



## WHEELCHAIR ACCESSIBLE VEHICLES



SpaceTourer  
Jumpy Combi  
L2-SF



Traveller  
Expert Combi  
L2-SF



Zafira life  
Vivaro Combo  
L2-SF



Proace Verso  
Proace Shuttle  
L2-SF

### PREMIUM WAV FOR FAMILIES AND PROFESSIONALS

Suitable for efficient passenger transport and available in short and Long floor versions. Provides a wide range of seating options with Optimal space and visibility for wheelchair passenger

# Conversion manual

## **IMPORTANT!**

Before disassembly, when the car is still on its wheels, be sure to measure the rear wheel alignment! after conversion the rear wheels WILL need to be realigned to those measurements.

Depicted in this manual is for the most part the Traveller L3-SF, which is except for a few small differences, identical to the Traveller L2-SF

## **High voltage killer**

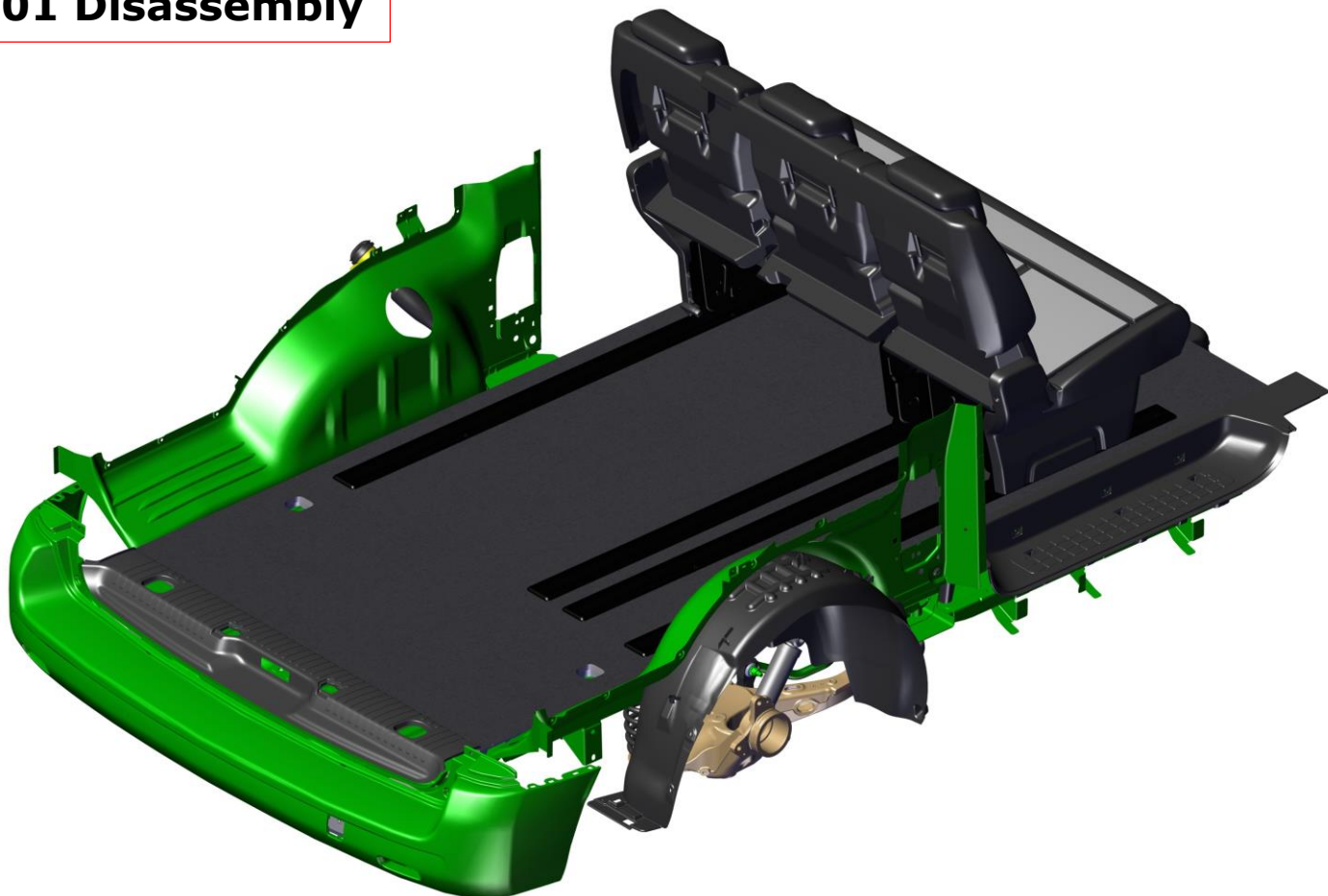


Use a high-voltage killer on the battery during the conversion. This is necessary to protect the cars electric system from peak voltages, mostly during welding. If you do not use a high-voltage killer during the conversion it is possible the electric system gets damaged.

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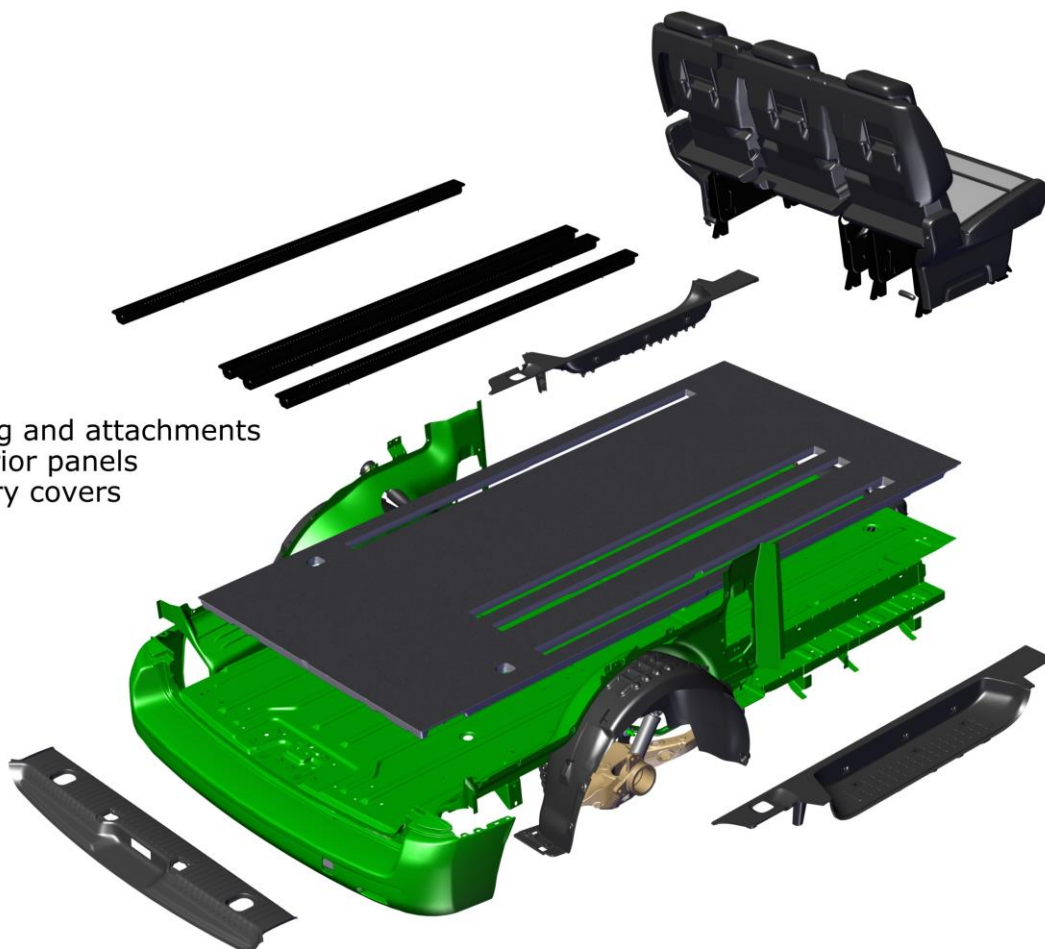
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## 001 Disassembly



Remove:

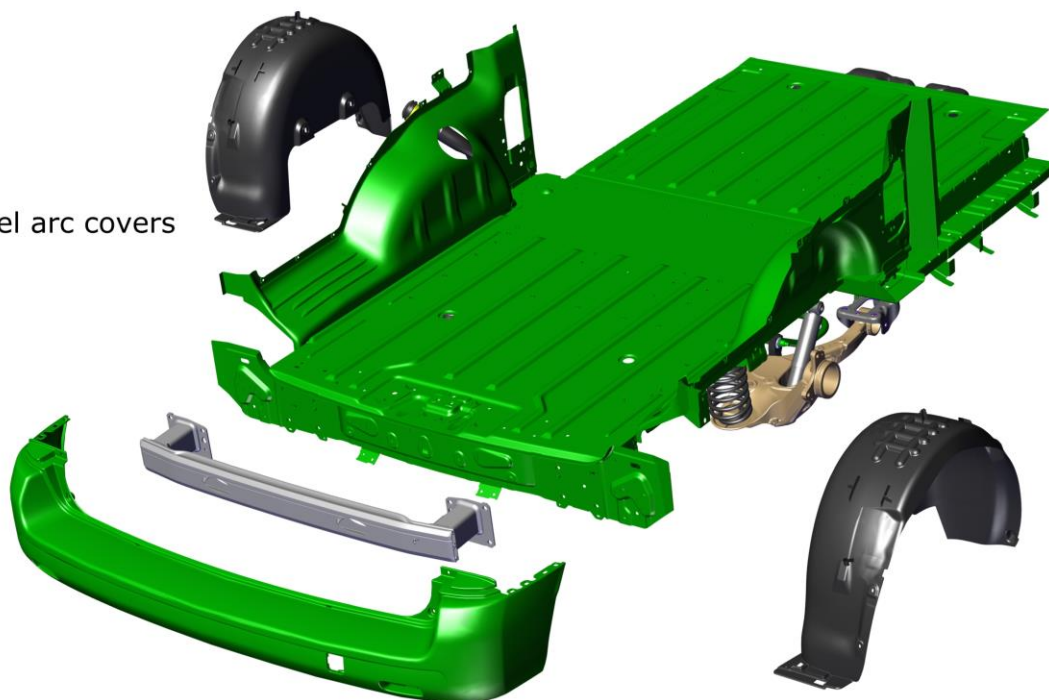
- 2nd and 3rd row seating and attachments
- Rear left and right interior panels
- Left, right and rear entry covers
- Floor cover





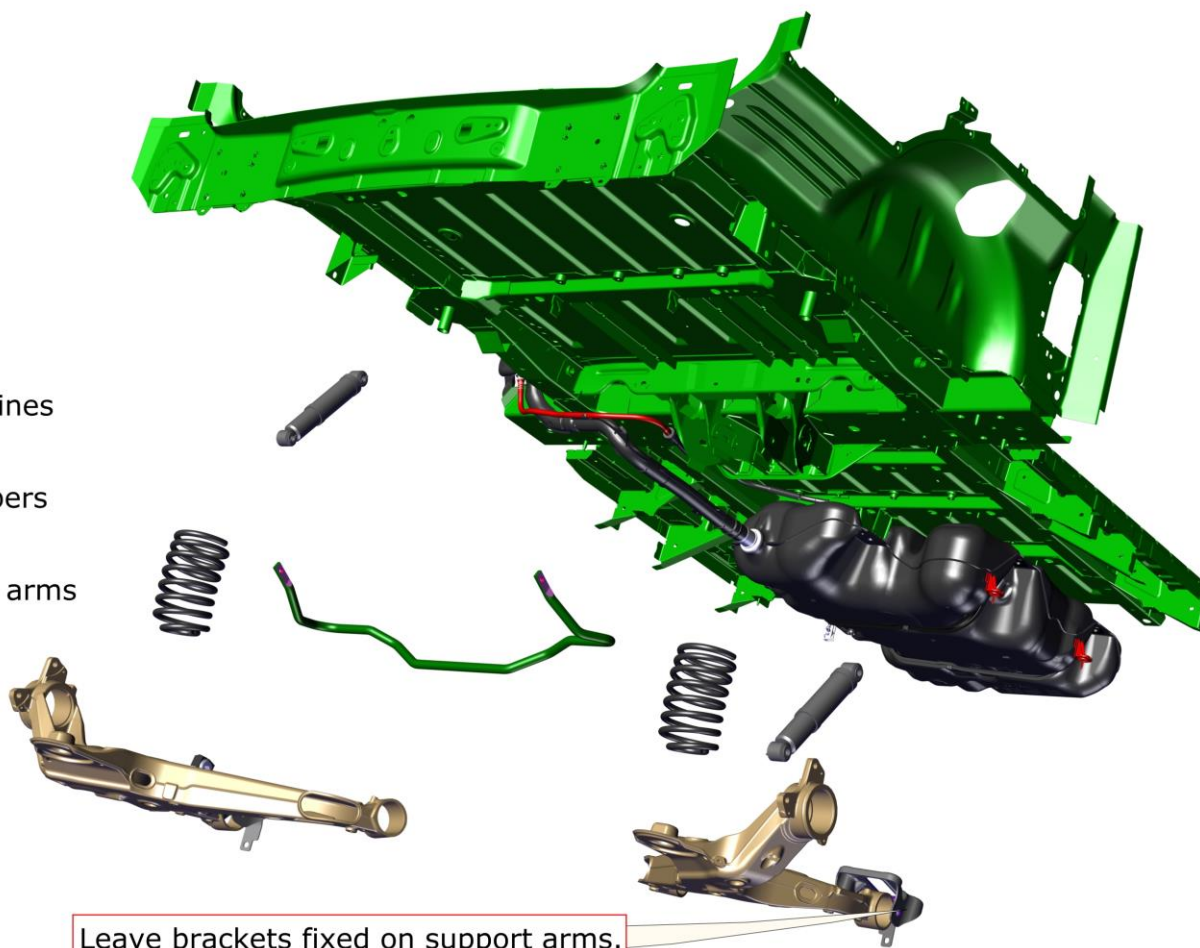
Remove:

- Rear bumper
- Inner bumper
- Left and right wheel arc covers

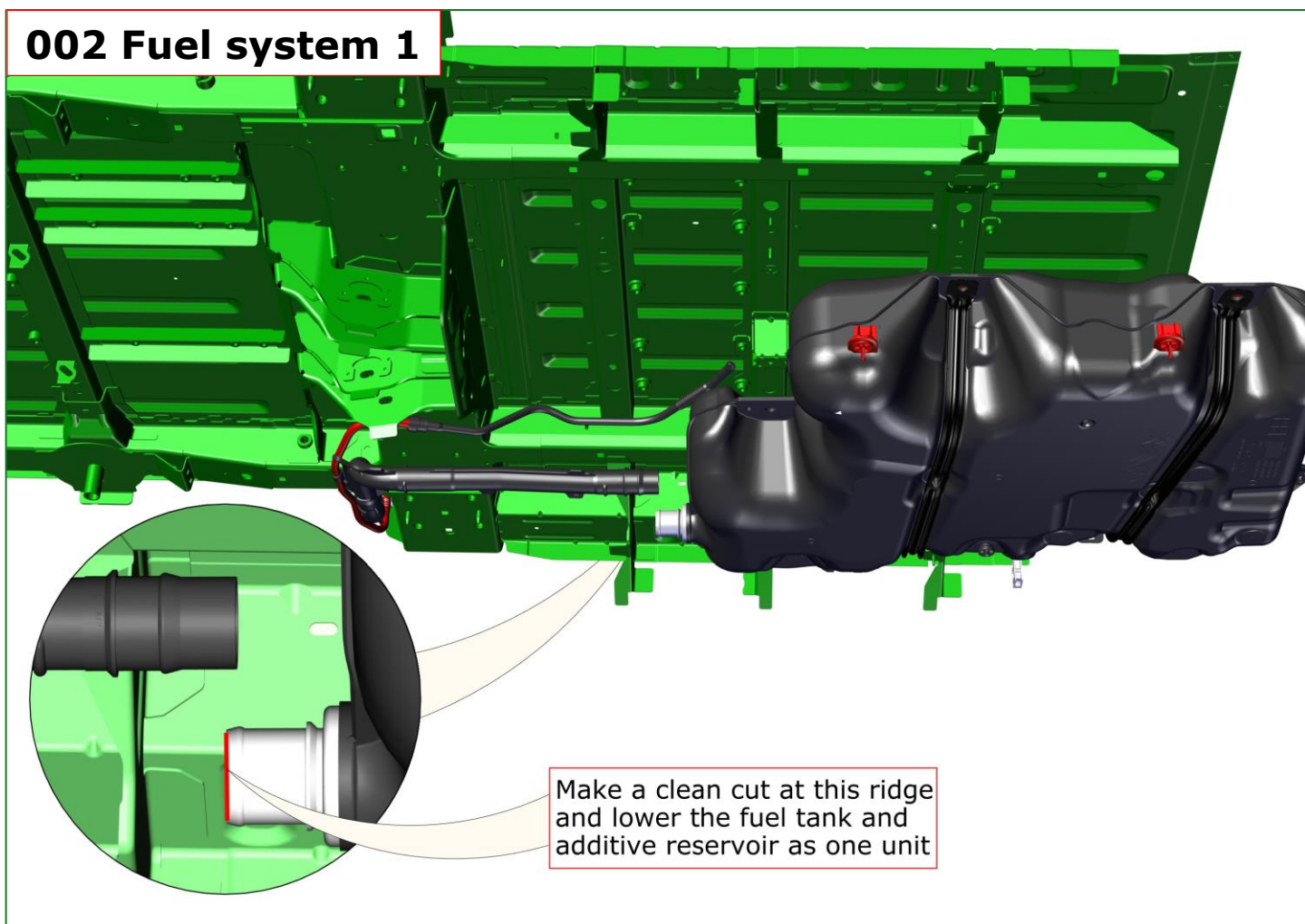


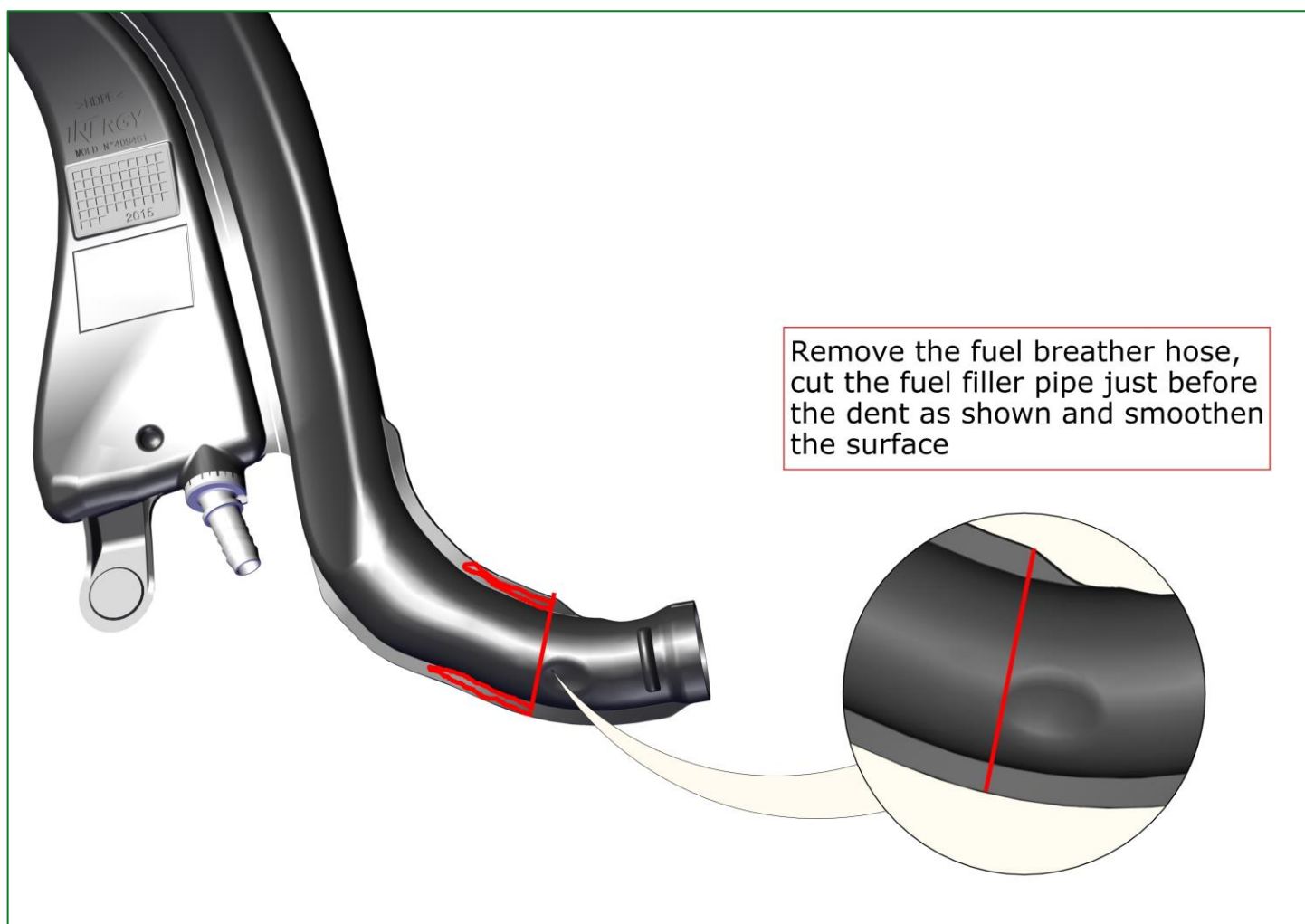
Remove:

- Hand/brake lines
- ABS sensors
- Rear wheels
- Shock absorbers
- Coil springs
- Anti roll bar
- Rear support arms



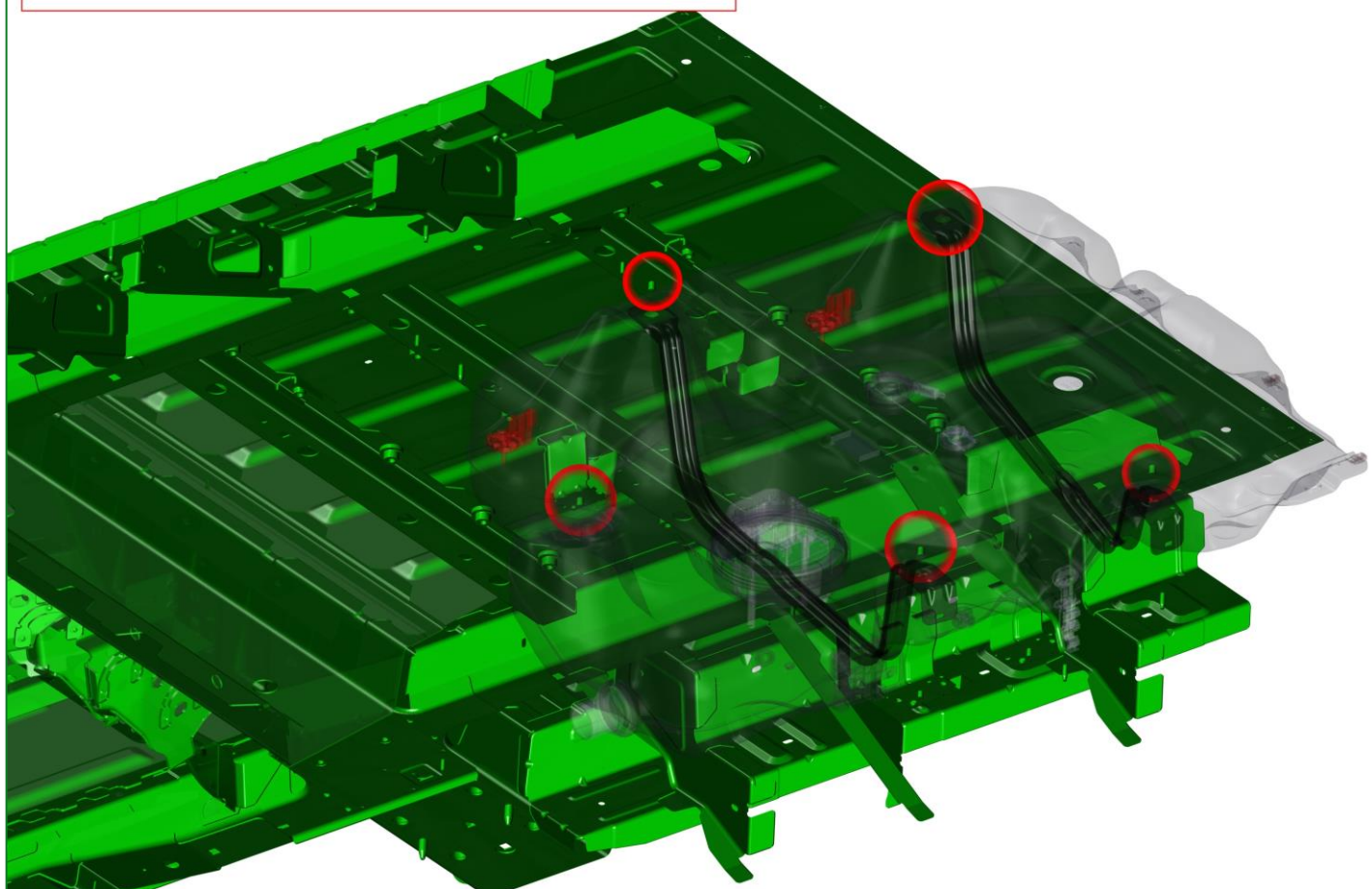
## 002 Fuel system 1



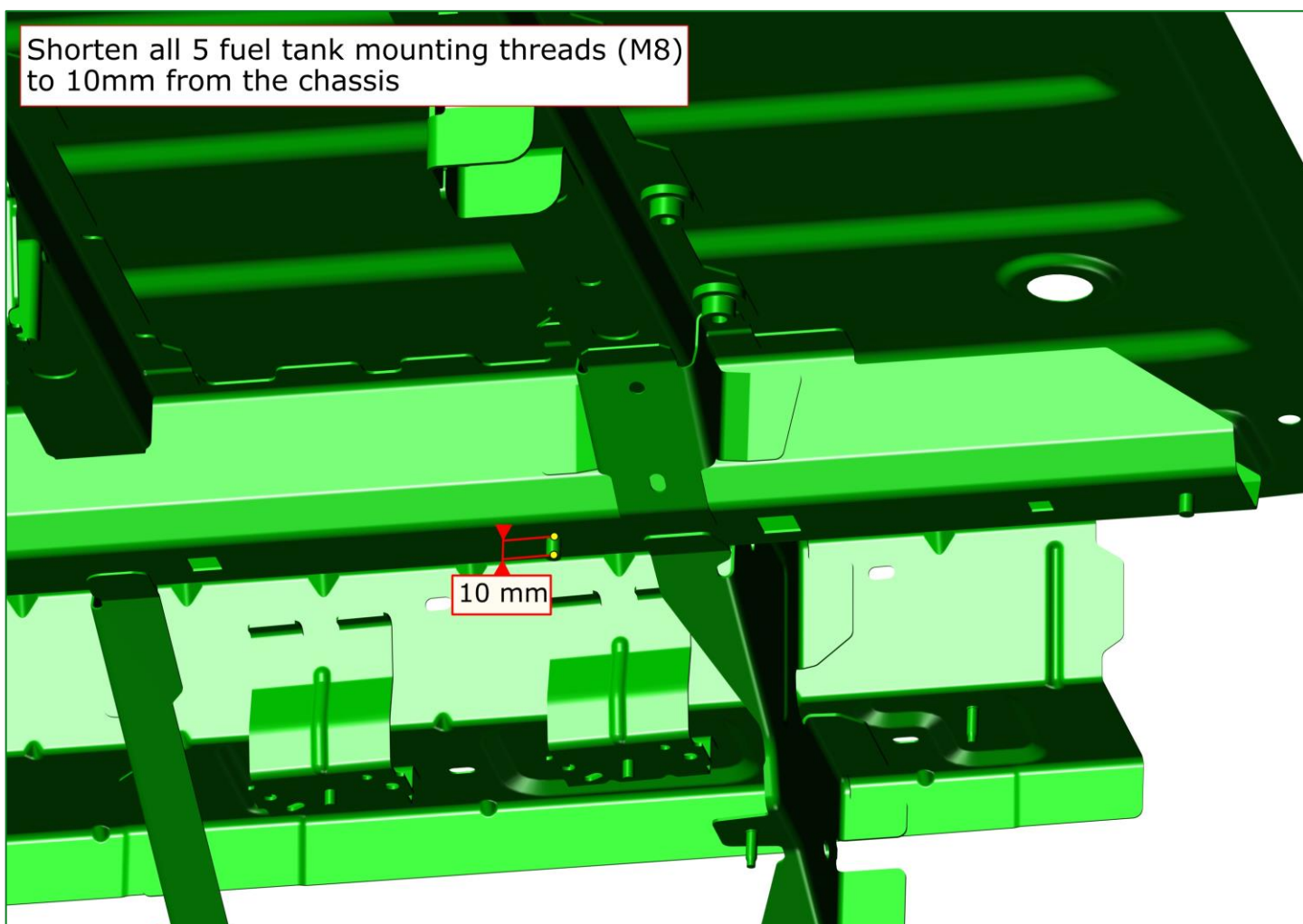




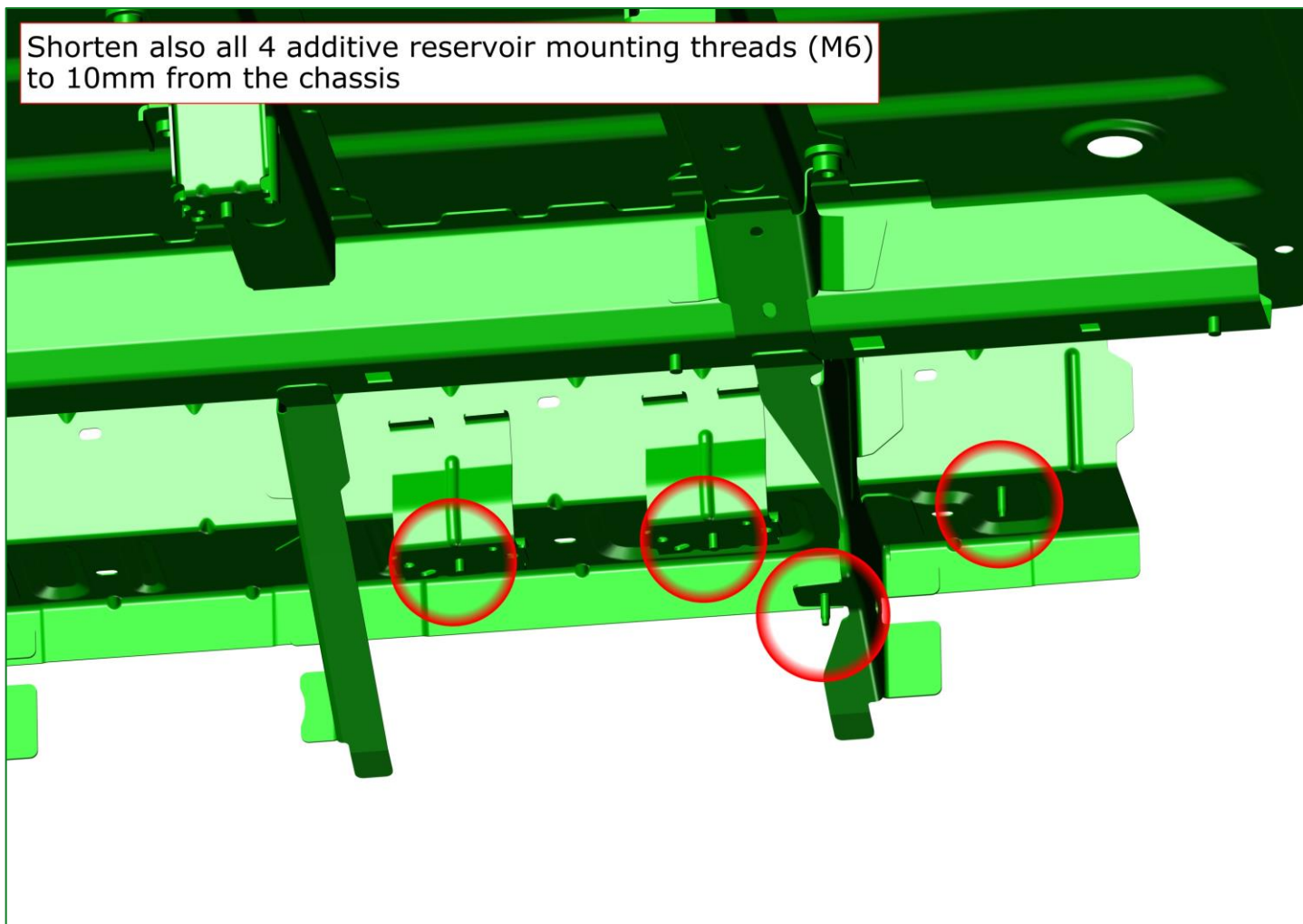
Shorten all 5 fuel tank mounting threads (M8) to 10mm from the chassis



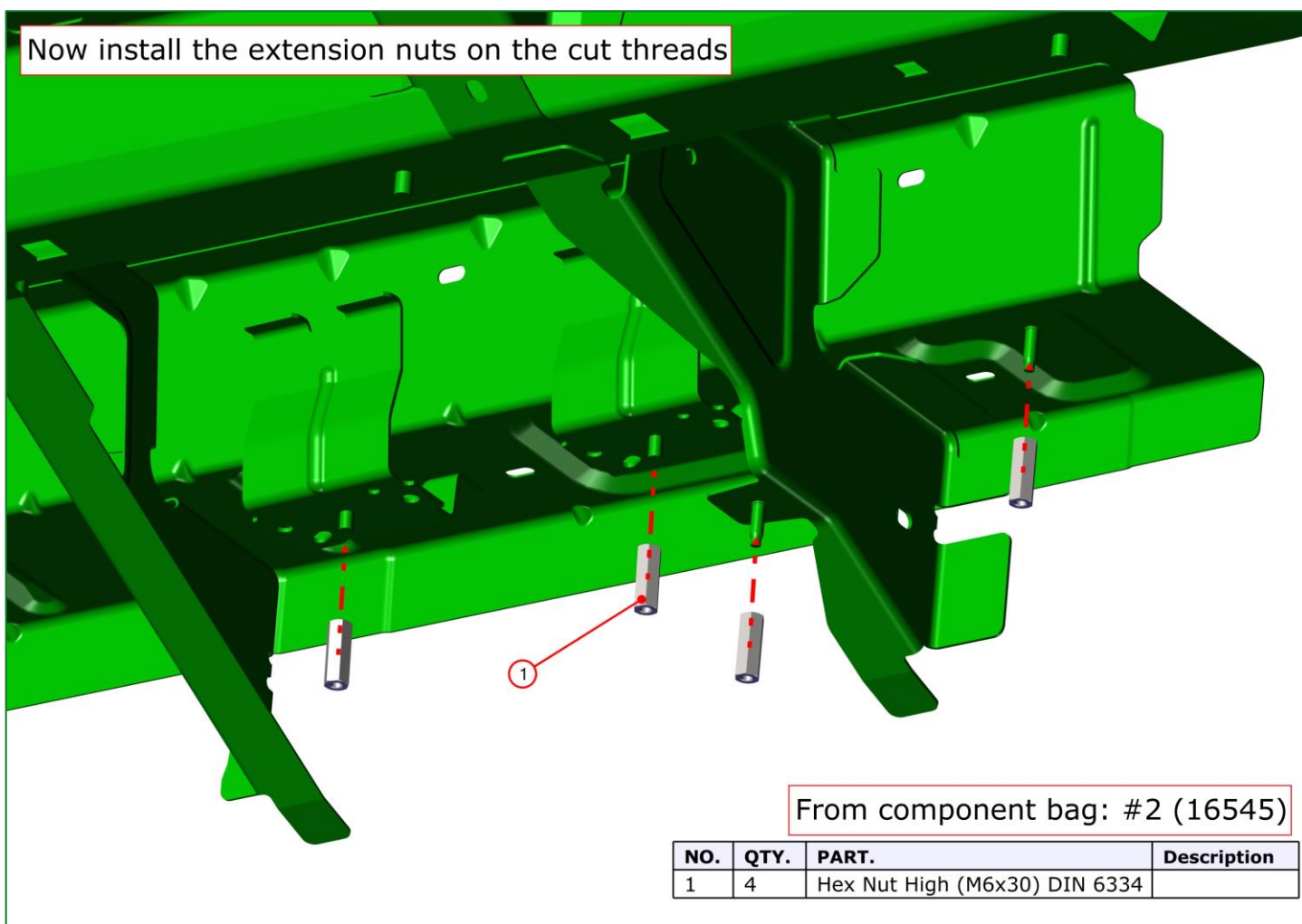
Shorten all 5 fuel tank mounting threads (M8) to 10mm from the chassis



Shorten also all 4 additive reservoir mounting threads (M6) to 10mm from the chassis



Now install the extension nuts on the cut threads

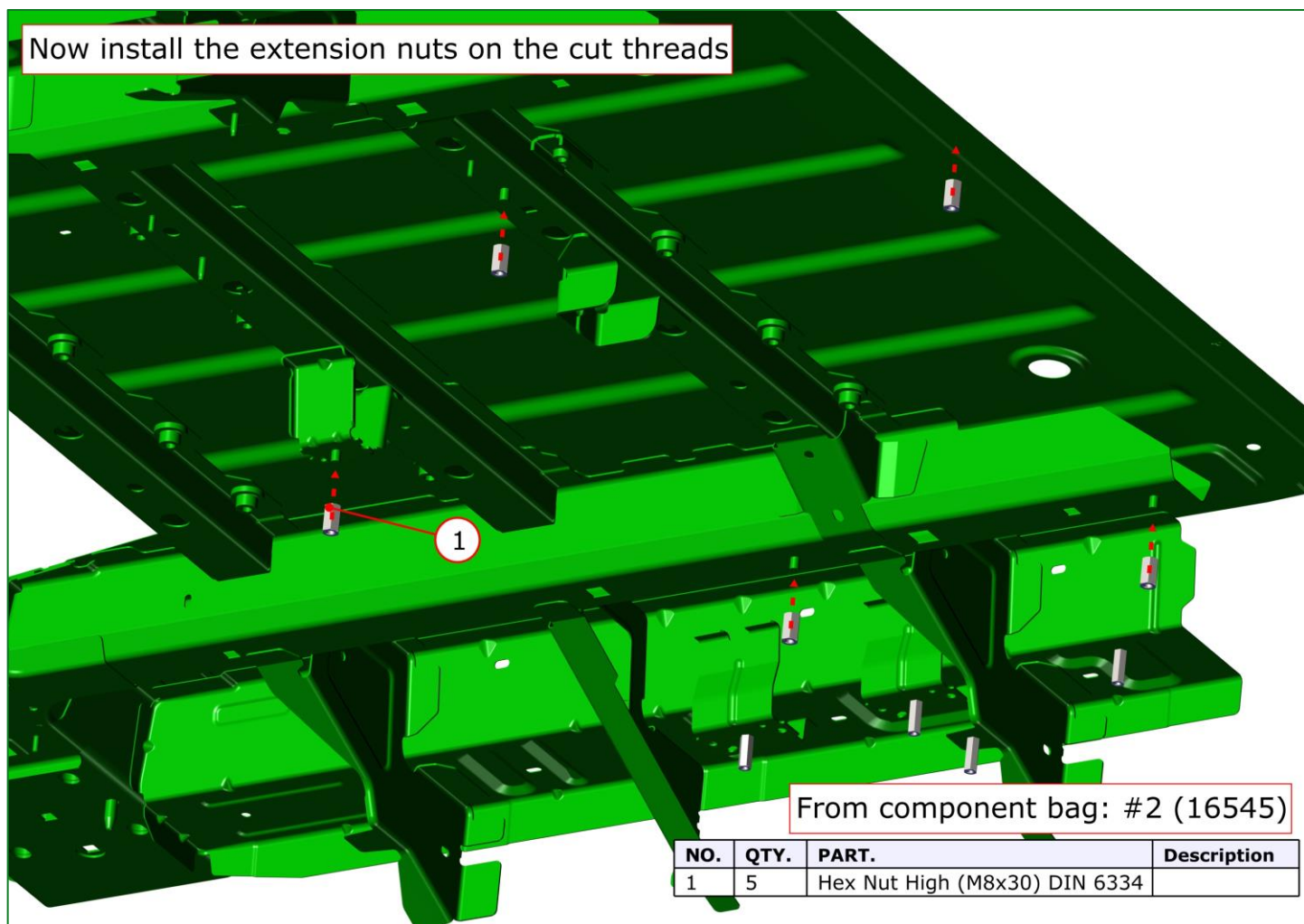


From component bag: #2 (16545)

NO.	QTY.	PART.	Description
1	4	Hex Nut High (M6x30) DIN 6334	



Now install the extension nuts on the cut threads

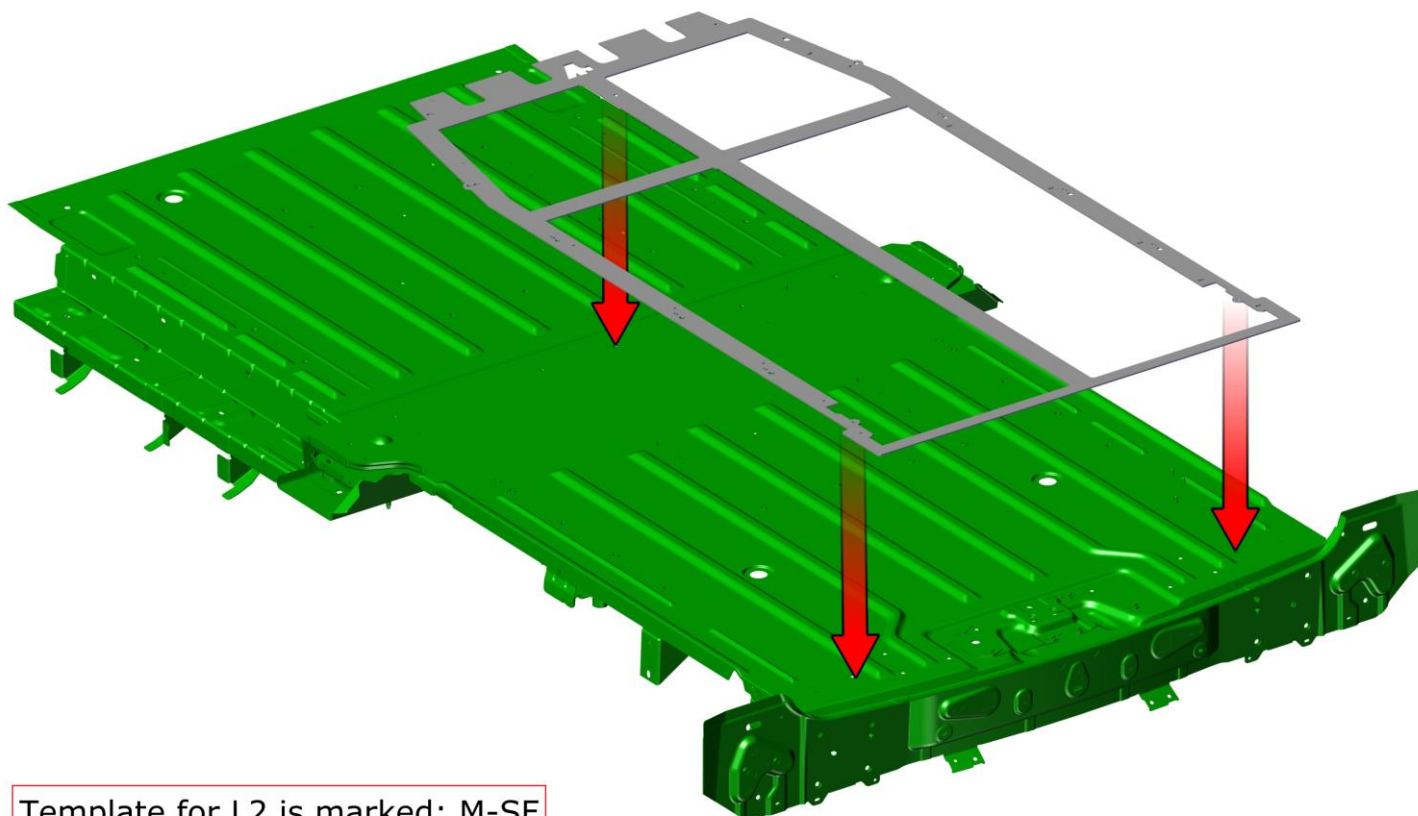


From component bag: #2 (16545)

NO.	QTY.	PART.	Description
1	5	Hex Nut High (M8x30) DIN 6334	

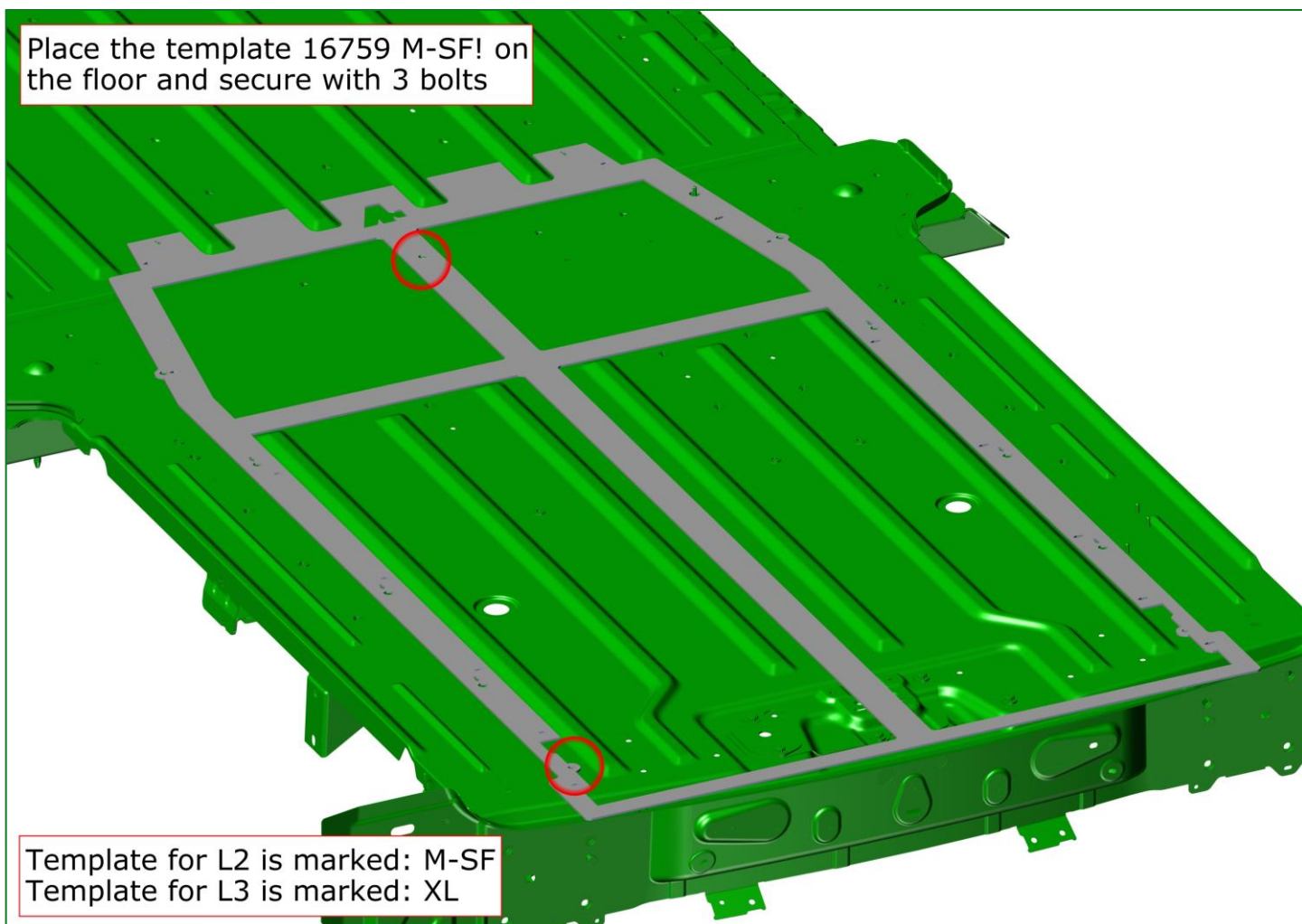
Place the template 16759 M-SF! on the floor and secure with 3 bolts

### 003 Measuring & marking



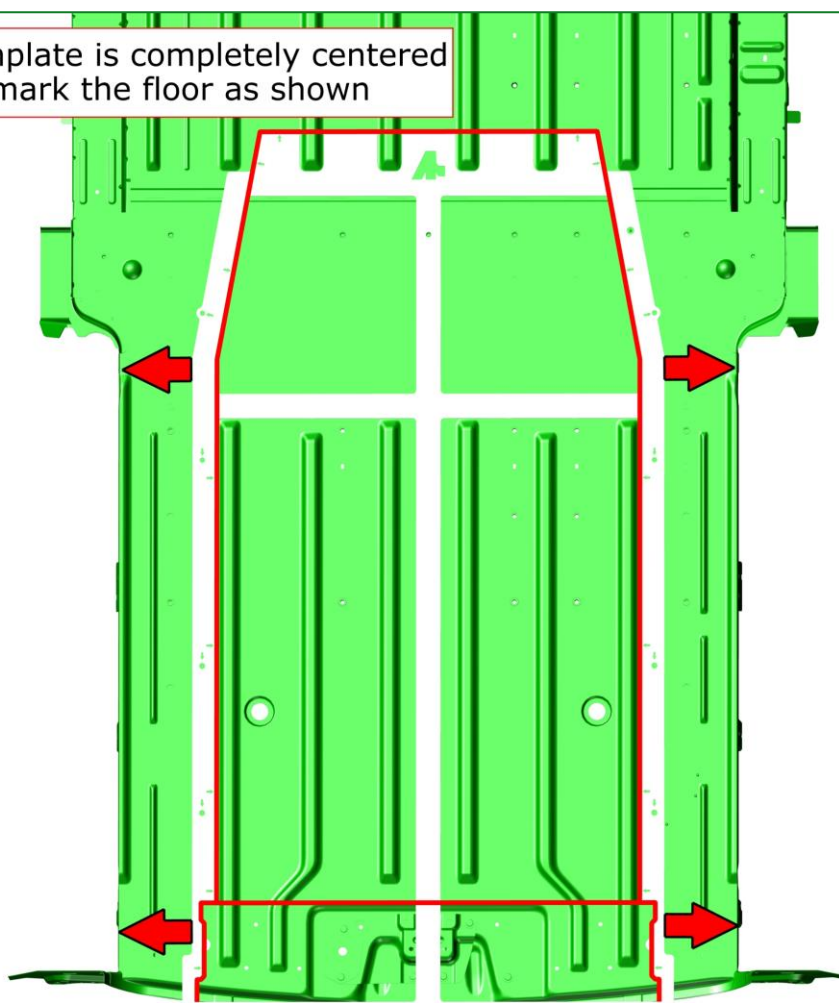
Template for L2 is marked: M-SF  
Template for L3 is marked: XL

Place the template 16759 M-SF! on the floor and secure with 3 bolts



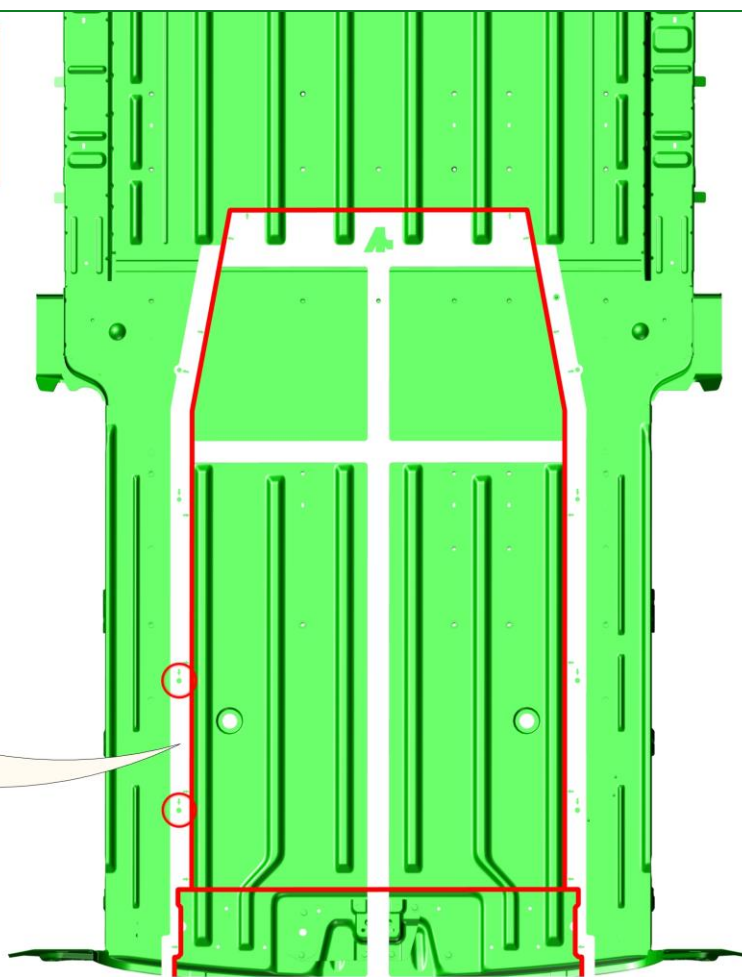
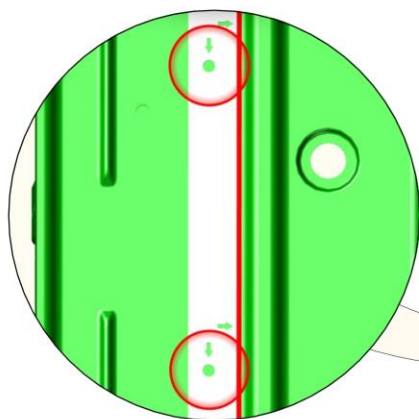
Template for L2 is marked: M-SF  
Template for L3 is marked: XL

Check that the template is completely centered on the floor, then mark the floor as shown



