



AVAIL™ BALLISTIC DOOR PANELS

NIJ LEVEL IIIA



INSTALLATION GUIDE

As shown on

**FORD® POLICE INTERCEPTOR SEDAN
FOR FRONT DOORS
(2013 & NEWER MODELS)**



ALSO COMPATIBLE WITH:

- **Ford® Taurus** (2010 & Newer Models)



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INTRODUCTION

Congratulations on your purchase of the Angel Armor™ Avail™ Ballistic Door Panel (Level IIIA) for Ford® Police Interceptor Sedan! It's our honor to provide advanced protection to those who put their lives on the line in the name of law and order.

In just a matter of minutes, your vehicle will be upfitted with the finest ballistic technology available. With innovative ballistic materials, advanced designs and the fastest installation in the industry, Angel Armor Avail Ballistic Door Panels elevate protective technology to a higher level.

Product Description



▲ Figure 1. Angel Armor Avail Ballistic Door Panel (Level IIIA) for Ford Police Interceptor Sedan

Angel Armor Avail Ballistic Door Panels (Level IIIA) are constructed of a proprietary technology that is not only remarkably strong, but also thin, lightweight and weatherproof. These properties, plus semi-rigid material characteristics, enable unprecedented ease of installation while providing protection independently tested in accordance with NIJ Standard 0108.01 protocol. Angel Armor Avail Ballistic Door Panels (Level IIIA) for the Ford Police Interceptor Sedan exceed NIJ Standard 0108.01 protocol for multi-round protection and offer a 5-year express limited warranty. Within this period, the panels may be removed and transferred to another vehicle of the same make and model without violating the warranty.

Installation Overview

Angel Armor Avail Ballistic Door Panels (Level IIIA) for the Ford Police Interceptor Sedan require no additional brackets and eliminate the need to remove the window glass. Minimal door disassembly is required to replace the lower hinge bolt. Replacement of this bolt provides additional security for the ballistic door panel within the vehicle door. Once this is done, the ballistic door panel is inserted into the door, adjacent to the window glass.

Installation into a Ford Police Interceptor Sedan takes as little as 10 minutes for experienced installers. The average user installation takes only 10 to 25 minutes.



Watch an installation in action at 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 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 and foot protection.



Avoid excessive force when inserting the ballistic door panel into the car door. Excessive force may damage the ballistic door panel or internal door components.



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 ballistic door panel parts or components.



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

Legal Statements

See supplied Warranty and Terms and Conditions for important legal information. 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.



TOOLS & PARTS LIST

This section lists the tools recommended for installation and the parts included in the installation kit.

Recommended Tools

This section lists tools to be supplied by the installer.

- Pry tools
- Phillips screwdriver
- Needle nose pliers
- 3/8" universal socket joint
- 13 mm deep socket
- 13 mm wrench
- 6" socket extension
- 7, 8 and 10 mm sockets

Installation Kit Contents

This section lists the ballistic panel type and all parts included with it.

- Angel Armor Avail Ballistic Door Panel (Level IIIA) for Ford Police Interceptor Sedan (2011 and newer models)



▲ Figure 2. Angel Armor Avail Ballistic Door Panel (Level IIIA) for Ford Police Interceptor Sedan

- Angel Armor brand label



▲ Figure 3. Angel Armor brand label

- Panel installation tool



▲ Figure 4. Panel installation tool

- Isopropyl alcohol wipe



▲ Figure 5. Isopropyl alcohol wipe

- One M8x1.25x35mm hex head bolt, two M8 fender washers and one M8 x 1.25 lock nut



▲ Figure 6. One M8x1.25x35mm hex head bolt, two M8 fender washers and one M8x1.25 lock nut

- Loctite
(excluded if hex bolt has loctite already applied)

INSTALLATION

This section provides instructions for installing Angel Armor Avail Ballistic Door Panels (Level IIIA) into the Ford Police Interceptor Sedan.

Overview

Installation of the Angel Armor Avail Ballistic Door Panel (Level IIIA) into a Ford Police Interceptor Sedan is accomplished quickly and easily, with minimal door disassembly. See *Procedure* on page 7 for detailed instructions.

