



# RHINO-RACK

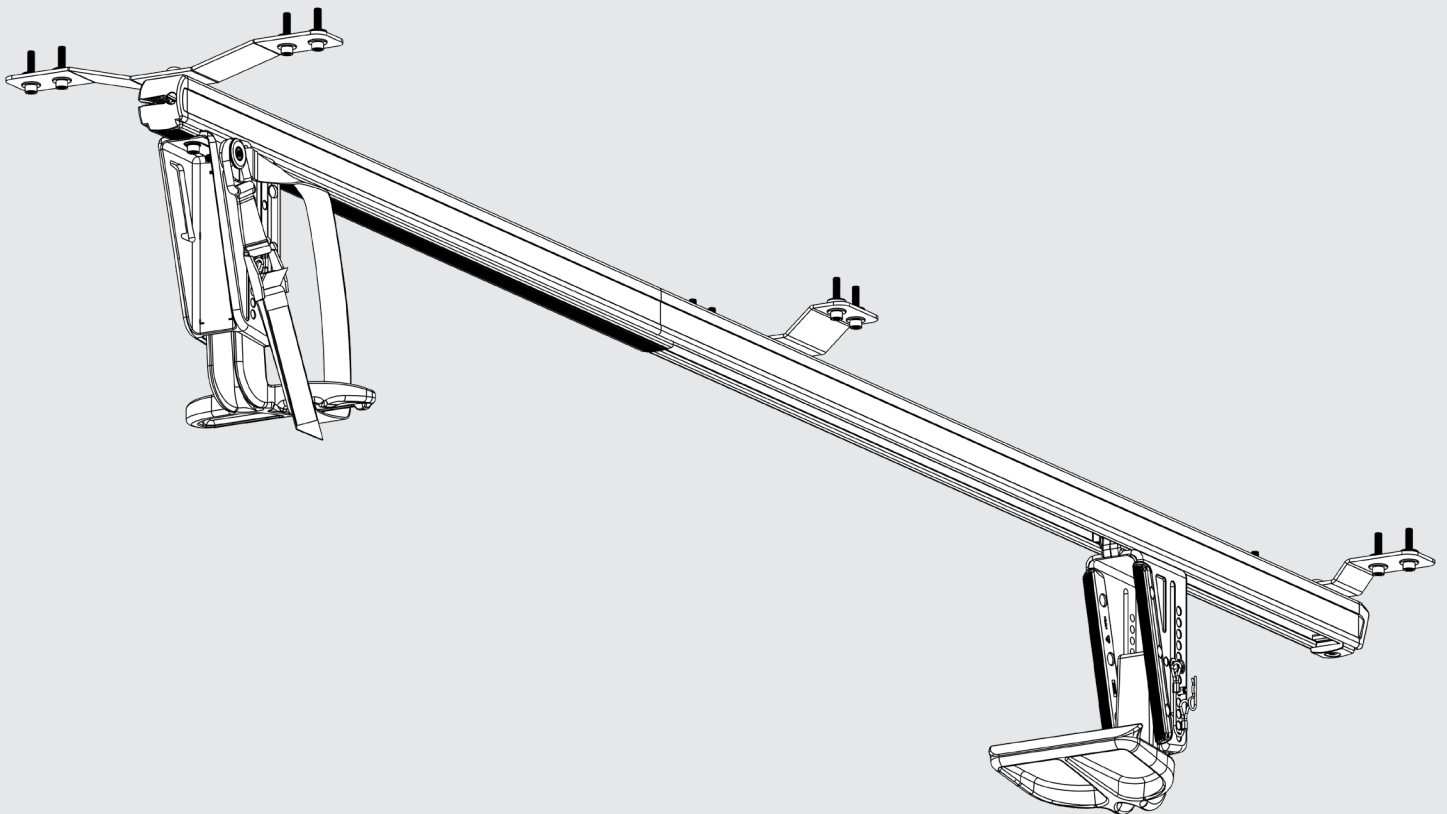
**CONTROLLED**

## Toyota Hiace LWB Gen6 Internal ladder Rack Bracket Kit - ILRH6GK1

### Important:

1. Check the Rhino-Rack website to ensure you have the latest issue of these instructions.
2. Please refer to your fitting instruction to ensure that the roof racks are installed in the correct locations.
3. Check the contents of kit before commencing fitment and report any discrepancies.
4. Place these instructions in the vehicle's glove box after installation is complete.
5. These instructions must be followed for warranty to be upheld.

**Fit Time:** 90 min





### Carrying Capacity

---

**System load capacity: 14kg / 31lbs**

**System weight: 6kg**

Check your vehicle owners hand book for vehicle maximum carrying capacity. Please ensure you use the vehicle manufactures maximum roof allowance if it is lower than the figure listed in this instruction.

Load must be evenly distributed over the system.

#### **Torque Settings**

Unless stated otherwise in these instructions, all fasteners should be set to the following torque settings - M6: 4-5Nm (3-4lbs/ft), M8: 8-10Nm (6-7.5lbs/ft) and M10: 16-18Nm (12-13lbs/ft).

### Warning

---

- Always install in conjunction with an approved cargo barrier system.
- Check the Rhino-Rack website to ensure you have the latest issue of these instructions.
- Check part number/ or kit is correct for use with your vehicle.
- Please refer to your fitting instruction to ensure that the roof racks are installed in the correct locations.
- Check the contents of kit before commencing fitment and report any discrepancies.
- Do not attempt to fit the rack system to your vehicle unless you fully understand these fitting instructions. Please direct any questions regarding fitting to the dealer from where the roof racks were purchased.
- Although the system is tested, off-road conditions can be much more rigorous. Extreme care must be taken in off road conditions.
- Do not remove any labels from the accessory.
- Always ensure you fasten your load securely.
- Use only non-stretch fastening ropes or straps to attach cargo to your load.
- Clean vehicle/ rails before fitting roof rack.
- Always secure safety strap before operating vehicle.
- Do not hang other objects from ladder rack or from ladder being transported by this accessory.
- Do not use as a grab handle.
- After loading, recheck the security of the load and Ladder Rack regularly throughout the journey.

### Safety

---

- Check that all work practices comply with safety standards.
- Please wear appropriate clothing and use safety equipment.



### In service maintenance checks

---

- All bolt connections should be checked after driving a short distance when you first install your roof racks.
- All bolted connections should be checked again at regular intervals (weekly is recommended, depending on road conditions, usage, loads and distances travelled).
- All bolted connections should be checked each time they are re-fitted.

### Note for Dealers and Fitters

---

It is your responsibility to ensure these fitting instructions are given to the end user or client. These instructions remain the property of Rhino-Rack Australia Pty. Ltd. and may not be used or changed for any other purpose than intended.



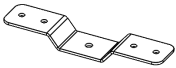
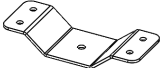
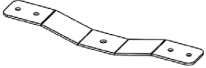









# RHINO-RACK

## Internal Ladder Rack


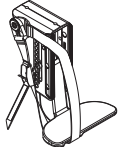
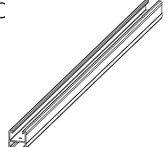

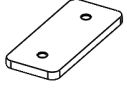



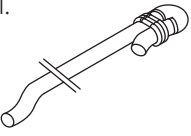
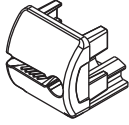
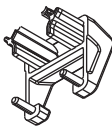





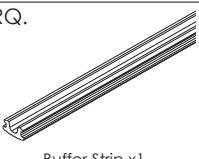
Toyota Hiace LWB, Gen6

Part No : ILRH6GK1


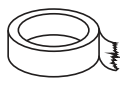
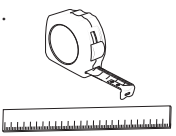
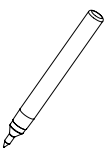

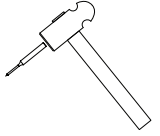
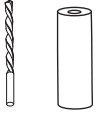
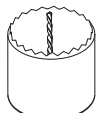

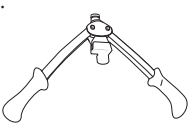


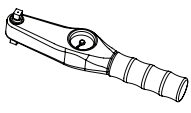




### Parts Supplied - ILRH6GK1

A.  Roof Attachment Bracket Front x1	B.  Roof Attachment Bracket Centre x1	C.  Roof Attachment Bracket Rear x1	D.  M6 Rivnut x12	E.  M6 x 30mm Skt Cap Screw x12	F.  M6 x 16mm Flat Washer x12
G.  6mm Spacer x12	H.  M8 Channel Nut x 3	I.  M8 x 20mm Btn Cap Screw x3	J.  M8 x 17mm Flat Washer x3	K.  M8 Spring Washer x3	L.  Rivnut Gauge (Provided)

### Parts Supplied - ILRRACK

RA.  Front Rack Assembly x1	RB.  Rear Rack Assembly x1	RC.  Front Bar (1180mm) x1	RD.  Rear Bar (800mm) x1	RE.  M6 Plate Nut x1	RF.  M6 x 12mm Button Head Screw x2
RG.  M6 Spring Washer x2	RH.  Slide Block x2	RI.  Bungee Cord x1	RJ.  Locking End Cap x1	RK.  End Cap x1	RL.  M6 x 25mm Socket Screw x2
RM.  M6 Channel Nut x 3	RN.  Internal Rack End Stop x1	RO.  M6 x 16mm Button Head Screw x1	RP.  M6 x 12.5mm Flat Washer x3	RQ.  Buffer Strip x1	

