

DTNA Solutions > Service Solutions > Western Star  
> SS 700-WST2021 49X Vertical Exhaust Loose

# SS 700-WST2021 49X Vertical Exhaust Loose

## **Applicable Vehicles**

WST 49X vehicles built with dual/split vertical exhaust

## **Symptoms**

Loose exhaust, audible noise, excessive movement of grab handles at the lower B-pillar mounting.

## **Issue**

Torqueing sequence of exhaust pipe mounting brackets and fasteners.

## **Solution**

Re-torque fasteners to correct specs per attached procedure document.

Labels :

49X

Add tags

## **Attachments**



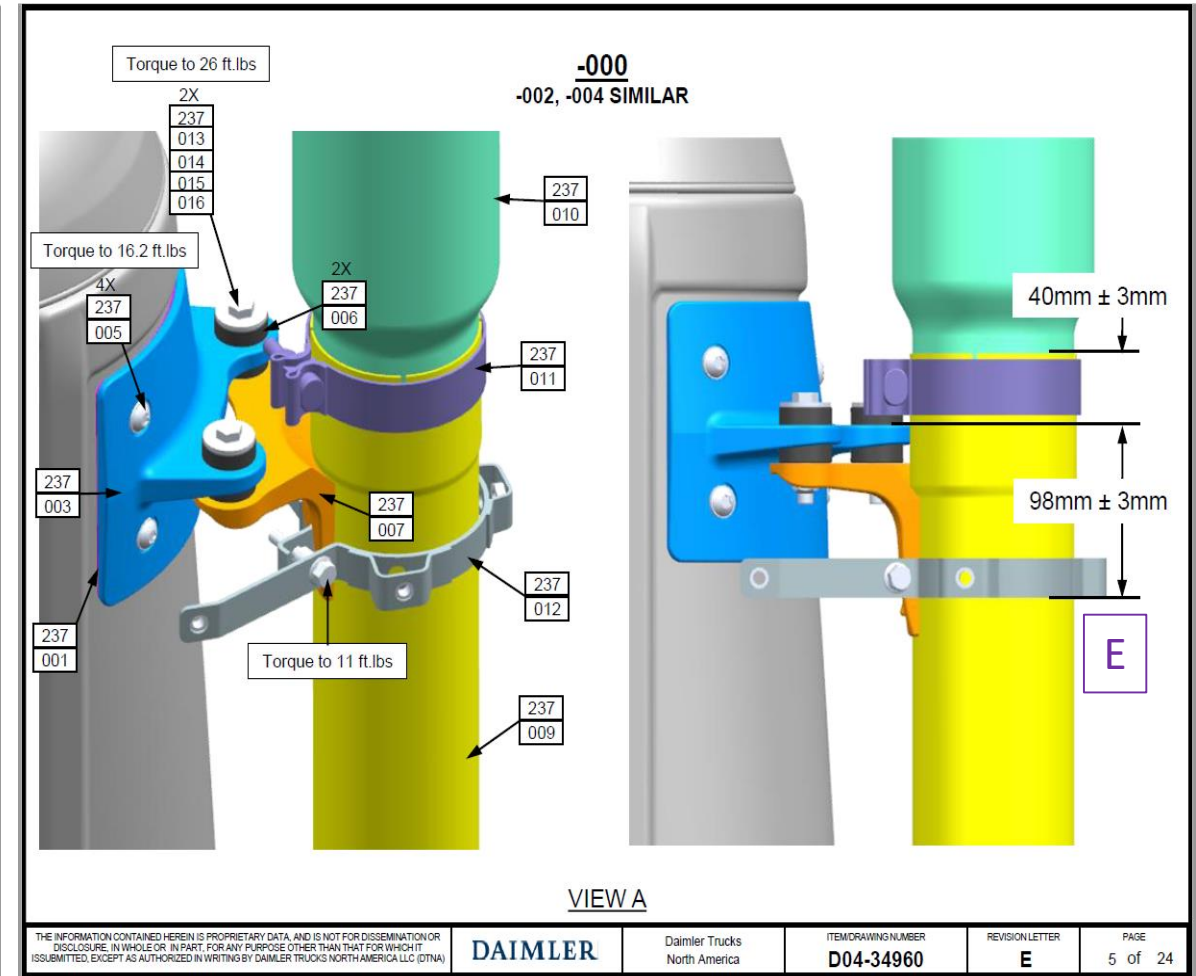
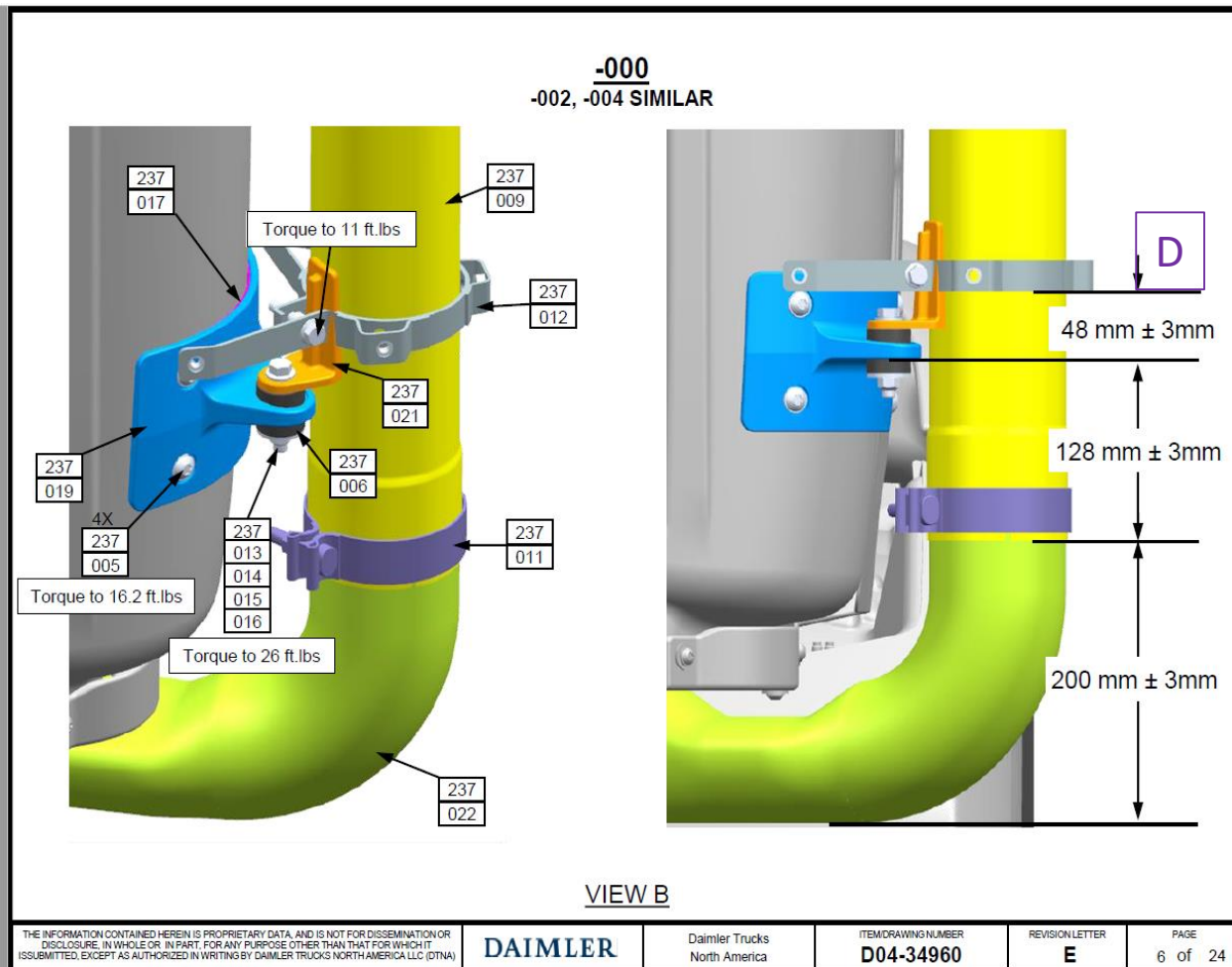
## Comment



