



# AVAIL<sup>®</sup>

BALLISTIC DOOR PANELS

LEVEL III + M855/M193/MSK



## INSTALLATION GUIDE

for front driver and  
passenger-side doors

As shown on

**FORD® F-150 POLICE RESPONDER**

(2017 - 2020 Models)



Also compatible with

**Ford F-150 SuperCab**

(2017 - 2020 Models)

**Ford F-150 SuperCrew**

(2017 - 2020 Models)

**Ford F-150 Super Duty SuperCab**

(2017 & Newer Models)

**Ford F-150 Super Duty SuperCrew**

(2017 & Newer Models)



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## INTRODUCTION

Congratulations on your purchase of the Angel Armor® Avail Ballistic Door Panel (Level III+) for Ford F-150 Police Responder (2017 - 2020)! It's our honor to provide advanced protection to those who put their lives on the line in the name of law and order.

**Your vehicle will soon be upfitted with the finest ballistic technology available. With optimized coverage area, a seamless design and powerful protection from NIJ Level III rifle threats, Avail elevates vehicle protection to a higher level.**



▲ Figure 1. Angel Armor Avail Ballistic Door Panel (Level III+) for Ford F-150 Police Responder 2017 - 2020)

## Product Description

The Avail Level III+ armor panel is made of a premium steel plate packed with superior protective capabilities. This high-strength solution features discreet, seamless coverage in a single-piece design and a weatherproof

coating to help resist environmental wear and corrosion. The alloy steel crash bar brackets and door mounting bracket secure the armor in place to help prevent rattling and shifting within the door and a nylon check strap is included to preserve door functionality and hinder over-extension.

When fully installed, the complete Avail Level III+ ballistic armor package gives officers the ability to use their door as a tactical shield against rifle-round threats without compromising the integrity/functionality of the vehicle door.

Avail exceeds NIJ Level III Standard 0108.01 protocol for multi-round protection and offers a five-year express limited warranty.

## Installation Overview

The ballistic door panel installation shown in this guide was performed on the front passenger-side door of the Ford F-150 Police Responder (2017 - 2020). The installation process is the same for front driver-side doors of the Ford F-150 Police Responder (2017 - 2020).

Avail Level III+ armor features a simple installation starting with applying the door hinge check strap. Door disassembly is required to install the crash bar brackets and door mounting bracket. Once this is completed, the armor is secured in place and the vehicle door panel is reassembled. Installation takes approximately 2 - 3 hours per vehicle door.



**Watch an installation in action  
at [angelarmor.com](https://angelarmor.com).**









## Warnings and Cautions

Please adhere to the following guidelines to prevent personal injury, equipment damage and unnecessary difficulty during installation.



**DISCONNECT THE VEHICLE BATTERY AFTER THE WINDOW IS ADJUSTED FOR REMOVAL/ INSTALLATION TO AVOID ACCIDENTAL AIRBAG DEPLOYMENT. ACCIDENTAL DEPLOYMENT OF THE AIRBAG MAY CAUSE SERIOUS PERSONAL INJURY.**

-  Read this guide in its entirety before beginning installation.
-  Wear appropriate protective gear, including eye, hand and foot protection.
-  Use extreme caution when transporting the ballistic door panel. The armor panel is very heavy and impact may result in serious injury.
-  To avoid muscle strain or back injury, use lifting aids and proper lifting techniques when transporting the ballistic door panel.
-  Avoid excessive force when inserting the armor into the car door. Excessive force may damage the weatherstripping or scratch finished surfaces.
-  Avoid puncturing speakers with screws, push-snaps, fasteners or other sharp pieces during door disassembly, panel insertion and door re-assembly.



Do not drop screws or other assembly components inside the door, as they may be difficult to retrieve. If possible, use magnetic tools during installation.



Use only plastic trim removal/prying tools on finished surfaces to help prevent scratching.



Discard and replace any door components that are inadvertently damaged during the installation process. Proper installation according to the instructions in this guide should not cause damage to any vehicle or window armor parts or components.



Use caution when removing parts that may have sharp edges, such as the outer window weatherstrip.

## Legal Statements

See Warranty and Terms and Conditions for important legal information on [angelarmor.com](http://angelarmor.com). These instructions are provided for your convenience only, and Angel Armor expressly disclaims any liability for any damage to personal property or personal injury that occurs as a result of either installation or removal of panels.



## PARTS & TOOLS LIST

This section lists the parts included in the installation kit and the tools recommended for installation. Installation kit contents are for one door panel.

### Installation Kit Contents

- One Avail Ballistic Door Panel (Level III+) for Ford F-150 Police Responder (2017 - 2020).



▲ Figure 2. Avail Ballistic Door Panel for Ford F-150 Police Responder (driver side part shown)

- One Avail Crash Bar Bracket



▲ Figure 3. Render Crash Bar Bracket

- One Avail Upper Mounting Bracket



▲ Figure 4. Render of Upper Door Mounting Bracket

- One Avail Lower Mounting Bracket



▲ Figure 5. Render of Lower Door Mounting Bracket (driver side part shown)

- One Avail Check Strap



▲ Figure 6. Render of Check Strap (driver side part shown)

- Two Avail Nylon Installation Straps



▲ Figure 7. Installation Straps

- 3 Crash Bar Bracket Mounting Bolts and 3 Washers (M8 X 25)



▲ Figure 8. Crash Bar Bracket Mounting Bolts and Washers

- 3 Upper Mounting Bracket Bolts and 3 Washers (M8 X 20)



