



INNOVATIVE  
**HEAT & SOUND  
CONTROL**  
SOLUTIONS

# INSTALLATION INSTRUCTIONS

**PART #902413  
HEAT & SOUND CONTROL KIT  
2024 & UP POLARIS XPEDITION  
ADV NORTHSTAR 4-DOOR ENCLOSED**

**INSTALLATION QUESTIONS? CONTACT DEI AT 800-264-9472  
OR VIA EMAIL AT [TECH@DESIGNENGINEERING.COM](mailto:TECH@DESIGNENGINEERING.COM)**

**NOTE OF CAUTION: Wear eye and hand protection when installing all materials.**

## PARTS CHECKLIST

16 Pieces of Boom Mat Damping  
Piece # 557 - Roof Insulation  
Piece # 352 - Roof Insulation  
Piece # 559 - Roof Insulation  
Piece # 353 - Boom Mat Acoustic  
Piece # 354 - Boom Mat Acoustic  
Piece # 355 - Boom Mat Acoustic  
Piece # 356 - Boom Mat Acoustic  
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Piece # 364 - Boom Mat Acoustic  
Piece # 365 - Boom Mat Acoustic  
Piece # 366 - Boom Mat Acoustic  
Piece # 515 - Boom Mat Acoustic  
Piece # 516 - Boom Mat Damping  
Piece # 517 - Boom Mat Acoustic  
Piece # 518 - Boom Mat Acoustic  
Piece # 519 - Boom Mat Acoustic  
Piece # 520 - Boom Mat Acoustic  
Piece # 521 - Boom Mat Acoustic  
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Piece # 537 - Boom Mat Acoustic  
Piece # 538 - Boom Mat Acoustic  
Piece # 539 - Boom Mat Acoustic  
Piece # 542 - Boom Mat Damping  
Piece # 546 - Boom Mat Acoustic  
Piece # 548 - Boom Mat Acoustic  
Piece # 549 - Boom Mat Acoustic  
Piece # 547 - Boom Mat Damping - Qty 2  
Adhesion Promoter Wipes - Qty 5  
Boom Mat Tape & Roller

## NOTES

- Test fit all parts before sticking down and installing
- **SURFACE MUST BE CLEAN!**
- Install above 60°F

## SURFACE PREP

Clean surfaces with Windex/glass cleaner/microfiber towels.  
**ALL SURFACES MUST BE CLEAN AND GREASE/DIRT FREE** for product to adhere properly to panels and surfaces.

NOTE: Use the included Adhesive Promotor pads as the last step before installing the Boom Mat Acoustic panels. Make sure to clean the installation area first, then use adhesion promotor.

## TOOLS

Torx Screw Driver	Utility Knife
Flat Blade Screw Driver	Tape Measure
Straight Edge	Sharpie Marker

SCAN QR CODE  
TO WATCH  
INSTALLATION  
VIDEO



1. Open rear glass and tailgate. Remove the rear headliner. It is held in place with Torx screws. Once all the screws are removed, you can pull the headliner down and set on a table. (Fig 1 & Fig 2)



FIG 1



FIG 2

2. Find the smaller White insulation panel Piece 352. This will sit on the top side of the headliner, between the headliner and roof. Set the fuzzy side down against the headliner, making sure to line up all the cut outs and holes. Fig 3

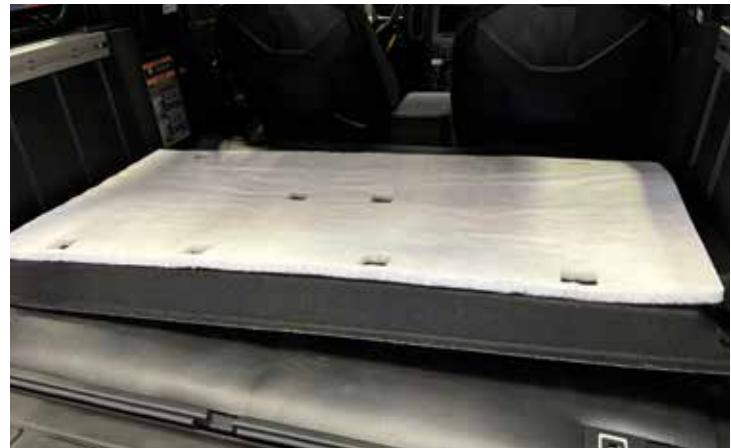
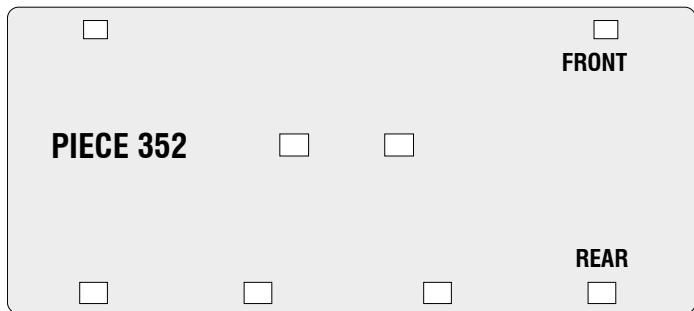


