



# TYGER®

## STAR ARMOR®

TG-AM2C20028

### BEFORE INSTALLATION

READ INSTRUCTIONS CAREFULLY BEFORE STARTING INSTALLATION. REMOVE CONTENTS FROM BOX AND VERIFY ALL PARTS ARE PRESENT. FAILURE TO IDENTIFY DAMAGE BEFORE INSTALLATION COULD LEAD TO A REJECTION OF ANY CLAIM. IF MISSING PARTS OR ANY DAMAGE FOUND, PLEASE TAKE A PICTURE FOR THE CLAIM PURPOSE. TO FILE YOUR CLAIM, PLEASE VISIT: [WWW.TYGERAUTO.COM/CONTACT](http://WWW.TYGERAUTO.COM/CONTACT)

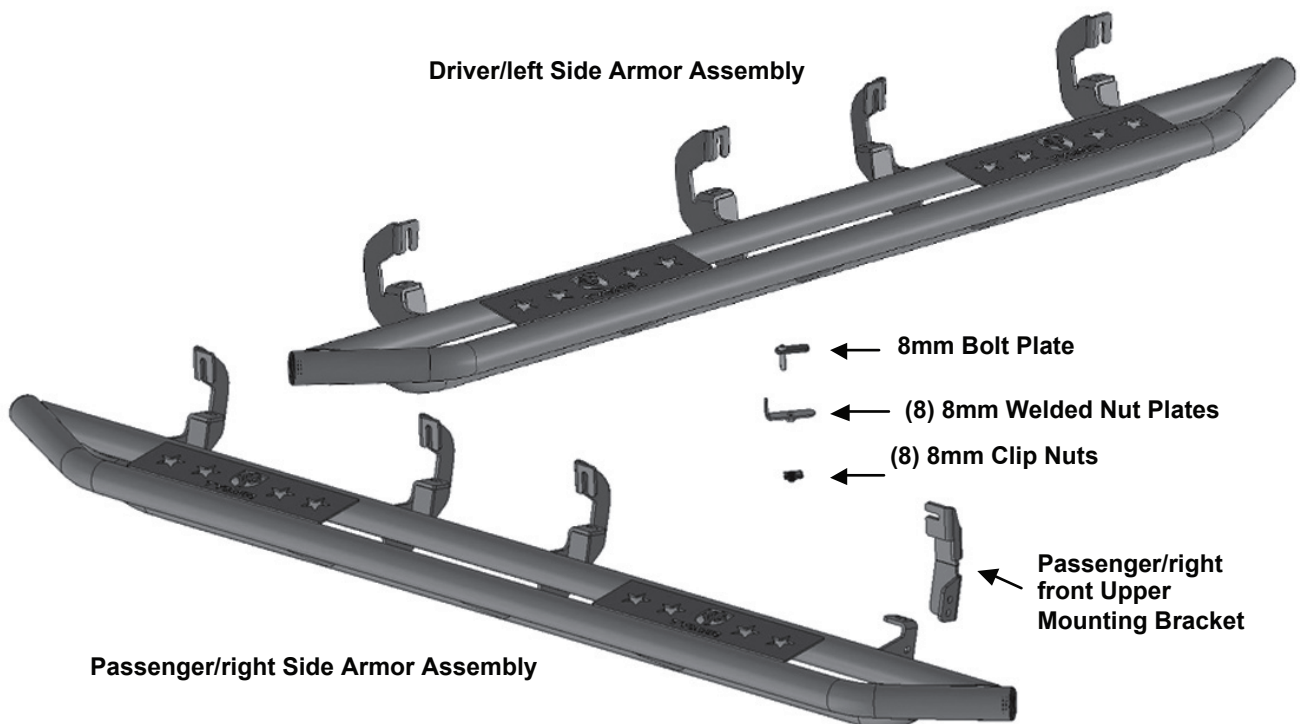
### Torque Value

Fastener Size	Class 8.8 Tightening Torque (ft-lbs)	Class 10.9 Tightening Torque (ft-lbs)
6mm	6-7	6-7
8mm	15-16	22-23
10mm	31-32	44-45
12mm	54-55	78-79
14mm	87-88	125-126

### Parts List

- x1 Driver/Left Side Armor
- x1 Passenger/Right Side Armor
- x1 Passenger/Right Front Upper Bracket (DEF)
- x8 8-1.25mm Clip-On Nuts
- x8 8mm Nut Plate
- x1 8mm x 35mm Bolt Plate
- x16 8-1.25mm x 25mm Hex Bolts, Black Zinc
- x16 8mm x 24mm x 2mm STD Flat Washers, Black Zinc
- x16 8mm Lock Washers, Black Zinc
- x2 8-1.25mm x 35mm Hex Bolts
- x4 8mm x 16mm x 1.6mm Washers
- x3 8mm Nylon Lock Nuts

