

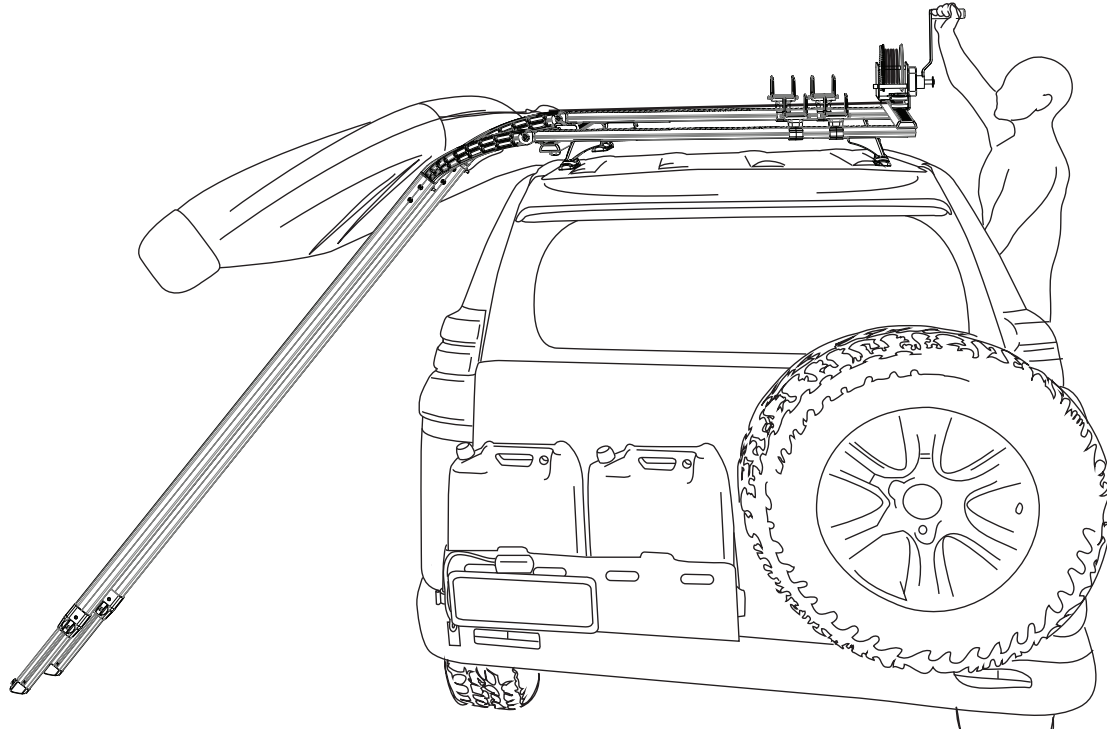
**CONTROLLED**

# RHINO-RACK

## Rhino-Rack Nautic Kayak Loader (NKL)

**Important:** Please read these instructions carefully prior to installation. 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. Place these instructions in the vehicle's glove box after installation is complete.

### Layout



### Important Information

**Maximum carrying capacity: 80kg (176lbs)**

Please refer to your vehicle manufacturers handbook for maximum carrying capacity of your roof racks. Always use the lower of the two figures. Load must be evenly distributed over the crossbars.

Do not attempt to fit the NKL to your vehicle unless you fully understand this fitting instructions. Please direct any questions regarding fitting to the dealer from where the NKL was purchased. **Use only non-stretch fastening ropes or straps.**

**Recommendations:**

It is essential that all bolt connections be checked after driving a short distance when you first install your roof racks and NKL. Bolt connections should be checked again at regular intervals (once a week is enough, depending on road conditions, usage, loads and distances travelled). You should also check the roof racks and NKL each time they are re-fitted. Always make sure to fasten your load securely. Please also ensure that all loads are evenly distributed and that the centre of gravity is kept as low as possible. Long loads (e.g. canoes and kayaks) must be secured front and rear with non-stretch fastening ropes or straps.

**Roof racks must be removed when putting vehicle through an automatic car wash.**

**Caution:** The handling characteristics of the vehicle changes when you transport a load on the roof. For safety reasons we recommend you exercise extreme care when transporting wind-resistant loads. Special consideration must be taken into account when cornering and braking.

**Note for Dealers and Fitters:**

It is your responsibility to ensure these fitting instructions are given to the end user or client.

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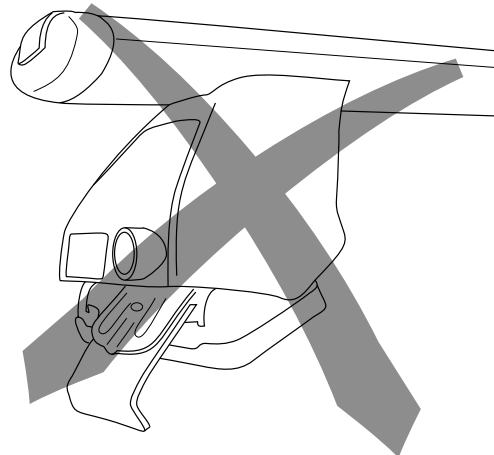


## Rhino-Rack Nautic Kayak Loader (NKL)

**Prior to commencing installtion, please check the following requirements.**

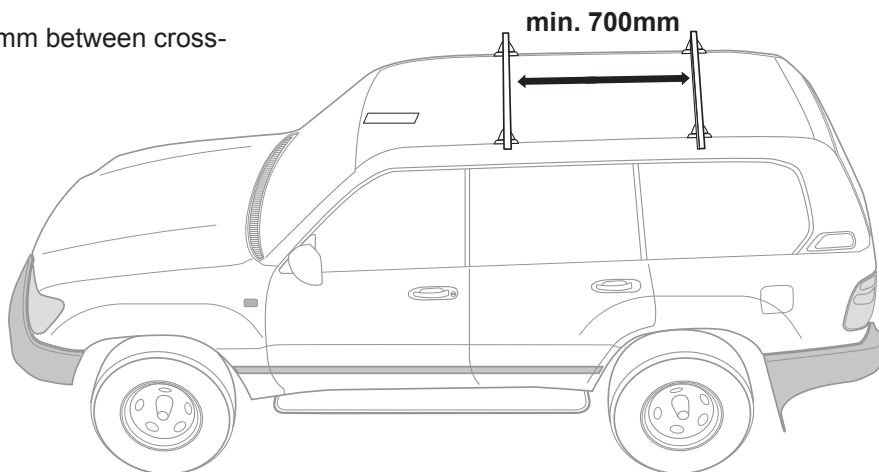
### **Roof Rack compatibility:**

The NKL is not suitable for fitment to a clamp in the door style roof rack system as large forces are exerted on the roof rack system during the winching process.



### **Roof Rack compatibility:**

The NKL requires a minimum of 700mm between cross-bars.



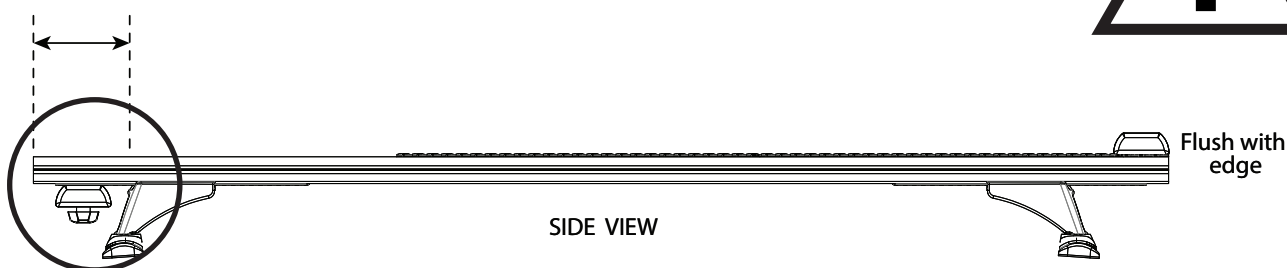
### **Roof Rack compatibility:**

The NKL requires a minimum of 100mm of overhang on the roller side (as indicated below). This can be achieved by offsetting the cross bar to one side.

Note: The winch side does not require the 100mm overhang.



