



FITTING INSTRUCTIONS

Product:	T28 Alloy Bar
Vehicle:	Ford Ranger Raptor
Part No.	070AT28N21X

Australian Standards Relating to Installing Vehicle Frontal Protection Systems (VFPS): AS 4876.1-2002

- a) Do not attach V.F.P.S. to vehicle using anchorages not intended for this purpose (e.g. engine mounting bolts), other than those specified by the V.F.P.S. manufacturer in this instruction.
- b) Do not use this product for any vehicle make or model other than those specified by the V.F.P.S. manufacturer (as above).
 - c) Do not remove any plaques or labels from the V.F.P.S.
 - d) Do not modify the structure of the V.F.P.S. in any way.



For product warranty please refer to our website www.tjm.com.au



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Part No. 070AT28N21X

PARTS LIST			
Item No.	Description	Qty	Image
1	Centre	1	
2	Wing LH	1	
3	Wing RH	1	
4	Winch Mount Cover	1	
5	Underbody Guard	1	
6	Winch Mount	1	
7	Wing Brace LH	1	

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FITTING INSTRUCTIONS

Product:





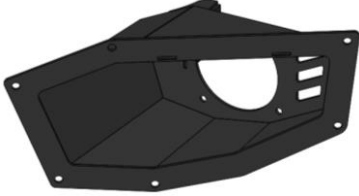
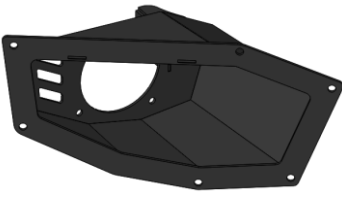

T28 Alloy Bar

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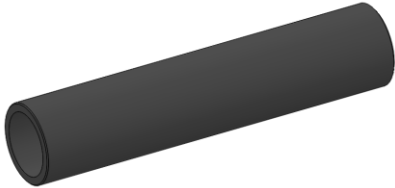


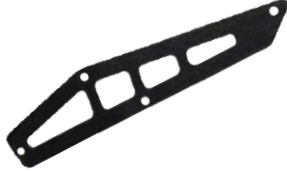
8	Wing Brace RH	1	
9	Underbody Guard Mount	1	
10	Bar Mount LH	1	
11	Bar Mount RH	1	
12	Fog Light Insert LH	1	
13	Fog Light Insert RH	1	
14	Recovery Point Spacer	2	

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15	Crush Tube	2	
16	Control Box Mount	1	
17	Control Box Washer Plate	1	
18	Grille	2	
FACTORY FITTED			
19	TJM Logo Sticker	1	N/A
20	Compliance Label	1	N/A

BOLT KIT	
Description	Qty
M6 x 1.0 x 20mm Button Head Bolt (CL10.9)	30
M6 x 1.0 x 20mm Hex Head Bolt (CL10.9)	2
M6 x Ø12mm x 1.7mm Flat Washer	32
M6 x 1.0 Flange Nut	12
M10 x 1.5 x 25mm Hex Head Flange Bolt (CL10.9)	11
M10 x 1.5 x 25mm Button Head Bolt (CL10.9)	18
M10 x 1.5 x 30mm Hex Head Bolt (CL10.9)	12
M10 x 1.5 x 90mm Hex Head Bolt (CL10.9)	2
M10 x Ø20mm x 1.8mm Flat Washer	20
M10 x Ø30mm x 3.0mm Flat Washer	12
M10 x 1.5 Flange Nut	14
M12 x 1.75 x 25mm Hex Head Bolt (CL10.9)	18
M12 x Ø24mm x 2.2mm Flat Washer	18
M12 x 1.75 Flange Nut	18

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Tools Required

Hand Tools

Metric Socket Set 7-19mm
Ratchet & Socket Extension Bar
Metric Spanner Set 7-19mm
Torx Drivers T25-T30
Hex (Allen) Key Set 4-6mm
Trim Removal Tool
Flat Blade Screwdriver Set
Phillips Head Screwdriver Set
Utility Knife
Side Cutters
Pliers
Drill Bit Kit Ø6mm – Ø7mm

Power Tools

Electric Drill
Electric/Air Impact Driver (Optional)

Consumables Required

Zip Ties
Masking Tape
Black Rust Preventive Spray Paint
Sandpaper / File

Safety Equipment/Notice



Hearing Protection

Must be worn when using power tools.



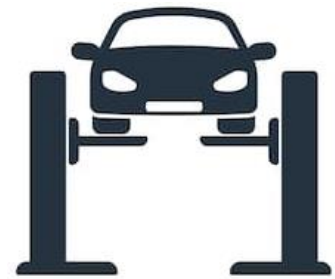
Eye Protection

Must be worn when cutting, drilling, or grinding.



Lifting Hazard

Two persons lift or mechanical lifting aid required for FPS fitment.



Vehicle Support/Lifting

Ensure vehicle is properly supported before commencing work.

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NOTES

- Before commencing fitment read instructions and ensure all listed components are supplied.
- Left hand & right hand components are determined as seated in the vehicle.
- The fitment of TJM products does not nullify the OE manufacturer's operating guidelines and/or warnings. Ensure you are familiar with and adhere to the usage instructions specified by the manufacturer in the owner's manual or other official documentation.
- Check for (and remove) any build up in all threads fitted to the product.
- When fitting accessories to TJM products (i.e. driving lights and aerials), ensure suitable washer plates are used under the mounting surface that allow the accessory to be secured in a way that prevents it from damaging the product.
- When removing protective coatings, ensure all new edges are deburred, clean any swarf from the area and apply rust preventative to exposed surfaces.
- Always place the product on a soft work space to prevent damage prior to installation
- 946TJMTQLLKT winch control box long cable kit will be required if winch is to be fitted.

Bolt tensions	Dia. (mm)	Nm	ft.lbs	Dia. (inch)	Nm	ft.lbs
All bolt tensions are as follows unless otherwise specified.	5	5	4	1/4"	9	7
	6	9	7	5/16"	22	15
	8	22	16	3/8"	33	27
	10	44	32	7/16"	55	43
	12	77	57	1/2"	86	66

