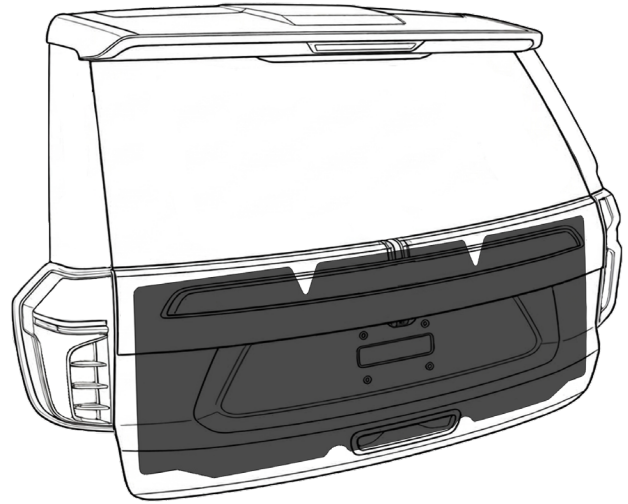




AVAIL[®]

VEHICLE HATCH

NIJ LEVEL IIIA



INSTALLATION GUIDE

As shown on

CHEVY[®] TAHOE PPV
(2021 & newer models)



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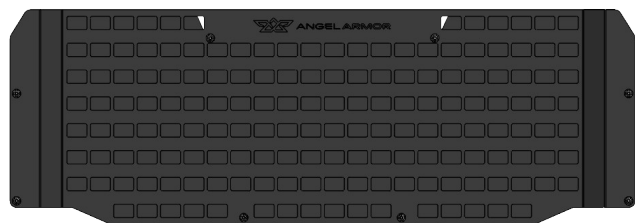
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CHEVROLET® AND CHEVY® ARE REGISTERED TRADEMARKS OF GENERAL MOTORS.

INTRODUCTION

Congratulations on your purchase of the Angel Armor® Avail® Vehicle Hatch (Level IIIA) for the Chevy® Tahoe PPV (2021 & Newer)! It is our honor to provide advanced protection to those who put their life 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 IIIA handgun threats, Avail elevates vehicle protection to a higher level.



▲ Figure 1. Angel Armor Avail Vehicle Hatch (Level IIIA) for the Chevy Tahoe PPV (2021 & Newer)

Product Description

Angel Armor Avail Vehicle Armor (Level IIIA) is constructed of a strong, thin, and lightweight proprietary technology made for optimal coverage below the rear-hatch glass. The Vehicle Hatch features an integrated MOLLE attachment platform for mounting equipment up to 20 lbs. for expanded functionality without sacrificing usable space. 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 Vehicle Hatch (Level IIIA) for the Chevy Tahoe PPV (2021 & Newer) exceeds NIJ Standard 0108.01 protocol for multi-round protection and offers a five-year express limited warranty. Within this period, the panel may be removed and transferred to another vehicle of the same make and model without violating the warranty.

Installation Overview

The ballistic Vehicle Hatch panel installation shown in this guide was performed on the hatch of the Chevy Tahoe PPV.

Avail Level IIIA Vehicle Hatch armor features a simple installation starting with marking and removing the hatch trim. This is required to install the rivet nuts and standoffs that hold the vehicle armor. Once this is completed, the vehicle hatch is reassembled and the armor is secured in place. Installation takes approximately 45-60 minutes per vehicle hatch.

Warnings and Cautions

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

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.

Warnings and Cautions

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

-  Read this guide in its entirety before beginning installation.
-  Wear appropriate protective gear, including eye and foot protection.
-  Avoid puncturing speakers with screws, push-snaps, fasteners, or other sharp pieces during hatch disassembly, hatch re-assembly, and panel insertion.
-  Do not drop screws or other assembly components inside the hatch, 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 hatch components that are inadvertently damaged during the installation process. Proper installation according to the instructions in this guide will not impair the hatch function in any way.
-  Use caution when removing parts that may have sharp edges.

TOOLS & PARTS LIST

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

Required Tools

■ Panel pry tools



▲ Figure 2. Panel/trim removal tool

■ Torx T27 key wrench (or screwdriver)



▲ Figure 3. Torx T27 key wrench



▲ Figure 4. Screwdriver

■ Channel Locks or Wide Mouth Pliers



▲ Figure 5. Channel locks



▲ Figure 6. Wide mouth pliers

■ Utility knife



▲ Figure 7. Utility knife

■ Drill



▲ Figure 8. Drill

■ “X” or 25/64” drill bit



▲ Figure 9. X drill bit



▲ Figure 10. 25/64” drill bit

■ 1/8” drill bit



▲ Figure 11. 1/8” drill bit

■ Step drill bit



▲ Figure 12. step drill bit

■ Center punch



▲ Figure 13. center punch

■ Rivet tool and 1/4”-20 Mandrel



▲ Figure 14. Rivet tool



▲ Figure 15. 1/4”-20 Mandrel

Recommended Tools

■ De-burring tool

■ Touch-up paint

■ Magnetic retrieval tool

■ Headlamp or flashlight

TOOLS & PARTS LIST

This section lists the parts included in the installation kit and the tools recommended for installation. Install kit contents are for one vehicle hatch.