Driver/left Side Armor Assembly



Passenger/right Side Armor Assembly



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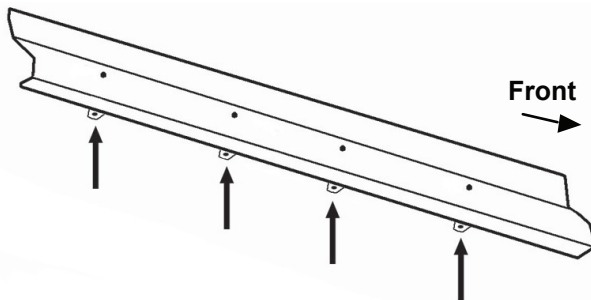
## NOTE:

On models with def tank, select a flat, level area for installation. Cutting may be required. Assistance is highly recommended.

## STEP 1

Start the installation under the driver side of the vehicle. Locate the 4 tabs along the bottom edge of the body, (pinch weld-Fig 1). Directly above each tab is a top mounting location on the side of the body panel. If necessary, line up the driver/left Side Armor with the mounting holes in the body panel to help determine correct locations.

**NOTE:** Models with large and small hole in side of body panel, remove the rubber plugs from the larger hole at this time, (Fig 4).



(Fig 1) Driver side (4) mounting locations

## STEP 2

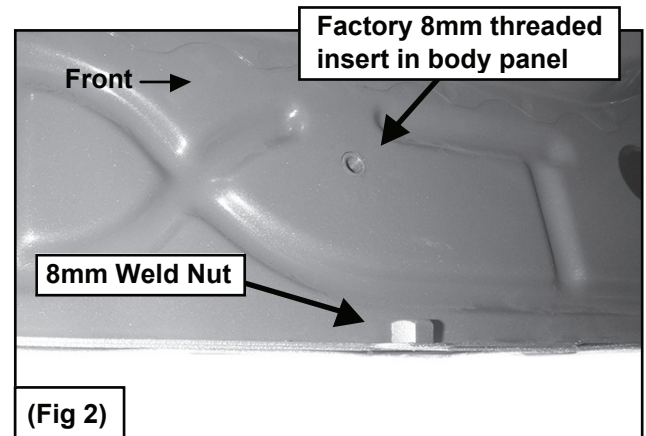
Locate bottom mounting locations along edge of pinch weld, (Fig 1). Determine the correct procedure for your model year and each Bracket location.

### Flat tab on pinch weld with factory installed weld nut:

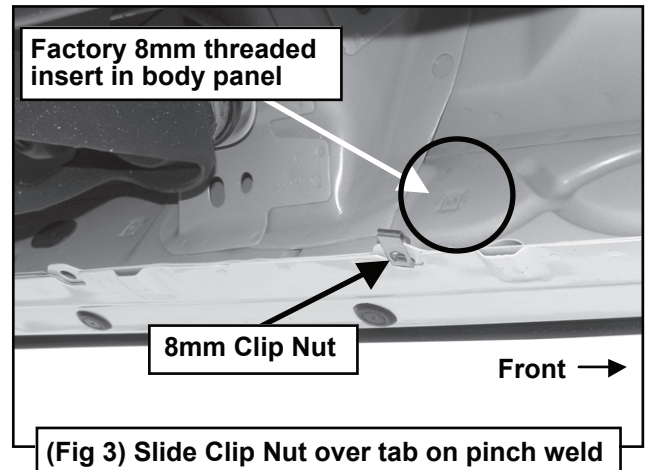
Thread hex bolt into weld nut from the backside-down to clear paint from threads, (Fig 2).

### Flat tab on pinch weld with hole:

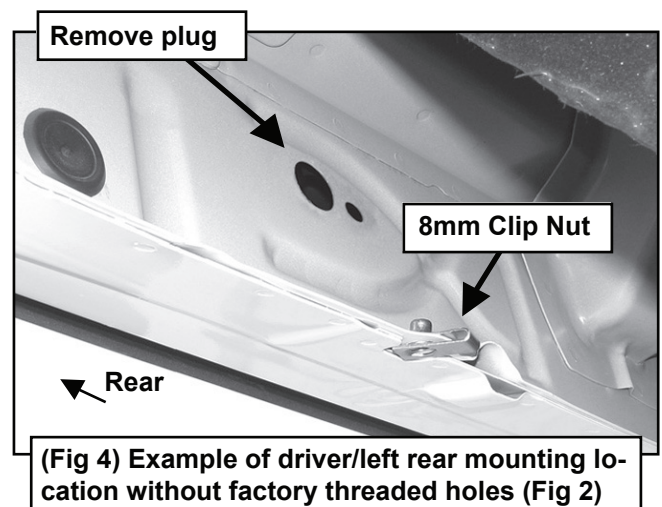
Select (1) 8mm Clip Nut. Slide the Clip Nut over the tab with the nut facing up behind the tab, (Figs 3 & 4). Line up threaded nut with hole in the tab. Repeat for each mounting location.



