

HardCabs →

INSTALLATION INSTRUCTIONS

SEGWAY **VILLAIN**



SAFETY INSTRUCTIONS

WARNING: Failure to follow all safety and operating instructions and warnings regarding use of this product can result in serious bodily injury.

THOROUGHLY READ ENTIRE ASSEMBLY INSTRUCTIONS BEFORE STARTING THE ASSEMBLY OF THE CAB KIT

ALL PARTS shown in the assembly instructions MUST BE INSTALLED. Failure to fully assemble the product before use could result in personal injury.

Assembly of product requires use of hand or power tools. If you are not experienced in using these types of tools, have product dealer do the install for you.

Some parts contain sharp edges, wear protective gloves if necessary.

Always keep your assembly area clean, uncluttered and well lit.

Keep visitors and children a safe distance away from the assembly area. Visitors should wear the same safety equipment described in this section.

Never operate your UTV with the cab doors open. Failure to properly latch the doors before moving the vehicle could result in serious injury.

Dress for safety. DO NOT wear loose clothing, gloves, neckties or jewelry if using power tools to assemble this product.

Insert all nut covers after you finish installation.

Never drive your UTV with the cab front window in full open position. Failure to properly latch front window before driving the vehicle could result in serious injury.

Please be careful to not break the large black plastic washers by overtightening. Torque screws to a maximum 3.7 foot-pound force (5 Nm)!!!

WARNING: For safety purposes, if the HardCabs Cab doors are removed, it is mandatory that the OEM manufactured Half Doors or Nets are REINSTALLED before operating the vehicle.

MAINTENANCE AND CLEANING

To clean polycarbonate surface use soapy water solution or other subtle means.

Wash off Dirt and dust with a gentle water stream and wipe off with wet or damp-soft towel in the direction from top to bottom.

The recommended frequency of cleaning of polycarbonate panels is about 1 time per month or according to the actual degree of dirtiness.

*Do not use detergents that could scratch the surface plates.
(abrasives, harsh fabrics, etc.)*

*Do not use solvents or alkaline detergents or cleaners with ammonia
(ammonium hydroxide).*

Do not remove the impurities from the surface with razor blades or other sharp items.

Do not clean cab when the polycarbonate plates are heated by the sun.

Do not use a squeegee, it could scratch surface plates.

Do not power wash at a strength of more than 725psi (50 Bar).

The manufacturer is not responsible for-surface scratches due to failure to comply with the above instructions.

*All bolted connections of cab must be checked and tightened.
by user at regular intervals.*

It is necessary to check the air filter of the heater regularly, depending on the dust environment in which the vehicle is operated.

PREPARATION FOR INSTALLATION

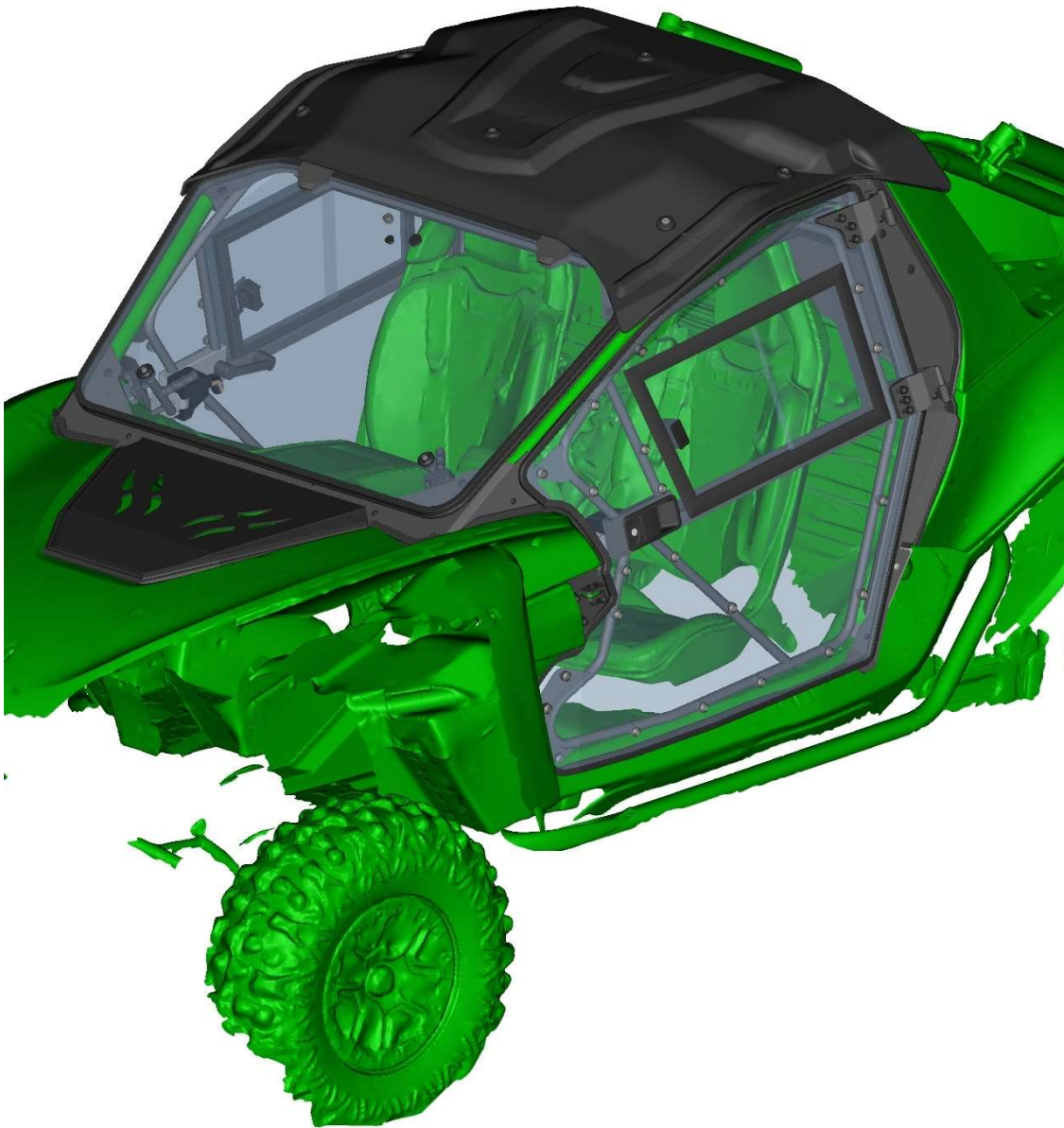
Uninstall all additional systems from the roller cages (work lights, rear mirrors, half doors, roof, windshield, drink holders etc.)



5

CAB PREVIEW

6



HEATER

Uninstall the plastic cover above the right front wheel.

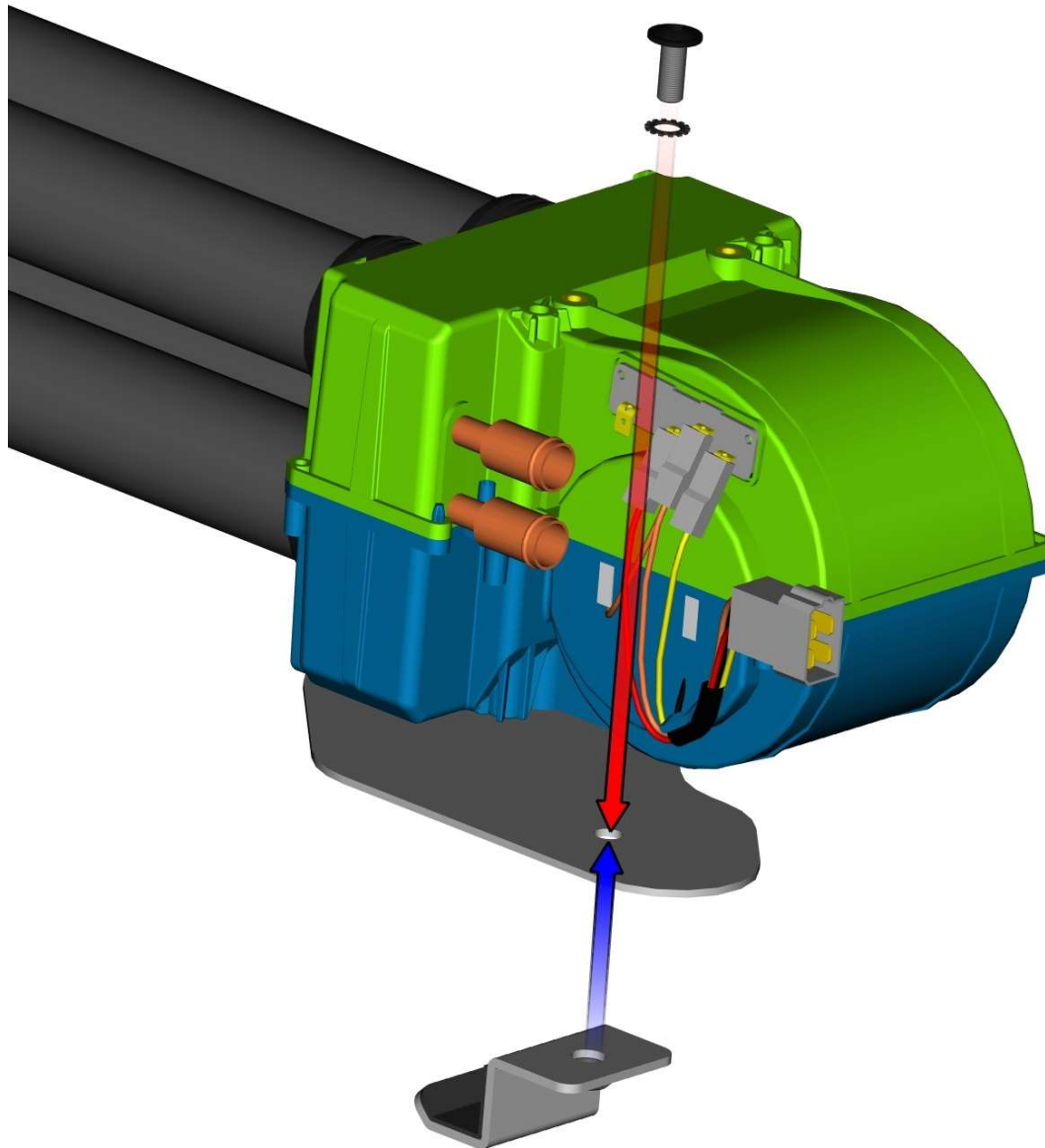


Place for the heater installation.



Mount the heater with the heater holder on the vehicle frame.

8



View on installed heater.



Drill the holes Ø 77 mm to the dashboard for the heater air vents.



10



HardCabs

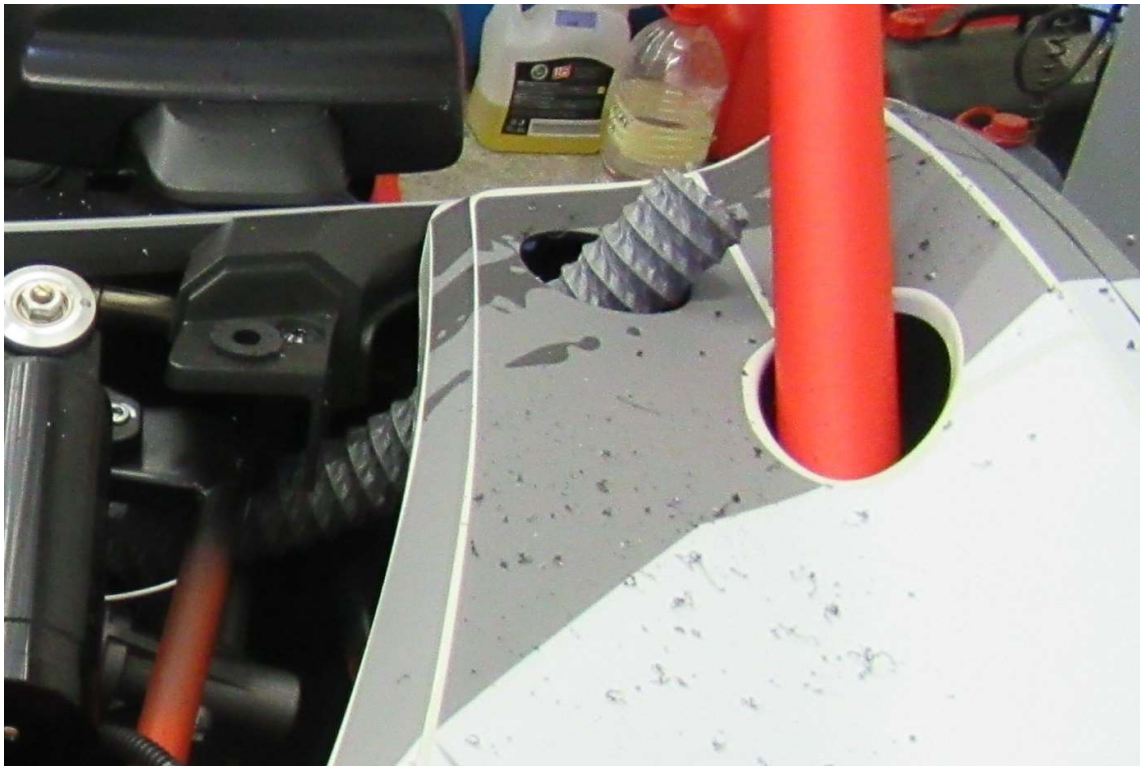
2464 Wisconsin Ave
Downers Grove, IL 60515

parts@hardcabs.com

630-324-8585

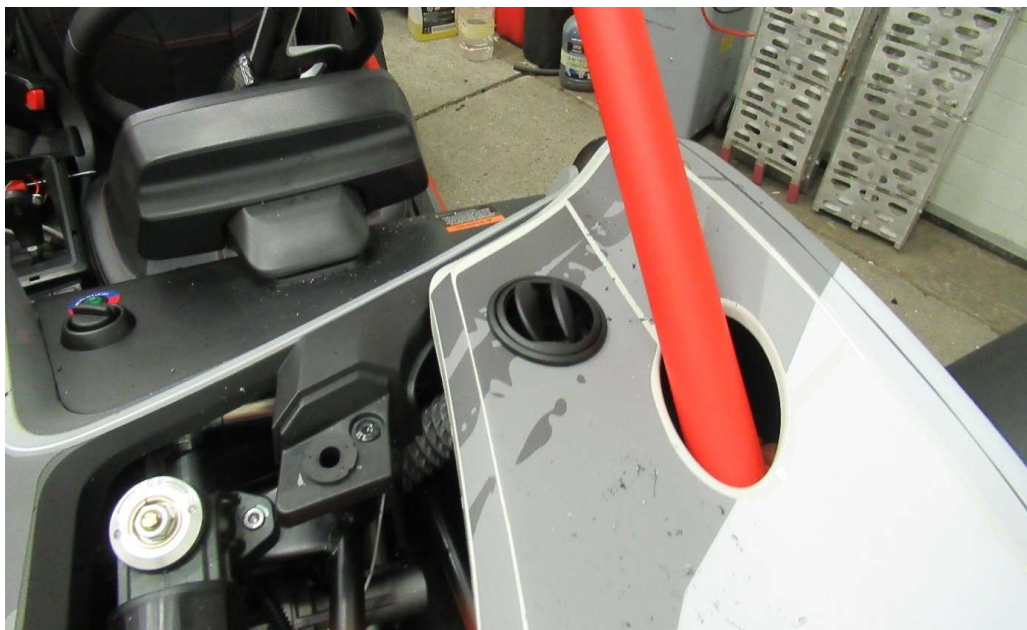
www.hardcabs.com

Run the air hoses through the drilled holes.



11

Install the air hoses onto the air vent and secure the hose with the vent by included tightening ring. Push the air vent to the dashboard.



12

Drill the holes \varnothing 55 mm to the central tunnel for the small heater air vents. Run the air hoses through the drilled holes.



13

Install the air hoses onto the air vent and secure the hose with the vent by included tightening ring. Push the air vent to the dashboard.

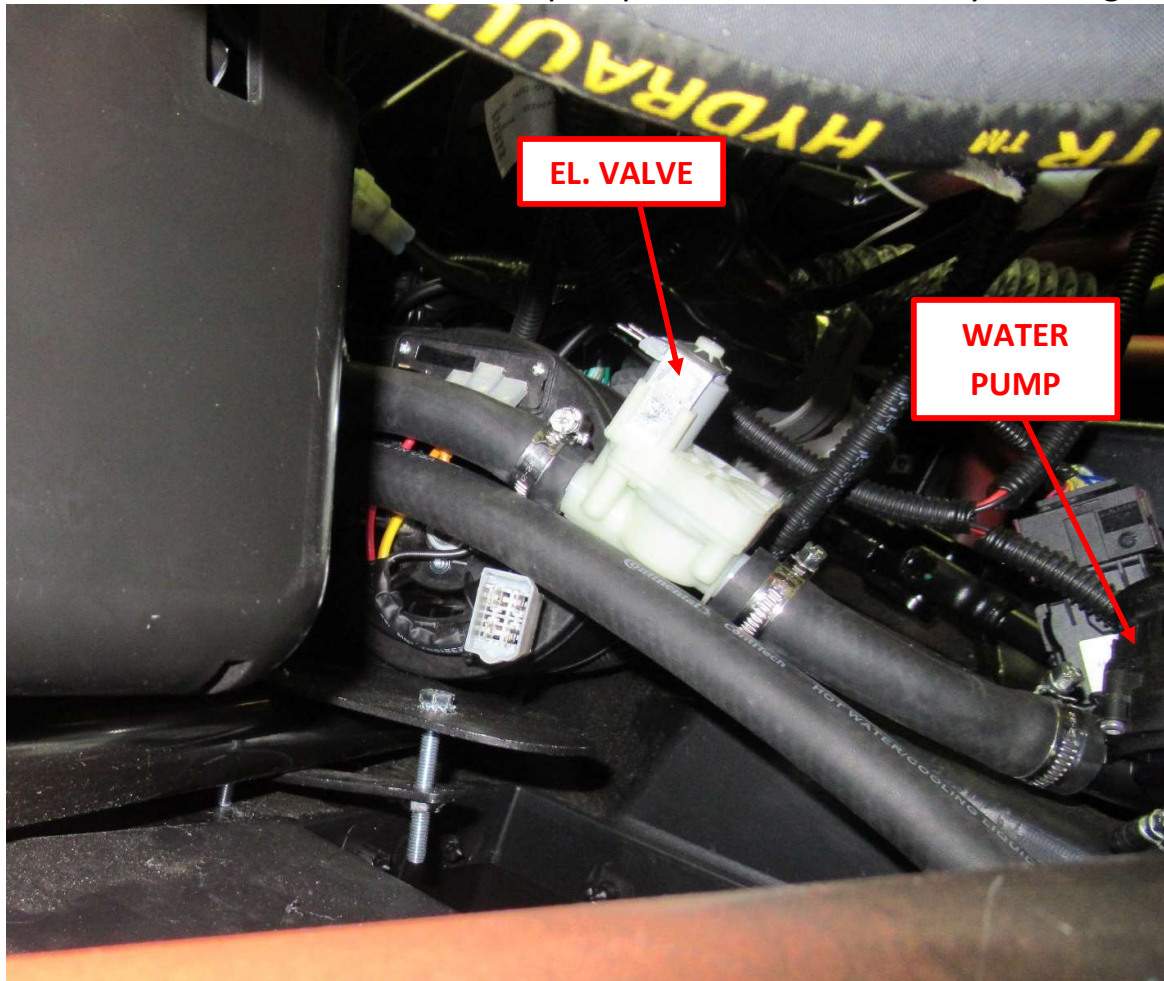


14

Slide on the tightening rings onto the heater hoses. Put the heater hoses onto the heater tubes. Secure the hoses with the heater by the rings.

Install the el. valve and the water pump into the heater hose.

Run the heater harness to the el. valve. Connect the heater harness with the el. valve and with the water pump. Secure the hoses by the rings.



SEE NEXT PAGES

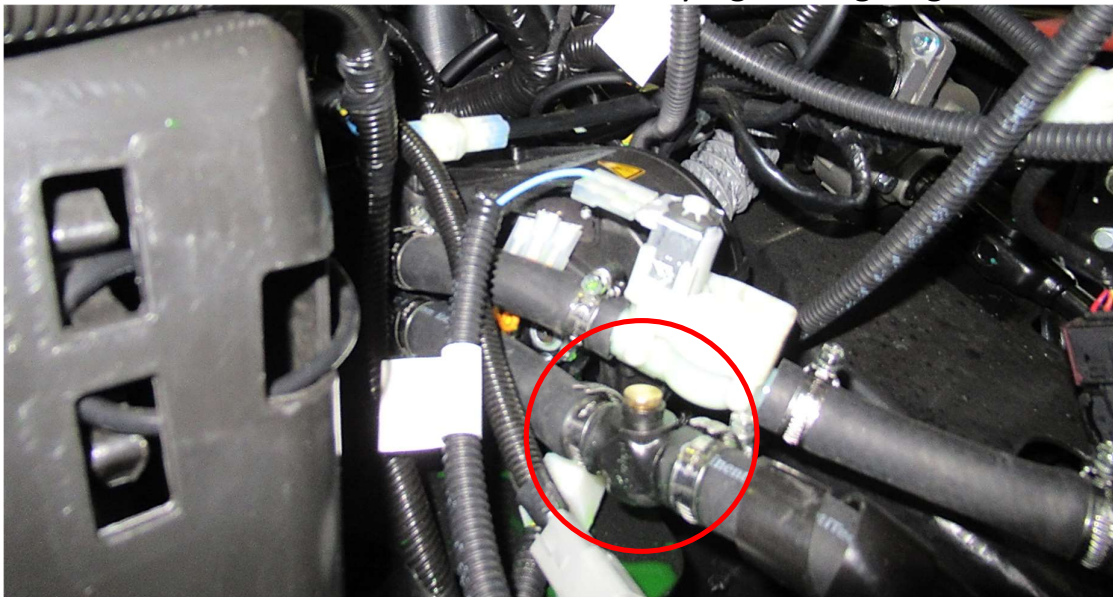
16



Slide on tightening ring onto the heater hose. Insert the “Y” tube into the heater hose. Secure the hose by the rings. Prepare both hoses like this.



Cut the heater hose and slide on tightening rings onto the hose.
Insert air-bleeding valve into the heater hose.
Secure the valve with the hose by tightening rings.



17

Secure the original engine cooling hose by clamps or pliers (not included).



18

Secure the original engine cooling hose by clamps or pliers (not included).



Secure the original engine cooling hose by clamps or pliers (not included).

