

CANCELED: Cascadia Radiator Update—EPA10 with DDC Engines

20-73

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

Freightliner
Service Bulletin

Description of Revisions: *This bulletin is canceled, and this procedure is no longer warrantable. Please see Freightliner Service Bulletin 20-77, Tuned Mass Absorber Installation, Cascadia with 1625 sq in Radiator, for the recommended procedure to address radiator coolant leaks due to a crack in the coolant tube.*

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 May 2012, DD13-equipped vehicles are standard with isolated engine-mounted radiators. Beginning October 2012, DD15-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 particular vehicle configurations.

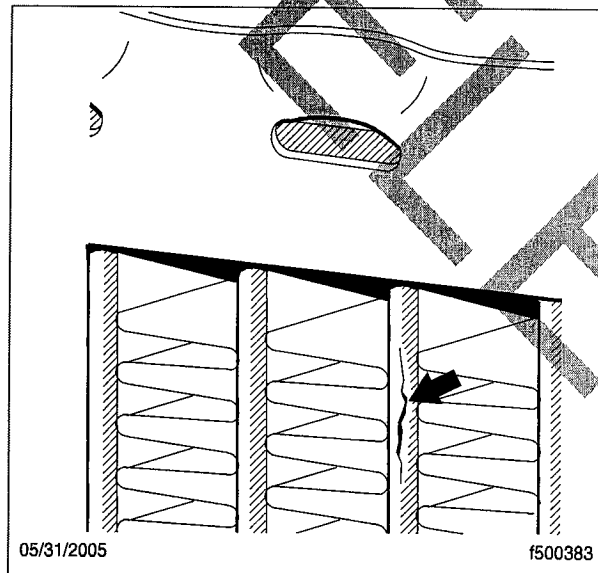


Fig. 1, Crack in Coolant Tube

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*.
4. Drain the coolant from the radiator and engine block.
5. Remove the hood. For instructions, see **Section 88.00, Subject 100** in 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.
9. Remove the three radiator strut rods and discard them.
10. Remove the upper fan shroud and discard it.
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 line mounting nuts, then free the receiver-drier. See **Fig. 2**.

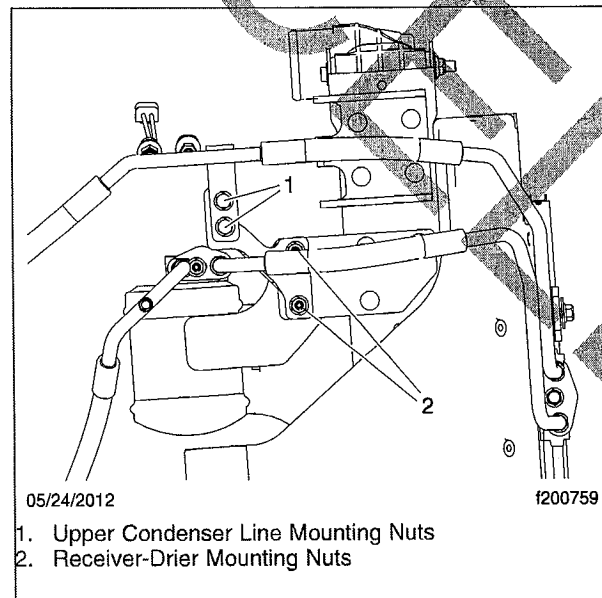


Fig. 2, Receiver-Drier Installation (typical)

- 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. 4**.

CANCELED: Cascadia Radiator Update—EPA10 with DDC Engines

20-73

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

Freightliner
Service Bulletin

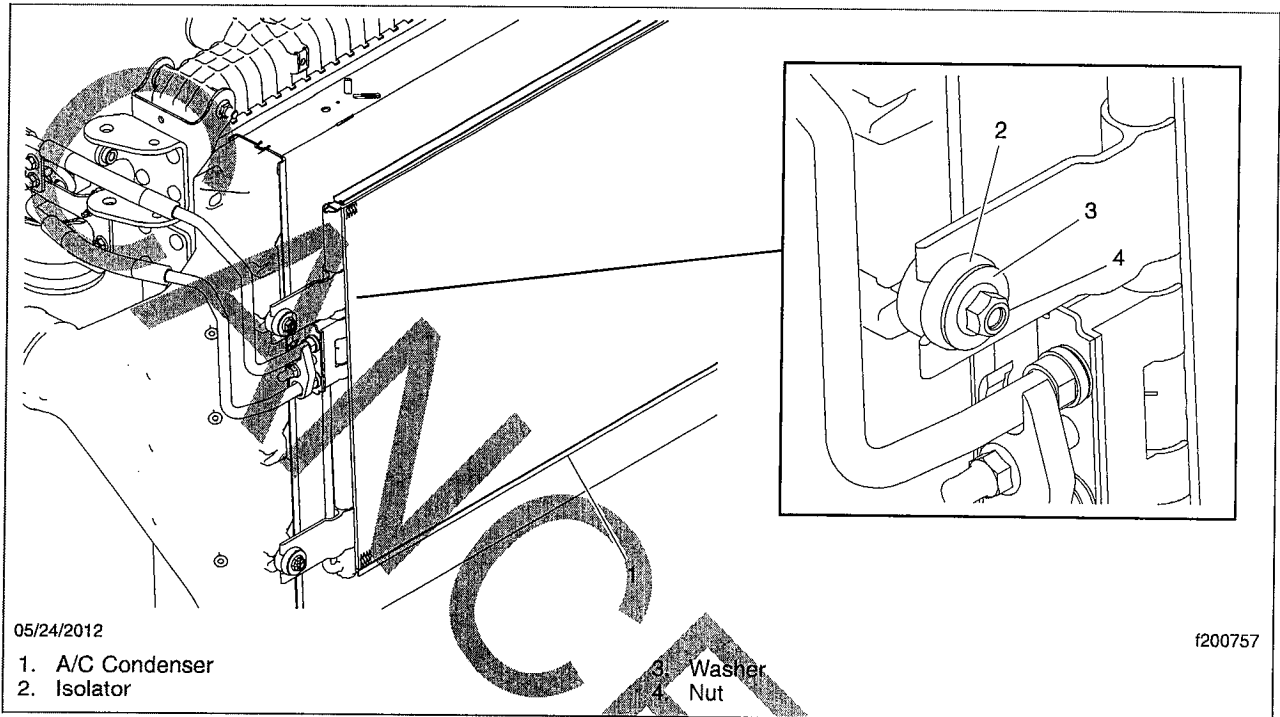


Fig. 3, A/C Condenser Installation

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

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

15. Remove the CAC from the radiator. Leave the baffles bolted to the CAC.
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 elbow 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 and discard them. Cap or plug the fittings at the transmission and on the lines to prevent spills. See **Fig. 5**.
20. Install the lower radiator mounting brackets. See **Fig. 6**. Tighten 191 to 234 lbf-ft (260 to 317 N·m).
21. 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. 7**, **Fig. 8**, and **Fig. 9** for transmission cooler line and bracket installation. For vehicle-specific plumbing diagrams refer to EZWiring in PartsPro.

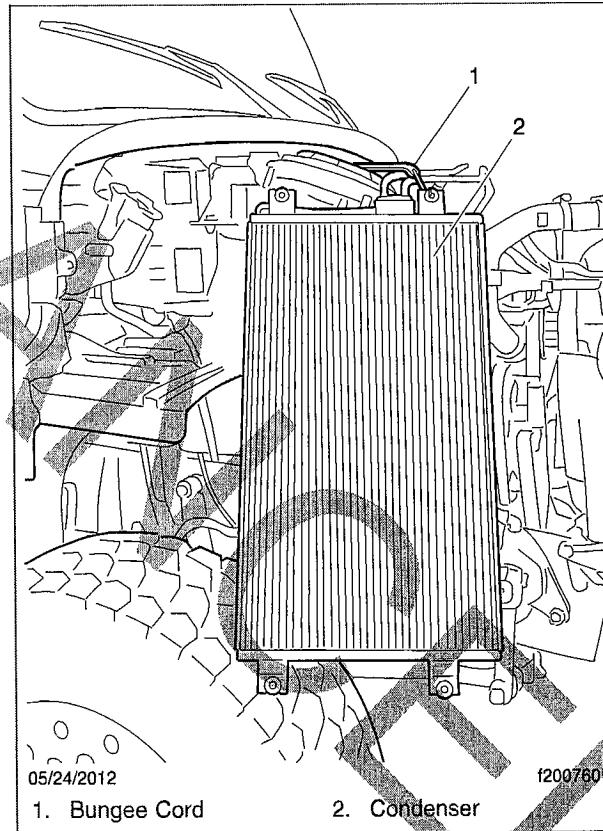


Fig. 4, Securing the A/C Condenser

22. 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.

