



INSTALLATION INSTRUCTIONS

BBP109C / BBP109C-SL

BULL BARS TO SUIT FORD F-150
14th Gen (P702) 2021+



BBP109C Bar Weight: 120Kg (265Lb) | BBP109C-SL Bar Weight: 100Kg (221Lb)
OE removal weight 40Kg (88Lb)

NOTE

This bull bar should not impede the operation of the Intercooler Active Aero.
Some images contained in these instructions are generic and are a representation of the actual model and/or parts used. Some steps may also show parts out of sequence to the instructional steps.



SAFETY WARNING

Ironman 4X4 requires you read and understand the safety and pre-install directions on page 2 and 3 before commencing installation of this product.

Document Number: BBP109C/090524

**This product has been tested for airbag compatibility
and therefore the mounting system MUST NOT be modified**

Pre-Installation Procedures



SAFETY WARNING

- It is always good practice to disconnect the battery while working on 12 Volt systems.
 - Please check the owner's manual for vehicle-specific requirements as some models may need battery backup.
- Auto electrical work should be carried out by a competent person. Vehicle wire colours are listed as a guide only and may vary on some makes and models.
- The function of each wire should be checked before any connections are made. All wires tapped into should be soldered and then insulated with electrical tape or heat shrink.
- Grounding/Earth points must always be connected to the factory grounding points, not to the battery negative terminal. See owner's manual.
- Using only a LED test light, test all electrical components of the vehicle before and after wiring. This is to ensure everything works correctly.
- Ironman 4x4 does not recommend the installation of large or light-coloured antennas or aerials to the front of a bull bar as this may cause the lane departure system to malfunction.



NOTE

- Only a competent person should perform accessory installations. It is the responsibility of this person to ensure correct fitment.
- Whilst working on this vehicle, always use appropriate safety equipment.
- Read and understand instructions fully before commencing fitment.
- Check the hardware supplied against the contents list on the following pages.
- Do not use this product for any vehicle make or model other than specified in these instructions.
- This product and or hardware must not be modified in any way. Do not remove labels from this product.
- Recording the batch number on the customer's job card is good practice for future reference, or complete the information below and file with customer job card.



CARE INSTRUCTIONS

- To maintain the finish of the product, wash regularly using a PH neutral car wash, hose off and chamois dry.
- Do not use acidic or alkaline cleaners.
- Plastic components can be maintained with a silicone spray or similar (non-acidic or alkaline based).



CUSTOMER INFORMATION

Customer Name: _____ Date: _____

Contact: _____

Part Number: _____ Batch Number: _____

(Located on label behind bull bar wing)





Important Warnings

Due to the increasing complexity of new cars with cameras, sensors and radars, it is imperative that when installing bar work to cars, the vehicle is not turned on at all - not even to accessories - without having all cameras, sensors and radars connected.

All late model vehicles with push-button start use a proximity sensor, which is continually searching for a signal. Keys located in the vehicle or nearby will retain residual power within the vehicle, causing faults once the key safety features are unplugged.

DO NOT leave keys within the vehicle, or locate nearby.

As newer vehicles become more technically advanced, some will flag fault codes if turned on when cameras, sensors and radars are not plugged in. This can result in error messages on the dash that cannot be cleared, requiring the car to be taken back to a dealership to be cleared and recalibrated.

Please be aware of this when working on any car with cameras, sensors or radars.

VEHICLE FRONTAL PROTECTION SYSTEM (VFPS)

Do not attach VFPS to the vehicle using anchorages not intended for this purpose (e.g. engine mountings bolts)

Do not use this product for any vehicle make or model, other than those specified by the VFPS manufacturer.

Do not remove the plaque from the VFPS.

Do not modify the structure of the VFPS in any way.

- Ironman 4x4 includes specific mounting hardware to ensure correct fitment to your 4WD. The correct fitment of these components is critical for your safety.
- Do not use this bull bar or recovery point for any other vehicle make or model other than the one intended and specified by Ironman 4x4.
- Do not alter or modify the bull bar or recovery point in any way. Doing so may compromise the strength and integrity of the product.
- Do not remove warning labels from bull bar or recovery points. Bull bar and recovery points require warning labels to be installed, these are supplied and must be installed at the time of fitting.
- Ironman 4x4 recovery points are FEA tested during design and destruction tested during development to establish the Working Load Limits (WLL).
- Ironman 4x4 recovery points have been designed as a matching pair, supplied as right and left sides for vehicle-specific fitment.
- It is advised to use an equalising or bridle strap. Failure to do so correctly can result in recovery point fatigue or bending and void your warranty.
- Never use a single recovery point combined with a side load pull.
- Recovery Points are designed for a straight-line pull, by pulling on an angle or sideways pull may result in a reduction of the WLL.
- Ensure all bolts are tightened to the specified torque.