▲ Figure 9. Upper Mounting Bracket Bolts and Washers

- 4 Upper Mounting Bracket Sheet Metal Screws



▲ Figure 10. Upper Mounting Bracket Sheet Metal Screws

- 2 Lower Mounting Bracket Bolts and 2 Washers (M6 X 20)



▲ Figure 11. Lower Mounting Bracket Bolts and Washers

- 2 Check Strap Mounting Bolts, 2 Nuts, 2 M6 x 20 Bolts and 4 washers



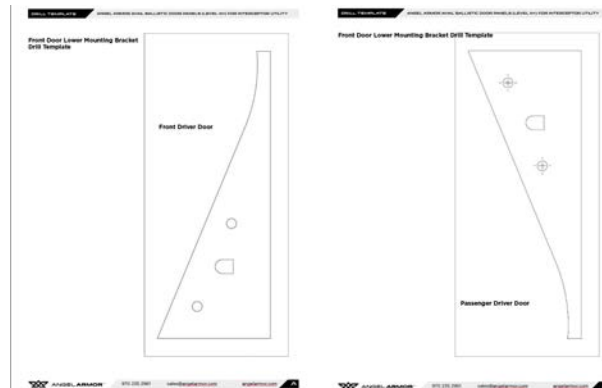
▲ Figure 12. Check Strap Mounting Bolts, Washers and Nuts

- Panel Bond Container (1 Nozzle Included)



▲ Figure 13. Panel Bond Container and Nozzle

- Drill Template Appendix A



▲ Figure 14. Drill Template Appendix A (appended to the end of this guide)

- One Isopropyl Alcohol Wipe



▲ Figure 15. Isopropyl Alcohol Wipe

- One Brand Label



▲ Figure 16. Angel Armor Brand Label



## Personal Protective Equipment

- Protective Gloves
- Protective Eye wear
- Steel-Toe Boots

## Required Tools

- Plastic Door Pry Tools
- Impact Driver
- Electric Drill Screwdriver
- Needle Nose Pliers
- Socket Wrench
- 3/8" Universal Socket Joint
- 1/4" Universal Socket Joint
- 6" Socket Extension – 3/8" and 1/4"
- 7, 8, 10 and 13mm Sockets, and 1/2" Sockets and/or Ratchet Wrenches
- T25 Torx Driver, T20 Torx Driver and T40 Torx Driver
- 7mm Drill Bit
- Torque Wrench
- Marker
- Magnetic Parts Tray
- Panel Bond Gun (3M EPX 11 Epox Applicator H-7878 or equivalent)

## Recommended Tools

- De-burring Tool
- Touch-up Paint
- Magnetic Retrieval Tool
- Headlamp or Flashlight



▲ Figure 17. Panel Bond Gun





## INSTALLATION

This section provides instructions for installing Angel Armor Avail Ballistic Door Panels (Level III+) into the Ford F-150 Police Responder (2017 – 2020 Models.)

### Overview

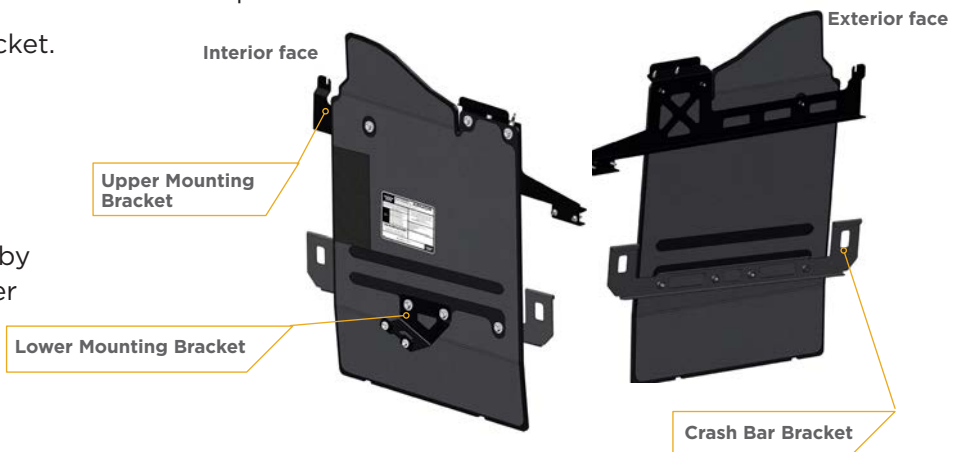
Installation of the Angel Armor Avail Ballistic Door Panel (Level III+) into a Ford F-150 Police Responder is simple. Door disassembly is required to install the check strap crash bar brackets and armor mounting brackets. Once this is completed, the armor is secured in place and the vehicle door panel is quickly reassembled. See page 9 for detailed instructions.

### General Installation Procedure

- 1** Remove vehicle door panel, weather strip, window and window regulator.
- 2** Install the Check Strap.
- 3** Install the Upper Mounting Bracket.
- 4** Install Crash Bar Bracket.
- 5** Insert the Avail ballistic panel.
- 6** Secure the Avail ballistic panel by installing Door Upper and Lower Mounting Brackets
- 7** Re-assemble the door.

### Important Notes

- The directions, photographs and illustrations in this guide depict an installation performed on the driver side. The same installation procedure applies to the passenger door.
- Note the location of screws, fasteners, wires and door components before disassembling to aid proper re-assembly after panel installation.
- Place all removed hardware and components in a safe place or magnetic tray during installation.
- The Avail Level III+ armor panel is made of a premium steel plate. This protective material is heavy and extra caution should be taken when transporting, handling and installing the armor.
- Firm pressure may be needed to clear minor obstructions during insertion of the ballistic panels but never use excessive force. Excessive force may damage internal door components.
- Ford Truck models may have a wiring harness that is mounted to the upper crash bar. Unclip from the crash bar and remove the mounting clip. Tuck and secure the wire above the crash bar to allow the armor panel to sit directly on the crash bar.
- Ford Truck models may have a door pad or weight that is mounted in the lower rear part of the doors. This part is removed to allow for armor panel fitment.