23. Install the CAC on the new radiator. Tighten the mounting nuts 22 lbf-ft (29 N·m)

24. Install the new fan shroud on the new radiator. See **Fig. 10**.

25. 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.

26. Install the new lower baffle on the front closing crossmember. See **Fig. 11**.

27. Install the forward antenna. See **Fig. 12** for VORAD bracket and antenna installation, or **Fig. 13** for On-Guard antenna and bracket assembly installation.

28. Apply sealant (48-00094-141) to the threads of the fasteners, then install the fan. Tighten 30 lbf-ft (41 N·m). For instructions, refer to **Group 20** of the *Cascadia Workshop Manual*.

CANCELED: Cascadia Radiator Update—EPA10 with DDC Engines

20-73

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

Freightliner
Service Bulletin

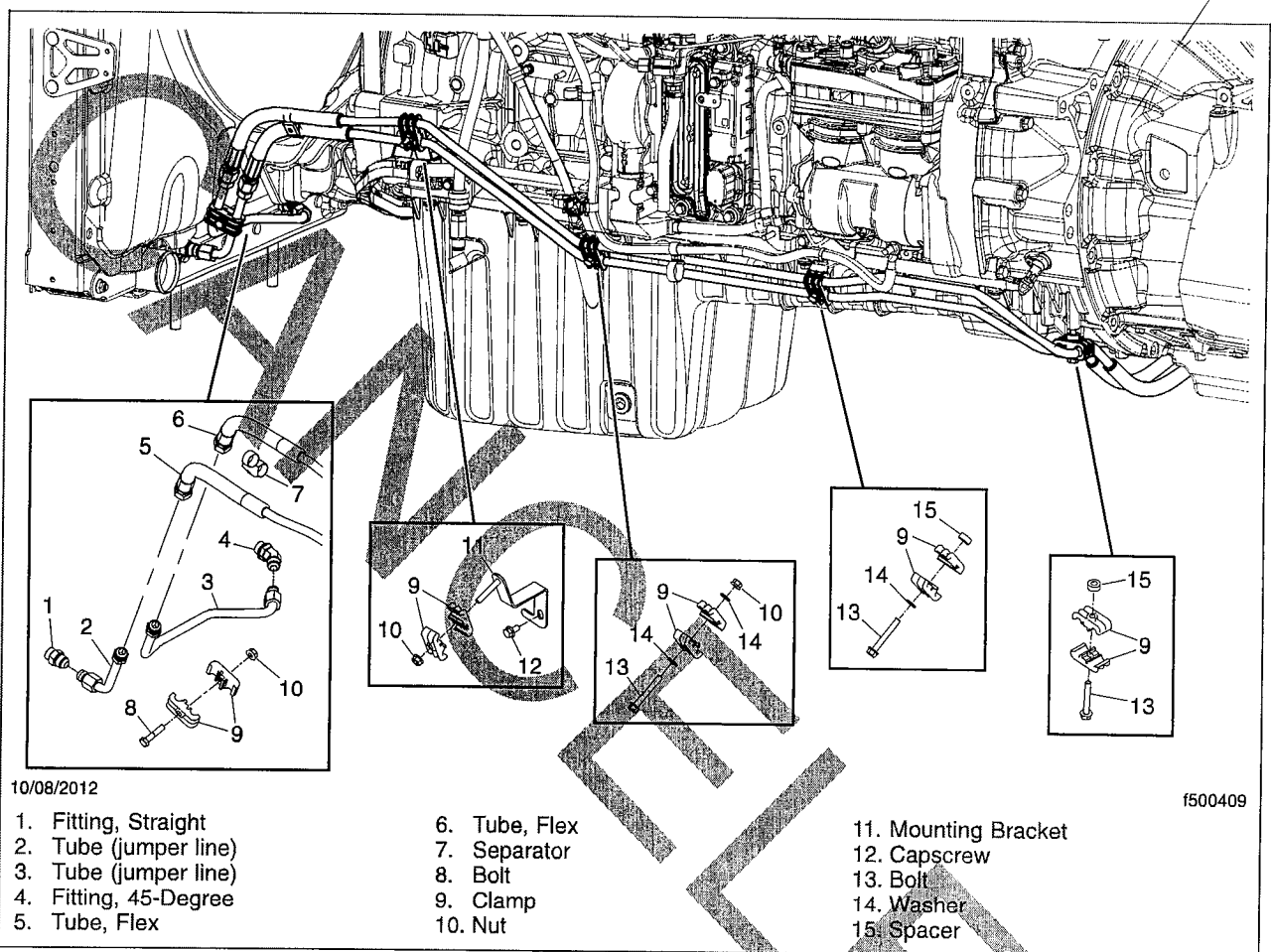


Fig. 5, Transmission Cooler Line Installation (typical)

29. Install the new transmission cooler jumper lines on the radiator. See Fig. 14.
30. 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.
31. Install the new radiator strut rods. See Fig. 16. Do not tighten the mounting fasteners yet.
32. Install the upper radiator hose. See Fig. 17
33. Connect the transmission cooler lines to the jumper lines on the radiator.
34. Install the lower radiator hose assembly. See Fig. 18.
35. Install the A/C condenser as follows.
 - 35.1 Move the condenser into position and secure it temporarily. See Fig. 3.
 - 35.2 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).

