

# INSTALLATION GUIDE



## **S3-WA48-1 WORKBENCH**

w/ Hardwood Top & One Shelf (Aluminum)



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Install-Guide.





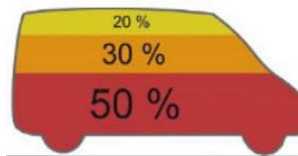
# BEFORE YOU BEGIN

READ, UNDERSTAND, AND FOLLOW ALL WARNINGS AND INSTRUCTIONS BEFORE USING THIS PRODUCT. FAILURE TO FOLLOW THESE DIRECTIONS MAY RESULT IN PROPERTY DAMAGE, SERIOUS BODILY INJURY, AND/OR DEATH. RANGER DESIGN IS NOT RESPONSIBLE FOR ANY PROPERTY DAMAGE, PERSONAL INJURY, OR DEATH THAT OCCURRED WHILE USING ANY RANGER DESIGN PRODUCTS.



## WARNING

- Failure to use Ranger Design-provided fasteners, brackets, and proper installation guidelines could increase risk of serious personal injury and/or death.
- If drilling is required to complete this installation: improper drilling can cause property damage to vehicles and could lead to electric shock, fire, or even death.
- If drilling is required to complete this installation: Ensure that drilling is only performed on areas of the vehicle allowed by the vehicle's Original Equipment Manufacturer's Body Builders Layout Book (or equivalent document).
- Prior to installation, inspect the vehicle to ensure that installation will not interfere with, or cause obstruction of, any critical components such as electrical wiring, fuel tanks, fuel-cells, locks, latches, etc.
- The installer or manufacturer is responsible for ensuring anchorages are installed onto suitable wall and floor structures; wall and floor strength must meet applicable performance requirements.
- Do not install systems into any weak or unsound materials such as plastics, woods, thin-walled metals, etc. without proper reinforcement.
- Do not install this product where it could interfere with the deployment of airbags. Failure to comply could result in death or serious injury.
- Incorrect installation could cause water leaks, electric shock or fire.
- Any cargo vehicle with any cargo or equipment should use a certified partition. See Ranger Design website for some partition options. (<https://rangerdesign.com/>)
- Mountings rails are recommended for any attachment to the vehicle walls.
- All items in the cargo area should be properly secured and partition doors closed while the vehicle is in motion.
- Check your vehicle's tare weight and remaining load capacity with all the equipment installed. Never exceed the maximum Gross Vehicle Weight Rating (GVWR), Gross Axle Weight Ratings (GAWRs), or other maximum loads permitted by the vehicle's Original Equipment Manufacturer (OEM) and required by law.
- The heaviest items must be placed towards the bottom of the vehicle, while the lightest ones can be arranged upwards. Vehicle cargo loading weight proportion should follow the following guidelines:



- The final alterer and/ or modifier should review the warning sheet with the customer before the vehicle is released to the customer or for general use. These instructions should remain with the vehicles a all times.
- Any modification or unintended use of this product voids any warranty and could create a hazardous condition.
- Ranger Design provides recommended assembly and installation instructions which should be followed to ensure correct operation. Failure to do so could result in invalidating the product's compliance, warranty and cause injury. Notwithstanding, the final stage vehicle alterer and/or modifier is responsible for the integration, installation, and compliance of the product in its final location to all applicable regulations and standards. Failure to maintain compliance of the vehicle to applicable regulations and standards could be punishable by law. Alterers and/or modifiers should consult with all local authorities prior to commissioning.



## CAUTION

- If drilling is required to complete this installation. Before drilling, ensure that you will not hit any critical parts of the vehicle like the gas tank, wiring harness, or hose. Consult the vehicle OEM documentation as necessary. When drilling, use a drill collar to reduce the risk of damage to the vehicle.
- Any materials, padding, or glazing installed in the vehicle must comply with FMVSS/CMVSS 201/205/302, as applicable.
- In the event of a motor vehicle accident or collision where a Ranger Design system has been installed, especially ones where the vehicle structure is damaged and/or the air bags deploy and/or the vehicle has been towed, the system must be inspected to ensure continued soundness and safety before returning the vehicle to service. Damaged components should be replaced as necessary.
- All system components should be regularly inspected, cleaned, and maintained pursuant to Ranger guidelines.

# QUICK START GUIDE

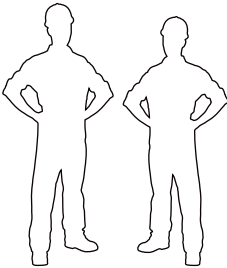
## Phase 1 - Assembly

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# REQUIRED ITEMS



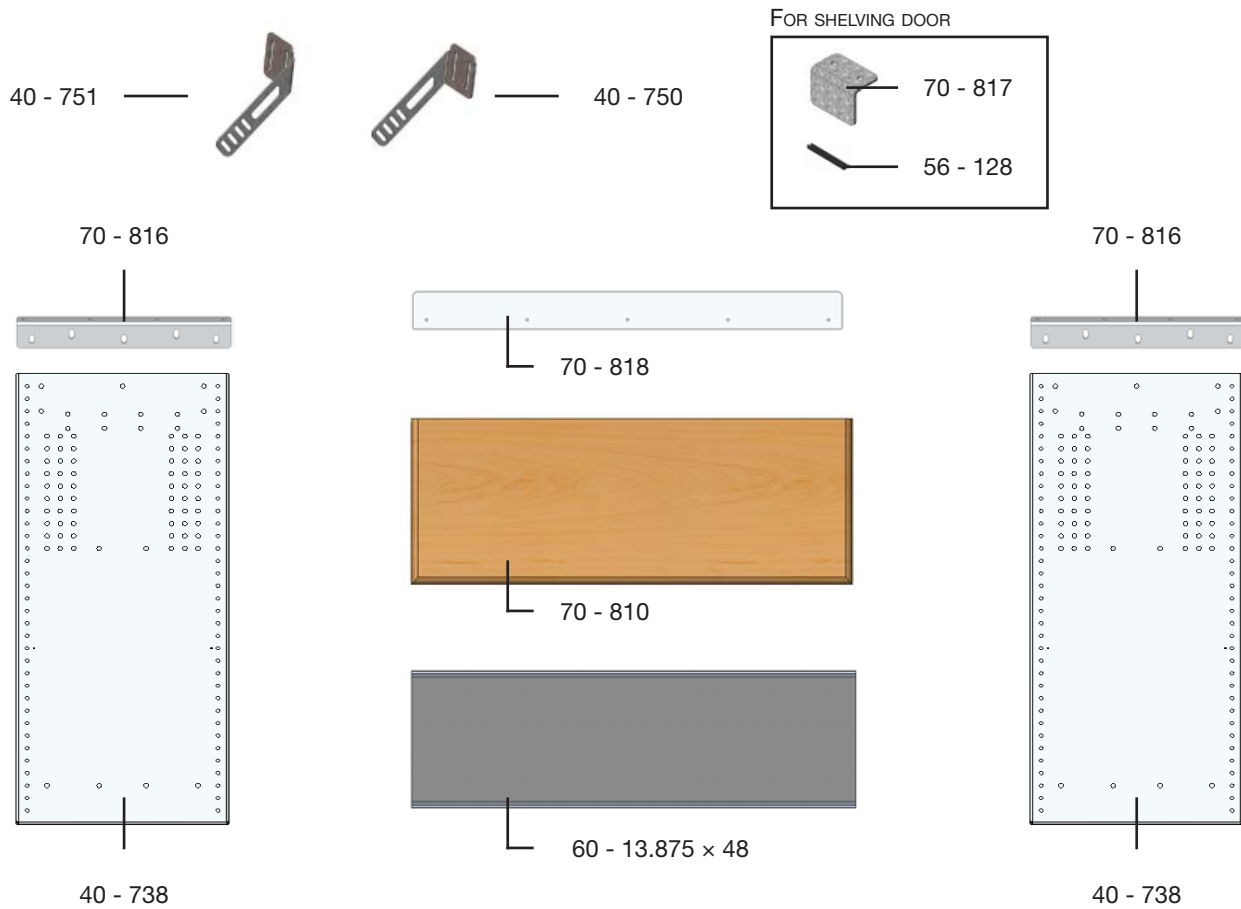
**2**  
**PERSONS**

- Cordless Impact
- Cordless Drill
- Tape Measure
- Marker
- 1/2" Socket
- 1/2" Drill Bit w/ Drill Collar ( Set at 1/2" )
- 3/16" Drill Bit
- 3/8" Driver Bit
- Knife
- Plusnut Tool / Plusnut Gun ( 5/16" )

