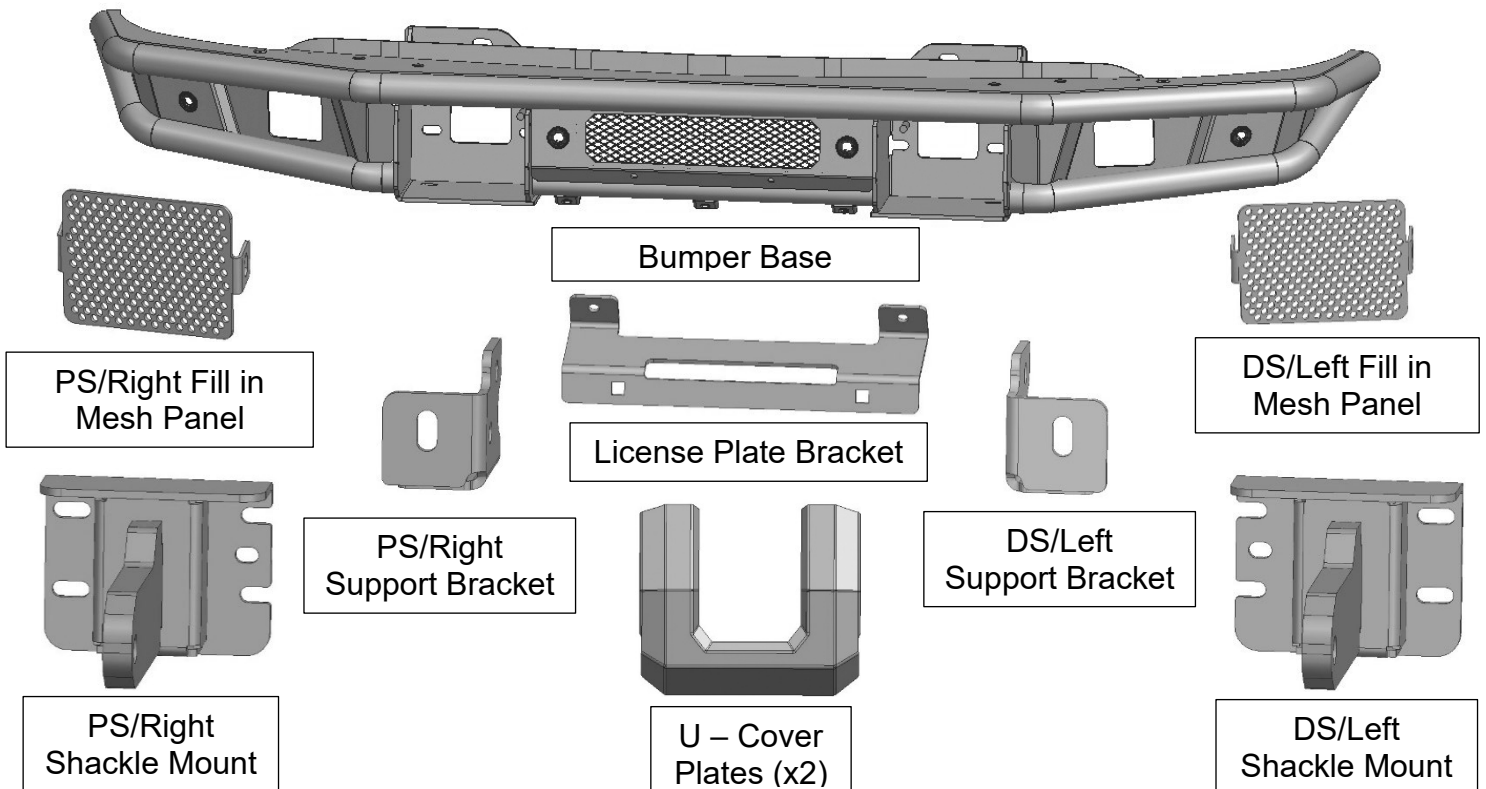
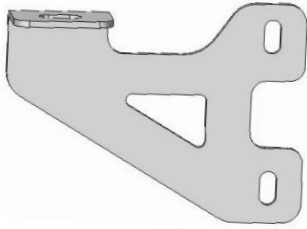


Installation Instructions

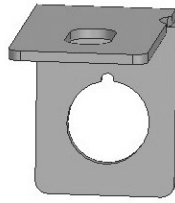
PARTS LIST: S223230-1; S223230-2; S223231-1; S223231-2

Qty	Item Description	Qty	Item Description
1	Bumper Base	1	PS/Right Cooler Bracket
1	DS/Driver Shackle Mount	4	12 – 1.75mm x 60mm Hex Bolts
1	PS/Right Shackle Mount	8	12mm Nylon Lock Nuts
1	Rubber Strip	7	12mm Hex Nuts
8	12mm Single Bolt Plates	20	12mm x 32mm x 3mm Flat Washers
2	U — Cover Plate	1	12 – 1.75mm x 35mm Hex Bolts
1	PS/Right fill in Mesh Panel	7	12mm Lock Washers
1	DS/Left fill in Mesh Panel	6	10mm x 27mm x 3mm Flat Washers
2	DS/Left Support Bracket	6	10mm Lock Washers
2	PS/Right Support Bracket	4	10 – 1.5mm x 50mm Hex Bolts
1	Heater Bracket	2	10 – 1.5mm x 40mm Hex Bolts
2	License Plate Plastic Plug	2	8 – 1.25mm x 25mm Hex Bolts
2	Sensor Harness Extension	2	8mm x 24mm x 2mm Flat Washers
4	15.5mm x 25mm x 2mm Foam Washer	2	8mm Clip Nuts
4	20mm x 10mm Foam Washer	2	8mm Lock Washers
4	Retaining Cap (PP)	14	6 – 1.00mm x 20mm Combo Bolts
4	Plastic Plug (Without sensor) (PP)	4	6mm Flanged Nut
8	14-2mm x 15mm Flat Head Self Tapping Screw	4	6 – 1.0mm x 25mm Hex Bolts
6	19mm Sensor Cover Cap	8	6mm x 18mm x 1.6mm Flat Washers
1	License Plate Bracket	4	6mm Nylon Lock Nuts
10	Wire Harness Ties (2.75mm x 1mm x 200mm)	1	Allen Wrench S=4
1	DS/Left Cooler Bracket		