(Fig 2)



(Fig 3) Slide Clip Nut over tab on pinch weld



(Fig 4) Example of driver/left rear mounting location without factory threaded holes (Fig 2)



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## STEP 3

Hold driver/left Side Armor up to bottom of pinch weld. Attach Side Armor to pinch weld with the included (4) 8mm Hex Bolts, (4) 8mm Lock Washers and (4) 8mm STD Flat Washers, (Figs 5-7). Leave hardware loose at this time. Place stands or blocks under Side Armor for additional support if necessary.

## STEP 4

Next, locate the (4) top mounting locations on the back side of the body panel, (Figs 2-4). Determine the correct procedure for your model year and each Bracket location.

### Models with factory installed threaded insert in body panel:

Thread 8mm Hex Bolt into threaded insert to clear paint as required, (Figs 2-3). Attach each Mounting Bracket on Side Armor to threaded insert with (1) 8mmx 25mm Hex Bolt, (1) 8mm Lock Washer and (1) 8mm STD Flat Washer, (Fig 5). Repeat for each Mounting Bracket with threaded insert in body panel. Do not fully tighten at this time

### Models with large & small hole in side of body panel:

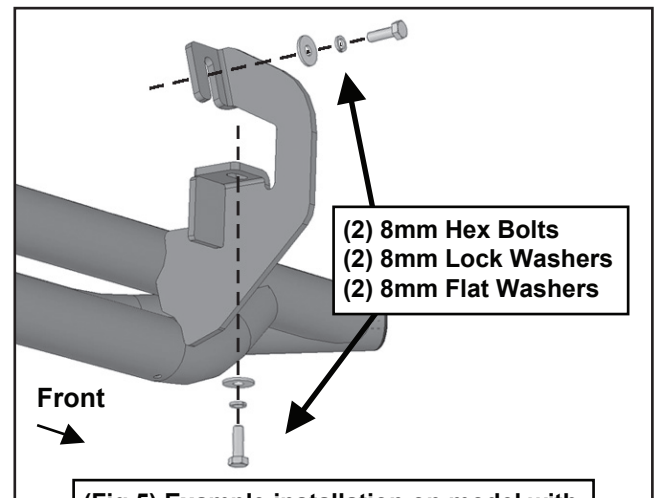
Select (1) 8mm Welded Nut Plate. Slide the Nut Plate into the larger hole. Line up the threaded nut with the smaller hole, (Figs 4, 6, 7, 12-14).

**NOTE:** It may be necessary to rock the Side Armor back away from the body panel to insert the Nut Plates. Attach each Mounting Bracket on Side Armor to Nut Plate with (1) 8mm Hex Bolt, (1) 8mm Lock Washer and (1) 8mm STD Flat Washer but leave hardware loose. Repeat for each Mounting Bracket with large and small hole in body panel requiring 8mm Nut Plate, (Figs 4, 6-7) Do not fully tighten at this time

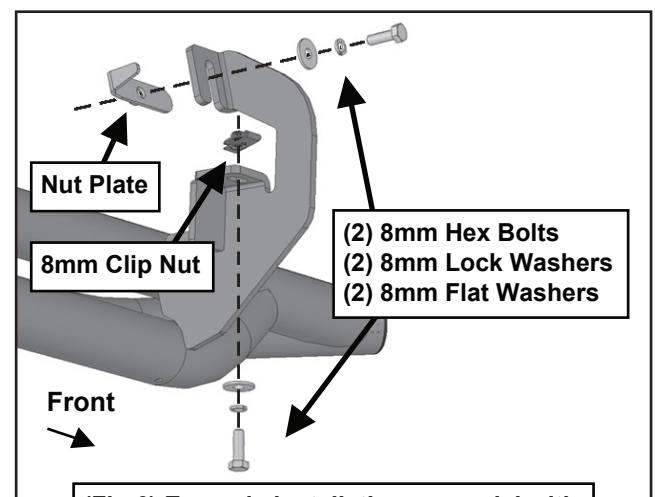
## STEP 5

Level and adjust the Side Armor and fully tighten all hardware.