# PHASE 1 – ASSEMBLY

## 1.1 SETUP

1.1.1 Unpack components; compare with the bill of materials.



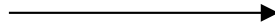
1.1.2 Verify all parts are present.

### BILL OF MATERIALS









Item No.	Description	Qty.
40-750	Bracket, N5 Series, Right	1
40-751	Bracket, N5 Series, Left	1
40-738	End - Panel	2
56-128	Rubber Edge Trim ( QTY IN INCHES )	2
60-13.875x48	Shelf Tray Plywood	1
70-810	Hardwood Top	1
70-816	Side Panel Bracket	2
70-817	Steel Striker Plate	1
70-818	Straight Backsplash	1
96-4802	Install Fastener Kit	1
94-4801	Assembly Fastener Kit	1

1.1.3 Fastener kits.




96 - 4802 Fastener Kit



Fastener Assembly

4x		# 90-011	Hex Bolt 5/16"-18 x 1-3/4" ZINC
4x		# 90-204	Hex Bolt 5/16"-18 x 3/4" ZINC
4x		# 90-212	Hex Bolt 5/16"-18 x 1-1/4" ZINC
4x		# 94-116	Serrated Nut 5/16"-18 ZINC
8x		# 94-132	Plusnut
12x		# 98-116	Flat Washer 5/16", O.D. 7/8" ZINC
8x		# 98-122	Lock Washer 5/16" ZINC
4x		# 98-157	Spacer 0.375" ID, x 1.0" OD x 0.25" LONG NYLON






4x

 #90-204 Hex Bolt 5/16" x 3/4"  
 #98-116 Flat Washer  
 #94-116 Serrated Nut

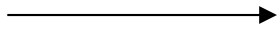
4x

 #90-212 Hex Bolt 5/16" x 1-1/4"  
 #98-122 Lock Washer  
 #98-116 Flat Washer  
 #94-132 5/16" Plusnut

4x

 #90-011 Hex Bolt 5/16" x 1-3/4"  
 #98-122 Lock Washer  
 #98-116 Flat Washer  
 #98-157 Spacers  
( QTY = GAP BETWEEN FLOOR AND END PANEL )  
 #94-132 5/16" Plusnut




**94-4801 Fastener Kit**




**Fastener Assembly**

- 6x  # 90-204 Hex Bolt 5/16"-18 x 3/4" ZINC
- 23x  # 92-102 #14 x 1" ZINC
- 6x  # 94-116 Serrated Nut 5/16"-18 ZINC
- 6x  # 98-116 Flat Washer 5/16" - 18 x 1" ZINC

**6x**

-  #90-204 Hex Bolt 5/16" x 3/4"
-  #98-116 Flat Washer
-  #94-116 Serrated Nut

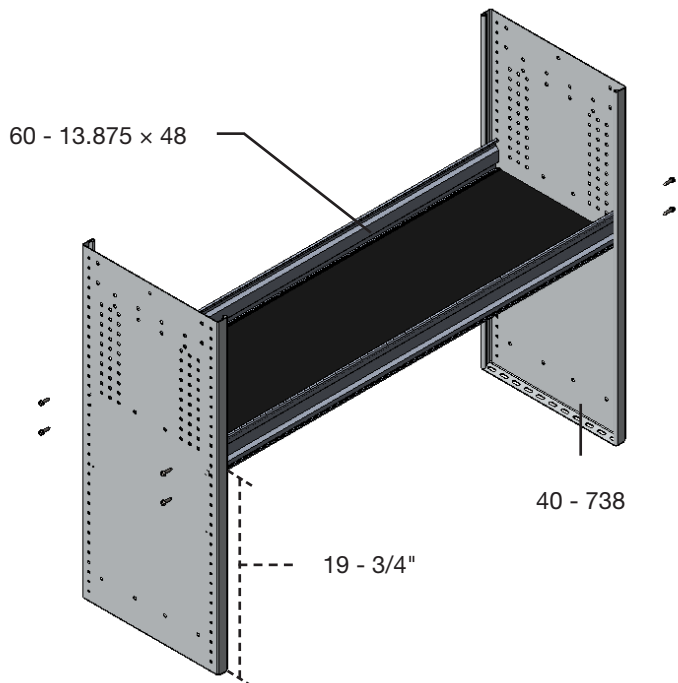
**23x**

-  #92-102 Screw #14 x 1"

# PHASE 1 – ASSEMBLY

## 1.2 WORKBENCH ASSEMBLY

1.2.1 Attach both panels to the shelf tray.




**TOOLS**

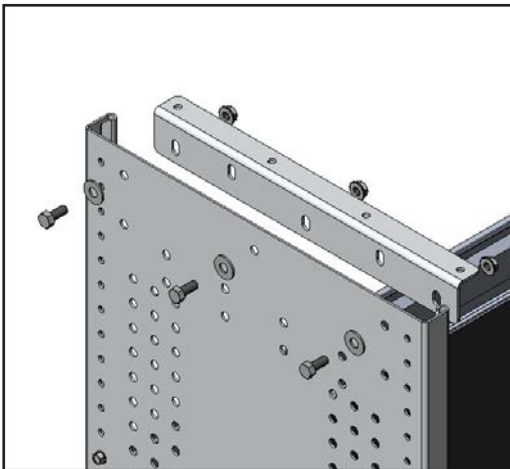
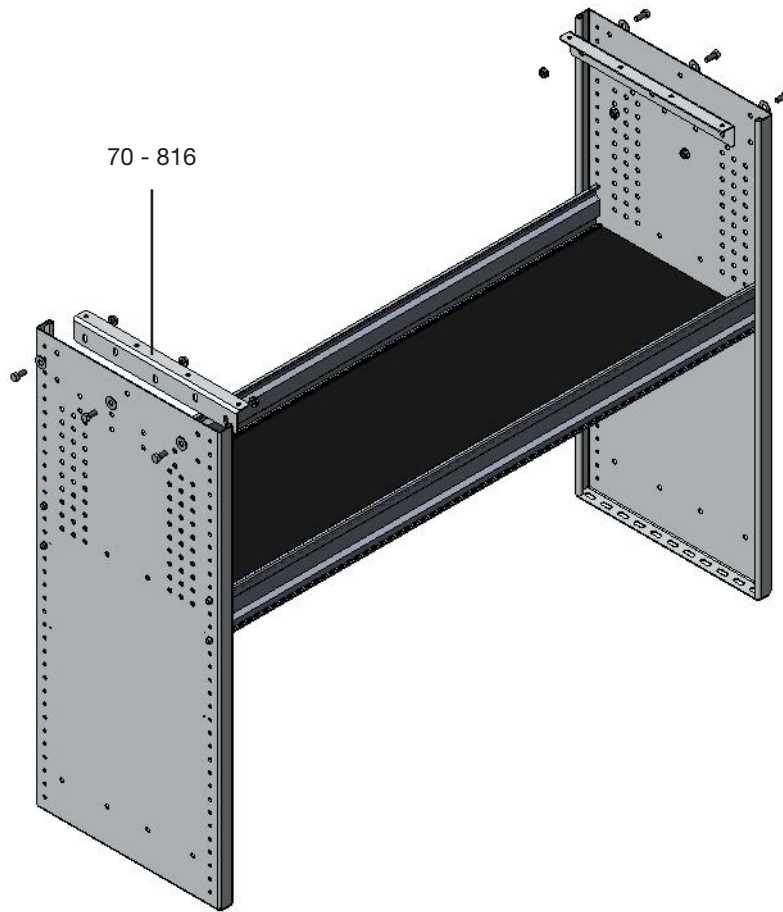
- Cordless Impact
- 3/8" Driver Bit