NOTE

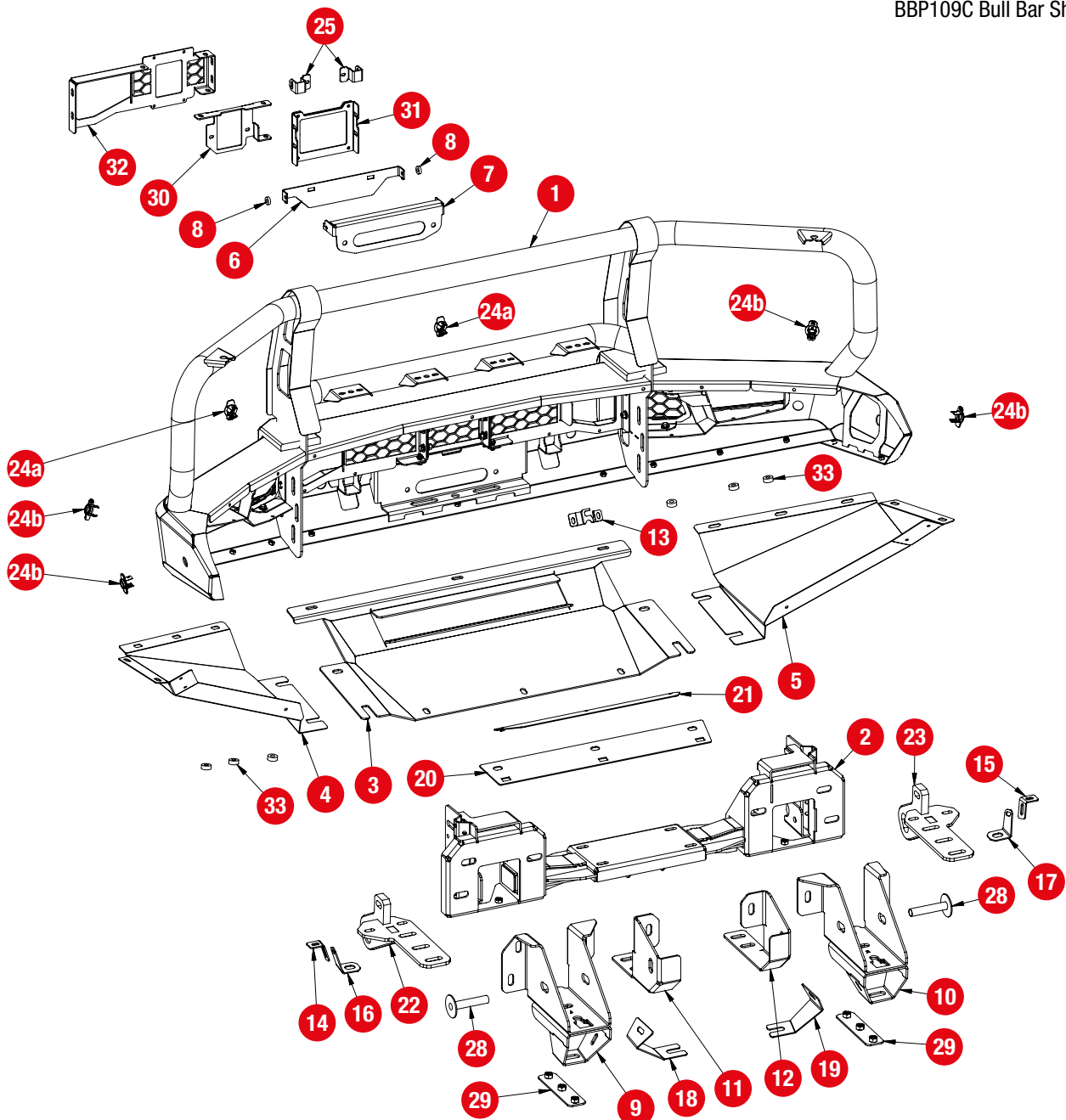
- This product has been tested for airbag compatibility; therefore, the mounting system or any part of the bull bar **MUST NOT** be modified.
- Some images contained in these instructions are generic and are a representation of the actual model and/or parts used. Some steps may show parts out of sequence to the instructional steps.
- Fitting instructions are correct at the time of publication date and Ironman 4x4 cannot be held responsible for any vehicle changes from the manufacturer. It is the responsibility of the installer to ensure correct fitment.



Parts List (Item)

No.	Part Description	Qty	No.	Part Description	Qty	No.	Part Description	Qty
1.	Bull bar channel assembly	1	13.	Front camera bracket	1	24b.	Sensor holders (PSH111)	4
2.	Winch cradle	1	14.	Side wing plate upper bracket - LHS	1	25.	Rotation bracket	2
3.	Front underbody protection plate	1	15.	Side wing plate upper bracket - RHS	1	26.	Plastic bracket cover (not shown)	1
4.	Side wing protection plate - LHS	1	16.	Side wing plate lower bracket - LHS	1	27.	Plastic frame cover (not shown)	1
5.	Side wing protection plate - RHS	1	17.	Side wing plate lower bracket - RHS	1	28.	Crush tube plate 105mm	2
6.	Number plate base bracket and fairlead	1	18.	Front underbody plate bracket - LHS	1	29.	Triple nut plate M12	2
7.	Number plate flip bracket	1	19.	Front underbody plate bracket - RHS	1	30.	Cruise control radar mount bracket	1
8.	Nylon spacer	2	20.	Front underbody crossmember plate	1	31.	Cruise control radar bracket - Centre mount	1
9.	Chassis mount bracket - LHS	1	21.	Air inlet plate	1	32.	Cruise control radar bracket - LHS mount	1
10.	Chassis mount bracket - RHS	1	22.	Recovery point - LHS	1	33.	Foglight spacer bush	6
11.	Chassis mount inner bracket - LHS	1	23.	Recovery point - RHS	1	34.	Recovery point warning sticker (not shown)	2
12.	Chassis mount inner bracket - RHS	1	24a.	Sensor holders (PSH110)	2			

BBP109C Bull Bar Shown

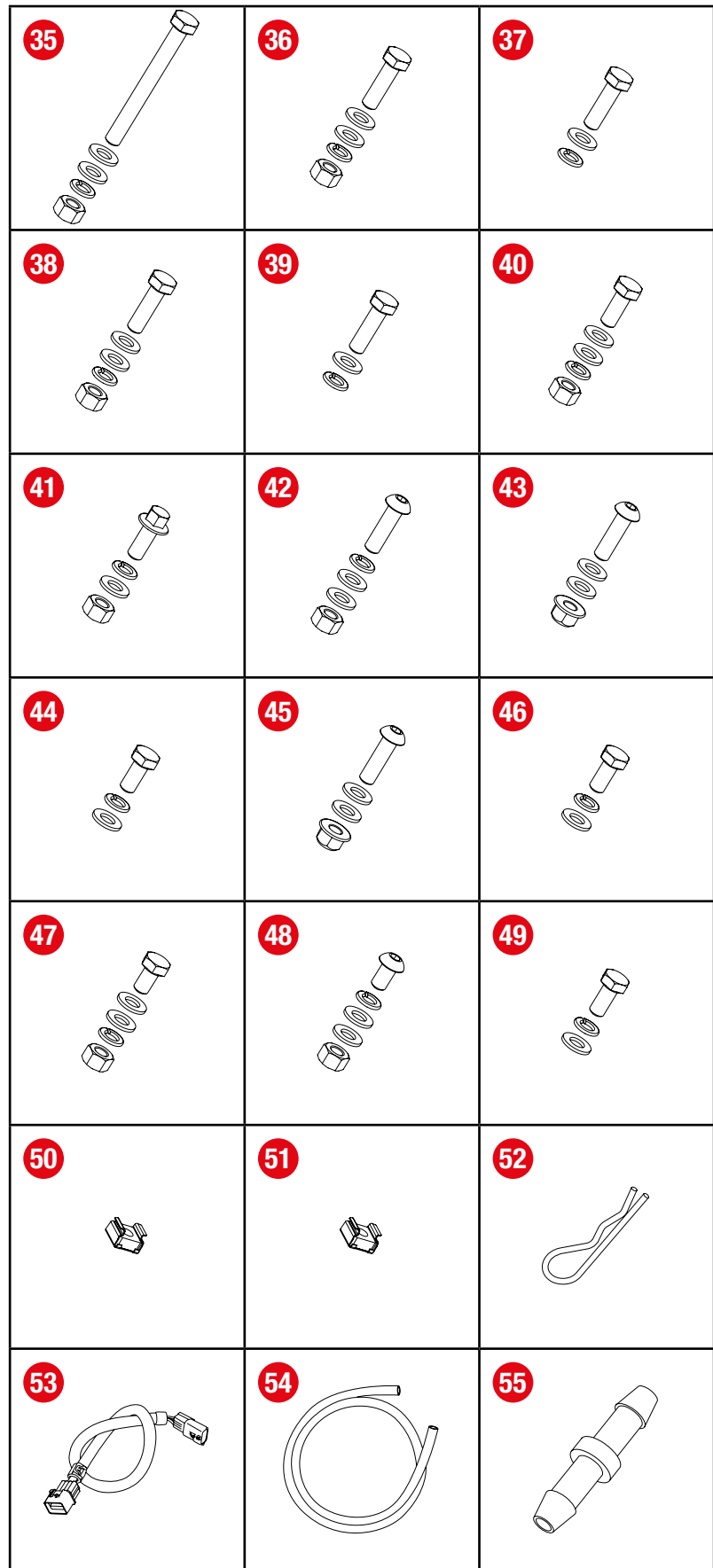


Any damage or losses caused by improper installation and application, goes beyond our quality warranty.