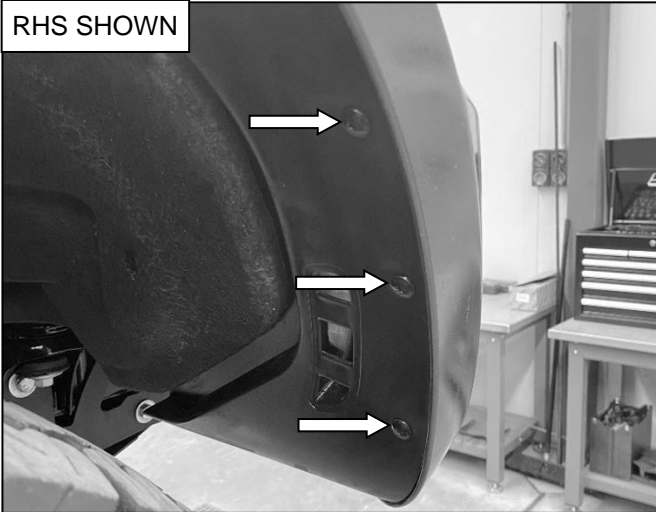
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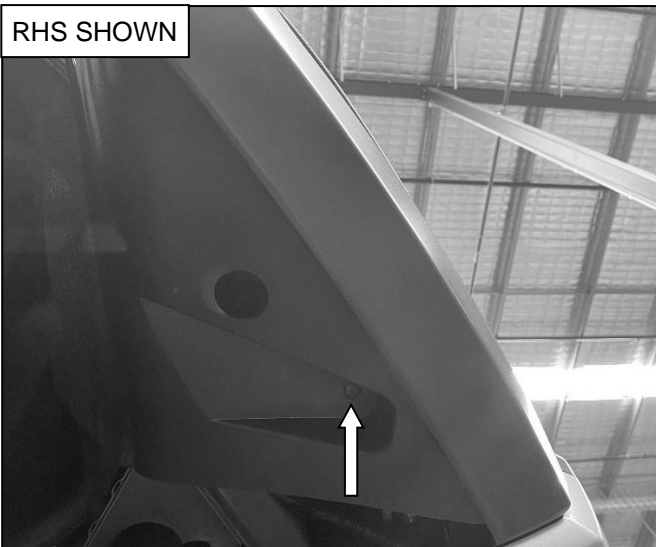
RHS SHOWN



1. Remove and discard the 3 screws securing the inner guard plastic to the bumper.

Repeat on LHS.

RHS SHOWN



2. Remove and discard the screw from underneath the wing of the bumper.

Repeat on LHS.

RHS SHOWN



3. Remove the plastic inner guard from the bumper on both sides of the vehicle as shown.

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T28 Alloy Bar

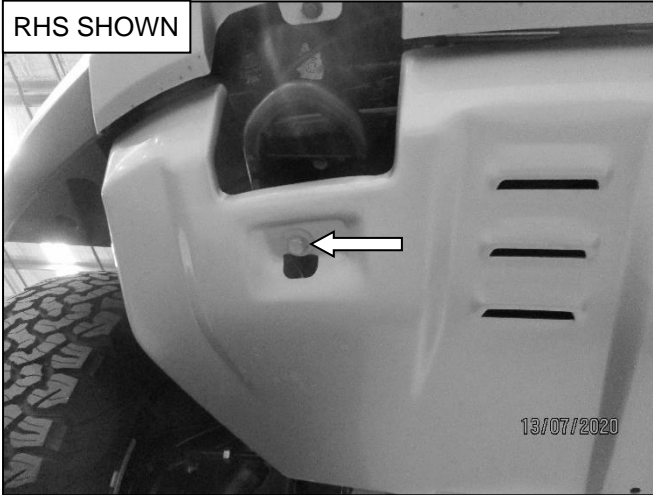
Vehicle:

Ford Ranger Raptor

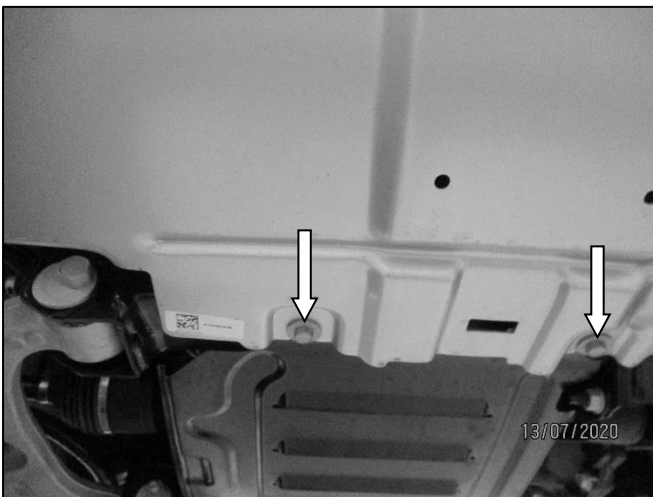
Part No.

070AT28N21X

RHS SHOWN

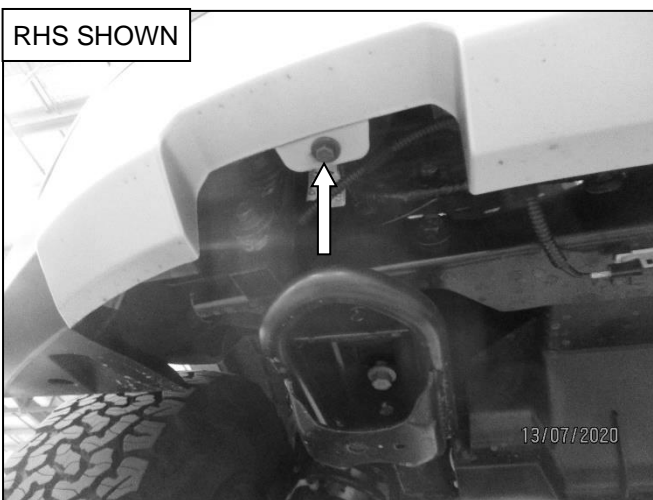


4. Remove and discard the two front bolts securing the OE Underbody Guard to the recovery points.



5. Remove and retain the two rear bolts securing the OE Underbody Guard to the cross member.
6. Remove and discard OE Underbody Guard.

RHS SHOWN



7. Remove and discard the two hex head bolts securing the lower section of the bumper to the vehicle.

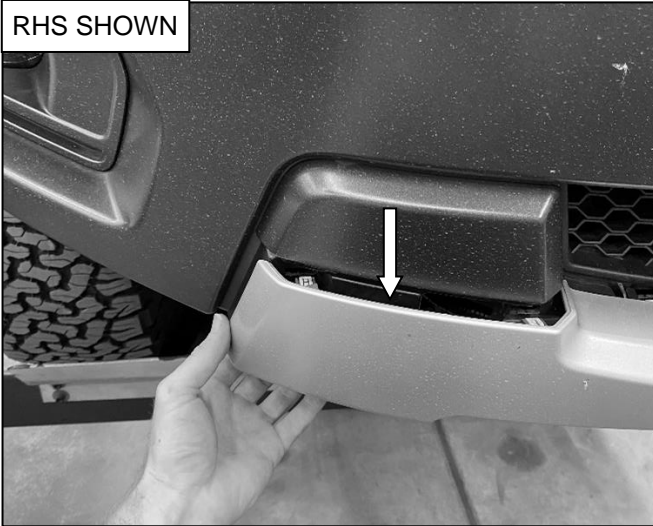
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FITTING INSTRUCTIONS

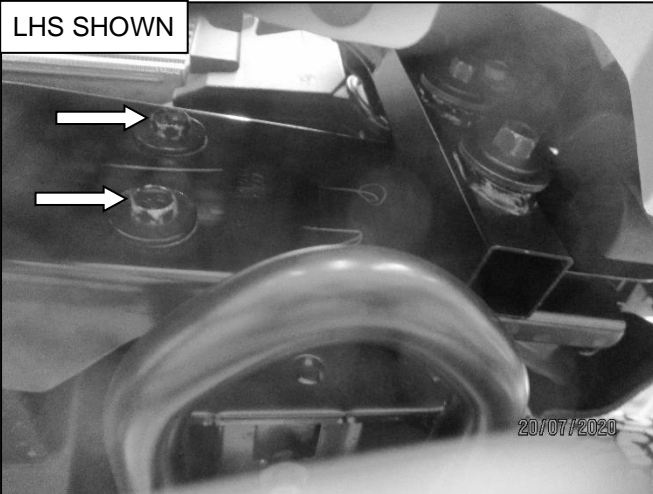
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RHS SHOWN



- Using a trim removal tool, gently remove and discard the lower (silver) bumper panel.