**HARDWARE USED**

**8x**

-  #92-102 Screw #14 x 1"

1.2.2 Attach side panels bracket to the end panel.






**TOOLS**

- Cordless Impact
- 1/2" Socket

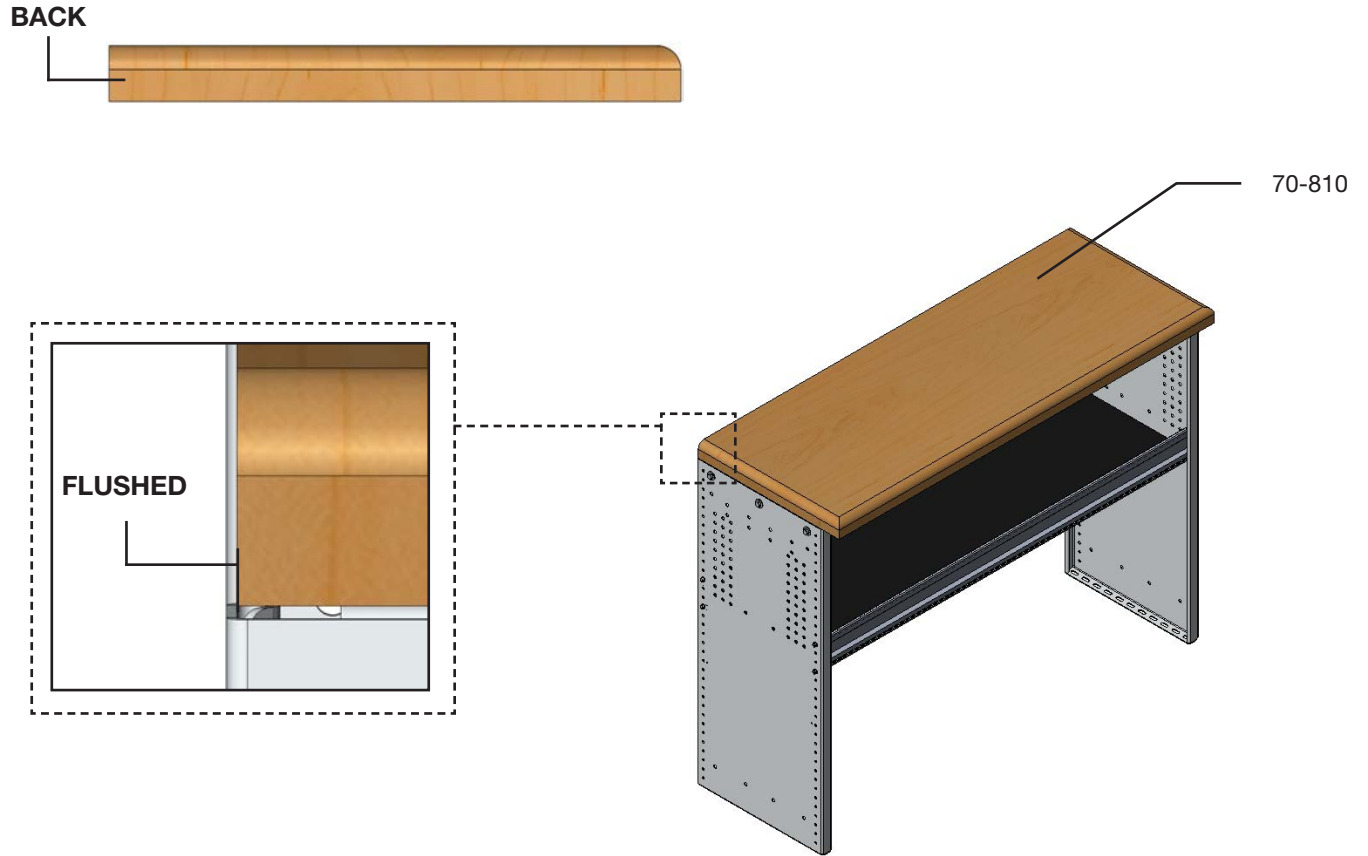
**HARDWARE USED**

**6x**

- |   |                               |
|---|-------------------------------|
|  | #90-204 Hex Bolt 5/16" x 3/4" |
|  | #98-116 Flat Washer           |
|  | #94-116 Serrated Nut          |

**1.2.3** Screw the hardwood top on the side panel brackets with the back of the hardwood top flushed against one end of the panels.

**NOTE:** Pre-drill the hardwood using 3/16" drill bit first before screwing the side panel brackets to the hardwood to prevent splitting the wood.




**TOOLS**

- Cordless Impact
- Cordless Drill
- 3/8" Driver Bit
- 3/16" Drill Bit

**HARDWARE USED**

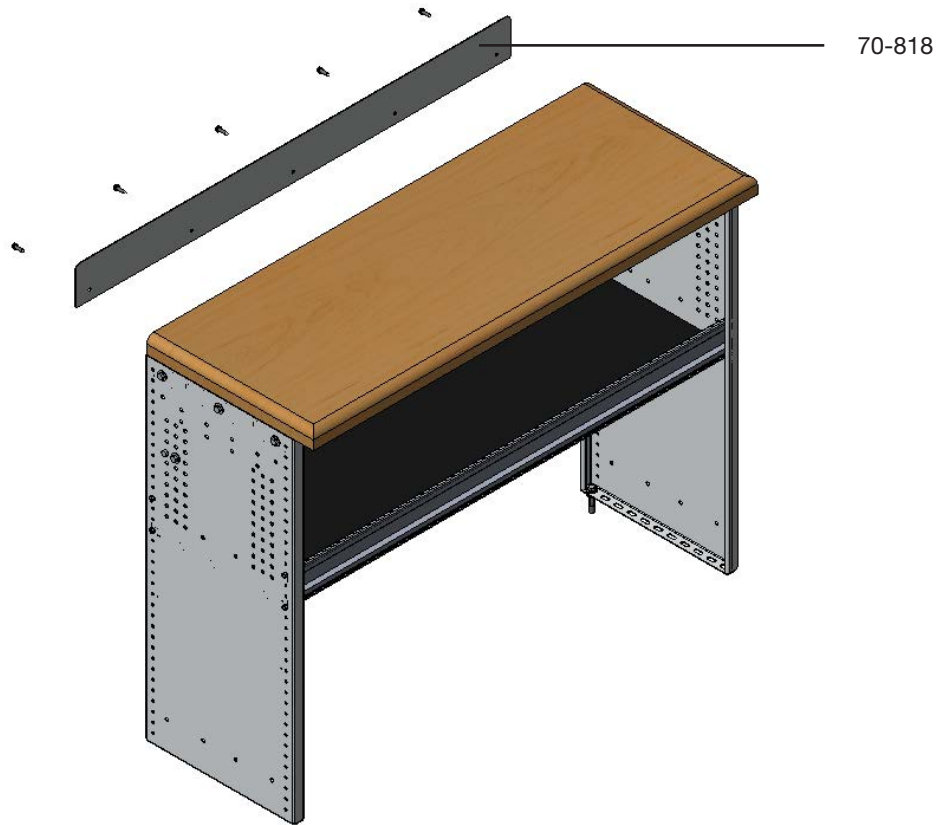
**8x**

	#92-102 Screw #14 x 1"
---	------------------------



**1.2.4** Screw the backsplash on the back end of the workbench.

**NOTE:** Pre-drill the hardwood using 1/8" drill bit first before screwing the backsplash to the hardwood to prevent splitting the wood.