▲ Figure 18. Rendering of assembled ballistic panel and mounting brackets (driver's side shown).





## PROCEDURE

Complete the following steps to properly install Angel Armor Avail Ballistic Door Panels (Level III+) for Ford F-150 Police Responder (2017 - 2020).

### Preparing for Ballistic Door Panel Installation

- 1 Open the front driver-side door and lower the window glass completely.
- 2 Turn off the vehicle ignition switch, and remove the key.

### Removing the Vehicle Door Panel and Speaker

- 1 Start by removing the trim panel that is in line with the mirror. Use a trim pry tool and start at the top to loosen the part. Be sure to pull straight out.



▲ Figure 19. Removing the trim panel.

- 2 Remove the single 7mm screw behind the mirror trim panel.



▲ Figure 20. Removing the screw behind the mirror trim panel.

- 3 On the door handle trim panel locate the indent on the front bottom edge. Insert a flat head screwdriver and pry to remove. Again, pull straight out and the handle panel should pivot off from the rear edge.



▲ Figure 21. Prying the trim panel loose.



▲ Figure 22. Removing the handle panel.



## Removing the Vehicle Door Panel and Speaker **CONTINUED**

- 4 Just below the handle and latch there is the next trim panel that needs to be removed. Use the trim pry tools and start from the top edge and pull to loosen the clips.



▲ Figure 23. Removing the trim panel below the latch.

- 5 Remove the four 8mm bolts from behind the panels just removed. Notice the washer type of the two locations.



▲ Figure 24. Removing the interior door handle bolt.

- 6 Locate the two 7mm hex bolts from below the map pocket and remove.



▲ Figure 25. Removing the lower panel bolts.

- 7 Starting at the upper front corner, pry the interior vehicle door panel away from the door to disengage the plastic snaps. Work your way along the front edge and both sides of the door panel to disengage all the snaps.



▲ Figure 26. Prying the door panel away from the door skin.

- 8 Once all snaps have been released, hold the vehicle door panel at the base and lift it over the door lock pin.



## Removing the Vehicle Door Panel and Speaker **CONTINUED**

- 9** Tilt the top edge of the door panel toward yourself while supporting the bottom with your legs.



▲ Figure 27. Removing the door panel.

- 10** Disconnect all wiring harness clips.
- 11** Disconnect the door handle cable by prying on the retaining clip.



▲ Figure 28. Unclipping the door latches.

- 12** Pull the black plastic collar out of the bracket and swing the door handle cable away from yourself.
- 13** Set the door panel aside.
- 14** Use a 7mm driver to remove the four 7mm hex screws that mount the speakers.
- 15** Pull the speaker out of the door frame, and press the release tab to disconnect the power plug. Set aside.
- 16** Remove the internal plastic weather seal be careful not to tear it.



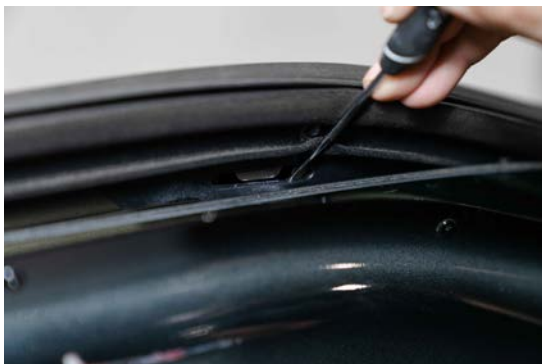
## Removing the Window Weatherstrip

- 1 Using a T20 driver, remove the window weatherstrip screw at the back of the door.



▲ Figure 29. Removing the back window weatherstrip screw.

- 2 Use the door pry tools to release the inner hooks on the outer window weatherstrip.



▲ Figure 30. Removing the outer window weatherstrip.

- 3 Carefully pull up on the back end of the outer window weatherstrip to remove it from the window frame. Work forward along the window frame, pulling up on the trim to remove it completely.



▲ Figure 31. Removing the outer window weatherstrip.





## Removing the Vehicle Window

- 1 Remove the inner weather stripping at the base of the window.



▲ Figure 33. Removing the inner weather stripping.

- 2 Reconnect the window control panel to the set window height to 13 inches of exposed glass.



▲ Figure 32. Setting window height to 13 inches.

- 3 This should allow the window glass mounting clip to be visible through the speaker hole and rear access hole.



▲ Figure 34. Locating the window regulator clips.

- 4 Take a screw driver and push on the back clip and pull up on the glass at the same time. Then move the front clip and do the same thing. Make sure to not reengage the back clip. Lower the now disconnected window regulator to its lowest location.



▲ Figure 35. Disconnecting the rear clip.



▲ Figure 36. Disconnecting the front clip.



## Removing the Vehicle Window CONTINUED

- 5 Carefully slide the window glass down and rotate the door window out of the channel to remove it and set it aside.



▲ Figure 37. Removing the window glass.

- 6 Disconnect the vehicle battery to avoid accidental airbag deployment.