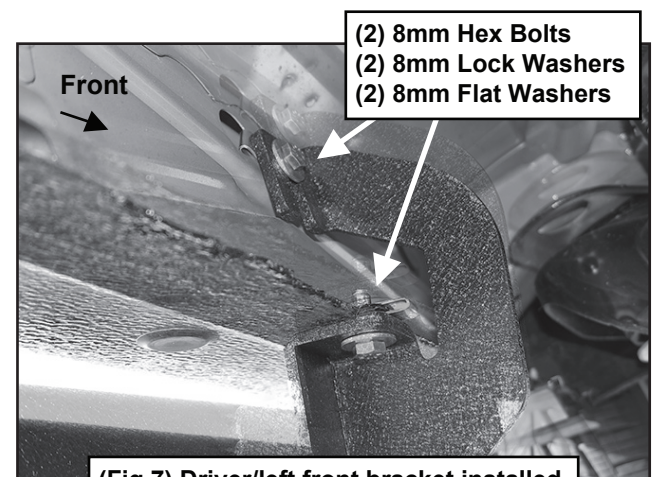
**IMPORTANT:** First tighten the lower 8mm Hex Bolts attaching the Mounting Brackets to the bottom of the pinch weld, then upper hardware.



(Fig 5) Example installation on model with factory threaded mounting holes in either top or bottom location (Fig 2)



(Fig 6) Example installation on model with flat tab on pinch weld and large and small holes in body panel (see Fig 4)



(Fig 7) Driver/left front bracket installed





## STEP 6

Move to the passenger side of the vehicle. On the passenger side, determine if the vehicle is equipped with a plastic diesel exhaust fluid (DEF) tank, (Figs 8-10).

*Models without DEF tank skip to Step 7.*

**Models with DEF tank, first determine correct procedure for your model year:**

### • 2007-2016 Models with DEF tank:

The tank sits close to the side of the body. With specialized tools, the passenger front upper Bracket can be installed but room is limited. It may be easier to drop the tank down to access the inner side of the body panel for upper bracket installation. Tank will not need to be removed, only dropped down for access to mounting location.

**IMPORTANT:** If tank is full, it will be very heavy, and assistance is highly recommended to avoid injury or damage to the vehicle or the tank. It is recommended that installation is performed when the DEF tank is low on fluid before dropping the tank.

**a.** On models with plastic lower tray under the tank, remove the (3) hex bolts attaching the tray to the frame, (Fig 8), and remove the tray.

**b.** Release the tank filler hose. Release the plug for the sending unit on the top of the tank.

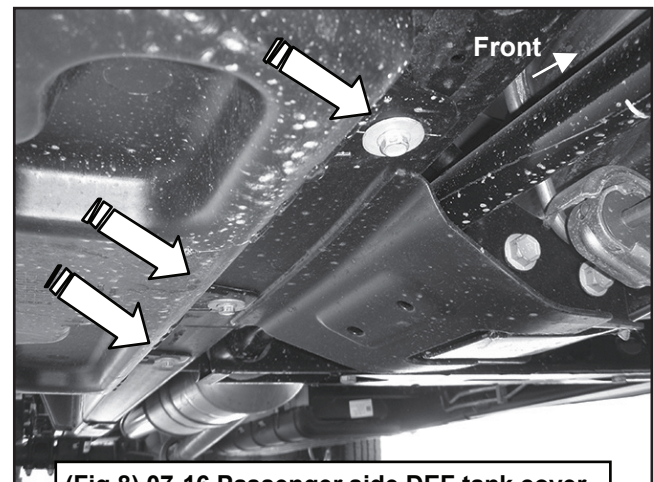
**c.** Support the tank with a floor jack. Place a smooth flat surface, (wooden block for example), between the floor jack and the tank to avoid damaging the plastic tank. Do not push up on the tank; only support the weight of the tank with the jack.

**d.** Remove the (2) bolts securing the tank straps to the vehicle, (Fig 9). Tilt the straps to release from the brackets. Slowly lower the tank until the top of the tank is almost visible. Use blocks or stands to support the tank while installing the front Upper and Lower Brackets.

