



MAZDA BT-50 DUAL CAB UTE
TF MY21 ON
ROCK SLIDERS WITH BRUSH RAILS

IMPORTANT! – READ BEFORE INSTALLATION

- This product must be installed exactly as per these instructions using only hardware supplied.
- Take a few moments to read instructions thoroughly before beginning work.
- In the event of damage to any bar component please contact OFFROAD ANIMAL to arrange repair/replacement of components.
- Do not use this product for any vehicle make or model other than that specified on these instructions.
- Do not remove labels from this product.
- This product and its fixings must not be modified in any way unless stated in these fitting instructions.
- The installation of this product is recommended for trained personnel.
- These instructions are correct at time of publication. OFFROAD ANIMAL cannot be held responsible for the impact of any changes subsequently made by the vehicle manufacturer. If you find something has changed, please contact us to let us know!
- During installation it is the duty of the installer to check correct operation/clearances of all components.
- If Instructions are to be printed for reference in the workshop, it is recommended that they are printed in colour, for best legibility.

GENERAL CARE AND MAINTENANCE

Use caution when cleaning with pressure washers, as they may compromise the product coating's integrity. Exercise care to avoid surface damage.

Only wash the product with a PH neutral car wash to prevent paint damage and discolouration.

Do not use acidic or alkaline based cleaning products.

Plastic parts may be maintained with silicone spray.

It is important to perform regular checks (pre/during/post trip or on an annual basis) on the installed product. More frequent checks may be required in extreme use cases. Checks include:

- Visual inspection for damage (eg. cracks, chips, dents etc.)
- Electrical wiring is not rubbing anything or worn out
- Bolts are torqued to correct specification (see torque guide below)

For touching up small stone chips, Offroad Animal recommends the following paint products:

- Dupli-Color Trim & Bumper Paint Black (TB101)
- VHT Hood, Bumper & Trim Paint Black (SP27)

BOLT TORQUE SETTINGS

Use the following bolt torques on all general fasteners, unless otherwise specified.

GENERAL FASTENERS	
Size	Torque Nm
M5	5 Nm
M6	9 Nm
M8	22 Nm
M10	44 Nm
M12	77 Nm

Use the following bolt torques on all structural front bar mount and tow point fasteners, and rear towbar fasteners, unless otherwise specified.

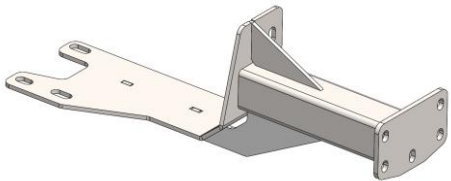
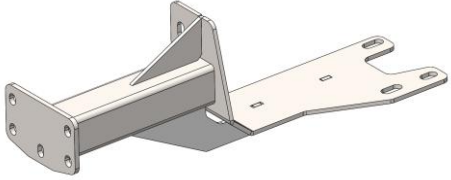
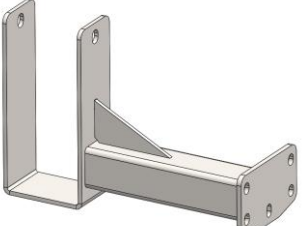
FRONT BAR MOUNTS AND TOW POINTS + REAR TOWBAR	
Size	Torque Nm
M10	57 Nm
M12	100 Nm
M14	164 Nm
M16	248 Nm

Always use a torque wrench to set correct torque settings. Ensure torque wrench is set to Nm unit of measurement. Otherwise perform conversion to lb-ft.

PARTS LISTING

IMPORTANT: Check all parts are present before beginning work! Contact OFFROAD ANIMAL if something is missing.

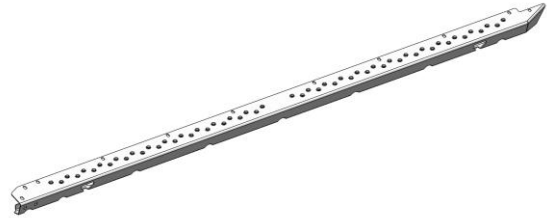
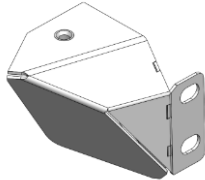
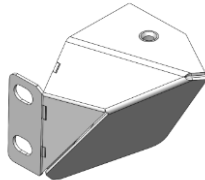
Rock Slider – Mounting Kit

Qty	Part Number	Description	Image
1	RS-IDM-RG-21-ASM2L	Dmax Slider Front Mount Left Hand	
1	RS-IDM-RG-21-ASM2R	Dmax Slider front Mount Right hand	
4	RS-IDM-RG-21-ASM1	DMAX SLIDER COM MOUNT	
4	B-0584	Shim	
4	NP-COM-M10-190-SLIM	Nut plate M10 Slim	

Mounting Kit Small Parts – Contained in Small Parts Kit Bag

Qty	Part Number	Description
4	M12X130 GR8.8	Bolt Hex, M12X130x1.75, GR8.8 ZP
4	M12 FLAT WASHER	M12 FW
4	M12 FLANGE NUT	Flange Nut, M12x1.75 G8.8 ZP
24	M10 x 25	Bolt Hex, M10X25x[1.5], GR8.8 ZP
26	M10 FLANGE NUT	Flange Nut, M10x1.5 G8.8 ZP
6	M10 X 30	Bolt Hex, M10x30x[1.5] G8.8 ZP
6	M10 FW	M10 Flat Washer

Side Rail Step Kit

Qty	Part Number	Description	Image
1	B-1077L	LH Side Rail Step - 1800 Extrusion	
1	B-1077R	RH Side Rail Step - 1800 Extrusion	
1	COM-RS-AECM	LH Slider End Cap Assy – Angled	
1	COM-RS-AEC	RH Slider End Cap Assy – Angled	

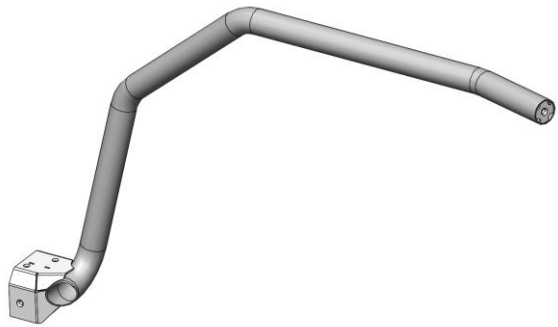
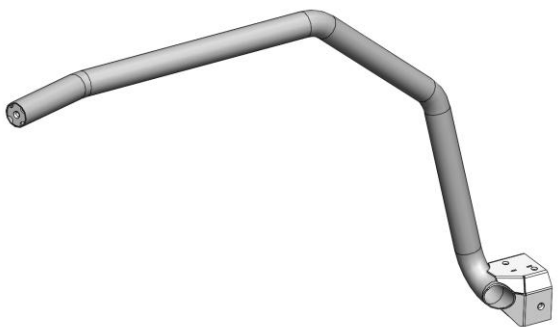
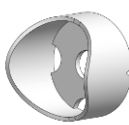
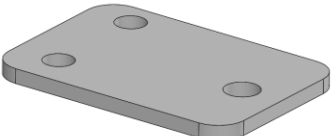
Side Rail Step Kit Small Parts – Contained in Small Parts Kit Bag

