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Coding Information

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Title: Bus Engine Vibration with an Aftermarket Air Conditioning Installed

Applies To: CE Bus with Cummins engine vibration and aftermarket Air Conditioning installed

CHANGE LOG

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

05/18/2021 - Initial Article Release.

DESCRIPTION

This document will guide the user through the installation of Navistar approved compressor mounting brackets for the dual compressor air conditioning systems.

SYMPTOM(s)

Some configurations of aftermarket A/C systems can produce an engine vibration. The limited isolation between the engine & frame, and frame & body excites the seat track and creates a droning resonance right at the front of the bus with the most energy in the driver's platform area. This has shown to be experienced by customers at approximately 1350 RPM.

Customer Observations or Concerns:

Vibrations and some droning noise in the driver's area.

SPECIAL TOOL(s) / SOFTWARE

Tool Description	Tool Number	Comments	Instructions
Not Applicable			

SERVICE PARTS INFORMATION

Parts Description (See Figure 1)	Part Number	Quantity Required	Item Number
BOLT, FLANGE HEXAGON M8 X 100MM	1817962C1	8	1
STRAP, CABLE LOCK	306132C1	6	2
BOLT M10 X 30MM	30665R2	4	2
PULLEY, DRIVE, ADD- ON AIR CONDITION COMPR	4075767C1	1	2
BUSHING, IDLER PULLEY	2513034C1	1	3
PULLEY,ACC DRIVE	4132519C91	1	3
BUSHING, DOWEL, 8MM X 13 MM LONG	4076142C1	2	4

BOLT, FLANGE HEAD M8 X 25	31055R1	2	4
BOLT M10 X 110	1819559C1	2	4
LOCTITE BLUE 242, 2 (Purchas Locally)	PTX24200	1	4
SUPPORT, MOUNTING AIR CONDITION COMPR FOR ISB	4076073C1	1	4
SUPPORT	4130850C1	1	5
BOLT M8 X 60	31059R1	1	5
BELT, FAN 6 PACKAGE C15/16 ENGINES	3593533C2	1	6
TENSIONER, AUTOMATIC BELT	1830033C2	1	7
BOLT M10 X 80	31064R1	1	7

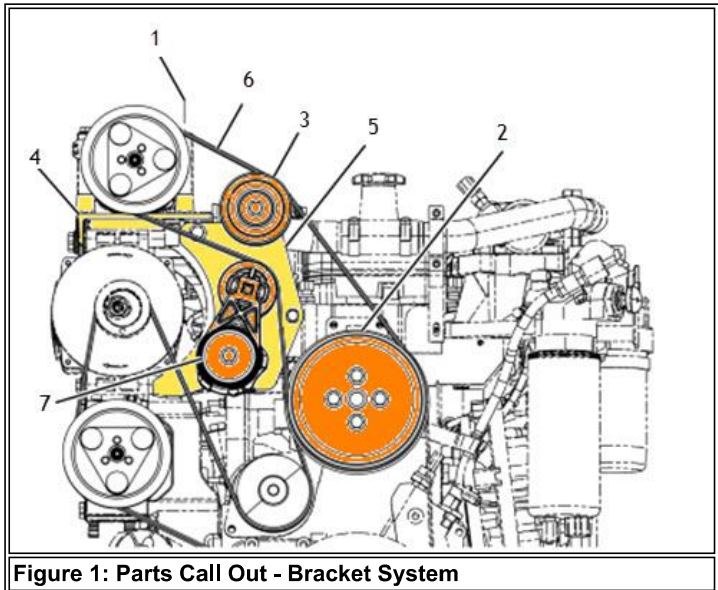


Figure 1: Parts Call Out - Bracket System

Parts Description (See Figure 2)	Part Number	Quantity Required	Item Number
HOSE, RADIATOR INLET, ENGINE, OUTLET	4042700C2	1	1
GUIDE, HOSE AND CABLE, 2 WAY	4039319C1	3	2
EXTENSION, CLIP	499479C1	2	2
STRAP, CABLE LOCK 250# 20"	3626607C1	3	2
EXTENSION CLIP (Must be acquired/made locally)	N/A	1	3

