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Current Language: English **Last Modified:** 9/17/2015
Other Languages: NONE **Author:** Keith Kierzek
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Coding Information

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Title: SCR Vehicles Setting 3363-16 (FC1713) due to Crossed DEF Tank Coolant Lines or Inverted DEFTHV

Applies To: All SCR Vehicles

CHANGE LOG

Dealers: Please refer to the change log text box below for recent changes to this article:

09/17/2015 - Revised nomenclature, removed an unnecessary step, and added DEF line details in step 1
 08/31/2015 - An error was corrected with the step based diagnostics
 09/23/2014 - Initial Article Release

DESCRIPTION

This document will guide the user through determining the cause of fault code 3363-16 (FC1713) on vehicles equipped with SCR. BEFORE replacing any components, verify the DEF tank coolant lines are properly routed and the diesel exhaust fluid tank heater valve (DEFTHV) is facing the proper direction according to the procedure below.

NOTE: The example used below is a typical DEF tank coolant line routing for a ProStar with an ISX. Other models may vary, but same failure mode may still exist.

SYMPTOM(s)

Diagnostic Trouble Code(s) & Dashboard Indicator Light(s):

DTC	Description	Light
SPN 3363 FMI 16 (FC1713)	Aftertreatment 1 Diesel Exhaust Fluid Tank Heater - Data Valid But Above Normal Operating Range - Moderately Severe Level	Amber Warning Light

Customer Observations or Concerns:

Amber Warning Light (▽)

SPECIAL TOOL(s) / SOFTWARE

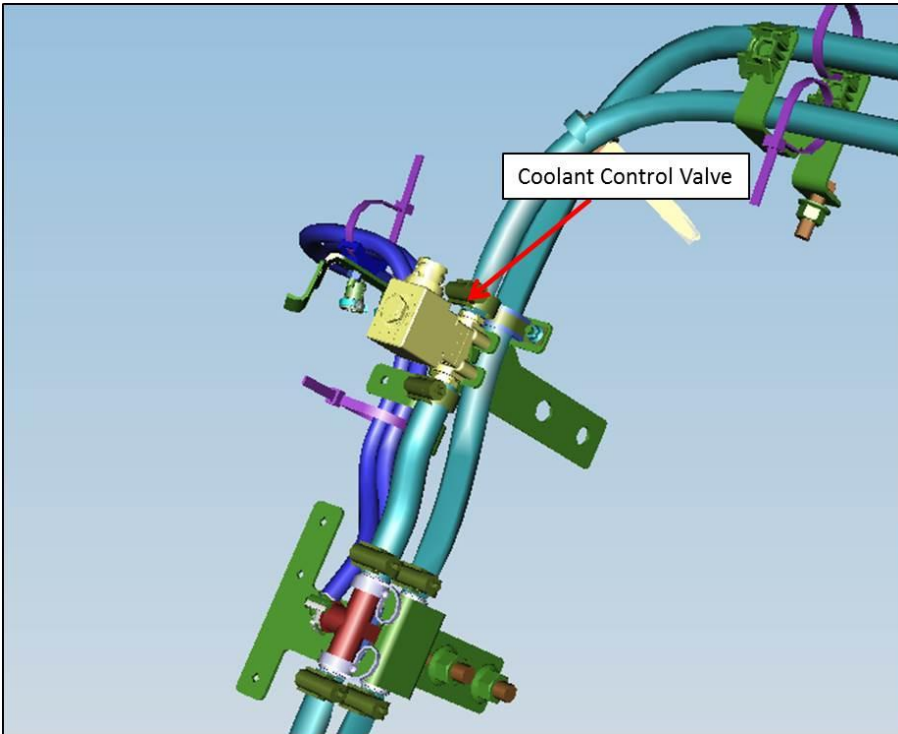
NOT APPLICABLE

SERVICE PARTS INFORMATION

Kit Description	Vehicle Family	Part Number	Quantity Required	Ordering Instructions
ISX/ISB Diesel Exhaust Fluid Tank Heater Valve (DEFTHV)	ALL	3856343C1	1	Source Locally
N13 Diesel Exhaust Fluid Tank Heater Valve (DEFTHV)	ALL	3998612C1	1	Source Locally

N9/10 Diesel Exhaust Fluid Tank Heater Valve (DEFTHV)	WorkStar	4029783C1	1	Source Locally
N9/10 Diesel Exhaust Fluid Tank Heater Valve (DEFTHV)	DuraStar	3856343C1	1	Source Locally

DIAGNOSTIC STEP(s)

Step	Action	Decision
1	DIAGNOSTIC: Verify the DEFTHV is facing the correct direction on the vehicle. The electrical connector on the DEFTHV should be facing the DEF tank on the DEF tank coolant <i>supply</i> line, as shown in Figure 3 below, by following the routing of the hose back to the tank.  Figure 3: DEFTHV Direction Is the DEFTHV facing the proper direction on the vehicle?	Yes. Go to step 2. No. Orient the DEFTHV properly and retest for 3363-16 (FC1713). NOTE: Hose pinchers can be used to clamp the hoses so coolant doesn't drain out.

