



# RX FRONT BUMPER

JL WRANGLER & GLADIATOR

## PLEASE READ ENTIRELY 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.

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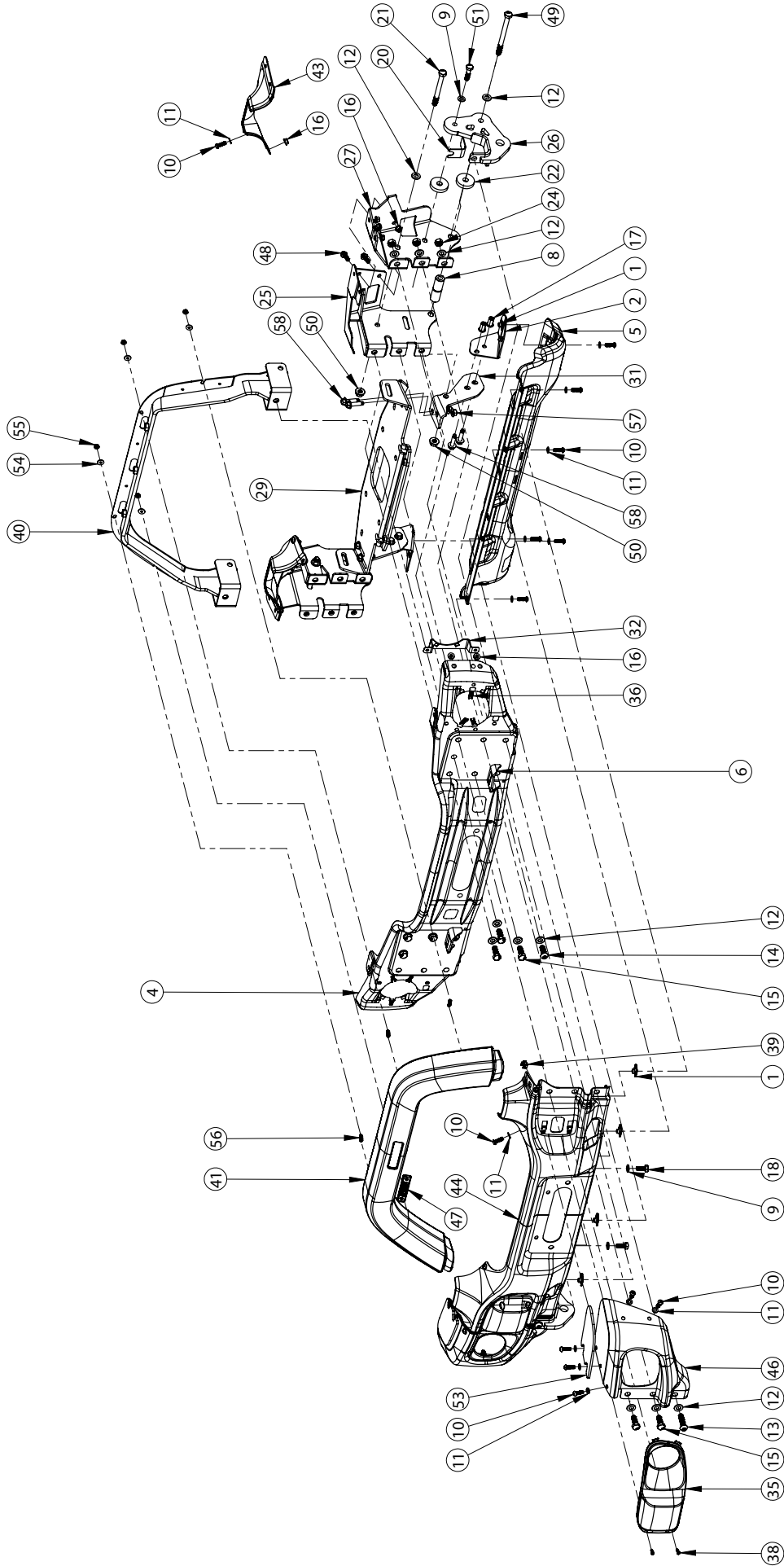
## REQUIRED TOOLS

- Common Hand Tools
- Allen Drivers
- T20 Torx Driver
- Torque Wrench (recommended)
- Telescoping Magnet
- Slipper/Pry Bar (to aid in hole alignment)



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ITEM NO.	PartNo	DESCRIPTION	QTY.
1	95210A190	M8 X 1.25 U-NUT	6
2	AJLB1005AA	LH SKID ATTACHING BRKT	1
3	AJLB1004AA	RH SKID ATTACHING BRKT	1
4	AJLB1001AB	FAIRLEAD STAMPING	1
5	AJLB1002AA	SKIDPLATE	1
6	AJLB1029AA	LH HIGHLIFT JACK POINT	1
7	AJLB1028AA	RH HIGHLIFT JACK POINT	1
8	AJLB1077AA	TOW LOOP CRUSH SLEEVE	4
9	AEV98006AA	M10 FLAT WASHER	4
10	AEV91018AB	M8 X 1.25 X 25 BHCS	20
11	AEV98007AB	M8 FLAT WASHER	20
12	AEV98004AC	M12 FLAT WASHER	24
13	AEV91002AE	M12 X 1.75 X 50 BHCS	2
14	AEV91001AB	M12 X 1.75 X 35 BHCS	2
15	AEV91016AA	M12 X 1.75 X 35 HCS	10
16	AEV93003AB	M8 X 1.25 FLANGE NUT	16
17	AEV93030AA	M10 X 1.5 HEX BODY RIVNUT	4
18	AEV91025AA	M10 X1.5 X 25 HCS	2
19	AJLB0104AA	RH TOW LOOP	1
20	AJLB1061AA	TOW LOOP SPACER	2
21	AEV91146AA	M12 X 1.75 X 120 HCS	2
22	AJLB1076AA	TOW LOOP SPACER PLATE	4
23	AJLB0106AA	RH STUBBY CORNER INNER	1
24	90685A110	M12 X 1.75 HEX NUT	6
25	AJLB0107AA	LH STUBBY CORNER INNER	1
26	AJLB0105AA	LH TOW LOOP	1

ITEM NO.	PartNo	DESCRIPTION	QTY.
30	AJLB1034AA	RH WINCH MOUNT REINFORCEMENT	1
31	AJLB1035AA	LH WINCH MOUNT REINFORCEMENT	1
32	AJLB1023AA	LH FOG LIGHT BRACKET	1
33	AJLB1022AA	RH FOG LIGHT BRACKET	1
34	AJLB1032AA	RH FOG BEZEL	1
35	AJLB1033AA	LH FOG BEZEL	1
36	94810A100	NO. 8 CLIP ON NUT	6
37	11548580	M4.2 X 1.41 U-NUT	4
38	AEV91154AA	NO.8 X .75" ROUNDED HEAD SCREW	4
39	AEV99135AA	M10 X 1.5 CAGE NUT	2
40	AJLB0110AA	TUBE BLADE WELDMENT	1
41	AJLB1104AA	TUBE COVER	1
42	AJLB1026AA	RH TUBE CLOSEOUT	1
43	AJLB1027AA	LH TUBE CLOSEOUT	1
44	AJLB1000AA	CENTER STAMPING	1
45	AJLB1030AA	RH STUBBY CORNER CUTTER	1
46	AJLB1031AA	LH STUBBY CORNER CUTTER	1
47	60406204AA	BADGE	1
48	AEV91153AA	M8 X 1.25 X 25 FLANGED HCS	4
49	AEV91151AA	M12 X 1.75 X 150 HCS	2
50	AEV93001AB	M12 X 1.75 FLANGE NUT	4
51	AEV91144AA	M10 X 1.5 X 45 HCS	2
52	AJLB1072AA	RH STUBBY STEP PAD	1
53	AJLB1073AA	LH STUBBY STEP PAD	1
54	AEV91056AA	M6 FENDER WASHER	4
55	AEV93027AA	M6 X 1.0 FLANGE NUT	4



## I. VEHICLE PREPARATION

NOTE: The factory bumper and air dam removal will vary slightly depending on version. There are multiple different plastic as well as steel bumpers and skidplates offered. the AEV bumper is designed to work with the AEV high-clearance front skidplate and will not fit with factory steel skidplate.