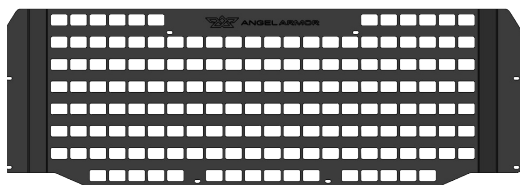
Installation Kit Contents

- Angel Armor Ballistic Vehicle Hatch (Level IIIA) for Chevy Tahoe PPV (2021 and newer models)



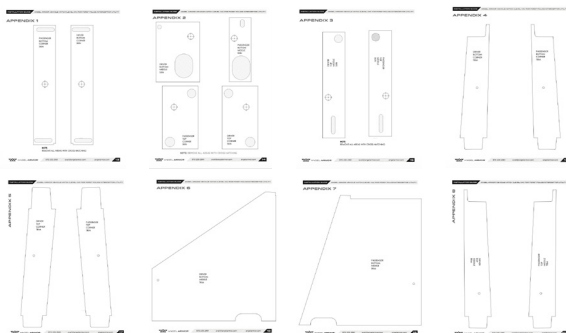
▲ Figure 16. Angel Armor Vehicle Hatch (Level IIIA) for the Chevy Tahoe PPV (2021+)

- Aluminum MOLLE panel



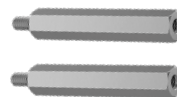
▲ Figure 17. Aluminum molle panel for the Chevy Tahoe PPV (2021+)

- Drill Appendix A and B (pg. 13-20)



▲ Figure 18. Drill Appendix A and B (8 pages total)

- Two 3" standoffs



▲ Figure 19. 3" standoffs

- Two 2 3/4" standoffs



▲ Figure 20. 2 3/4" standoffs

- Two 2 1/2" standoffs



▲ Figure 21. 2 1/2" standoffs

- Two 1 3/4" standoffs



▲ Figure 22. 1 3/4" standoffs

- Four 1/4"-20 rivet nuts for .138"-.236" wall



▲ Figure 23. 1/4" - 20 rivet nuts for .138"-.236" wall

- Four 1/4"-20 rivet nuts for .06"-.138" wall



▲ Figure 24. 1/4" - 20 rivet nuts for .06"-.138" wall

- Six 1/4"-20 x .75" button head bolts and M8 washers



▲ Figure 25. 1/4"-20 x .75" button head bolts and washers

INSTALLATION KIT CONTENTS (CONTINUED)

- Two 1/4"-20 x 1" button head bolts and M8 washers



▲ Figure 26. 1/4"- 20 x 1" button head bolts and washers

- Angel Armor brand label



▲ Figure 27. Angel Armor brand label

- Isopropyl alcohol wipe



▲ Figure 28. Isopropyl alcohol wipe

INSTALLATION

This section provides instructions for installing Angel Armor Avail Vehicle Hatch (Level IIIA) into the Chevy Tahoe PPV (2021 & Newer).

Overview

Installation of Angel Armor Avail Vehicle Hatch (Level IIIA) into the Chevy Tahoe PPV is simple and starts with removing the hatch trim. Once this is completed, the vehicle hatch can be reassembled and the armor is secured in place. See procedure on page 9 for detailed instructions.

General Installation Procedure

- 1** Remove hatch trim.
- 2** Install rivet nuts and standoffs.
- 3** Drill standoff holes in trim.
- 4** Reinstall hatch trim.
- 5** Install aluminum molle and ballistic panel.

Important Notes

- The directions, photographs and illustrations in this guide depict an installation performed on the hatch.
- Note the location of screws and hatch components before disassembling to aid proper re-assembly before panel installation.
- Place all removed hardware and components in a safe place during installation.
- Angel Armor Avail Ballistic Panels are semi-rigid, which allows them to be bent slightly for easy installation. To help prevent damage to the Vehicle Hatch 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 hatch components.
- Bypass obstructions inside the hatch by angling the panel during insertion as described in Installing the Avail Vehicle Hatch, on page 10.

PROCEDURE

Complete the following steps to properly install Angel Armor Avail Vehicle Hatch (Level IIIA) for the Chevy Tahoe PPV (2021 & newer).

Preparing the Hatch

- 1 Using the drill guides from Appendix A, center punch all hole locations shown in Figure 29 and the reference list below:



▲ Figure 29. Drill guides from Appendix A correctly aligned with their location on the vehicle hatch

- A Passenger Top Corner Skin
- B Passenger Top Middle Skin
- C Driver Top Middle Skin
- D Driver Top Corner Skin
- E Passenger Bottom Corner Skin
- F Passenger Bottom Middle Skin
- G Driver Bottom Middle Skin
- H Driver Bottom Corner Skin

- 2 Drill all holes out using an "X" or 25/64" drill bit.
- 3 Install four of the .138"-.236" rivet nuts in the top four holes using a rivet tool and 1/4" mandrel.
- 4 Install four of the .06"-.138" rivet nuts in the top four holes using a rivet tool and 1/4" mandrel.
- 5 Install the standoffs in their respective rivet nuts, referencing Figure 30 and the list below:

- A .138"-.236" Rivet Nut, 2.75" Standoff
- B .138"-.236" Rivet Nut, 2.5" Standoff
- C .138"-.236" Rivet Nut, 2.5" Standoff
- D .138"-.236" Rivet Nut, 2.75" Standoff
- E .06"-.138" Rivet Nut, 3" Standoff
- F .06"-.138" Rivet Nut, 1.75" Standoff
- G .06"-.138" Rivet Nut, 1.75" Standoff
- H .06"-.138" Rivet Nut, 3" Standoff

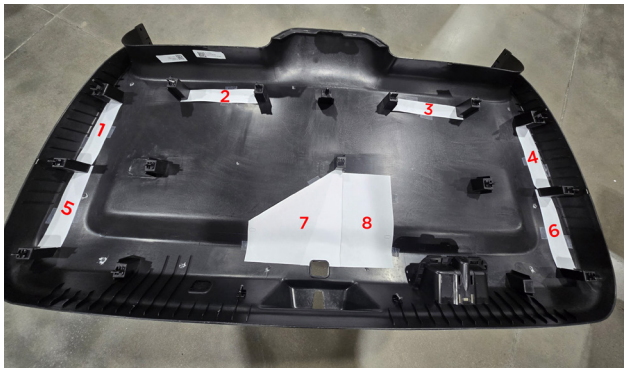


▲ Figure 30. Placement of standoffs in alignment with their correct drill guides

- 6** Tighten the standoffs with channel locks or wide mouth pliers.

