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Availability: ISIS, Bus ISIS, Fleet!SIS, Body Builder

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Major System: COOLING

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Other Languages: NONE

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Coding Information

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Title: Upper Radiator (Inlet) Hose Saddle Clamp Causing Leaks

Applies To: DuraStars and CE Buses with Cummins ISB

CHANGE LOG

8/5/15 - Fixed incorrect part numbers for radiator inlet hose shrink clamps
7/24/15 - Initial Article Release

DESCRIPTION

On certain DuraStar and CE Bus models with Cummins ISB engines, the upper radiator hose saddle clamps are positioned improperly, and may cause punctures in the upper radiator hose. New saddle clamps, with a revised design and positioning, must be installed to correct the issue, as outlined in the following document.

NOTE: This article only applies to vehicles that this has caused an upper radiator hose leak to. If there is no damage/punctures to the radiator hose then there is no need for further action.

SYMPTOMS

Diagnostic Trouble Codes:

DTC/Light	Description
SPN 111 FMI 11	Low Coolant

Customer Observations or Concerns:

- MIL
- Low coolant level
- External coolant leak on front driver side corner

SPECIAL TOOLS / SOFTWARE

Tool Description	Tool Number	Comments
Hose Clamp Cutting Tool	ZTSE4479	Butane powered hot knife for cutting the plastic auto shrink hose clamps.

SERVICE PARTS INFORMATION

Kit Description	Part Number	Qty	Notes
GUIDE, HOSE AND CABLE , 2 WAY	4039319C1	3	Saddle clamp (new design)
STRAP, CABLE LOCK 1/2" X 20"	3516934C1	3	Zip strap

HOSE,RAD INLET	4042034C1	1	
CLAMP RADIATOR INLET	2506704C1	1	Shrink clamp (radiator side)
CLAMP, HOSE RADIATOR INLET HEAT SHRINK	3579518C2	1	Shrink clamp (engine side)

DIAGNOSTIC STEPS

Visually inspect for rubbing/hose damage. See **Figures 1 and 2** for comparison of old and new saddle clamp design. If the hose is punctured and the saddle clamps are the old design, replace hose and replace saddle clamps with new design.