Freightliner Service Bulletin

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

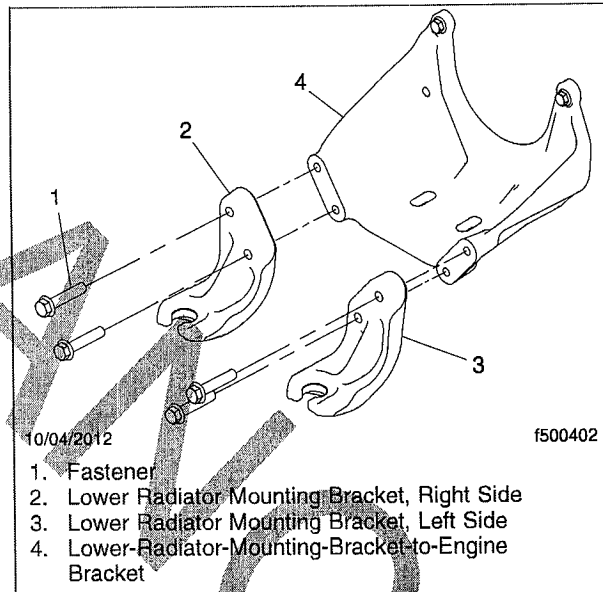


Fig. 6, Lower Radiator Mounting Brackets Installation

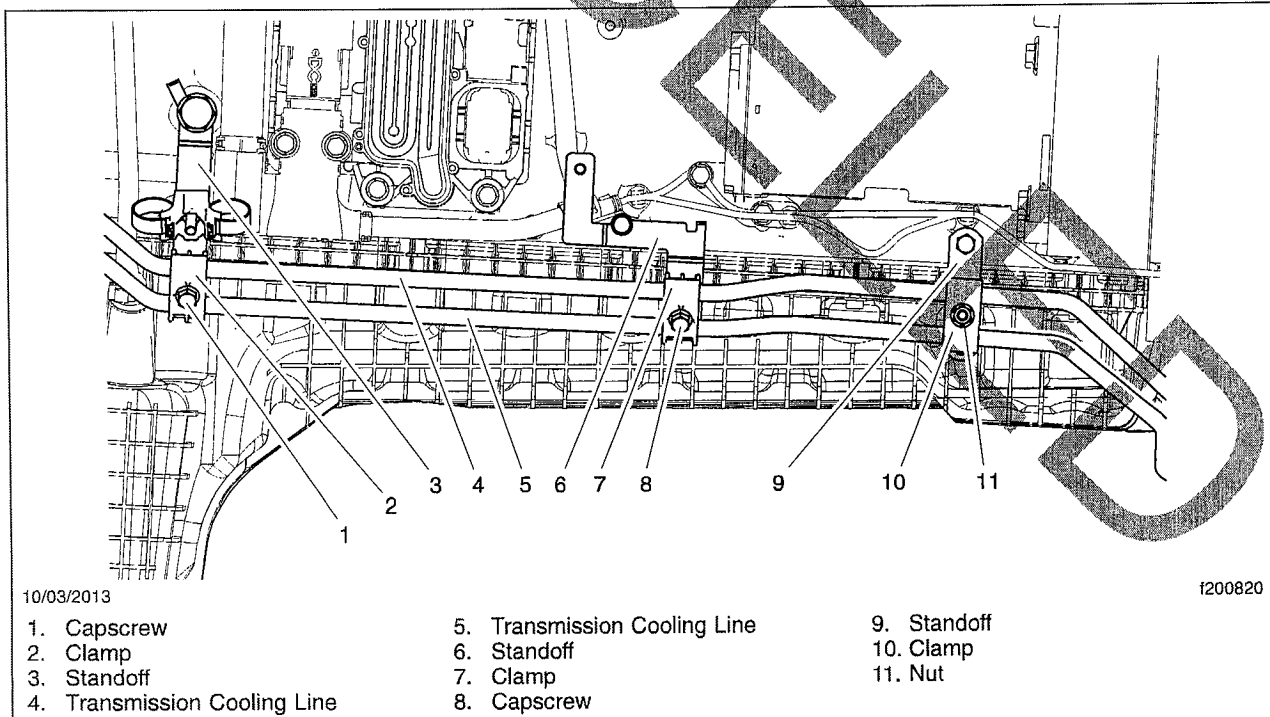


Fig. 7, Transmission Cooler Line Bracket Installation

CANCELED: Cascadia Radiator Update—EPA10 with DDC Engines

20-73

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

Freightliner
Service Bulletin

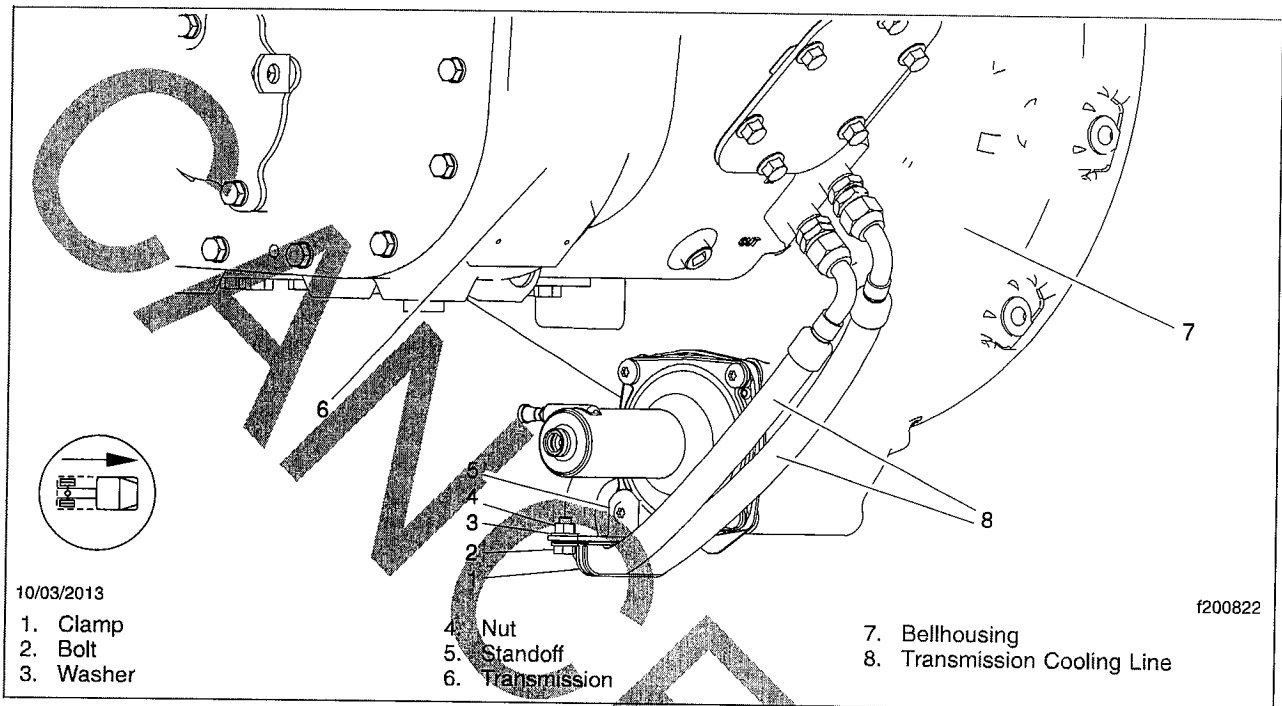


Fig. 8, Transmission Cooler Line and Bracket Installation

- 35.3 Tighten the condenser mounting bolts 112 to 144 lbf·in (1270 to 1630 N·cm).
36. Tighten the radiator strut rod fasteners at the radiator 55 to 65 lbf·ft (75 to 90 N·m), and at the engine block 125 to 139 lbf·ft (171 to 188 N·m) on Detroit engines, or 55 to 65 lbf·ft (75 to 90 N·m) on Cummins engines.
37. Tighten the radiator mounting nuts 140 to 170 lbf·ft (190 to 230 N·m).
38. Install the surge tank. For instructions, see **Section 88.00, Subject 100** in the *Cascadia Workshop Manual*.
39. Install the CAC hoses.
40. Fill the cooling system following the procedures in the **DDC Engine Manual**.
41. Pressure check for coolant leaks. Repair as needed.
42. Install the hood. For instructions, see **Section 88.00, Subject 100** in the *Cascadia Workshop Manual*.
43. Install the bumper. For instructions, refer to **Group 31** of the *Cascadia Workshop Manual*.
44. Drive the vehicle to get it up to operating temperature.
45. Check all the transmission cooling lines for leaks. Repair as needed.
46. Check coolant and transmission fluid levels. Add fluids as needed.