1. Remove Factory Air Dam or Skid Plate
  - A. Unbolt the skidplate or air dam from the bottom of the factory bumper and compatibility beam. These will not be reused with AEV bumper or skidplate.
  - B. Unbolt the stamped support/mounting brackets from the compatibility beams. These components will not be reused.
2. Remove OEM Front Bumper
  - A. Disconnect the bumper wiring harness from the outside of the passenger front frame horn.
  - B. Remove the eight nuts at back-side of the bumper holding the bumper and tow hook assembly to the frame.
  - C. Carefully remove the entire bumper assembly, being sure there are no wires or other components snagged during removal.
  - D. Remove the four tow hook support brackets from the back side of the frame flanges. Save the M10 bolts for temporary use during AEV bumper installation.
  - E. Remove the factory fog lights (save hardware) and bumper harness from the factory bumper assembly, they will be reused with AEV bumper.
  - F. Reinstall the factory bumper wiring harness across vehicle and wire tie to power steering line for retention of center portion. Leave ends loose for now and tuck them toward rear to prevent pinching during bumper installation (fig. 1).

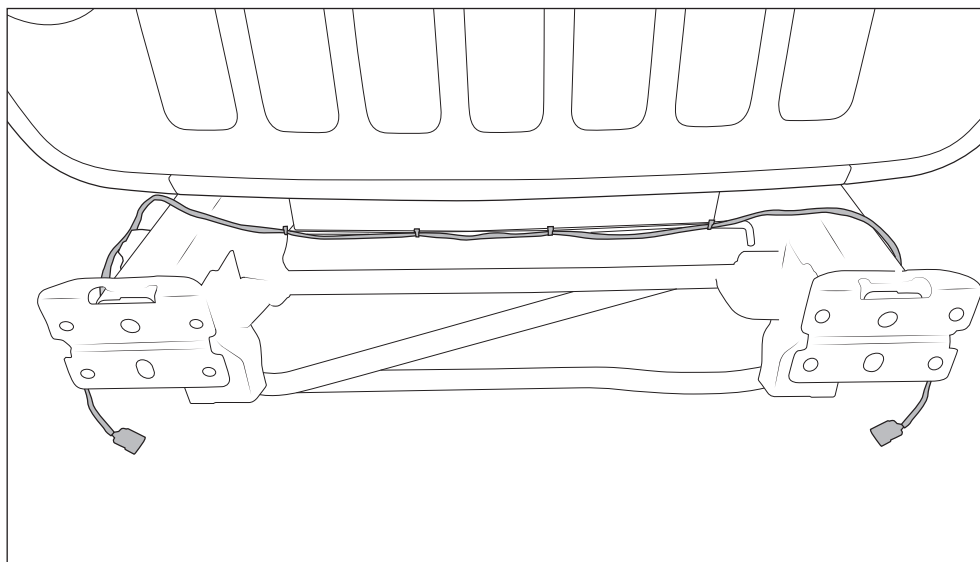


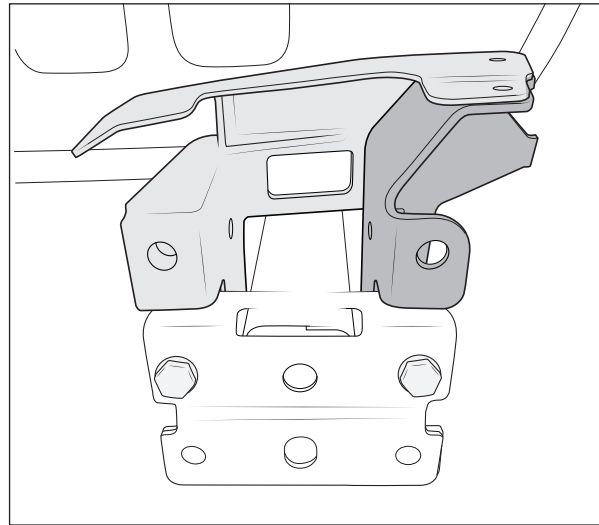
Figure 1



## II. FRAME BRACKETS AND BUMPER HOOP

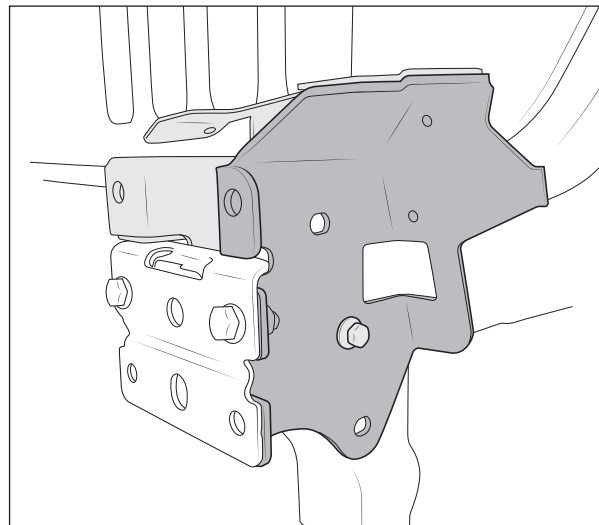
**NOTE:** If installing onto a vehicle with Front Trail Camera, the AEV Camera Relocation Kit 12301095AA is required to retain camera function. Follow grill preparation instructions from that kit prior to AEV bumper installation.

1. Install the bumper support weldments to the frame flanges. Temporarily hold in place by hand tightening an M12x35mm bolt and washer into the center front mounting holes. Leave fairly loose at this time (fig. 2).



*Figure 2*

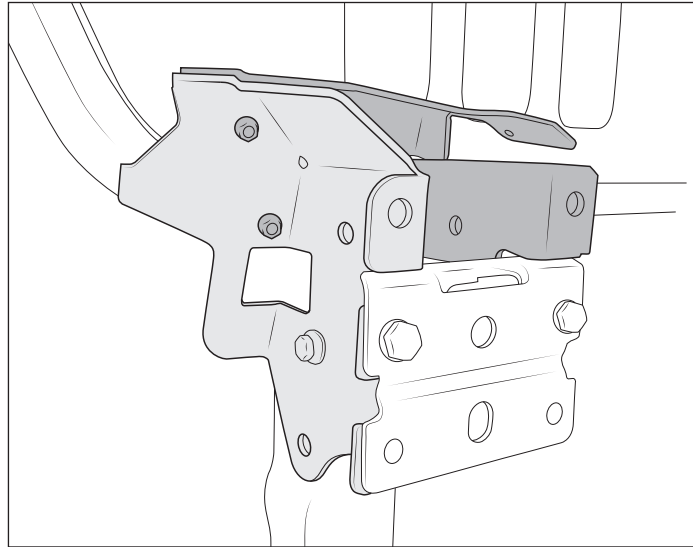
2. Temporarily install the factory M10 tow hook support bolts through AEV brackets and into the frame weld nuts to hold the brackets tight against the frame (fig. 3). Leave bolts fairly loose at this time. If installing a winch mount, only add M10 bolts to outboard brackets.



*Figure 3*

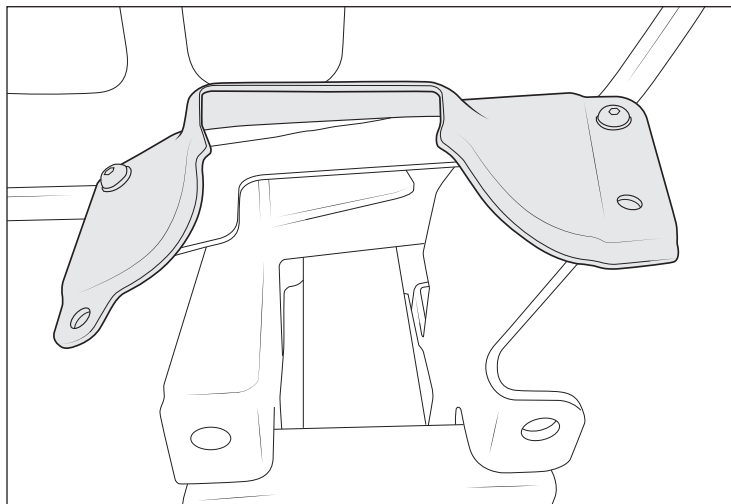


3. From the back-side of the brackets, install black M8x25mm hex head flange bolts and nuts tying the inboard and outboard brackets together. By leaving the brackets loose on the frame, they can be manipulated in order to clear the grill with the bolts (fig. 4). The grill can also be flexed slightly to clear the bolts during installation.



*Figure 4*

4. Snug all bolts by hand that were installed in steps 1-3. This will properly locate the brackets to the frame and to one another.
5. Install the tube closeout stampings. Hold them in place using the provided black M8x25mm button head bolts, washers, and nuts in the inboard rear holes only. Only hand tighten for now (fig. 5).