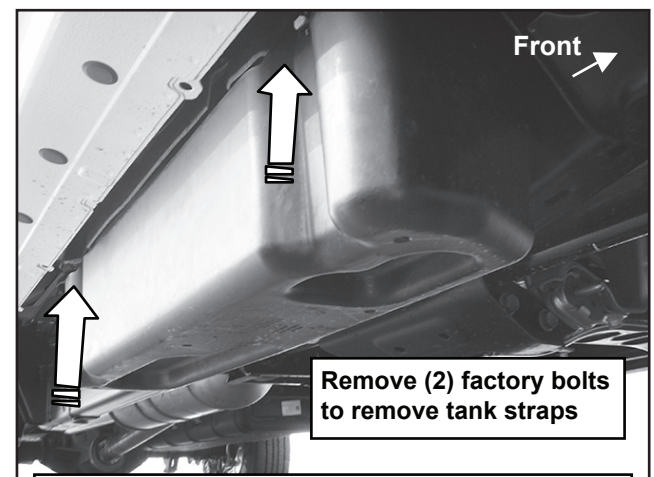
**e.** Proceed to Step 7.

### • 2017-on 2500/3500 models:

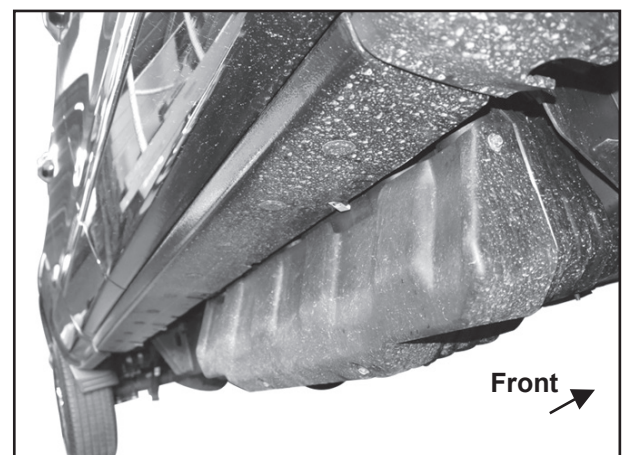
Do not remove the tank. Remove the (4) hex bolts attaching the plastic cover to DEF tank, (Fig 10) and remove only the plastic cover, (Fig 18).



(Fig 8) 07-16 Passenger side DEF tank cover. Remove (3) hex bolts to remove cover



(Fig 9) Passenger side 07-16 DEF tank and cover



(Fig 10) 2017-on plastic DEF tank cover. Remove (4) hex bolts to remove plastic cover



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## STEP 7

Locate the first tab on the edge of the pinch weld, (Figs 2-4 & 12). Select the Upper Bracket, (Fig 11).

### On models with threaded insert in body panel:

Insert 8mm Hex Bolt with Lock Washer and Flat Washer and 8mm STD Flat Washer into the threaded hole, (Figures 2, 3 & 11). Slide Upper Bracket under the Flat Washer and tighten Hex Bolt.

### On DEF equipped diesel 2500-3500 models with large and small hole in body panel:

Slide (1) 8mm Clip Nut into the large hole and line up the threaded nut over the small hole, (Fig 13). Insert 8mm Hex Bolt with Lock Washer and 8mm STD Flat Washer into the threaded hole. Slide Upper Bracket under the Flat Washer and tighten Hex Bolt.

### On gasoline powered models with large and small hole in body panel:

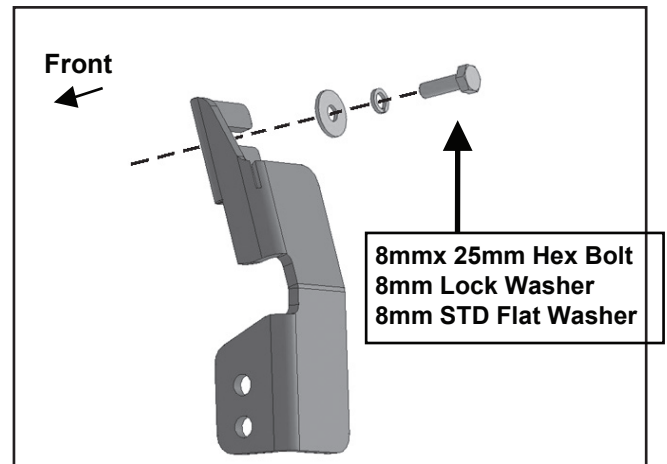
Insert (1) 8mm Nut Plate into the large hole and line up with small hole, (Figs 4, 12-13). Insert 8mm Hex Bolt with 8mm Lock Washer and 8mm STD Flat Washer into the Nut Plate but leave loose. Slide Upper Bracket under the Flat Washer and tighten Hex Bolt.