Parts List (Item)

No.	Part Description	Qty
	Hex Head Bolt M12 x 170mm	
	Flat Washer M12 (36.5 x 14 x 4mm)	
35.	Flat Washer M12 (36.5 x 14 x 4mm)	2
	Spring Washer M12	
	Hex Nut M12	
	Hex Head Bolt M12 x 50mm	
	Flat Washer M12 (36.5 x 14 x 4mm)	
36.	Flat Washer M12 (36.5 x 14 x 4mm)	6
	Spring Washer M12	
	Hex Nut M12	
	Hex Head Bolt M12 x 50mm	
37.	Flat Washer M12 (36.5 x 14 x 4mm)	8
	Spring Washer M12	
	Hex Head Bolt M12 x 40mm	
	Flat Washer M12 (36.5 x 14 x 4mm)	
38.	Flat Washer M12 (36.5 x 14 x 4mm)	6
	Spring Washer M12	
	Hex Nut M12	
	Hex Head Bolt M10 x 40mm	
39.	Flat Washer M10 (29.5 x 10.5 x 3mm)	4
	Spring Washer M10	
	Hex Head Bolt M10 x 30mm	
	Flat Washer M10 (29.5 x 10.5 x 3mm)	
40.	Flat Washer M10 (29.5 x 10.5 x 3mm)	8
	Spring Washer M10	
	Hex Nut M10	
	Hex Flange Head Bolt M10 x 30 x 1.25mm	
41.	Flat Washer M10 (29.5 x 10.5 x 3mm)	4
	Spring Washer M10	
	Hex Nut M10	
	Dome Head Bolt M10 x 30mm	
	Flat Washer M10 (29.5 x 10.5 x 3mm)	
42.	Flat Washer M10 (29.5 x 10.5 x 3mm)	3
	Spring Washer M10	
	Hex Nut M10	
	Dome Head Bolt M10 x 30mm	
	Flat Washer M10 (29.5 x 10.5 x 3mm)	
43.	Flat Washer M10 (29.5 x 10.5 x 3mm)	2
	Nyloc Nut M10	
	Hex Head Bolt M10 x 25mm	
44.	Flat Washer M10 (29.5 x 10.5 x 3mm)	4
	Spring Washer M10	
	Dome Head Bolt M8 x 30mm	
	Flat Washer M8 (16 x 8.5 x 2.5mm)	
45.	Flat Washer M8 (16 x 8.5 x 2.5mm)	2
	Nyloc Nut M8	
	Hex Head Bolt M8 x 25mm	
46.	Flat Washer M8 (22.5 x 8.5 x 2.5mm)	13
	Spring Washer M8	
	Hex Head Bolt M6 x 20mm	
	Flat Washer M6 (22.5 x 6.5 x 2.5mm)	
47.	Flat Washer M6 (22.5 x 6.5 x 2.5mm)	3
	Spring Washer M6	
	Hex Nut M6	
	Dome Head Bolt M6 x 20mm	
	Flat Washer M6 (16 x 6.5 x 1.2mm)	
48.	Flat Washer M6 (16 x 6.5 x 1.2mm)	6
	Spring Washer M6	
	Hex Nut M6	
	Hex Head Bolt M6 x 20mm	
49.	Flat Washer M8 (22.5 x 6.5 x 2.5mm)	7
	Spring Washer M8	
50.	Cage Nut M10	3
51.	Cage Nut M6	2
52.	Clip	2
53.	Camera Extension Cable	1
54.	Hose Tube - 600mm	1
55.	Hose Barb Reducer	1



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Accessories

MANDATORY

To ensure bull bar fitted to vehicle complies with all State and Federal road laws, an Indicator and parking light combo - **ILED20TURNPARK** (2 required) must be fitted to the bull bar.

A bull bar plug-and-play wiring harness (parker/indicator/fog lights) is also required to be fitted - **IBBPL109**

These must be ordered separately.

OPTIONAL

If installing driving lights or lightbar, you will require a suitable wiring harness to access the IPL connector (High Beam Trigger). These are sold separately.

- Lightbar patch loom - **ILBWL001**
- Scope 7" driving lights - **IDLWL001**
- Scope 9" driving lights - **IDLWL002**
- If connecting multiple sets of lights, a splitter may be used - **IPLS002**

If fitting a winch, a winch extension cable is not required given the proximity of the winch to the plug fitting hole in the bull bar unless positioning in an alternative location.

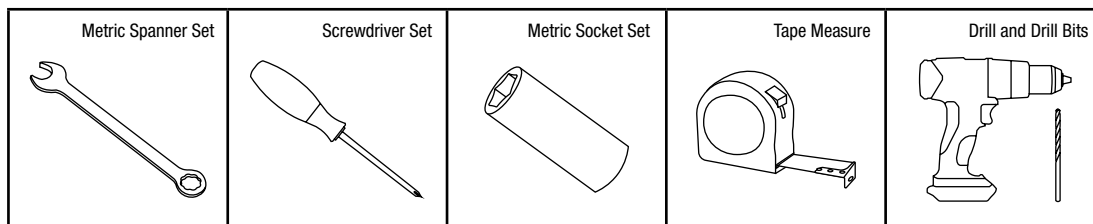
- Winch extension cable - **WWB031**
- Hidden control box mount kit - **WWBCP001**



NOTE

Please refer to specific wiring loom instructions for correct installation.

Tools Required



Bolt Tension Guide

PROPERTY CLASS	TORQUE ma	NOMINAL DIAMETER - COARSE THREAD			
		M6 x 1	M8 x 1.25	M10 x 1.25	M12 x 1.25
8.8	Nm	10.5	25	49	88
	ft/lb	7.7	18	36	64



1. Before installation, unwrap the hardware.
Unwrap the bull bar, taking care not to damage or scratch in the process. Inspect bar for any damage.
Ensure bull bar application is compatible with the vehicle.



TIP

It is good practice to lay out all hardware to cross-reference against the parts list and to record the Batch Number.



Generic image used as reference only.