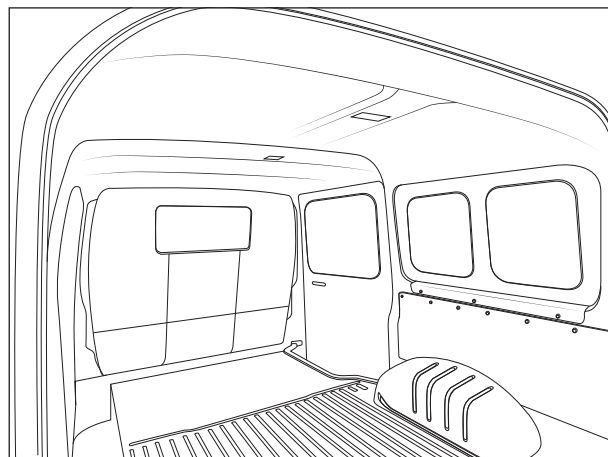
### Tools and Materials Required

A.  Cleaning Rag	B.  Masking Tape (50mm wide)	C.  600mm Metal Rule and Tape Measure	D.  Marker	E.  String Line	F.  Centre Punch and Hammer
G.  3mm, 6mm and 9mm Drill Bit and drill stop	H.  20mm Holesaw	I.  Power Drill	J.  Rivnut Tool	K.  5mm Security Allen Key (Provided)	L.  4mm, 5mm and 6mm Allen Key
M.  Torque Wrench	N.  Deburr Tool	O.  Cold Gal Paint and Applicator	P.  Vacuum Cleaner	Q.  Scissors	



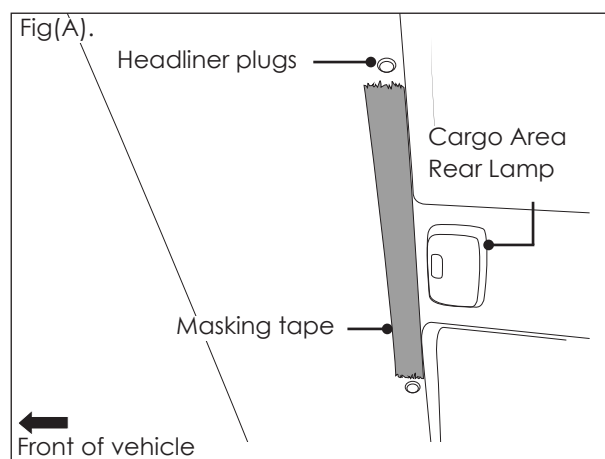
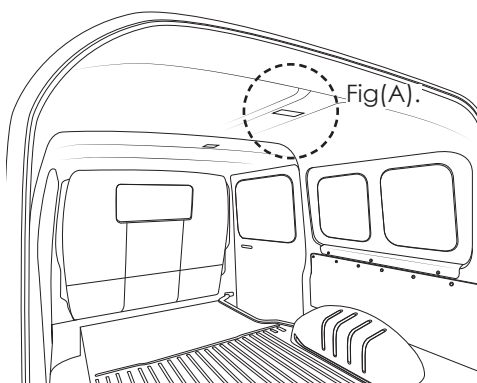
### — Step 1

- Open the rear of the vehicle.
- Be sure the working area is clean and free of dirt and grit.



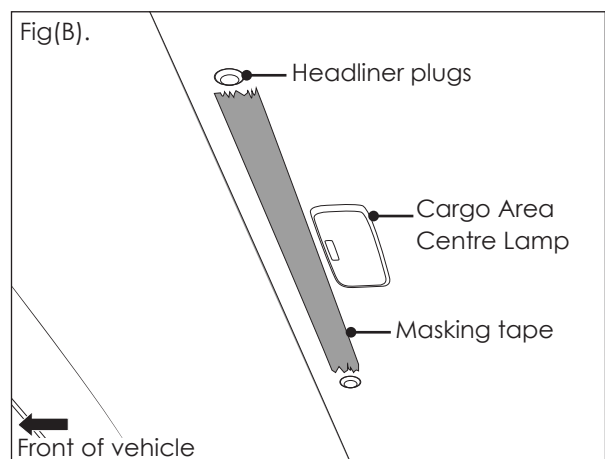
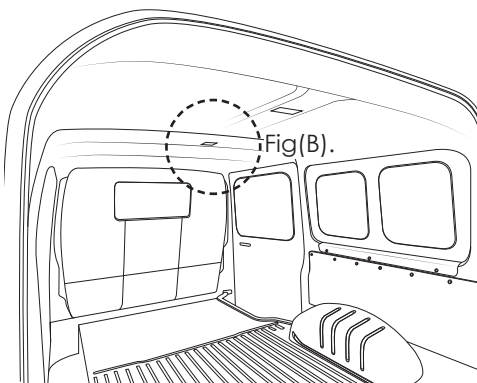
### — Step 2

- Locate the headliner plugs at the rear of the vehicle.
- Place masking tape between the two headliner plugs.



### — Step 3

- Locate the headliner plugs at the centre of the vehicle.
- Place masking tape between the two headliner plugs.

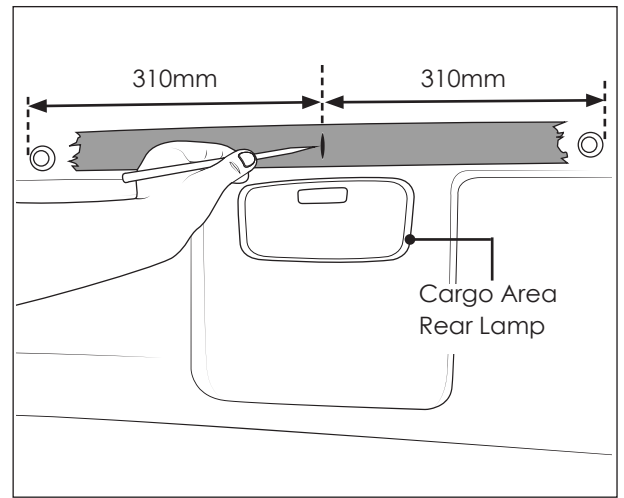
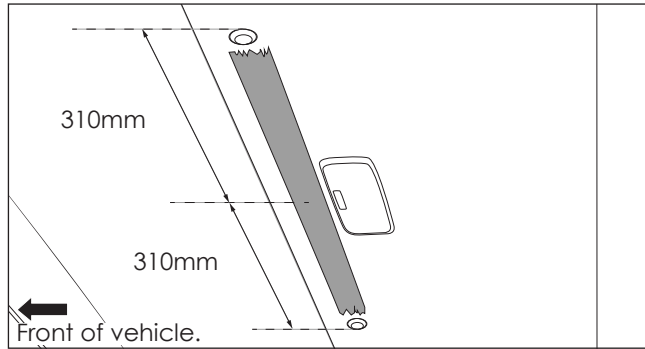






### – Step 4

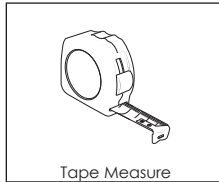
- Mark the centre between the two roof headliner plugs, 310mm from the outside edge of the plugs. Repeat for both centre and rear locations (fig A and B).



Marker



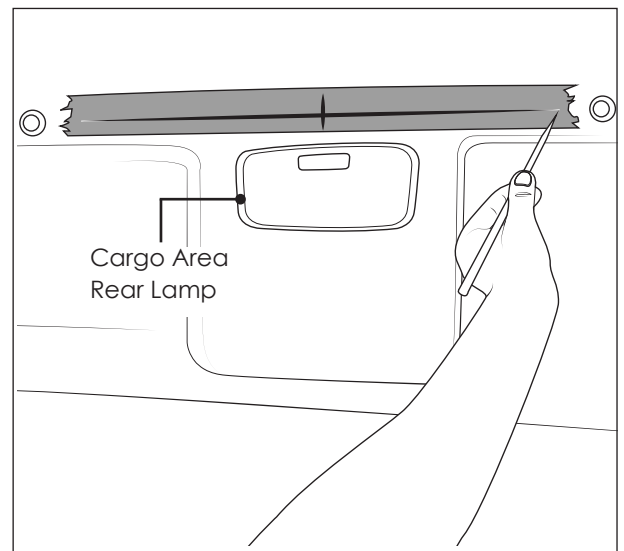
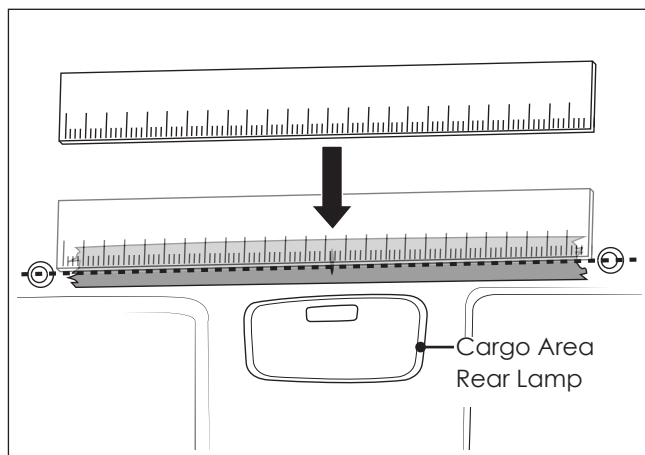
Masking Tape (50mm wide)



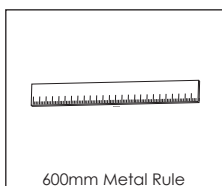
Tape Measure

### – Step 5

- Using a steel 600mm rule, mark the lateral centre line of the rear roof headliner plugs.