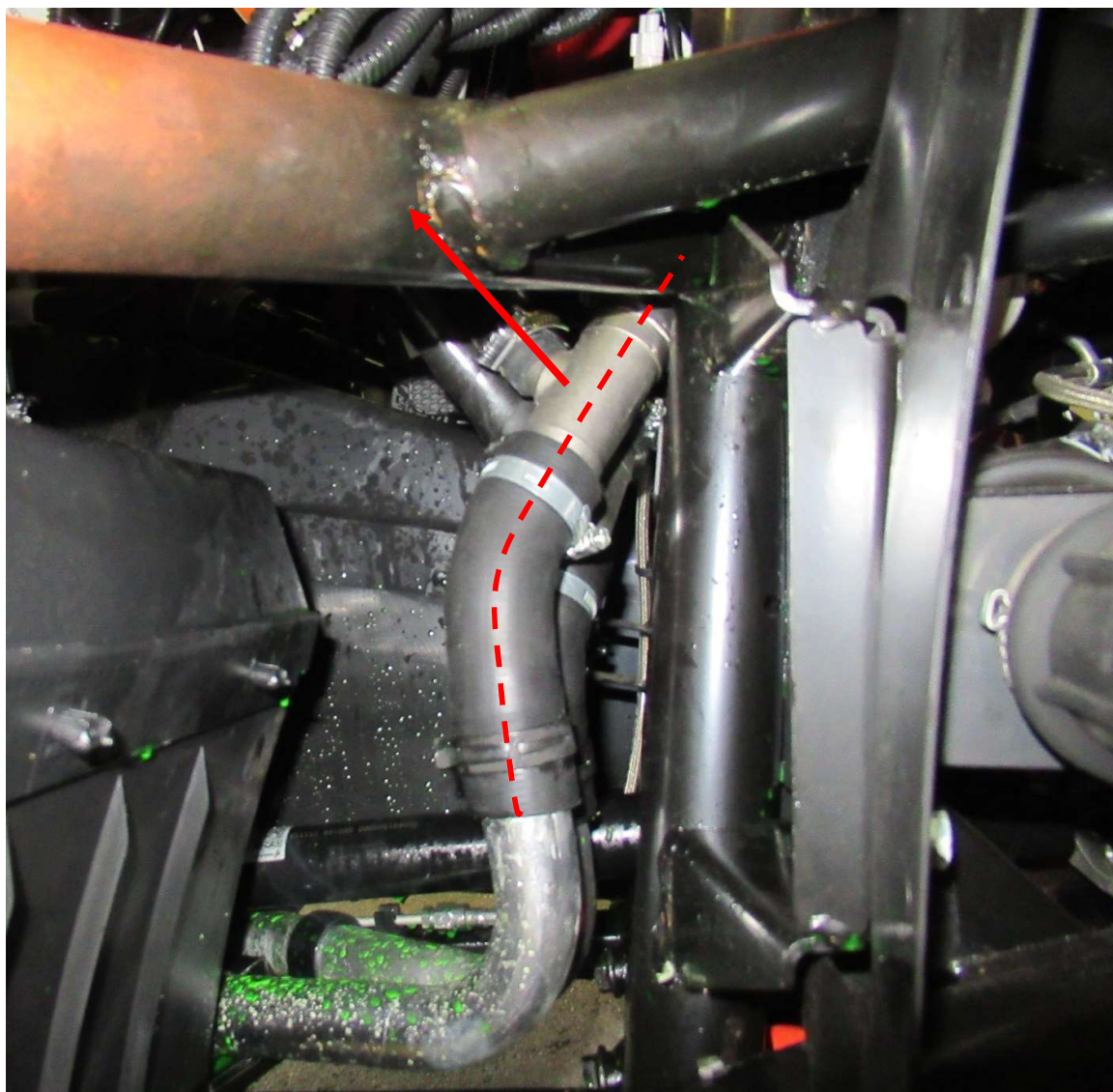


19

CAUTION

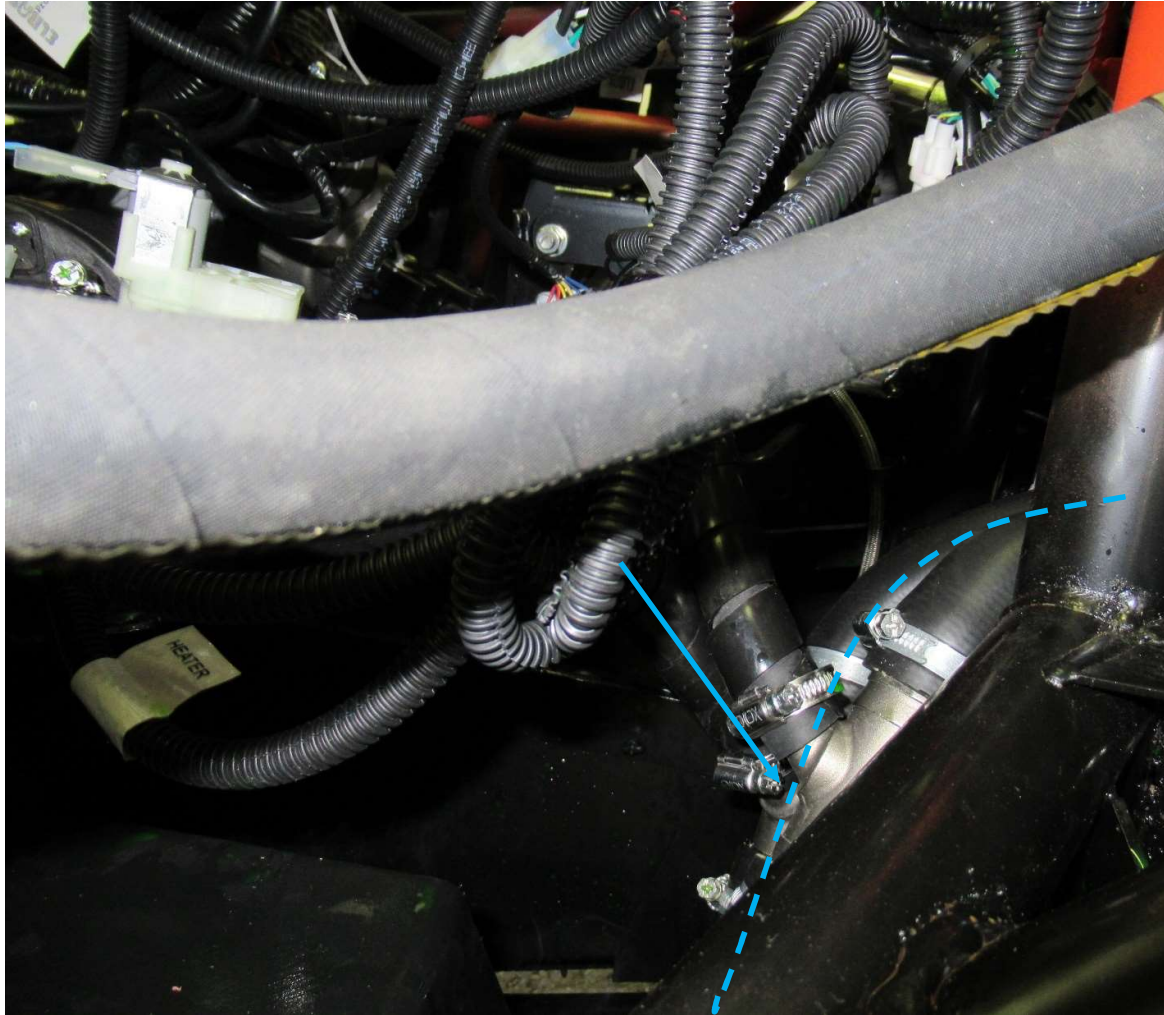
DO NOT MANIPULATE WITH ENGINE OR WITH ENGINE COOLING SYSTEM IF THAT PARTS OF MACHINE IS HOT! WHEN ENGINE IS HOT, ANY MANIPULATION CAN RESULT IN SERIOUS BODY INJURY!

Cut the cooling hose and slide on tightening ring onto the hose. Insert the heater input (hose with el. valve and water pump) "Y" tube into the cooling hose. Secure tube with the hoses by tightening rings.



20

Cut the cooling hose and slide on tightening ring onto the hose. Insert the heater output (hose with air-bleeding valve) "Y" tube into the cooling hose. Secure tube with the hoses by tightening rings.



21

Remove clamps or pliers from the original engine cooling hoses.

BLEEDING INSTRUCTIONS

- After installing the heater circuit, open the radiator and coolant reservoir of the vehicle and add coolant to both the coolant reservoir and radiator level is up to the MAX line.
- Install coolant reservoir and radiator caps.
- Activate heater fan, turn on the electromagnetic valve and put the heating level to maximum.
- Run engine at idle with coolant reservoir cap ON until the cooling fan cycles two times.
- If a DFK bleeding valve is included in the heater assembly, open it at nominal RPM until a continuous stream of fluid flows out of it.

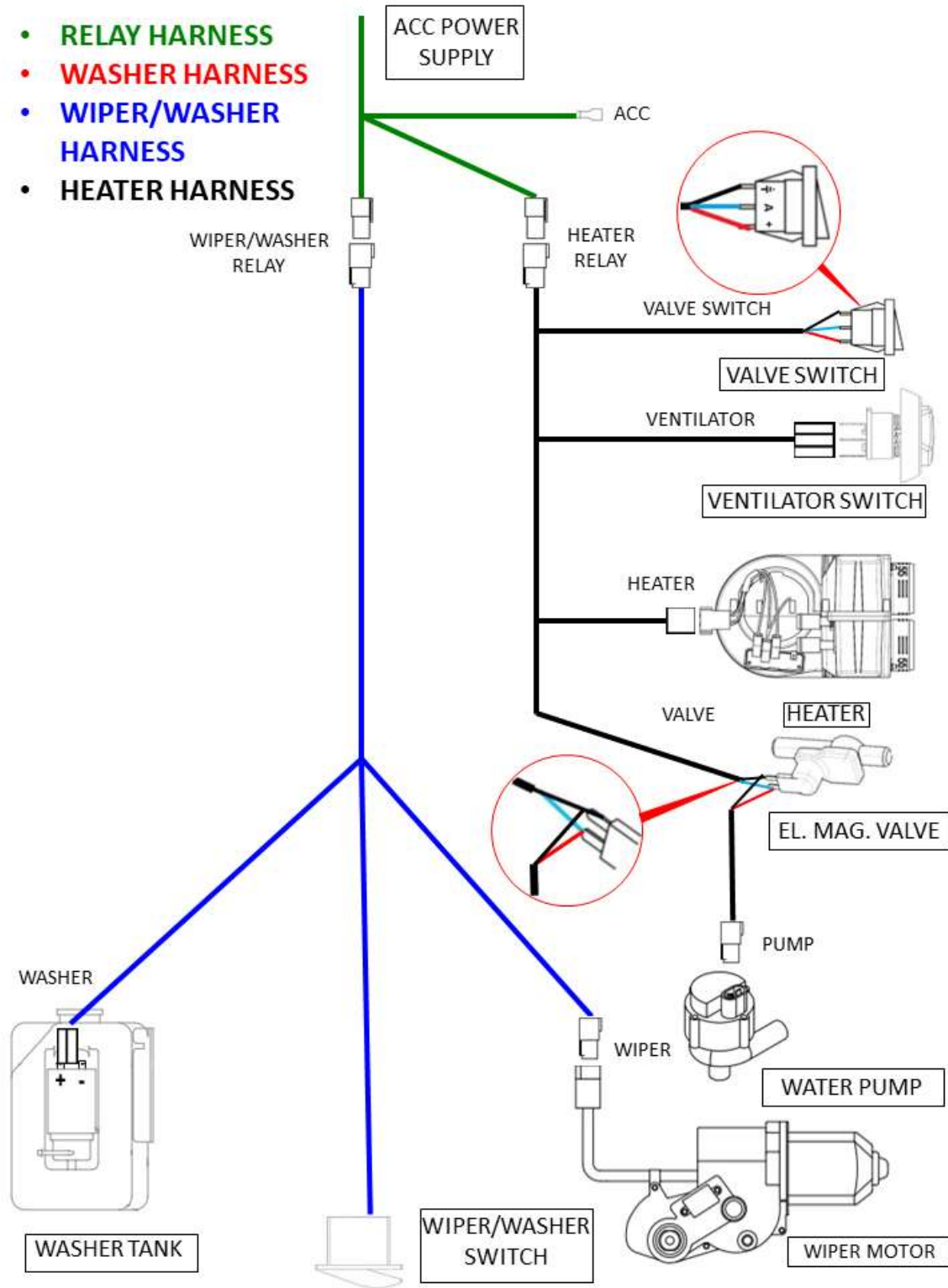


- Bleed even after the engine has warmed up to operating engine temperature and repeat several times until full flow, without air bubbles, escapes from the bleed plug holes.
- Check for heat coming out of the heater unit.
- Turn the ignition switch off and allow the engine to cool down.
- After the engine cools down check the coolant level in the radiator reserve tank.
- Close all coolant containers and bleeding valve before driving.
- After the test drive, check the coolant level in the radiator reserve tank and add coolant as necessary.
- Check for leaks in the entire heating circuit. Leaks can cause additional aeration.

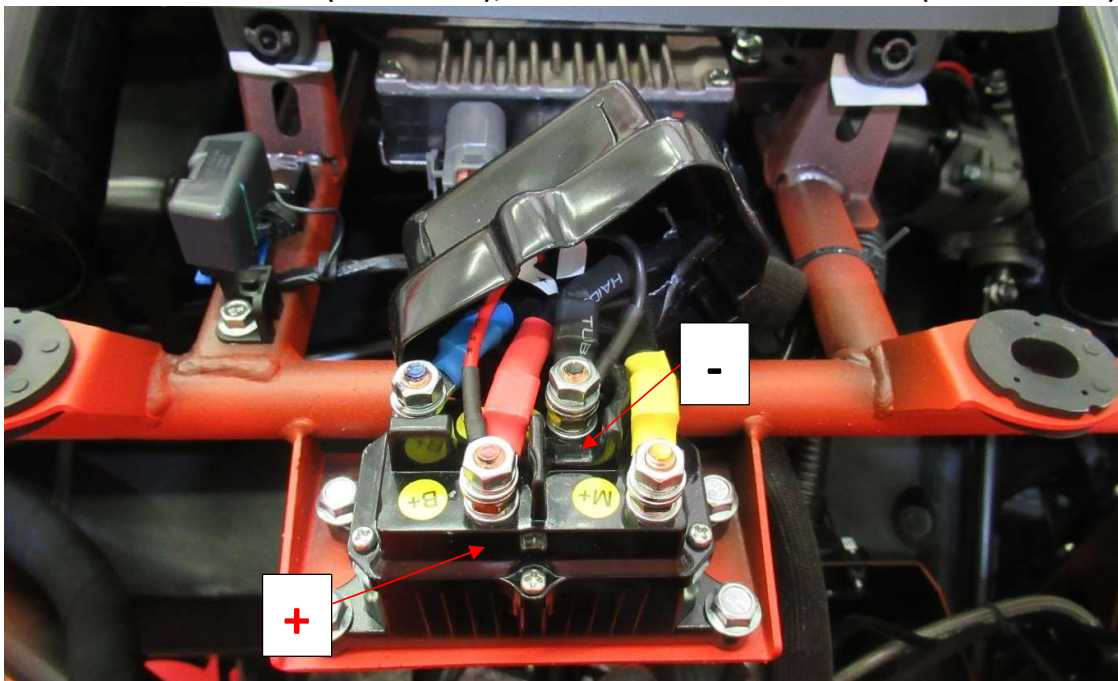
ELECTROINSTALLATION

Connection wiring diagram.

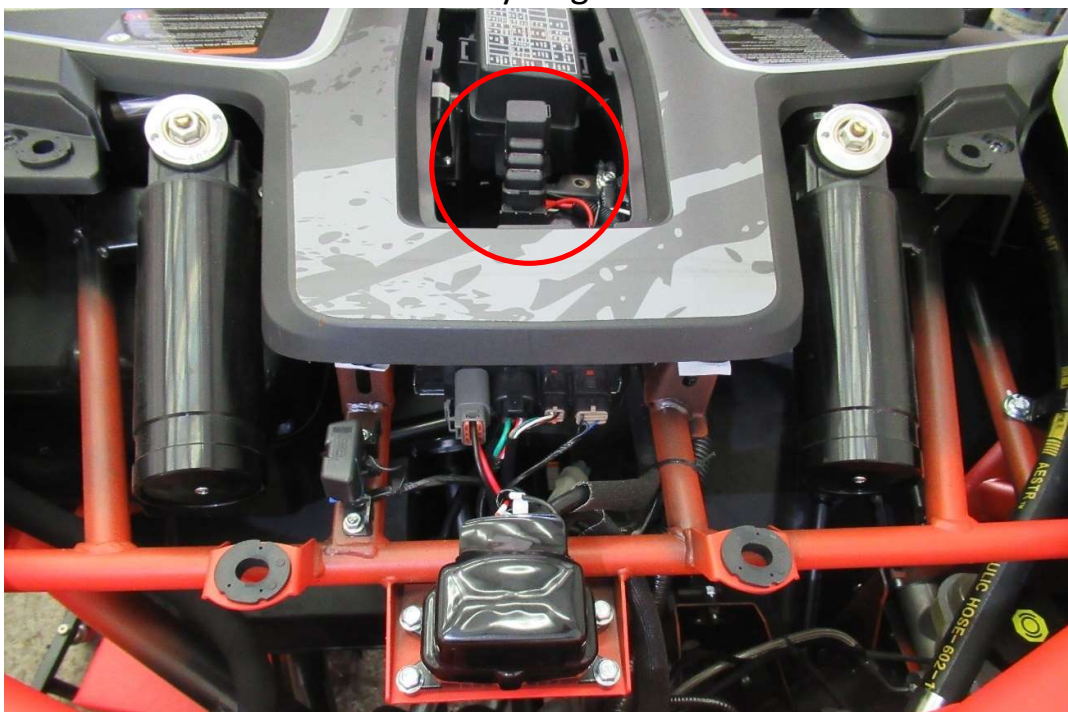
- **RELAY HARNESS**
- **WASHER HARNESS**
- **WIPER/WASHER HARNESS**
- **HEATER HARNESS**



Connect the power supply harness to the vehicle power terminal. Red wire with the +12V (red mark), black wire with the -12V (black mark).



- 24 Cover the terminal with original rubber cover. Fix the power supply fuses on frame by original screw.



Route the white ACC cable from the power supply harness relay to the warning lights switch on the dashboard.



Pull out the original switch.



Find the free original pin on the warning lights switch.

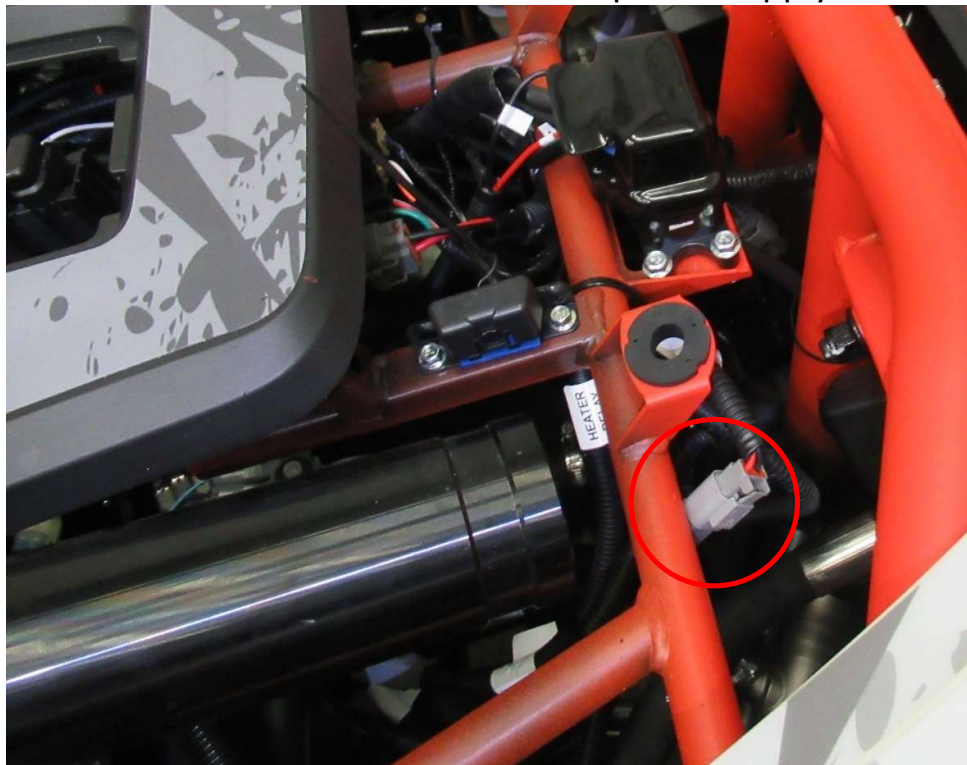


Connect the relay harness with the free pin on the switch. Push the switch back to the dashboard.

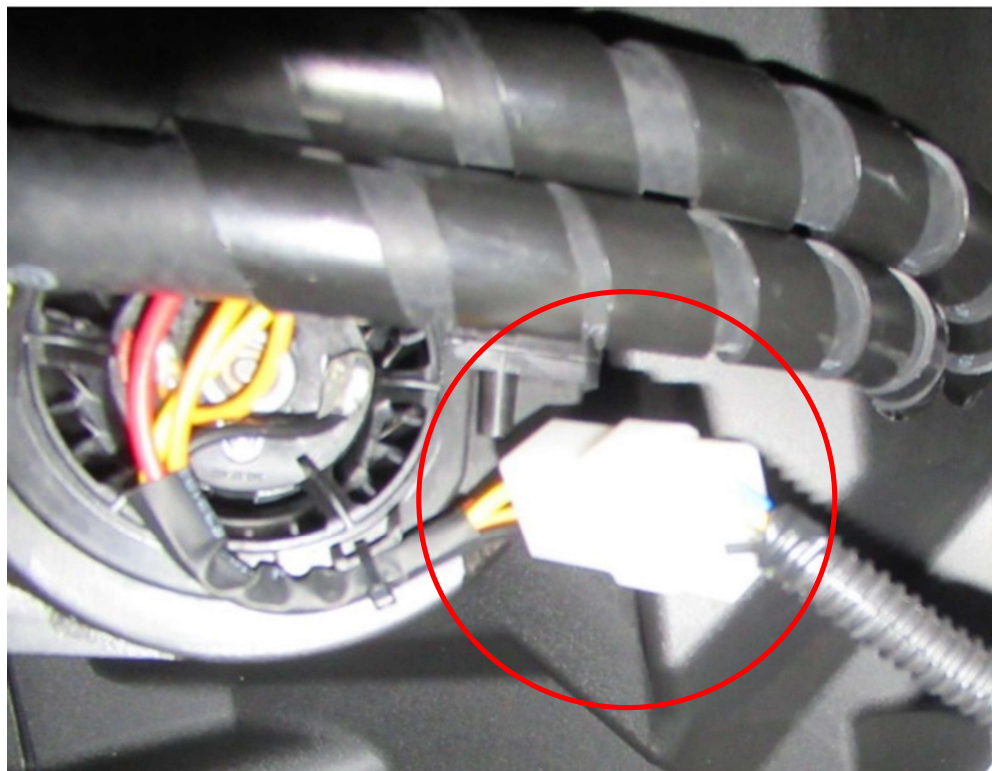


26

Connect the heater harness with the power supply harness.

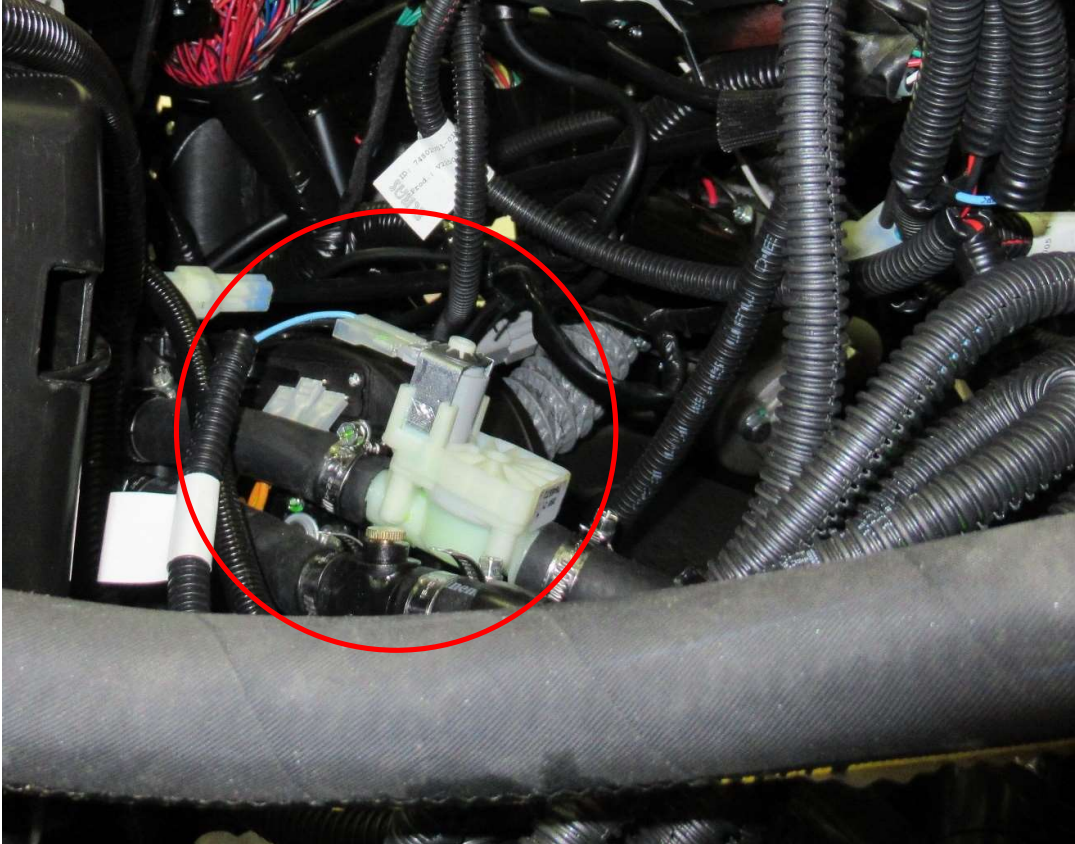


Connect the heater harness with the heater.

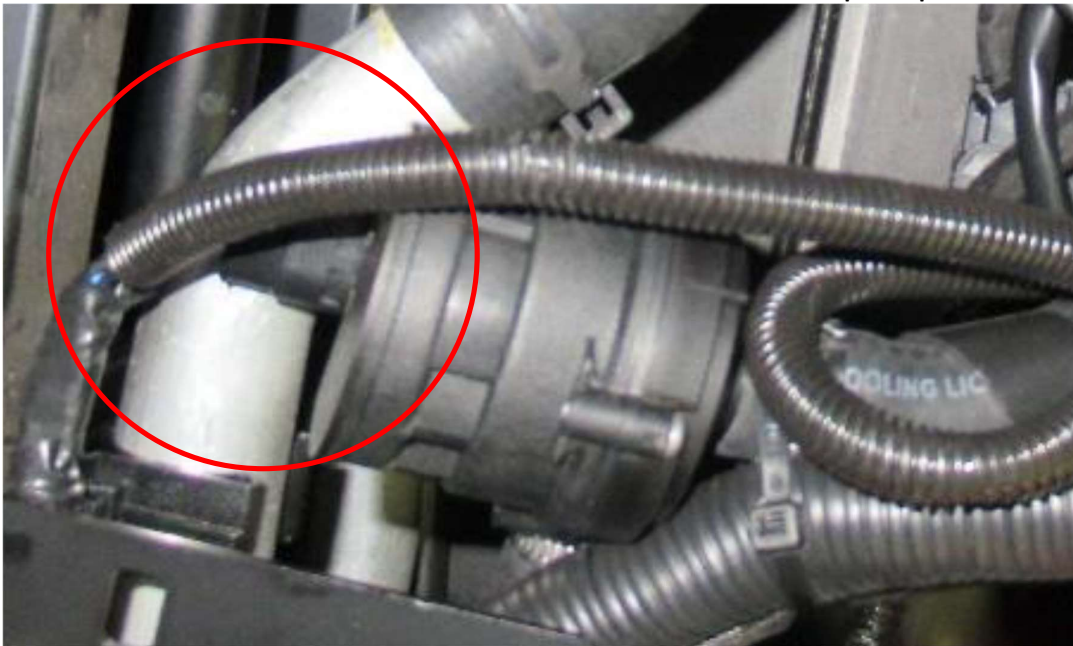


27

Connect the heater harness with the el. valve.



Connect the heater harness with the water pump.



28

Replace the warning sticker from the dashboard in front of the driver on the dashboard in front of the passenger.