*Figure 5*



6. If you will be running wiring for off road lights, separate the bumper hoop cover from the steel hoop (these are wrapped together to prevent shipping damage). Set aside being careful not to scratch the textured surface of the cover.
7. Install the bumper hoop to the top of the framerails in between the AEV bumper brackets (fig. 6).  
NOTE: If installing AEV offroad lights or camera relocation kit, route the wiring and sprayer hose around the outside of the U-bracket through the gap below the tube closeout stampings, being careful to avoid sharp edges and pinch points.

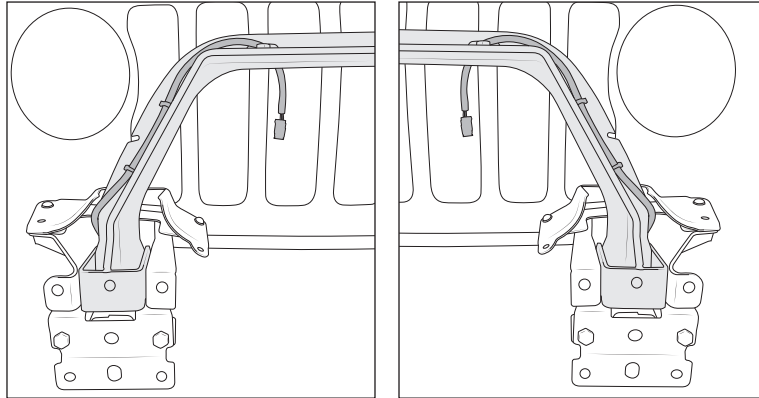


Figure 6

8. Install a black M12x120mm bolt with washer through the top side hole in the outside bracket, through the hoop base, and through the inboard bracket. Hand tighten a flange nut onto the bolt to retain it (fig. 7). You can now remove the hardware holding the brackets to the front frame flanges, unless installing a winch mount.

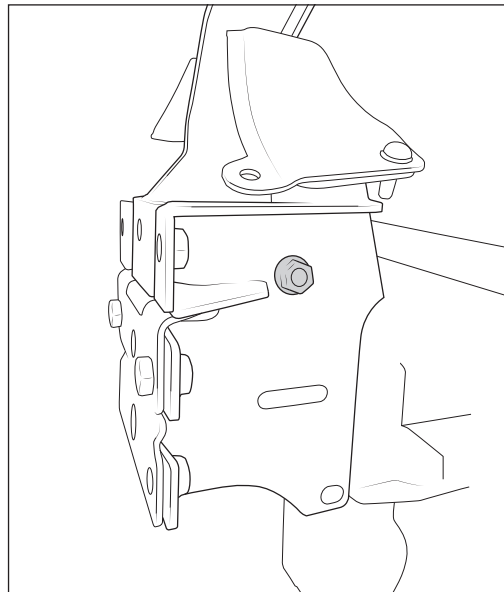
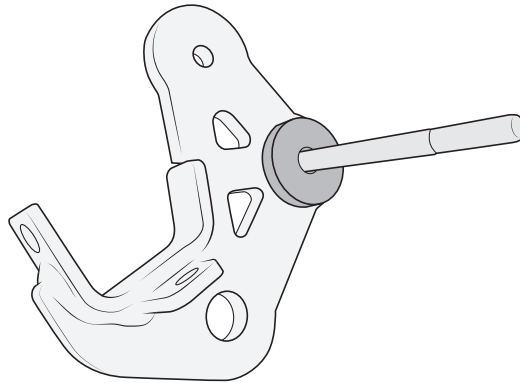


Figure 7

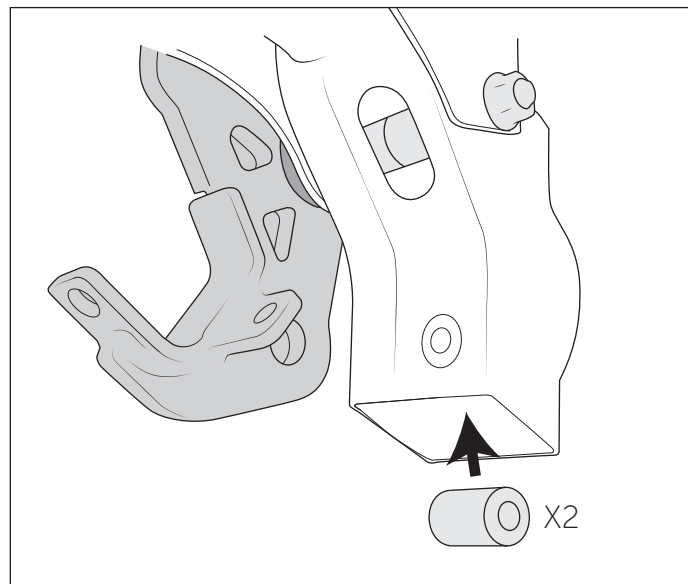


9. Prepare AEV tow loops by inserting a black M12x150mm bolt with washer through the bottom rear hole of the tow loop with a provided spacer (fig. 8).



*Figure 8*

10. Feed the provided tube spacer crush sleeves (two per side) through the opening in the bottom of the frame compatibility beams one at a time using a telescoping magnet. Feed the tow loop bolt through the outer bracket, frame rail, crush sleeve spacers, and inner bracket (fig. 9). You can loosely install a flange nut onto the bolt now if your are not installing a winch mount.



*Figure 9: Front Right Side Shown*





### III. INSTALL WINCH MOUNT (OPTIONAL)

1. Install M10 rivnuts using provided tool into the two hex shaped holes on the inboard side of each compatibility beam (fig. 10). To use rivnut tool, run provided bolt through the washer and coupler, then thread on rivnut until snug. Flanged end of rivnut should sit against the coupler. Place rivnut into desired hole, hold coupler stationary with a wrench, and tighten the bolt to 31 ft-lb. Remove the bolt and coupler to make sure the rivnut has full compressed. NOTE: Depending on factory bumper configuration, some vehicles may already have rivnuts in these locations.

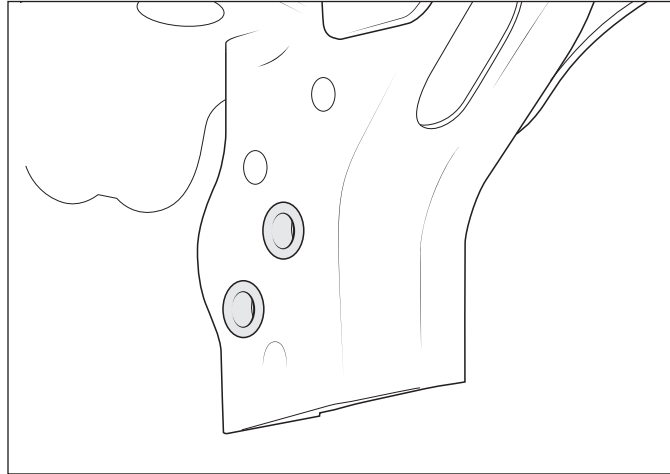


Figure 10

2. Install the winch plate to the frame in the orientation shown (fig. 11). Use factory M10 bolts to loosely bolt winch plate through AEV bumper brackets and into the frame weld nuts.