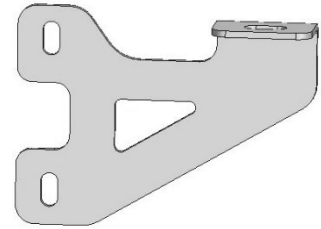




PS/Right Cooler Bracket



Heater Bracket



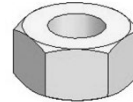
DS/Left Cooler Bracket



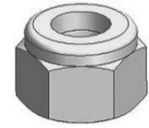
Lock Washer



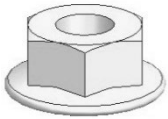
Flat Washer



Hex Nut



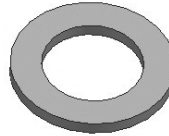
Nylon Lock Nut



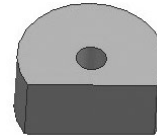
Flange Nut



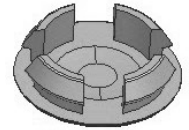
Sensor Retaining Cap



Foam Washer



Retaining Cap



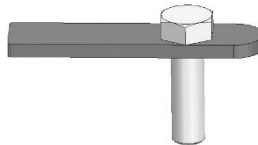
Plastic Sensor Plug



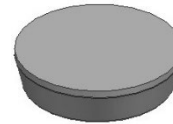
Button Head Combo Bolt



Hex Bolt



Single Bolt Plate



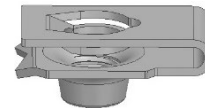
Sensor Cover Kit



Self-Tapping Screw

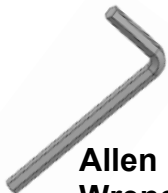


License Plate Plastic Plug



Clip Nut

TOOLS REQUIRED



Allen Wrench



Ratchet



13mm Socket



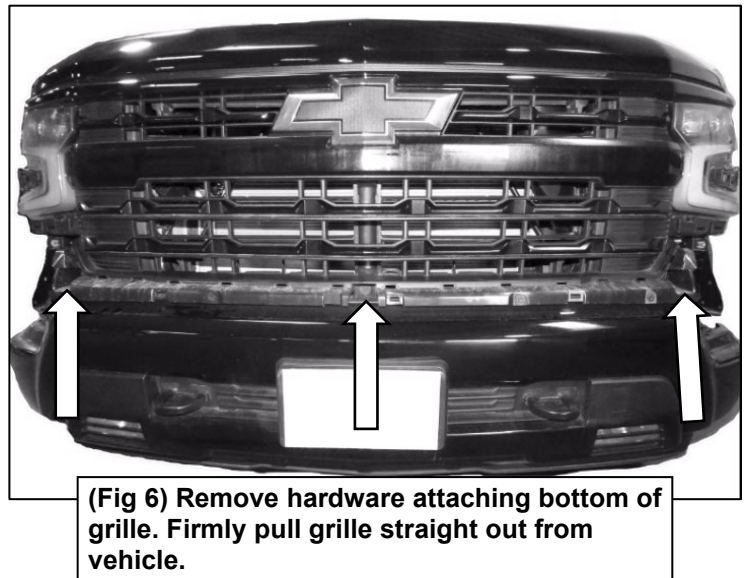
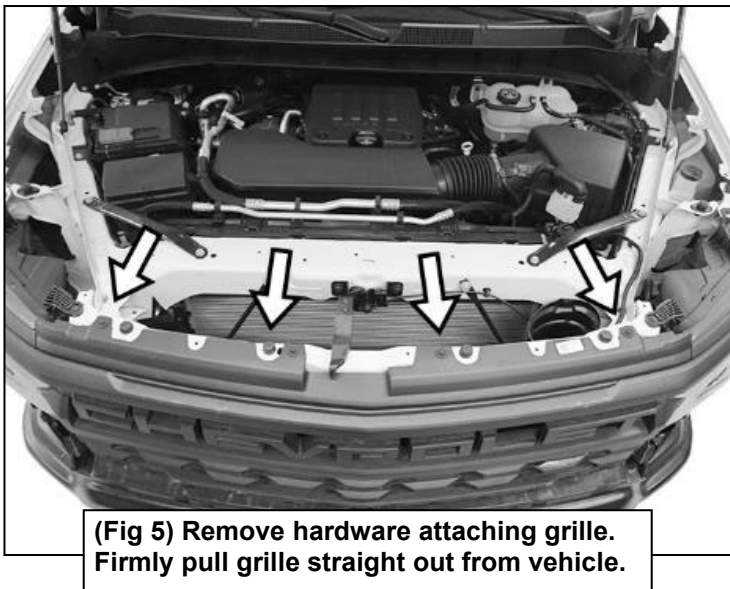
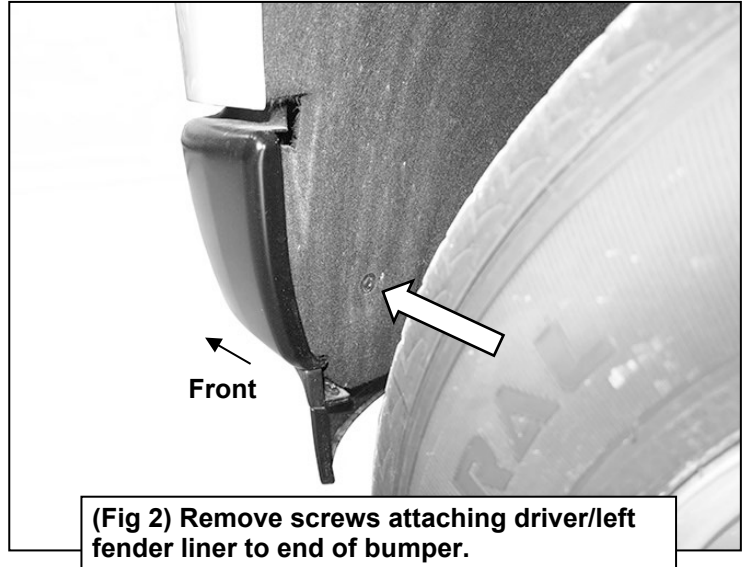
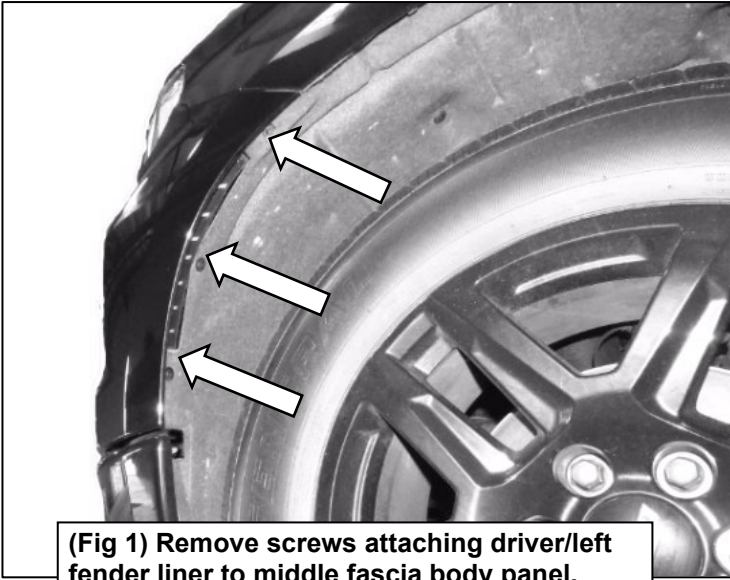
Extensions

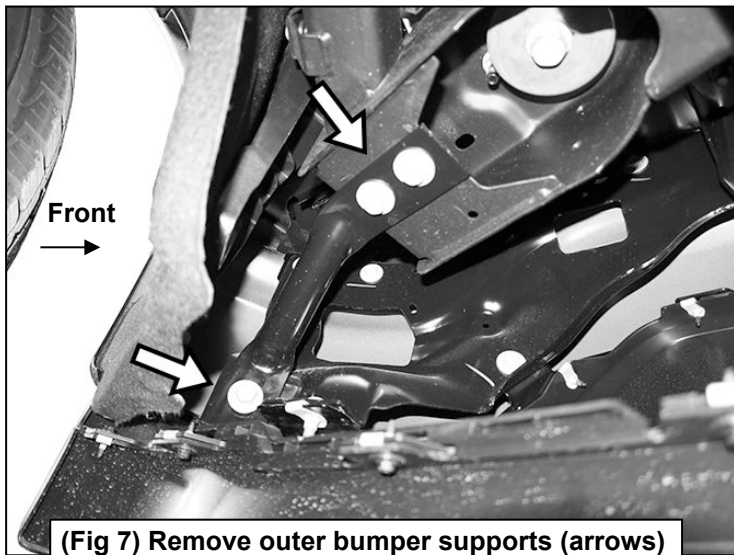


Wrench

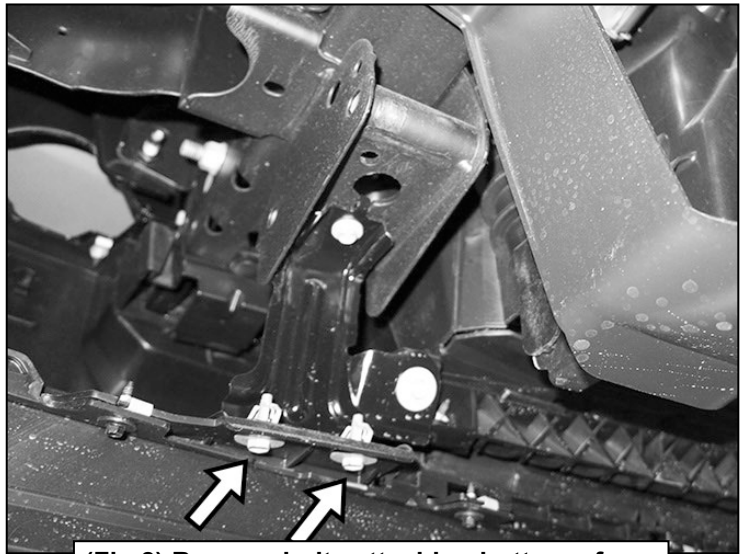
1

Follow (Fig 1 -14) to remove factory bumper and intercooler shutter to prepare vehicle for HD4 LD Front Bumper Installation. (Skip: Fig 12 if your vehicle doesn't have lower louver.)

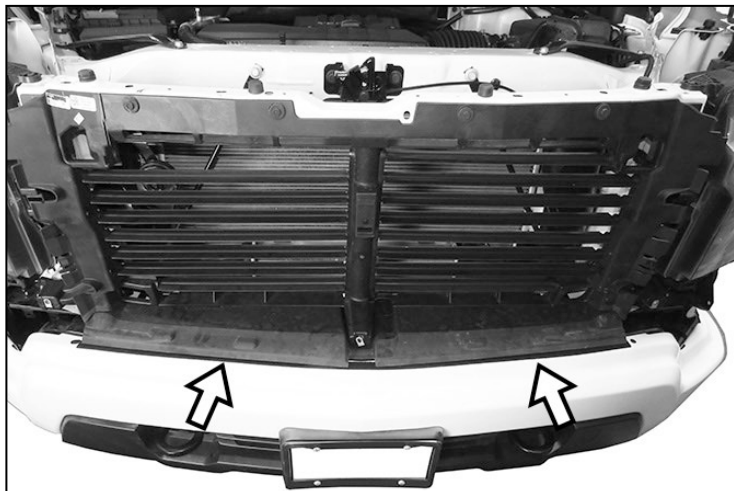




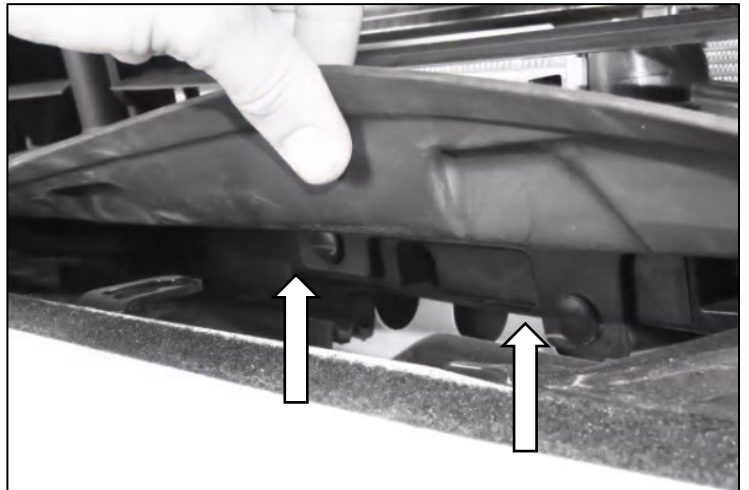
(Fig 7) Remove outer bumper supports (arrows)



