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Argosy COE  
Cargo  
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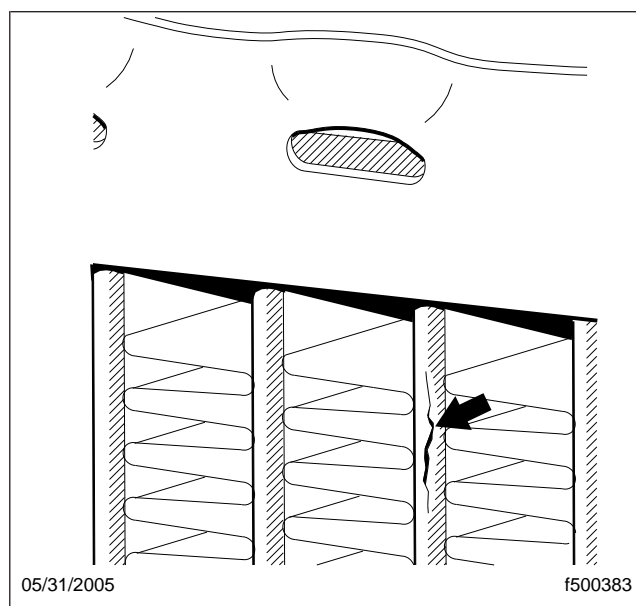
**Description of Revisions:** *This bulletin replaces the version dated November 2013. The SRT code in the "OWL VMRS Codes and Labor Allowance" table has been corrected.*

## General Information

Some EPA10 compliant Cascadia vehicles, manufactured from start of production to the dates listed below, 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 for this bulletin. If leaks occur in the coolant tubes, Freightliner recommends a radiator update to an isolated engine-mounted 1400 sq in radiator. This procedure is to replace a standard engine-mounted 1625 sq in radiator with an isolated engine-mounted 1400 sq in radiator. DTNA engineering has determined that the 1400 sq in radiator is within the guidelines to adequately cool all engines and horsepower ranges for this vehicle.

**IMPORTANT:** Beginning October 2012, ISX15 equipped vehicles are standard with isolated engine-mounted radiators. As these vehicles already have isolated engine-mounted radiators, they are not covered under this bulletin.

**IMPORTANT:** The required parts for this procedure will vary depending on the vehicle BBC measurement and the type of engine and transmission installed. Refer to the tables under "Parts" for lists of required parts for the vehicle being serviced.



**Fig. 1, Crack in Coolant Tube**

## Replacement

1. Park the vehicle on a level surface, shut down the engine, and set the parking brake. Chock the tires.
2. Open the hood.
3. Remove the bumper. For instructions, refer to **Group 31** of the *Cascadia Workshop Manual*.

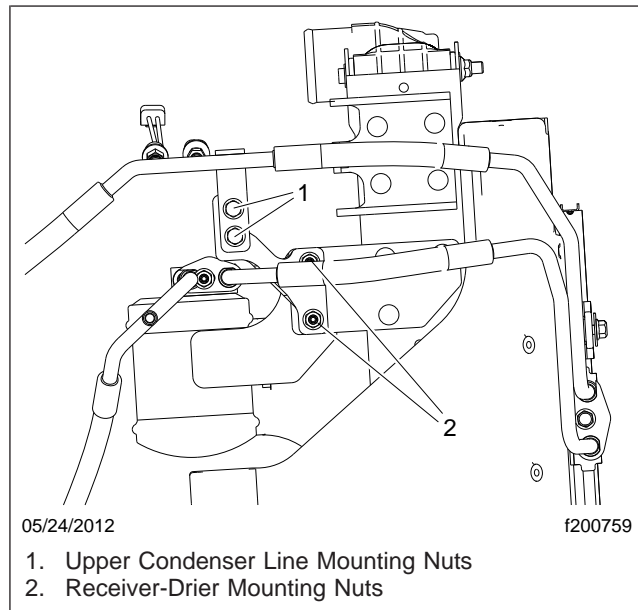
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4. Drain the coolant from the radiator and engine block.
5. Remove the hood. For instructions, see **Section 88.00, Subject 100** of the *Cascadia Workshop Manual*.
6. Remove the charge air cooler (CAC) hoses.
7. Remove the surge tank. For instructions, see **Section 20.00, Subject 110** of the *Cascadia Workshop Manual*.
8. Remove the upper radiator hose and discard.
9. Remove the three radiator strut rods and discard them.
10. Remove the upper fan shroud and discard.
11. Remove the fan. For instructions, refer to **Group 20** of the *Cascadia Workshop Manual*.
12. Loosen the A/C condenser and move it out of the way as follows.
  - 12.1 Remove the receiver-drier and upper A/C hose mounting nuts, then free the receiver-drier. See **Fig. 2**.



**Fig. 2, Receiver-Drier Installation (typical)**

- 12.2 Unbolt the A/C condenser from the CAC. See **Fig. 3**.

**NOTE:** Wrap the condenser in cardboard to protect it while it is moved.

- 12.3 Carefully move the condenser around and set it on right front tire. Secure it as needed. See **Fig. 8**.

13. Disconnect the transmission cooler lines from the radiator. Cap or plug the fittings to prevent spills.
14. Disconnect the lower radiator hose from the radiator, engine, and cross tube. Leave the lower coolant tube attached to the radiator mount.

**NOTE:** On some vehicles the CAC will have to be removed when radiator is out of the chassis.

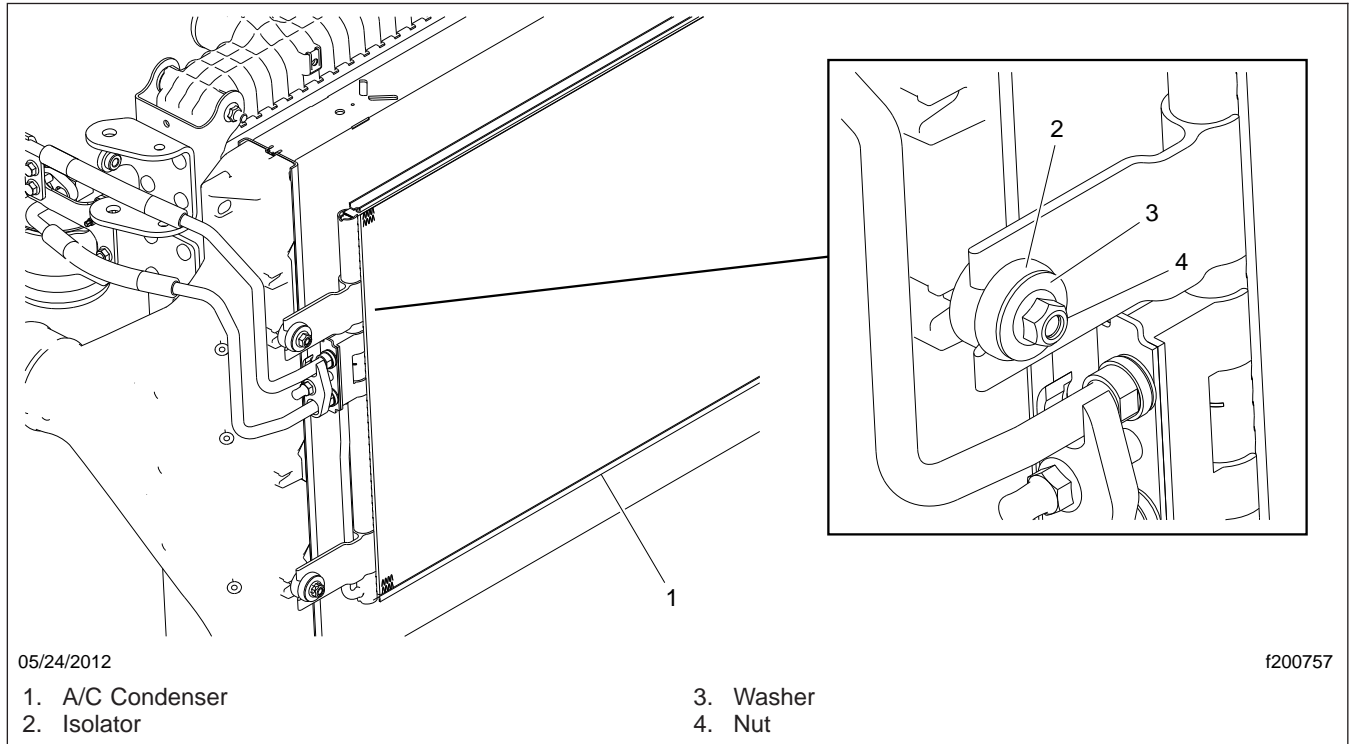
15. Remove the CAC from the radiator leaving the baffles bolted to the CAC.