MIN. 100mm



### **NKL demonstration video:**

<http://youtu.be/FIpxXv9Ah3c>



## Rhino-Rack Nautic Kayak Loader (NKL)

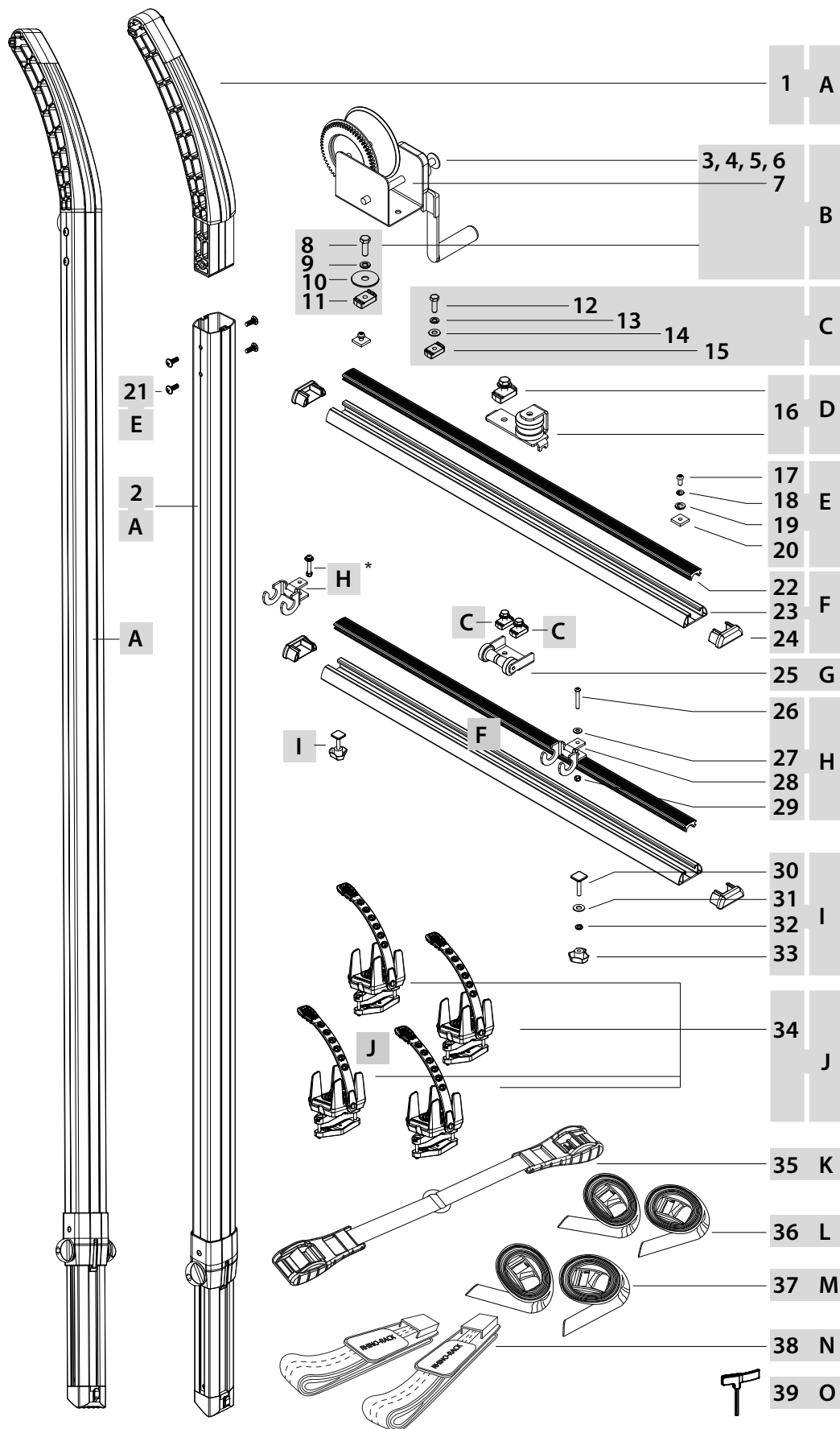
### Parts List

A			
Item	Component Name	Qty	Part No
1	Ramp Curved Piece	2	M226
2	1/2 x 10G Pan Phillips S/T Screw	8	B045
	Lower Internal Ramp 1250mm	2	A293
	Upper External Ramp 1700mm	2	A294
	M6 x 25 Square Head Bolt	2	B015
	Rivet 01661-00516	4	H023
	M6 Track Knob	2	M175
	Inside Leg Stop	2	M224
	Ramp Centre Joiner	2	M225
	Ramp Foot	2	M239
	M6 Standard Hex Nut Mech Gal	2	N022
	Ramp Slip Strip 1680mm	2	R049
	1/4 x 1/4 Flat Washer S/S	4	W029
Disc Spring Washer	2	W044	
B			
3	Winch Handle Fastener Kit	1	-
4	Snap Hook	1	C086
5	Braided Line (White)	1	C597
6	Winch Handle	1	-
7	Brake Winch (capacity 500kg)	1	CA1255
8	M10 x 25 Hex Screw	1	B071
9	M10 Shakeproof Washer	1	W021
10	M10 Flat Washer	1	W022
11	M10 Channel Nut	1	N024
C	See C sub assembly		
C			
12	M8 x 22 Hex Screw	3	B076
13	M8 Spring Washer	3	W019
14	M8 Flat Washer	3	W020
15	M8 Channel Nut	3	N003
D			
16	M10 x 25 Hex Screw	1	B071
	M10 x 65 S/T Hex Bolt	1	B026
	Clamp Bush Short	2	C345D
	NKL PVC Vertical Roller	1	CA1256
	NKL Vertical Roller Bracket	1	CA1234
	M10 Shakeproof Washer	2	W021
	M10 Flat Washer	1	W022
	M10 Channel Nut	2	N024
Tool(s) included			
O			
39	Torkey Allen Key (Short)	1	TORKEY-S

E			
Item	Component Name	Qty	Part No
17	M6 X 12 Security Screw	2	B148
18	M6 Spring Washer	2	W004
19	M6 Flat Washer	2	W031
20	M6 Nut 24 x 21 x 4mm	2	N057
21	1/4-10 x 18mm Flange Screw	8	B046
F			
22	Rubber Moulding	2	R004
23	Half HD Crossbar 1360mm	2	A555D
24	Half HD Crossbar End Cap	4	M535
G			
25	M8 x 22 Hex Screw	2	B076
	Silicon Rubber Cap	1	C310
	M6 x 90 Button HD Security	1	B097
	NKL PVC Horizontal Roller	1	CA1257
	NKL Horizontal Roller Bracket	1	CA1258
	M6 Nyloc Nut	1	N013
	M6 S/T Flat Washer	2	W031
H* Sold Separately (also available in Thule & Yakima Fit Kits)			
26	M6 x 40mm HD Security Bolt	2	B085
27	M6 Flat Washer S/T	2	W031
28	NKL Aero Bar Ramp Hook	2	CA1233
29	M6 Nyloc Nut	2	N013
I			
30	M6 x 35 Square Head Bolt	2	B129
31	M6 Flat Washer	2	W031
32	M6 Spring Washer	2	W004
33	M6 Plastic Knob with S/S nut	2	N008
J			
34	Multi purpose holder	4	RMPHU
K			
35	NKL Tiedown with Ring	1	CA1259
L			
36	4.0m Straps Metal Buckle C019	2	RTD4
M			
37	5.5m Straps Metal Buckle C153	2	RTD5
N			
38	3.0m Padded Straps C352	2	RTD30S



# Rhino-Rack Nautic Kayak Loader (NKL)



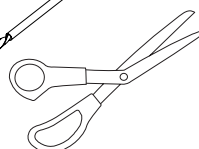
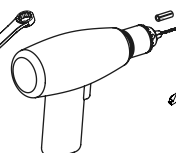
## Tools supplied with kit:

Torque Key (Short)



## Tools needed:

Measuring tape, Spanner (for M8 and M10 hex bolt), Power drill (for crossbars), 3mm pilot drill bit (optional), 6.5mm drill bit, Scissors or Knife (to cut the rubber strips)