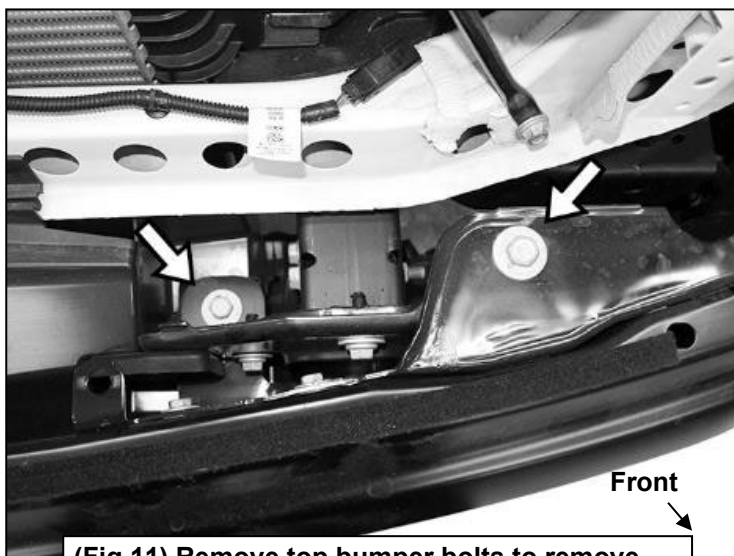
(Fig 8) Remove bolts attaching bottom of bumper to brackets (arrows).



(Fig 9) Remove cover from top of bumper (arrows).



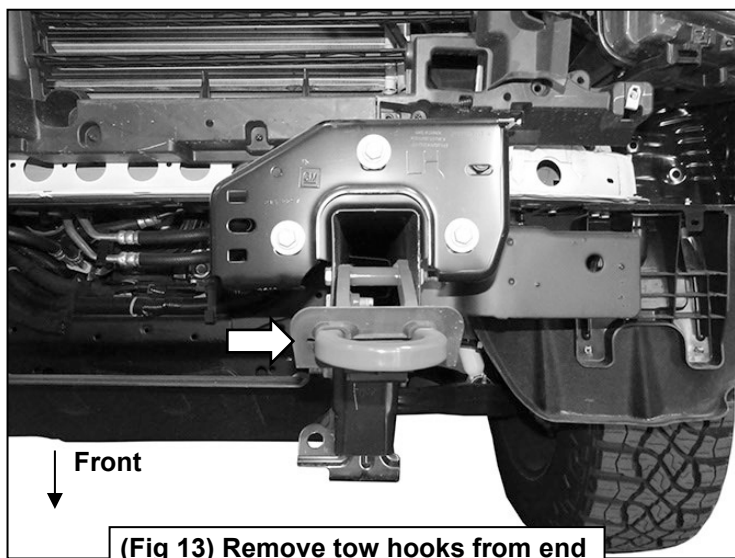
(Fig 10) The cover is held in place by plastic tabs underneath (7 total).



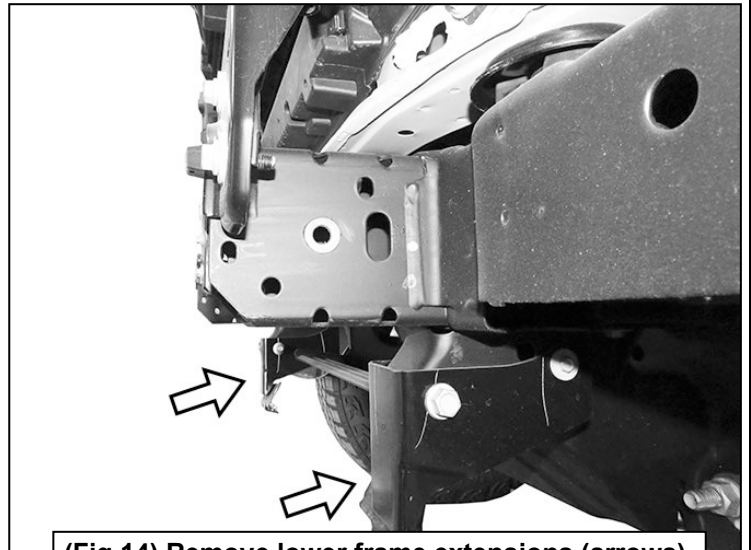
(Fig 11) Remove top bumper bolts to remove front bumper for driver and passenger side.



(Fig 12) Remove bolts, clips, and outer cover to remove lower louver for relocation. (Skip to Fig 13, if vehicle doesn't have lower louver)



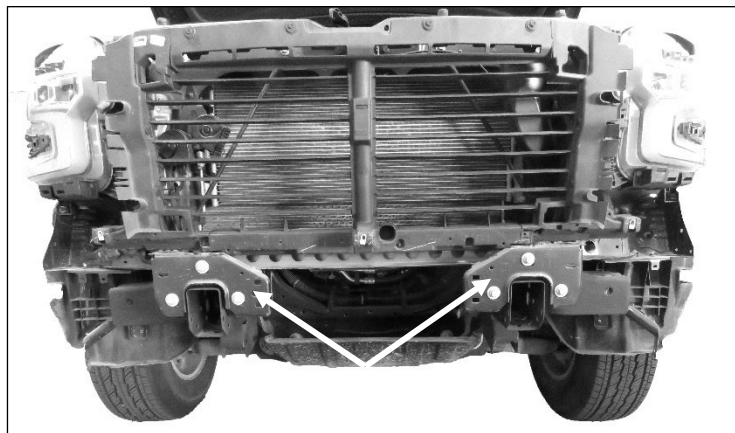
(Fig 13) Remove tow hooks from end of frame (if equipped)



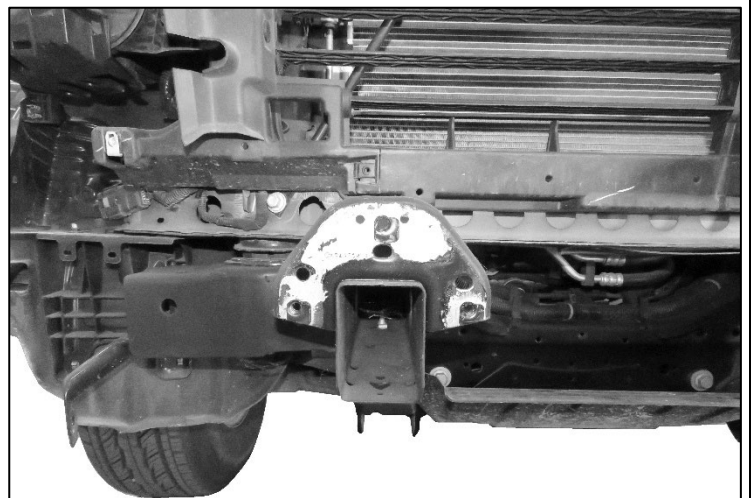
(Fig 14) Remove lower frame extensions (arrows).

2

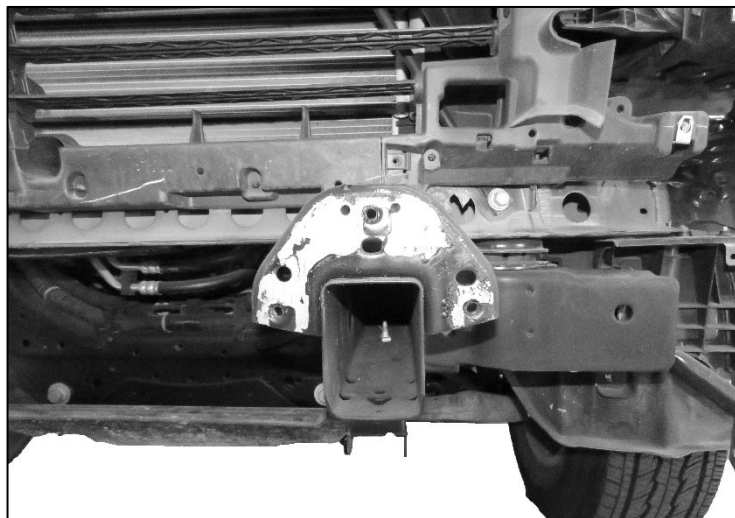
Follow (Fig 15 – 45) to attach Brackets and Sensors or Plastic Plugs, prepare Bumper for installation, then attach Bumper to Brackets. Ensure Bolts are hand tightened at this point. (Skip: Fig 22 – 27 if your vehicle doesn't have lower louver.)