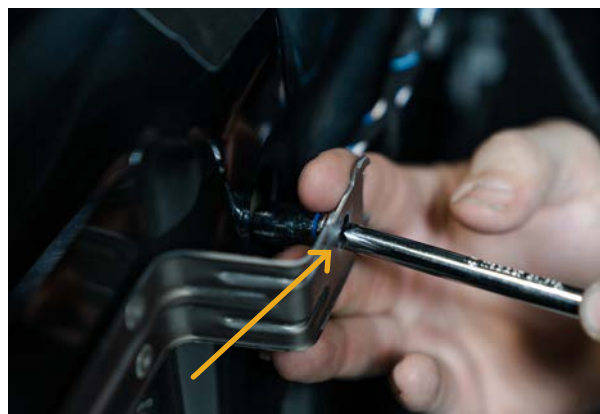
## Removing the Front Door Window Regulator Panel

- 1 Locate the 4 10mm hex nuts and 1 10mm hex bolt.



▲ Figure 39. Locating the mounting clips.

- 2 On the front edge of the door handle structure bar there is an adhesive patch that is covering access to a nut. Remove the adhesive patch. Remove the sheet metal "J" nut to allow and 1/4" drive extension through the hole and then attach the 10 mm socket to the end of it. Loosen and remove the nut with caution.



▲ Figure 40. Connecting 10 mm socket to extension.





## Removing the Front Door Window Regulator Panel **CONTINUED**

- 3** Move to the back of the door and punch out the foam adhesive that is covering the next regulator nut. Loosen and remove the nut.



▲ Figure 41. Punching out the adhesive foam.

- 4** Remove the remaining two 10mm nuts at the bottom of the regulator tracks.



▲ Figure 42. Removing the window regulator mounting nuts.

- 5** Remove the one 10mm bolt from the window regulator motor.



▲ Figure 43. Removing bolt from window regulator.

- 6** Remove the fasteners and pull the window regulator bracket from the door cavity and set aside.



▲ Figure 44. Removing window regulator.



## Installing the Check Strap

- 1 Locate and remove the triangular trim piece with the door window vent in it.



▲ Figure 45. Showing the triangular trim piece to remove.



▲ Figure 46. Removing the trim piece.

- 2 Locate the circular rivet in the door between the mirror mounting and door controller. This circle lines up with the third hole in the check strap bracket.



▲ Figure 47. Showing the circular rivets in the door.

- 3 Center punch the hole locations. Using a 7mm drill bit, drill the two holes and use a deburring tool to deburr the edges. Apply a thin coat of black touch-up paint to each hole to prevent corrosion.



▲ Figure 48 (Left) and Figure 49 (right) center punching the two hole locations.



▲ Figure 50. Drilling the hole.



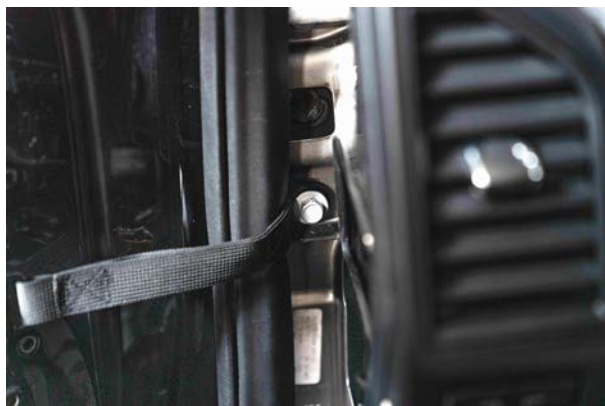
## Installing the Check Strap CONTINUED

- 4 Using a 13mm socket, remove the bolt from the dash frame on the cab side of the vehicle. It may help to have an extension to access the bolt head.



▲ Figure 51. Removing the dash frame.

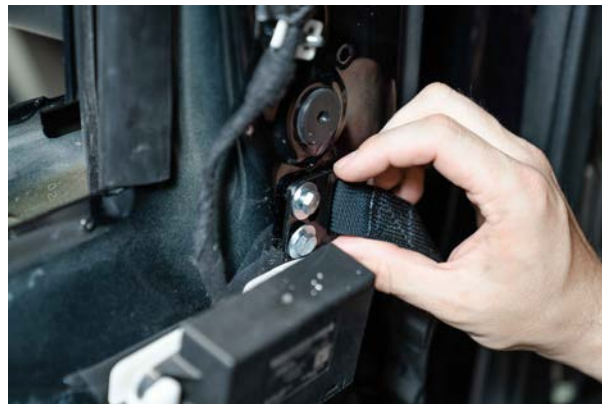
- 5 Use the original bolt to securely fasten the single hole check strap bracket to the dash frame. Torque (18ft lbs)



▲ Figure 52. Fastened check strap bracket to the dash frame.

- 6 Route the nylon webbing up and over the top of the interior door seal so that it's over the edge.

- 7 Install the nylon check strap/bracket assembly by placing the bracket with two mounting holes over the corresponding holes on the inside door skin. Attach the two bolts to clamp it to the skin with the two M6 x 20 bolts. Back the bolts with the matching nuts and washers. Torque (9ft lbs)



▲ Figure 53. Installing the nylon check strap.

- 8 Reinstall the triangular dash piece.



▲ Figure 54. Reinstalling the dash piece.

- 9 Reinstall the bulb seal on the leading edge of the door seal.



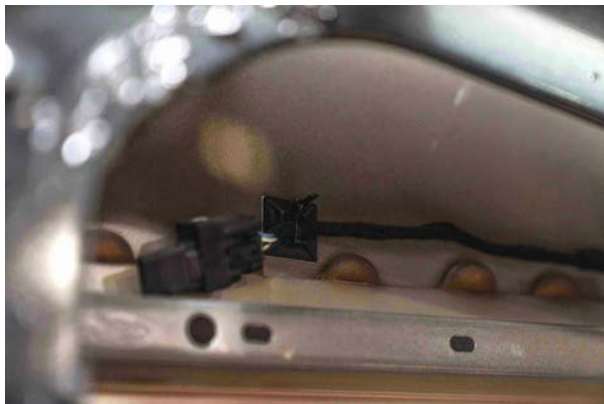


## Preparing and Installing the Upper Bracket

- 1 Locate and disconnect wiring harness mounted to the face of the upper crash bar. Clean and attach the provided wire routing hardware to the door skin to move the wiring off the crash bar.



