

FLA COE
FLB COE
FLD Conventional
Business Class
FLC 112 Conventional

Century Class Conventional
Argosy COE
Cargo
Columbia

122SD and Coronado
Business Class M2
> Cascadia
108SD/114SD

**Freightliner
Service Bulletin**

General Information

Some EPA10-compliant Cascadia vehicles, manufactured from start of production to May 2012 for DD13-equipped vehicles, October 2012 for DD15-equipped vehicles, and October 2012 for Cummins ISX-equipped vehicles, with specific combinations of engine operating parameters, may have radiator failures resulting in a coolant leak due to a crack in the coolant tube. See **Fig. 1**. Leaks in other places (at the end tank, header, fittings, or any place other than the coolant tubes) do not apply to this bulletin. If leaks occur in the coolant tubes, Freightliner recommends that a replacement radiator of the same type be accompanied with a tuned mass absorber (TMA).

DTNA analysis has determined with some vehicle configurations, and at certain operational speeds, a radiator resonance can occur. This resonance can result in cooling tube fractures and a coolant leak. After successful testing in DTNA labs, and in trials in the field, DTNA has developed a means to stop the radiator resonance with a TMA. In this application (similar to many automotive applications) a specific mass of cylindrical steel is attached to a tuned mold of rubber, creating a tuned mass absorber. This effectively counteracts vibrations, significantly limits radiator resonance, and greatly extends radiator life. Considering the benefit to radiator life, limited downtime, and cost compared to converting to an isolated radiator installation, DTNA recommends the installation of a TMA service kit (Z05-31778-000) when replacing 1625 sq in radiators.

IMPORTANT: This procedure applies **ONLY** to Cascadia vehicles with "bow-tie" mounted 1625 sq in radiators. See **Fig. 2**.

A preemptive installation of a TMA may extend radiator life, but it is **NOT** warrantable unless combined with a warrantable radiator replacement.