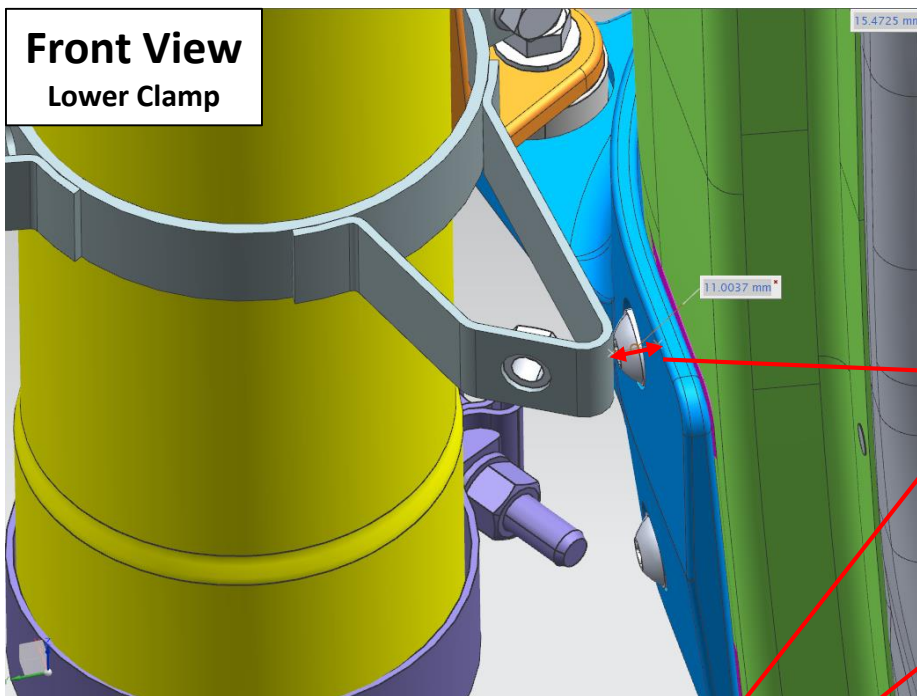
# FRACAS - 13595 - 49X Dual/Split Vertical Exhaust Loose at Lower B-Pillars

Proposed Draft Production and Field service Containment proposal:

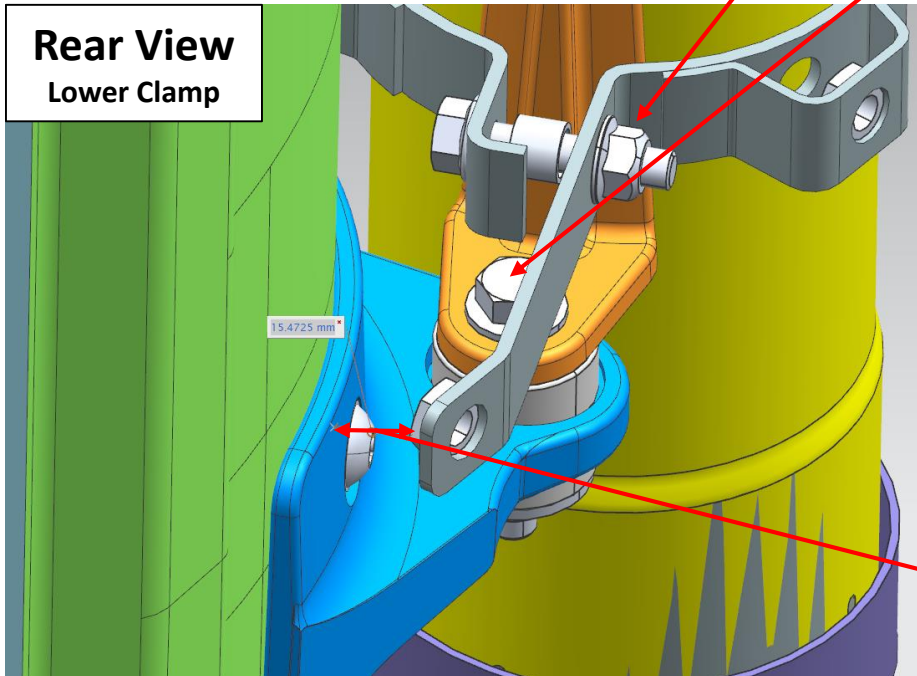
Critical that assembly is confirmed for correct torques and Key dimensions D/E Noted Below