General Installation Procedure

- 1** Detach vehicle interior door trim panel.
- 2** Replace the factory lower hinge bolt with the supplied hex head bolt.
- 3** Insert and secure Angel Armor Ballistic Door Panel.
- 4** Re-assemble door.

Important Notes

- The directions, photographs and illustrations in this guide depict an installation performed on the driver's side. The same installation procedure applies to the passenger's side. NOTE: The anti-abrasion panels face the interior of the vehicle for both the driver's side and passenger's side ballistic panels.
- 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 during installation.
- Angel Armor Avail Ballistic Door Panels are semi-rigid, which allows them to be bent slightly for easy installation. To help prevent damage to the ballistic panels, do not bend them tighter than a 6" radius (12" diameter).
- 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.



PROCEDURE

Complete the following steps to properly install Angel Armor Avail Ballistic Door Panels (Level IIIA) for Ford Police Interceptor Sedan.

Preparing for Installation

- 1 Roll the window all the way down.
- 2 Turn off the vehicle ignition switch and remove the key.
- 3 **⚠️ Disconnect the vehicle battery to avoid accidental airbag deployment.**

Removing the Panel Mounting Bolts

- 1 Starting at the back of the door, use the pry tools to remove long black decorative trim bar located above door handle.



▲ Figure 7. Removing the trim above the door handle

- 2 Using the pry tools, remove the trim cover behind the interior door handle.



▲ Figure 8. Removing the trim cover behind the door handle

- 3 Using the pry tools, remove the window control panel from the door panel.



▲ Figure 9. Removing the window control panel

- 4 Disconnect the wiring harness from the window control panel.



▲ Figure 10. Disconnecting the wiring harness

Removing the Panel Mounting Bolts

CONTINUED

- 5** Remove the Phillips screw located toward the rear end of the door panel.



▲ Figure 11. Removing the Phillips screw from the rear end of the door panel

- 6** Remove the 8 mm bolt located behind the upper plastic trim bar.



▲ Figure 12. Removing the 8 mm bolt behind the trim bar

- 7** Remove the 10 mm bolt from behind the interior door handle.



▲ Figure 13. Removing the 10 mm bolt behind the door handle

- 8** Remove the 10 mm bolt from behind the armrest pocket.



▲ Figure 14. Removing the 10 mm bolt from behind the armrest pocket.

- 9** Remove the two 7 mm bolts at the bottom of the interior vehicle door panel.



▲ Figure 15. Removing the two 7 mm bolts from behind the bottom of the door panel.

- 10** Using the pry tools, gently remove the cover where the side mirror is attached.



▲ Figure 16. Removing the side mirror cover



Removing the Vehicle Interior Door Panel

- 1 Using the pry tools, start at the lower back corner and pry the interior vehicle door panel away from the door.



▲ Figure 17. Prying the door panel away from the door

- 2 Using both hands, work around the door panel to release the snaps.



▲ Figure 18. Working around the door panel to release snaps

- 3 Pull the top of the vehicle door panel away from the door to disengage the upper clips.

- 4 Hold the vehicle door panel at the base, and lift it over the door lock pin.



▲ Figure 19. Lifting the door panel over the lock pin

- 5 Disconnect the wiring harness between the door panel and door.



▲ Figure 20. Disconnecting the wiring harness

- 6 Disconnect the door release cable by prying the retainer clip and unhooking the cable from the door handle.



▲ Figure 21. Disconnecting the door latch cable

Removing the Vehicle Interior Door Panel

CONTINUED

- 7 Remove the three 7 mm speaker screws.



▲ Figure 22. Removing the speaker screws

- 8 Using the pry tools, gently pry the speaker from the door panel.



▲ Figure 23. Prying the speaker from the door panel

- 9 Disconnect the wiring harness on the speaker, and set it aside.



▲ Figure 24. Disconnecting the speaker wiring harness

Replacing the Lower Hinge Bolt

NOTE: Apply the Loctite on the provided replacement bolt approximately 1/4" from the head of the bolt.

- 1 Remove the factory installed 13 mm bolt from the bottom of the lower hinge, and replace it with the supplied M8x1.0x35mm hex head bolt. Install the hex head bolt in compliance with the vehicle's factory recommended torque specification.



