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 Major System: EXHAUST Created: 9/22/2014  
 Current Language: English Last Modified: 6/19/2017  
 Other Languages: NONE Author: Keith Kierzek  
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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:

{06/19/2017 - Added step 3.  
 {03/23/2017 - Updated SPN descriptions.  
 {03/15/2017 - Removed step 4 guidance, changed diag. steps  
 {01/20/2017 - Removed crossed lines at DEF tank option  
 {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
3364-10	Aftertreatment Diesel Exhaust Fluid Quality - Abnormal Rate of Change	Amber Warning Light
3364-18	Aftertreatment Diesel Exhaust Fluid Quality - Data Valid But Below Normal Operating Range - Moderately Severe Level	Amber Warning Light
3516-10	DEF Quality Sensor abnormal rate of change	Amber Warning Light
3516-18	DEF Quality Low - Moderately Severe level	Amber Warning Light

Customer Observations or Concerns:

Amber Warning Light (∇)

## SPECIAL TOOL(s) / SOFTWARE

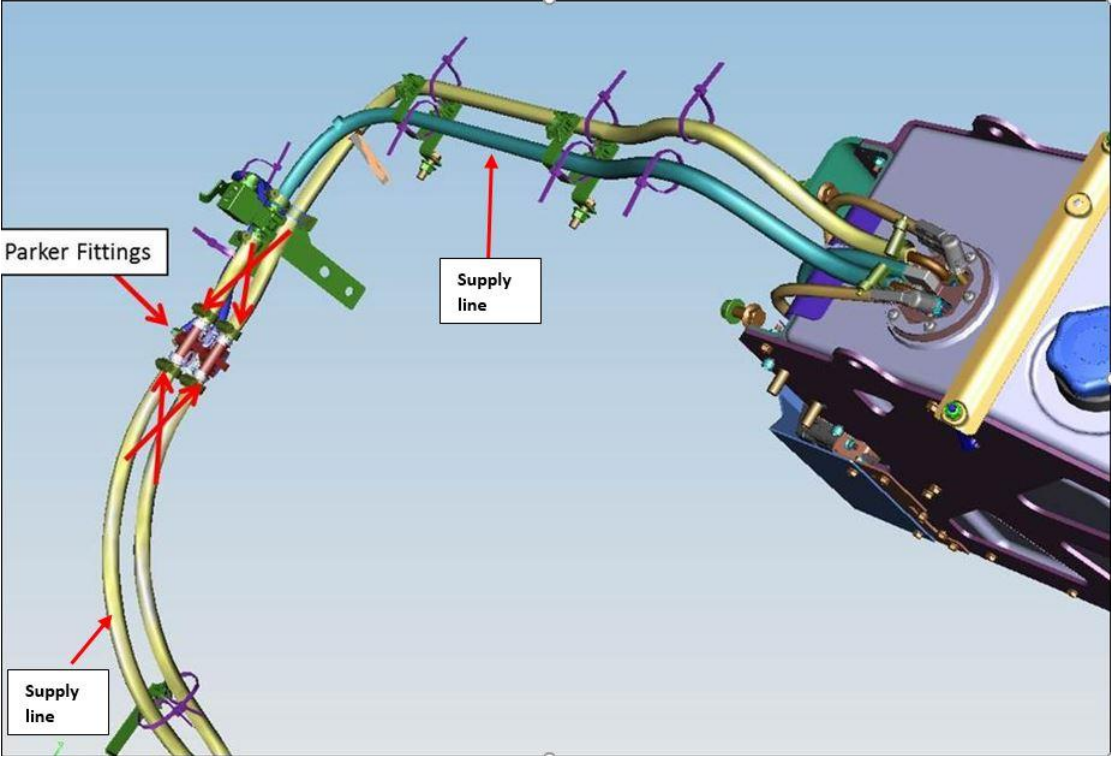
NOT APPLICABLE

## 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
	WorkStar	4029783C1	1	Source Locally

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

**DIAGNOSTIC STEP(s)**

Step	Action	Decision
1	<p><b>DIAGNOSTIC:</b> Locate supply line. The DEFTHV should be installed on the DEF tank coolant <b>supply</b> line. Verify the lines are not crossed at the Parker fittings as shown in Figure 1 below.</p>  <p><b>Figure 1:</b> DEF Tank Coolant Lines possibly Crossed at the Parker Fittings Are the DEF tank coolant lines crossed at the Parker fittings?</p>	<p><b>Yes:</b> Remove tank coolant Parker fitting properly. Re (FC1713).</p> <p><b>NOTE:</b> Hose used to clear coolant does</p> <hr/> <p><b>No:</b> Go to St</p>

