



AVAIL™

BALLISTIC DOOR PANELS

NIJ LEVEL IIIA



INSTALLATION GUIDE

As shown on

**CHEVY® TAHOE PPV
FOR REAR DOORS**
(2007 - 2014 MODELS)



ALSO COMPATIBLE WITH:

- Chevy® Suburban (2007 - 2014)
- Chevy® Silverado and Silverado HD (2007 - 2013)
- Chevy® Avalanche (2007 - 2013)
- GMC® Yukon and Yukon XL (2007 - 2014)
- GMC® Sierra and Sierra HD (2007 - 2013)
- Cadillac® Escalade and Escalade ESV (2007 - 2014)



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CHEVROLET® AND CHEVY® ARE REGISTERED TRADEMARKS OF GENERAL MOTORS.

GM® IS A REGISTERED TRADEMARK OF GENERAL MOTORS.

INTRODUCTION

Congratulations on your purchase of the Angel Armor™ Avail™ Ballistic Door Panel (Level IIIA) for the Chevy® Tahoe PPV! 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 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 Ballistic Door Panels elevate protective technology to a higher level.



▲ Figure 1. Angel Armor Ballistic Door Panel (Level IIIA) for the Chevy® Tahoe PPV

Product Description

Angel Armor Ballistic Door Panels (Level IIIA) are constructed of 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 protocols. Angel Armor Ballistic Door Panels (Level IIIA) for the Chevy Tahoe PPV exceed NIJ Standard 0108.01 protocols 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 Ballistic Door Panels (Level IIIA) for the Chevy Tahoe PPV require no additional brackets or fasteners, and eliminate the need to remove the window glass. Minimal door disassembly is required to replace the factory window regulator bolts. Replacement of these bolts provides additional clearance 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.

The average user installation takes only 5 to 15 minutes.







Watch an installation in action at www.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, interior door trim retainers, 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 prevent scratching.
-  Avoid tearing the weatherproof cover on the 'teeth' inside of the door when removing the ballistic panel by pushing the panel toward the interior of the door before lifting it out of the door.
-  Discard and replace any door components that are inadvertently damaged during the installation process, such as the moisture barrier. 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 exterior window weatherstrip, to avoid scratching the paint.

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.

PARTS & TOOLS LIST

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

Installation Kit Contents

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

- Angel Armor Ballistic Door Panel (Level IIIA) for Chevy Tahoe PPV
- Replacement window regulator bolt: 2 QTY: 10 mm head, 8 mm metric thread
- Angel Armor brand label



▲ Figure 2. Angel Armor Ballistic Door Panel (Level IIIA) for the Chevy® Tahoe Police Pursuit Vehicle

Recommended Tools

This section lists tools to be supplied by the installer.

- Panel/trim removal tools of varying sizes
- 10 mm socket, preferably magnetic



▲ Figure 3. Panel/trim removal tools



▲ Figure 4. 10 mm socket, preferably magnetic

INSTALLATION

This section provides instructions for installing Angel Armor Avail Ballistic Door Panels (Level IIIA) into the Chevy Tahoe PPV (2007 to 2014 models).

Overview

Installation of the Angel Armor Ballistic Door Panel (Level IIIA) into a Chevy Tahoe PPV is accomplished quickly and easily with minimal door disassembly. See *Procedure* on page 7 for detailed instructions.

General Installation Procedure

- 1** Detach interior door trim panel.
- 2** Replace factory window regulator bolts with shorter supplied replacement bolts.
- 3** Insert and secure Angel Armor Ballistic Door Panel.
- 4** Re-assemble vehicle interior door panel.

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 door. NOTE: The anti-abrasion panels face the interior of the vehicle for both the driver-side and passenger-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 Ballistic Door Panels are semi-rigid, which allows them to be bent slightly for easy installation. To prevent damage to the ballistic panels, do not bend the panel 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 or puncture the ballistic door panel's weatherproof/protective cover.
- Bypass obstructions inside the door, such as crash bars or window attachment brackets, by angling the panel during insertion or by removing and re-inserting the ballistic panel, as described in *Inserting the Ballistic Door Panel* on page 10.

PROCEDURE

Complete the following steps to properly install the Angel Armor Avail Ballistic Door Panel (Level IIIA) into a Chevy Tahoe PPV.

Preparing for Installation

- 1** Roll your window all the way up.
- 2** Turn off the ignition switch and remove the key.