Qty	Part Number	Description
2	M8 X 16 BHCS BZP	SCREW, BUTTON HEAD CAP, M8X16X1.25 GR12.9, ISO4042 ZnNi BLACK PASSIVATED FINISH
16	M8 X 20 BHCS BLACK ZINC	SCREW, BUTTON HEAD CAP, M8X20X1.25, ISO4042 ZnNi BLACK PASSIVATED FINISH
32	M8 FLAT WASHER- BLACK ZINC	M8 FLAT WASHER, 16.5x8.4x1.2, ISO4042 ZnNi BLACK PASSIVATED FINISH
30	M8 NUT	Hex Nut, M8x1.25 G8.8 ZP
14	M8X20 CAP SCREW	CAP SCREW, M8X20X1.25 GR10.9 ZP
4	M10X15 BHCS	SCREW, BUTTON HEAD CAP, M10X16X1.5 GR12.9 ZP
4	M10 Flat Washer	M10 FW
4	M10 NUT	Hex Nut, M10x1.5 G8.8 ZP

Rock Slider – Extrusion Kit

Qty	Part Number	Description	Image
2	E-0002-1800	Slider extrusion - 1800MM	

Side Rail Tube Kit

Qty	Part Number	Description	Image
1	SR-MBT-TF-21-ASM1L	BT-50 TF Side Rail Welded Assembly LH	
1	SR-MBT-TF-21-ASM1R	BT-50 TF Side Rail Welded Assembly RH	
2	SR-TLC-300-22-ASM3	LC300 Side Rail Spigot End Assy	
2	P-0086	Side Rail - Joiner Plate	
2	T-0069	Crush Tube 65mm	

2	M10 Saddle Washer 102057059 901	Black Nylon Saddle Washer	
2	PW-P-14X9-165	Pinch Weld - Plain 14X9MM, Rubber, 165mm Length	N/A

Side Rail Tube Kit Small Parts – Contained in Small Parts Kit Bag

Qty	Part Number	Description
10	M8 X 16 BHCS BZP	SCREW, BUTTON HEAD CAP, M8X16X1.25 GR12.9, ISO4042 ZnNi BLACK PASSIVATED FINISH
10	M8 FLAT WASHER- BLACK ZINC	M8 FLAT WASHER, 16.5x8.4x1.2, ISO4042 ZnNi BLACK PASSIVATED FINISH
6	M10 x 25	Bolt Hex, M10X25x[1.5], GR8.8 ZP
2	M10 Flat Washer	M10 FW
4	M10 FLANGE NUT	Flange Nut, M10x1.5 G8.8 ZP
2	M10X100 BHCS BLACK ZINC	SCREW, BUTTON HEAD CAP, M10X100X1.5 GR12.9, ISO4042 ZnNi BLACK PASSIVATED FINISH
2	M10 FW LHD BLACK ZINC	WASHER, FLAT M10X28.5X2.5, ISO4042 ZnNi BLACK PASSIVATED FINISH

TOOLS REQUIRED

The following tools will be required to install the product.

Hand Tools	Power Tools	Workshop Equipment
Metric Socket Set 10-19mm	Electric/Air Impact Driver (Optional)	Hydraulic Floor Jack
Socket Extension Bar	Electric Drill	Masking Tape
Metric Spanner Set 10-19mm	6mm Drill Bit	Marker Pen
Hex (Allen) Key Set 4-6mm	Step Drill (6-18mm min. range)	Workshop Rag
Flat Blade Screwdriver		Paint Pen/Rust Inhibitive Paint
Centre Punch		
Deburr Tool		
Side Cutters		

WORKSHOP SAFETY

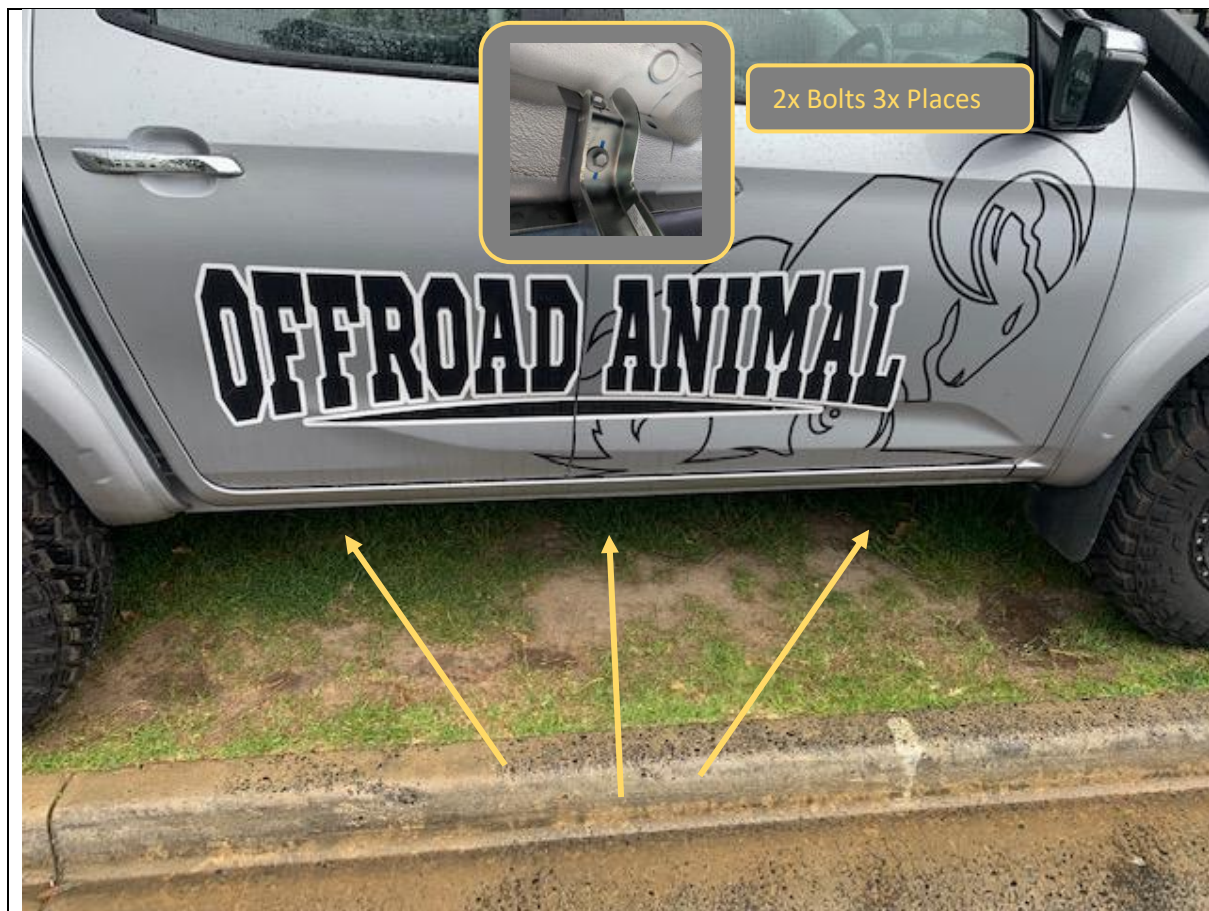
It is the responsibility of the installer to always complete works in a safe manner. Make sure the following safety equipment is available and precautions are observed whilst fitting this product.

Hearing Protection 	Always wear ear protection when using power tools.
Eye Protection 	Ensure eye protection is always worn when cutting or drilling.
Manual Handling 	Do not attempt to lift bar assemblies or rock sliders on your own. Always use two people to lift or use mechanical Lifting aid such as hydraulic lifting trolley.
Vehicle Support 	Always ensure vehicle is properly supported when working on it. Do not attempt to fit products whilst suspension work is being carried out. Do not work under a vehicle supported only by a jack.