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**Fig. 3, A/C Condenser Installation**

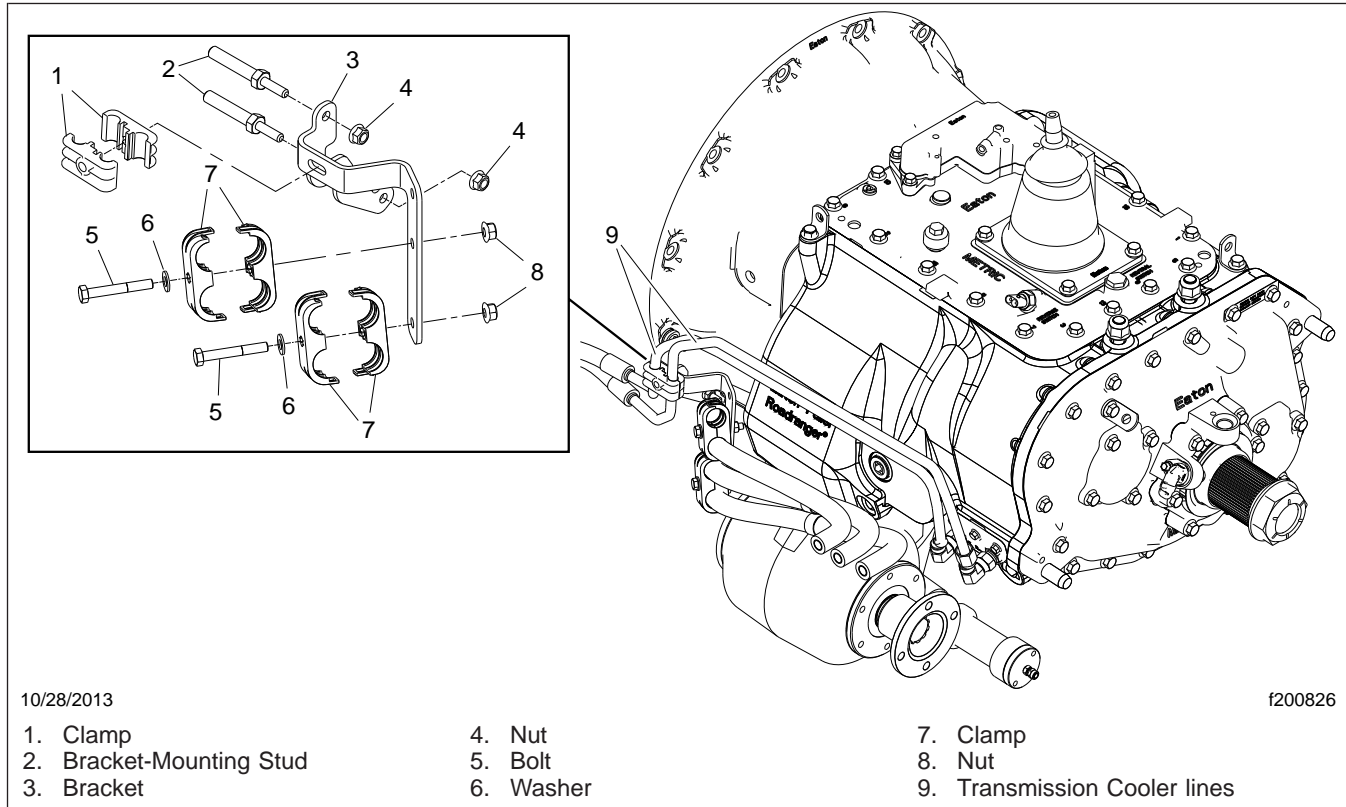
16. Unbolt the radiator from the lower mount.
  17. Using an appropriate lifting device, remove the radiator assembly from vehicle.
  18. Remove the lower radiator mounting brackets, with the lower radiator tube attached, from the engine and discard them.
- NOTE:** Keep all of the transmission cooler line mounting hardware for reuse when installing the new lines.
19. Remove the transmission cooler lines. Cap or plug the fittings at the transmission and on the lines to prevent spills.
  20. Install the new bell housing studs in the transmission bellhousing. Tighten 38 to 45 lbf-ft (52 to 61 N·m). See [Fig. 4](#).
  21. Install the new transmission cooler line bracket. See [Fig. 4](#).
  22. Attach the power cables as needed.
- NOTE:** Leave the clamps loose enough to be able to move the lines as needed when hooking up the jumper lines later.
23. Install the new transmission cooler lines from the transmission to the jumper lines on the radiator. Do not install the jumper lines at this time. See [Fig. 5](#), [Fig. 6](#), and [Fig. 7](#). For more vehicle-specific plumbing diagrams refer to EZWiring in PartsPro.
  24. Install the lower radiator mounting brackets. See [Fig. 9](#). Tighten 191 to 234 lbf-ft (260 to 317 N·m).

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**Fig. 4, Bell Housing Studs and Transmission Cooler Line Bracket**

25. Inspect the CAC isolators. If they are damaged, replace them with CAC hardware kit MOD 3S054916.

NOTE: It may be easier to install the CAC when the radiator is positioned in the chassis.

26. Install the CAC on the new radiator. Tighten the mounting bolts 22 lbf-ft (38 N-m)

27. Install the new fan shroud on the new radiator. See [Fig. 10](#).

28. On vehicles equipped with a VORAD collision warning system, remove the forward antenna cover and forward antenna from the mounting bracket, then remove the bracket from the front closing crossmember. See [Fig. 12](#).

On vehicles equipped with an OnGuard™ collision warning system, remove the antenna and mounting bracket assembly from the front closing crossmember. See [Fig. 13](#).

NOTE: The lower baffle may need to be modified to fit some forward frame options.

29. Install the new lower baffle on the front closing crossmember. See [Fig. 11](#).

30. Install the forward antenna. See [Fig. 12](#) for VORAD bracket and antenna installation, or [Fig. 13](#) for On-Guard™ antenna and bracket assembly installation.

31. Apply sealant (48-00094-141) to the threads of the fasteners, then install the fan. Tighten 30 lbf-ft (41 N-m).

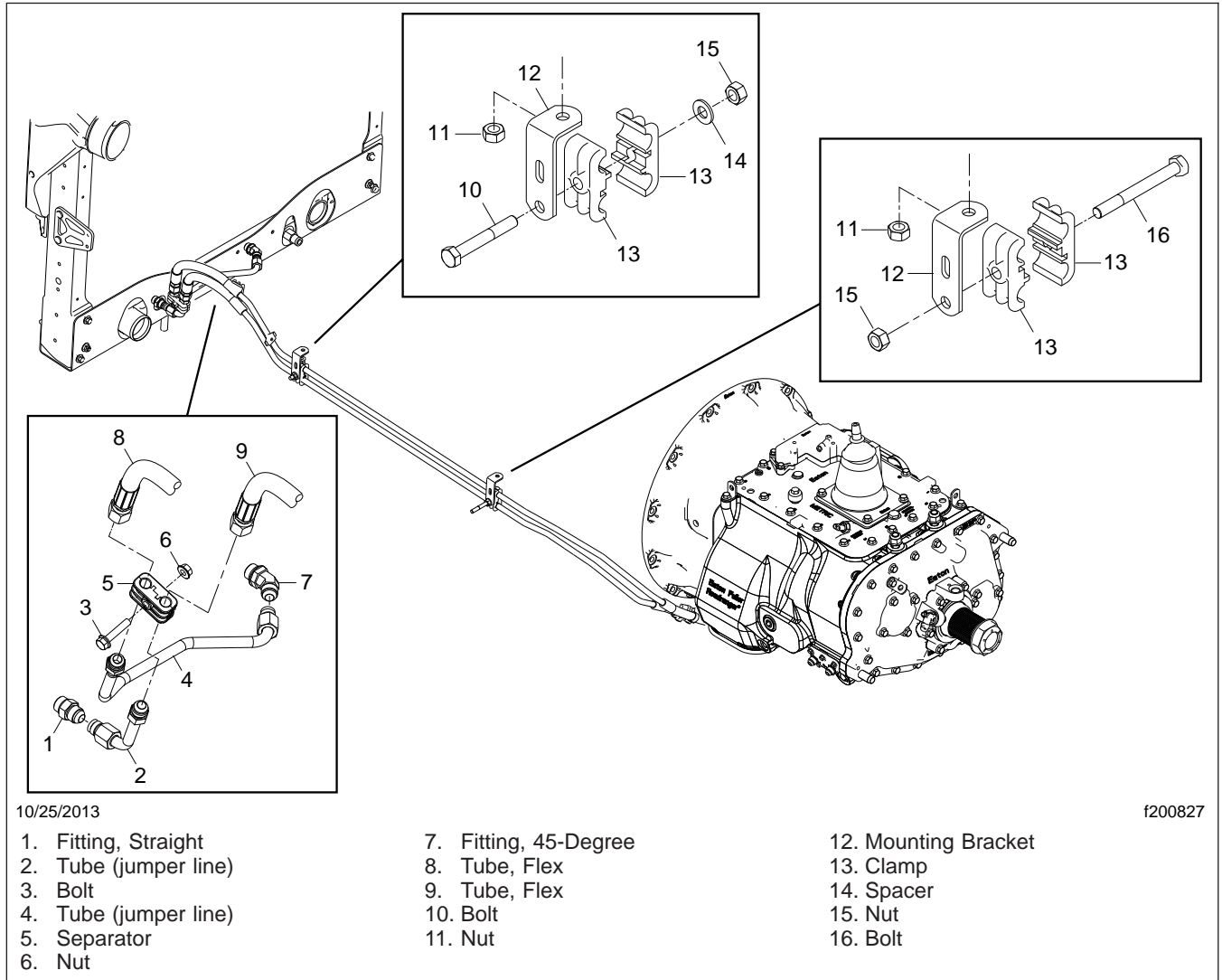
32. Install the new transmission cooler jumper lines on the radiator. See [Fig. 14](#).