Front View  
Lower Clamp



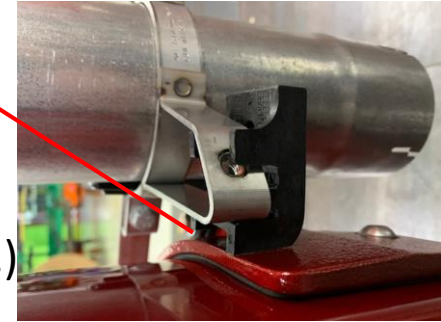
Rear View  
Lower Clamp



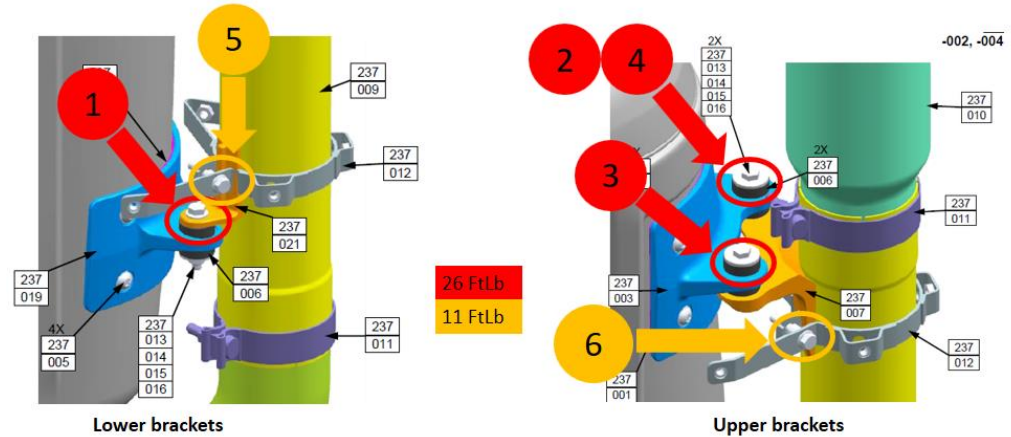
# 49X B-Pillar Exhaust

## Lower Clamp-to-Casting Spacing Control

1. Remove exhaust shield
2. Loosen lower clamp to allow some rotational play in joint
3. Insert 12.5mm thick spacer block to set lower clamp-to-casting FWD spacing.
4. Torque bottom isolator fastener to 26 ft.lb.
5. Follow torque sequence below.(see next pg.)