**TOOLS**

- Cordless Impact
- Cordless Drill
- 3/8" Driver Bit
- 3/16" Drill Bit

**HARDWARE USED**

**5x**

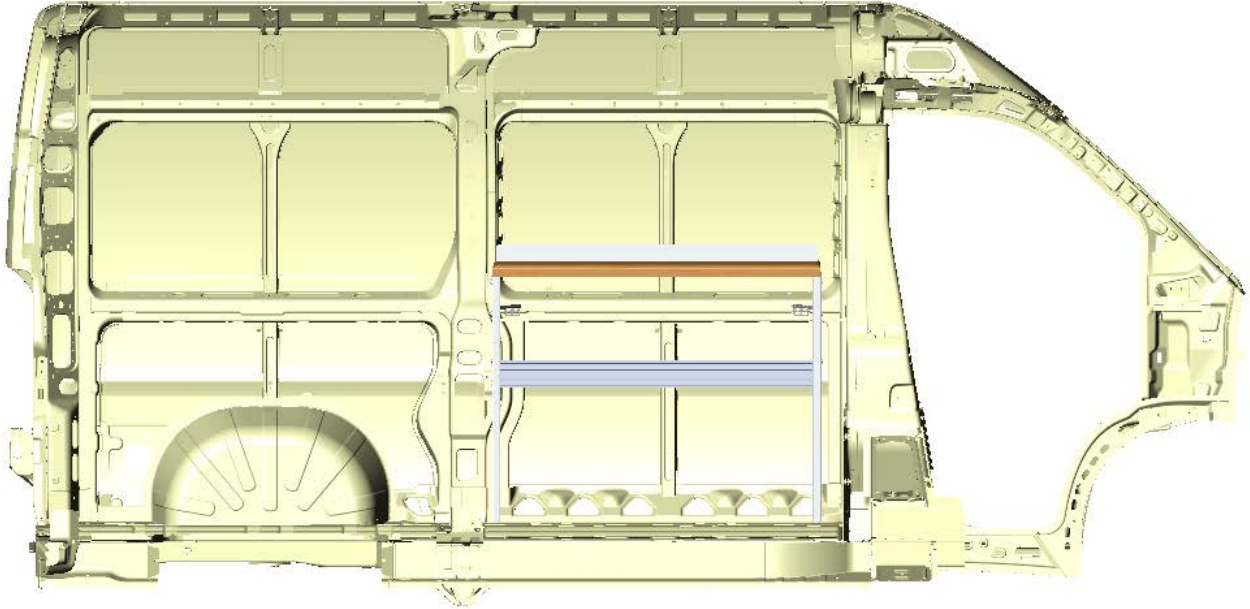


#92-102 Screw #14 x 1"

# PHASE 2 – INSTALLATION

## 2.1 ATTACH WALL BRACKETS TO THE END PANELS

- 2.1.1 • Lift the assembled workbench to the vehicle, then put it in place.  
• Attach the wall bracket to the panels aligning the brackets to the horizontal rim of the vehicle.



HORIZONTAL RIM

### TOOLS

- Cordless Impact
- 1/2" Socket

### HARDWARE USED

**2x** HAND-TIGHTEN THE BOLTS



#90-204 Hex Bolt 5/16" x 3/4"



#98-116 Flat Washer

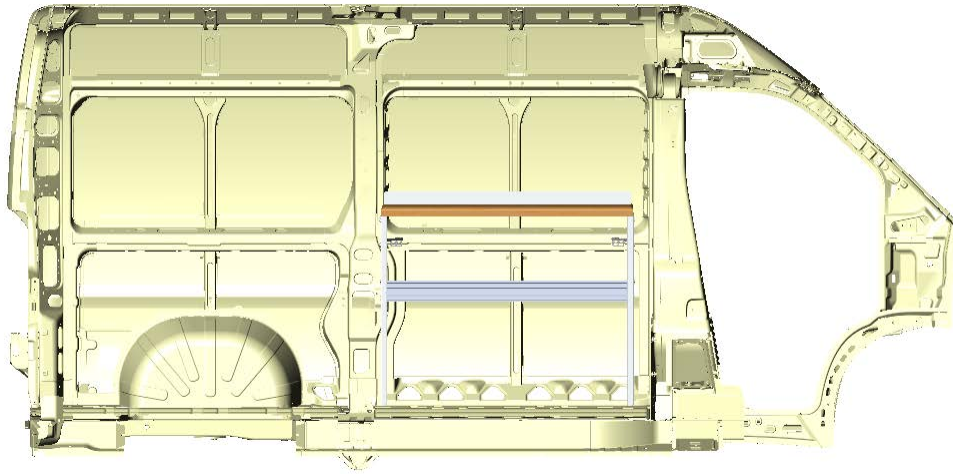


#94-116 Serrated Nut

# PHASE 2 – INSTALLATION

## 2.2 MARK HOLES FOR PLUS NUTS

2.2.1 After attaching the brackets, mark the holes from the brackets and bottom shelf to the vehicle.



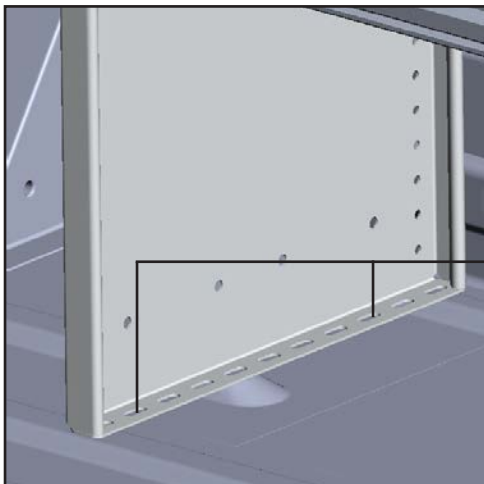
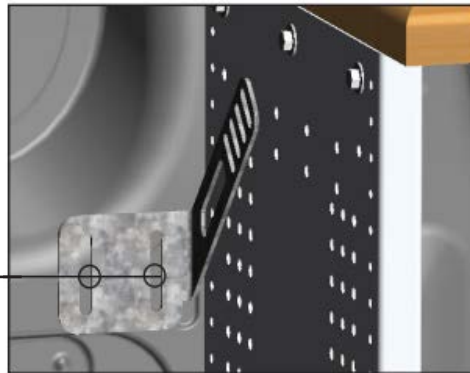
Mark 2 holes of the brackets head on the vehicle horizontal rim.