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**Fig. 5, Transmission Cooler Line Installation (typical)**

33. Using an appropriate lifting device, position the new radiator assembly in the vehicle. Install the mounting nuts, but do not tighten them yet. See [Fig. 15](#).
34. Install the new radiator strut rods. See [Fig. 16](#). Do not tighten the mounting fasteners yet.
35. Install the upper radiator hose. See [Fig. 17](#).

## NOTICE

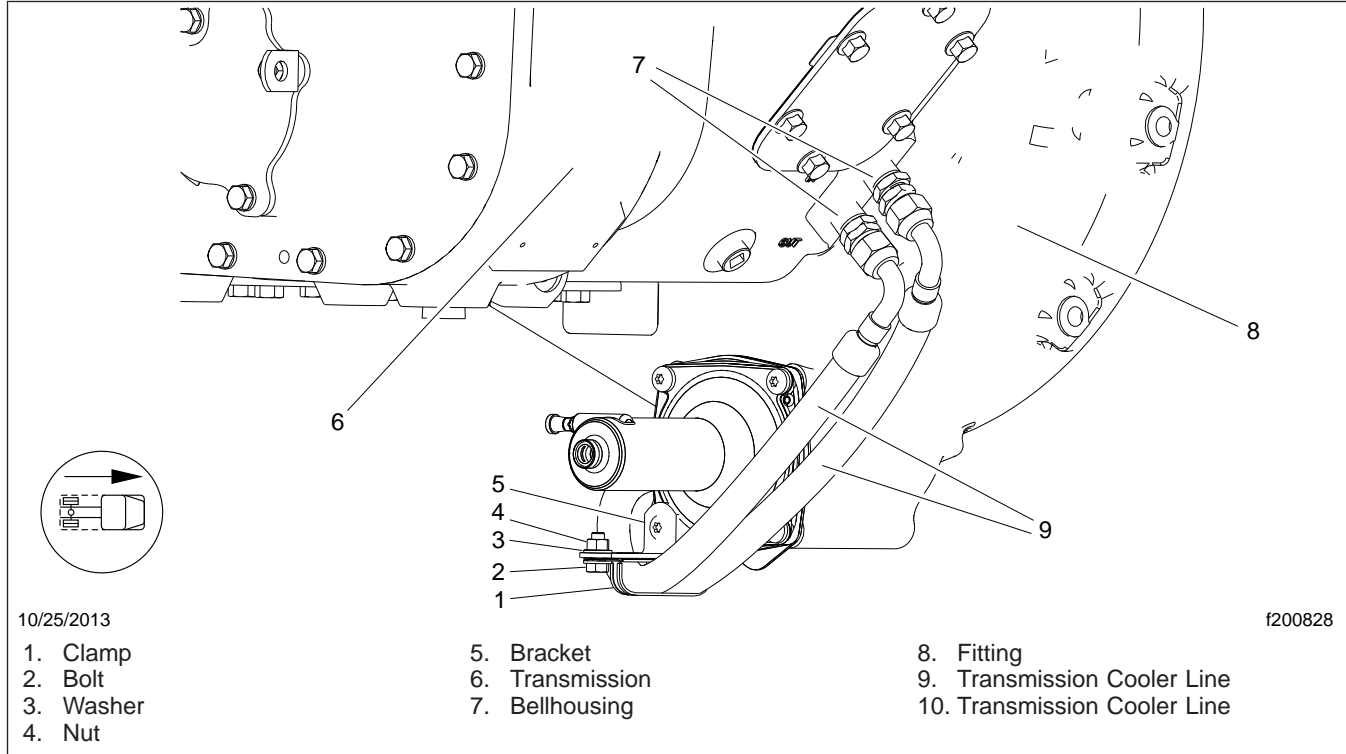
**The cooler lines are routed close to the fan. Make sure that the lines are secure and have no chance of contacting the fan. Failure to do so may allow the fan to damage the line, causing a leak and potential transmission damage.**

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**Fig. 6, Transmission Cooler Line Installation, with Filter**

36. Connect the transmission cooler lines to the jumper lines on the radiator.

## NOTICE

**Make sure all of the lines are secure and are away from the fan. Use double zipties if needed. Failure to properly secure the lines may lead to line damage, leaks, and possible transmission failure.**

37. Tighten all of the cooler line mounting fasteners.

38. Install the lower radiator hose assembly. See [Fig. 17](#).

39. Install the A/C condenser as follows.

39.1 Move the condenser into position and secure it temporarily. See [Fig. 3](#).

39.2 Position the receiver-drier and upper A/C line on their respective brackets and install the mounting nuts. See [Fig. 2](#). Tighten the nuts 14 to 16 lbf-ft (19 to 22 N-m).

39.3 Tighten the condenser mounting bolts 112 to 144 lbf-in (1266 to 1627 N-cm).

40. Tighten the radiator strut rod fasteners at the radiator and at the engine 55 to 65 lbf-ft (75 to 90 N-m).

41. Tighten the radiator mounting nuts 140 to 170 lbf-ft (190 to 230 N-m).

42. Install the surge tank. For instructions, see **Section 88.00, Subject 100** in the *Cascadia Workshop Manual*.

43. Install the CAC hoses.

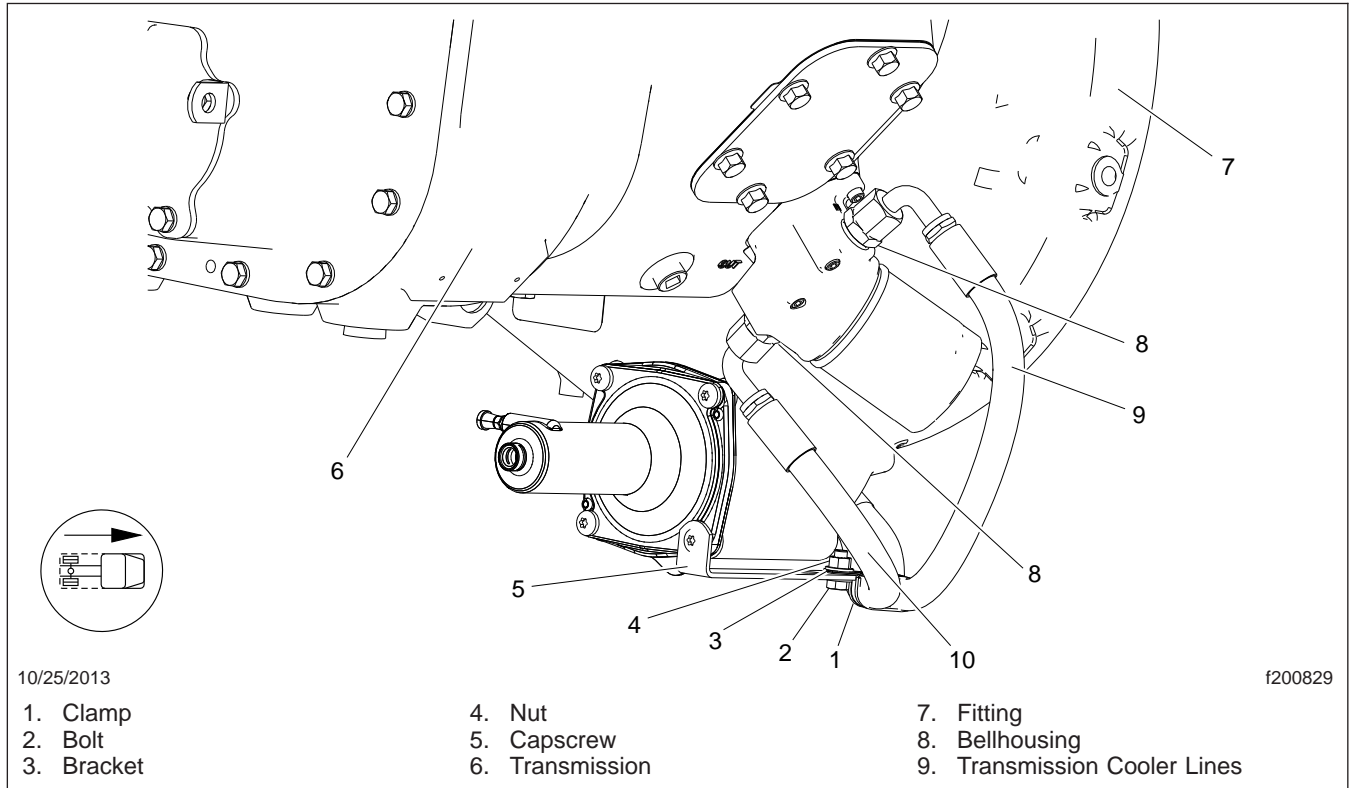
44. Fill the cooling system following the air purge procedure in the **Cummins Engine Manual**.