Preparing the Trim

- 1** Using the drill guides from Appendix B, center punch all hole locations shown in Figure 31 (pg. 10).



▲ Figure 31. Drill guides from Appendix B correctly aligned with their location on the vehicle hatch

- 2** Drill all holes out using an 1/8" drill bit.
- 3** Flip the trim to the front and drill all holes out to 3/4" using a step drill bit. The numbers in Figure 31 represent the following components:
 1. Driver Top Corner Trim
 2. Driver Top Middle Trim
 3. Passenger Top Middle Trim
 4. Passenger Top Corner Trim
 5. Driver Bottom Corner Trim
 6. Passenger Bottom Corner Trim
 7. Driver Bottom Middle Trim
 8. Passenger Bottom Middle Trim

Installing the Avail Vehicle Hatch

- 1** Reinstall all the trim pieces in reverse order of their removal.
- 2** Hold MOLLE panel up to the hatch and loosely install the top four bolts and washers according to Figure 32 (pg. 11).
- 3** Align the ballistic panel with the large cutouts towards the window and the label facing the hatch.
- 4** Slide the ballistic panel between the hatch trim and MOLLE panel, sliding it up to the middle standoffs to ensure proper alignment.
- 5** Install the final four bolts and washers into the bottom four standoffs.

(continued on page 11)

Installing the Avail Vehicle Hatch (Continued)

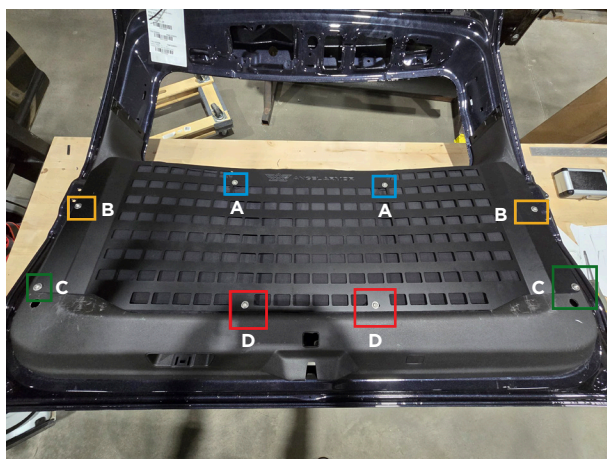
- 6** Tighten all Torx bolts to 6 ft-lbs. Verify that all bolts are located and installed in the correct order in Figure 32:

A Top middles, 1" bolts; install before ballistic panel

B Top corners, .75" bolts; install before ballistic panel

C Bottom corners, .75" bolts; install after ballistic panel

D Bottom middles, .75" bolts; install after ballistic panel



▲ Figure 32. Correct placement and order of installing the button head bolts

Completing Installation

- 1** Ensure proper closure of the hatch.
- 2** Attach the Angel Armor brand label to the interior of the hatch by completing the following procedure:
 - A** Clean the attachment location on the hatch with isopropyl alcohol.
 - B** Allow the hatch surface to dry completely.
 - C** Remove backing from the brand label.
 - D** Apply the brand label to the hatch, pressing for at least 30 seconds to ensure proper adhesion.



▲ Figure 33. 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 Vehicle Hatch for decommission or transfer to another vehicle.