LHS SHOWN



- Remove and discard the two hex head bolts as shown.

Repeat on RHS.



- Using the trim removal tool, remove the FM antenna clip and connectors from the bumper support beam.

Note: Disconnect the plug so that it is not damaged when removing the bumper.

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11. Using the trim removal tool, remove the fog light clip and connectors from the bumper support beam.

Note: Disconnect the plug so that it is not damaged when removing the bumper.

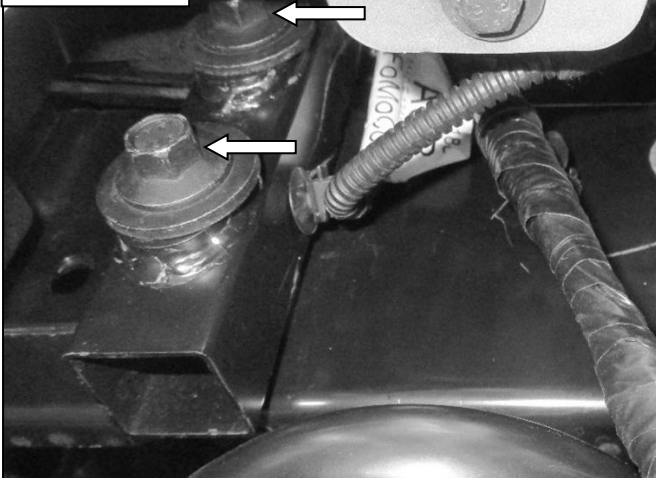
RHS SHOWN



12. Remove and discard the round plastic clip that was securing the lower airdam to the bumper mount.

Note: Push clip through from the steel bumper mount side.

RHS SHOWN



13. Remove and discard the two long hex head bolts securing the bumper to the vehicle.

Repeat on LHS.

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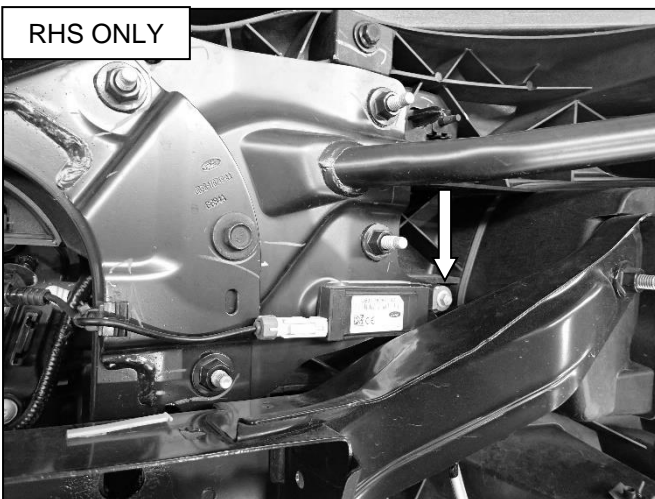


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14. Remove the bumper from the vehicle.



15. Remove the FM antenna box from the rear of the bumper and retain the fastener.



16. Pry the clips away from the bumper that secure the FM antenna harness and cable.

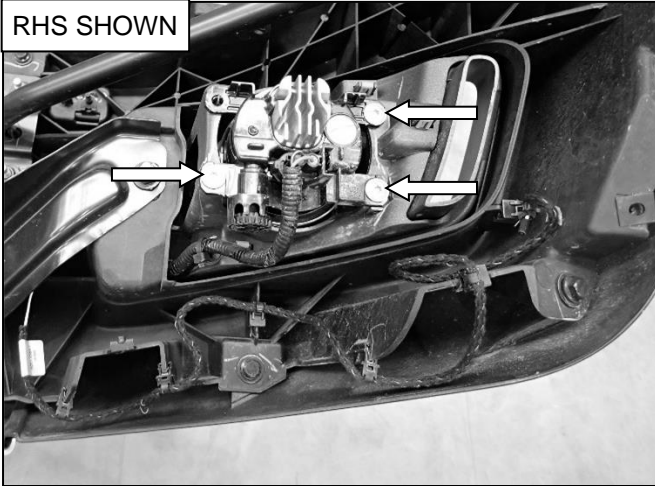
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RHS SHOWN



STEP 17 & 18 IS ONLY IF RE-FITTING OE FOG LIGHTS TO EVO BAR. IF FITTING TJM LED CHASER LIGHTS PROCEED TO NEXT STEP.

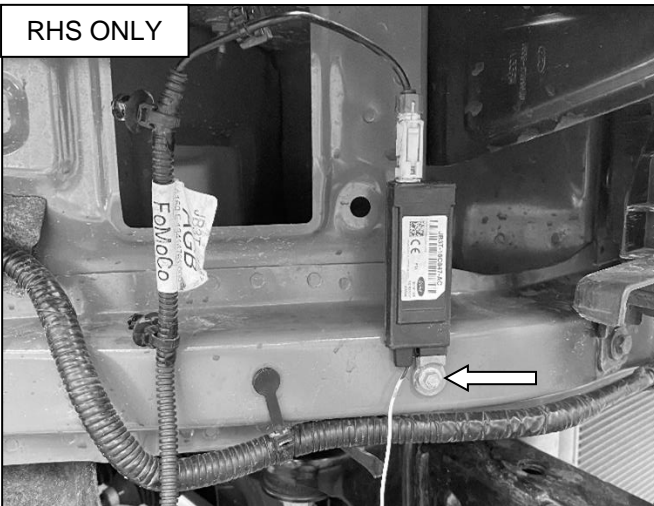
17. Remove the three screws securing the OE Fog Lights to the bumper.

Repeat on LHS.

18. Remove the fog light harness from the bumper and retain.

19. Discard bumper.

RHS ONLY



20. Fit the FM antenna box to the right hand side of the radiator support panel using the fastener retained in Step 15 as shown.