Strip Down and Pre-Install Procedures

2. Remove and retain the number plate if fitted, to be reinstalled later. Remove the factory number plate holder.
Disconnect the negative battery terminal if applicable.



NOTE

Check manufacturer's handbook for any recommendations as some models may require battery back up.

Using a clip remover, undo the clips holding the plenum cover, remove and place aside. Ensure to keep all plastic clips.

If no camera is fitted to vehicle, move to step 7.



3. Once plenum cover is removed, remove the two (2) screws inside the wheel arch.
Repeat procedure on opposite side.
Slowly, carefully and evenly unclip the upper factory bumper strip, commencing at the sides inside the wheel arch.



NOTE

We suggest two (2) persons complete this task simultaneously to prevent damage to clips and/or the panel.



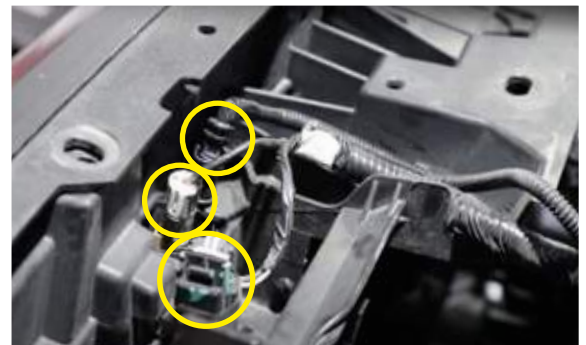
4. Remove the four (4) bolts across the top of the grille, then remove the two (2) bolts at the base of the grille on each side.



5. Disconnect the front camera and remove the wire harness and body clips.
Remove camera washer tube if applicable.

**NOTE**

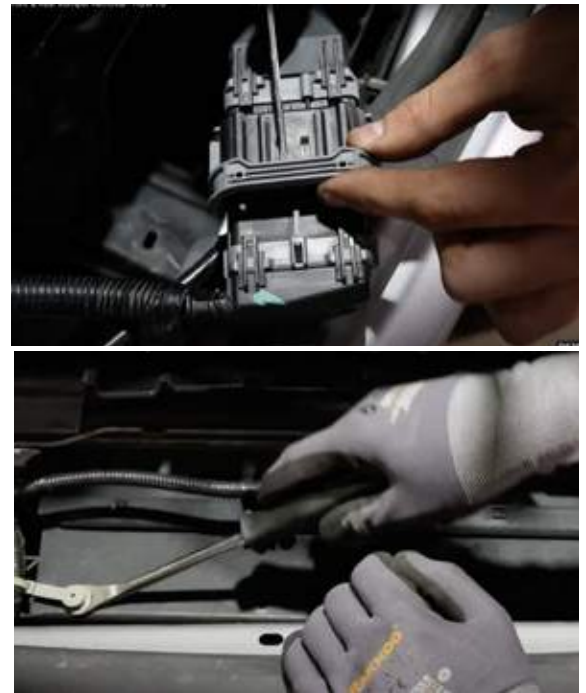
Camera washer tube will need to be blocked off if fitting bar.



6. Carefully and evenly, pull at the grille to dislodge.
Once dislodged, remove the grille and carefully place aside. Do not remove the camera at this stage.



7. Disconnect the sensor and fog light harness, located at the top of the right-hand side chassis rail.
Unplug the centre connection and remove the clips securing the harness.



8. Remove the three (3) nuts around each frame rail securing the lower bumper.

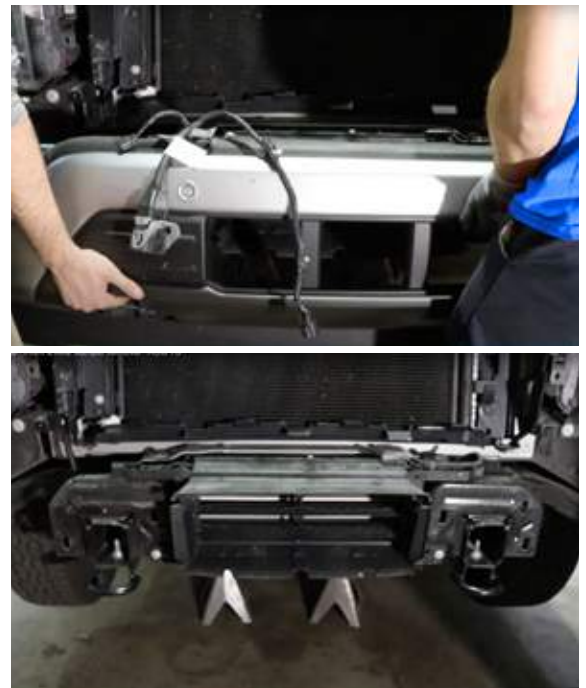


9. Carefully remove the lower bumper and place aside. Do not remove parking sensors or radar at this point.



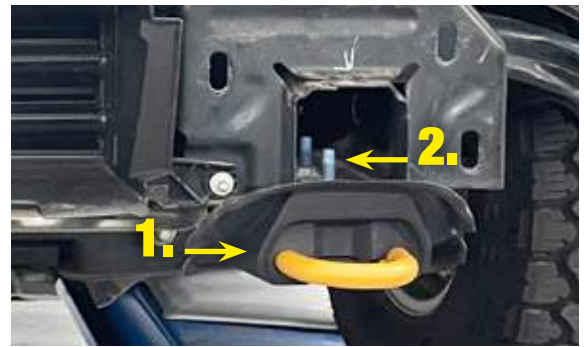
NOTE

We suggest two (2) persons complete this task simultaneously to prevent damage to the bumper, sensors or radar.



- 10.** Remove the plastic shroud (1) around the recovery ring, then remove bolts securing recovery ring (2), discard ring but retain OE bolts.

Repeat procedure on opposite side.



- 11.** Remove the two (2) bolts securing the bull horn. Remove bull horn and discard.

Repeat procedure on opposite side.



NOTE

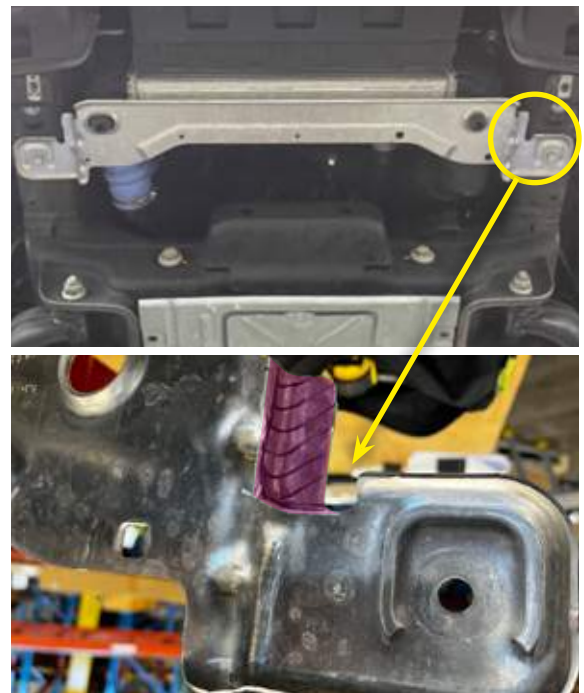
You may need to cut the bolts to remove these.