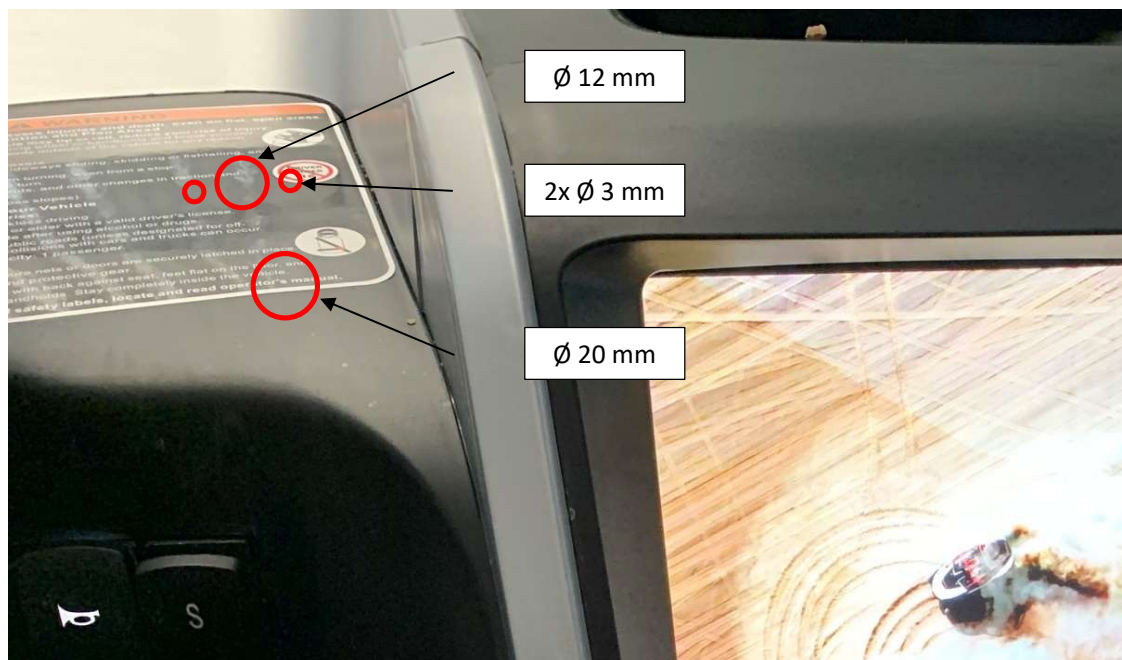


29

Detail view of replaced warning sticker.

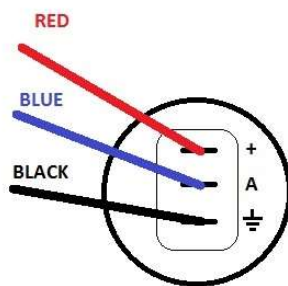


Drill the holes for the heater switches to the dashboard. Stick the heater sticker around the hole \varnothing 20 mm.



Connect the heater harness with the switches.





Install the heater switches on the dashboard.



31

WIPER/WASHER

Connect the wiper/washer harness to the power supply harness
wiper/washer connector.



32

Route the wiper harness through the hole for the vehicle frame.



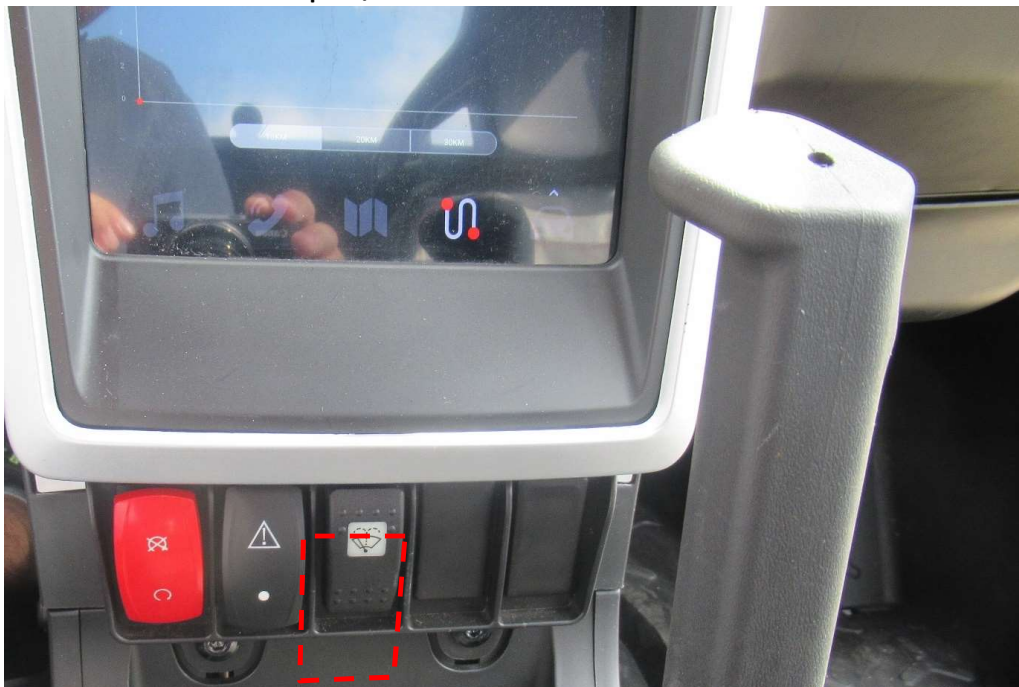
Detail of the wiper harness wiring.



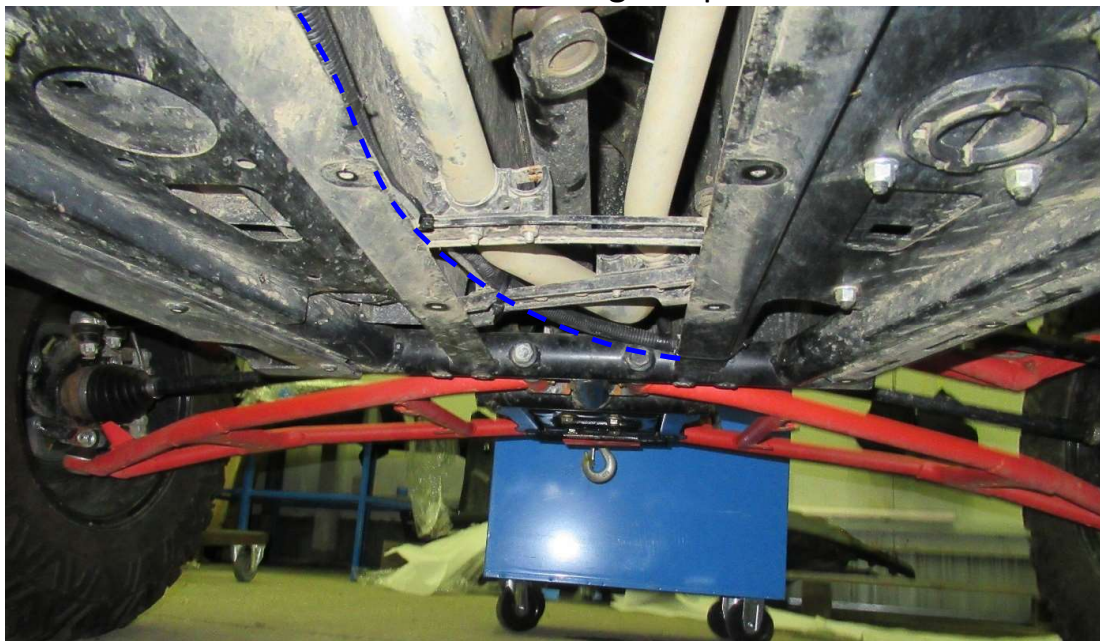
Route the wiper/washer harness to the original switches under the display. Connect the wiper/washer switch to the harness.



Push the wiper/washer switch to the dashboard.

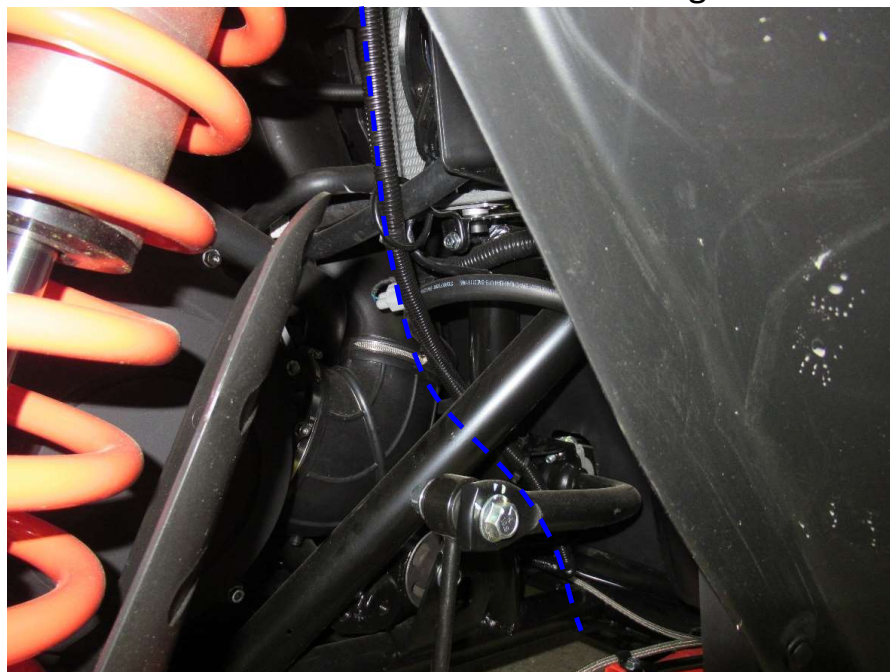


Route the washer harness at the bottom of the vehicle from the relay harness to the engine space.



35

Route the washer harness to the cargo bed.



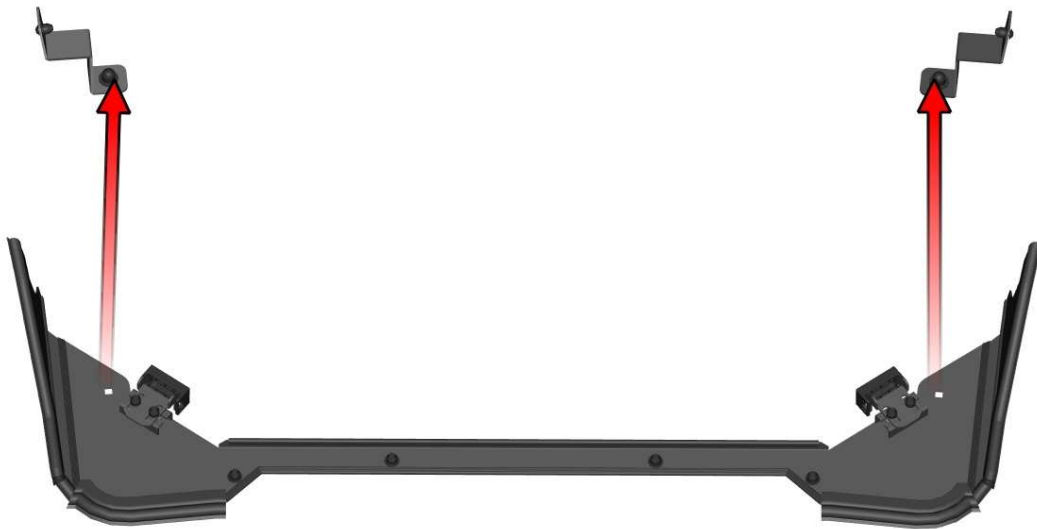
36

Fix the washer tank holder with included two plastic rivet nuts. Connect the washer harness and the washer tube to the washer motor. Install the washer tank on the washer tank holder.



FRONT PANEL

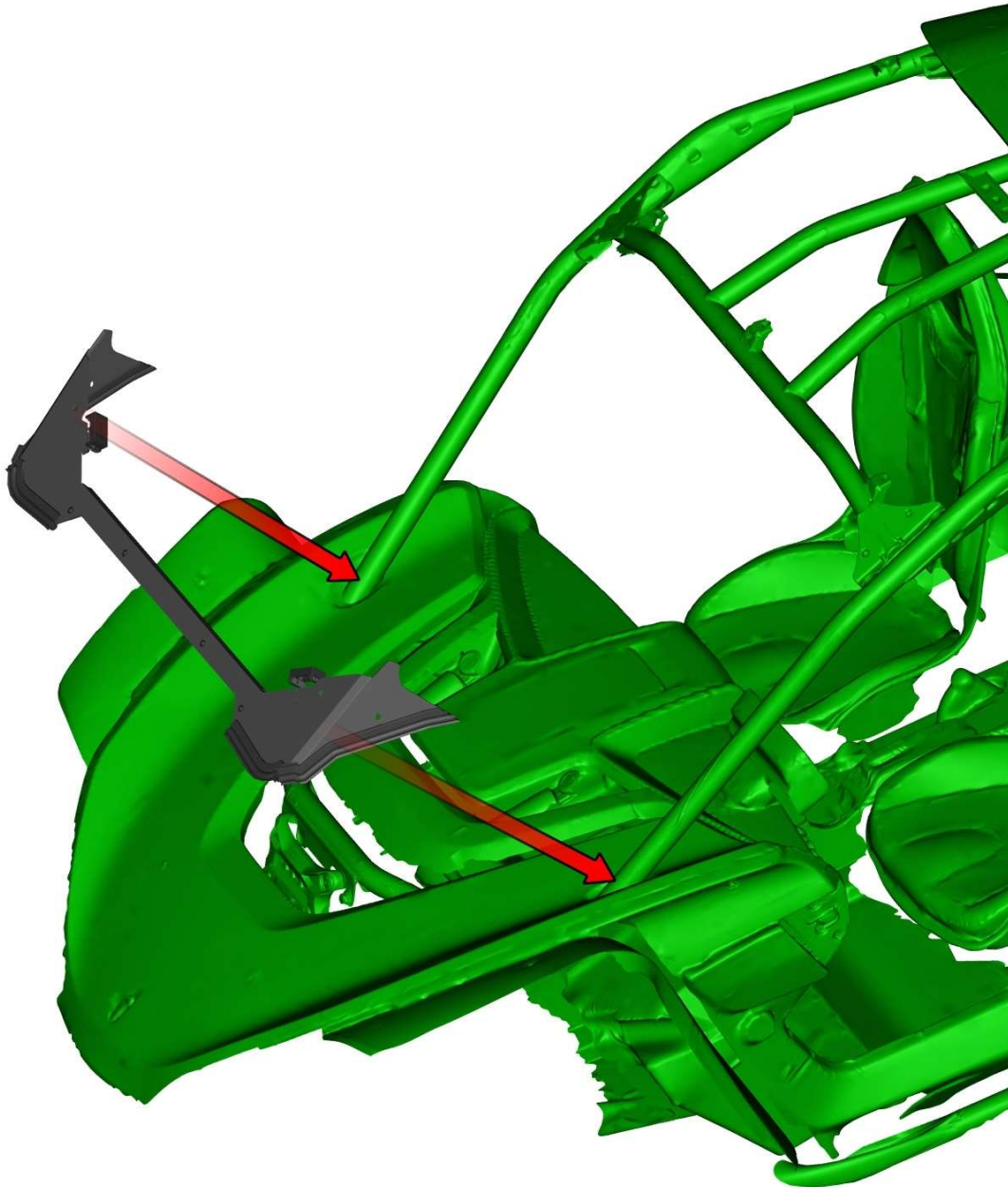
Uninstall the holders from the front bottom ledge.



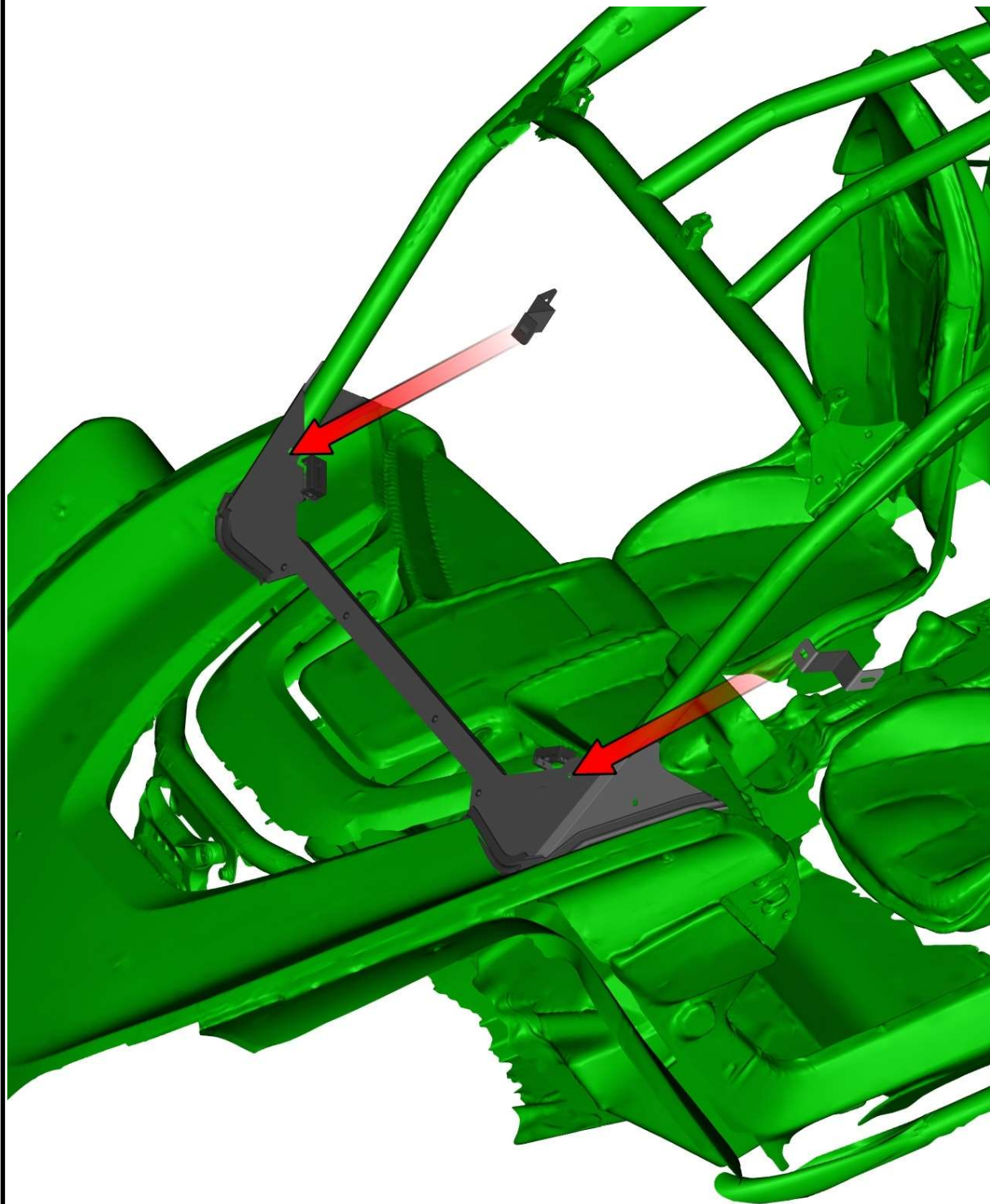
37

Place the front bottom ledge on the vehicle frame.

38

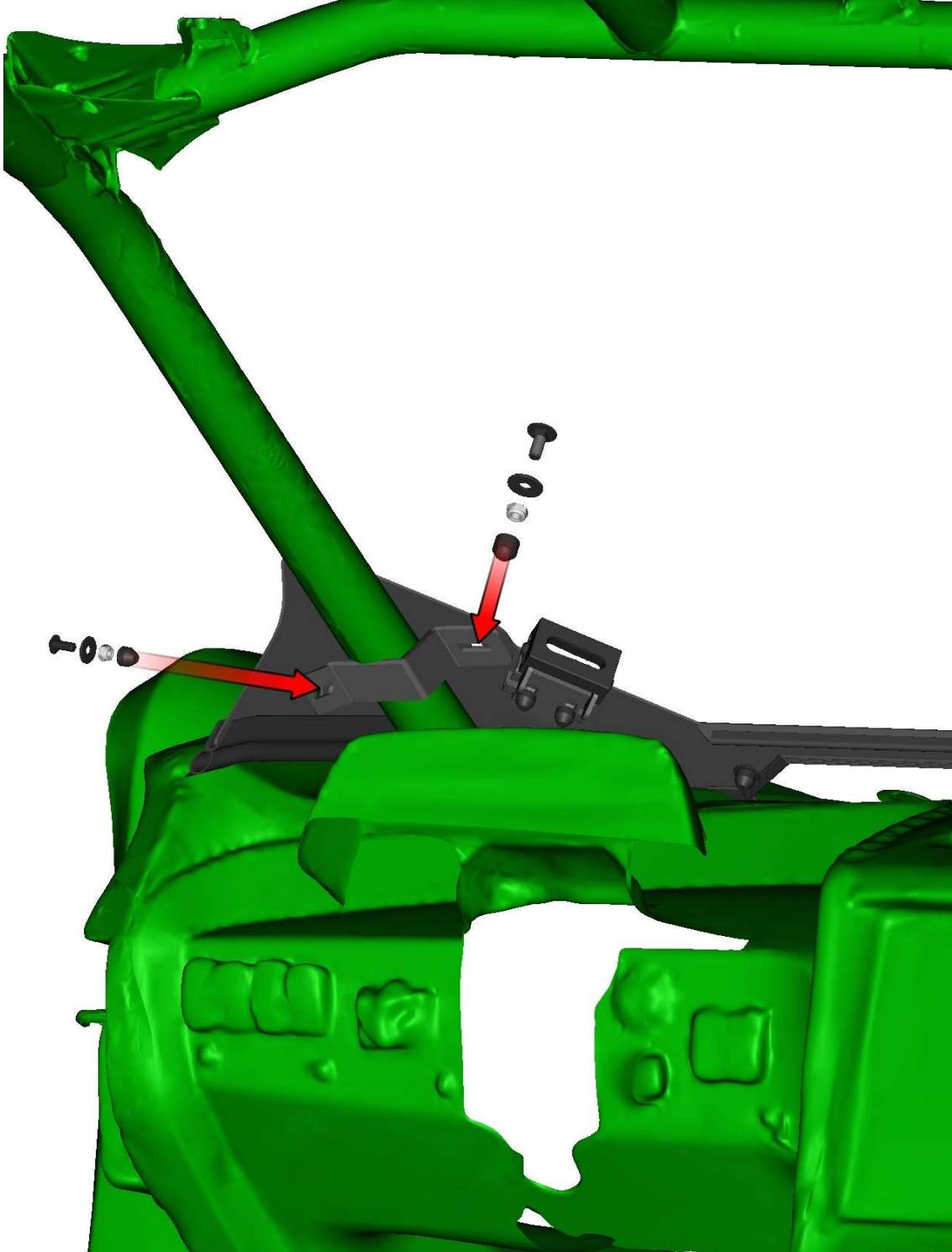


Place the front bottom ledge holders on the front bottom ledge in accordance with the holes.



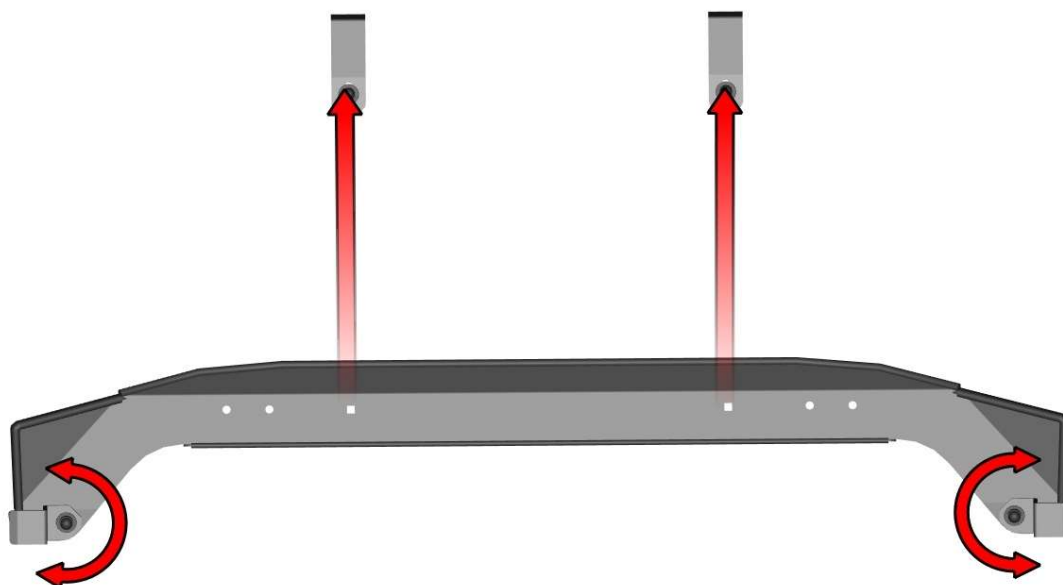
39

Fix the holders with included screws, washers, nuts and covers.



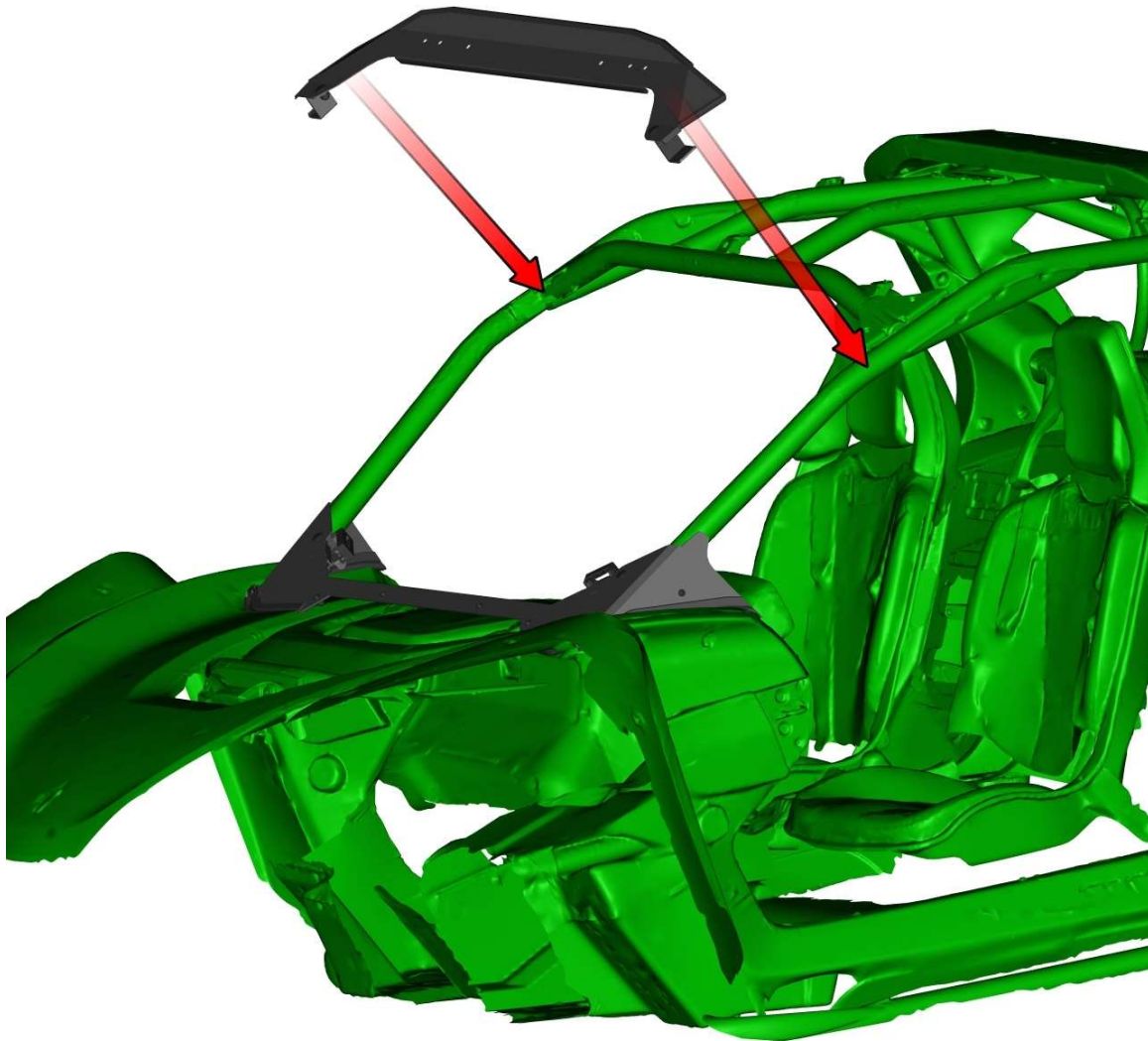
40

Uninstall the upper holders from the front upper ledge. Loosen the bottom holder screws and turn the holders to the neutral position.