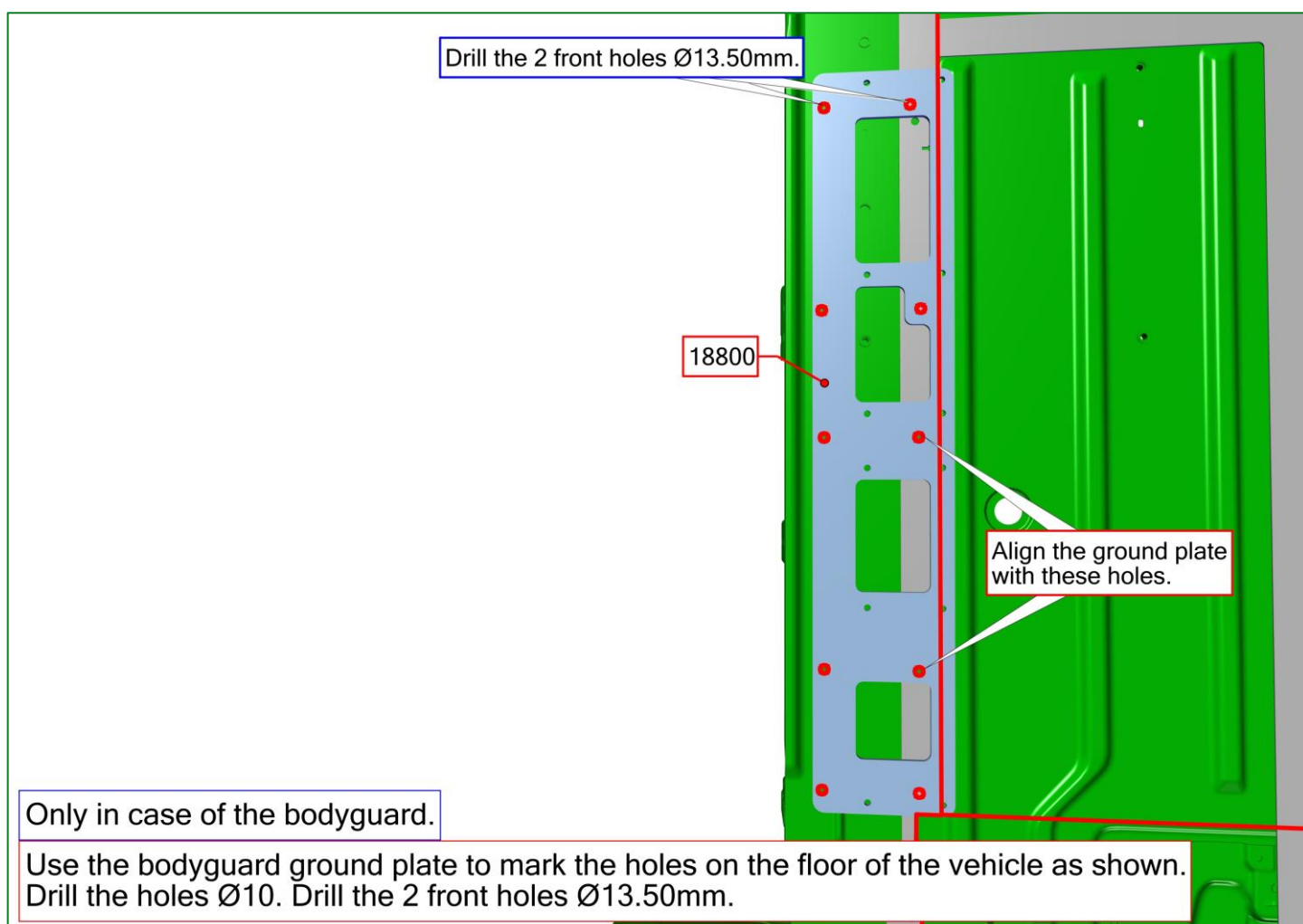
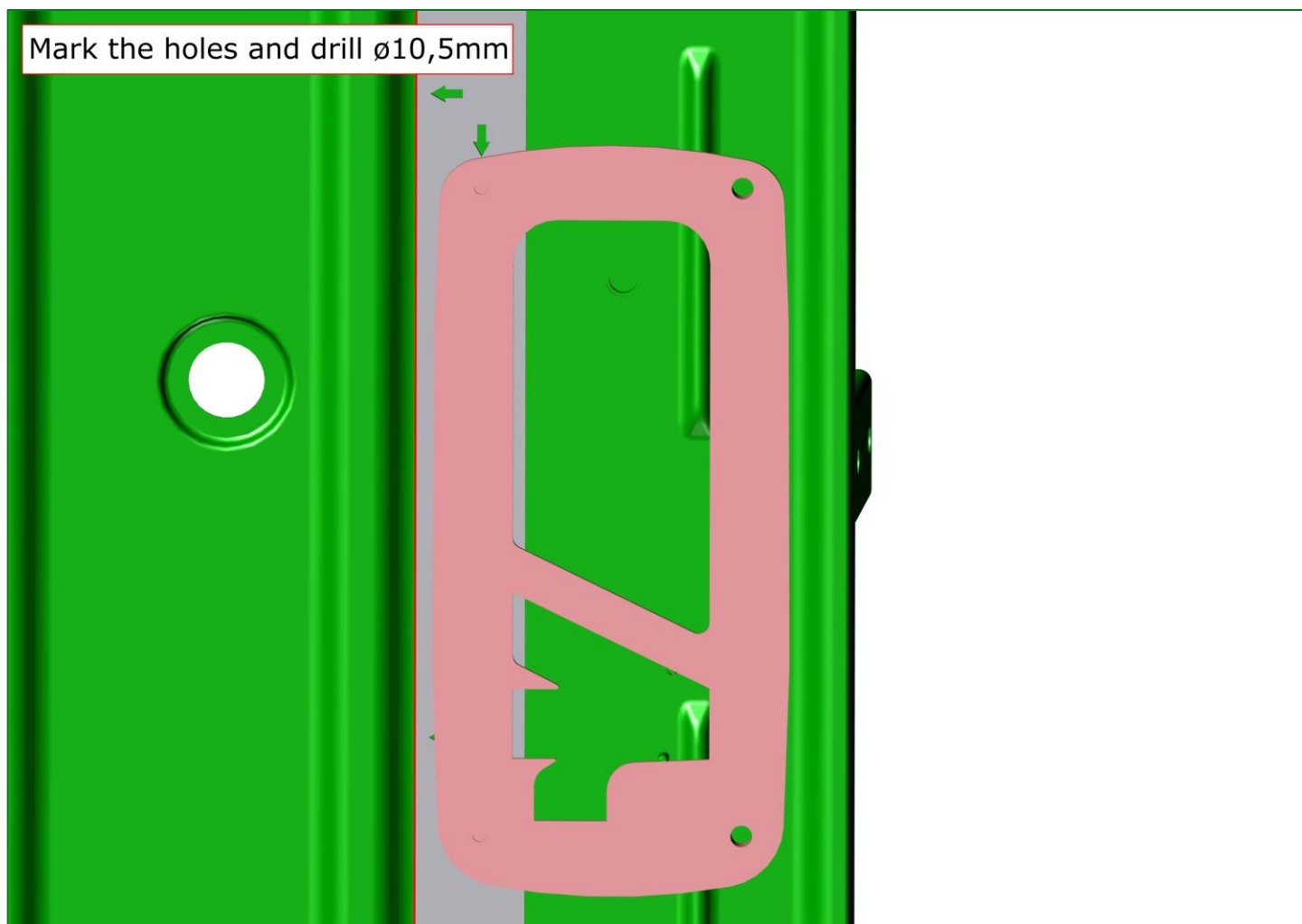


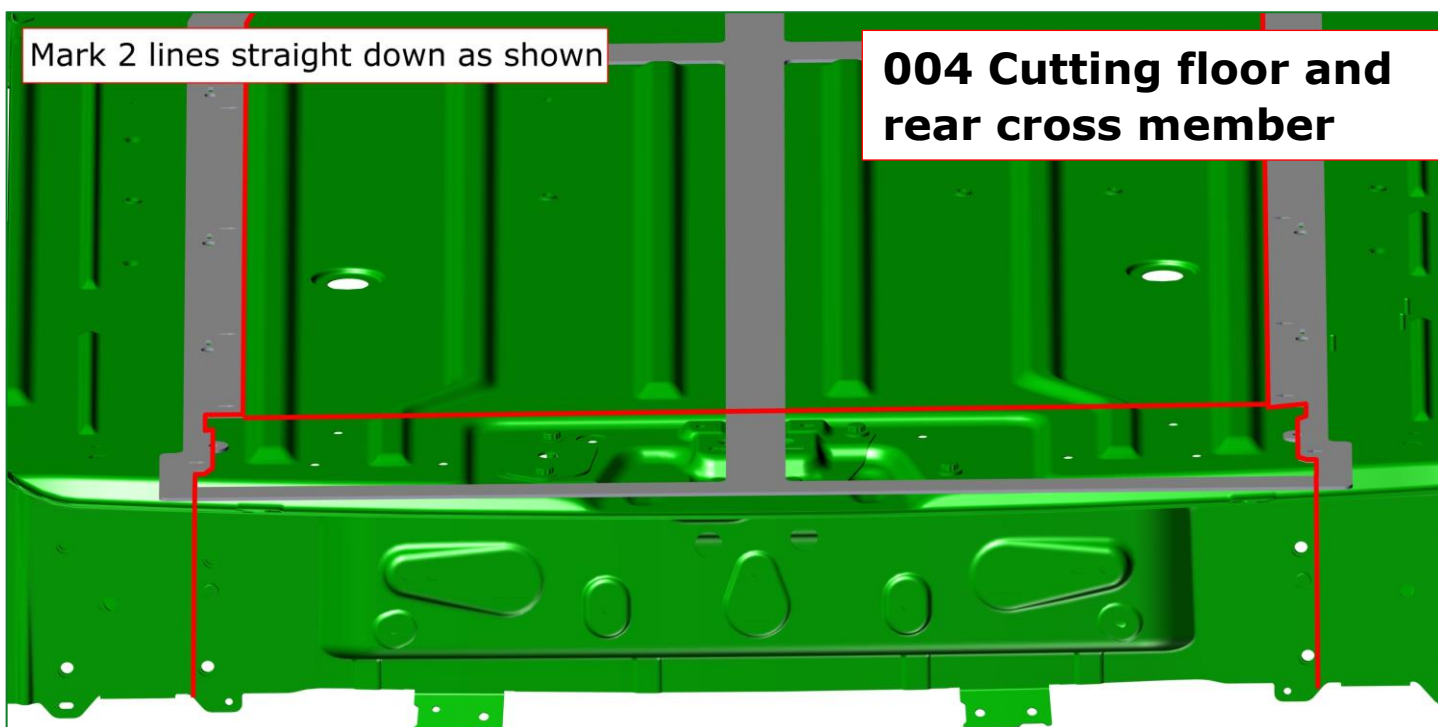
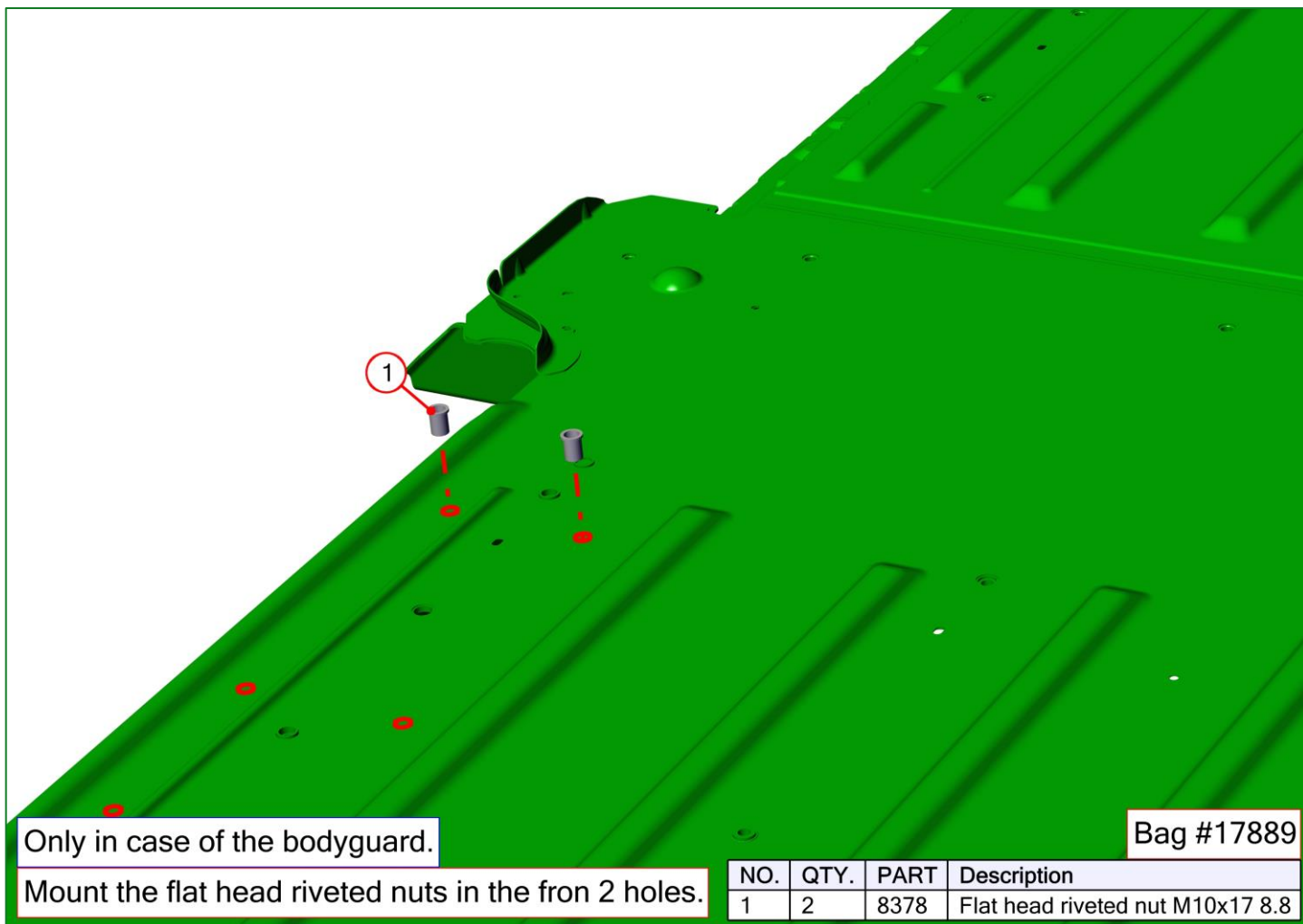
When the seating configuration includes 3rd row TriflexAir seats, Drill these holes, marked in the template with an arrow, left and/or right



Use the template 16442 to mark the outer holes for each seat console

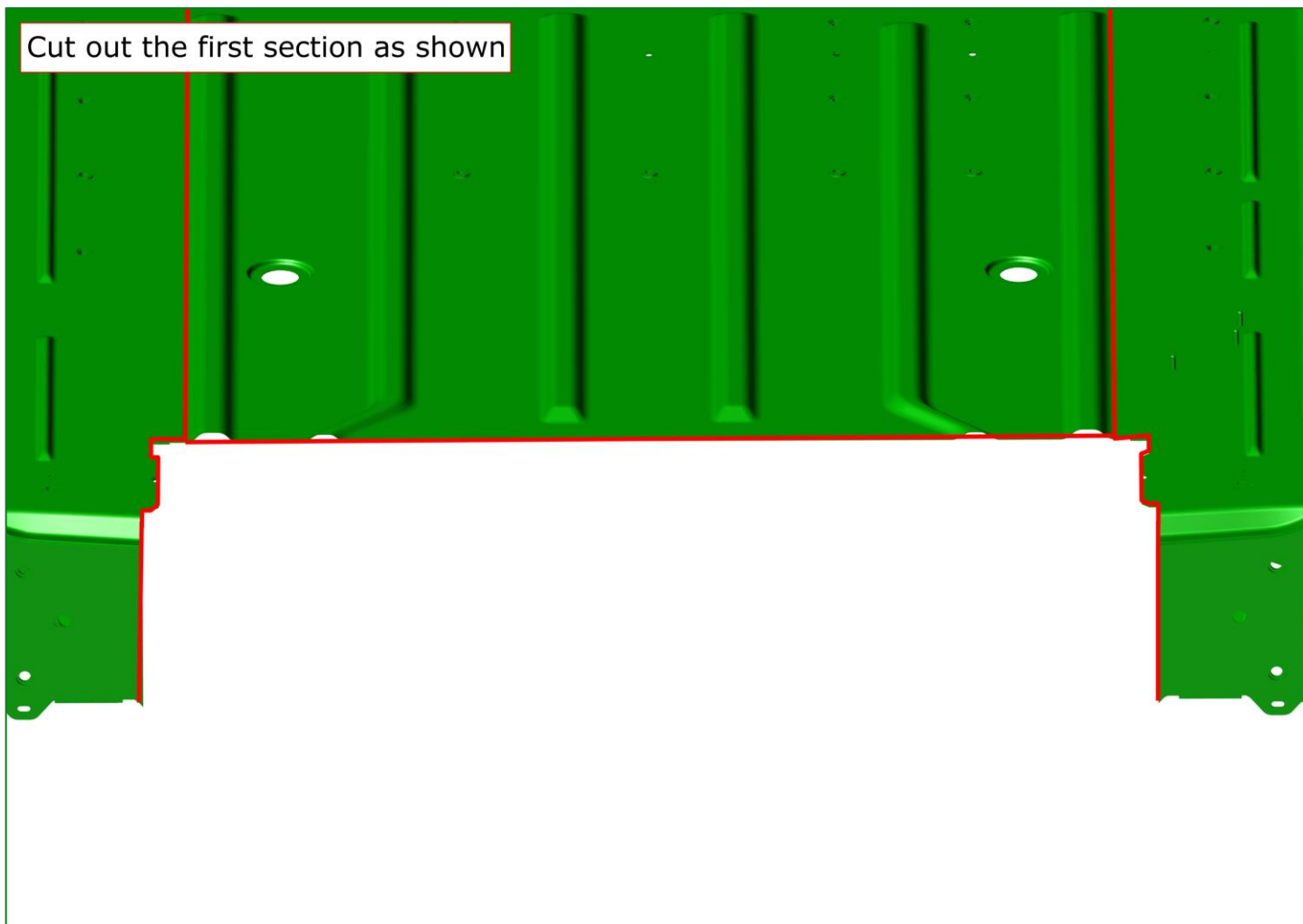




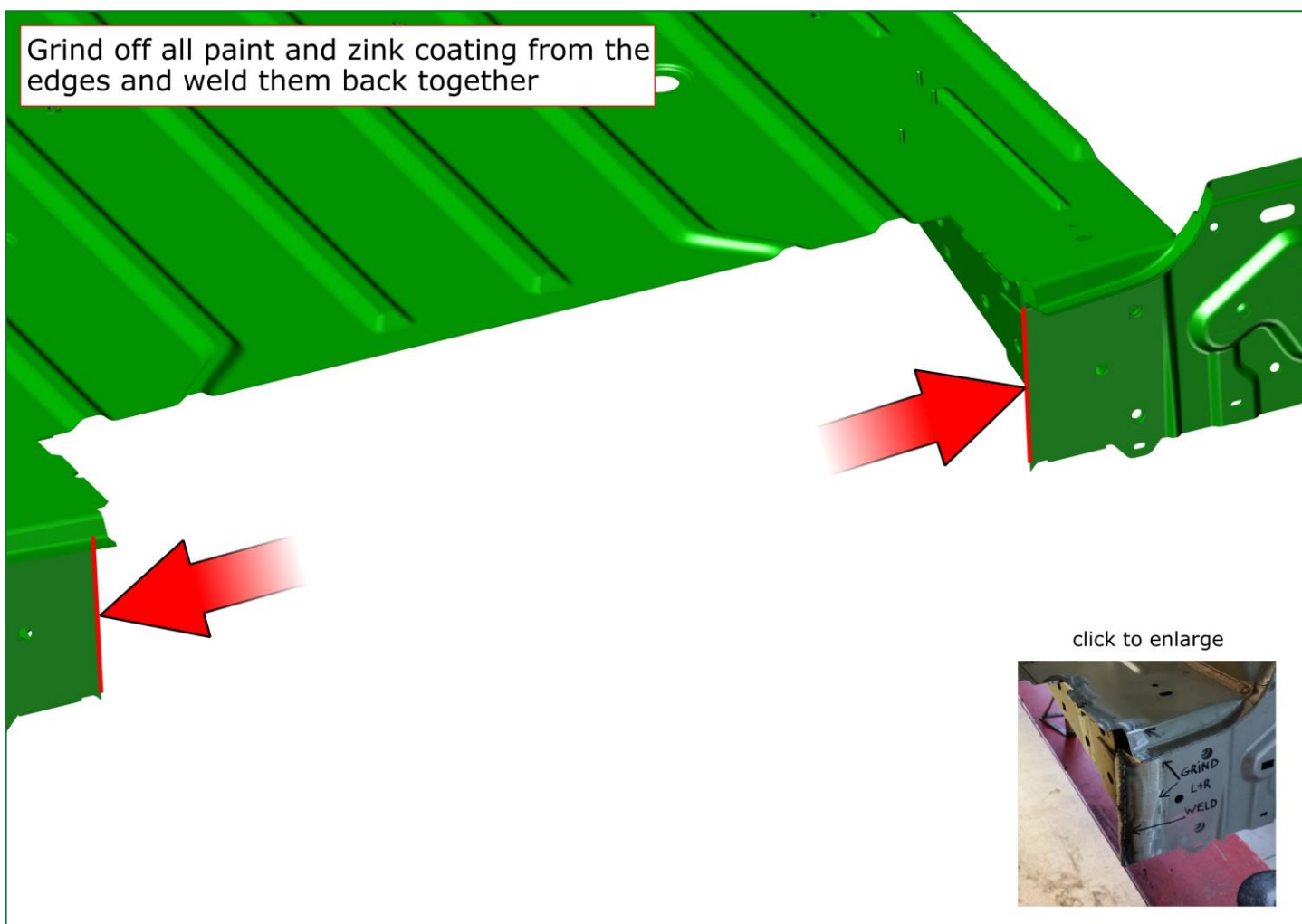




Cut out the first section as shown



Grind off all paint and zink coating from the edges and weld them back together

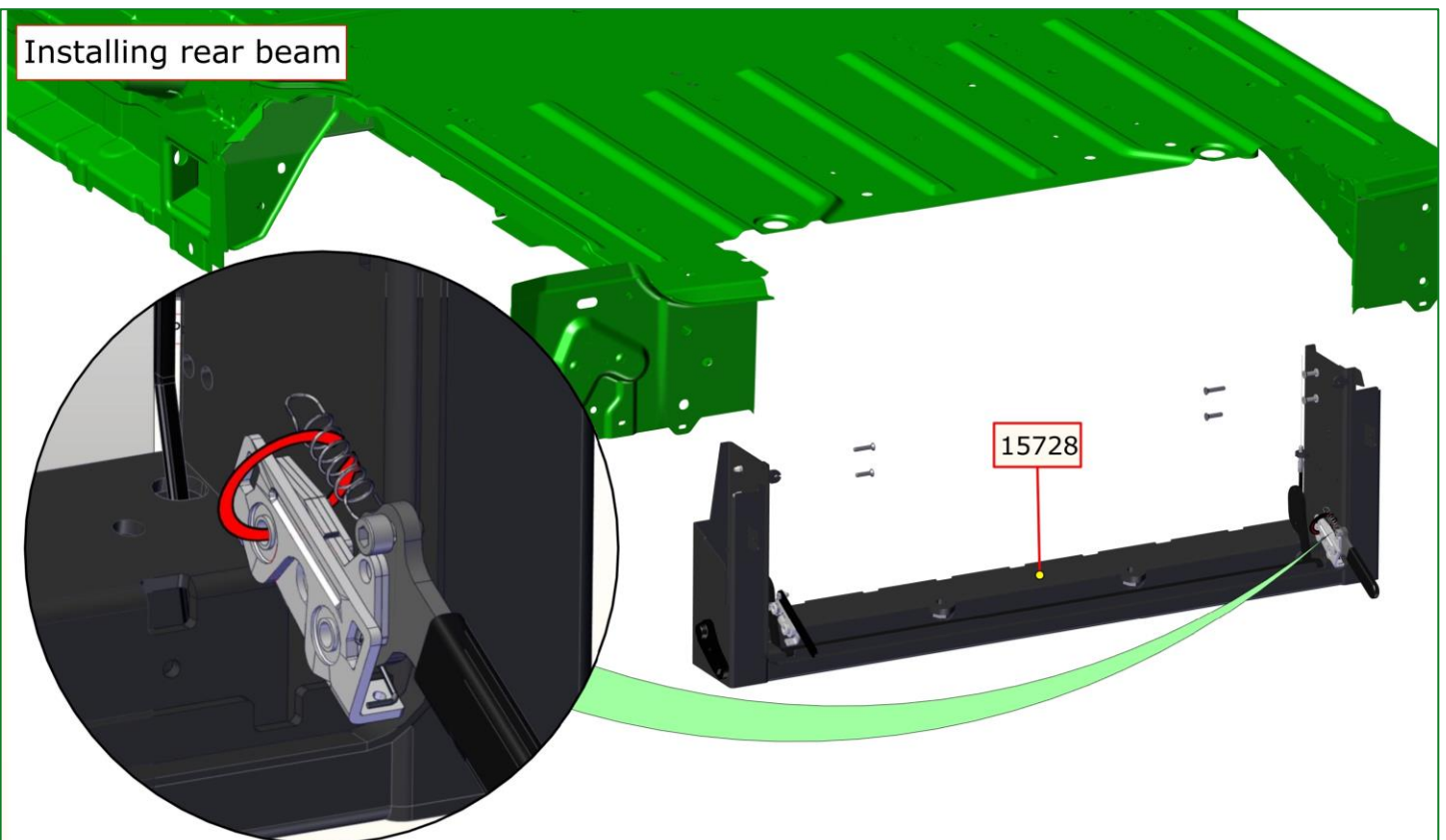


click to enlarge





### Installing rear beam



Uninstall the lock mechanisms, leaving them hanging on the cables. Make sure to loop a cable binder (shown in red) through the bottom hole to prevent the lock from falling apart

Remove the 4 screws from the 2 locking mechanisms and let them hang down to make room for grinding and welding



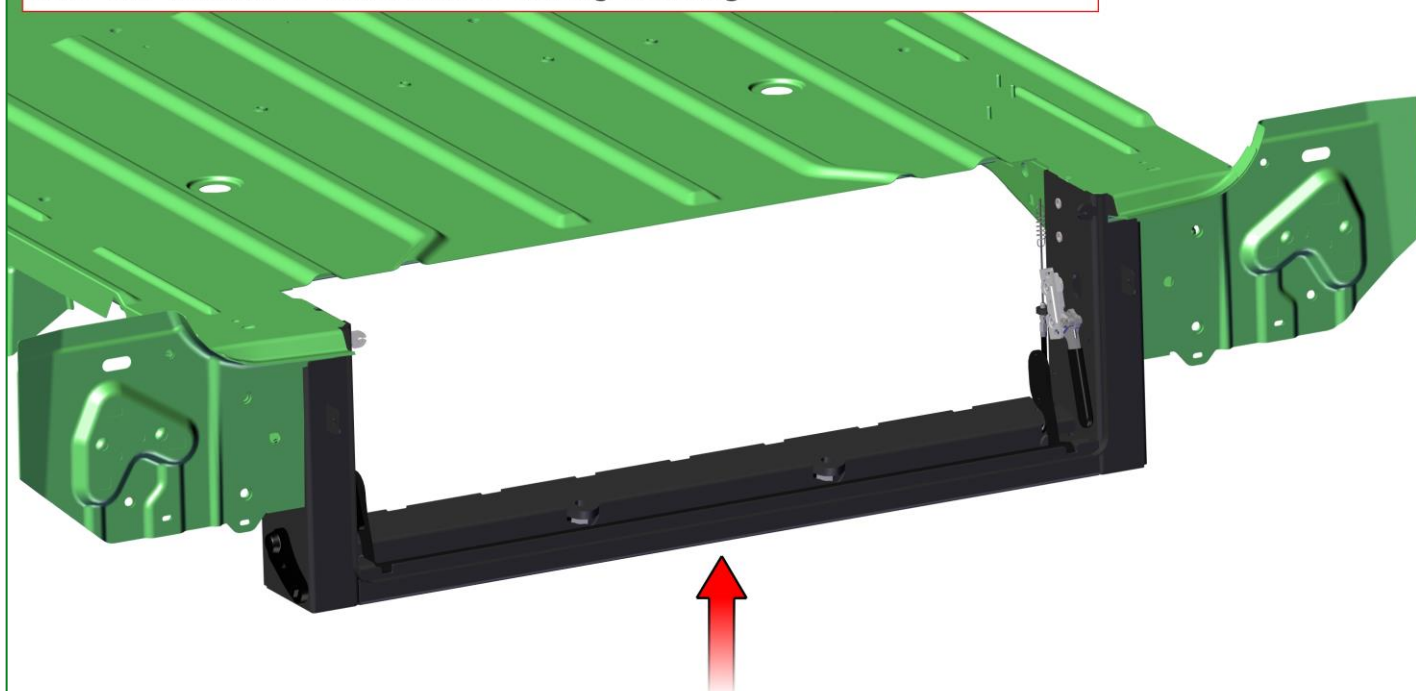
Remove the 4 screws from the 2 locking mechanisms and let them hang down to make room for grinding and welding. Use a cable binder through the bottom mounting hole of the locks to prevent them from falling apart



Position the rear beam on the chassis

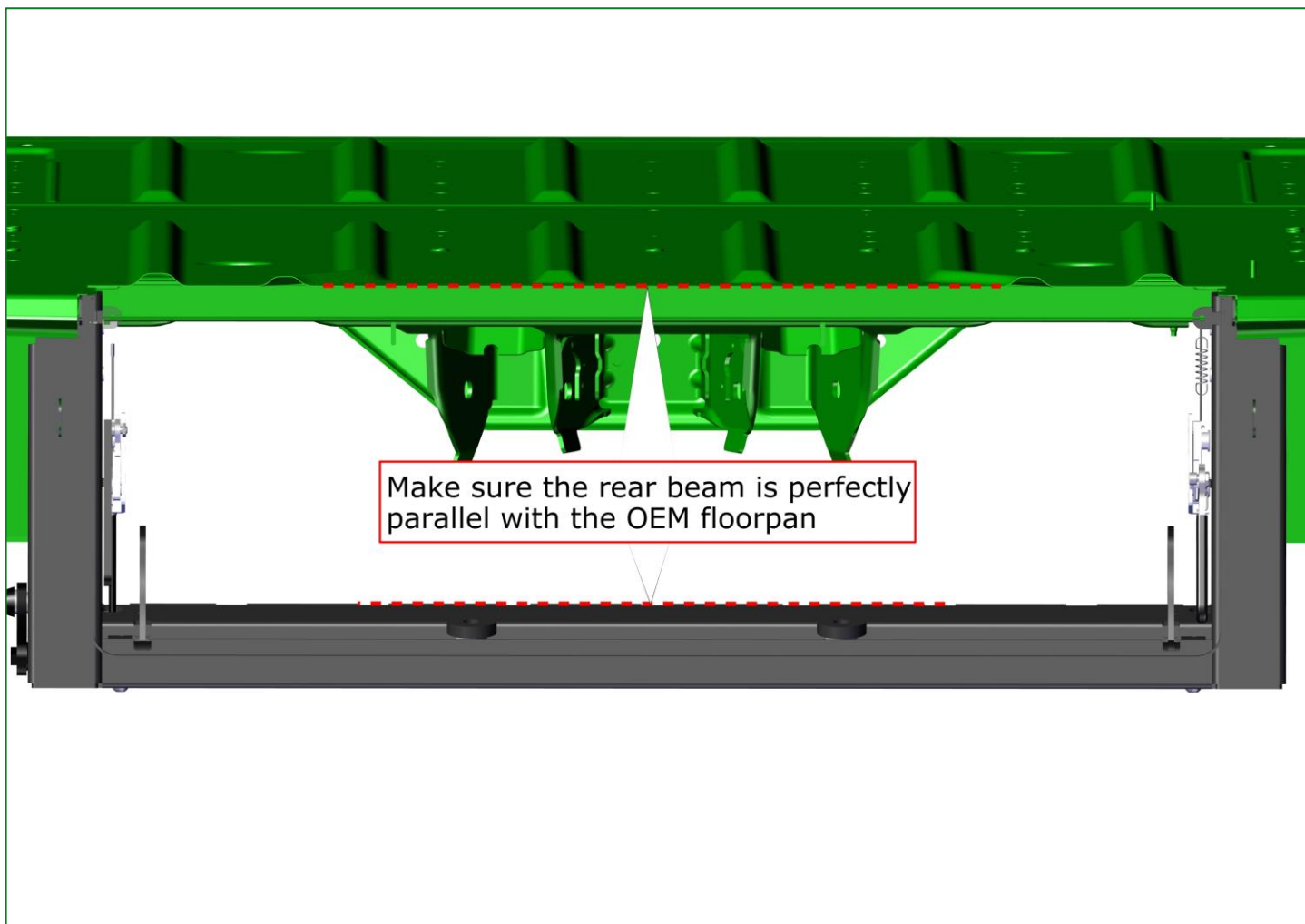
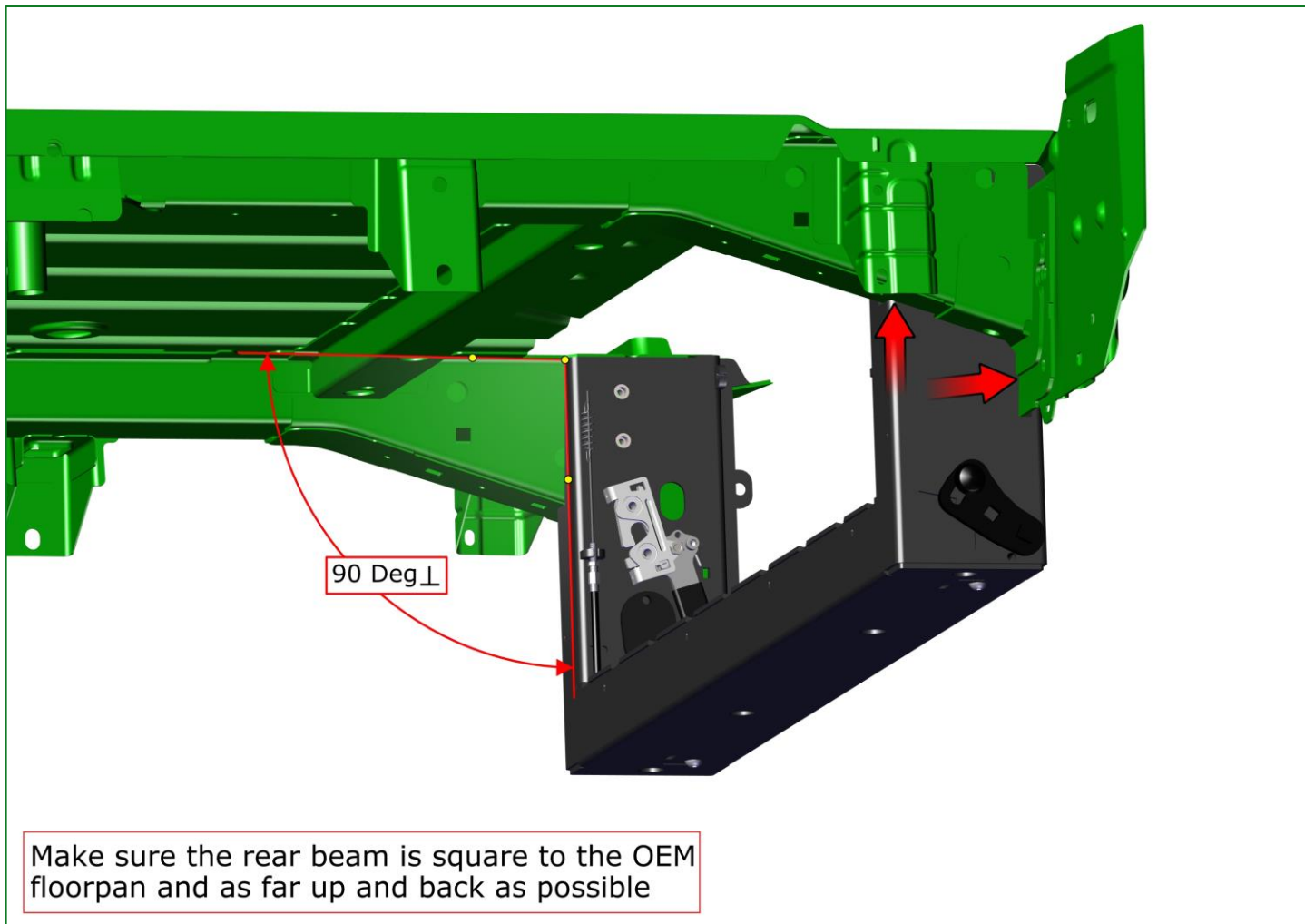


Mark the contact areas with the chassis, take down the beam, grind off all the paint and zink coating from the chassis, and the rear beam, at the marked places and lift the beam back in position. This will minimize toxic fumes during welding

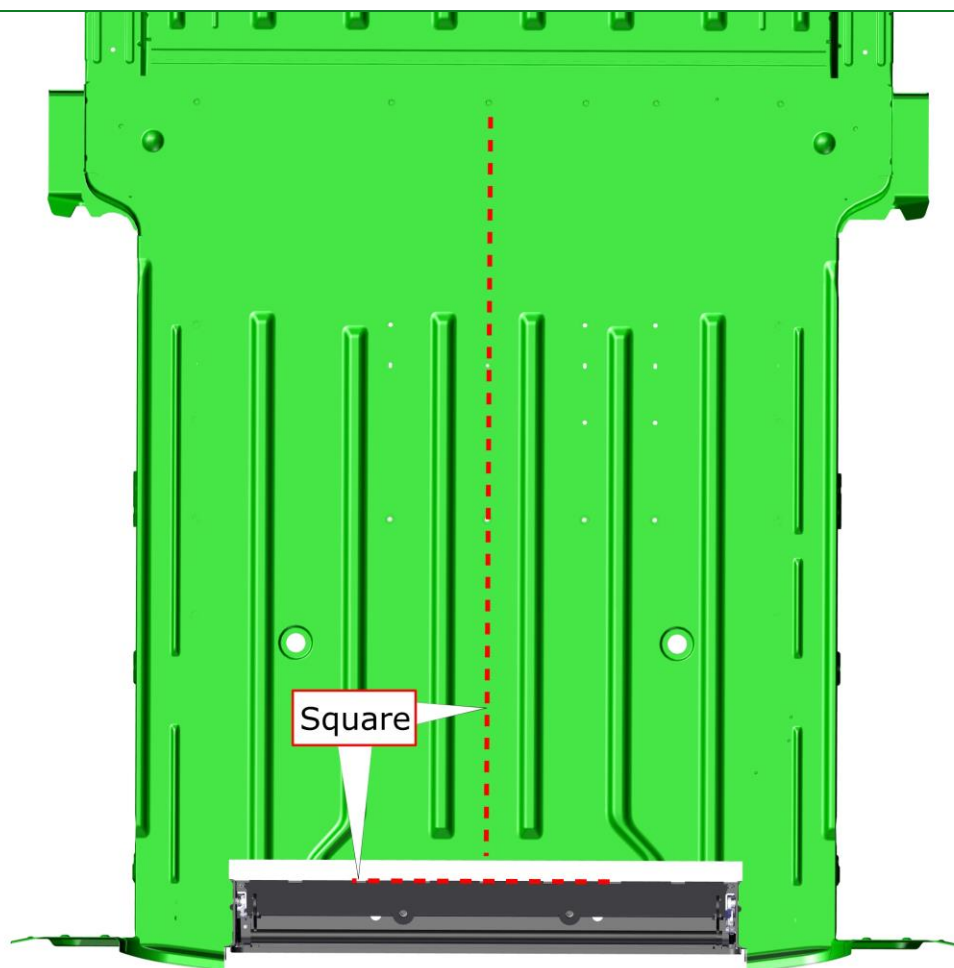


Hold in place with a transmission jack

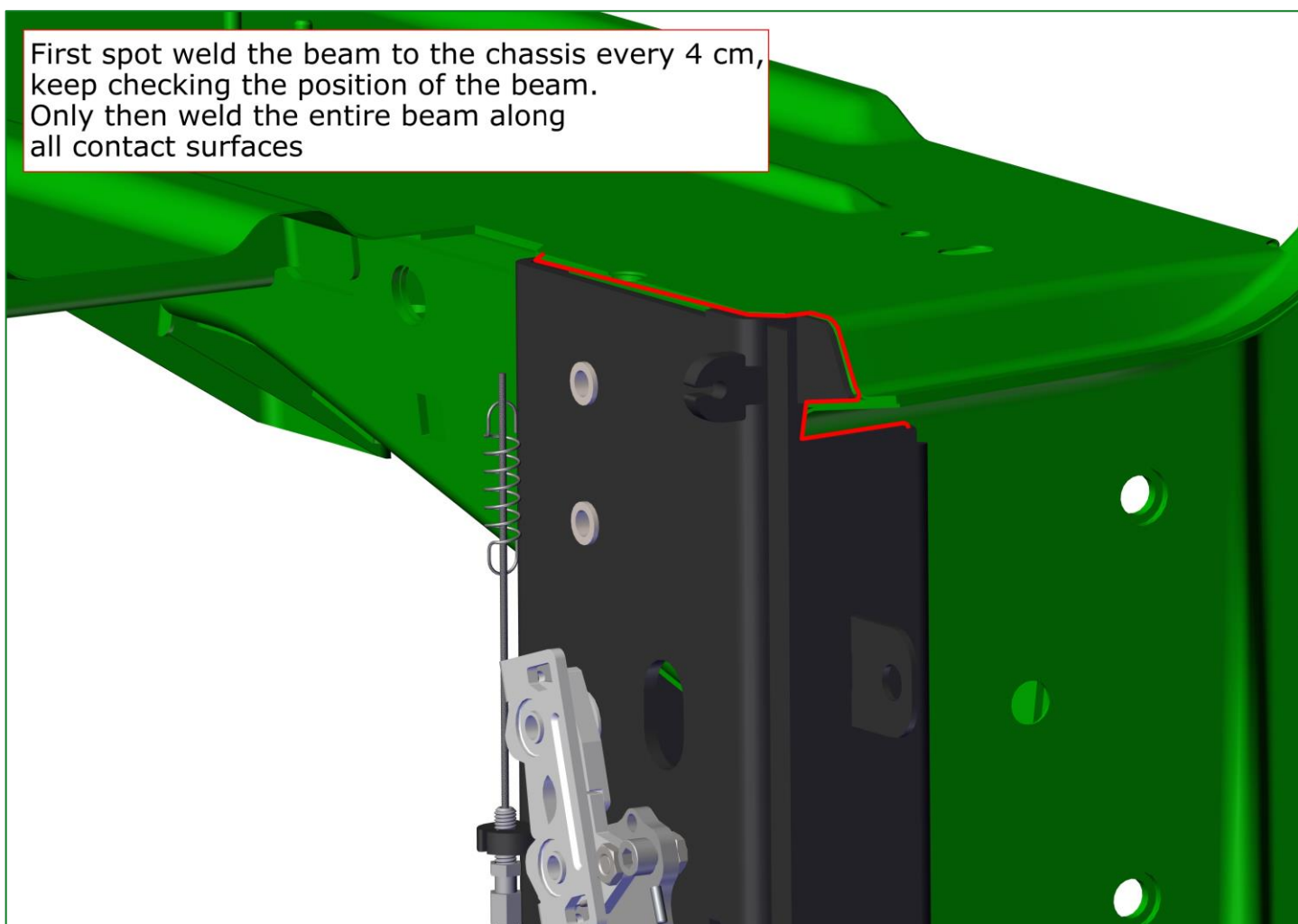




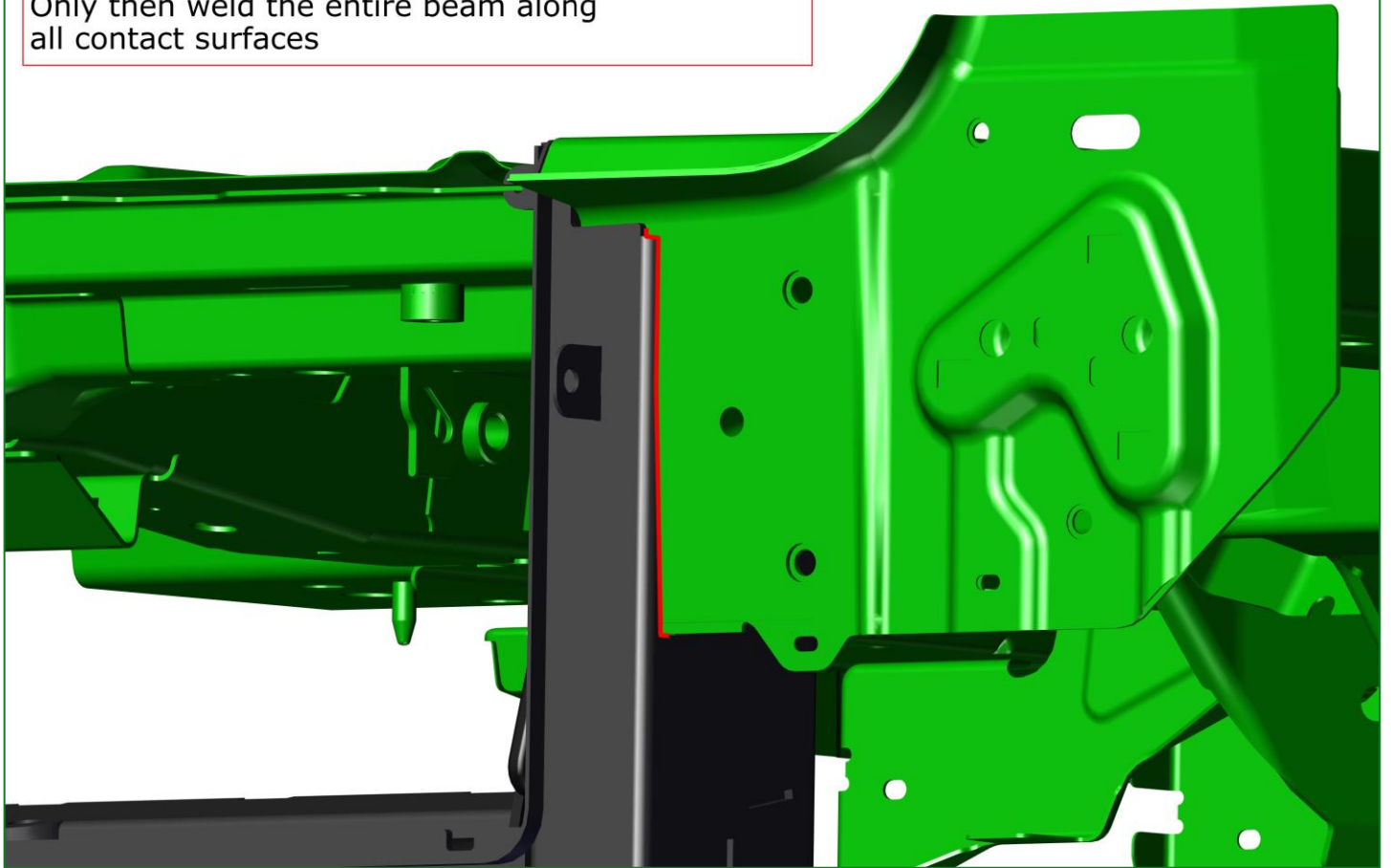




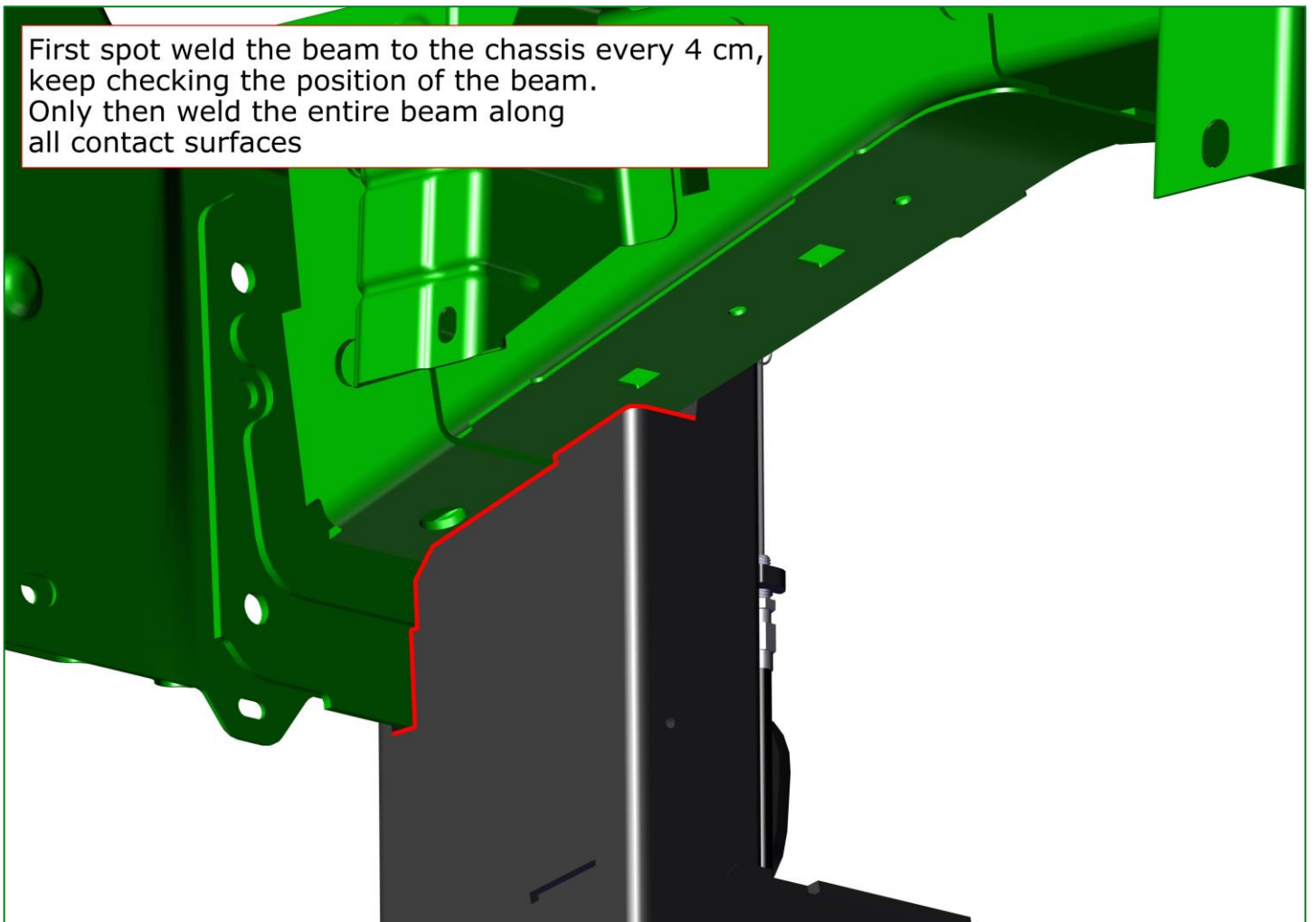
First spot weld the beam to the chassis every 4 cm, keep checking the position of the beam. Only then weld the entire beam along all contact surfaces



First spot weld the beam to the chassis every 4 cm,  
keep checking the position of the beam.  
Only then weld the entire beam along  
all contact surfaces



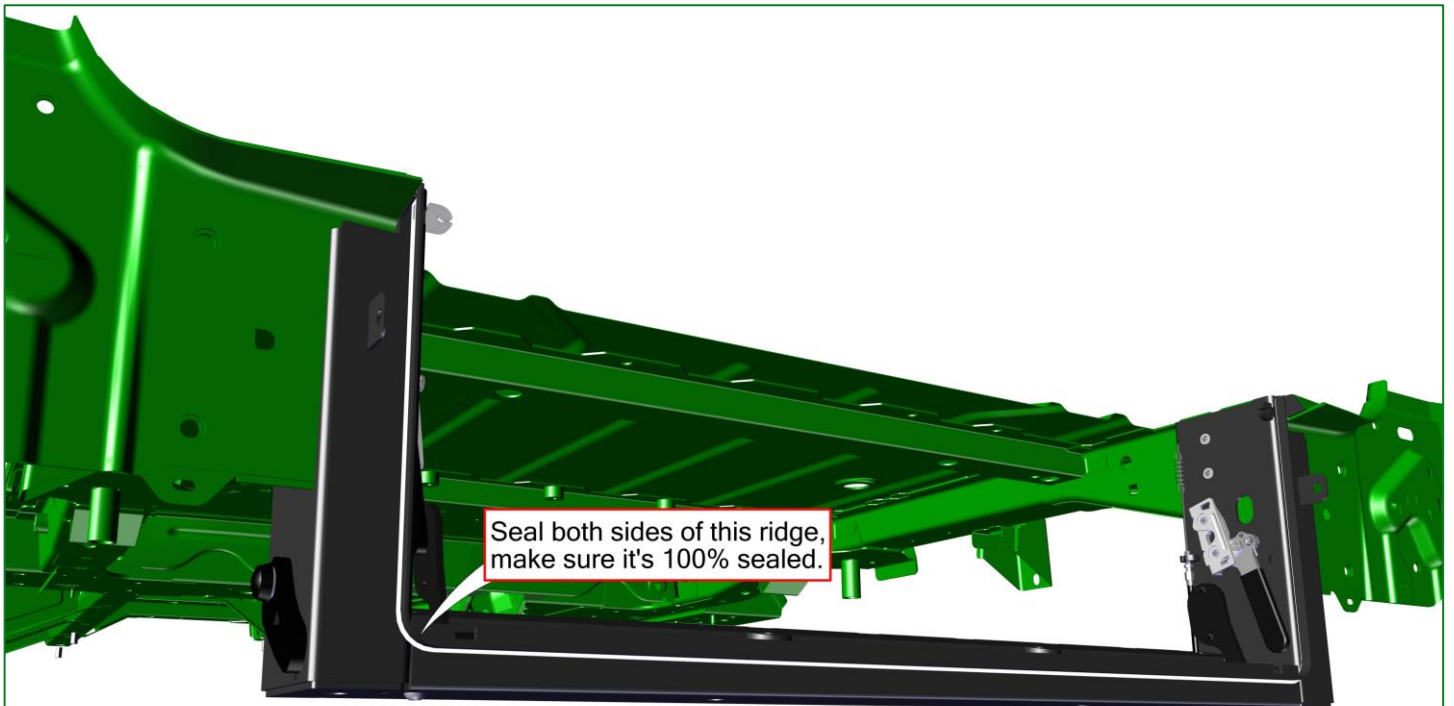
First spot weld the beam to the chassis every 4 cm,  
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Only then weld the entire beam along  
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First spot weld the beam to the chassis every 4 cm,  
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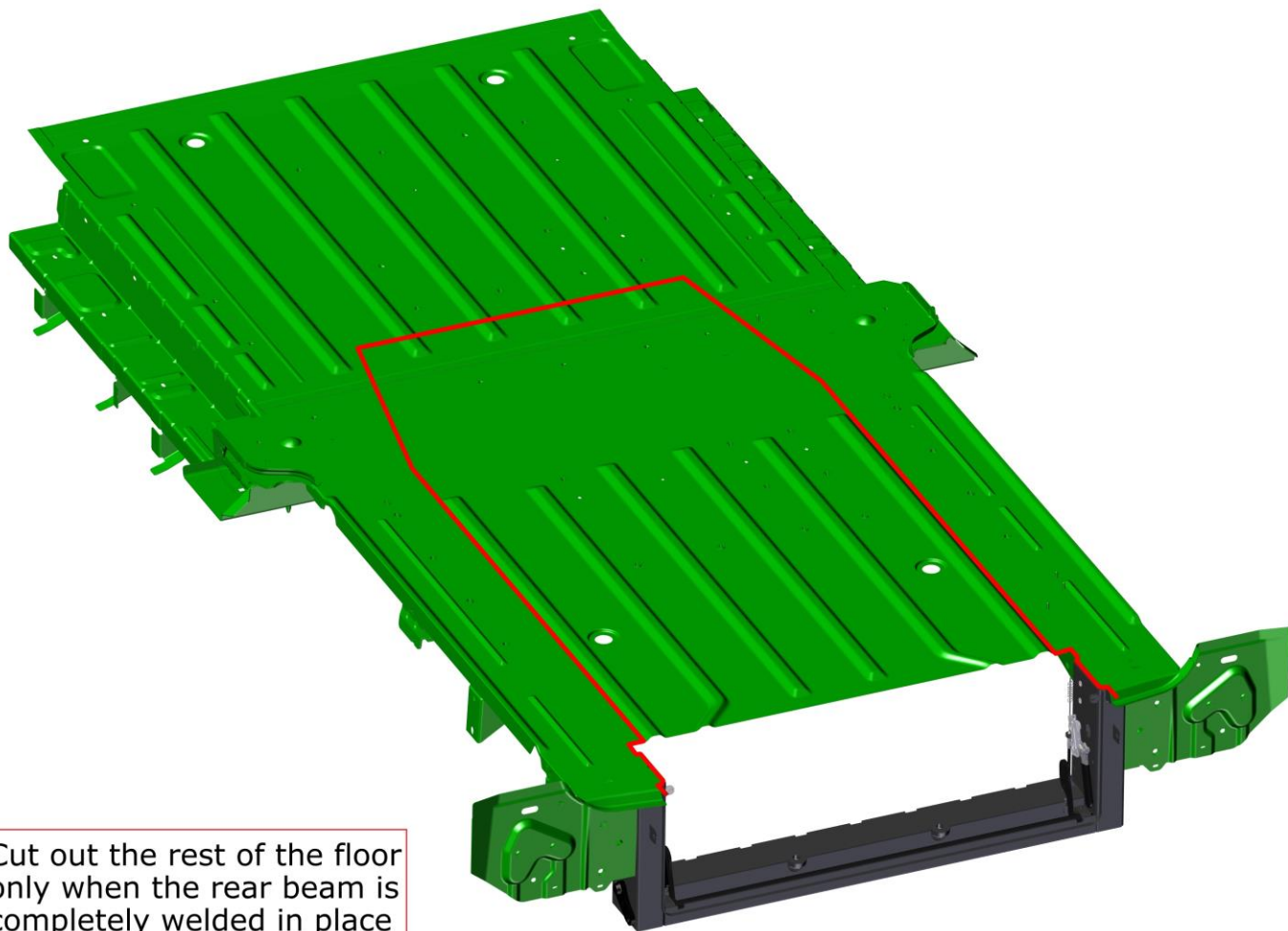


Seal both sides of this ridge,  
make sure it's 100% sealed.