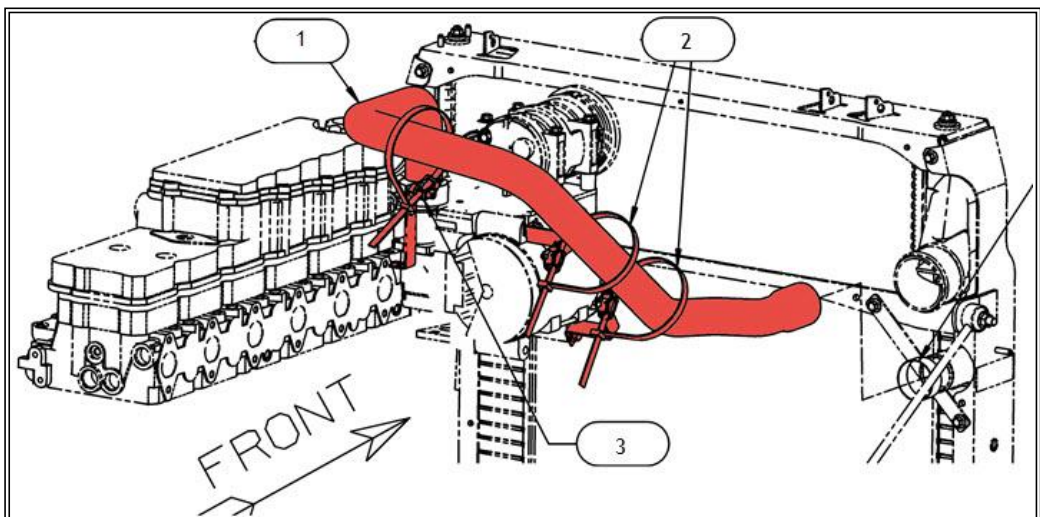


Figure 2: Upper Radiator Hose

DIAGNOSTIC STEP(s)



WARNING:

To prevent unexpected movement of the vehicle and possible serious personal injury or death, park the vehicle on a flat, level surface, set the parking brake, turn the engine off, and chock the wheels to prevent the vehicle from moving in both directions.



CAUTION:

To prevent damage or contamination to A/C Machine, the use of a detection device is recommended before any A/C recovery attempt.

Step	Action	Decision
1	DIAGNOSTIC: Does your bus experience a vibration in the driver's area as described in symptoms?	Yes. Proceed to step 2
		No. This article does not apply. Please search for another article that better meets your issue.

Step	Action	Decision
2	DIAGNOSTIC: Do you have a non-IC factory installed A/C system on your bus?	Yes. Proceed to Step 3
		No. This article does not apply. Please search for another article that better meets your issue.

Step	Action	Decision
3	DIAGNOSTIC: Does the aftermarket A/C system use compressors that meet the dimensional requirements in figure #3?	Yes. Proceed to Repair Instructions
		No. This article does not apply. Please consult the A/C installer/manufacturer