▲ Figure 25. Removing factory installed 13 mm bolt, and replacing it with the supplied hex head bolt.

Inserting and Securing the Ballistic Door Panel

- 1 Remove the inner rubber window weatherstrip.



▲ Figure 26. Removing the inner rubber weatherstrip

Inserting and Securing the Ballistic Door Panel

CONTINUED

- 2 Insert the supplied panel installation tool in between the window glass and outer window weatherstrip.



▲ Figure 27. Inserting the panel installation tool

- 3 Bend the bottom of the ballistic panel away from you, pressing with your knee or hand. This creates a slight curve in the ballistic panel that matches the shape of the bottom of the Ford Interceptor Sedan door and eases installation.

NOTE: Do not bend the ballistic door panel tighter than a 6" radius (12" diameter).



▲ Figure 28. Bending the ballistic panel to create a slight curve

- 4 Hold the ballistic door panel so its plastic anti-abrasion panels face the interior of the vehicle and away from you when standing outside the vehicle, ensuring the bottom left retainer tab faces the hinges.



▲ Figure 29. Proper placement of the ballistic panel before insertion

- 5 Leading with the bottom edge of the ballistic door panel, begin to insert the panel into the door adjacent to the outer surface of the window glass.



▲ Figure 30. Sliding the panel down into the door

Inserting and Securing the Ballistic Door Panel

CONTINUED

- 6** Hold the ballistic door panel against the window glass as you insert to avoid obstructions inside the door. This can be achieved by lightly leaning back/pulling the panel out toward the exterior of the door.



▲ Figure 26. Leaning back while inserting the panel to help avoid obstructions inside the door

- 7** Slide the ballistic panel down into the door, following the vertical edge of the window frame.
- 8** Grip the nylon folds at the top of the ballistic panel when the ballistic panel is inserted the majority of the way into the door.
- 9** Slide the ballistic panel forward, toward the front of the vehicle. The leading edge of the anti-abrasion panel will likely catch on the vehicle window track. Push the front, top edge of the panel toward the vehicle exterior, while sliding the ballistic panel forward, to move the ballistic panel past the window track.

NOTE: To work the panel all the way forward, you may need to remove the rubber oval cover from the inside of the door. With a long pry tool, push the ballistic door panel toward the outside of the car to maneuver the ballistic door panel past the window slide channel. Be sure to replace the cover when finished.



▲ Figure 27. Gripping ballistic door panel's top-edge nylon folds and sliding the panel forward

- 10** Remove the supplied panel installation tool once the ballistic panel is seated all the way forward.
- 11** Using the pry tools, push the two teeth on the ballistic door panel under the outside sheet metal lip. The teeth are designed to sit inside the door and press upward on the inner sheet metal crease. This causes the ballistic door panel to bow out and match the shape of the door.



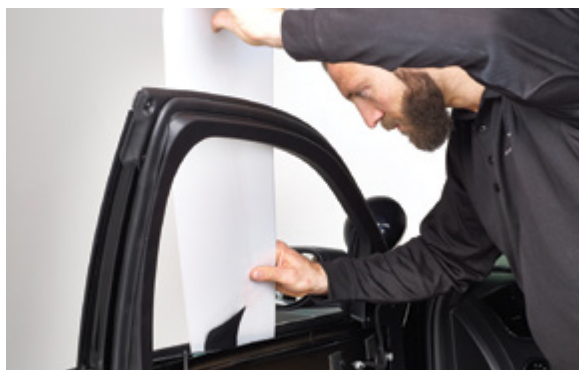
▲ Figure 28. Using the pry tools to push the ballistic panel down and under the outside sheet metal lip

Inserting and Securing the Ballistic Door Panel

CONTINUED

- 12** Using the provided panel installation tool, push the remaining nylon handle tabs down until they are lying flat against the outside of the glass.

NOTE: You will know the tabs are seated correctly when the glass is raised and the handles do not come back out. If the handles do come back out, repeat using the panel installation tool to push the tabs all the way down.