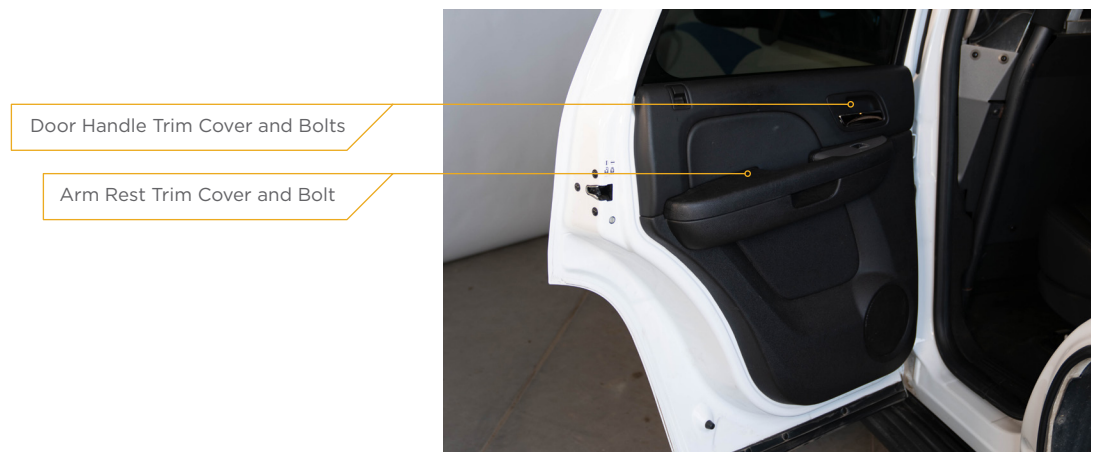
Detaching the Interior Door Panel and Replacing the Window Regulator Bolt

- 1** Remove the door lock by completing the following procedure:
 - A** Unlock the vehicle door.
 - B** Gently pry open the retainer panel on the inside of the plastic lock knob using a small trim removal tool (see Figure 5 below).
 - C** Lift the plastic lock knob off of the lock rod.



▲ Figure 5. Prying open the panel on the plastic lock knob

- 2** Remove the trim cover behind the interior door handle.



▲ Figure 6. Trim cover and bolt locations

Detaching the Interior Door Panel and Replacing the Window Regulator Bolt

CONTINUED

- 3** Remove the 10 mm bolt behind the door handle.
- 4** Remove the trim cover in the arm rest (see Figure 6 on page 7).
- 5** Remove the 10 mm bolt in the arm rest.
- 6** Visually locate the interior door trim retainers inside the vehicle door trim panel.
- 7** Pry open the interior door trim retainers on the bottom corners of the vehicle door trim panel at the retainer locations shown in Figure 7.
- 8** Pry open the remaining interior door trim retainers.



▲ Figure 7. Prying open the vehicle interior door panel

Detaching the Interior Door Panel and Replacing the Window Regulator Bolt

CONTINUED

- 9** Lean open the door trim panel by partially inserting the two plastic pins at the bottom of the door trim panel into their retaining holes in the door.
- 10** Peel back the moisture barrier to expose the window regulator bolts.

NOTES:

- Avoid damaging the moisture barrier.
- The black adhesive on the back of the moisture barrier is used to re-attach the moisture barrier after the replacement of the window regulator bolt.

- 11** Remove the factory-installed window regulator bolt.

NOTE: Use magnetic tools to avoid dropping the bolt inside the door.

- 12** Replace the factory-installed bolt with the replacement bolt included in the installation kit. Install the replacement bolt in compliance with the vehicle's factory-recommended torque specification.

- 13** Repeat steps 11 and 12 for the second regulator bolt.





▲ Figure 8. Leaning open the interior door trim panel



▲ Figure 9. Replacing the 10 mm factory-installed window regulator bolt with the supplied shorter 10 mm replacement bolt

Inserting the Ballistic Door Panel


- 1 Adjust the window to be completely open.
- 2 Turn off the ignition switch and remove the key.
- 3 **Disconnect the vehicle battery to avoid accidental airbag deployment.**

- 4 Lift up on the outer window weatherstrip to remove it from the door.

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

 Be cautious with upper clips towards rear.



▲ Figure 10. Removing the outer window weatherstrip

 Use pick trim tools to unclip top of the weather strip.

- 5 Pry the weather strip away from the sheet metal.



▲ Figure 11. Inserting the Angel Armor Ballistic Door Panel into the door

- 6 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 Chevy Tahoe door and eases installation.

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

- 7 Hold the ballistic door panel so that its anti-abrasion panel faces the interior of the vehicle.
- 8 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.