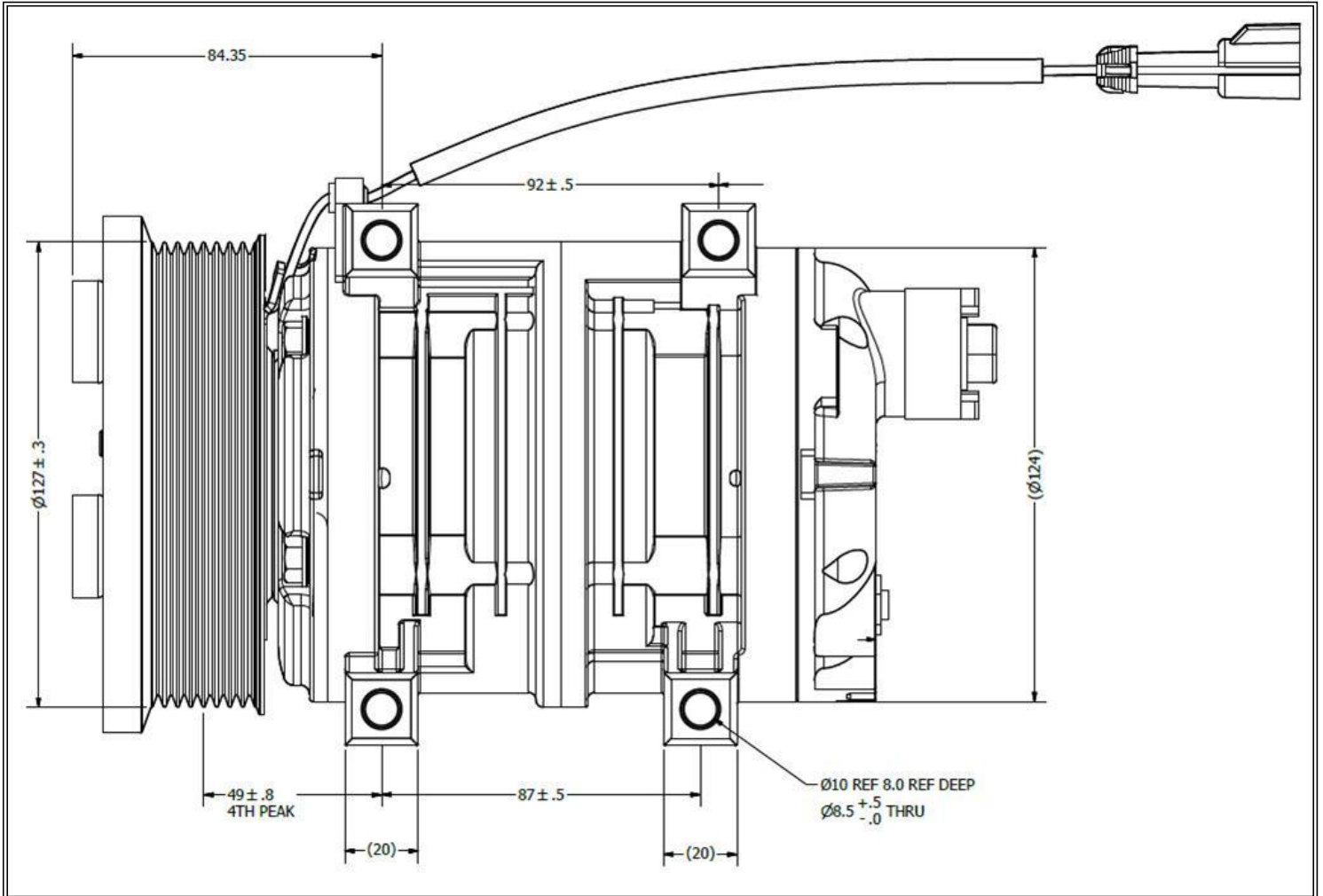


Figure 3: Compressor Dimensional Requirements

The repair can only be performed on A/Cs systems that meet the compressor dimensional requirements outlined in the image above.

REPAIR STEP(s)

NOTE:

Because this is an aftermarket system, this is not a warrantable repair. Any repairs are done at your own risk. Navistar and Cummins accept no responsibility for any failures that may occur.

NOTE:

It is recommended that you first contact the aftermarket A/C manufacturer for further assistance.