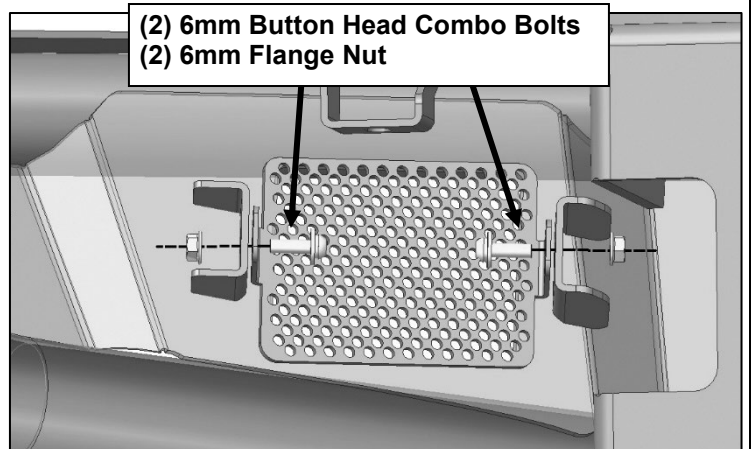
(Fig 15) On Passenger side and Driver side, remove factory bumper brackets.



(Fig 16) Passenger side, factory bumper bracket removed.

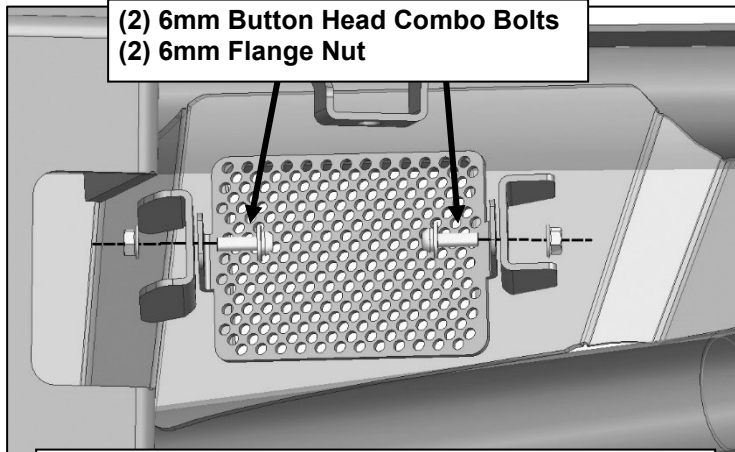


(Fig 17) Driver side, factory bumper bracket removed.

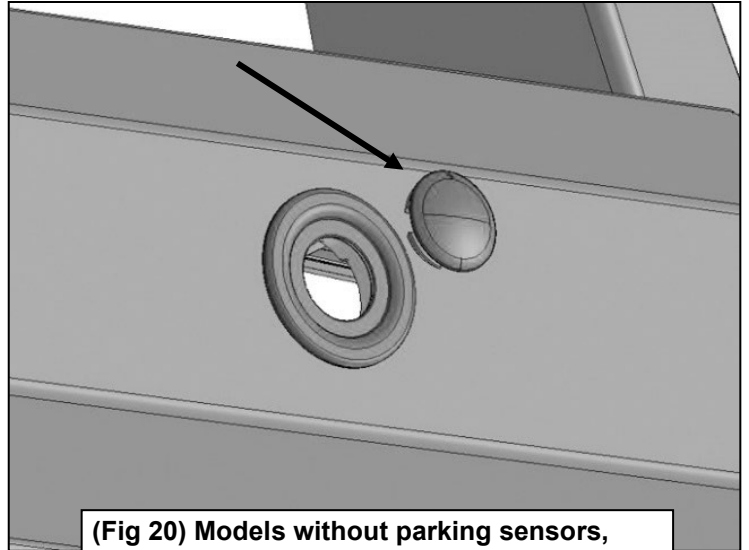


- (2) 6mm Button Head Combo Bolts
- (2) 6mm Flange Nut

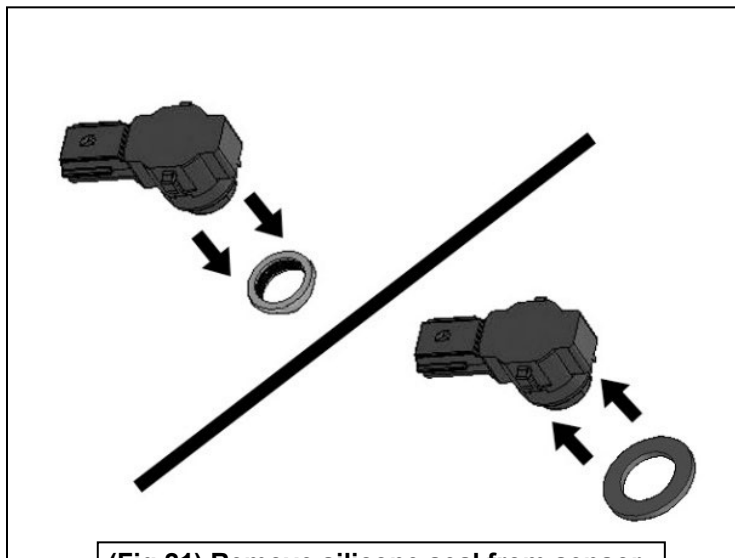
(Fig 18) On Front Bumper, attach Driver/Left Outer Mesh Panel to Driver/Left tabs on the back of the LD Bumper with indicated hardware.



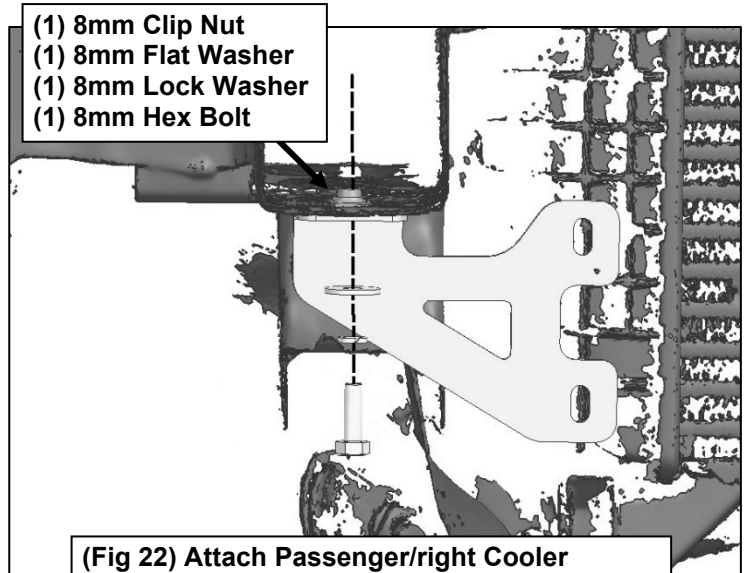
(Fig 19) On Front Bumper, attach Passenger/Right Outer Mesh Panel to Passenger/Right tabs on the back of the LD Bumper with indicated hardware.



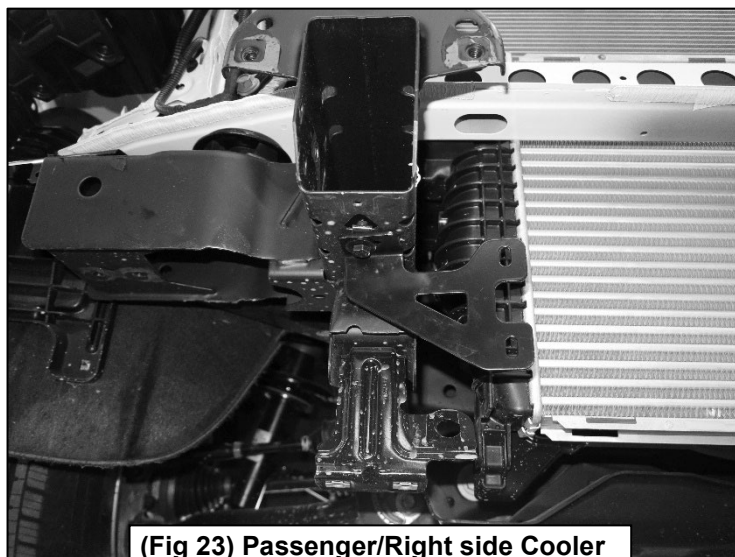
(Fig 20) Models without parking sensors, push the included Plugs into sensor mounts