Step	Action	Decision
2	DIAGNOSTIC: Verify the DEF tank coolant lines are not crossed at the DEF tank as shown in Figure 4 below. NOTE: The DEFTHV should be installed on the DEF tank coolant <i>supply</i> line.	Yes. Remove the DEF tank coolant lines from the DEF tank and orient them properly. Retest for 3363-16 (FC1713). NOTE: Hose pinchers can be used to clamp the hoses so coolant doesn't drain out. No. Go to step 3.

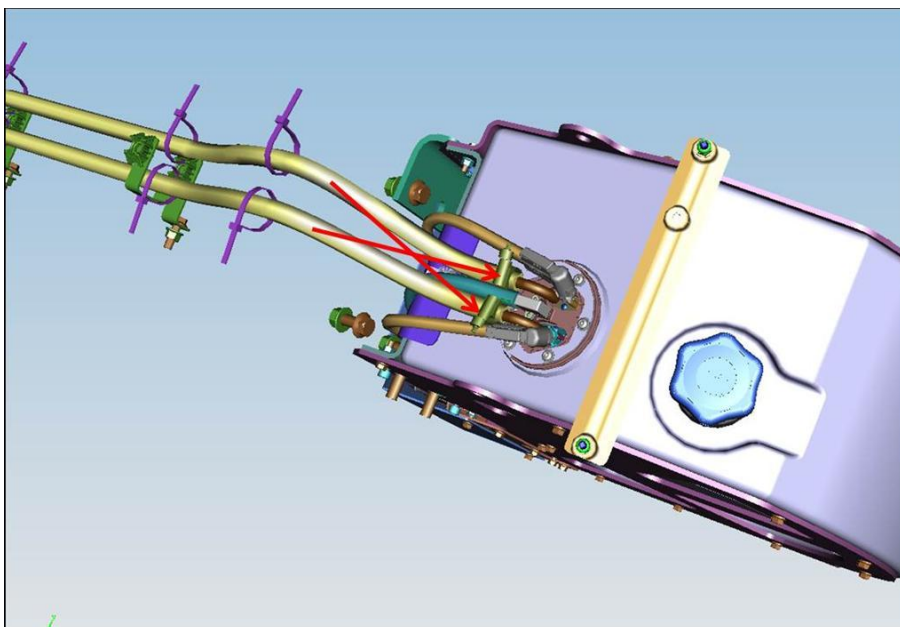
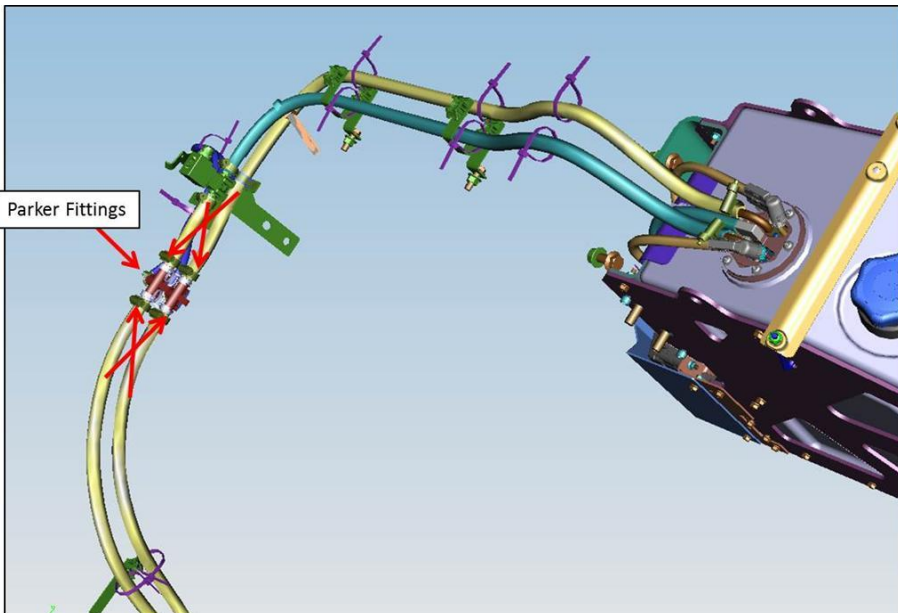