FIG 3

3. Fit the headliner back into place with the White insulation sandwiched between the headliner and roof. Start a few screws and push the edges back into place. Install the remaining screws and tighten, do not overtighten the screws, they only thread into the plastic roof, snug is good. Fig 4



FIG 4

4. Repeat the same procedure for the front headliner, you will have to remove the dome light, push the locking clip on the wire plug to remove. Fig 5 & Fig 6. Remove rear view mirror. The mirror uses two Allen screws. Fig 7



FIG 5



FIG 6



FIG 7



5. Remove the rest of the screws and headliner. Fig 8

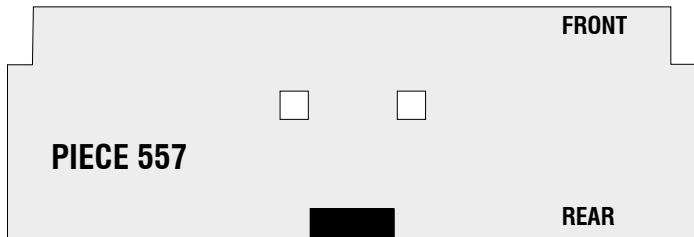


FIG 8

6. Install the White insulation (Piece 557) fuzzy side down against the headliner, and reinstall the headliner. Fig 9, Fig 10 & Fig 11



FIG 9



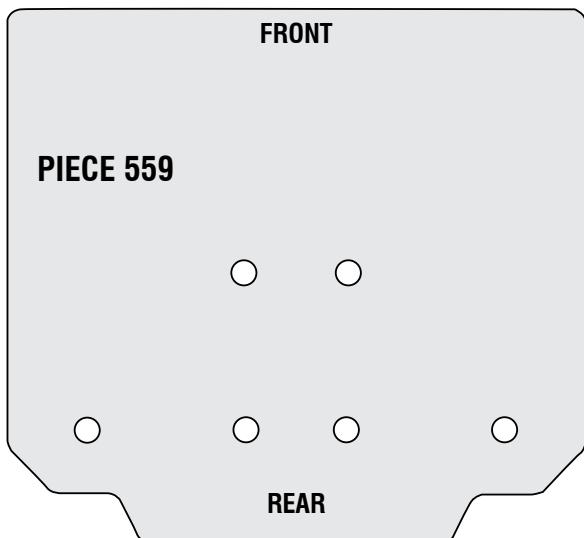
FIG 10



FIG 11

7. Remove the middle headliner. It is held in place with Torx screws. Once all the screws are removed, you can pull the headliner down and set on a table. Fig 12

8. Install the headliner White insulation (Piece 559) fuzzy side down against the headliner, and reinstall the headliner. Fig 13 & Fig 14



9. Remove the bed floor liner using a flat blade screwdriver on the 4 screws. These are half twist screws; they do not come all the way out. Fig 15

Lift the bed floor liner out and set aside.

Remove both driver and passenger seats. They each have 2 Torx bolts in the front, remove these bolts and push the seats forward to release the rear mount.



FIG 15

10. Using the 12x12 Boom-Mat squares, layout a pattern on the cargo floor. Start in the middle rear of the bed, center two pieces making sure not to cover the rear bolts holding the bed floor. Before peeling the backing off, put two squares down and push the Boom-Mat into the grooves. Measure the distance to each side of the bed to make sure you are centered. (This is not critical; the goal is to cover the entire bed floor) make sure to overlap the squares slightly so you have no gaps. Once you are satisfied with the fit, peel a corner of the backing and stick to the floor. Then lift the remaining part of the square back up to peel the rest of the backing, pushing it into contact with the floor. Use the supplied roller to smooth and get good contact with the floor. You need good contact with the material to function properly. Fig 16



FIG 16

Center the first 2 12x12 Boom Mat squares but make sure to not cover bolts.

11. Using a tape measure or ruler, measure from the edge of the Boom Mat piece you just put down to the bedside. You will need to cut a piece of Boom Mat to fit this space. Fig 17 & Fig 18.

NOTE: Best to use a metal straight edge and a utility knife to cut Boom Mat material. It cuts cleaner with aluminum side facing up.



FIG 17

FIG 18

**Measure these distances and cut pieces of Boom Mat damping material to fit each side**

NOTE: You will have to notch around the hold down for the bed liner on both sides. Fig 19

12. Fit the cut part just like you did with the first two. Making sure to form it to the grooves before peeling the backing. When you install the part, start at the bedside and work towards the middle. You do not want to go up the bedside with the part. Repeat for the other side.