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**Fig. 7, Transmission Cooler Line Installation, without Filter**

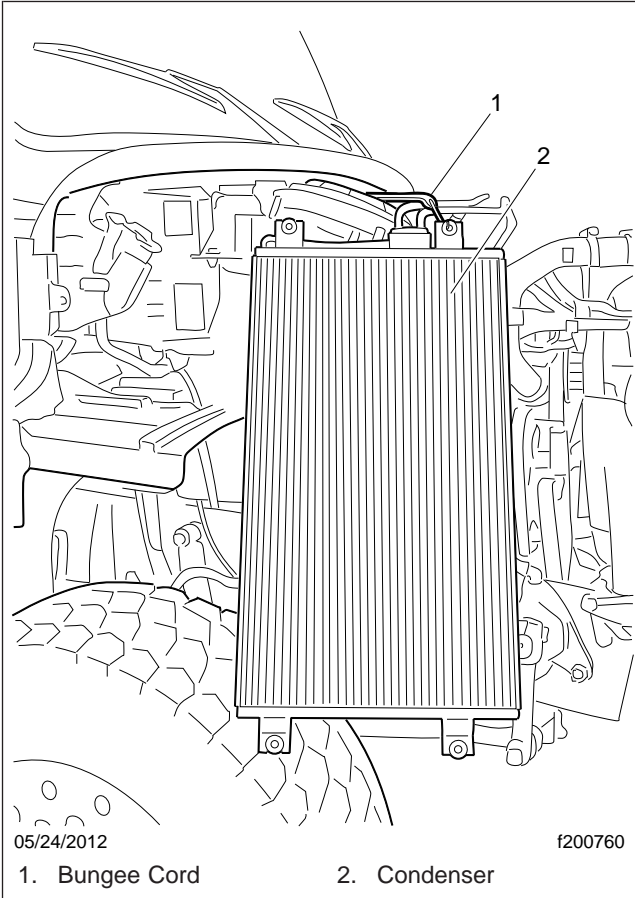
45. Pressure check the coolant system for leaks. Repair as needed.
46. Install the hood. For instructions, see **Section 88.00, Subject 100** in the *Cascadia Workshop Manual*.
47. Install the bumper. For instructions, refer to **Group 31** of the *Cascadia Workshop Manual*.
48. Drive the vehicle to get it up to operating temperature.
49. Check all the transmission cooling lines for leaks. Repair as needed.
50. Check coolant and transmission fluid levels. Add fluids as needed.

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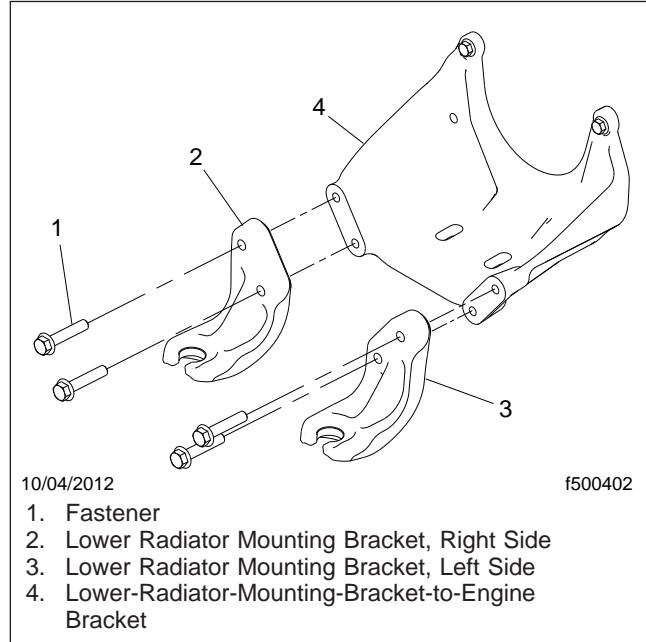
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**Fig. 8, Securing the A/C Condenser**



**Fig. 9, Lower Radiator Mounting Brackets Installation**

# Cascadia Radiator Update—EPA10 with Cummins ISX Engines

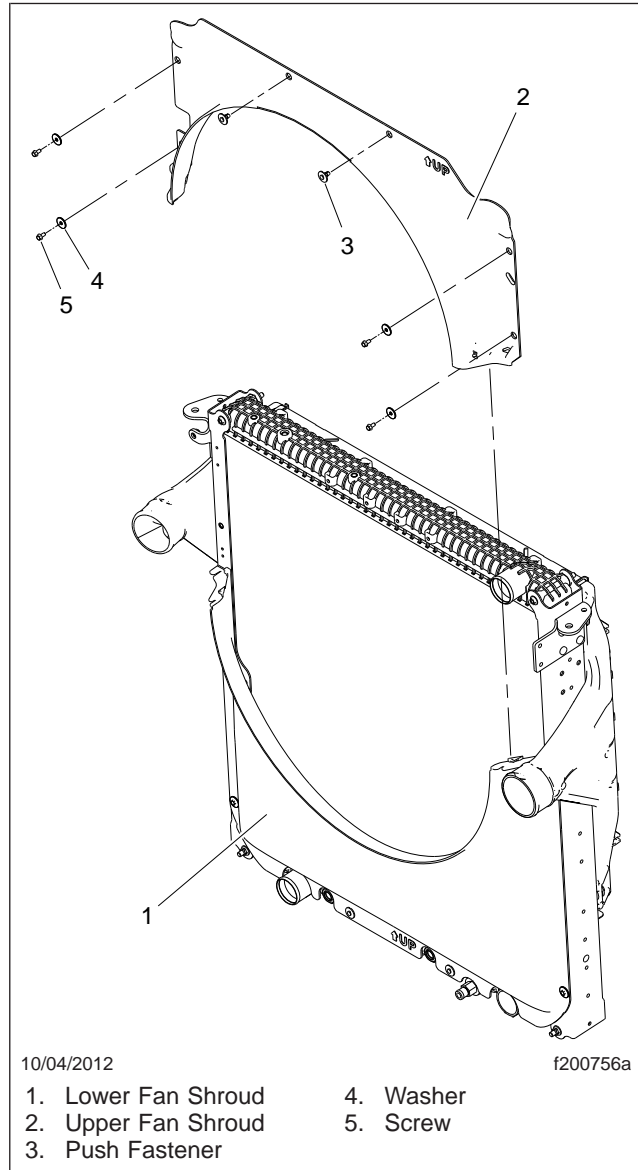
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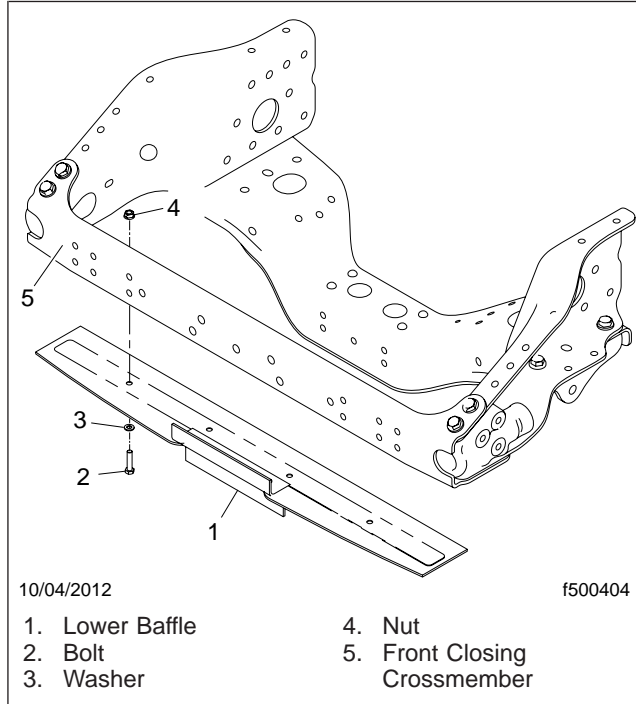


**Fig. 10, Fan Shroud Installation**

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**Fig. 11, Lower Baffle Installation**

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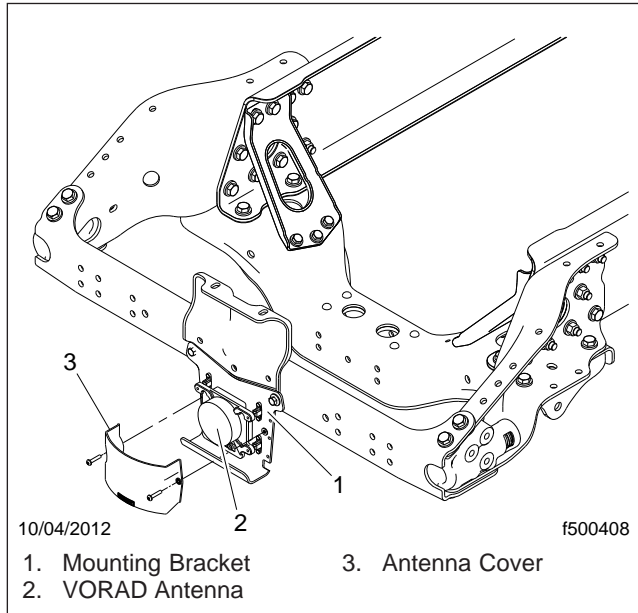
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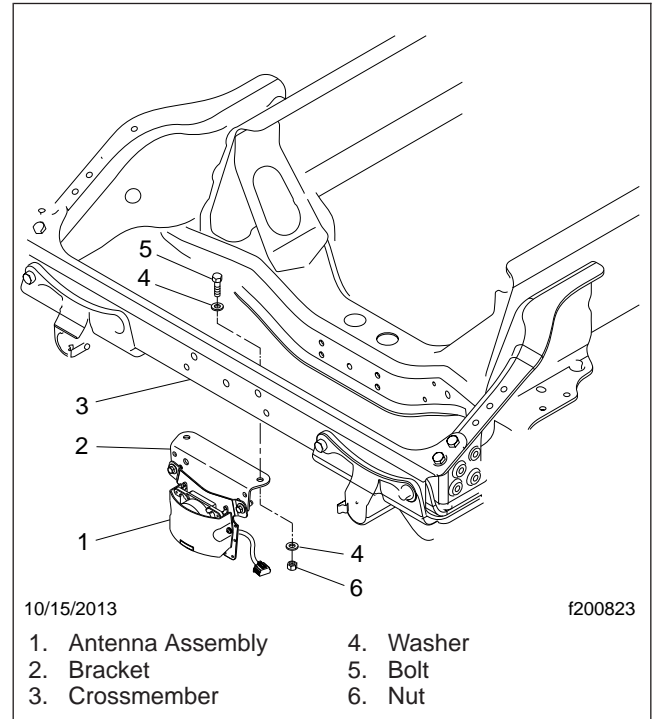
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**Fig. 12, VORAD Bracket and Antenna Installation**