RHS ONLY



21. Clip the FM antenna cable to the plastic airdam as shown.

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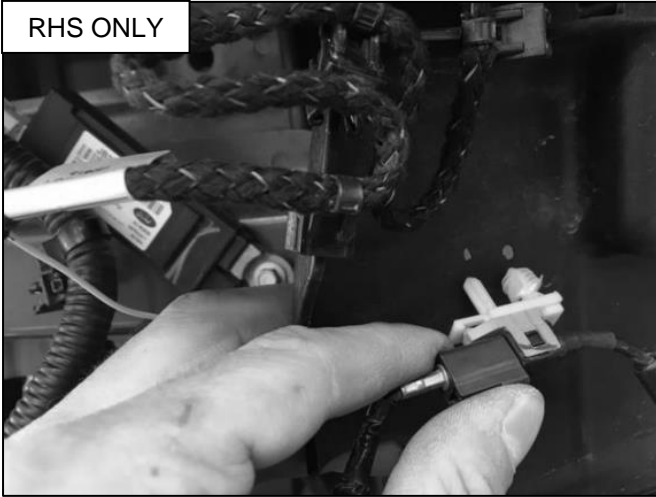


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RHS ONLY

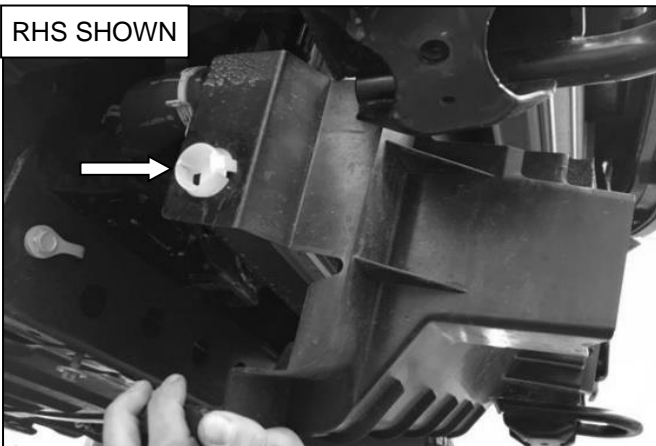


22. Locate the FM antenna connector on the airdam and mark the two points.
23. Drill two Ø6mm holes where previously marked.
24. Attach the connector to the plastic airdam through the holes.



25. Attach the fog light harness to the radiator support panel using zip ties.

RHS SHOWN



26. Remove and discard the lower air dam from the inner chassis rails by unclipping the two round white plugs.

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Product:

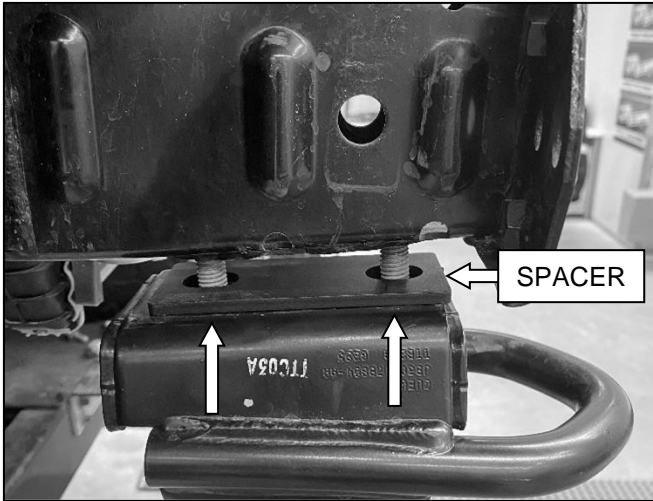
T28 Alloy Bar

Vehicle:

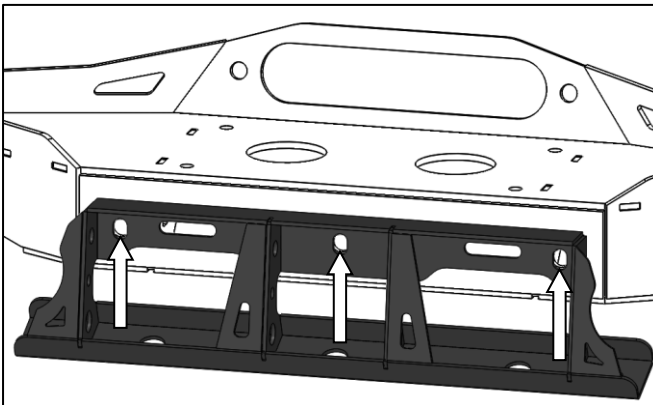
Ford Ranger Raptor

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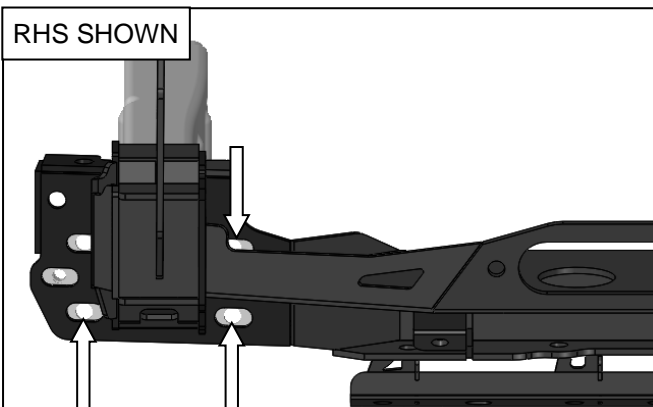
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27. Remove and retain the two bolts securing the OE Recovery Points to the chassis.
28. Place the "Recovery Point Spacer" between the Recovery Point and the chassis rail.
29. Refit the OE Recovery Points using the OE fasteners retained in Step 27.



30. Fit the "Underbody Guard Mount" to the "Winch Mount" using M10 x 1.5 x 25mm Hex Head Flange Bolt (3).
31. Tighten the previously installed fasteners to the specified torque settings listed on Page 6.



32. Fit the "Winch Mount" loosely to the vehicle using M10 x 1.5 x 30mm Hex Head Bolt (3) & M10 x Ø30mm x 3.0mm Flat Washer (3) as shown.

Repeat on LHS.