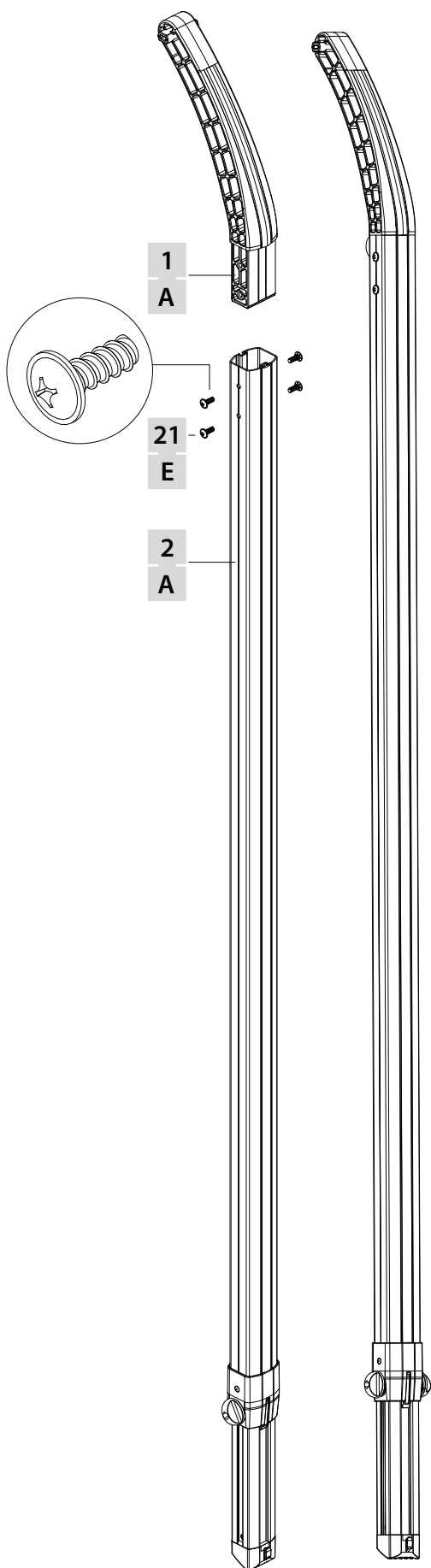




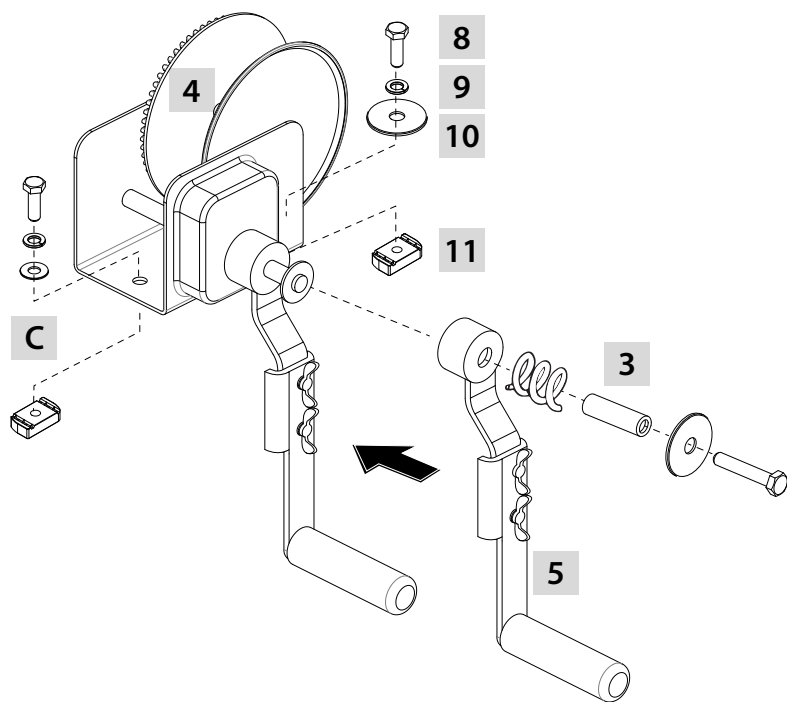


# Rhino-Rack Nautic Kayak Loader (NKL)

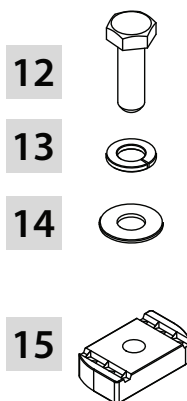
## Assembly A



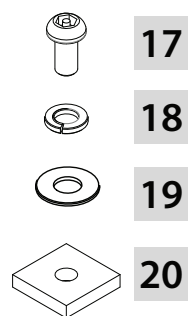
## Assembly B



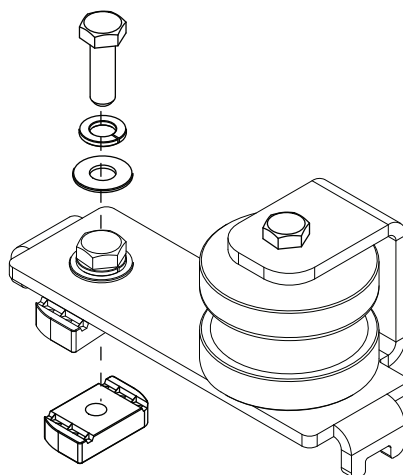
## Assembly C



## Assembly E



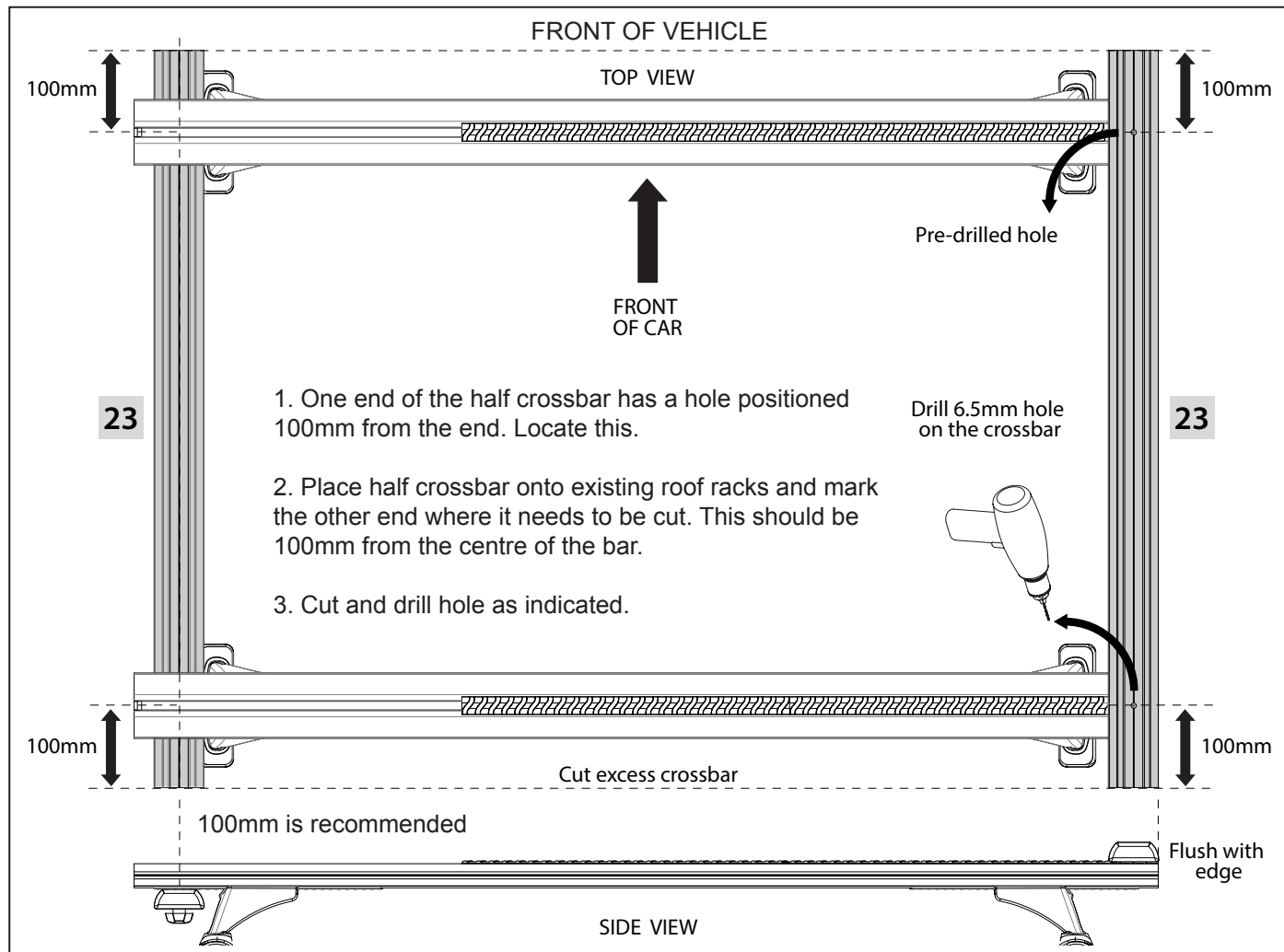
## Assembly D



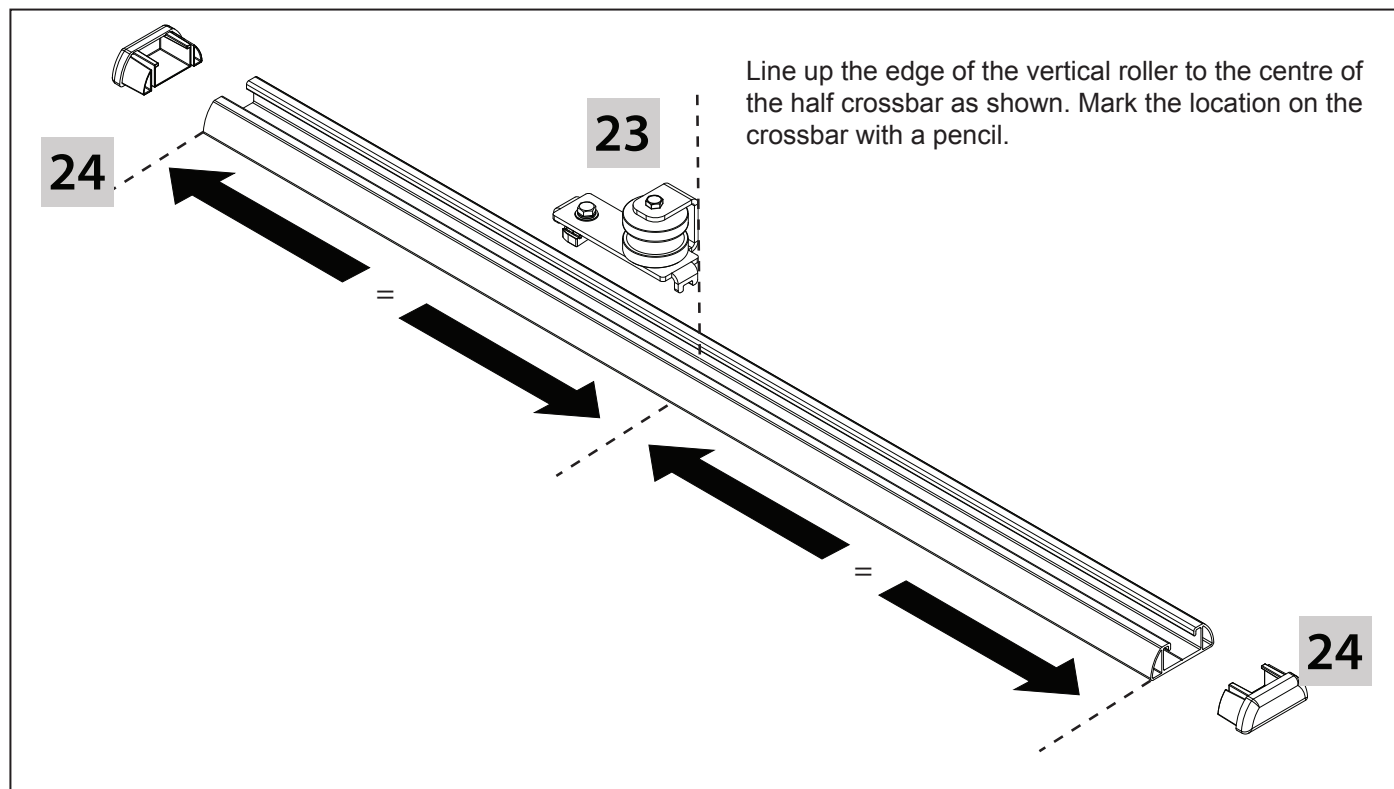


## Rhino-Rack Nautic Kayak Loader (NKL)

### Cut the Half Crossbars as shown



### Assembly F





## Rhino-Rack Nautic Kayak Loader (NKL)

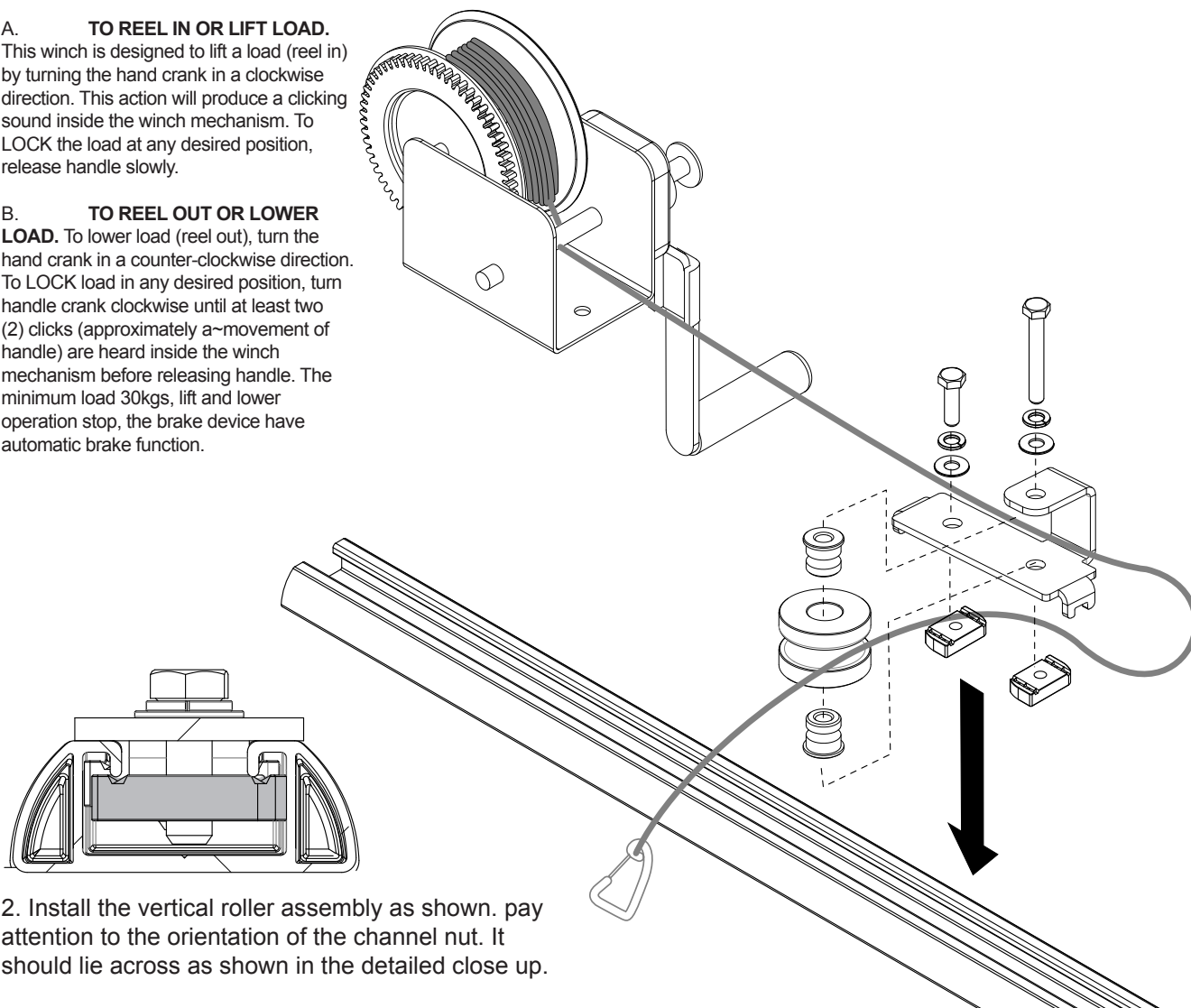
1. Take the vertical roller apart to feed the line and asymmetrical hook from the hand winch through.

**A. TO REEL IN OR LIFT LOAD.**

This winch is designed to lift a load (reel in) by turning the hand crank in a clockwise direction. This action will produce a clicking sound inside the winch mechanism. To LOCK the load at any desired position, release handle slowly.

**B. TO REEL OUT OR LOWER LOAD.