Marker

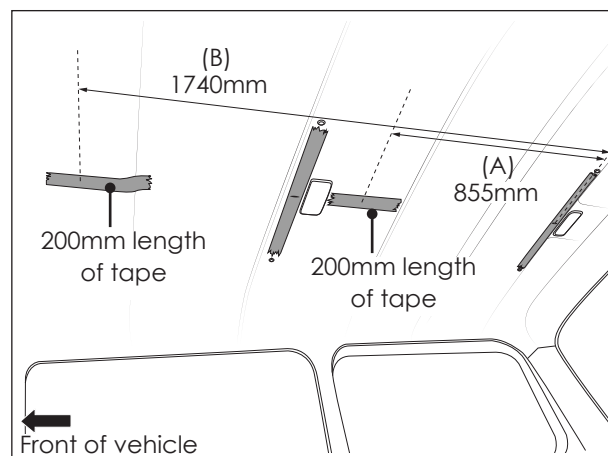
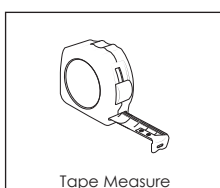


600mm Metal Rule



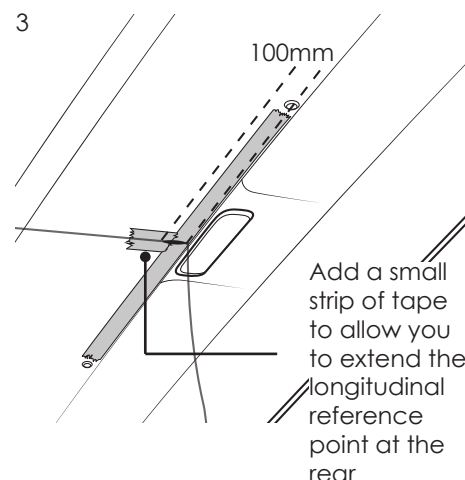
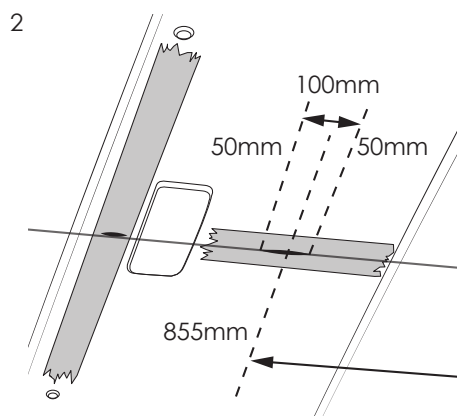
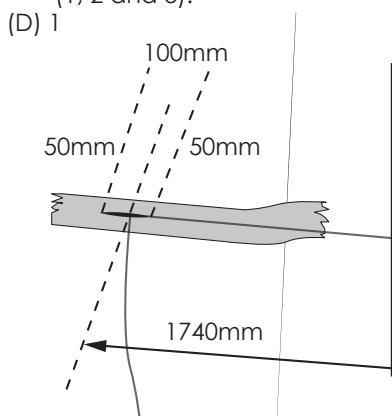
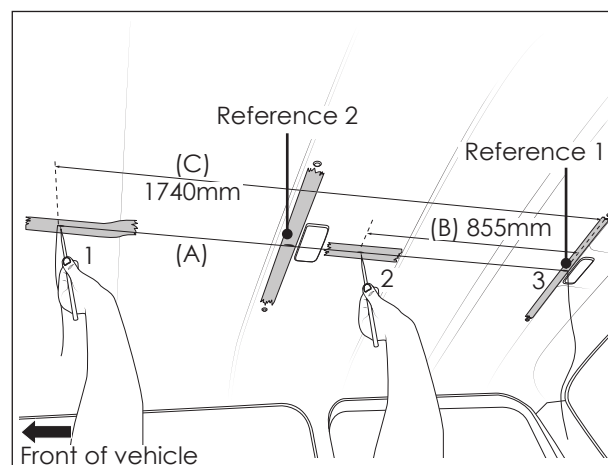
### Step 6

- A) Measure 855mm forward from the rear mark made in step 5. Place a 200mm length of tape longitudinally on the centre of the roof, as shown.
- B) Measure 1740mm forward from the rear mark made in step 4. Place a 200mm length of tape longitudinally on the centre of the roof, as shown.



### Step 7

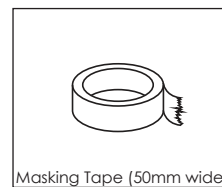
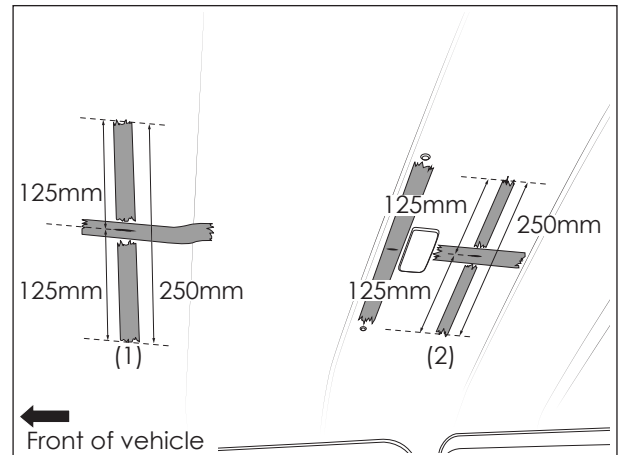
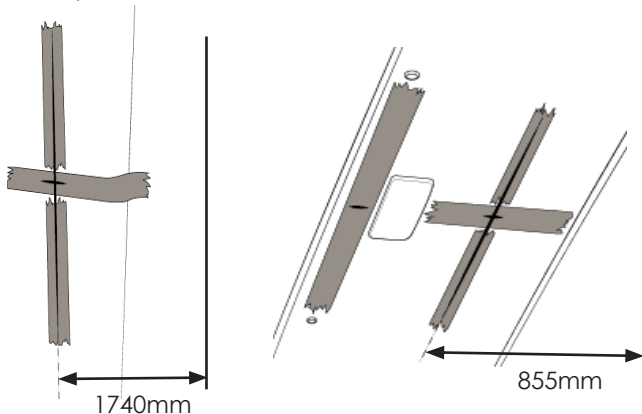
- A) Link the two longitudinal reference points from step 4 and 5 with a string line. Extend past the tape from step 6 and fix in place with tape at either end.
- B) Measuring 855mm forward from the rear centre mark made in step 5, create a reference mark on the tape placed in step 6.
- C) Measuring 1740mm forward from the rear centre mark made in step 5, create a reference mark on the tape placed in step 6.
- D) Extend these three reference points to be 100mm long (1, 2 and 3).



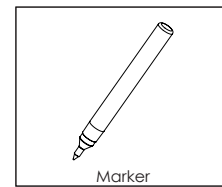


### Step 8

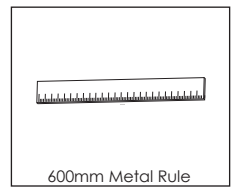
- Place 2 lengths of tape at a 90 degree angle centered at the reference marks made in step 7 for points 1 and 2. These lengths of tape should be a total of 250mm in length.
- Extend the 855mm and 1740mm marks laterally from step 7 to be 250mm length.
- Ensure these marks are kept square to the centreline marked in step 7.



Masking Tape (50mm wide)



