AEV GMC Front Bumper

GMC AT4X

NEW PRODUCT

Please visit www.aev-conversions.com to view the most current installation guide for this product.

This is a new product and we want to make sure that you receive the latest and most accurate information based on customer feedback, product revisions, and/or model year updates. We value customer feedback, so we encourage you to contact our Technical Support department if you have any suggestions on how to make the installation of this product easier or if you have any questions regarding the installation of this product. AEV's Technical Support can be reached by email at tech@aev-conversions.com or by giving us a call at (248)-926-0256.

INSTALLATION GUIDE

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Last Updated: 01/17/25

PLEASE READ BEFORE YOU START

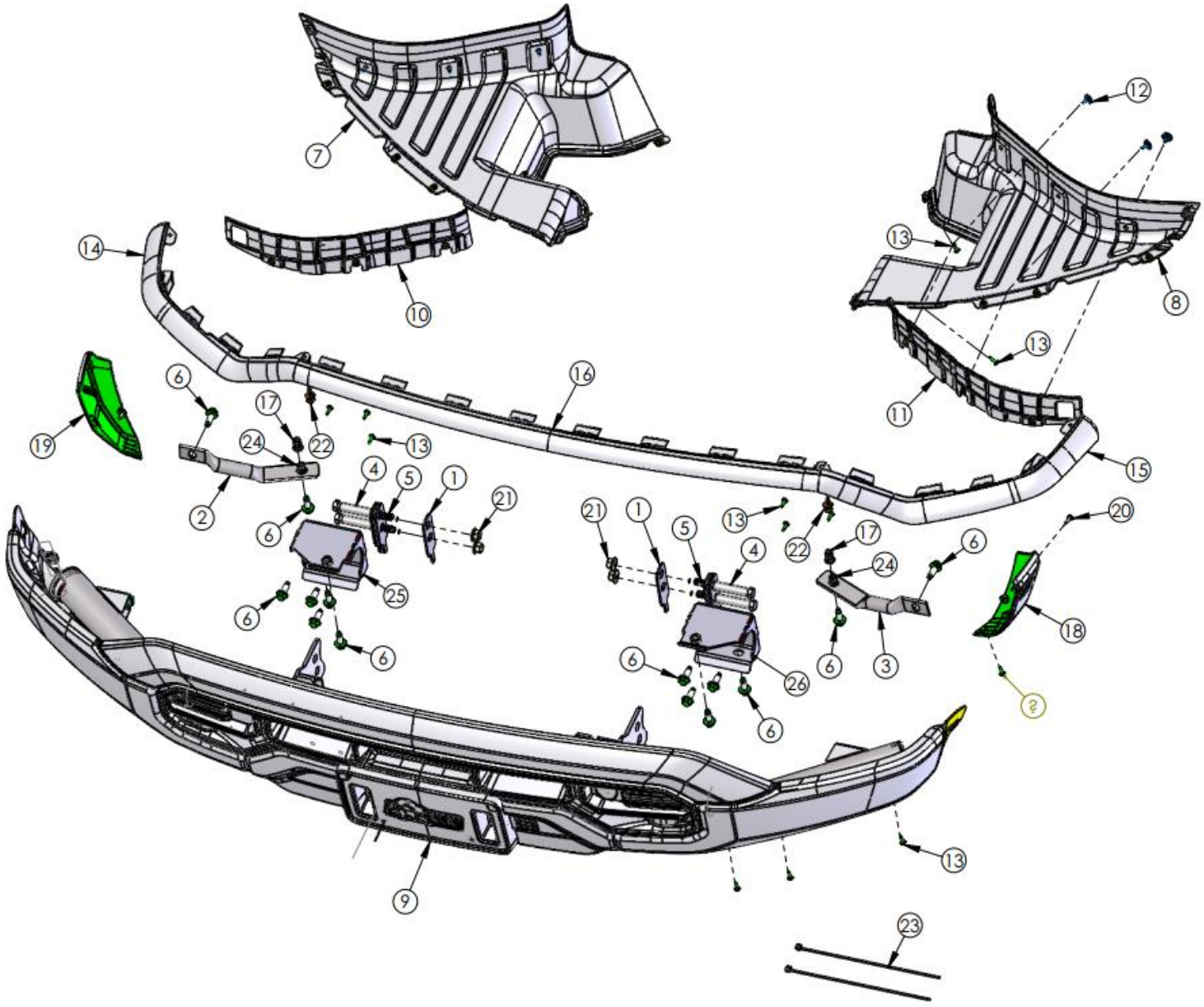
To guarantee a quality installation, we recommend reading these instructions thoroughly before beginning any work. These instructions assume a certain amount of mechanical ability and are not written nor intended for someone not familiar with auto repair.

INCLUDED PARTS	QTY
*See Exploded BOM (PG. 3-4)	
AEV WOM/Flare Kit	
AEV Skid Plate Kit	

REQUIRED TOOLS

2/4 post lift
Harness Clip Tool
Marker/Chalk Pen
Level
Plumbob or Weight & String
Straight Edge Ruler
Air Saw
Rivet Tool
Socket Wrench
Socket Extension
Table Jack HiLo
Drill
¼" Drill Bit
T15 Socket
M7 Socket
M13 Socket
M15 Socket
M18 Socket
M22 Socket

EXPLODED VIEW



ITEM NO.	PartNo	DESCRIPTION	QTY.
1	A32B1049AA	SPACER FRAME RAIL, 31XX-2 COMMON FRT BMPR (AFTERMARKET)	8
2	A32B1028AA	PENCIL BRACE RH, 31XX-2 COMMON FRT BMPR	1
3	A32B1029AA	PENCIL BRACE LH, 31XX-2 COMMON FRT BMPR	1
4	A32B1040AA	CRUSH SLEEVE, 31XX-2 COMMON FRT BMPR	4
5	AEV91216AA	M12 X 1.75 X 110 HEX BOLT, GRADE 10.9, GMW3359	4
6	11588738	M10 X 1.5 X 25 HEX FLANGE BOLT	14
7	A32B0010AA	WHEEL LINER CLOSEOUT RH, SUB ASSEMBLY, 31XX-2 COMMON FRT BMPR	1
8	A32B0011AA	WHEEL LINER CLOSEOUT LH, SUB ASSEMBLY, 31XX-2 COMMON FRT BMPR	1
9	A32B0031AE	SHIPPABLE ASSEMBLY, 31XX-2 GMC FRT BMPR	1
10	A32B0012AA	INNER WHEEL LINER CLOSEOUT RH, SUB ASSEMBLY, 31XX-2 COMMON FRT BMPR	1
11	A32B0013AA	INNER WHEEL LINER CLOSEOUT LH, SUB ASSEMBLY, 31XX-2 COMMON FRT BMPR	1
12	11548270	M4.2 X 1.41 X 20 SHOULDER SCREW AND WASHER (WHEEL LINER)	6
13	11611883	M4.2 X 1.41 X 20 TORX PAN HEAD SCREW (BR POINT, T15)	18
14	A32B3016AD	GAP FILLER RH, 31XX-2 GMC FRT BMPR	1
15	A32B3017AD	GAP FILLER LH, 31XX-2 GMC FRT BMPR	1
16	A32B3018AD	GAP FILLER CTR, 31XX-2 GMC FRT BMPR	1
17	AEV9030AA	M10 X 1.5 HEX RIV NUT	2
18	A32B0035AA	CORNER END CAP SUB ASM. LH, 31XX-2 GMC FRT BMPR	1
19	A32B3008AA	CORNER END CAP RH, 31XX-2 GMC FRT BMPR	1
20	11611884	M4.2 X 1.41 X 25 TORX PAN HEAD SCREW (BR POINT, T15)	2
21	11546379	M12 X 1.75 HEX FLANGE NUT	4
22	11589290	M6.5 PLASTIC PUSH PIN (4.5-7.0 PANEL THICKNESS)	2
23	MS-S11-50-OM	CABLE TIE, 11" LONG, 3/16" WIDE, BLACK	2
24	AEV93028AA	Nut, Rivnut, M10-1.5 - PS11036-Silver	2
25	A32B0110AA	FRAME END WELDMENT RH, 31XX-2 COMMON FRT BMPR (AFTERMARKET)	1
26	A32B0111AA	FRAME END WELDMENT LH, 31XX-2 COMMON FRT BMPR (AFTERMARKET)	1

Front Fascia Preparation

*Prior to Front Fascia Prep, perform AEV Flare trimming operations 48060023AA – GMC 35" Flare I-Sheet
*Install AEV/OEM Flares AFTER Front Bumper install
*If not installing AEV flares – see OEM flare trim on Pg. 27-28 for direction
*Recommended Wheel Liner PN 8472829/30 available to purchase through GM dealerships, designed specifically for AEV Canyon AT4X
*Wheel Liner Trim detailed on Page 5-6 if not purchasing service liner

Required Tools:

- 2 or 4-Post lift
- Airsaw
- Clip tool
- T15 Socket
- M7 Socket
- M15 Socket
- M18 Socket
- Marker/Chalk pen

1. Raise and suitably support the vehicle on lift. Refer to Vehicle Service Manual.
    a. Using M22 torque wrench, remove both front driver and passenger lug nuts from front set of wheels. Save lug nuts.
    b. Remove Wheels.