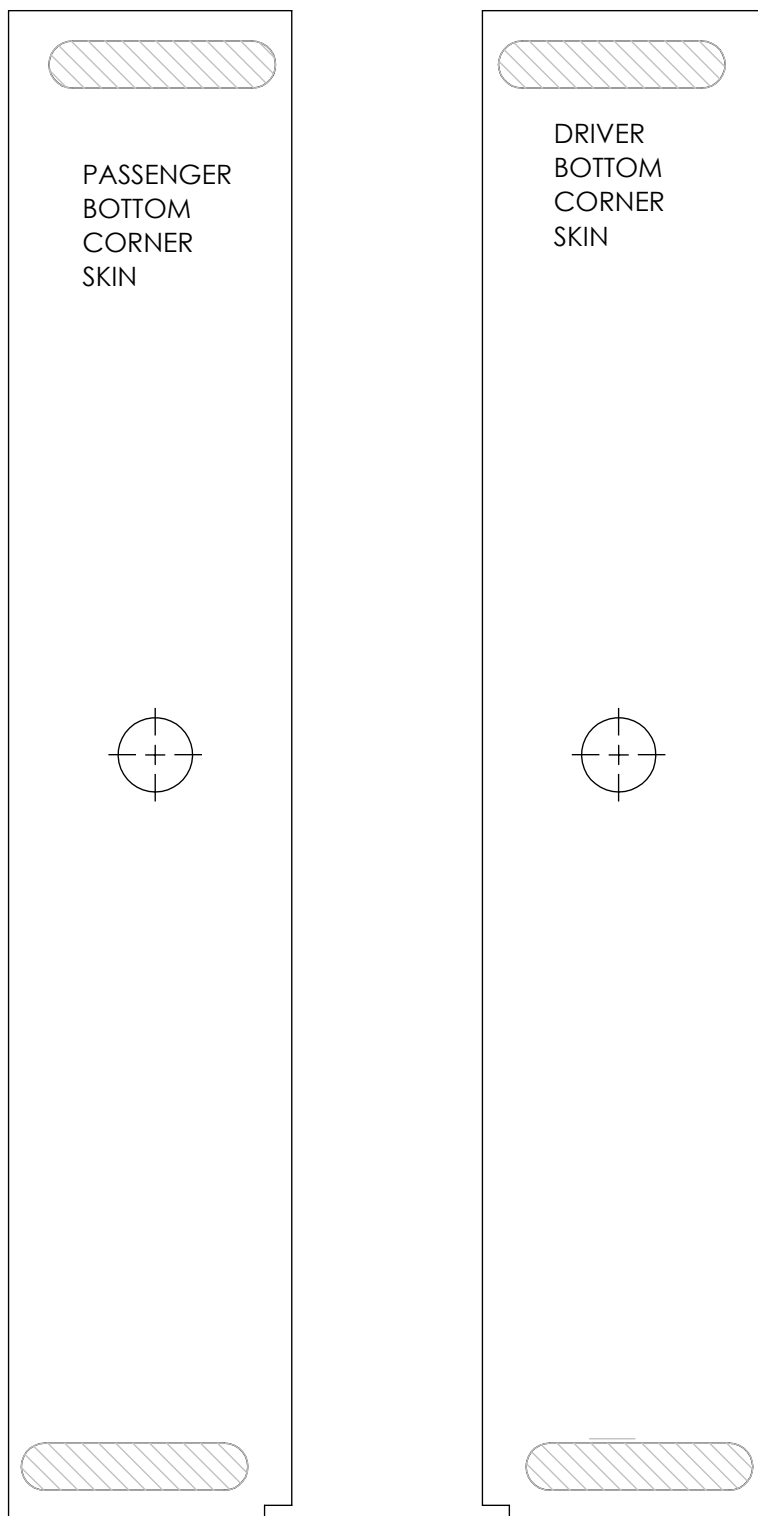
- 1** Remove Angel Armor brand label.
- 2** Remove bolts from the four bottom standoffs.
- 3** Remove the Vehicle Hatch IIIA ballistic panel.
- 4** Remove all other bolts and MOLLE panel.
- 5** Remove all hatch trim pieces.
- 6** Remove all standoffs.

NOTE: Rivet nuts can be left in the hatch, as they will not interfere with proper function of the hatch.

- 7** Reinstall hatch trim.

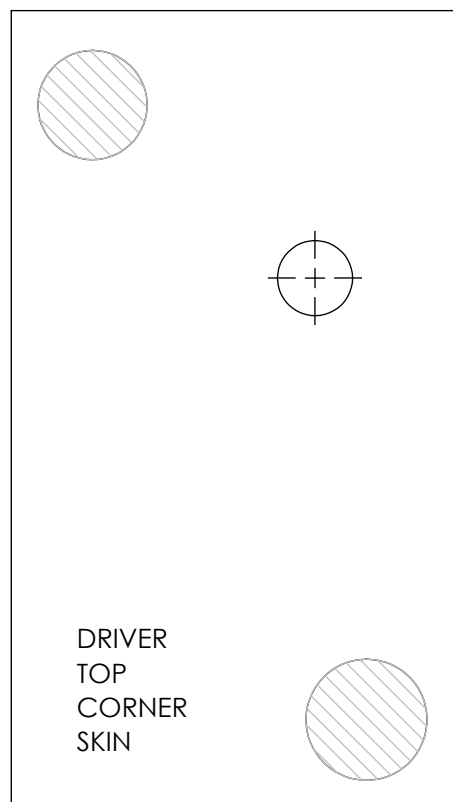
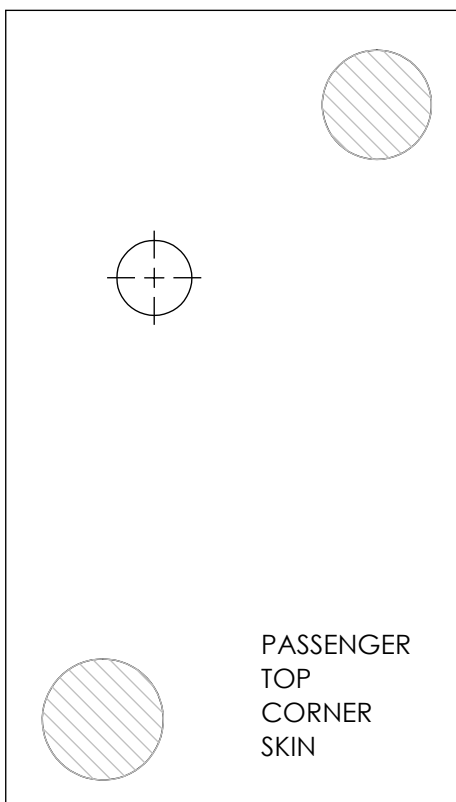
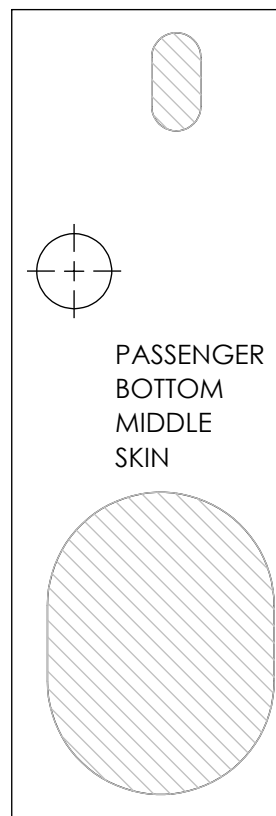
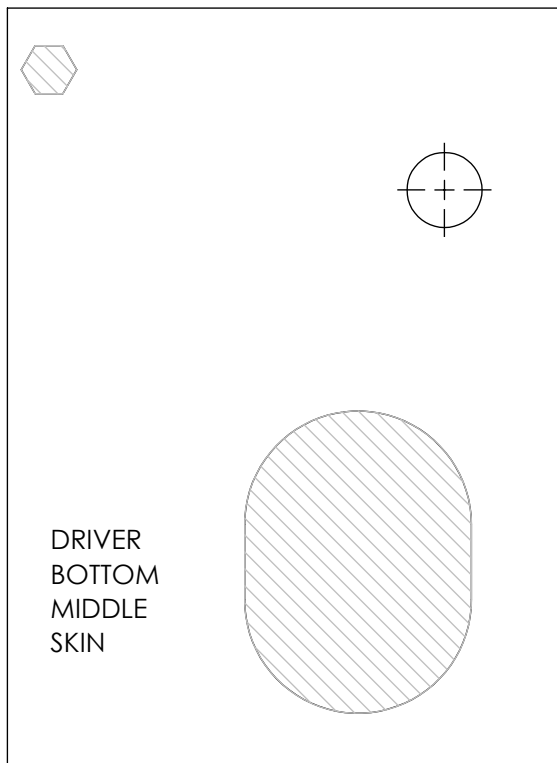
 If removing the Ballistic Panel for transfer to another vehicle, inspect the panel after removal. Contact Angel Armor with any concerns about wear or damage.