41

Place the front upper ledge on the vehicle frame.



42

Turn the bottom holders to the correct position and tighten the holders screws. Install the upper holders on the front upper ledge in accordance with the holes.



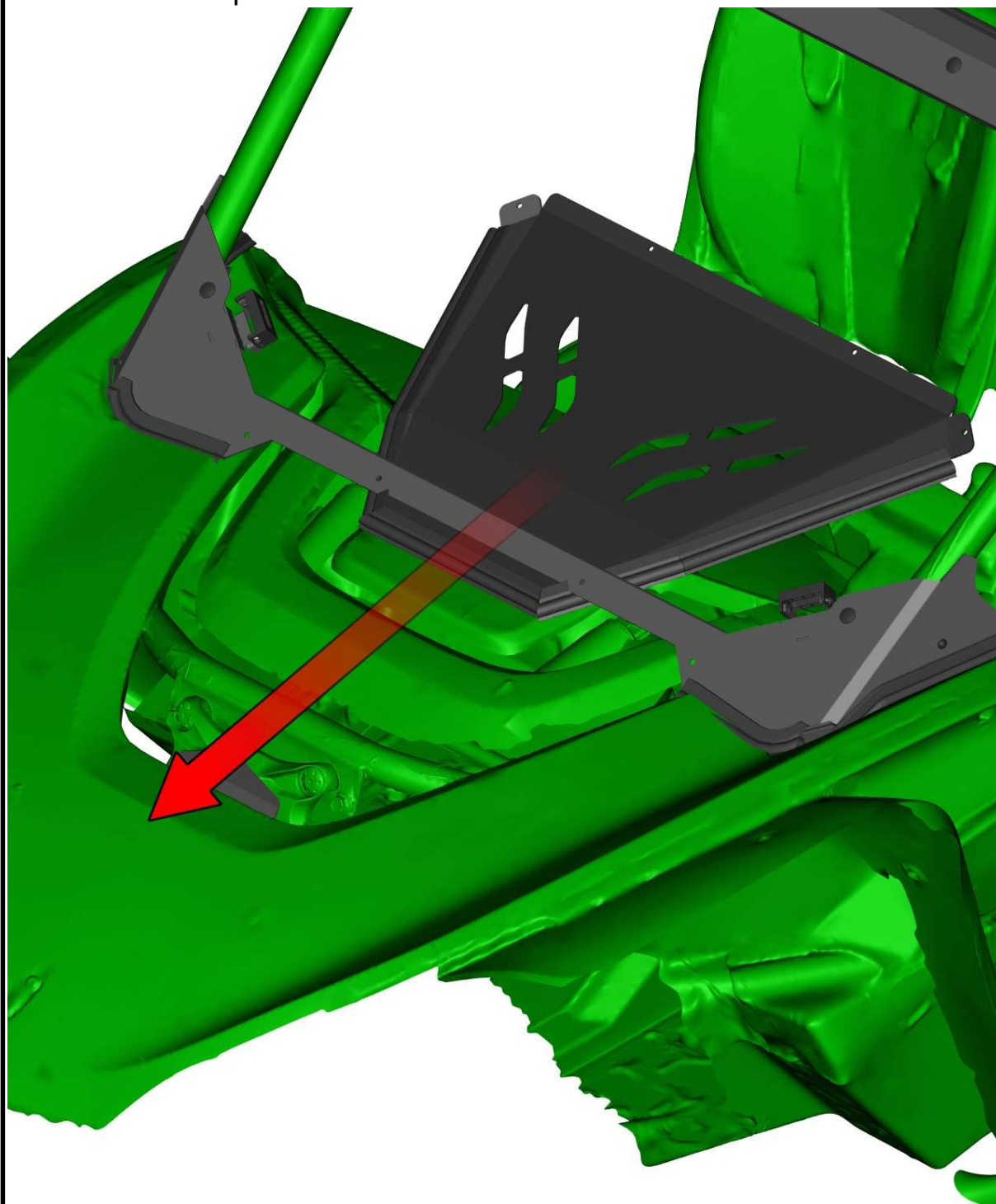
43

Loosen the original screws on the vehicle frame. Insert the front cover holder between screws and frame. Tighten the screws.



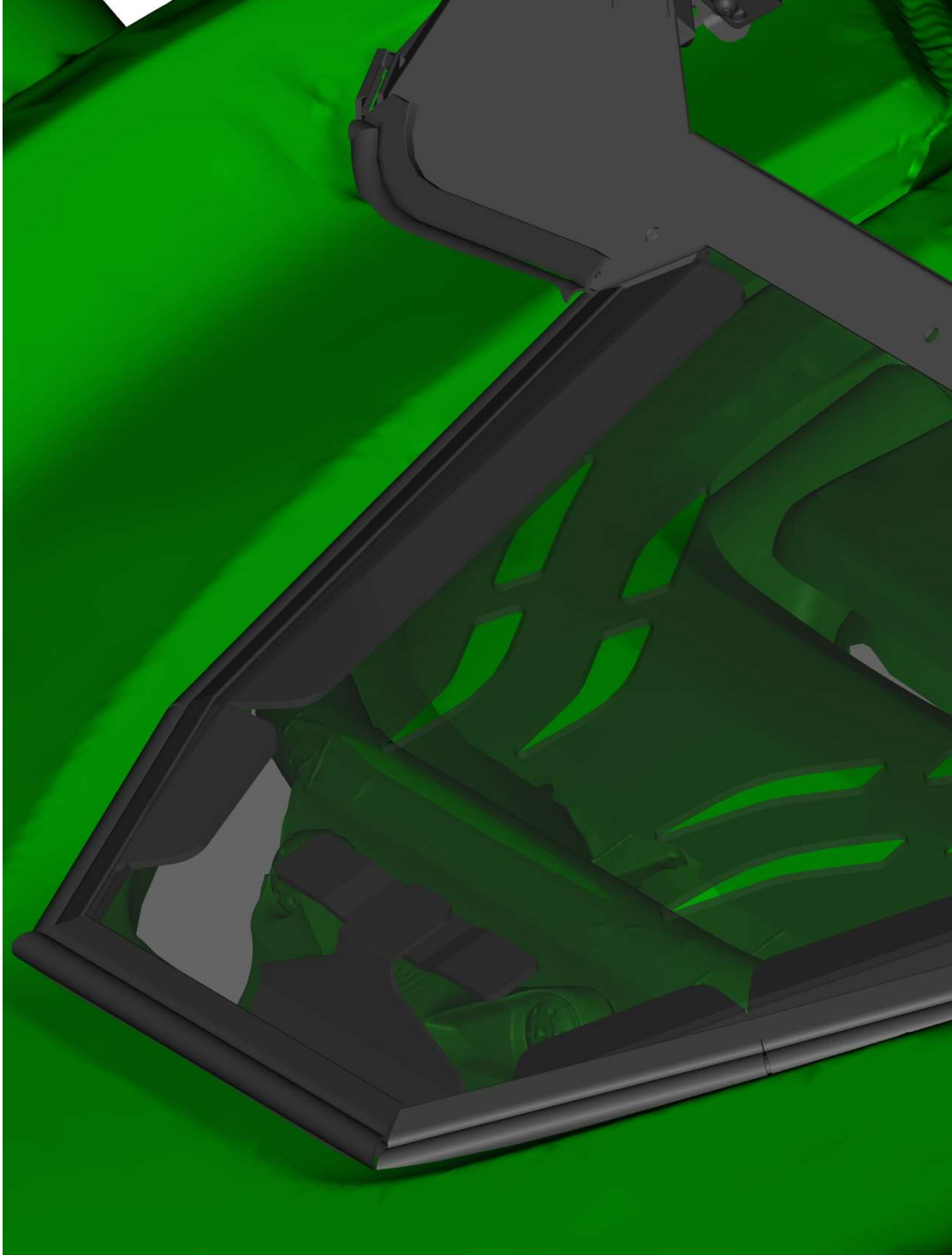
44

Slide out the plastic front cover from the inside to the front holder.



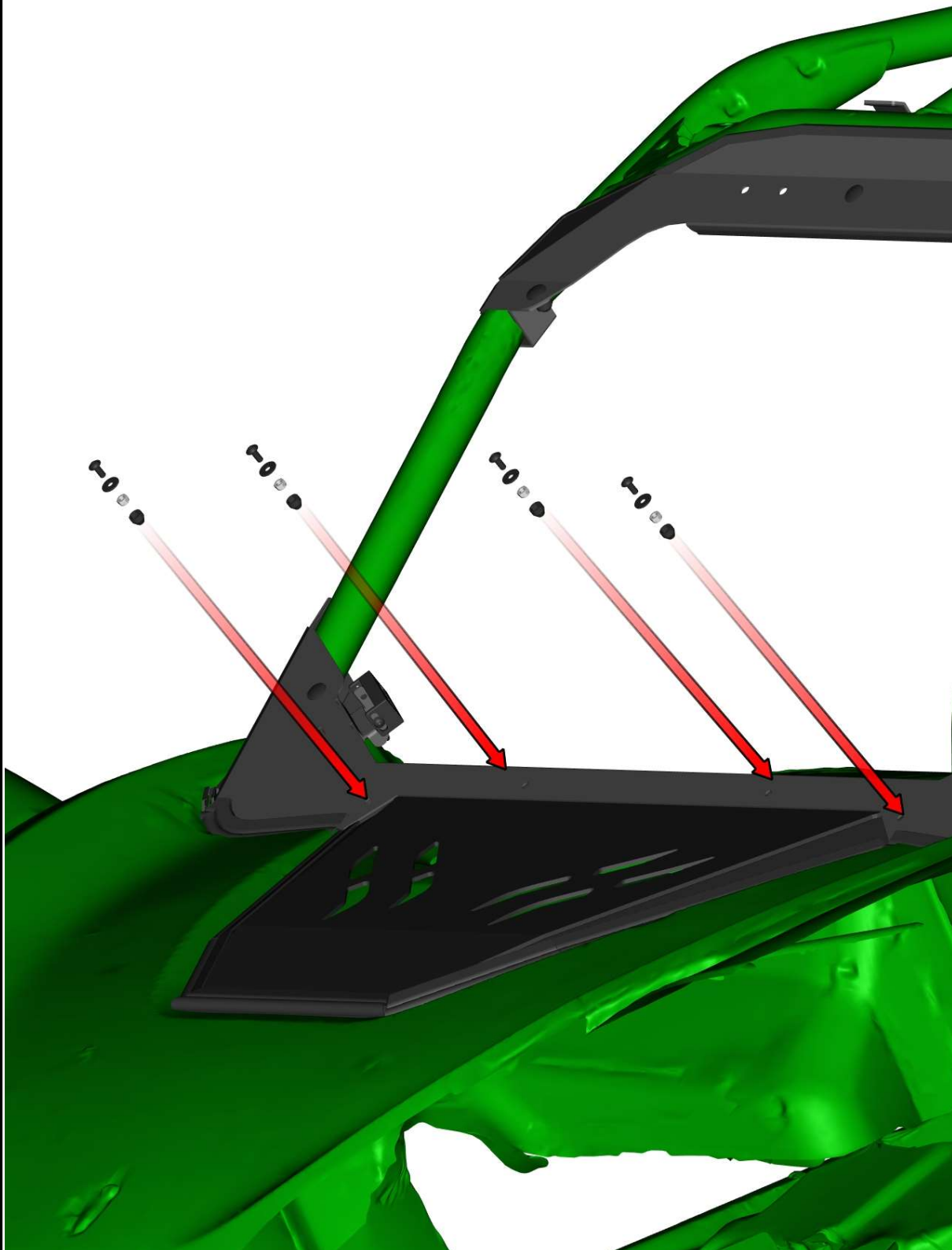
45

The plastic front cover must be pushed onto the holder.



46

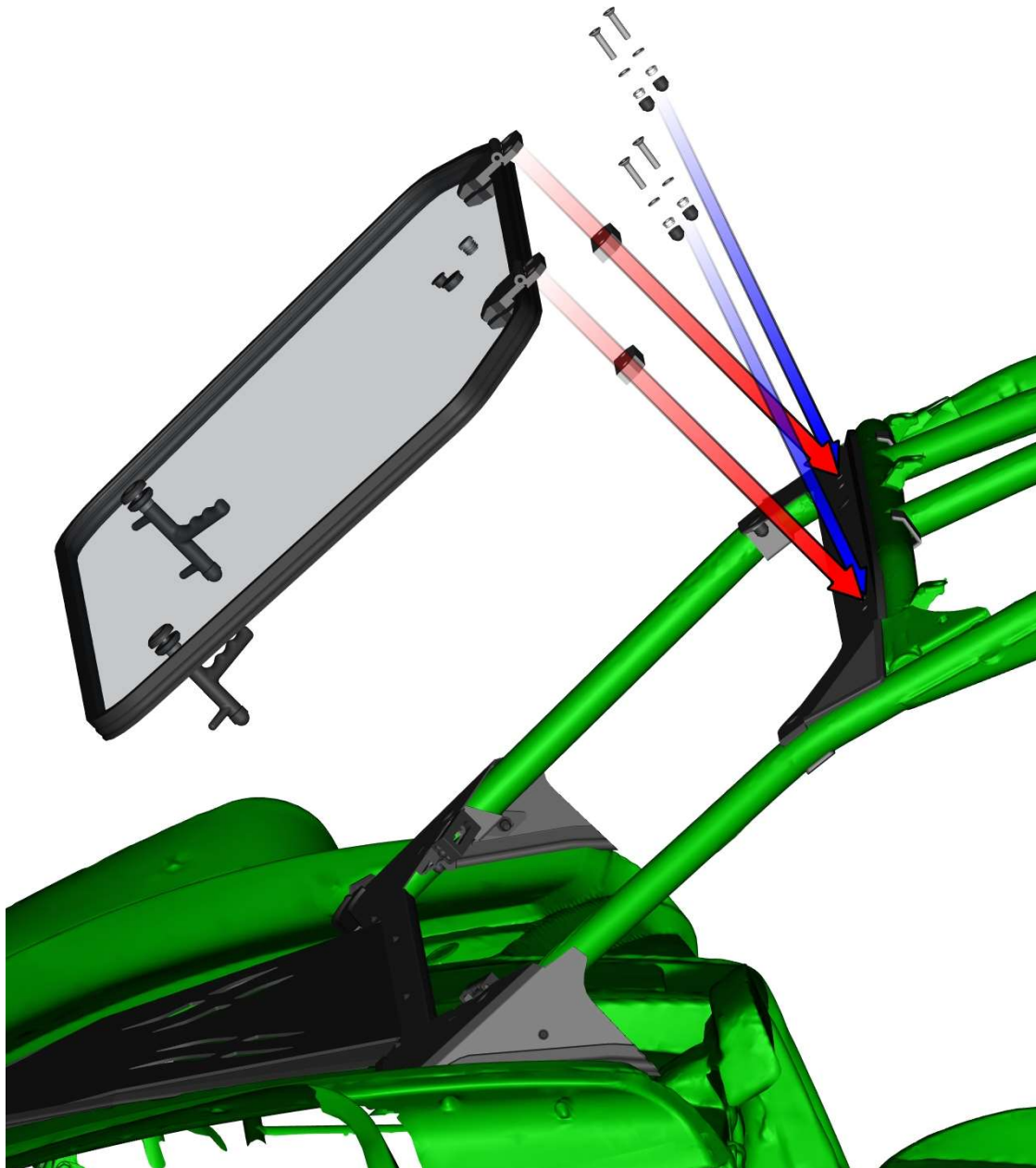
Fix the plastic front caver wit included screws, washers, nuts and covers.



47

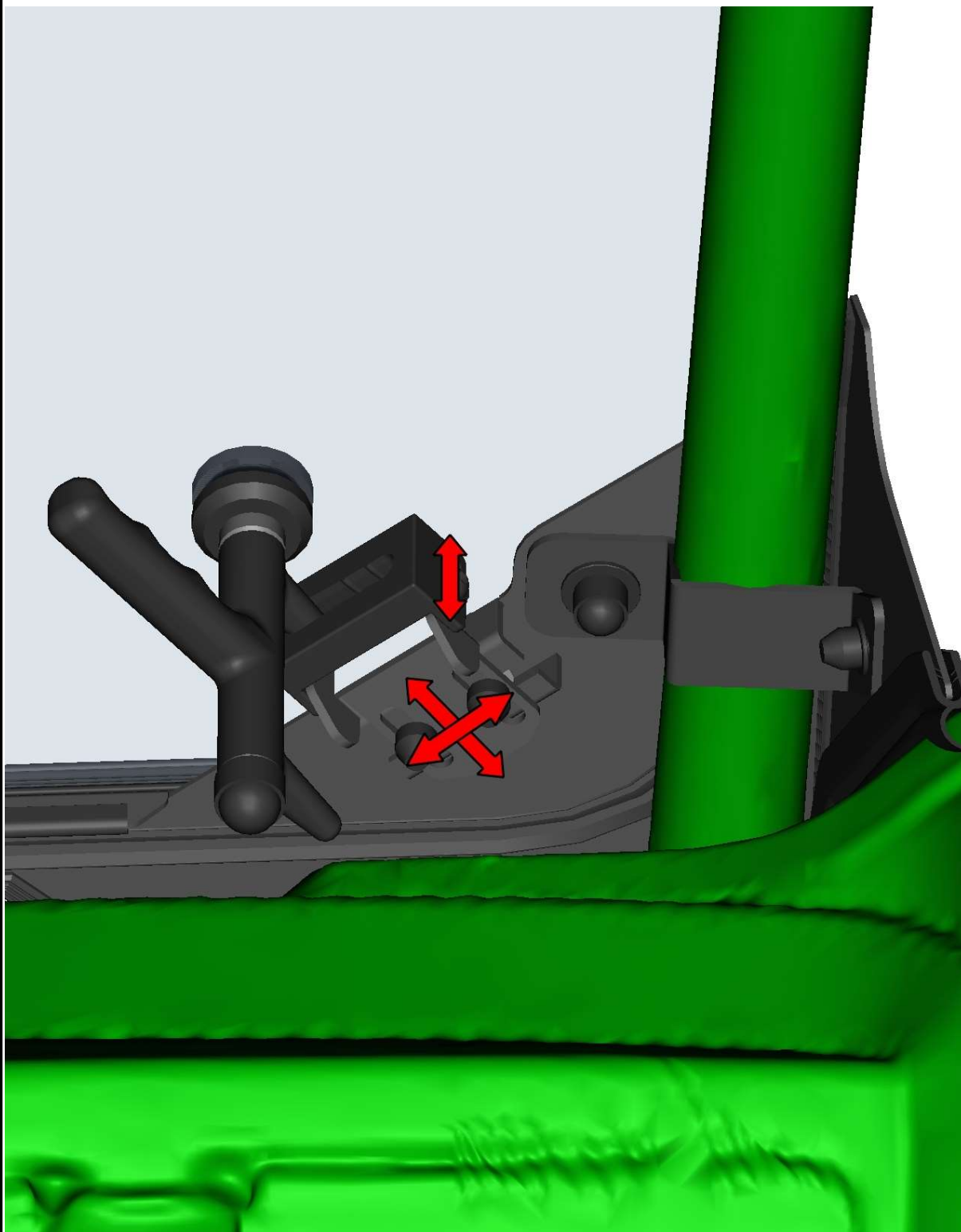
Place the window with the hinge bases onto the front ledge.

Fix the hinge with the base to the ledge
by included screws, washers, nuts and covers.



48

Adjust the glass stop assembly to the best position for glass lock on both sides.



49

WIPER

Route the wiper harness to the wiper motor on vehicle frame.



Fasten the wiper harness with included cable ties.



50

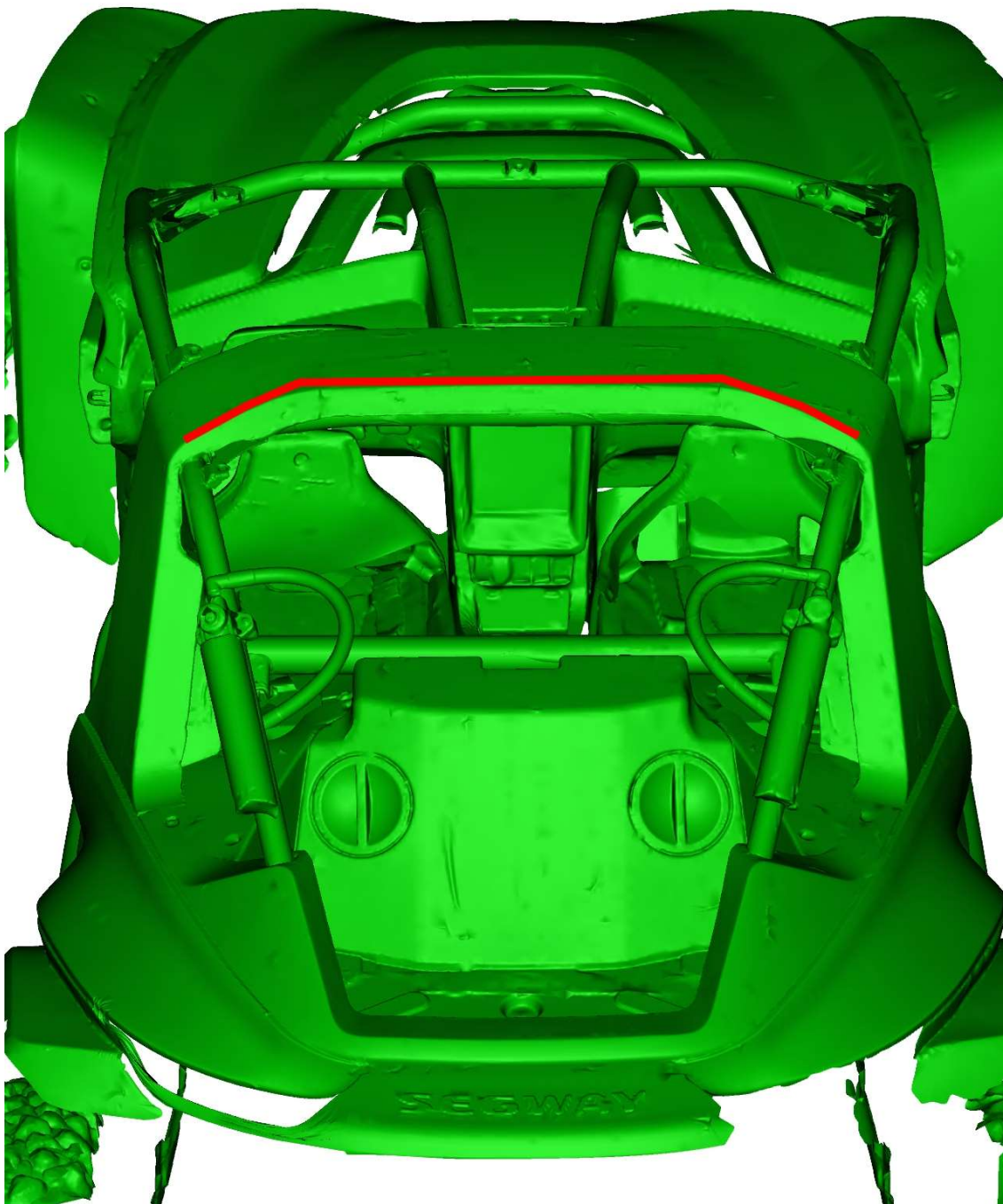
Connect the wiper harness with the wiper motor connector.



51

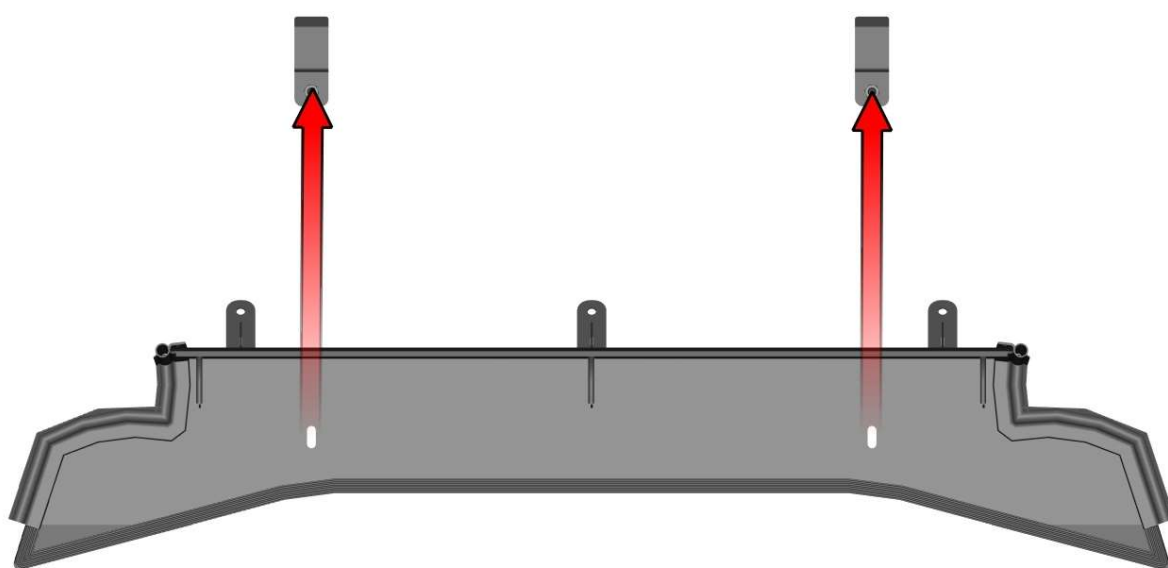
REAR PANEL

Stick the included sealing on the plastic frame cover. The red line shows the position of the seal.