2. Wheel Liner Trim – SKIP IF Installing GM P/N 8472829/30
    a. Remove [5] M4 bolts (T15 & M7 Socket) from bottom portion of wheel liner for access.
    b. Measure up to bottom of frame on wheel liner and mark a straight horizontal line across with chalk/marker.
    c. Trim along straight line and discard bottom portion eliminating 4 hole locations. – Fig. 1
    d. Repeat on opposite side

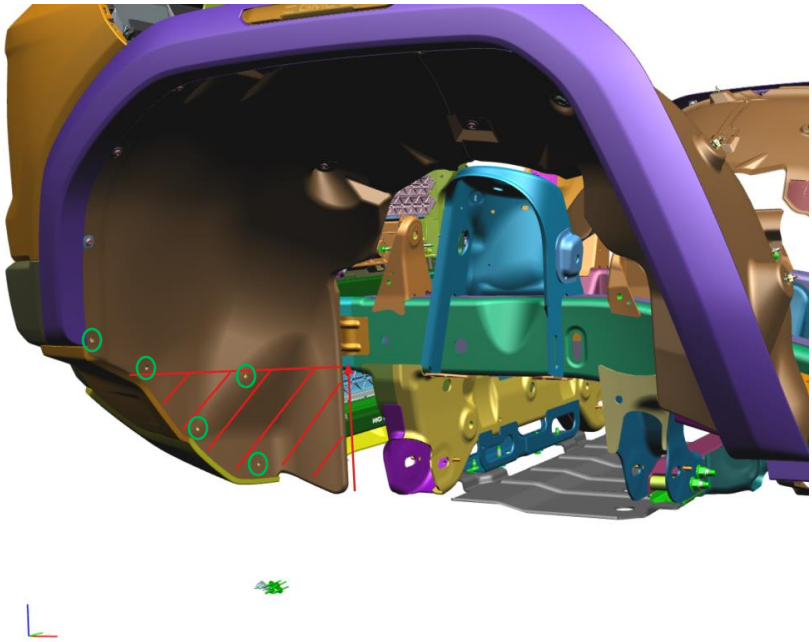


Figure 1 – Driver-side Wheel Liner Trim

3. Remove Front Wheel Liner from Vehicle

a. Remove rest [9] M4 bolts (T15 & M7 Socket) per side from wheel liner and SAVE. – Fig. 2

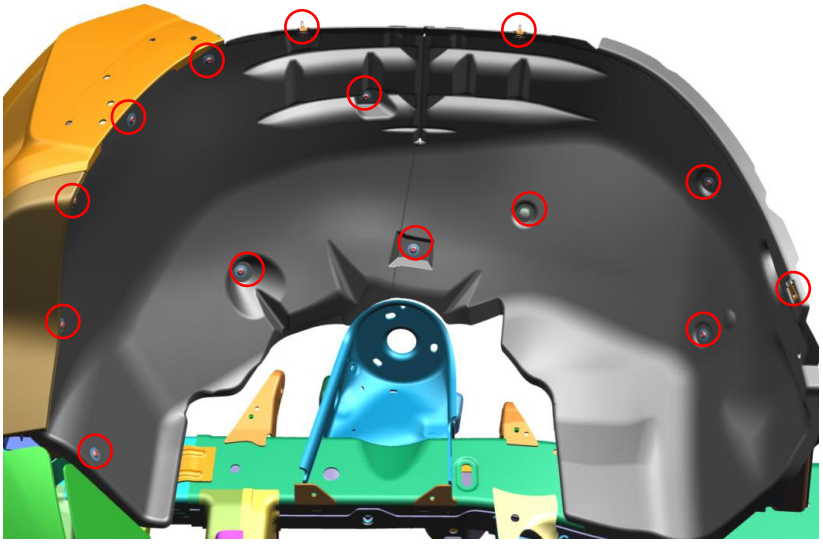


Figure 2 - Driver Side of Vehicle

4. Disengage Factory Flare from Fender and Discard Factory Flare from Vehicle.

a. M7 or M8 sockets pressed on clips in backside of flare help disengage from sheet metal
b. Do not discard if planning to re-install on vehicle with trim.

5. Remove Front Fascia from Body of Vehicle

a. Disconnect Front Camera and Fog Lamp Harness before fully taking off - Fig 4.
b. Disengage Fascia [17] clips around headlamps (clips remain in fascia) - Fig 3.

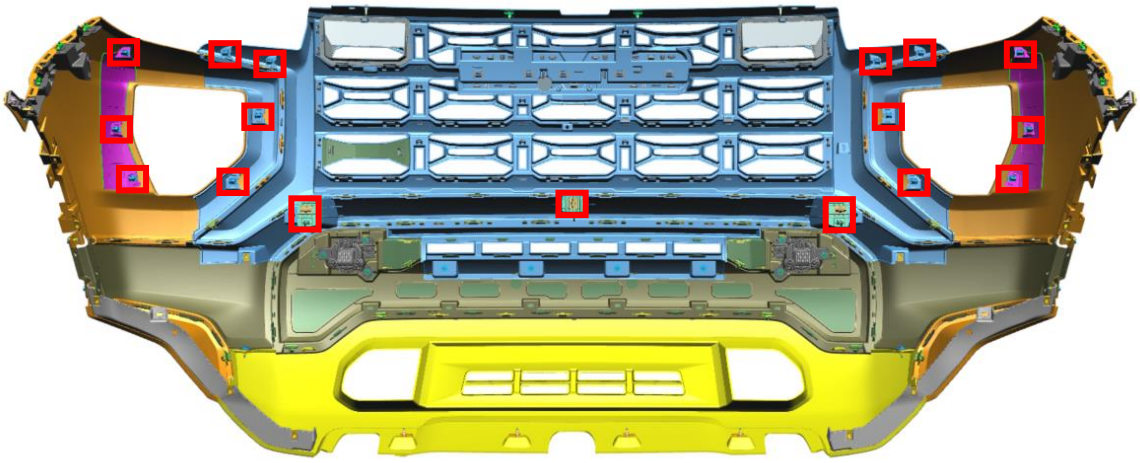


Figure 3 – Backside GMC Front Fascia

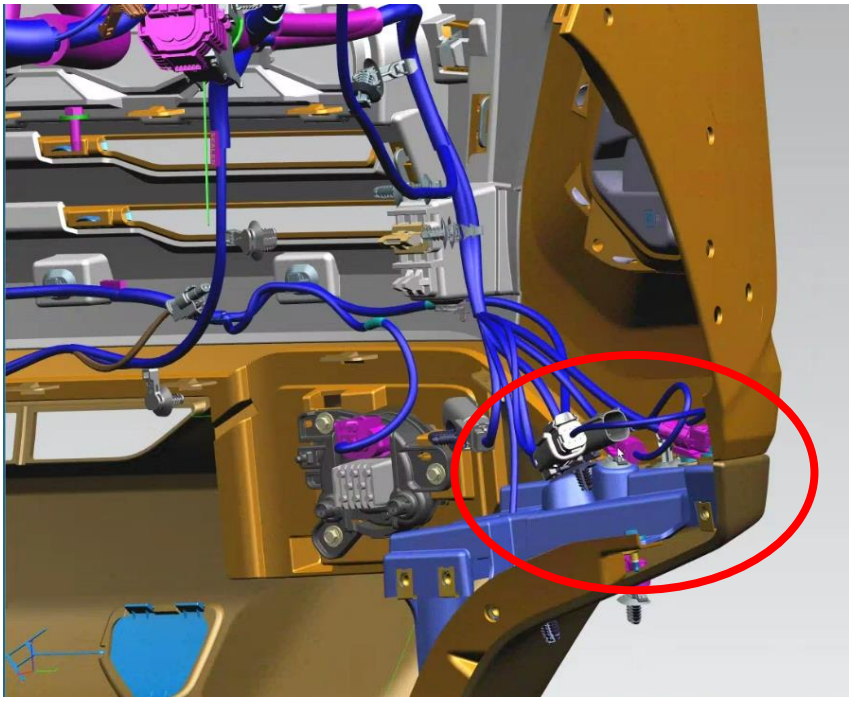


Figure 4 - Passenger Side of Vehicle

c. Remove [4] M4 Bolts (M7 Socket) along top hood & [4] M4 Bolts along bottom of shutter baffle. Save hood bolts for re-install. - Fig. 5 & 6

Figure 5 - Top of Vehicle

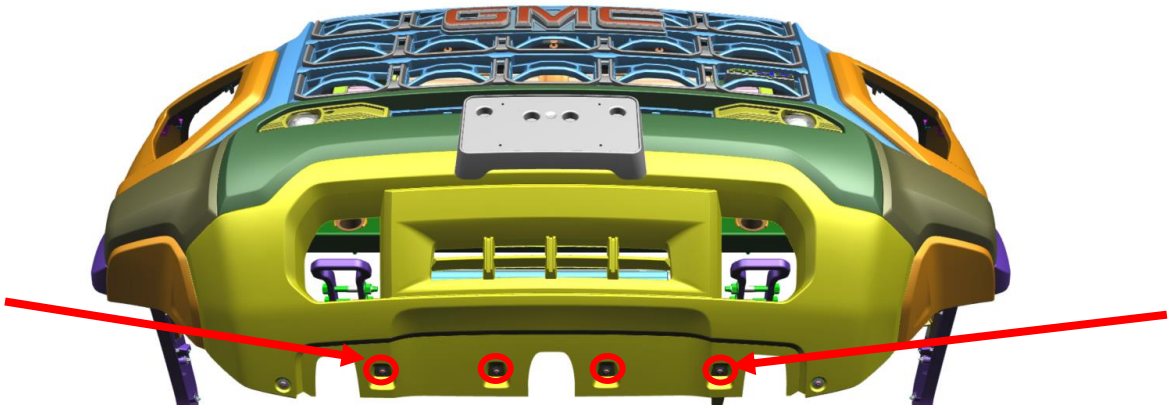


Figure 6 - Bottom of Vehicle

6. Remove Factory Fog Lamps and Harness from Upper Fascia.

a. Remove [3] M4 Bolts (M7 Socket) per side and save light and hardware for AEV GMC Front Bumper – Fig. 7
b. Disengage harness of fog lamp and save for AEV GMC Front Bumper