APPENDIX A



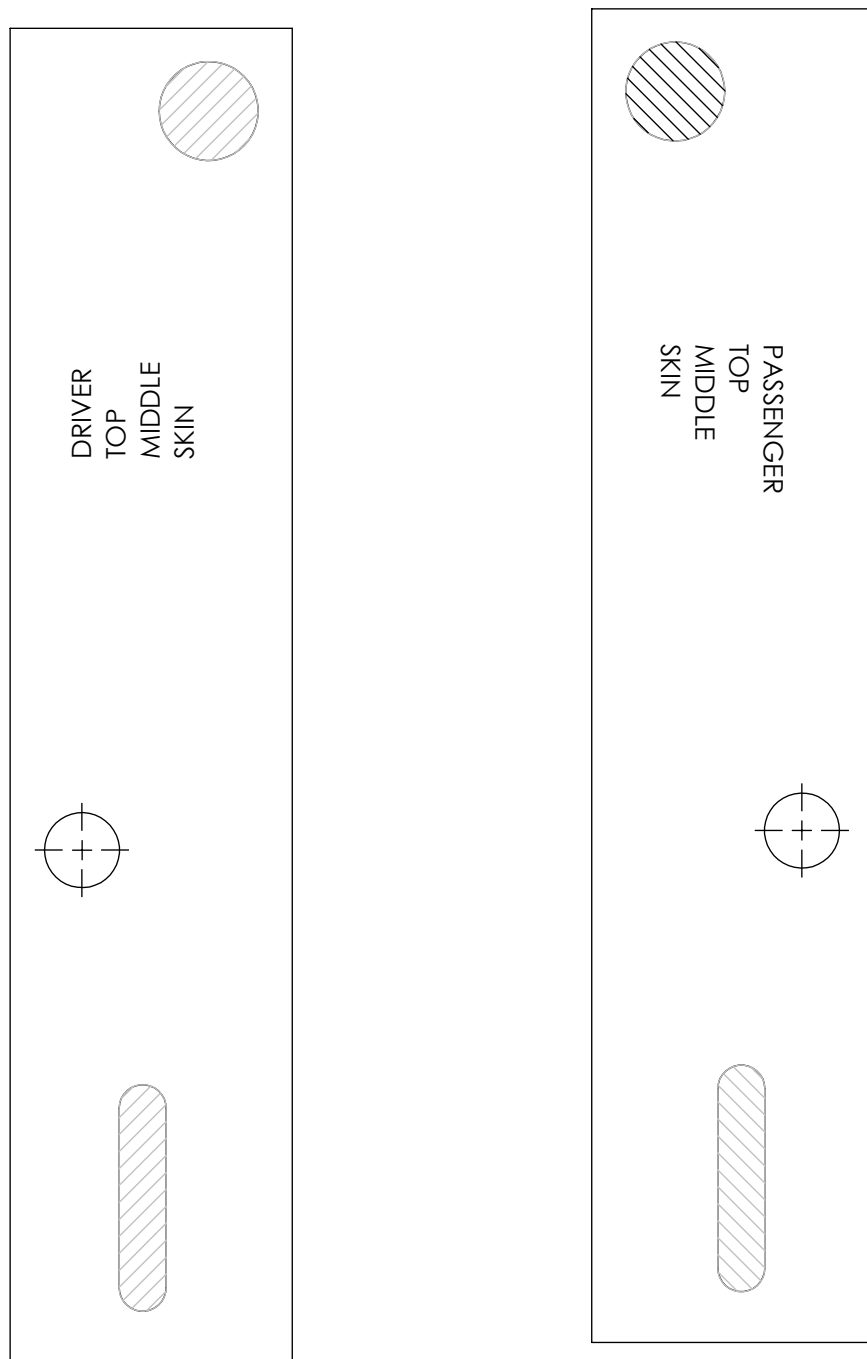
NOTE:
REMOVE ALL AREAS WITH CROSS HATCHING