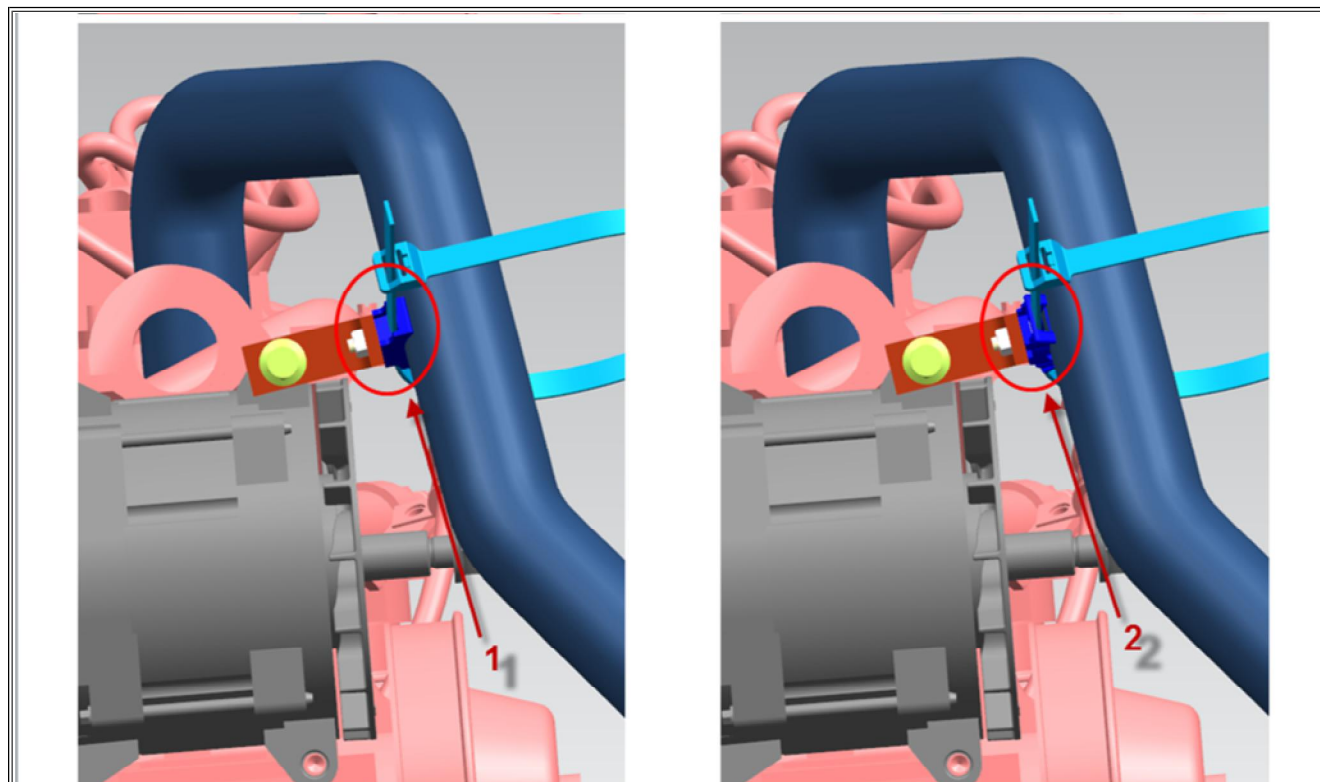


Figure 1: Old and new design of saddle clamp

Item 1: Old design - P/N 2041341C1

Item 2: New design - P/N 4039319C1

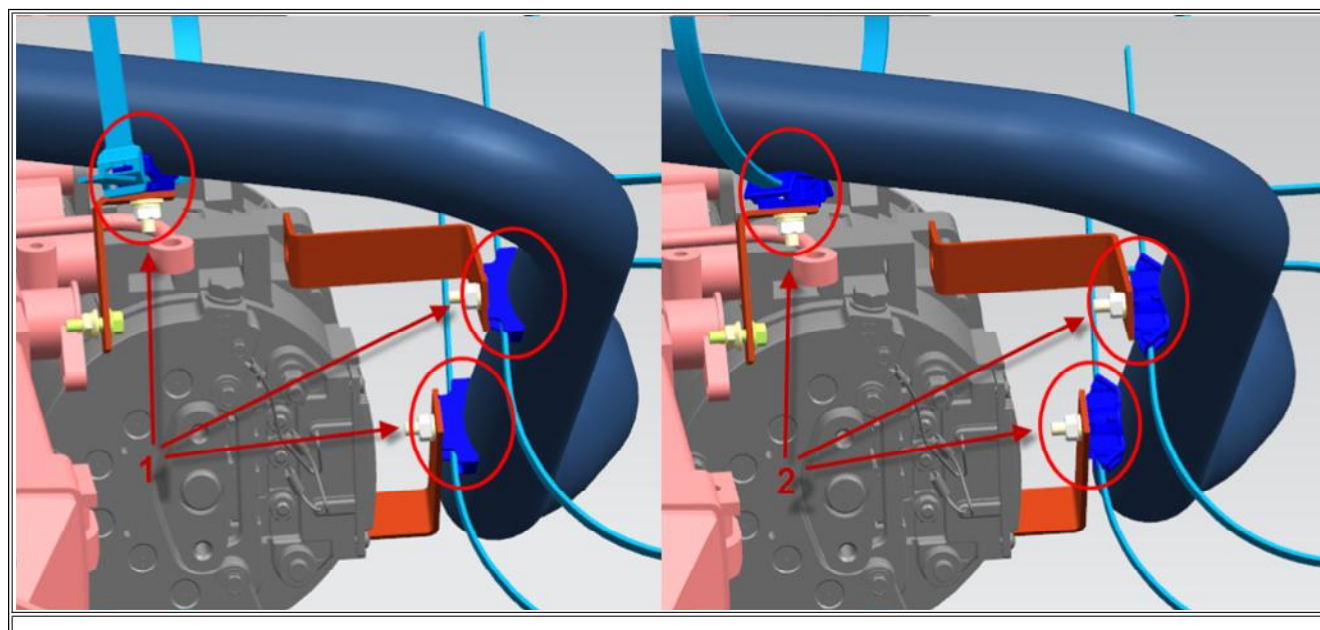
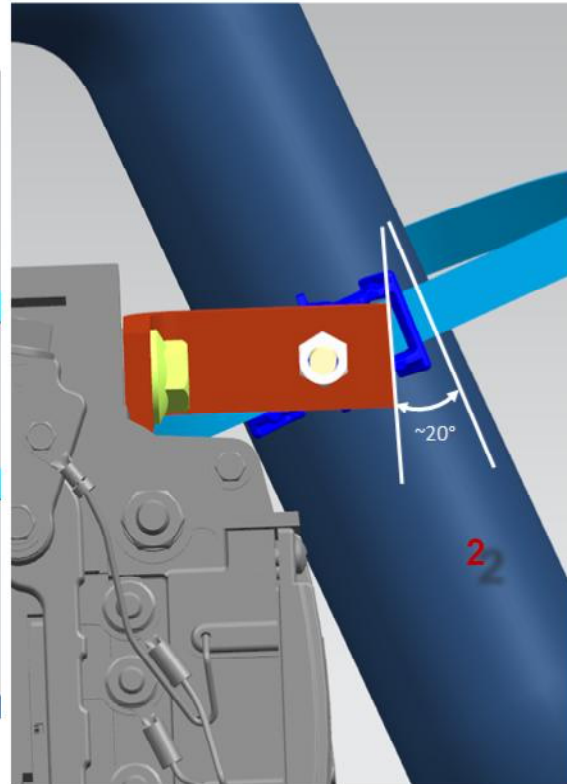
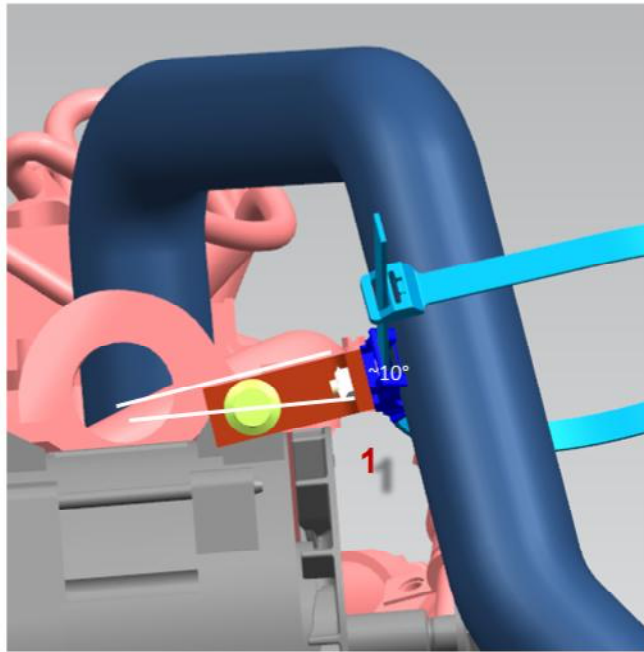


Figure 2: Old and new design of saddle clamp

Item 1: Old design - P/N 2041341C1
Item 2: New design - P/N 4039319C1

REPAIR STEPS

1. Remove old zip straps and saddle clamps.
2. Replace upper radiator hose.
3. Install new saddle clamp and zip strap, as shown in **Figure 3**. The angle of both the extension bracket and the saddle clamp in relation to the bracket must be correct, otherwise rubbing can occur.

**Figure 3: Engineering specifications for saddle clamp and extension bracket**

Item 1: Extension bracket angled up from parallel $\sim 10^\circ$.
Item 2: Saddle clamp angled $\sim 20^\circ$ up from parallel. Axis of saddle should align with axis of hose.