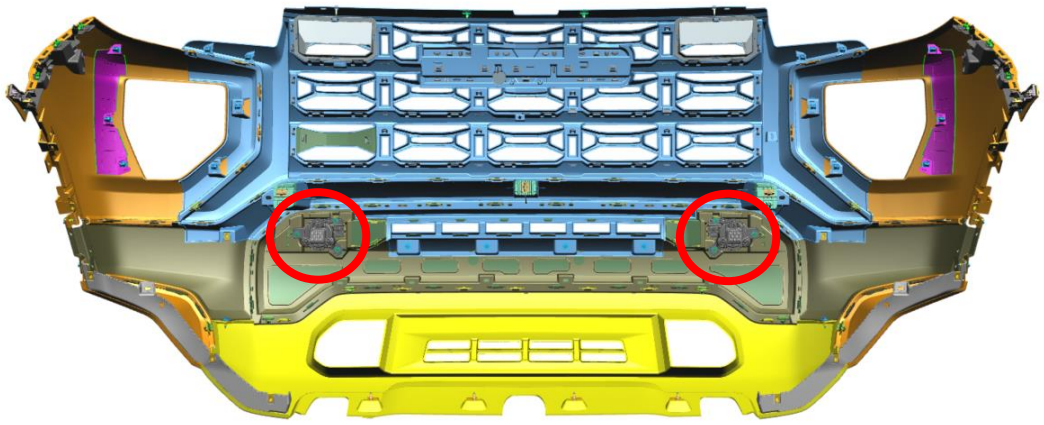


Figure 7 - Backside of Upper Front Fascia

7. Disengage Lower Fascia from Upper Fascia

a. Remove [3] M4 bolts (M7 Socket) per side and discard Plastic Brace – Fig. 8

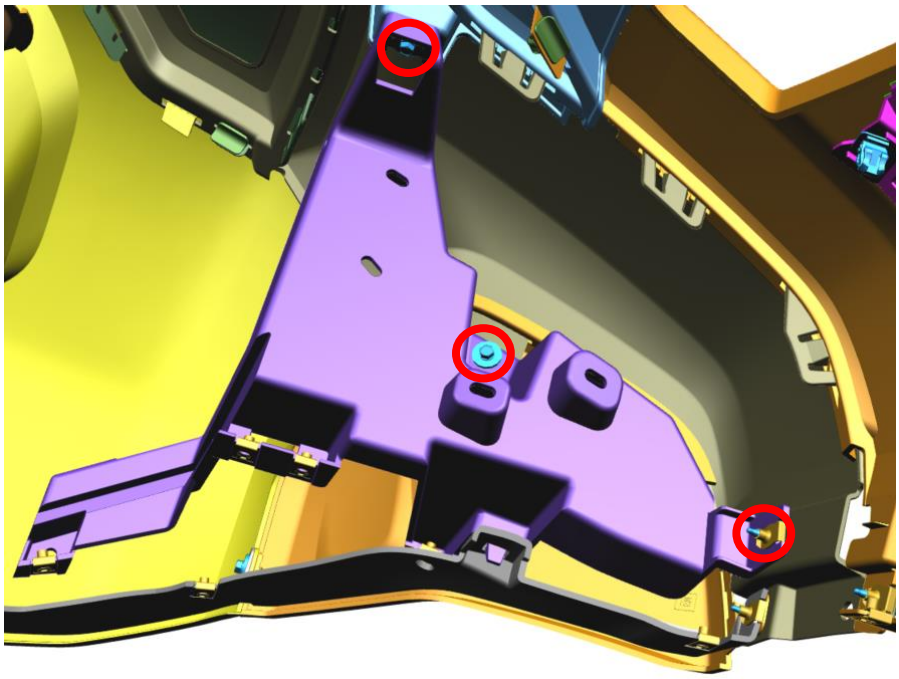


Figure 8 – Passenger Side Plastic Brace

b. Disengage 16 clips along upper and lower fascia – Fig. 9

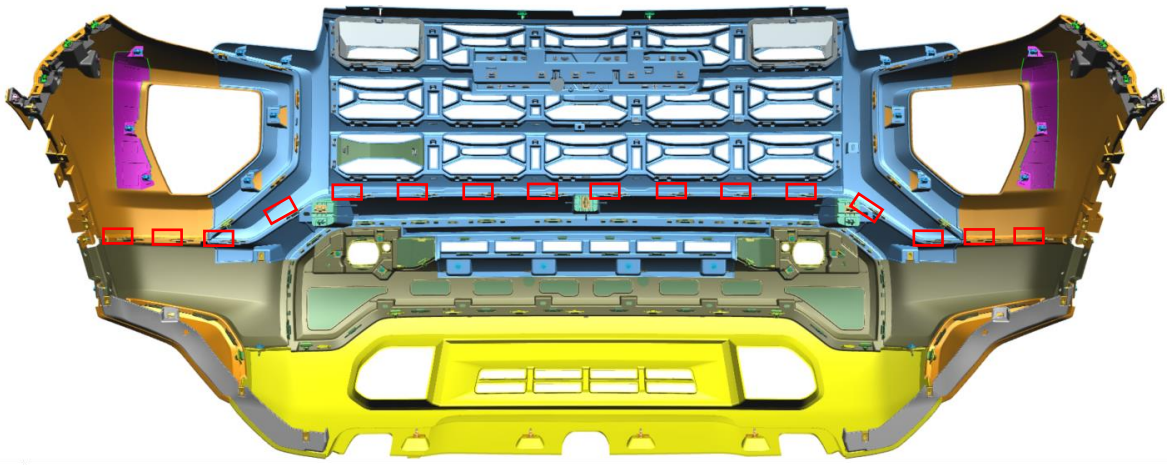


Figure 9 - Backside of Front Fascia

c. Discard disengaged lower fascia

8. Upper Fascia Trimming

a. Using Airsaw, trim Upper Fascia leaving retaining tract of clips.
b. Fig. 10, 11, 12, & 13 for trimming measurements

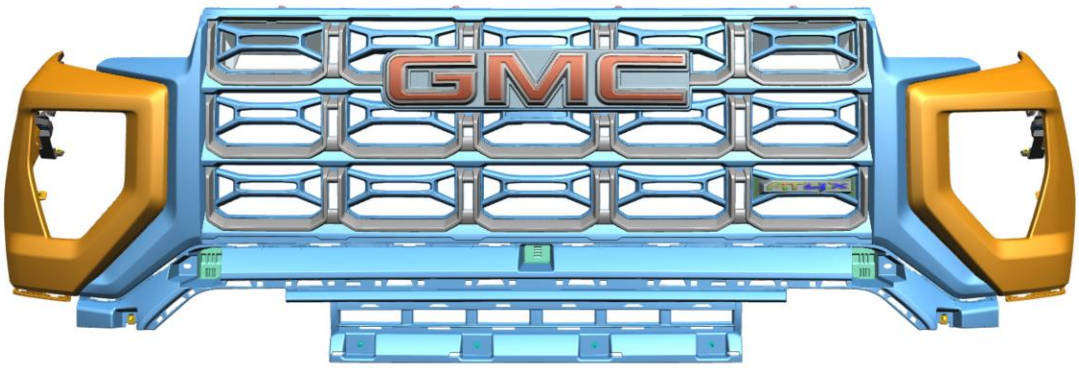


Figure 10 – Upper Front Fascia

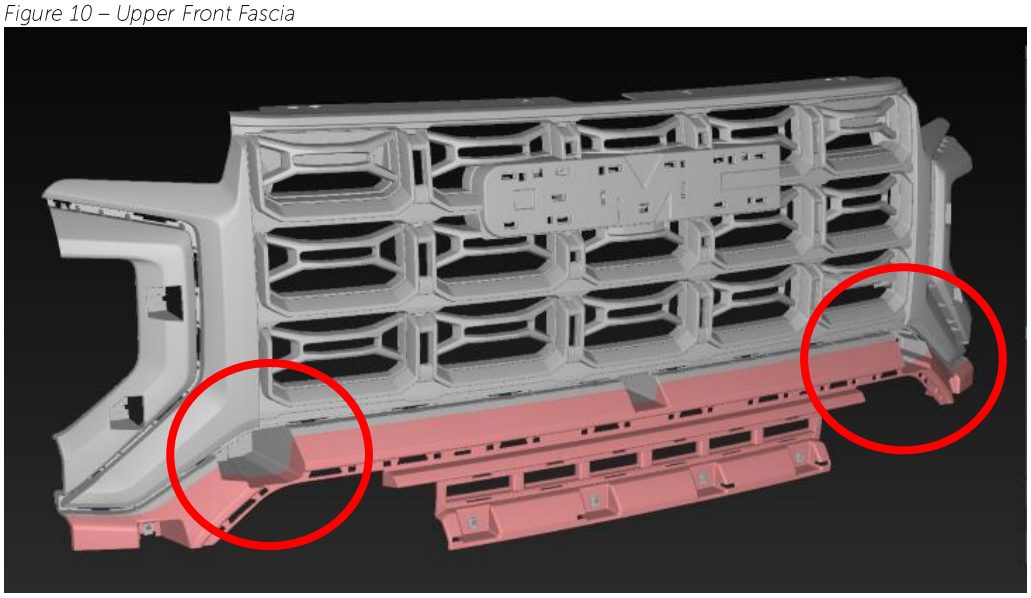


Figure 11 – Upper Fascia without headlights (Pink area to be removed)

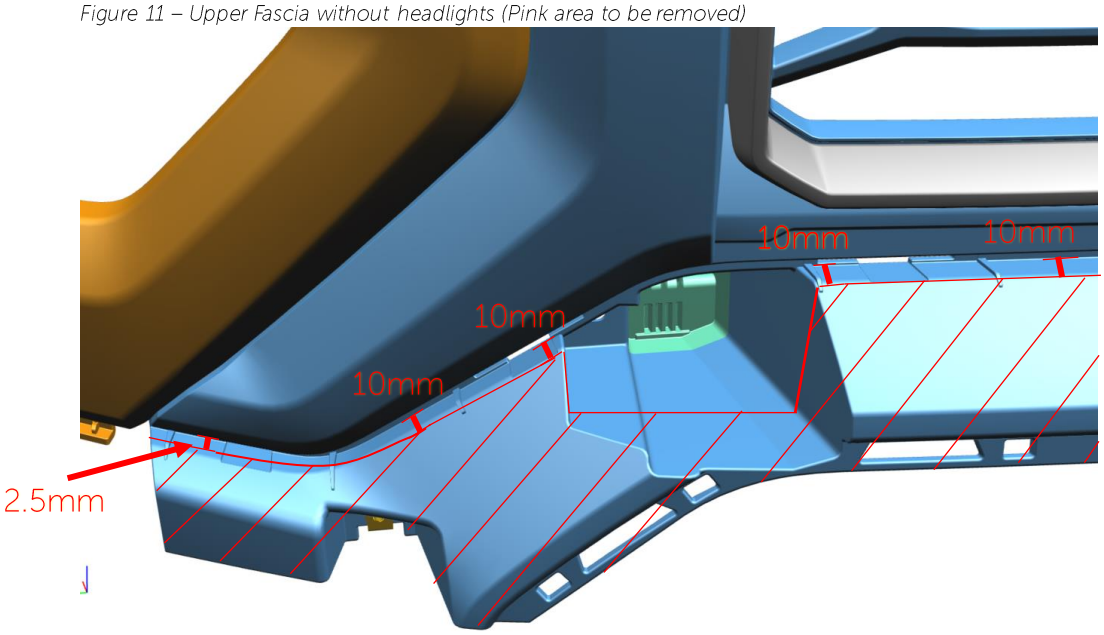


Figure 12 – Measurements for Upper Fascia Trim

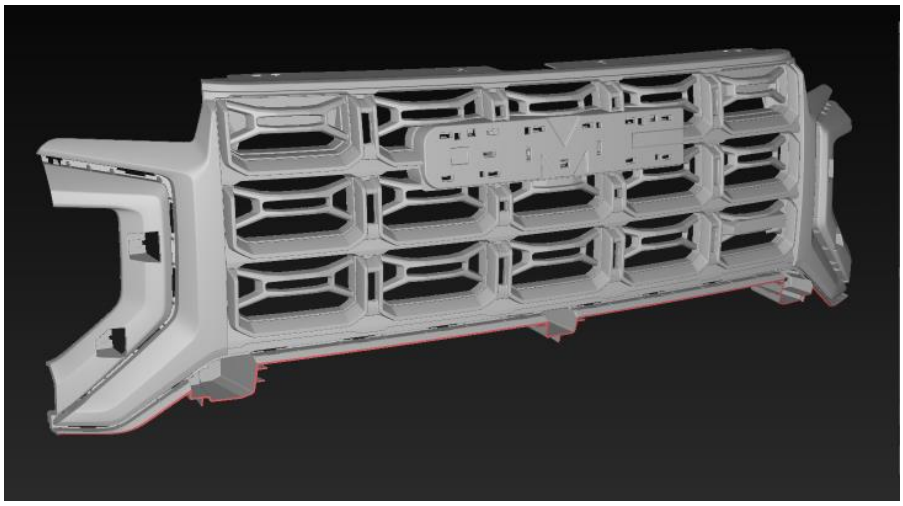


Figure 13 – Modified Upper Fascia without headlights

9. Upper Fascia Drilling

a. Using Airsaw, trim away 40mm x 40mm clearance for drill bit on each side.
b. Drill 5mm hole in position on each side – Fig. 14