52

Take out the rear bottom ledge holders, save the holders for later usage.



53

Place the rear bottom ledge on the vehicle frame.



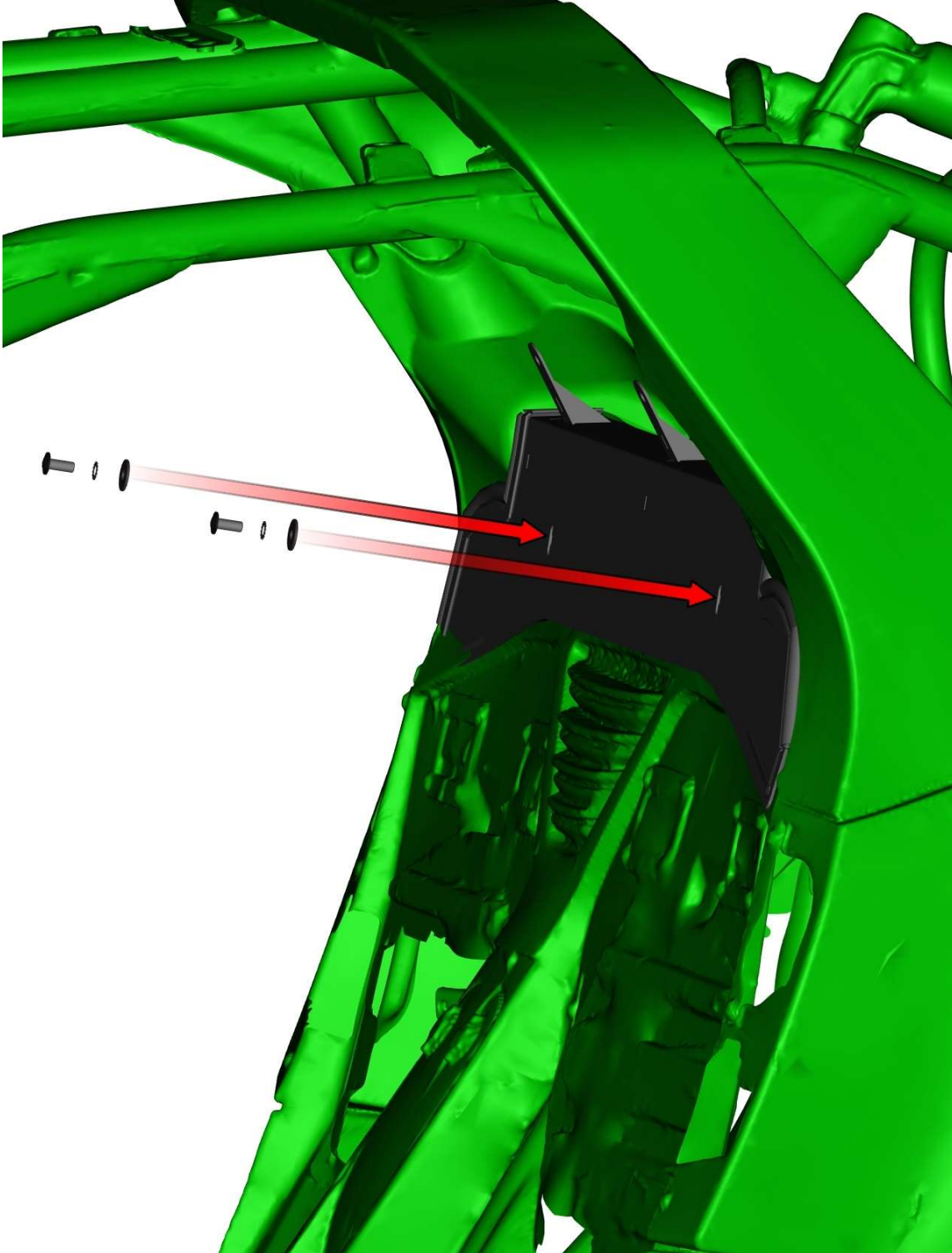
54

Place the rear bottom ledge holders on the rear bottom ledge in accordance with the holes.



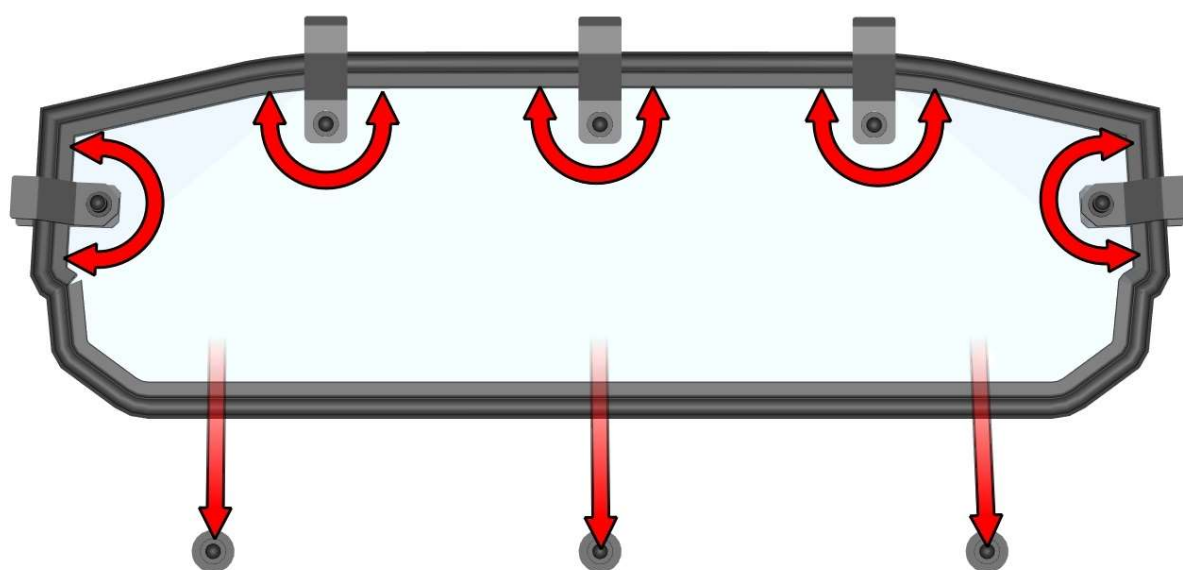
55

Fix the rear bottom ledge with included screws and washers.



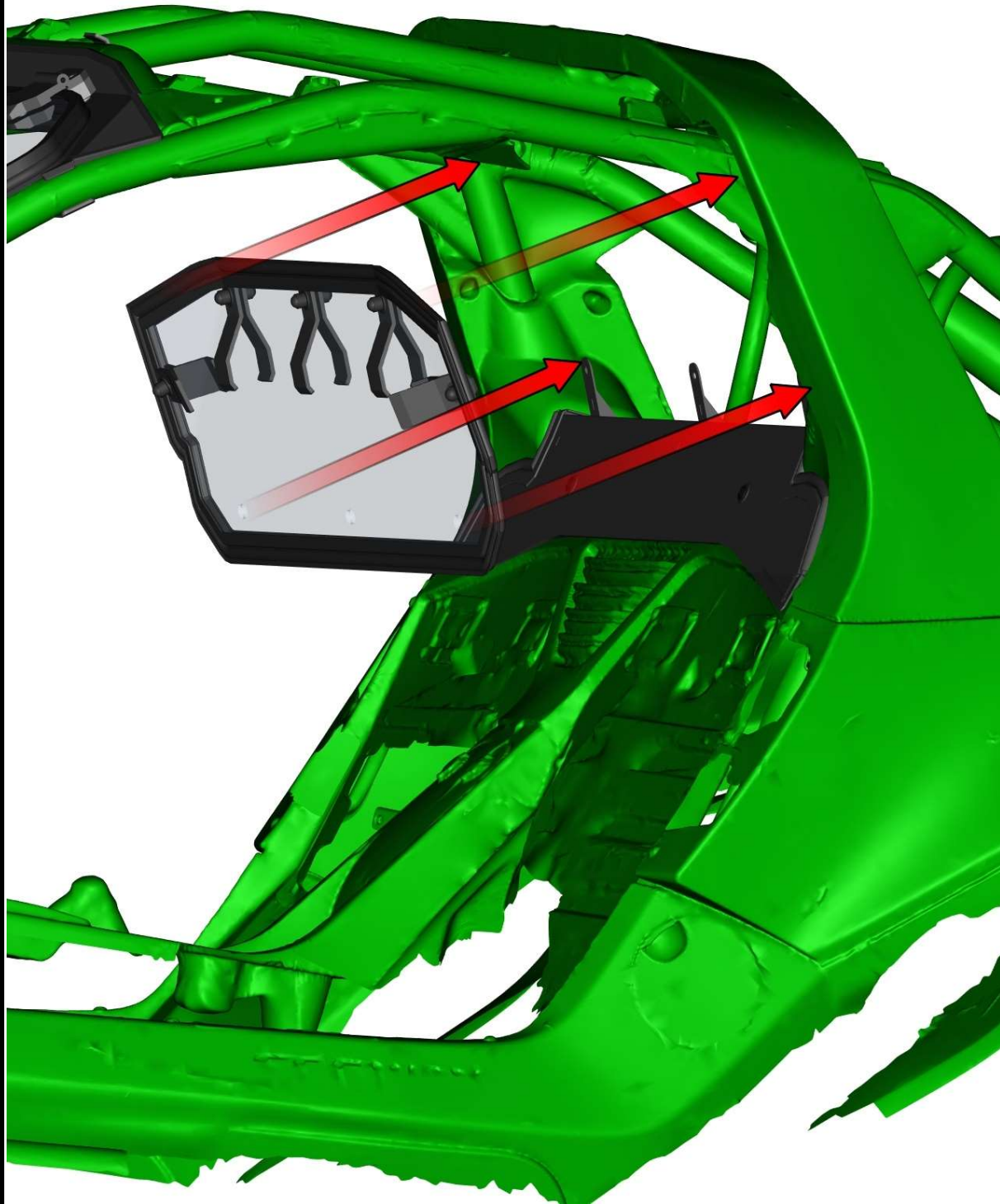
56

Loosen the holders screws and turn the holders to the neutral position.



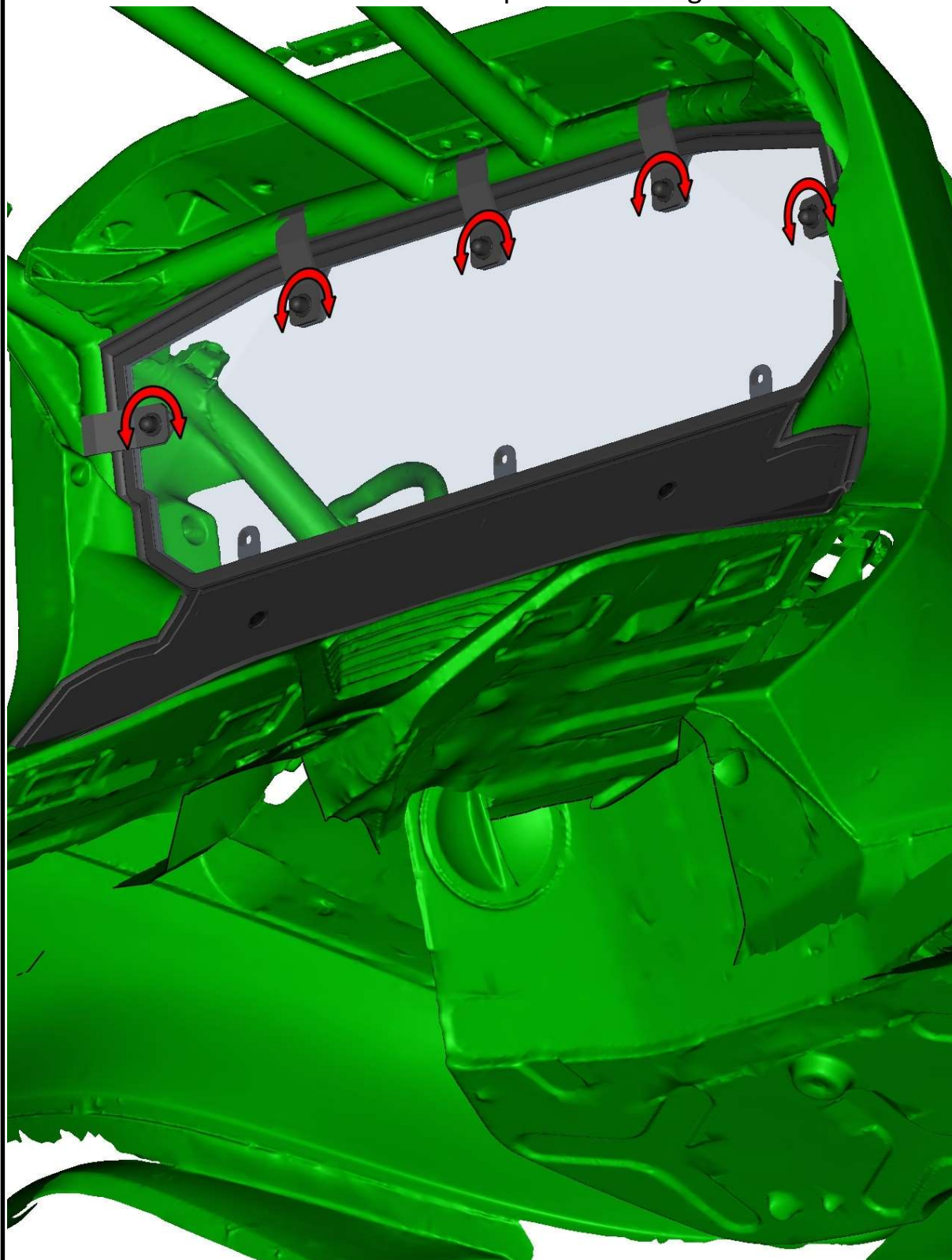
57

Place the rear polycarbonate on the vehicle frame from the inner side.



58

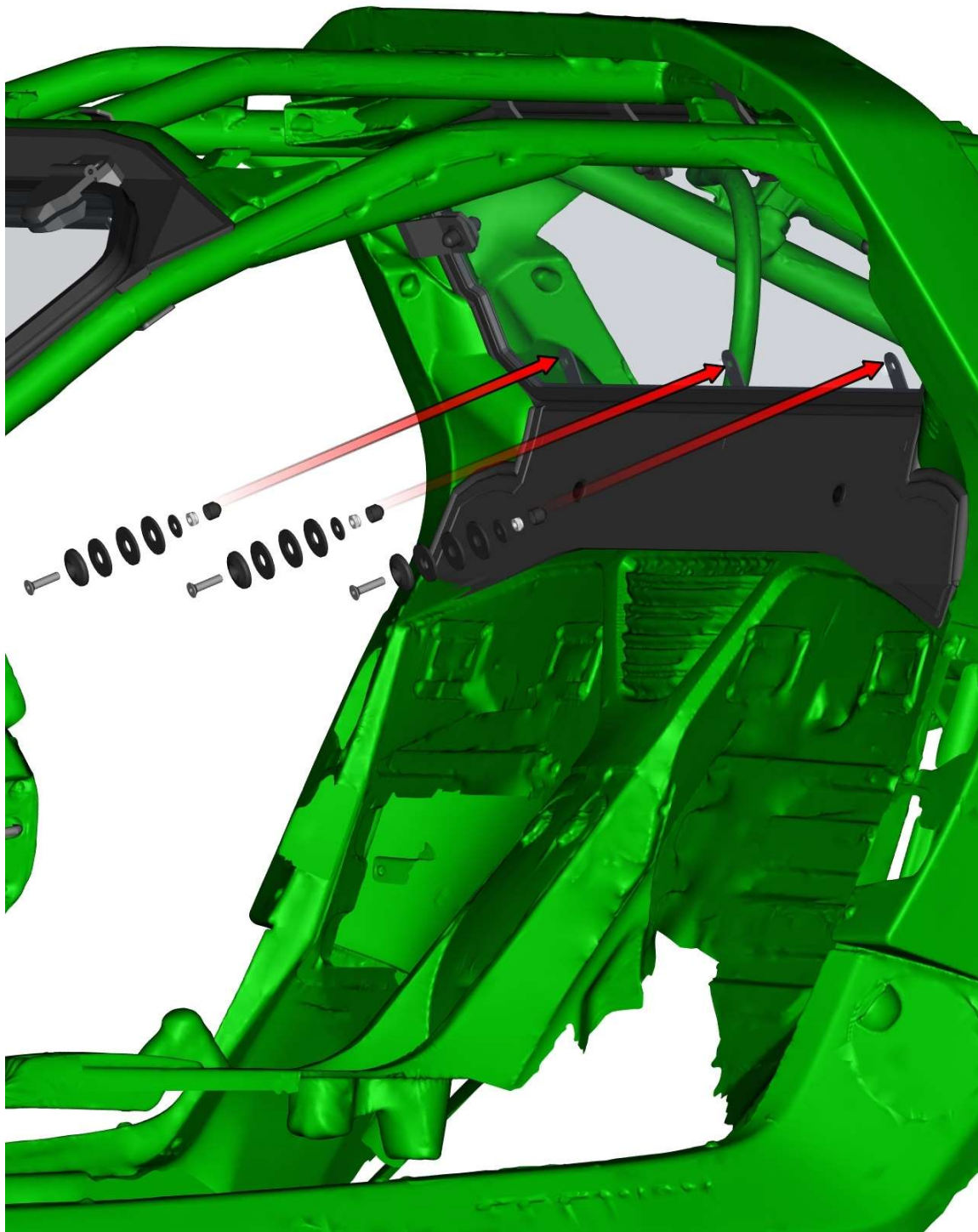
Turn the holders to the correct position and tighten screws.



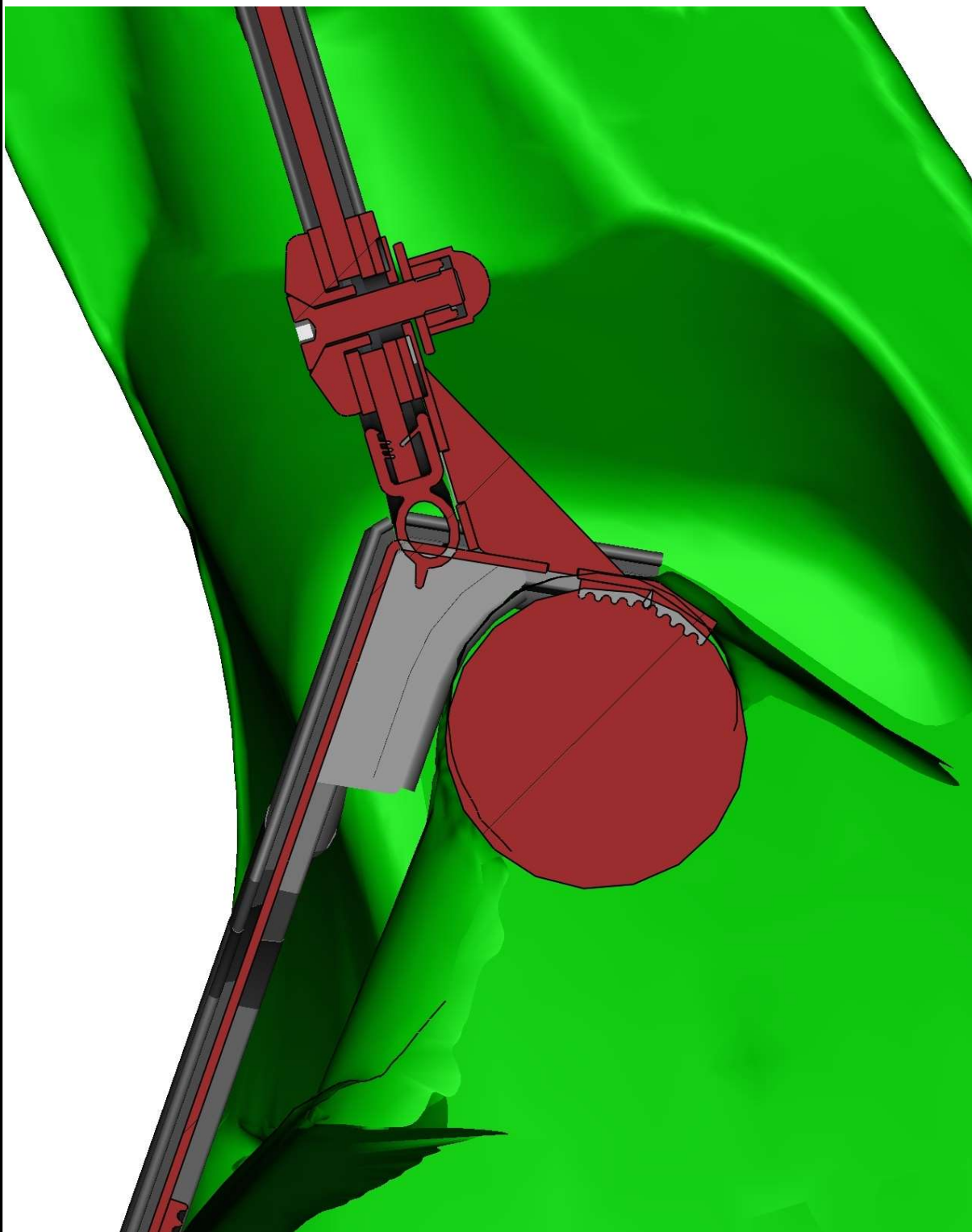
59

Fix the rear poly with the rear bottom ledge by included screws, washers, nuts and covers. SEE NEXT PAGE

60



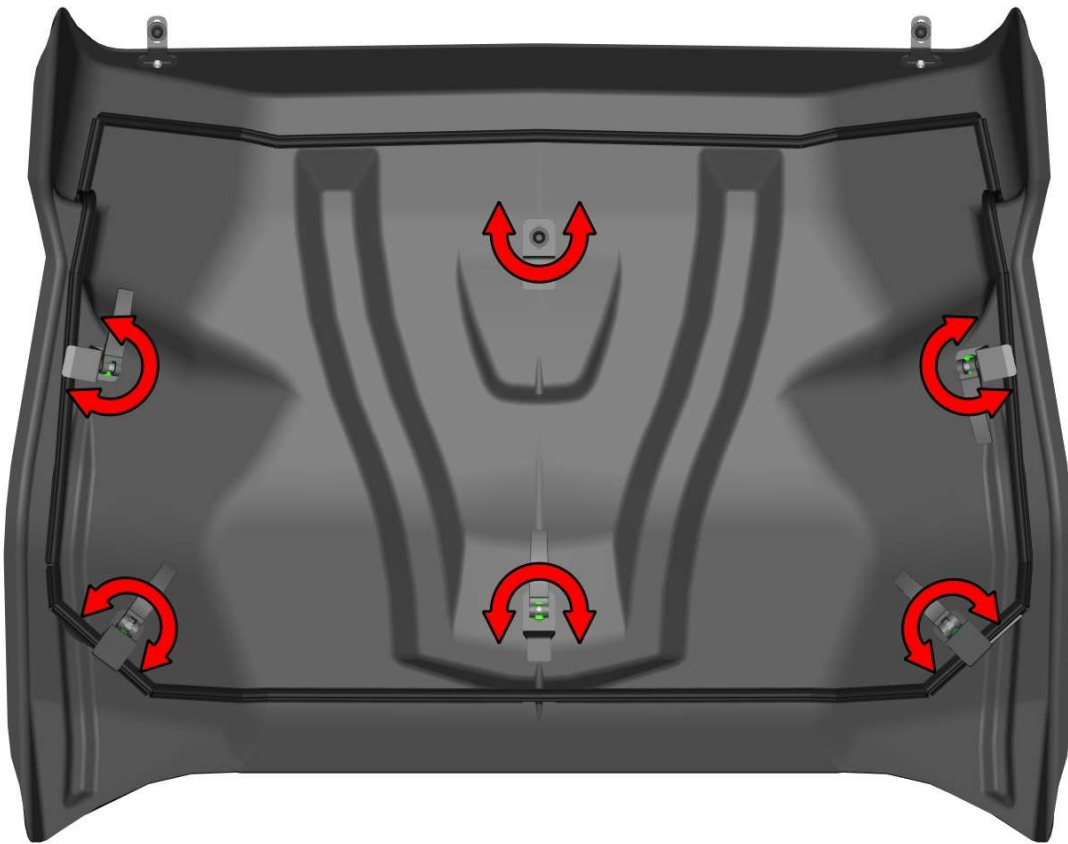
CUTTING VIEW OF THE CONNECTION



61

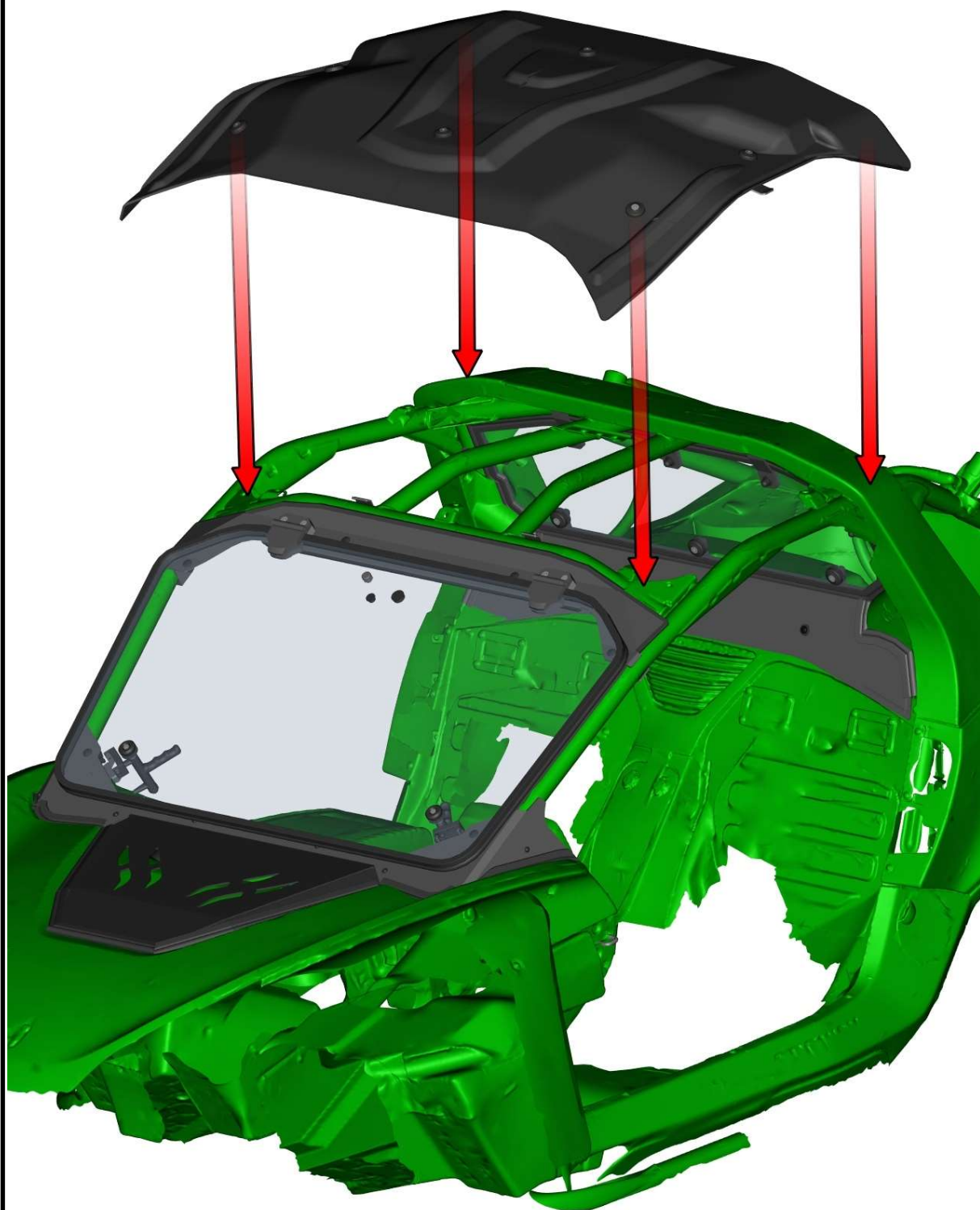
ROOF

Loosen the holders screws and turn the holders to the neutral position.