- 12.** On the 3.5L V6 turbo model, the lower intercooler bracket will need to be notched slightly for the fitment of the chassis support bracket.

Support intercooler with workshop stands and remove bracket.

Mark and trim on both sides as shown and refit bracket to vehicle.



- 13.** The Intercooler Aero will require modification to provide adequate clearance for the bull bar cradle and winch.

Please refer to Intercooler Aero modification instructions on the Ironman 4x4 website.



Installing the Cradle and Recovery Points

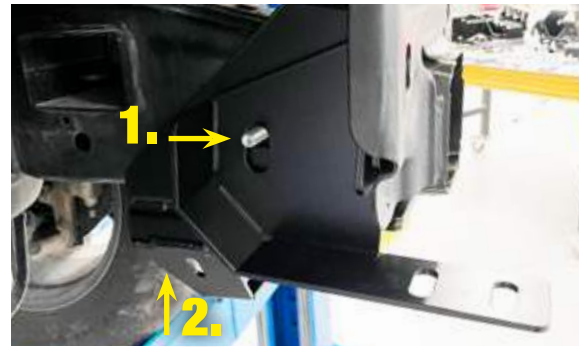
- 14.** Slide crush tube through chassis rail from the outside of vehicle. Position chassis mount and inner bracket to the rail. Secure all parts loosely together through rail with M12 x 170mm bolt **(1)** supplied.

Slide triple nut plate inside chassis rail and loosely secure rear of the bracket from underneath using M12 x 50mm **(2)**.

Repeat procedure on opposite side.

Item: 9, 11, 28, 29, 35 and 37 - LHS

Item: 10, 12, 28, 29, 35 and 37 - RHS



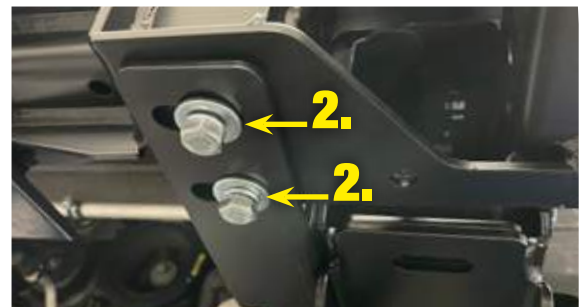
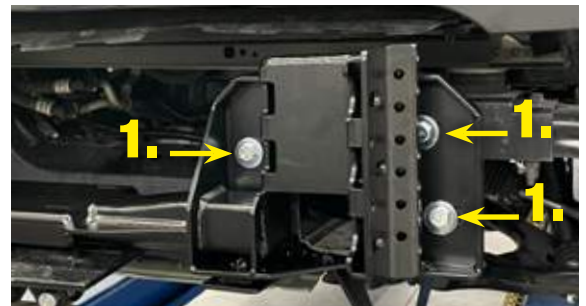
- 15.** Lift the cradle into position and secure to chassis brackets using M12 x 50mm bolts **(1)** to the face.

Using M10 x 25mm bolts **(2)**, secure to the underside of the inner chassis bracket.

Finger tighten only.

Repeat procedure on opposite side.

Item: 2, 36 and 43



- 16.** Place recovery point into position and secure from the underside loosely with M12 x 50mm bolt **(1)** and M10 x 40mm bolts **(2&3)** supplied.

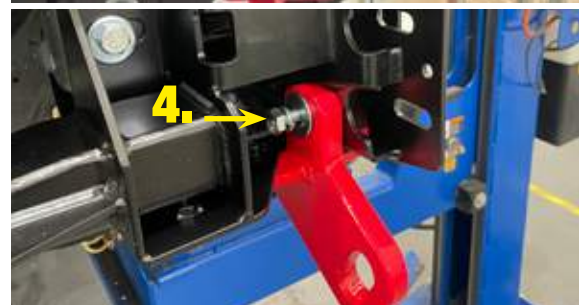
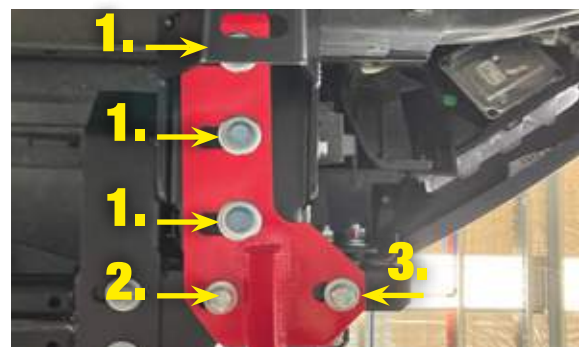
The side wing plate upper bracket (not shown) should be fitted at this point with M10 x 40mm bolt **(3)**.

Using M12 x 50mm bolt **(4)**, secure the side of the recovery point to the cradle.

Repeat procedure on opposite side.

Item: 14, 22, 34, 37 and 39 - LHS

Item: 15, 23, 34, 37 and 39 - RHS



- 17.** Find a fixed point on the vehicle and opposing side of cradle as shown. Take measurement to square up and centre cradle.

Repeat from left and right fixed points until the cradle is centred.



TIP

Use the inside edge of the headlight as a guide.

Lightly tighten bolts, check measurements and readjust if necessary.

Once centred, tighten chassis through bolt to pull unit together. Tighten forward facing bolts to torque guide specifications. Refer page 6.

Proceed to tighten all other bolts to torque guide specifications. Refer page 6.

Paint mark all bolt heads.



Generic image used as reference only.

Installing the Winch

18. Winch option

If installing a winch, you can use the optional winch control box bracket and control box extension wiring loom.

P/N: WWBCP001 / P/N: WWB031



Generic image used as reference only.

- 19.** Select the desired mounting position. The top plate can be bolted into multiple positions depending on space available.



- 20.** Once the chosen position is found, screw the top and side brackets together using the hardware supplied.



- 21.** The electrical control box also has multiple mounting positions. Once the desired position is found, bolt down using supplied hardware.



NOTE

Earthing/grounding points must always be connected to the factory grounding points and not to the battery negative terminal. See the owner's manual.