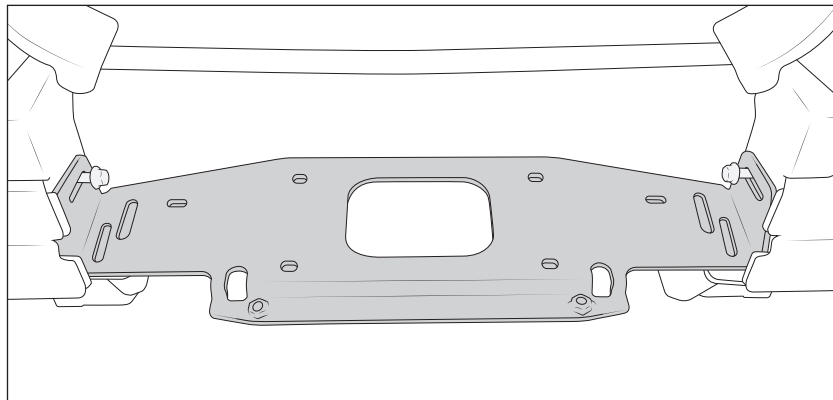
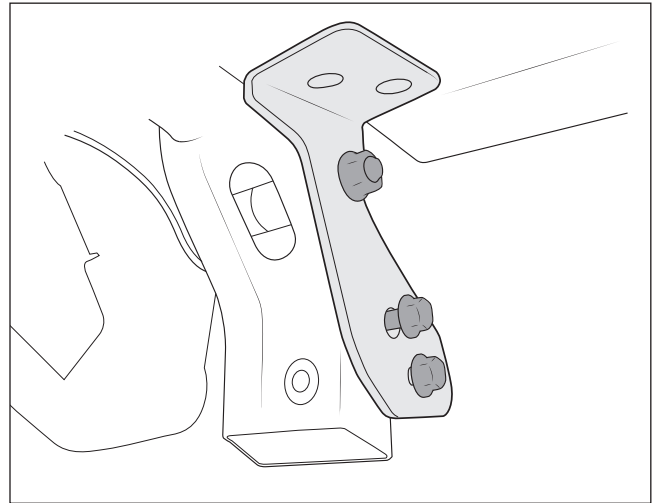
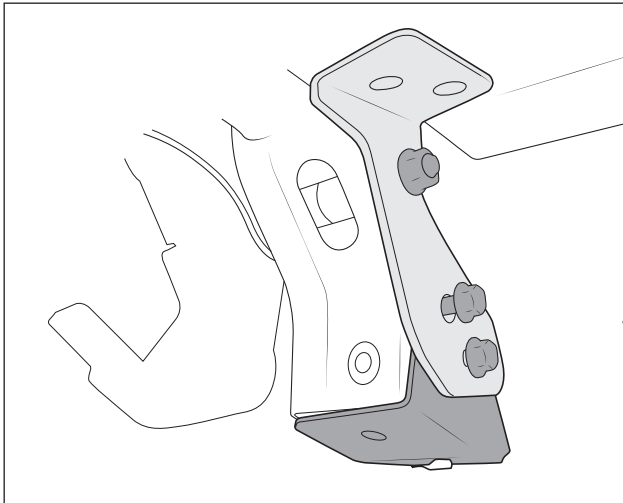


Figure 11



- Loosely install winch support brackets to the rivnuts using provided M10x40mm flange bolts. If installing AEV Front Bumper Skidplate, install the provided mounting brackets between winch support brackets and compatibility beam (fig. 12).

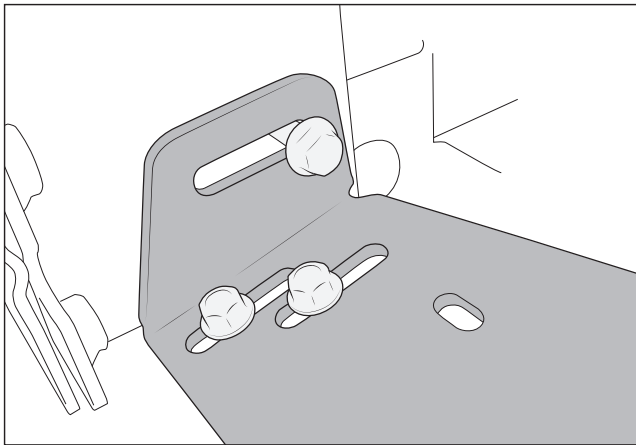
NOTE: If installing both the winch mount and front skidplate, there will be four leftover M10x40mm flange bolts and rivnuts.



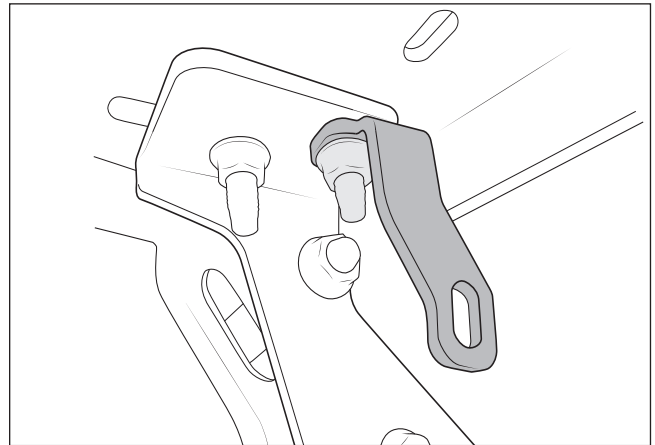
*Figure 12: With Skidplate Bracket (left) Without Skidplate Bracket (right)*

- Bolt winch plate in place to the support brackets using the provided M10x40mm bolts and nuts. Bolts should be inserted from the top down. Hand tighten, do not fully torque (fig. 13).

NOTE: If installing AEV Skidplate Light Bar Kit, install provided brackets to the rear bolts tying the winch plate to the support brackets. Light bar brackets should mount with long leg down, inboard, and toward rear of vehicle. Install light bar and hand tighten to hold brackets in proper position (fig. 14).



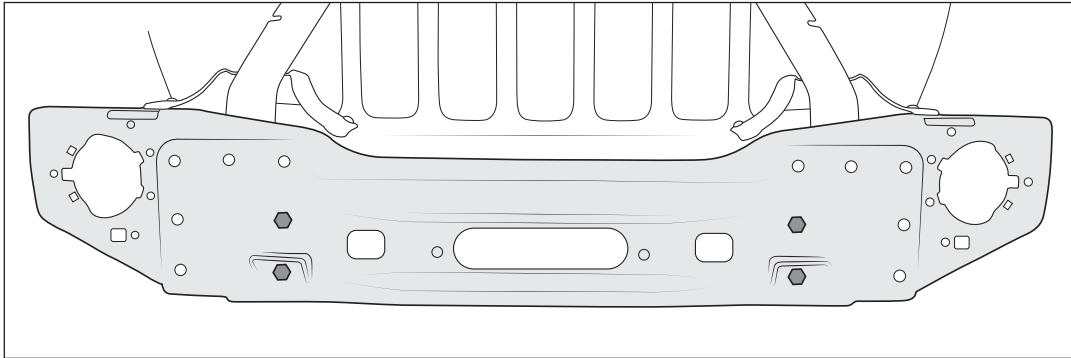
*Figure 13*



*Figure 14*

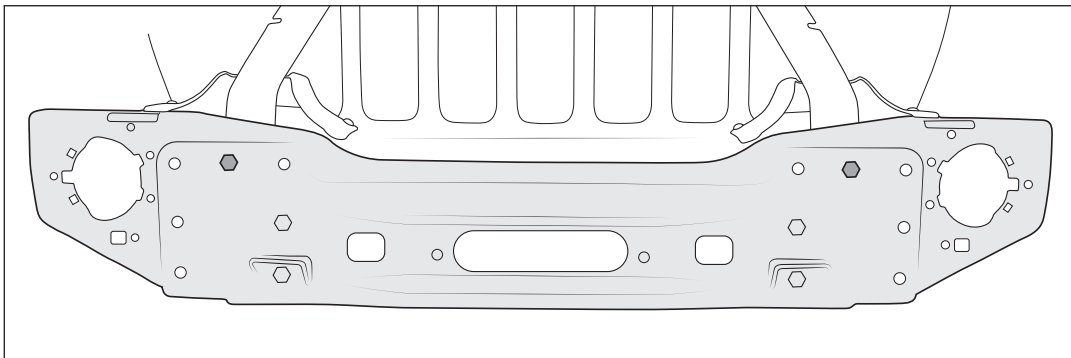


5. Use the same M12x35mm bolts and washers from the bumper mounting kit (section II. step 1 ) to temporarily install the main fairlead stamping using the bottom four (4) mounting holes on each side. Make sure it's centered and level relative to the frame flanges and snug the bolts by hand. This is only temporary and they do not need to be fully torqued (fig. 15).



*Figure 15*

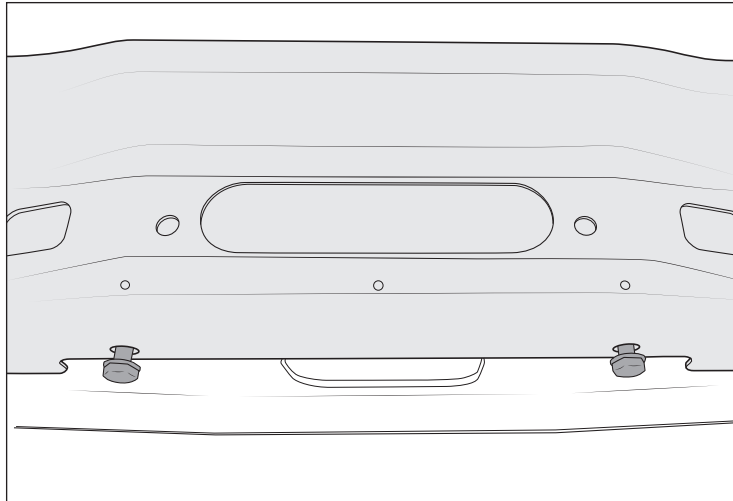
6. Install and snug two (2) additional M12x35mm bolts and washers through the top center hole on each side to properly locate the tube weldment to the fairlead stamping (fig. 16).