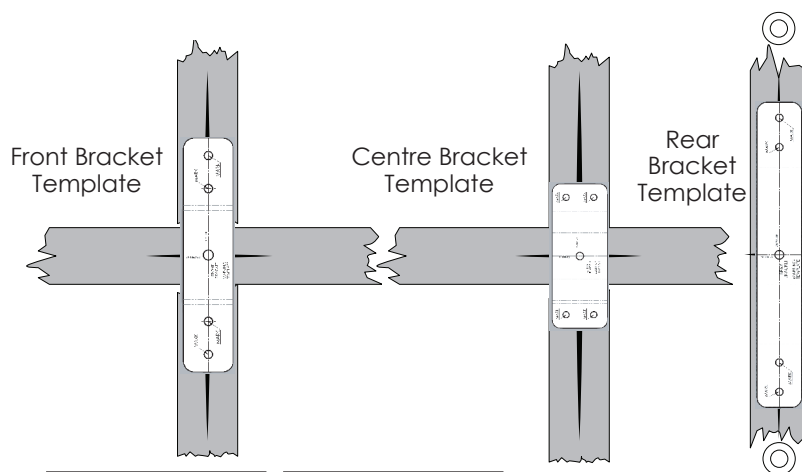
Marker



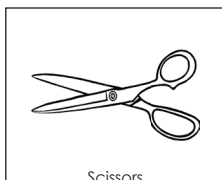
600mm Metal Rule

### Step 9

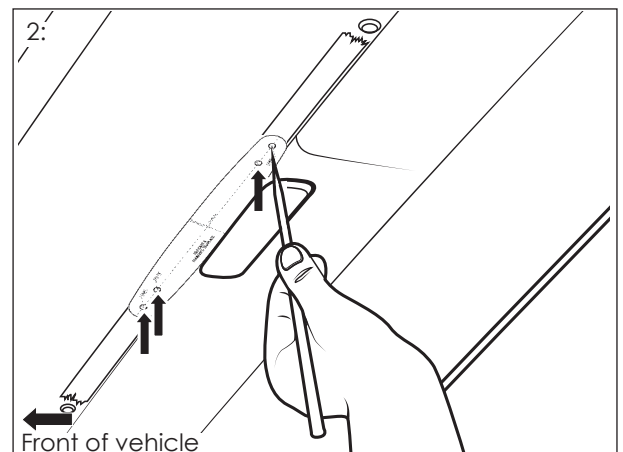
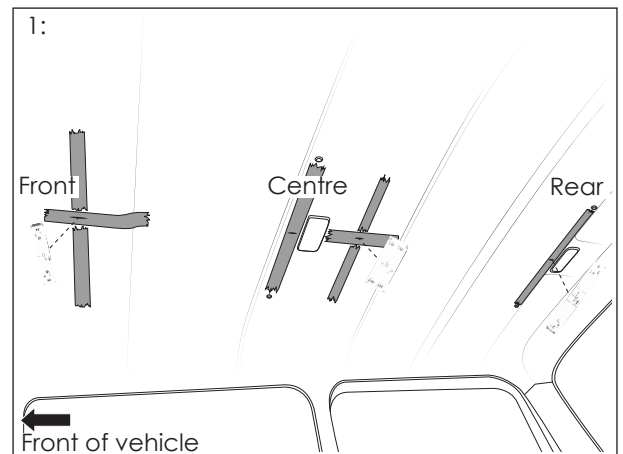
- 1: First check print of template scale (pages 17 & 19) is correct, then cut templates out and place the templates onto the reference lines, as shown.
- 2: Align the template centre lines with the lines on masking tape and punch through the template to mark the masking tape below for the four mounting holes **in each template**.



Marker



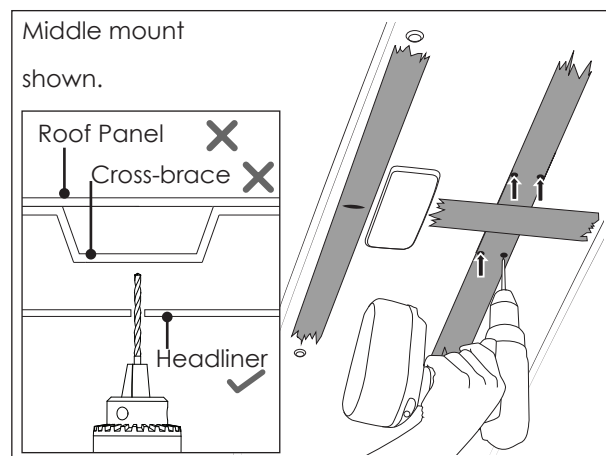
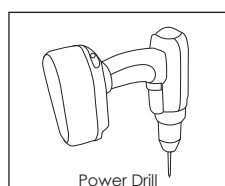
Scissors





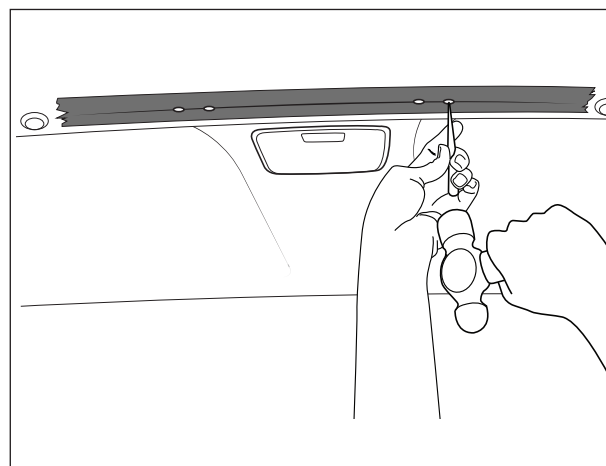
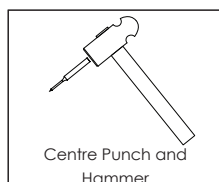
### Step 10

- Drill a  $\varnothing$  3mm pilot hole through the roof headliner in the centre of all 12 marked holes.
- **Caution: Do not drill through the cross-brace directly above the headliner. Drill slowly and with caution.**
- Gloves, safety glasses and dust mask are to be used.



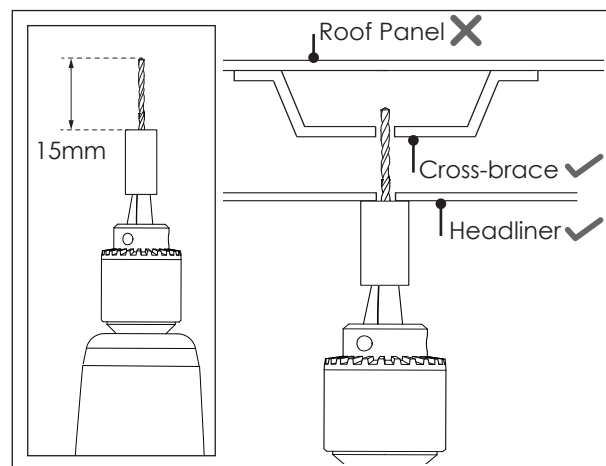
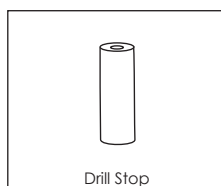
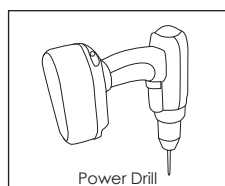
### Step 11

- Centre punch the roof through the 12 holes drilled in the previous step. Gloves, safety glasses and dust mask are to be used.



### Step 12

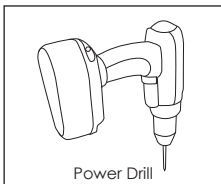
- Drill a  $\varnothing$  3mm pilot hole through the roof cross-brace, situated all 12 holes drilled in step 10.
- **Use a drill stop set to 15mm.**
- **Caution: Do not drill through the roof panel directly above the cross-brace. Drill slowly and with caution.**
- Gloves, safety glasses and dust mask are to be used.



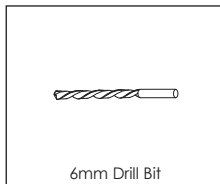


### Step 13

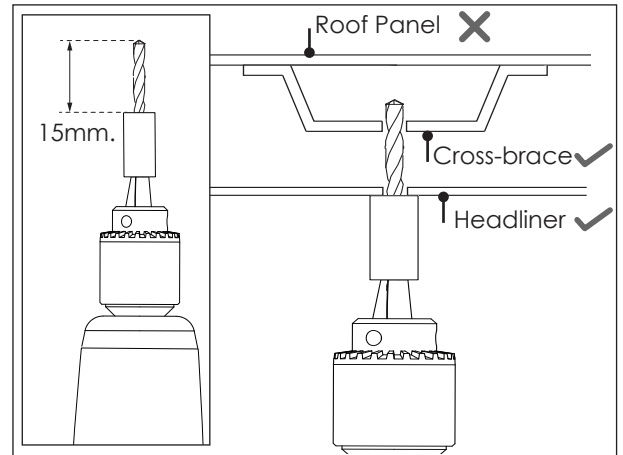
- Drill a  $\varnothing 6\text{mm}$  hole through the roof headliner and cross-brace in all 12 holes.
- **Use a drill stop set to 15mm.**
- **Caution: Do not drill through the roof panel directly above the cross-brace. Drill slowly and with caution.**
- Gloves, safety glasses and dust mask are to be used.



Power Drill

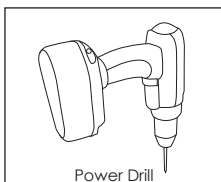


6mm Drill Bit

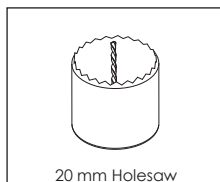


### Step 14

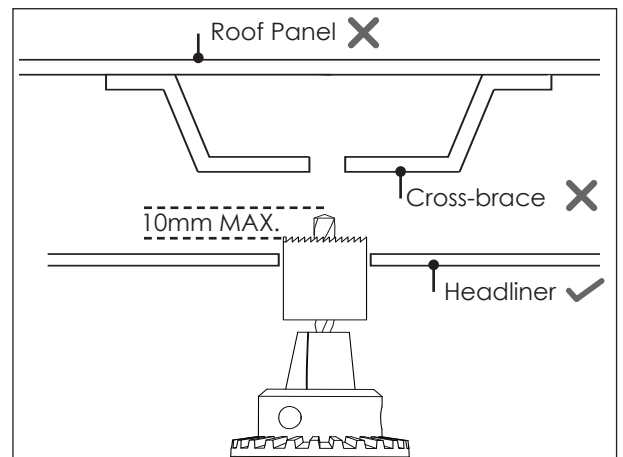
- Drill a  $\varnothing 20\text{mm}$  holesaw through the 12 roof headliner holes.
- Ensure holesaw drill is maximum  $\varnothing 6\text{mm}$  and 10mm deep.
- **Caution: Do not drill through the cross brace directly above the head liner. Drill slowly and with caution to avoid damaging to the headliner and cross-brace.**
- Gloves, safety glasses and dust mask are to be used.