**NOTE:** If you are using Ranger wall kit, please go to **PAGE 18**.

### TOOLS

- Marker

MARK



Mark 2 holes of each end panel on the vehicle floor.

**NOTE:** If you are using Ranger floor, please go to **PAGE 16** or **17**.

### TOOLS

- Marker

MARK

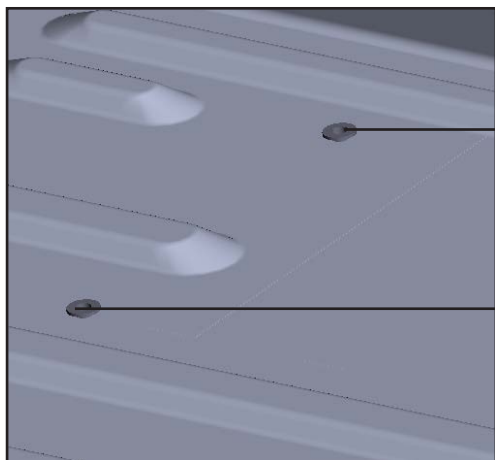
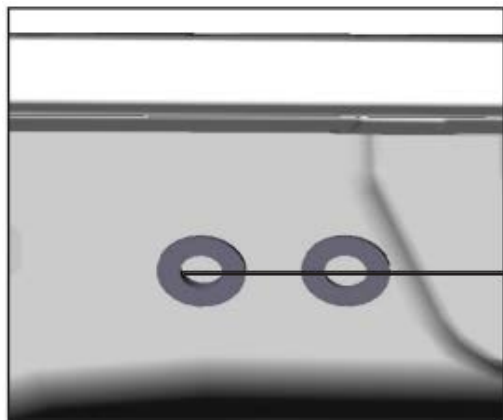
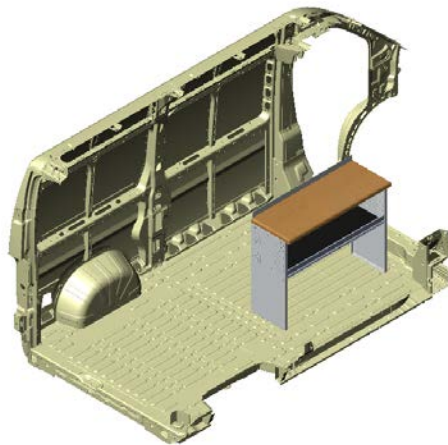
# PHASE 2 – INSTALLATION

## 2.3 ATTACH PLUS NUTS

- 2.3.1** • Remove the assembled workbench and place on the side.  
• Drill all the marks using 1/2" drill bit w/ drill collar, then attach plus nuts to the holes.

**NOTE:** Use 1/2" drill bit with drill collar to stop drill at 1/2" depth.

**WARNING:** Before drilling, ensure that you will not hit any critical parts of the vehicle like the **Gas tank, Wiring Harness and Hose.**



### PLUSNUT

Drill all the marks then, attach plus nuts to the holes.

### TOOLS

- Cordless Drill
- 1/2" Socket
- 1/2" Drill Bit w/ Drill Collar ( Set at 1/2" )
- Plus Nut Tool ( 5/16" )

### HARDWARE USED

**4x**



#94-132 Plus Nut

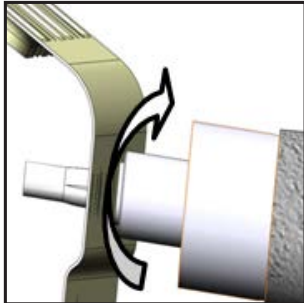


DRILL COLLAR  
( SET AT 1/2" )

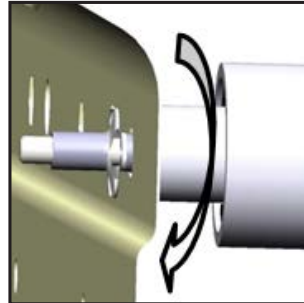
### 2.3.2 How to attach plus nut.

#### • USING PLUSNUT GUN

**STEP:** Put the plusnut on the plusnut gun, then attach the plus nut in the hole by turning the gun forward until the plus nut locks, then remove the gun by turning in reverse.



**FORWARD**



**REVERSE**



#### • USING THE 6491 PLUSNUT TOOL

**NOTE:** The hardware used for the 6490 plusnut tool is not included in the fastener bag.  
The 6490 plusnut tool can be ordered separately upon demand at no charge.



**6491**

#### HARDWARE USED

-  Flat washer 5/16"
-  Flat washer 5/16" BS x 7/8" OD

#### TOOLS

- Cordless Impact
- 1/2" Socket
- 9/16" Wrench

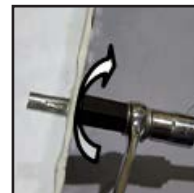
#### STEP 1:

Assemble the 6491 plusnut tool with the hardware needed, plus nut and the 9/16" wrench as shown.



#### STEP 2:

Attach the plus nut in the hole by turning the bolt forward using an impact with a 1/2" socket until the plusnut locks, then remove the bolt by turning the impact in reverse.



**FORWARD**



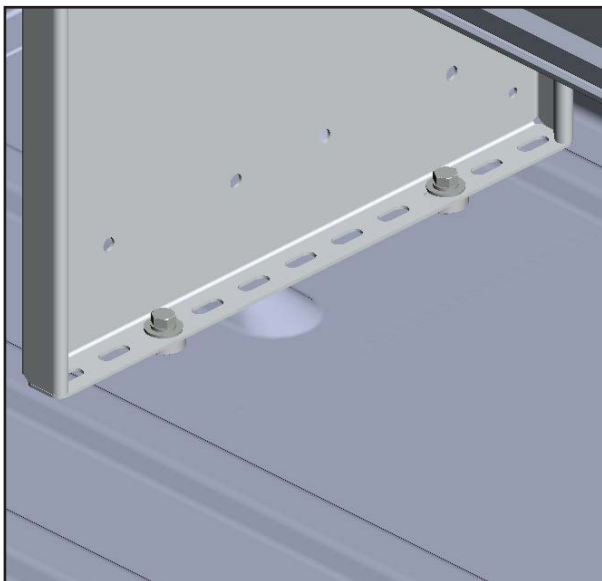
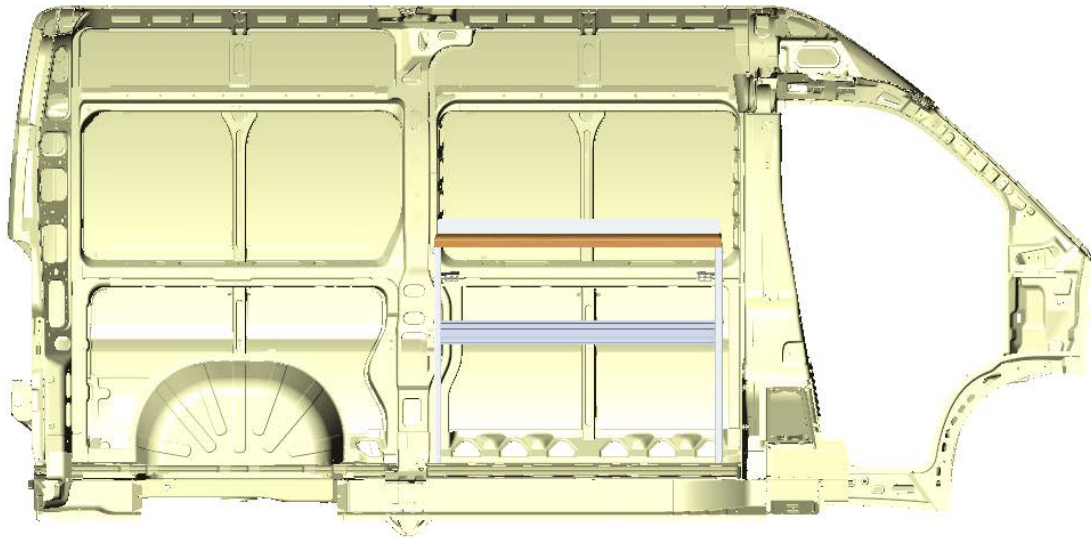
**REVERSE**

# PHASE 2 – INSTALLATION

## 2.5 ATTACH SHELF UNIT TO THE FLOOR

### WITHOUT RANGER FLOOR

2.5.1 Reinstall the workbench side panel to the side panel bracket, then attach the bottom of the workbench side panel to the plusnut.