1. Offroad Animal Toro Bar (Part No. FB-MBT-TF-21-TOR-ASM0 or FB-MBT-TF-25-TOR-ASM0) must be fitted to the vehicle prior to fitment of these rock slider scrub rails.
2. If Offroad Animal Rock Sliders (Part No. RS-IDM-RG-21-ASM0) have previously been fitted, skip to Step 29.
3. These scrub rails are not compatible with any other variants of sliders and bars.

TOOLS REQUIRED**FASTENERS**

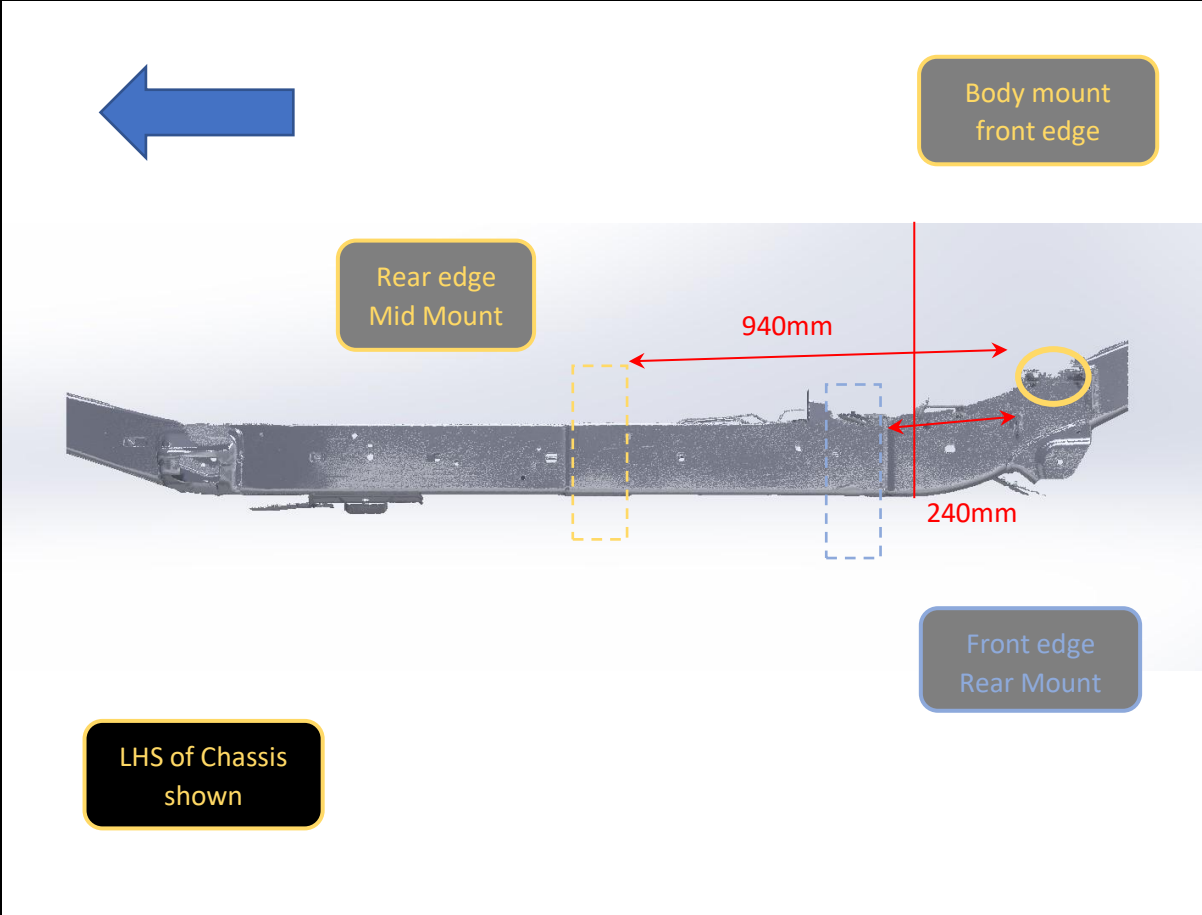


4. Remove Factory side steps if fitted by removing the 6x Bolts (2 Per mount) securing them to the body using a 12mm socket.
5. Discard Factory steps and bolts.

TOOLS REQUIRED

12mm socket

FASTENERS6x Factory Flange head Bolts
(per side)

 Diagram illustrating the mounting positions for the rock sliders on the chassis. The diagram shows the chassis rail with the following labels and dimensions: - Body mount front edge - Rear edge Mid Mount 940mm (distance between mid mount and front edge) 240mm (distance between mid mount and rear mount) - Front edge Rear Mount - LHS of Chassis shown	
6. Locate and mark the mid and rear mount positions on chassis, as shown in above image. 7. You don't need to be exact close enough is fine as the mounts can connect to the step along its entire length.	TOOLS REQUIRED Marker
	FASTENERS



8. Middle mount shown on LHS of chassis. Push bracket up to chassis with shim plate between chassis and bracket as shown. Secure with M12x130 Hex bolt, washer, and flange nut. Push bracket all the way up and ensure top of bracket does not hit floor pan.
9. Bracket slides inside the brake and fuel lines near the chassis.
10. Tighten bolt so bracket is pinching hard on chassis.

TOOLS REQUIRED

18mm Spanner

FASTENERSM12x130 (1)
M12 FW (1)
M12 FN (1)