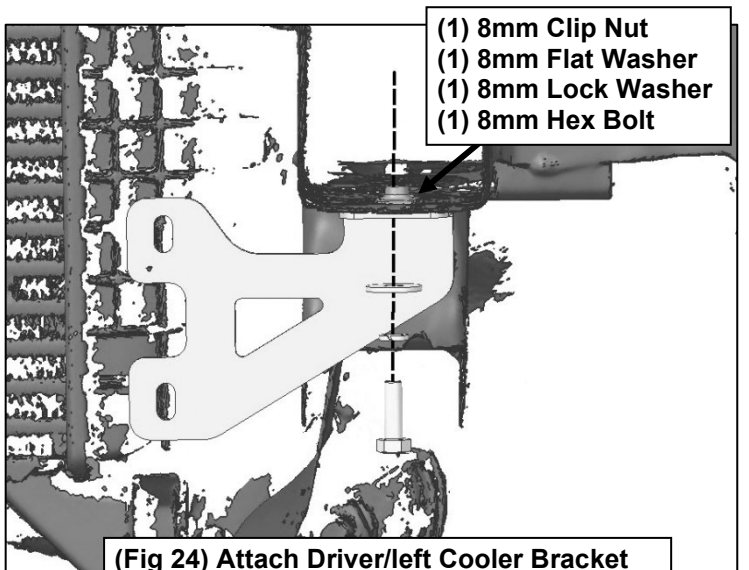
(Fig 21) Remove silicone seal from sensor. Slide large seal over end of sensor (arrow)



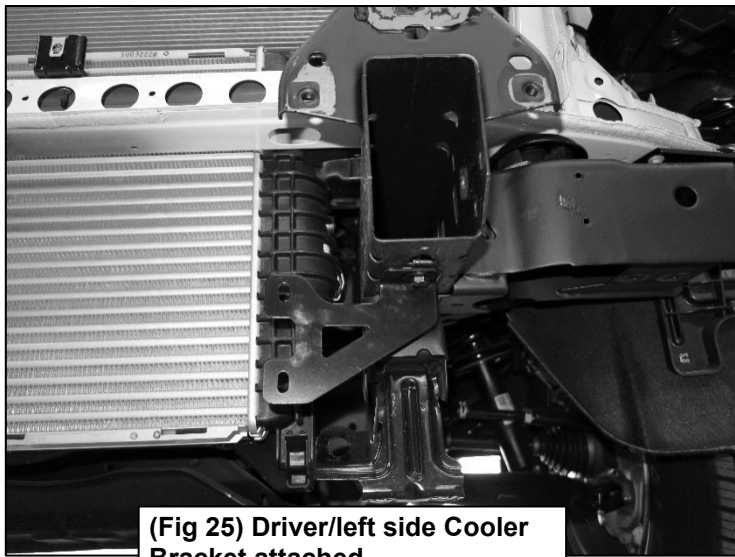
(Fig 22) Attach Passenger/right Cooler Bracket with indicated hardware. (Skip to Fig 30 if vehicle has no lower louver)



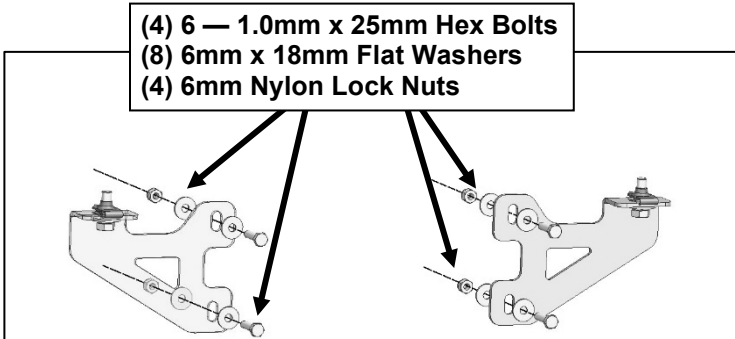
(Fig 23) Passenger/Right side Cooler Bracket attached.



(Fig 24) Attach Driver/left Cooler Bracket with indicated hardware.

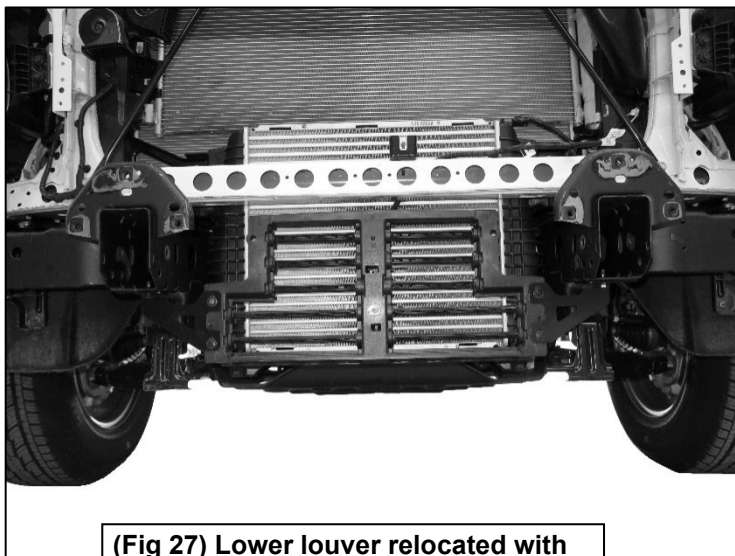


(Fig 25) Driver/left side Cooler Bracket attached.

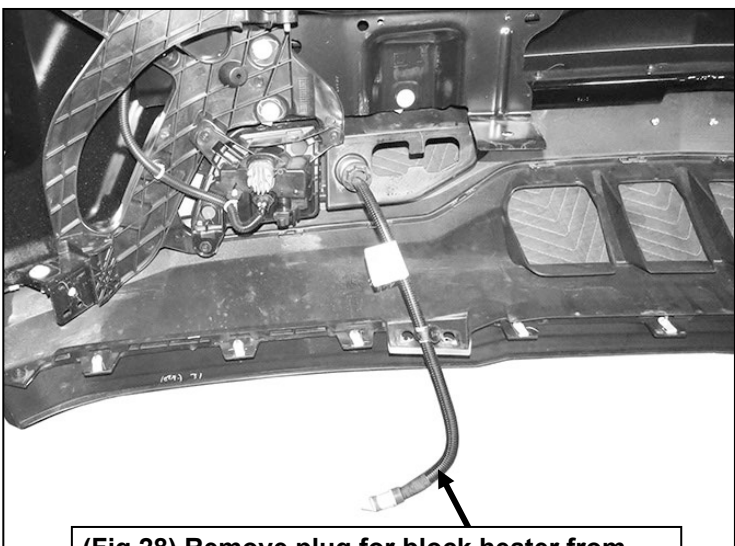


- (4) 6 — 1.0mm x 25mm Hex Bolts**
- (8) 6mm x 18mm Flat Washers**
- (4) 6mm Nylon Lock Nuts**

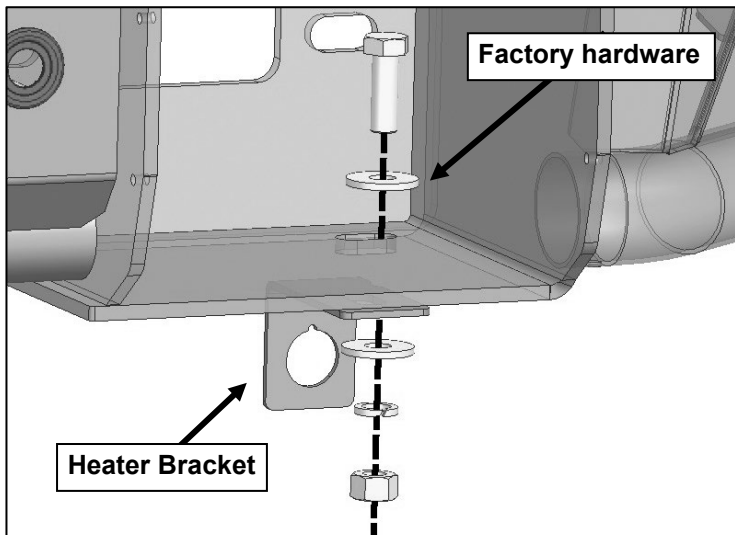
(Fig 26) Attach lower louver to cooler brackets with indicated hardware.



(Fig 27) Lower louver relocated with cooler brackets.



