



## INSTRUCTION TO SERVICE

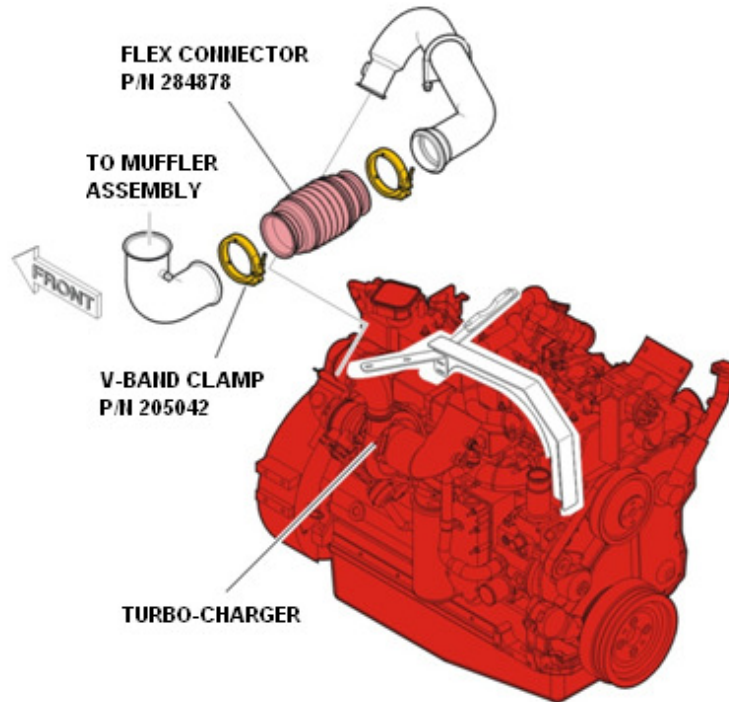
<b>ITS: 5274</b>	
<b>SECTION:</b>	219 Engine & Transmission
<b>WRITTEN BY:</b>	Mike Pearson
<b>SUBJECT:</b>	Remove & replace exhaust flex connector.

# ITS5274

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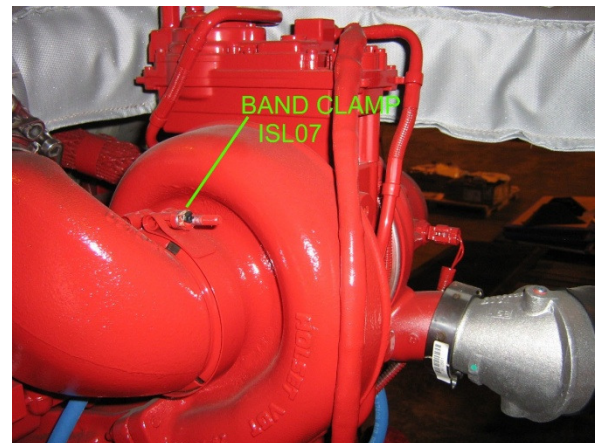
**PROCEDURE:**

1. Turn the main battery disconnect switch to the “OFF” position.
2. Open the rear engine access door.
3. Loosen V-band clamps P/N 205042 to remove the existing flex connector (bellows) P/N 284878. Set them aside. See Fig. 1 below (illustration shown with no exhaust blanket).



**Figure 1: Exhaust Flex Connector**

4. Collapse the alignment tool P/N 6360381 and position it in between the exhaust tubes. If required, adjust the exhaust tubes by loosening the V-band clamps on the turbo connection and at the muffler joint elbow. See Figure 2. Also loosen the U-clamp holding the exhaust tube to the bracket.