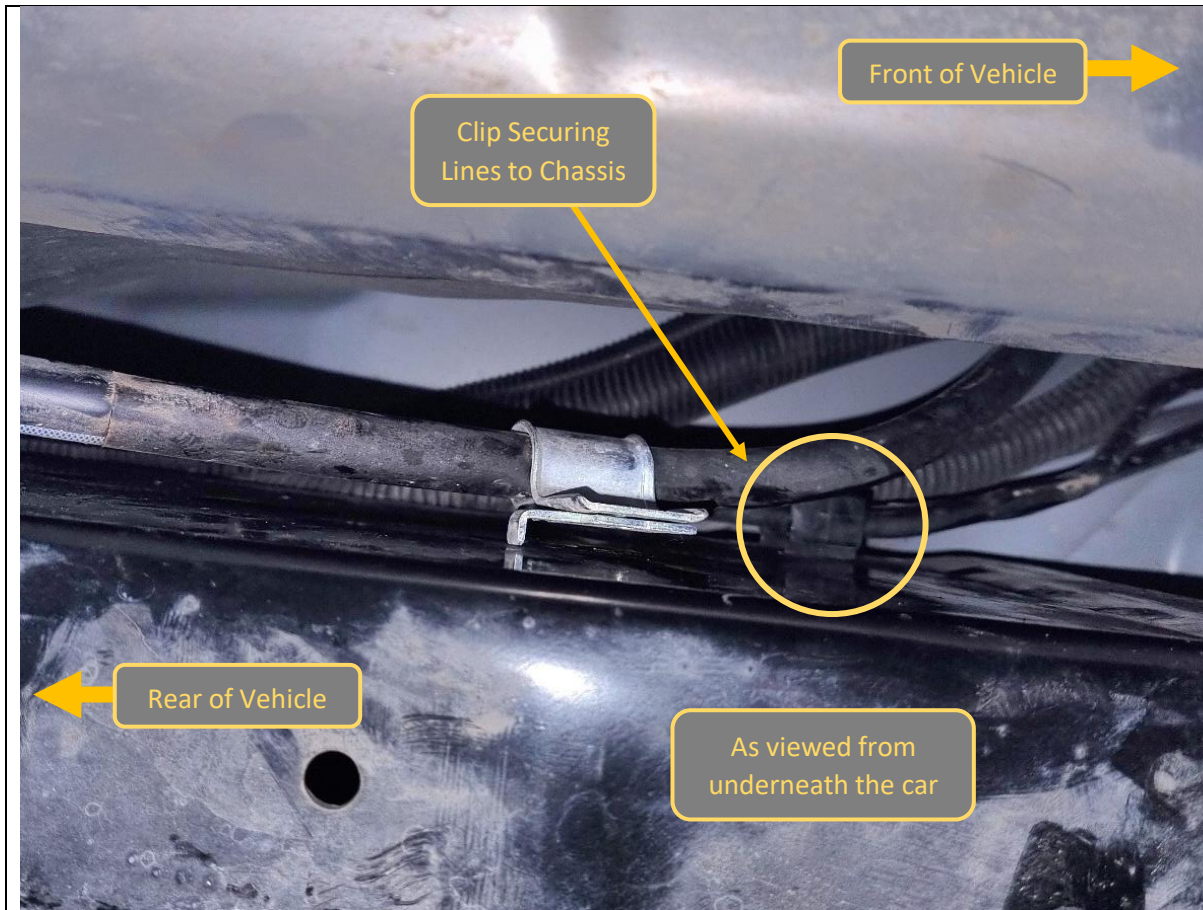


11. To fit rear bracket on LHS you need to lower the fuel tank.
12. To lower fuel tank, put a jack under the fuel tank and just touch the tank.
13. Remove 4 bolts (2 per strap) on holding fuel tank up.
14. Gently lower tank down about 100mm with jack. Leave jack in place to support tank.

TOOLS REQUIRED

14mm socket

FASTENERS



15. Some vehicles have a plastic clip securing fuel lines to the chassis, on the inside of the LH chassis rail in the location of the rear mount.
16. If vehicle is equipped with these lines, release the clip from the chassis using a trim tool.
17. When fitting the rear mount, ensure that the mount goes between the chassis and the lines. Ensure that the lines do not rub on the edges of the mount. Protect the lines with conduit or rubber hose if required (not supplied).

TOOLS REQUIRED

Trim tool

FASTENERS



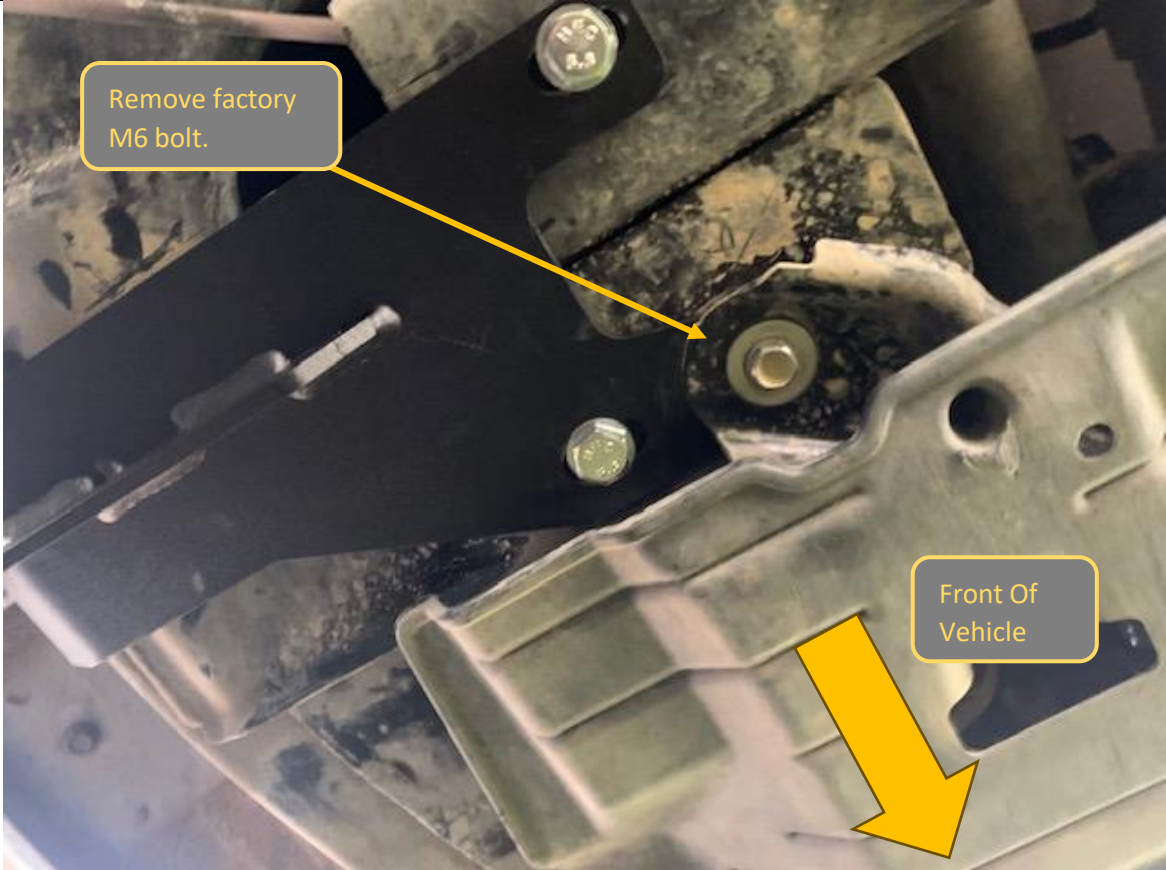
18. Fit rear mount with shim plate, push up as high as it will go and tighten the bolt until the bracket is pinching hard on chassis. Make sure top of bracket does not touch floor pan.
19. Raise fuel tank back up and secure with straps with factory bolts.

TOOLS REQUIRED

18mm spanner, 14mm socket

FASTENERS

M12x130 (1)
M12 FW (1)
M12 FN (1)

	
20. Install the front bracket as shown above. LHS of vehicle is shown in above image, looking from below and slightly behind mount location. 21. Remove M6 bolt that is already in vehicle shown with arrow. 22. Put bracket up to chassis as shown and reinstall factory M6 bolt. Leave loose. 23. Using nut plate install M10 bolt on top side of photo, again leave loose. 24. Next fit M10x30 bolt on bottom side of photo with flange nut. You may need to undo the factory M6 previously tightened before holding plastic guard to get nut into place. Leave loose at this stage.	TOOLS REQUIRED 16/17mm socket/spanner (depends on bolt supplier)
	FASTENERS M10 x 30 (2) M10 FW (2) M10 FN (2)



25. Using the nut plate through the chassis window behind the bracket put a small bend in stick with your hand and then feed through window. Line up nut on plate with corresponding point on bracket and feed in M10x30 bolt and washer.

26. Once bolt has been started use a jack to hold the front of the bracket up as high as it will go while using a flat head screwdriver to lever bracket as far away from centre of vehicle as possible. Then torque up the M10 bolt.

27. Remember this bracket need to be as high as possible in its slot.

28. Torque 3 bolts underneath.

TOOLS REQUIRED

16/17mm socket/spanner
(depends on bolt supplier)

FASTENERS

M10 x 30 (1)
M10 FW (1)



29. The following steps only apply if Offroad Animal Rock Sliders have already been fitted. Skip to Step 33 if installing rock sliders onto the vehicle for the first time.