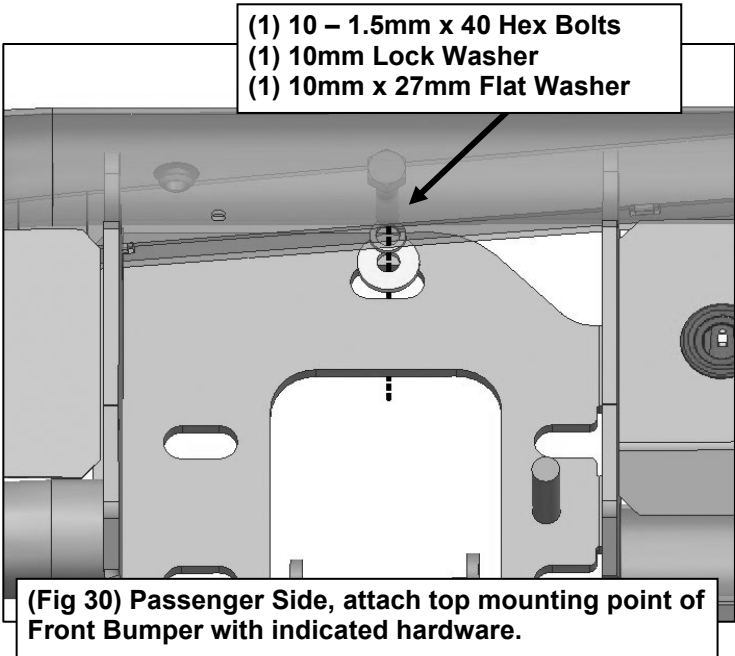
(Fig 28) Remove plug for block heater from factory bumper.



Factory hardware

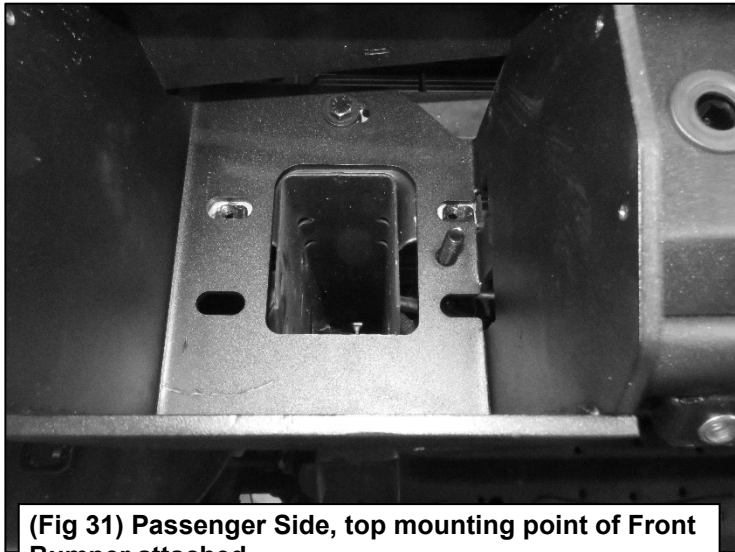
Heater Bracket

(Fig 29) Attach Heater Bracket to driver/left outer mounting point on Front Bumper with factory hardware previously removed.

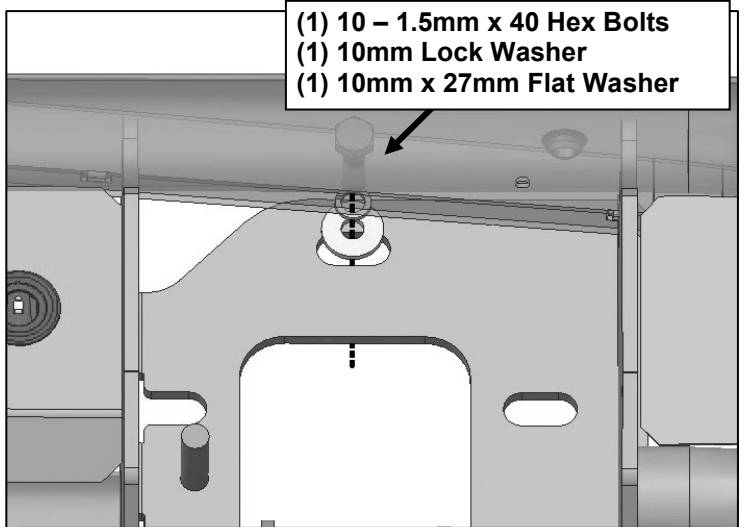


- (1) 10 – 1.5mm x 40 Hex Bolts**
- (1) 10mm Lock Washer**
- (1) 10mm x 27mm Flat Washer**

(Fig 30) Passenger Side, attach top mounting point of Front Bumper with indicated hardware.



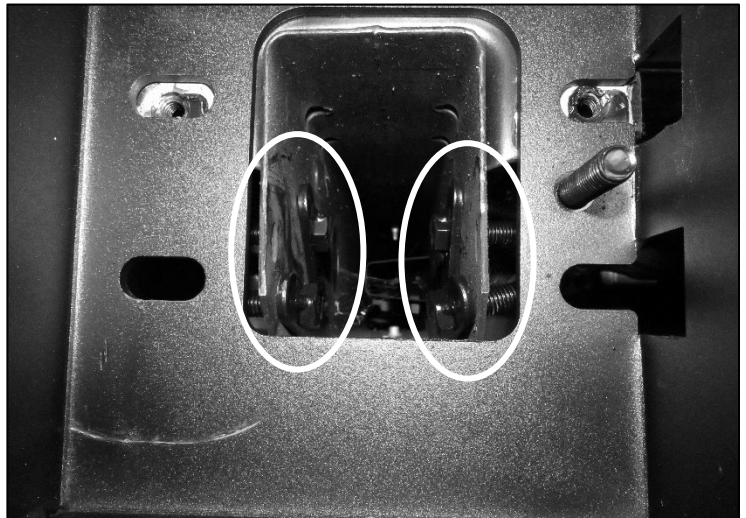
(Fig 31) Passenger Side, top mounting point of Front Bumper attached.



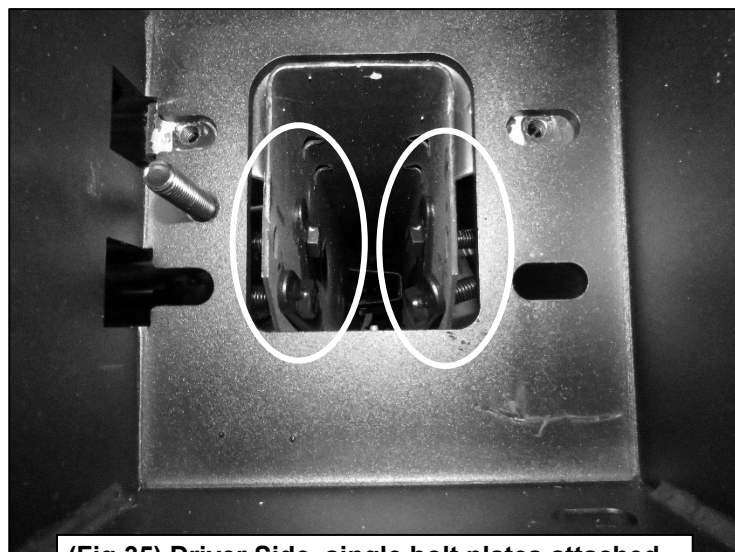
(Fig 32) Driver Side, attach top mounting point of Front Bumper with indicated hardware.



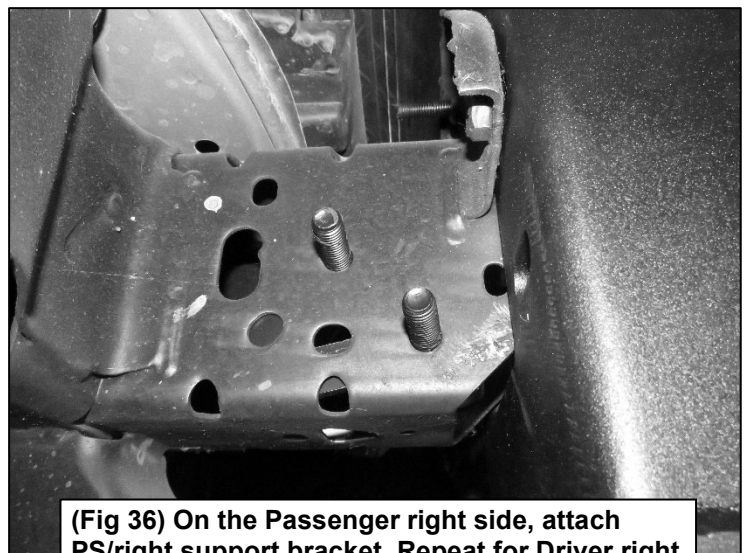
(Fig 33) Driver Side, top mounting point of Front Bumper attached.



(Fig 34) Passenger Side, single bolt plates attached.

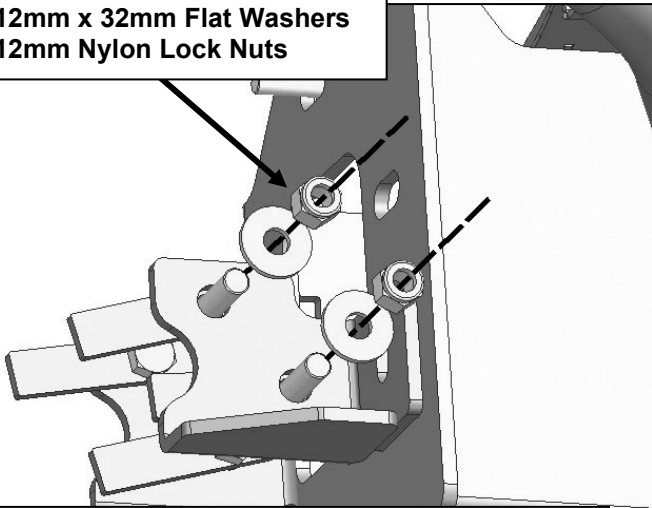


(Fig 35) Driver Side, single bolt plates attached.