FIG 19

**Notch Boom Mat material around hold downs for bed liner**

13. Start on the next row, measure up to the access door, follow the same procedures to lay it down. Fig 20

NOTE: You will notice that you are covering up some bolts on the floor. You will need to cut around these using a utility knife after you have install the squares, just push with your finger to make an outline of the bolt head and then cut the material out.



**NOTE TO TRIM OUT AROUND BOLT HEADS**



FIG 20

14. After the bed floor is covered, remove the access hatch in the bed floor. It uses 4 half turn screws. Fig 21.

Measure and cut material to cover the entire hatch. Cover over the screws for now and use the roller to make good contact. Fig 22.

NOTE: Using your finger, make a depression around each screw, using a utility knife, cut around the screws and remove the material, exposing the screw heads. Install the hatch. Fig 23



FIG 21



FIG 23

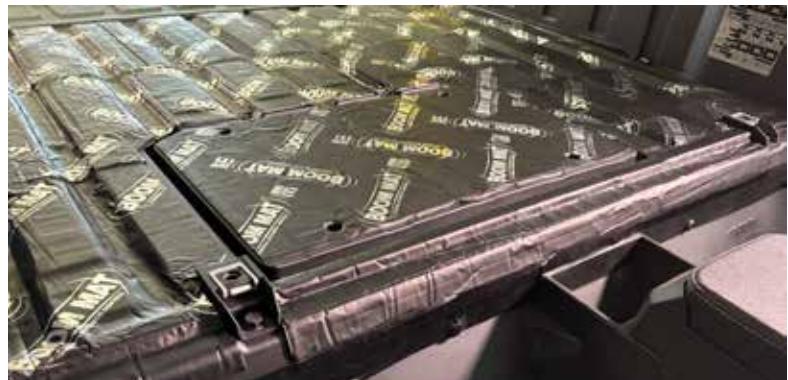
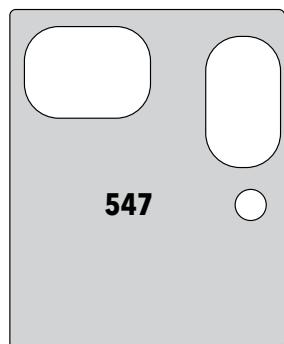


FIG 22

15. Place pre-cut pieces #547 on the hatches under the driver and passenger seats. Fig 24

**NOTE: MAKE SURE TO CLEAN THE SURFACE BEFORE INSTALLING**

DRIVER SIDE DOOR

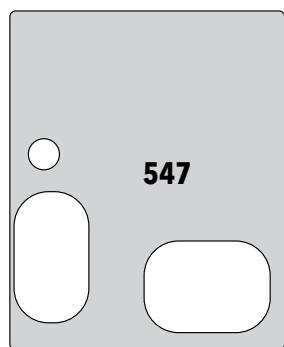


FRONT OF  
VEHICLE

547

FRONT OF  
VEHICLE

547



PASSENGER SIDE DOOR



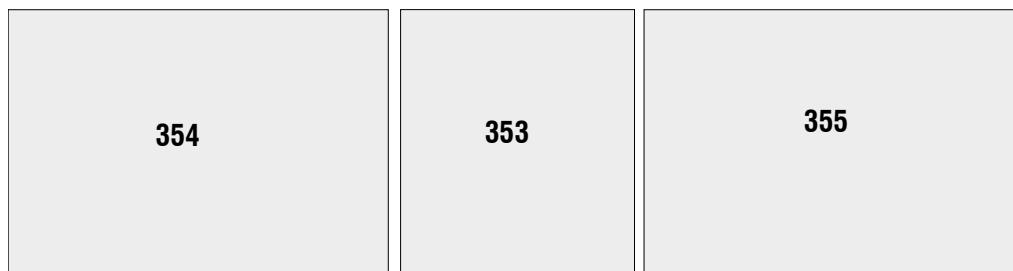
FIG 24

## INSTALLING THE FELT COVERED BOOM MAT ACOUSTIC BED PIECES

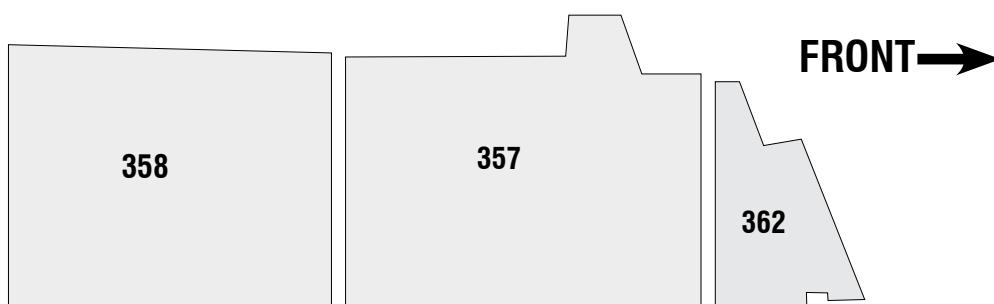
The kit includes pre-cut pieces; lay all the parts out in the location they will go before you start to stick any pieces down. This will ensure you have them all in the correct location.