30. Remove the existing step and extrusion from the mounting brackets by undoing 12x M10 flange nuts per slider.

TOOLS REQUIRED

16mm socket/spanner

FASTENERS

M10 flange nut (24)



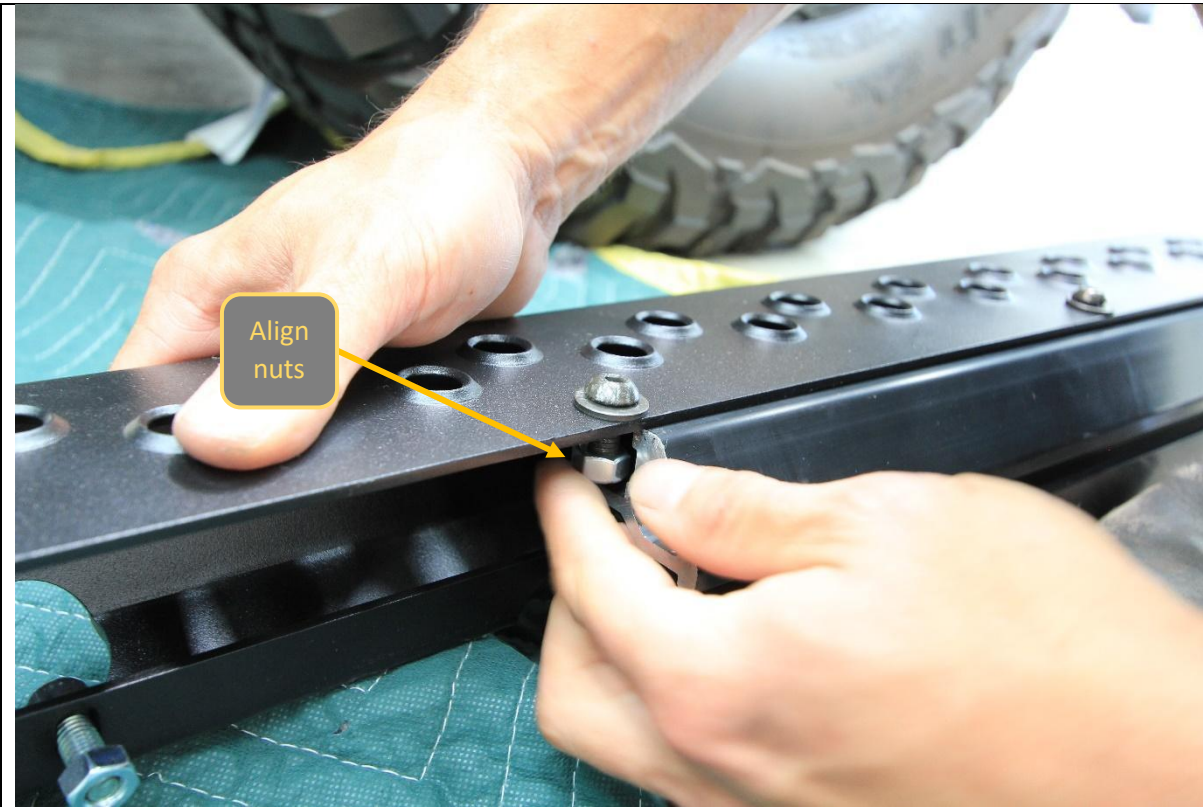
- 31. Unbolt all end caps and slider step from the extrusion.
- 32. Remove any bolts/nuts in the extrusion slots.

TOOLS REQUIRED

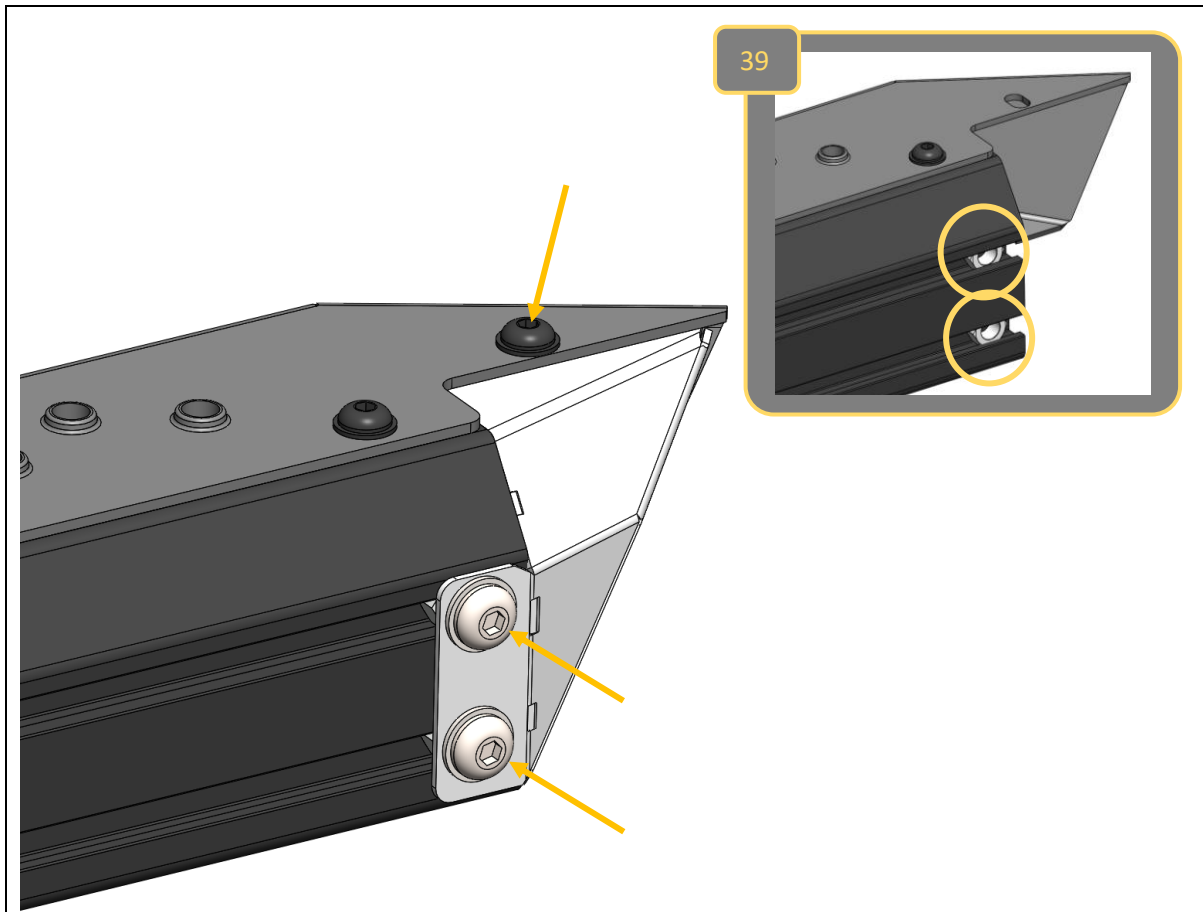
5/6mm hex/Allen key
15/16mm socket/spanner

FASTENERS

 Leave nut loose, level with bottom of bolt  34 M8x20 Button Head 35 M8x20 Cap Head RH driver side step shown	
33. Prepare the side rail step by loosely pre fitting the fasteners to the step. 34. Use M8x20 black button head screws, black M8 washers and M8 Nuts at 8x locations on top of step as shown. 35. Use M8x20 cap head screws M8 washers and M8 nuts on 7x locations on bottom side of step.	TOOLS REQUIRED
	FASTENERS 8x M8x20 Black Button Head 7x M8x20 Cap Head 15x M8 Black Washer 15x M8 Nut



36. Slide the step plate onto the main slider structural extrusion. Align the nuts as they enter the T-slots on the extrusion. 37. Centre the step on the extrusion. Once happy with alignment, tighten all bolts.	TOOLS REQUIRED 5mm hex/Allen key
	FASTENERS