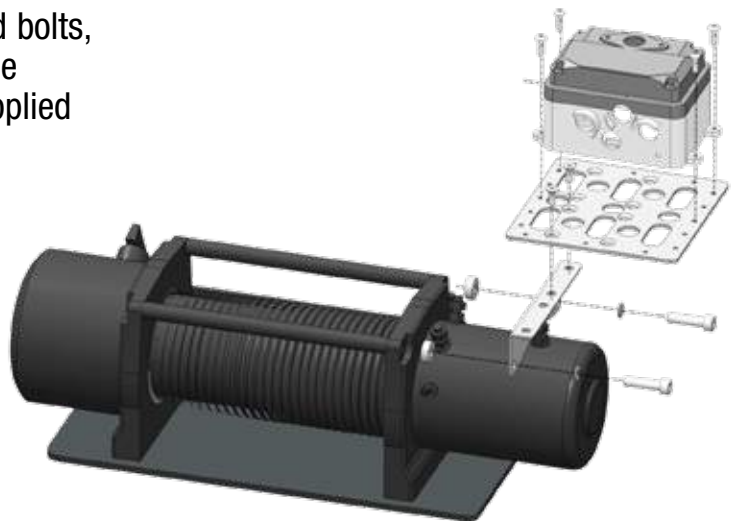


- 22.** Remove 8mm side-mounted Allen-head bolts, and with the hardware supplied, bolt the side bracket to the winch using the supplied spacer kit.



NOTE

Control box bracket can bolt over the electrical motor or gearbox side.



- 23.** Install winch into the cradle using bolts supplied with the winch.
Connect winch power cables, colour to colour to the winch.



Generic image used as reference only.



Removing and Reinstalling Sensors

24.



NOTE

If the vehicle doesn't have factory-fitted parking sensors, the Parking Sensor Holders will still need to be installed into the new bull bar to fill sensor provision holes.

IMPORTANT: For parking sensors to function correctly, these instructions must be followed closely.

Before removing sensors from the original bumper bar, note the location and orientation of each sensor. This is so when they are fitted back into the bull bar their original location can be replicated.

IMPORTANT:

Do Not Paint Parking Sensors

Parking sensors are a delicate piece of the vehicle's safety system. The centre "eye" of the sensor is responsible for detecting objects within a specified distance of the vehicle.

Painting a Parking Sensor does not damage it, but inhibits the sensor's ability to detect objects in its surroundings, causing a malfunction or premature detection.

Parking Sensors should only be painted once by the OEM, as the more you paint them, the less effective they become.

Ironman 4x4 highly recommends not colour-coding parking sensors when installing a bull bar as excessive paint thickness will adversely affect the operation of the park assist system.

- 25.** Remove the parking sensor wiring and parking sensors from the factory bumper taking note of the position order and orientation of each sensor.



Generic image used as reference only.

- 26.** The centre of the plastic sensor holder will need to be removed to install parking sensors. If the vehicle doesn't have factory parking sensors, leave the centre complete and skip the next step.

PSH110 are used for the front two (2) sensor holes and PSH111 for the remainder.

Item: 24a and 24b



- 27.** Fit the sensor with the factory silicone sleeve to the sensor holder. Use the flat side of the clamping plate to secure the sensor. The sensor will false alarm if excess pressure is applied to the sensor body.



- 28.** Clean inside the bull bar, around sensor holes, and the mounting surface of parking sensor holders using grease and wax remover.



NOTE

It is advised to lightly scotch bright inside of the bull bar and the sensor mounting face holder.



- 29.** Apply adhesion promoter to the mounting surfaces around the sensor holes and on the sensor holders.

This step is important to ensure sensor holders adhere properly to the bull bar.



- 30.** Remove the protective film from one side of the double-sided tape and apply to the mounting surface of the sensor holder.



- 31.** Run the factory harness cabling in between brackets. Clip in parking sensors into parking sensor housings.



NOTE

Don't cable tie off yet, leave wiring loom loose.



Generic image used as reference only.

Dressing the Bull Bar

- 32.** If vehicle has no factory camera, move to step 35.

Remove the grille from the vehicle. Remove the four (4) nuts and centre screw securing the air dam to the back of the grille. Separate the grille from the air dam to access the camera.



33. Carefully remove the camera, washer and wiring from the back of the logo on the grille, making sure not to drop camera.

Dependant on model variant, relocate the camera to the bull bar through the camera hole located above the radar mesh.

Using the bolts from the camera blanking plate and camera bracket supplied, secure in place.

Camera washer may be refitted to bull bar if originally located directly below camera. If washer was located off to the side, it cannot be refitted and tube should be blocked off, or left in the original position in the grille.

Reassemble grille and air dam.

Item: 13, 47 and 49 (54 and 55)



Generic images used as reference only.

34. Once camera is secure in place on the bull bar, connect the camera extension plug.

Item: 53



35. If vehicle has no factory radar, move to step 38.

Make a note of radar location, dependent on model this will be located in the centre of the bumper, or to the left-hand side.

Unclip the cover, disconnect the plug and remove the two (2) side bolts and bolt located behind. Retain bolts.

Carefully remove the radar and detach the backing plate by removing centre hinge pin as shown.



WARNING

Ensure you do not drop the radar.



- 36.** Based on original radar position, remove the corresponding mesh panel to mount the radar using centre **(1)** or left-hand **(2)** fixing brackets.

For centre mounting: Attach the side rotational brackets **(3)** to the centre mount bracket. Install the radar to the mount bracket and fit the complete unit to the centre hole of the bull bar.

For LHS mounting: Fit the radar to the mount bracket and attach to the LHS mount bracket. Fit the complete unit to the left-hand side hole of the bull bar.

Secure either configuration in place using M8 x 25mm bolts from bull bar mesh panels and M6 x 20mm bolts.



NOTE

*For centre mounting, the front face of the radar should be perpendicular to the ground. If not, adjust the rotational bracket **(3)** bolts on the mount bracket to fine-tune.*

Item: 25, 27, 31 and 46 - Centre Mount

Item: 27, 30, 32 and 46 - LHS Mount



- 37.** Remove the tape from the factory wiring loom protective tube and split out the radar plug wiring as shown.

Re-tape the protective tube.



NOTE

To protect the radar wiring, we suggest adding loom tube around this section as well.



- 38.** Clip radar cover supplied onto the bracket and push the clips back.



NOTE

Leave the cover loose to assist with reconnection of the radar plug once bull bar is installed.

Item: 26 and 27



- 39.** Complete dressing the bar with number plate flip bracket, fairlead and front wire grille panel using hardware supplied.

Check all bolts, fittings and overrides are tightly secured. Fix all wiring in place with cable ties.

Apply ACC warning sticker to the bar if not already attached.

Item: 6, 7, 8, 43, 45, 47, 49 and 52.



- 40.** If fitting a winch, bolt in the optional winch extension plug. **P/N: WWB031**

Connect parkers, indicators and fog lights (if applicable).

To ensure bull bar complies with all State and Federal road laws, an Indicator/Parker Light combo - **ILED20TURNPARK** (2 required) must be fitted to the bull bar.