Freightliner Service Bulletin

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

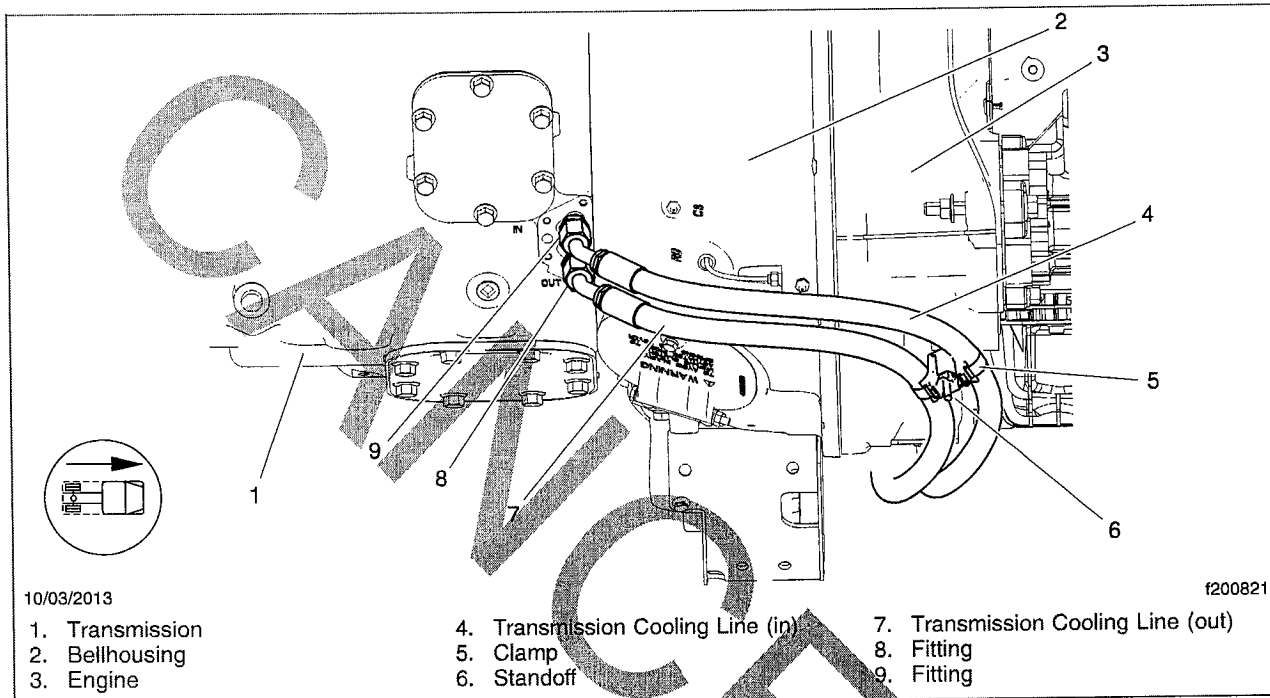


Fig. 9, Transmission Cooler Line and Bracket Installation

CANCELED: Cascadia Radiator Update—EPA10 with DDC Engines

20-73

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

**Freightliner
Service Bulletin**

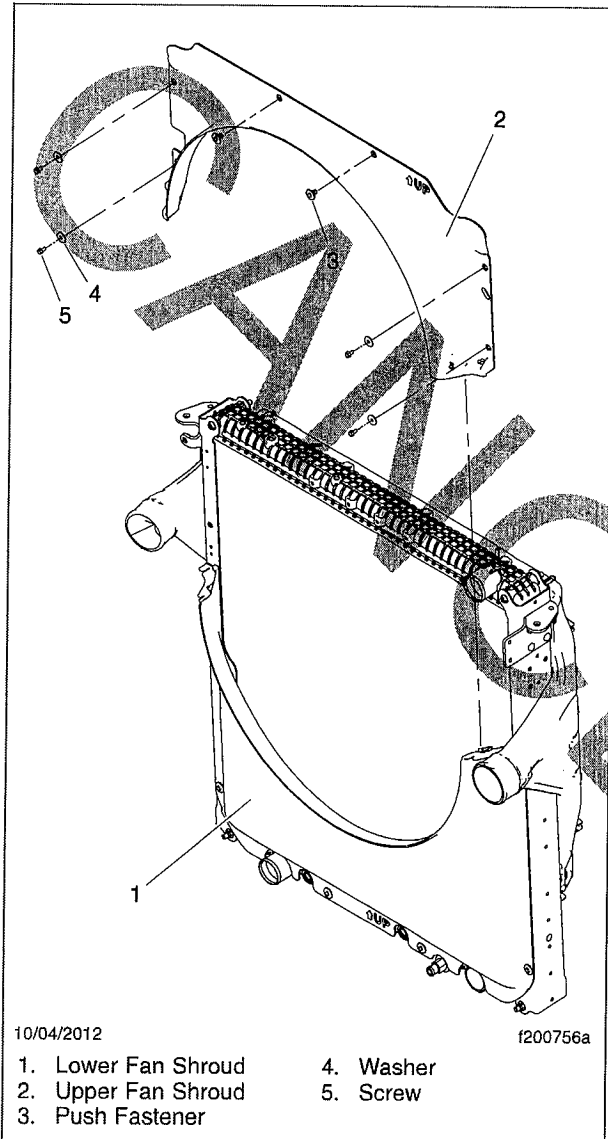


Fig. 10, Fan Shroud Installation

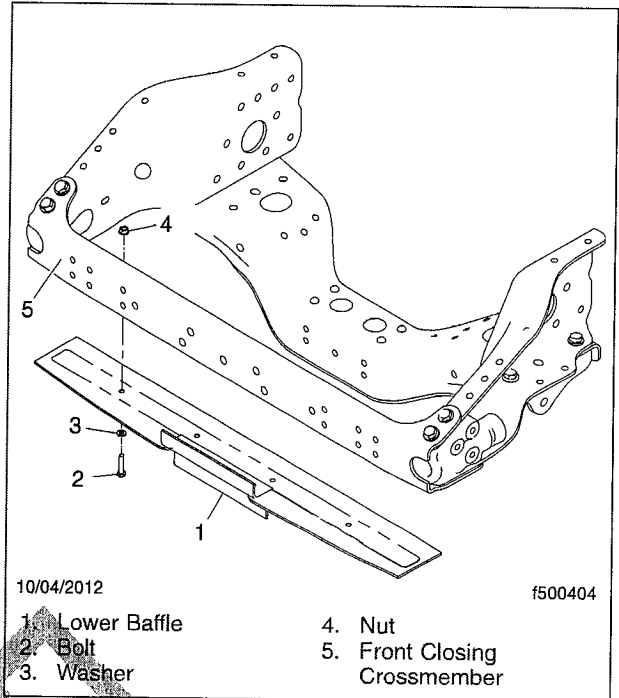


Fig. 11, Lower Baffle Installation

20-73

CANCELED: Cascadia Radiator Update—EPA10 with DDC Engines