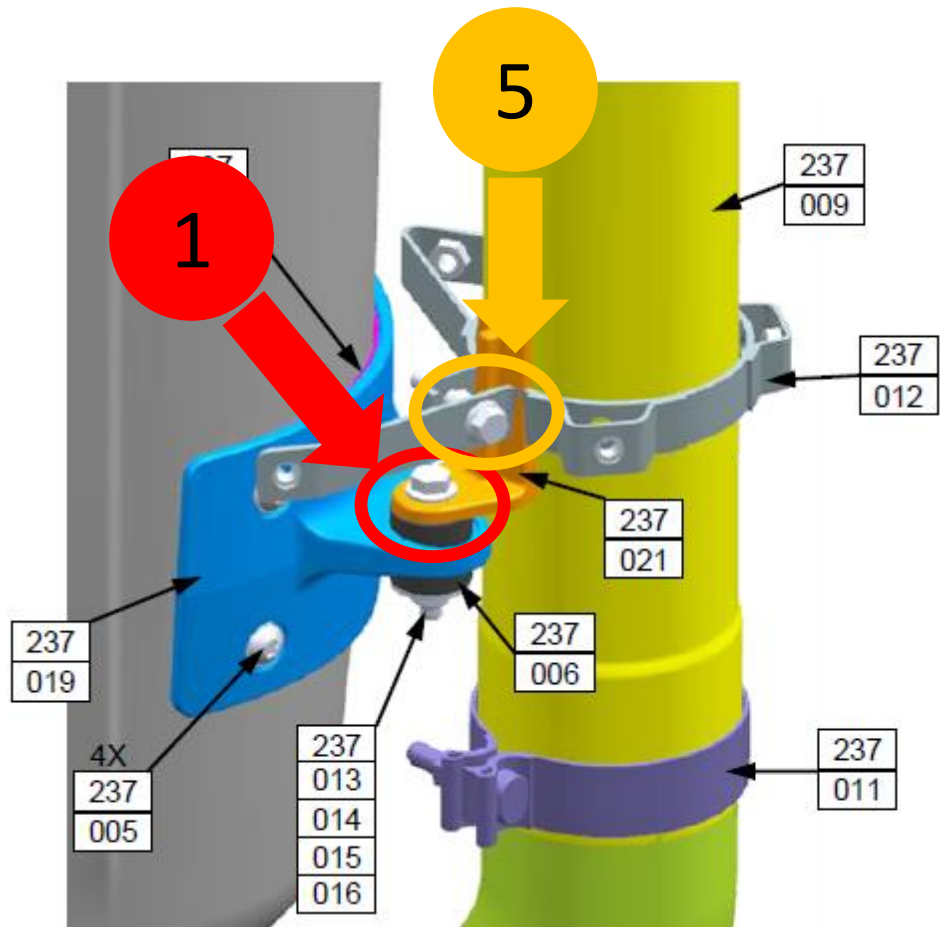


### Exhaust fastener torque sequence



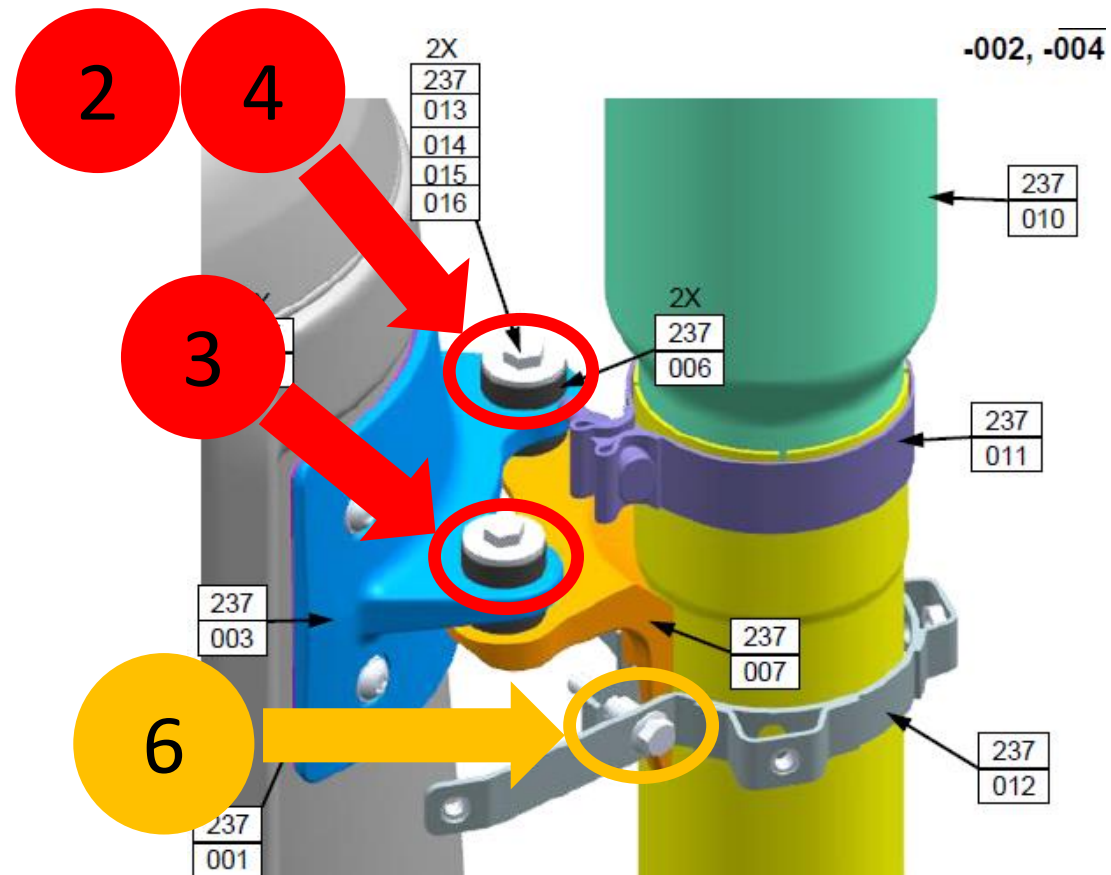
6. Check lower clamp-to-casting REAR spacing.(min. 10 mm needed to both Rear and Front bracket to ensure exhaust shield clearance to cab skin)