Power Drill

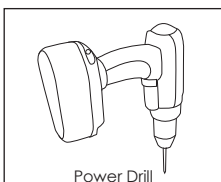


20 mm Holesaw

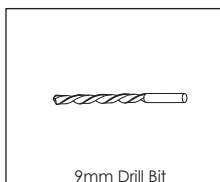


### Step 15

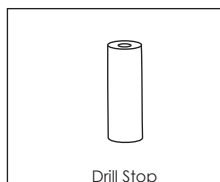
- Drill a  $\varnothing 9\text{mm}$  hole through the cross-brace above the 12 holes in the headliner.
- **Use a drill stop set to 10mm.**
- **Caution: Do not drill through the roof panel directly above the cross-brace. Drill slowly and with caution.**
- Gloves, safety glasses and dust mask are to be used.
- Deburr all holes.
- Apply cold gal paint to all drill holes and any scratches on the cross brace.
- Vacuum all swarf from the vehicle floor after drilling.



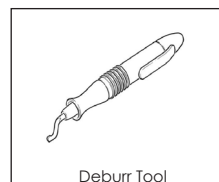
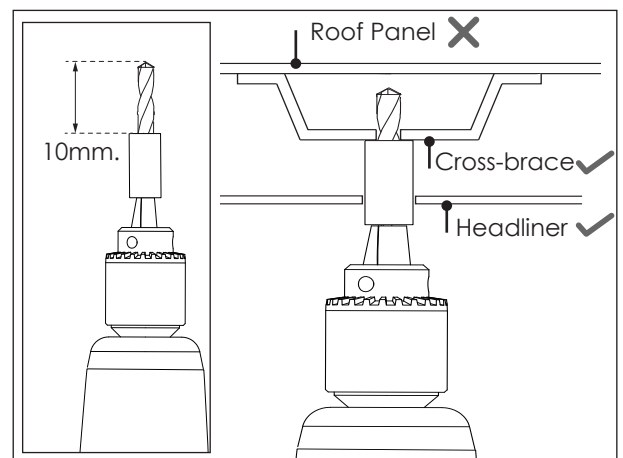
Power Drill



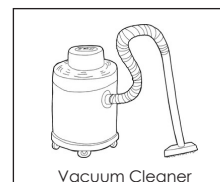
9mm Drill Bit



Drill Stop



Deburr Tool



Vacuum Cleaner

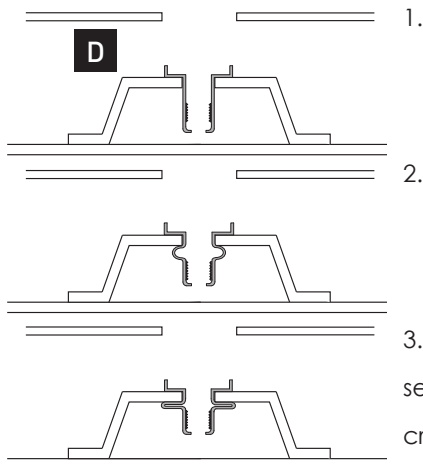


Cold Gal and Applicator

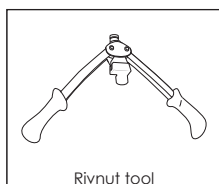
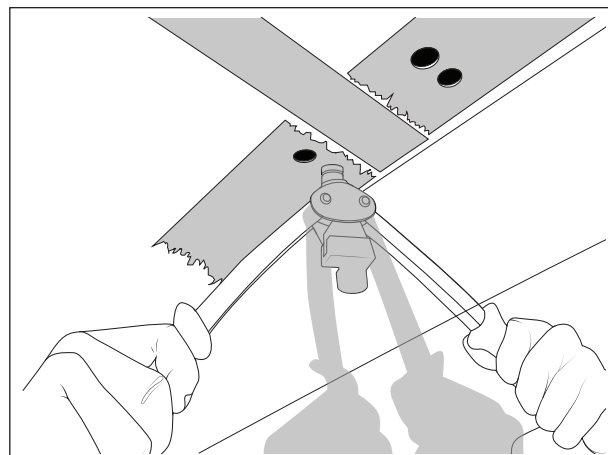


### Step 16

- Insert a rivnut into each  $\varnothing 9\text{mm}$  hole drilled and install with a rivnut tool. Note: Ensure rivnut is seated correctly before compressing the rivnut tool. Do not over-compress rivnuts.

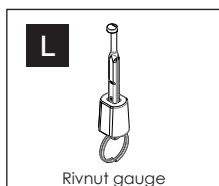


3. Note the rivnut compressing and seating correctly within the cross-brace.

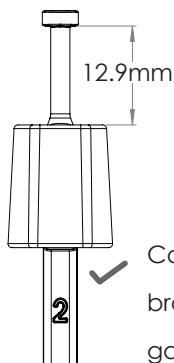
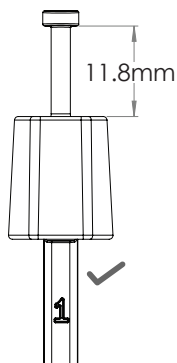


### Step 17

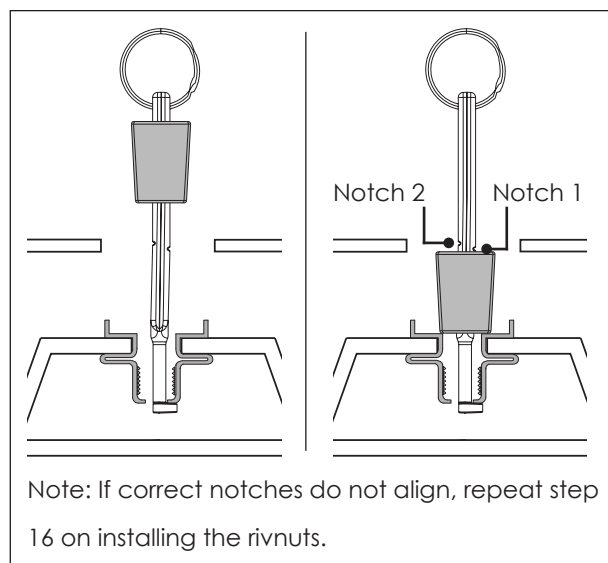
- Check the rivnuts are seated correctly within the vehicle. Place the rivnut gauge into the installed rivnut, hooking it over the open end of the rivnut.
- Slide the depth gauge down to sit on the rivnut. The **centre** and **rear** bracket rivnuts align with **position "1"** shown below. **Front** bracket rivnuts align with **position "2"**.
- Remove the masking tape from roof of the vehicle.



Correct **centre** and **rear** bracket rivnut gauge depths.



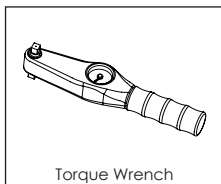
Correct **front** bracket rivnut gauge depths.



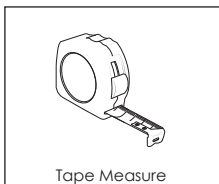


### Step 18

- Assemble the Rear Roof Attachment bracket with 1 M8x20 Button Head Screw, 1 M8 Spring washer, 1 M8 Flat Washer and 1 M8 Channel Nut as shown.
- Slide the Rear Bracket Assembly into top channel of the Rear Bar and position 182.5mm from the end. (Rear bar is supplied with ILRRACK)
- Ensure the bracket is square and tighten to 12Nm.



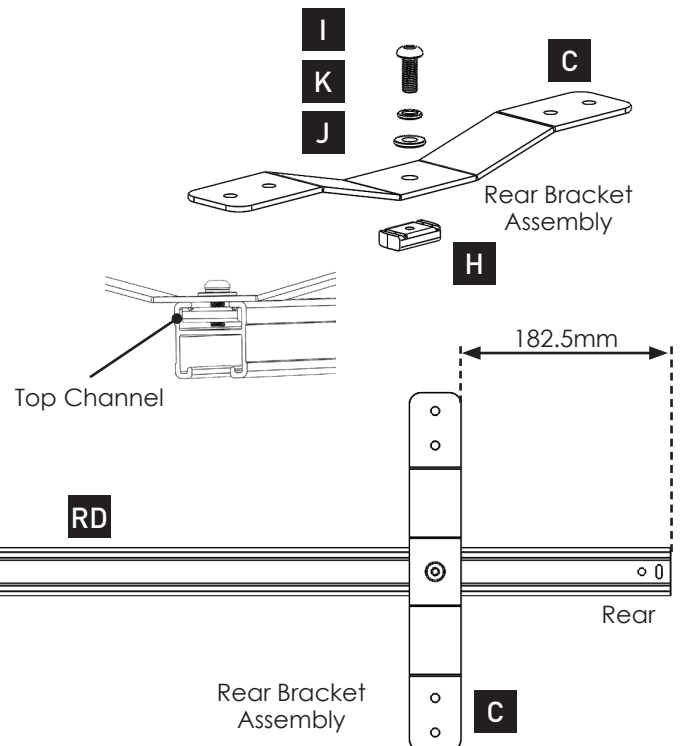
Torque Wrench



Tape Measure

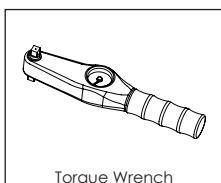


5mm Allen Key

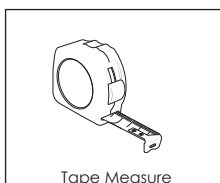


### Step 19

- Assemble the Front and Centre Roof Attachment bracket with 1 M8x20 Button Head Screw, 1 M8 Spring washer, 1 M8 Flat Washer and 1 M8 Channel Nut as shown.
- Slide the Front Bracket Assembly into the top channel of the Front Bar and position 14mm from the end.
- Slide the Centre Bracket Assembly into the top channel of the Front Bar and position 920.8mm from the end. (Front bar is supplied with ILRACK)
- Ensure the brackets is square and tighten to 12Nm.