If fitting driving lights we recommend installing at this stage for ease of access.



NOTE

*If connecting a wiring harness, we strongly recommend using the Ironman 4x4 **IBBPL109** or **IPLS109** due to the complexity of new vehicle wiring.*

*The Ford F-150 is pre-wired, but we recommend using the **IPLS109** if fitting Scope 7" driving lights or a lightbar. An **IPLS002** splitter may be attached to the IPL connector if connecting additional lights.*

These should be installed at this point. Please see product specific instructions for correct fitting procedures.

- 41.** Refit the grille, air dam and upper factory bumper strip back into place on the vehicle, securing in place before preparing to fit bull bar.



Installing the Bull Bar and Finishing

- 42.** Lift the bull bar into position and align with the chassis mounting holes. Secure in place using M12 x 40mm bolts on both sides.

Centralise the bull bar to the vehicle body and nip up lower bolt on each side to allow for manipulating into correct position.



NOTE

Allow approximately 20mm gap between the bull bar bar wing and body panel.

This is to allow for chassis flex and prevent body panels and bull bar coming into contact.



WARNING

Unless using a bull bar assist lift, we recommend two (2) persons complete this task to avoid personal injury or damage to the vehicle and/or components.

Item: 1 and 38



- 43.** Tighten all bolts using torque guide specifications. Refer page 6.

Paint mark all bolt heads.

- 44.** Drill pinning holes and pin the bar in place using M10 x 30mm pinning bolt sets.

Repeat procedure on opposite side.

Item: 41



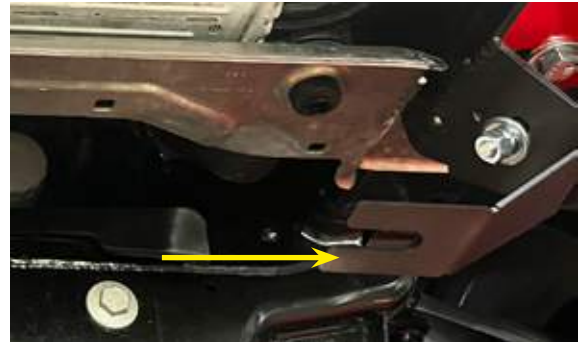
- 45.** Reconnect the sensor and fog light harness, located at the top of the right-hand side chassis rail.



- 46.** Reconnect camera and all accessories.
Replace plenum cover.
Test all functions to ensure correct operation.



- 47.** Fit support brackets for centre bash plate/crossmember plate to underside of cradle bracket using M10 x 30mm bolts.
Fit side wing plate lower bracket to upper bracket (fitted to recovery point earlier) using M10 x 30mm bolts.
Repeat procedure on opposite side.



NOTE

There is a left and right.

Item: 16, 18 and 40 - LHS

Item: 17, 19 and 40 - RHS

- 48.** Starting on left-hand side, fit side wing pan to bull bar using M8 x 25mm bolts.
Repeat procedure on opposite side.



NOTE

There is a left and right.

Item: 4 and 46 - LHS

Item: 5 and 46 - RHS



- 49.** Fit air deflector to front centre bash plate using M6 x 20mm bolts and washer sets.

Item: 3, 21 and 49



- 50.** Place front centre bash plate into position, and attach at the front to the underside of the bull bar using M8 x 25mm bolts (1).

Using the crossmember plate, secure the rear of the centre bash plate to the crossmember plate in the centre using M10 x 30mm bolt (2).

Secure the rear outer edges of the centre bash plate through the crossmember plate and capturing the support brackets on the left and right with M10 x 30mm bolts (3).

Bring centre bash plate and side wing pan together as shown and secure front to support bracket and rear to base of chassis mount bracket with M10 x 30mm bolts (4).

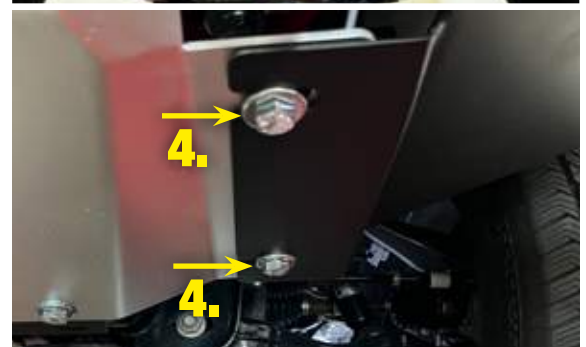
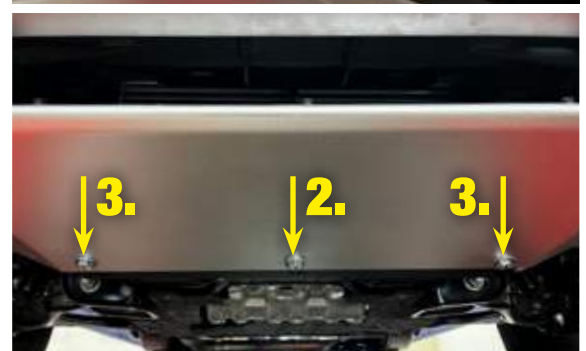
Repeat procedure on opposite side.

Item: 20, 40, 42 and 46



NOTE

*If adding Ironman 4x4 premium underbody protection plates, you may need to clip in the 3 x M10 cage nuts to the rear of the crossmember plate **Item: 50***



- 51.** Refit number plate using OE screws.



TIP

For aesthetics, we recommend using a slimline plate.



52. Forward camera calibration.



NOTE

Not all vehicles will require recalibration, it's up to the installer to verify.

DAYTIME PROCEDURE ONLY - drive the vehicle on a straight road with clear line markings at between 10-40km (6-25mph) per hour for around 10 minutes. If possible, avoid turning as this will increase the time taken to calibrate.

Once driven for approximately 10 mins stop the vehicle and check the 360° camera view on the dash has completed calibration (the vehicle should be in the center of view with dashed lines on either side).