#### TOOLS

- Cordless Impact
- 1/2" Socket

#### HARDWARE USED

2x



#90-011 Hex Bolt 5/16" x 1-3/4"



#98-122 Lock Washer



#98-116 Flat Washer



#98-157 Spacers

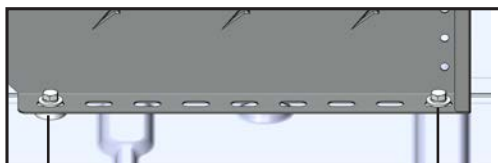
( QTY = GAP BETWEEN FLOOR AND END PANEL )



#94-132 5/16" Plusnut

#### TIPS WHEN TO USE SPACER:

MOST VEHICLES USE 1 SPACER WHEN NOT INSTALLING OVER RIBS.

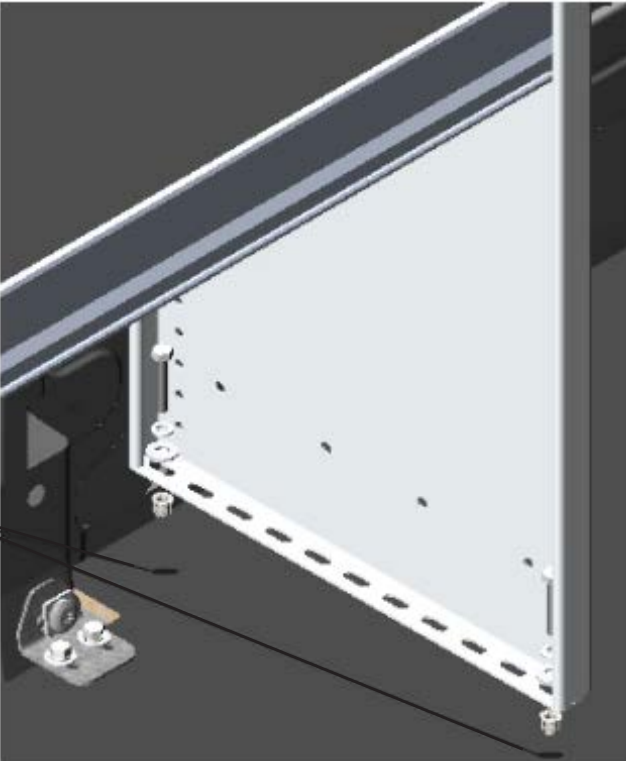
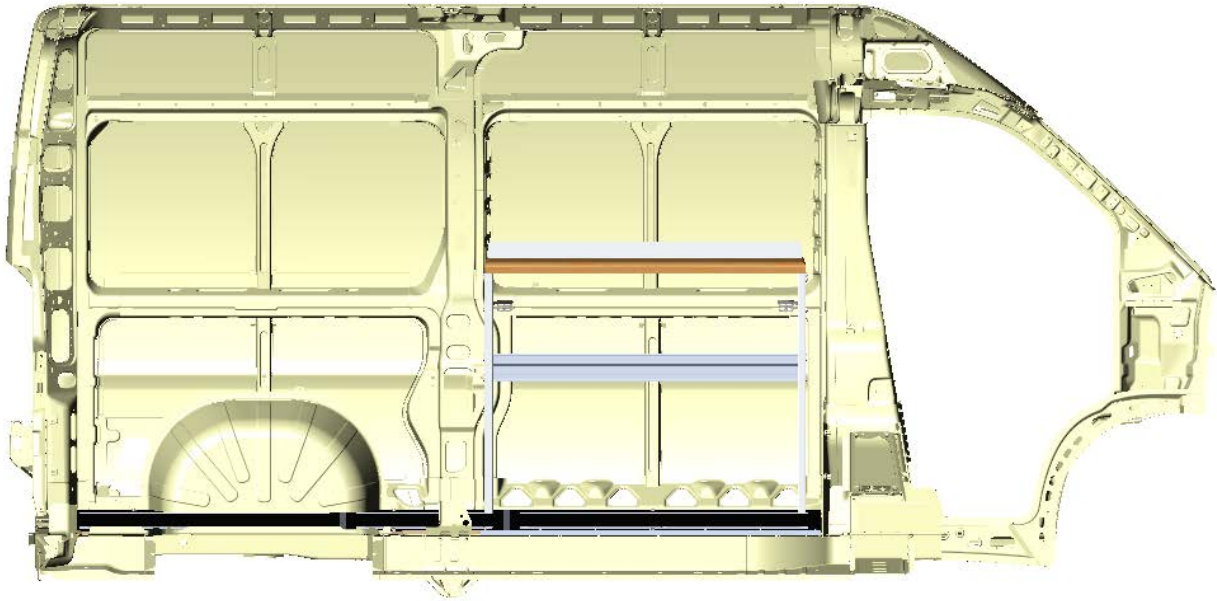


W/ Spacer

W/O Spacer

## WITH RANGER 6541 SERIES FLOOR

**2.5.2** Reinstall the workbench side panel to the side panel bracket. Then attach the bottom of the workbench side panel to the floor.