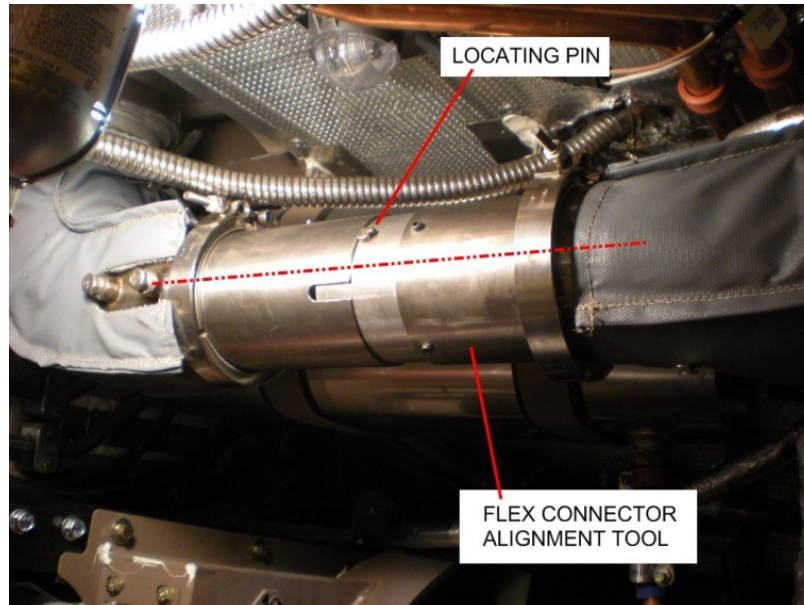
**Figure 2: Exhaust Tube Joints**



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5. Rotate both ends of the alignment tool until it locks into the expanded position (locating pin should be out of the slot and in contact with edge of the slotted end of the tool). Make sure that the flanged end of the exhaust tubes are properly seated to the tool. Install the V-band clamps. Adjust the exhaust tubes as required. See Fig. 3 below.

☞ **NOTE:** Adjustment of muffler and/or exhaust tubes might be necessary to achieve proper alignment. Loosen muffler-mounting bolts on top and at the base, if this is required.



**Figure 3: Flex Connector Alignment Tool**

6. After verifying that the tubes and tool are all aligned. Tighten the V-band clamp on the turbo connection to **100 IN-LB**. Tighten U-clamp. Tighten V-band clamp on the muffler connection to **75 IN-LB**. Tighten bolts on the muffler if these were loosened.
7. Loosen V-band clamps on the tool and slide them out of the way. Collapse the tool by rotating both ends and slipping the pin into the slot. Remove the tool.
8. Inspect the condition of the flex connector and V-band clamps for wear and permanent deformation. Replace the flex connector P/N 284878 with a new connector p/n 6408576 and use new V-band clamps p/n 205042 as required.
9. Install the flex connector p/n 6408576. Tighten V-band clamps P/N 205042 to **75 IN-LB**. Visually inspect the newly installed flex connector alignment.

☞ **NOTE:** Make sure the flex connector is not stretched or compressed when attached to the exhaust pipes. See Appendix A – Alignment Specification.

10. Turn the main battery disconnect switch to the “ON” position.
11. Start the bus and check for exhaust leaks, adjust as needed.



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12. After the flex connector installation has been completed cover the new connector with the new insulation blanket p/n 6407715 and fasten using attached clasps, seam should be parallel and facing the rear of the bus, See Figure 4.



**Figure 4: Insulated Blanket Installation**

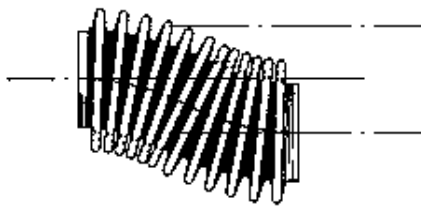
13. Close the rear engine access door.

## APPENDIX A – Exhaust Flex Connector Alignment

**⚠ WARNING:** The exhaust flex connector is extremely sensitive to installation. A slight misalignment will result in premature failure. Careful inspection of the alignment is necessary.

**👉 NOTE:** Drawings and pictures shown may not exactly look like the actual parts on the bus. The illustrations are shown for visibility purposes.