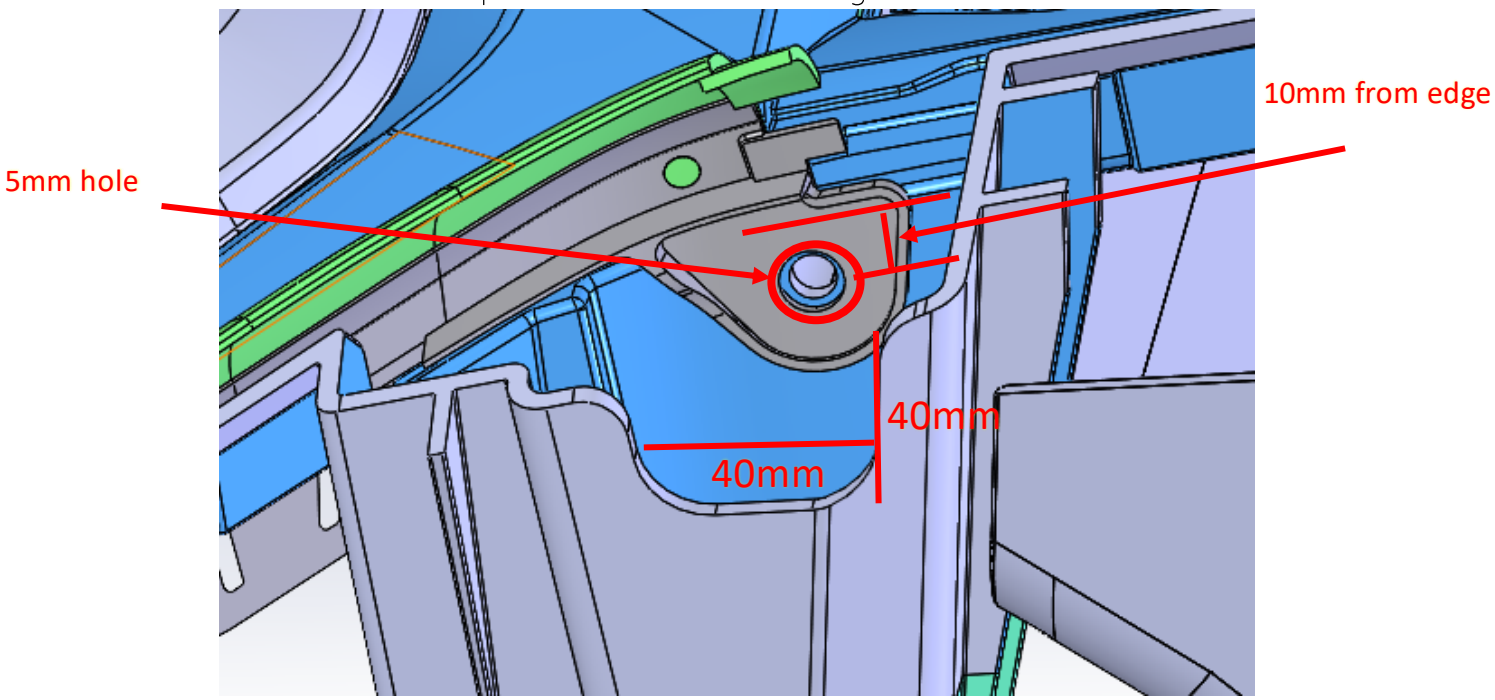


Figure 14 – Passenger Bottom View Upper Fascia

10. Trim Shutter-Baffle along Cutline and discard excess material

a. See Fig. 15

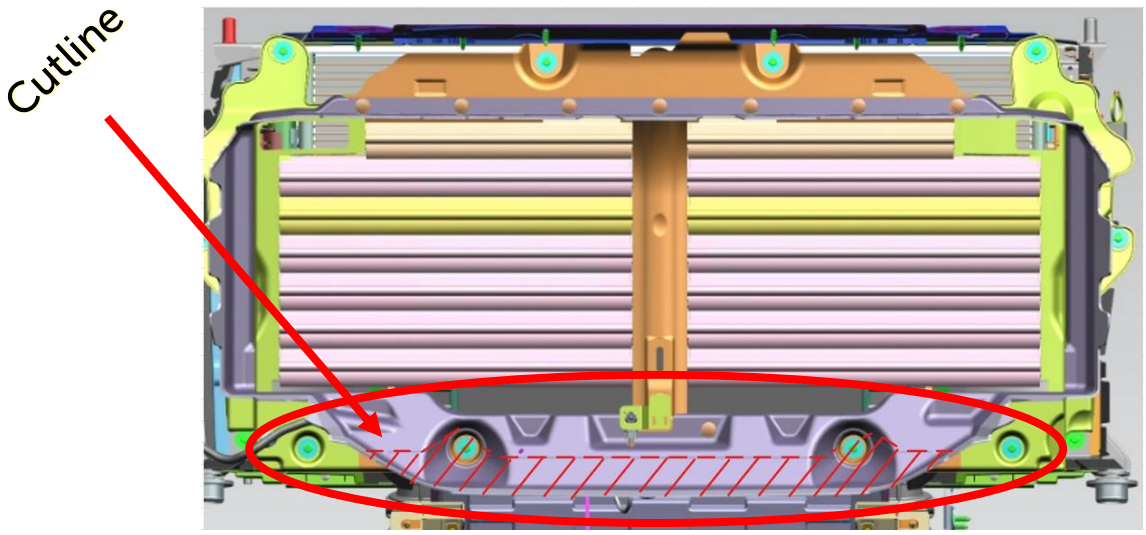


Figure 15 – Factory Shutter Baffle

11. Disconnect Factory Impact Bar from Frame Horn

a. Remove [3] M10 Bolts (M15 Socket) from Impact Bar per side – Fig. 16

Figure 16 – Impact Bar

12. Disconnect Shutter-Baffle from Impact Bar

a. Remove [1] M4 Bolt (M7 Socket) per side of Shutter-Baffle and SAVE – Fig. 17

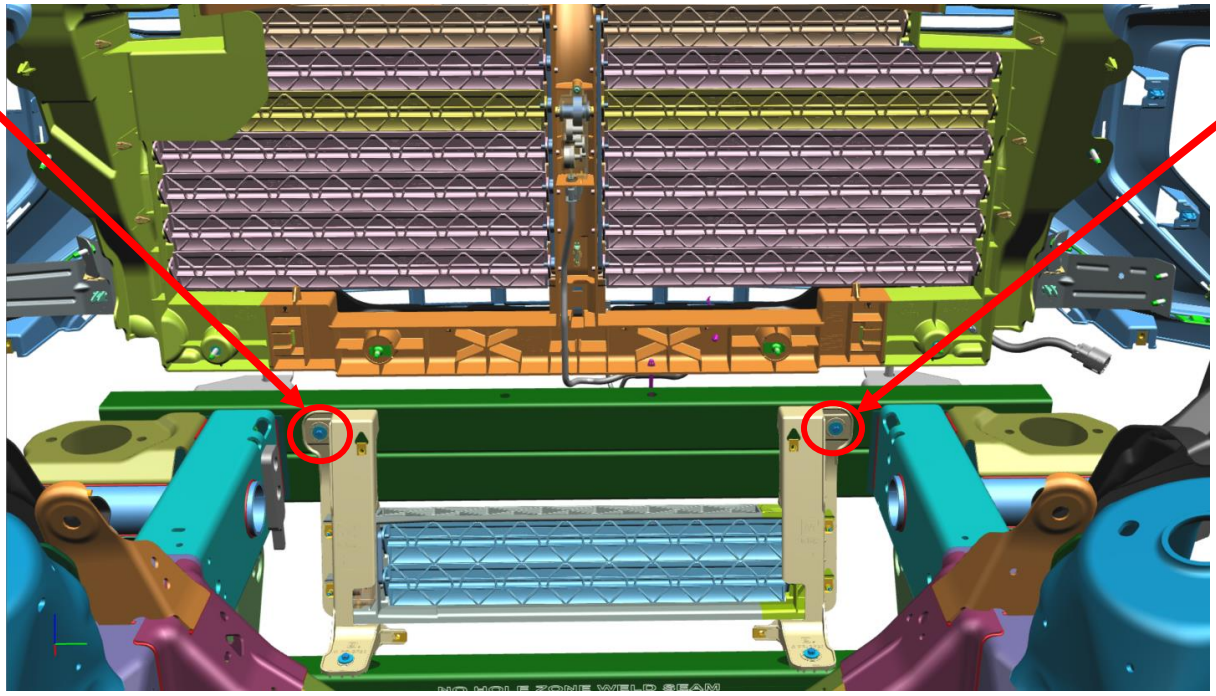


Figure 17 – Backside of Impact Bar

13. Discard Impact Bar

Figure 18 – Impact Bar

14. Remove and save Factory Tow Hooks

a. Remove [2] M12 Bolts (M18 Socket) & nuts from tow hook per side and SAVE – Fig. 19
b. Remember downward orientation as this will be re-installed.
c. Discard plastic rubber closeout piece

Figure 19 – Factory Tow Hook

15. Re-Install Modified Upper Fascia to Body of Vehicle

a. Re-clip Front Camera Wire Harness from step 4a. – Fig. 4
b. Re-engage fascia clips from step 4b. – Fig. 3
c. Re-install [4] M4 bolts (M7 Socket) from step 4c. – Fig. 5

Figure 20 – Modified Front Fascia

Install Components for AEV Front Bumper

Required Tools

- M15 Socket
- M22 Socket
- M7 Socket
- T15 Socket
- Torque Wrench
- Plumbob and/or weight & string
- Straight-edge ruler
- Level

1. Gap Filler Installation (A32B3016/17/18AD)

a. Pull through each individual rubber tab through upper fascia's tract until you feel click of clip fully engaged – Fig. 1

b. Using 11589290 supplied, install through RH/LH Gap Filler and Fascia hole drilled in step 8 of 'Front Fascia Preparation'

Figure 1 – AEV Gap Fillers

2. Frame Bracket Installation (A32B0110/11AA)

a. Measure Passenger and Driver symmetry with plumbob (or weight and string).