*Figure 16*

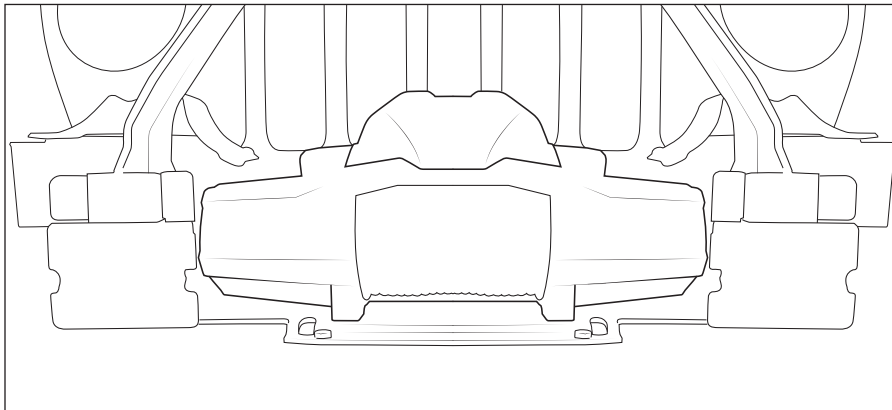
7. Install black M10x25 bolts and washers from winch kit through the bottom of the fairlead stamping section and into the weld nuts in the winch plate. Snug the bolts to lock the winch plate into final installed position. Torque M10 bolts and nuts holding winch plate to support brackets to 30 ft-lb, then torque lower bolts into compatibility beam rivnuts to 30 ft-lb, making sure that the skidplate mounting brackets (if applicable) are pushed up tight to bottom of compatibility beams (fig. 17).

NOTE: If installing skidplate light bar kit, shift the brackets as far rearward as possible before tightening winch support bolts. On models with electronic sway bar disconnect it will sit tight against the isolator bushing. Tighten the lightbar mounting hardware to manufacturer spec centered in vertical slot on mounting brackets. If using a light bar other than the AEV recommendation, additional adjustments may be needed during skidplate installation.



*Figure 17*

8. Torque M10 winch plate side bolts to 40 ft-lb and M12x120mm nuts and bolts to 90 ft-lb. This will lock the winch plate, bumper support brackets, and tube weldment into proper position.
9. Remove fairlead stamping and return M12 hardware to bumper fastener pack and M10 hardware to winch fastener pack.
10. Place winch onto winch mount and bolt into place using the hardware provided by the winch manufacturer. It can be wired per the manufacturer's recommendations either now or after final bumper installation (fig. 18).



*Figure 18*



## IV. INSTALL MAIN BUMPER COMPONENTS

1. Install the fairlead stamping (fig. 19). First install silver M12x35mm bolts and washers into location 1. Make sure stamping is level to frame and holes appear lined up on both sides, then snug the bolts to hold it in place. Install black M12x35mm button head bolts and black washers to holes in location 2 and silver M12x35mm bolts and washers to locations 3 and 4. Torque all bolts to 60lb-ft.

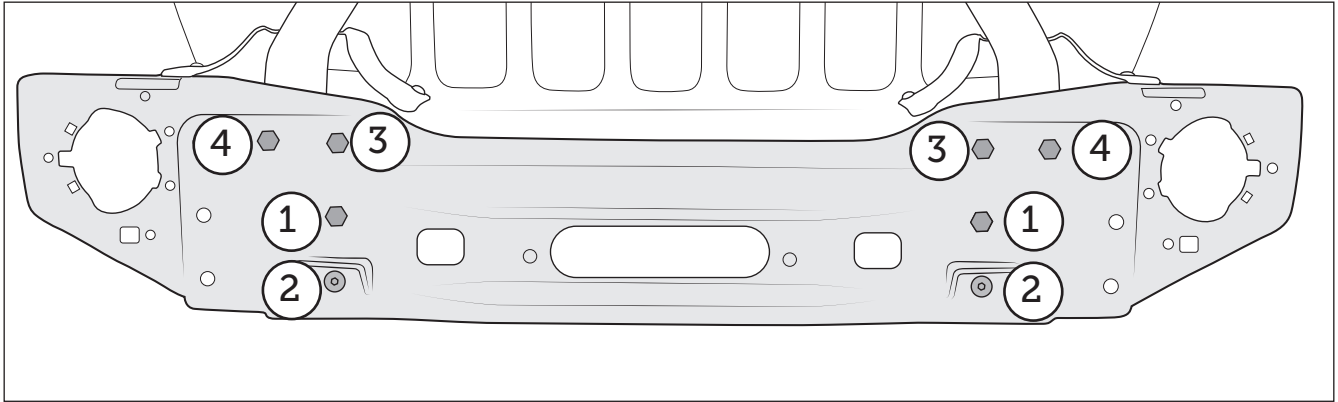


Figure 19

2. Install plastic cover for bumper hoop onto the weldment.
  - A. If installing AEV offroad lights or camera relocation kit, route the wiring and sprayer hose, running them along the outside of the thick bracket on the hoop weldment. Use provided fur tree wire ties to retain the wiring and hose along the bracket. Make sure to leave enough slack to connect to mating components (fig. 20).

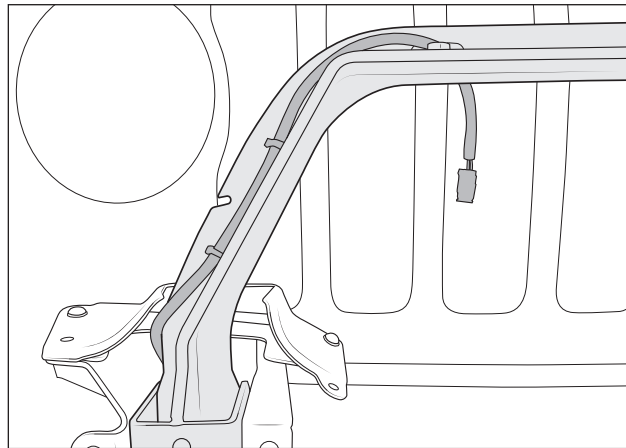


Figure 20

- B. Install the provided black M6x20mm threaded studs into the threaded inserts in the back of the plastic bumper hoop cover. Use an allen driver to tighten them until fully seated snug into the inserts, then install the plastic hoop cover to the steel hoop, being careful not to pinch any wiring or hoses. Install the provided black M6 flange nuts and washers. Make sure the cover is centered on the hoop, and tighten the nuts to 100 in-lb.



3. Install the center section and corners

- A. Install provided #8 U-nuts (not the larger M8) to the face of the bumper center and cage nuts to the top outboard holes (fig. 21).

