



INSTALLATION INSTRUCTIONS

RTB086

REAR PROTECTION TOWBAR TO SUIT FORD F-150
Series 13 Onwards



Bar Weight: 73kg (161lb)



NOTE

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 No: RTB086/110924

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

PRE-INSTALLATION INFORMATION



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: _____



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 REAR PROTECTION SYSTEM (VRPS)

Do not attach VRPS 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 VRPS manufacturer.

Do not remove the plaque from the VRPS.

Do not modify the structure of the VRPS 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 rear protection towbar 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 rear protection towbar or recovery point in any way. Doing so may compromise the strength and integrity of the product.
- Do not remove warning labels from rear protection towbar or recovery points. Rear protection towbar 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.



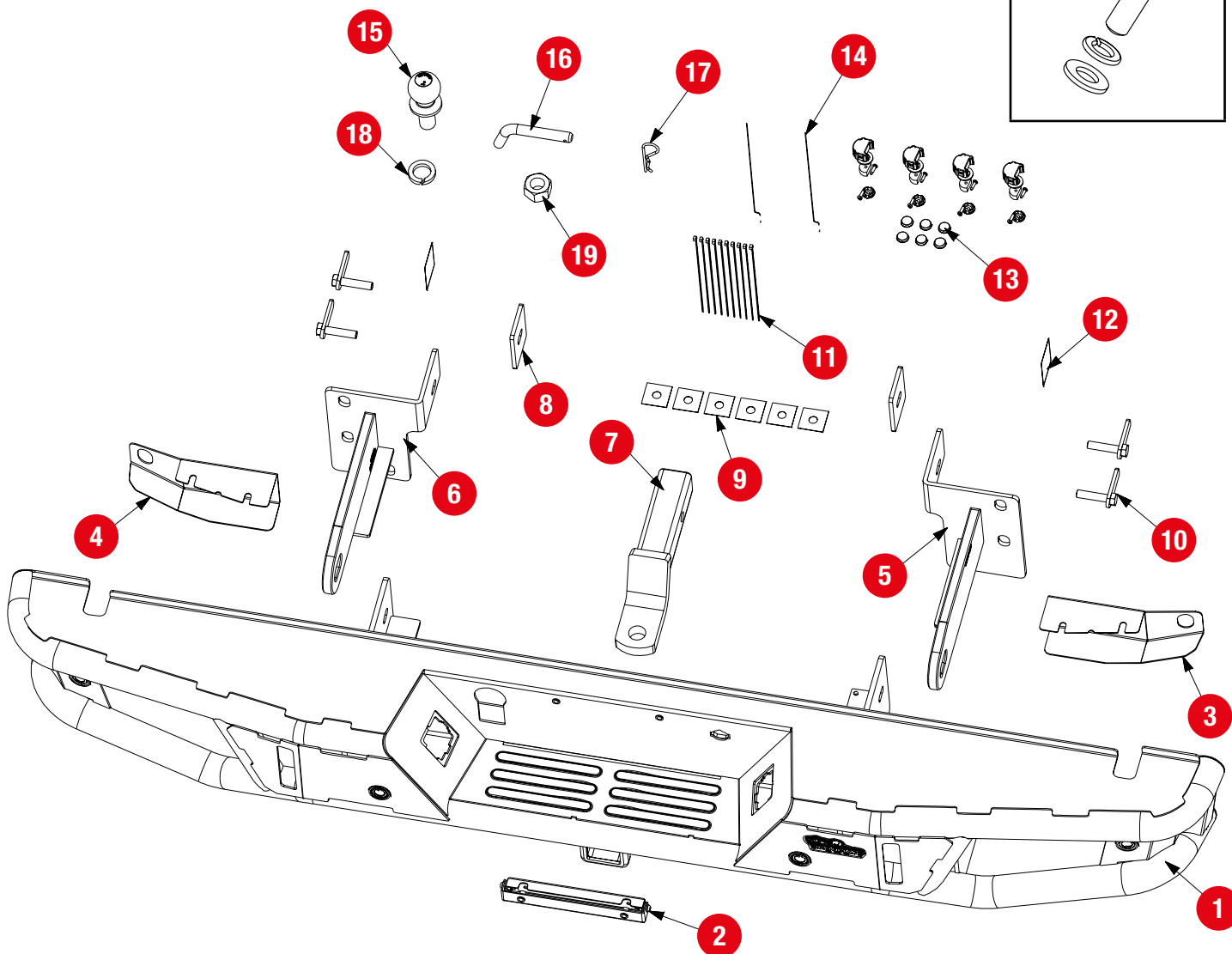
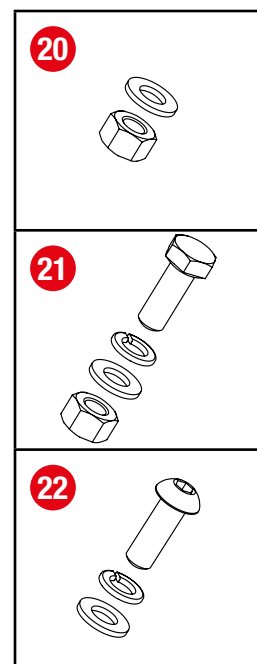
NOTE