**

To lower load (reel out), turn the hand crank in a counter-clockwise direction. To LOCK load in any desired position, turn handle crank clockwise until at least two (2) clicks (approximately a ~movement of handle) are heard inside the winch mechanism before releasing handle. The minimum load 30kgs, lift and lower operation stop, the brake device have automatic brake function.



2. Install the vertical roller assembly as shown. pay attention to the orientation of the channel nut. It should lie across as shown in the detailed close up.

### Assembly G

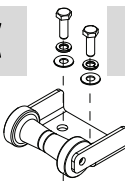
24



C

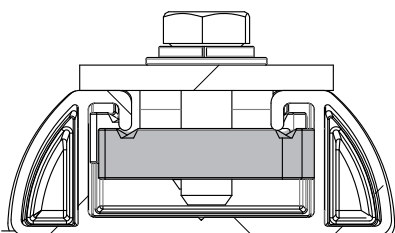
C

G



1. Line up the centre of the horizontal roller to the centre of the half crossbar as shown.

2. Install the horizontal roller assembly as shown. pay attention to the orientation of the channel nuts. Both should lie across as shown in the detailed close up.

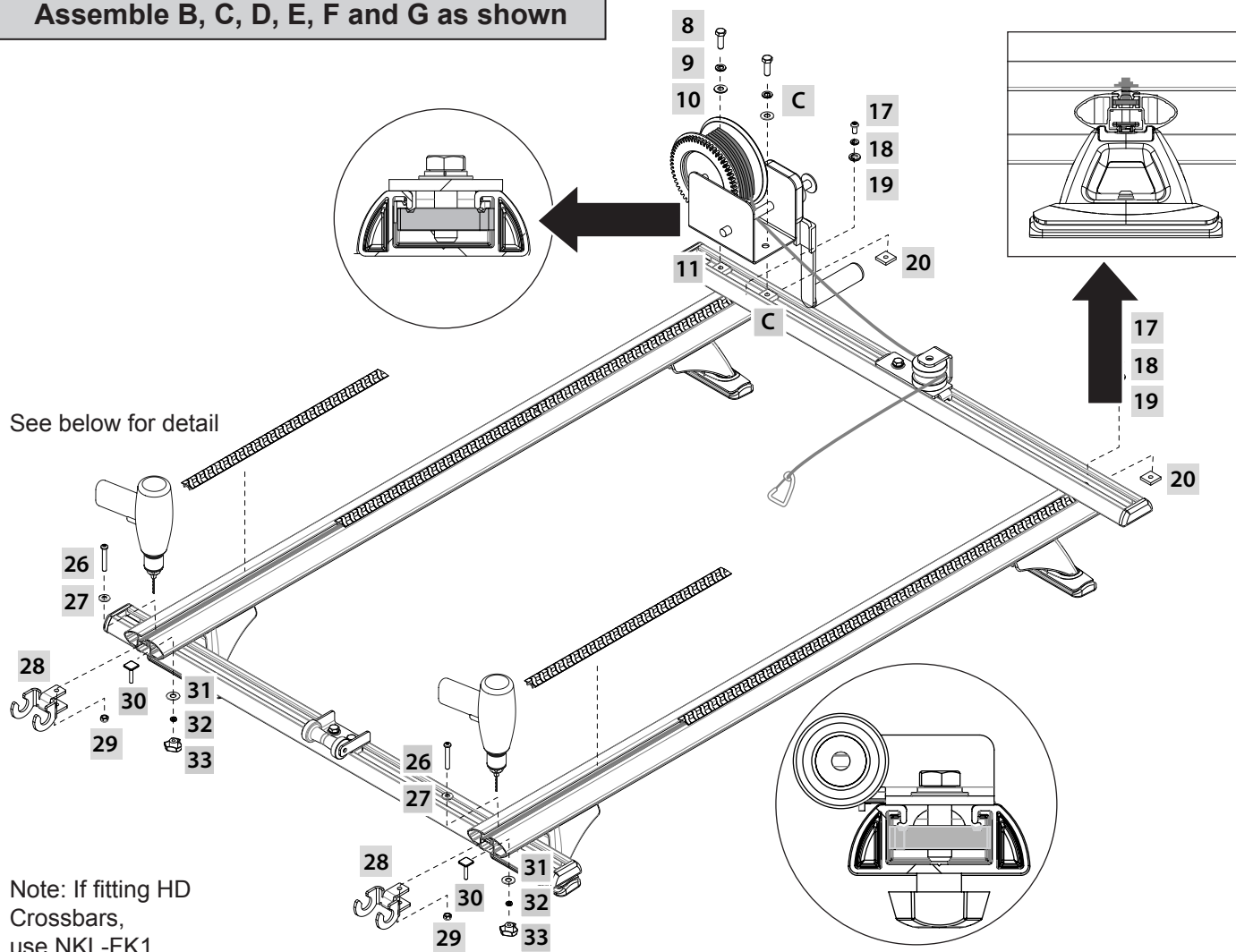


24

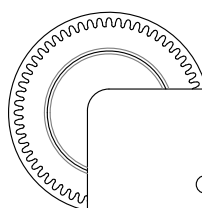
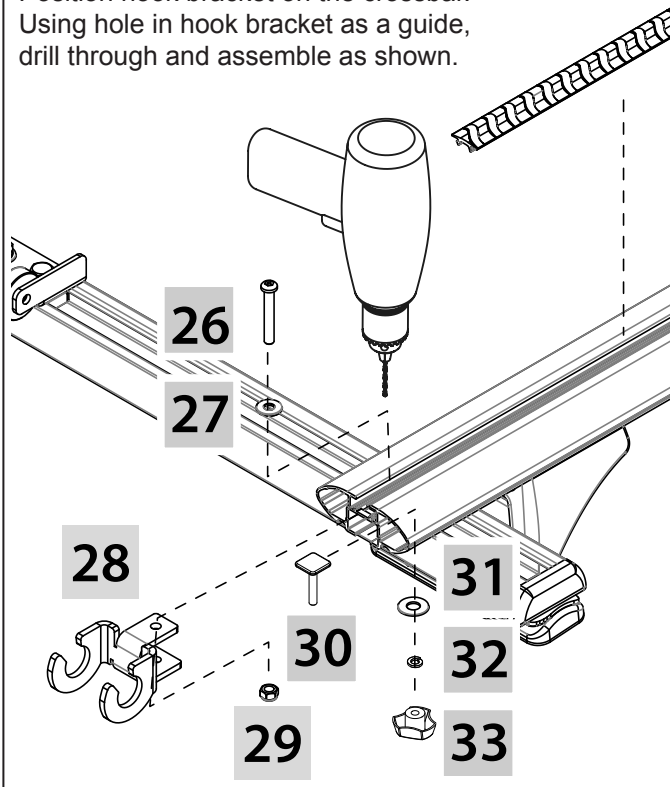


## Rhino-Rack Nautic Kayak Loader (NKL)

Assemble B, C, D, E, F and G as shown

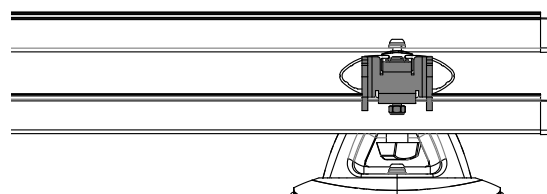


Position hook bracket on the crossbar. Using hole in hook bracket as a guide, drill through and assemble as shown.