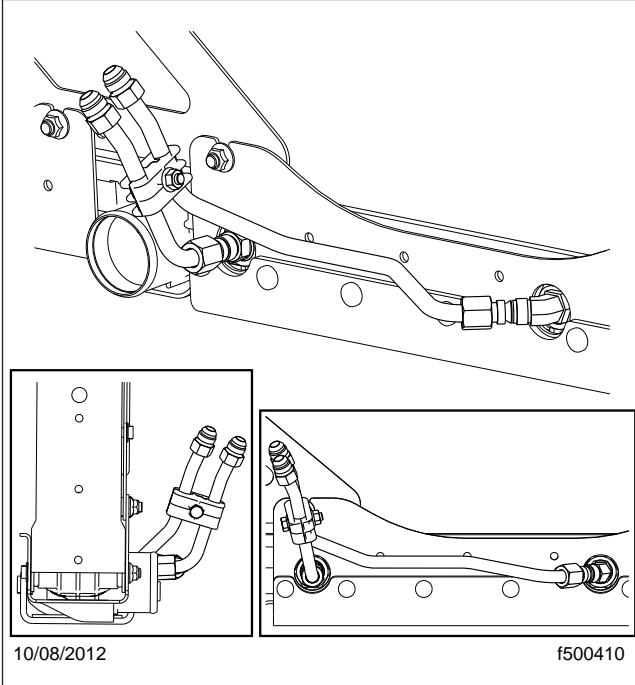
**Fig. 13, OnGuard™ Antenna and Bracket Assembly Installation**

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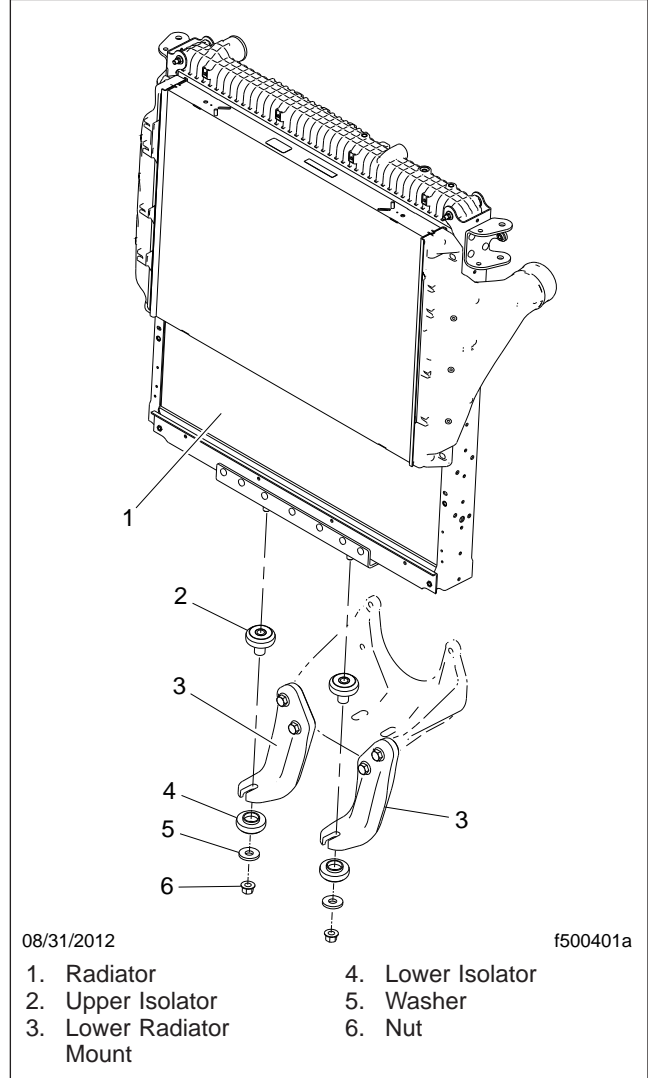
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**Fig. 14, Transmission Cooler Jumper Line Installation**



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- |                         |                   |
|-------------------------|-------------------|
| 1. Radiator             | 4. Lower Isolator |
| 2. Upper Isolator       | 5. Washer         |
| 3. Lower Radiator Mount | 6. Nut            |