**NOTE:** Start by Cleaning the tail gate and bed sides. All panels must be clean for the Boom Mat to adhere correctly.

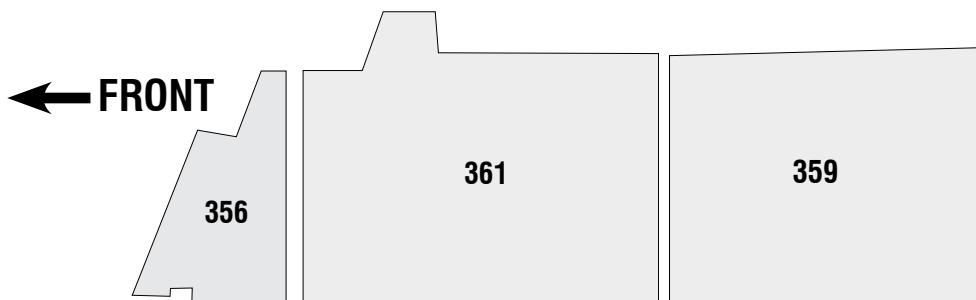
**NOTE:** Use the included Adhesive Promotor pads as the last step before installing the Boom Mat Acoustic panels. Make sure to clean the installation area first, then use adhesion promotor.



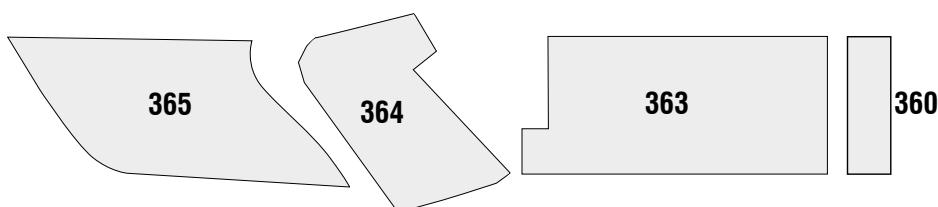
**Tailgate**



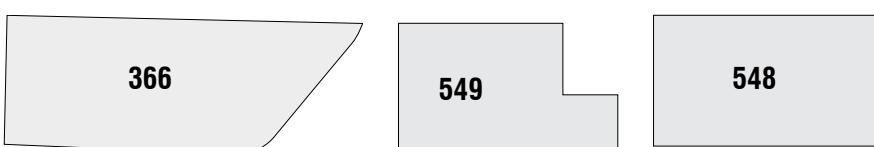
**Driver Side  
Cargo Bed Side**



**Passenger Side  
Cargo Bed Side**



**Passenger Side  
Lower Seat Base**



**Driver Side  
Lower Seat Base**

16. Starting with the Tailgate, find the three pieces, these will be marked 354, 353 and 355. The smaller part 353 will be the center of the Tailgate. The other two will be the sides. Fig 25

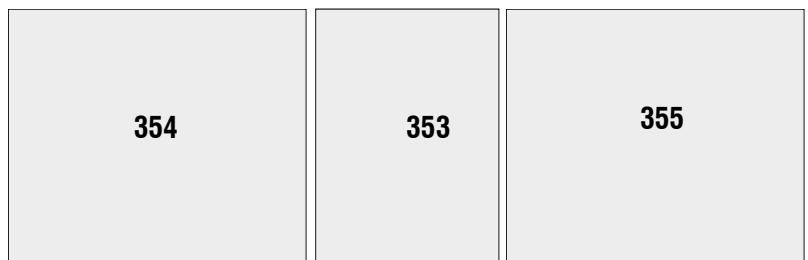


FIG 25

17. Lay the tailgate side pieces (piece 354 & piece 355) on the tailgate and then lay down the middle tailgate piece. (Piece 353) Line them up so you have even spacing left to right. Once you have them lined up, remove the driver side piece (piece 354) and leave the other two in place. They will act as your guide to install the first piece. Fig 26



FIG 26

TAILGATE FOLDED DOWN VIEWED FROM REAR

18. Peel back about an inch of the release liner on the under side, and fold it over. Fig 27.

Place the piece back in place, making sure not to move the other two. Push down on the piece to stick the area in place that you peeled the release liner from. Once that is stuck down, check your alignment once more. If everything looks good, lift the piece up from the end that still has the release liner on the back and slowly peel the rest of the liner off as you stick the piece down. Once completely down firmly press to make sure you have good contact. Repeat the for the other two Tailgate pieces. Fig 28



FIG 27

Peel back small section of backing, set piece in place and press down. When you are sure the piece is exactly lined up, peel the rest of the backing off and press down.