Assembly for items 30, 31, 32 and 33. Install the half crossbar onto the existing roof racks.

Assembly for items 26, 27, 28 and 29. Drill existing crossbar prior to installing the half crossbar. Ensure the hook doesn't foul the half bars.



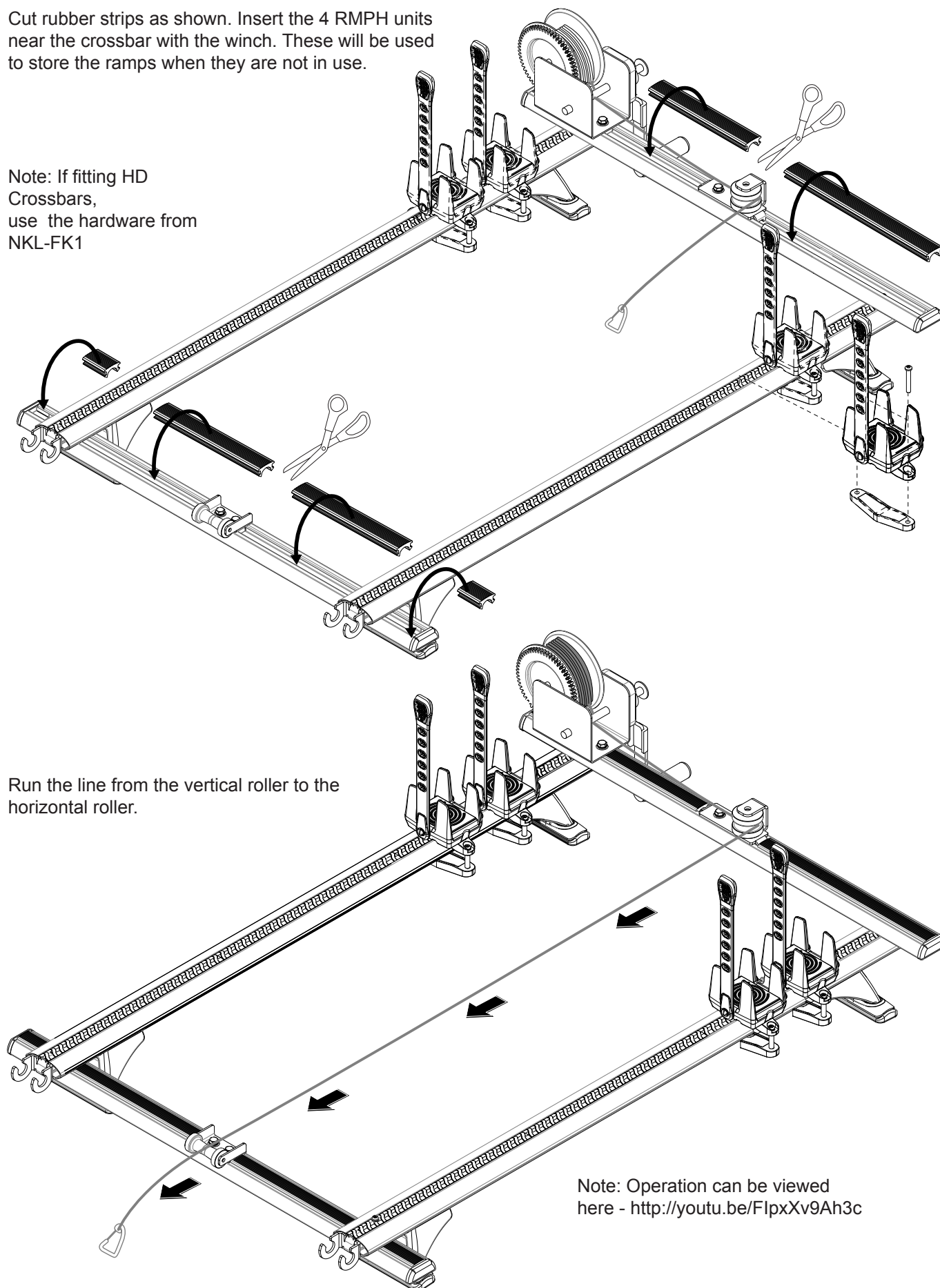


## Rhino-Rack Nautic Kayak Loader (NKL)

### Assembly J

Cut rubber strips as shown. Insert the 4 RMPH units near the crossbar with the winch. These will be used to store the ramps when they are not in use.

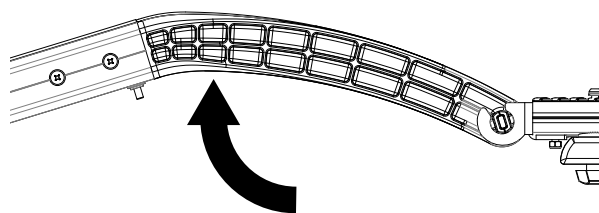
Note: If fitting HD Crossbars, use the hardware from NKL-FK1



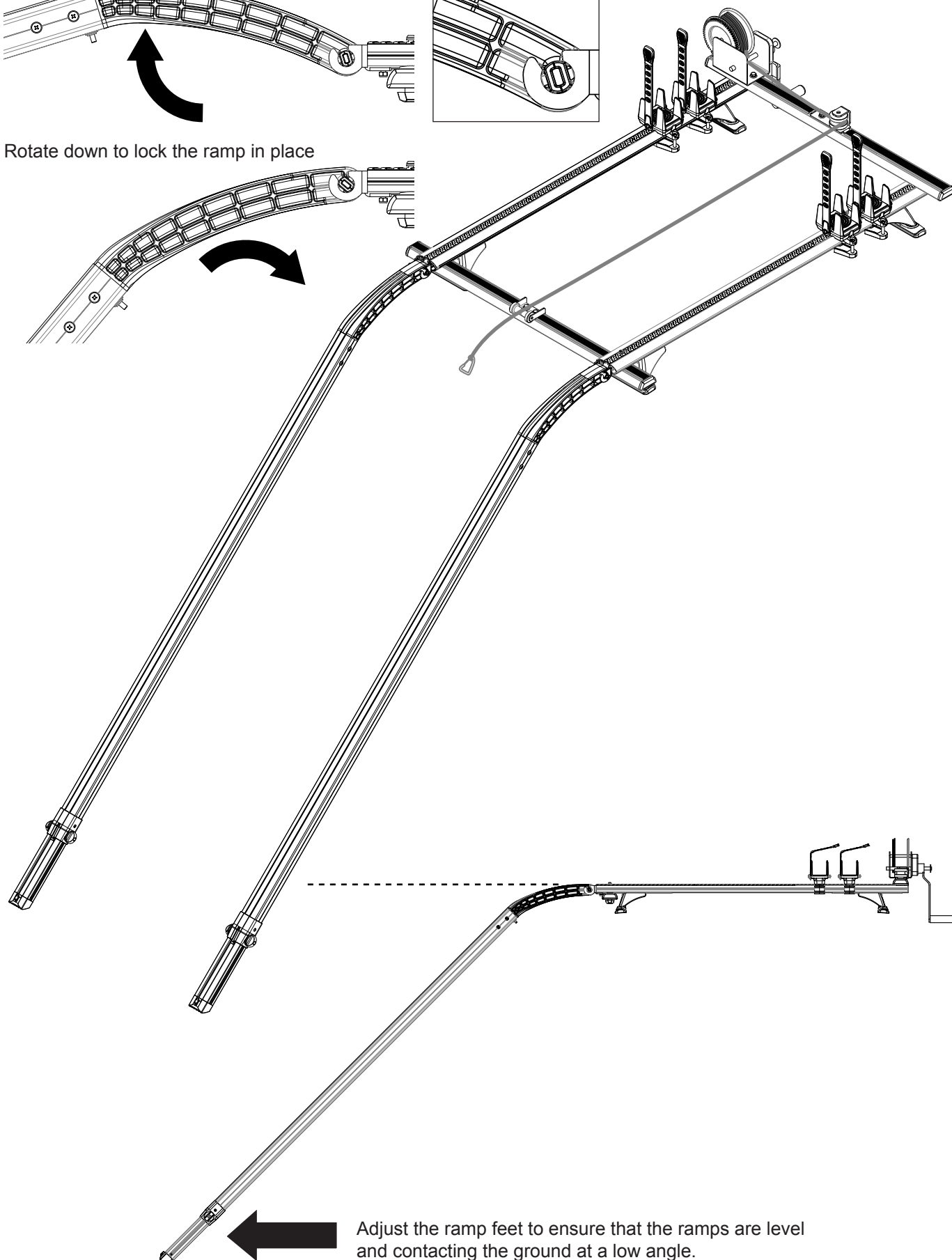
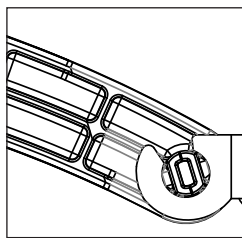
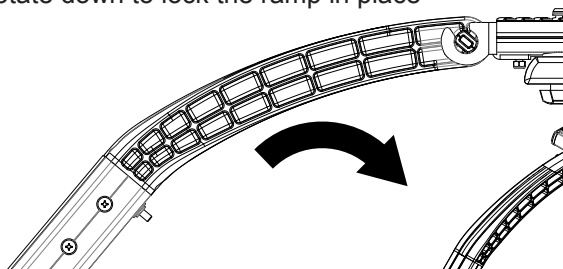


## Rhino-Rack Nautic Kayak Loader (NKL)

Rotate up to insert the ramp onto the hook



Rotate down to lock the ramp in place



Adjust the ramp feet to ensure that the ramps are level and contacting the ground at a low angle.