## STEP 8

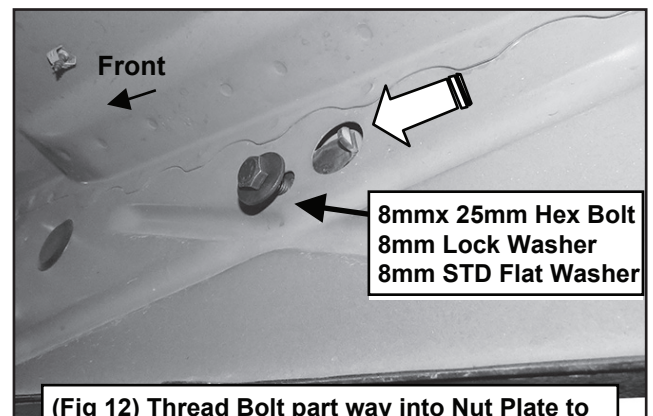
Repeat Steps 1-2 to prepare the (2) center and (1) rear mounting locations along the pinch weld before Side Armor installation, (Figs 2-6).

## STEP 9

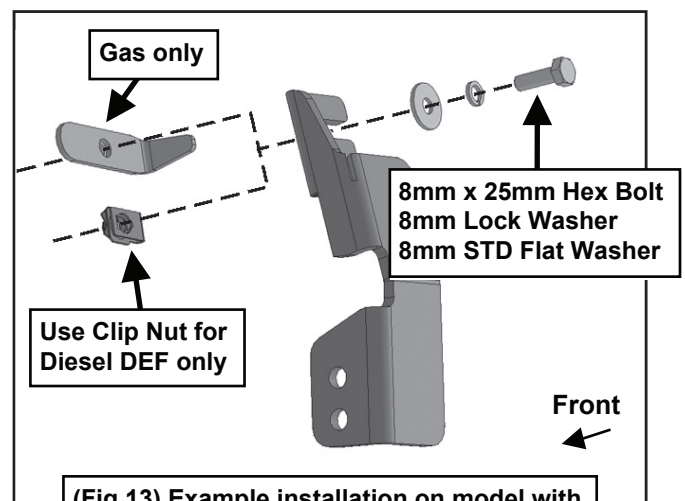
With assistance, hold the Side Armor up in position against the bottom of the pinch weld. Repeat Step 3 to attach the Side Armor to the (2) passenger side center locations and the rear mounting location only, (Figs 5-7 & 13). Do not tighten hardware.



(Fig 11) Example passenger/right front upper Bracket installation on all models (gas or diesel) with factory threaded mounting hole (Fig 2)



(Fig 12) Thread Bolt part way into Nut Plate to hold Nut Plate in position. Example of passenger/front location with large and small holes in body panel (Fig 4)



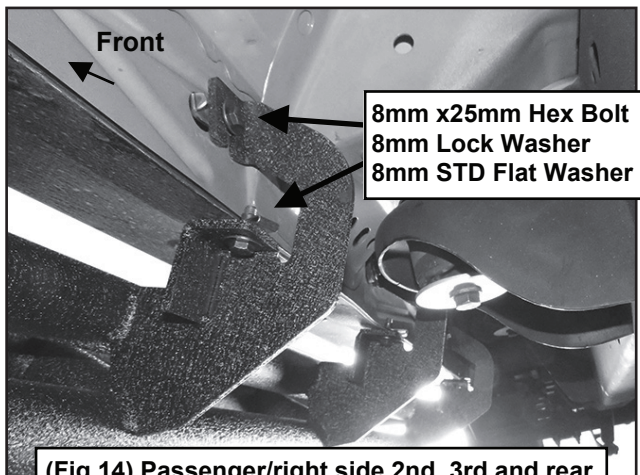
(Fig 13) Example installation on model with large and small holes in body panel (Fig 4)



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## STEP IO

Repeat Step 4 to attach the top mounting tab on the Side Armor to the (2) passenger side center locations and the rear mounting location, (Figs 2-7 & 14).



(Fig 14) Passenger/right side 2nd, 3rd and rear Mounting Brackets attached to inner body

## STEP II

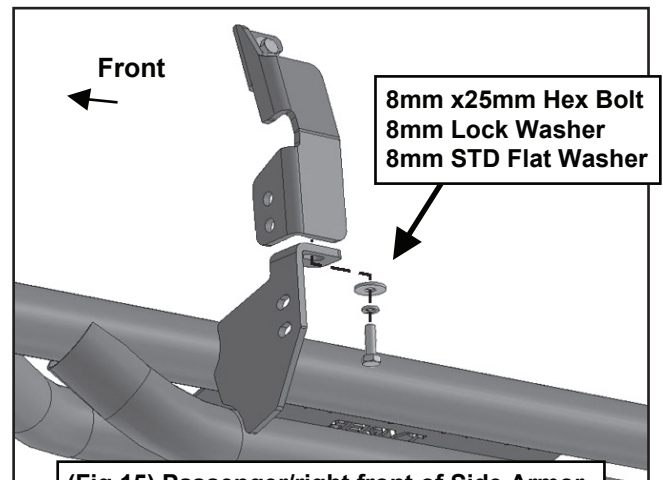
Select the appropriate procedure to attach the front mounting tab on the Side Armor.