**Fig. 15, Radiator Installation**

# Cascadia Radiator Update—EPA10 with Cummins ISX Engines

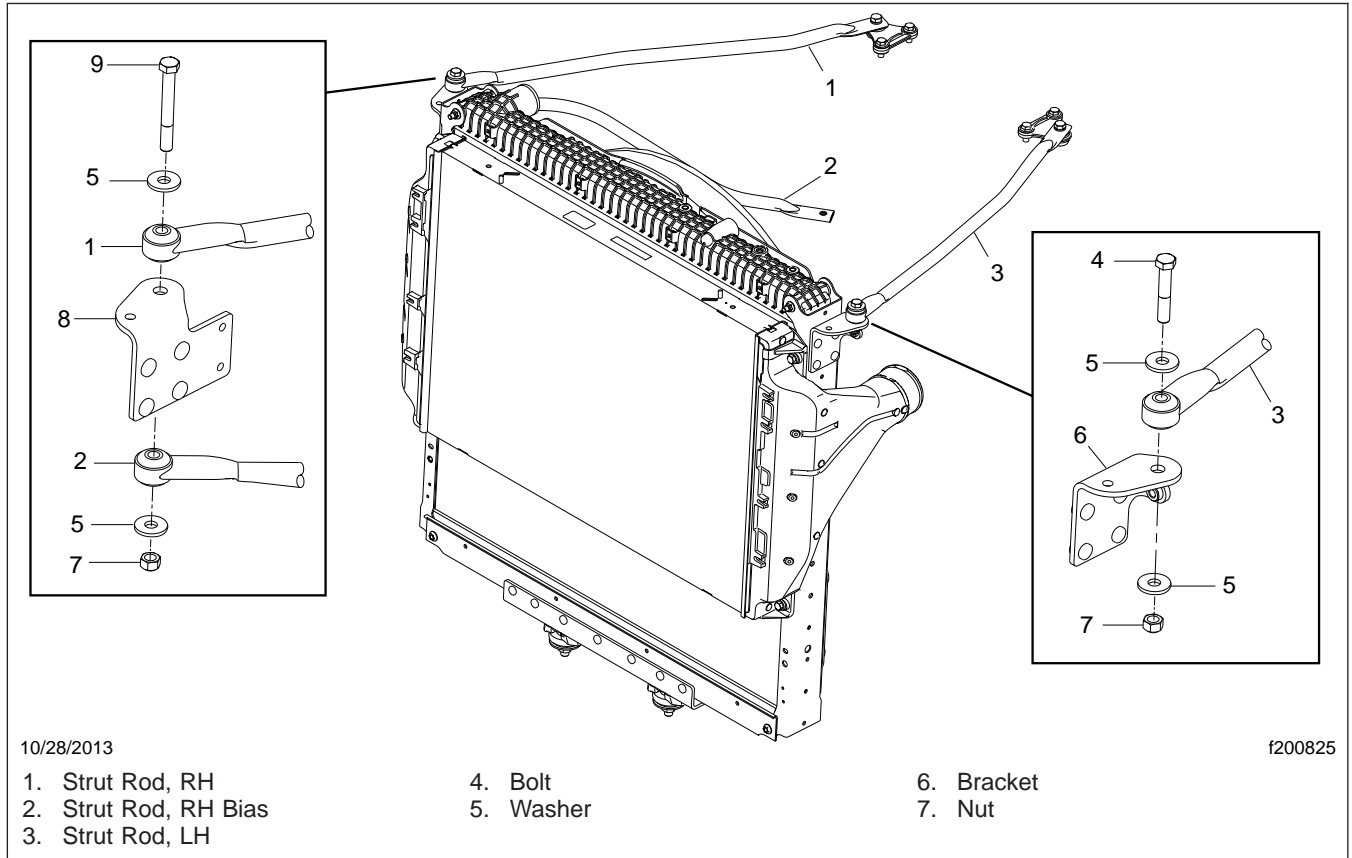
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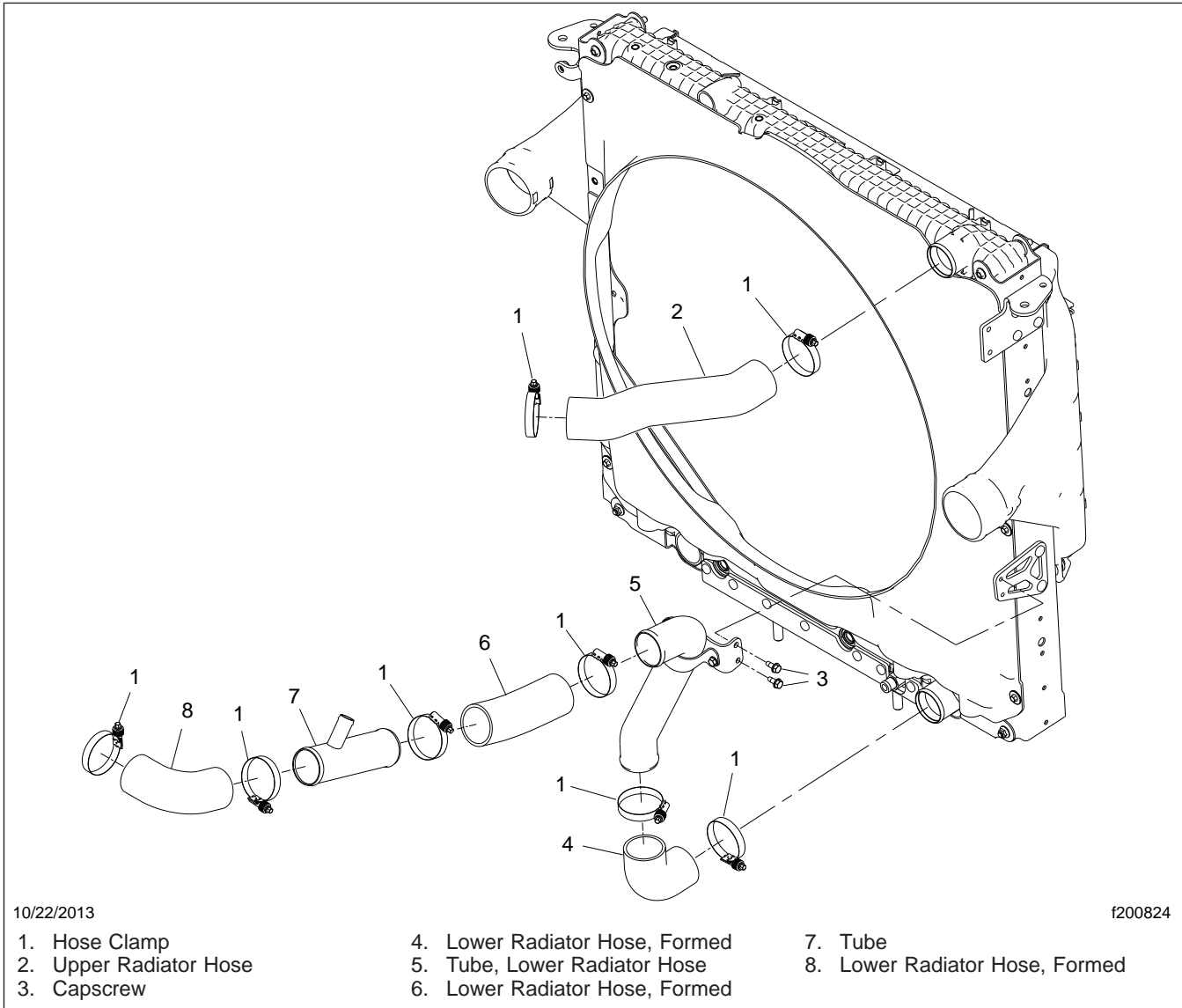
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**Fig. 16, Isolated Radiator Strut Rod Installation**



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- 1. Hose Clamp
- 2. Upper Radiator Hose
- 3. Capscrew

- 4. Lower Radiator Hose, Formed
- 5. Tube, Lower Radiator Hose
- 6. Lower Radiator Hose, Formed

- 7. Tube
- 8. Lower Radiator Hose, Formed

**Fig. 17, Radiator Hose Installation**

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## Parts

Parts are available through the PDC.

Required part for this procedure will vary depending on the vehicle BBC measurement and the type of engine and transmission installed. **Table 1** lists all vehicle configurations and which tables to use to order parts for the vehicle being serviced.

Required Parts by Vehicle Configuration			
BBC and Engine	Radiator Conversion	Transmission	Transmission Cooling Line Conversion
113 BBC with Cummins ISX12 Engine (no Trans Cooler)	Table 2	Eaton FR/O	Table 3
		Eaton RT	Table 4
		Eaton ECA	Table 5
		ECA with external trans filter	Table 6
125 BBC with Cummins ISX15 Engine (no Trans Cooler)	Table 7	Eaton RT	Table 9
		Eaton ECA	Table 10
		Eaton ECA with External Transmission Filter	Table 11
125 BBC with Cummins ISX15 Engine	Table 8	Eaton FR/O	N/A

**Table 1, Vehicle Configuration and Required Parts**

Cascadia 113 (ISX12) - 1625 to 1400 Radiator Conversion		
Part number	Description	QTY
Part number	Description	QTY
MOD 3S0580800002	RADIATOR M1400,BO,RSO,ITOC	1
A05-30969-000	SHROUD-FAN,1400 (P3113)	1
A05-30679-000	RECIRC-BAFFLE,P3,M1400, Bottom	1
23-12274-003	RIVET-PUSH-TYPE,REUSABLE,.315"	8
000933 010200	SCREW-CAP,HEX M10X30 10.9 ZN	4
23-12707-010	WASHER-FLAT,SSTL,M10-20MMX2MM	4
23-12668-010	NUT-HEX,FLNG,M10-1.5,ZN AL	4
05-30581-000	BRKT-RAD SUPT,BTM CHNL,1400,LH,ISO	1
05-30581-001	BRKT-RAD SUPT,BTM CHNL,1400,RH,ISO	1
23-13509-065	SCRW HX FLNG,M16-1.5X65,10.9	4
BCD 27463 14	ISOLATOR-RAD,LWR,KIT	2
A05-30744-000	STRUT-RAD,ISX 11.9,MED,LH,ISO	1
A05-30745-000	STRUT-RAD,ISX 11.9,MED,RH,ISO	1
A05-30746-000	STRUT-RAD,ISX 11.9,MED,BIAS,	1
23-11751-250	SCREW-CAP,HEX,1/2-13,GR8,ZNDI	1
23-11751-400	SCREW-CAP,HEX,1/2-13,GR8,ZN	1
23-13833-108	NUT-HEX,PT,1/2-13,C,ZN/AL,.448	2
A05-29076-000	ASSY-TUBE,LWR RAD,P3,ISX	1
A05-30827-000	TUBE-LWR RAD,P3,ISX,M1400	1

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Cascadia 113 (ISX12) - 1625 to 1400 Radiator Conversion		
Part number	Description	QTY
05-16836-205	HOSE-ECR,2.50"ID	1
05-25925-003	HOSE-COOLANT,LWR,ELBOW,ECR	1
05-29916-000	HOSE-CLNT,UPR,ISX 11.9	1
05-29973-007	HOSE-ELB,90DEG,ECR,206 ID	1
23-12237-075	SCREW-HWH,SERR,THDRLG,5/16-18	2
23-12485-250	CLAMP-WORM,CONSTANT,2-1/2 HOSE	8
A22-69862-000	BRKT ASSY-AC,H02,MID PIPE	1

Table 2, Cascadia 113 (ISX12) - 1625 to 1400 Radiator Conversion

Cascadia 113 (ISX12) - Manual Transmission Cooler Plumbing Eaton FR/O		
Part number	Description	QTY
A07-22714-000	TUBE-SUPPLY,FWD,JUMPER,M1400	1
A07-22715-000	TUBE-RETURN,FWD JUMPER,M1400	1
07-22829-000	TUBE-SUPPLY,ISX12,FR	1
07-22830-000	TUBE-RETURN,ISX11.9,FR,1400	1
N910143 008005	SCRW HEX FLNG,M8X1.25X40,	1
DDE N910112008000	NUT,HX FLNG MTRC,M8X1.25,CLS 8	2
PH 8 C6X S	SWIVEL-90 DEG,8 C6X,FTG	2
23-13426-005	BRACKET,ANGLE,STANDOFF	8
23-12912-800	ELB-45,VITON O RING,#8	1
23-13039-008	CONN-STR THRD,VITON O-RING	1
23-13687-000	CLAMP TUBE SNAP VERSION	8
06-88031-000	BRKT-BATT CBL RTG,PTO,FLYWHEEL	1