INCORRECT INSTALLATION:

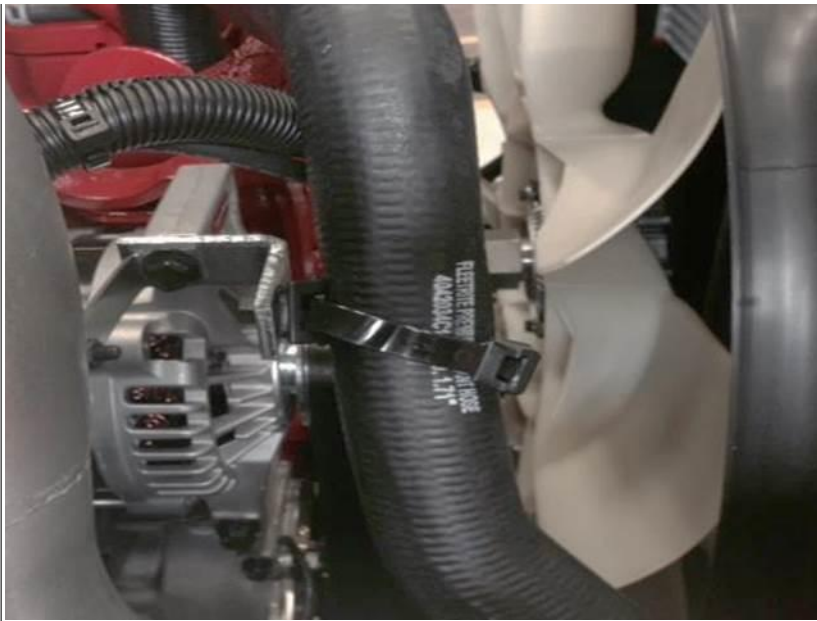


Figure 4: Issues - zip strap loose, extension bracket not at correct angle and saddle clamp is off angle



Figure 5: Issues - zip strap over tight, saddle clamp at incorrect angle, and extension bracket at incorrect angle causing saddle and strap to dig into hose

CORRECT INSTALLATION:



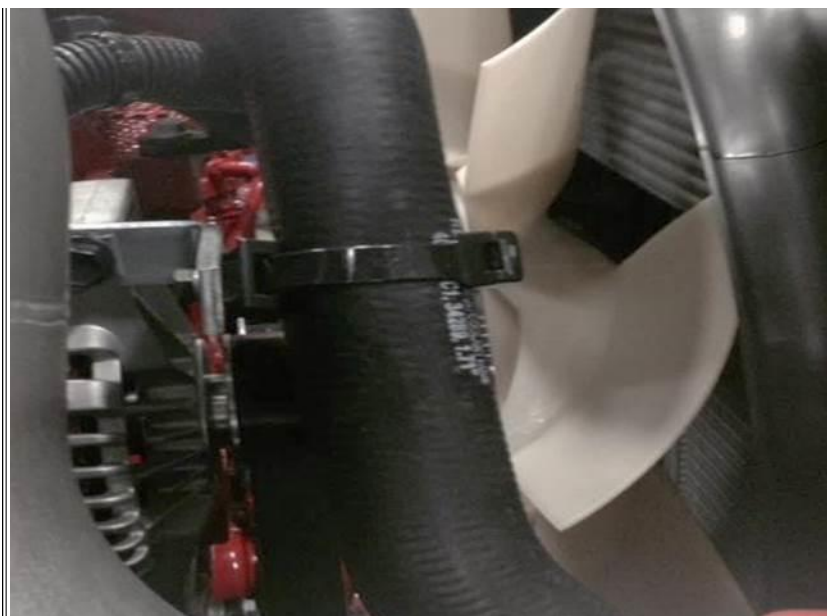


Figure 6: Unit assembled to specifications

WARRANTY INFORMATION

Warranty Claim Coding:

Group:	09009 - Cooling
Noun:	047 - Hose, Pipe Radiator

Standard Repair Times:

Description	Chassis	Engine	SRT	Hours
RADIATOR HOSE (UPPER), REPLACE	All Models	All Models	A09-290	0.4

OTHER RESOURCES

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