- This product has been tested for airbag compatibility; therefore, the mounting system or any part of the rear protection towbar **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
1.	Rear step towbar	1
2.	Number plate mounting bracket	1
3.	Light protection shield - RHS	1
4.	Light protection shield - LHS	1
5.	Recovery point - RHS	1
6.	Recovery point - LHS	1
7.	Tow hitch	1
8.	Spacer	2
9.	PVC bolt holder sheet	6
10.	T-bolt M12	4
11.	Zip ties	10
12.	Recovery point warning sticker	2

No.	Part Description	Qty
13.	Sensor holders (PSH109)	4
14.	Spring wire bolt retainer	2
15.	Tow ball	1
16.	Hitch pin	1
17.	Hitch pin locking clip	1
18.	Towball spring washer D27mm	1
19.	Towball hex nut	1
20.	Hex nut M12 Flat washer (12 x 32 x 3mm)	4
21.	Hex head bolt M8 x 30mm Hex nut M8	1
22.	Dome head bolt M6 Flat washer M6 x 20mm Spring washer M6 DO THESE HAVE CAGE NUTS??	4



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

ACCESSORIES

OPTIONAL

- 20W cube lights (can install up to 2 x cube lights per side)
 - White light spot - **ILED20B** - Amber light spot - **ILED20BA**
 - White light flood - **ILED20BF** - Amber light flood - **ILED20BFA**

If vehicle is fitted with factory snow light (red illumination), it is advised to use ILED20BFR.

If installing cube lights, you will require suitable wiring harnesses.

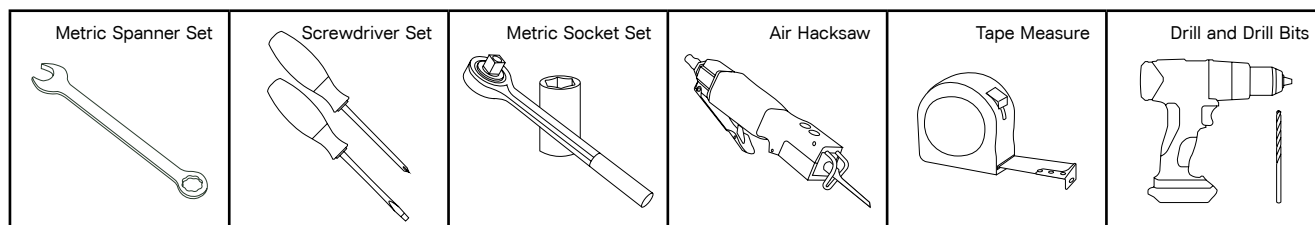
All wiring looms and any additional lights must be ordered separately.