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FITTING INSTRUCTIONS

Product:

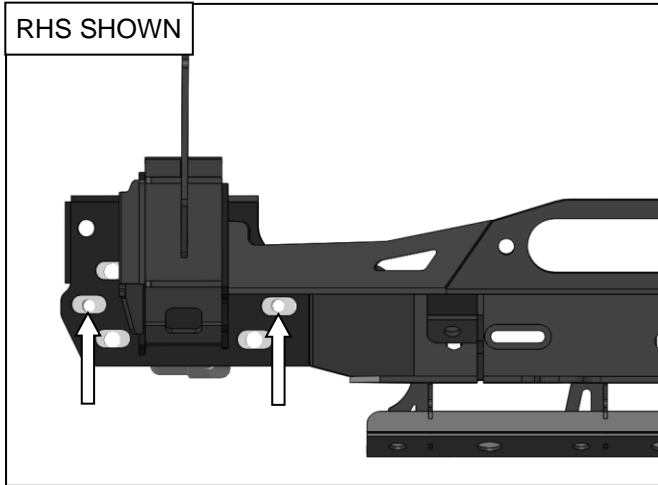
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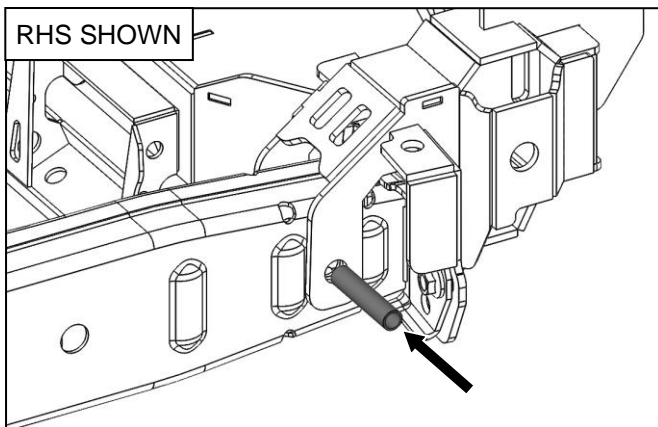
Part No.

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33. Loosely secure the "Winch Mount" using M10 x 1.5 x 30mm Hex Head Bolt (2), M10 x Ø30mm x 3.0mm Flat Washer (2) & M10 x 1.5 Flange Nut (2) as shown.

Repeat on LHS.



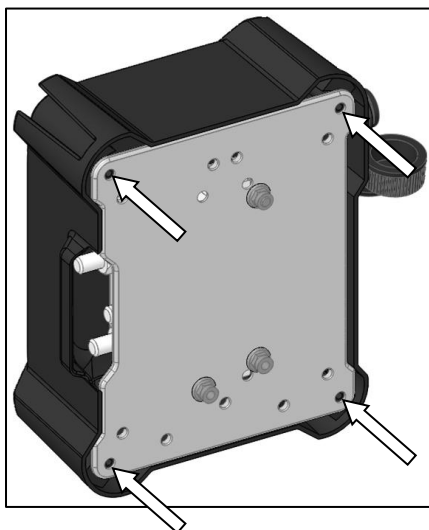
34. Secure the rear of the "Winch Mount" to the chassis using a "Crush Tube", M10 x 1.5 x 90mm Hex Head Bolt (1), M10 x Ø20mm x 1.8mm Flat Washer (1) & M10 x 1.5 Flange Nut (1).

Repeat on LHS.

35. Centralize the "Winch Mount" to the vehicle as close as possible. Further vehicle alignment can be made later.

36. Tighten all fasteners from Step 32 to 34 to the relevant torque settings listed on Page 6.

STEPS 37 TO 51 ONLY APPLIES IF A WINCH IS TO BE FITTED.



37. Remove and retain the four screws from the base of the control box. This will allow for the plastic cover to be removed and gain access to the cables.

38. Remove the four existing cables and replace with the long lead kit cables purchased separately ensuring that the same coloured cables are attached in the same location as the ones removed.

39. Re-attach the plastic cover using the four screws retained from the previous step.

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Product:

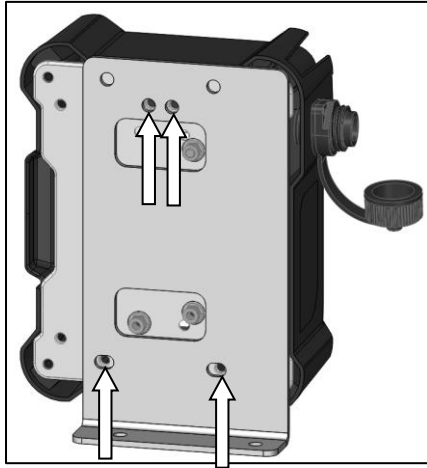
T28 Alloy Bar

Vehicle:

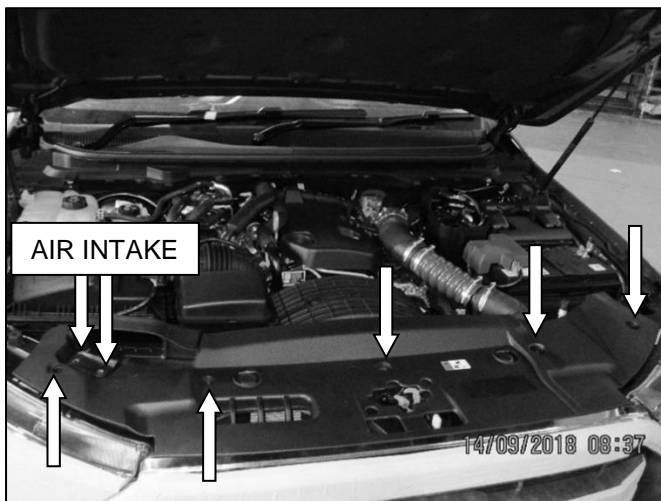
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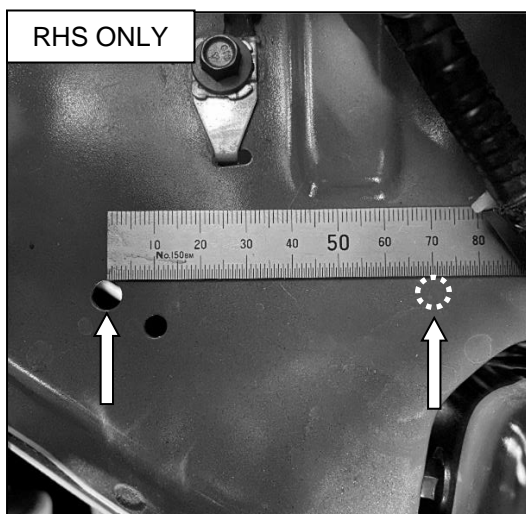


40. Attach the "Control Box Mount" to the winch control box using the screws provided with the winch.



41. Remove and retain the plastic clips (5) that secure the top of the grille/radiator shroud. In addition remove and retain the 2 bolts securing the air intake.

42. Raise shroud at grille, release and remove clips underneath. Remove and retain the air intake as well.



43. Inside the engine bay on the right hand side in front of the washer bottle filler measure 70mm horizontally across from the specified hole.