Step 1 – Find body-mounted hole on both sides – Fig 2.

*Any body-mounted hole will suffice, must be METAL not PLASTIC

Figure 2 – Passenger Side Preferred Body Hole

Step 2 – Constrain plumbob until gravity is only acting force on string through bottom of body-mounted hole – Fig 3.

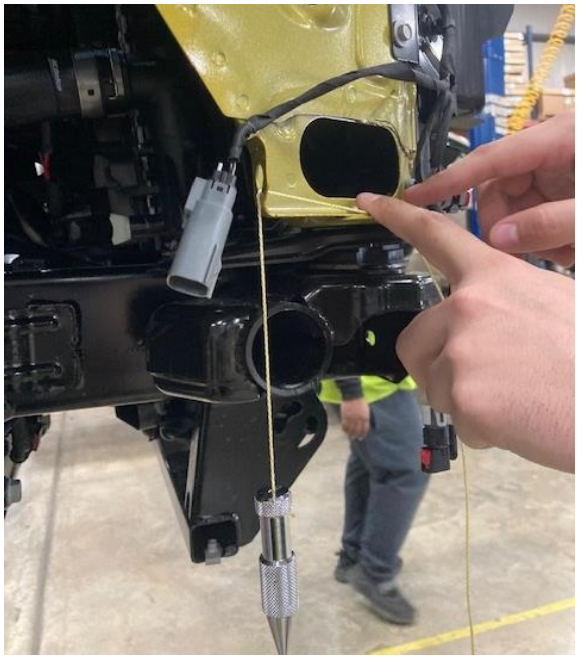


Figure 3 – Passenger Side Plumbob

Step 3 – With straight edge ruler, measure side-to-side distance of frame to hole

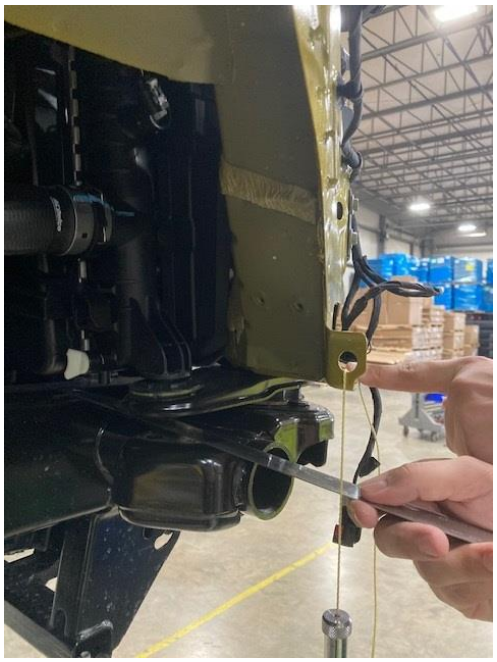


Figure 4 – Passenger Side-to-Side Measurement

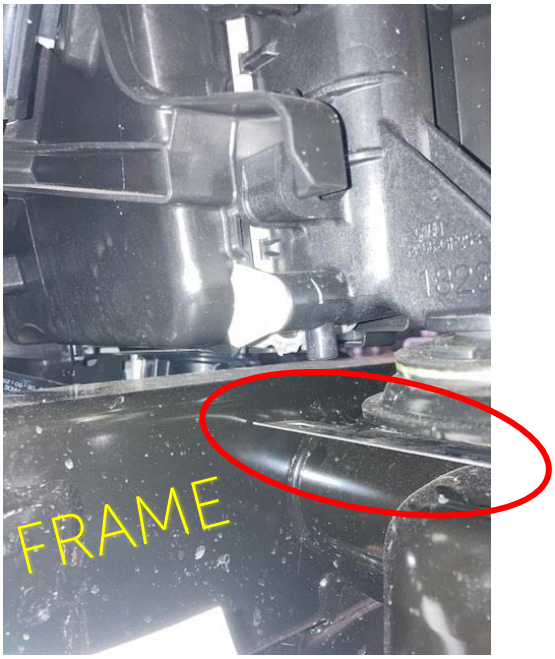


Figure 5 - Passenger Side Frame

Step 4 – Record Measurements for both driver and passenger holes
Step 5 – Determine which, if any, side measures larger. This will be BIAS side.
(ie – if passenger side is larger – 'bias side' will be passenger)

b. Using [6] M10 bolts (11588738), loosely install AEV frame brackets to frame horn of vehicle on each side - Fig. 6

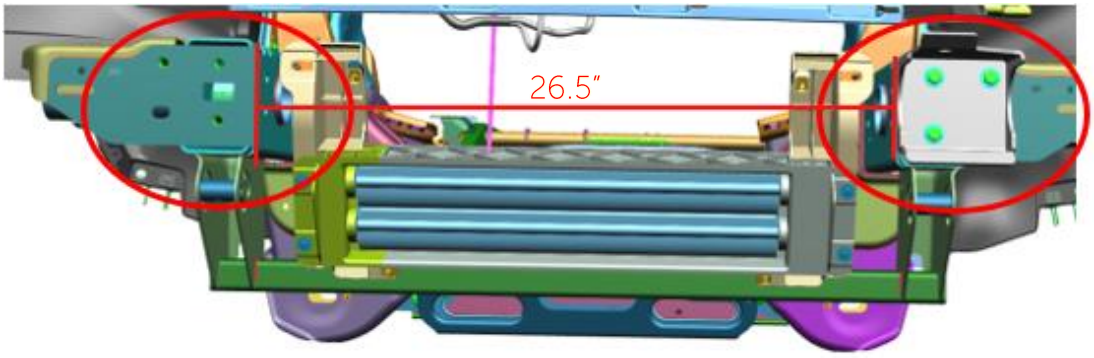


Figure 6 - Driver side Attached / Passenger side Un-Attached

c. Offset frame brackets to furthest edge of hole towards bias side. AEV frame brackets should have ~ 6.75mm movement from center – Fig. 7
   i. Goal is to account for bias in placement of brackets
   ii. If values are even, no bias, install bolts through center of slotted holes.
   iii. Inside edge of both AEV Frame Brackets should measure 26.5" – Fig. 6

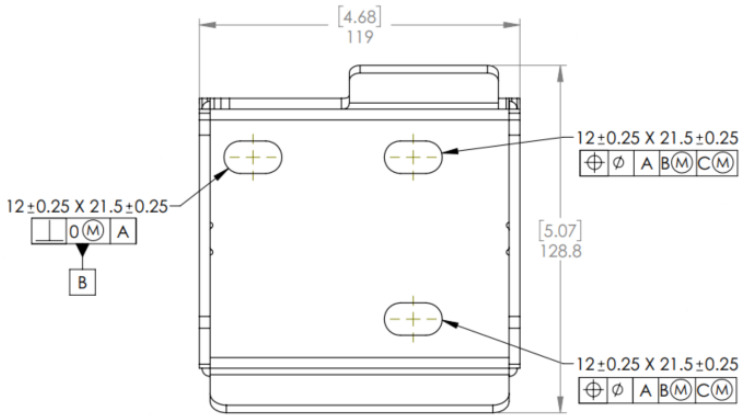


Figure 7 – RH AEV Frame Bracket

d. Align top edge of brackets with level to ensure parallel to each other
e. Fully torque [6] M10 Bolts (11588738) with M15 Socket to 58 +/- 3 Nm.

3. Riv-Nut Installation

a. Using Riv-Nut tool, install [2] M10 riv-nuts (AEV93030AA) provided near Chassis Tube (1 per side).
b. 2023 vehicles will need to drill 9/16" hole and use cylindrical riv-nut packaged in hardware. (2024+ vehicles have hex-hole laser cut in chasis tube)
    i. Preinstall pencil brace on bumper – mark slotted hole location of pencil brace on chasis tube and drill through chasis tube for clearance of riv-nut.
    ii. Step 7 of 'Install AEV Front Bumper' shows where pencil brace aligns to bumper.

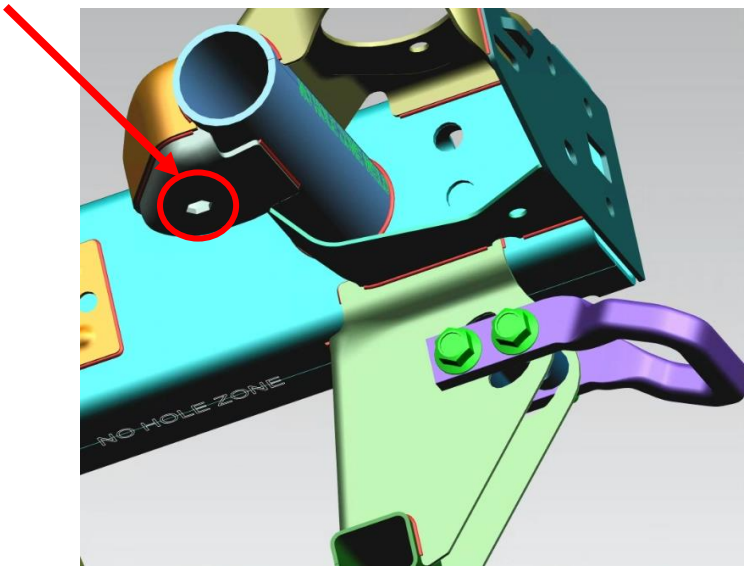


Figure 8 – Passenger Side Chassis Tube

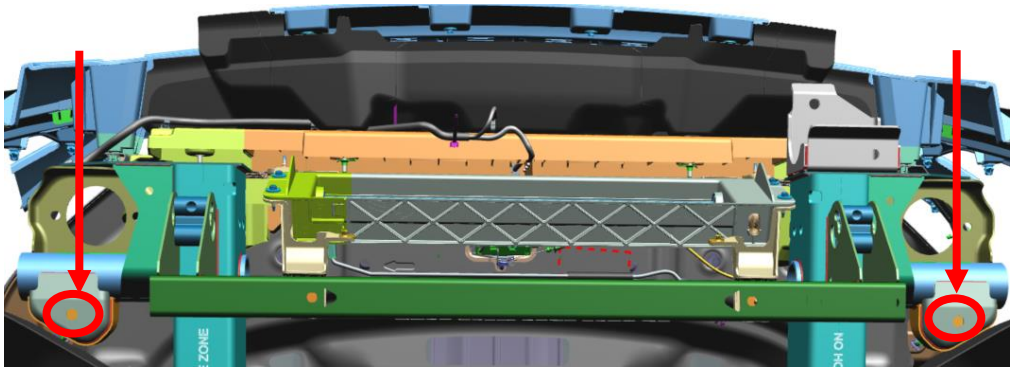


Figure 9 – Bottom of Vehicle

4. Fog Lamp Re-Installation

a. Recall Step 5 in 'Front Fascia Preparation' removing fog-lamps.
b. Using same 6 bolts, re-install factory fog lamps in AEV front bumper – Fig. 10