▲ Figure 55. Disconnecting wiring harness.



▲ Figure 56. New wire routing hardware attached to door skin.

- 2 Remove all rust, primer and paint from the top of the door frame and top of the upper crash bar using a 50 grit sand pad.



▲ Figure 57. Removing rust, primer and paint.

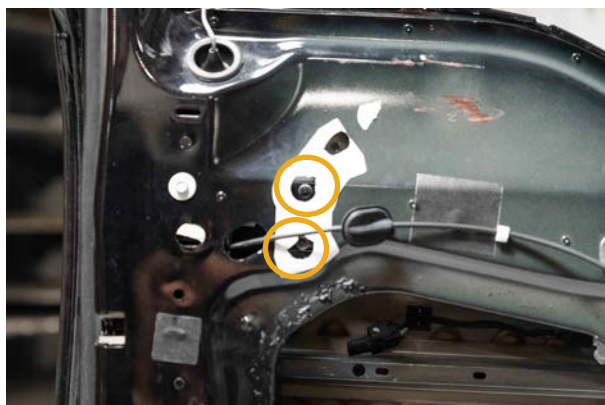


▲ Figure 58. Removing rust, primer and paint from crash bar.

- 3 Wipe away all the remaining material with isopropyl alcohol.

## Preparing and Installing the Upper Bracket **CONTINUED**

- 4** Locate the two 10mm nuts that mount the exterior door handle.



▲ Figure 59. Showing the two nuts on exterior door handle.

- 5** Remove both and reinstall the upper one with a M6 fender washer.



▲ Figure 60. Installing M6 nut with new fender washer.

- 6** Dry fit the upper bracket into the door to confirm it's final location.



▲ Figure 61. Dry fitting the upper bracket into the door.

- The rear portion of the upper bracket slot lines up with the door handle threaded stud.

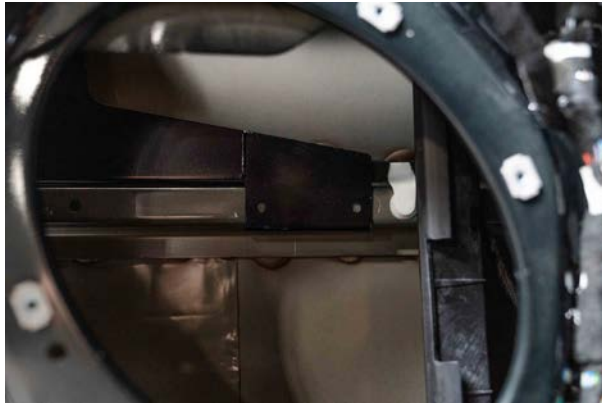


▲ Figure 62. Showing the position of the rear portion of the upper bracket.



## Preparing and Installing the Upper Bracket CONTINUED

- The front portion straddles the upper crash bar with its two mount holes that go around the cutout of the crash bar.



▲ Figure 63. Showing the position of the front portion of the upper crash bar.

- The upper portion nests with the upper door frame.



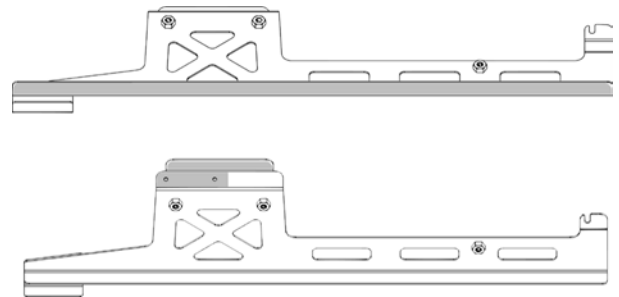
▲ Figure 64. Showing the position of upper portion.

- 7 Remove the bracket to prepare for adhesive.

**NOTE:** When working with this adhesive it is recommended that you wear gloves and mask the outside of the door to prevent incidental adhesive contact with the outside door panel.

- 8 Sand the bottom surface and the upper nesting part of the upper bracket to give the adhesive some “tooth” to attach to. Then clean with isopropyl alcohol to remove the residue and dust.

- 9 Remove the bracket and prepare to use the 3M panel bond. Be sure to apply a practice bead on something disposable. Apply an “S” type bead making sure to not go all the way to the edge of the bottom surface of the upper bracket. Then move to the upper nesting corner for bracket place and hold the part.



▲ Figure 65. Rendering of bracket and glue placement. Dark regions show adhesive.

- 10 It is critical that the adhered top bracket fits tight to the top of the door frame and is flush with the upper crash bar to prevent interference with the window functionality.





## Preparing and Installing the Upper Bracket **CONTINUED**

- 11** Insert bracket into the door and place it on the upper crash bar. Align the rear door handle stud and install with the OEM nut.



▲ Figure 66. Inserting the bracket into the door.

- 12** Using a 3/8" socket and impact driver, insert two sheet metal screws through the two holes at the front edge of the upper door-mounting bracket where there are two holes that need to be drilled directly into crash bar.



▲ Figure 67. Sheet metal screws mounted to crash bar.

- 13** Move to the top edge of the bracket and drill up through the two holes at the top the mounting bracket. Again, make sure that the screwed in part is tight to the outside sheet metal.



▲ Figure 68. Sheet metal screws into upper door frame.