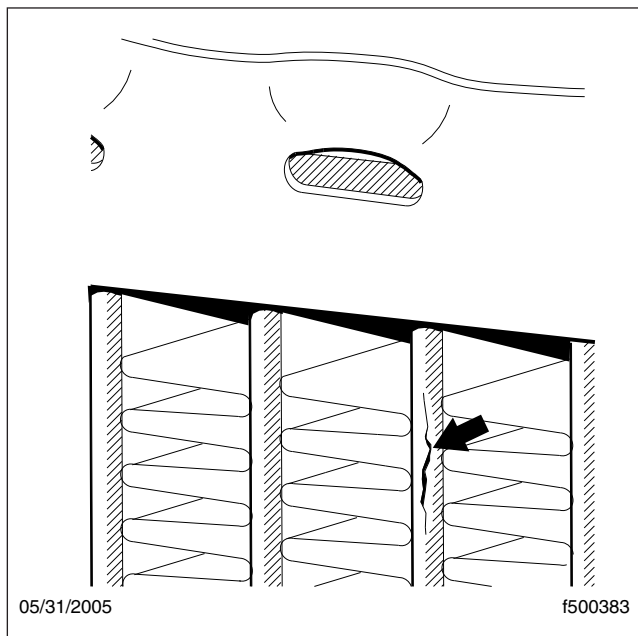


Fig. 1, Crack in Coolant Tube

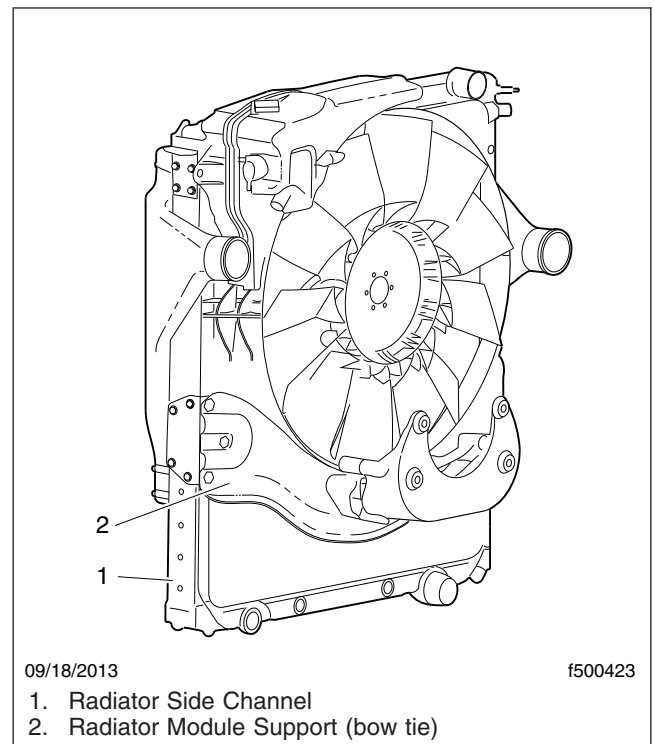


Fig. 2, "Bow-Tie" Mounted 1625 sq in Radiators

Installation

IMPORTANT: Before performing this procedure, determine that the vehicle being serviced is properly equipped to receive this modification.

1. Park the vehicle on a level surface, shut down the engine and set the parking brake. Chock the tires.

NOTE: When replacing the radiator, do not install the lower right-hand radiator baffle; discard it. Leave the bumper off until after the TMA is installed.

2. If replacing the radiator, follow the instruction in **Subject 20.00, 100** of the *Cascadia Workshop Manual*.
If only adding a TMA, remove the bumper.
3. Remove and discard the right-hand lower radiator baffle, if installed.
4. Clean the radiator right-side channel surface as needed. See **Fig. 3**.

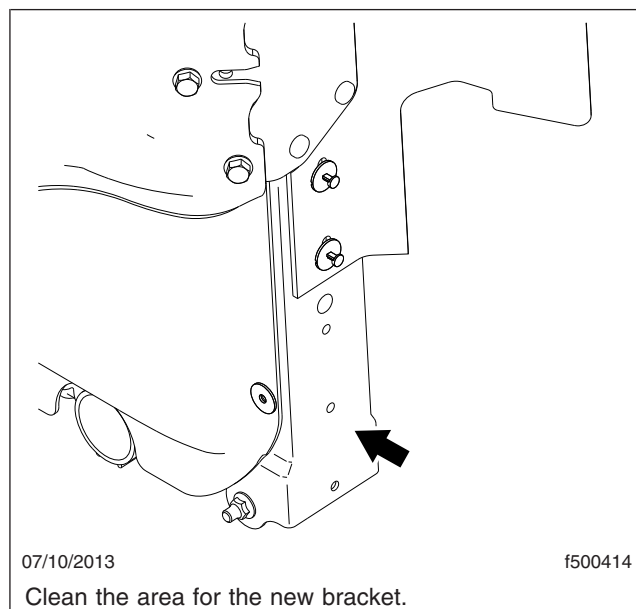


Fig. 3, Cleaning the Side Rail

NOTE: Some radiators may already have the correct size mounting hole.

5. Check the diameter of the mounting hole. If the hole is the correct size (15/32 inch [11.7mm]), go to step 7. If not, go to the next step.
6. Using needle-nose vice-grips, clamp the drill stop included in the kit over the existing hole in the radiator side channel as shown in **Fig. 4**.
7. Drill out the existing hole to 15/32 inch (11.7mm).
8. Insert a U-nut (23-13093-018) on the radiator channel over the new hole. See **Fig. 5**.

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Fig. 4, Drill Stop Installation

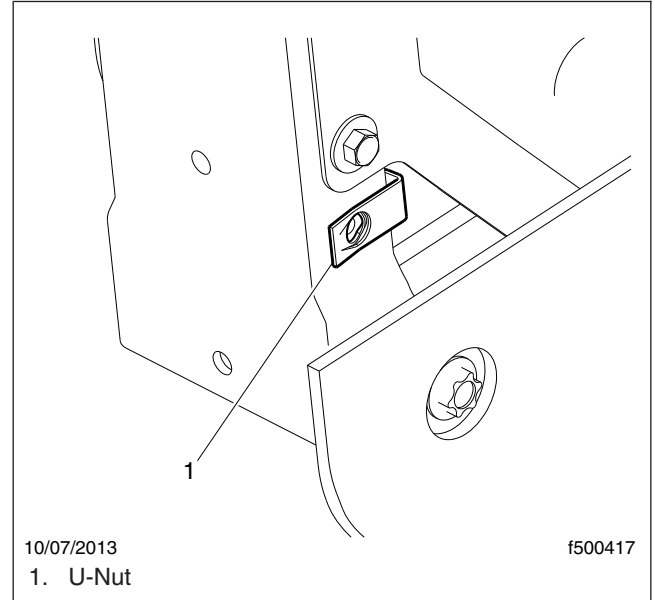


Fig. 5, U-Nut Installation

9. Position the TMA mounting bracket and start a M8 flange bolt into the U-nut as shown in [Fig. 6](#). Do not tighten at this time.