# Exhaust fastener torque sequence



Lower brackets

26 FtLb  
11 FtLb



Upper brackets

# LOWER LH EXHAUST CAB BRACKET AND CLAMP MEASUREMENTS



**OK:**  
**Target:** 12.5mm  
**Actual:** 12mm

**FORWARD MEASUREMENT  
(Target 12.5mm)**



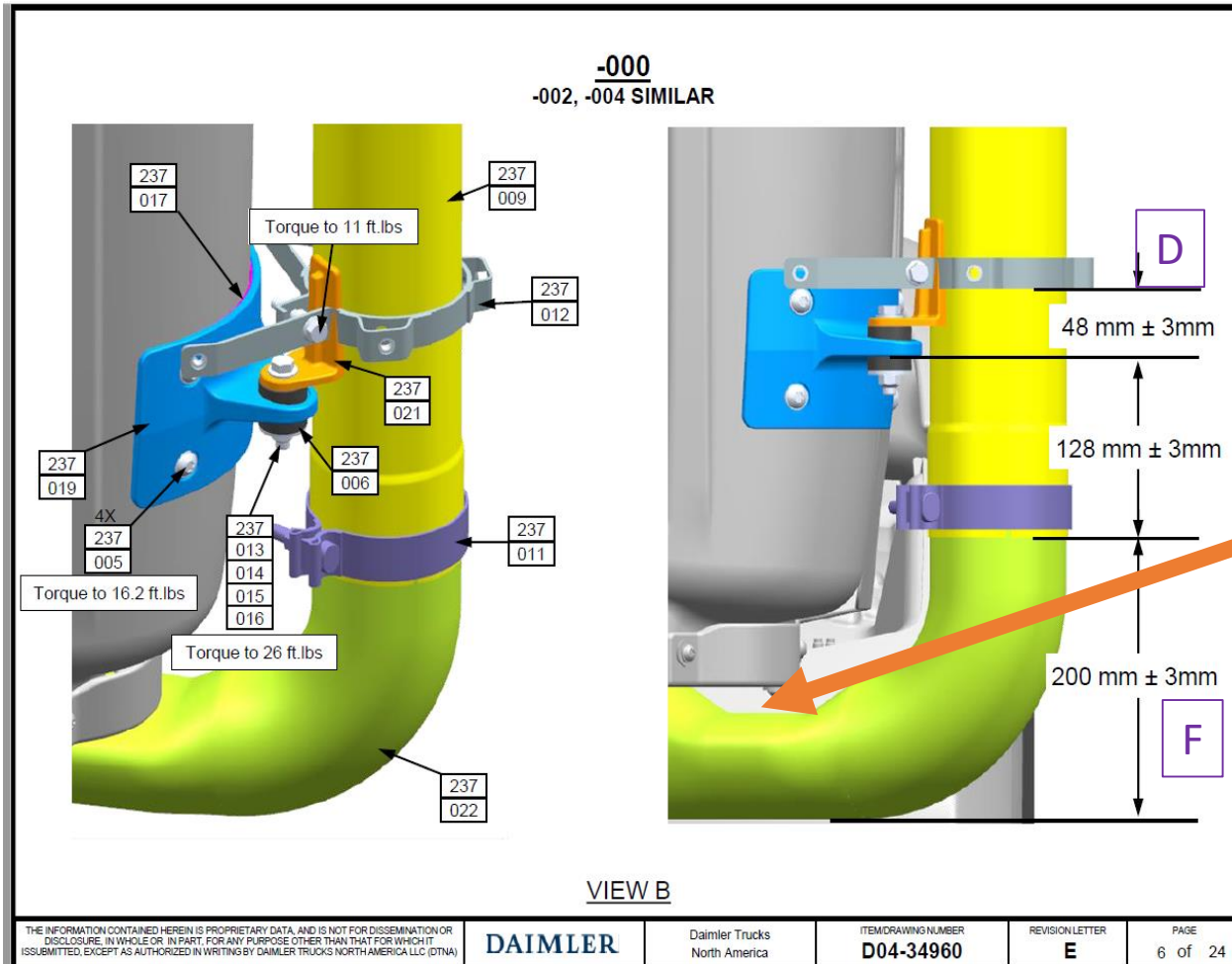
**NOK:**  
**Actual:** 8.5mm

Gap Needs to be Minimum of 10MM at Front and Back to avoid exhaust shield contact to cab

**AFT MEASUREMENT**

# FRACAS - 13595 - 49X Dual/Split Vertical Exhaust Loose at Lower B-Pillars

Proposed Production and Field service Containment proposal:



7. Confirm Minimum gap of 15 MM between Cab Valence panel and exhaust elbow. Maintain Max. 21 MM (or 203MM) to avoid risk of tight service clearance to battery box cover or other chassis mounted components. Loosen and retorque purple exhaust clamp(to 41 FtLBs) if required.

8. Final Check for Vertical exhaust shields and Verification on Gaps and motion after repair and reinstalling exhaust Shield and Grab Handle

B. Check **minimum** Gap found to Shield and cab skin. It will need to be  $> 4$  mm .

A. Measure and Record minimum Gap found- Needs to be  $> 4$  mm or can have risk for “clicking” or paint damage from motion/vibrations.

C. Measure similar gap (Min. 4 mm) to back bracket to exhaust shield