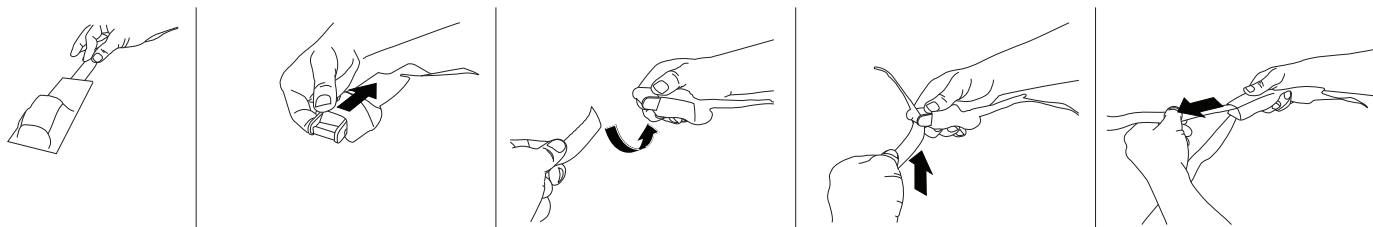
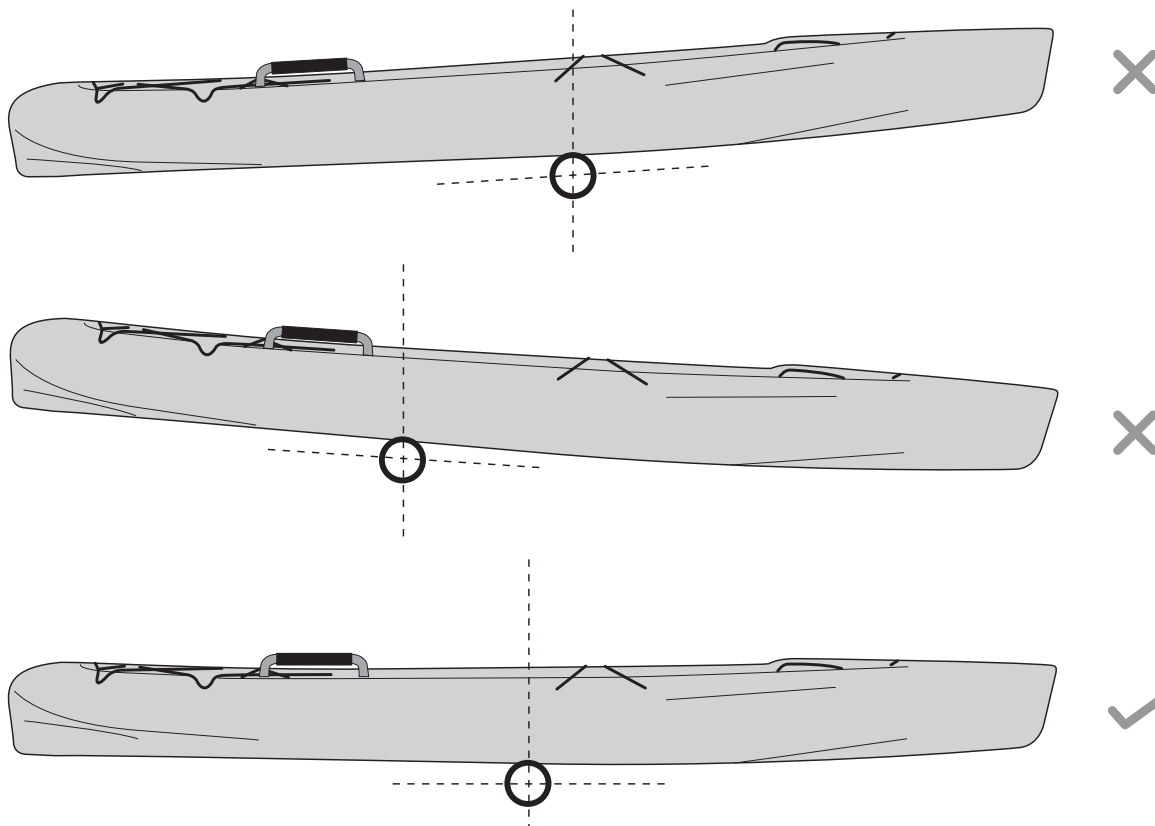




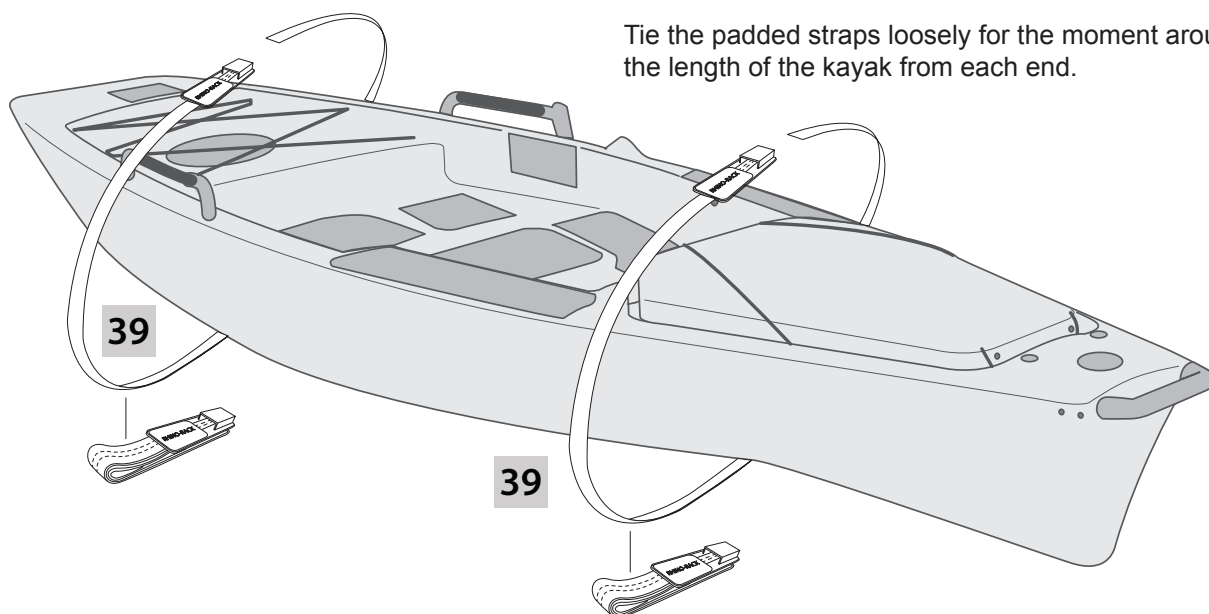
## Rhino-Rack Nautic Kayak Loader (NKL)

### Assembly K and N

Find the balanced point on the kayak. This may not be directly in the middle due to uneven weight distribution. Use a pipe object to find the point and mark it on the kayak with a pencil for easy reference in the future.

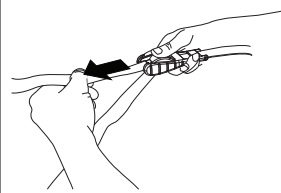
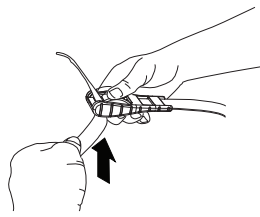
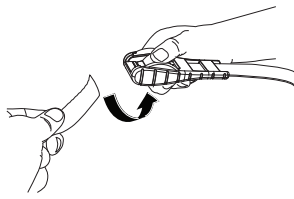
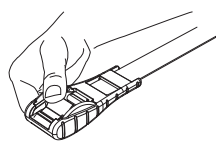


Tie the padded straps loosely for the moment around 1/3 the length of the kayak from each end.