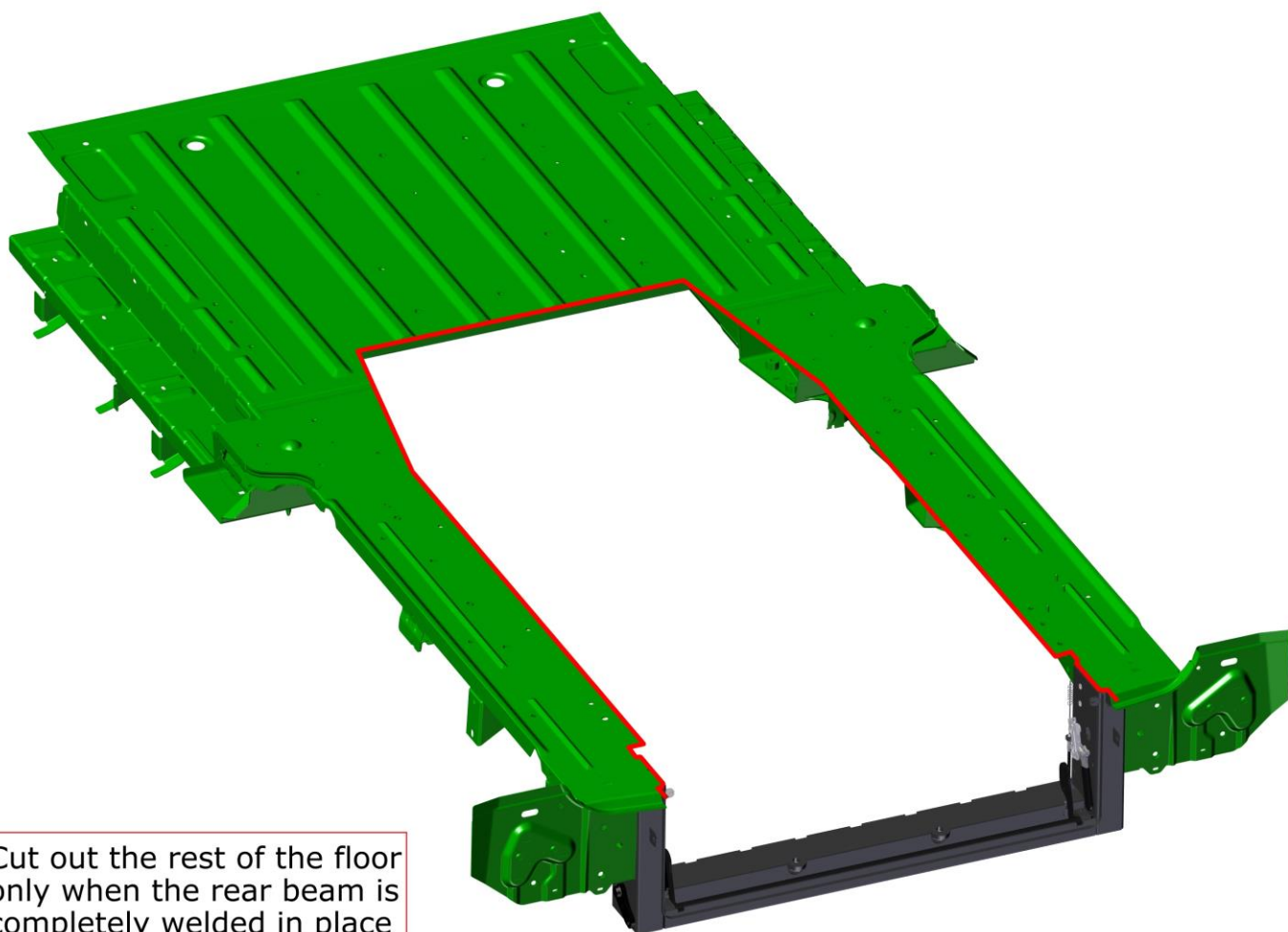


Use sealant as shown to prevent future leaks.

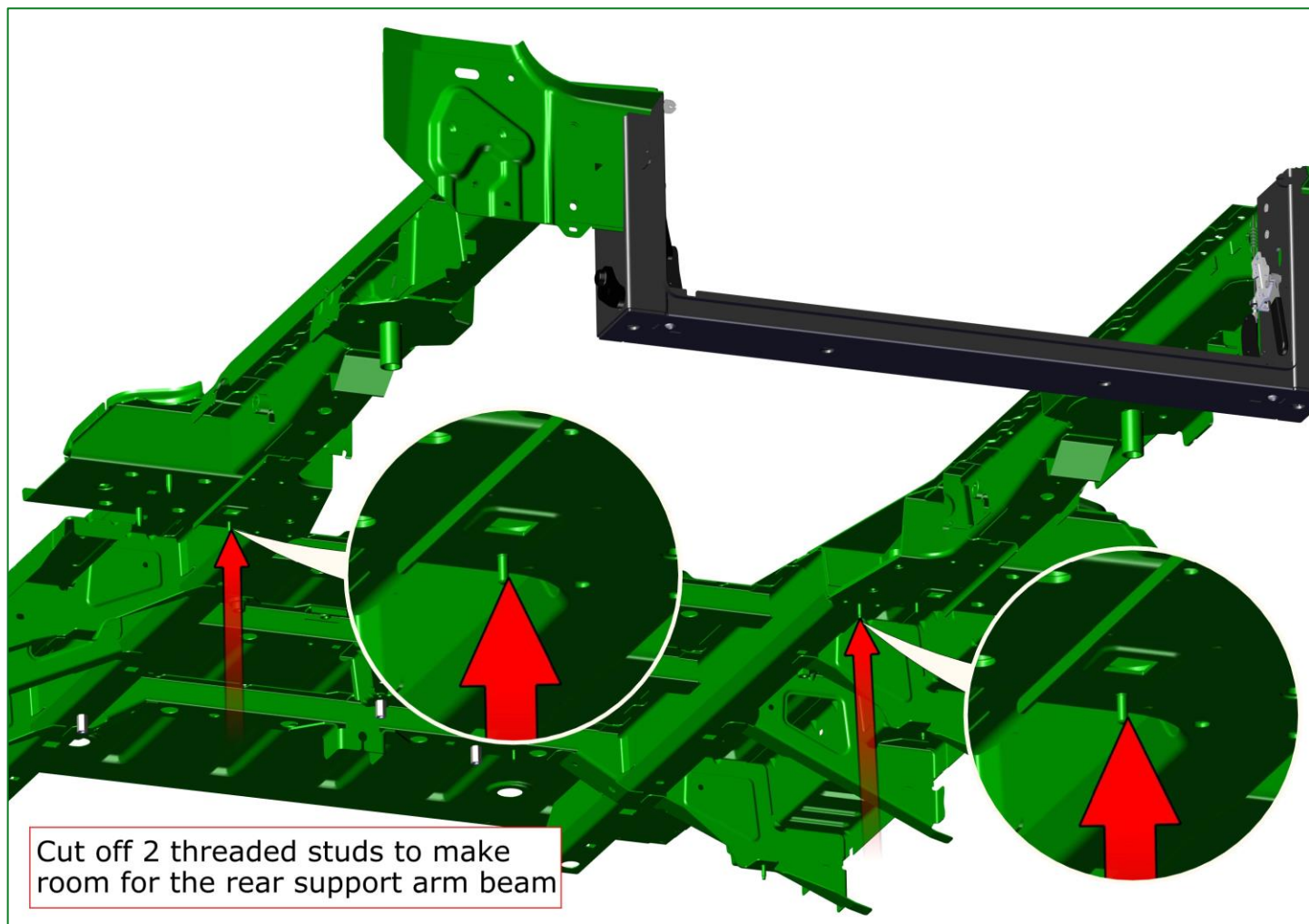
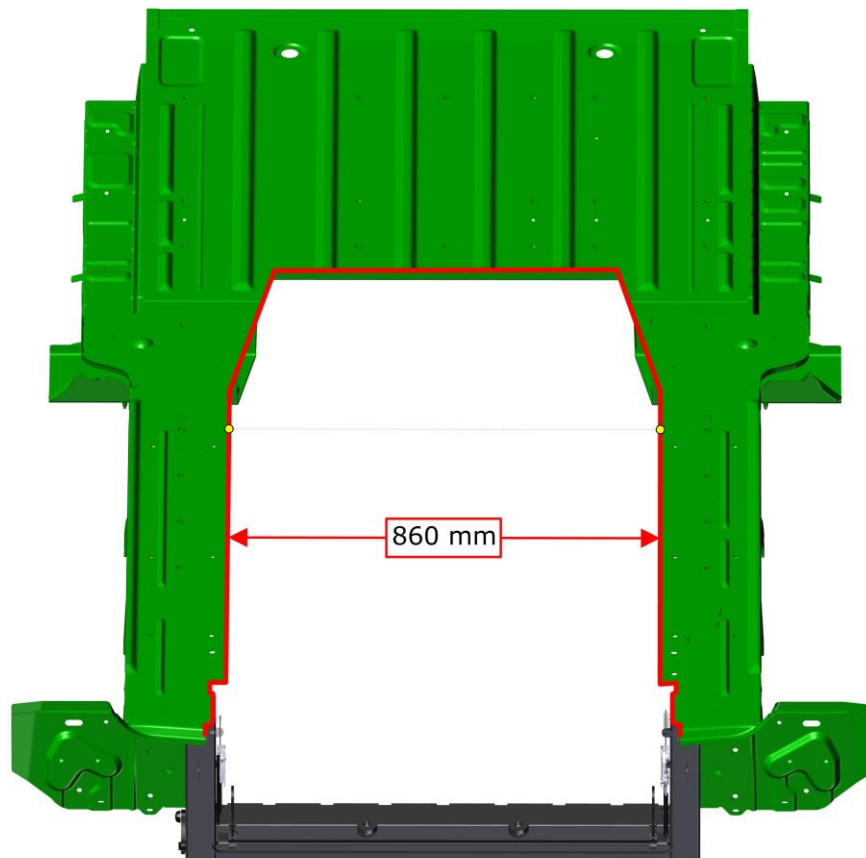




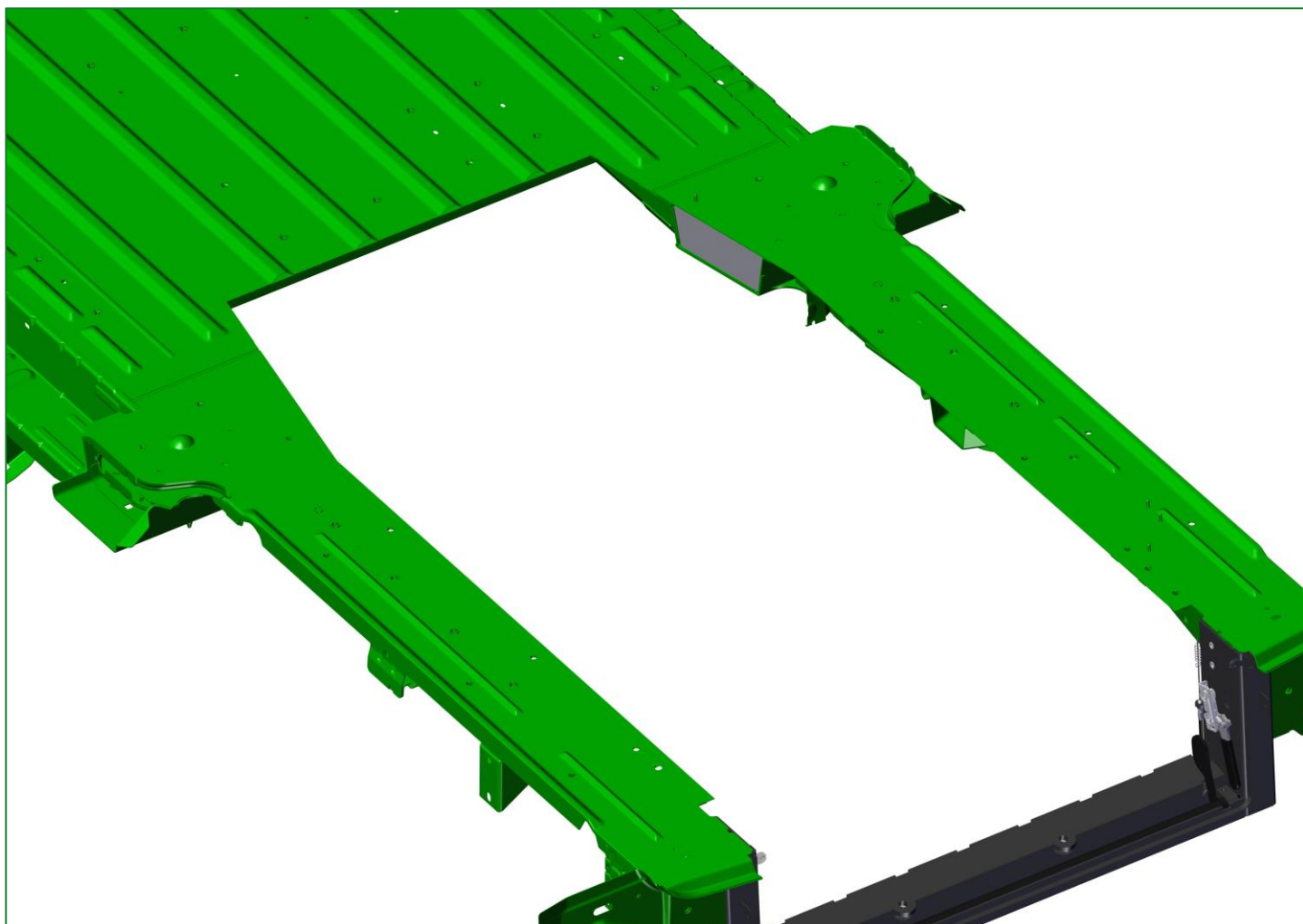
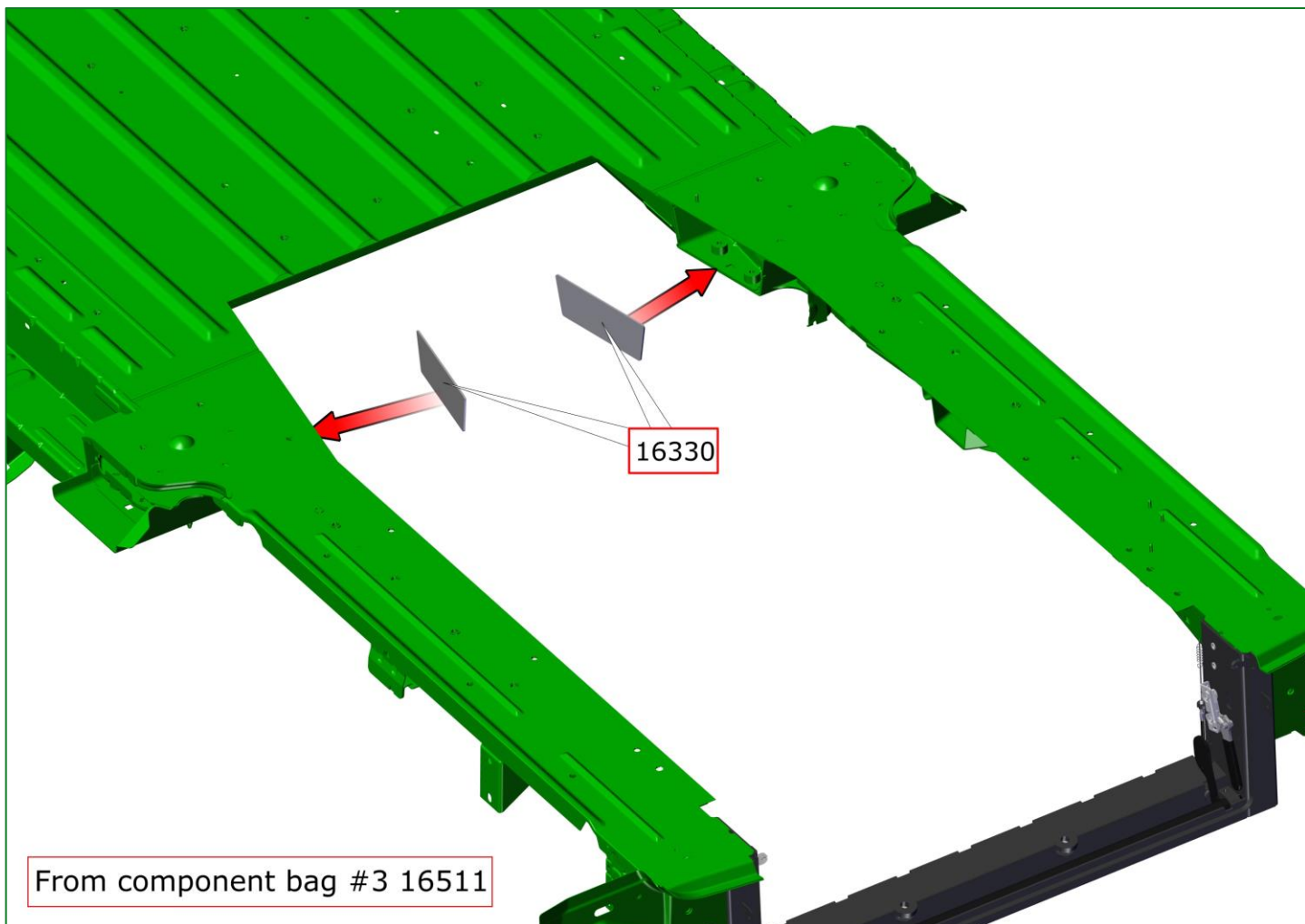
Cut out the rest of the floor only when the rear beam is completely welded in place

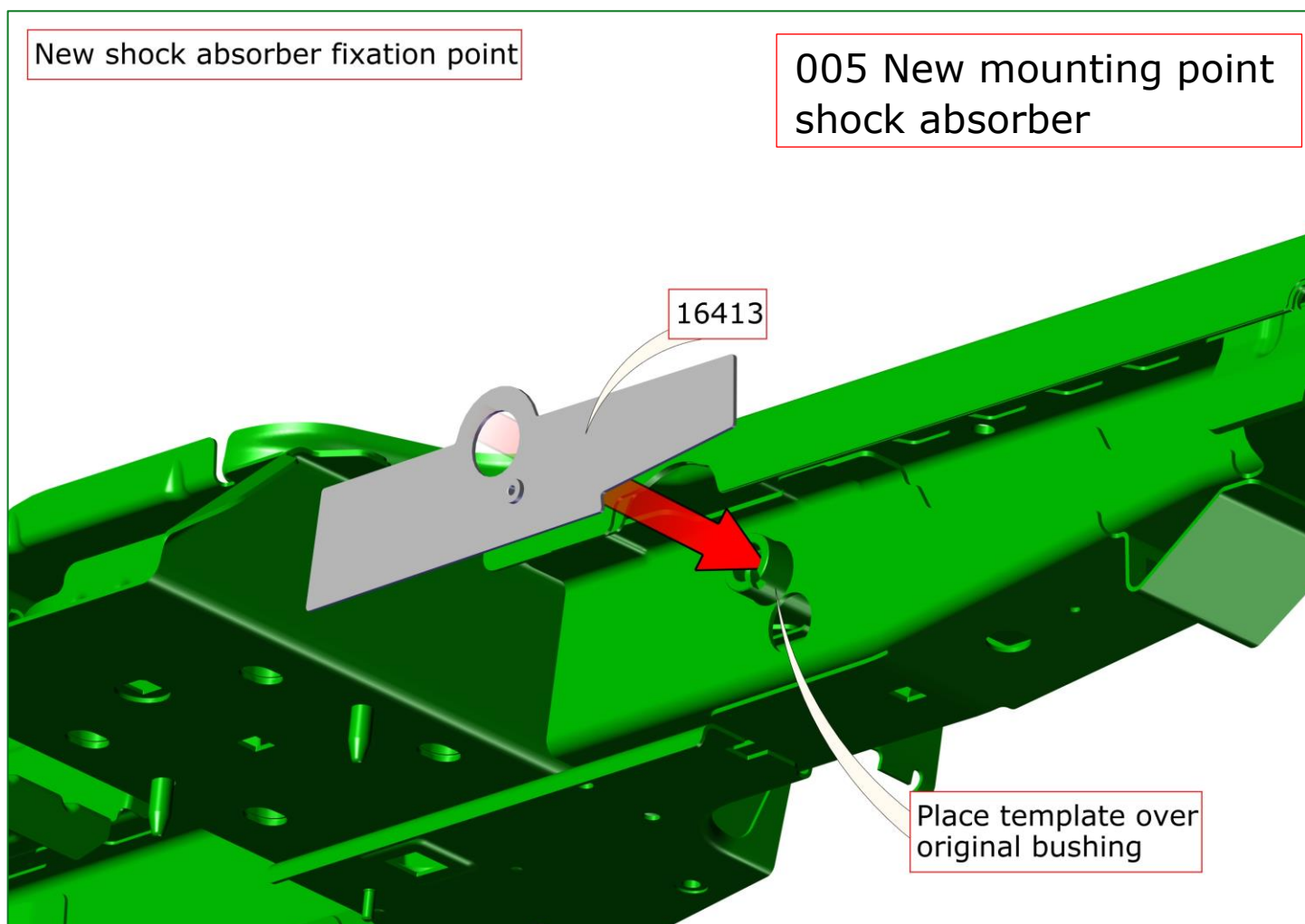
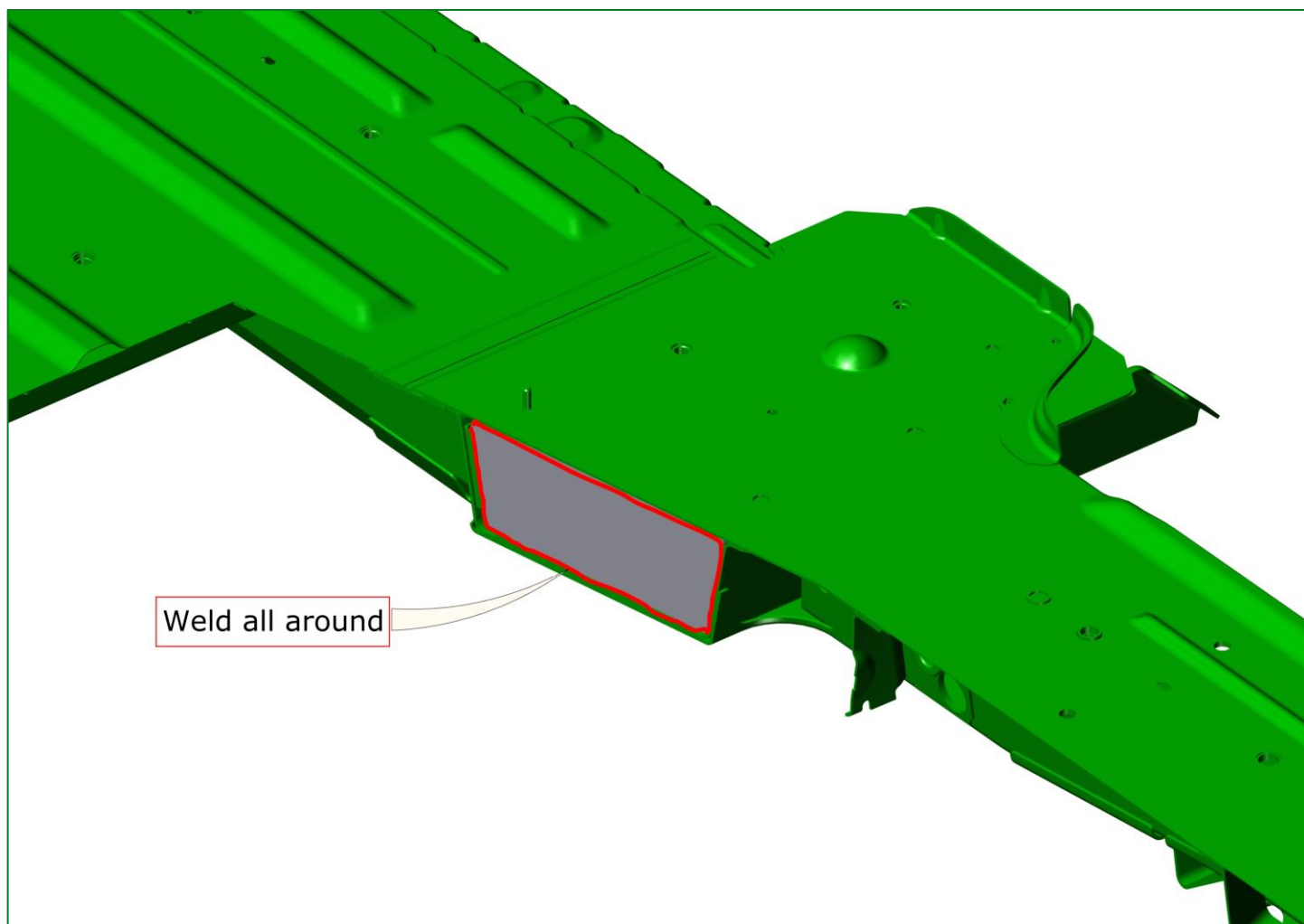


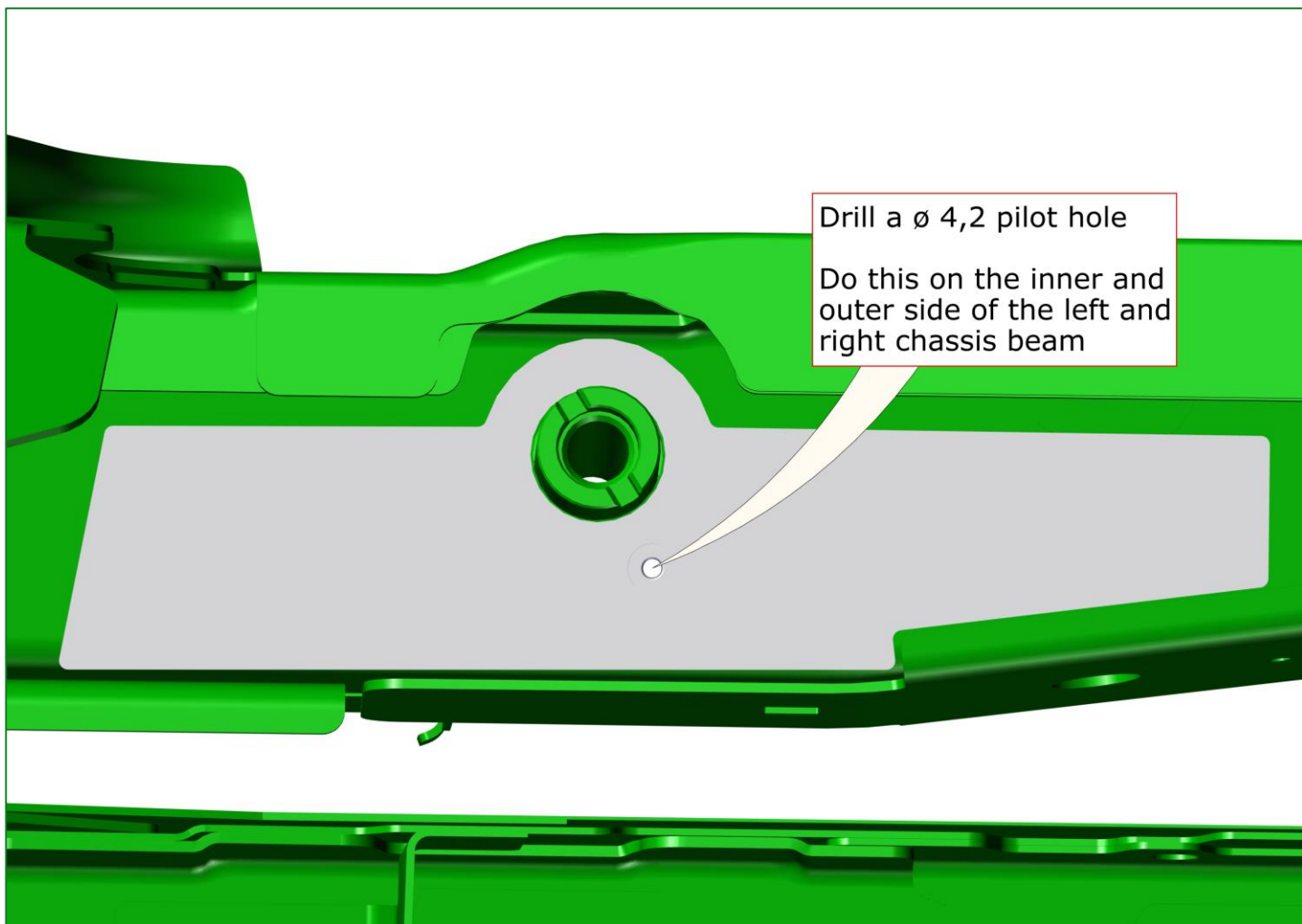
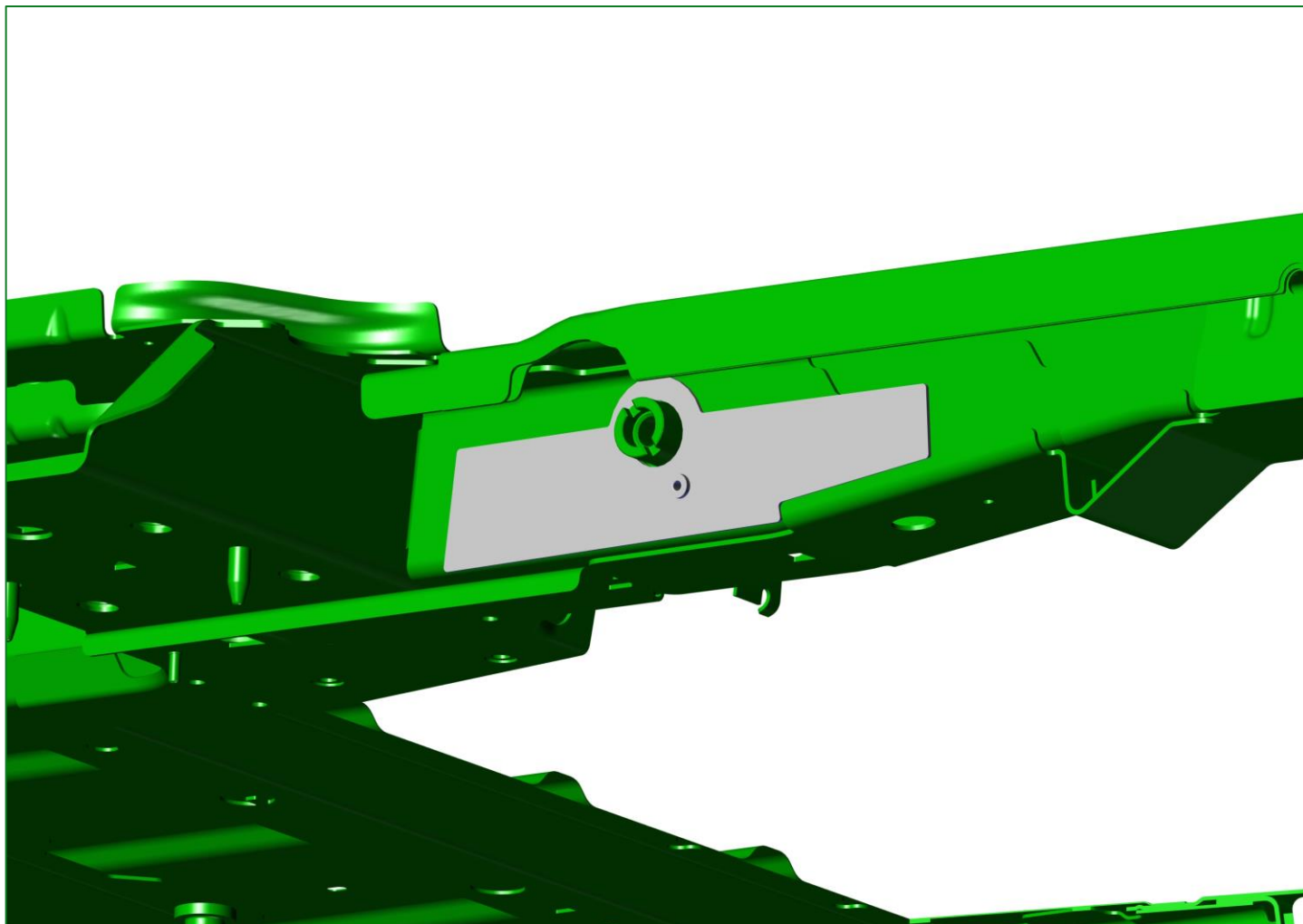
Cut out the rest of the floor only when the rear beam is completely welded in place



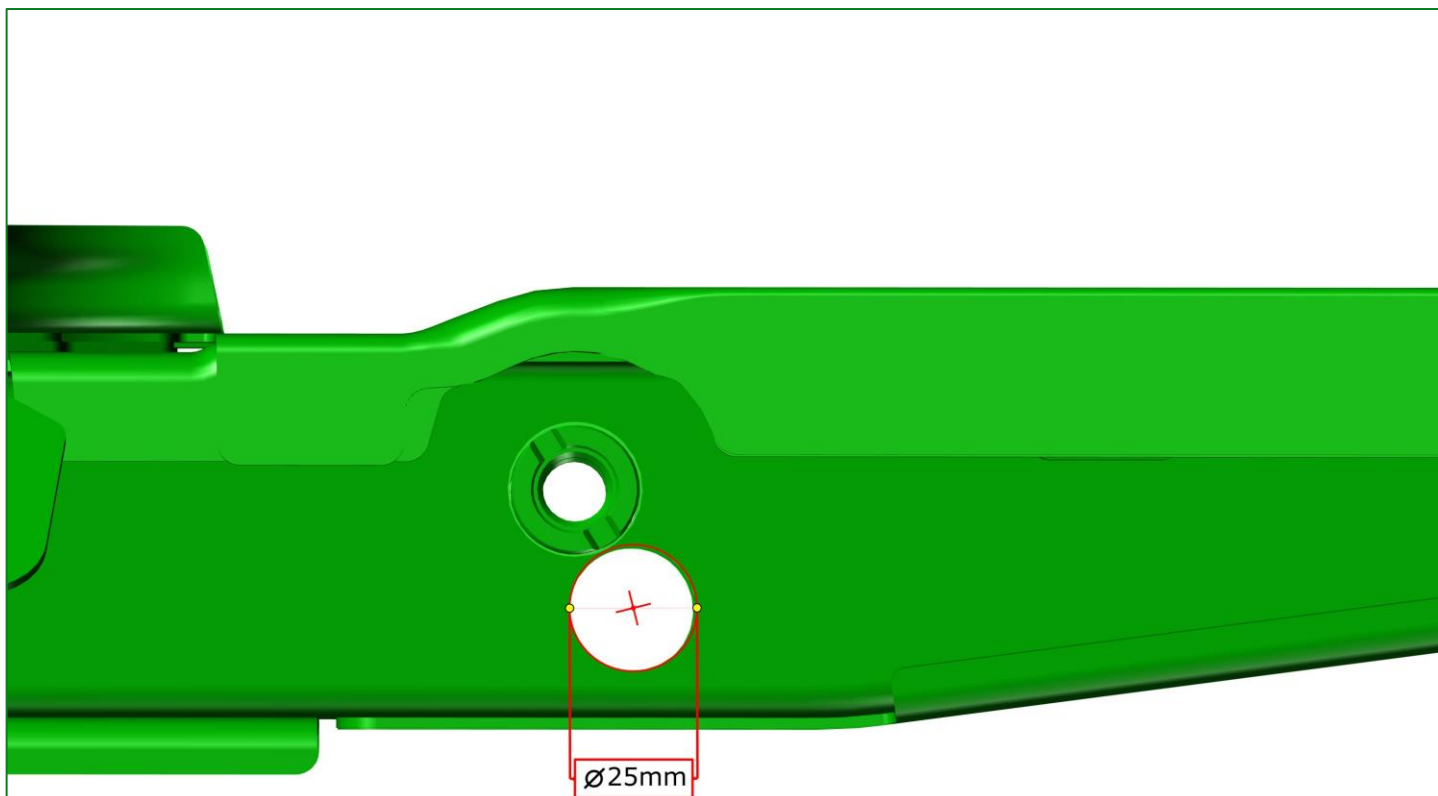




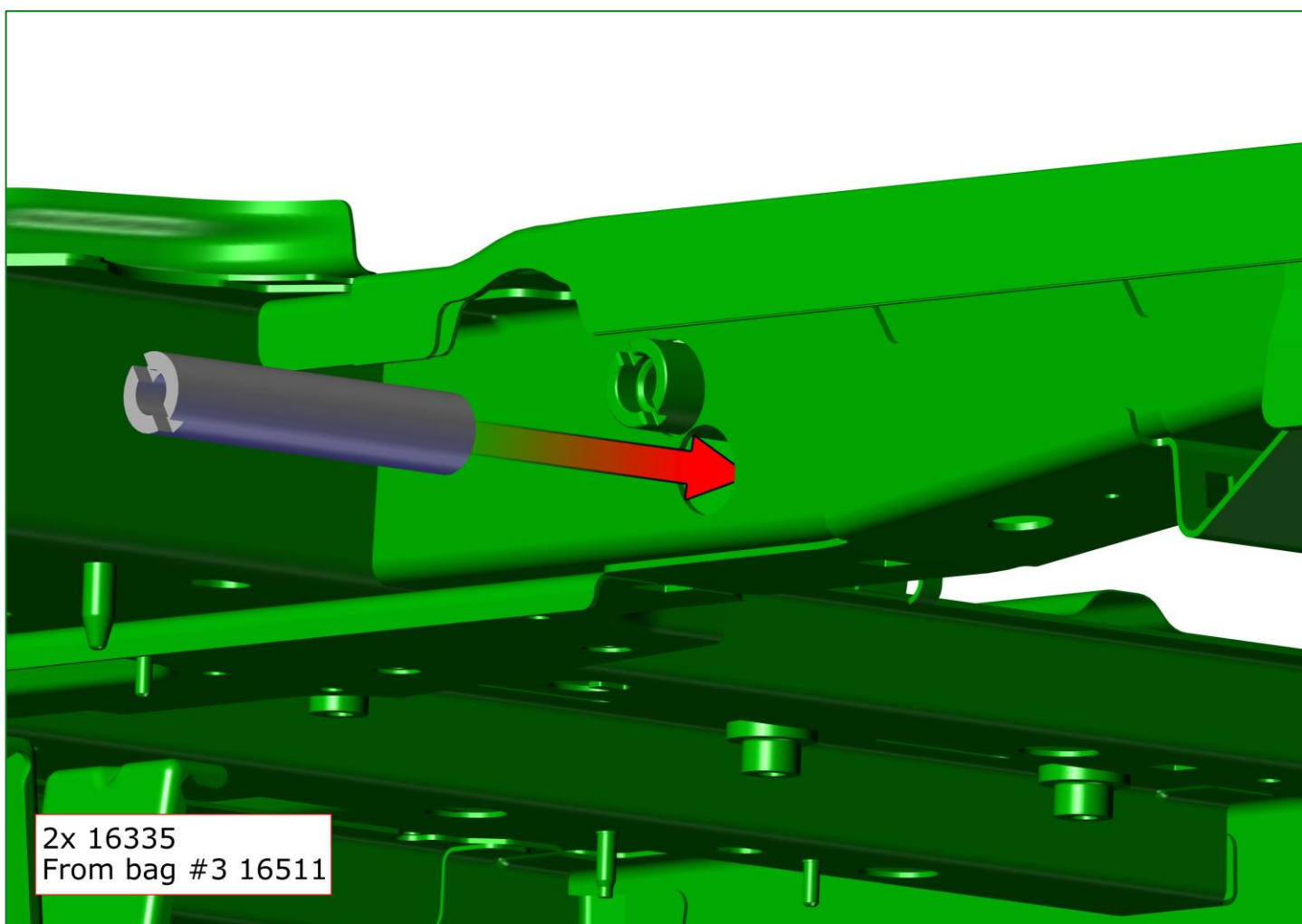


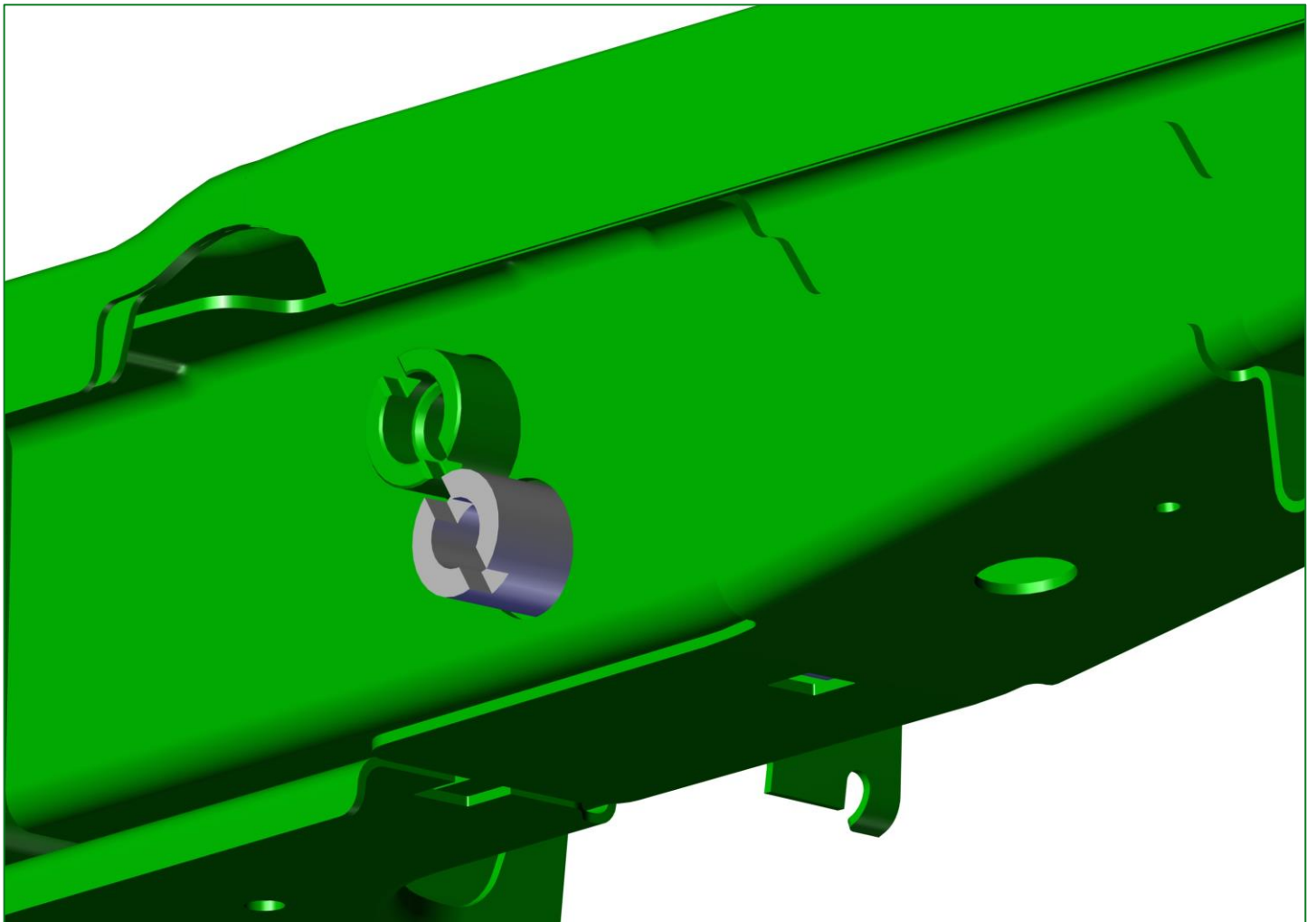
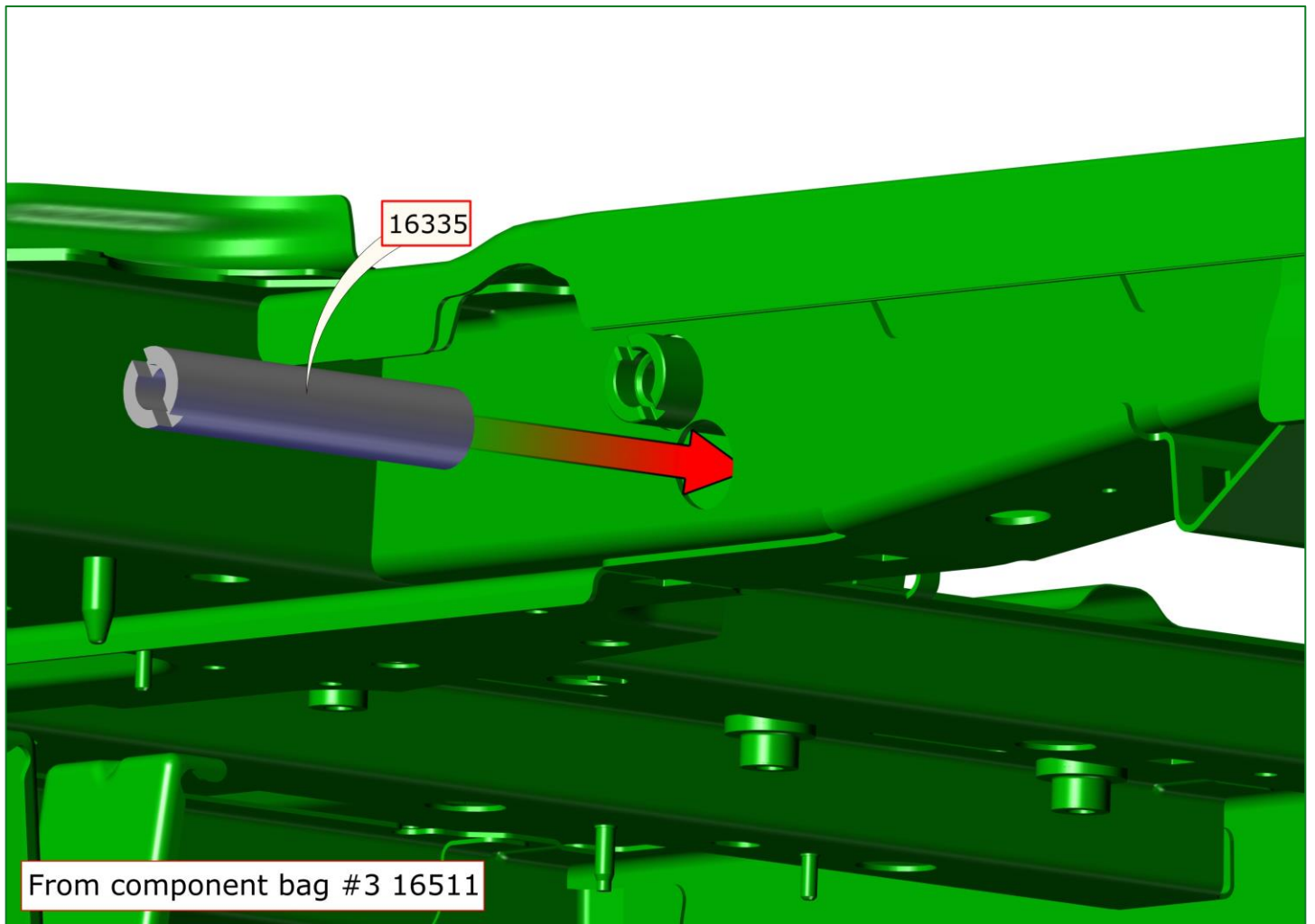


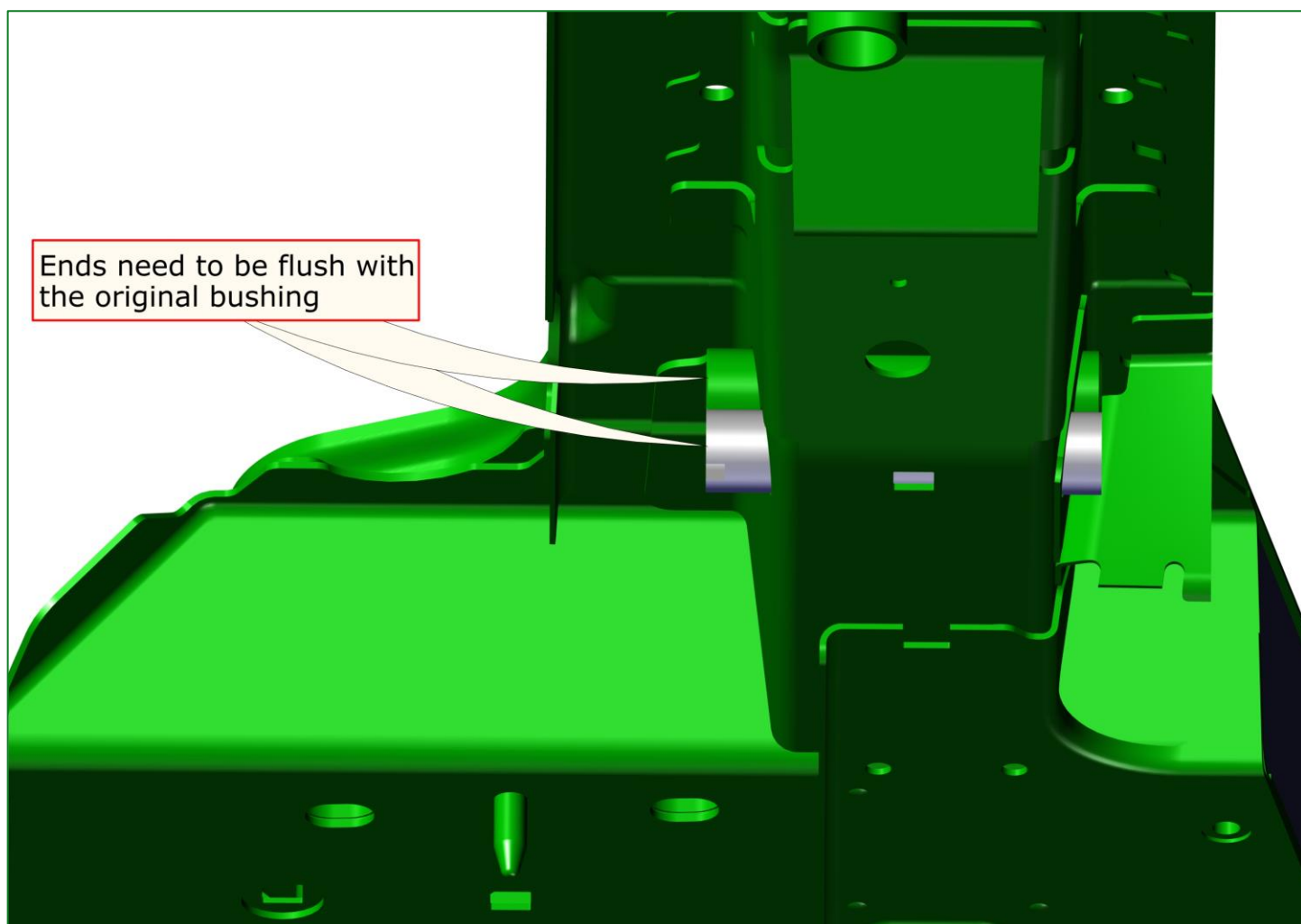
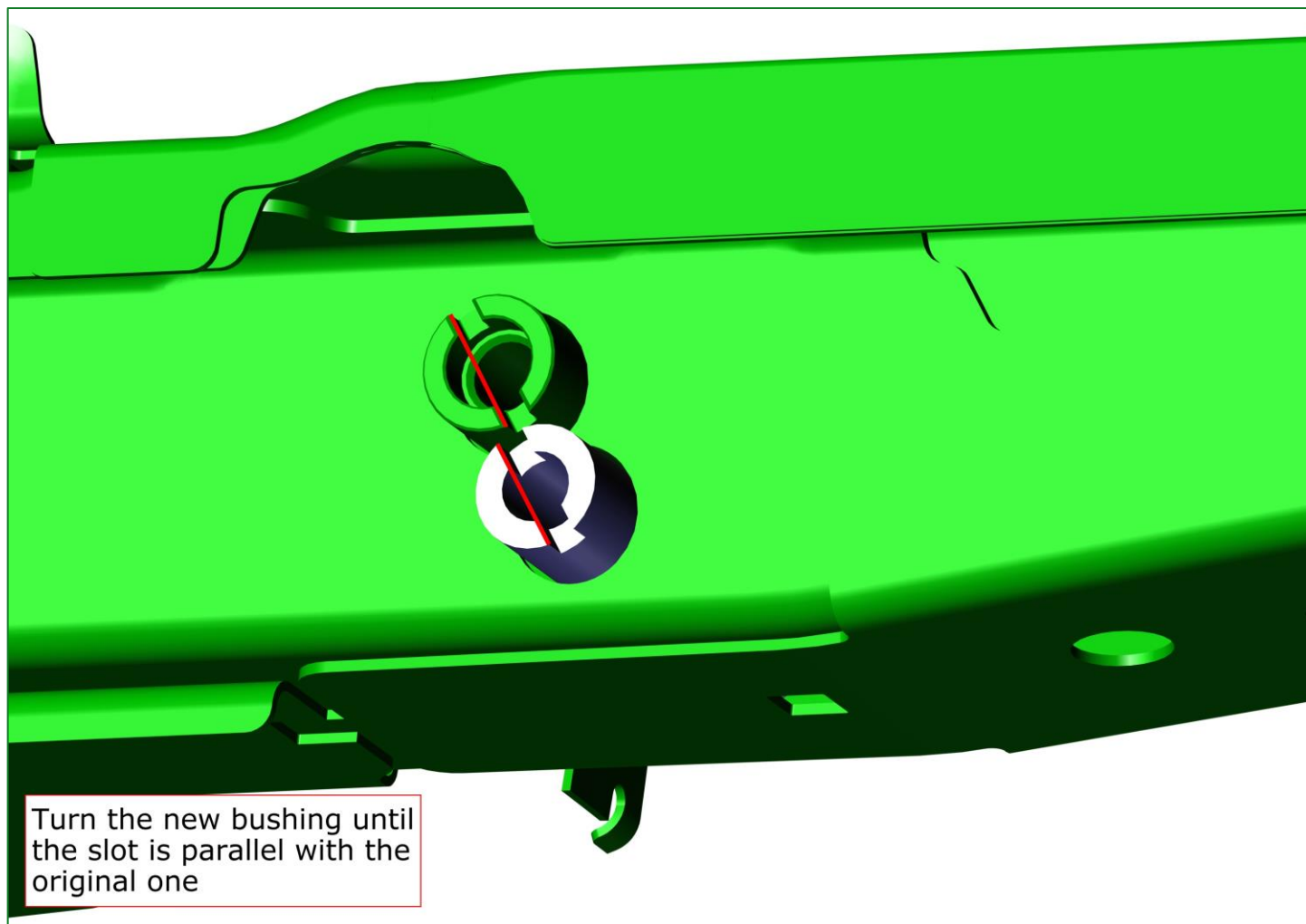




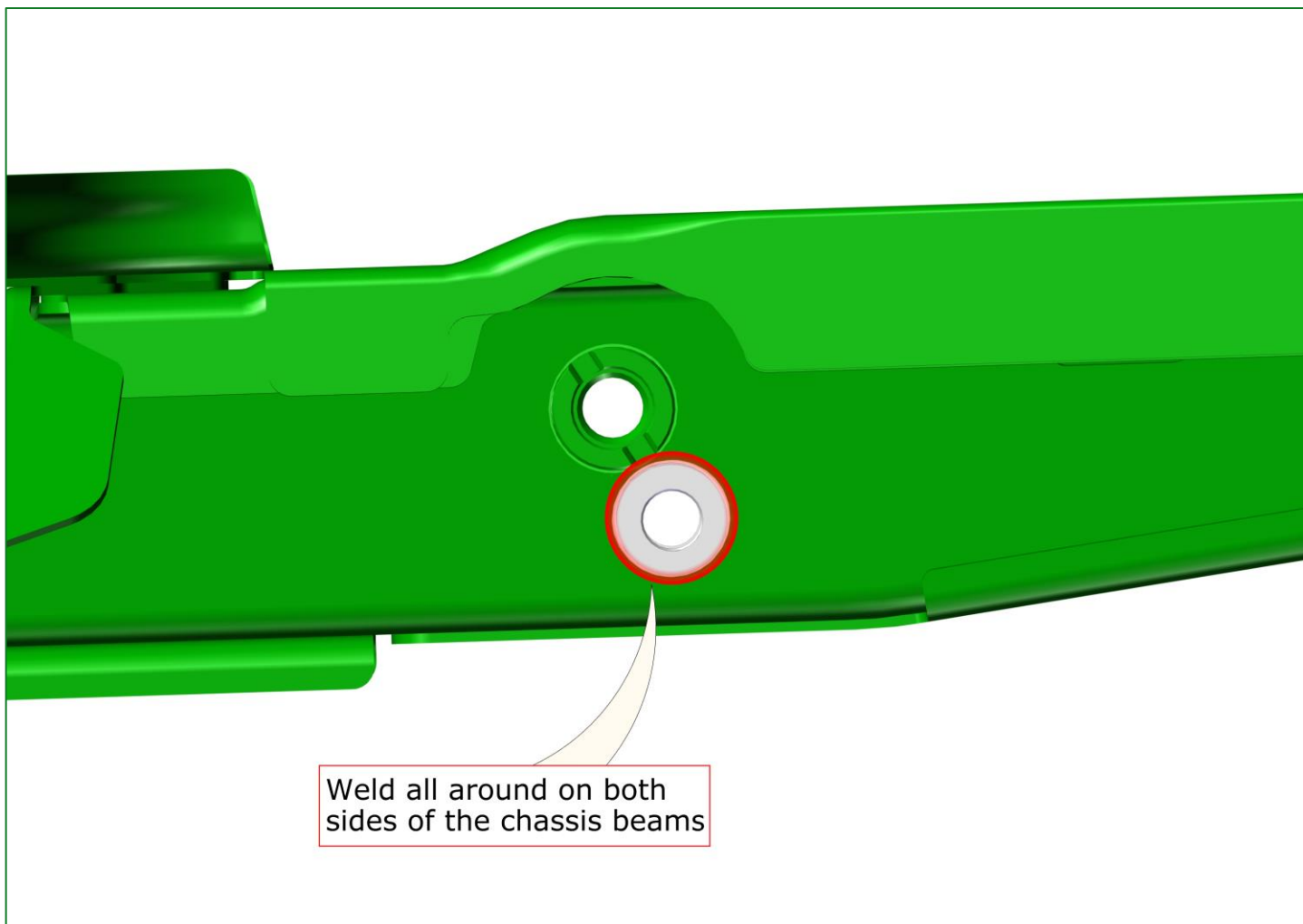
With a hole saw ø25mm drill straight through the chassis beam on both sides. If necessary, enlarge the hole with a die grinder.