Table 3, Cascadia 113 (ISX12) - Manual Transmission Cooler Plumbing Eaton FR/O

Cascadia 113 (ISX12) - Manual Transmission Cooler Plumbing Eaton RT		
Part number	Description	QTY
A07-22714-000	TUBE-SUPPLY,FWD,JUMPER,M1400	1
A07-22715-000	TUBE-RETURN,FWD JUMPER,M1400	1
07-22823-000	TUBE-SUPPLY,ISX 11.9,HYD-RT	1
07-22824-000	TUBE-RETURN,ISX,11.9	1
N910143 008005	SCRW HEX FLNG,M8X1.25X40,	1
DDE N910112008000	NUT,HX FLNG MTRC,M8X1.25,CLS 8	2
23-11472-044	CONN-MALE,STL,#8 37DJIC,#8MPT	2
23-13426-005	BRACKET,ANGLE,STANDOFF	3
23-12912-800	ELB-45,VITON O RING,#8	1
23-13039-008	CONN-STR THRD,VITON O-RING	1
23-13687-000	CLAMP TUBE SNAP VERSION	8
A07-22589-000	BRACKET-STANDOFF,M8	1

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Cascadia 113 (ISX12) - Manual Transmission Cooler Plumbing Eaton RT		
Part number	Description	QTY
A07-22787-000	BRACKET-STANDOFF,M8	1

**Table 4, Cascadia 113 (ISX12) - Manual Transmission Cooler Plumbing Eaton RT**

Cascadia 113 (ISX12) - Manual Transmission Cooler Plumbing Eaton ECA		
Part number	Description	QTY
A07-22714-000	TUBE-SUPPLY,FWD,JUMPER,M1400	1
A07-22715-000	TUBE-RETURN,FWD JUMPER,M1400	1
07-22776-001	TUBE-RETURN,ISX11.9,ULTRASHIFT	1
07-22777-001	TUBE-SUPPLY,ITOC,ISX11.9,ULTRA	1
N910143 008005	SCRW HEX FLNG,M8X1.25X40,	1
DDE N910112008000	NUT,HX FLNG MTRC,M8X1.25,CLS 8	2
23-11472-044	CONN-MALE,STL,#8 37DJIC,#8MPT	2
23-13426-005	BRACKET,ANGLE,STANDOFF	2
23-12912-800	ELB-45,VITON O RING,#8	1
23-13039-008	CONN-STR THRD,VITON O-RING	1
23-13687-000	CLAMP TUBE SNAP VERSION	8
A07-22589-000	BRACKET-STANDOFF,M8	1
A07-22787-000	BRACKET-STANDOFF,M8	1

**Table 5, Cascadia 113 (ISX12) - Manual Transmission Cooler Plumbing Eaton ECA**

Cascadia 113 (ISX12) - Manual Transmission Cooler Plumbing Eaton ECA with external trans filter		
Part number	Description	QTY
A07-22714-000	TUBE-SUPPLY,FWD,JUMPER,M1400	1
A07-22715-000	TUBE-RETURN,FWD JUMPER,M1400	1
07-22776-000	TUBE-RETURN,ISX11.9,ULTRASHIFT	1
07-22777-000	TUBE-SUPPLY,ITOC,ISX11.9,ULTRA	1
N910143 008005	SCRW HEX FLNG,M8X1.25X40,	1
DDE N910112008000	NUT,HX FLNG MTRC,M8X1.25,CLS 8	2
23-11472-044	CONN-MALE,STL,#8 37DJIC,#8MPT	2
23-13426-005	BRACKET,ANGLE,STANDOFF	3
23-12912-800	ELB-45,VITON O RING,#8	1
23-13039-008	CONN-STR THRD,VITON O-RING	1
23-13687-000	CLAMP TUBE SNAP VERSION	8
A07-22589-000	BRACKET-STANDOFF,M8	1
A07-22787-000	BRACKET-STANDOFF,M8	1

**Table 6, Cascadia 113 (ISX12) - Manual Transmission Cooler Plumbing Eaton ECA with external trans filter**

Cascadia 125 (ISX15) - 1625 TO 1400 RAD CONVERSION LIST w/o TrCI		
Part Number	Description	Quantity
MOD 3S0580800002	RADIATOR M1400,BO,RSO,ITOC	1

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FLA COE  
FLB COE  
FLD Conventional  
Business Class  
FLC 112 Conventional

Century Class Conventional  
Argosy COE  
Cargo  
Columbia

Coronado  
Business Class M2  
> Cascadia  
108SD/114SD

Cascadia 125 (ISX15) - 1625 TO 1400 RAD CONVERSION LIST w/o TrCI		
Part Number	Description	Quantity
A05-30850-000	SHROUD-FAN,1400 (P3125)	1
23-12274-003	RIVET-PUSH-TYPE,REUSABLE,.315"	8
23-10800-050	SCREW-HWH,THDR LG,1/4-20X1/2	8
23-09426-203	WASHER-PLTD STL,1/4X1.0"	8
A05-30679-000	RECIRC-BAFFLE,P3,M1400, Bottom	1
N304017 010038	SCREW-CAP,HEX M10X30 10.9 ZN	4
23-12707-010	WASHER-FLAT,SSTL,M10-20MMX2MM	4
23-12668-010	NUT-HEX,FLNG,M10-1.5,ZN AL	4
05-30581-000	BRKT-RAD SUPT,BTM CHNL,1400,LH,ISO	1
05-30581-001	BRKT-RAD SUPT,BTM CHNL,1400,RH,ISO	1
23-13509-065	SCRW HX FLNG,M16-1.5X65,10.9	4
N210100 016000	NUT-FLG HD,M16,CLASS 10, P & O	2
01-20963-001	WASHER-HARDND STL,.656X2.5"	2
BCD 27463 14	ISOLATOR-RAD,LWR,KIT	2
A05-30741-000	STRUT-RAD,ISX,MED,LH,ISO	1
A05-30742-000	STRUT-RAD,ISX,MED,RH,ISO	1
A05-30743-000	STRUT-RAD,ISX,MED,BIAS,ISO	1
23-11751-250	SCREW-CAP,HEX,1/2-13,GR8,ZNDI	1
23-11751-400	SCREW-CAP,HEX,1/2-13,GR8,ZN	1
23-13833-108	NUT-HEX,PT,1/2-13,C,ZN/AL,.448	2
23-09114-017	WASHER-HRDN,0.53X1.38X	4
A05-29076-000	ASSY-TUBE,LWR RAD,P3,ISX	1
A05-30827-000	TUBE-LWR RAD,P3,ISX,M1400	1
GT 4175SC250	HOSE-ECR,2.50"ID	1
05-25925-003	HOSE-COOLANT,LWR,ELBOW,ECR	1
05-27689-001	HOSE-CLNT,UPR,ISX,P2,MEX,ECR	1
05-29973-007	HOSE-ELB,90DEG,ECR,206 ID	1
23-12237-075	SCREW-HWH,SERR,THDR LG,5/16-18	2
23-12485-250	CLAMP-WORM,CONSTANT,2-1/2 HOSE	8
A22-69862-000	BRKT ASSY-AC,H02,MID PIPE	1
A07-22714-000	TUBE-SUPPLY,FWD,JUMPER,M1400	1
A07-22715-000	TUBE-RETURN,FWD JUMPER,M1400	1
23-09114-006	WASHER-HRDN,0.34X0.69X.080,ZN	3
23-13862-105	NUT-HEX,FLG,5/16-18	5
23-09434-175	SCREW-CAP,HEX5/16-18X1.75GR8PO	2

Table 7, Cascadia 125 (ISX15) - 1625 TO 1400 RAD CONVERSION LIST w/o TrCI

Cascadia 125 (ISX15) - 1625 TO 1400 RAD CONVERSION LIST w/ TrCI Eaton FR/O		
Part number	Description	QTY
MOD 3S0580800002	RADIATOR M1400,BO,RSO,ITOC	1
A05-30850-000	SHROUD-FAN,1400 (P3125)	1