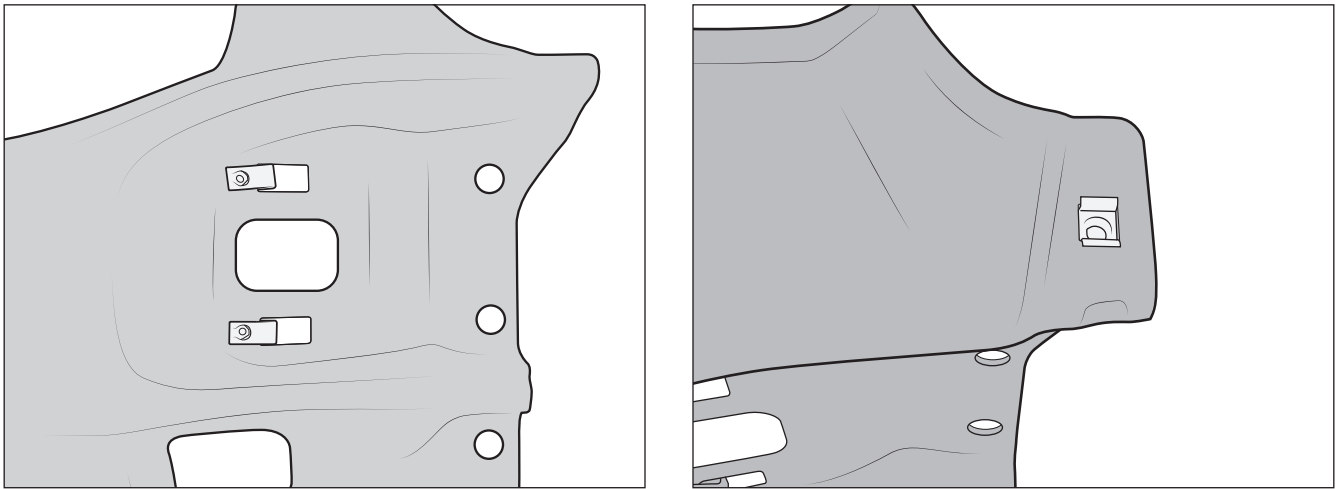


Figure 21

- B. Use slipper bar to align top rear outboard holes (if necessary) of inner and outer bumper reinforcement brackets, then tighten rear hardware tying them together to 20 ft-lb.
- C. Install center section onto front of vehicle. It should pass over the offset front portion of the tube closeout stampings. Center can be retained by passing black M8x25mm button head bolts with washers through the top inboard holes and through the tube closeout stamping. Loosely install black flange nuts from the back side (fig. 22). If using AEV winch plate, remove then reinstall black M10x25 bolts and washers from winch kit through the bottom of the center section and into the weld nuts in the winch plate (see fig. 17).

NOTE: If installing the winch delete kit, you can install the top cover plate at same time as center section. The front flange will sandwich between the fairlead stamping and center section. The top inboard holes are shared with the center and the same M8x25mm bolts will retain the center section and winch delete cover plate.

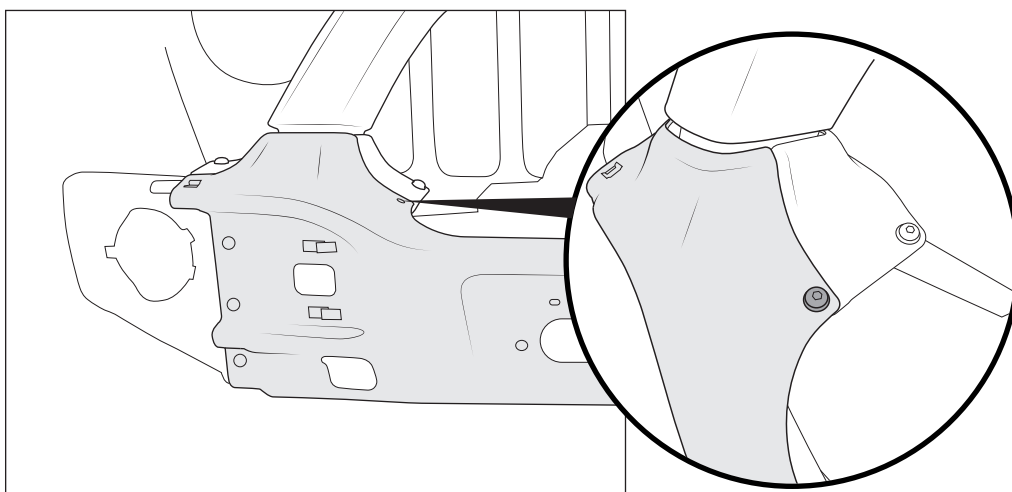
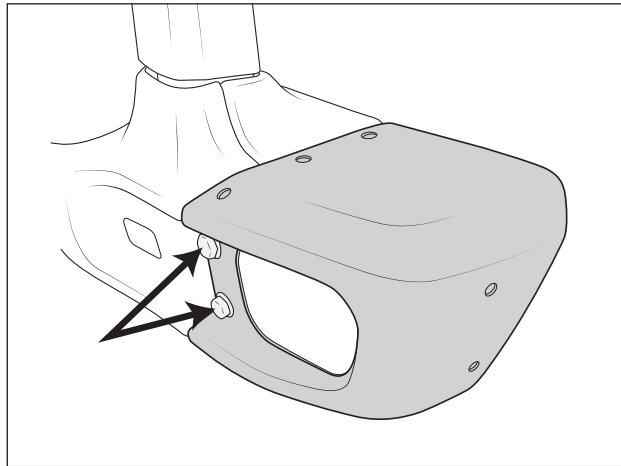


Figure 22

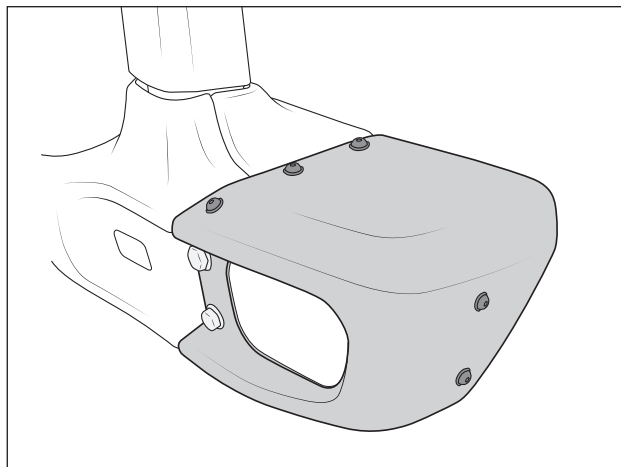


- D. Carefully install corners over center section and loosely bolt in place with silver M12x35mm hex bolts and washers in the upper and center holes (next to fog light) (fig. 23). Do not install bolts in bottom holes yet.



*Figure 23*

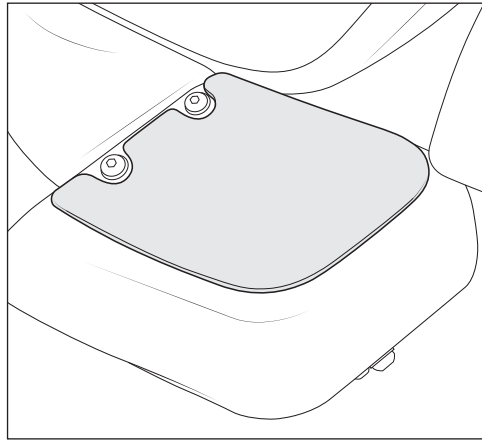
- E. Install black M8x25mm button head bolts with washers into each of the 3 holes along the top of the corner stamping and 2 holes through side of corner and fairlead stampings. Start with front holes that install into the cage nut, then the 2 rear holes that pass through the tube closeout stampings and reinforcement brackets with black flange nuts loosely installed. A slipper bar may be helpful to align all the holes during bolt installation (fig. 24). Side holes pass through corner and fairlead stampings and are also retained with black flange nuts. Snug all hardware but do not fully torque yet.



*Figure 24*



4. Make sure top surface of bumper is clean and dry and install provided adhesive-backed foam step pads as shown (if desired). Be sure to hold in place with strong pressure for at least 30 seconds (fig. 25).

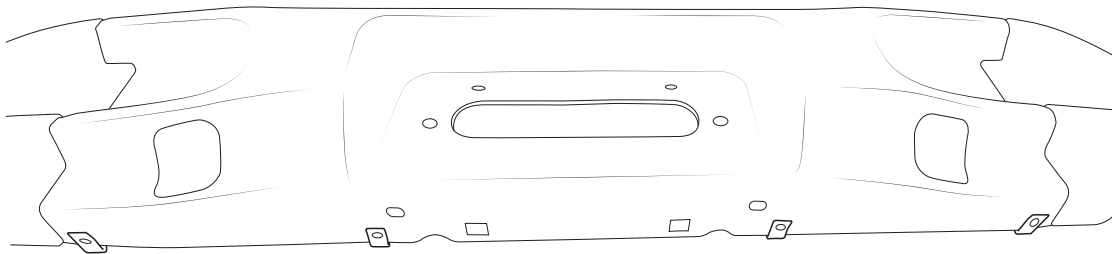


*Figure 25*

## **V. INSTALL FRONT SKID PLATE (OPTIONAL)**

NOTE: If installing the winch delete kit, install the fairlead cover plate BEFORE skidplate. Install so oval offset faces forward through fairlead opening. Install provided button head bolts with washers from the front side. Install nuts on rear of cover plate and torque until snug. Excessive torque could crack the plastic.