**Freightliner
Service Bulletin**

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

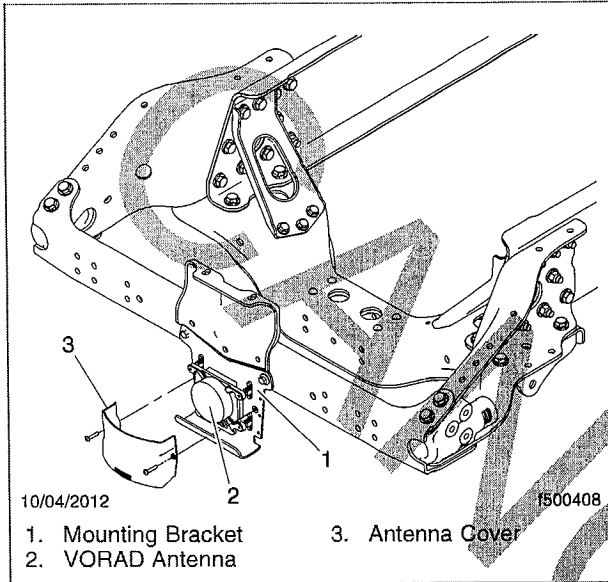


Fig. 12, VORAD Bracket and Antenna Installation

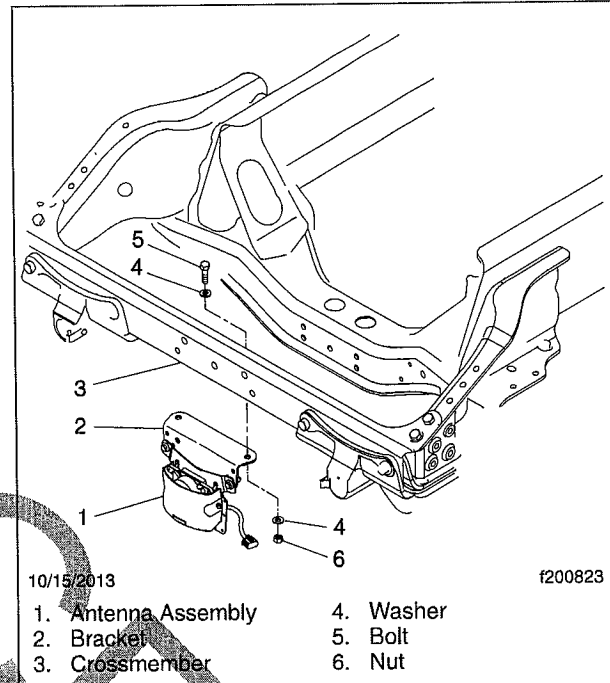


Fig. 13, OnGuard Antenna and Bracket Assembly Installation

CANCELED: Cascadia Radiator Update—EPA10 with DDC Engines

20-73

**Freightliner
Service Bulletin**

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

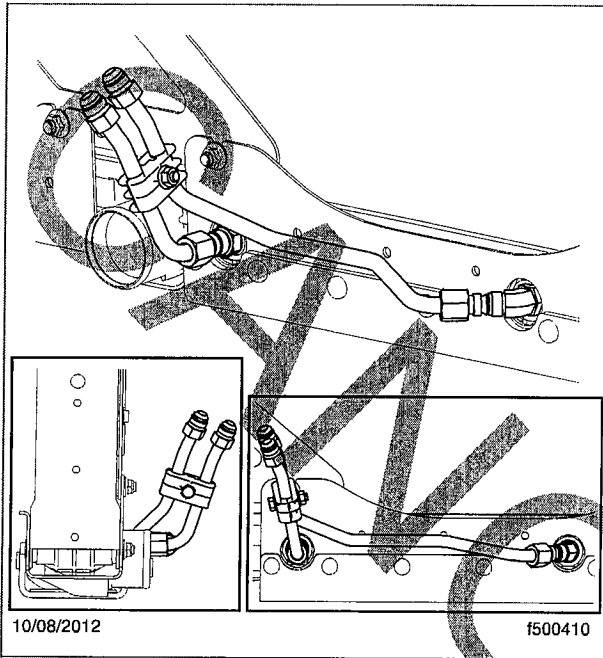
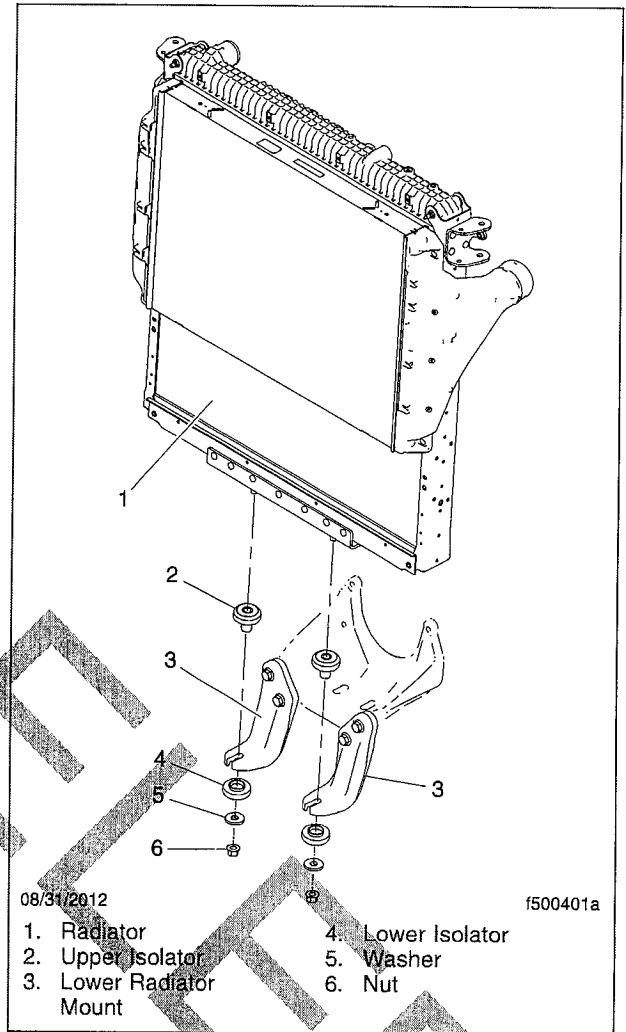