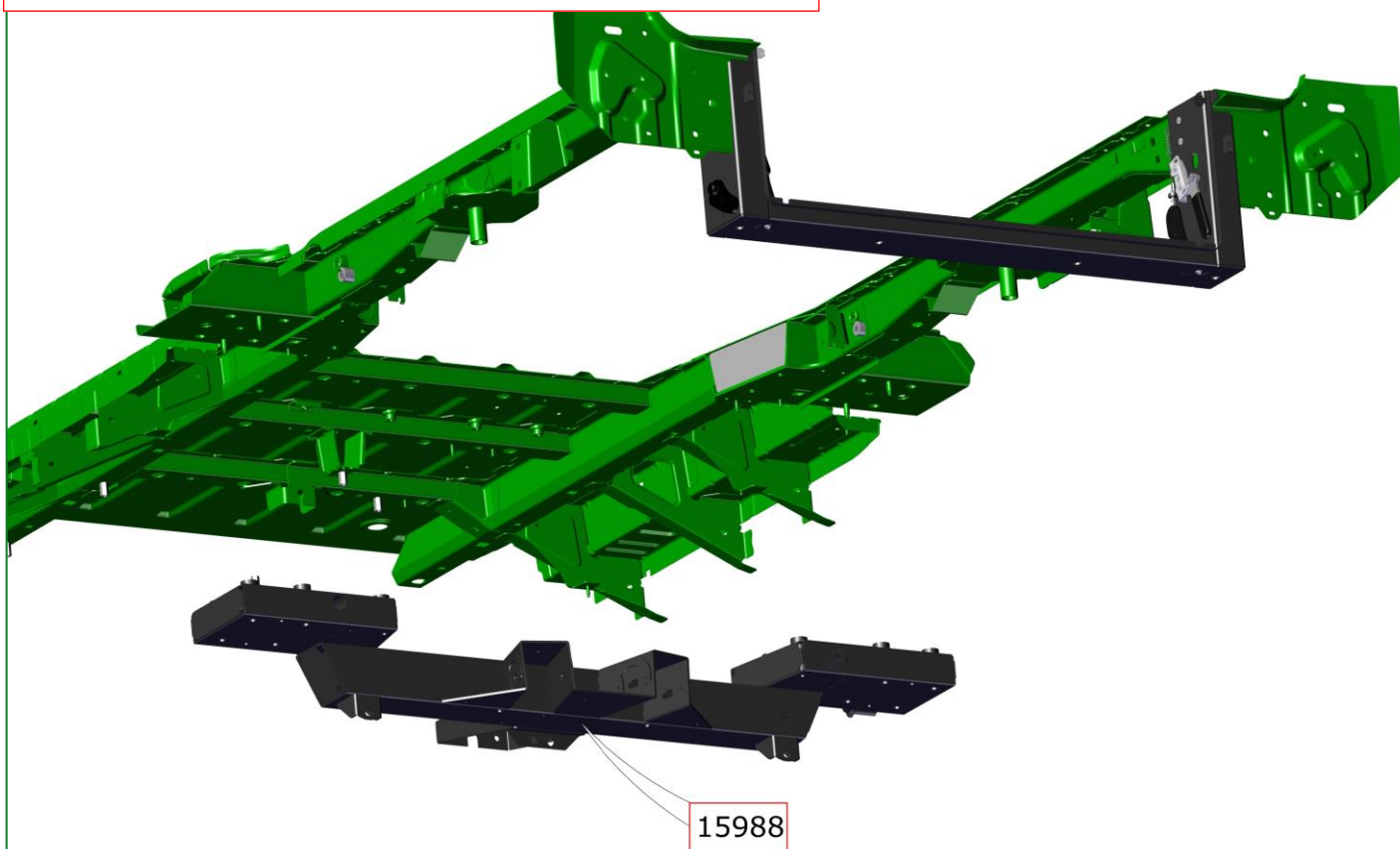




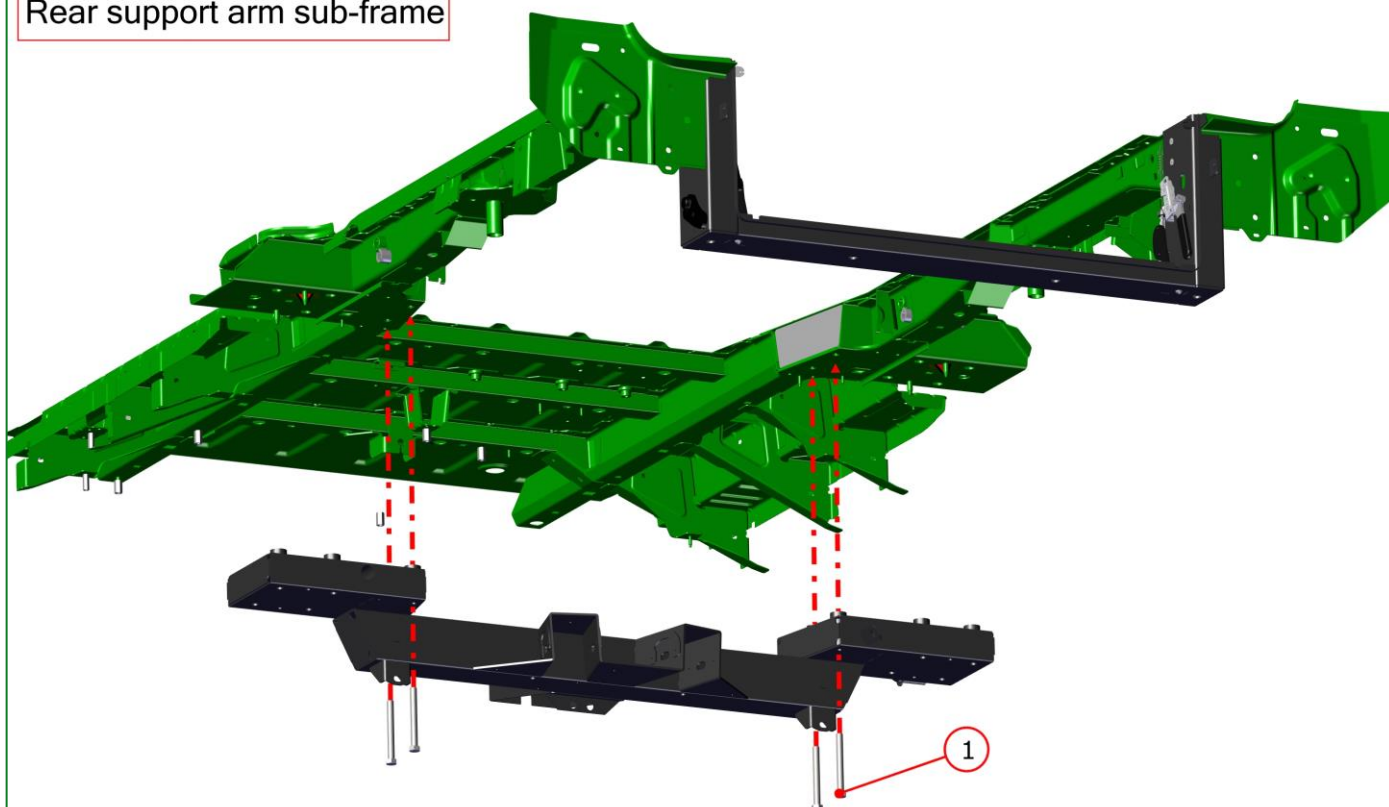




## 006 Rear support arm subframe



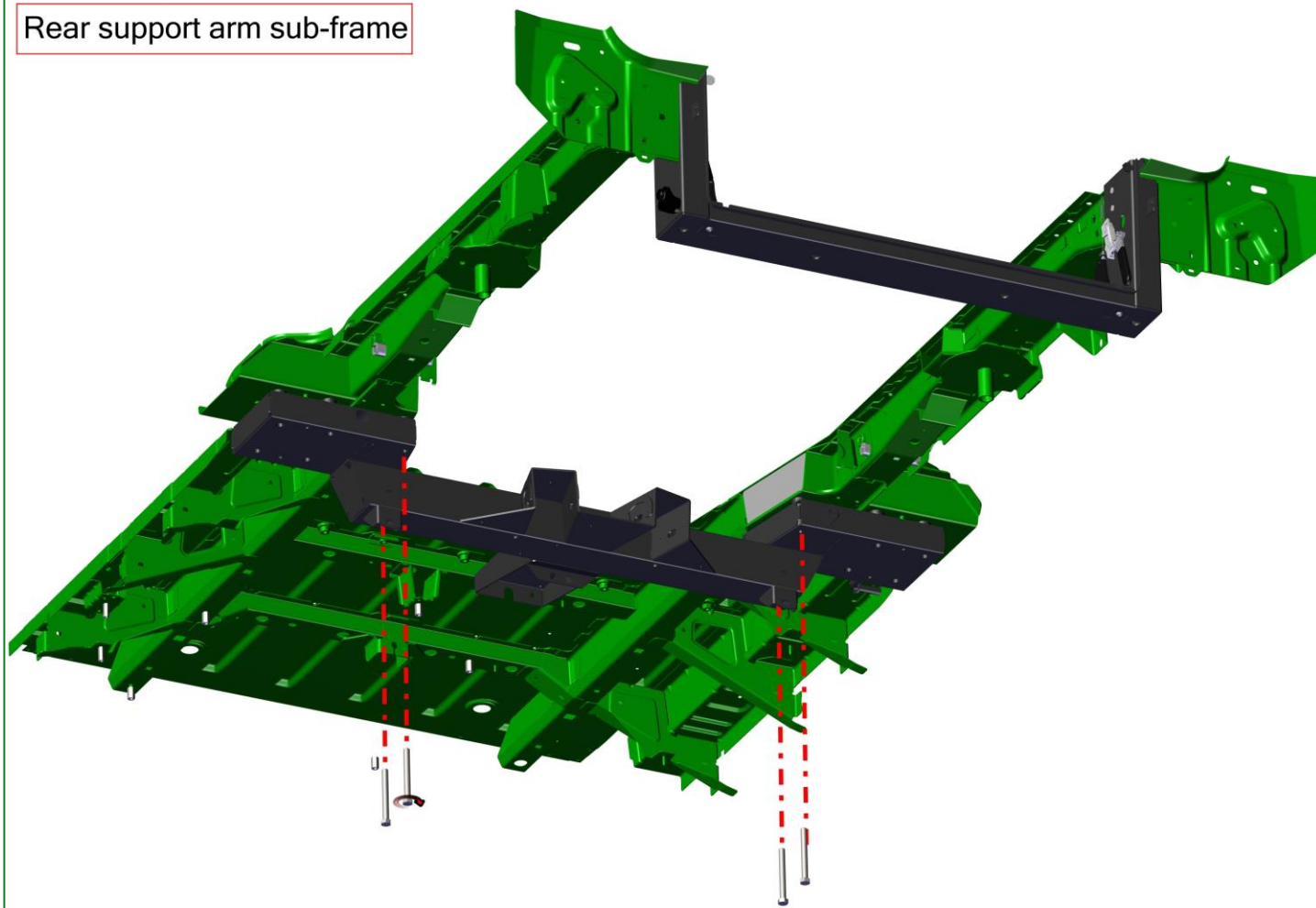
### Rear support arm sub-frame



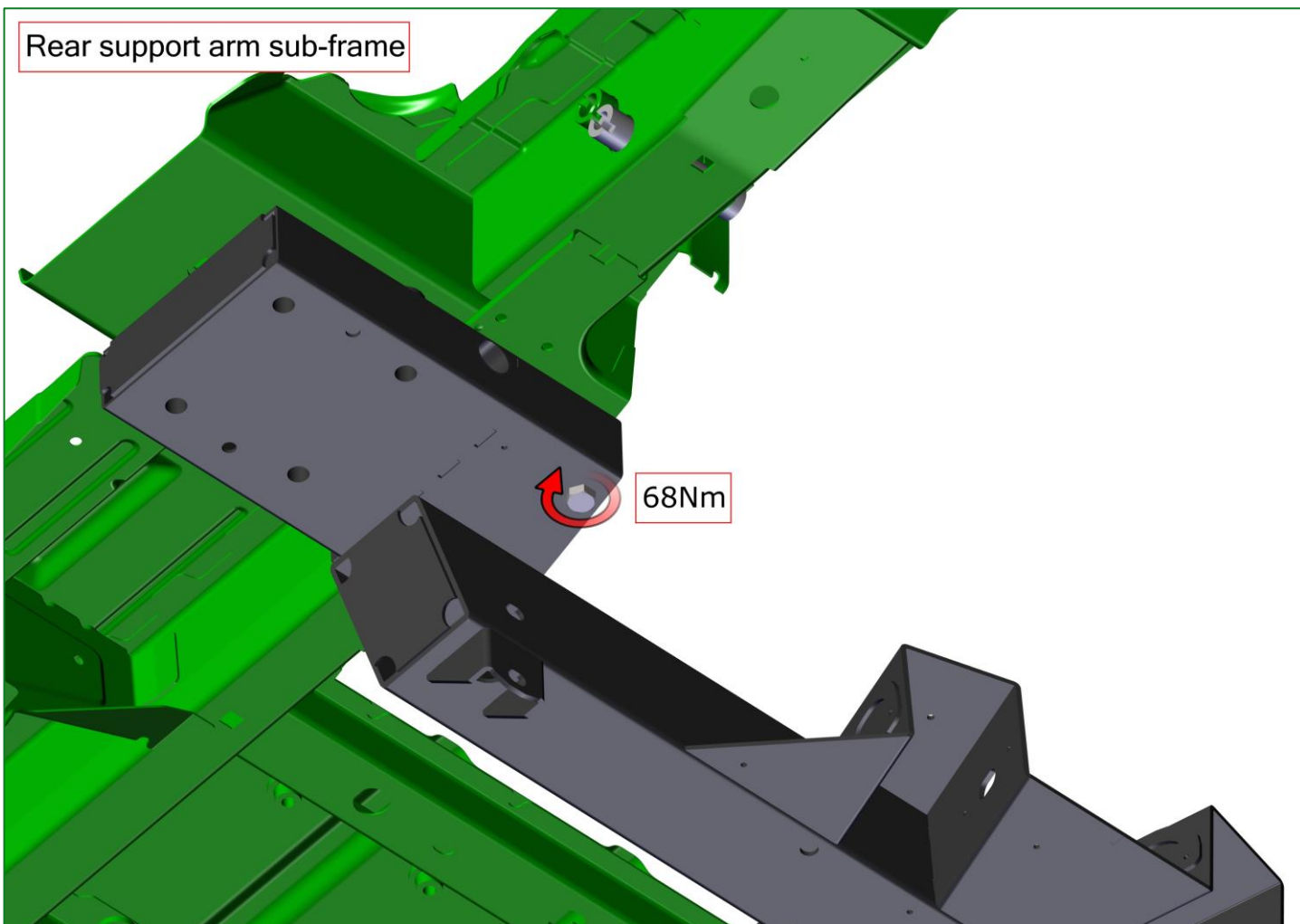
From component bag #3 16511

NO.	QTY.	PART	Description
1	4	16419	M10x120x80 NN10.9 MBN 10105

Rear support arm sub-frame

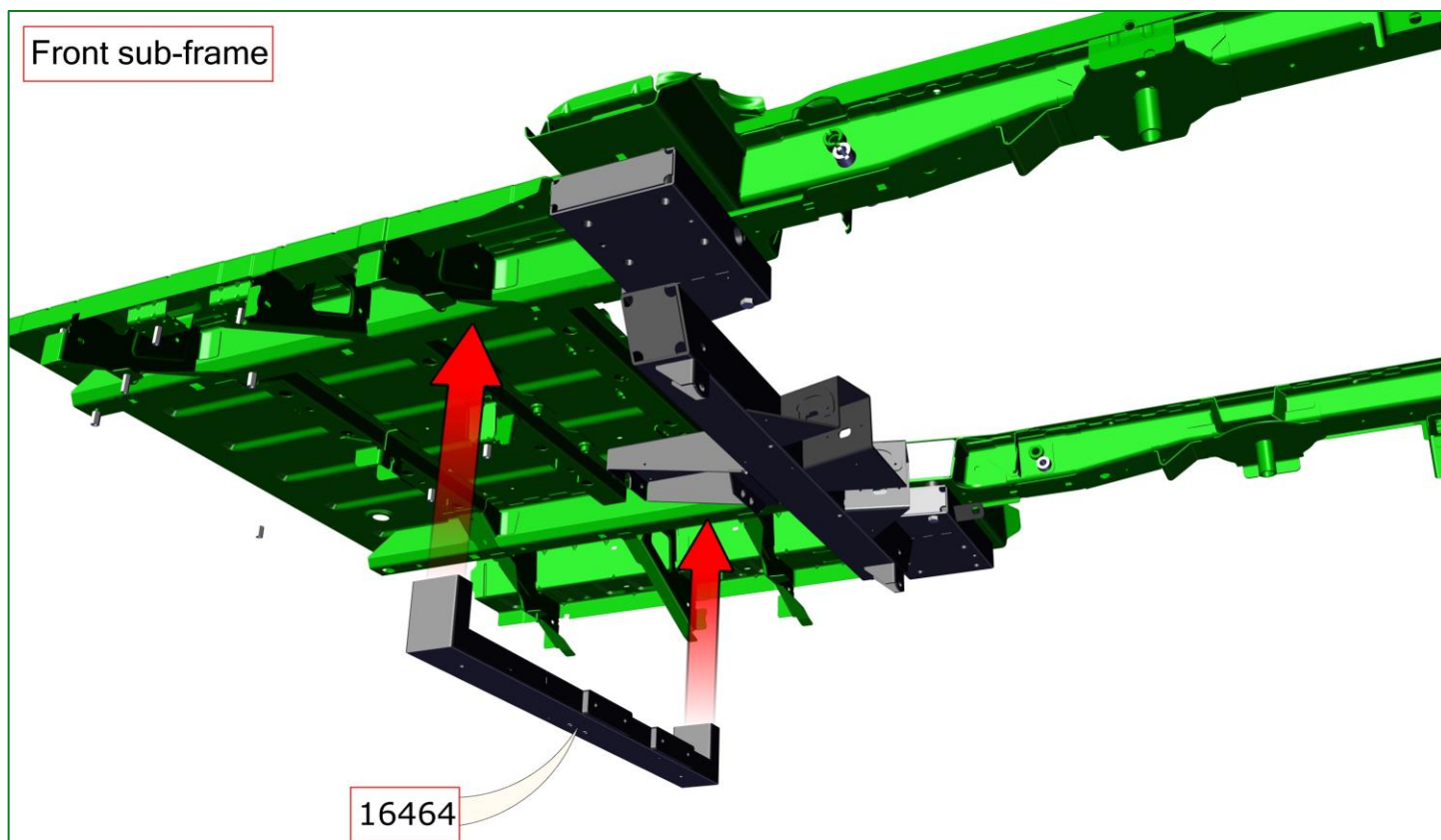


Rear support arm sub-frame



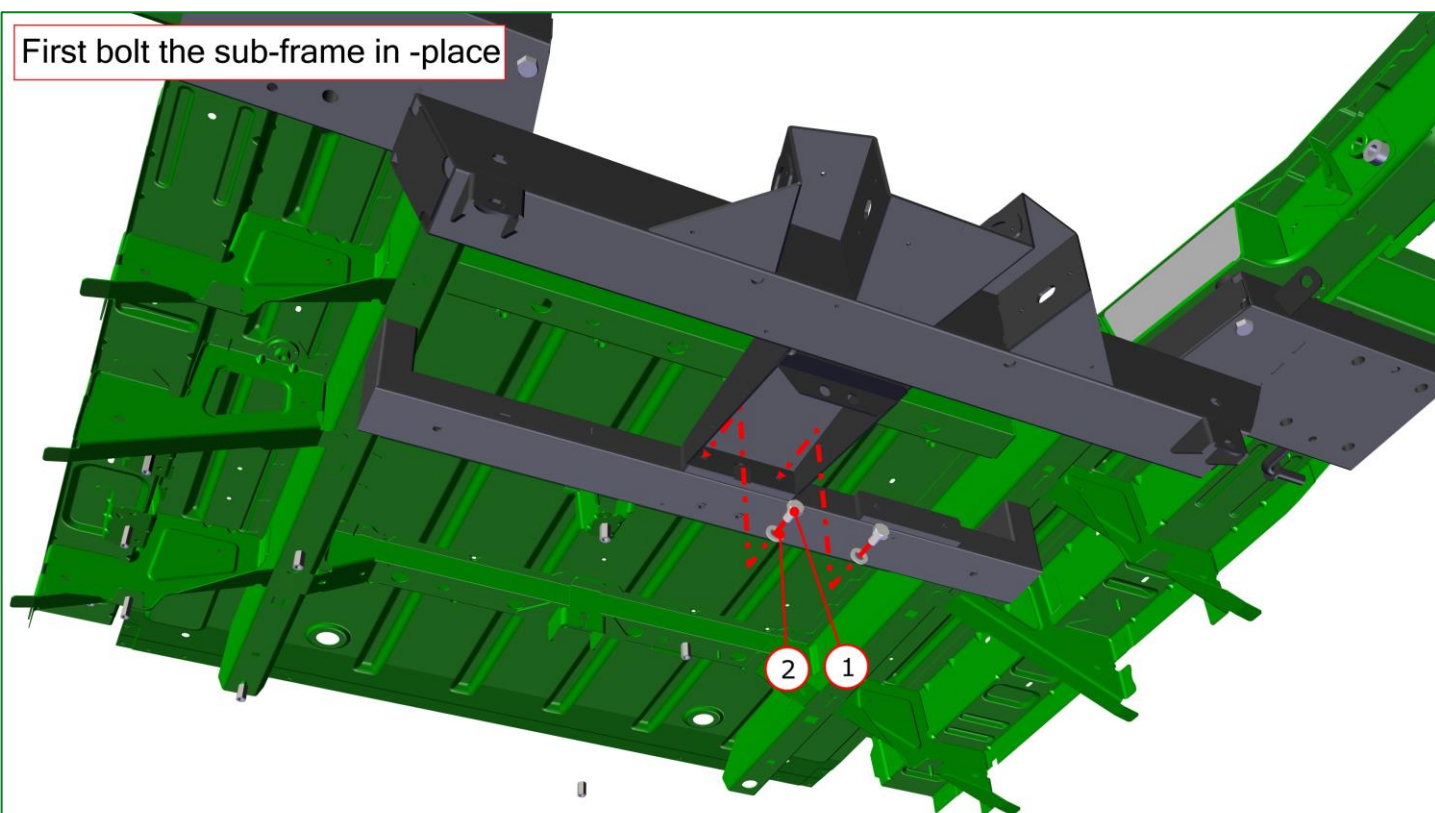


Front sub-frame



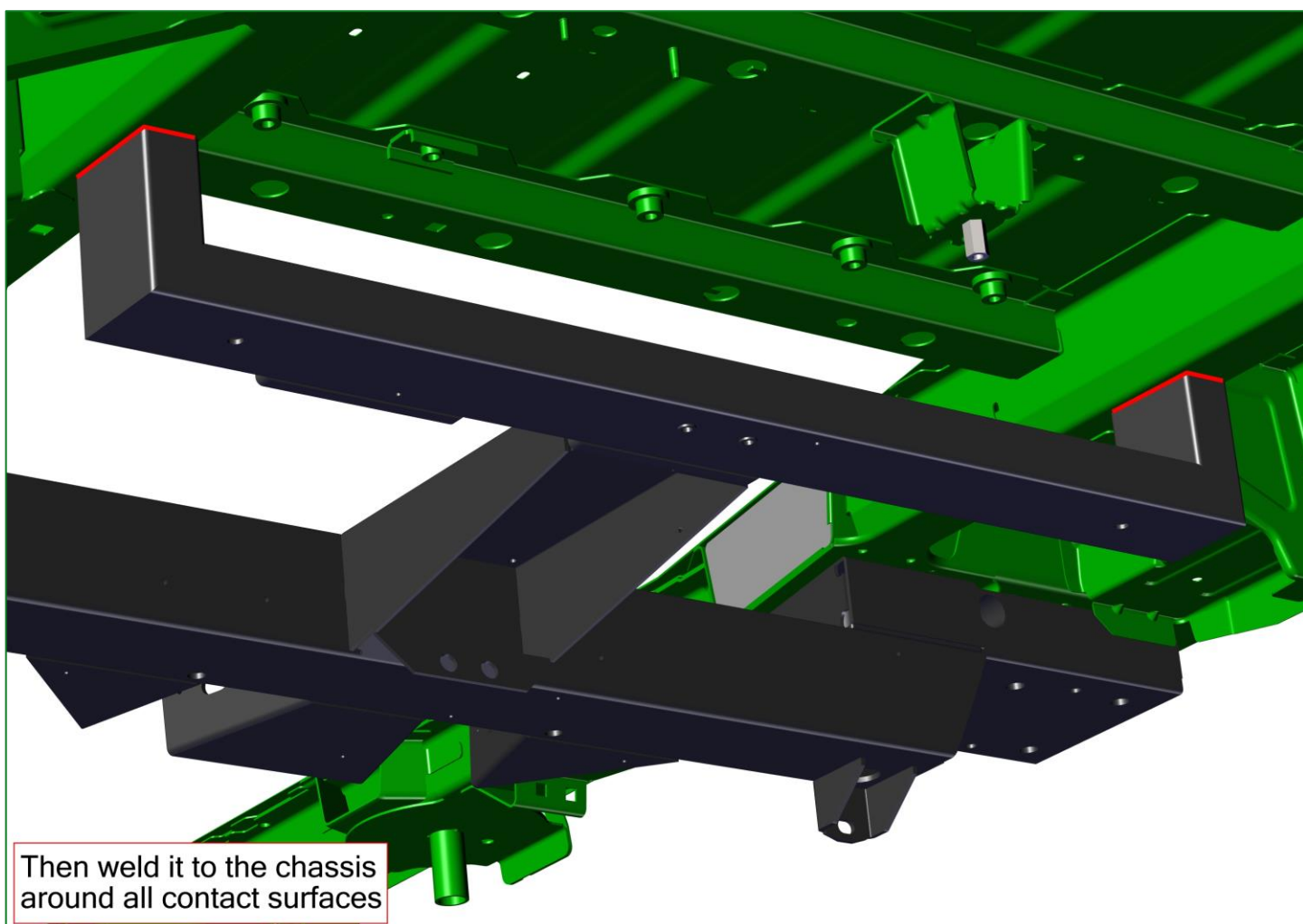
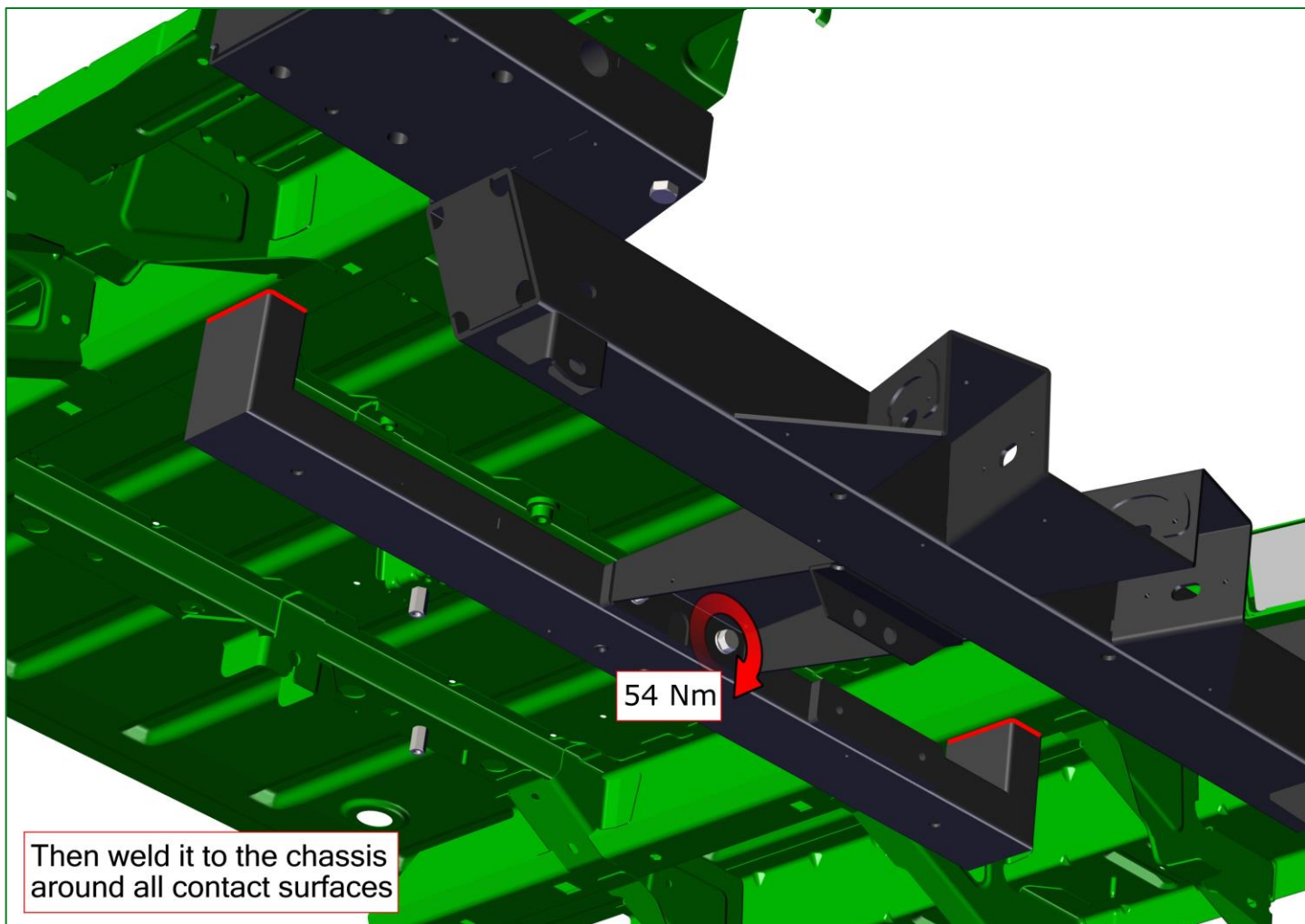
Grind of all paint and zink coating where welding is needed

First bolt the sub-frame in -place



From component bag #3 16511

NO.	QTY.	PART	Description
1	2	844	Hex bolt M10x16 8.8
2	2	173	Washer M10





## 007 Floor pan / belt points

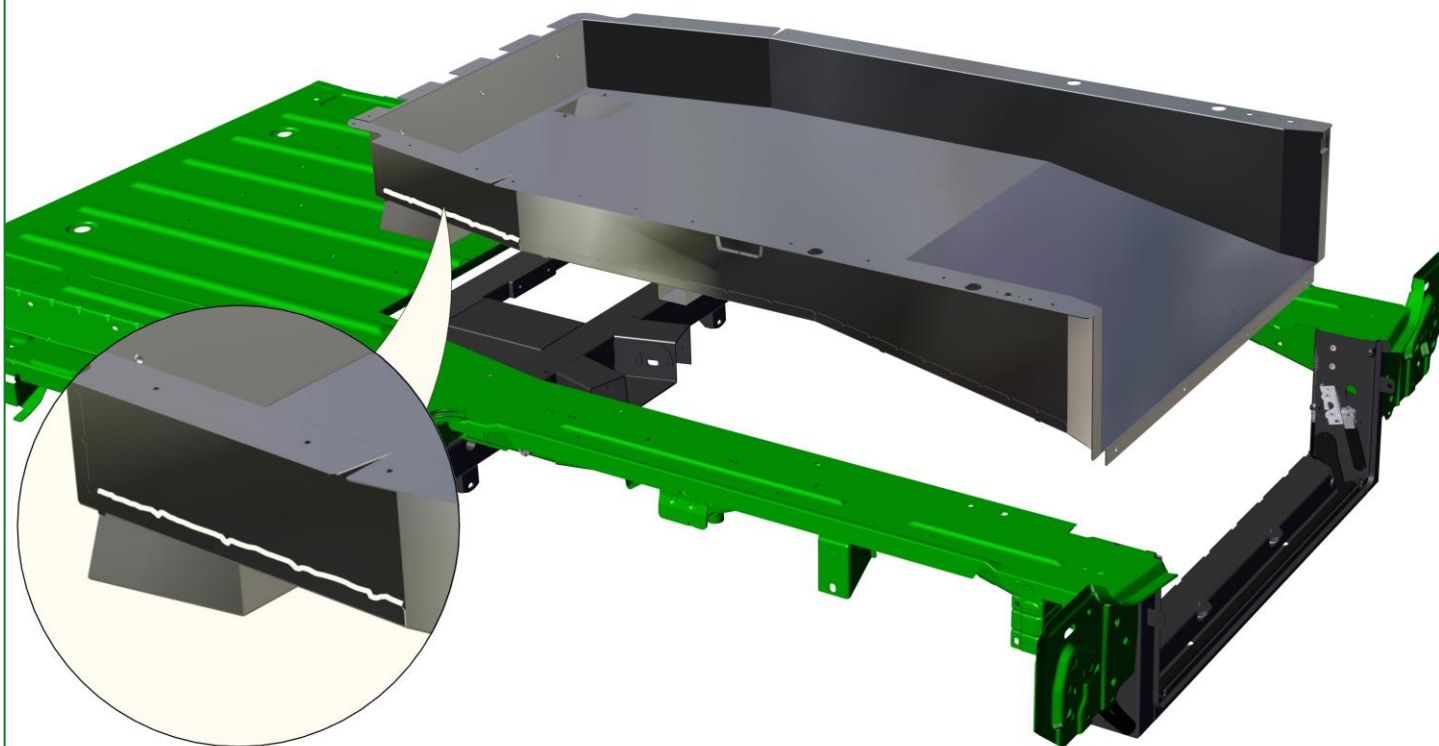
Degrease and use anti corrosion spray on all welded and blank metal parts!

### Positioning the lowered floorpan

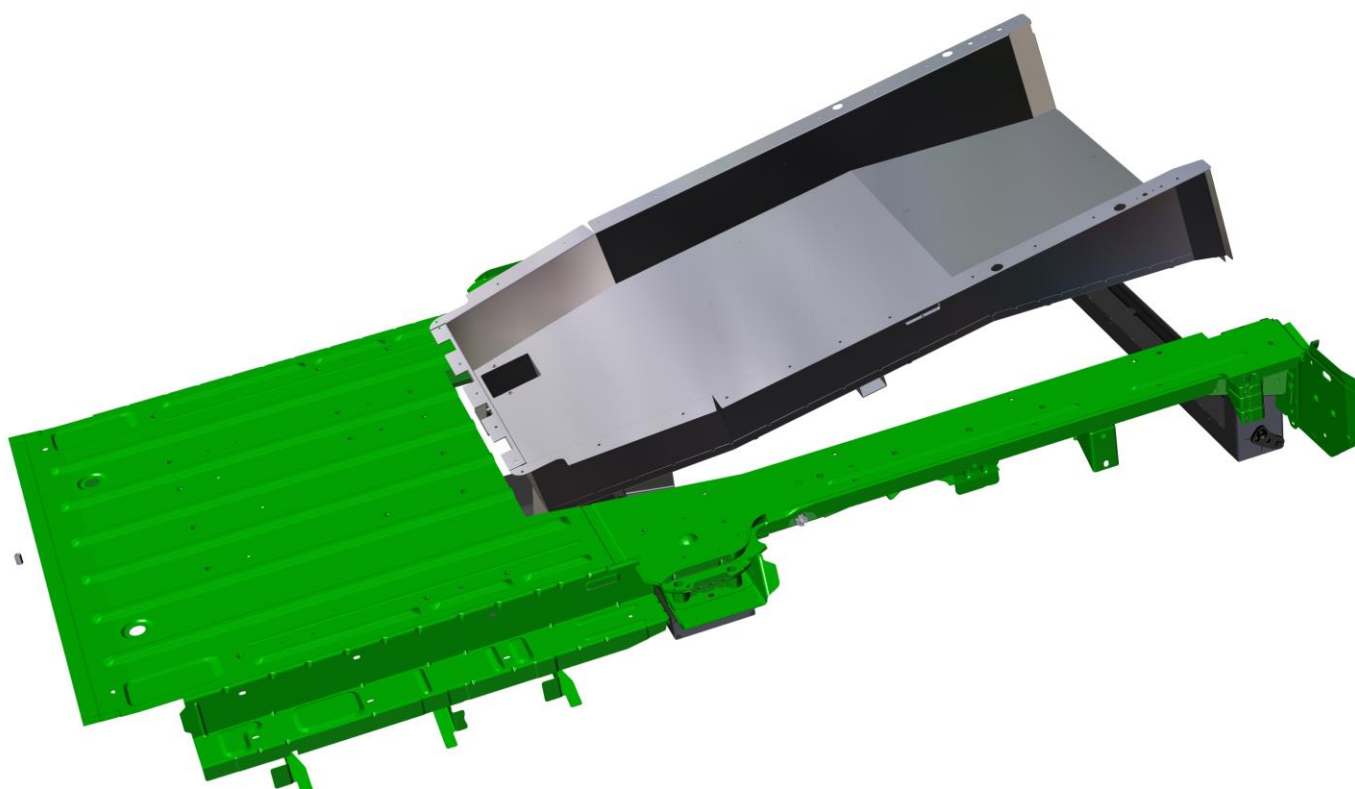
Apply Sikaflex 252 black sealant as shown in red



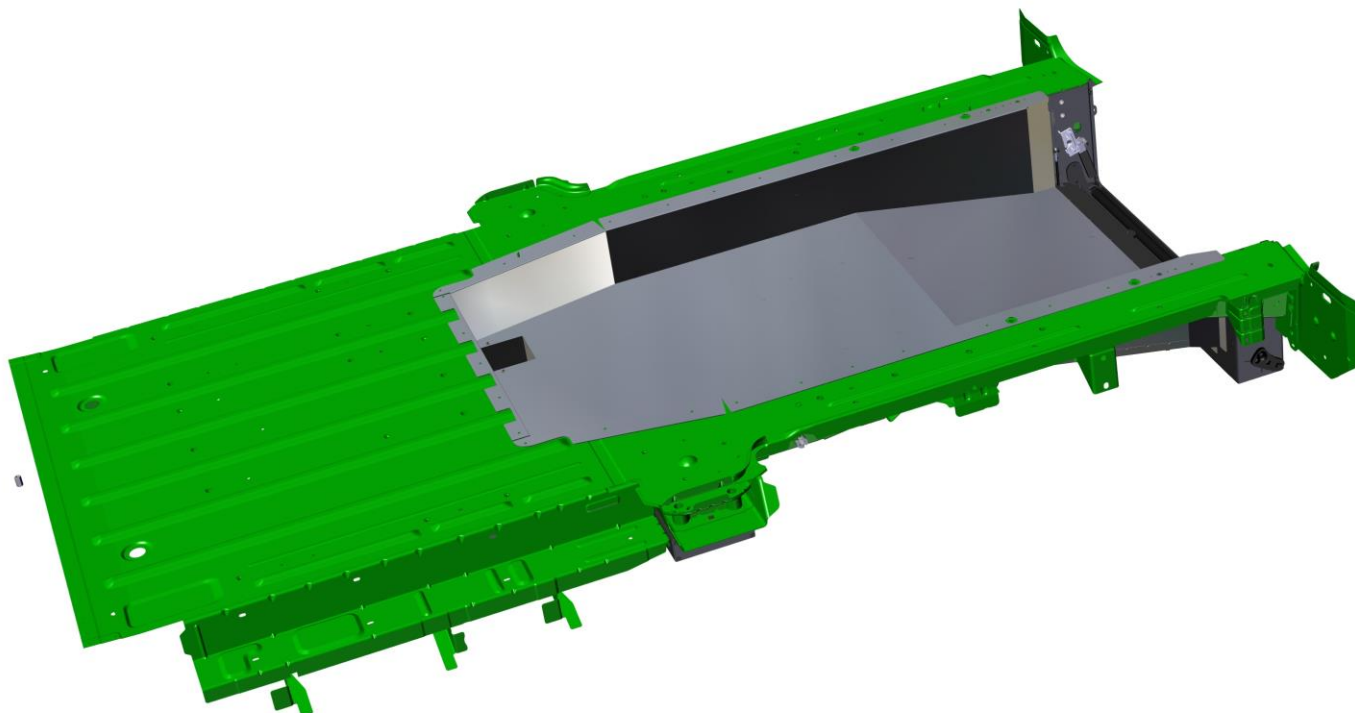
Before positioning the floorpan apply Sikaflex 221 white on the seam as shown, left and right. After placing the floorpan these areas can no longer be reached when sealing all the seams and gaps



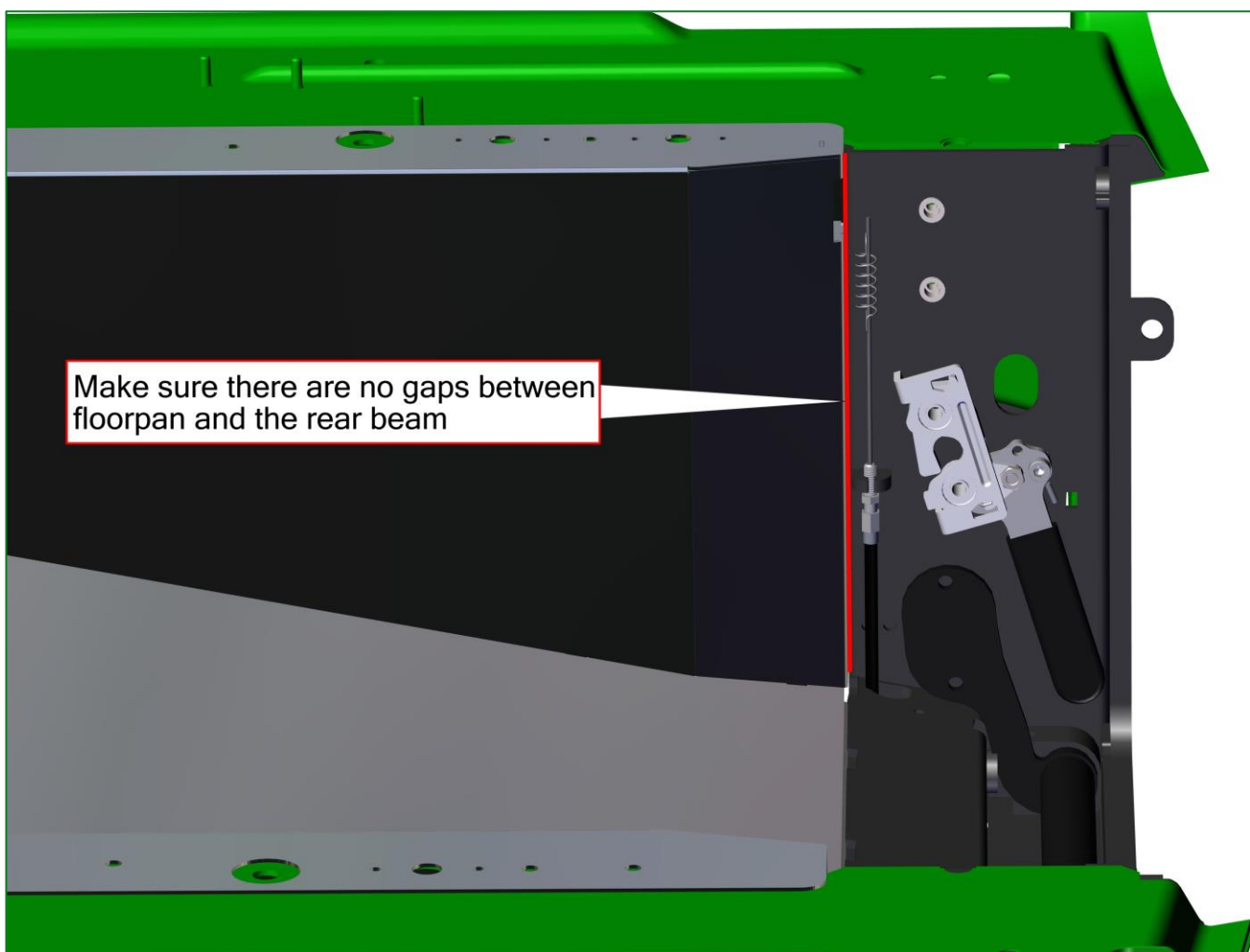
First drop down the front...

