer to section "Symptom Diagnostics - Coolant Loss".

8 SPN 111/FMI 18 - GHG14

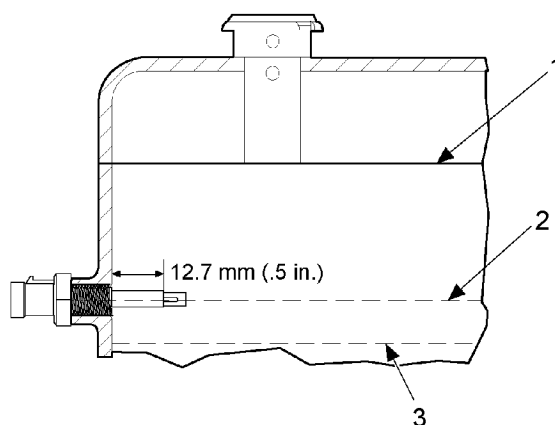
Coolant Level Low

Table 7.

SPN 111/FMI 18	
Description	Coolant Level Below Normal Range
Monitored Parameter	Coolant Level
Typical Enabling Conditions	Always On
Monitor Sequence	None
Execution Frequency	Continuous When Enabling Conditions Met
Typical Duration	Two Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Cycle Key

Check as follows:

1. Check for multiple codes. Are there any coolant level circuit codes?
 - a. Yes; repair those codes first.
 - b. No; Go to step 2.
2. Check the coolant level in the reservoir. Is the coolant level in the reservoir below limit level 2?
 - a. Yes; Refer to section "Symptom Diagnostics - Coolant Loss".
 - b. No; Go to step 3.



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NOTE: Make sure that the coolant is not overfilled. The min/low and max/full marks on the coolant surge tank represent the acceptable operating range of the coolant level. During normal operation, the coolant level will expand and contract between the two lines, depending on temperature. Overfilling the coolant reservoir will cause the surge tank to push coolant out.

3. With the coolant filled to the proper level (1), clear the code and run the engine for five minutes. Check for codes. Did SPN 111/FMI 18 return?

- a. Yes; replace the Engine Coolant Level (ECL) sensor and verify the repair.
- b. No; the code was likely caused by a previously low coolant level condition. Ask the driver about coolant loss. If necessary, Refer to section "Symptom Diagnostics - Coolant Loss".