APPENDIX A



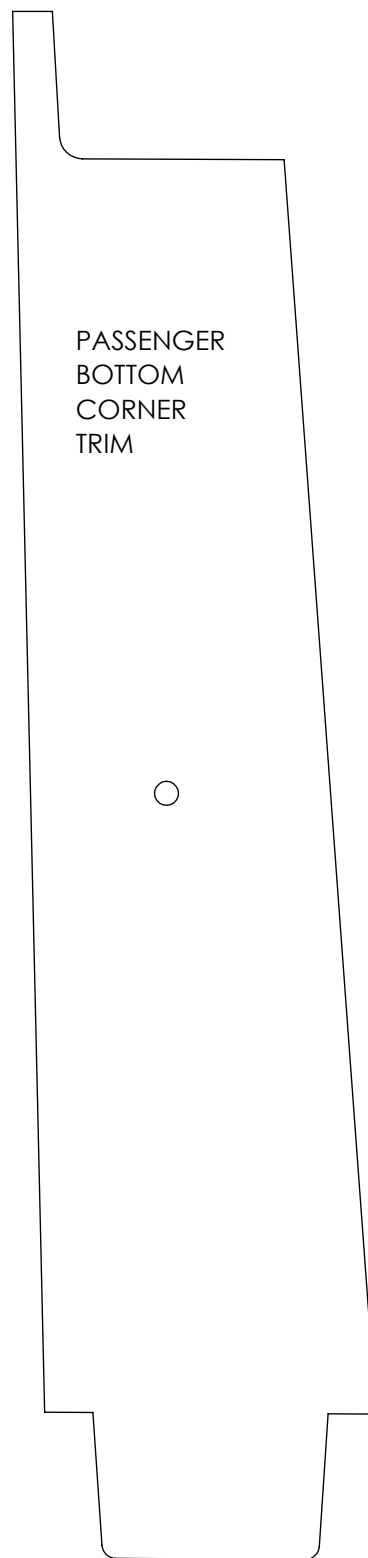
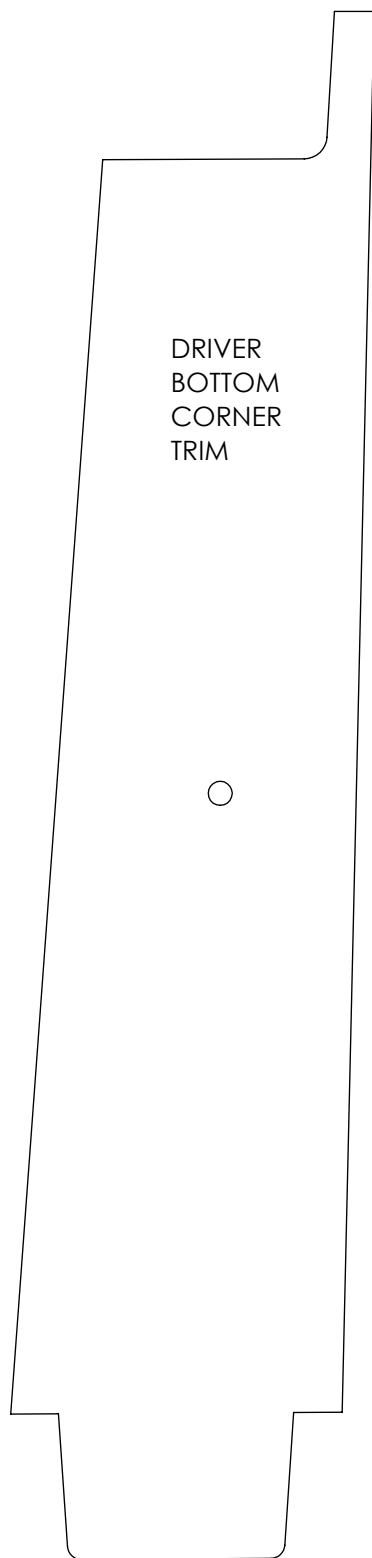
NOTE: REMOVE ALL AREAS WITH CROSS HATCHING