FIG 28

19. Starting with the driver's side bedside. Locate the three pieces 358, 357 & 362. Fig 29

**NOTE: PIECES 358 & 359 HAVE A SMALL TAPER TO THEM. MAKE SURE TO CHECK THE FIT TO THE TOP ALUMINUM RAIL BEFORE INSTALLING**

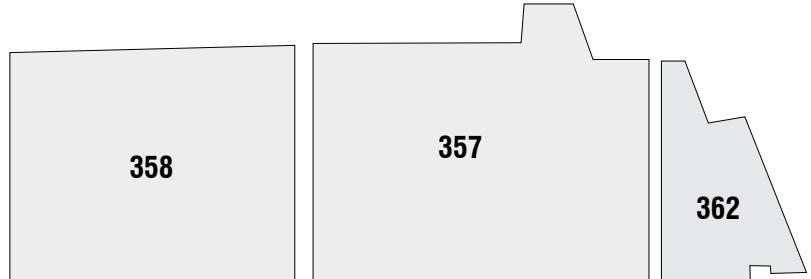


FIG 29

20. Hold them in place to see how they fit. Start with the rear piece (PIECE 358). Hold it in place lining it up with the rear tailgate edge. When it is in the correct position, using masking tape, tape that piece in place. Then place the middle piece (piece 357) against the bed side and when it is lined up, tape it in place. Finally take the front piece (piece 362) place that against the bed side and when that is lined up, tape that piece in place as well. Fig 20



FIG 30

21. Once all three bedside pieces are in place and you have the location of each piece where it should be, start by peeling a corner of the adhesive backing off the rear piece (piece 358) and stick that to the bed side. Making sure the other pieces do not move, slowly peel the rest of the backing off the rear piece and press it against the bedside. Repeat this process for the middle piece (piece 357) and the front piece (piece 362). The front piece (piece 362) bends around the corner, so just press it firmly onto the surface. Fig 31



FIG 31

22. Repeat the same process for the passenger side with the passenger side pieces rear piece (piece 359) , Middle piece (piece 361) front piece (Piece 356) Fig 32



FIG 32

23. Locate the driver side outside seat base pieces (piece 366) Fig 33

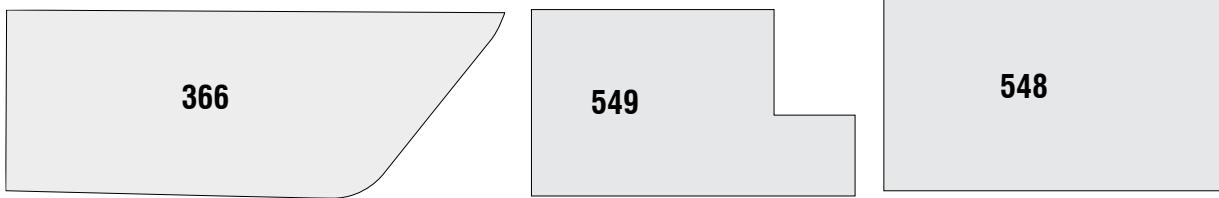


FIG 33

24. Piece 366 starts along the rear of the driver seat base, and goes along the side of the seat base, and wraps around to the front.

Fig 34



FIG 34

25. Piece 548 & Piece 549 go on the front of the driver seat base. Fig 35

Note: Install Piece 366 that wraps around the outside of the seat base first. That will help align piece 549 ad 548 on the front bottom of the seat base.



FIG 35

26. On the Passenger side the kit has 4 pieces for the seat base. Piece 365, Piece 364, Piece 363, Piece 360. Fig 36

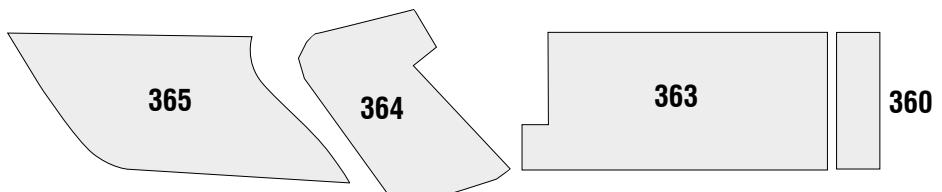


FIG 36

27. Mockup all the pieces before sticking any part down. Start with the outer piece, (Piece 111) hold it in place and then peel about an inch on the release liner, stick the part in place and then peel the rest of the liner off and firmly press to adhere. Fig 37 & Fig 38



FIG 37



FIG 38

28. The next piece will be the corner part (PIECE 364), repeat the same process, making sure to fit the edge to the piece you just installed. Fig 39