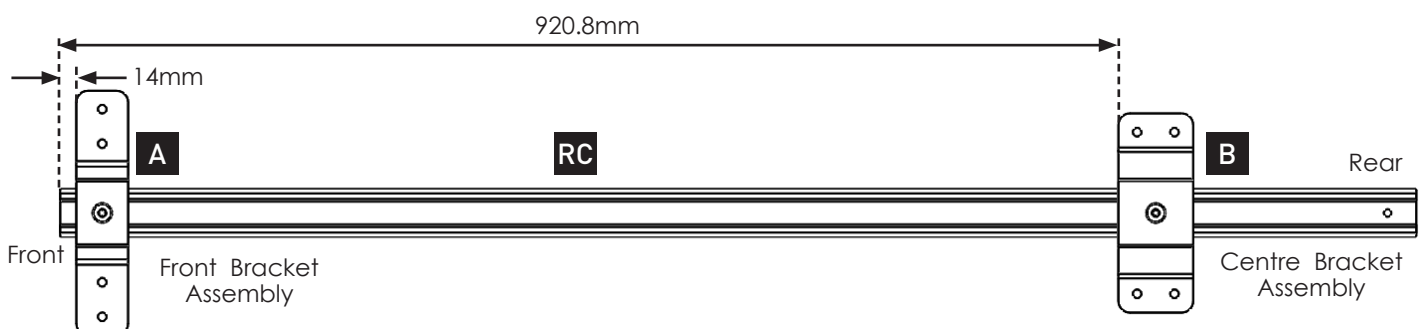
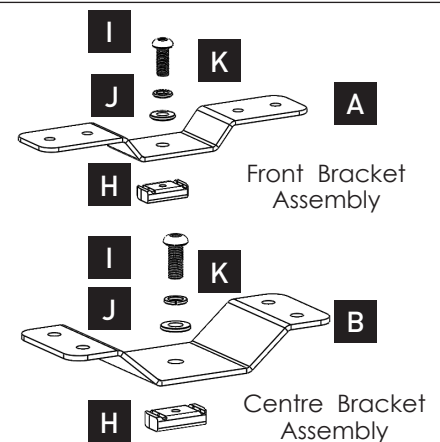
Torque Wrench



Tape Measure



5mm Allen Key

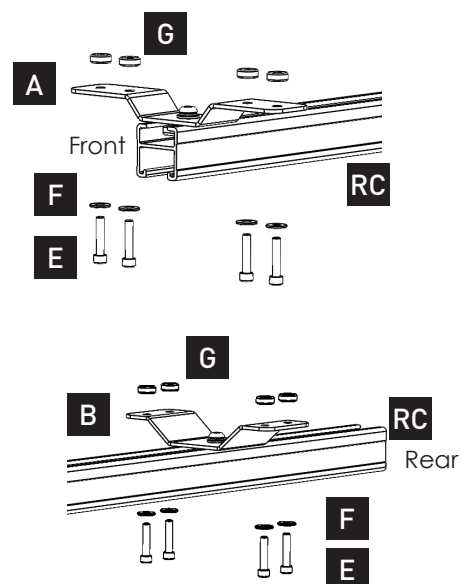
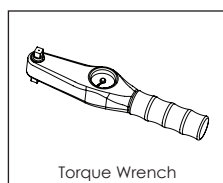






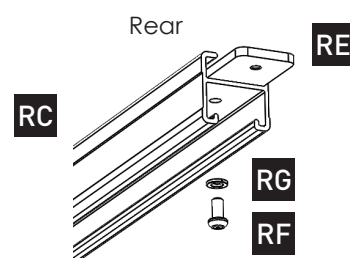
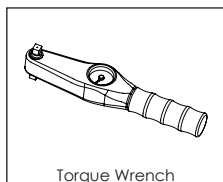
### Step 20

- Fit the front bar assembly to the front and centre roof mounting locations using a M6 x 30 socket screw, M6x16mm flat washer and 6mm spacer for each hole in the brackets as shown.
- Torque the screws to 8Nm using the torque wrench.
- DO NOT OVER TIGHTEN**



### Step 21

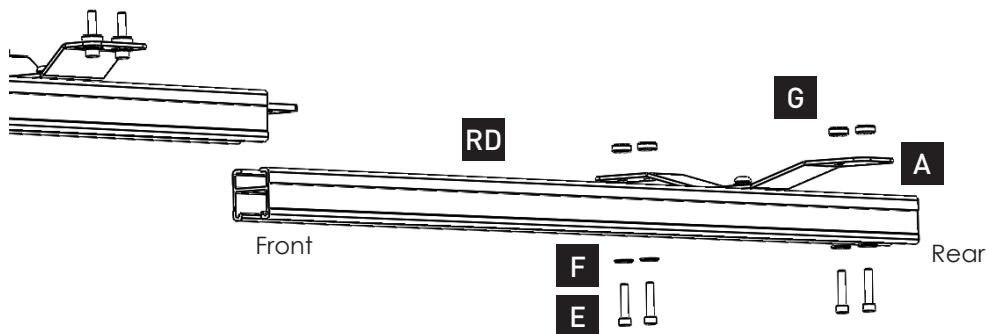
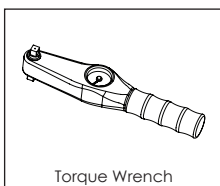
- Install the M6 plate nut into the rear top channel of the front bar assembly and assemble with 1 M6 x 12mm button head screw and 1 M6 spring washer. (Parts supplied with ILRACK)





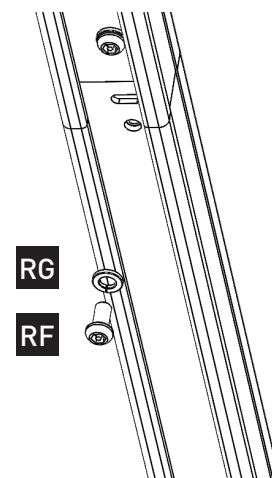
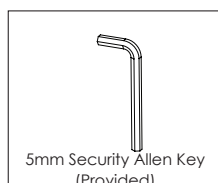
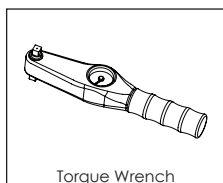
### Step 22

- Insert the front top channel of the rear bar assembly over the plate nut installed in step 21.
- Fit the rear bar assembly to the rear roof mounting locations using a M6 x 30 socket screw, M6x 16mm flat washer and 6mm spacer for each hole in the brackets as shown.
- Torque the screws to 8Nm using the torque wrench.
- **DO NOT OVER TIGHTEN**



### Step 23

- Finish assembling the M6 plat nut with 1 M6 x 12mm button head screw and 1 M6 spring washer. (Parts supplied with ILRRACK)
- Torque both M6 x 12 button head screws to 8Nm using the torque wrench.
- Do not over tighten.





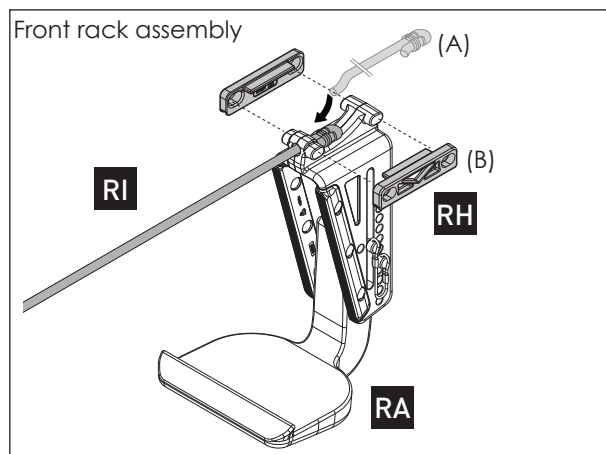
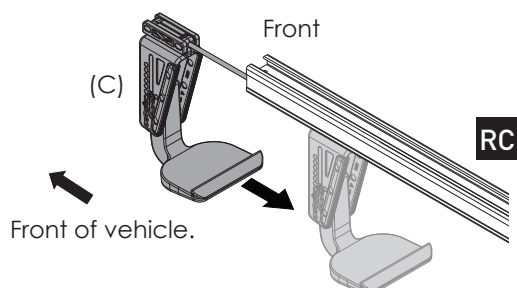
### Step 24

- Parts supplied with ILRRACK

(A) Insert the bungee cord through the top hole in the top of the front rack assembly.