NOTICE

Improper installation of the threaded plate may cause damage to the radiator core.

10. Slide the threaded plate up inside of the radiator side channel as shown in [Fig. 7](#). Make sure the notch is facing the radiator core.
11. Install the two remaining M8 flange bolts through the bracket into the threaded plate as shown in [Fig. 8](#). Tighten all three M8 flange bolts 17 lbf-ft (23 N·m).
12. Install the TMA, retaining bracket, spacer, and M12 flange bolt. Tighten the flange bolt 60 lbf-ft (81 N·m). See [Fig. 9](#) and [Fig. 10](#).
13. Install the bumper. For instructions, see **Group 31** of the *Cascadia Workshop Manual*.

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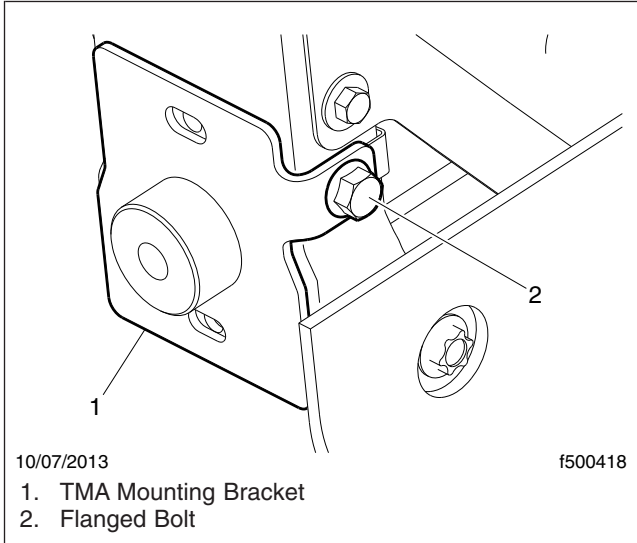