44. At the previously marked point drill a $\varnothing 7$ mm hole.

45. De-burr all new edges, clean any swarf from the areas and apply rust preventative to exposed surfaces.

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Product:

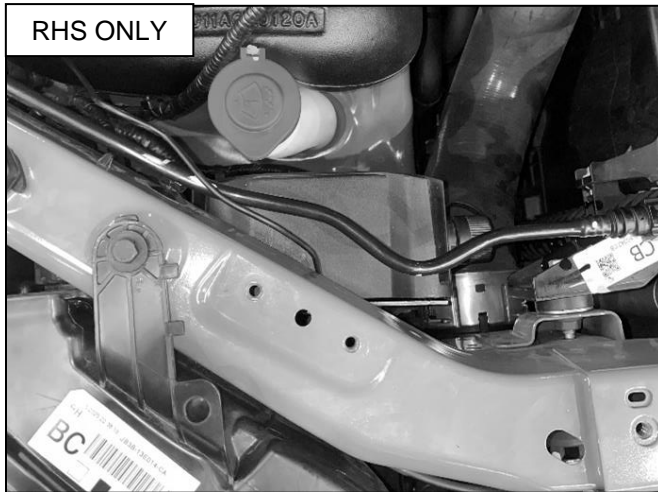
T28 Alloy Bar

Vehicle:

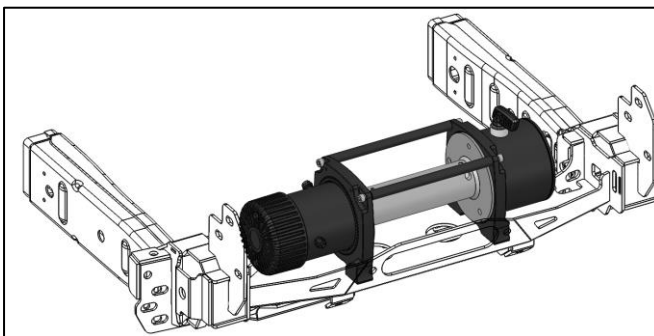
Ford Ranger Raptor

Part No.

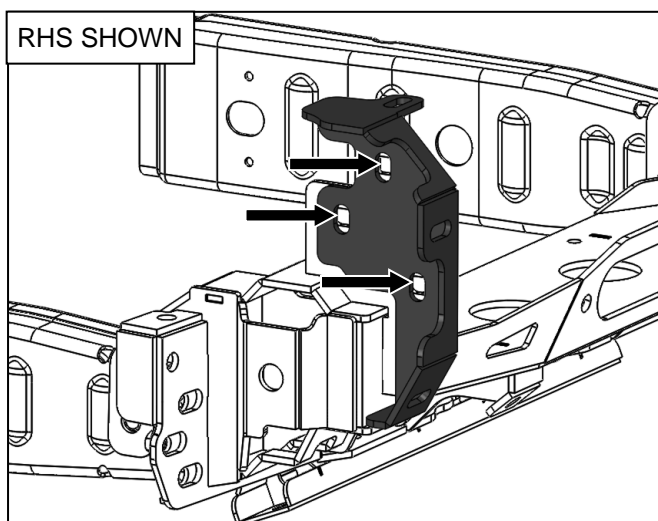
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46. Feed the control box cables through from the engine bay past the back of the head light and between the radiator through to the front of the vehicle where the winch will be located on the winch mount.
47. Place the control box into the panel where the previously drill hole is as shown.
48. Secure the "Control Box Mount" to the vehicle using M6 x 1.0 x 20mm Hex Head Bolt (2), M6 x Ø12mm x 1.7mm Flat Washer (2) & M6 x 1.0 Flange Nut (2). Use the "Control Box Washer Plate" on the nut side from under the vehicle.



49. Fit the winch to the "Winch Mount" by referring to the winch fitting instructions.
50. Attach the previously fed through cables to the winch matching the colours of the cables to the colours on the studs on the winch.
51. Refit the grille/radiator shroud using the fasteners retained in Step 41.



52. Loosely secure the "Bar Mount" to the "Winch Mount" using M12 x 1.75 x 25mm Hex Head Bolt (3), M12 x Ø24mm x 2.2mm Flat Washer (3) & M12 x 1.75 Flange Nut (3).

Repeat on LHS.

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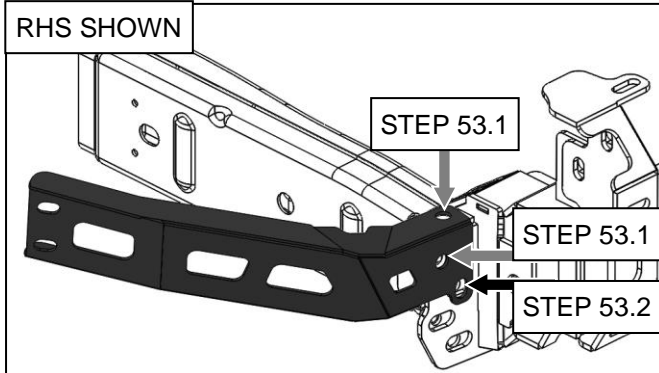
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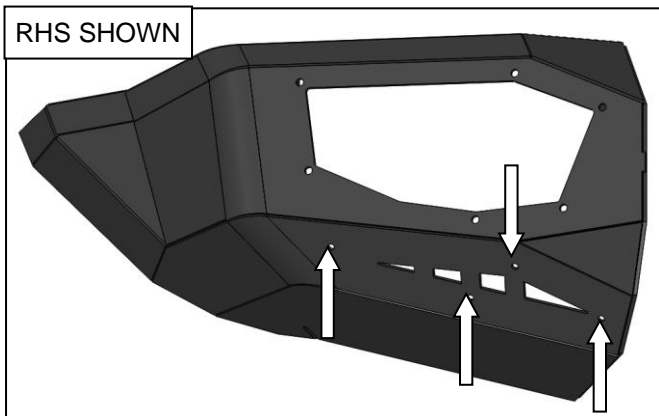
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53. Secure the "Wing Brace" loosely to the "Winch Mount" using:

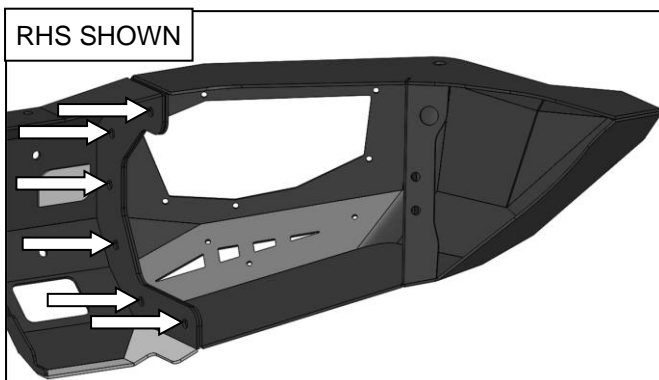
- 53.1. M10 x 1.5 x 25mm Hex Head Flange Bolt (2).
- 53.2. M10 x 1.5 x 30mm Hex Head Bolt (1) & M10 x Ø30mm x 3.0mm Flat Washer (1).

Repeat on LHS.



54. Fit the "Grille" to the "Wing" using M6 x 1.0 x 20mm Button Head Bolt (4), M6 x Ø12mm x 1.7mm Flat Washer (4) & M6 x 1.0 Flange Nut (4).

Repeat on LHS.



55. Secure the "Wing" to the "Centre" using M12 x 1.75 x 25mm Hex Head Bolt (6), M12 x Ø24mm x 2.2mm Flat Washer (6) & M12 x 1.75 Flange Nut (6). Nuts to be located on the centre face.