Step	Action	Decision
2	<p><b>DIAGNOSTIC:</b> Verify the DEFTHV is facing the correct direction on the vehicle. Locate DEFTHV part number (In red box), see Figure 2 below. Correct direction of supply coolant flow is towards the DEF tank.</p> <p><b>NOTE:</b> Electrical connectors of valve may face multiple directions.</p>	<p><b>Yes:</b> Go to S</p> <p>If diagnosing than 3363-11 associated F</p> <hr/> <p><b>No:</b> Reorien direction, cle</p>

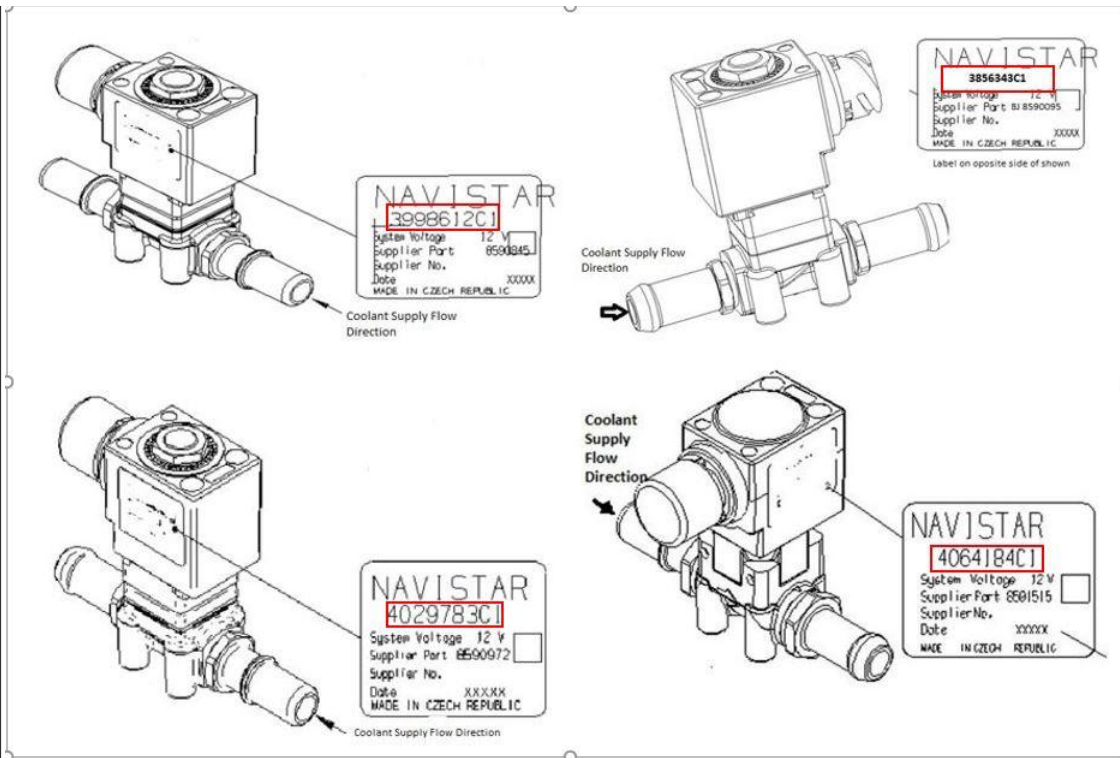


Figure 2: DEFTHV Direction

Is the DEFTHV facing the proper direction on the vehicle?

Step	Action	Decision
3	<p><b>DIAGNOSTIC:</b> Detecting stuck DEF tank heater valve.</p> <p>The DEF tank heater valve is a normally closed valve. At key off, disconnect the DEF tank coolant supply line from the DEF sending unit (see supply line location in Step 1 Figure 1). With the line connected, only residual coolant should exit the line. Allow 2 minutes for residual coolant to exit. If a constant, steady stream is present, the valve is stuck open.</p> <p>After 2 minutes with the coolant line disconnected, is there a constant, steady stream of coolant exiting the line?</p>	<p><b>Yes:</b> Replac</p> <hr/> <p><b>No:</b> Retest f other fault cc see associat</p>

### REPAIR STEP(s)

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:

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

For engine to coolant valve *supply* line:

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

For coolant valve to tank *supply* line:

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

Note: If problem is found, put iKnow article in claim comments section.

## **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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