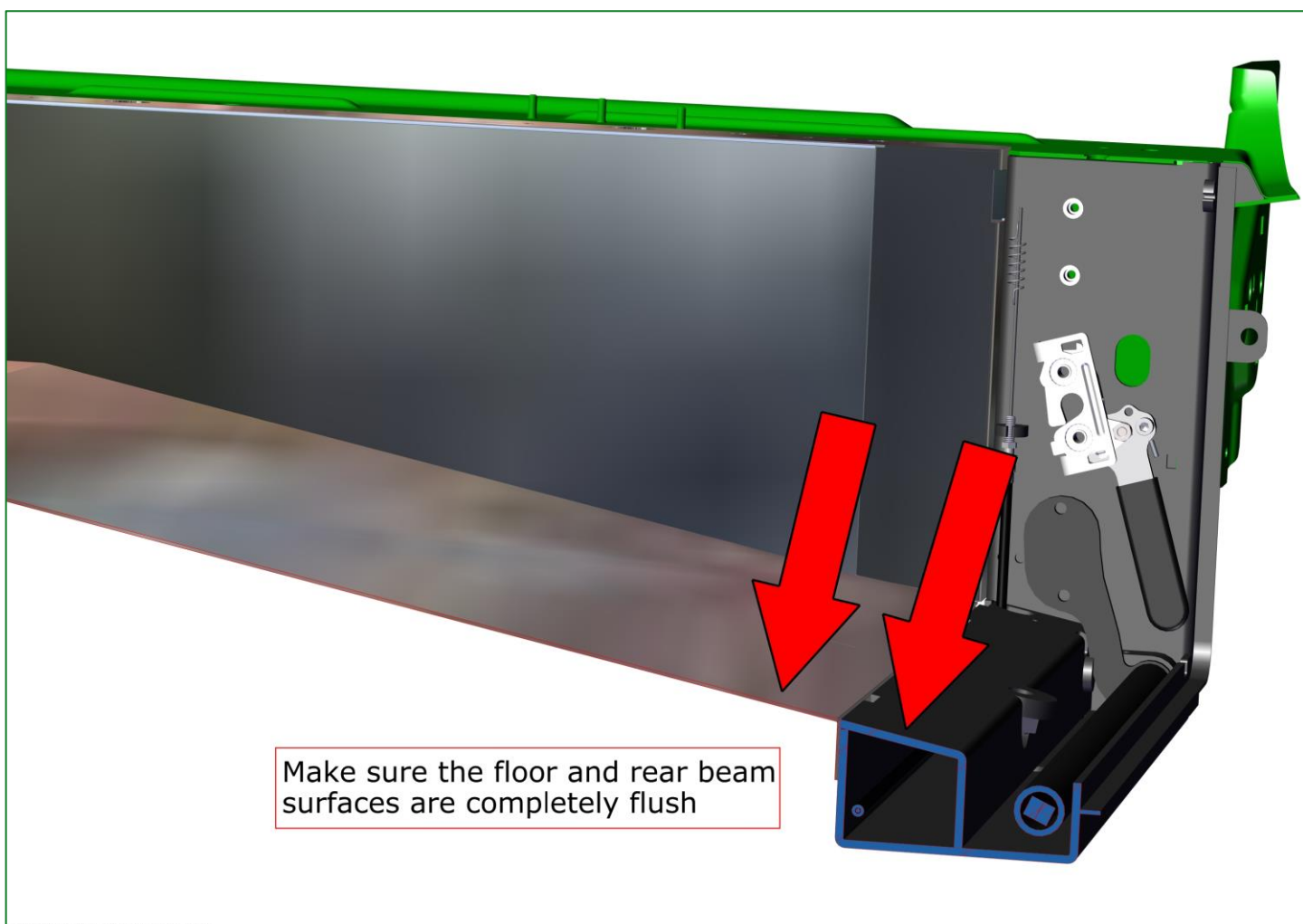
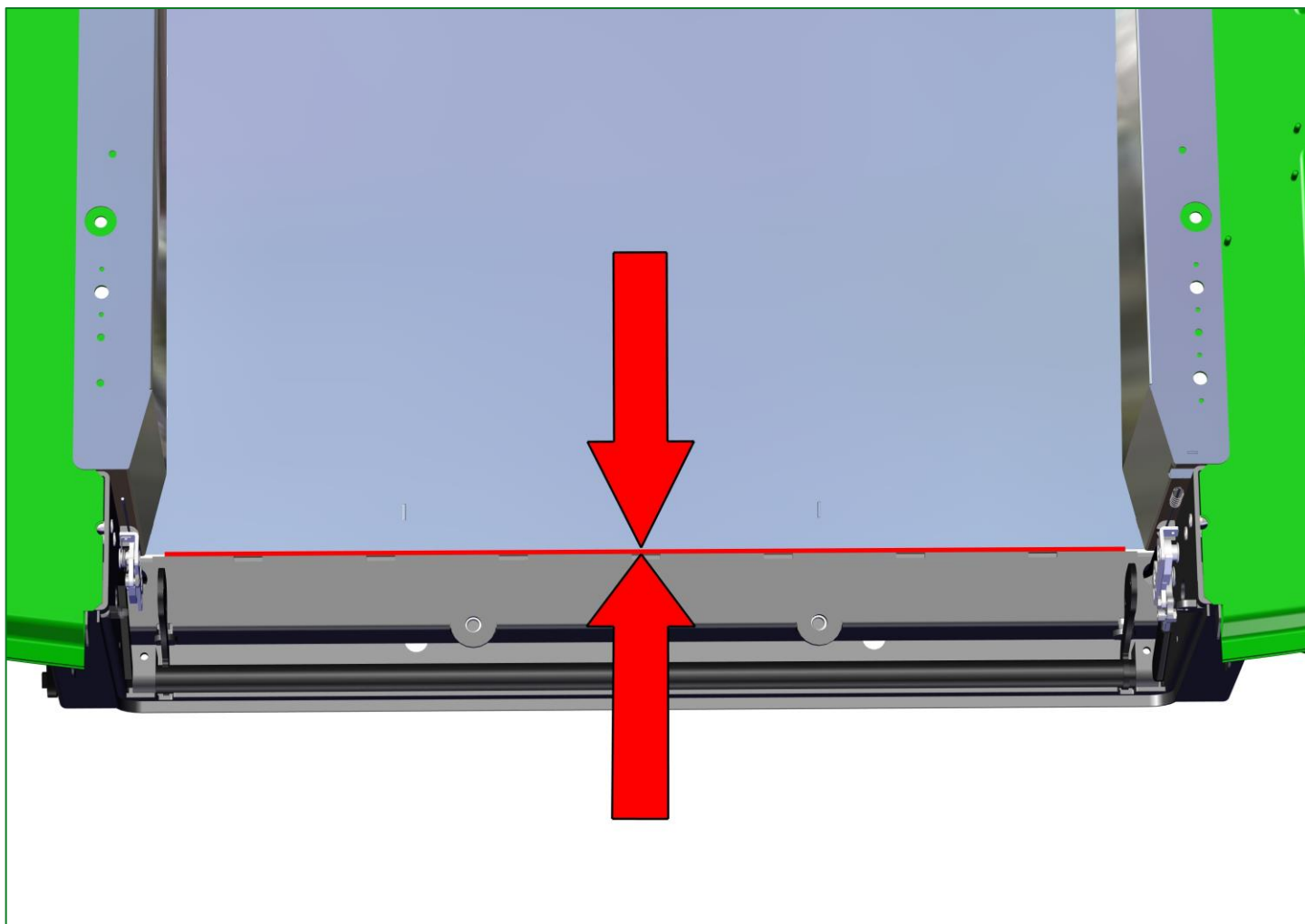


... then drop down he rear



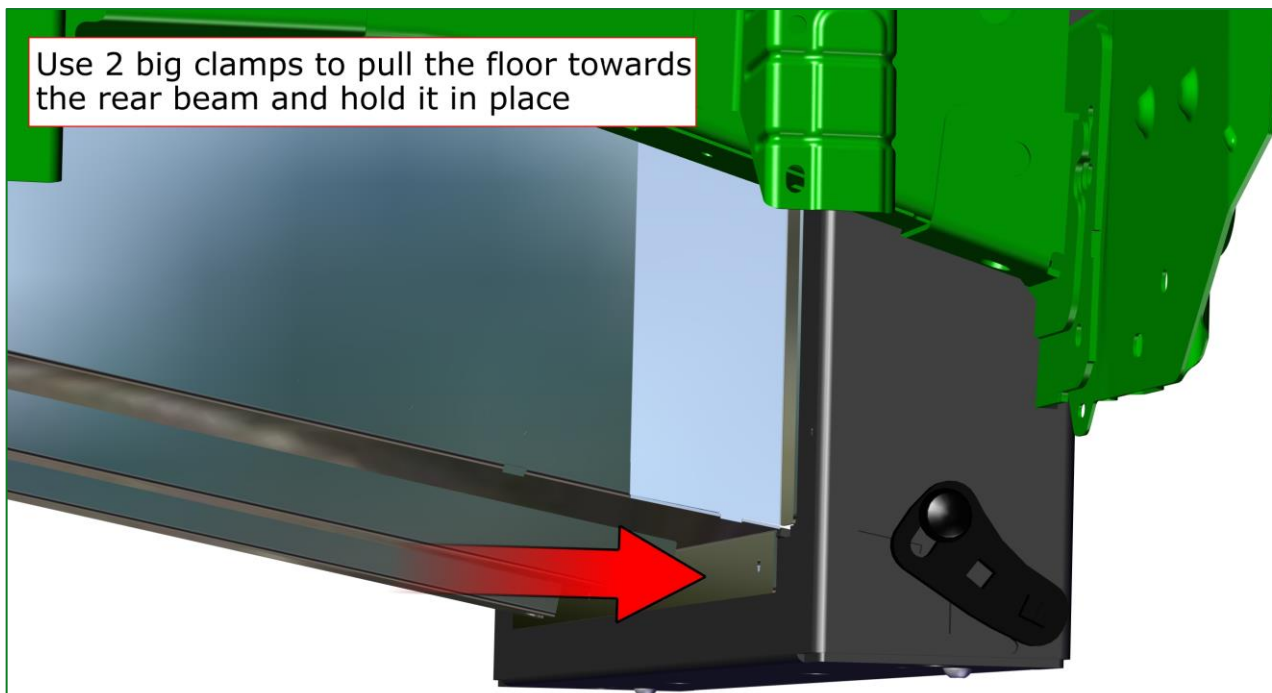
Make sure there are no gaps between floorpan and the rear beam







Use 2 big clamps to pull the floor towards the rear beam and hold it in place

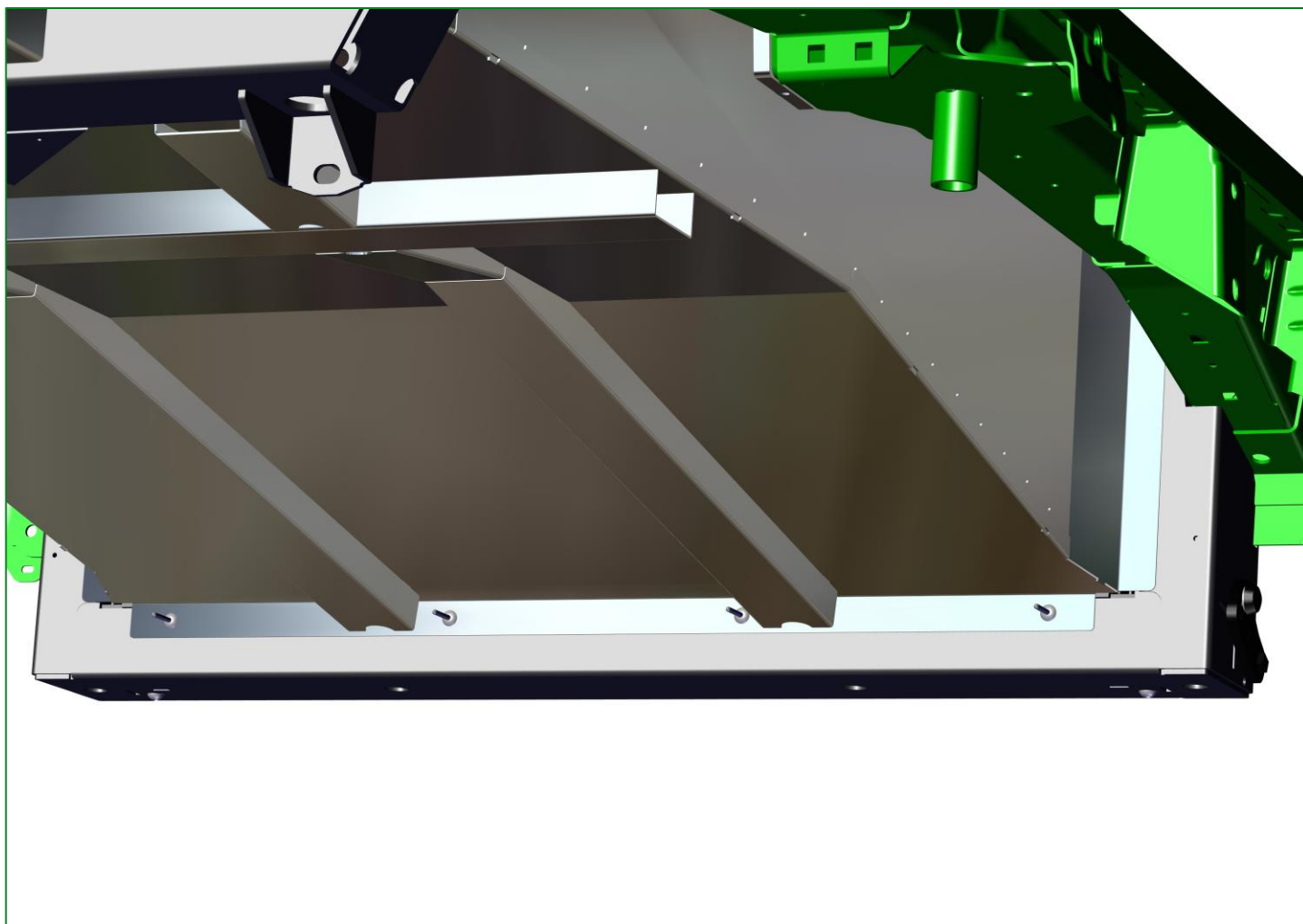


Insert and fix Magna-loks

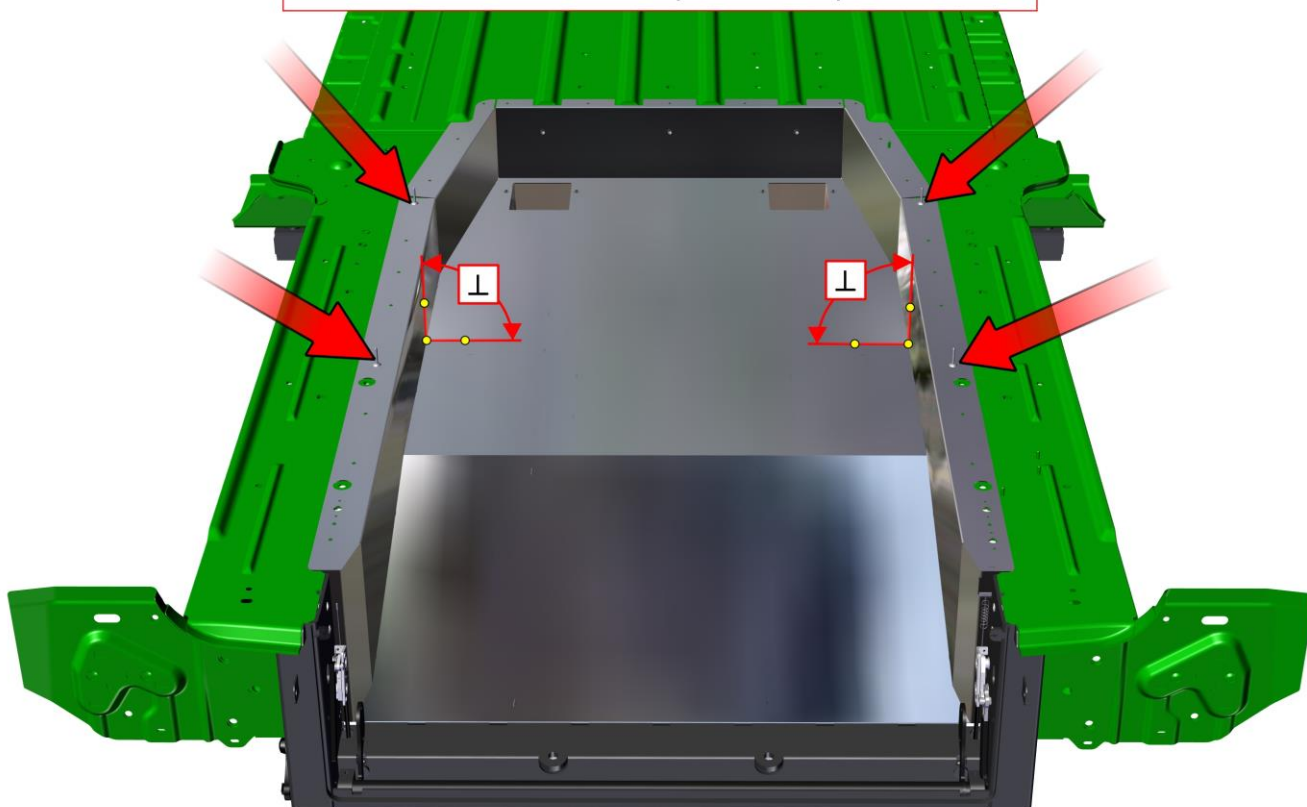


From component bag #4 16340

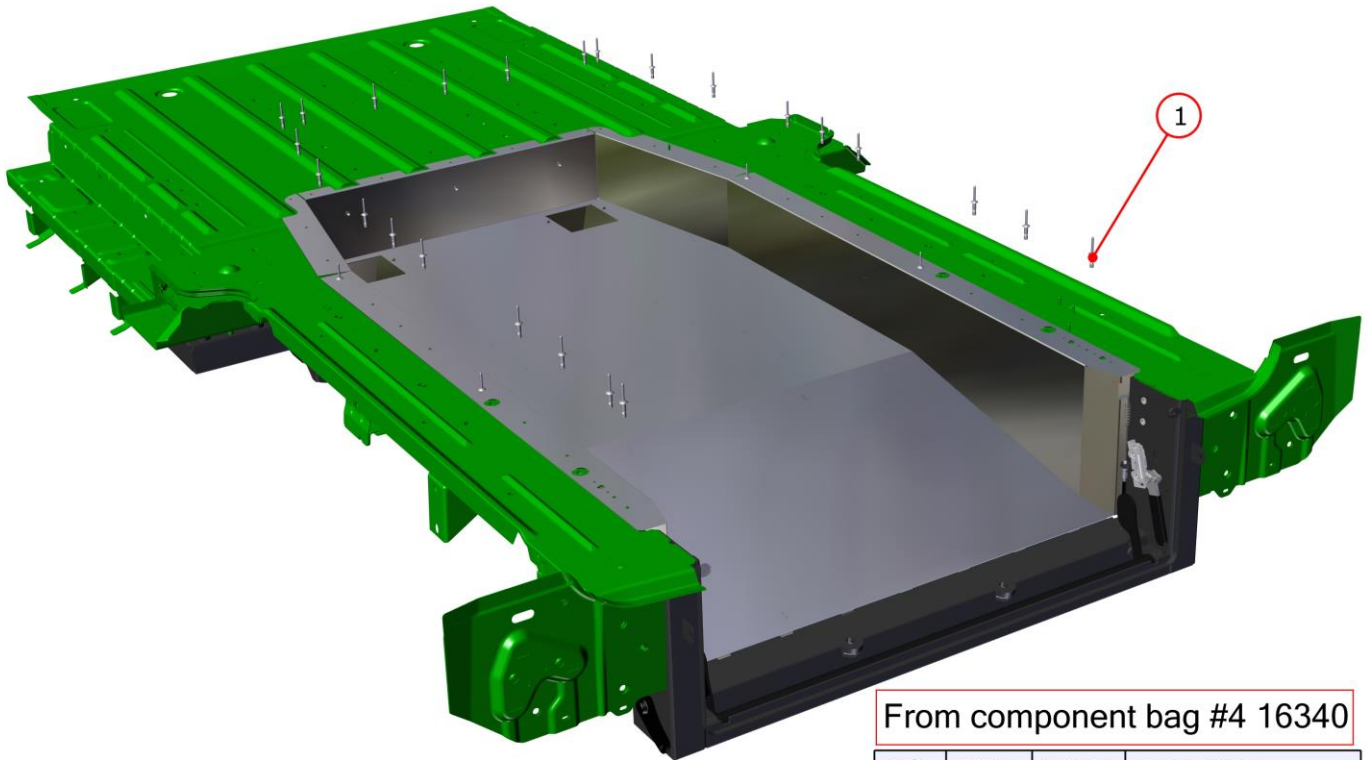
NO.	QTY.	PART	Description
1	4	7887	Magna-lok 6,4x20



Make sure sides are square to the floor, drill 4 holes  $\varnothing 6,5$  as shown and insert 4 Magna-loks loose in the holes to keep sides in place



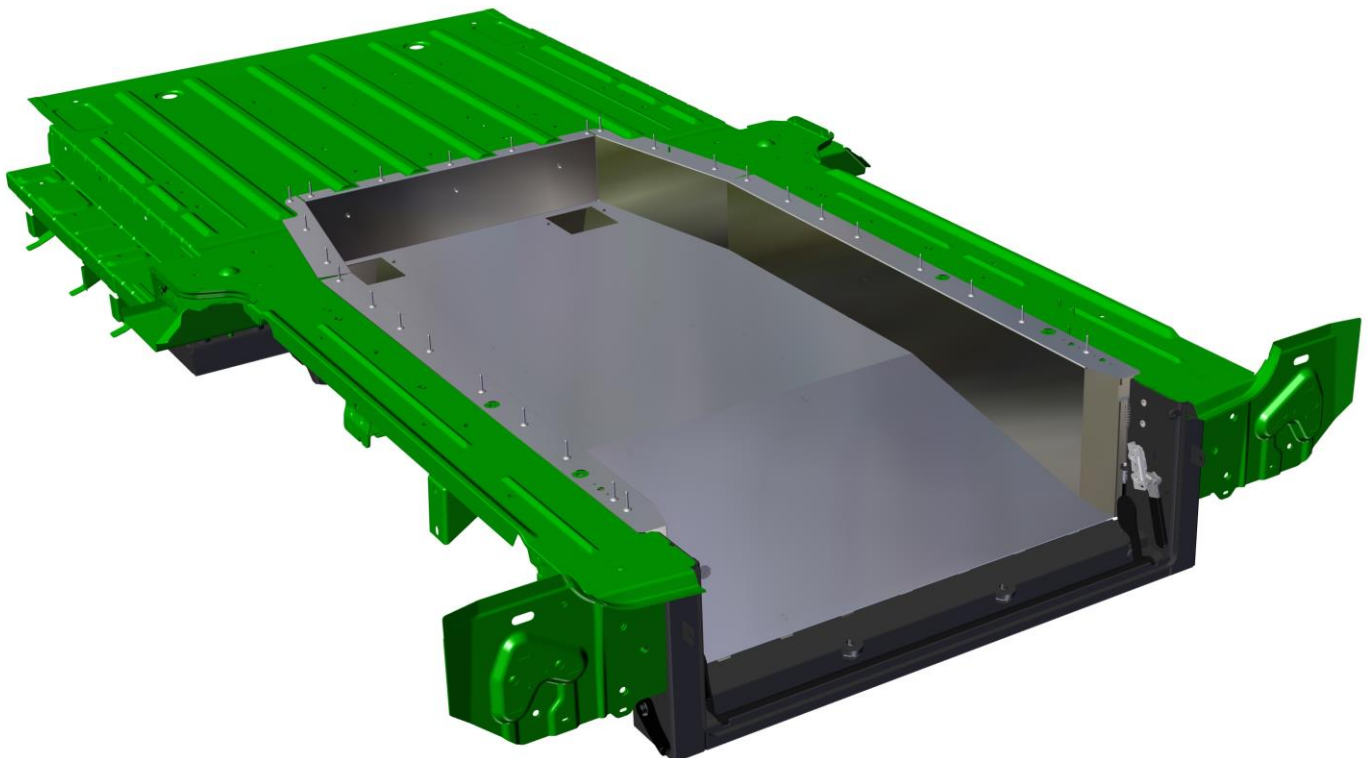
Drill the remaining holes for the Magna-loks (ø6,5) and the 3-point belt (ø12 and ø4,2). Use a cobalt drill ø6,5 and included ø12 drill, all at very low speed!



From component bag #4 16340

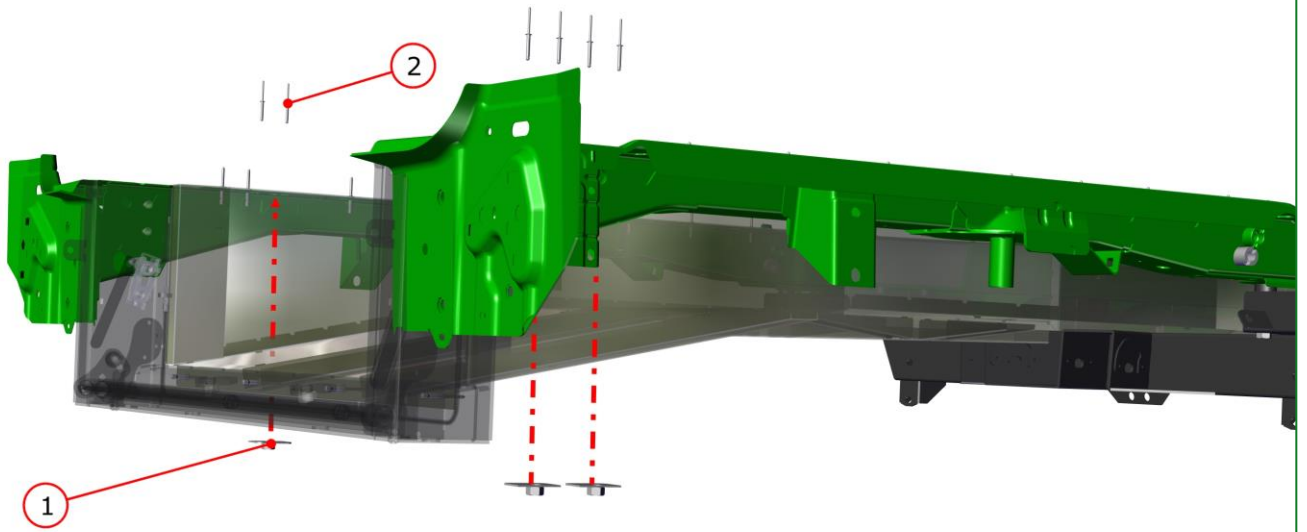
NO.	QTY.	PART	Description
1	28	7887	Magna-lok 6,4x20

Drill the remaining holes for the Magna-loks (ø6,5) and the 3-point belt (ø12 and ø4,2). Use a cobalt drill ø6,5 and included ø12 drill, all at very low speed!





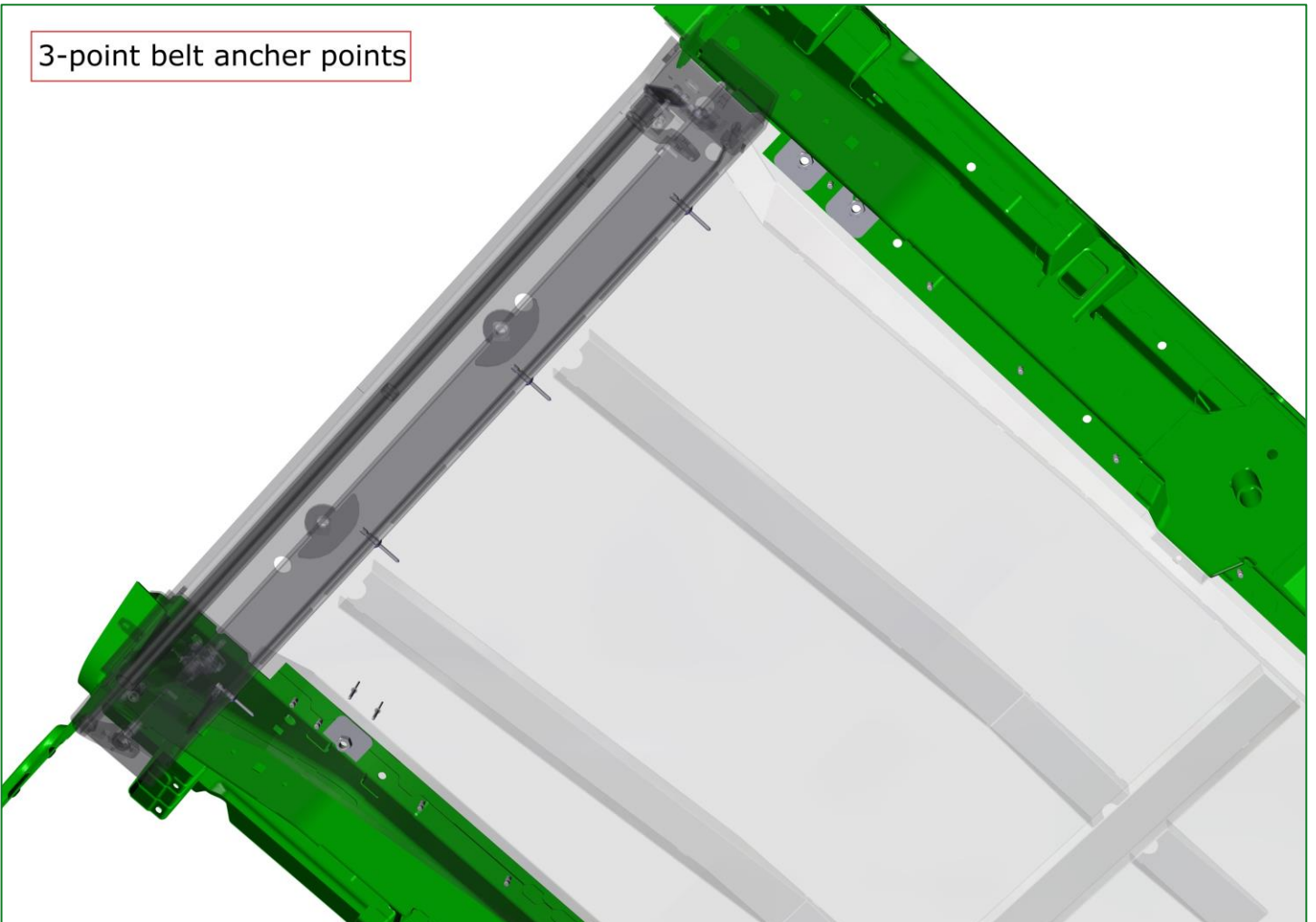
### 3-point belt anchor points



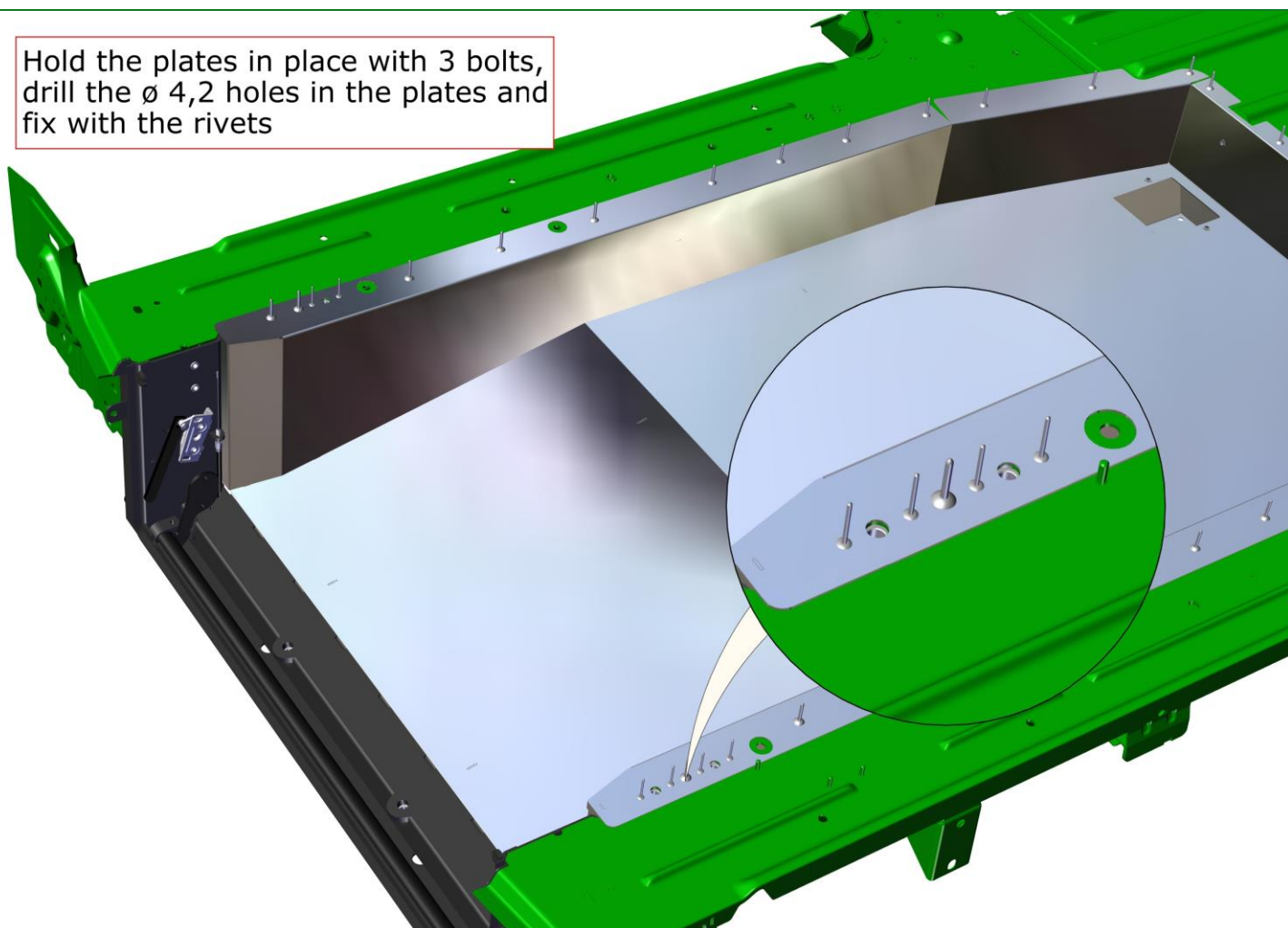
From component bag #4 16340

NO.	QTY.	PART	Description
1	3	16306	7/16 UNF threaded plate
2	6	7214	Rivet 4,8x18 st/st

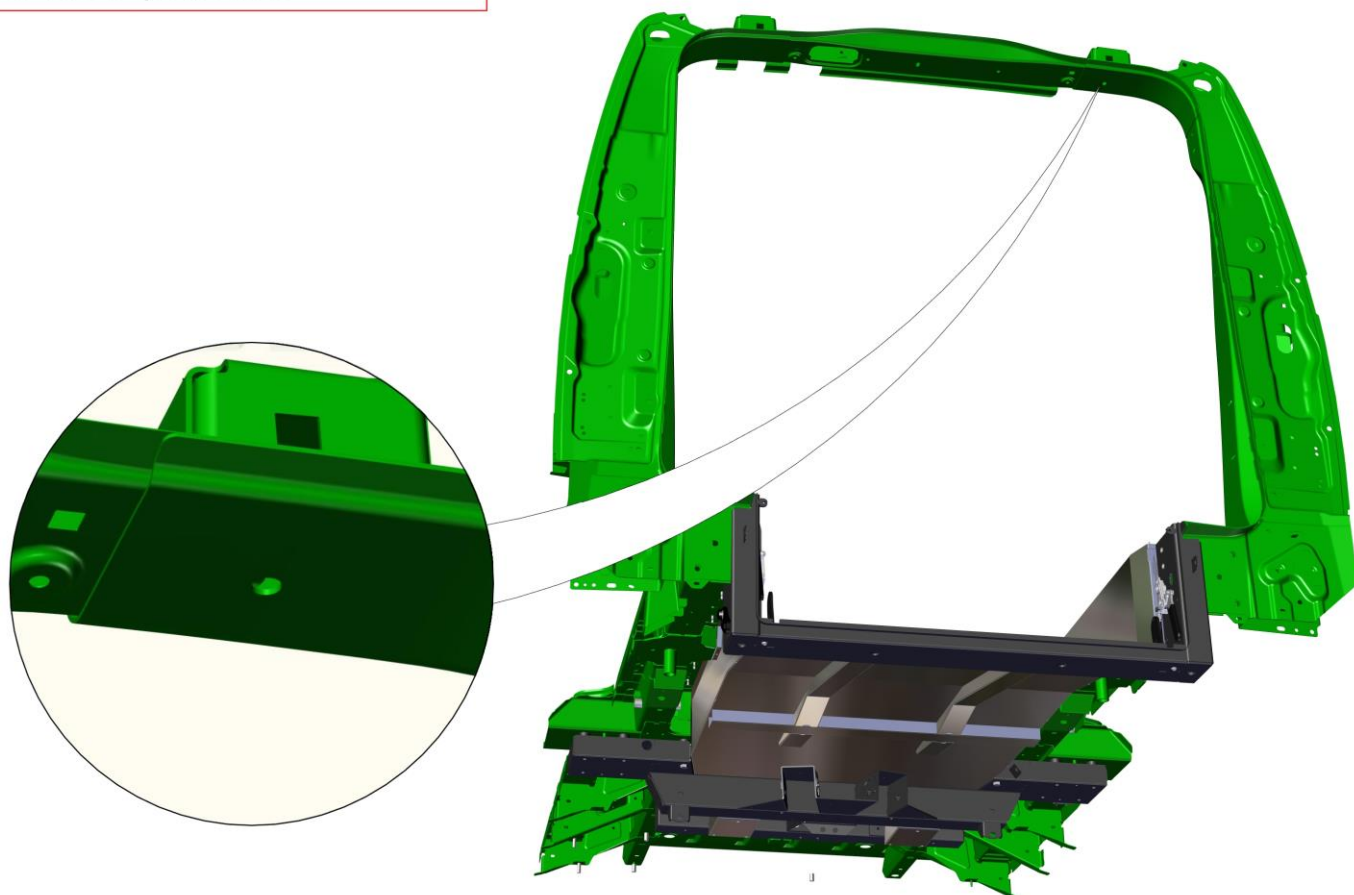
### 3-point belt anchor points



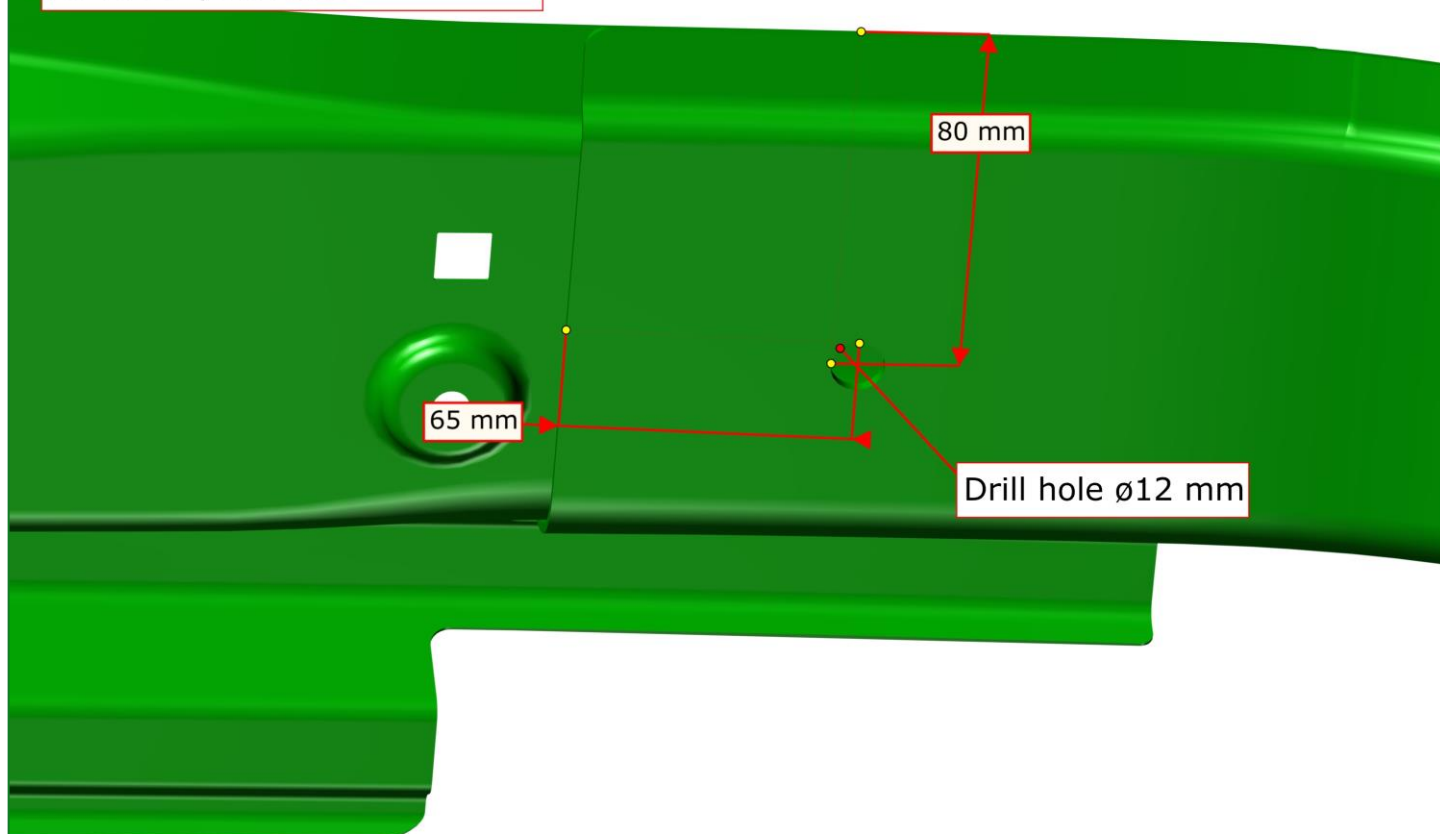
Hold the plates in place with 3 bolts, drill the  $\varnothing 4,2$  holes in the plates and fix with the rivets



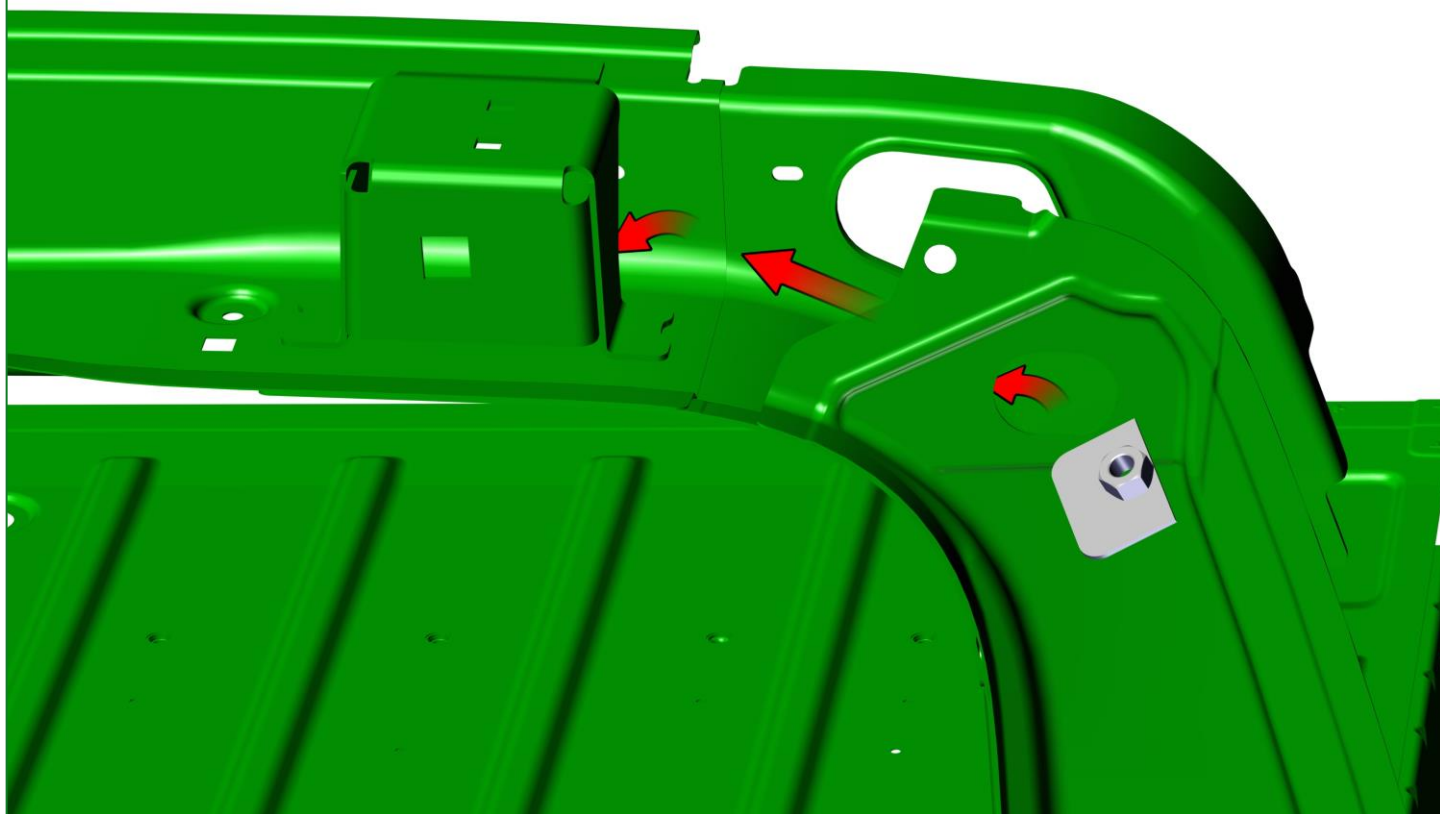
Do the same with the top point for the 3-point belt



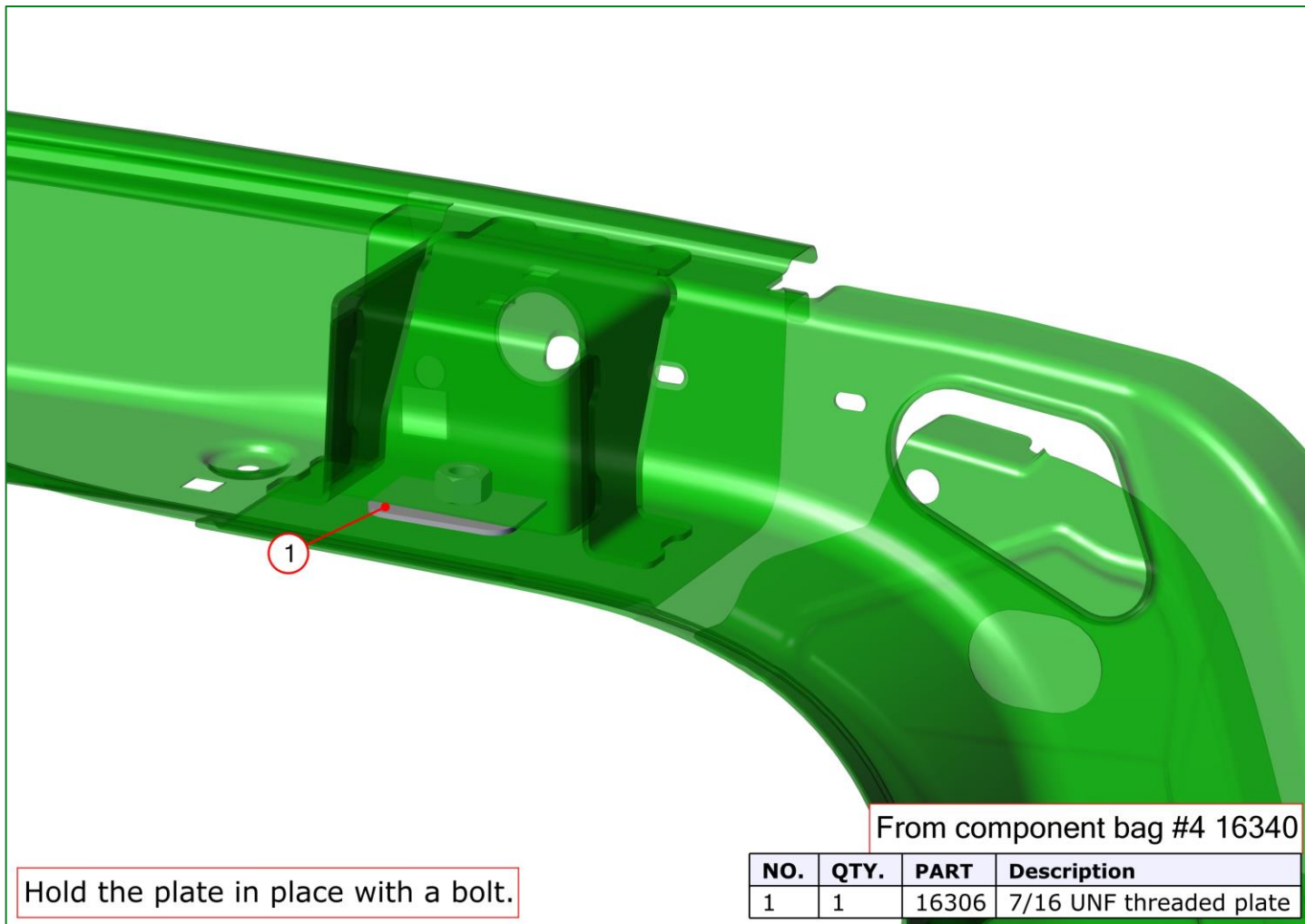
Do the same with the top point  
for the 3-point belt



Attach a stiff steel wire to the  
UNF plate and position the plate  
over the  $\varnothing 12$  mm hole as shown







#### How to seal



When applying sealant, first locate the edge or spot that needs sealant. Edges where 2 or more plates overlap each other or form a corner are an example. Also any spot where even a slight opening/gap from the outside to the inside of the vehicle or a closed beam is located.

How to seal



Degrease the surfaces that the sealant will be applied to.

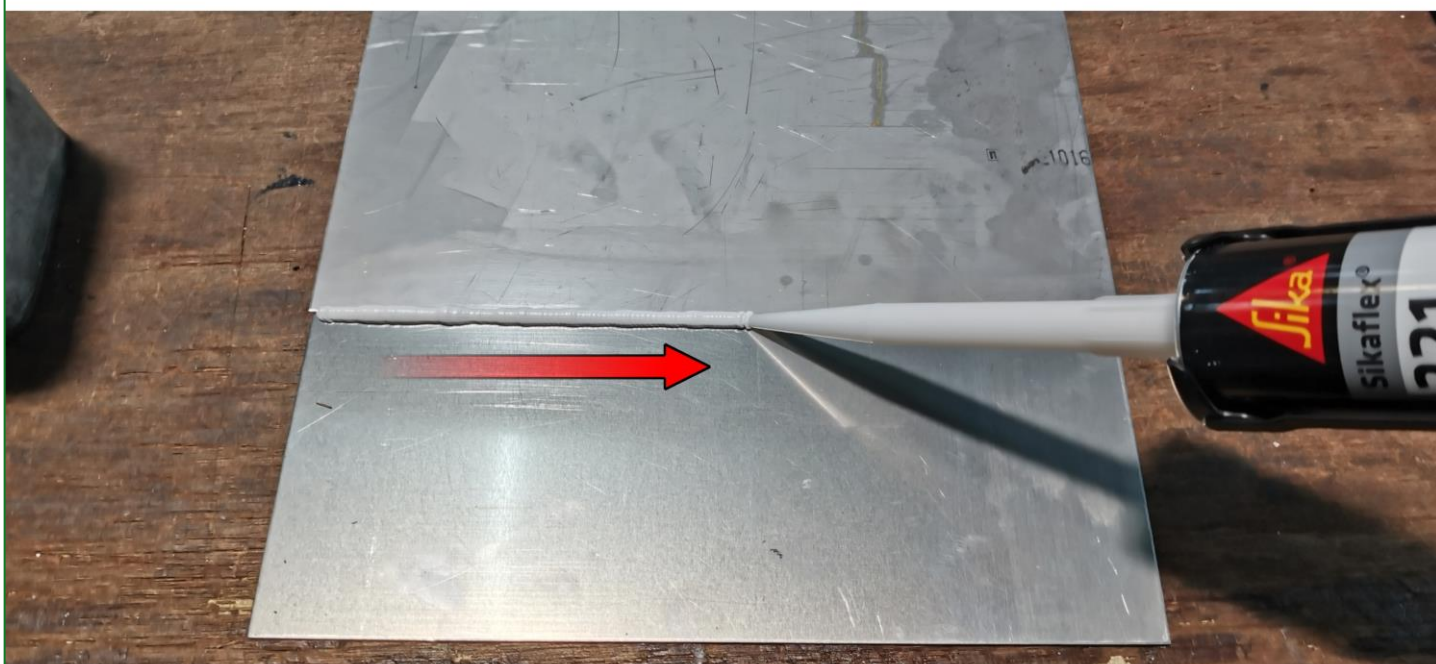
How to seal



Position the sealant gun at the start of the edge.



## How to seal



With a smooth and controlled motion, move the sealant gun along the edge to apply the sealant. Use the trigger with a controlled matter to create an even line of sealant.

## How to seal



When done properly, the line of sealant should look like this. BEWARE, this is not the final step to properly seal.



## How to seal



To properly seal, the sealant must be spread out evenly by using a sealant bush.

## How to seal



Some people might prefer to cut the brush to a short size, this allows for more precise usage. This is not mandatory.



## How to seal



Some people might prefer to cut the brush to a short size, this allows for more precise usage. This is not mandatory.

## How to seal



Start spreading the sealant with the brush. Start at the beginning of the sealant line.

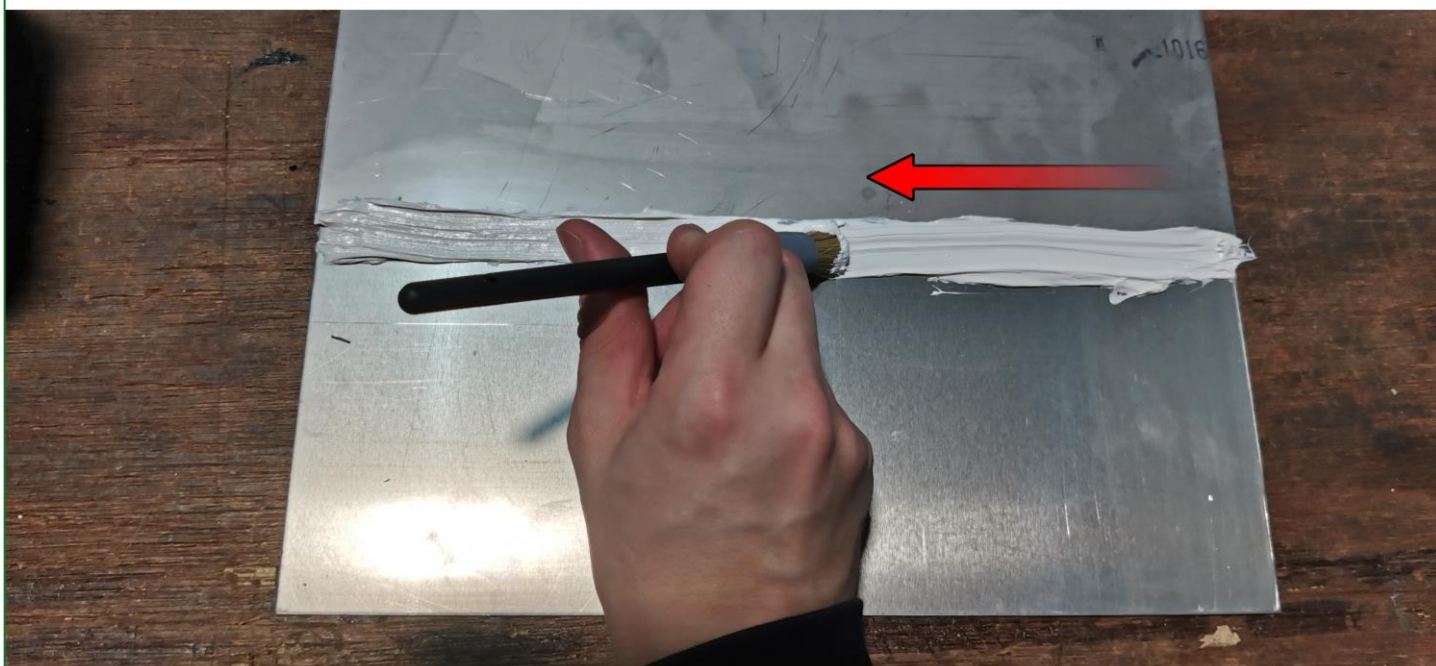


## How to seal



First use the brush in one direction.

## How to seal



When finished in direction one, use the brush back in the other direction. This way the sealant will spread evenly and its use will be optimized.



## How to seal



Be sure to fully cover the edge/gap with sealant using the brush. If ALL edges and gaps have been covered, there should be no way possible for water to enter the vehicle where it could cause corrosion. Only then is has the sealant been applied properly.

## How to seal



After sealing, wipe the sealant off the brush and place the brush in a cup with turpentine to get the sealant out of the brush.

## 008 Sealant

Sealing the under body

Seal ALL edges that make contact with the OEM or lowered floor.

Using Sikaflex 221 white, seal every seam and gap where water could pass through. Seal every mounting point which extrudes through the OEM floor. Every pop rivet, bolt/nut and threaded plate.