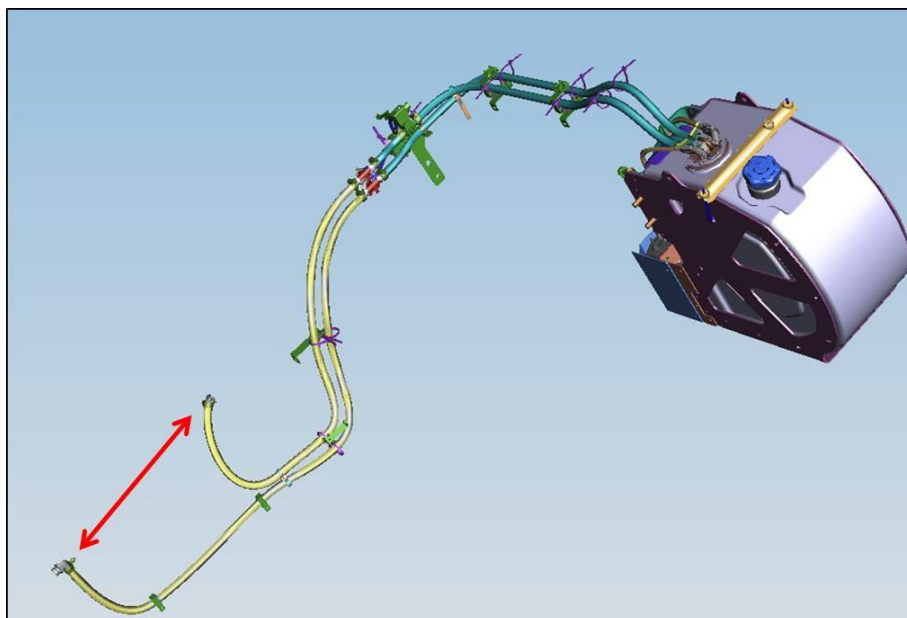
Figure 4: DEF Tank Coolant Lines Crossed at the DEF Tank

Are the DEF tank coolant lines crossed at the DEF tank?

Step	Action	Decision
3	DIAGNOSTIC: Verify the DEF tank coolant lines are not crossed at the Parker fittings as shown in Figure 5 below. NOTE: The DEFTHV should be installed on the DEF tank coolant supply line.  Figure 5: DEF Tank Coolant Lines Crossed at the Parker Fittings Are the DEF tank coolant lines crossed at the Parker fittings?	Yes. Remove the DEF tank coolant lines from the Parker fittings and orient them properly. Retest for 3363-16 (FC1713). NOTE: Hose pinchers can be used to clamp the hoses so coolant doesn't drain out.
		No. Go to step 4.

Step	Action	Decision
4	DIAGNOSTIC: Verify the DEF tank coolant lines are not crossed at the engine as shown in Figure 6 below.	Yes. Remove the DEF tank coolant lines from the engine and orient them

NOTE: The DEFTHV should be installed on the DEF tank coolant *supply* line.



NOTE: Fittings should be different

properly. Retest for 3363-16 (FC1713).

No. Replace DEFTHV.

Figure 6: DEF Tank Coolant Lines Crossed at the Engine

REPAIR STEP(s)

Are the DEF tank coolant lines crossed at the engine?

For removal and installation of DEF heater components, see *Diesel Exhaust Fluid (DEF) System* section in the appropriate *Exhaust and Aftertreatment System with DPF and SCR Service Manual*. Links to these manuals are given in the resources section below.

WARRANTY INFORMATION

Warranty Claim Coding:

For inverted or failed DEFTHV:

Group:	18160 - Coolant Lines / Hoses
Noun:	793 - Tank DEF, Coolant Flow Valve

For engine to coolant valve *supply* line:

Group:	18160 - Coolant Lines / Hoses
Noun:	750 - Hose, Engine to Coolant Valve Supply Line

For coolant valve to tank *supply* line:

Group:	18160 - Coolant Lines / Hoses
Noun:	751 - Hose, Coolant Valve to Tank

For tank to coolant valve *return* line:

Group:	18160 - Coolant Lines / Hoses
Noun:	752 - Hose, Tank to Coolant Valve

For coolant valve to engine *return* line:

Group:	18160 - Coolant Lines / Hoses
Noun:	753 - Hose, Coolant Valve to Engine

Standard Repair Time(s):

Verify the correct standard repair time by using the Service Repair Time Home Page link in the Resources section below.

Step	Description	Chassis	Engine	SRT	Hours
5	Replace DEFTHV	8600	N13	Q18-1793US	0.7
5	Replace DEFTHV	ProStar	N13	R18-1793US	0.7
5	Replace DEFTHV	ProStar	ISX	R18-1793S	0.7
1, 2, 3, 4, 5	Repaired Crossed Lines	Any	Any	A18-T1	0.4

OTHER RESOURCES

[Master Service Information Site](#)

[Service Repair Time Home Page](#)

[Bus Exhaust Aftertreatment System with DPF and SCR Service Manual](#)

[Star and 9000 Series Exhaust Aftertreatment System with DPF and SCR Service Manual](#)



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