FIG 39

29. Continue with the larger piece that goes on the front center of the passenger seat base (Piece 363) Fig 40



FIG 40

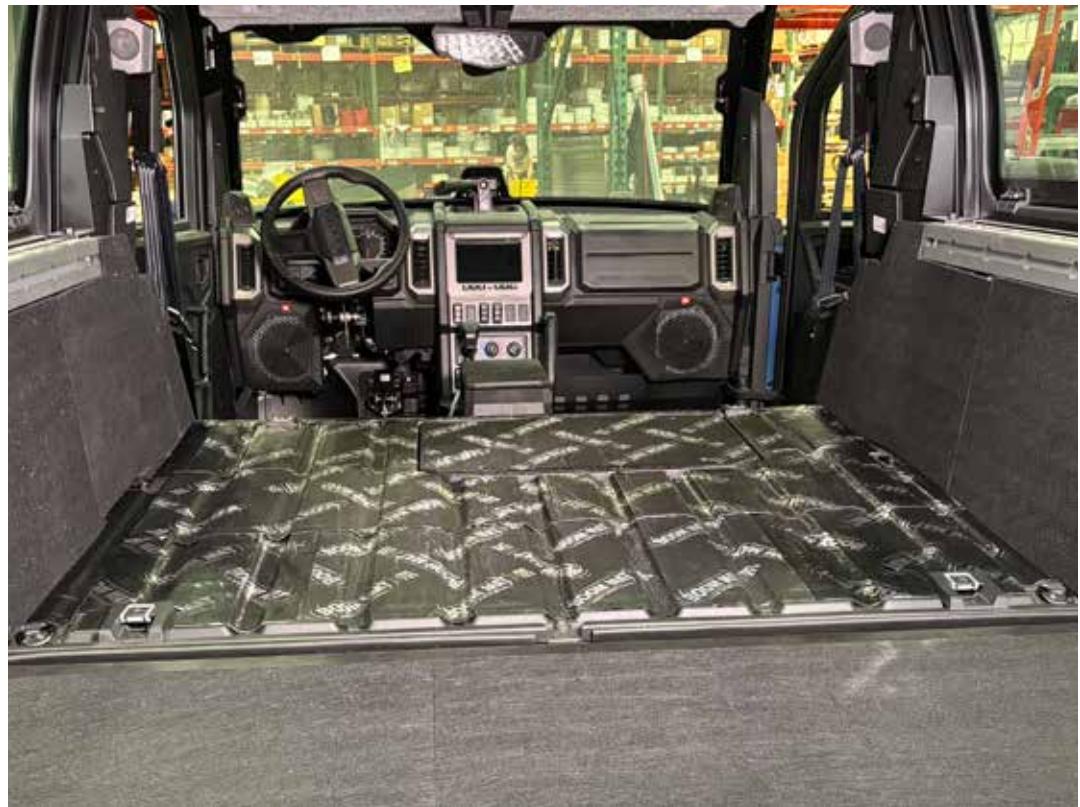
30. Then the last small piece that goes on the passenger seat base and goes the edge goes up against the center console (Piece 360) Fig. 41



FIG 41

31. Reinstall the seats, Torquing the factory bolts to the factory torque specification

Kit installed with all pieces and rear floor removed to show Boom Mat damping material installed.



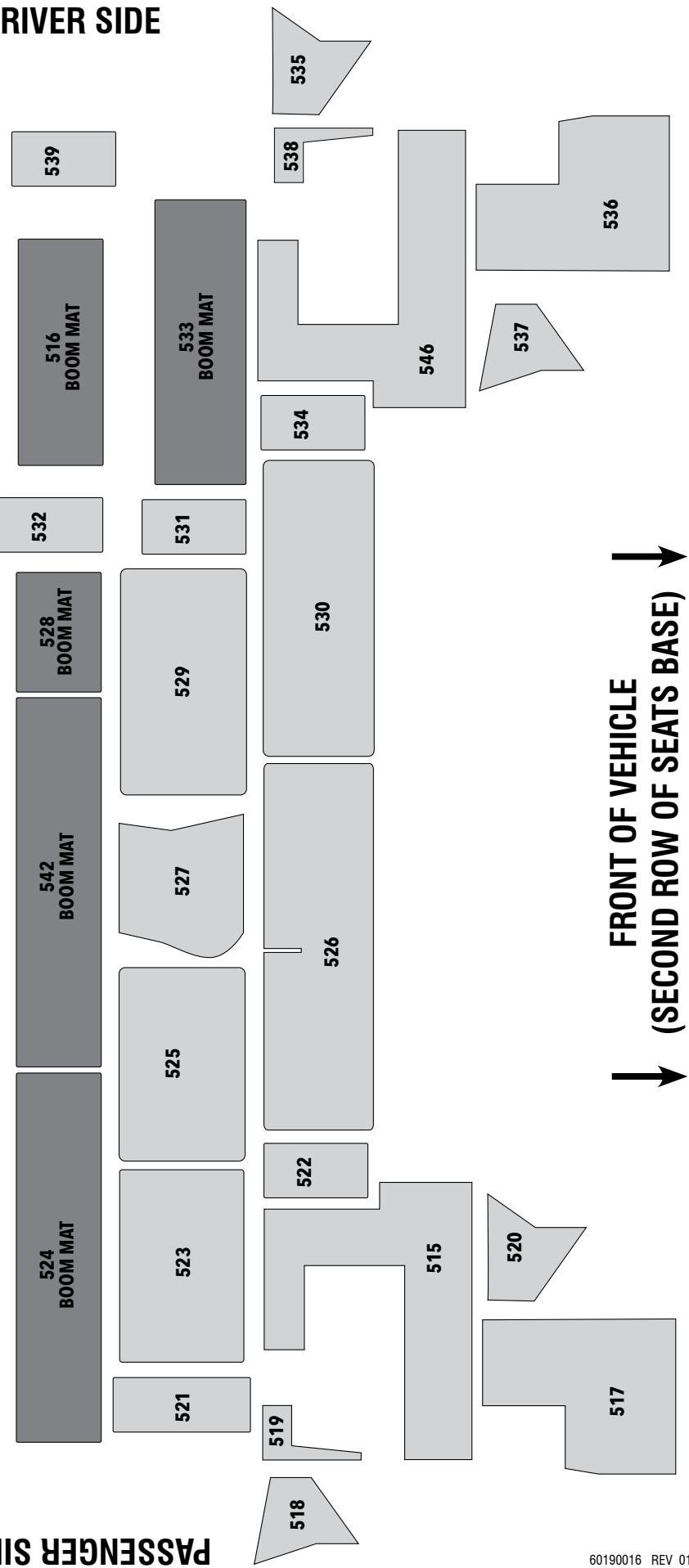
Kit installed with all pieces and rear floor in place to show final installation.