APPENDIX A

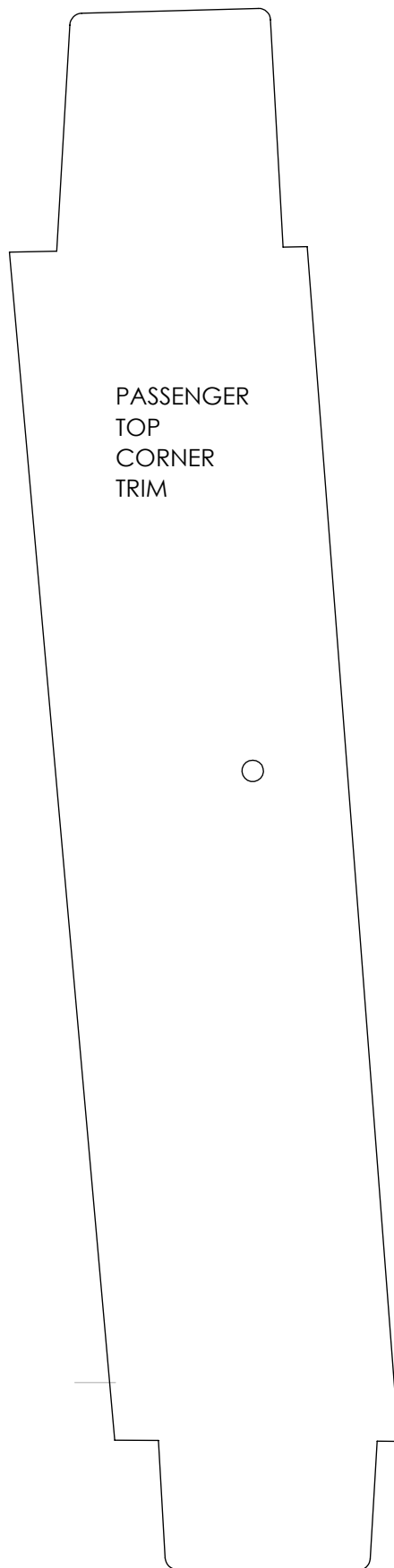
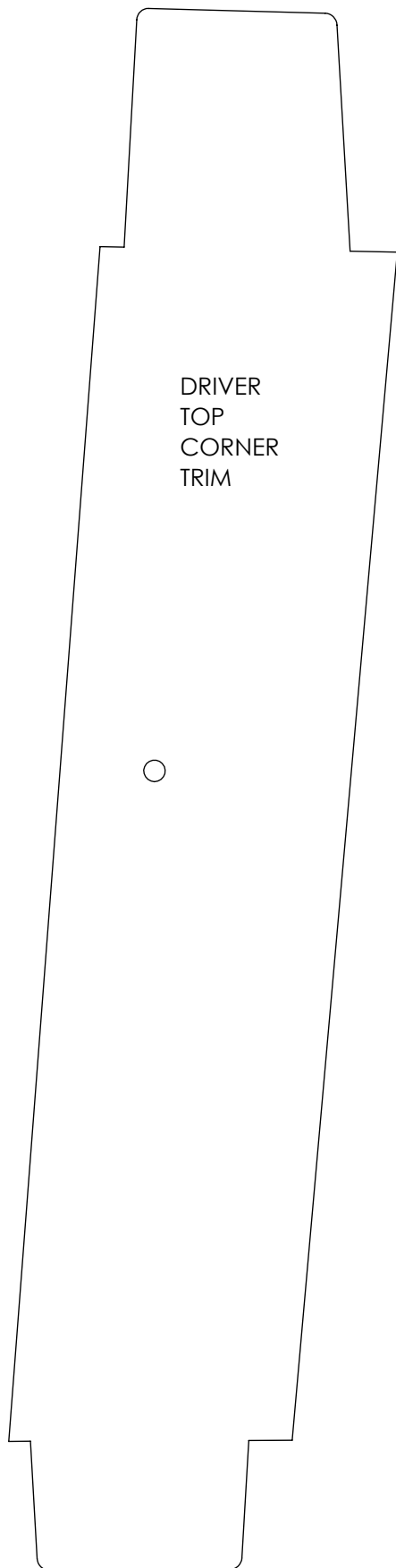