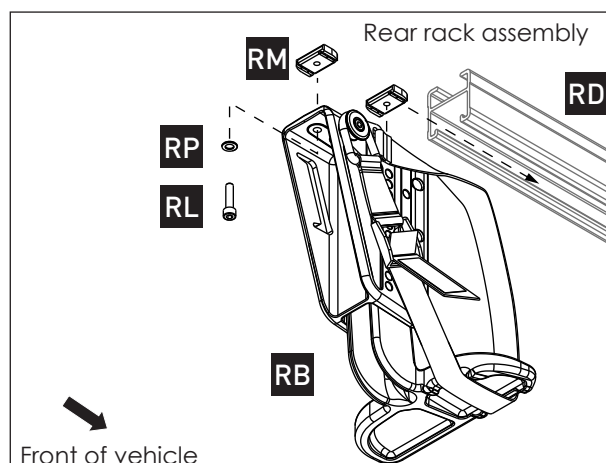
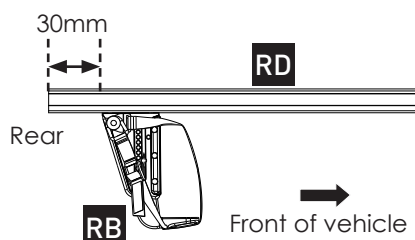
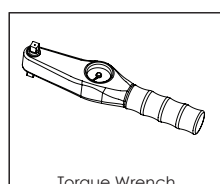
(B) Be sure the two sliding blocks are connected to either side of the front rack assembly.

(C) Slide the assembly into the rear of the HD Bar.



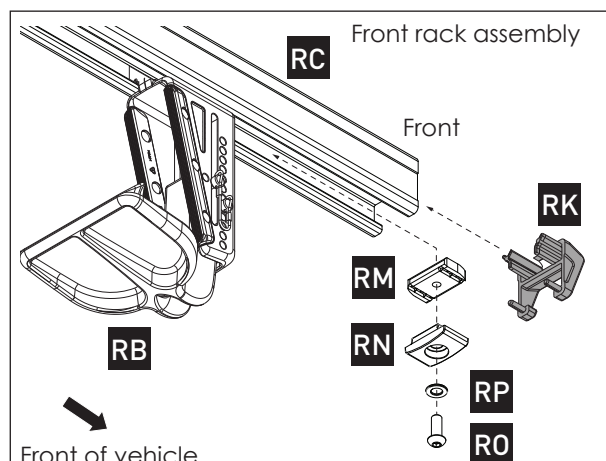
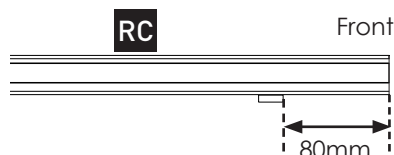
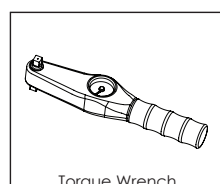
### Step 25

- Loosely construct the rear rack assembly with 2x M6 x 25mm socket head cap screws, 2x M6 x 12.5mm flat washers and 2x M6 channel nuts. (Parts supplied with ILRRACK)
- Slide the assembly 30mm from the end of the HD Bar and fix in place. Tighten to 10Nm.



### Step 26

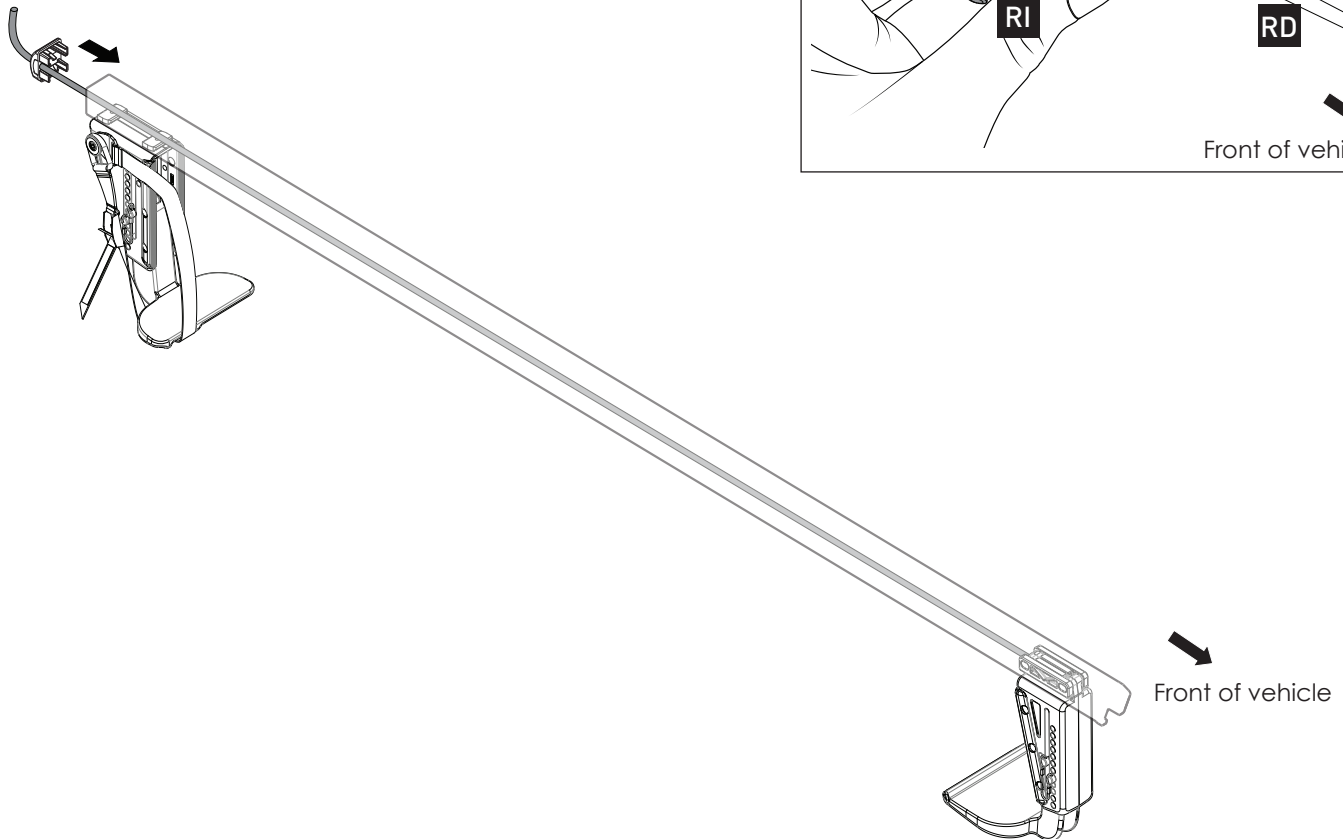
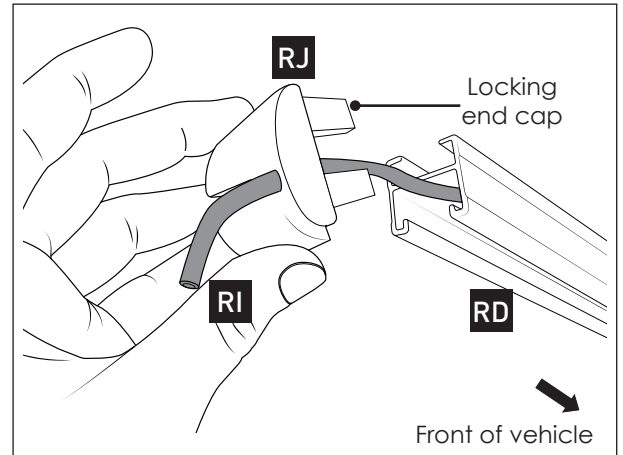
- Fit the front stop using an M6 x 16mm button head screw, M6 x 12.5mm flat washer and M6 channel nut. Slide the stop 80mm from the front and tighten in place to 8Nm.
- Fit the end cap to the front of the installed HD Bar. (Parts supplied with ILRRACK)
- Note: Be aware of the correct orientation as shown.





### — Step 27 —

- Feed the bungee cord from the front rack assembly along the inside of the crossbar, over the rear rack assembly.  
(Parts supplied with ILRRACK)
- The end of the bungee cord can then be fed through the hole in the lock off end cap.
- Finally, fit the locking end cap into the bar.



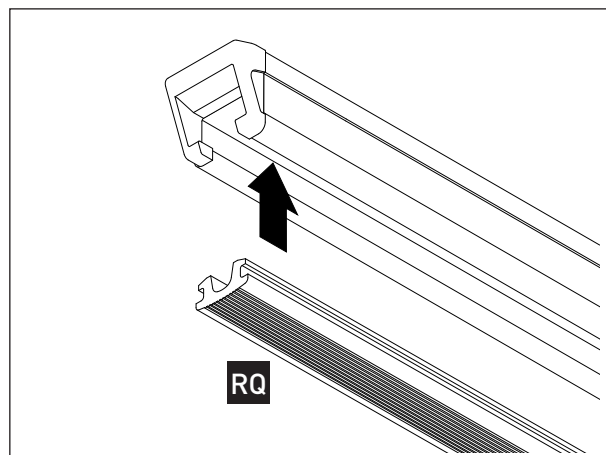
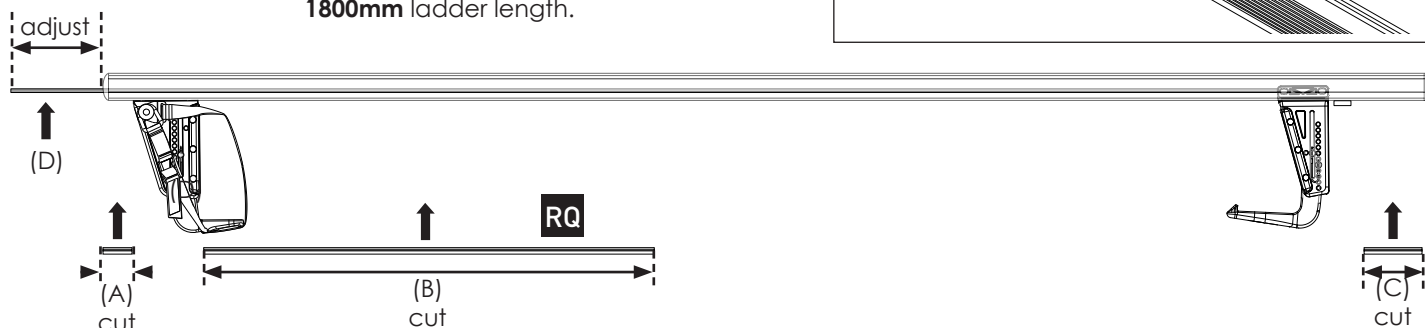


### Step 28

- Using the table below, cut the three lengths of buffer strip (A,B and C) to fit the size of the ladder. (Parts supplied with ILR-RACK)
- Adjust the bungee cord length (D) to fit the size of the ladder.