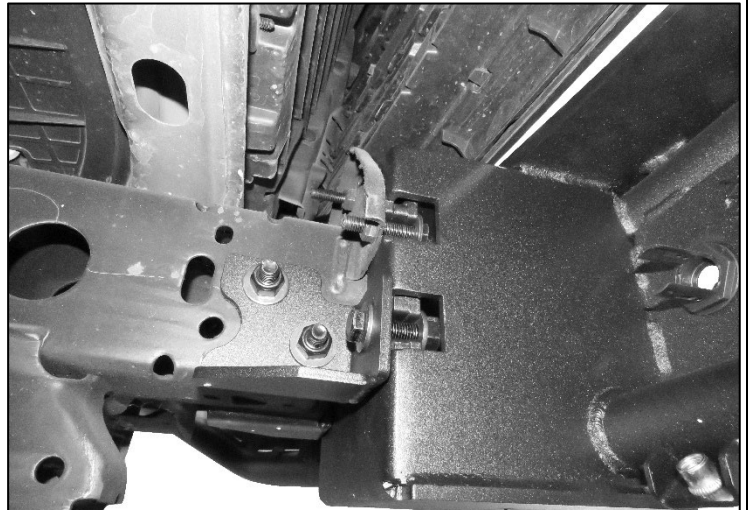


(Fig 36) On the Passenger right side, attach PS/right support bracket. Repeat for Driver right side.

- (2) 12mm x 32mm Flat Washers
- (2) 12mm Nylon Lock Nuts

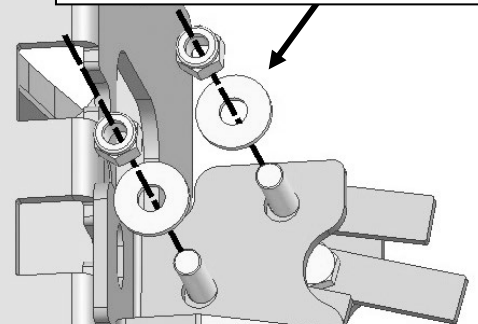


(Fig 37) Attach PS/right support bracket with indicated hardware.

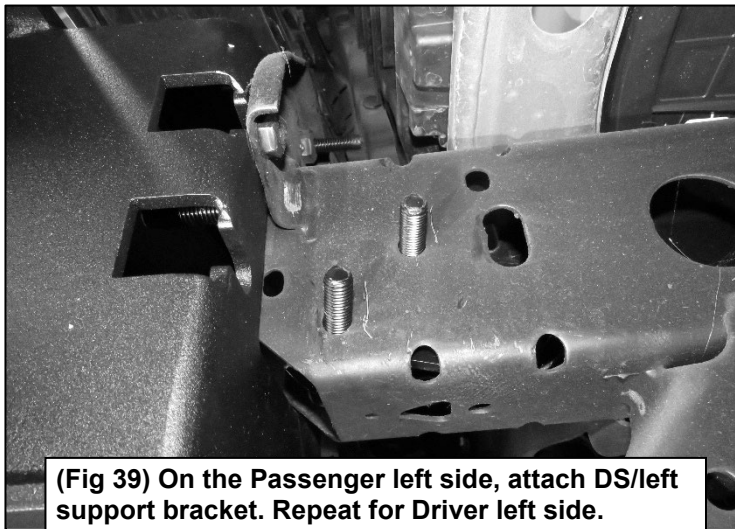


(Fig 38) Attached PS/right support bracket.

- (2) 12mm x 32mm Flat Washers
- (2) 12mm Nylon Lock Nuts

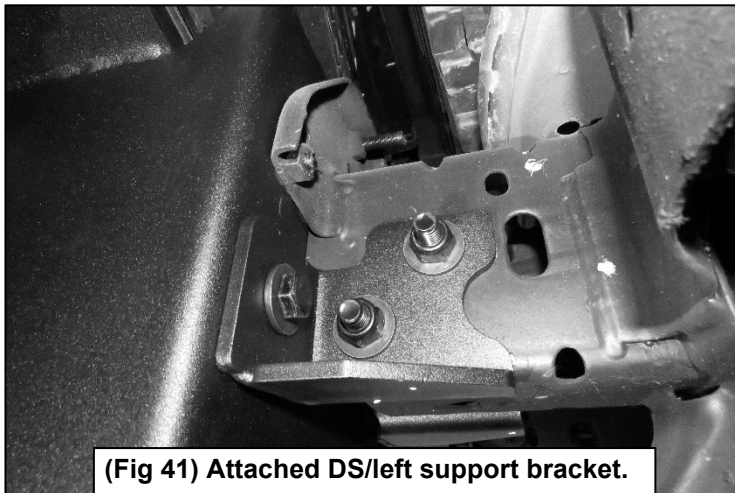


(Fig 40) Attach DS/left support bracket with indicated hardware.



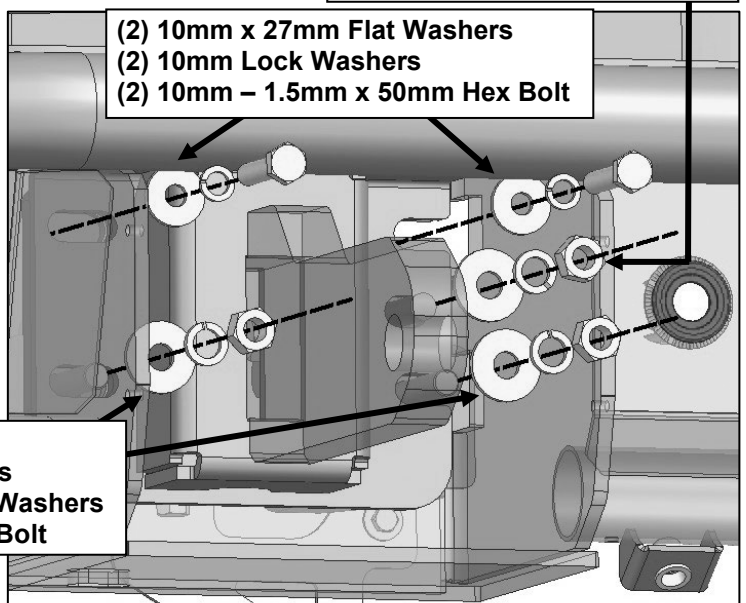
(Fig 39) On the Passenger left side, attach DS/left support bracket. Repeat for Driver left side.

- (1) 12mm Hex Nut
- (1) 12mm Lock Washers
- (1) 12mm x 32mm Flat Washer



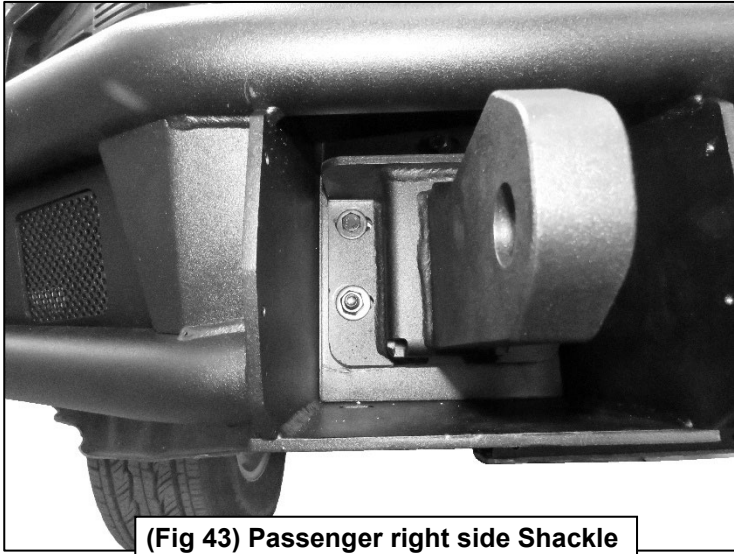
(Fig 41) Attached DS/left support bracket.

- (2) 10mm x 27mm Flat Washers
- (2) 10mm Lock Washers
- (2) 10mm - 1.5mm x 50mm Hex Bolt



(Fig 42) Passenger side Shackle Mount attach with indicated hardware.