38. Fit end cap to the tapered end of the extrusion.

39. First slide 2x M10 hex nuts into the T-slots on the back side of the extrusion.

40. Then slide endcap into the inside of the slider step.

41. Secure the endcap to the extrusion with 2x M10x15 button head bolts and flat washers.

42. Secure the endcap to the step with 1x M8x20 black button head bolt and black flat washer.

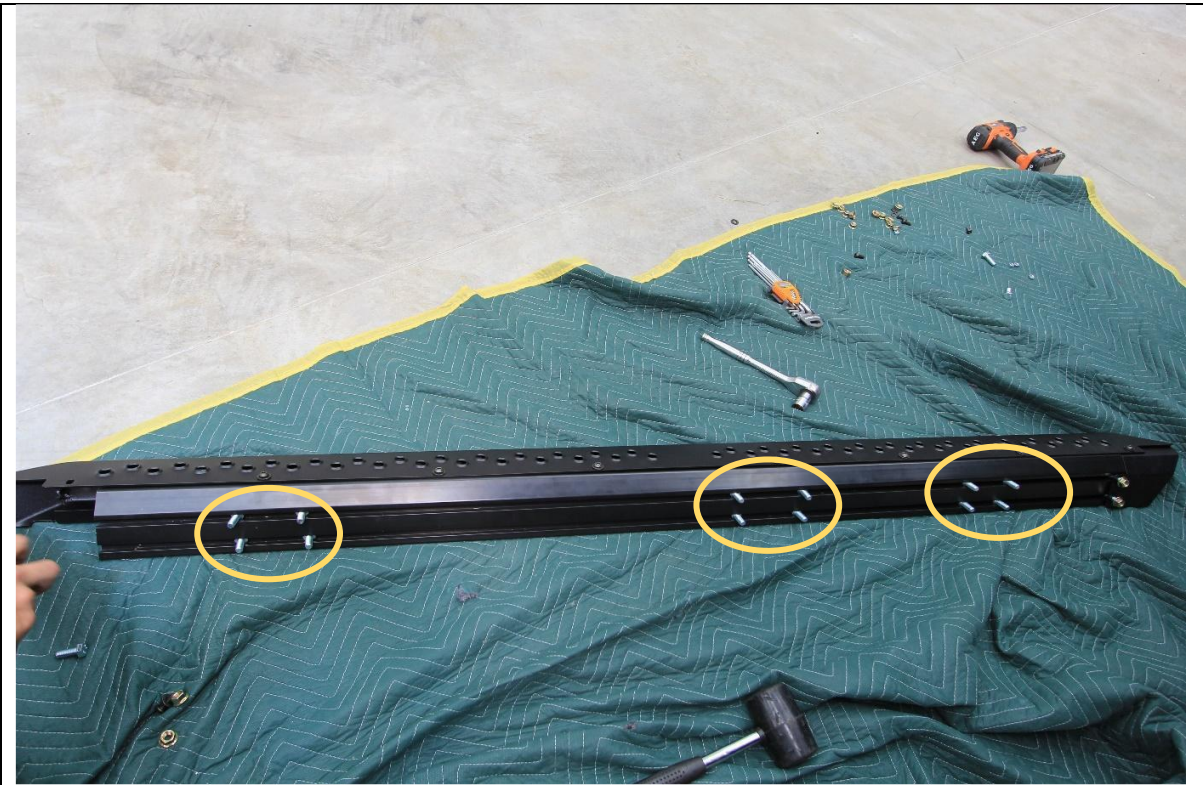
43. Repeat Steps 33-42 for the other slider step.

TOOLS REQUIRED

5mm hex/Allen key
6mm hex/Allen key

FASTENERS

2x M10x25 Bolts
1x M8x20 Button Head bolt
1xM8 Flat Washer
2x M10 Flange Nut



44. Slide the 12x M10x25 hex bolts into the T-slots on the back side of the extrusion. 6 bolts per slot. 45. Loosely arrange the bolts in 3x groups of 4, in approximate location of mounts, as shown.	TOOLS REQUIRED
	FASTENERS M10x25 (12)



46. With the help of a friend or mate, lift step and extrusion up to brackets. Align all the bolts so they fit through the corresponding holes in the brackets.

Note: The tapered end cap should be at the rear of the vehicle.

47. Once all the bolts are through into the brackets, loosely secure M10 flange nuts on the M10 bolts to hold step up. Leave the slider step free to move fore/aft at this stage.

48. Repeat for other side.

TOOLS REQUIRED

FASTENERS

12x M10 Flange Nut

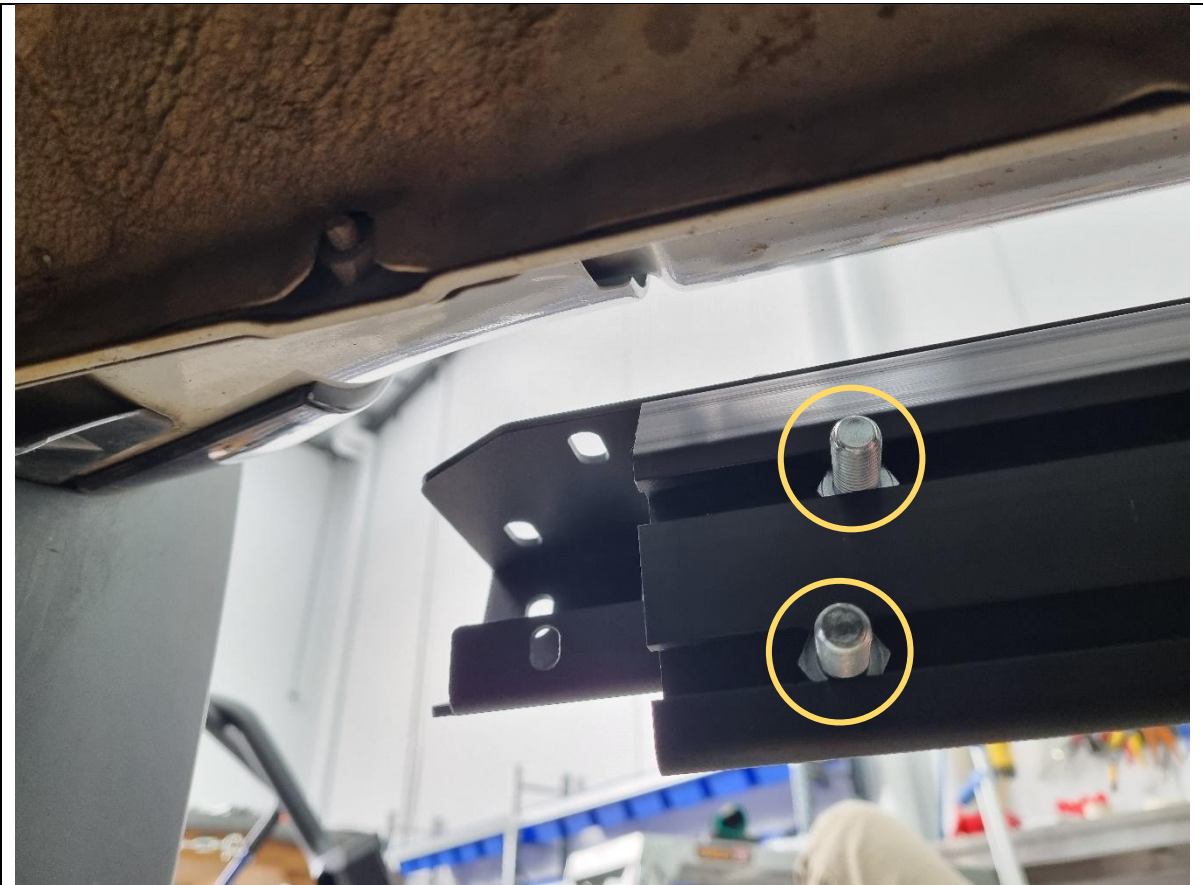


49. Apply masking tape around the widest point on the outer bend of the Toro bar tube where the scrub rail will attach to.