NOTE:
REMOVE ALL AREAS WITH CROSS HATCHING

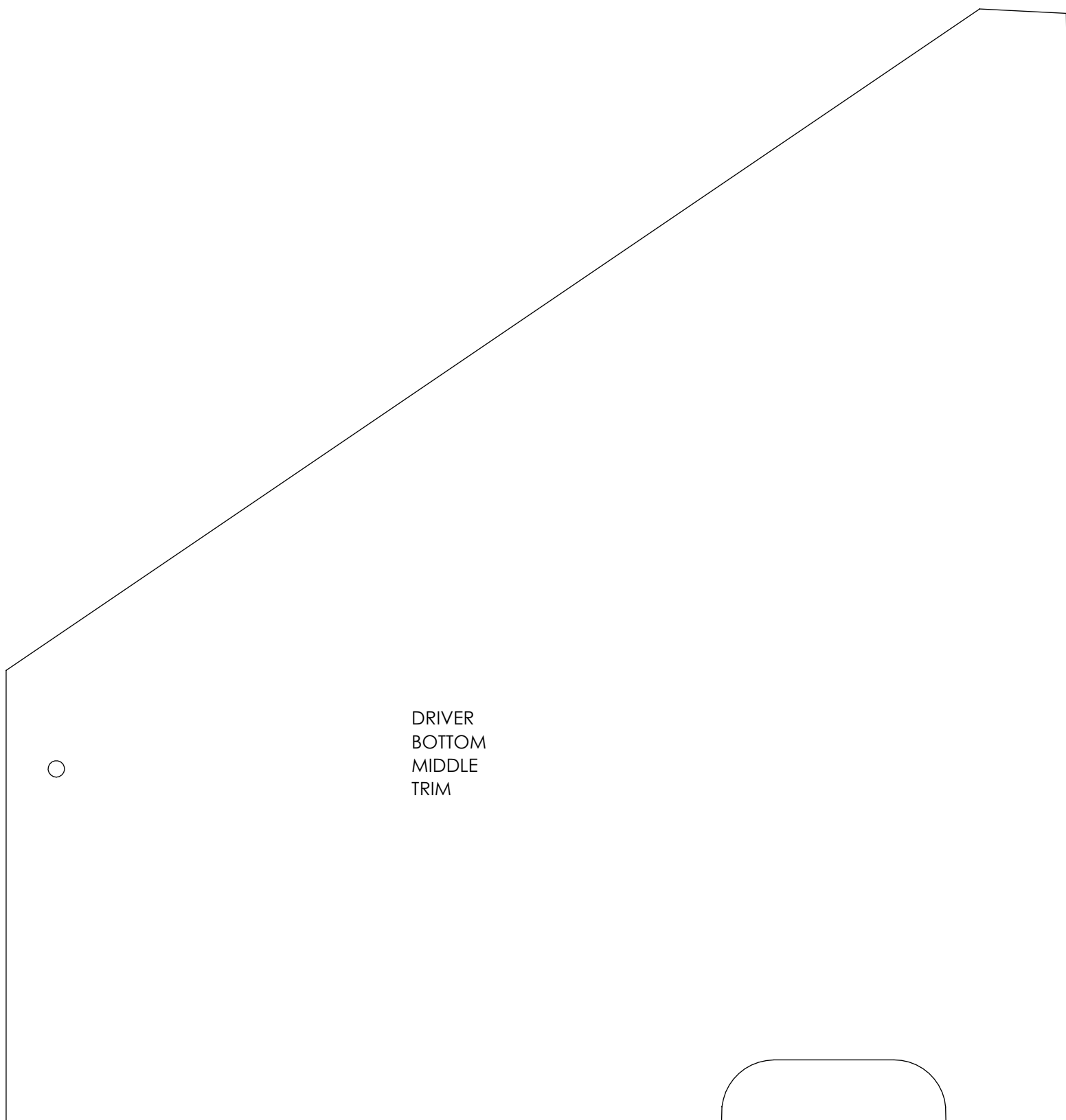
APPENDIX B



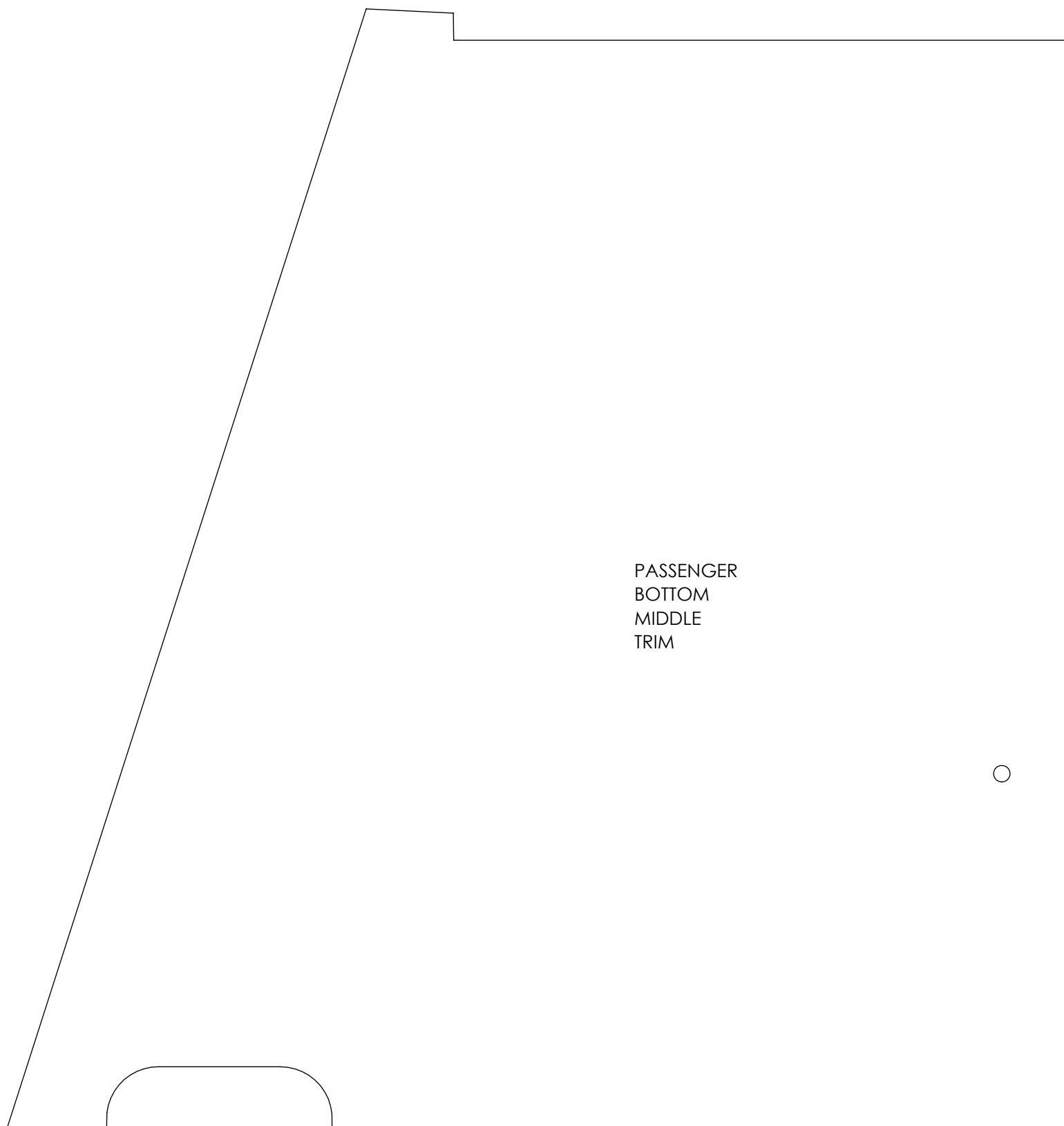
APPENDIX B



APPENDIX B



APPENDIX B



APPENDIX B