Fig. 14, Transmission Cooler Jumper Line Installation



08/31/2012

f500401a

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

Fig. 15, Radiator Installation

20-73

CANCELED: Cascadia Radiator Update—EPA10 with DDC Engines

Freightliner Service Bulletin

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

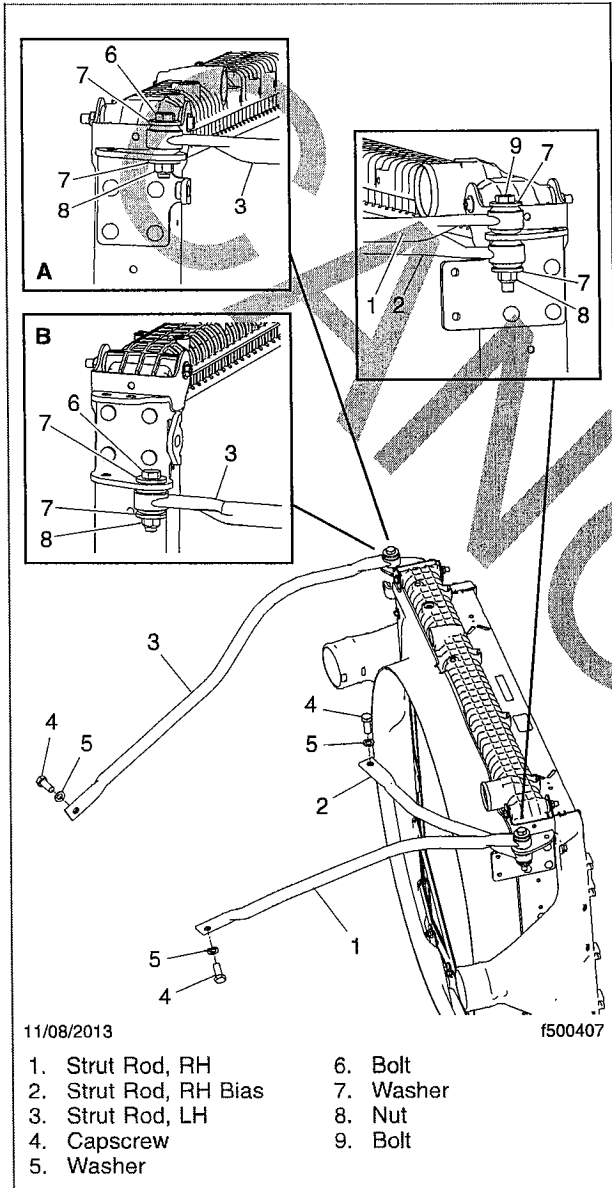


Fig. 16, Isolated Radiator Strut Rod Installation

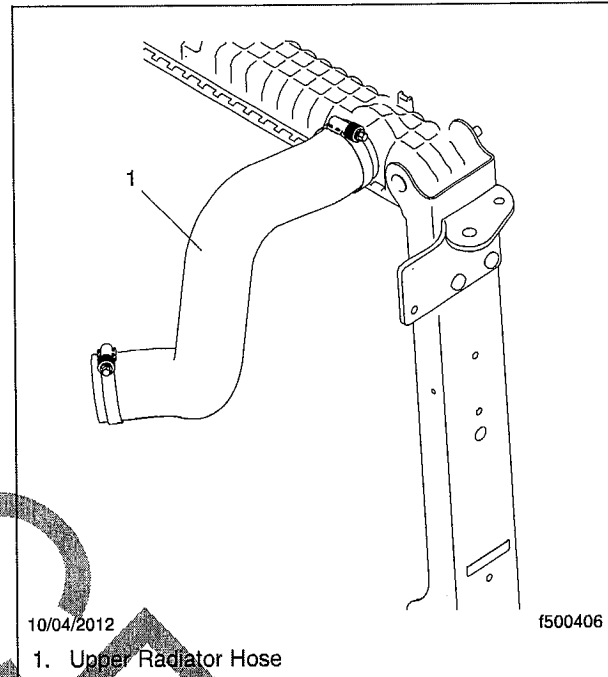


Fig. 17, Upper Radiator Hose Installation

CANCELED: Cascadia Radiator Update—EPA10 with DDC Engines

20-73

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

**Freightliner
Service Bulletin**

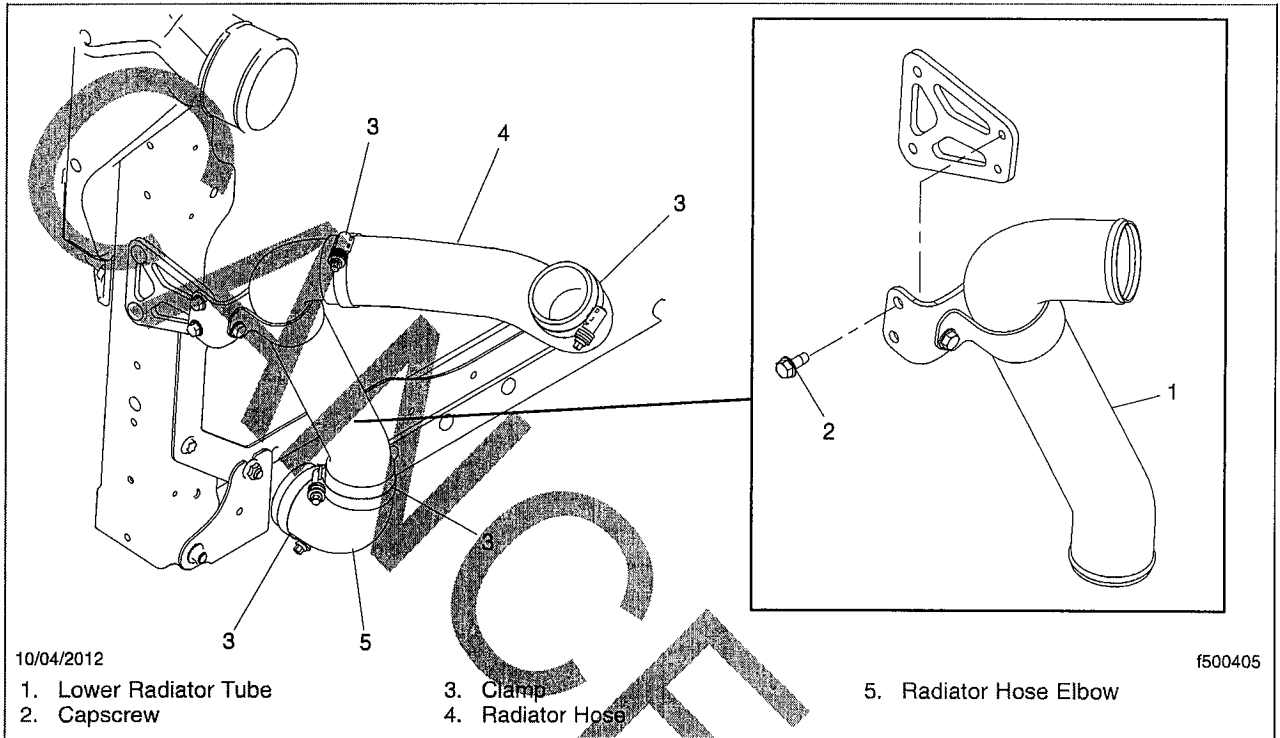


Fig. 18, Lower Radiator Hose Installation

Freightliner Service Bulletin

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

Parts

Parts are available through the PDC.

Required parts 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.

Required Parts by Vehicle Configuration			
BBC and Engine	Radiator Conversion	Transmission	Transmission Cooling Line Conversion
113 BBC with DD13 Engine (w/o TrCI Lines)	Table 2	Not cooled	N/A
		Eaton RT	Table 10
		Eaton ECA	Table 11
113 BBC with DD13 Engine	Table 3	Eaton FR	Included
		Not cooled	N/A
125 BBC with DD13 Engine (w/o TrCI Lines)	Table 4	Eaton RT	Table 12
		Eaton ECA	Table 13
		Eaton FR	Included
125 BBC with DD13 Engine	Table 6	Not cooled	N/A
		Eaton RT	Table 8
125 BBC with DD15 Engine (w/o TrCI Lines)	Table 5	Eaton ECA	Table 9
		Eaton FR	Included
125 BBC with DD15 Engine	Table 7	Eaton FR	Included

Table 1, Vehicle Configuration and Required Parts

Cascadia 113 (DD13) - 1625 to 1400 Radiator Conversion List, w/o TrCI Lines		
Part number	Description	Quantity
MOD 3S0580800003	RADIATOR M1400,BO,LSO,ITOC	1
A05-30969-000	SHROUD-FAN,1400 (P3113)	1
23-12274-003	RIVET-PUSH-TYPE,REUSABLE,,.315"	8
23-10800-050	SCREW-HWH,THDRLG,1/4-20X1/2	8
23-09426-203	WASHER-PLTD STL,1/4X1.0"	8
A05-30679-000	RECIRC-BAFFLE,P3,M1400, Bottom	1
N000933 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
N210100 016000	NUT-FLG HD,M16,CLASS 10, P&O	2

CANCELED: Cascadia Radiator Update—EPA10 with DDC Engines

20-73

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

**Freightliner
Service Bulletin**

Cascadia 113 (DD13) - 1625 to 1400 Radiator Conversion List, w/o TrCI Lines		
Part number	Description	Quantity
01-20963-001	WASHER-HARDND STL,.656X2.5"	2
BCD 27463 14	ISOLATOR-RAD,LWR,KIT	2
A05-30644-000	STRUT-RAD,DD13,MED,LH,M1400,ISO(P3113)	1
A05-31386-000	STRUT-RAD,DD13,MED,RH,M1400,ISO(P3113)	1
A05-31387-000	STRUT-RAD,DD13,MED,BIAS,M1400,ISO(P3113)	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
23-12237-075	SCREW-HWH,SERR,THDRLG,5/16-18	2
05-21968-000	HOSE-CLNT,M1400,P3-113,M2,DD13	1
A05-18548-000	TUBE-CLNT,LWR,M1400,DD13,DD15	1
05-25925-003	HOSE-COOLANT,LWR,ELBOW,ECR	1
23-12485-250	CLAMP-WORM,CONSTANT 2-1/2 HOSE	4

Table 2, Cascadia 113 (DD13) - 1625 to 1400 Radiator Conversion List, w/o TrCI Lines

Cascadia 113 (DD13) - 1625 to 1400 Radiator Conversion List, w/ TrCI Eaton FR		
Part number	Description	Quantity
MOD 3S0580800003	RADIATOR M1400,BO,LSO,ITOC	1
A05-30969-000	SHROUD-FAN,1400 (P3113)	1
23-12274-003	RIVET-PUSH-TYPE,REUSABLE,,315	8
23-10800-050	SCREW-HWH,THDRLG,1/4-20X1/2	8
23-09426-203	WASHER-PLTD STL,1/4X1.0"	8
A05-30679-000	RECIRC-BAFFLE,P3,M1400, Bottom	1
N000933 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
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
A05-30644-000	STRUT-RAD,DD13,MED,LH,M1400,ISO(P3113)	1
A05-31387-000	STRUT-RAD,DD13,MED,RH,M1400,ISO(P3113)	1
A05-30646-000	STRUT-RAD,DD13,MED,BIAS,M1400,ISO(P3113)	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
23-12237-075	SCREW-HWH,SERR,THDRLG,5/16-18	2

Freightliner Service Bulletin

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 113 (DD13) - 1625 to 1400 Radiator Conversion List, w/ TrCI Eaton FR		
Part number	Description	Quantity
05-21968-000	HOSE-CLNT,M1400,P3-113,M2,DD13	1
A05-18548-000	TUBE-CLNT,LWR,M1400,DD13,DD15	1
05-25925-003	HOSE-COOLANT,LWR,ELBOW,ECR	1
23-12485-250	CLAMP-WORM,CONSTANT,2-1/2 HOSE	4
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
A07-22753-001	BRKT-BRKT,SPRT,TRANS CLR LINES	1
07-22721-000	TUBE-SPLY,M-ITOC,DD13,P3-113	1
07-22722-000	TUBE-RETURN,M-ITOC,DD13,P3-113	1
23-13345-020	BOLT-HEX,FLANGE HEAD-SCREW HEX FLANGE,M8	1
DDE N910112008000	NUT,HX FLNG MTRC,M8X1.25,CLS 8	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

Table 3, Cascadia 113 (DD13) - 1625 to 1400 Radiator Conversion List, w/ TrCI Eaton FR