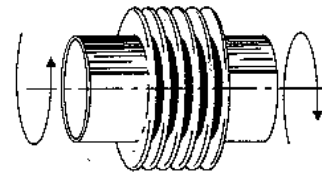
### MODES OF MISALIGNMENT



Lateral

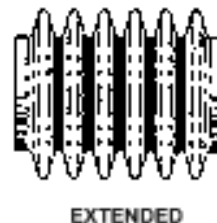


Squirm



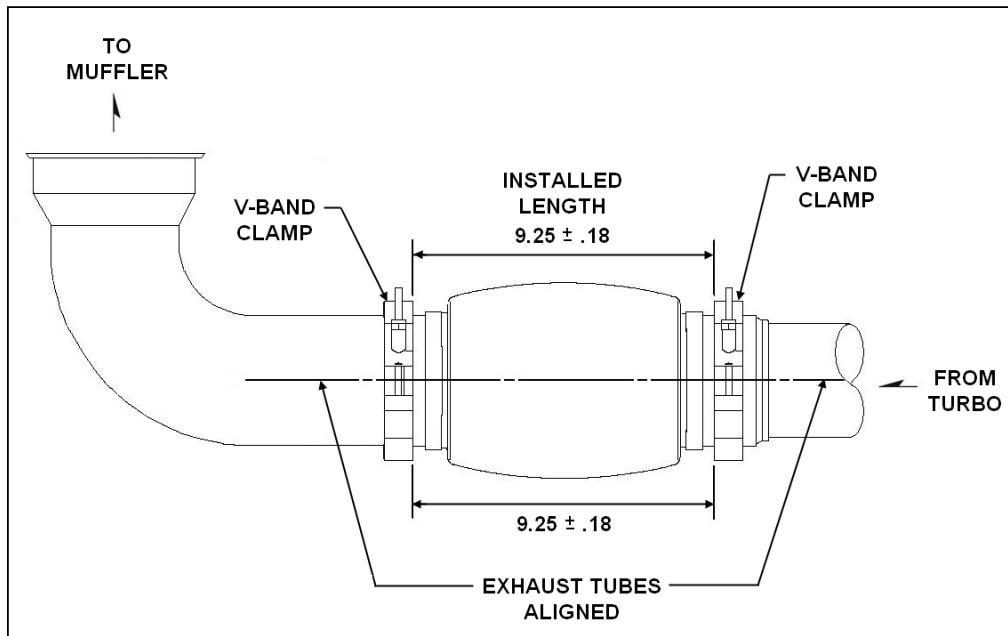
Torsional

Any combination of these conditions can lead to a dramatic reduction in component lifetime.



Axial

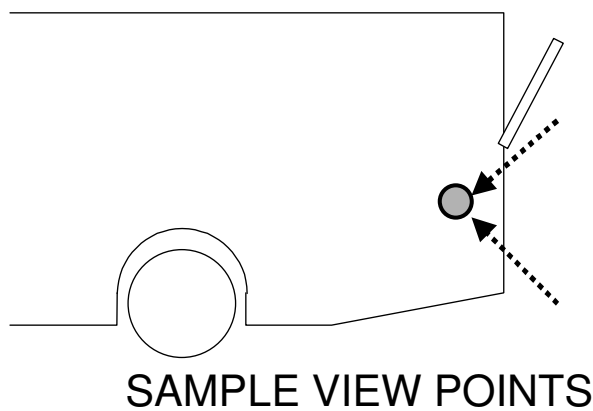
A correct installation will be straight. The exhaust flex connector will not be installed with torsion.



☞ **NOTE:** Distance between torque clamp edges must be 9.25" +/- .18. Adjust exhaust tubes to achieve this distance (Free Length).

*INSPECTING FOR MISALIGNMENT*

You must inspect the flex connector from two different viewpoints. **If the bend or offset is in the same plane as your eyes, you will not see it.** Be sure the two viewpoints are approximately 90° different, such as viewing from above, and below, as shown in the following diagram.





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### LABOUR ESTIMATE

	Operation	Men	Hours	Labour Time M X HR
1	Remove & replace exhaust flex connector.	1	2.0	2.0

### PARTS REQUIRED

Item	Part Number	Description	Qty. per Coach	Units	Notes
1	6408576	BELLOW EXHAUST DURA FLEX BRAIDED	1	EA	
2	6407715	BLANKET EXHAUST FLEX CONNECTOR	1	EA	
3	205042	CLAMP EXH V/BAND 4 75	2	EA	Replace if required.

### SPECIAL TOOLS REQUIRED

Item	Part Number	Description	Qty.	Units	Notes
1	6360381	TOOL, FLEX CONNECTOR ALIGNMENT		EA	