TOOLS REQUIRED

Masking tape

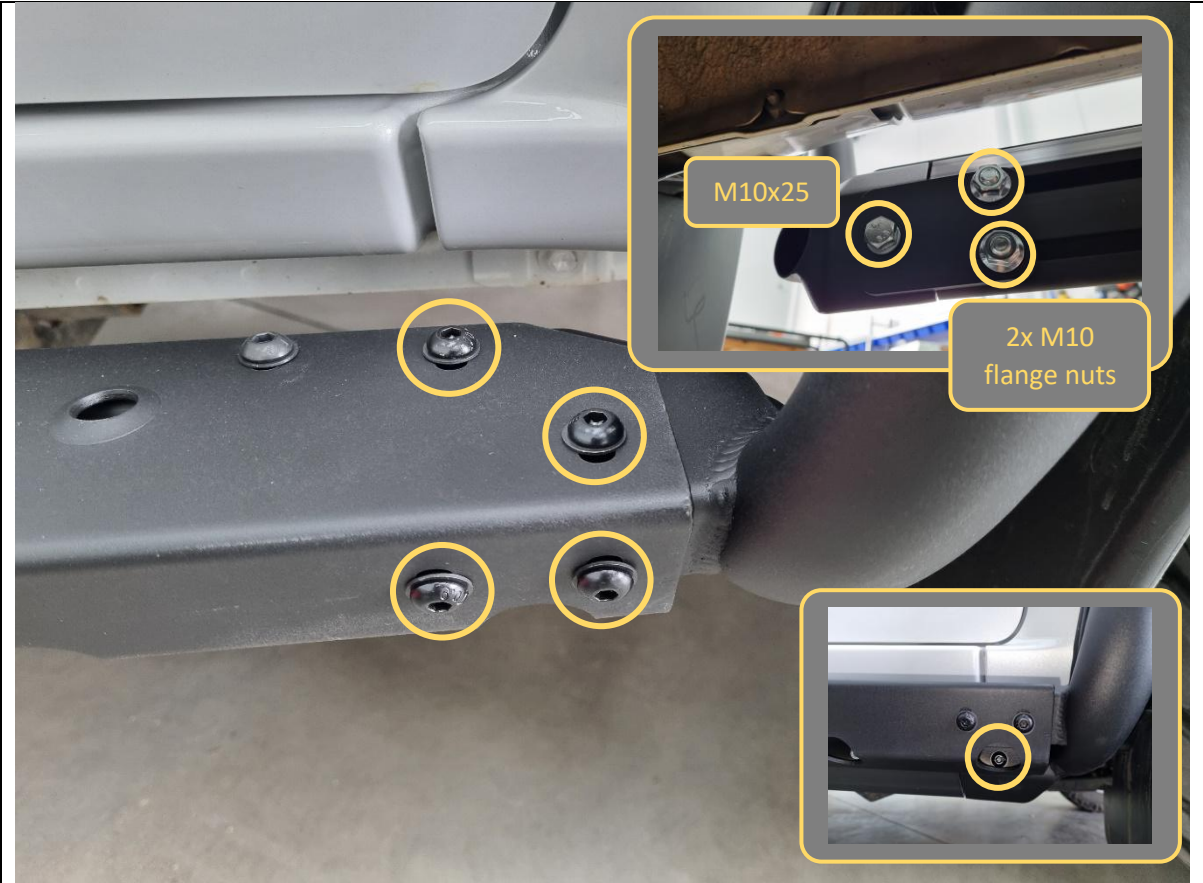
FASTENERS



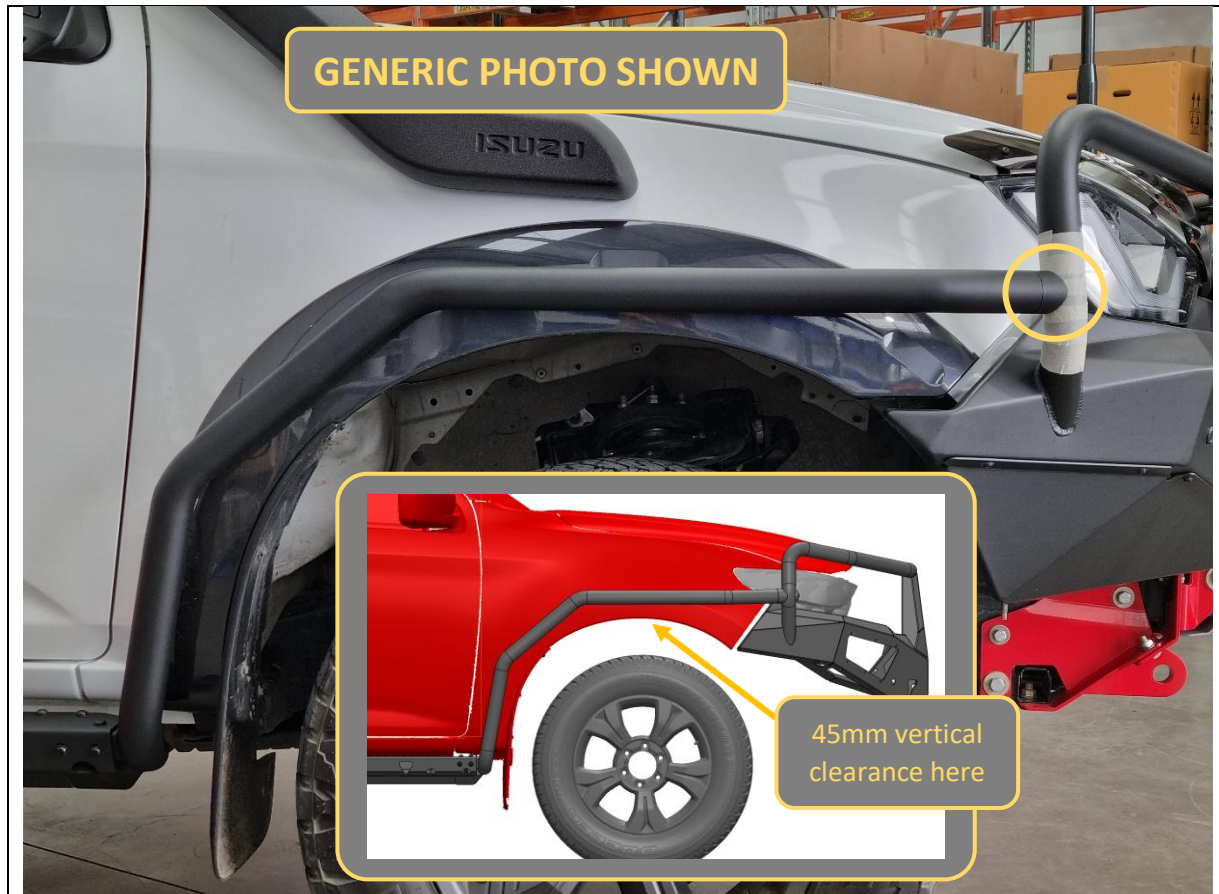
50. Slide in 2x M10x25 hex bolts into the front open end of the extrusion as shown.	TOOLS REQUIRED
	FASTENERS 2x M10x25 hex bolts



51. Perform a dry test fit of the scrub rail by sliding it into the open end of the slider step.	TOOLS REQUIRED
	FASTENERS



52. Loosely secure the top and side faces of the scrub rail end to the slider step using 5x M8x16 black button head bolts and black washers. (1x hidden on the side, see lower right inset). 53. Loosely secure the inside face of the scrub rail end to the extrusion with the P-0086 side rail joiner plate, 1x M10x25 hex bolt, 1x M10 flat washer, and 2x M10 flange nuts.	TOOLS REQUIRED
	FASTENERS 5x M8x16 black button head 5x M8 black flat washer 1x M10x25 hex bolt 1x M10 flat washer 2x M10 flange nut



54. Place the spigot end assembly (circled) in between the scrub rail and Toro bar, and position the scrub rail so it meets the widest point of the Toro tube.