Cascadia 125 (DD13) - 1625 to 1400 Radiator Conversion List, w/o TrCI		
Part number	Description	Quantity
MOD 3S0580800003	RADIATOR M1400,BO,LSO,ITOC	1
A05-30850-000	SHROUD-FAN,1400 (P3125)	1
23-12274-003	RIVET-PUSH-TYPE,REUSABLE,.315"	8
23-10800-050	SCREW-HWH,THDRLG,1/4-20X1/2	8
23-09426-203	WASHER-PLTD STL,1/4X1.0"	8
A05-30679-000	RECIRC-BAFFLE,P3,M1400, Bottom	1
N000933 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
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
A05-30647-000	STRUT-RAD,DD13,MED,LH,M1400,AFT,ISO(P3125)	1
A05-313389-000	STRUT-RAD,DD13,MED,RH,M1400,AFT,ISO(P3125)	1
A05-31390-000	STRUT-RAD,DD13,MED,BIAS,M1400,AFT,ISO(P3125)	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

CANCELED: Cascadia Radiator Update—EPA10 with DDC Engines

20-73

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

**Freightliner
Service Bulletin**

Cascadia 125 (DD13) - 1625 to 1400 Radiator Conversion List, w/o TrCI		
Part number	Description	Quantity
23-12237-075	SCREW-HWH,SERR,THDRLG,5/16-18	2
A05-18548-000	TUBE-CLNT,LWR,M1400,DD13,DD15	1
05-25925-003	HOSE-COOLANT,LWR,ELBOW,ECR	1
05-21969-000	HOSE-CLNT,M1400,P3-125,HDEP	1
23-12485-250	CLAMP-WORM,CONSTANT,2-1/2 HOSE	4
A22-69862-000	BRKT ASSY-AC,H02,MID PIPE	1

Table 4. Cascadia 125(DD13) - 1625 to 1400 Radiator Conversion List, w/o TrCI

Cascadia 125(DD13) - 1625 to 1400 Radiator Conversion List, w/ TrCI		
Part number	Description	Quantity
MOD 3S0580800003	RADIATOR M1400,BO,LSO,ITOC	1
A05-30850-000	SHROUD-FAN,1400 (P3125)	1
23-12274-003	RIVET-PUSH-TYPE,REUSABLE,.315"	8
23-10800-050	SCREW-HWH,THDRLG,1/4-20X1/2	8
23-09426-203	WASHER-PLTD STL,1/4X1.0"	8
A05-30679-000	RECIRC-BAFFLE,P3,M1400, Bottom	1
N000933 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
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
A05-30647-000	STRUT-RAD,DD13,MED,LH,M1400,AFT,ISO (P3125)	1
A05-31389-000	STRUT-RAD,DD13,MED,RH,M1400,AFT,ISO (P3125)	1
A05-31390-000	STRUT-RAD,DD13,MED,BIAS,M1400,AFT,ISO(P3125)	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
23-12237-075	SCREW-HWH,SERR,THDRLG,5/16-18	2
A05-18548-000	TUBE-CLNT,LWR,M1400,DD13,DD15	1
05-25925-003	HOSE-COOLANT,LWR,ELBOW,ECR	1
05-21969-000	HOSE-CLNT,M1400,P3-125,HDEP	1
23-12485-250	CLAMP-WORM,CONSTANT,2-1/2 HOSE	4
A22-69862-000	BRKT ASSY-AC,H02,MID PIPE	1
A07-22758-000	TUBE-SUPPLY,FWD,JUMPER,M1400	1
A07-22759-000	TUBE-RETURN,FWD JUMPER,M1400	1
A07-22753-001	BRKT-BRKT,SPRT,TRANS CLR LINES	1

Freightliner Service Bulletin

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(DD13) - 1625 to 1400 Radiator Conversion List, w/ TrCI		
Part number	Description	Quantity
07-22721-000	TUBE-SPLY,M-ITOC,DD13,P3-113	1
07-22722-000	TUBE-RETURN,M-ITOC,DD13,P3-113	1
23-13345-020	BOLT-HEX,FLANGE HEAD-SCREW HEXFLANGE,M8	1
DDE N910112008000	NUT,HX FLNG MTRC,M8X1.25,CLS 8	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

Table 5, Cascadia 125(DD13) - 1625 to 1400 Radiator Conversion List, w/ TrCI

Cascadia 125 (DD15) - 1625 to 1400 Radiator Conversion List, w/o TrCI		
Part number	Description	Quantity
MOD 3S0580800003	RADIATOR M1400,BO,LSO,ITOC	1
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
N000933 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
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
A05-30681-000	STRUT-RAD,DD15,MED,LH,ISO	1
A05-30682-000	STRUT-RAD,DD15,MED,RH,ISO	1
A05-30683-000	STRUT-RAD,DD15,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
23-12237-075	SCREW-HWH,SERR,THDR LG,5/16-18	2
A05-18548-000	TUBE-CLNT,LWR,M1400,DD13,DD15	1
05-25925-003	HOSE-COOLANT,LWR,ELBOW,ECR	1
05-21969-000	HOSE-CLNT,M1400,P3-125,HDEP	1
23-12485-250	CLAMP-WORM,CONSTANT,2-1/2 HOSE	4
A22-69862-000	BRKT ASSY-AC,H02,MID PIPE	1
A07-22758-000	TUBE-SUPPLY,FWD,JUMPER,M1400	1
A07-22759-000	TUBE-RETURN,FWD JUMPER,M1400	1

CANCELED: Cascadia Radiator Update—EPA10 with DDC Engines

20-73

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

**Freightliner
Service Bulletin**

Cascadia 125 (DD15) - 1625 to 1400 Radiator Conversion List, w/o TrCI		
Part number	Description	Quantity
A07-22753-001	BRKT-BRKT,SPRT,TRANS CLR LINES	1
07-22721-000	TUBE-SPLY,M-ITOC,DD13,P3-113	1
07-22722-000	TUBE-RETURN,M-ITOC,DD13,P3-113	1
23-13345-020	BOLT-HEX,FLANGE HEAD-SCREW HEX FLANGE,M8	1
DDE N910112008000	NUT,HX FLNG MTRC,M8X1.25,CLS 8	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
DDE N910105010009	SCREW HX FLNG,M10-1.5,10.9	1
23-12668-010	NUT-HEX,FLNG,M10-1.5,ZN AL	2

Table 6, Cascadia 125 (DD15) - 1625 to 1400 Radiator Conversion List, w/o TrCI

Cascadia 125(DD15) - 1625 to 1400 Radiator Conversion List, w/ TrCI		
Part number	Description	Quantity
MOD 3S0580800003	RADIATOR M1400,BO,LSO,ITOC	1
A05-30850-000	SHROUD-FAN,1400 (P3125)	1
23-12274-003	RIVET-PUSH-TYPE,REUSABLE,.315"	8
23-10800-050	SCREW-HWH,THDRLG,1/4-20X1/2"	8
23-09426-203	WASHER-PLTD STL,1/4X1.0"	8
A05-30679-000	RECIRC-BAFFLE,P3,M1400, Bottom	1
N000933 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
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
A05-30681-000	STRUT-RAD,DD15,MED,LH,ISO	1
A05-30682-000	STRUT-RAD,DD15,MED,RH,ISO	1
A05-30683-000	STRUT-RAD,DD15,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
23-12237-075	SCREW-HWH,SERR,THDRLG,5/16-18	2
A05-18548-000	TUBE-CLNT,LWR,M1400,DD13,DD15	1
05-25925-003	HOSE-COOLANT,LWR,ELBOW,ECR	1
05-21969-000	HOSE-CLNT,M1400,P3-125,HDEP	1
23-12485-250	CLAMP-WORM,CONSTANT,2-1/2 HOSE	4