Fig. 6, Positioning the TMA Mounting Bracket

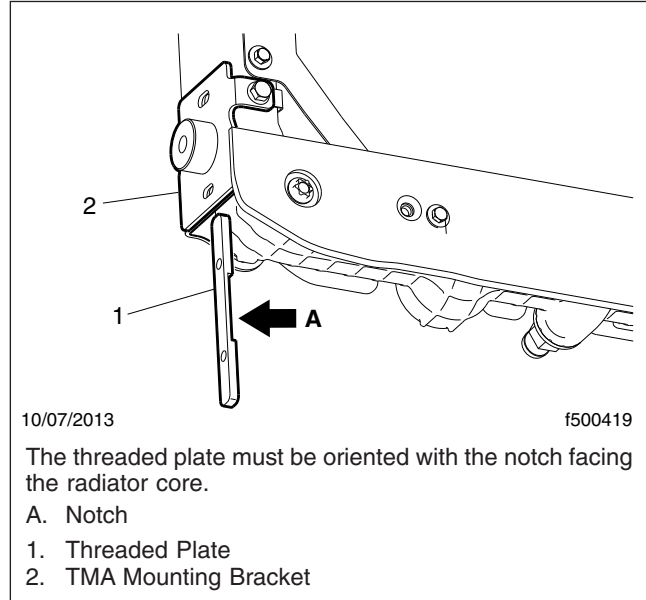


Fig. 7, Threaded Plate Installation

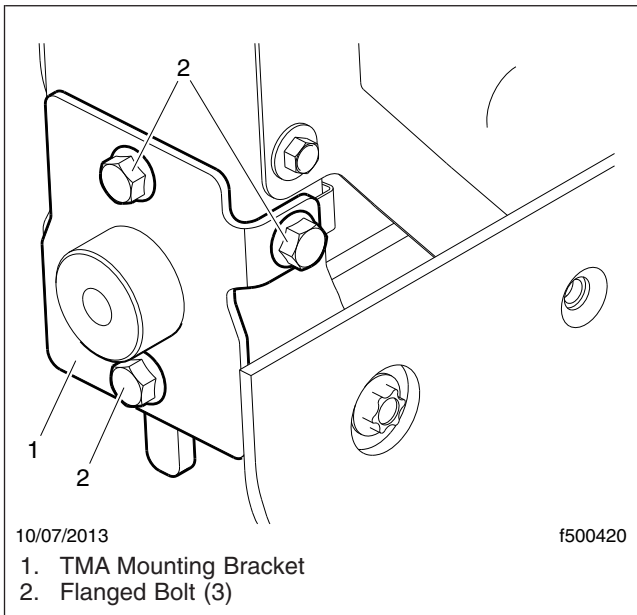


Fig. 8, Final TMA Mounting Bracket Installation

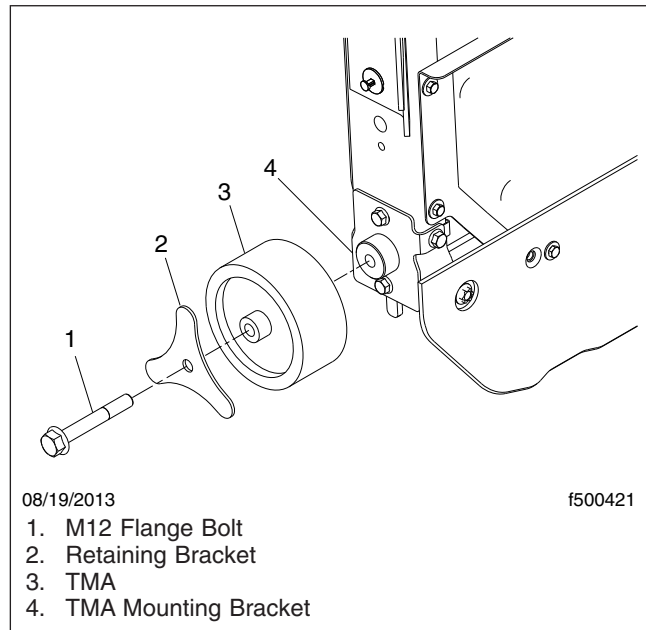


Fig. 9, TMA Installation (exploded)

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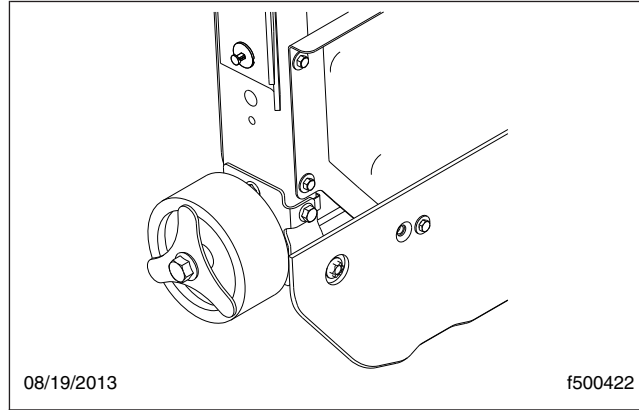


Fig. 10, TMA Installation

Parts

The TMA installation kit (Z05-31778-000) is available through the PDCs.

Warranty

This procedure is warrantable only if the described condition exists and the repair is performed within the applicable base or extended coverage warranty period. If a failure is not found, this procedure is considered preventive and warranty does not apply.

Normal warranty applies. See [Table 1](#) for OWL VMRS codes and labor allowance information. Enter this service bulletin number in the *Service Bulletin #* field.

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OWL VMRS Codes and Labor Allowance					
Primary Failed Part	Component Code	Cause Code	SRT Code	Description	Time: Hours
05-29619-001					
05-29617-000					
05-29617-001					
05-29617-002					
05-29617-003					
05-29617-004					
05-29617-005	042-002-001	14	266-5046A	R/R Radiator, Install TMA	5.8
05-29617-006					
05-29617-007					
05-29617-008					
05-29617-009					
MOD 3S0581790003					
MOD 3S0581790002					

Table 1, OWL VMRS Codes and Labor Allowance