Drill 7/16" hole

**TOOLS**

- Cordless Impact
- 1/2" Socket

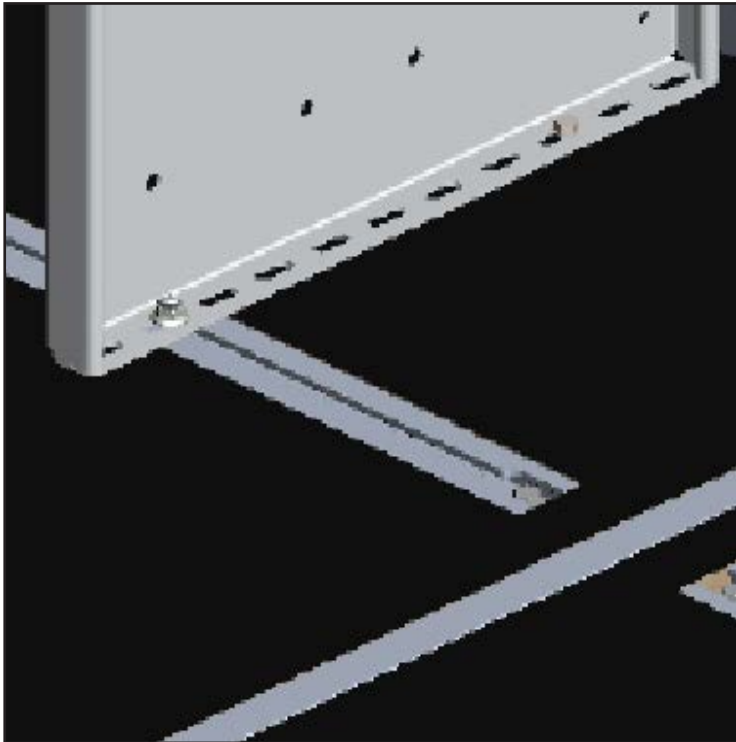
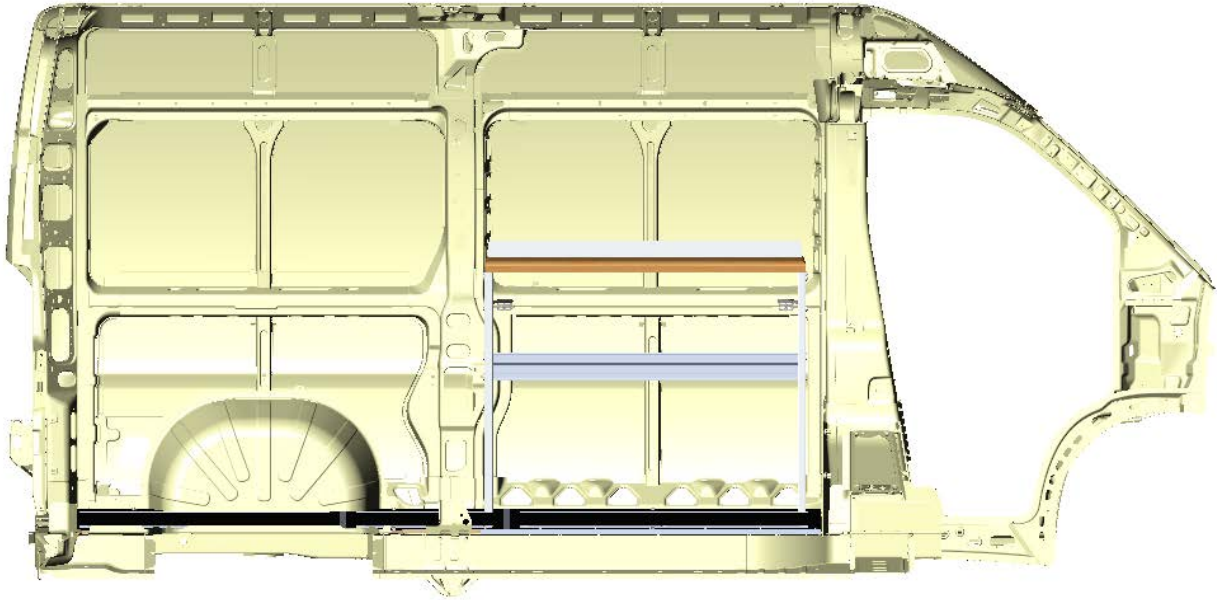
**HARDWARE USED**

**2x** FLOOR FASTENER KIT

	#90-204 Hex Bolt 5/16" x 3/4"
	#98-122 Lock Washer
	#98-116 Flat Washer
	#99-114 Zinc Alloy Tapping Inserts for Softwood

## WITH RANGER 6540 SERIES FLOOR

**2.5.3** Reinstall the workbench side panel to the side panel bracket. Then attach the bottom of the workbench side panel to the floor.



### TOOLS

- Cordless Impact
- 3/8" Driver Bit
- 1/2" Socket

### HARDWARE USED

**1x** FLOOR FASTENER KIT



#92-102 Screw 1"

### HARDWARE USED

**1x** FLOOR FASTENER KIT



#94-104 Hex Nut



#98-122 Lock Washer



#98-116 Flat Washer



#90-490 Carriage Bolt 5/16" x 1"



# PHASE 2 – INSTALLATION

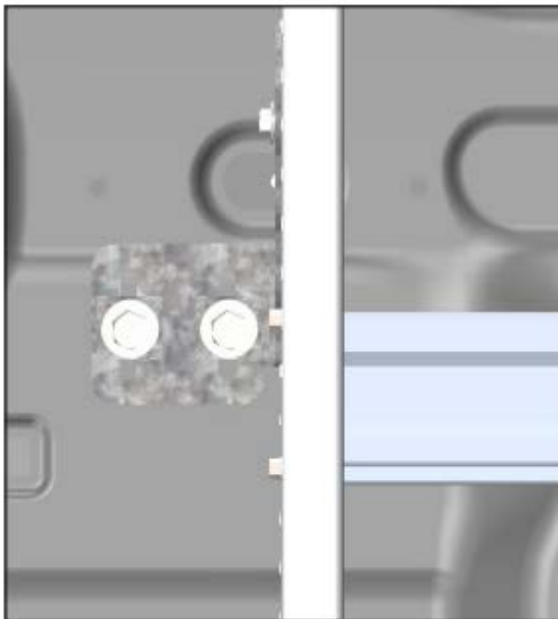
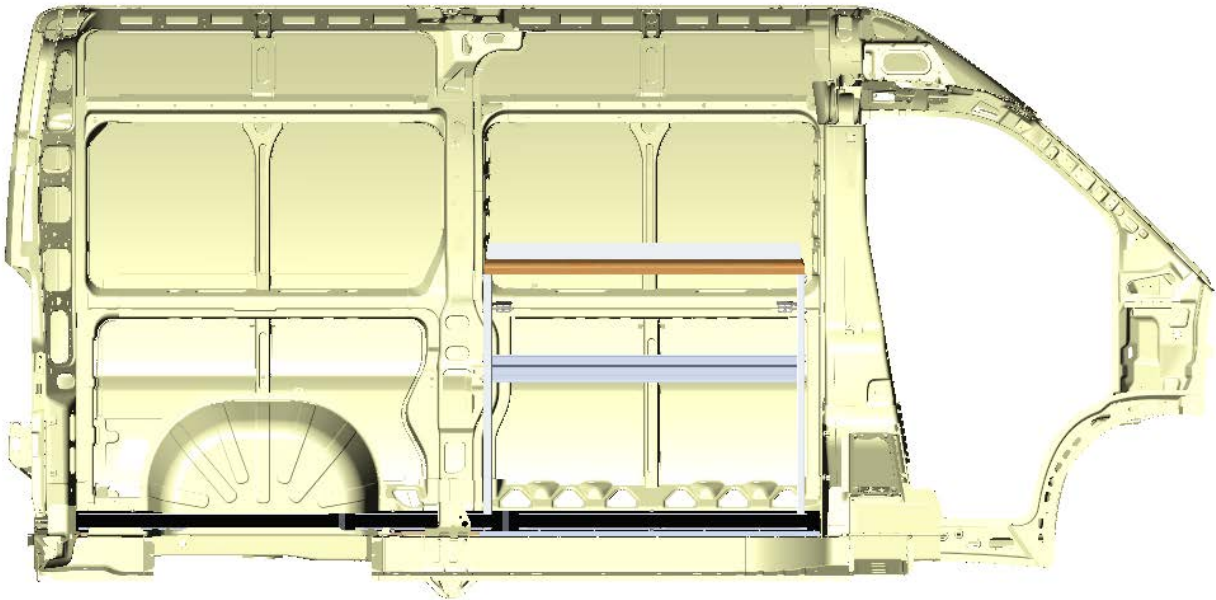
## 2.6 ATTACH WALL BRACKETS

### WITHOUT RANGER WALL KITS

2.6.1 Align the wall brackets to the plus nuts, then install the wall brackets to the wall.

**NOTE:** Tighten the bolts that attach the bracket to the wall or wall rails 1<sup>st</sup> before tightening the bolts from the brackets to the end panels.