Note: LH and RH spigots are the same. There is a small V-notch in the spigot, which should be facing towards the centre of the vehicle.

55. Adjust the fore/aft position of the slider/bar/scrub rail until the gap is closed. Ensure at least 25mm clearance to the vehicle body is still maintained.

56. Also adjust the position of the scrub rail and slider step to achieve approximately 45mm of vertical distance between the scrub rail and car at the highest point of the wheel arch (see inset photo).

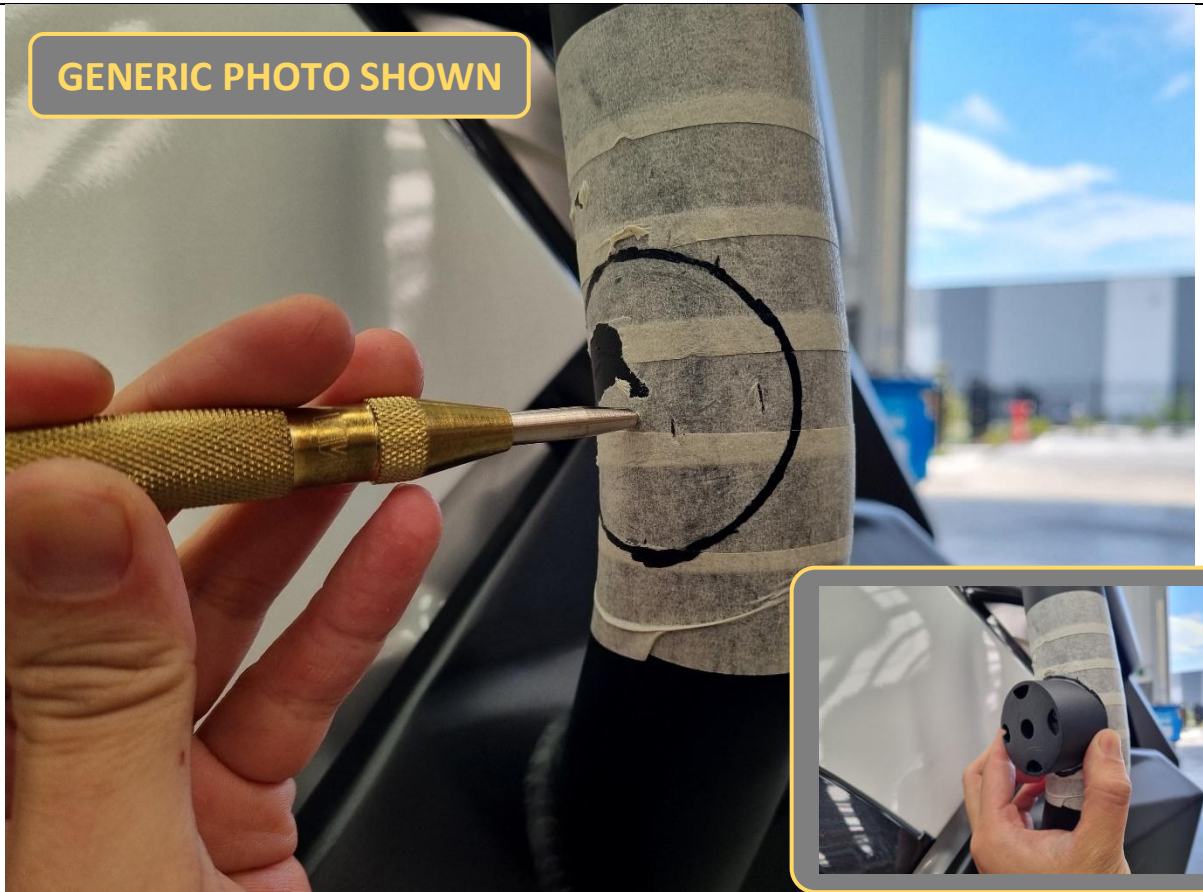
57. Once happy with position, tighten/torque M10 flange nuts holding the extrusion step to the chassis mounts. Also lightly tighten the bolts securing the scrub rail to the slider step.

Note: The order of tightening bolts holding the scrub rail to the slider step affects the position of the scrub rail. If you have trouble aligning, try tightening bolts in a different order.

TOOLS REQUIRED

FASTENERS

		
58. Using a marker pen, trace the outline of the spigot in position onto the Toro bar tube.	TOOLS REQUIRED	
	Marker pen	
	FASTENERS	

GENERIC PHOTO SHOWN

59. Remove the scrub rail and spigot from the vehicle.

60. Hold the spigot back up against the Toro bar by hand, then mark the position of the hole in the centre of the spigot onto the Toro bar with a pen.

61. Then use a centre punch to mark the hole location on the Toro bar.

TOOLS REQUIRED

Marker Pen

Centre Punch

FASTENERS

GENERIC PHOTO SHOWN

62. Drill 6mm pilot hole through both sides of the Toro tube at the centre punch location. Use a rag over the car to protect from metal swarf.
63. Take care to ensure the drill always remains perpendicular to the tube, so that the hole is aligned in the direction of the spigot/scrub rail.

TOOLS REQUIRED

Electric Drill
6mm Drill Bit
Workshop Rag

FASTENERS

GENERIC PHOTO SHOWN

64. Open up the holes on both sides to 18mm using a step drill.

65. Deburr and paint edges of holes to prevent rust.

TOOLS REQUIRED

Electric Drill
Step Drill

Deburr Tool
Paint

FASTENERS



66. Fit supplied pinch weld around the curved edge of the spigot.
Trim with side cutters if oversized.

TOOLS REQUIRED

Side Cutters

FASTENERS



67. Loosely position the spigot with the Toro bar and hold in place with 1x M10x100 black button head, flat washer, nylon saddle washer and crush tube, through the 18mm drilled hole in the bar.

TOOLS REQUIRED**FASTENERS**

- 1x M10x100 black button head
- 1x M10 black flat washer
- 1x M10 nylon saddle washer
- 1x crush tube



68. Refit the scrub rail to the vehicle.

69. Secure the scrub rail to the spigot/Toro bar with the M10x100 button head bolt into the embedded nut on the flat end of the scrub rail.

70. Secure the base of the scrub rail to the slider the same way as during the dry fit.

71. Re-check and adjust alignment between scrub rail, rock slider and Toro bar. Ensure 25mm clearance to the vehicle body is still maintained.

72. Once happy with alignment, tighten all bolts, including any loosened bolts in the slider and Toro bar during alignment.

73. Complete the entire scrub rail install again for the other side of the car.

74. After that you are done!

TOOLS REQUIRED

5mm hex/Allen key
6mm hex/Allen key
15/16mm
socket/spanner

FASTENERS

5x M8x16 black button
head
5x M8 black flat washer

1x M10x25 hex bolt
1x M10 flat washer

2x M10 flange nut



Congratulations!
Head for the tracks and enjoy your newly protected BT-50!