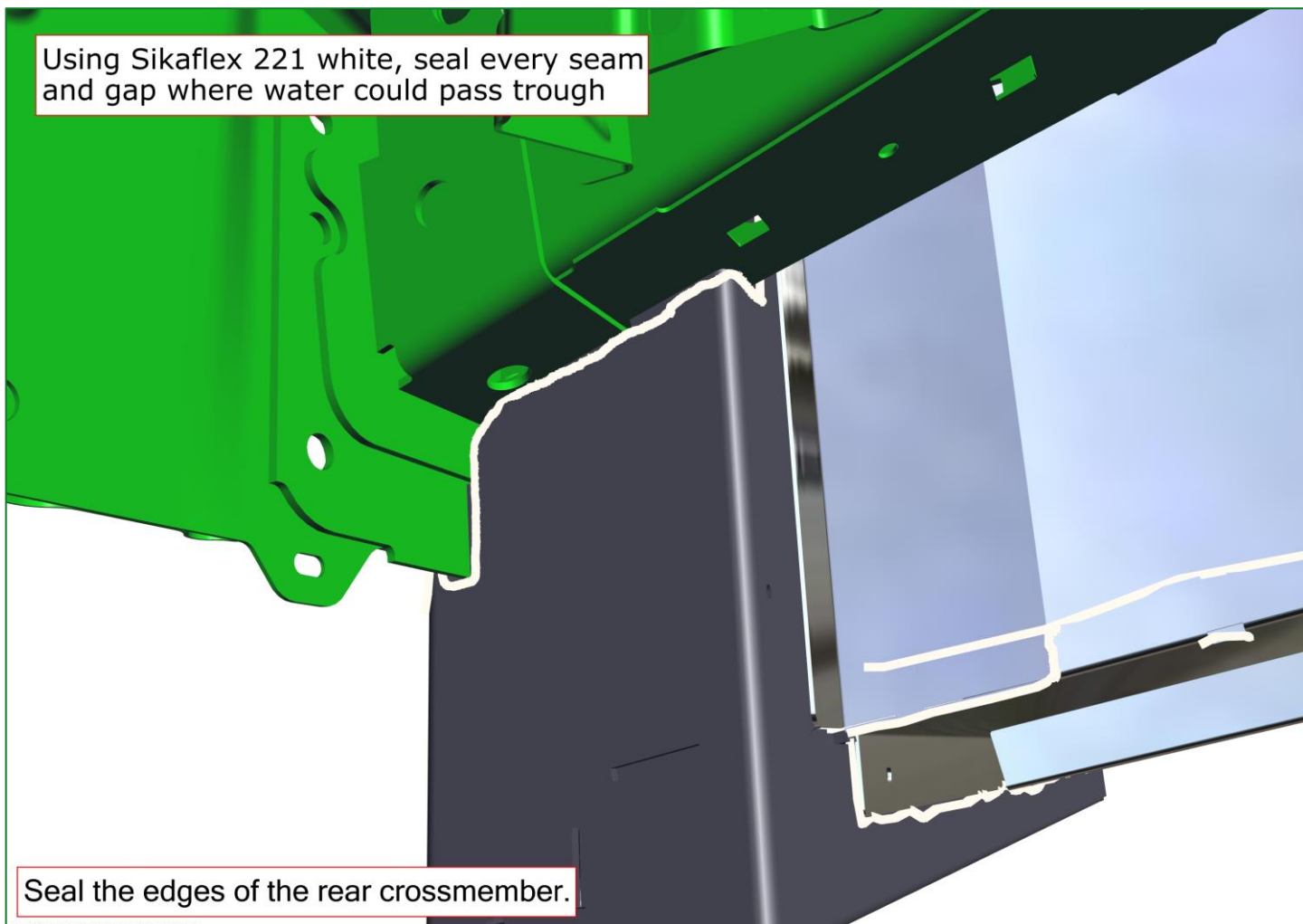
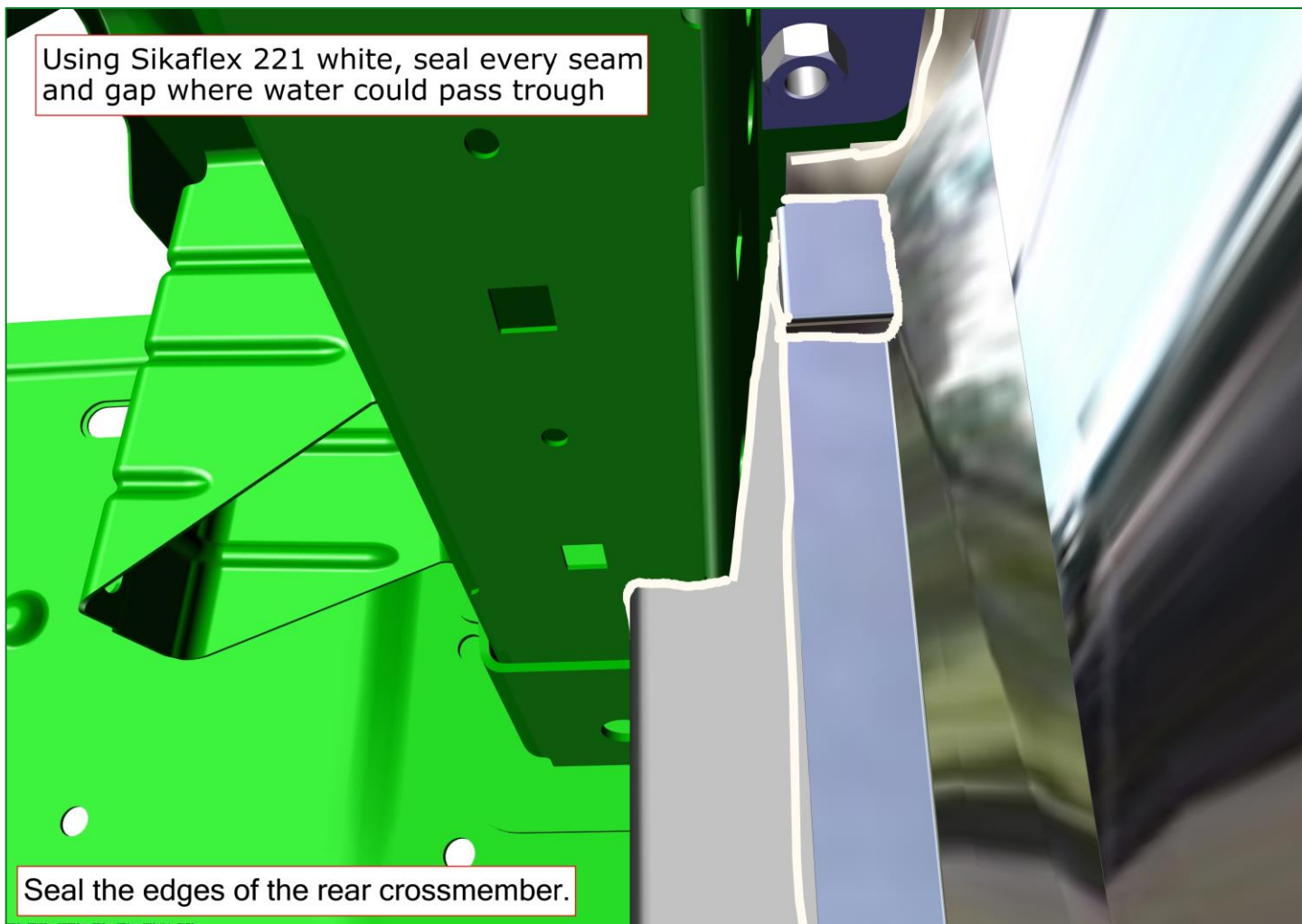
Using Sikaflex 221 white, seal every seam and gap where water could pass trough

Be sure to seal all of these protrusions properly.

Be sure to seal the seatbelt stalks.

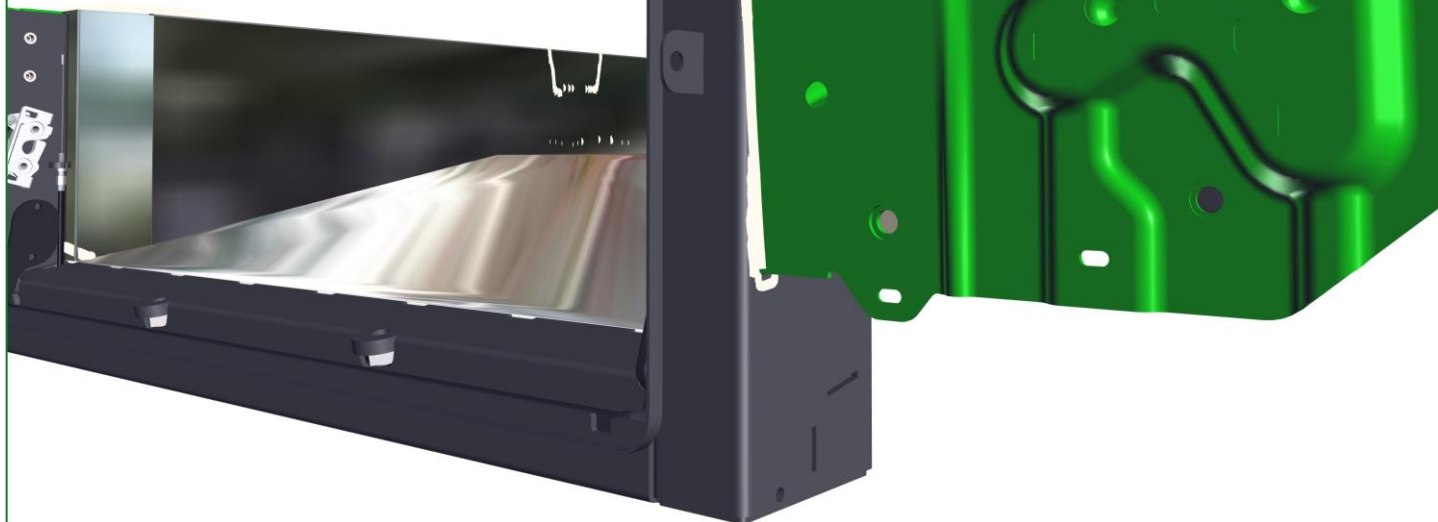
Seal ALL edges that make contact with the OEM or lowered floor.





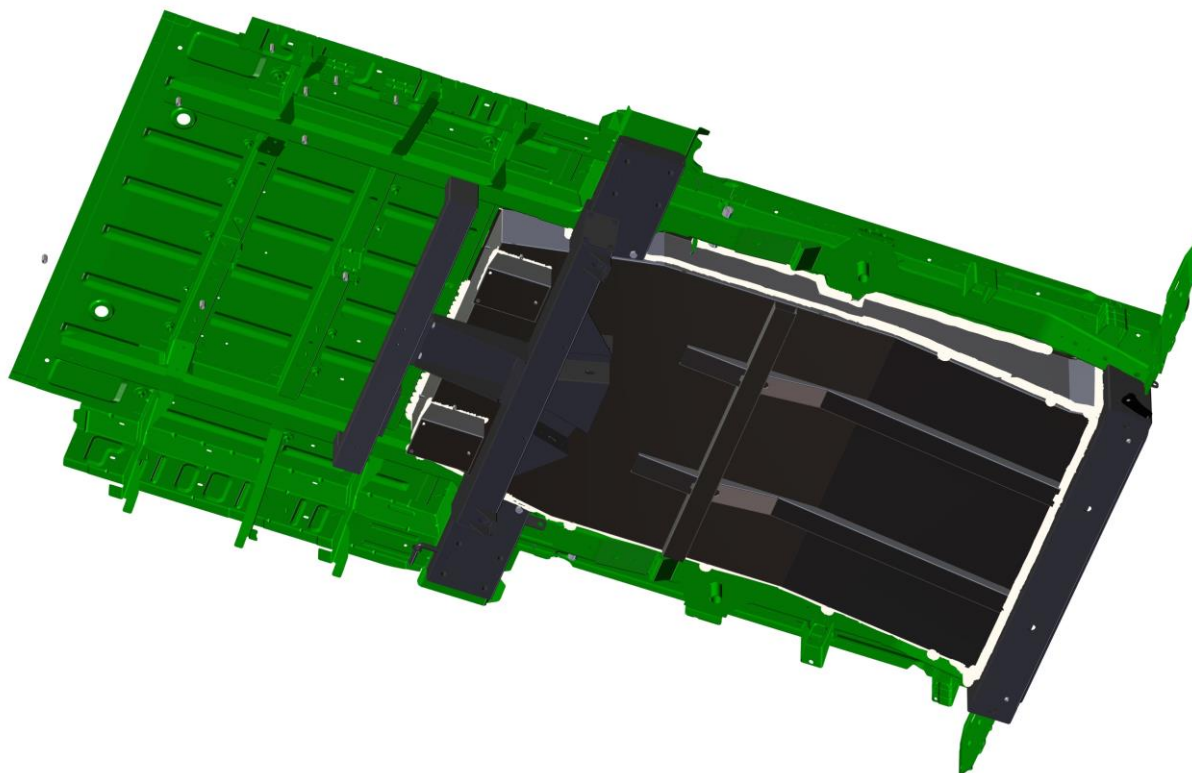


Using Sikaflex 221 white, seal every seam and gap where water could pass trough

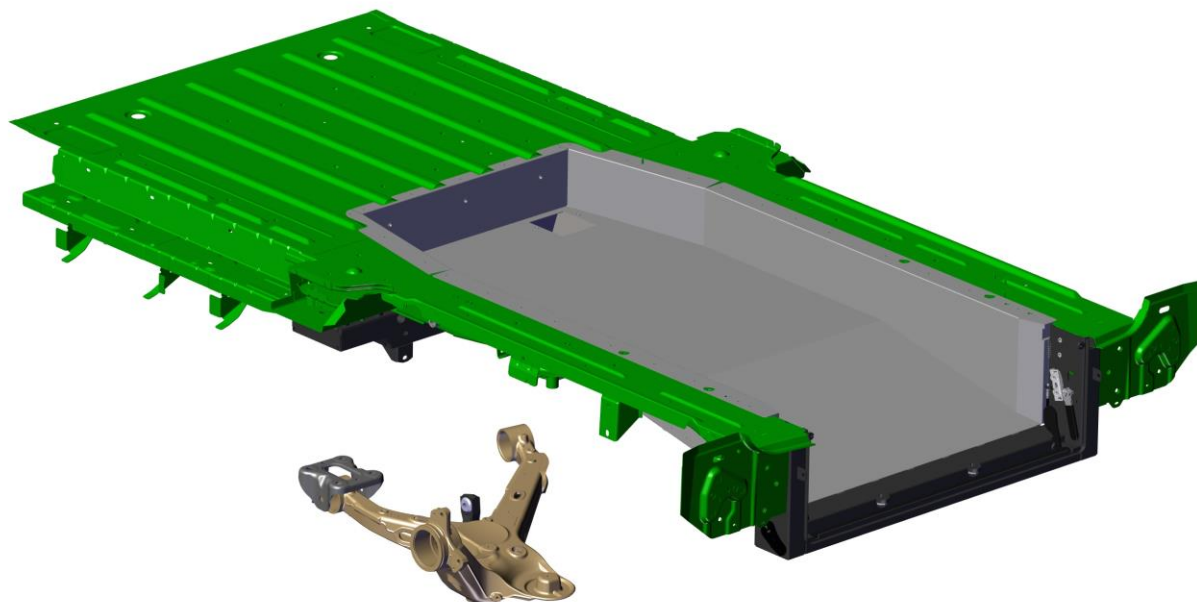


Seal the edges of the rear crossmember.

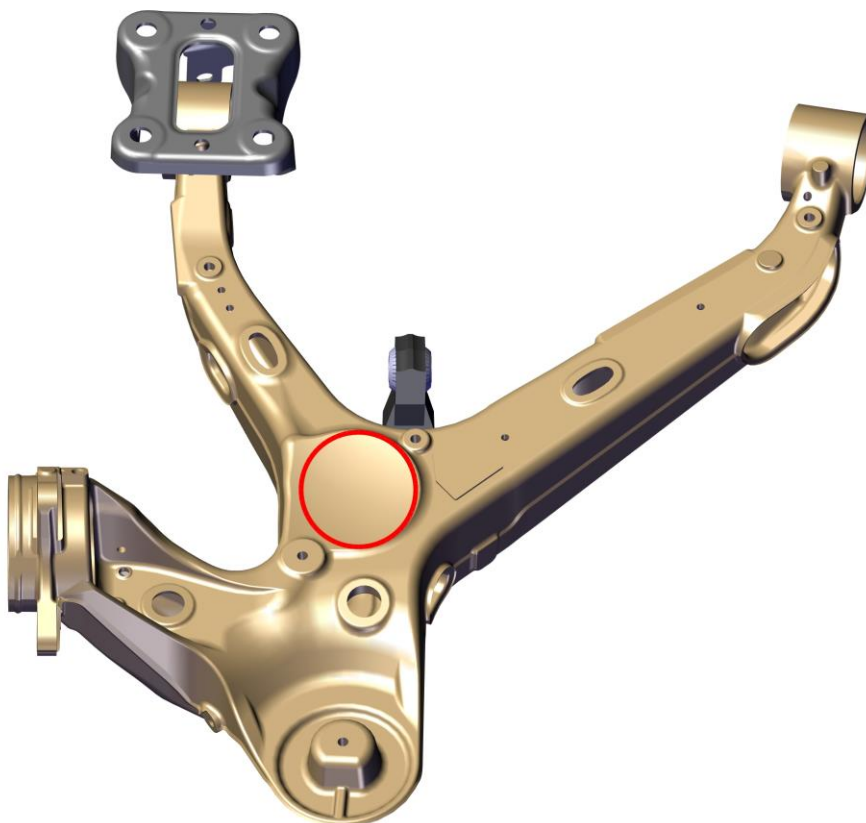
It is VERY IMPORTANT to let the sealant dry overnight.  
Only when the sealant is completely dry you can tectyl  
the chassis and lowerd floor using:  
Tectyl Terotex HV 450 in all hollow beams and compartements  
Tectyl Terotex Aqua 2000 on the entire bottom



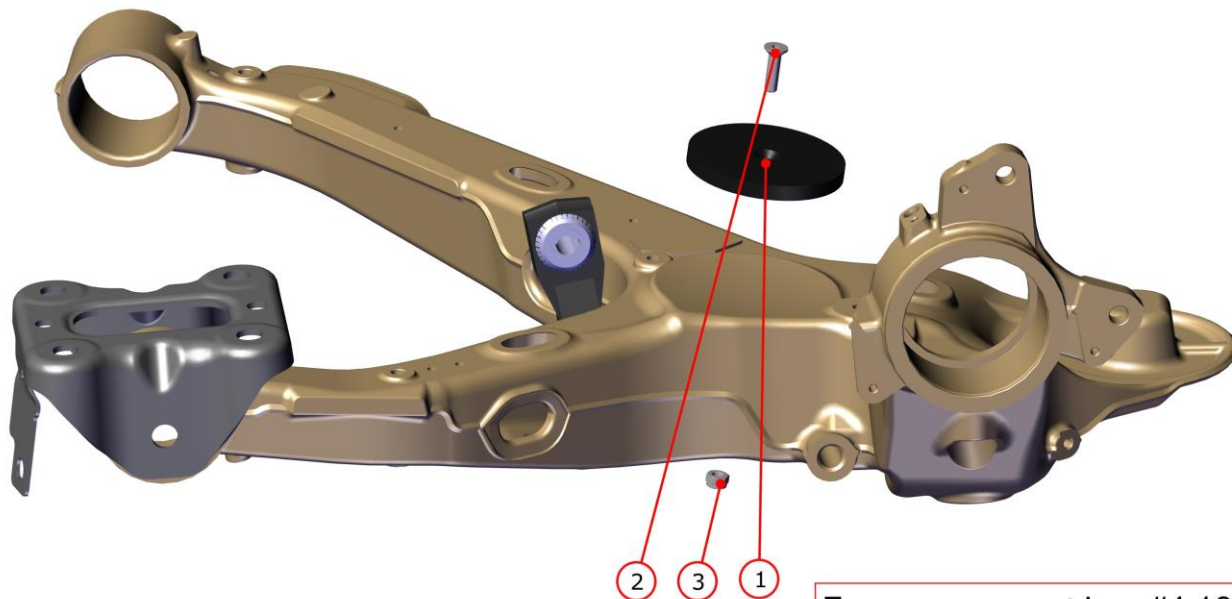
Reinstalling the rear support arms



Mark the center of this area and drill a hole  $\varnothing 8$  mm



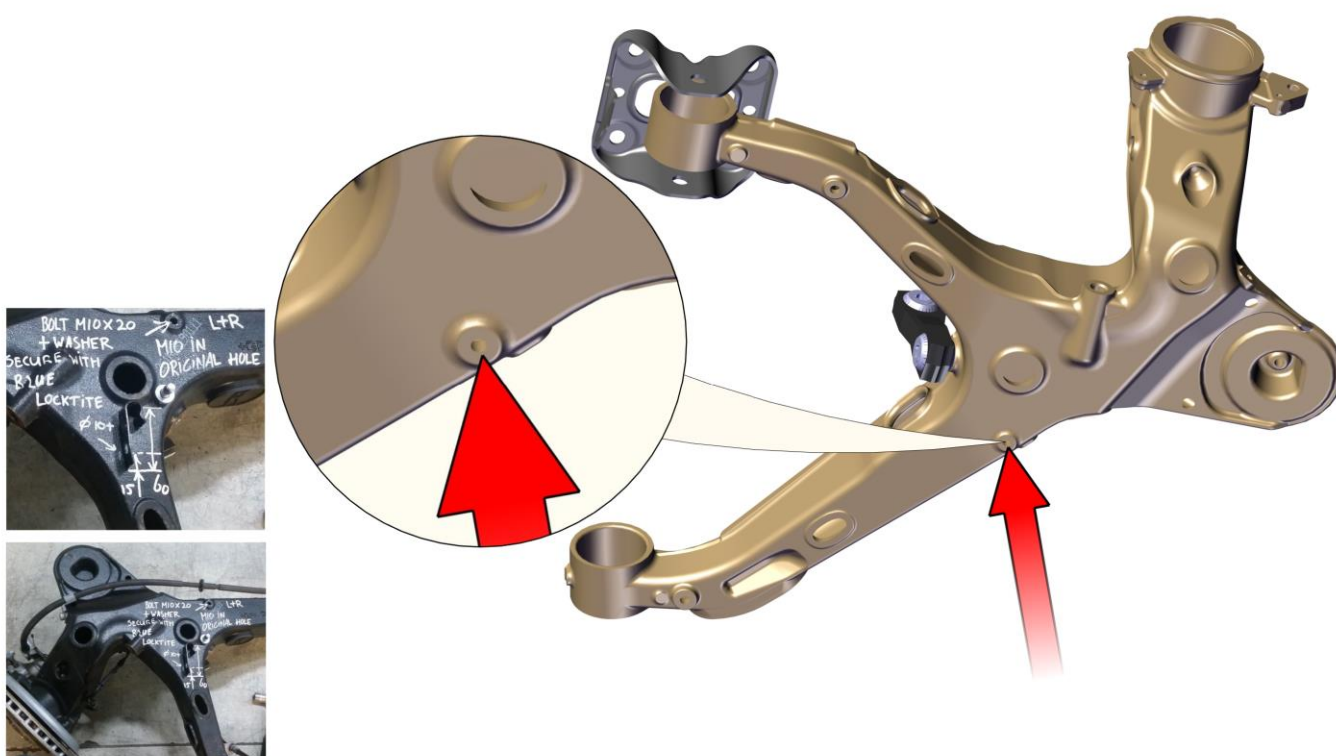
Mark the center of this area and drill a hole  $\varnothing 8$  mm



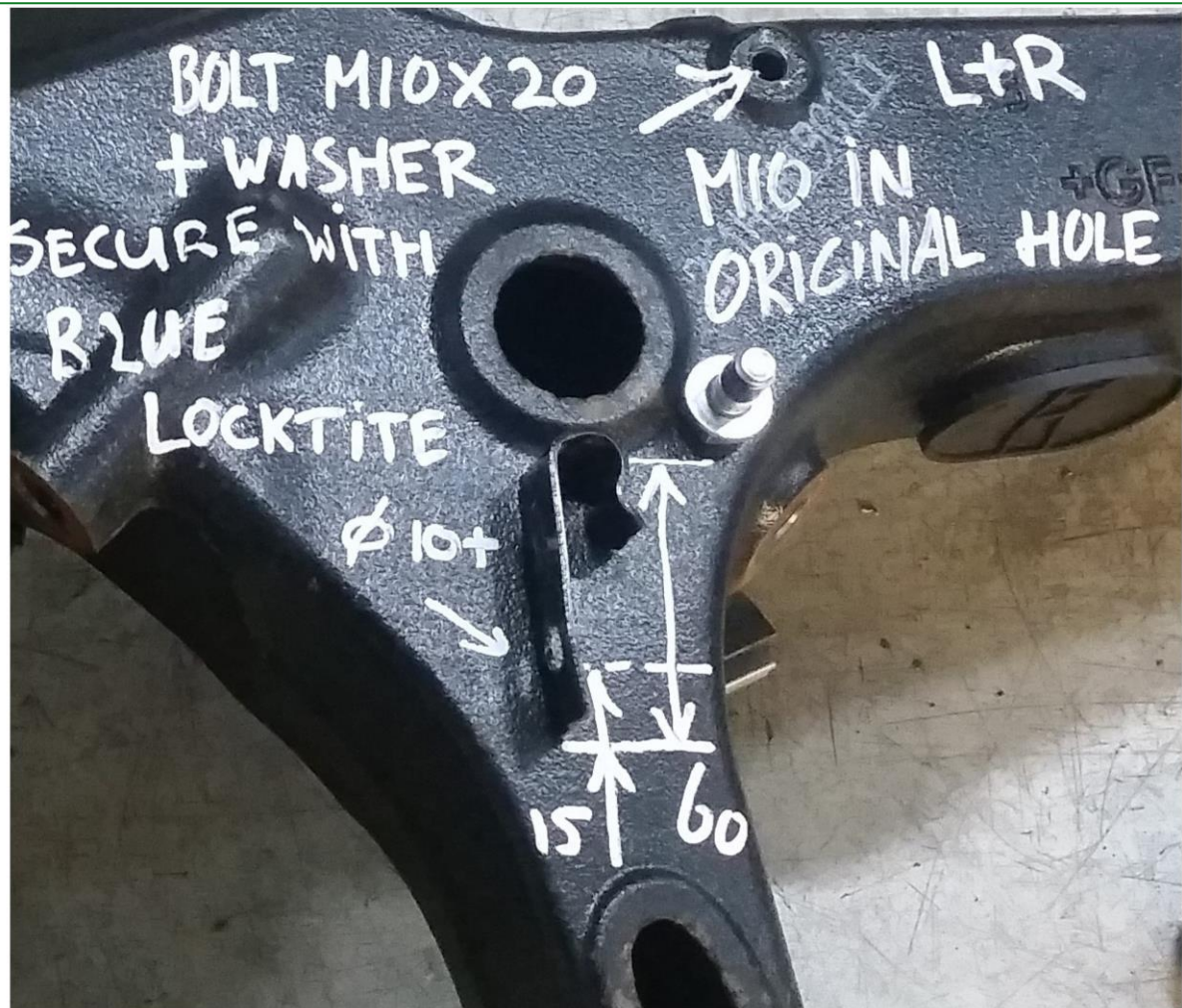
From component bag #4 16340

NO.	QTY.	PART	Description
1	2	16210	Spacer bumpstop
2	2	189	CSK M8x30 10.9 DIN 7991
3	2	10015	M8 Nyloc

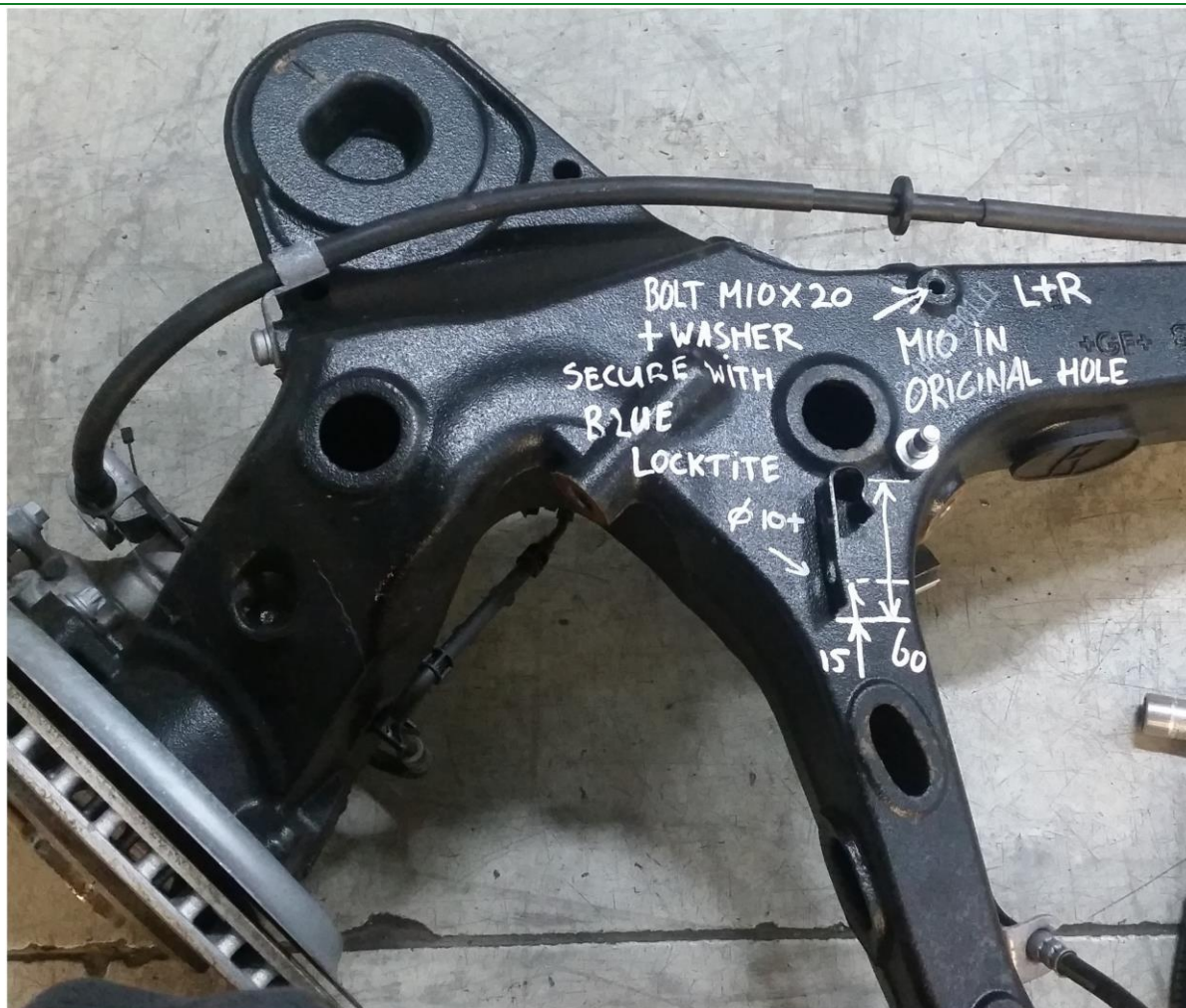
Thread this hole to M10



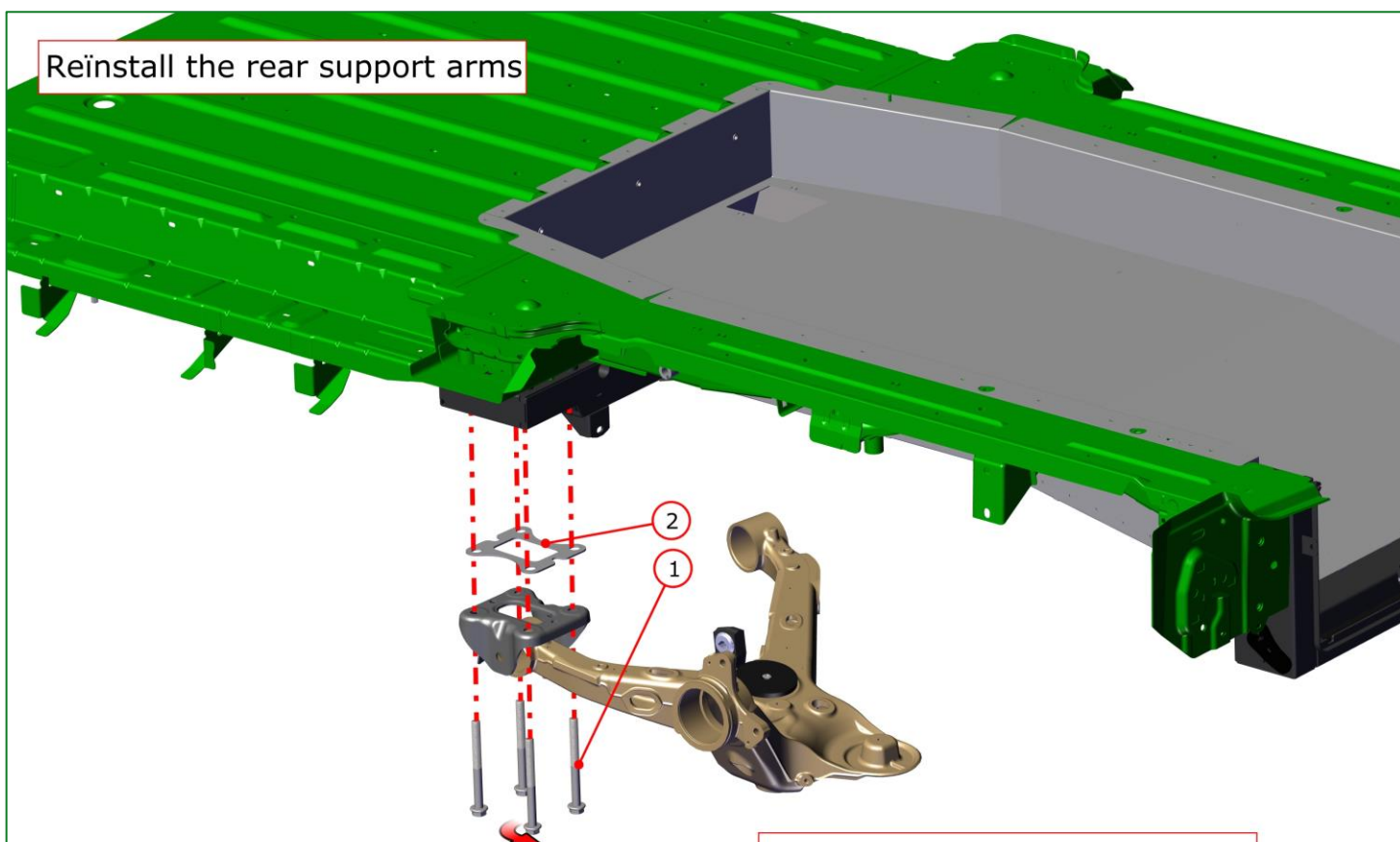








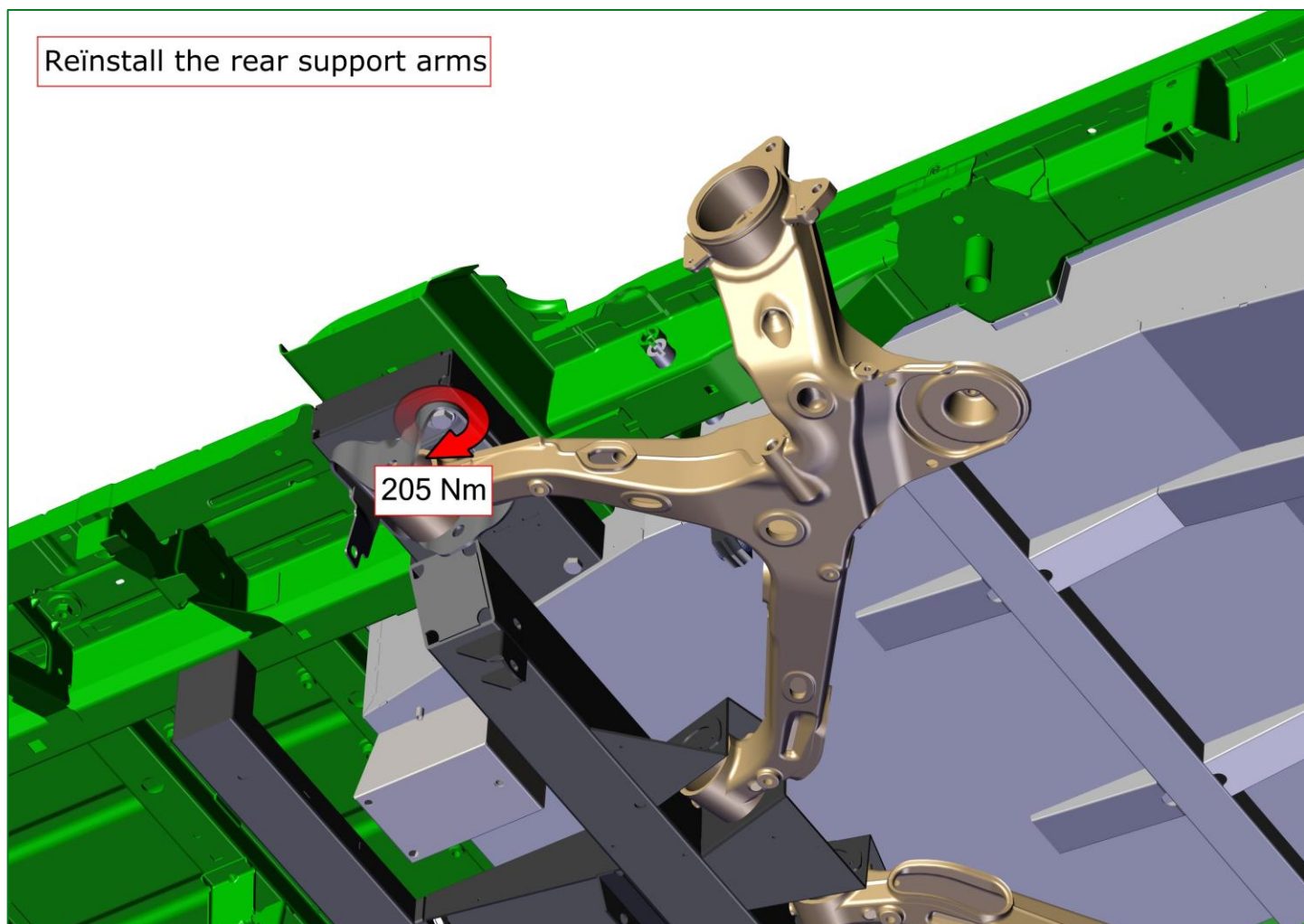
Reinstall the rear support arms



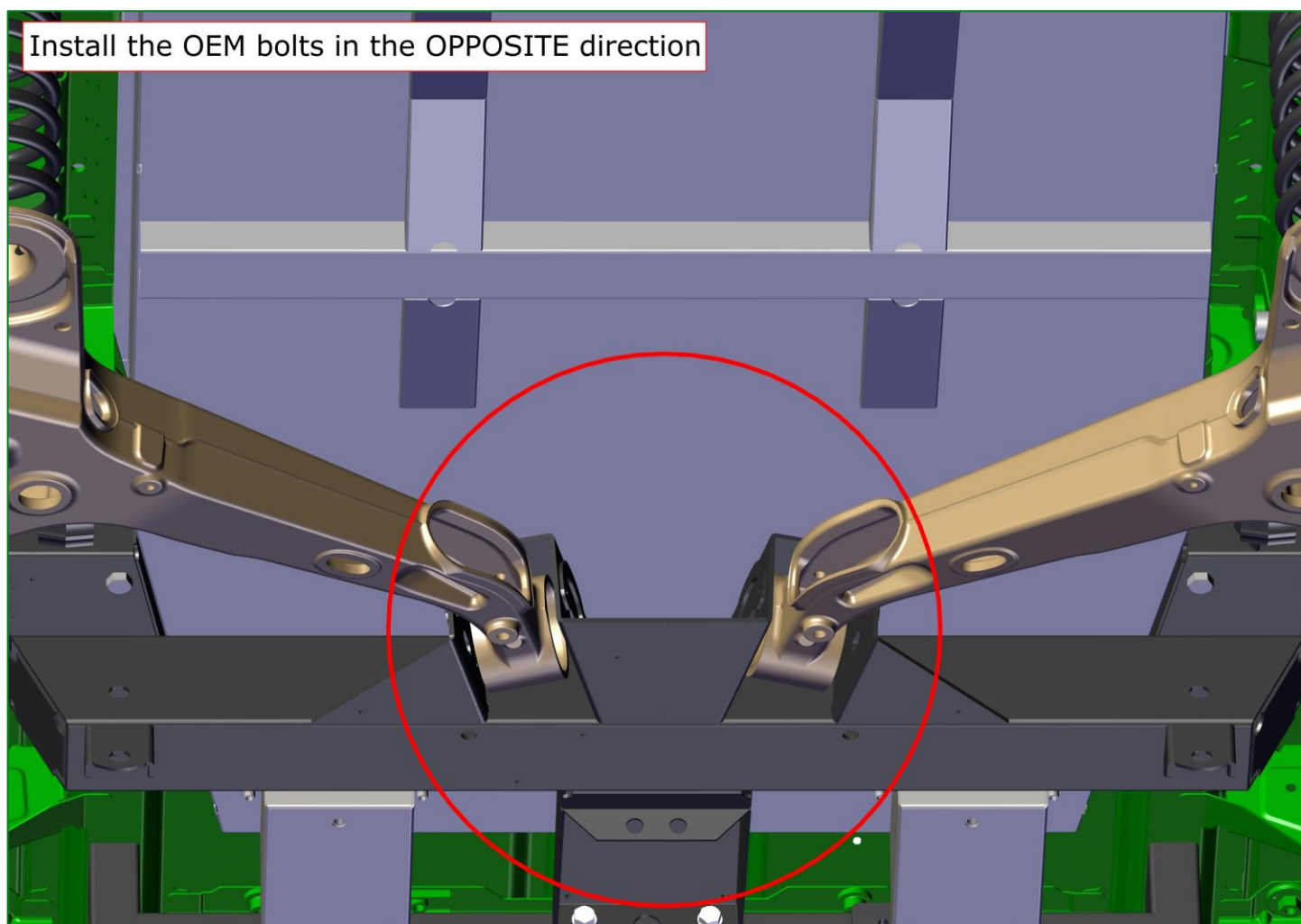
From component bag #4 16340

NO.	QTY.	PART	Description
1	8	16647	FLNSB M14x150 10.9 MBN10105
2	2	16332	Spacer 3mm, supporting arm

Reinstall the rear support arms

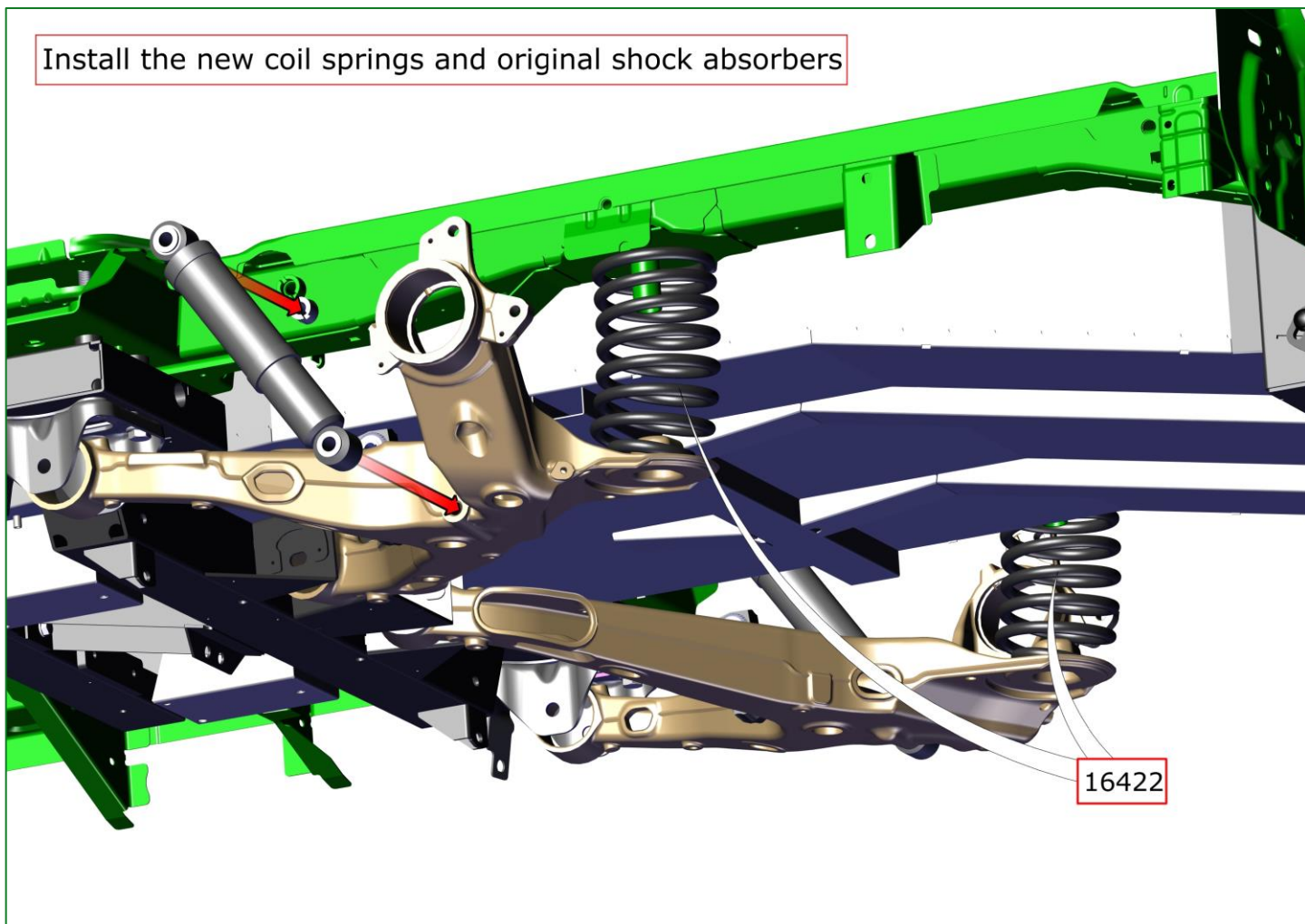


Install the OEM bolts in the OPPOSITE direction

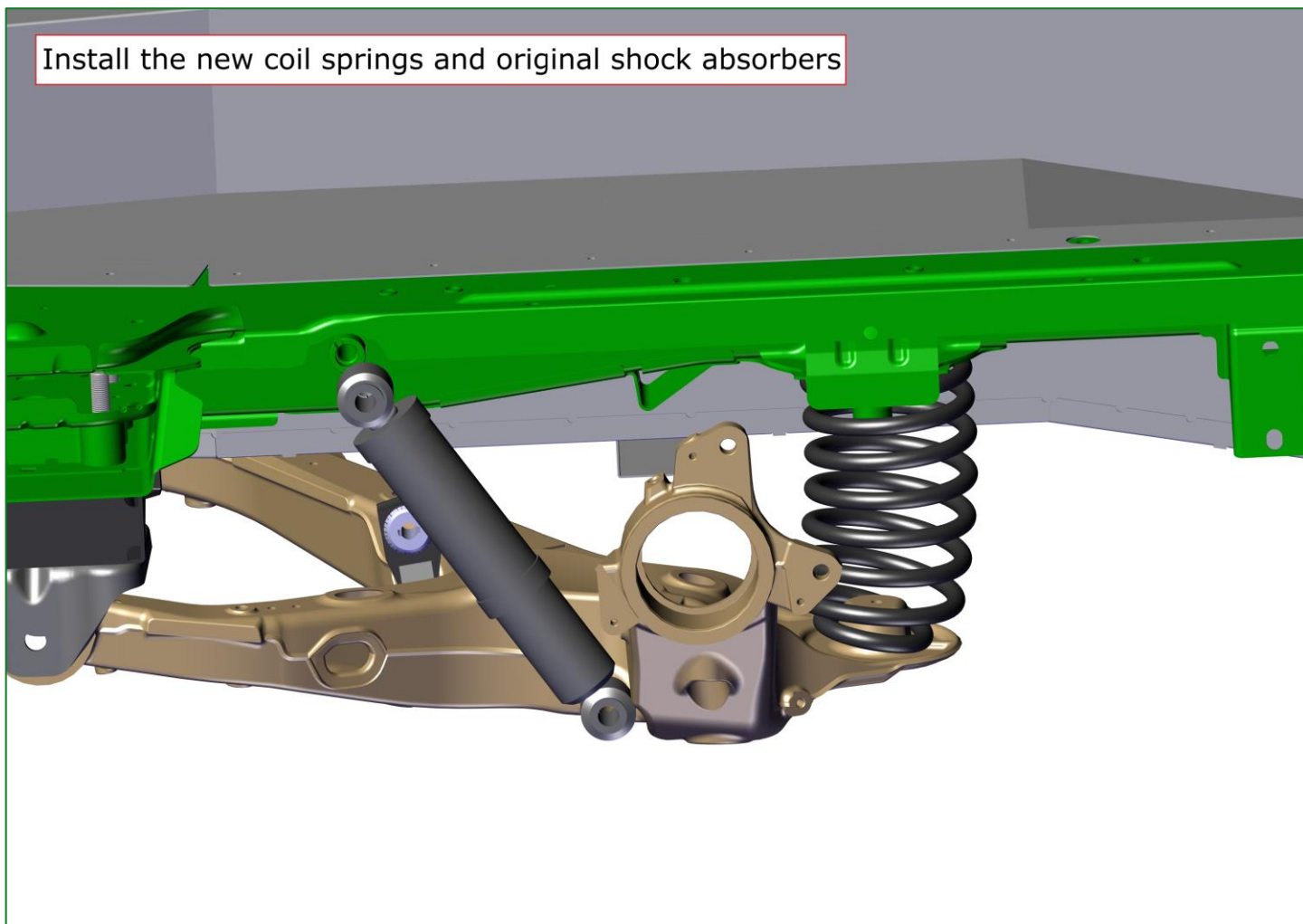




Install the new coil springs and original shock absorbers



Install the new coil springs and original shock absorbers



## 010 Hand/brake lines and ABS wires

Fix the brake line clamps (shown in red) at these positions

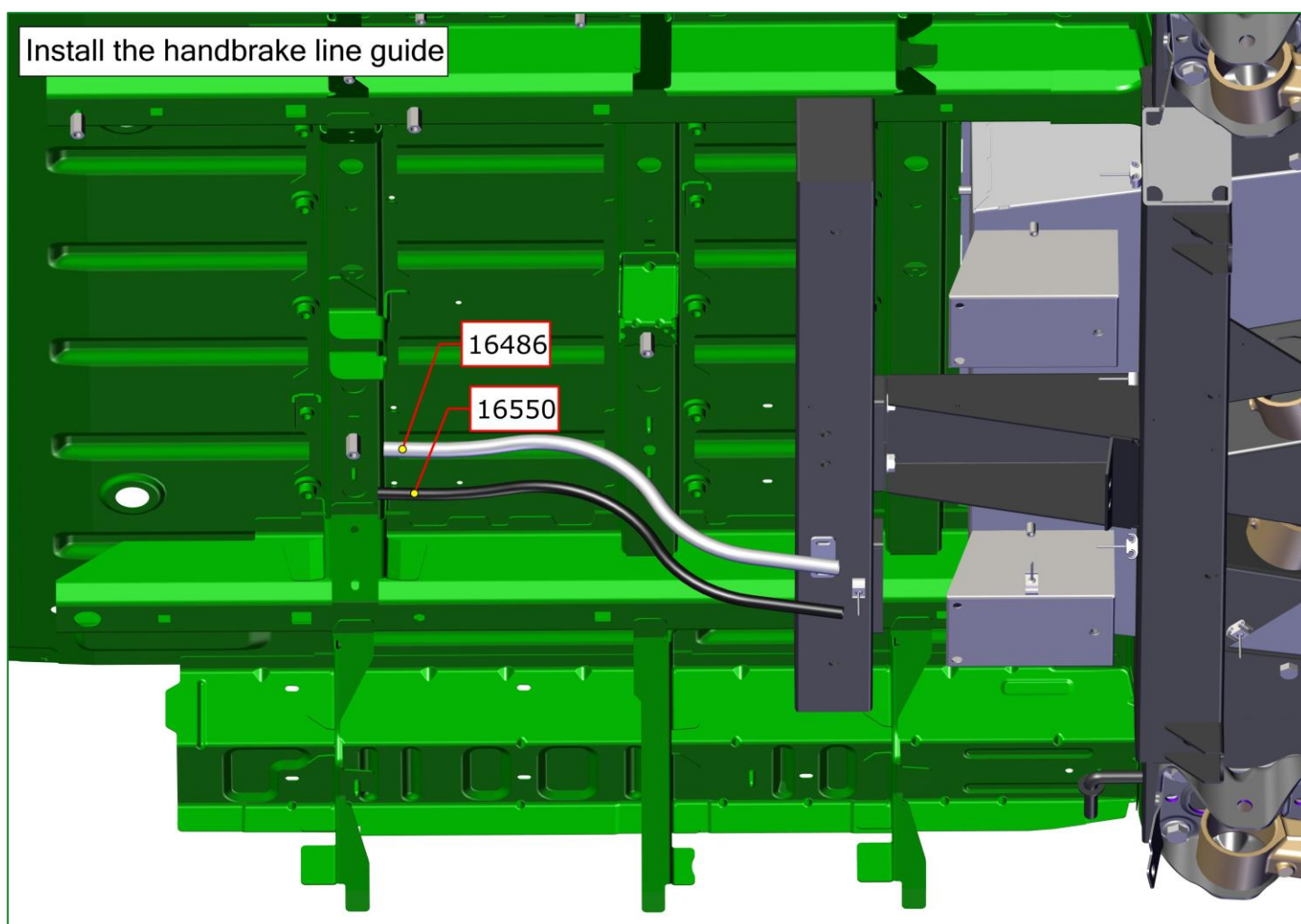
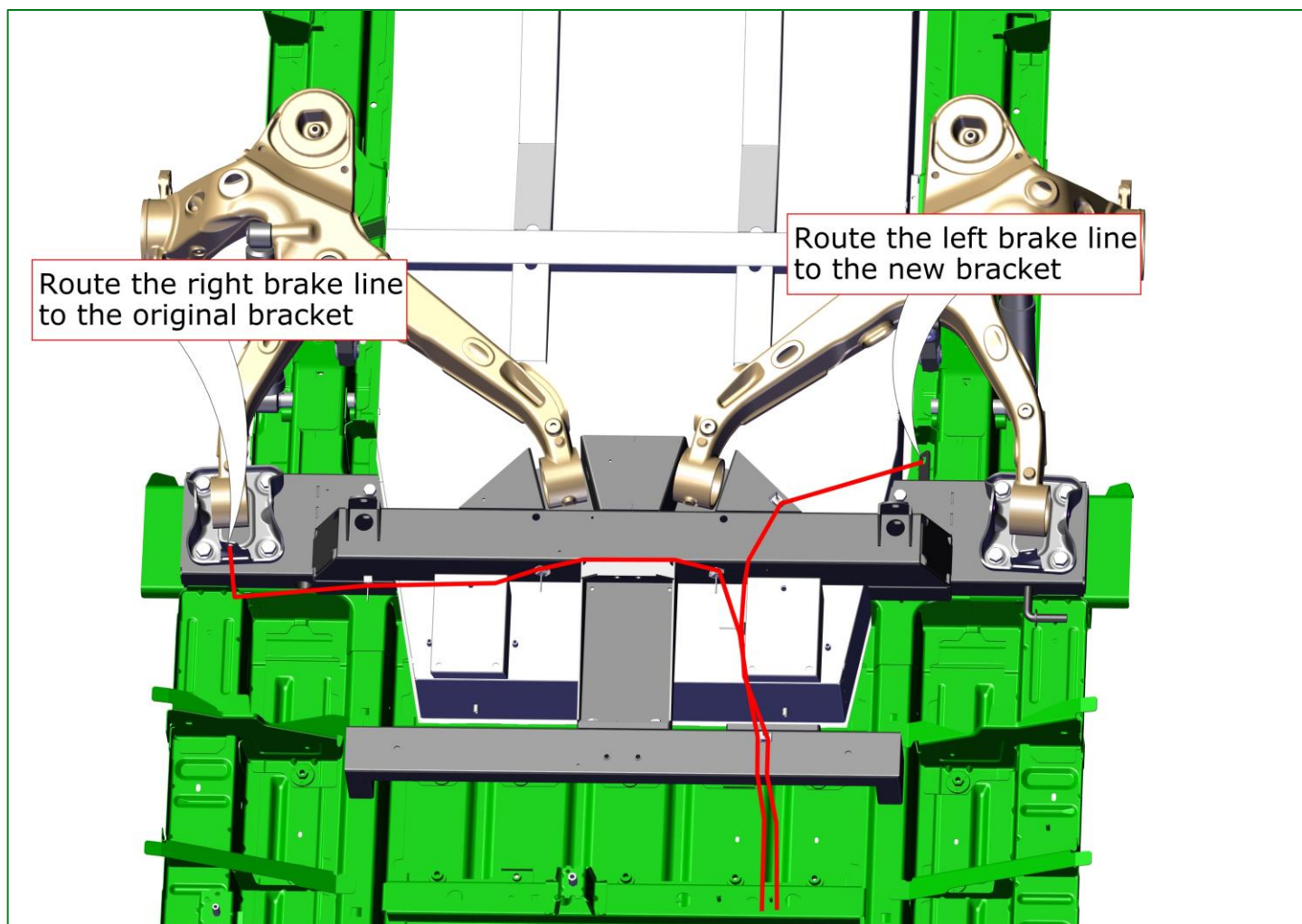
From component bag #5 16564