56. Align the front faces of the "Wing" and "Centre" then tighten the fasteners from the previous step. Further adjustment to the vehicle can be made later.

Repeat on LHS.

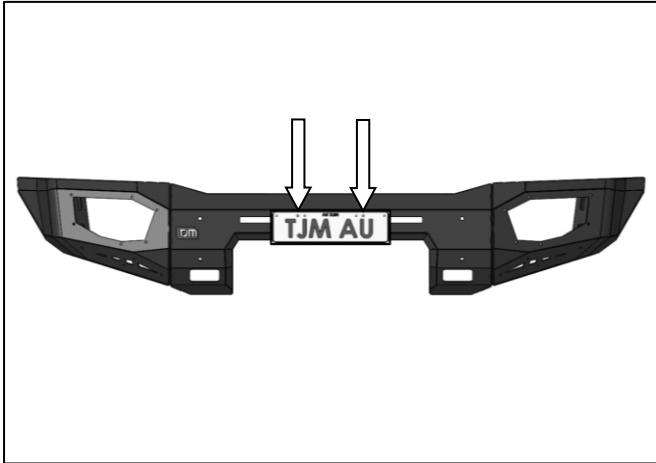


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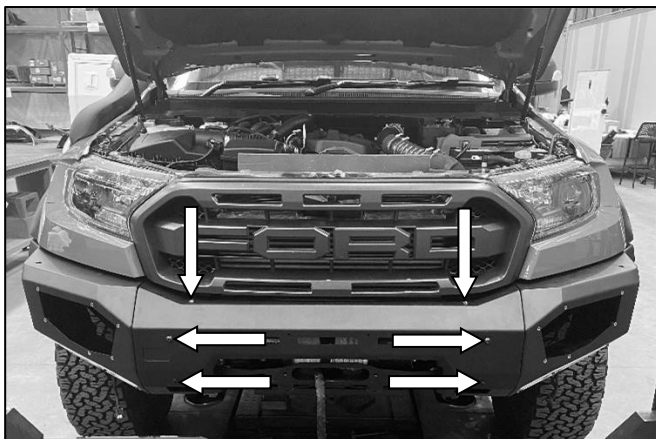
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57. Fit the Number Plate to the bar assembly using M6 x 1.0 x 20mm Button Head Bolt (2), M6 x Ø12mm x 1.7mm Flat Washer (2) & M6 x 1.0 Flange Nut (2).

Note: If winch is fitted a slimline number plate is recommended.



58. With the assistance of another person, carefully lift the bar assembly into position on the "Bar Mounts", then loosely secure it in place, using M10 x 1.5 x 25mm Button Head Bolt (6), M10 x Ø20mm x 1.8mm Flat Washer (6) & M10 x 1.5 Flange Nut (6) at the indicated locations.



59. Align the bar horizontally across the front of the vehicle and then tighten the fasteners installed in Step 58 to the specific torque settings listed on Page 6.

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60. Align the bar vertically so that there is approximately 15mm gap between the bumper and the top of the bar.

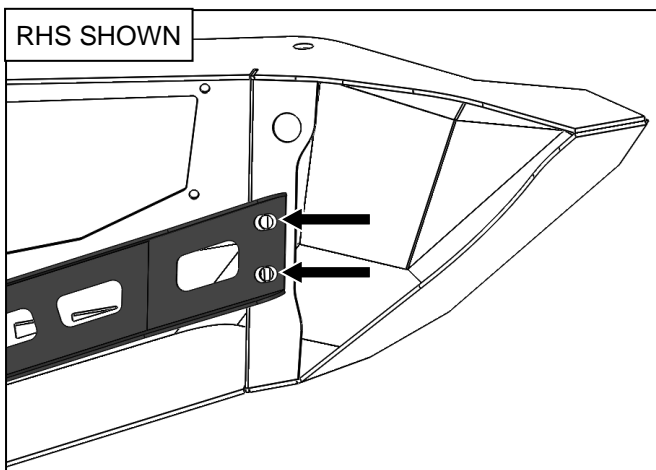
61. Align the bar forward and backwards so that the wing tip follows the line of the flare.



62. Once aligned tighten the fasteners installed in Step 52 to the specific torque settings listed on Page 6.



63. If further adjustment is required at the "Wing", loosen the fasteners installed in Step 55 and move to the desired position and then tighten to the specific torque settings listed on Page 6.



64. Secure the "Wing Brace" to the "Wing" using M10 x 1.5 x 25mm Hex Head Flange Bolt (2).

65. Tighten the fasteners from the previous step as well as the fasteners from Step 53 to the specific torque settings listed on Page 6.

Repeat on LHS.

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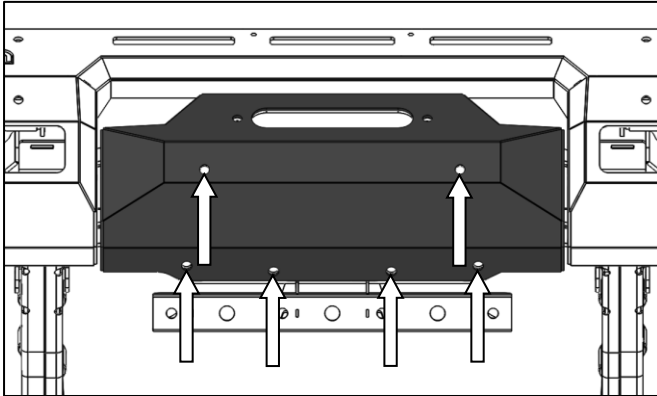
T28 Alloy Bar

Vehicle:

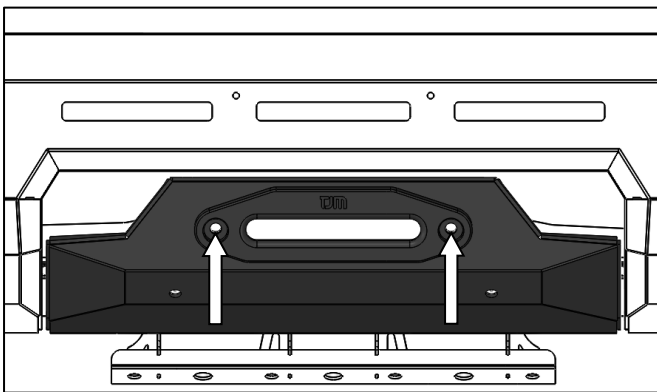
Ford Ranger Raptor

Part No.