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

**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.



3. Disconnect number plate / parking sensor main loom wiring plug and any aftermarket reverse lights if applicable.
Ensure all looms are not attached to anything to prevent damage and allow to hang freely.



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

- Remove the bolt-on earthing bolts on both sides of the rear chassis rails.

Retain bolts for reinstallation later.



NOTE

Not all models may have two (2) earthing points.



- Remove the three (3) factory bumper nuts and bolts located on both left and right-hand sides of the vehicle.

Retain these nuts and bolts for reuse later.



- Remove the factory rear bumper.



TIP

We suggest removing the spare wheel to allow for easier access when removing factory bumper and fitting new bar.



- On the factory bumper, disconnect the two (2) number plate light plugs **(1)** and remove the lights, housing and wiring loom.

Using the vehicle key located inside the remote, remove the spare tyre lock **(2)**.

Disconnect the trailer plug **(3)** if applicable. Also disconnect electric brake jacks if vehicle has these fitted.

Place these items aside for dressing the new bar.



REMOVING AND REINSTALLING SENSORS

8.



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. **5.** Gently pull the factory bumper backwards, away from the vehicle, taking care to ensure no wiring looms are still connected.

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.

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



10. The centre of the plastic sensor holder will need to be removed to install parking sensors.

If the vehicle doesn't have factory rear parking sensors, leave the centre complete and skip the next step.

Item: 13



- 11.** 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.



- 12.** Clean inside the new 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.

- 13.** 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 new bar.



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

Remove the other side of the protective film and apply the sensor holder/sensor to the new bar.

Ensure they are positioned in the same locations and orientation from the original factory bumper.

Run sensor and rear lights loom, securing in place along the rear of the new bar. Reconnect sensors.

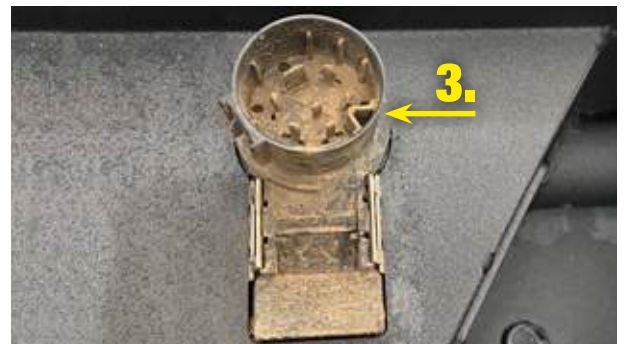
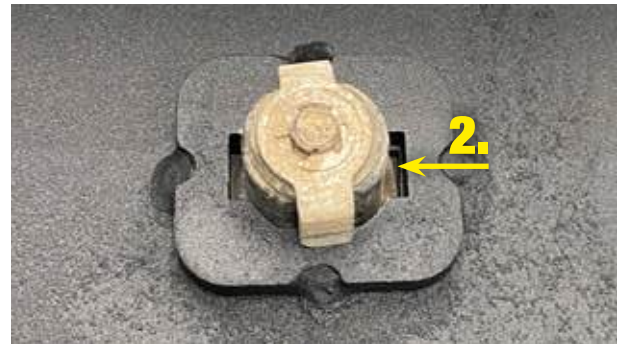
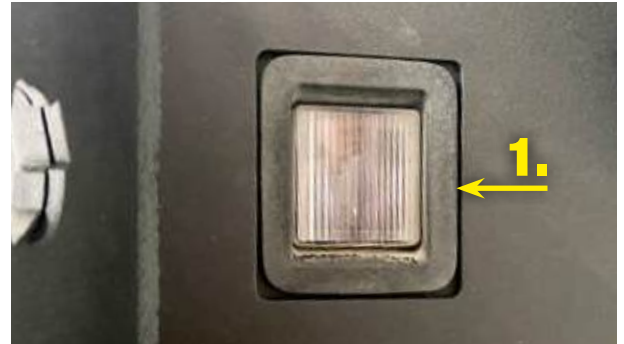


DRESSING THE REAR BAR

- 15.** Install the two (2) previously removed number plate lights and housings **(1)**, clipping in place to the new bar.

