

Technical Service Note 32-09

SUBJECT: Airliner Forward HD 6-Piece Bolted Crossmember Gusset Replacement.

PRODUCTS: Cascadia vehicles equipped with an Airliner rear suspension and the HD 6-piece bolted style forward suspension crossmember.

GROUP: 32

PROBLEM / SYMPTOMS: In certain tanker applications the upper gussets on the HD 6-piece bolted style crossmember has cracked.

Field Action:

The upper and lower gussets will be replaced with improved (80KSI) P/Ns. A reinforcement plate will also be added to the upper gussets.
Reference illustrations 1 & 2

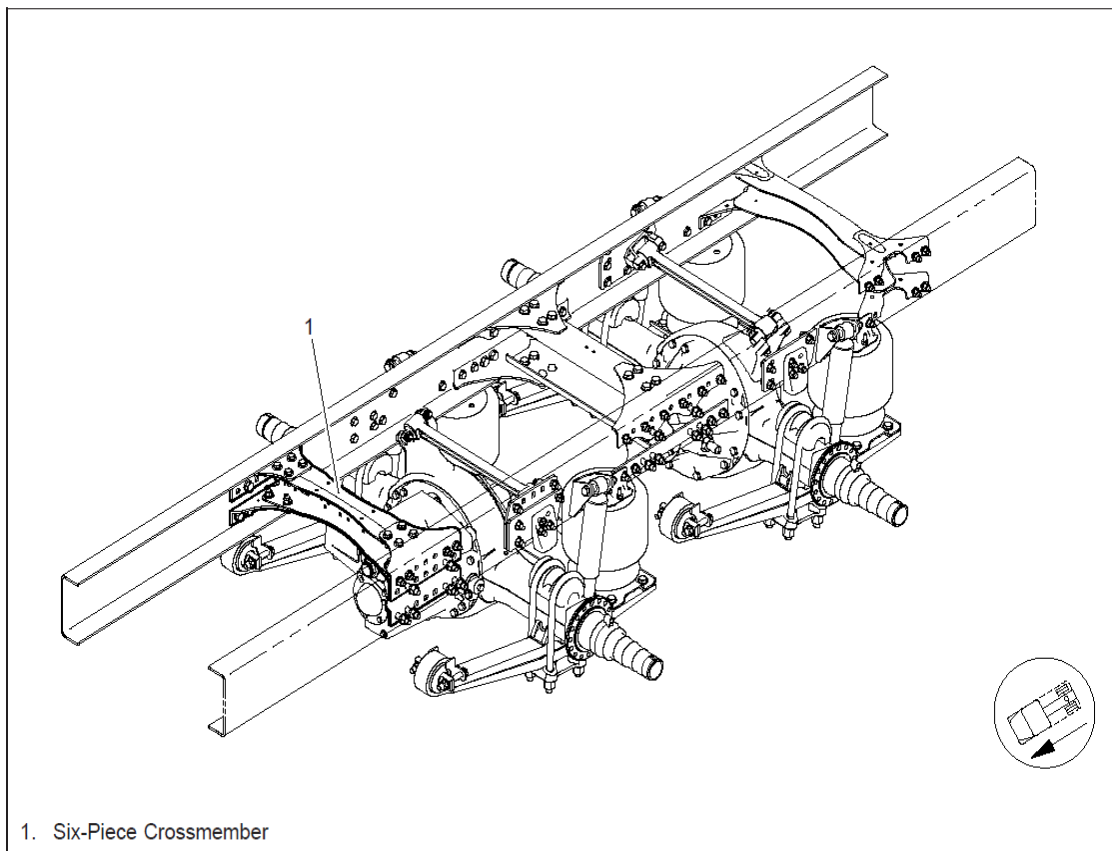


Illustration 1

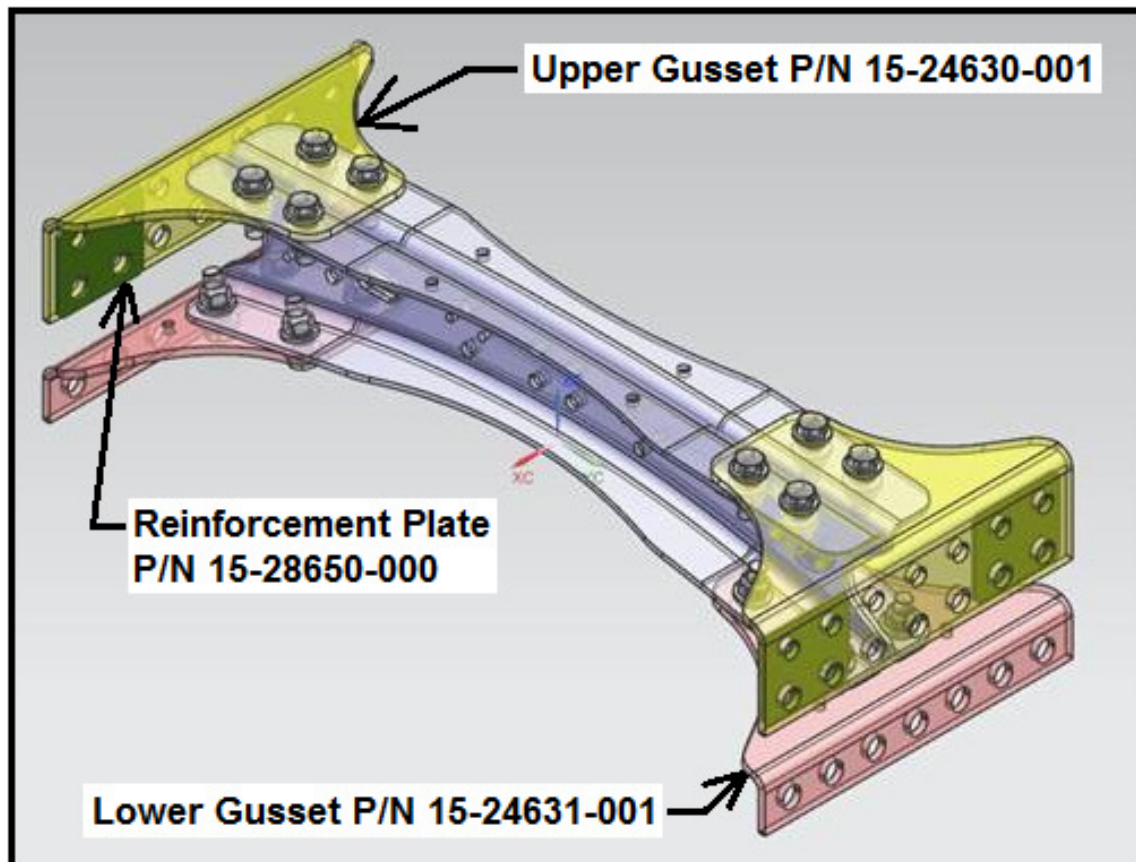


Illustration 2

Note: Reference pages 8 & 9 for a list of components required and the fastener torque information.

Important: Replace one gusset at a time so as not to disturb the rear suspension alignment.

Work Instruction:

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

Upper Gusset Replacement Procedure.

- Remove rear quarter fender mounting strap nut, quarter fender, and quarter fender mounting bracket nut.

Remove on both sides of the truck. Ref. Photo 1



Photo 1

- Remove the four upper gusset crossmember bolts. Ref. Photo 2



Photo 2

- Remove the two airline routing bracket bolts and leave bracket in frame and connected to air lines. Ref. Photo 3