1. Install four provided M8 U-nuts to the bottom flange of the center stamping with the smooth surface on the bottom side. Insert until the threaded hole is centered within the hole in the stamping. (fig. 26).

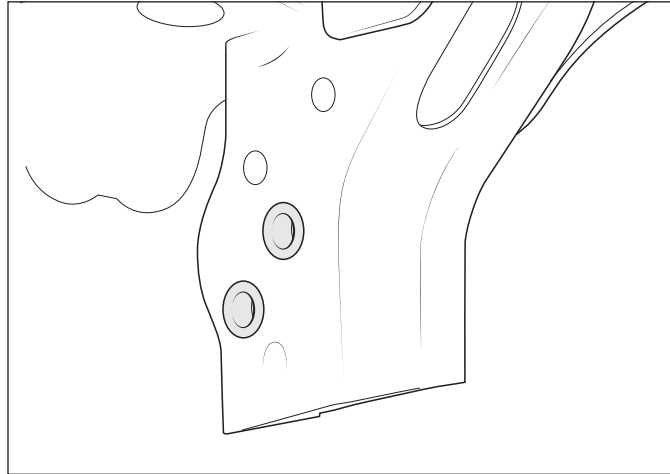


*Figure 26*



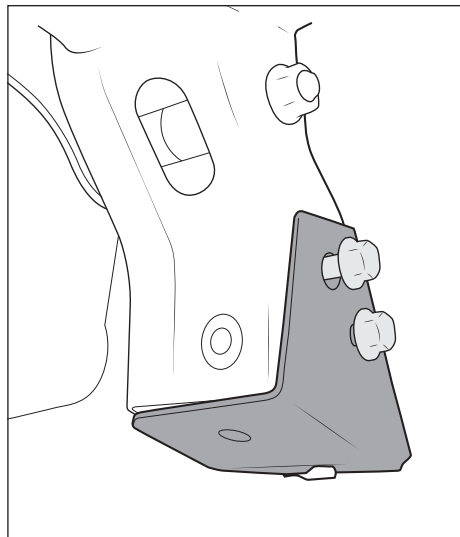


2. If you installed the AEV winch mount, skip to step 4. Install M10 rivnuts using provided tool into the two hex shaped holes on the inboard side of each compatibility beam (fig. 27). To use rivnut tool, run provided bolt through the washer and coupler, then thread on rivnut until snug. Flanged end of rivnut should sit against the coupler. Place rivnut into desired hole, hold coupler stationary with a wrench, and tighten the bolt to 31 ft-lb. Remove the bolt and coupler to make sure the rivnut has full compressed. NOTE: Depending on factory bumper configuration, some vehicles may already have rivnuts in these locations.



*Figure 27*

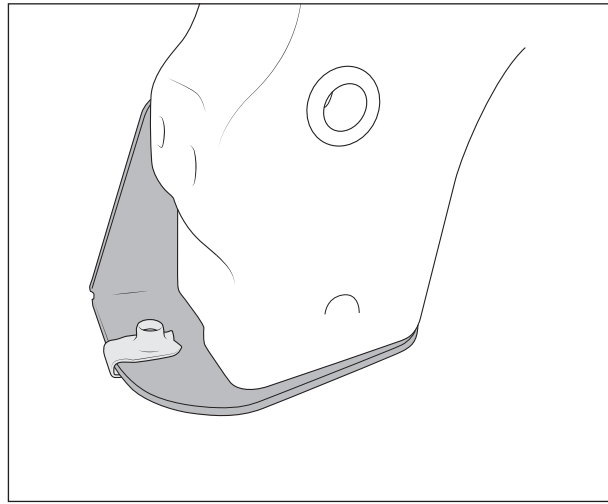
3. Install provided skidplate mounting brackets using M10 bolts and washers from skidplate kit. Hold the brackets tight to the bottom of the compatibility beam and torque bolts to 40 ft-lb (fig. 28).



*Figure 28*

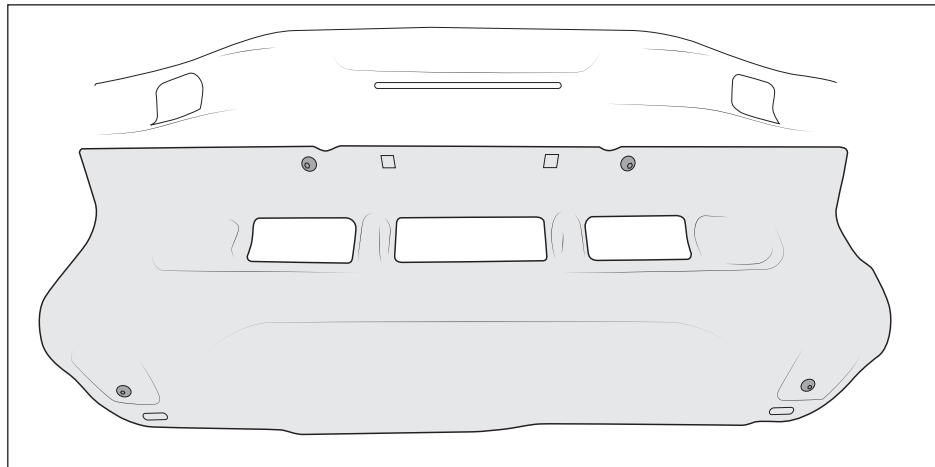


4. Install two provided M8 U-nuts to the bottom flange of the skidplate support brackets so that smooth surface on the bottom side. Insert until the threaded hole is centered within the hole in the stamping (fig. 29).



*Figure 29*

5. Install the skidplate using four of the provided black M8x25mm button head bolts and washers. Start by loosely installing bolts through lower portion of skidplate into U-nuts from previous step. Then rotate the skidplate up so flat front flange sits flush against bumper center and install only the two inboard front bolts at this time. The outboard mounting bolts will be installed after the tow loops in the next step. Snug all four bolts (fig. 30).



*Figure 30*



## VI. SECURE TOW LOOPS

1. Remove factory outboard M10 bolts used to hold AEV bumper brackets in place during previous steps. Locate the two black M10x45mm hex bolts, washers, and thick spacers. Rotate the tow loops up into fully installed position, begin feeding the M10 bolt and washer through from the outside, and sandwich the spacer between the tow loop and bumper reinforcement bracket. Loosely thread the bolt into the factory weld nut in the frame (fig. 31).

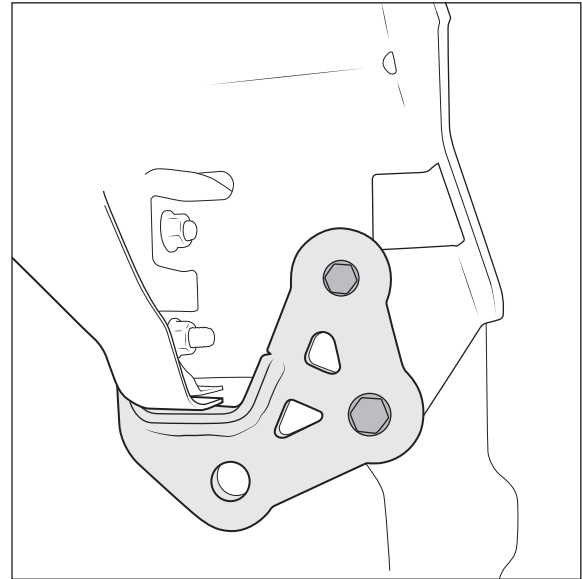
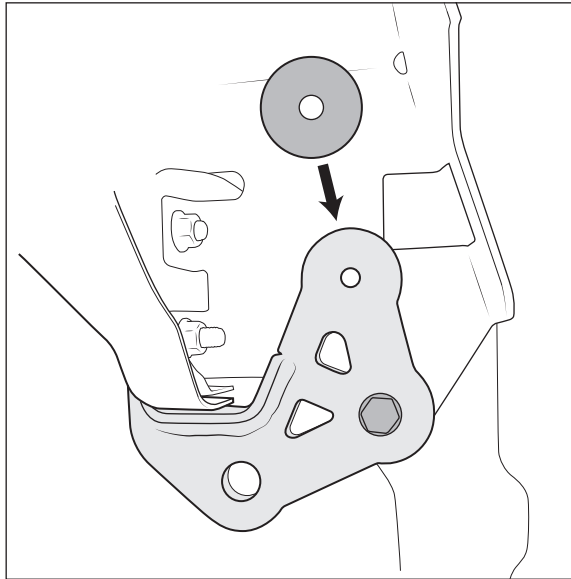


Figure 31

2. Install black M8x25mm button head bolts with washer through the lower tab in the tow loop, through the skidplate, and into the center section U-nut (fig. 32).