Use the vehicle key to fit the spare tyre lock **(2)** to the new bar.

Refit the trailer plug **(3)** and electric brake jacks if vehicle had these fitted previously.



- 16.** Fit number plate bracket to the bar.

Item: 2 and 22

- 17.** If fitting cube lights, fit these to the light pod assembly frame.

The cube light brackets will provide some adjustment, ensuring centralised positioning and vertical aim of the light.

Do not tighten bolts at this stage as adjustment may be required once the light protection shield is installed.



- 18.** Fit the light protection shield, sliding it under the centre cube mounting bolt. Thread cables through the holes in the rear.

Adjust direction and angle of the lights and tighten bolts when happy.

Cables should be secured to the inside edge of the new bar using cable ties.



NOTE

There is a left and right.

Item: 3, 4 and 11

- 19.** Place recovery point into position, sliding recovery loop through the slots in the bar from the rear.

Using the OE bolts removed earlier, thread up through the bar plate and recovery point, holding in place using the PVC bolt holders.

Repeat procedure on opposite side.



NOTE

There is a left and right.

Item: 5, 6 and 9

INSTALLING THE REAR BAR AND FINISHING

- 20.** Lift the new bar into position and carefully align OE bolts in rear bar with the chassis mounting holes. Use OE nuts and washers and nip up.

Item: 1

NOTE

Ensure there is approximately 25mm gap between the bar and rear panel.

This allows for chassis flex and prevents body panels and bar coming into contact.



WARNING

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

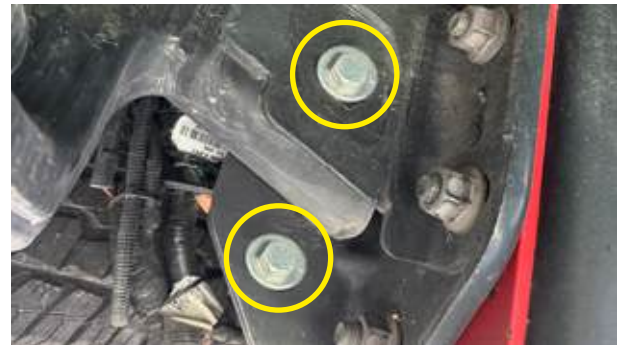


- 21.** Secure the recovery point return and the side return panel of the new bar through the chassis rail using M12 T-bolts supplied. A spacer may be required.

Tighten all bolts using torque guide specifications. Refer page 5.

Paint mark and all bolt heads.

Repeat procedure on opposite side.



NOTE

Dependant on model, the lower M10 bolt may not be required in the bar return panel.

Item: 8, 10 and 20

- 22.** Reattach the bolt-on earthing bolts on both sides of the rear chassis rails.

NOTE

Not all models may have two (2) earthing points.



- 23.** Install number plate to the vehicle with hardware supplied.

Connect number plate / parking sensor main loom plug and cube lights if applicable.

Test all functions operate correctly.

Item: 2 and 22



- 24.** Replace spare tyre if removed earlier.

Apply recovery point sticker to left and right-hand side recovery points.

Fit tow hitch into the receiver tube and lock in place with pin and spring clip.

Attach towball and tighten nut.

Torque to 200/250-300Nm (148/185-222ft.lb).



Item: 7, 12, 15, 16, 17, 18, 19 and 20

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 bar and hardware, retensioning if required.
- Check the operation of the rear number plate, park and indicator lights and ensure all are functioning correctly.
- Ensure all electrical wiring is clear of sharp edges and correctly secured.
- If vehicles are fitted with parking sensors, radars and/or rear cameras, check all are functioning correctly.
- Some makes and models may need to return to the dealership for recalibration.
- Stand back and admire your work.