▲ Figure 29. Using the panel installation tool to push the remaining nylon down into the door

- 13** Install the included M8 fender washer on the replacement bolt.
- 14** Install the bottom right nylon retainer tab of the ballistic panel on the replacement bolt.



▲ Figure 30. Nylon tab placed over the replacement bolt

- 15** Install the second M8 fender washer over the retaining tab, and tighten the lock nut. While tightening the lock nut, ensure the replacement bolt isn't moving and not backing out while the lock nut is being tightened. When properly installed, the nylon tab of the ballistic panel is secured between the two washers and the lock nut on the longer replacement hinge bolt.



▲ Figure 31. Tightening the lock nut for proper installation

Re-attaching the Interior Door Panel

- 1** Re-install the gasket around the speaker.



▲ Figure 32. Re-installing the speaker gasket

- 2** Connect the speaker wiring harness.
- 3** Replace the speaker.

Re-attaching the Interior Door Panel

CONTINUED

- 4** Replace the three speaker screws.
- 5** Replace the rubber interior weatherstrip.



▲ Figure 33: Replacing the interior weatherstrip

- 6** Connect the door latch cable.
- 7** Connect the door lock wiring harness.
- 8** Align the door lock pin and snap the upper edge of the door panel on the interior portion of the door near the window.

NOTE: Ensure the wiring harness for the window control panel is protruding up through the window control panel hole and is not pinned behind the door.
- 9** Align the interior door retainers with the appropriate holes in the door.
- 10** Push firmly on each retainer area until the retainers re-engage, including the top edge.
- 11** Replace the cover behind where the side mirror is attached.

- 12** Replace the two 7 mm bolts at the bottom of the interior vehicle door panel.
- 13** Replace the 10 mm bolt from the armrest pocket.
- 14** Replace the 10 mm bolt from behind the interior door handle.
- 15** Replace the 8 mm bolt located behind the upper plastic trim bar.
- 16** Replace the Phillips screw located toward the rear end of the door panel.
- 17** Reconnect the wiring harnesses to the window control panel.
- 18** Replace the window control panel.
- 19** Replace the trim cover behind the interior door handle.
- 20** Replace the upper plastic trim bar.
- 21** Reconnect the vehicle battery.
- 22** Ensure all door functions work properly.

Completing Installation

Attach the Angel Armor brand label to the interior door panel by completing the following procedure:

- A** Clean the attachment location on the flat surface shown in Figure 34 with the included isopropyl alcohol wipe.
- B** Allow the door surface to dry completely.
- C** Remove the backing from the brand label.

Completing Installation

CONTINUED

- D** Apply the brand label to the interior panel.



▲ Figure 34. Applying the Angel Armor brand label


INSTALLATION COMPLETE:

Your vehicle is now equipped with advanced ballistic protection from Angel Armor.

REMOVAL OR DECOMMISSION

This section describes the process for removing the ballistic door panel for decommission or transfer to another vehicle.

NOTE: Removal is almost identical to the ballistic door panel installation. The lower hinge bolt supplied by Angel Armor may remain in the vehicle with no effect on window performance.

- 1** Lower the window glass completely.
- 2**  **Disconnect the vehicle battery to help prevent accidental airbag deployment.**

- 3** Remove the interior door panel by following the steps outlined in the *Removing the Panel Mounting Bolts* and *Removing the Vehicle Interior Door Panel* sections.
- 4** Remove the nut and washers on the nylon tab
- 5** Use the pry tools to expose the nylon tabs and get them out from inside the steel metal crease.



▲ Figure 35. Exposing nylon tabs

- 6** Grip the nylon folds at the top edge of the ballistic door panel.
- NOTE:** Avoid tearing the ballistic panel's weatherproof cover on the "teeth" inside of the door by pushing the ballistic panel toward the interior of the vehicle before lifting it out of the door.
- 7** Slide the ballistic panel toward the back of the vehicle, and then pull up and out to remove it from the vehicle door.
 - 8** Replace the inner rubber weatherstrip.
 - 9** Replace the interior door panel.
 - 10** Re-connect the vehicle battery.
 - 11** If removing the ballistic panel for transfer to another vehicle, inspect the panel after removal. Contact Angel Armor with any concerns about wear or damage.