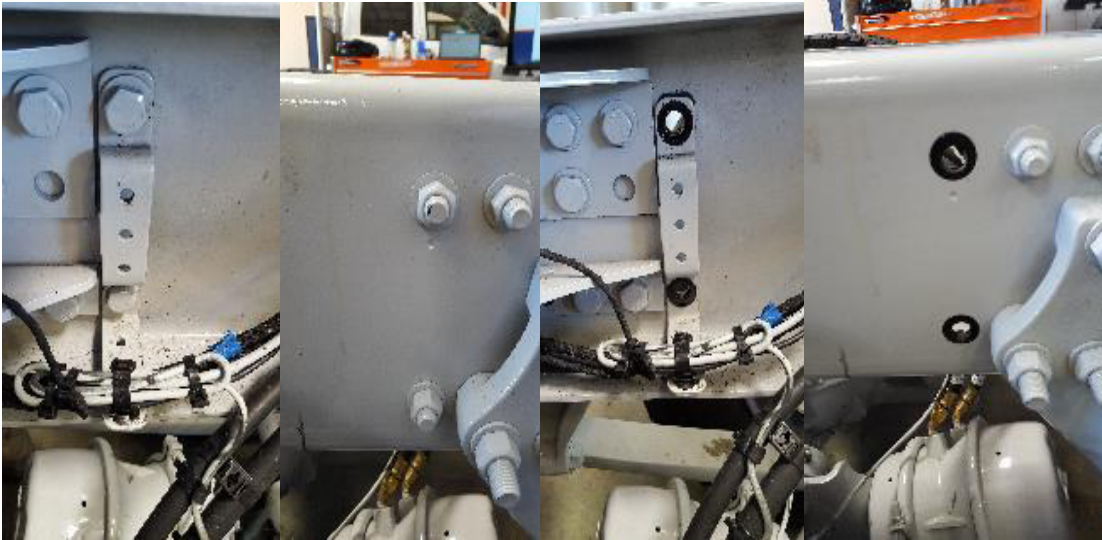


Photo 3

- Remove four upper gusset to frame bolts. Ref. Photo 4

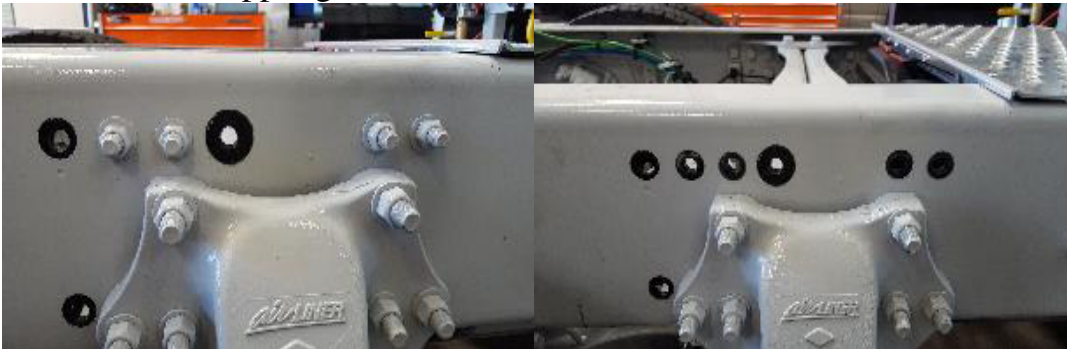


Photo 4

- Remove two upper Airliner frame bracket casting bolts. Ref. Photo 5



Photo 5

- Remove the upper gusset from the chassis. Ref. Photo 6



Photo 6

- Install the new upper gusset into the chassis.
Install the four 5/8-18 fasteners that attach the gusset to the c-channel. Leave the bolts loose at this time. Ref. Photo 7



Photo 7

- Install the two reinforcement plates on the inside of the upper gusset as shown in illustration 2. Install and tighten the four upper chassis gusset 5/8-11 fasteners and two upper Airliner frame bracket casting 3/4-10 fasteners with the bolt heads on the inside of the frame. Tighten the 5/8-18 fasteners that attach the gusset to the c-channel. Ref. Photo 8
Repeat this process for the opposite side.



Photo 8

Lower Gusset Replacement Procedure.

- Cut wiring harness zip tie from routing bracket and remove Christmas tree zip tie mount from bracket. Ref. Photo 9



Photo 9

- Remove the four lower gusset crossmember bolts. Ref. Photo 10



Photo 10

- Remove four lower Air Liner suspension bracket bolts. Ref. Photo 11



Photo 11

- Remove Lower Gusset and electrical routing bracket from truck.

Ref. Photo 12



Photo 12

- Install the new lower gusset and original electrical routing bracket. Install the four 5/8-18 fasteners that attach the gusset to the c-channel. Leave the bolts loose at this time.
- Install and tighten the four lower Airliner frame bracket casting 3/4-10 fasteners with the heads on the inside of the frame chassis. Tighten the 5/8-18 fasteners that attach the gusset to the c-channel.
- Install Christmas tree zip tie mount to bracket and install zip tie to harness.

Ref. Photo 13



Photo 13

- Install quarter fender mounting brackets

Torque quarter fender mounting bracket to **128 ft lbs.** Ref. Photo 14



Photo 14

- Install quarter fenders. Ref. Photo 15



Photo 15

Replacement Parts – Crossmember Assembly:

<u>Part Number:</u>	<u>Description:</u>	<u>Qty:</u>
15-24630-001	GUS-UPR,HD XM,6PC,80KSI,BOLTED	2
15-24631-001	GUS-LWR,HD XM,6PC,80KSI,BOLTED	2
15-28650-000	REINF-GUSSET,UPR,SUSP XM	4
23-09445-200	SCREW-CAP,HEX5/8-18X2,GR8PO	16
23-13179-210	NUT-HEX,PT,5/8-18,C,ZC,559	16
23-09114-000	WASHER-HRDN,0.69X1.31X.177,ZN	32

Note:

Torque the 5/8-18 crossmember assembly fasteners from the bolt head to 154 ft-lbs.

Replacement Parts – Chassis Fasteners:

<u>Part Number:</u>	<u>Description:</u>	<u>Qty:</u>
23-09446-350	SCREW-CAP,HEX3/4-10X3.5 GR8PO	12
23-13833-112	NUT-HEX,LKG,3/4-10,GR8,ZN AL	12
23-09114-004	WASHER-HRDN,0.81X1.47X.177,ZN	24
23-09444-250	SCREW-CAP,5/8-11X2.50GR8PO.403	8
23-13179-110	NUT-HEX,PT,5/8-11,C,ZC,.559	8
23-09114-000	WASHER-HRDN,0.69X1.31X.177,ZN	16

Note:

Torque the 5/8-11 chassis fasteners from the nut to 128 ft-lbs.

Torque the 3/4-10 chassis fasteners from the nut to 200 ft-lbs.

Labor Time = 2.7 hours

Reference Documentation: FRCAS 12699