INSTALLATION PROCEDURE:

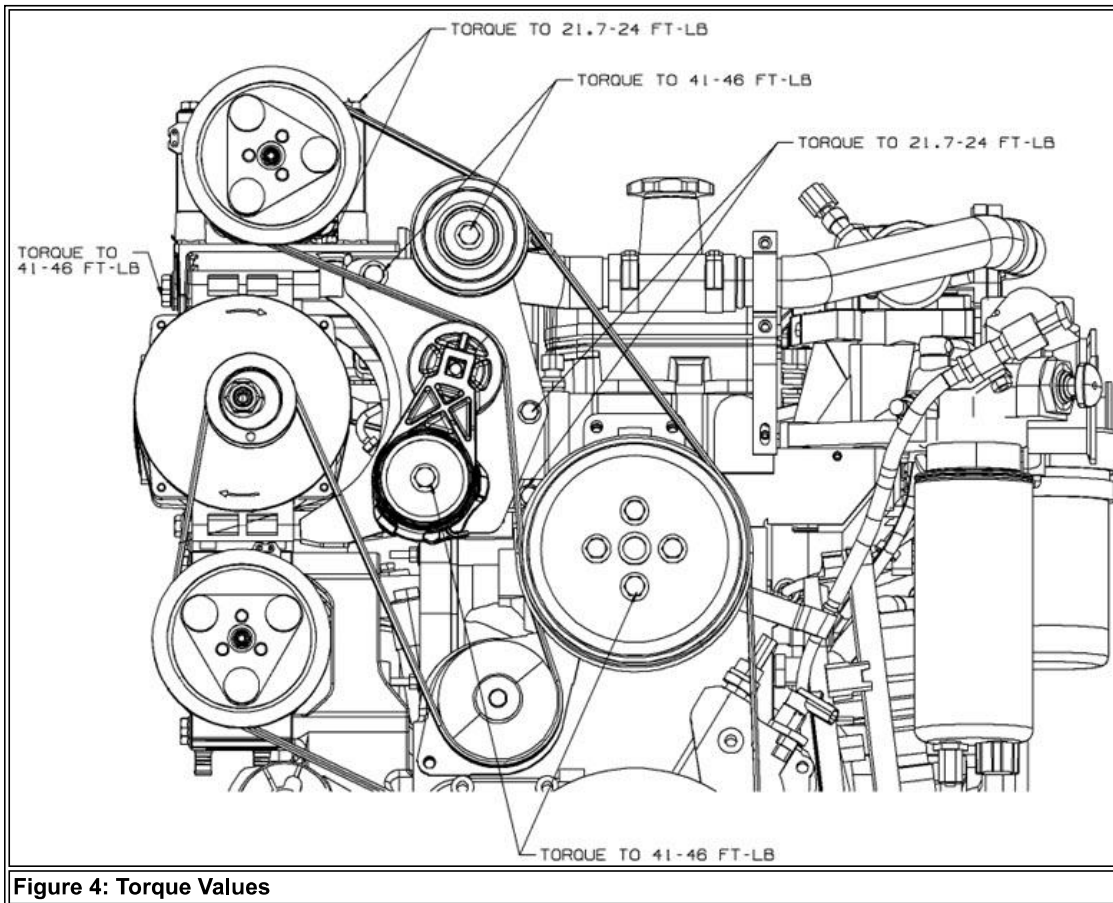


Figure 4: Torque Values

1. Measure the dimensions of the compressor to ensure it will work with the mounting pads and belt configurations.
2. Install the required parts to add the brackets and pulleys, refer to figure 4 for the torque values.
3. Install the updated upper radiator hose. Refer to figure #5 & 6 for standoff bracket installation recommendations.