# BACK SEAT PRODUCT INSTALLATION INSTRUCTIONS

## DRIVER SIDE

↑  
REAR OF VEHICLE



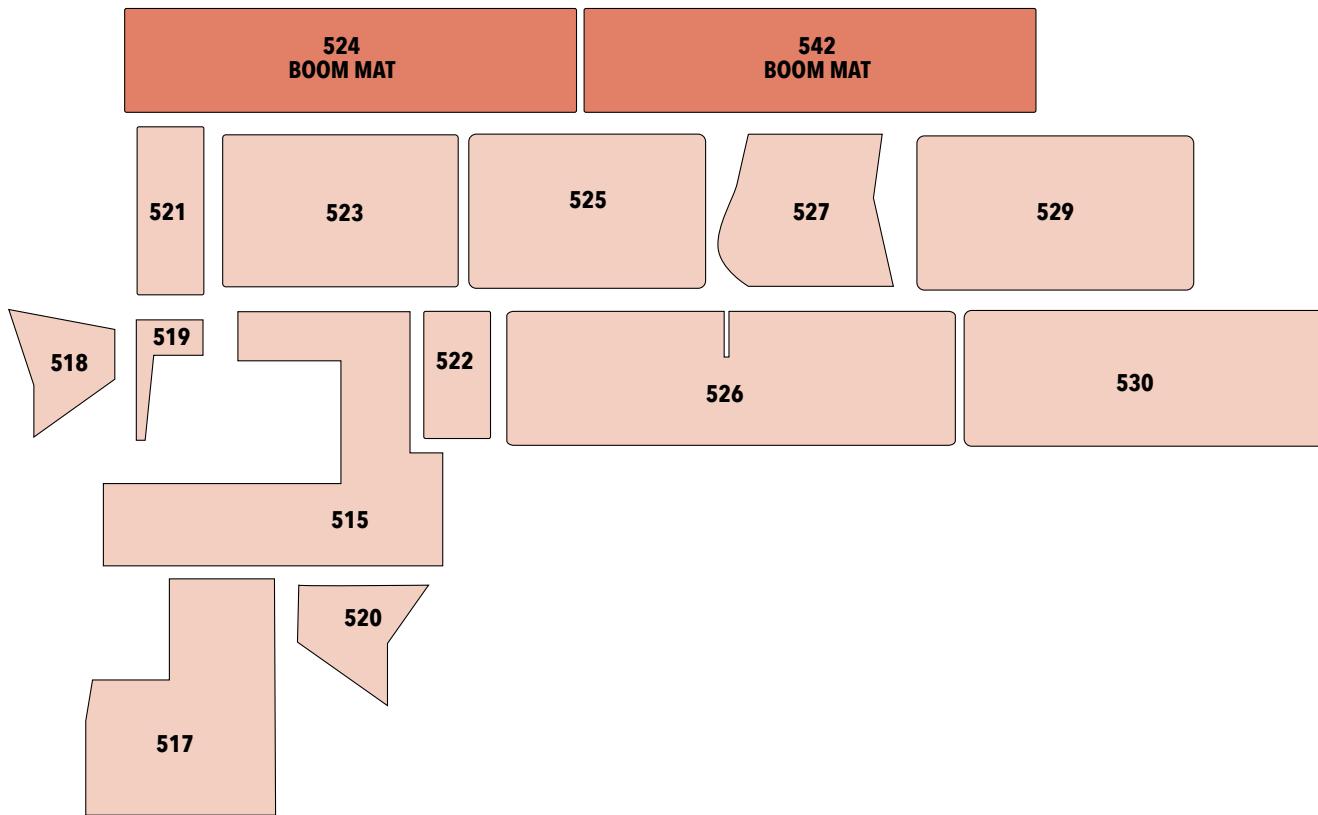
## PASSENGER SIDE

## SEAT BACK (REAR OF