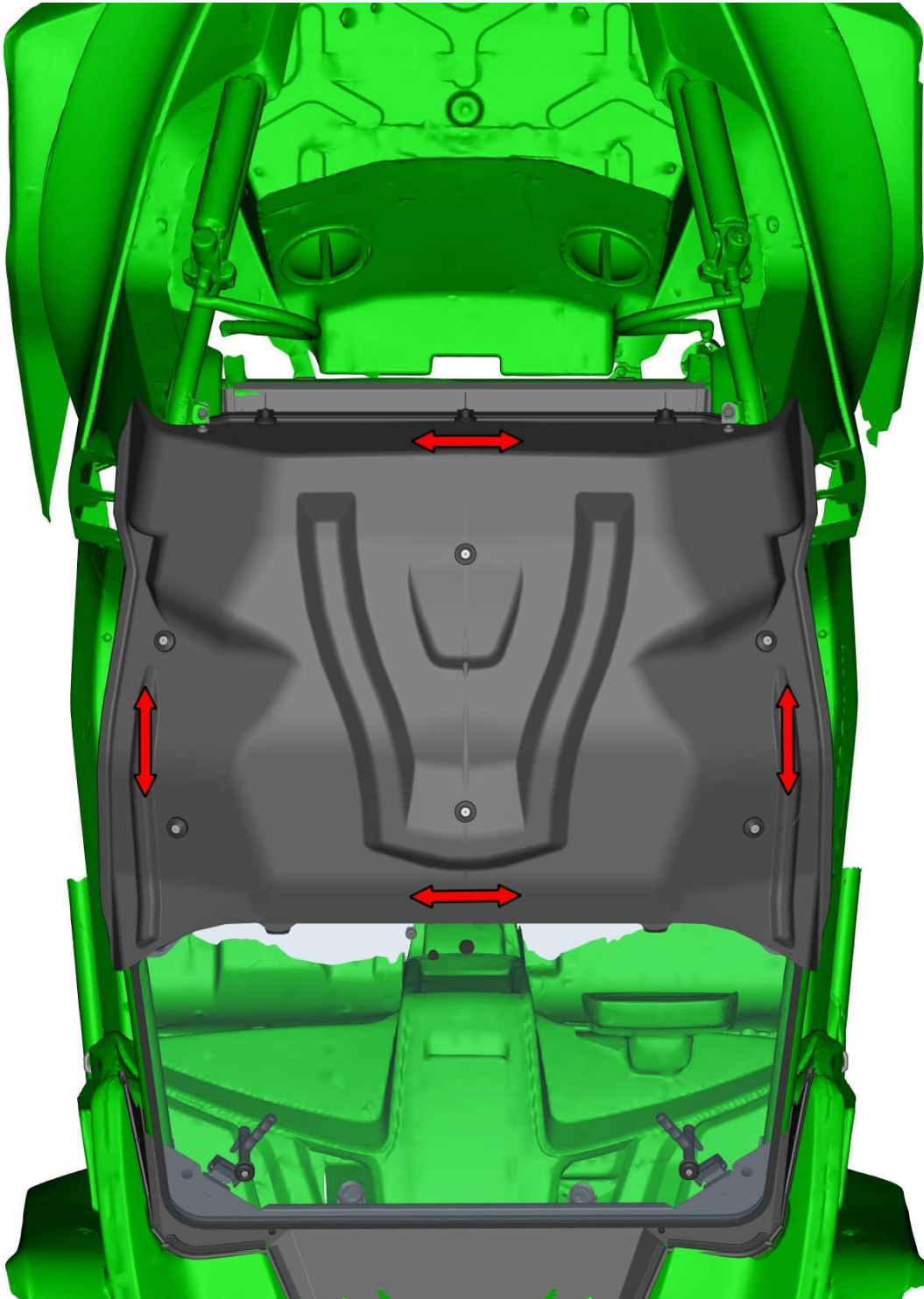
62

Place the roof panel onto the vehicle frame.



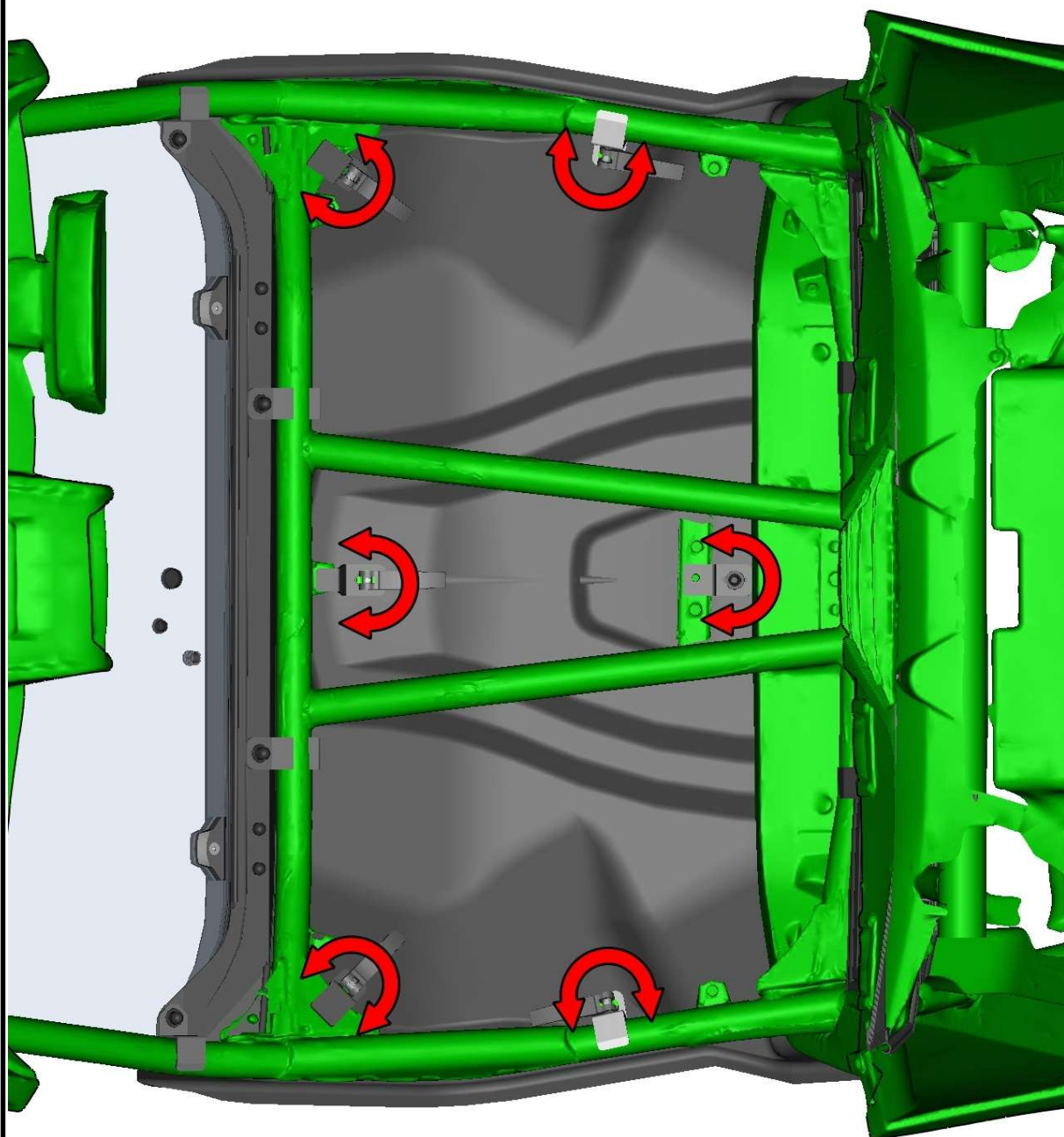
63

Adjust the roof panel to the best position.



64

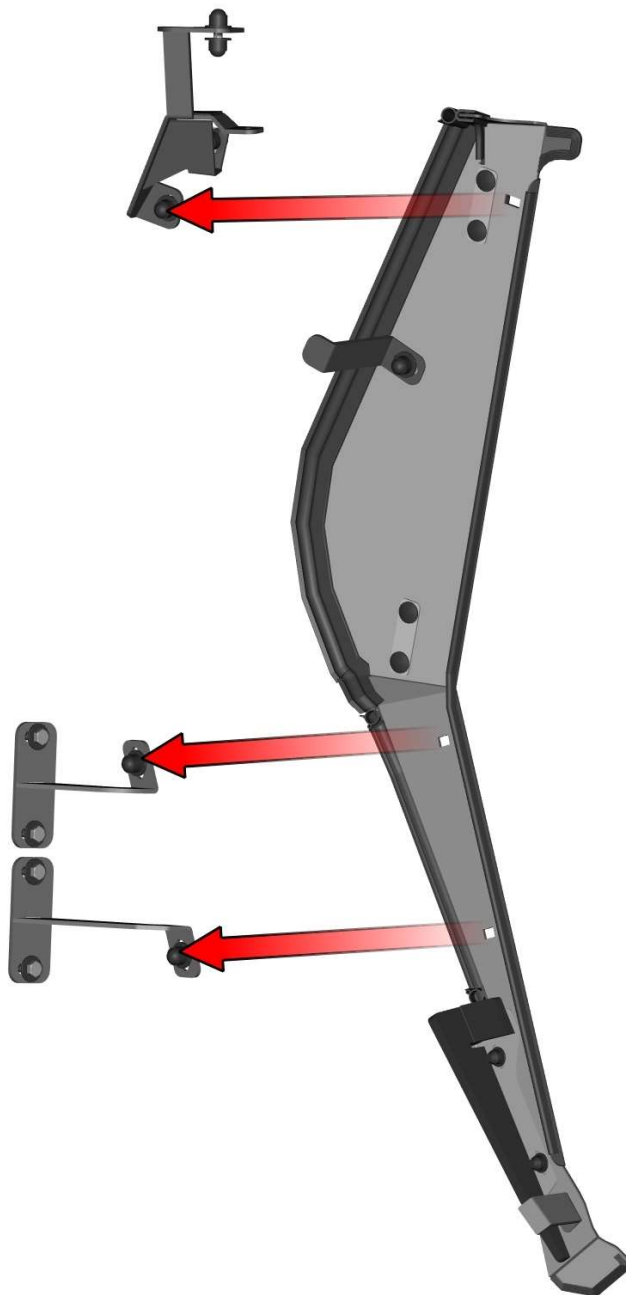
Turn the holders to the correct position and tighten.



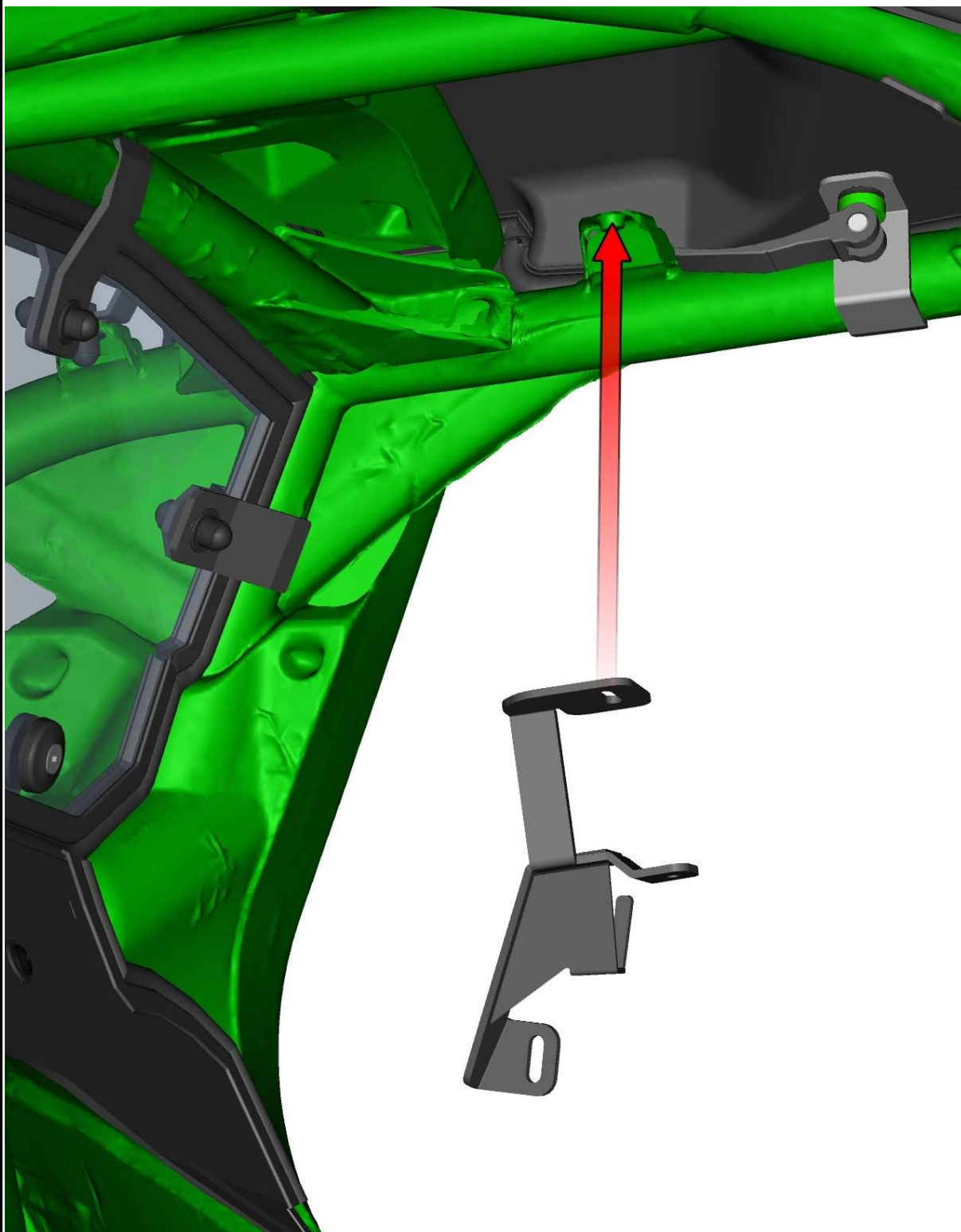
65

LEFT DOOR + RIGHT DOOR

Take out the door base holders, save the holders for later usage. Loosen the rest of the holders and turn the holders to the neutral position.

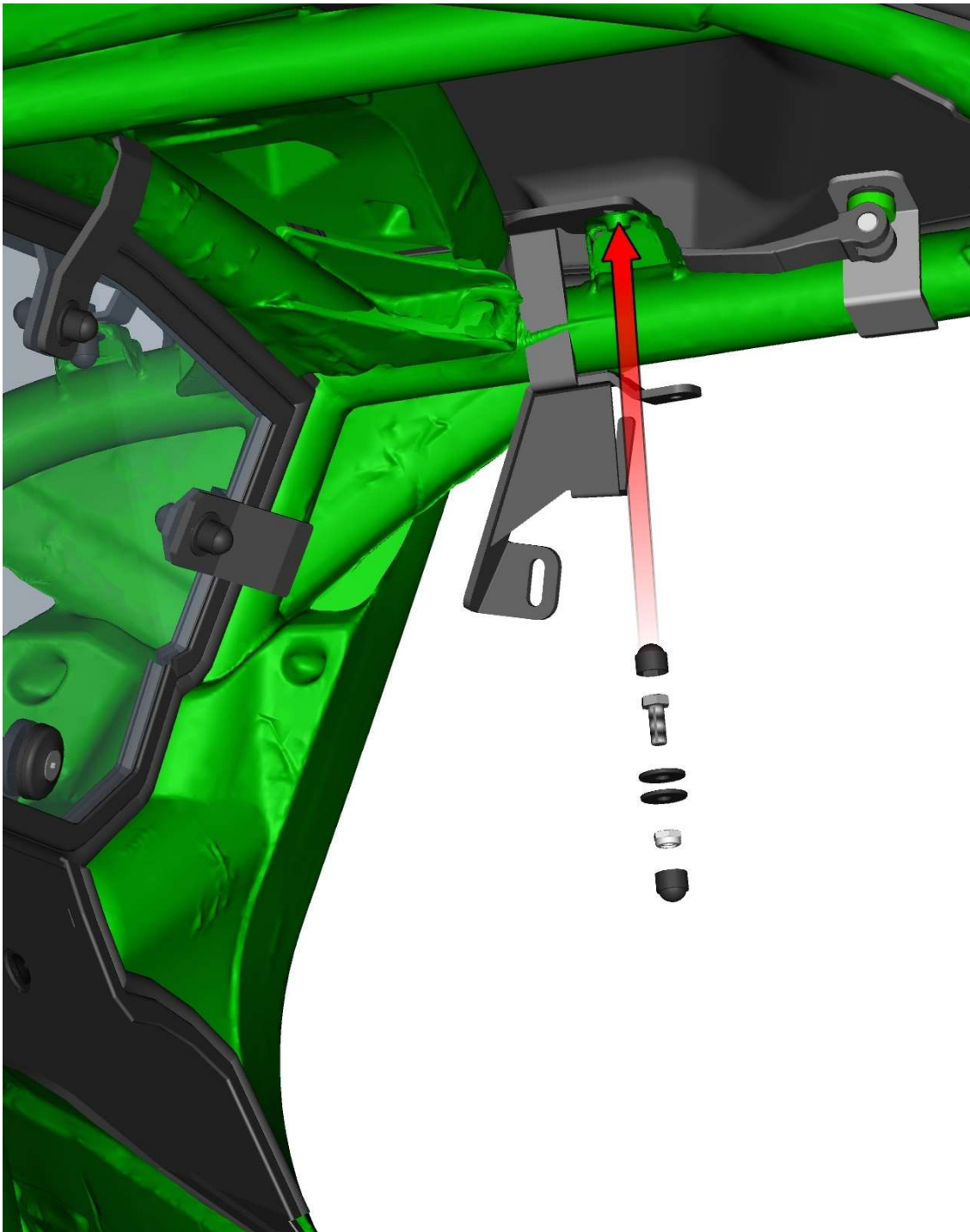


Place the door base upper holder on the vehicle frame in accordance with the hole.



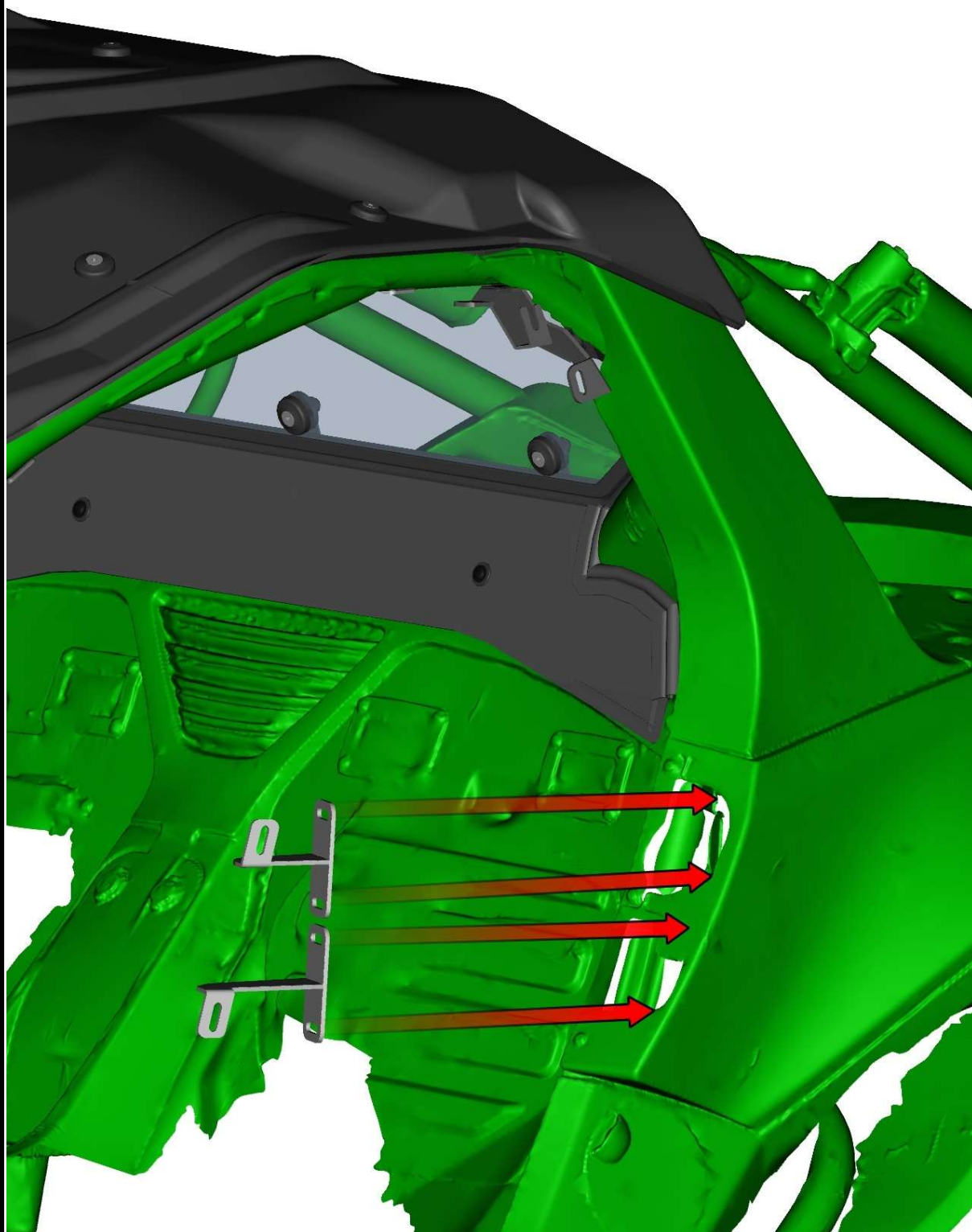
67

Fix the door base upper holder with included screw, washers, nut and covers.