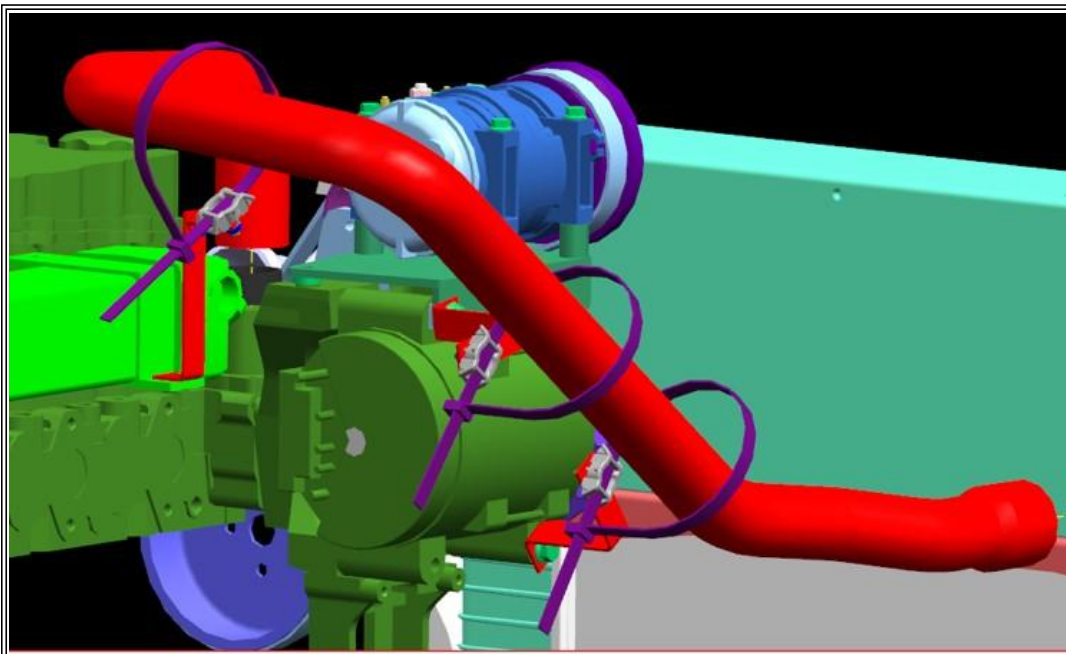


Figure 5: Upper Radiator Hose Installation

Note the location of the hose mounting brackets

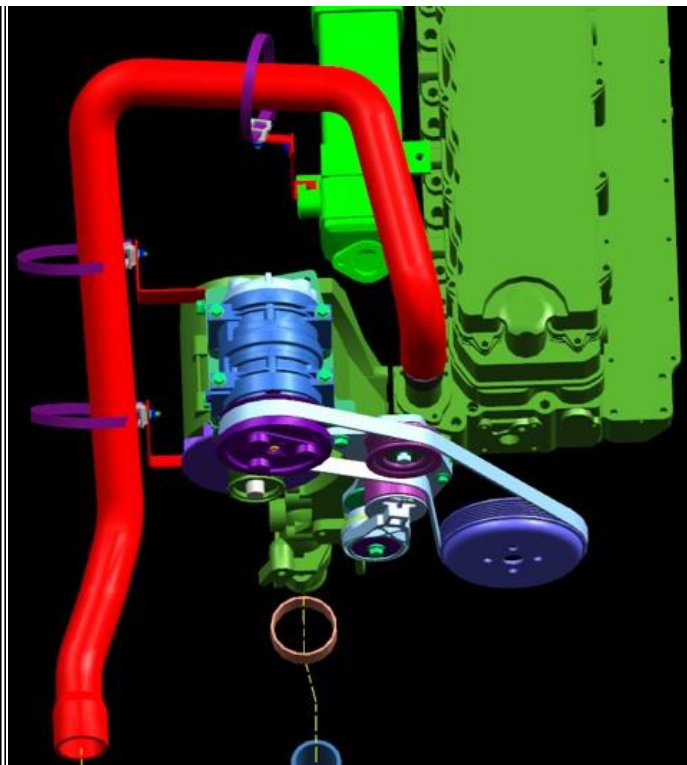


Figure 6: Upper Radiator Hose Installation

Note the location of the hose mounting brackets

WARRANTY INFORMATION

NOTE:

Because this is an aftermarket system, this is not a warrantable repair. Any repairs are done at your own risk. Navistar and Cummins accept no responsibility for any failures that may occur.

Standard Repair Time(s):

NOTE:

Because this is an aftermarket system, this is not a warrantable repair. Any repairs are done at your own risk. Navistar and Cummins accept no responsibility for any failures that may occur

OTHER RESOURCES

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