- (2) 12mm Hex Nuts
- (2) 12mm Lock Washers
- (4) 12mm x 32mm Flat Washers
- (2) 12mm x 60mm Hex Bolt

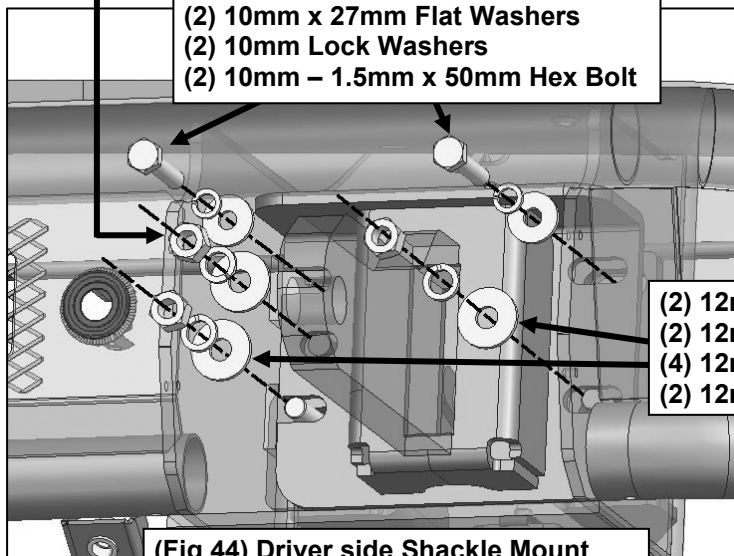


(Fig 43) Passenger right side Shackle Mount Attached.



(Fig 43A) Passenger left side Shackle Mount Attached.

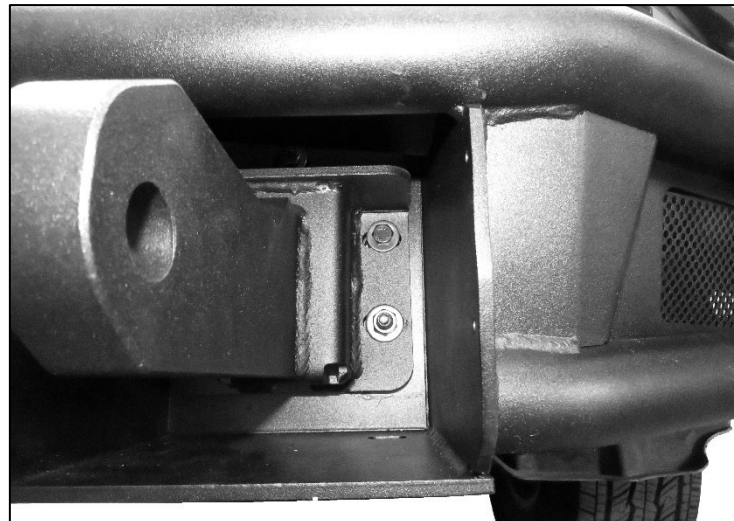
- (1) 12mm Hex Nut
- (1) 12mm Lock Washers
- (1) 12mm x 32mm Flat Washer



- (2) 10mm x 27mm Flat Washers
- (2) 10mm Lock Washers
- (2) 10mm – 1.5mm x 50mm Hex Bolt

- (2) 12mm Hex Nuts
- (2) 12mm Lock Washers
- (4) 12mm x 32mm Flat Washers
- (2) 12mm x 60mm Hex Bolt

(Fig 44) Driver side Shackle Mount attach with indicated hardware.

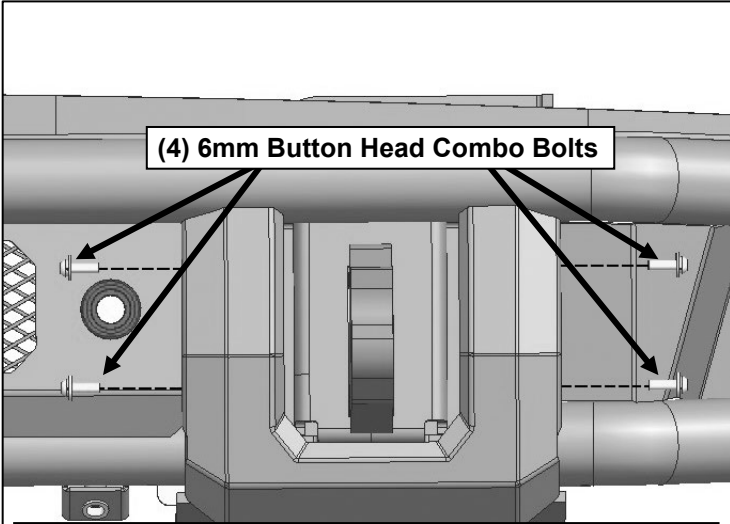


(Fig 45A) Driver right side Shackle Mount Attached.

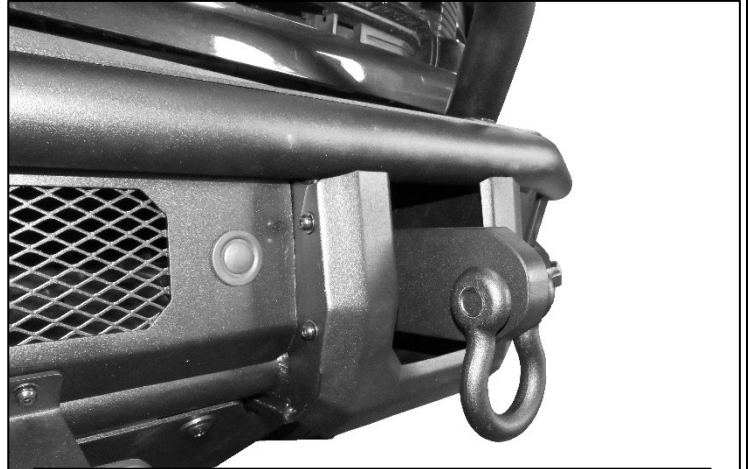


(Fig 45) Driver left side Shackle Mount Attached.

3 Follow (Fig 46 - 50) to attach Bumper Cover Plates and License Plate Bracket to Bumper. Ensure Bumper is level, then tighten all hardware.



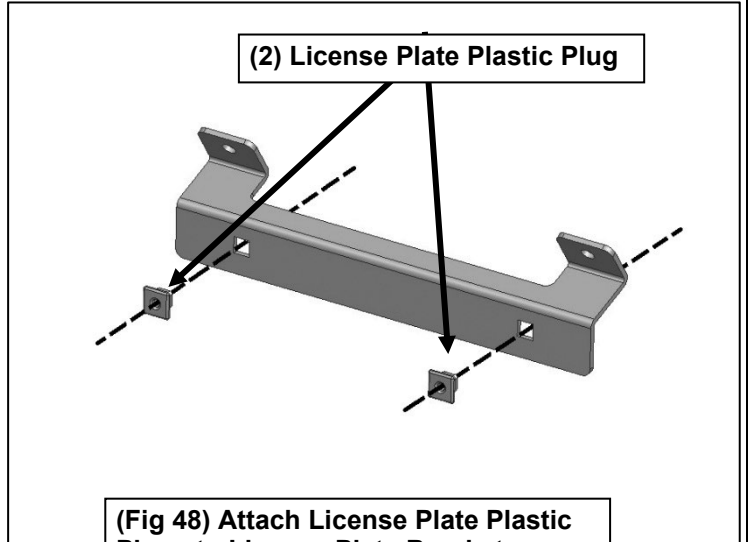
(Fig 46) Attach U-Cover Plate to Driver side with indicated hardware. Repeat for Passenger Side.



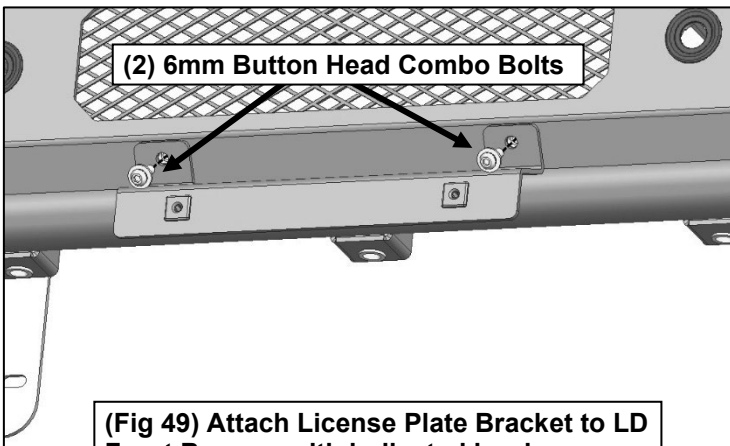
(Fig 47) Attached left side of U-Cover Plate on Driver side and repeat on other side.
NOTE: Tow Hook not included



(Fig 47A) Attached right side of U-Cover Plate on Driver side and repeat on other side.
NOTE: Tow Hook not included



(Fig 48) Attach License Plate Plastic Plugs to License Plate Bracket.



(Fig 49) Attach License Plate Bracket to LD Front Bumper with indicated hardware.



(Fig 50) Attached License Plate Bracket to LD Front Bumper.

- 4** Ensure Bumper is level, and all fasteners are tightened at this point, then ensure all connections are secure. Installation is complete. Do periodic inspections to the installation to make sure that all hardware is secure and tight.



Complete Installation (Bull Nose, Lightbar, Skid Plate, and Tow Hooks not included)