NOTE: 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 12. Inserting the Angel Armor Ballistic Door Panel into the door

- 9 Slide the ballistic panel down into the door, following the edge of the window frame.

Inserting the Ballistic Door Panel

CONTINUED

- 10** Grip the nylon fold at the top of the ballistic panel when the ballistic panel is inserted the majority of the way into the door.



▲ Figure 13. Gripping ballistic door panel's top-edge nylon fold

- 11** Slide the ballistic panel forward, toward the front of the vehicle.

NOTES:

- Work the ballistic panel forward firmly to clear any obstructions, but never use excessive force. Excessive force may damage internal door components or puncture the ballistic door panel's weatherproof cover. It may be useful to shimmy the ballistic panel side to side while pushing forward to move it into position.
- If the ballistic panel does not clear the airbag sensor, move to the inside of the door to guide it forward of the sensor.
- If the ballistic panel will not seat fully forward, shift it backward and move the door wiring harness to manually position it into the notch in the panel.

- 12** Verify that the front, leading edge of the nylon at the top of the ballistic panel is positioned against the front, vertical edge of the window frame.
- 13** Push the ballistic panel down into its final location until the nylon fold at the top of the ballistic panel folds over the horizontal metal edge of the window frame. This is the same edge that the outer window weatherstrip sits on when properly installed.

Inserting the Ballistic Door Panel

CONTINUED

13 Verify that the ballistic panel is properly positioned by confirming the following:

- The airbag sensor is visible behind the back edge of the ballistic panel.
- The nylon fold at the top of the ballistic panel aligns with and folds over the top edge of the window frame, and the front edge of the nylon aligns with the vertical edge of the window frame.



▲ Figure 15. Proper alignment of fold with window frame

NOTE: If the ballistic door panel is not properly positioned, remove it from the door and repeat steps 1 through 13 of this section. Avoid tearing the ballistic panel's weatherproof cover on the 'teeth' inside of door by pushing the ballistic panel toward the interior of the vehicle before lifting it out of the door.

14 Replace the outer window weatherstrip by placing it in position and pressing down firmly, making sure to maintain the panel's proper positioning in the process and making sure the verticle clip holds.

15 Verify that no nylon is exposed below or around the window weatherstrip.



▲ Figure 16. Exterior view of properly installed ballistic panel

Re-attaching the Interior Door Panel

- 1** Replace the moisture barrier by pressing its adhesive into the attachment points on the door.
- 2** Align the top edge of the vehicle door trim panel and hook it on the top edge of the door interior, threading the lock rod through the appropriate hole in the interior door trim panel.
- 3** Push down on the door trim panel to seat it in position.
- 4** Align the interior door trim retainers with the appropriate holes in the vehicle door.
- 5** Push firmly on each retainer area until the retainers re-engage.
- 6** Replace the one 10 mm bolt behind the door handle, and then replace the door handle trim cover.
- 7** Replace the two 10 mm bolts in the arm rest, and then replace the arm rest trim cover.
- 8** Replace the door lock by completing the following procedure:
 - A** Verify that the vehicle door is unlocked.
 - B** Place the door lock knob on the lock rod.
 - C** Push down on the door lock knob so that the bottom edge of the lock knob retaining panel aligns with the surrounding door trim.
 - D** Press on the lock knob's retaining panel to re-engage it with the lock rod threads.
 - E** Verify proper replacement by pushing down on the lock. The top of the lock knob should be level with the surrounding door trim.



▲ Figure 17. Closed retaining panel on lock knob

- 9** Re-connect the vehicle battery.
- 10** Attach the Angel Armor brand label to the interior door panel by completing the following procedure:
 - A** Clean the attachment location on the door with isopropyl alcohol.
 - 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 18. Attaching 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 performed entirely through the window frame. There is no need for any interior door panel disassembly. If the ballistic door panel has been properly installed, the window regulator replacement 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 prevent accidental airbag deployment.**
- 3** Lift up and unclip the outer window weatherstrip to remove it from the door.
- 4** Grip the nylon fold at the top edge of the ballistic door panel.
- 5** Slide the ballistic panel toward the back of the vehicle, and then up, to remove it from the vehicle door.

NOTE: Avoid tearing the ballistic panel's weatherproof cover on the 'teeth' inside of door by pushing the ballistic panel toward the interior of the vehicle before it lifting out of the door.

- 6** Replace the outer window weatherstrip by placing it in position and pressing down firmly.
- 7** Re-connect the vehicle battery.
- 8** If removing the ballistic panel for transfer to another vehicle, inspect it after removal. Contact Angel Armor with any concerns about wear or damage.