070AT28N21X

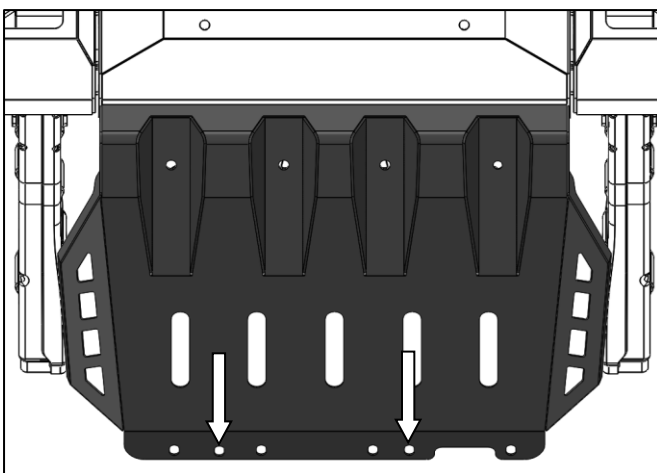


66. Attach the "Winch Mount Cover" to the front of the "Winch Mount" using M10 x 1.5 x 25mm Button Head Bolt (6) & M10 x Ø20mm x 1.8mm Flat Washer (6).



STEP 67 ONLY APPLIES IF A WINCH IS TO BE FITTED.

67. Using the fasteners supplied with the winch, secure the fairlead to the front of the "Winch Mount Cover" at the indicated locations.
68. If no winch is fitted use M10 x 1.5 x 25mm Button Head Bolt (2), M10 x Ø20mm x 1.8mm Flat Washer (2) & M10 x 1.5 Flange Nut (2) at the indicated locations.
69. Tighten the fasteners from Steps 66 to 68 to the specific torque settings listed on Page 6.



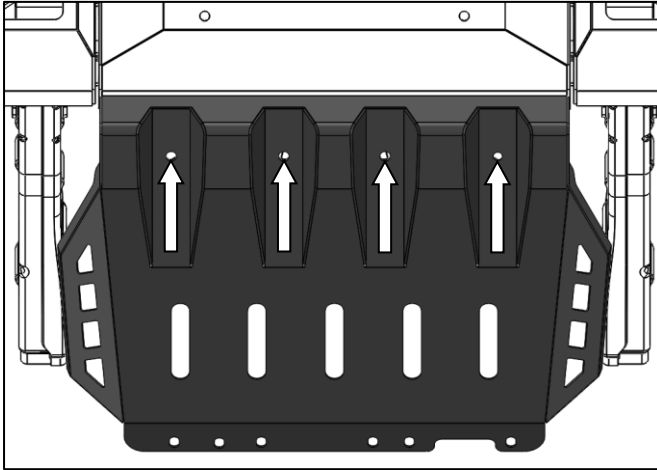
70. Secure the rear of the "Underbody Guard" using the OE fasteners retained in Step 5.

For product warranty please refer to our website www.tjm.com.au

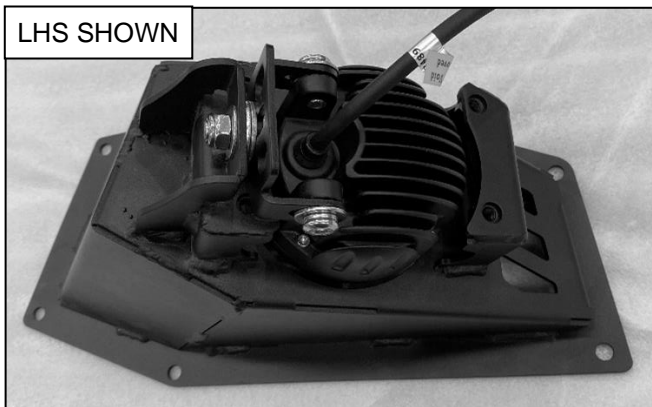


FITTING INSTRUCTIONS

Product:	T28 Alloy Bar
Vehicle:	Ford Ranger Raptor
Part No.	070AT28N21X



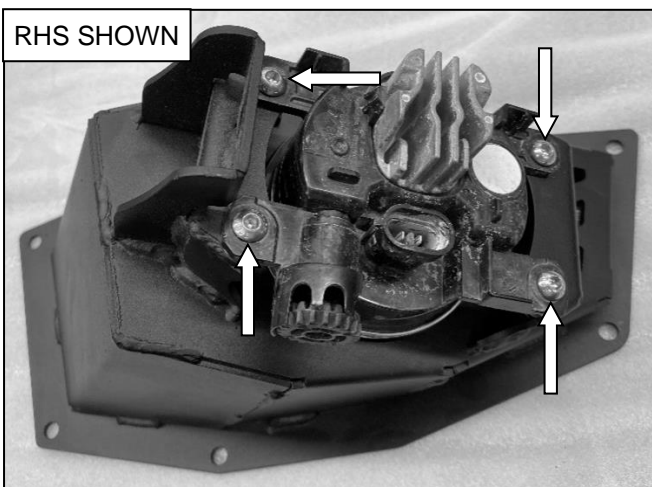
71. Secure the front of the "Underbody Guard" using M10 x 1.5 x 25mm Button Head Bolt (4) & M10 x Ø20mm x 1.8mm Flat Washer (4).



STEP 72 IS ONLY IF TJM LED CHASER LIGHT IS BEING FITTED.

72. Fit the Chaser Light to the "Fog Light Insert" using the fasteners supplied with the light as shown.

Repeat on RHS.



STEP 73 IS ONLY IF OE FOG LIGHT IS BEING FITTED.

73. Fit the OE Fog Light to the "Fog Light Insert" using M6 x 1.0 x 20mm Button Head Bolt (4) & M6 x Ø12mm x 1.7mm Flat Washer (4).

Repeat on LHS.

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FITTING INSTRUCTIONS

Product:

T28 Alloy Bar

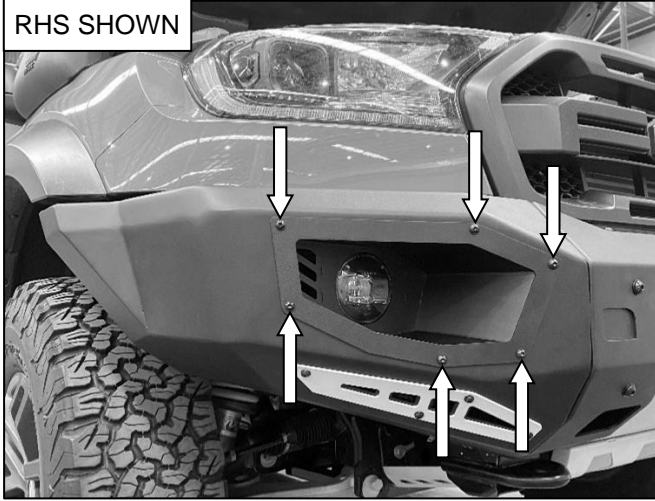
Vehicle:

Ford Ranger Raptor

Part No.

070AT28N21X

RHS SHOWN



74. Fit the "Fog Light Insert" into the "Wing" using M6 x 1.0 x 20mm Button Head Bolt (6) & M6 x Ø12mm x 1.7mm Flat Washer (6).

75. Plug in the OE Fog Light into the harness.

Repeat on LHS.



76. Ensure that all of the fasteners are fully tightened to the appropriate torque settings & that, as a result of fitting the product, no vehicle components are crushed or will chafe.

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