**IMPORTANT:** After installation is completed, ensure all bolts are tightened.



#### TOOLS

- Cordless Impact
- 1/2" Socket

#### HARDWARE USED

2x



#90-212 Hex Bolt 5/16" x 1-1/4"

#98-122 Lock Washer

#98-116 Flat Washer

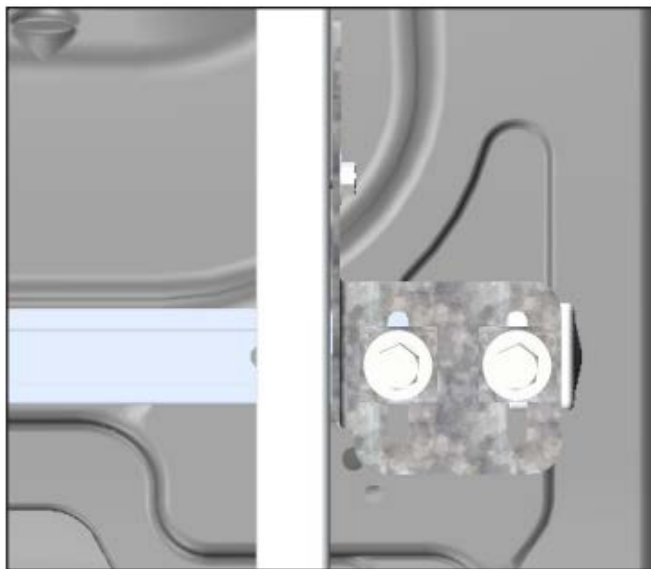
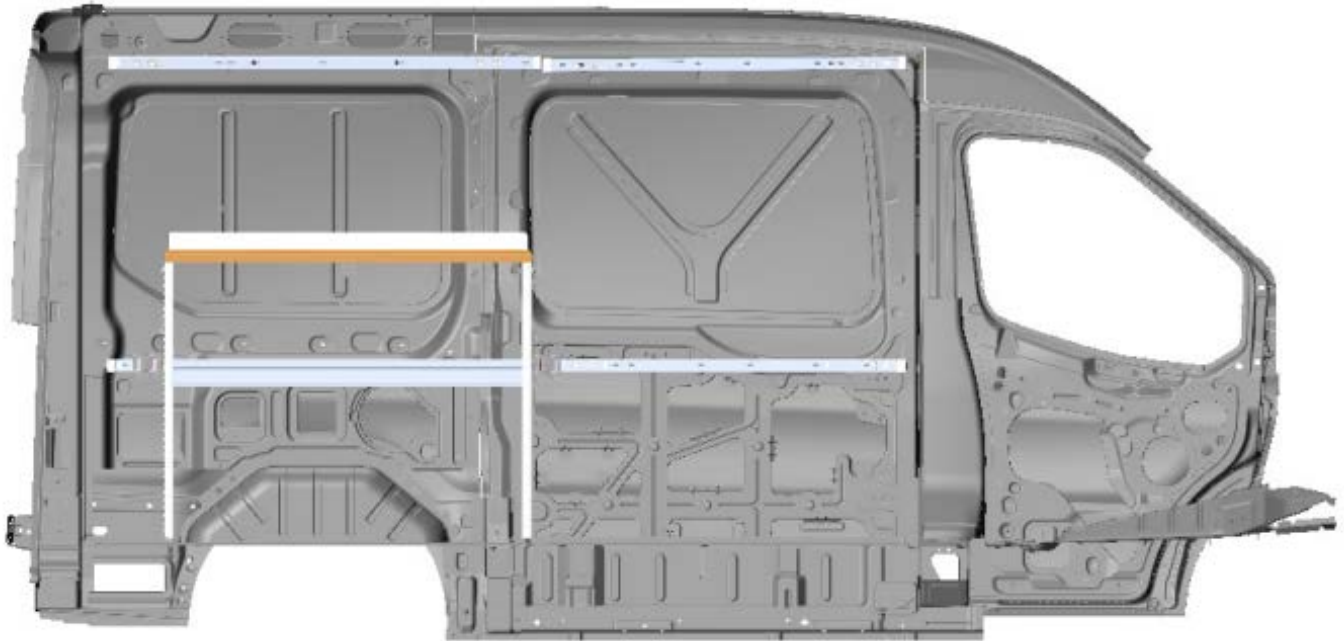
#94-132 5/16" Plusnut

## WITH RANGER WALL KITS

**2.6.2** Align the wall brackets to the wall mounting track kits, then install the wall brackets to the wall mounting track kits using channel nuts.

**NOTE:** Tighten the bolts that attach the bracket to the wall or wall rails 1<sup>st</sup> before tightening the bolts from the brackets to the end panels.

**IMPORTANT:** After installation is completed, ensure all bolts are tightened.



### TOOLS

- Cordless Impact
- 1/2" Socket

### FASTENERS USED

**2x** WALL KITS FASTENER KIT



#90-208 Hex Bolt 5/16" × 1"



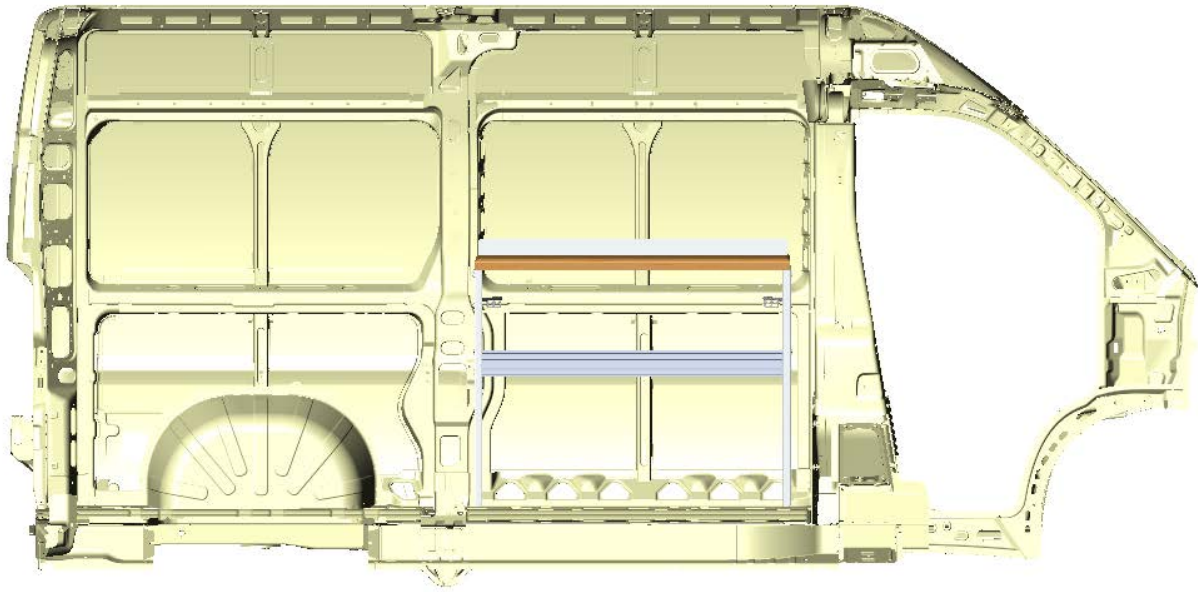
#98-122 Lock Washer



#98-116 Flat Washer



#94-150 Channel Nut



**“You have successfully installed your  
Workbench**

**Thank you for doing business with us.”**

For any feedback or suggestions you may have, please contact: [cs@rangerdesign.com](mailto:cs@rangerdesign.com)