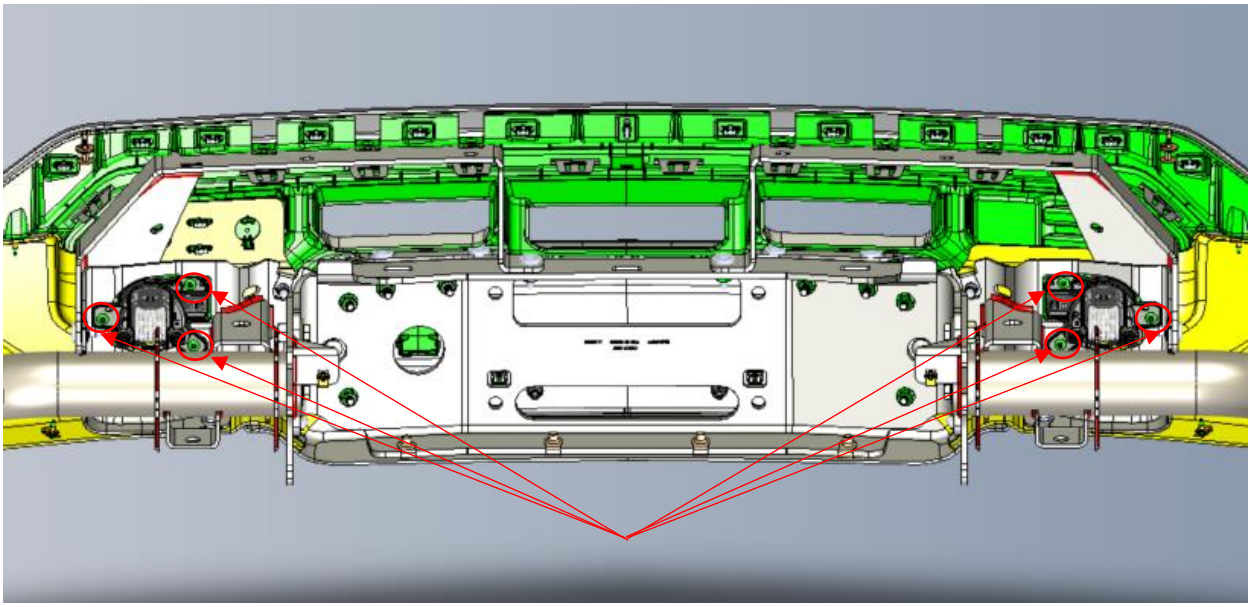


Figure 10 – Backside of AEV GMC Front Bumper

Install AEV Front Bumper

Required Tools:

- M15 Socket
- M18 Socket
- Torque Wrench
- Socket Extensions
- Table Jack/Hi-Lo

1. Prepare AEV GMC Front Bumper height for easiest load path.
   a. Height of AEV frame brackets – Fig. 1

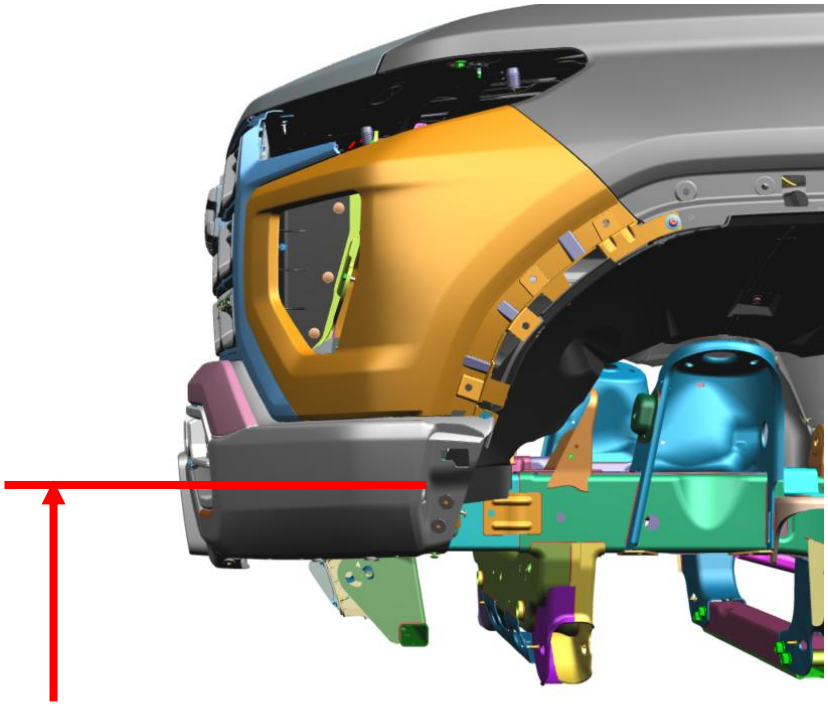


Figure 1 – Bumper Side-view

2. Connect Fog Lamp harness and route slack toward passenger side

3. Align and load AEV bumper onto AEV frame brackets

a. [2] M10 Bolts (11588738) feed upward through bumper and frame bracket on each side – Fig. 2 & 3
b. Loosely install [2] M10 Bolts (11588738) with M15 Socket per side – Fig. 4

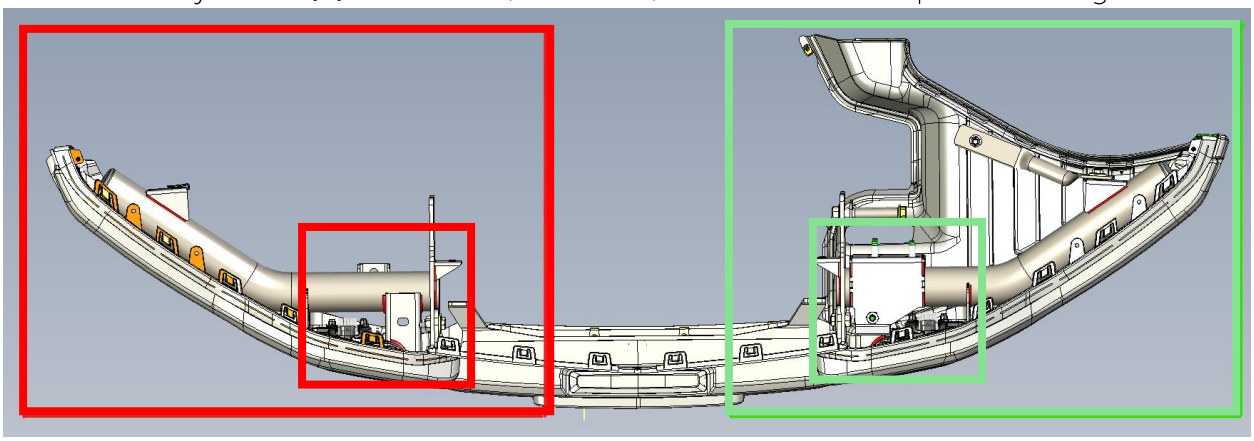


Figure 2 – Top View Passenger side NO AEV Frame Bracket / Driver Side WITH AEV Frame Bracket

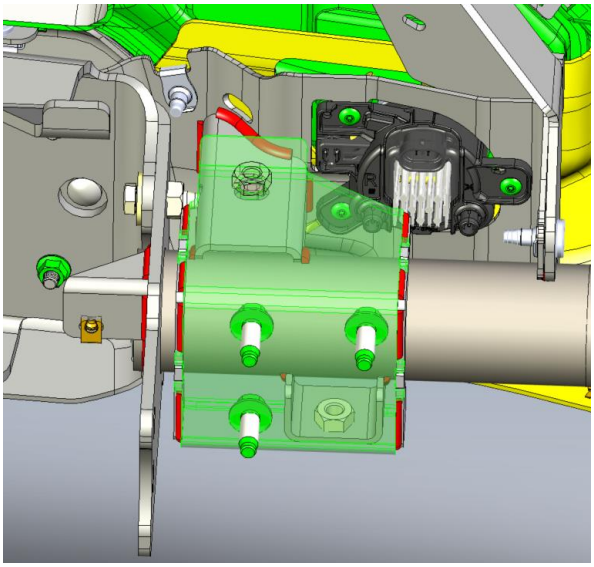


Figure 3 – Passenger side fitment of Bumper to Frame Bracket

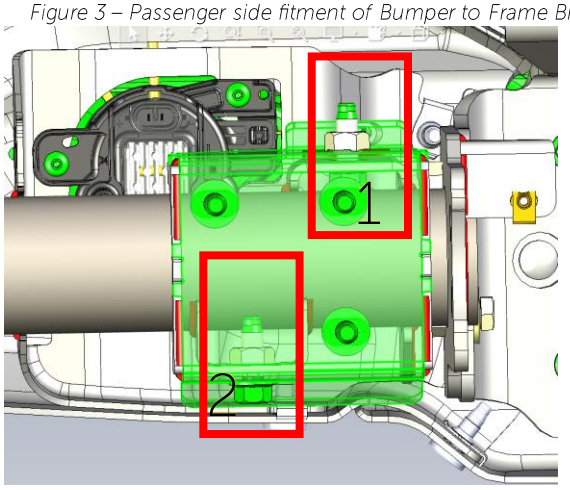


Figure 4 – Backside AEV Frame Bracket w/ Bolts

c. [2] M12 bolts + [2] crush sleeves + [5 or 3] spacers + [2] M12 nuts feed through frame rail and bumper blade. – Fig. 5 & 6