Freightliner Service Bulletin

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(DD15) - 1625 to 1400 Radiator Conversion List, w/ TrCI		
Part number	Description	Quantity
A22-69862-000	BRKT ASSY-AC,H02,MID PIPE	1
A07-22758-000	TUBE-SUPPLY,FWD,JUMPER,M1400	1
A07-22759-000	TUBE-RETURN,FWD JUMPER,M1400	1
A07-22753-001	BRKT-BRKT,SPRT,TRANS CLR LINES	1
07-22767-000	TUBE-SPLY,M-ITOC,DD15,P3-125	1
07-22768-000	TUBE-RETURN,M-ITOC,DD15,P3-125	1
23-13345-020	BOLT-HEX,FLANGE HEAD-SCREW HEX FLANGE,M8	1
DDE N910112008000	NUT,HX FLNG MTRC,M8X1.25,CLS 8	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

Table 7, Cascadia 125(DD15) - 1625 to 1400 Radiator Conversion List, w/ TrCI

Cascadia 125 (DD15) - Manual Transmission Plumbing, Eaton RT		
Part number	Description	Quantity
A07-22758-000	TUBE-SUPPLY,FWD,JUMPER,M1400	1
A07-22759-000	TUBE-RETURN,FWD JUMPER,M1400	1
A07-22753-001	BRKT-BRKT,SPRT,TRANS CLR LINES	1
07-22765-000	TUBE-SUP,DD15,M-ITOC,DD15,LH	1
07-22766-000	TUBE,RETURN,M-ITOC,DD15,P3	1
DDE N910105008010	SCRW HEX FLNG,M8X1.25X40,	1
DDE N910112008000	NUT,HX FLNG MTRC,M8X1.25,CLS 8	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	10

Table 8, Cascadia 125 (DD15) - Manual Transmission Plumbing, Eaton RT

Cascadia 125 (DD15) - Manual Transmission 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
A07-22753-001	BRKT-BRKT,SPRT,TRANS CLR LINES	1
07-22763-000	TUBE-SUP,DD15,M-ITOC,P3	1
07-22764-000	TUBE-RET,DD15,M-ITOC,P3	1
DDE N910105008010	SCRW HEX FLNG,M8X1.25X40,	1
DDE N910112008000	NUT,HX FLNG MTRC,M8X1.25,CLS 8	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	10

Table 9, Cascadia 125 (DD15) - Manual Transmission Plumbing, Eaton ECA

CANCELED: Cascadia Radiator Update—EPA10 with DDC Engines

20-73

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

**Freightliner
Service Bulletin**

Cascadia 113 (DD13) - Manual Transmission Plumbing, Eaton RT		
Part number	Description	Quantity
A07-22714-000	TUBE-SUPPLY,FWD,JUMPER,M1400	1
A07-22715-000	TUBE-RETURN,FWD JUMPER,M1400	1
A07-22753-001	BRKT-BRKT,SPRT,TRANS CLR LINES	1
07-22754-000	TUBE-SUP,DD13,M-ITOC,DD13,LH	1
07-22755-000	TUBE,RETURN,M-ITOC,DD13,P3	1
DDE N910105008010	SCRW HEX FLNG,M8X1.25X40,	4
DDE N910112008000	NUT,HX FLNG MTRC,M8X1.25,CLS 8	2
23-12912-800	ELB-45,VITON O RING,#8	1
23-13039-008	CONN-STR THRD,VITON O-RING	1
23-09114-006	WASHER-HRDN,0.34X0.69X.080,ZN	5
23-12612-008	NUT-HEX,M8,DIN 934,A2,SST	1
23-13687-000	CLAMP TUBE SNAP VERSION	10

Table 10, Cascadia 113 (DD13) - Manual Transmission Plumbing, Eaton RT

Cascadia 113 (DD13) - Manual Transmission Plumbing, Eaton ECA		
Part number	Description	Quantity
A07-22714-000	TUBE-SUPPLY,FWD,JUMPER,M1400	1
A07-22715-000	TUBE-RETURN,FWD JUMPER,M1400	1
A07-22753-001	BRKT-BRKT,SPRT,TRANS CLR LINES	1
07-22712-000	TUBE-SUP,DD13,M-ITOC,DD13,LH	1
07-22713-000	TUBE,RETURN,M-ITOC,DD13,P3	1
DDE N910105008010	SCRW HEX FLNG,M8X1.25X40,	4
DDE N910112008000	NUT,HX FLNG MTRC,M8X1.25,CLS 8	2
23-12912-800	ELB-45,VITON O RING,#8	1
23-13039-008	CONN-STR THRD,VITON O-RING	1
23-09114-006	WASHER-HRDN,0.34X0.69X.080,ZN	5
23-12612-008	NUT-HEX,M8,DIN 934,A2,SST	1
23-13687-000	CLAMP TUBE SNAP VERSION	10

Table 11, Cascadia 113 (DD13) - Manual Transmission Plumbing, Eaton ECA

Cascadia 125 (DD13) - Manual Transmission Plumbing, Eaton RT		
Part number	Description	Quantity
A07-22758-000	TUBE-SUPPLY,FWD,JUMPER,M1400	1
A07-22759-000	TUBE-RETURN,FWD JUMPER,M1400	1
A07-22753-001	BRKT-BRKT,SPRT,TRANS CLR LINES	1
07-22754-000	TUBE-SUP,DD13,M-ITOC,DD13,LH	1
07-22755-000	TUBE,RETURN,M-ITOC,DD13,P3	1
DDE N910105008010	SCRW HEX FLNG,M8X1.25X40,	4
DDE N910112008000	NUT,HX FLNG MTRC,M8X1.25,CLS 8	2
23-12912-800	ELB-45,VITON O RING,#8	1

Freightliner Service Bulletin

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 (DD13) - Manual Transmission Plumbing, Eaton RT		
Part number	Description	Quantity
23-13039-008	CONN-STR THRD,VITON O-RING	1
23-09114-006	WASHER-HRDN,0.34X0.69X.080,ZN	5
23-12612-008	NUT-HEX,M8,DIN 934,A2,SST	1
23-13687-000	CLAMP TUBE SNAP VERSION	10

Table 12, Cascadia 125 (DD13) - Manual Transmission Plumbing, Eaton RT

Cascadia 125 (DD13) - Manual Transmission 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
A07-22753-001	BRKT-BRKT,SPRT,TRANS CLR LINES	1
07-22712-000	TUBE SUP,DD13,M-ITOC,DD13,LH	1
07-22713-000	TUBE RETURN,M-ITOC,DD13,P3	1
DDE N910105008010	SCRW HEX FLNG,M8X1.25X40,	4
DDE N910112008000	NUT,HX FLNG MTRC,M8X1.25,CLS 8	2
23-12912-800	ELB-45,VITON O RING,#8	1
23-13039-008	CONN-STR THRD,VITON O-RING	1
23-09114-006	WASHER-HRDN,0.34X0.69X.080,ZN	5
23-12612-008	NUT-HEX,M8,DIN 934,A2,SST	1
23-13687-000	CLAMP TUBE SNAP VERSION	10

Table 13, Cascadia 125(DD13) - Manual Transmission Plumbing, Eaton ECA

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. 19.

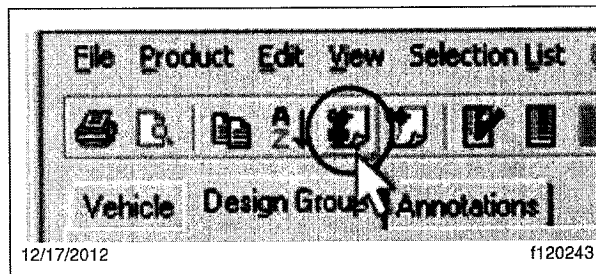


Fig. 19, Add Annotation Icon

CANCELED: Cascadia Radiator Update—EPA10 with DDC Engines

20-73

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

**Freightliner
Service Bulletin**

- 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.

- 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.

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 14 for QuickClaim damage code and labor allowance information. Refer to this service bulletin by number at the beginning of the claim comments. See Table 15 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	266-5025A	Cascadia 1625/1500 to 1400 Radiator Update	7.3

Table 14, 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	266-5025A	Cascadia 1625/1500 to 1400 Radiator Update	7.3
05-29617-005					
05-29617-006					
05-29617-007					
05-29617-008					
05-29617-009					

Table 15, OWL VMRS Codes and Labor Allowance

CANCELLED