# Cascadia Radiator Update—EPA10 with Cummins ISX Engines

# 20-75

FLA COE  
FLB COE  
FLD Conventional  
Business Class  
FLC 112 Conventional

Century Class Conventional  
Argosy COE  
Cargo  
Columbia

Coronado  
Business Class M2  
> Cascadia  
108SD/114SD

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<b>Cascadia 125 (ISX15) - 1625 TO 1400 RAD CONVERSION LIST w/ TrCI Eaton FR/O</b>		
<b>Part number</b>	<b>Description</b>	<b>QTY</b>
23-12274-003	RIVET-PUSH-TYPE,REUSABLE,.315"	4
23-10800-050	SCREW-HWH,THDR LG,1/4-20X1/2	8
23-09426-203	WASHER-PLTD STL,1/4X1.0"	8
A05-30679-000	RECIRC-BAFFLE,P3,M1400, Bottom	1
N304017 010038	SCREW-CAP,HEX M10X30 10.9 ZN	4
23-12707-010	WASHER-FLAT,SSTL,M10-20MMX2MM	4
23-12668-010	NUT-HEX,FLNG,M10-1.5,ZN AL	4
05-30581-000	BRKT-RAD SUPT,BTM CHNL,1400,LH,ISO	1
05-30581-001	BRKT-RAD SUPT,BTM CHNL,1400,RH,ISO	1
23-13509-065	SCRW HX FLNG,M16-1.5X65,10.9	4
N210100 016000	NUT-FLG HD,M16,CLASS 10, P&O	2
01-20963-001	WASHER-HARDND STL,.656X2.5"	2
BCD 27463 14	ISOLATOR-RAD,LWR,KIT	2
A05-30741-000	STRUT-RAD,ISX,MED,LH,ISO	1
A05-30742-000	STRUT-RAD,ISX,MED,RH,ISO	1
A05-30743-000	STRUT-RAD,ISX,MED,BIAS,ISO	1
23-11751-250	SCREW-CAP,HEX,1/2-13,GR8,ZNDI	1
23-11751-400	SCREW-CAP,HEX,1/2-13,GR8,ZN	1
23-13833-108	NUT-HEX,PT,1/2-13,C,ZN/AL,.448	2
23-09114-017	WASHER-HRDN,0.53X1.38X	4
A05-29076-000	ASSY-TUBE,LWR RAD,P3,ISX	1
A05-30827-000	TUBE-LWR RAD,P3,ISX,M1400	1
GT 4175SC250	HOSE-ECR,2.50"ID	1
05-25925-003	HOSE-COOLANT,LWR,ELBOW,ECR	1
05-27689-001	HOSE-CLNT,UPR,ISX,P2,MEX,ECR	1
05-29973-007	HOSE-ELB,90DEG,ECR,206 ID	1
23-12237-075	SCREW-HWH,SERR,THDR LG,5/16-18	2
23-12485-250	CLAMP-WORM,CONSTANT,2-1/2 HOSE	8
A22-69862-000	BRKT ASSY-AC,H02,MID PIPE	1
A07-22714-000	TUBE-SUPPLY,FWD,JUMPER,M1400	1
A07-22715-000	TUBE-RETURN,FWD JUMPER,M1400	1
07-22855-000	TUBE-SUPPLY,ISX15,FR	1
07-22856-000	TUBE-RETURN	1
N304017 010038	SCRW HEX FLNG,M8X1.25X40,	1
DDE N910112008000	NUT,HX FLNG MTRC,M8X1.25,CLS 8	2
PH 8 C6X S	SWIVEL-90 DEG,8 C6X,FTG	2
23-09130-017	BRKT-STANDOFF,.344X.344,ANGLE	1
23-12912-800	ELB-45,VITON O RING,#8	1
23-13039-008	CONN-STR THRD,VITON O-RING	1
23-13687-000	CLAMP TUBE SNAP VERSION	8

Cascadia 125 (ISX15) - 1625 TO 1400 RAD CONVERSION LIST w/ TrCI Eaton FR/O		
Part number	Description	QTY
06-88031-000	BRKT-BATT CBL RTG,PTO,FLYWHEEL	1

**Table 8, Cascadia 125 (ISX15) - 1625 TO 1400 RAD CONVERSION LIST w/ TrCI Eaton FR/O**

Cascadia 125 (ISX15), Manual Transmission Cooler Plumbing Eaton NO FR		
Part Number	Description	Quantity
A07-22714-000	TUBE-SUPPLY,FWD,JUMPER,M1400	1
A07-22715-000	TUBE-RETURN,FWD JUMPER,M1400	1
07-22844-000	TUBE-SUPPLY,ISX15,EATON RT	1
07-22845-000	TUBE-RETURN,ISX15,EATON RT	1
N910143 008005	SCRW HEX FLNG,M8X1.25X40,	1
DDE N910112008000	NUT,HX FLNG MTRC,M8X1.25,CLS 8	2
PH 8 C6X S	SWIVEL-90 DEG,8 C6X,FTG	4
23-09130-017	BRKT-STANDOFF,.344X.344,ANGLE	1
23-12912-800	ELB-45,VITON O RING,#8	1
23-13039-008	CONN-STR THRD,VITON O-RING	1
23-13687-000	CLAMP TUBE SNAP VERSION	8

**Table 9, Cascadia 125 (ISX15), Manual Transmission Cooler Plumbing Eaton NO FR**

Cascadia 125 (ISX15), Manual Transmission Cooler Plumbing Eaton ECA		
Part Number	Description	Quantity
A07-22758-000	TUBE-SUPPLY,FWD,JUMPER,M1400	1
A07-22759-000	TUBE-RETURN,FWD JUMPER,M1400	1
07-22833-001	TUBE-SUPPLY,ISX 15,EATON	1
07-22834-001	TUBE-RETURN,ISX,EATON	1
N910143 008005	SCRW HEX FLNG,M8X1.25X40,	1
DDE N910112008000	NUT,HX FLNG MTRC,M8X1.25,CLS 8	2
PH 8 C6X S	SWIVEL-90 DEG,8 C6X,FTG	4
23-09130-017	BRKT-STANDOFF,.344X.344,ANGLE	1
23-12912-800	ELB-45,VITON O RING,#8	1
23-13039-008	CONN-STR THRD,VITON O-RING	1
23-13687-000	CLAMP TUBE SNAP VERSION	8

**Table 10, Cascadia 125 (ISX15), Manual Transmission Cooler Plumbing Eaton ECA**

Cascadia 125 (ISX15), Manual Transmission Cooler Plumbing Eaton ECA with External Transmission Filter		
Part Number	Description	Quantity
A07-22714-000	TUBE-SUPPLY,FWD,JUMPER,M1400	1
A07-22715-000	TUBE-RETURN,FWD JUMPER,M1400	1
07-22833-000	TUBE-SUPPLY,ISX 15,FILTER	1

FLA COE  
FLB COE  
FLD Conventional  
Business Class  
FLC 112 Conventional

Century Class Conventional  
Argosy COE  
Cargo  
Columbia

Coronado  
Business Class M2  
> Cascadia  
108SD/114SD

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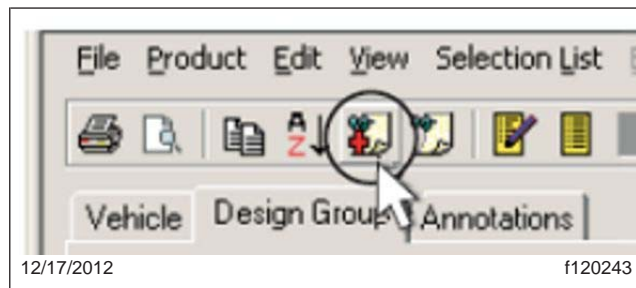
Cascadia 125 (ISX15), Manual Transmission Cooler Plumbing Eaton ECA with External Transmission Filter		
Part Number	Description	Quantity
07-22834-000	TUBE-RETURN,ISX,EATON,FILTER	1
N910143 008005	SCRW HEX FLNG,M8X1.25X40,	1
DDE N910112008000	NUT,HX FLNG MTRC,M8X1.25,CLS 8	2
PH 8 C6X S	SWIVEL-90 DEG,8 C6X,FTG	4
23-09130-017	BRKT-STANDOFF,.344X.344,ANGLE	1
23-12912-800	ELB-45,VITON O RING,#8	1
23-13039-008	CONN-STR THRD,VITON O-RING	1
23-13687-000	CLAMP TUBE SNAP VERSION	8

**Table 11, Cascadia 125 (ISX15), Manual Transmission Cooler Plumbing Eaton ECA with External Transmission Filter**

## PartsPro Global Annotation

It is highly recommended that a Global Annotation regarding this modification be entered in PartsPro. Global annotations give users a way to record and check after-factory installations and modifications for a particular vehicle. It is connected to a specific VIN, and is visible to anyone who views that serial number in PartsPro. Create and view Global Annotation as follows.

1. In PartsPro, enter the serial number (the last six characters of the VIN) in the "Vehicle" tab and press "Enter," or click the "Retrieve Design Group" button.
2. In the "Design Group" tab, click the Add Annotation icon. See [Fig. 18](#).



**Fig. 18, Add Annotation Icon**

3. In the "Add Annotation" window, mark the annotation as "Global" and enter text for the annotation.  
Suggested annotation text: The cooling system has been modified to an isolated mount type radiator. See Service Bulletin 20-73 for radiator, radiator mounting, fan, fan shroud, plumbing and transmission cooler line modifications and part numbers.
4. Click the "OK" button to submit.

Daimler Trucks North America will review the content for publication.

For additional information, click the "Help" button or Help → Contents in the top menu bar, and view the "Annotations" topic in PartsPro help, or refer to Freightliner or Western Star Parts Technical Bulletin: 00-009 for instructions.

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FLA COE  
 FLB COE  
 FLD Conventional  
 Business Class  
 FLC 112 Conventional

Century Class Conventional  
 Argosy COE  
 Cargo  
 Columbia

Coronado  
 Business Class M2  
 > Cascadia  
 108SD/114SD

## 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 12](#) for QuickClaim damage code and labor allowance information. Refer to this service bulletin by number at the beginning of the claim comments. See [Table 13](#) for OWL VMRS codes and labor allowance information. Enter this service bulletin number in the *Service Bulletin #* field.

QuickClaim Damage Code and Labor Allowance			
Damage Code	SRT Code	Description	Time: Hours
266-000A05609	266-5025B	Cascadia, 1625/1500 to 1400 Cummins Radiator, Update	9.5

**Table 12, QuickClaim Damage Code and Labor Allowance**

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	042-002-001	12	266-5025B	Cascadia, 1625/1500 to 1400 Cummins Radiator, Update	9.5
05-29617-005					
05-29617-006					
05-29617-007					
05-29617-008					
05-29617-009					

**Table 13, OWL VMRS Codes and Labor Allowance**