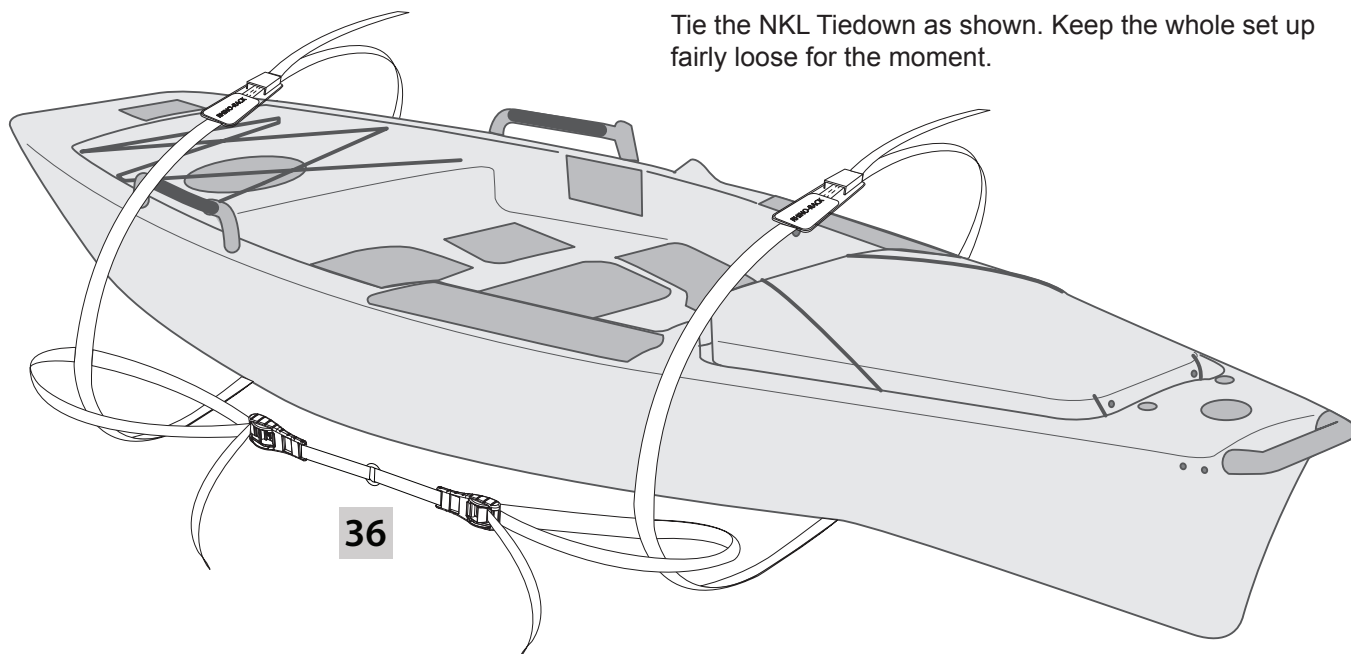




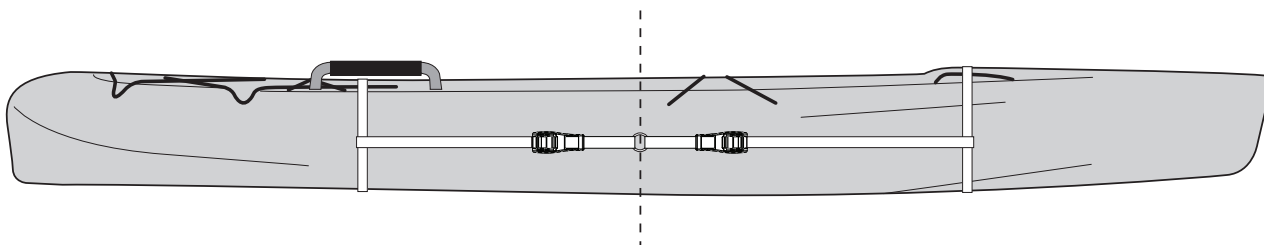
## Rhino-Rack Nautic Kayak Loader (NKL)



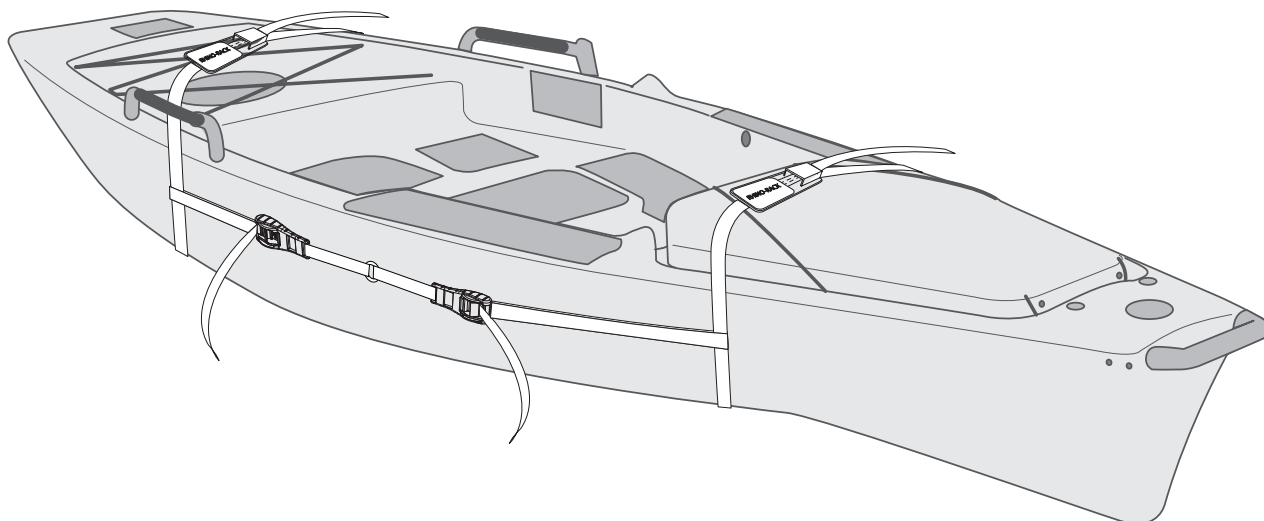
Tie the NKL Tiedown as shown. Keep the whole set up fairly loose for the moment.



Line up the centre of the ring of the NKL tiedown (36) with the centre mark that you made earlier.



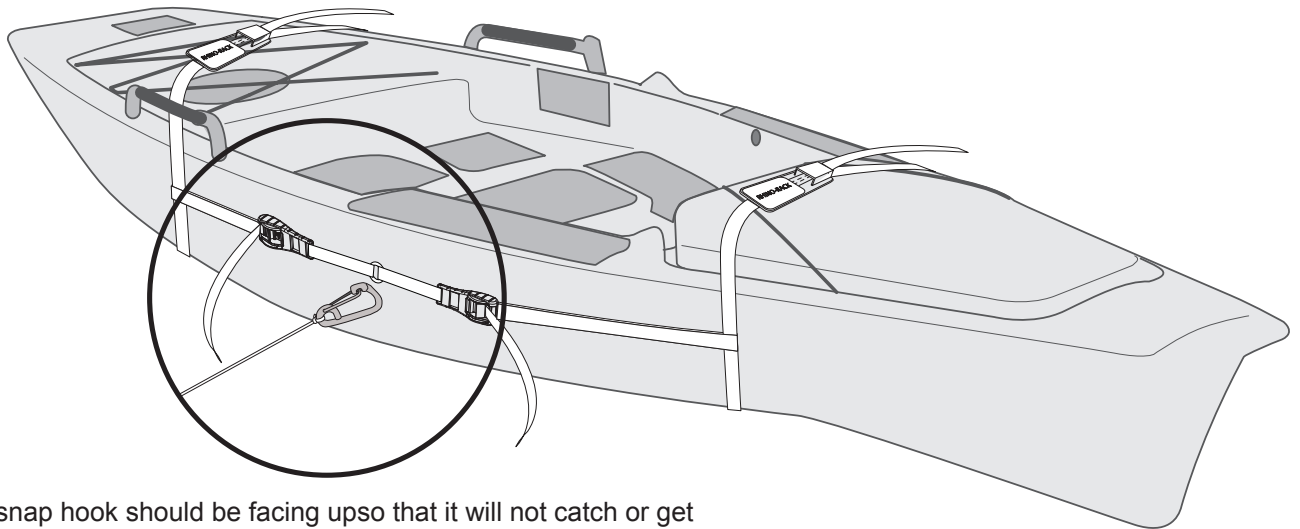
Tighten the tiedowns in place as shown. Now the kayak is ready to be lifted onto the roof racks.



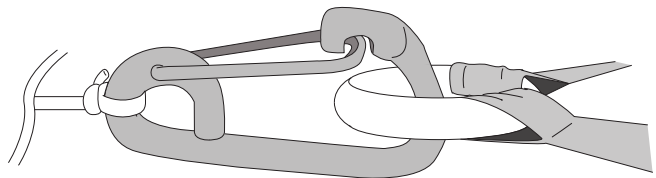
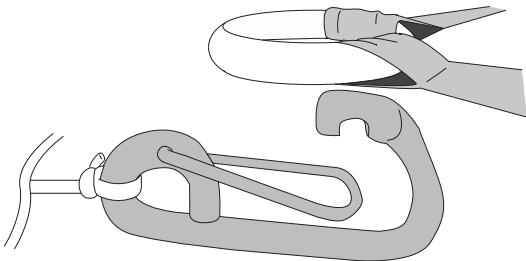


## Rhino-Rack Nautic Kayak Loader (NKL)

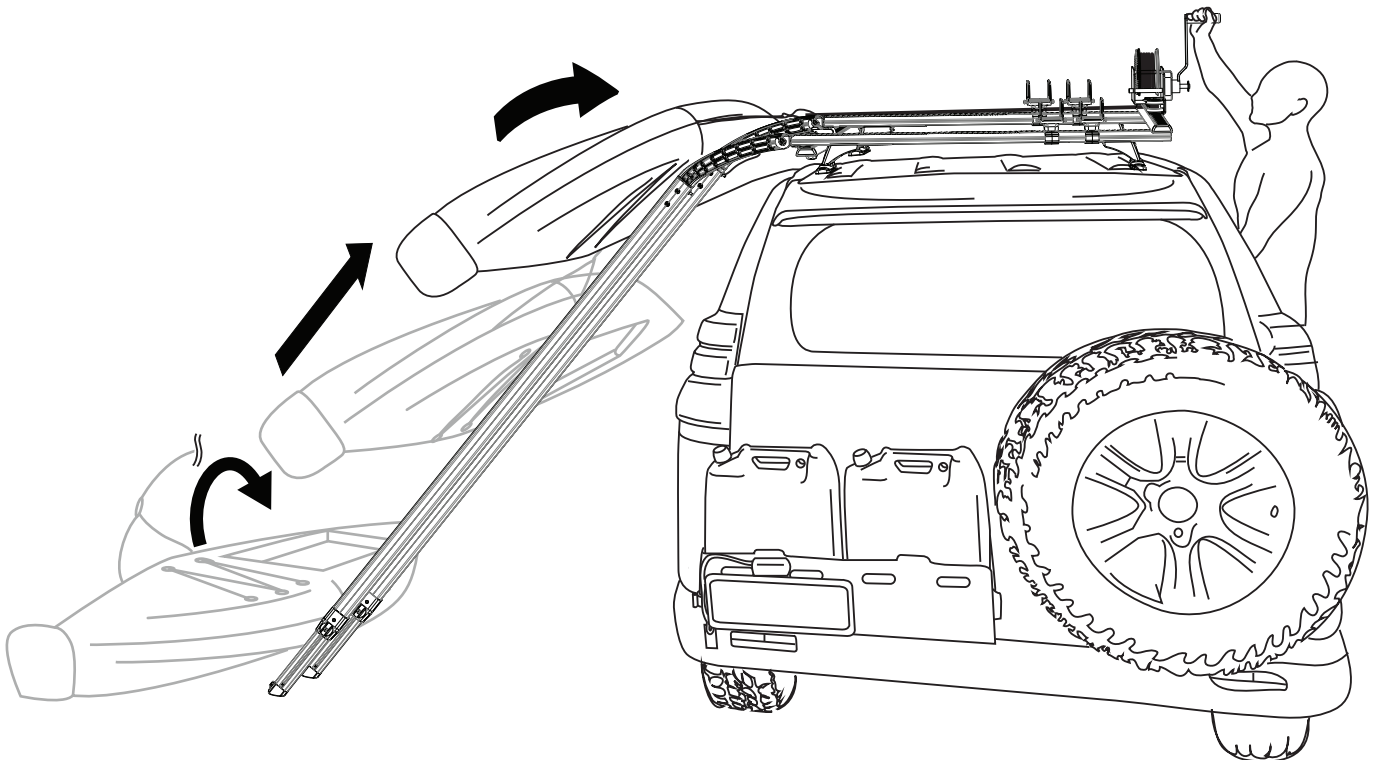
Attach the snap hook onto the ring on the NKL tiedown as shown.