▲ Figure 69. Screwing in upper bracket.

**! NOTE:** The sheet metal screws will drill four cavities into the metal portion of the door frame and will not show through the outside of the door skin. Ensure the screws flat areas of sheet metal by shifting the loosened armor panel left or right as necessary. **DO NOT OVER TIGHTEN** these screws as it could strip out of the sheet metal.

- 14** Wipe any excess panel bond from inward facing surface to prevent the ballistic panel from bonding to upper crash bar bracket.



## Inserting the Door Crash Bar Mounting Bracket

- 1 Locate the front end of the crash bar, measure ~9.25 inches, and mark that location. This will mark the location of the forward edge of the Crash Bar Mounting Bracket shown below once installed.



▲ Figure 70. Marking 9.25 inches toward the rear of the vehicle from the front of the crash bar.

- 2 Insert the Crash Bar Mounting Bracket into the door cavity and position the bracket such that the bent tabs of the bracket hook onto the top of the crash bar flange and the forward edge meets the mark made in the previous step



▲ Figure 71. Crash bar bracket and located in the door.

## Inserting and Securing the Ballistic Door Panel

- 1 Locate the two nylon installation straps. These adjustable straps are included to help support the weight of the steel armor while installing it into the door.
- 2 Loop the installation straps around the door with the adjustment feature of the straps easily accessible to the inner side of the door. The straps should create a cradle in the center in the window channel of the door, between the inner and outer skin. Direct the male side of the clip facing down for ease of adjustment. See Figures below.



▲ Figure 72. Strap path through buckle and buckle direction.



▲ Figure 73. Crash bar bracket and located in the door.



## Inserting and Securing the Ballistic Door Panel

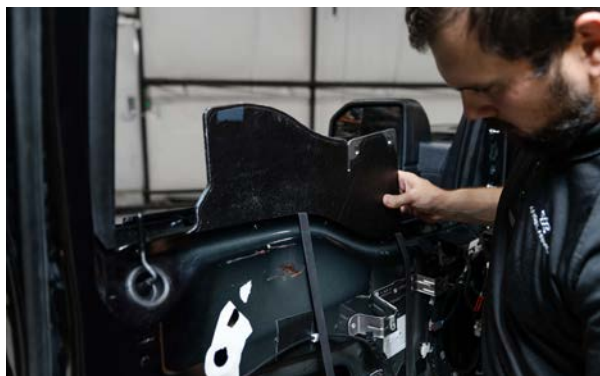
### CONTINUED

- 3** Hold the ballistic door panel so the product label faces the interior of the vehicle.
- ⚠** Use extreme caution when transporting the ballistic door panel. The armor panel is very heavy and impact may result in serious injury.
- ⚠** To avoid muscle strain or back injury, use lifting aids and proper lifting techniques when transporting the ballistic door panel.
- ⚠** Wear appropriate protective gear, including eye, hand and foot protection. Protective gloves are highly recommended when handling the steel armor.
- 4** Carefully insert the armor through the window opening and into the cradle created by the installation straps. Ensure the straps align with the slots on the bottom of the armor panel to prevent the panel from slipping while lowering into the door.



▲ Figure 74. Placing the armor into the door.

- 5** Slowly adjust the left and right installation straps to begin to lower the armor into the door. Stop when the lower bolt holes align with the holes in the crash bar bracket.



▲ Figure 75. Placing the armor into the door.

- 6** With the armor aligned with the crash bar, loosely install the front crash bar M8x25mm bolt with washer through the slotted hole at the front portion of the armor. Then place a second M8x25mm bolt and washer into the right-most slotted hole in the rear portion of the armor and loosely thread into the crash bar bracket, leaving approximately 1/4" (6mm) of threads showing. These bolts will be tightened later in this installation.



▲ Figure 76. Showing bolts that loosely install the crash bar.

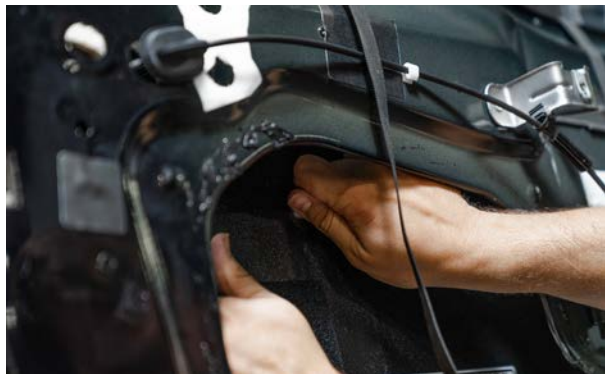




## Inserting and Securing the Ballistic Door Panel CONTINUED

- 7 With the front and rear crash bar bolts loosely in place, lower the installation straps so that the full weight of the armor panel rests on the bolts. Remove the two installation straps and discard them. (The clips on the straps will need to be removed so the straps can be pulled out of the door skin.)

- 8 At the top of the armor, use a 13mm socket to loosely attach the door mounting bracket to the armor as shown using the three 8mm x 20mm bolts. Ensure the bracket presses up against the top of the door frame.



▲ Figure 77. Loosely attaching the mounting bracket.



▲ Figure 78. Showing the bracket placement.

- 9 Locate the lower mounting bracket drilling template that came with the kit (Appendix A appended to the end of this guide). Cut out the template and holes within for the corresponding door (driver or passenger side). Position the template over the hole in the lower rear corner of the inner door skin as shown and use the profile to align the position of the two holes to be drilled and use a marker to mark the holes.