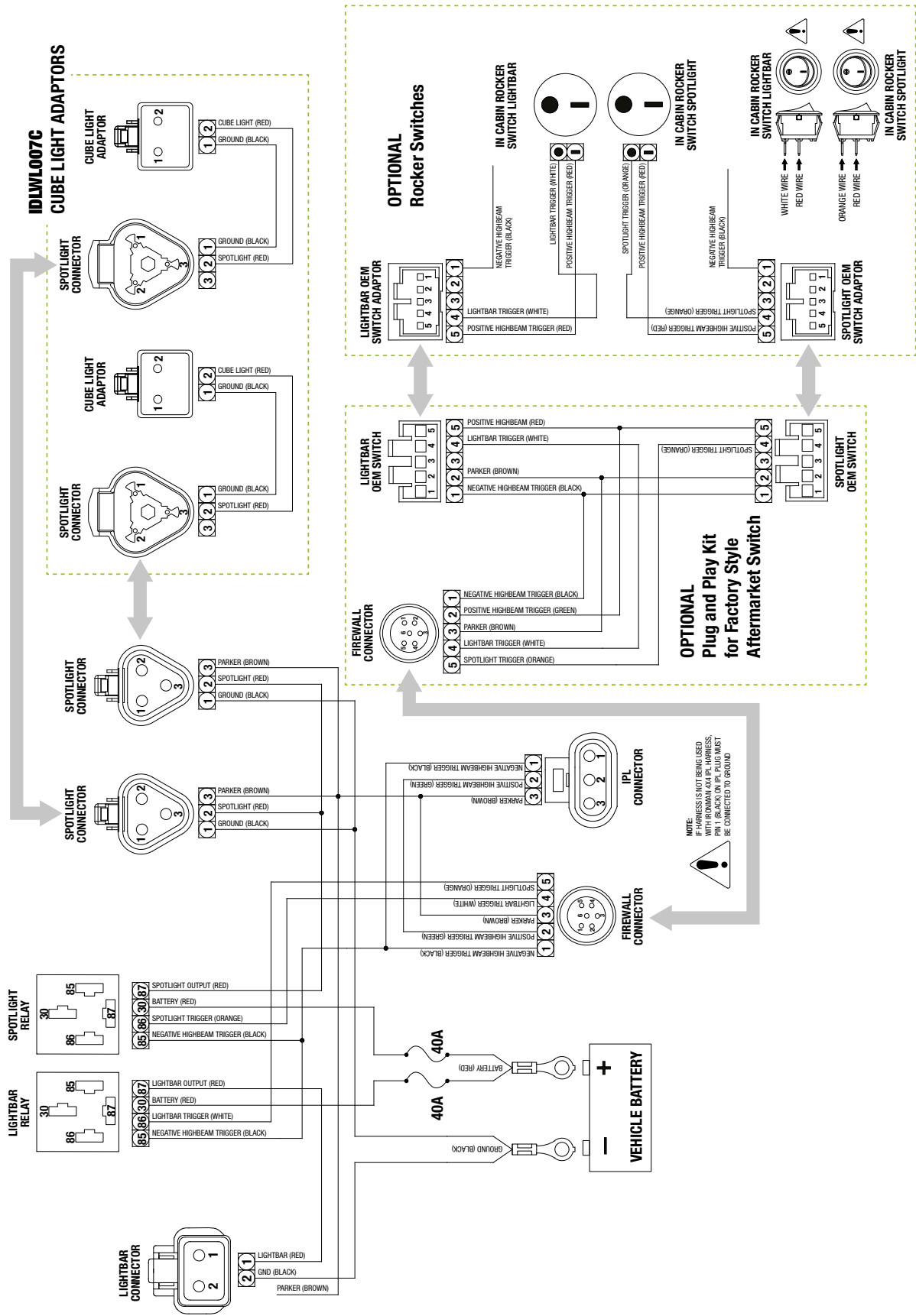
Now Place the vehicle in reverse and confirm there is no RBA Not Available warning display.

If the calibration is not completed or RBA not available/ warning is still shown, repeat the driving procedure.



Wiring Diagrams

IDLWL001 WIRING LOOM TO SUIT SCOPE 7" DRIVING LIGHTS

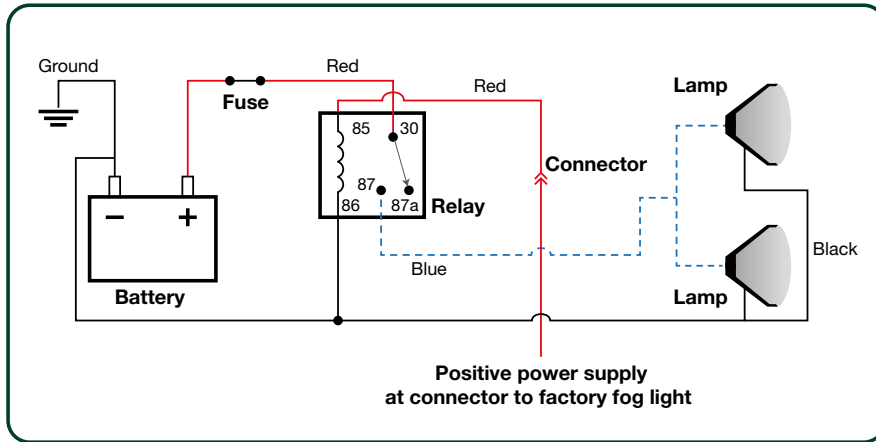


PLEASE REFER TO LIGHT WIRING INSTRUCTIONS FOR SCOPE 9" DRIVING LIGHTS

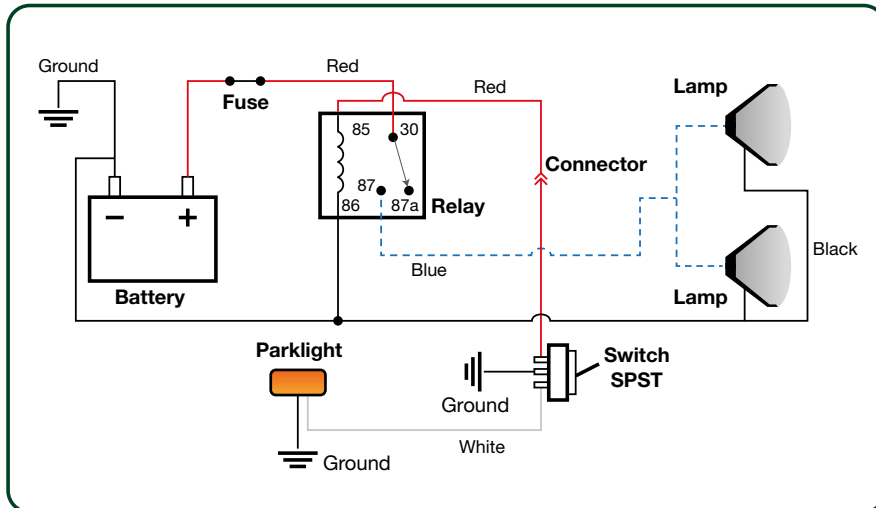


Wiring Diagrams

WITH FOG LIGHTS



WITHOUT FOG LIGHTS



Once Installed...

- Ensure all bolts are tensioned correctly
- Doing a pre-trip check before heading away, or every 10,000km (6,200 miles) is good practice.
- Visually inspect bull bar and hardware, retention bull bar hardware or when needed.
- Check the operation of the blinkers, park lights, fog lights and winch if installed and ensure that they are all functioning correctly.
- Ensure all electrical wiring is clear of sharp edges and correctly secured.
- If vehicles are fitted with parking sensors, radars and/or front cameras, check they are operating correctly.
- Some makes and models may need to return to the dealership for recalibration.
- Stand back and admire your work.