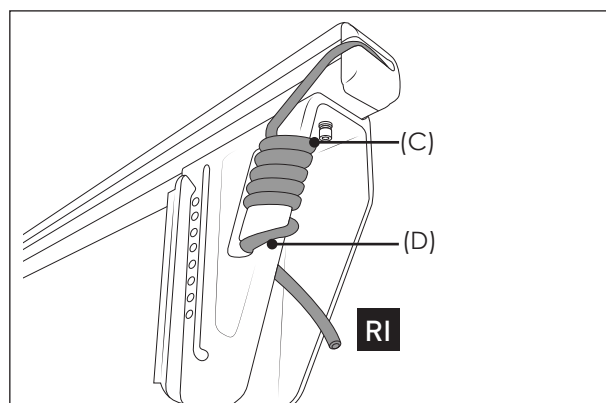
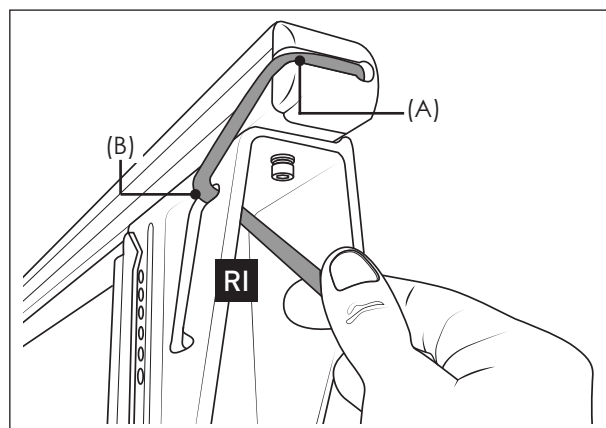
Ladder Length	Buffer A	Buffer B	Buffer C	Bungee D
1500mm	30mm	690mm	80mm	500mm
1800mm	30mm	690mm	80mm	500mm

**DEALER NOTE:** Unless the **customer** specifies, set up for **1800mm** ladder length.



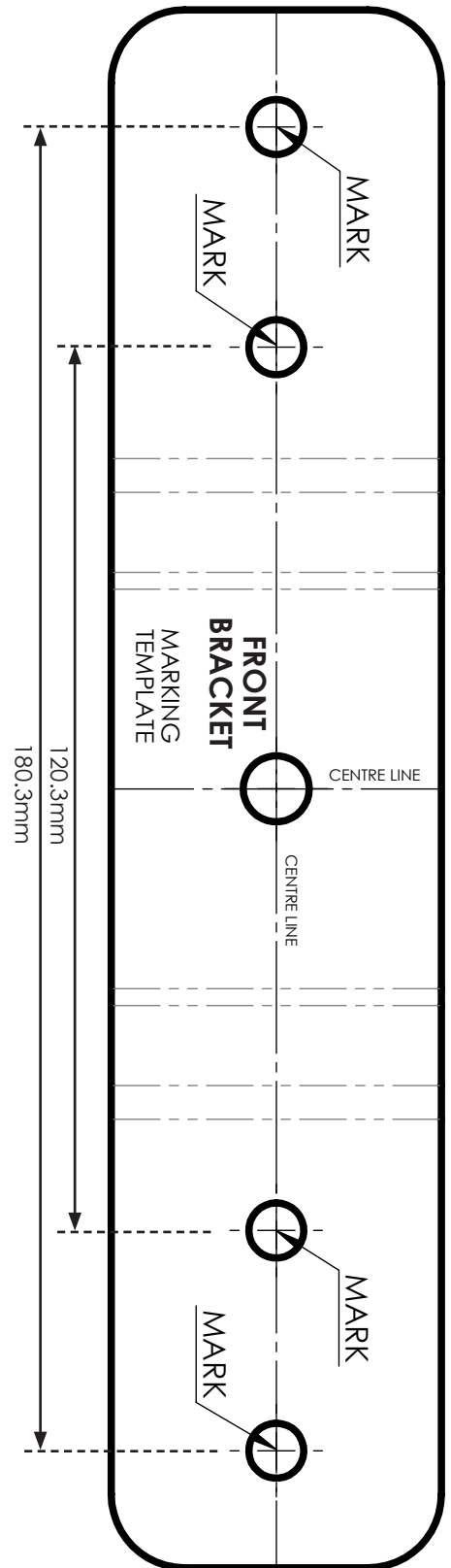
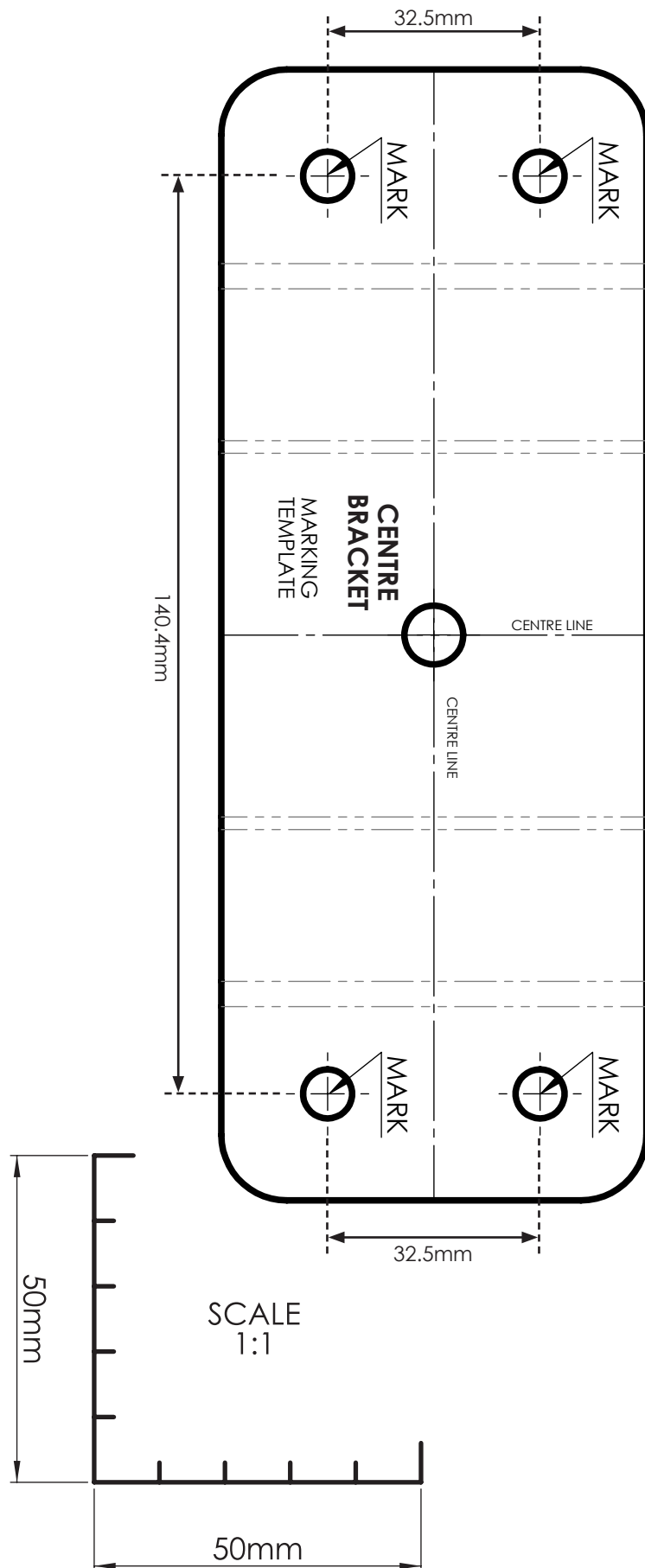
### Step 29

- A) Lock the bungee cord into the V groove of the end of the locking end cap.
- B) Feed the bungee cord through the rear rack assembly and lock into the top V groove as shown.
- C) Wrap the excess bungee cord around the rack assembly as shown until there is 100mm remaining.
- D) Lock the cord into the bottom V groove.



### Step 30

- Place usage instruction into vehicle glovebox with owners manual.



**BLANK PAGE**