NO.	QTY.	PART	Description
1	6	4932	Brake line clamp
2	6	7214	Rivet 4x25 al/st

Route the right brake line to the original bracket

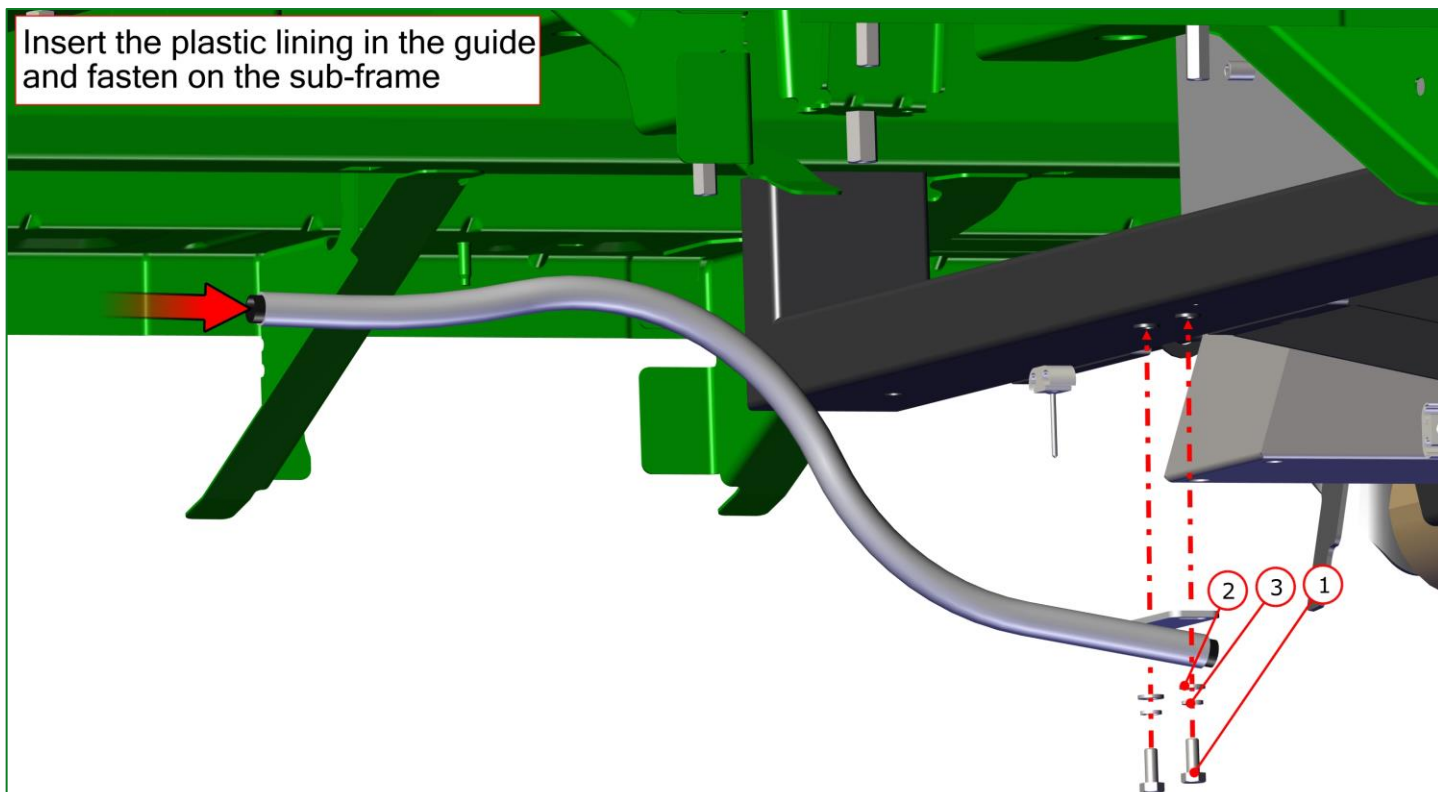
Route the left brake line to the new bracket







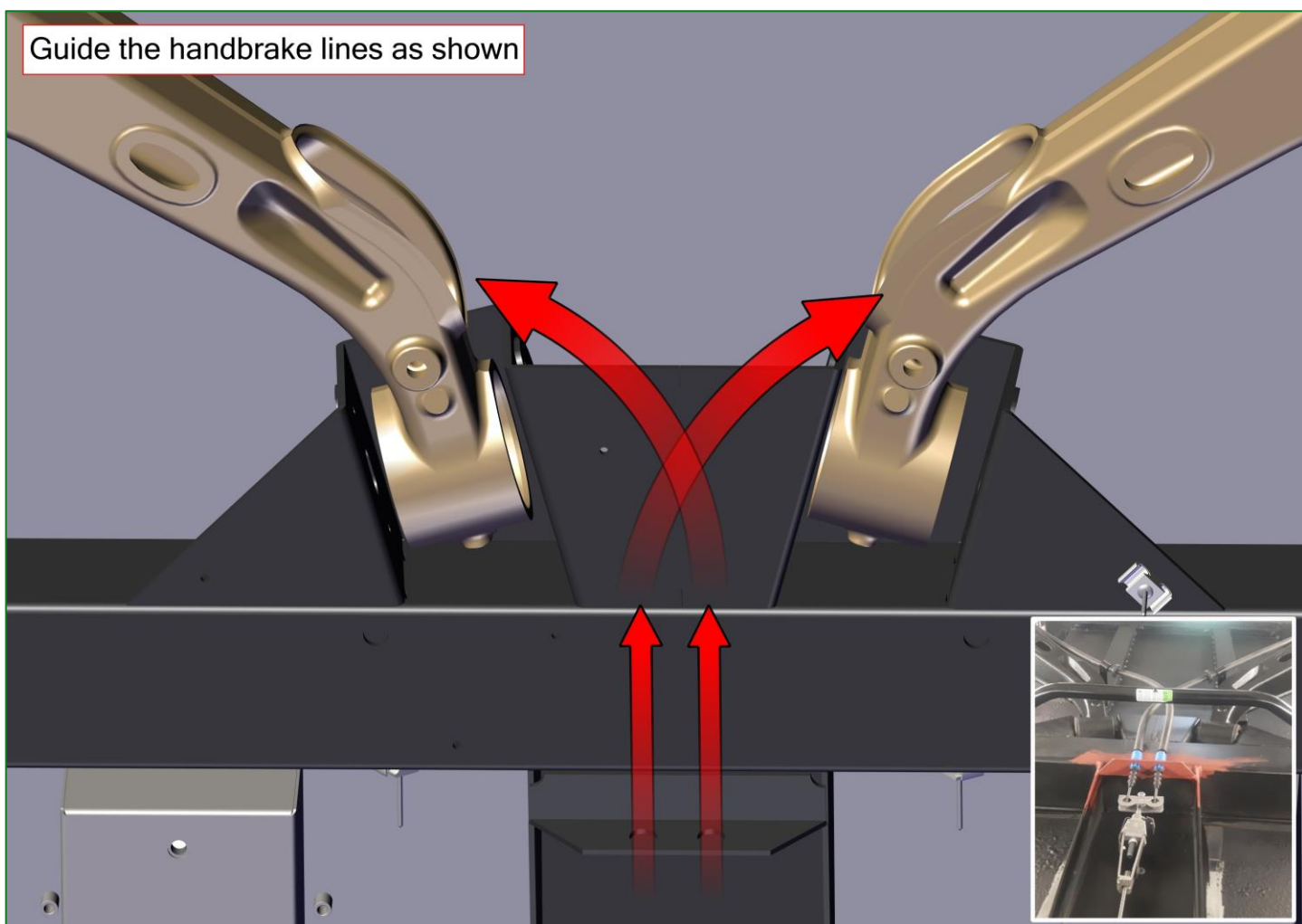
Insert the plastic lining in the guide and fasten on the sub-frame

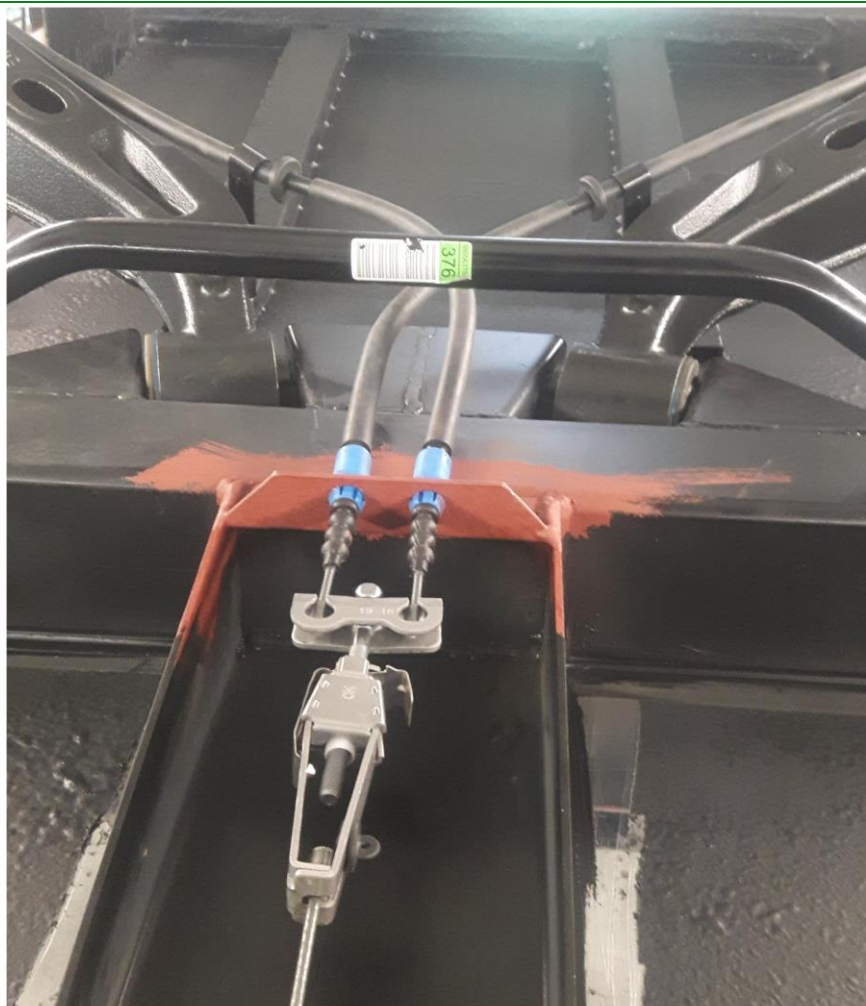


From component bag #5 16564

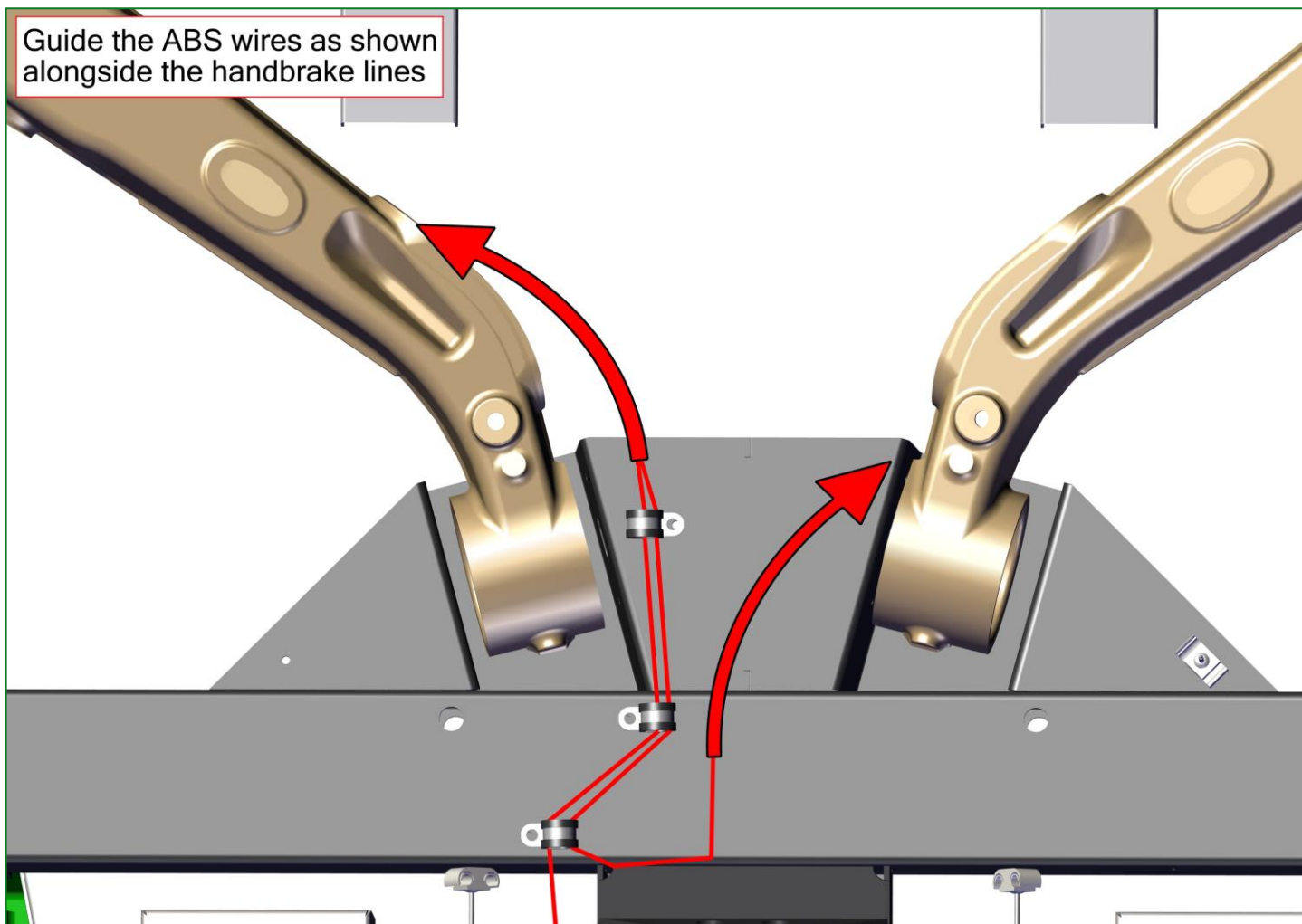
NO.	QTY.	PART	Description
1	2	223	Hex bolt M6x16 8.8
2	2	216	Washer M6
3	2	231	Spring lock washers M6

Guide the handbrake lines as shown

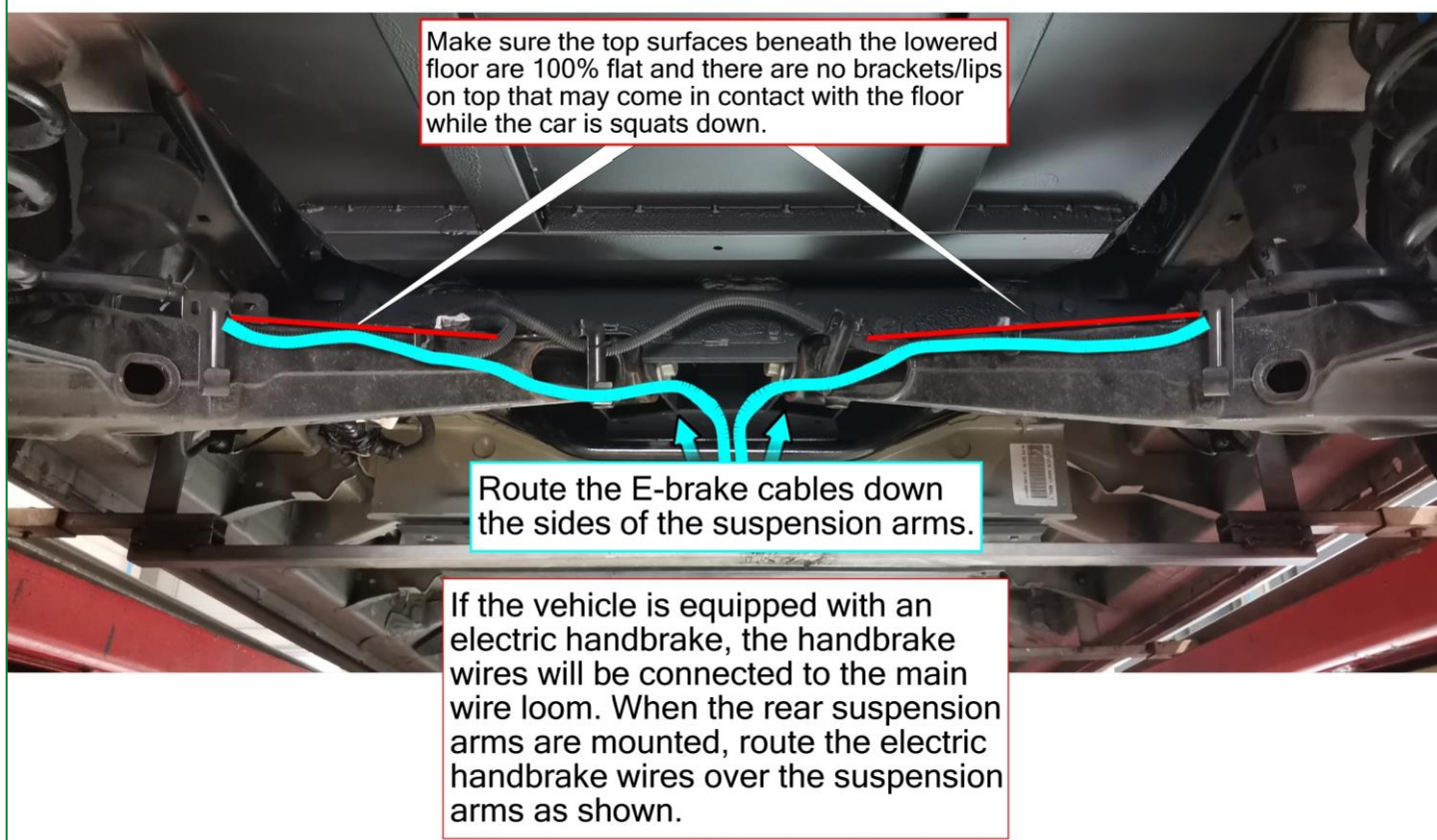
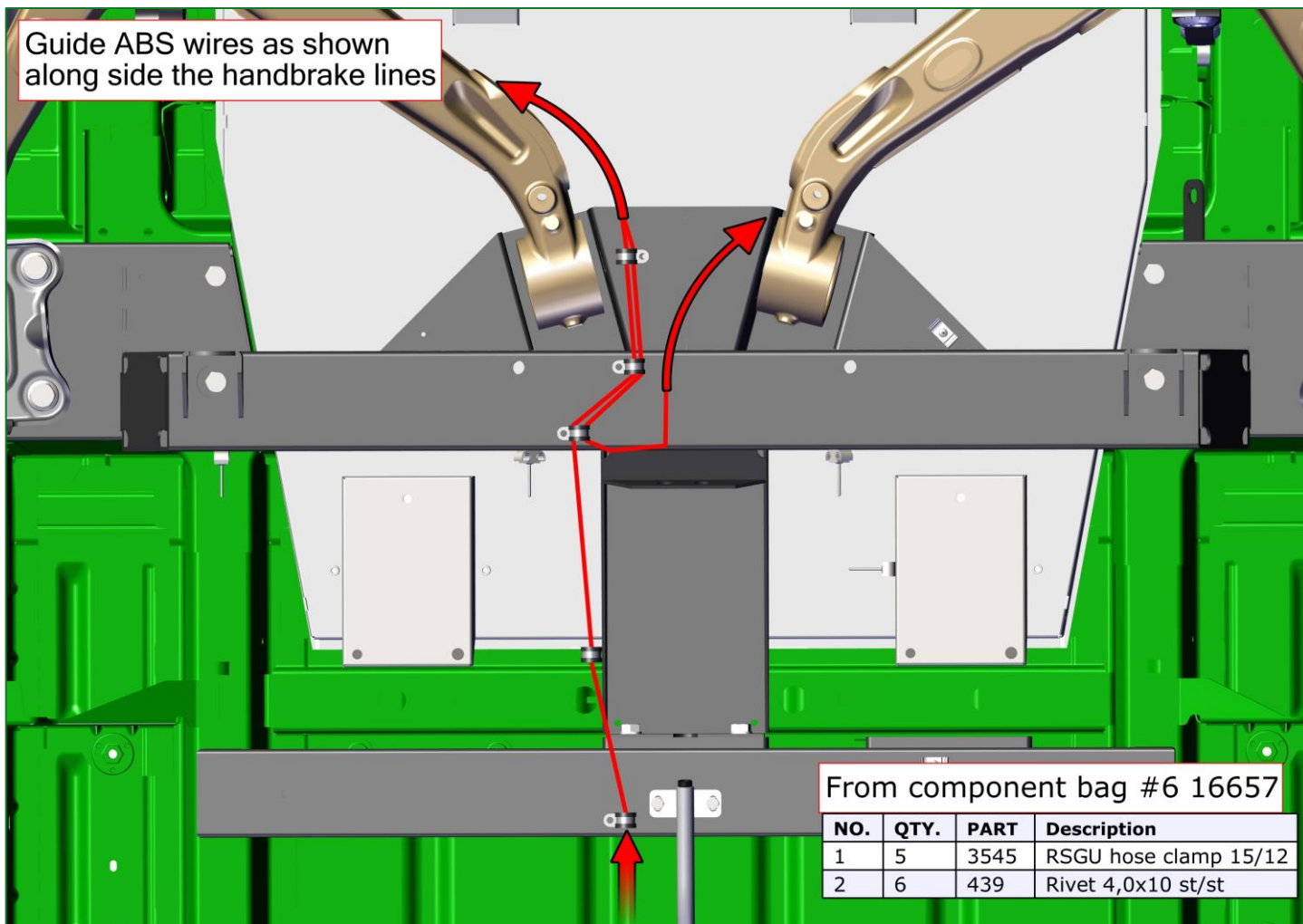




Guide the ABS wires as shown  
alongside the handbrake lines

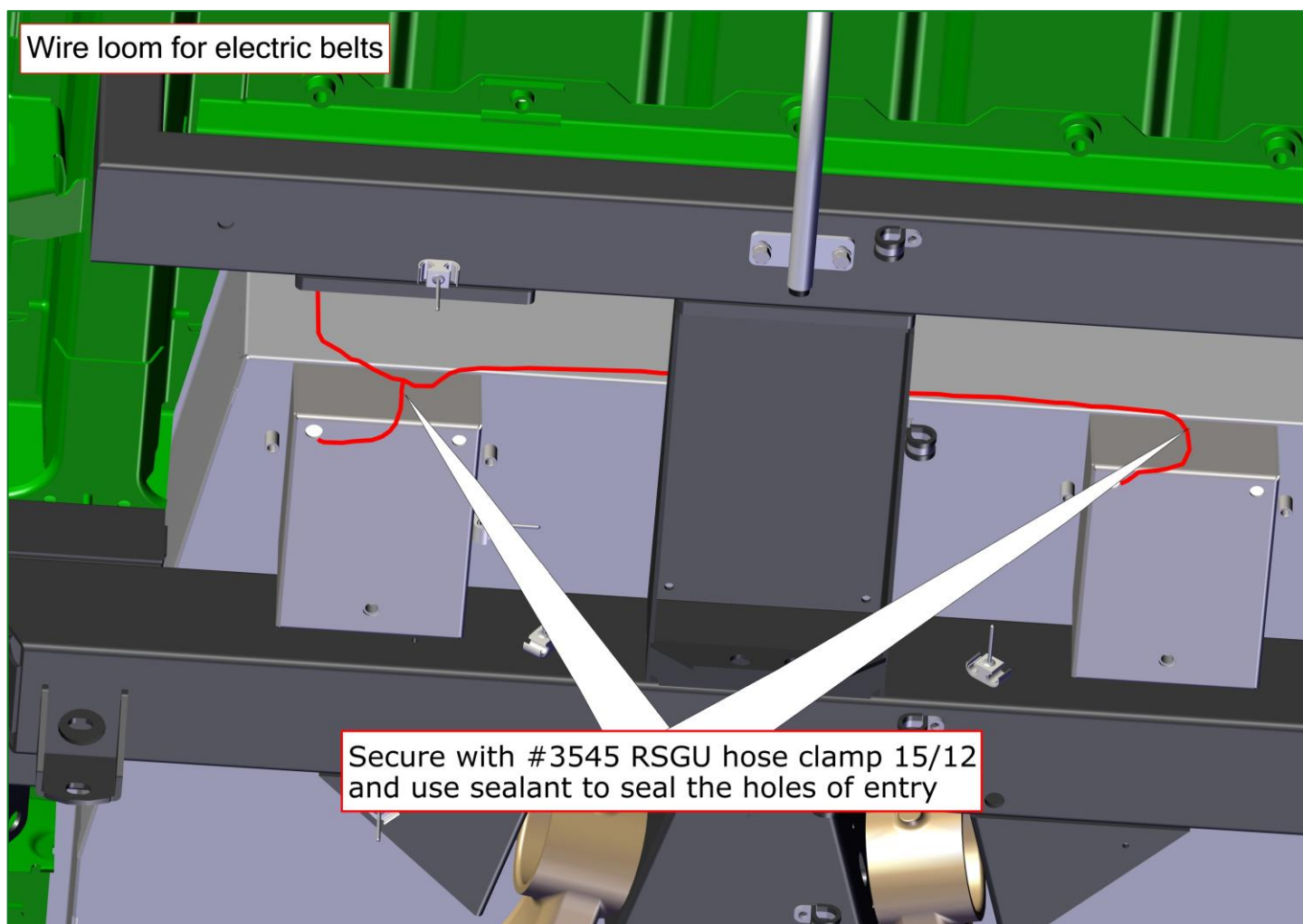
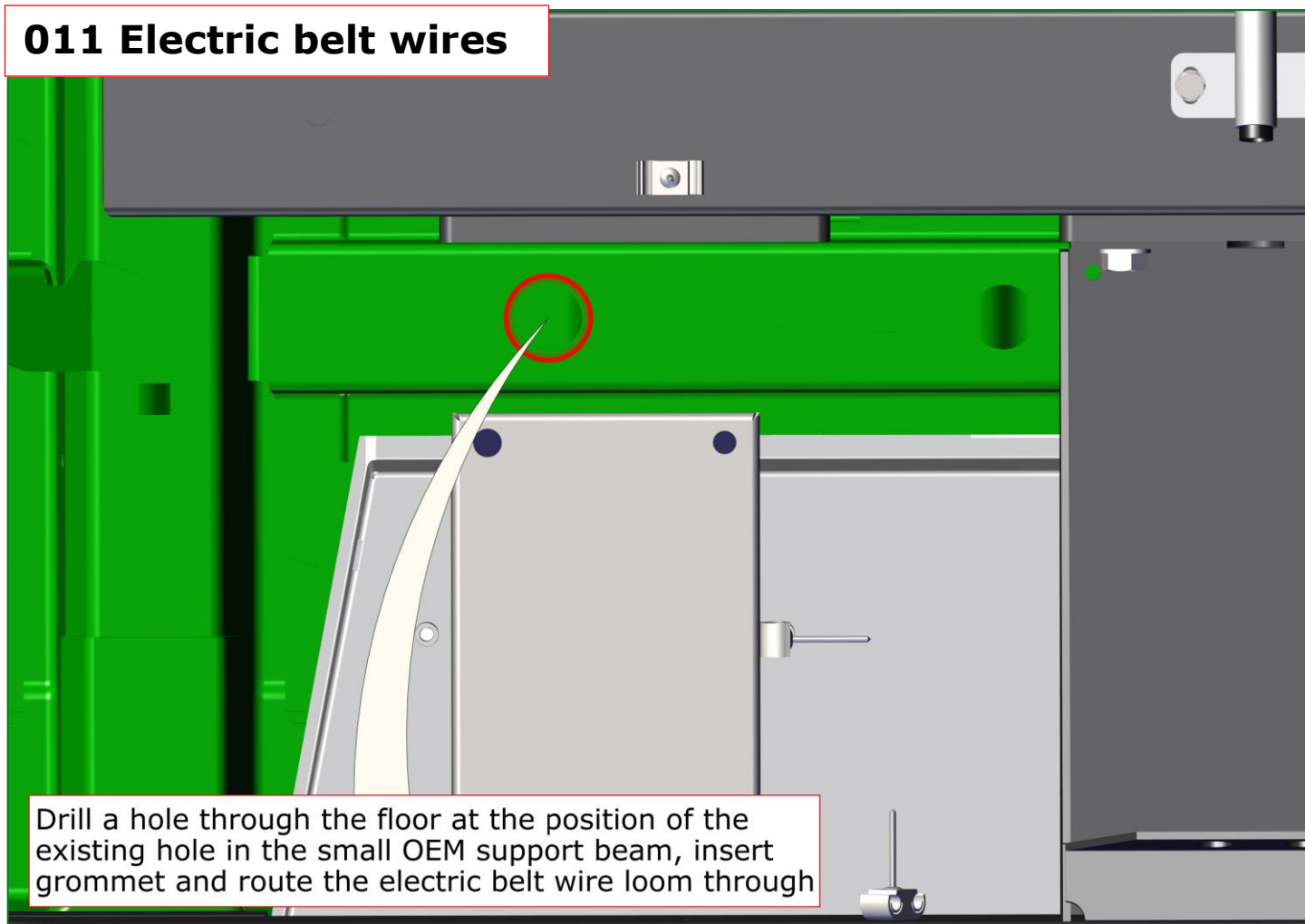




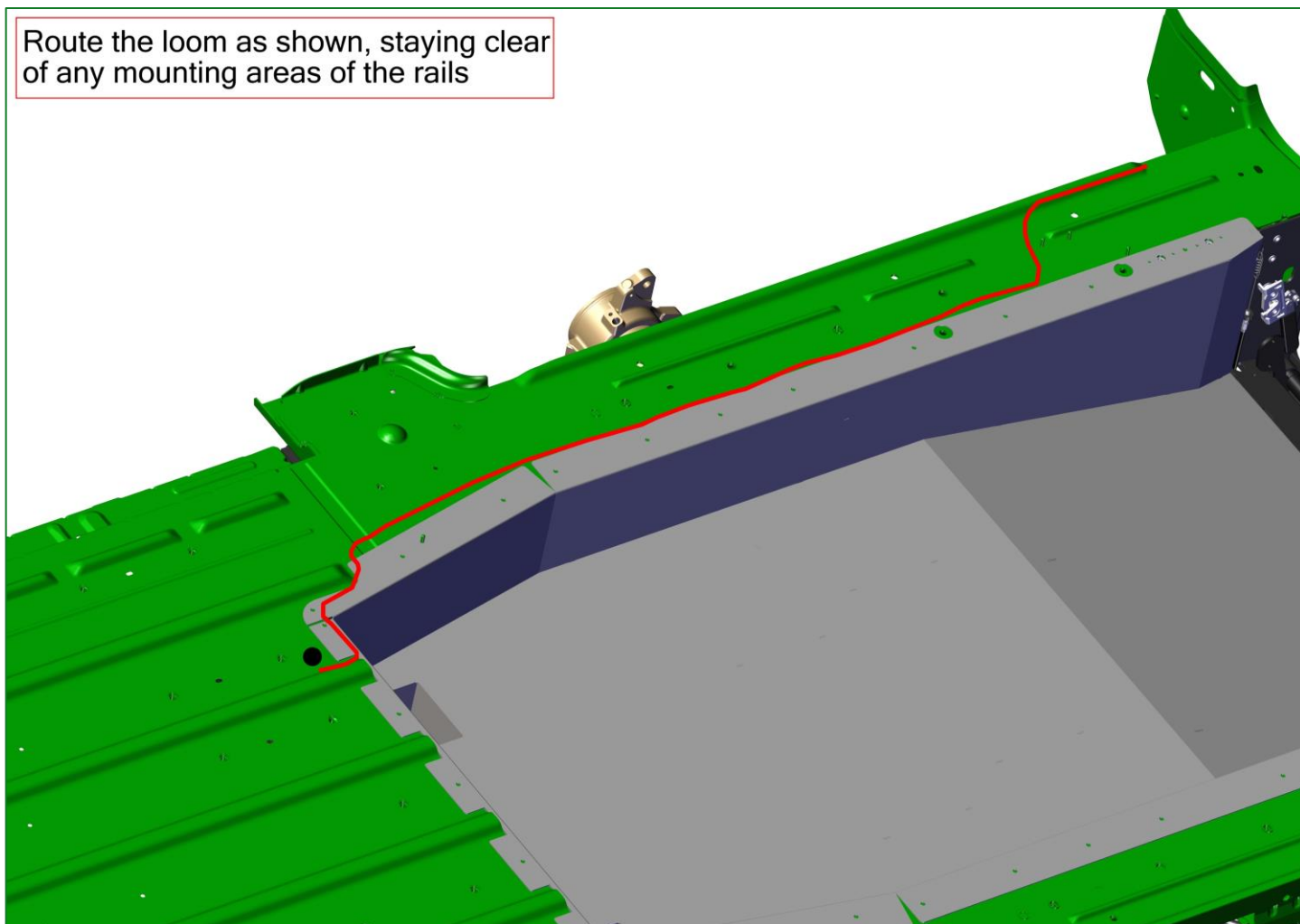




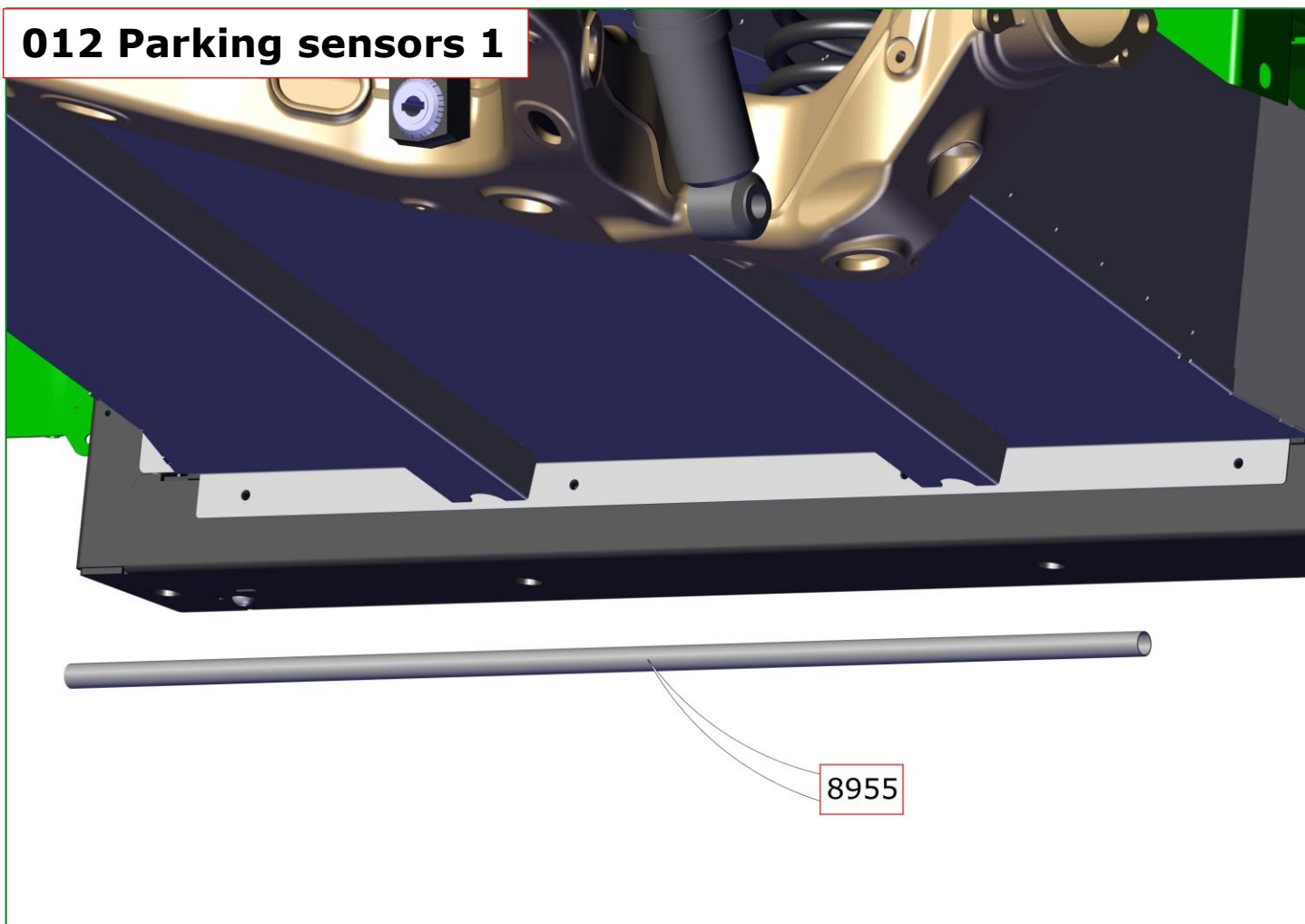
## 011 Electric belt wires



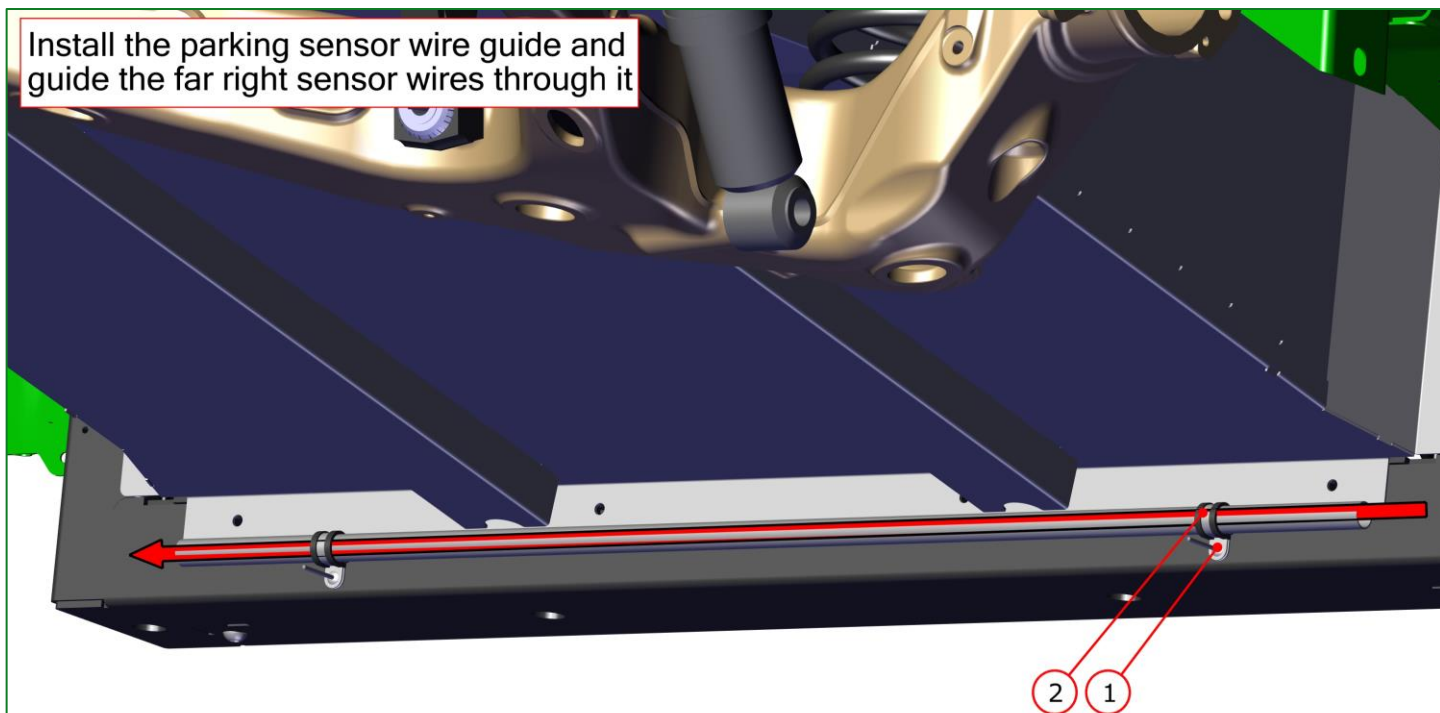
Route the loom as shown, staying clear of any mounting areas of the rails



## 012 Parking sensors 1



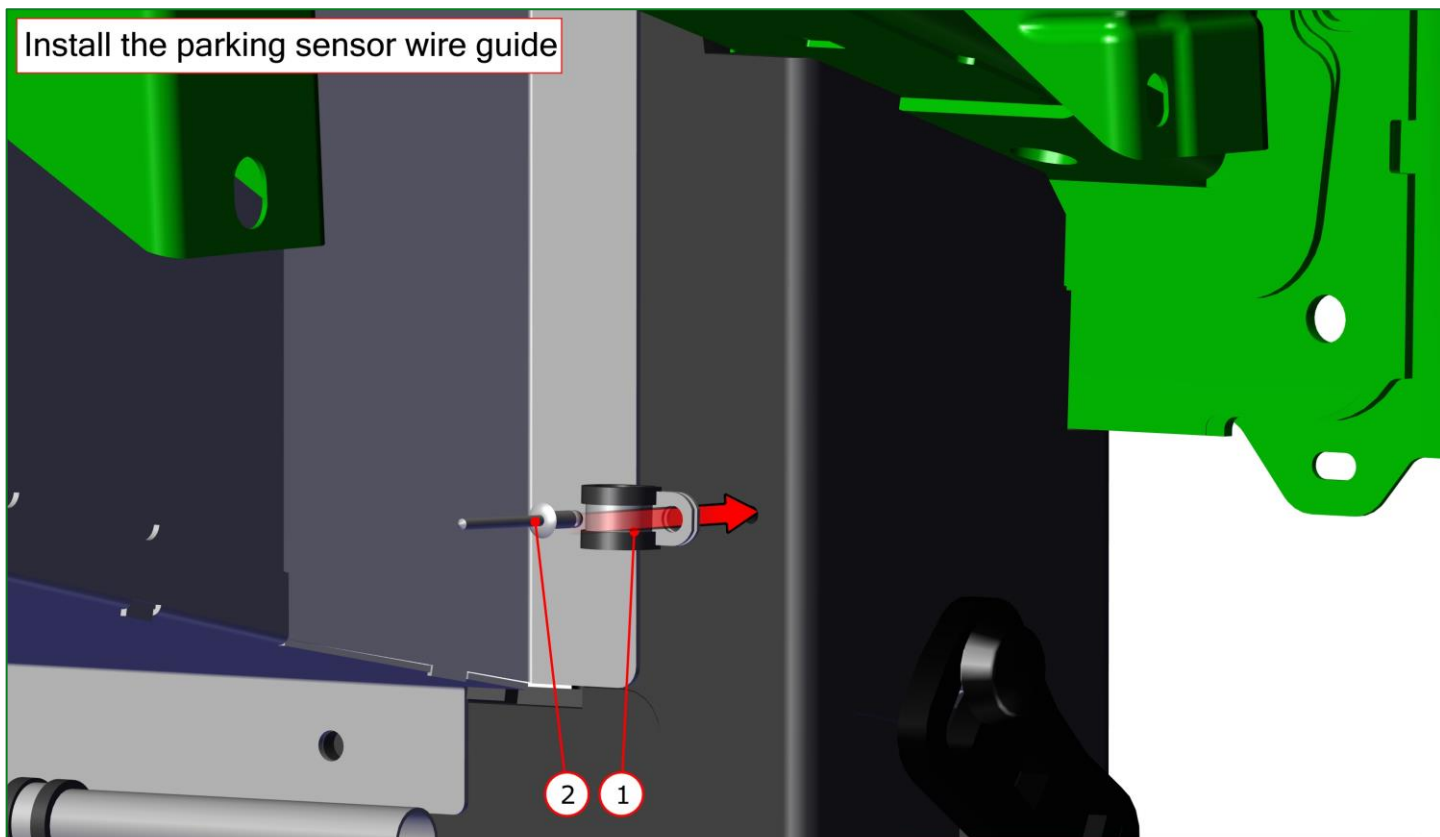
Install the parking sensor wire guide and guide the far right sensor wires through it



From component bag #7 16175

NO.	QTY.	PART	Description
1	2	439	Rivet 4,0x10 st/st
2	2	810	RSGU hose clamp18/12

Install the parking sensor wire guide

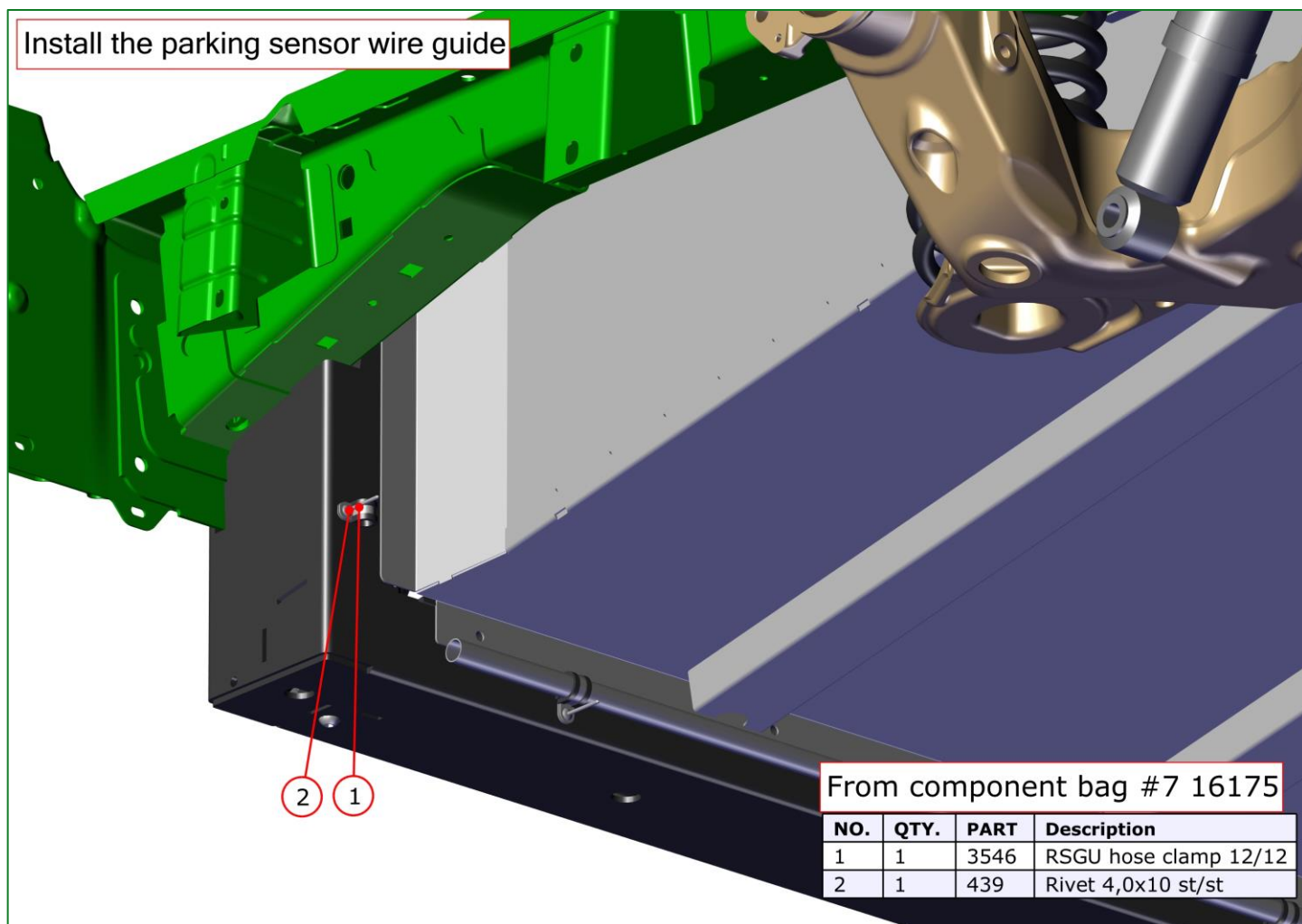


From component bag #7 16175

NO.	QTY.	PART	Description
1	1	3546	RSGU hose clamp 12/12
2	1	439	Rivet 4,0x10 st/st