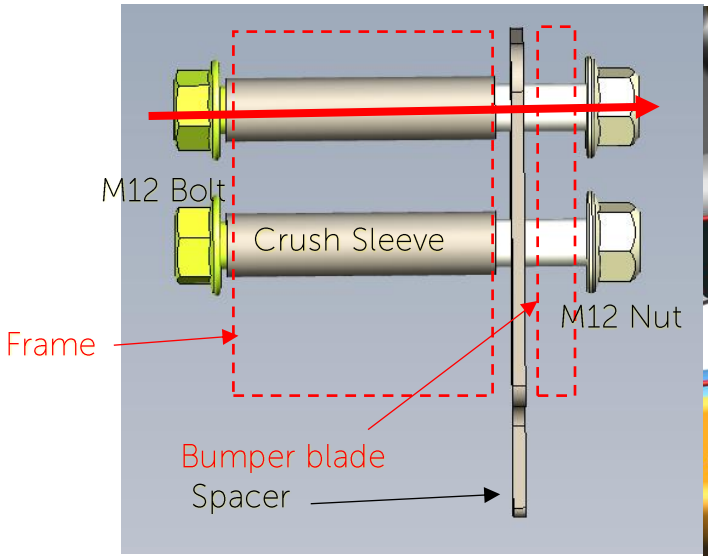


Figure 5 - Driver side outside frame

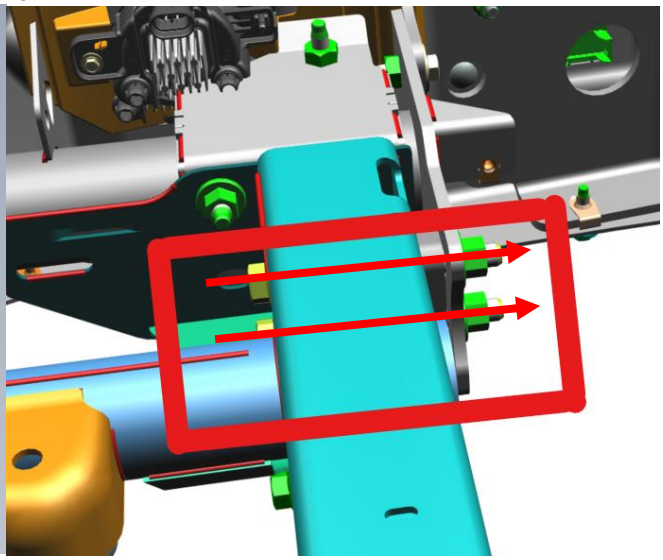


Figure 6 - Driver side inside frame

i. Bias side accepts 5 spacers, unbiased side accepts 3 spacers.
ii. ~1/8" design gap should remain with spacers installed

d. Loosely install [2] M12 bolts and nuts (M18 socket) per side – Fig. 6

4. Tie Down Wire-Harness slack to nearest Support Beam with Zip-Tie provided

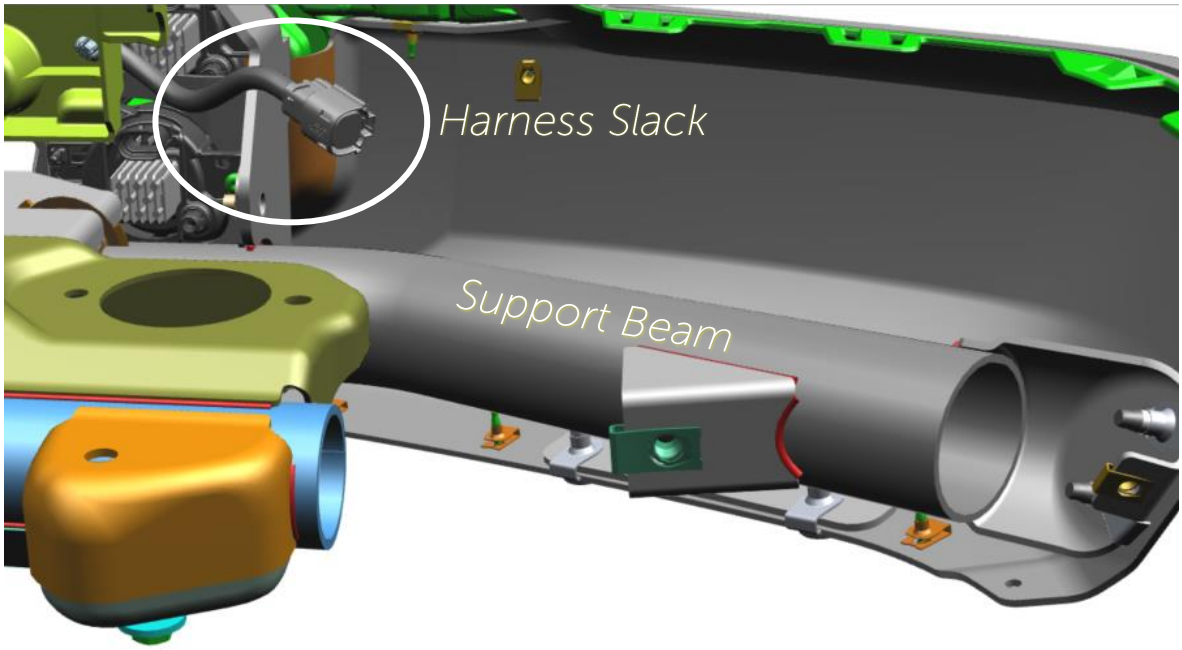


Figure 7 – Passenger Side

5. Adjust bumper to bias side as much as possible

6. Fully Torque Bolts in a Diamond Pattern

a. M10 Bolts - M15 socket – 58 +/- 3 Nm – Fig. 8
b. M12 Bolts - M18 socket – 112 +/- 8 Nm – Fig. 9

Figure 8 – M10 Torquing Sequence

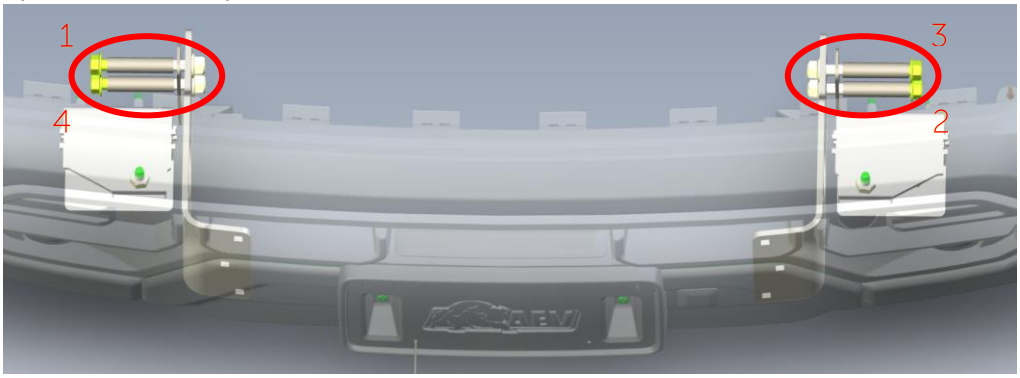


Figure 9 – M12 Torquing Sequence

7. Pencil Brace Installation

a. Install A32B1028/29AA using [2] M10 bolts from 'Impact Bar' per pencil brace
b. Riv-Nut installed at step 4 of 'Install Front Bumper Components'
c. Fully torque to 58 +/- 3 Nm (M15 Socket) (Fig 10)

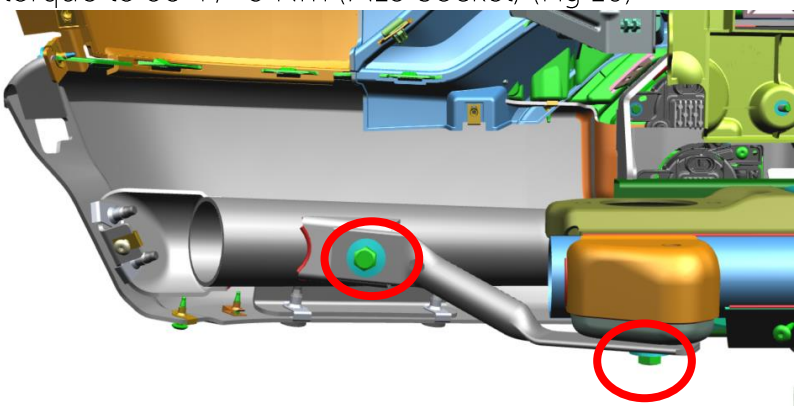


Figure 10 – Driver Pencil Brace

8. Tow Hook Re-Installation

a. Re-Install factory Tow Hook with saved hardware from step 11 'Front Fascia Preparation'
b. Fully Torque M12 bolts to 112 +/- 8 Nm

9. Re-Install Shutter-Baffle Bolts to AEV GMC Front Bumper

a. Step 10 in 'Front Fascia Preparation'
b. Install [1] M4 Bolt (M7 Socket) per side – Fig. 11

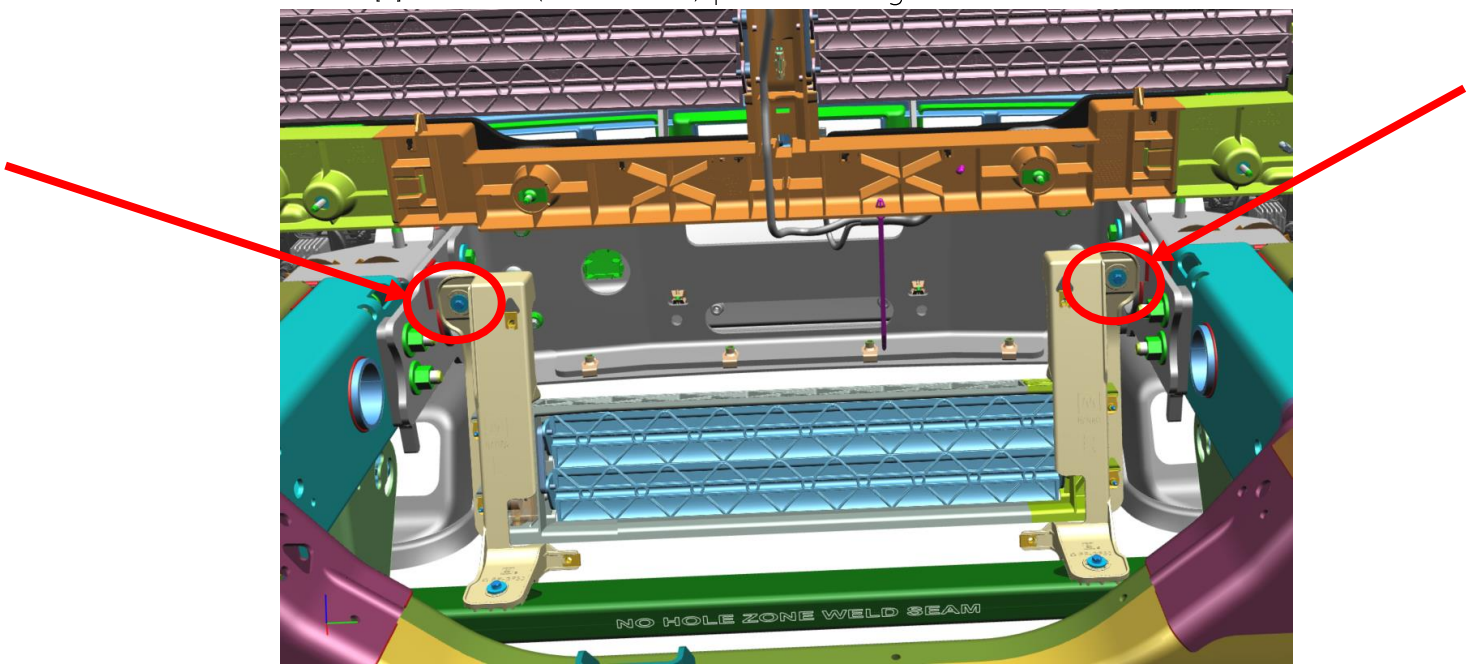


Figure 11 – Backside AEV GMC Front Bumper and Shutter-Baffle

Install AEV Front Bumper Closeout Pieces

Required Tools:

- T15 Socket
- M7 Socket
- AEV Front Skid Plate
- AEV Front Flares

1. Install AEV Front Skid Plate
    a. See AEV Skid Plate instructions.
2. Install Modified Wheel Liner or GM P/N 8472827/28
    a. Step 2 Front Fascia Prep
3. Re-Install Tow Hooks from Step 14 of 'Front Fascia Preparation'
4. Partially install AEV Liner Closeouts (A32B0010/11AA)
    a. Install closeout using [5] M4 Bolts (T15 Socket) 11611883 per side – Fig. 1

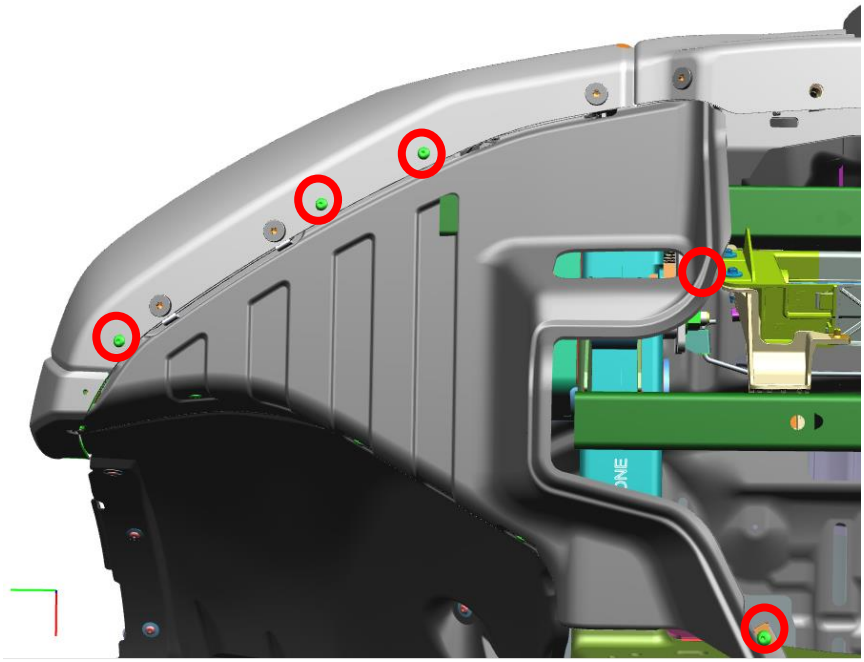


Figure 1 [No AEV Front skid pictured]

5. Finish Wheel Liner Assembly

a. Using [3] M4 Bolt w/ washer (T15 Socket) 11548270 per side, wedge factory Wheel Liner between AEV Wheel Liner Closeout and AEV Inner Liner Closeout and torque bolts until wheel liner is secured in slip-joint – Fig. 2
   i. If using Modified Wheel Liner from Step 2 of 'Front Fascia Preparation' – AEV Inner Liner Closeout will not assemble through wheel liner due to lack of holes.
   ii. If wanting extra support for closeout, you can drill out holes in the liner to match with Inner Closeout Piece to assemble, or leave as is.

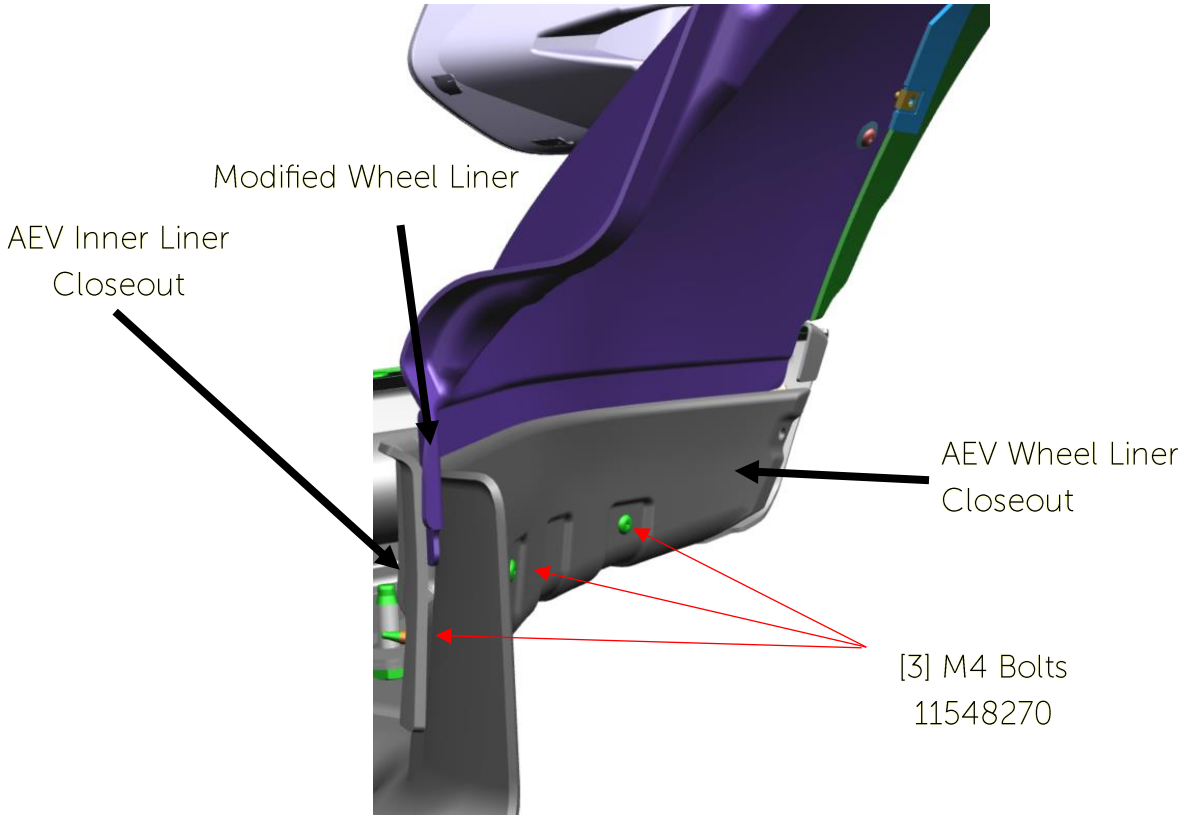


Figure 2 – Passenger Side (RH)

6. Install AEV Front Flares/WOMs

a. See AEV Flare/WOM Instructions
b. IF USING OEM FLARES SKIP STEP 6 – PLEASE SEE STEPS 9 ON PG 27-28

7. Install AEV Corner End Caps

a. Using [1] M4 Bolt Long and [1] M4 Bolt Short (T15 Socket) 11611883/4 per side, install end cap through AEV Wheel Liner Closeout and bumper - Fig. 3

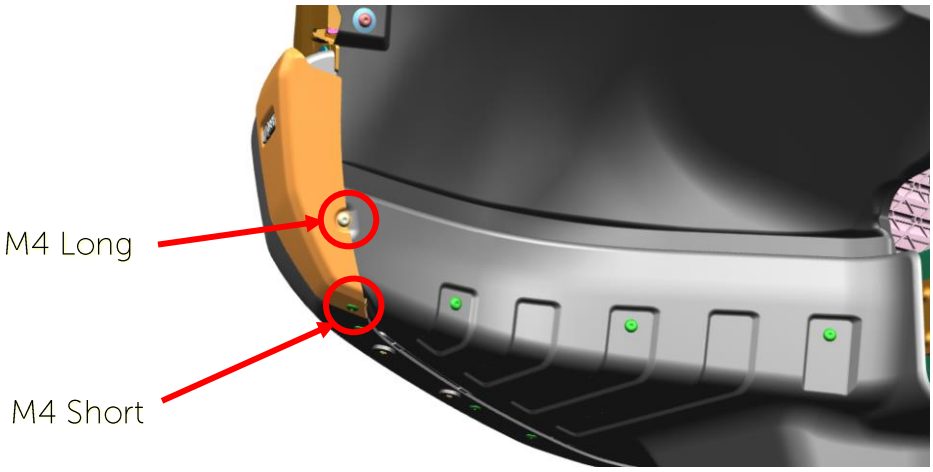


Figure 3 – Driver AEV Corner End Cap

8. Re-install Wheels and take off lift

Figure 4 – Fully Installed AEV Front Bumper

9. OEM Flare Assembly

a. With Flare off vehicle, take out back-side clips leaving just locator pins from flare
    i. This will allow for easy install/adjustment when aligning to bumper
b. Remove ~3-1/8" from the front bottom portion of flare – Fig. 5

Figure 5 – Driver OEM Flare

c. Re-Align flare to body of vehicle/bumper corner
d. Using a chalk pen – mark 1/4"-1/2" above AEV end cap fully around flare – Fig. 6
    i. 1/2" recommended for bumper/frame twist – more gap
    ii. 1/4" recommended for tighter gap – more ability for collision in twisting scenario

Figure 6 – Driver AEV Corner End Cap / OEM Flare chalk line

e. Trim flare along chalk line outline in step 9d
f. Re-install clips in backside of flare and fit flare back onto vehicle [Darren vehicle asset of final execution]