D. Apply force to grab handle. Deflection (shield should return to original loc) is not to exceed  $\pm 3$ MM or assembly torques will need reconfirmed and retightened.



## Offline Repair/ validation steps

1. Remove LH or RH exhaust Shield in offline or Service bay.
2. Reinstall grab handle (to allow for force testing in step 11 &12 below.)
3. Mark with Paint pen the 5 joints and observe motions for looseness.
4. Review where Looseness Is occurring? Upper or lower isolators or brackets?
5. Review Height of cab line mark from the Pipe to the lower orange bracket if marked and if it has moved
6. Check , record and adjust Height of 48+- 3mm clamp from Page 1 (sheet 6/24) if necessary
7. Check, record and adjust height of 98 +- 3mm to top clamp from Page 1(sheet 5/24)
8. Reset Lower clamp to exhaust clamp position per PPT page 2
9. Retorque all joints per SEQUENCE to PPT slide 3.
10. Confirm clamp spacing is minimum of 10MM per PPT slide 4( on both the front and back)
11. Confirm Deflection to bracket is less than +- 3mm Per PPT slide 6 step D
12. Confirm exhaust elbow Height is ok per PPT Page 5 step 7
13. Confirm if No paint damage to cab. If so, touchup as required.
14. If Ok, Reassemble exhaust shield and complete PPT slide 6 for confirmation and close cry.
15. APA/QA team Complete 43N Vertical exhaust check sheet before release of Unit.