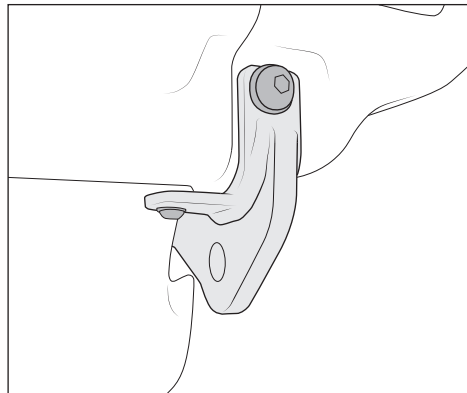


Figure 32

3. Install black M12x50mm button head bolt and washer through front hole in tow loop, through bumper stampings, and into back side support bracket weld nut.

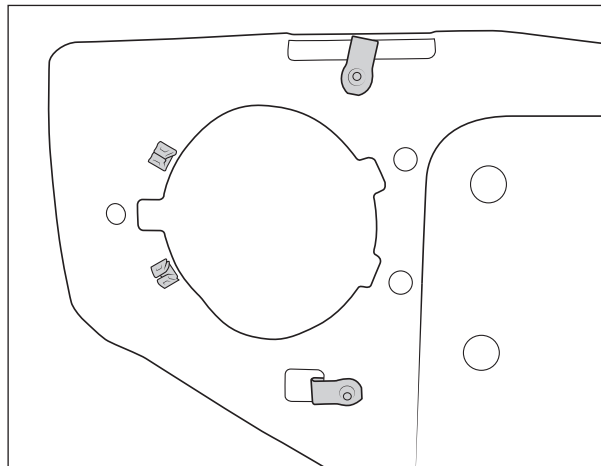


4. Once all components are properly aligned so all the hardware has been installed, begin to torque them down in the following order:
  - A. Front upper and middle M12 bolts: 90 ft-lb
  - B. Lower tow loop M8 bolt: 20ft-lb
  - C. Front tow loop M12 bolt: 90 ft-lb
  - D. Side tow loop M10 bolt: 40 ft-lb
  - E. Side tow loop M12x150mm bolt and nut: 90 ft-lb
  - F. M10 front lower winch plate bolts (if applicable): 40 ft-lb
  - G. M8 perimeter bolts and nuts (including inboard center section): 20ft-lb

## VII. INSTALL FOG LIGHTS

Install OEM fog lights to rear of fairlead stamping using provided threaded inserts and factory hardware.

1. Sport Halogen:
  - A. Install provided U-nuts to fairlead stamping as shown (fig. 32).



*Figure 32*

- B. Install fog lights and torque OEM screws to 8lb-ft.)
2. Sport LED:
  - A. Install provided U-nuts to fairlead stamping as shown (fig. 32).
  - B. Enlarge mounting holes in fog light housing to 1/4". Be careful not to over-stress housing and crack or break off tabs.
  - C. Install fog lights and torque OEM screws to 8lb-ft.



3. Plastic Bumper Rubicon/Sahara/Overland LED:

- A. Install provided U-nuts to fairlead in top and bottom holes as shown (fig. 32)
- B. Insert four (4) provided square push-in nuts for each foglight from rear of stamping and bracket as shown (fig. 33).

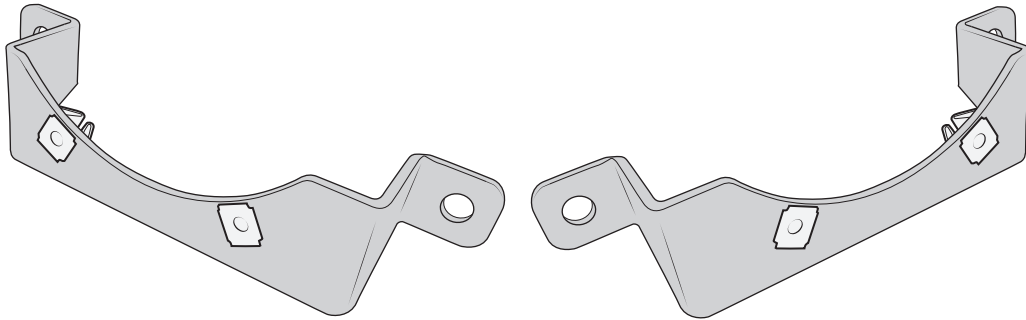


Figure 33

- C. Bolt brackets to the fairlead U-nuts using provided M4.2x25 screws to 16 in-lb. Round cutout in bracket should face foglight opening (fig. 34).

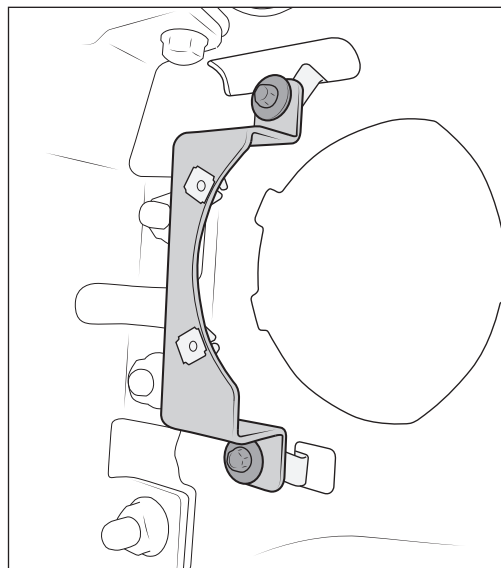


Figure 34

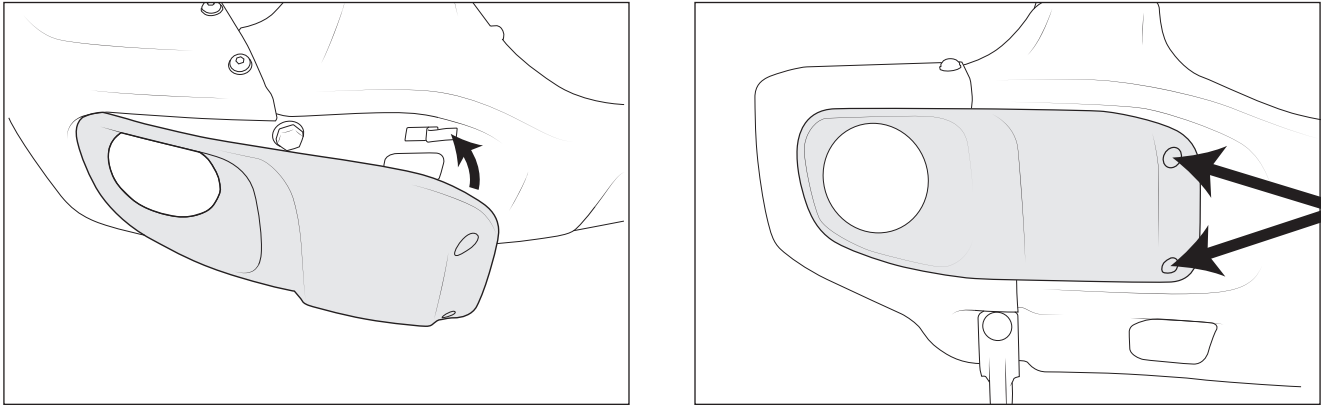
- D. Install fog lights and torque OEM screws to 8lb-ft.

4. Steel Bumper Rubicon LED:

- A. Install provided U-nuts to fairlead stamping as shown (fig. 32).
- B. Install fog lights and torque OEM screws to 8lb-ft.



5. Install fog bezels by hooking outer tabs under cutouts in the corner stamping, then install provided black #8 screws through holes in fog bezel and into the U-nuts installed in previous step. Push bezel outward to make sure it fully seats into the corner and snug the screws with a T20 Torx driver. Do not overtighten or the screw head could pull through the plastic bezel (fig. 35).



*Figure 35*

6. Connect OEM foglight wiring harness to foglight. Tuck any excess wire into a safe location and wire tie in place if necessary, being careful to avoid sharp edges.
7. Install AEV fairlead (if applicable) using provided hardware from the back side between the winch body and bumper stamping. Recommend anti-seize on the bolt thread to prevent issues corroding with the steel bolts into aluminum fairlead. Tighten to 40 ft-lb.