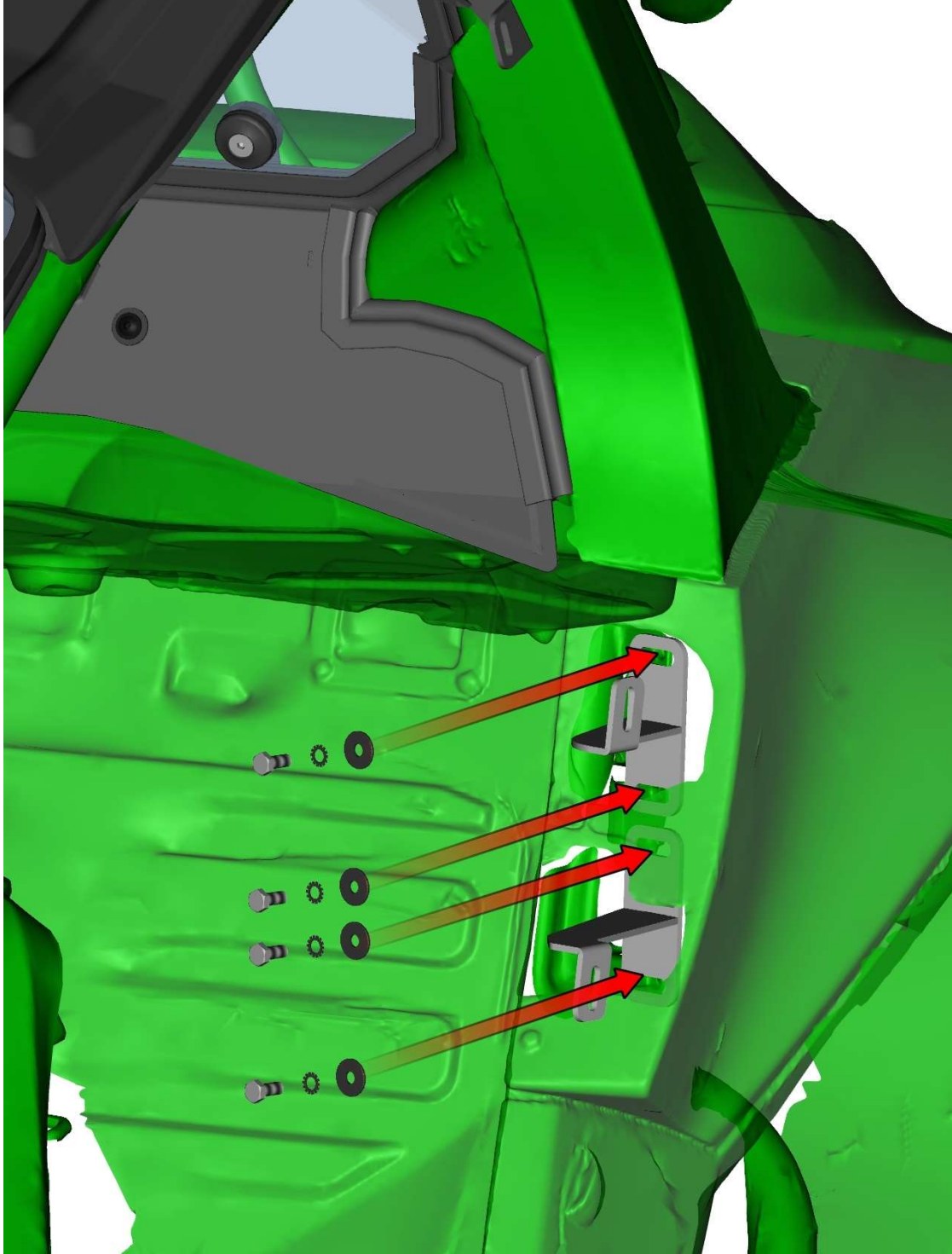
68

Place the door base bottom holders on the vehicle frame on the original half door hinges position.



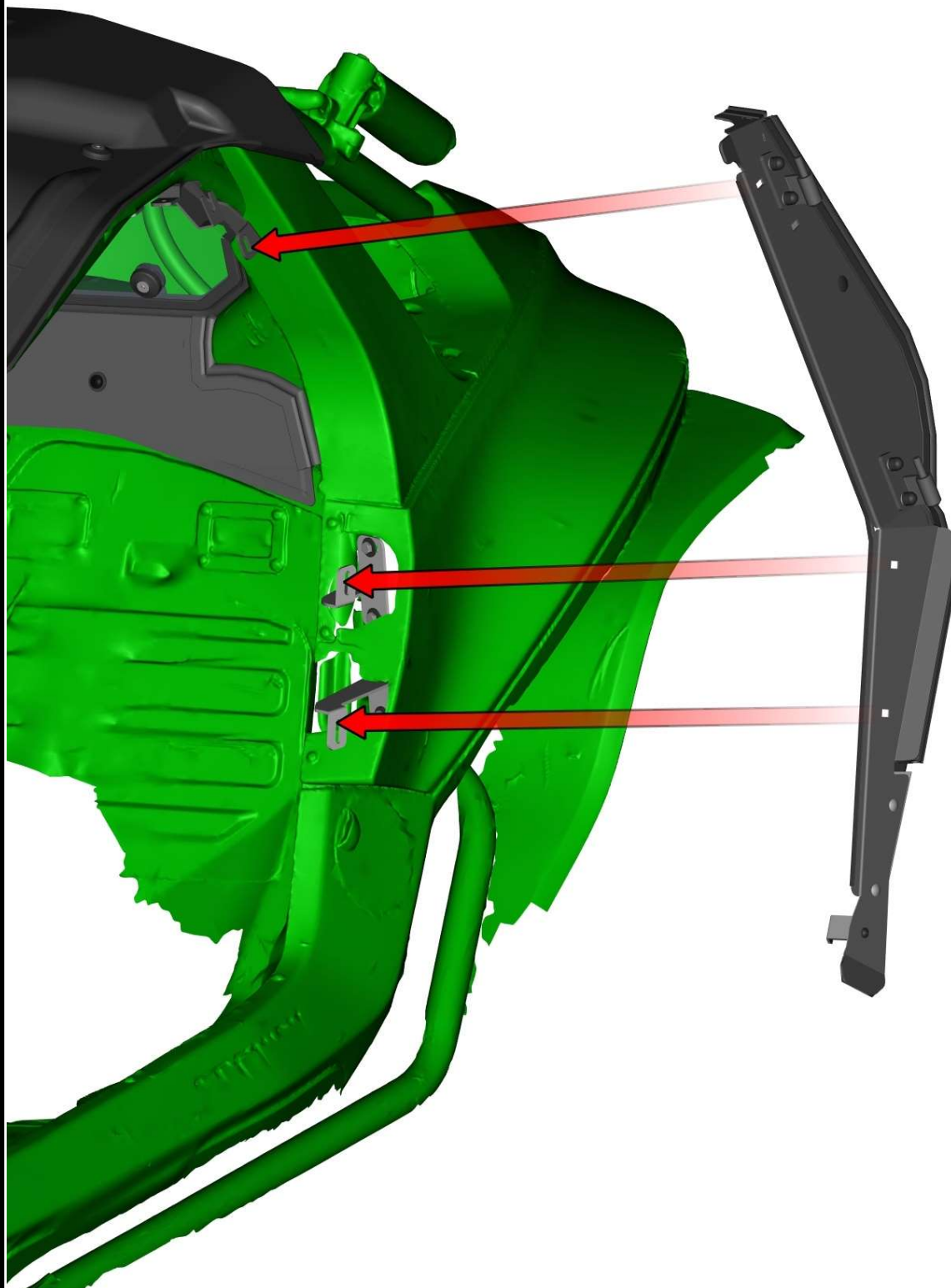
69

Fix the door base bottom holders with included screws and washers.



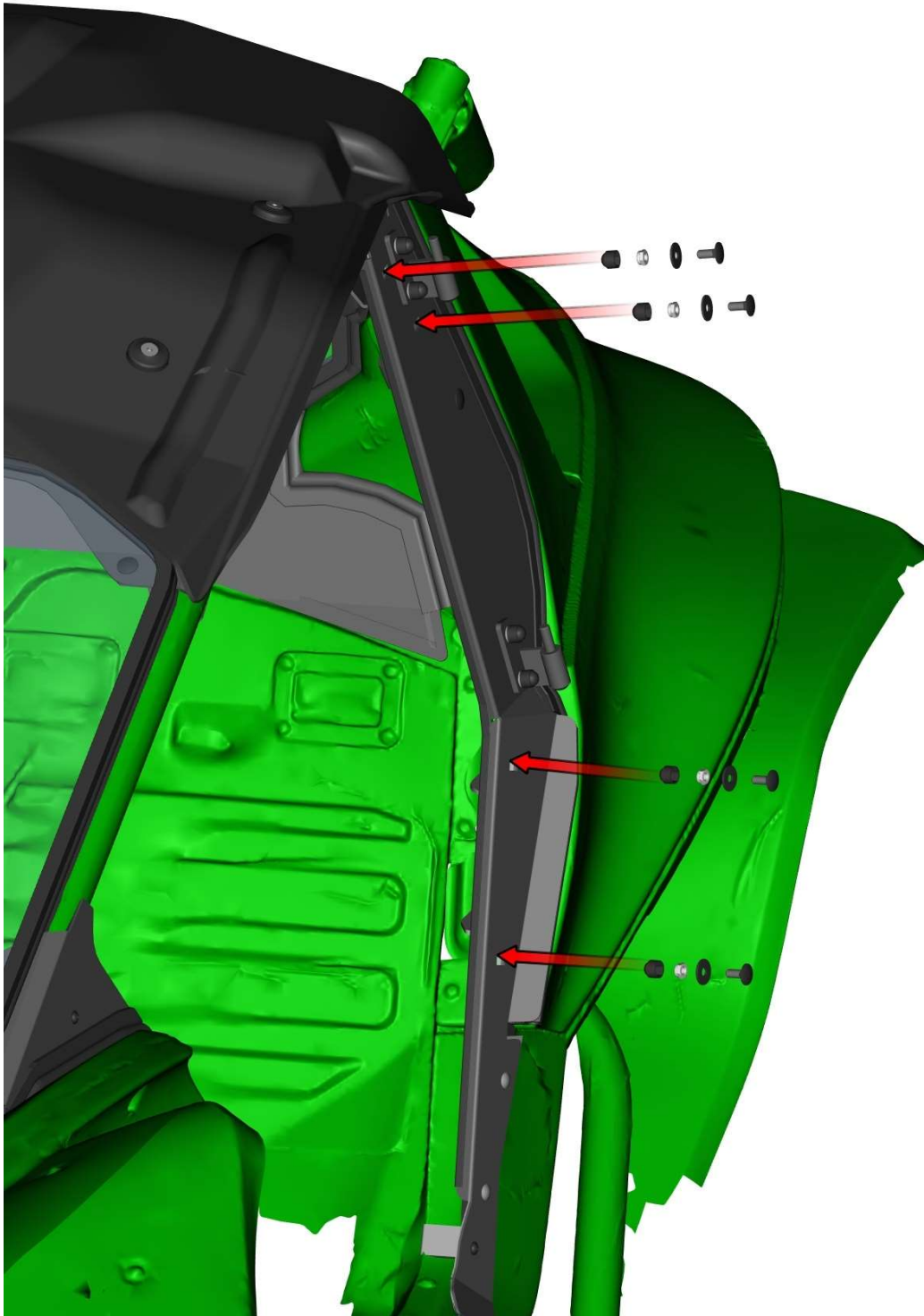
70

Place the door base on the door base holders and the vehicle body.



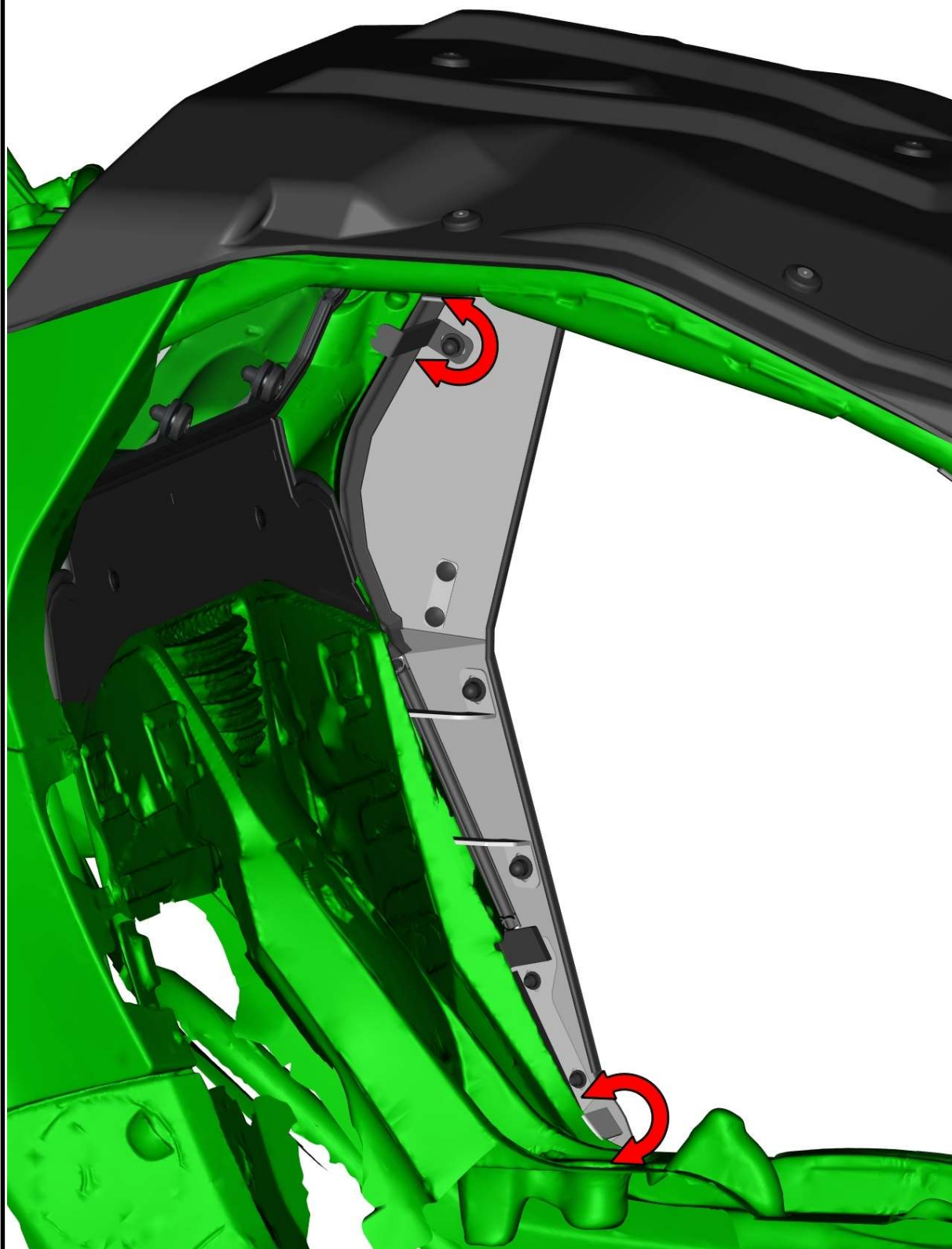
71

Fix the door base with included screws, washers, nuts and covers.



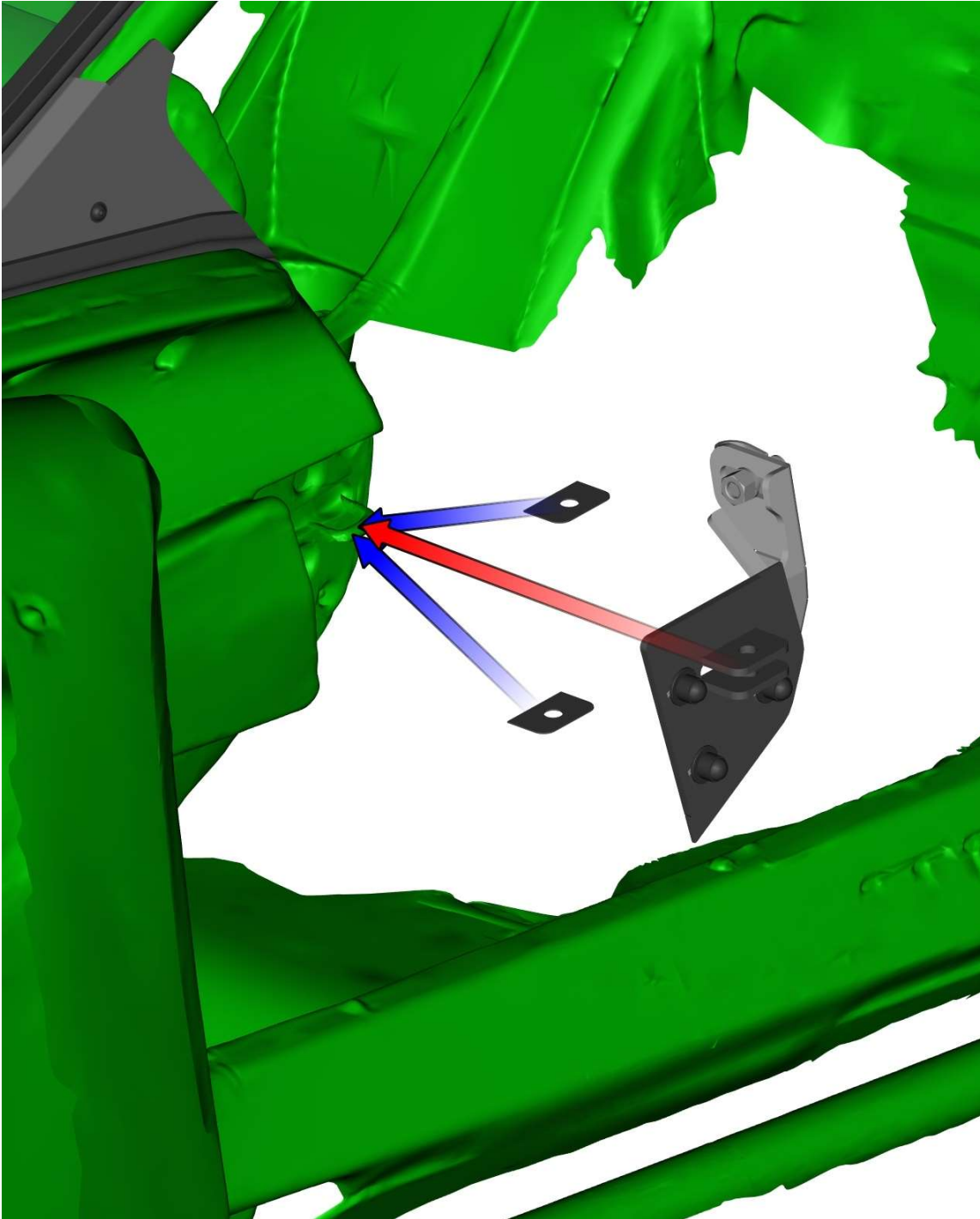
72

Turn the door base holders to the correct position and tighten the screws.



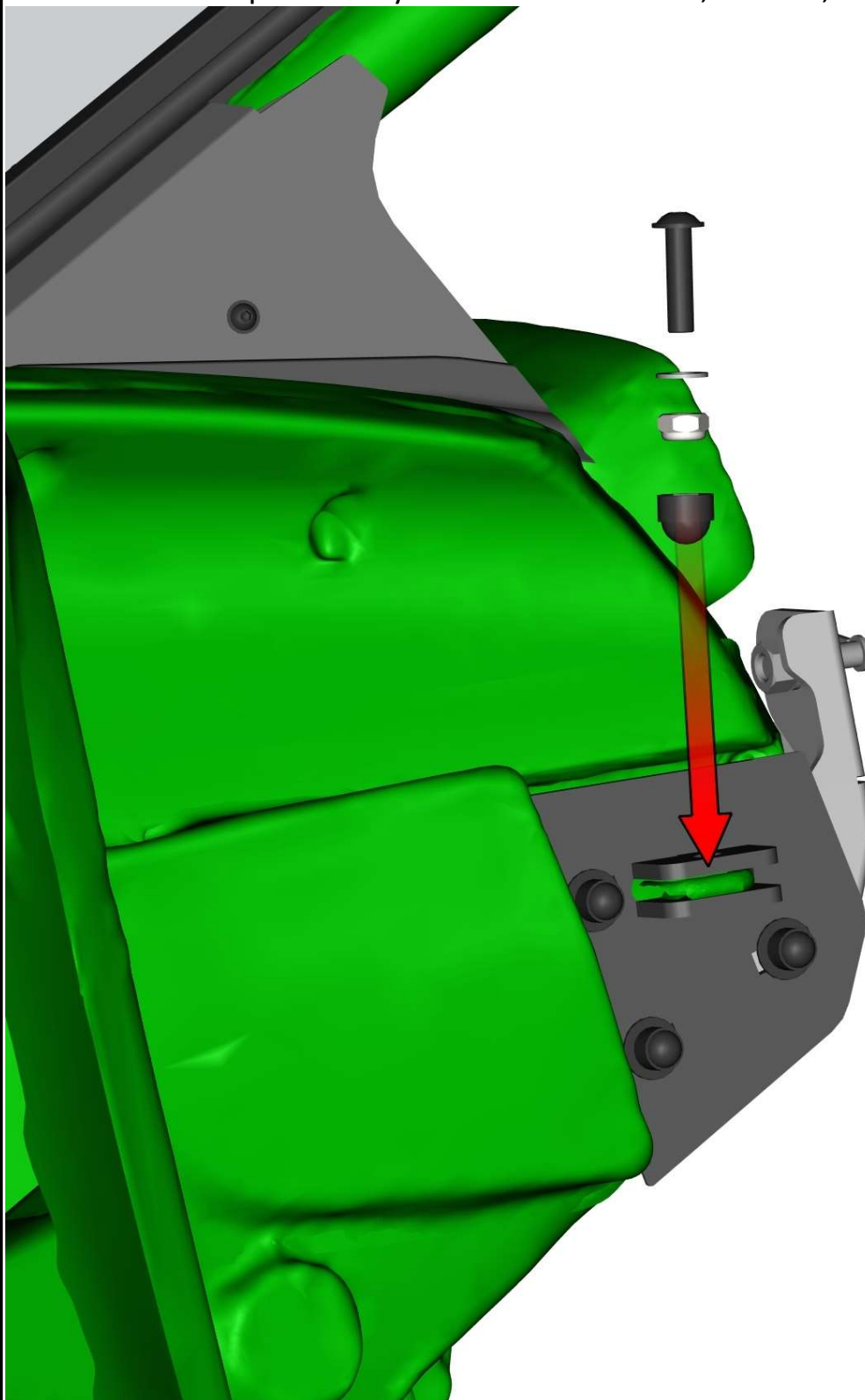
73

Loosen three screws on the door stop assembly. Place the door stop assembly on the original half door lock. The metal washers use only if necessary.



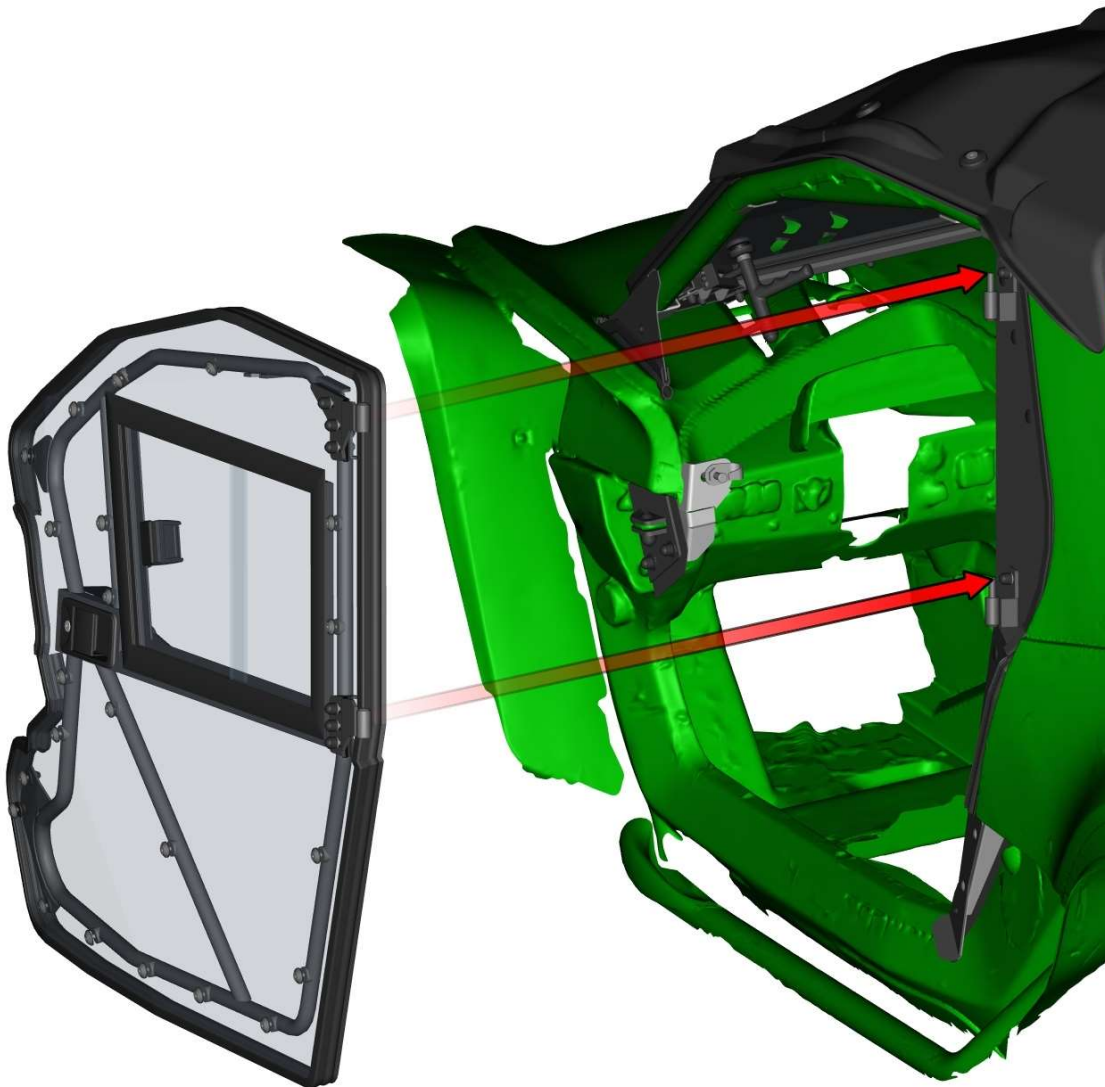
74

Fix the door stop assembly with included screw, washer, nut and cover.