### Models with weld-nut:

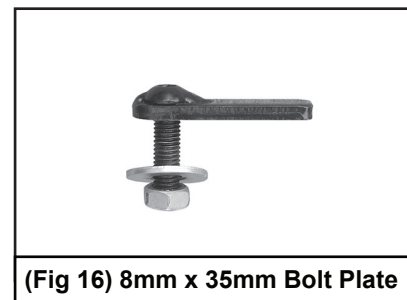
Attach the lower front bracket on the Side Armor to the weld nut with (1) 8mm Hex Bolt, (1) 8mm Lock Washer and (1) 8mm STD Flat Washer, (Fig 15).

### Models with flat tab and hole:

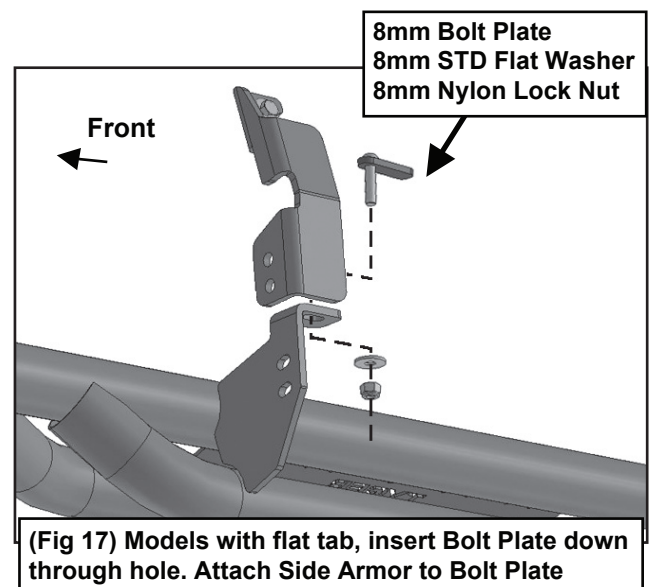
Insert (1) 8mm Bolt Plate down through the hole in the tab. Attach the Side Armor to the Bolt Plate with (1) 8mm STD Flat Washer and (1) 8mm Nylon Lock Nut, (Figs 16-17).



(Fig 15) Passenger/right front of Side Armor attached to factory nut on pinch weld (Fig 2)



(Fig 16) 8mm x 35mm Bolt Plate



(Fig 17) Models with flat tab, insert Bolt Plate down through hole. Attach Side Armor to Bolt Plate



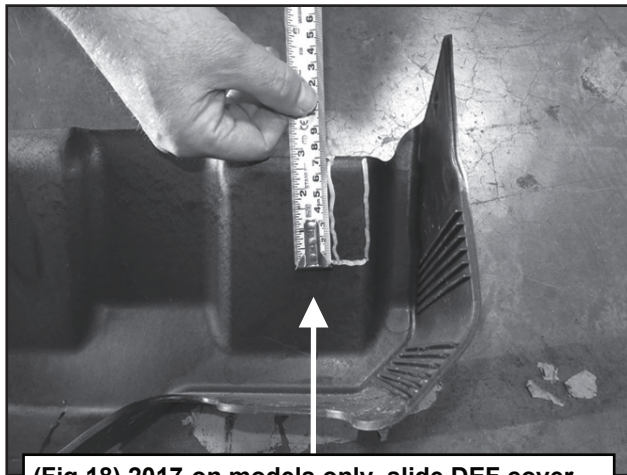


## STEP 12

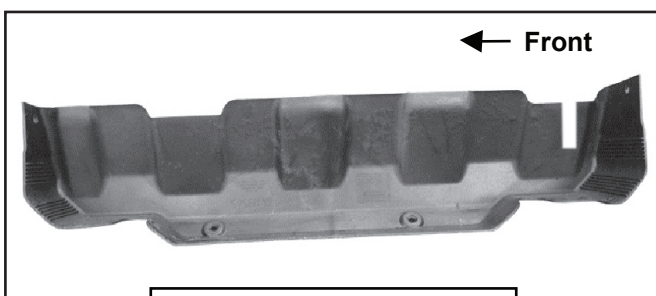
### 2017-on 2500/3500 DEF tank models only:

Hold the DEF cover in place and mark the 2nd Bracket location onto the cover. Use a sharp knife or hacksaw blade to carefully cut a slot in the plastic cover to clear the 2nd Bracket, (Figs 18-19). Remove as little plastic as possible

Mark pictured is approximately 70mm x 10mm



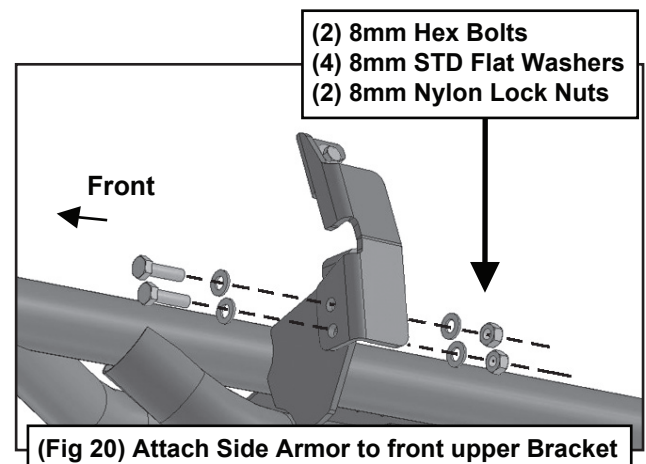
(Fig 18) 2017-on models only, slide DEF cover up in position. Mark location of #2 Bracket onto cover. Cut slot out of cover to clear Bracket



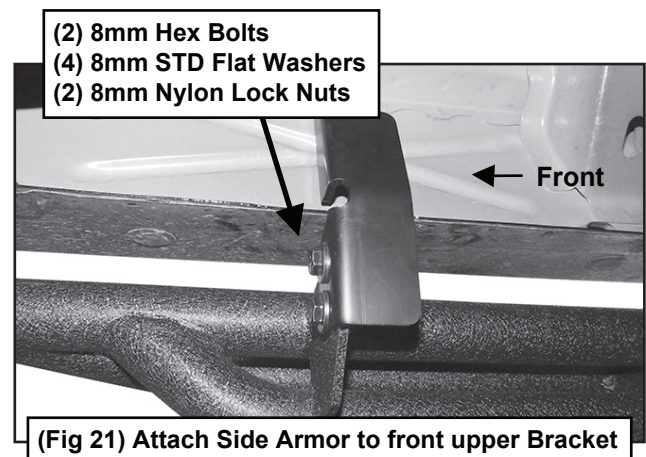
(Fig 19) 2017 Passenger side DEF cut for example only

## STEP 13

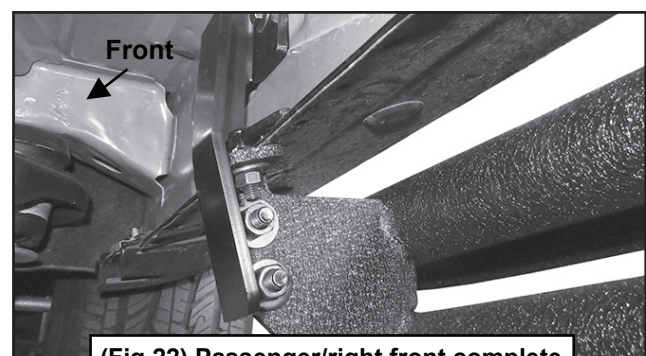
Attach the Side Armor to the passenger/right Front Upper Mounting Bracket with (2) 8mm Hex Bolts, (4) 8mm x 16mm Small Flat Washers and (2) 8mm Nylon Lock Nuts, (Figs 20-22). Do not fully tighten hardware at this time.



(Fig 20) Attach Side Armor to front upper Bracket



(Fig 21) Attach Side Armor to front upper Bracket



(Fig 22) Passenger/right front complete installation (model w/o DEF)



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## STEP 14

Level and adjust the Side Armor and fully tighten all hardware.

**IMPORTANT:** Tighten the lower 8mm hardware attaching the Mounting Brackets to the bottom of the pinch weld first, then tighten the remaining upper hardware.

## STEP 15

Once fully installed and all hardware fully tightened, reinstall the DEF tank (2007-2016 models only) and cover (all model years) if equipped, as described in Step 6.

## STEP 16

Do periodic inspections to the installation to make sure that all hardware is secure and tight.