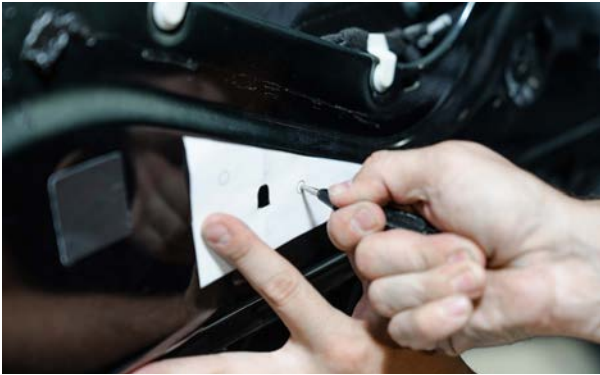
▲ Figure 79. Positioning the drill template.



## Inserting and Securing the Ballistic Door Panel

### CONTINUED

- 10** Center punch the hole locations. Using a 7mm drill bit, drill the two holes and use a deburring tool to deburr the edges. Apply a thin coat of black touch-up paint to each hole to prevent corrosion.



▲ Figure 80. Center punching the hole locations.

- 11** Insert the lower mounting bracket into the door cavity and position into place in the lower rear corner of the door. Manipulate the bracket so the cutout in the bracket hooks around the protruding crash bar bolt and the two 6mm bolt holes align with the recently drilled holes in the inner sheet metal. Once in place, insert the third and final M8x25mm bolt and washer through the lower mounting bracket and loosely thread into the crash bar. Finally, insert the two M6x20 mm bolts and washers through the drilled holes in the sheet metal and into the lower mounting bracket.

## Replacing the Front Door Window Regulator

**! NOTE:** The armor panel is installed between the two plastic window regulator carriers. It is critical that the armor panel is installed and oriented correctly to allow for the door to function properly. Final positioning is set or confirmed after the window regulator is reinstalled.

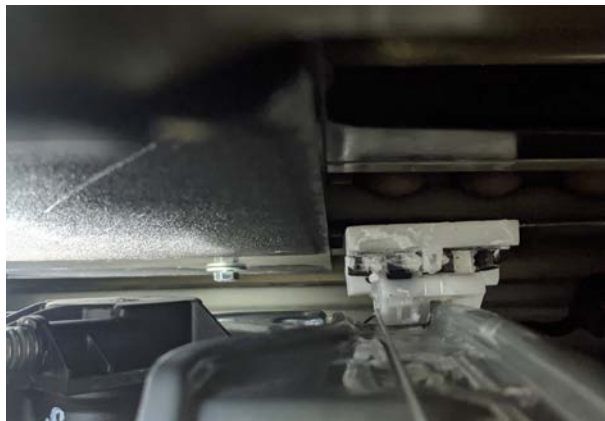
- 1** Reconnect the window regulator to the door switch and run the window clamps to the bottom location.
- 2** Insert the front section of the window regulator through the large opening starting with the top and then rotate the bottom in. Slide it to the front section of the door.
- 3** Repeat this with the window regulator and start from the top then rotate the bottom in.
- 4** Realign the mounting studs on the front track first and then move to the rear track. Reinstall the 4 10mm hex nuts and 1 10mm hex bolt.

**! NOTE:** 1/4 inch clearance between the edge of the regulator and the armor panel is the ideal dimension. Anything less could restrict the movement of the window moving up or down.



## Replacing the Front Door Window Regulator **CONTINUED**

- 5** Reconnect the window regulator to the door switch panel and run the window clamps down increment of 2 inches at a time to make sure they don't make contact with the armor panel.



▲ Figure 81. Front window regulator clearance.



▲ Figure 82. Rear window regulator clearance.



▲ Figure 83. Window closed clearance.

## Confirm the armor is in its final position by checking the following:

- The armor sits flush to the crash bar and upper crash bar.
- The bottom mounting bracket sits flush with the armor panel and mounts tightly to the inner side of the door frame.
- The door handle wiring harness connector sits freely and is not pinched by the upper edge of the armor panel.
- Firmly grip the armor panel and attempt to shake – there should be no movement of the armor panel.
- Check that all bolts are torqued appropriately.
  - 18 ft lbs for M8 hardware
  - 9 ft lbs for M6 hardware

## Replacing the Front Door Window

- 1** Carefully insert the window glass from outside the door into the window channel and lower into the door cavity.
- 2** Align the two mounting holes in the plastic tabs on the bottom of the window with the corresponding holes in the regulator bracket.
- 3** If the window trim started correctly, the two clips should line up with the holes and will snap into retain the part.





## Optional Interior Door Panel Modification

- The door check strap is routed under the front edge of the interior panel. Notching it would allow the check strap to move more freely and mitigate wear and tear on the door trim.

## Replacing the Speaker and Vehicle Door Panel

- 1 Re-attach the internal plastic weather seal around the rear access hole.
- 2 Place the speaker in the door frame and mount to the door using the four 8mm hex screws and connect the power plug.
- 3 Reinstall the door handle mounting bracket.
- 4 Hold the door panel near the door frame and tip the top toward yourself while supporting the bottom edge with your legs. Connect all wiring harness clips.
- 5 Replace the metal cylinder back in its socket in the interior door handle.
- 6 Pull the black plastic collar away from the bracket and place the metal cable into the bracket.
- 7 Align the door lock post with the hole at the upper rear corner of the door panel.
- 8 Lower the door panel onto the lip at the top of the metal door frame and press firmly until seared.
- 9 Line up the white plastic snaps and the black plastic peg on the back of the door panel with their corresponding holes in the metal door frame.
- 10 Use an 8mm socket to replace the bolts behind the interior door handle and armrest pocket.
- 11 Snap the black plastic trim covers back into their locations behind the door handle and inside the armrest pocket.
- 12 Install the two 7mm hex bolts below the map packet of the door panel.
- 13 Connect the window control panel wiring harness.
- 14 Replace the window control panel.
- 15 Reconnect the vehicle battery.
- 16 Roll the window all the way down.