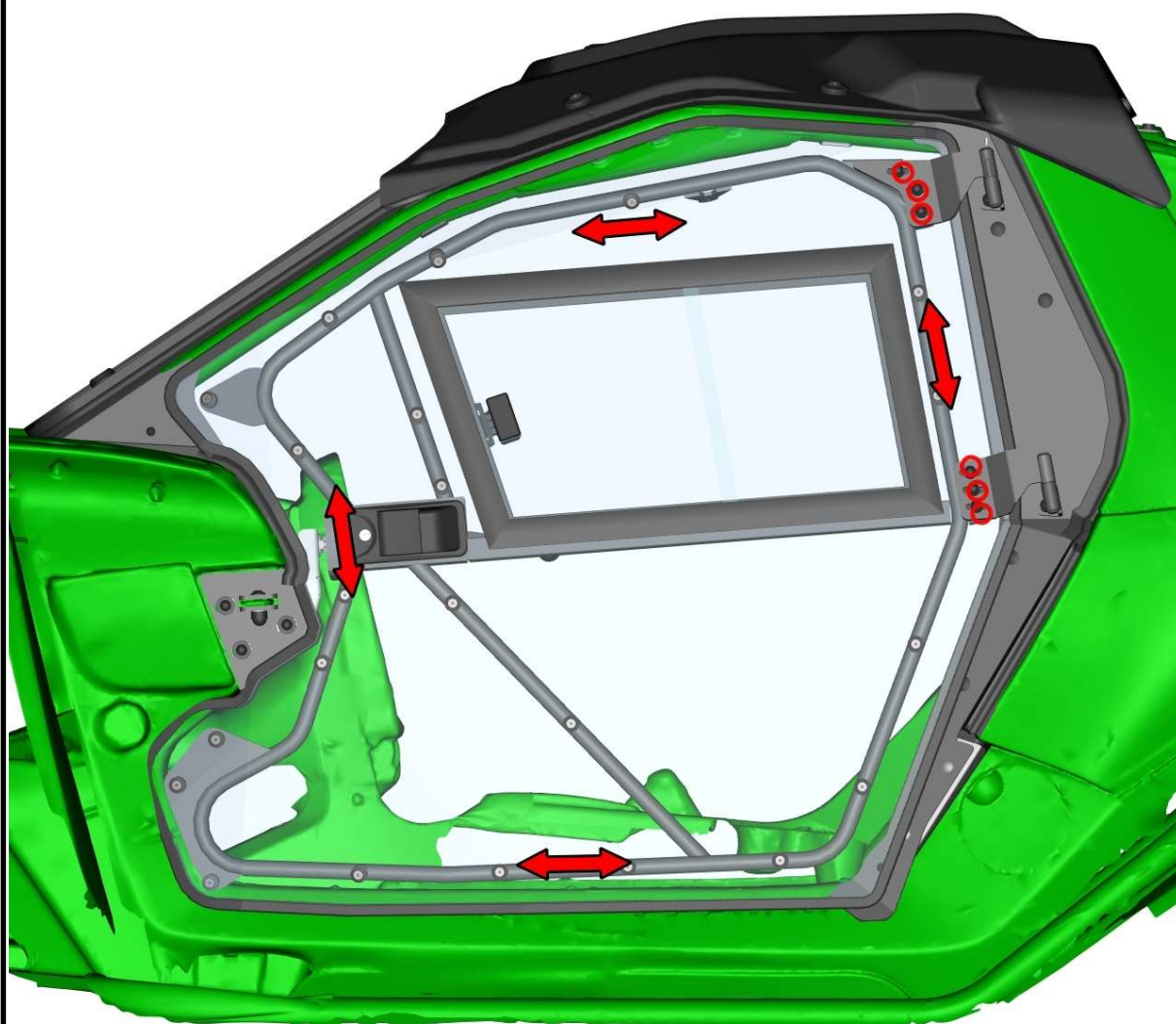
75

Lubricate the hinges pins and place the door onto the hinges.

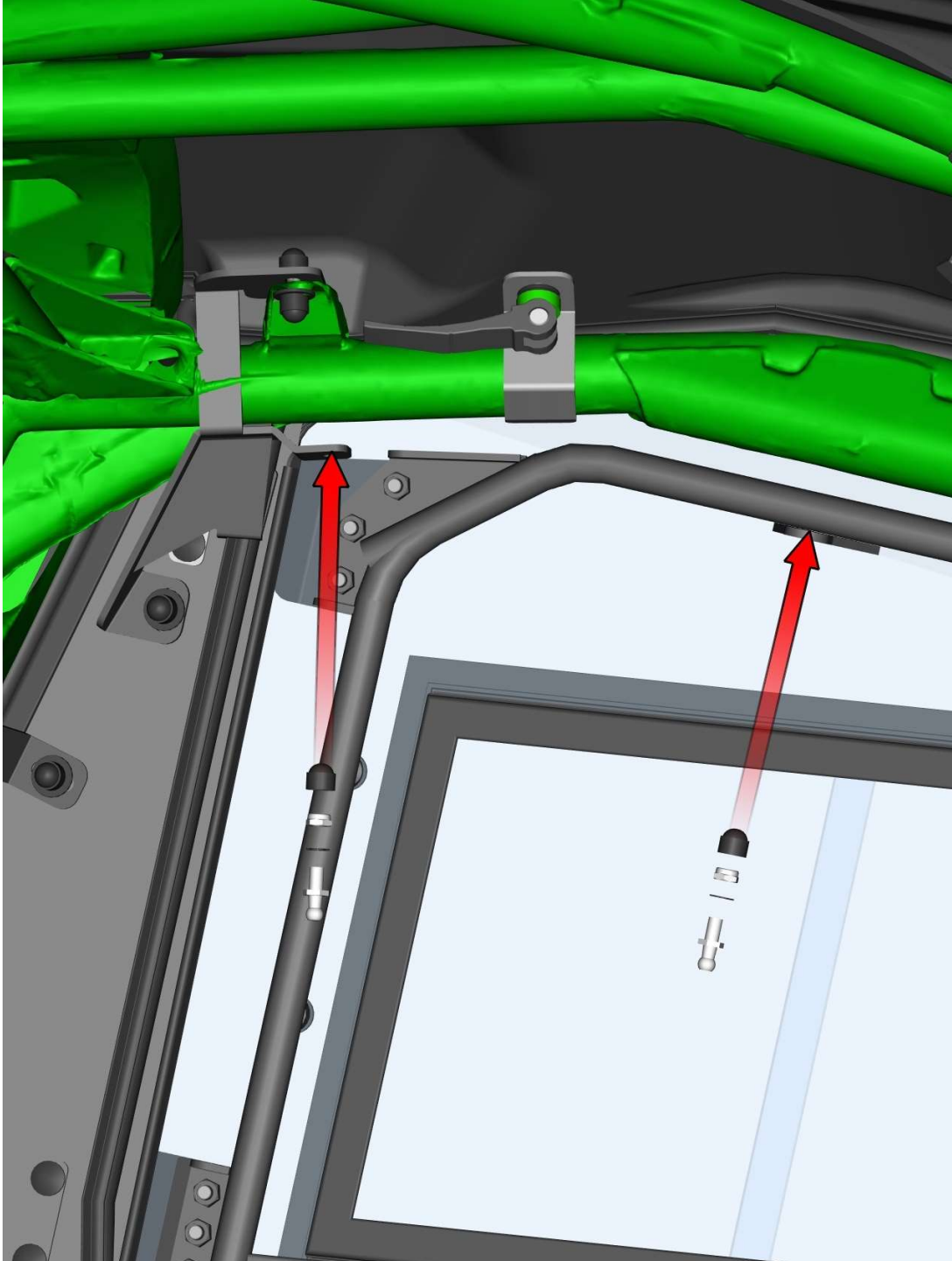


76

Adjust the door by hinges to the best position. Tighten the hinges screws.

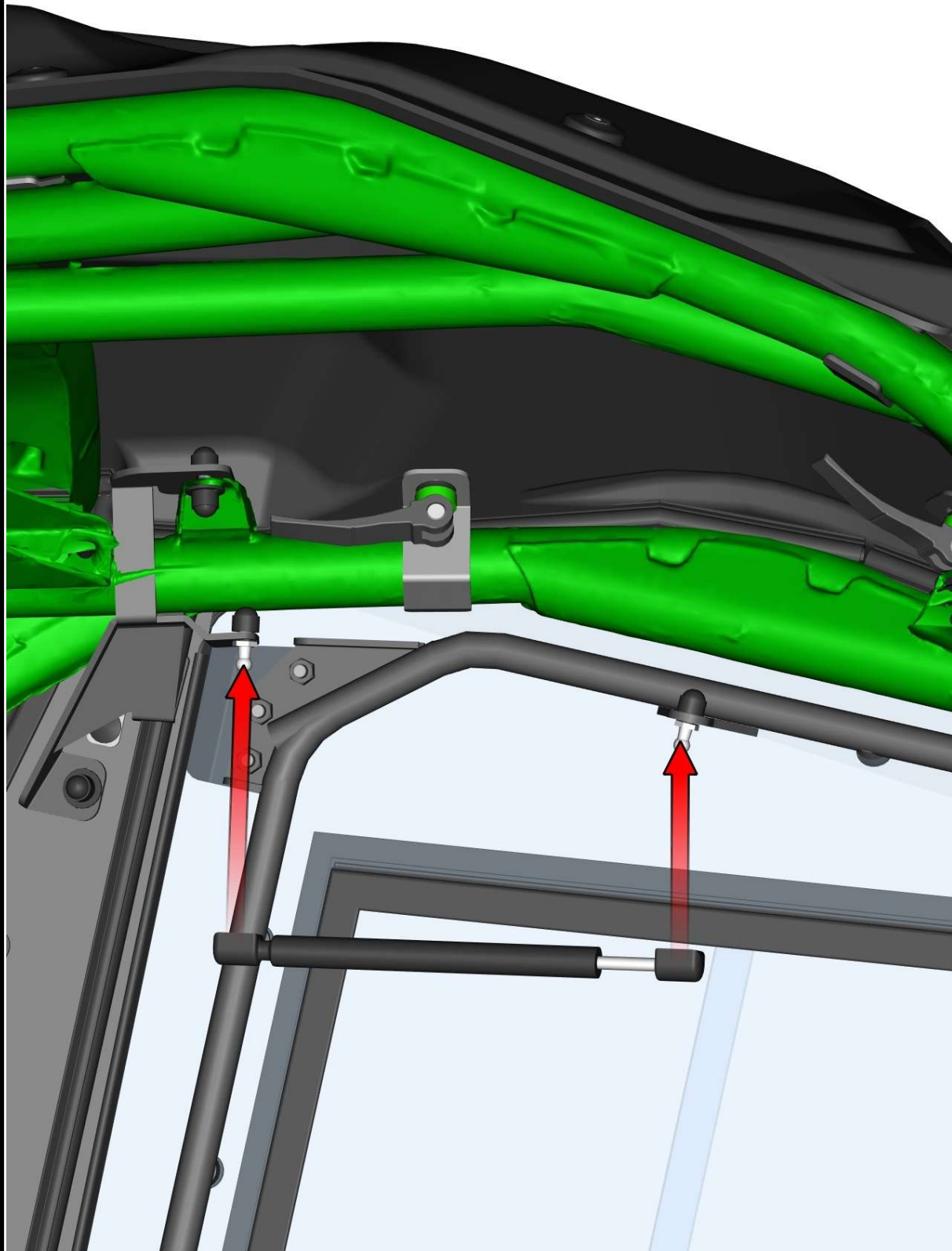


Install gas spring pin onto the gas spring holders.



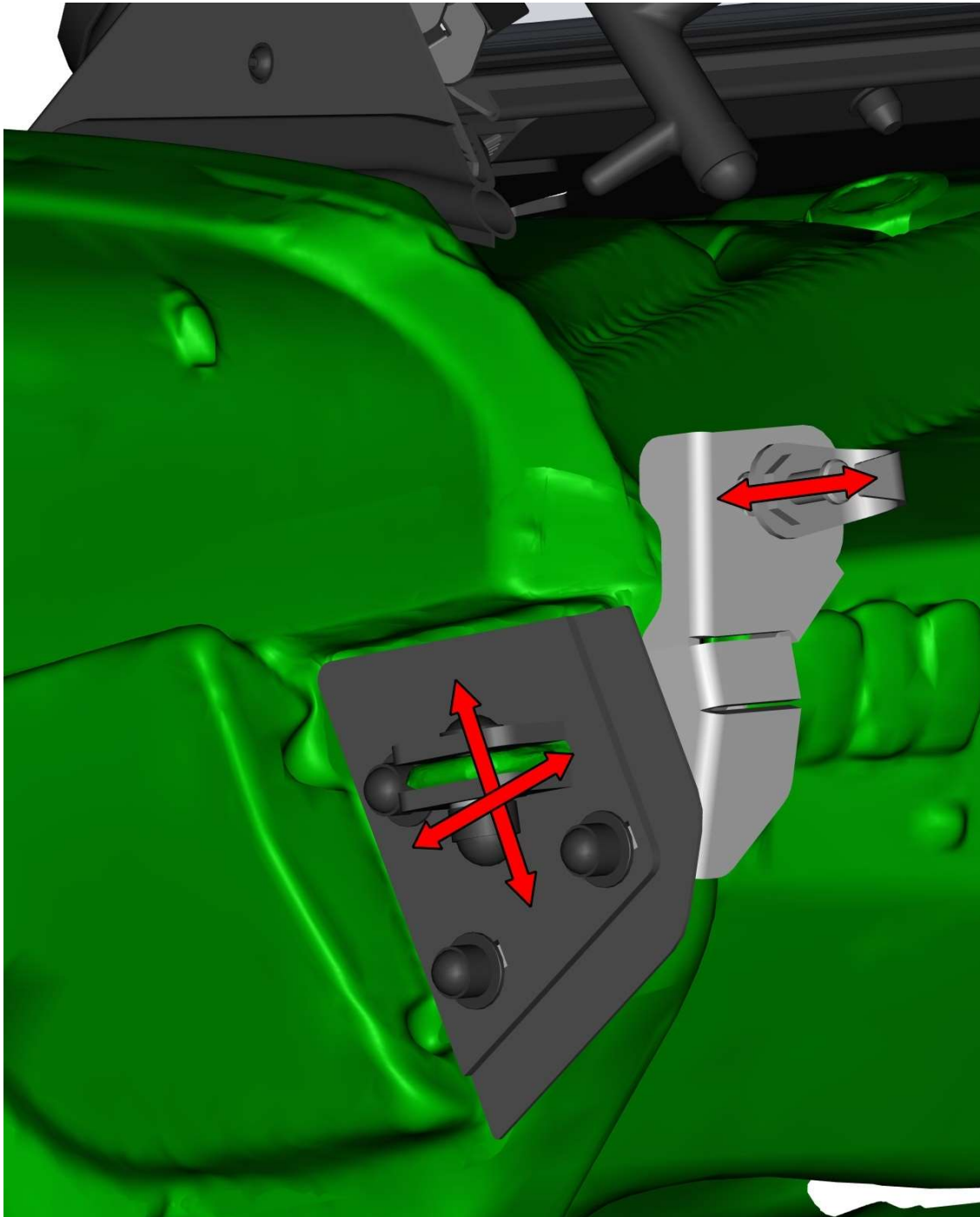
78

Install the gas spring on the gas spring pins.



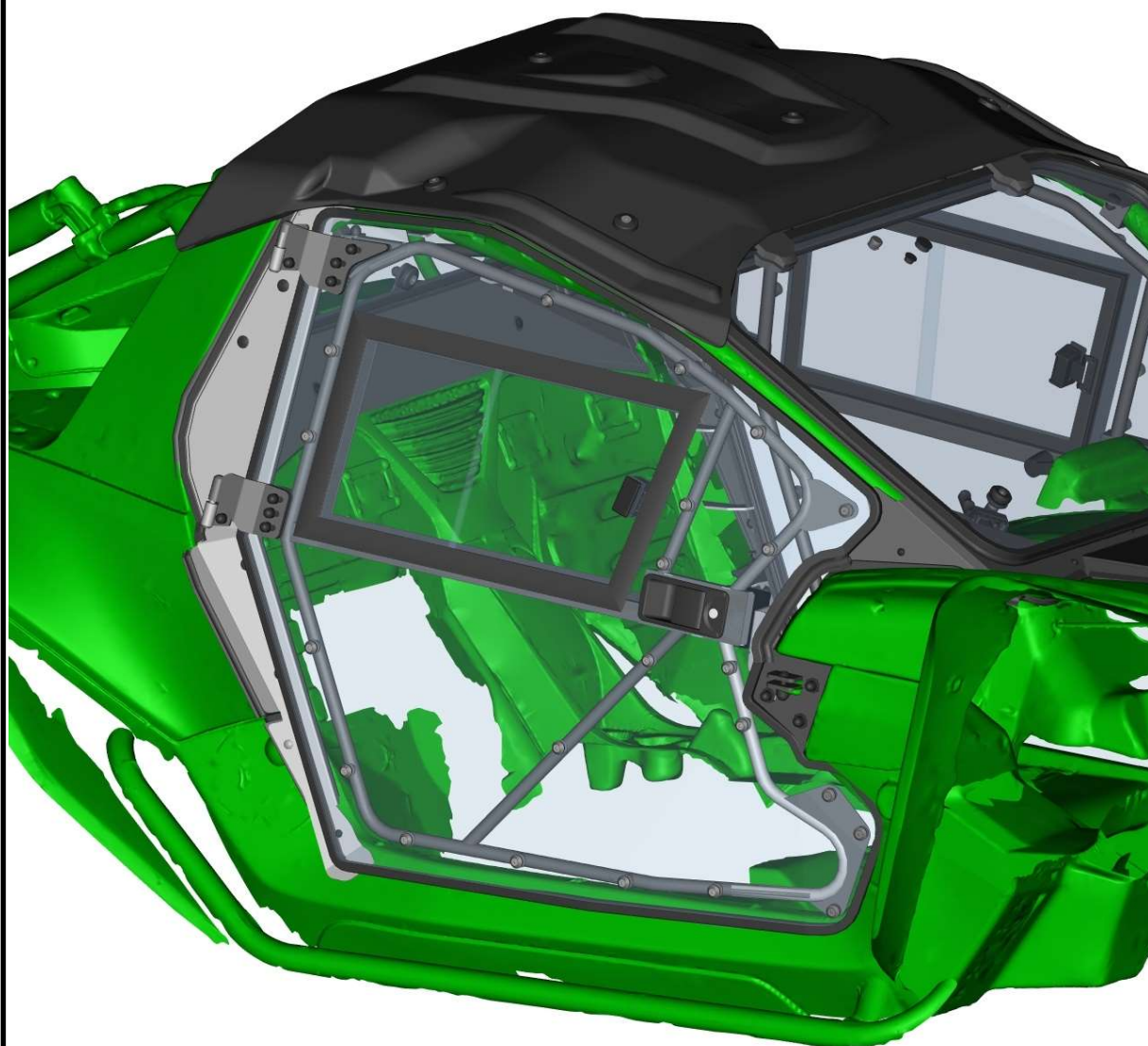
79

Adjust the door stop holder and door stop pin to the best position.
If you adjust the door stop correctly and close the door slowly you can
hear two metallic clicks.



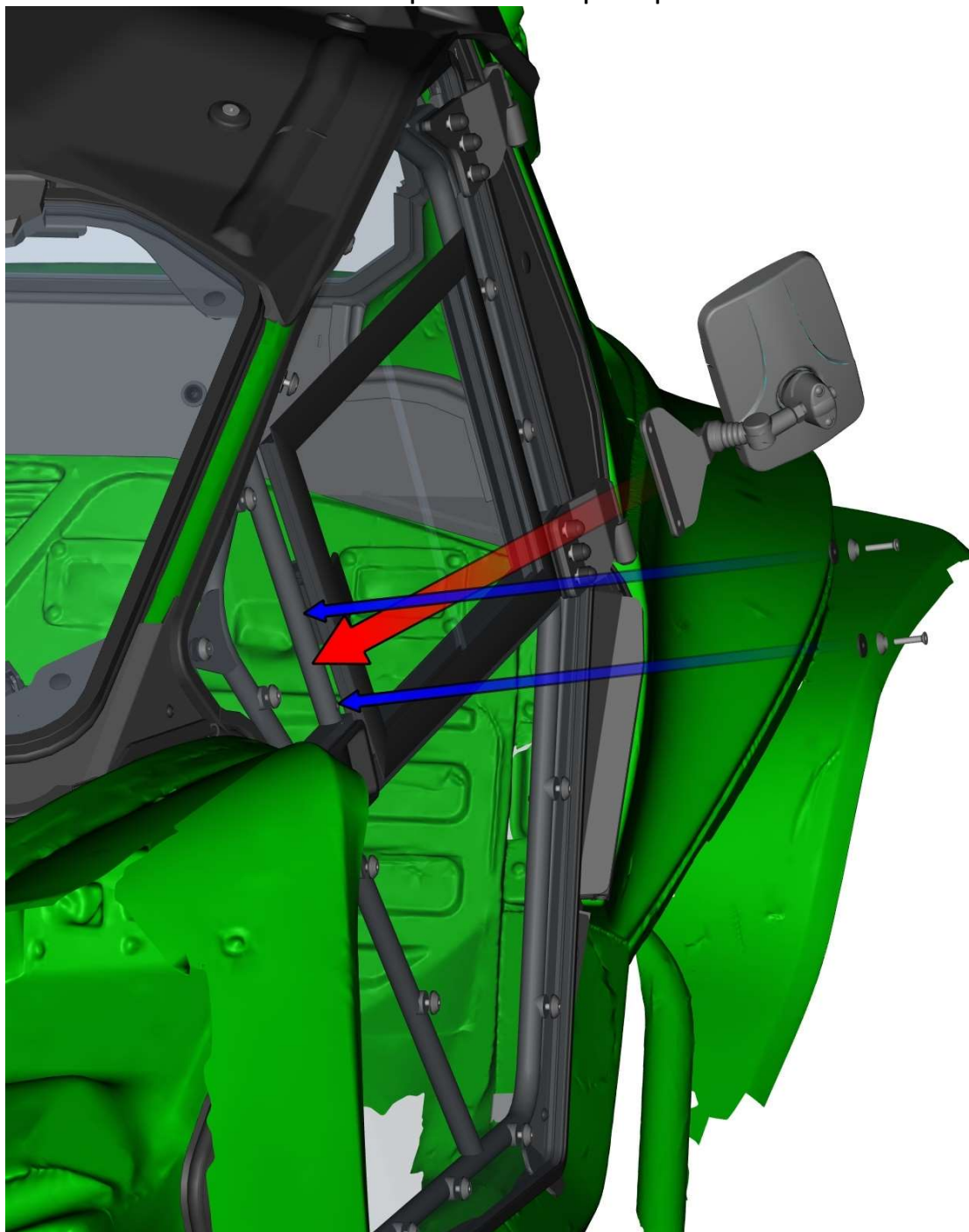
80

Repeat previous steps on the right side of the vehicle.



81

Take out the screws and washers from the door. Place the side mirror with the holder onto the door. Fix the mirror holder with the door by screws and washer from previous step. Repeat on second side.



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BOLT TORQUE

BOLT TORQUE SPECIFICATIONS

GENERAL TORQUE SPECIFICATION TABLE

Use the following torques when special torques are not given. These values apply to fasteners as received from suppliers, dry, or when lubricated with normal engine oil. They do not apply if special graphited or moly disulphide greases or other extreme pressure lubricants are used. This applies to both UNF and UNC threads. Remember to always use grade five or better when replacing bolts.

IMPORTANT: On all PLATED GRADE 8 bolts, reduce torque 15% from listed bolt torque specification.

SAE Grade No.		2				5				8*			
Bolt head identification mark as per grade. NOTE: Manufacturing Marks Will Vary													
Bolt Size		TORQUE				TORQUE				TORQUE			
		Pounds Feet		Newton-Meters		Pounds Feet		Newton-Meters		Pounds Feet		Newton-Meters	
Inches	Millimeters	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/4	6.35	5	6	7	8	9	11	12	15	12	15	16	20
5/16	7.94	10	12	14	16	17	20.5	23	28	24	29	33	39
3/8	9.53	20	23	27	31	35	42	48	57	45	54	61	73
7/16	11.11	30	35	41	47	54	64	73	87	70	84	95	114
1/2	12.70	45	52	61	70	80	96	109	130	110	132	149	179
9/16	14.29	65	75	88	102	110	132	149	179	160	192	217	260
5/8	15.88	95	105	129	142	150	180	203	244	220	264	298	358
3/4	19.05	150	185	203	251	270	324	366	439	380	456	515	618
7/8	22.23	160	200	217	271	400	480	542	651	600	720	814	976
1	25.40	250	300	339	406	580	696	787	944	900	1080	1220	1464
1-1/8	25.58	-	-	-	-	800	880	1085	1193	1280	1440	1736	1953
1-1/4	31.75	-	-	-	-	1120	1240	1519	1681	1820	2000	2468	2712
1-3/8	34.93	-	-	-	-	1460	1680	1980	2278	2380	2720	3227	3688
1-1/2	38.10	-	-	-	-	1940	2200	2631	2983	3160	3560	4285	4827

*Thick Nuts must be used with Grade 8 bolts

METRIC BOLT TORQUE SPECIFICATIONS

		5.6			8.8			10.9		
Size of Screw	Property Class	Course Thread			Fine Thread					
		Pitch (mm)	Pounds Feet	Newton-Meters	Pitch (mm)	Pounds Feet	Newton-Meters			
M6	5.6	1.0	3.6-5.8	4.9-7.9	-	-	-			
	8.8		5.8-9.4	7.9-12.7		-	-			
	10.9		7.2-10	9.8-13.6		-	-			
M8	5.6	1.25	7.2-14	9.8-19	1.0	12-17	16.3-23			
	8.8		17-22	23-29.8		19-27	25.7-36.6			
	10.9		20-26	27.1-35.2		22-31	29.8-42			
M10	5.6	1.5	20-25	27.1-33.9	1.25	20-29	27.1-39.3			
	8.8		34-40	46.1-54.2		35-47	47.4-63.7			
	10.9		38-46	51.5-62.3		40-52	54.2-70.5			
M12	5.6	1.75	28-34	37.9-46.1	1.25	31-41	42-55.6			
	8.8		51-59	69.1-79.9		55-68	75.9-92.1			
	10.9		57-66	77.2-89.4		62-75	84-101.6			
M14	5.6	2.0	49-56	66.4-75.9	1.5	52-64	70.5-86.7			
	8.8		81-93	109.8-126		90-106	122-143.6			
	10.9		96-109	130.1-147.7		107-124	145-168			
M16	5.6	2.0	67-77	90.8-104.3	1.5	69-83	93.6-112.5			
	8.8		116-130	157.2-176.2		120-138	162.6-187			
	10.9		129-145	174.8-196.5		140-158	189.7-214.1			
M18	5.6	2.0	88-100	119.2-136	1.5	100-117	136-158.5			
	8.8		150-168	203.3-227.6		177-199	239.8-269.6			
	10.9		175-194	237.1-262.9		202-231	273.7-313			
M20	5.6	2.5	108-130	146.3-176.2	1.5	132-150	178.9-203.3			
	8.8		186-205	252-277.8		206-242	279.1-327.9			
	10.9		213-249	288.6-337.4		246-289	333.3-391.6			