VEHICLE)

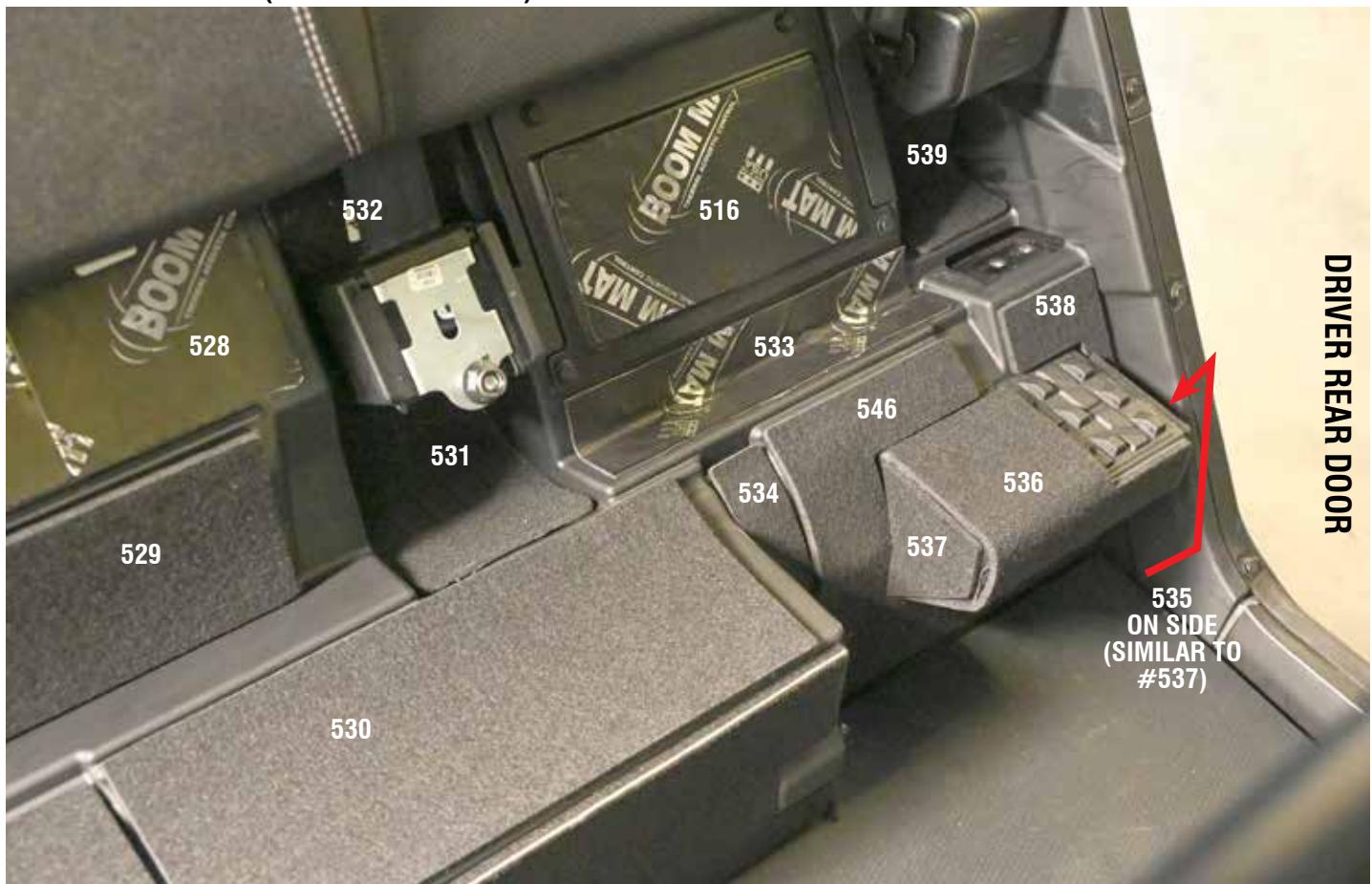
PASSENGER REAR DOOR



### PIECES USED IN THIS PHOTO



## SEAT BACK (REAR OF VEHICLE)



## PIECES USED IN THIS PHOTO