## Replacing the Window Weatherstrip

- 1 Press down on the front end of the weather strip and move backward. Pressing the entire length of the weatherstripping into the window frame to ensure proper snap engagement.
- 2 Using a T20 driver, replace the weatherstripping screw at the back of the door.



## Completing Installation

- 1** Verify that all trim and window components are properly re-installed and that the window, door locks and mirrors function as intended.
- 2** Once armored, the vehicle door may require additional adjustment at the hinges for proper closing and matching of body lines. Conduct final door adjustment by completing the following steps:
  - A** Gently close door to check alignment.
  - B** Loosen the door side hinge nuts.
  - C** With the help of an assistant or door lift, apply gentle upward pressure on bottom of door and move in/out at top and bottom of door as required.
  - D** Re-torque bolts, gently close the door and inspect closure/alignment.
  - E** Repeat as necessary.
- 3** Attach the Angel Armor brand label toward the top of the interior door panel by completing the following procedure:
  - A** Clean the attachment area on the door with the supplied isopropyl alcohol wipe.
  - B** Allow the door surface to dry completely.
  - C** Remove the backing from the brand label.
  - D** Apply the brand label to the door, pressing for at least 30 seconds to ensure proper adhesion.



▲ Figure 83. Applying the Angel Armor brand label.

## REMOVAL OR DECOMMISSION

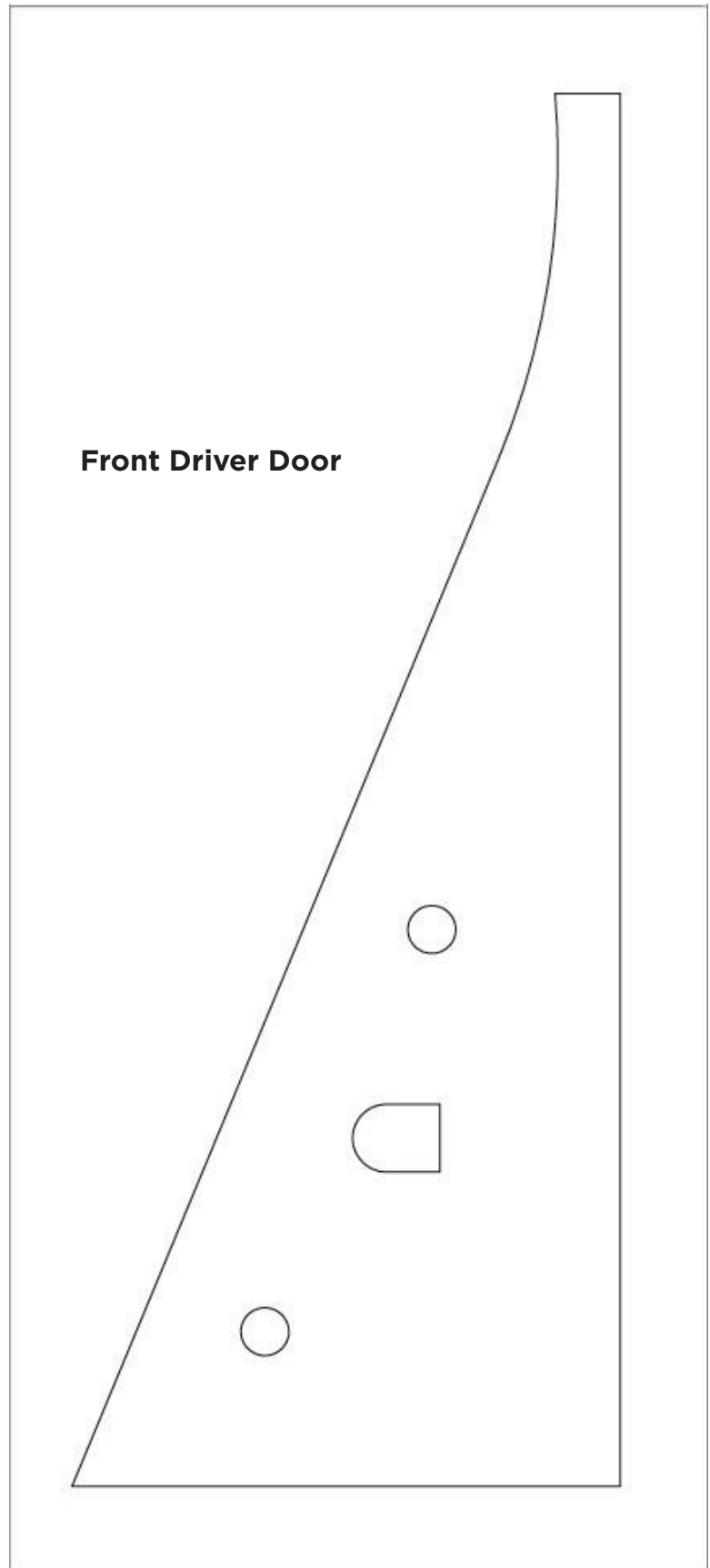
If removing the armor for decommission or transfer to another vehicle, contact Angel Armor for additional support , as needed.

### INSTALLATION COMPLETE:

Your vehicle is now equipped with Avail Level III+ — advanced ballistic protection from Angel Armor.



## Front Door Lower Mounting Bracket Drill Template



## Front Door Lower Mounting Bracket Drill Template