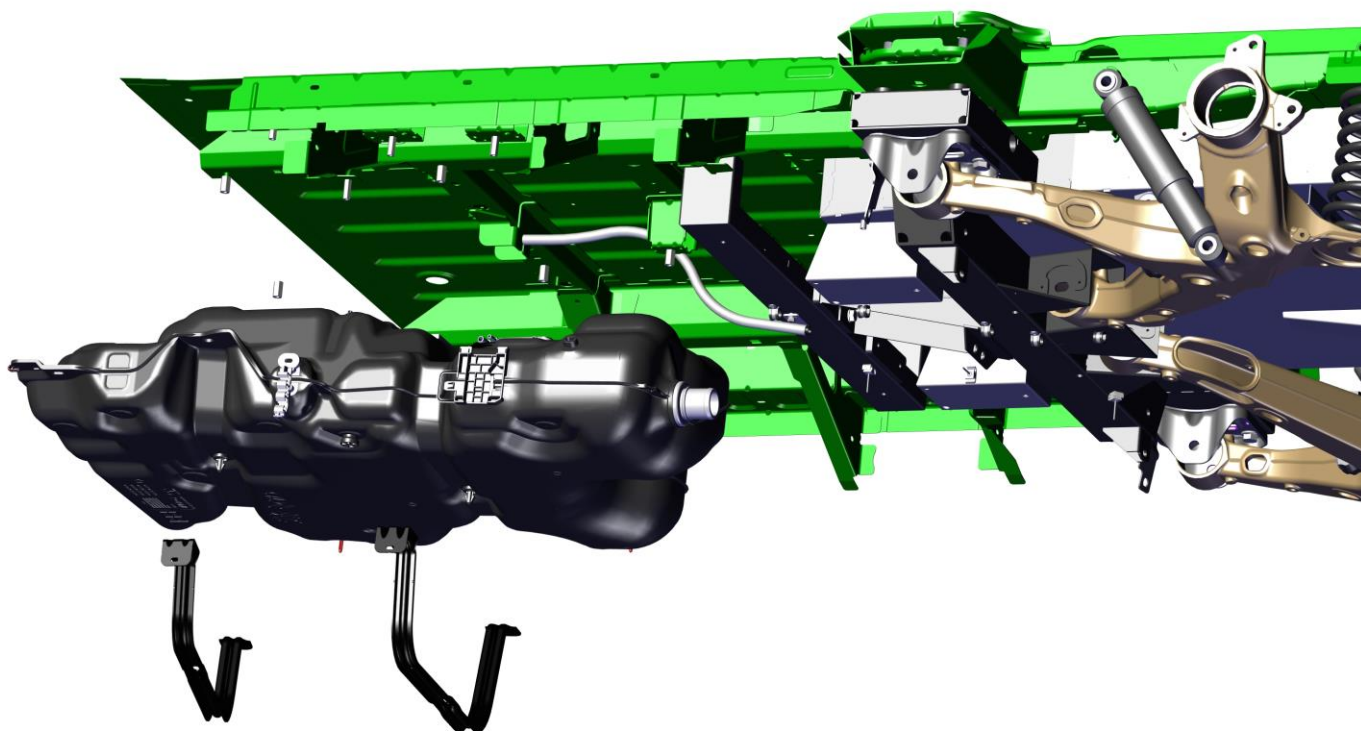


Install the parking sensor wire guide

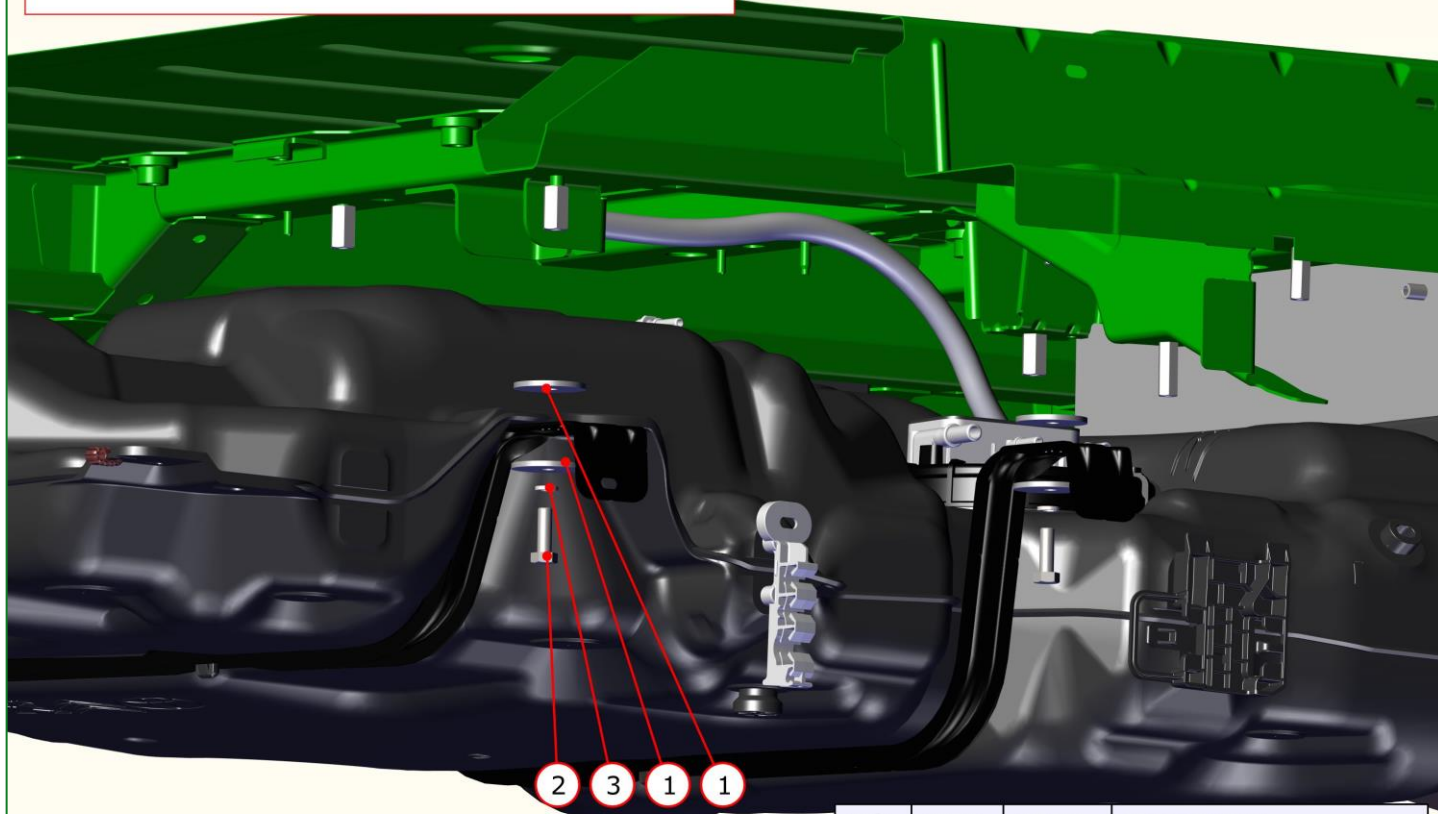


Reinstall the fuel tank and additive reservoir

## 013 Fuel system 2

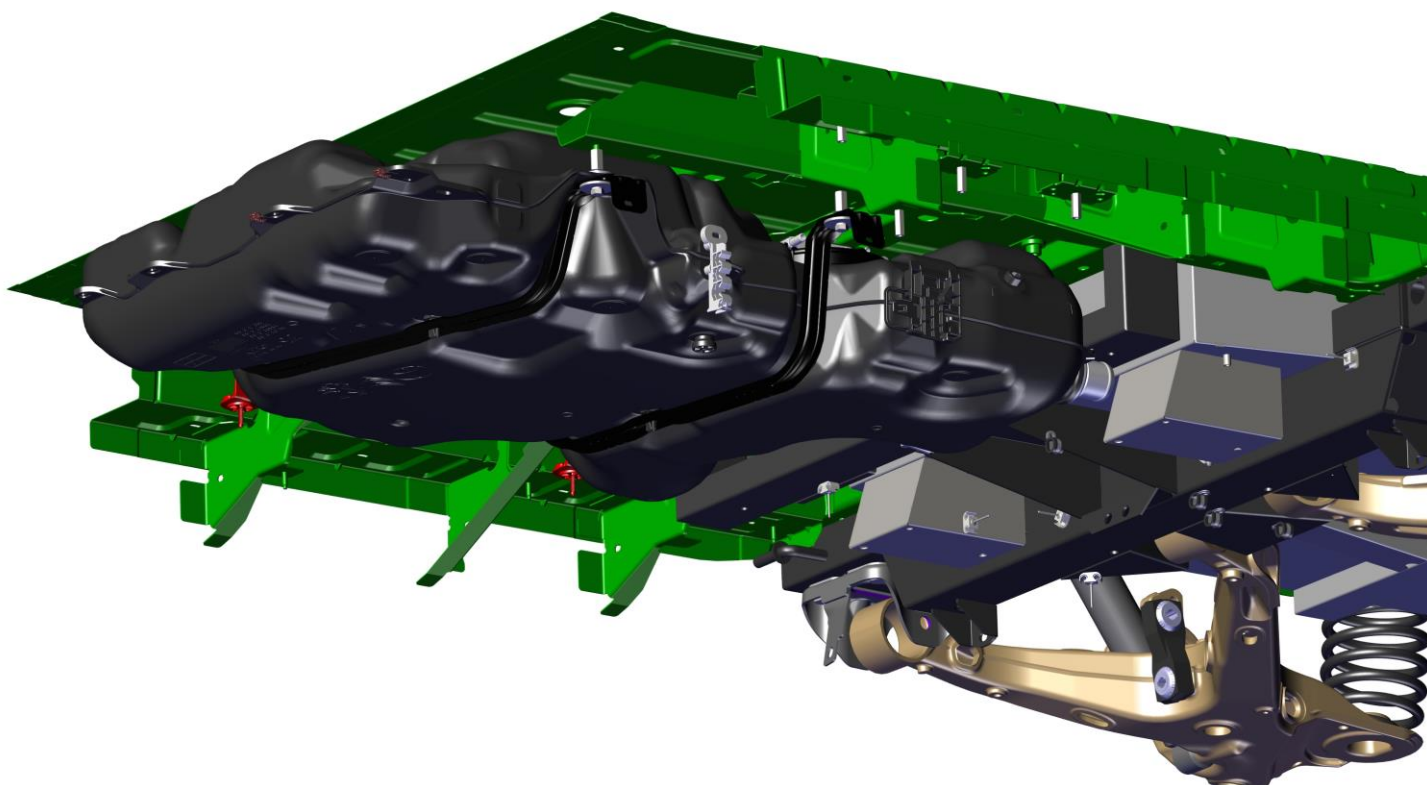


Reinstall the fuel tank and additive reservoir



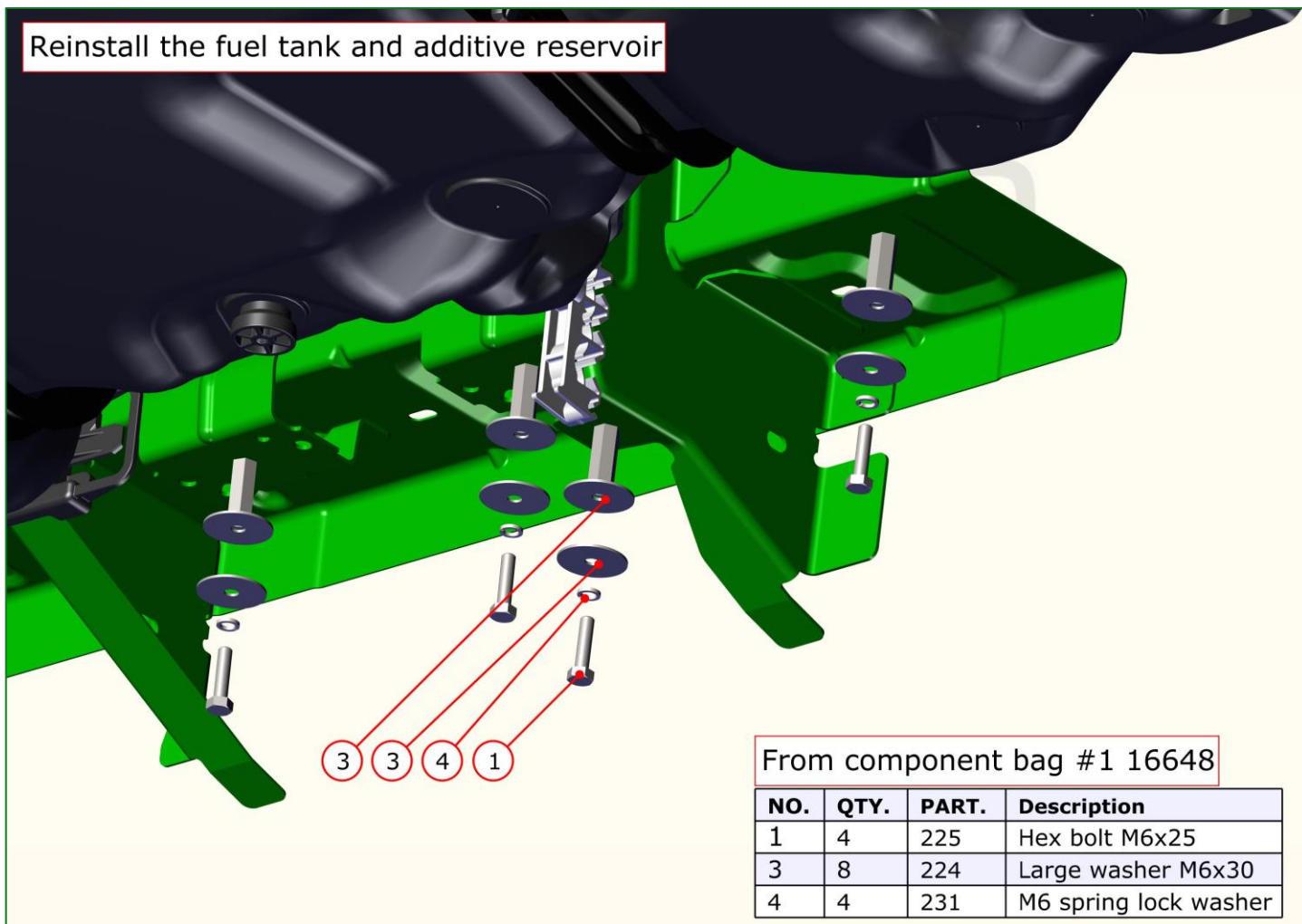
NO.	QTY.	PART.	Description
1	10	16353	Large washer M8x40x3
2	5	711	Hex bolt M8 x25
3	5	142	M8 spring lock washer

Reinstall the fuel tank and additive reservoir

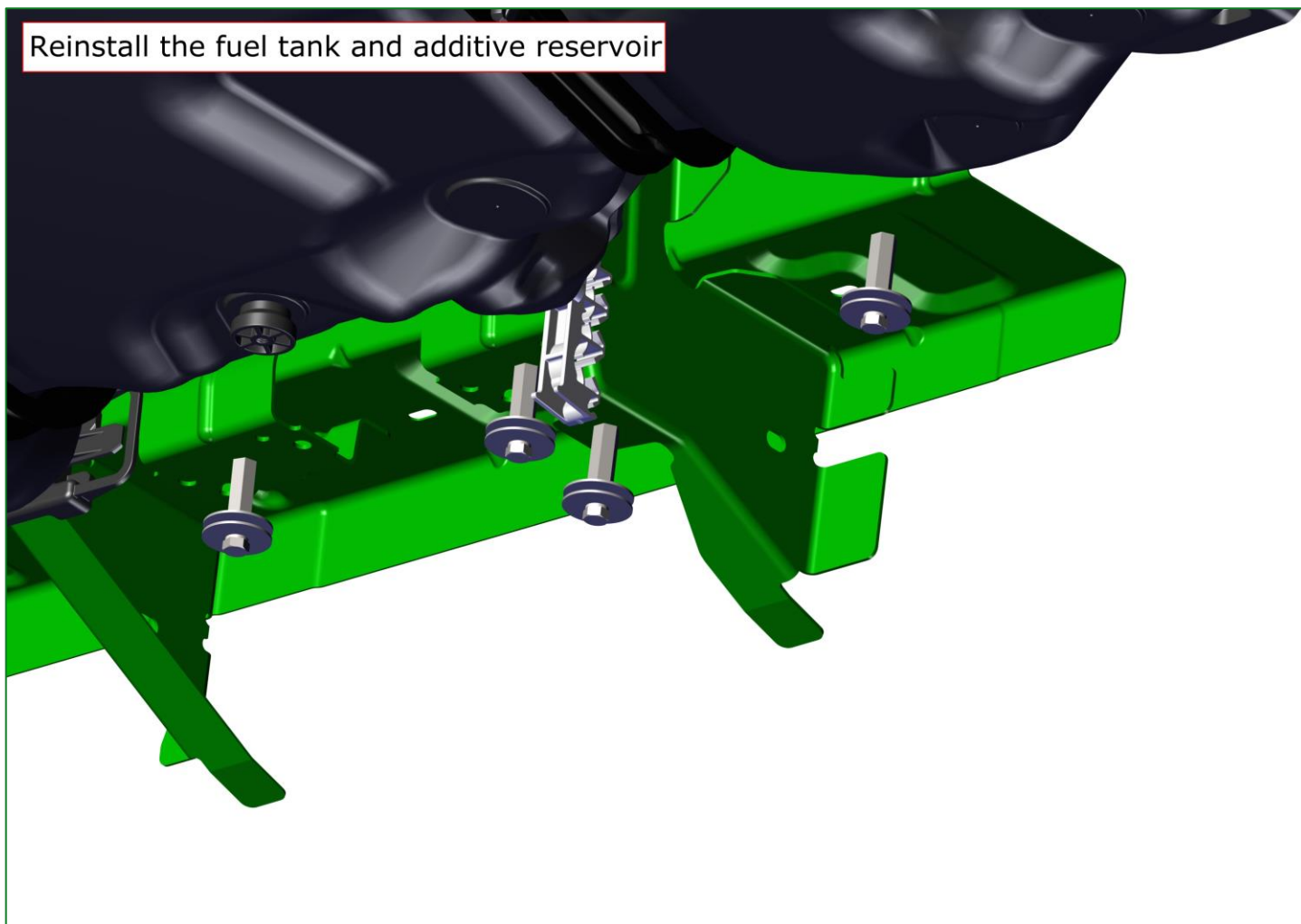




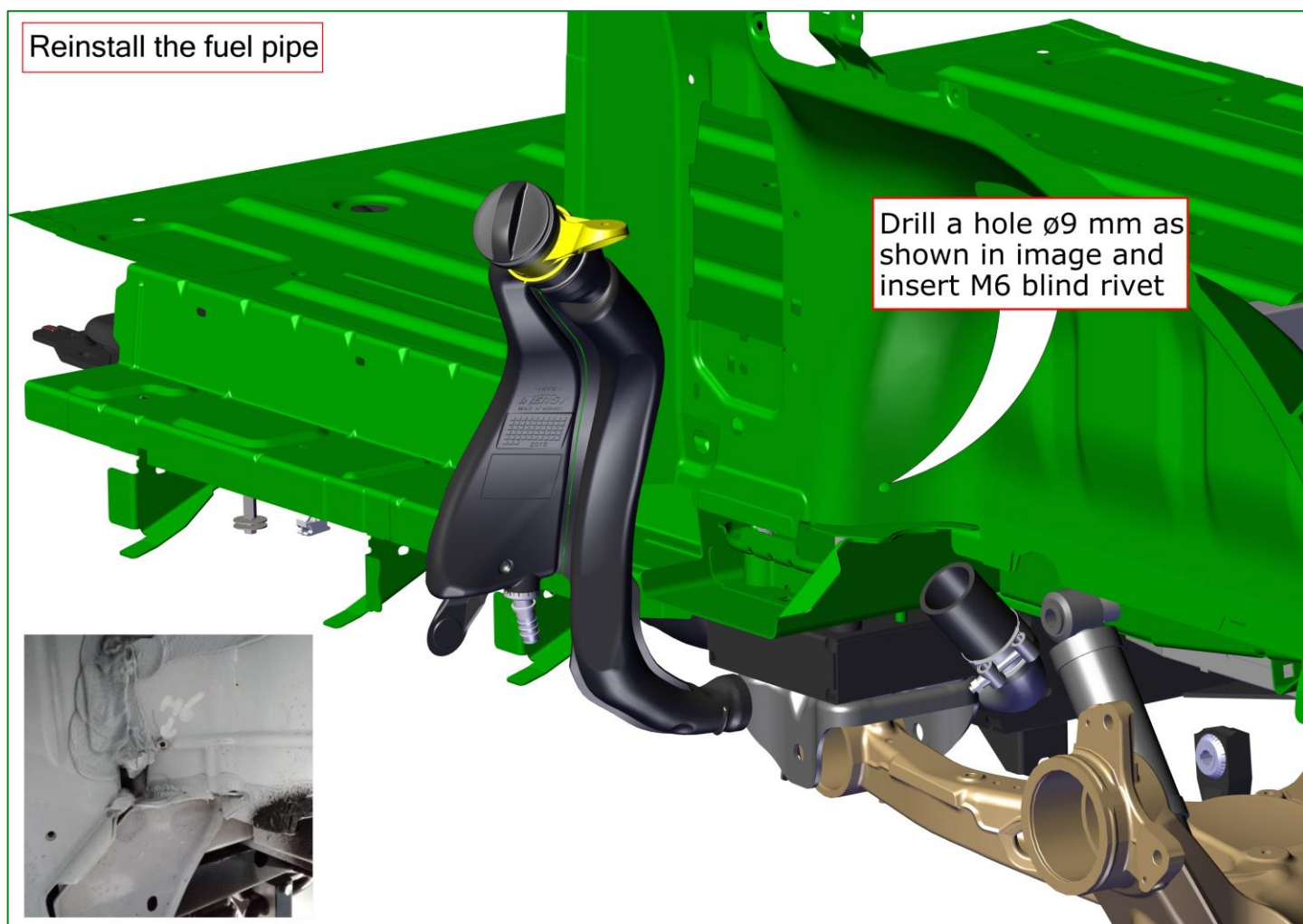
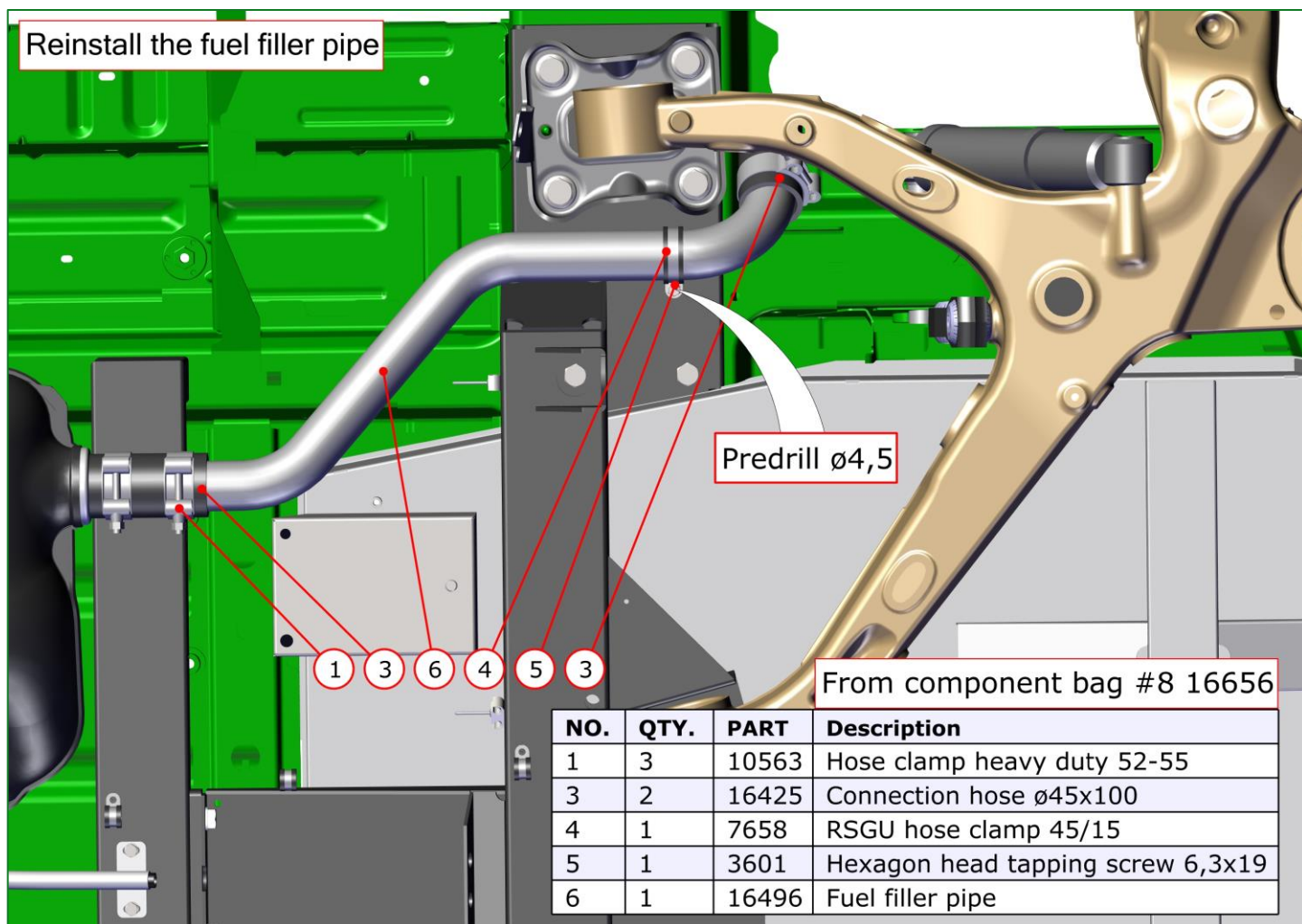
Reinstall the fuel tank and additive reservoir

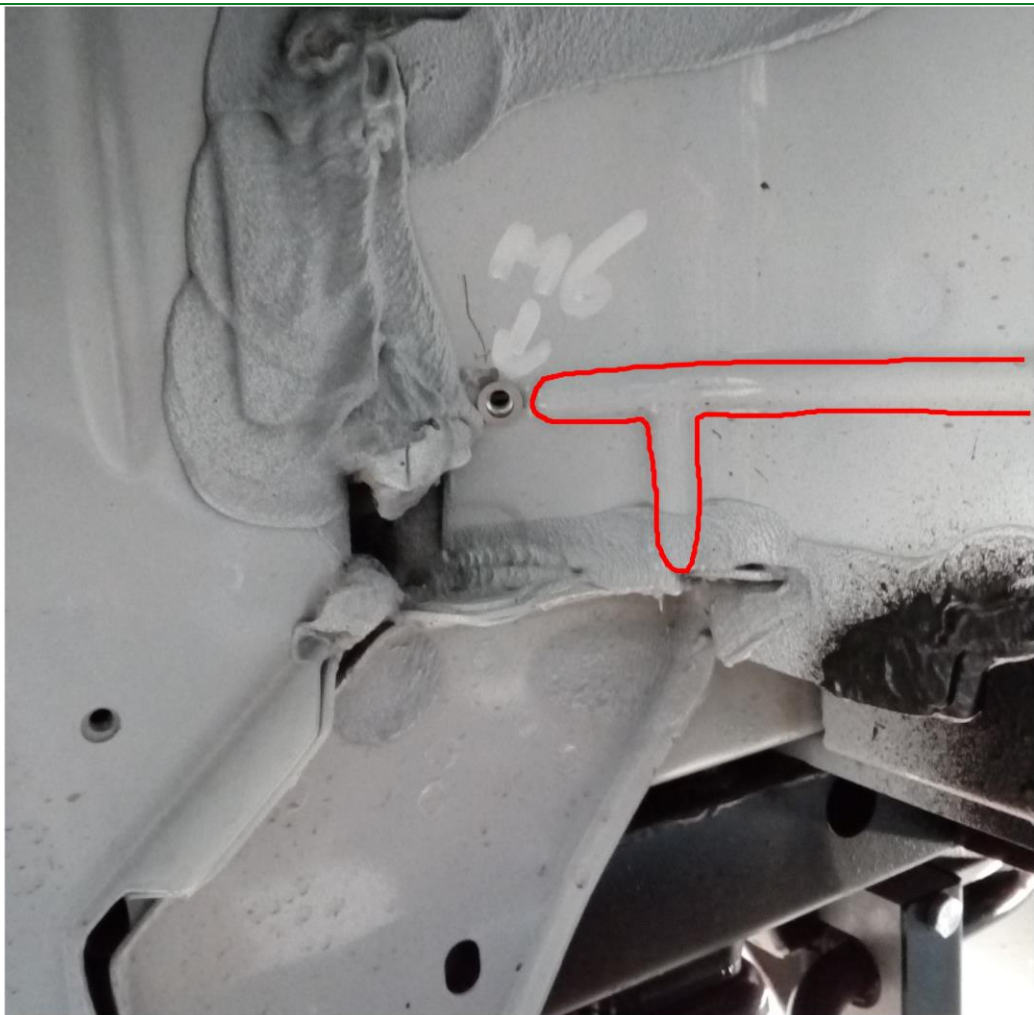


Reinstall the fuel tank and additive reservoir

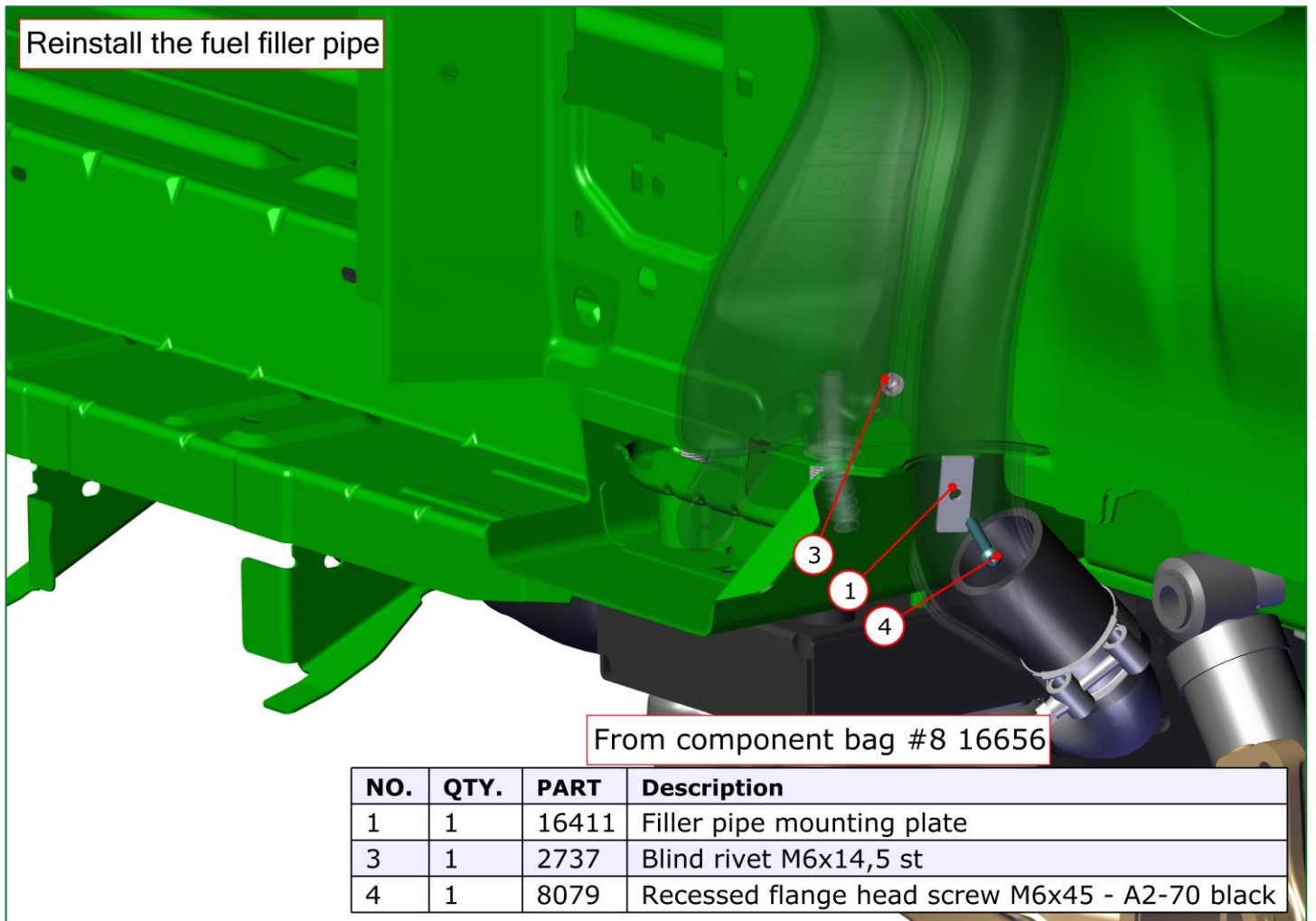








Reinstall the fuel filler pipe

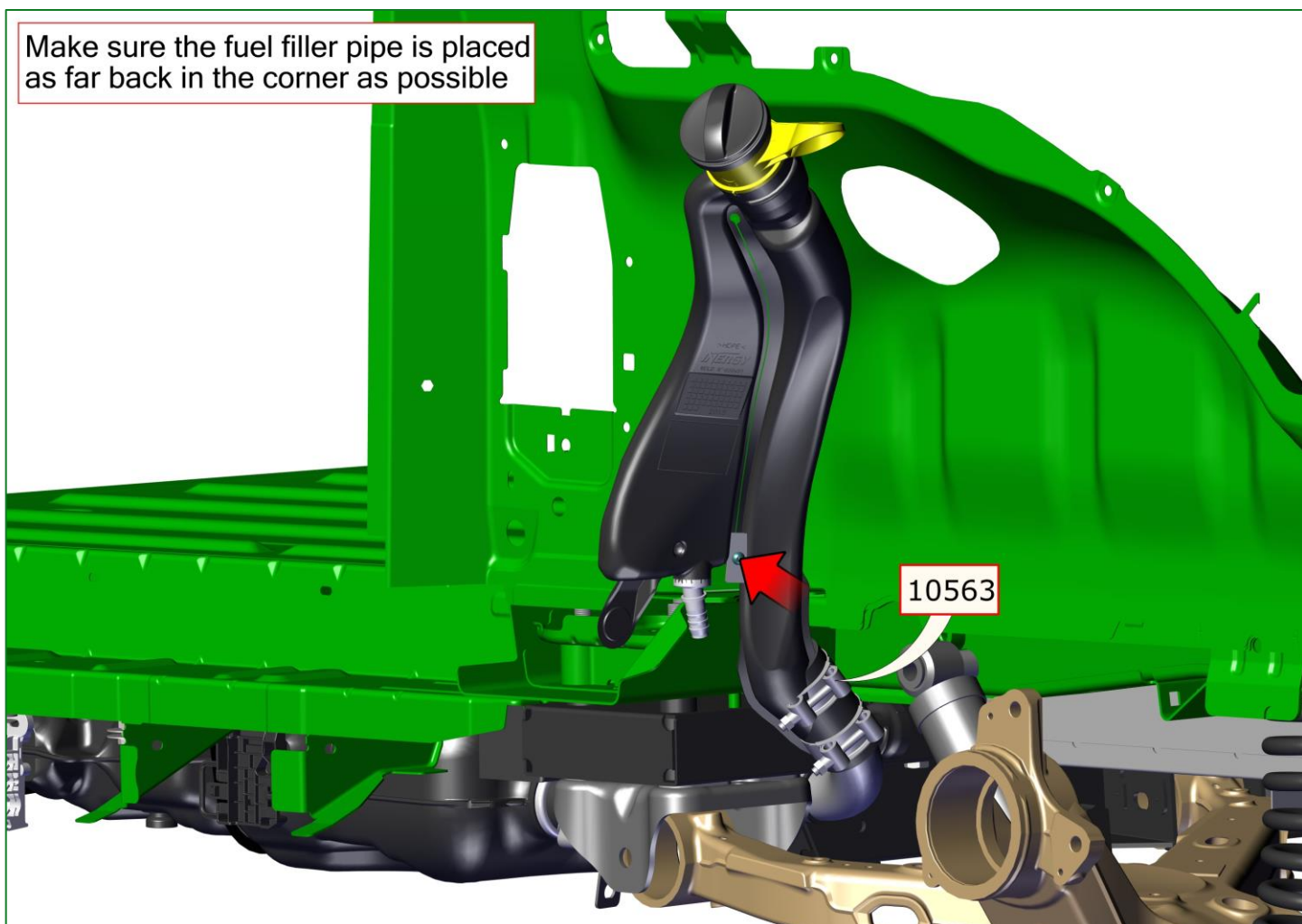


From component bag #8 16656

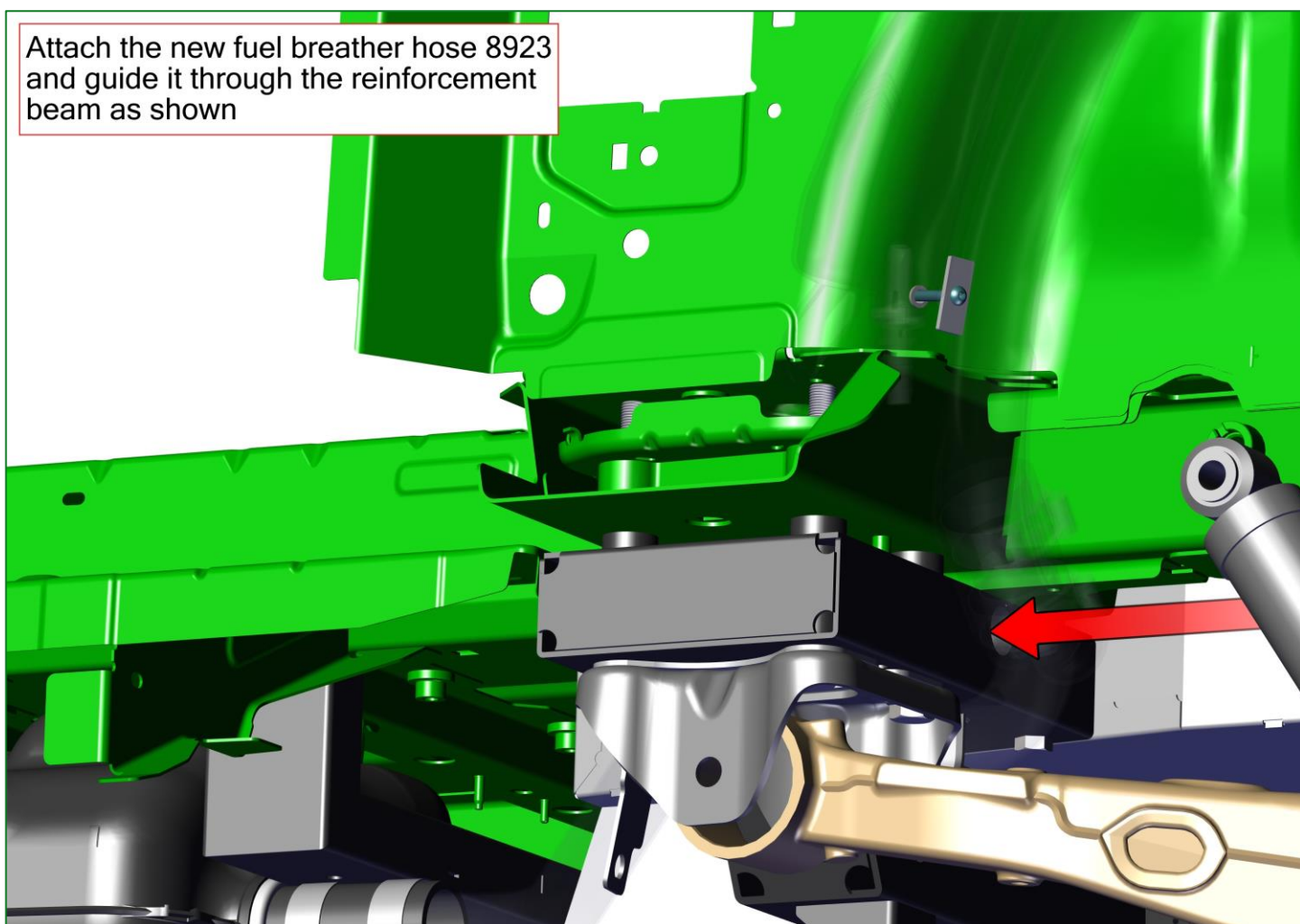
NO.	QTY.	PART	Description
1	1	16411	Filler pipe mounting plate
3	1	2737	Blind rivet M6x14,5 st
4	1	8079	Recessed flange head screw M6x45 - A2-70 black



Make sure the fuel filler pipe is placed as far back in the corner as possible

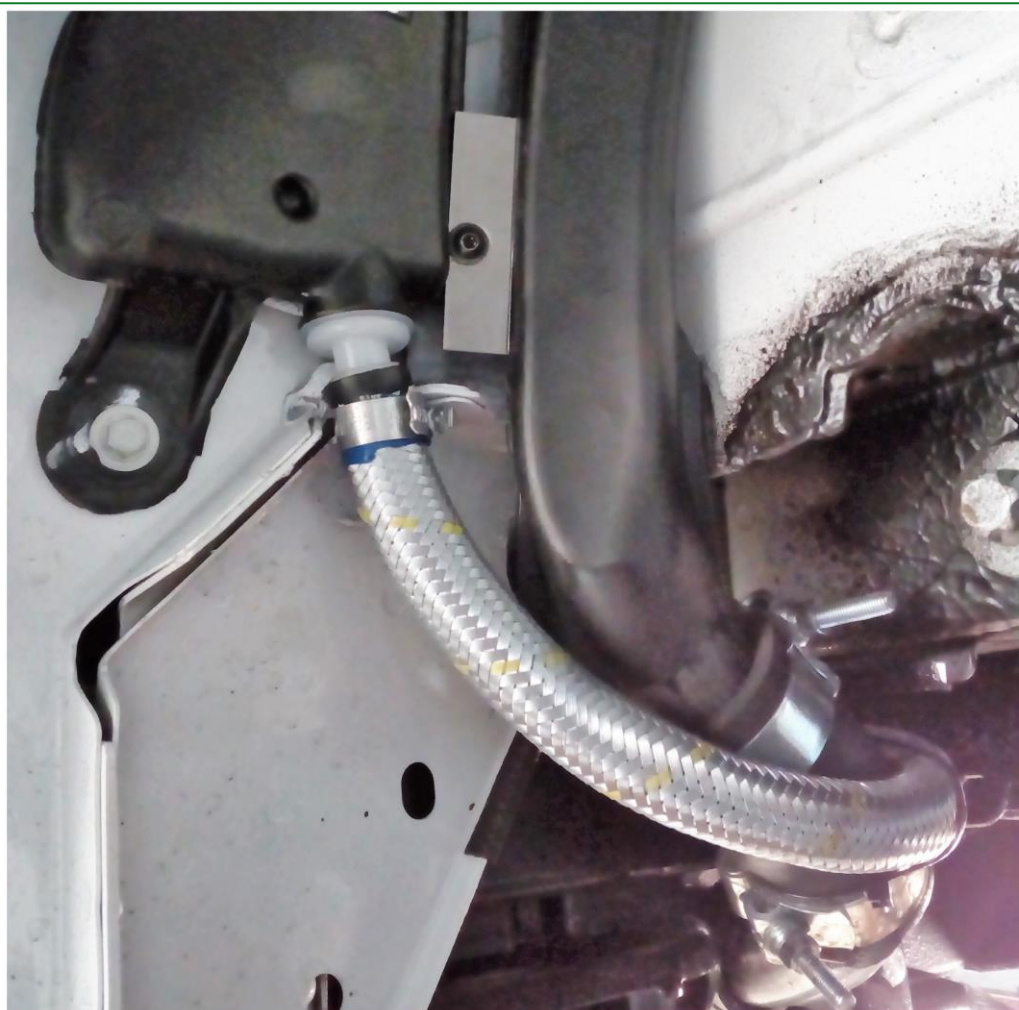
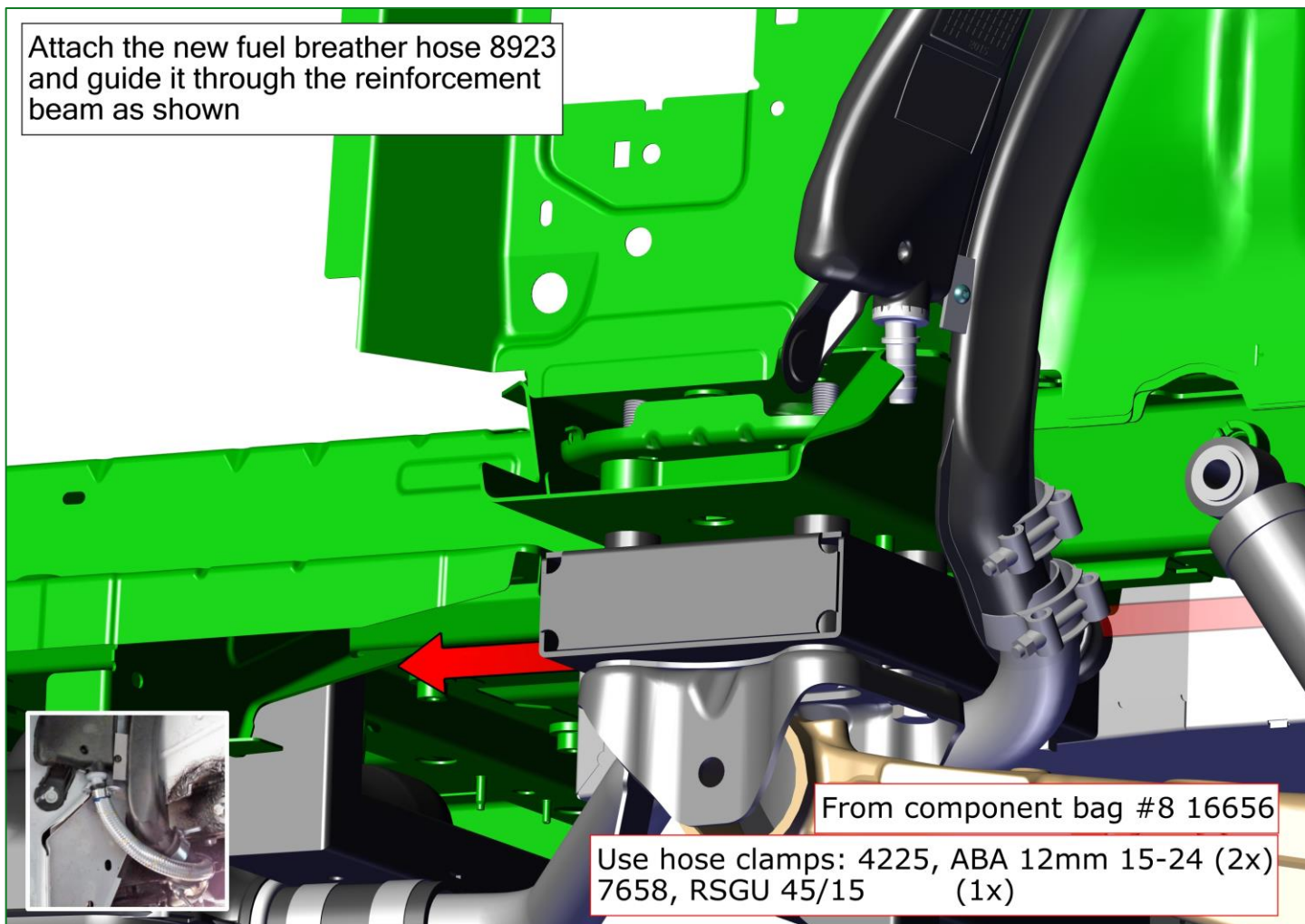


Attach the new fuel breather hose 8923 and guide it through the reinforcement beam as shown

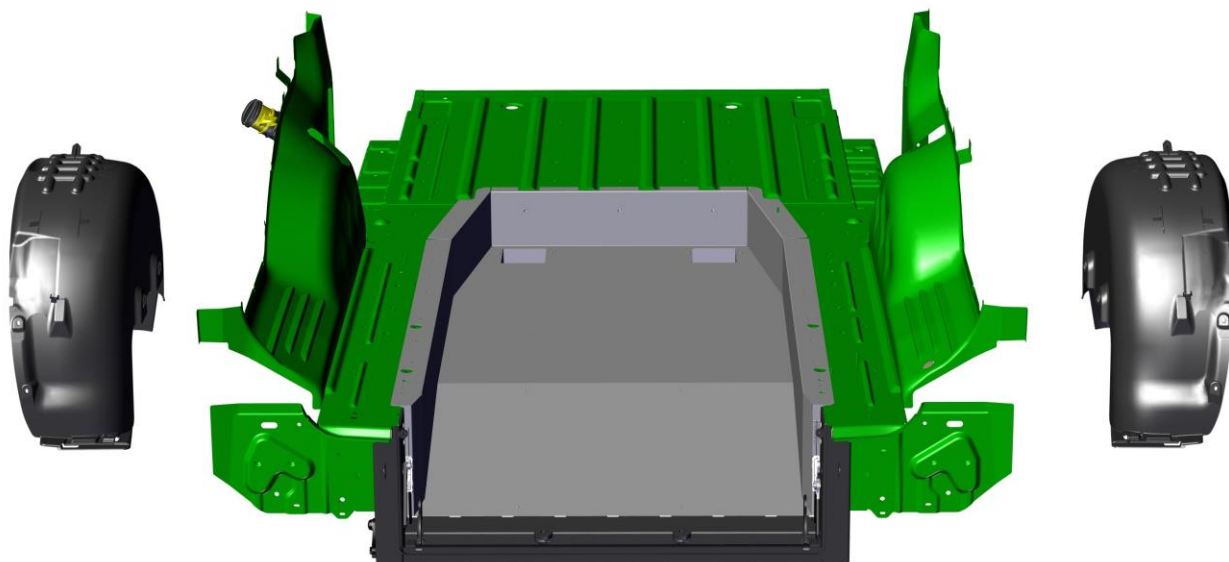




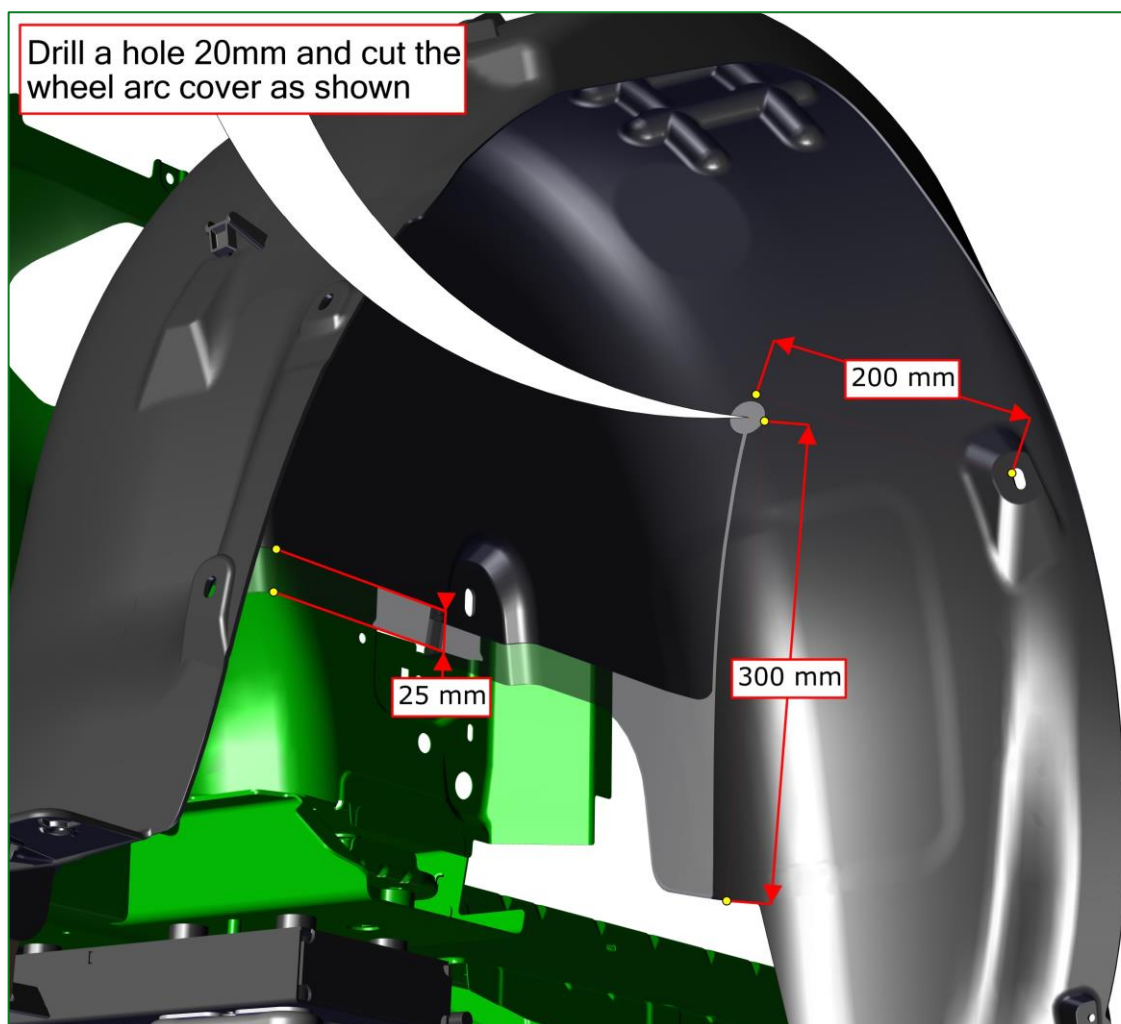
Attach the new fuel breather hose 8923 and guide it through the reinforcement beam as shown



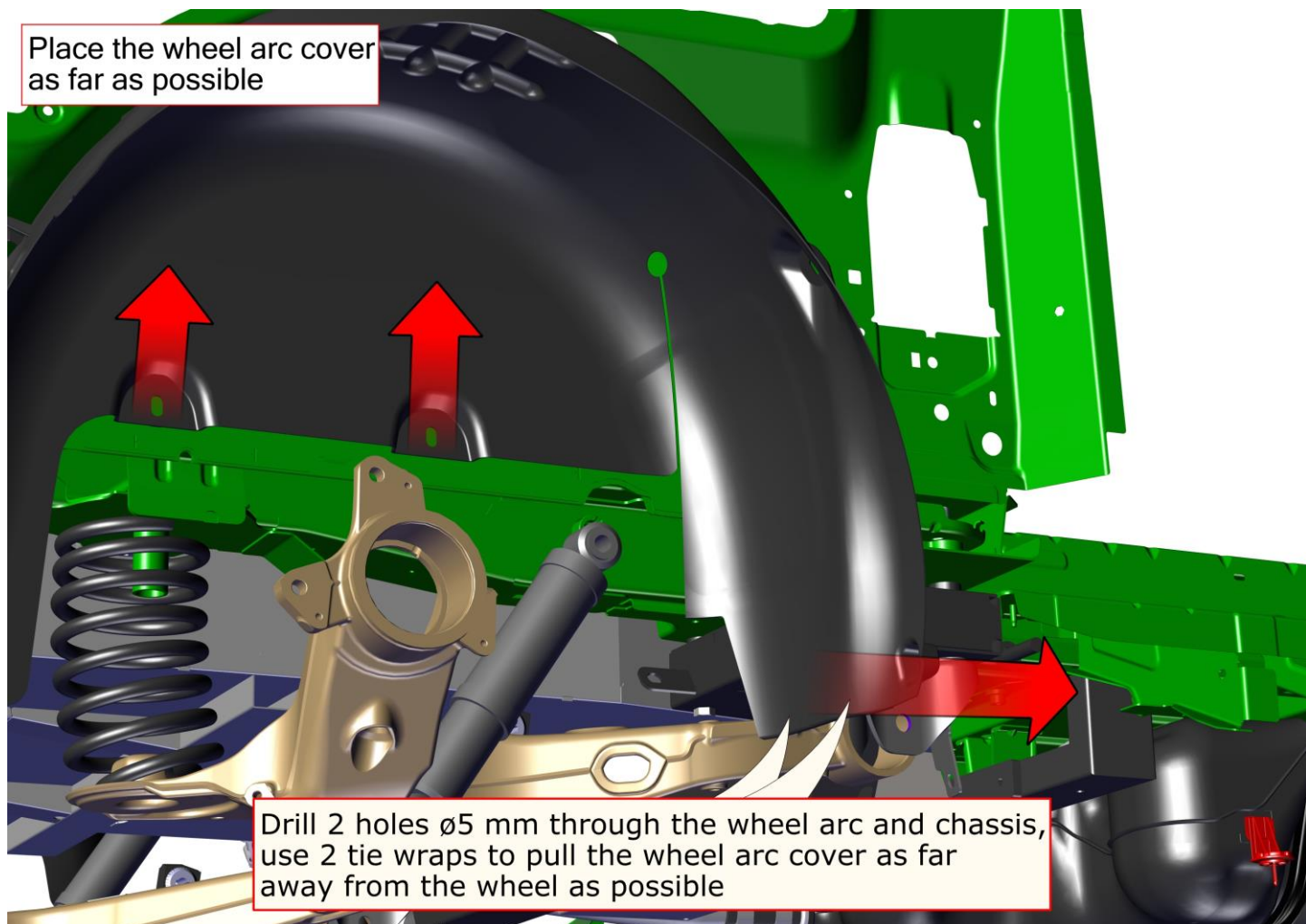
Cut and reinstall the inner wheel arc covers



Drill a hole 20mm and cut the wheel arc cover as shown



Place the wheel arc cover as far as possible



Drill 2 holes ø5 mm through the wheel arc and chassis, use 2 tie wraps to pull the wheel arc cover as far away from the wheel as possible

END OF PART 1

Disclaimer; descriptions are based on the information available during publication and are valid until further notice.  
We cannot guarantee the correctness and completeness of the information given and therefore do not accept liability.



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