The snap hook should be facing up so that it will not catch or get hooked on the roller as it passes over the top

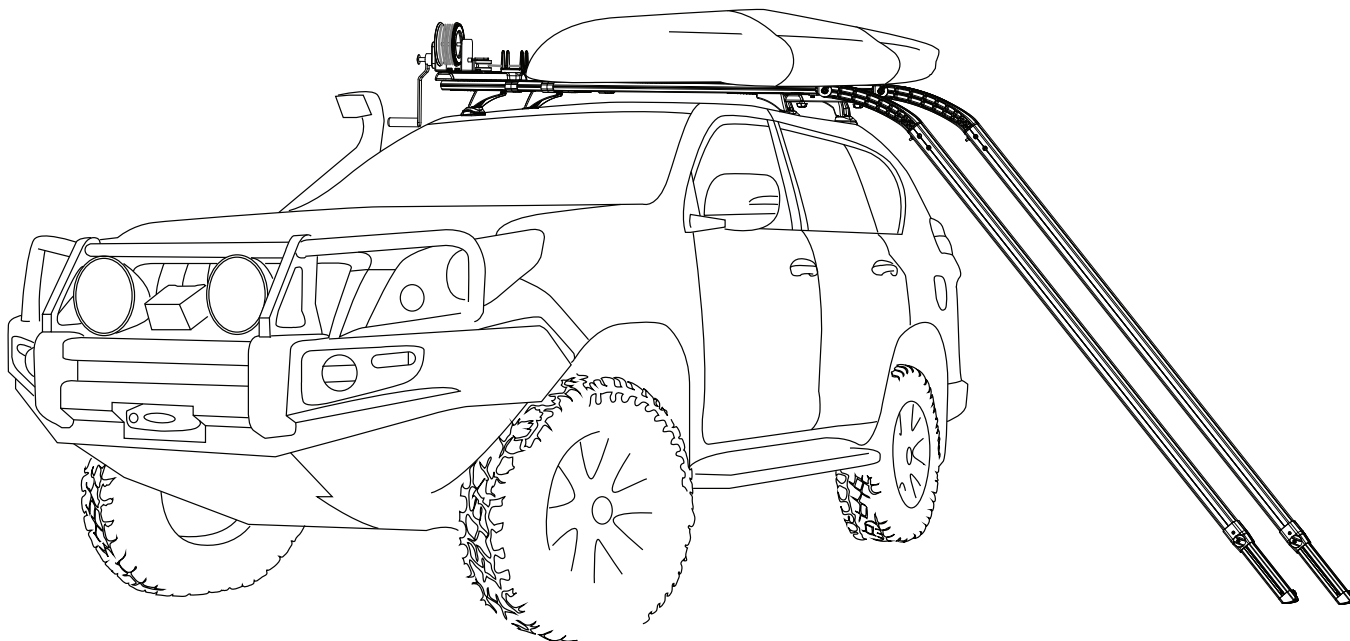


Rotate the winch to raise the kayak onto the ramp.

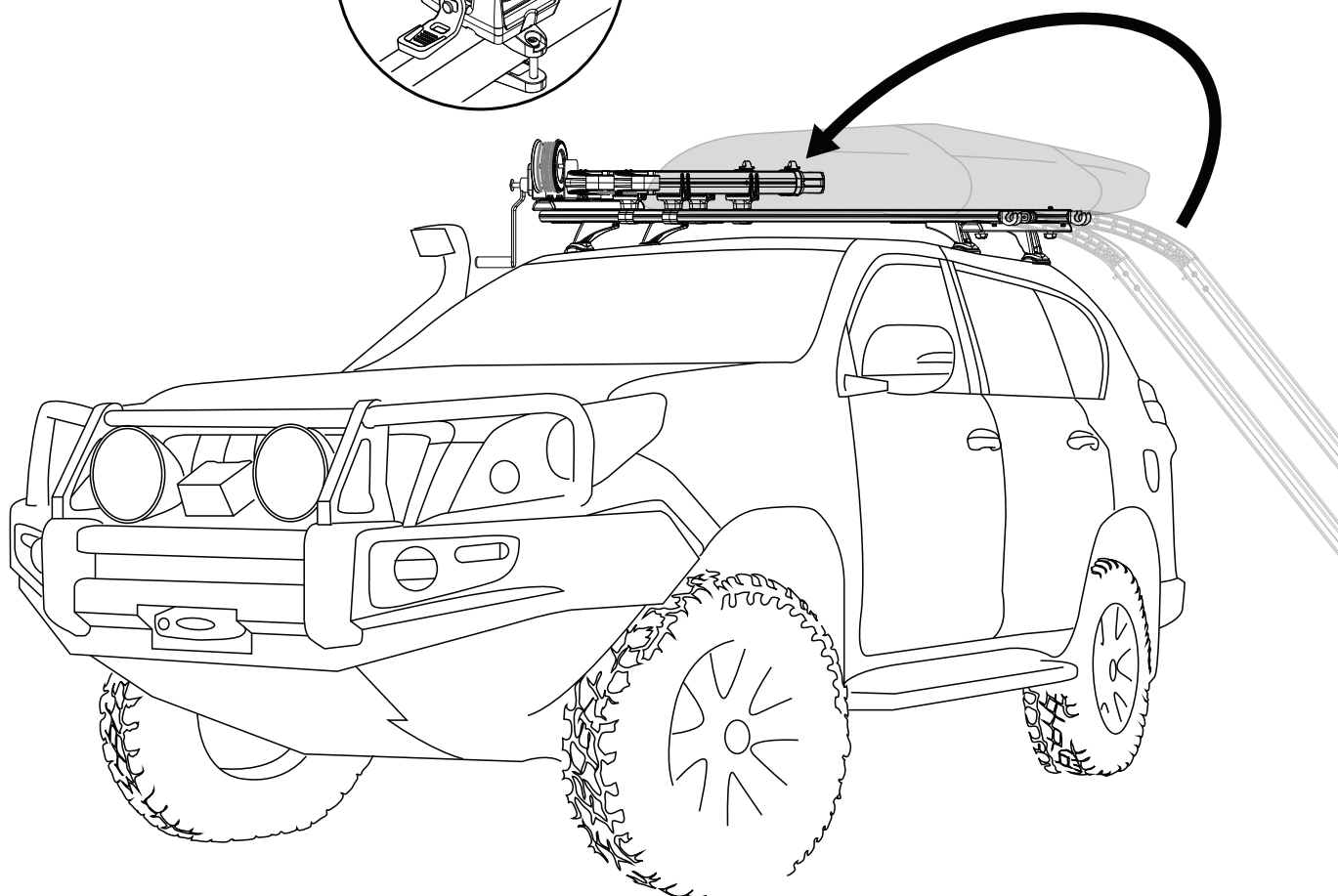
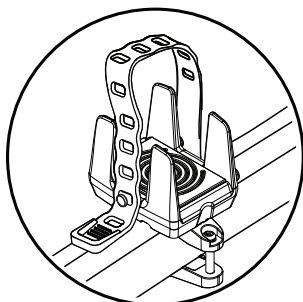




## Rhino-Rack Nautic Kayak Loader (NKL)



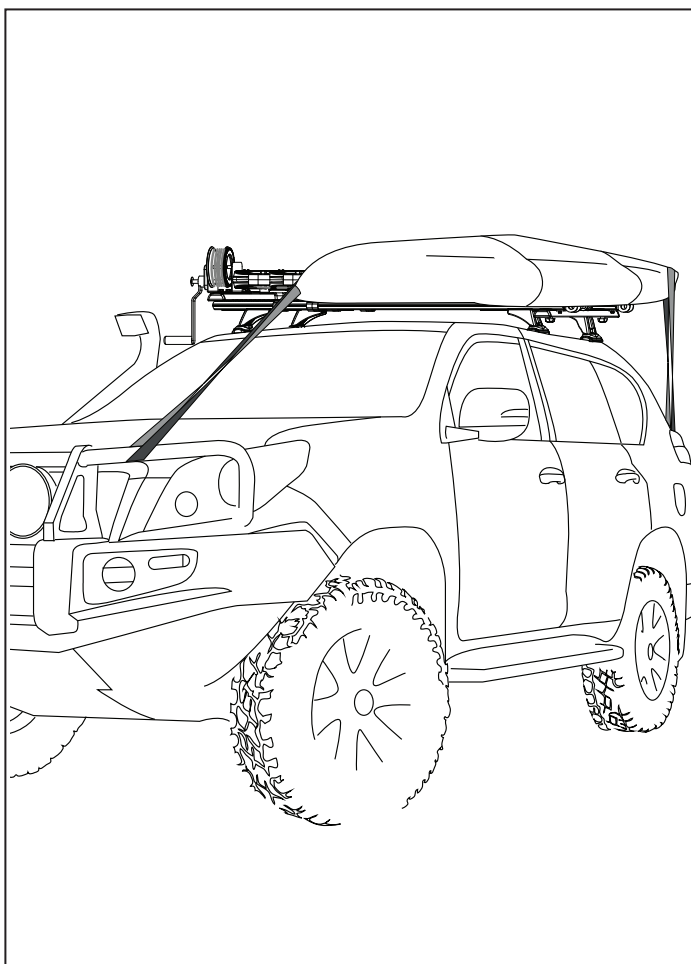
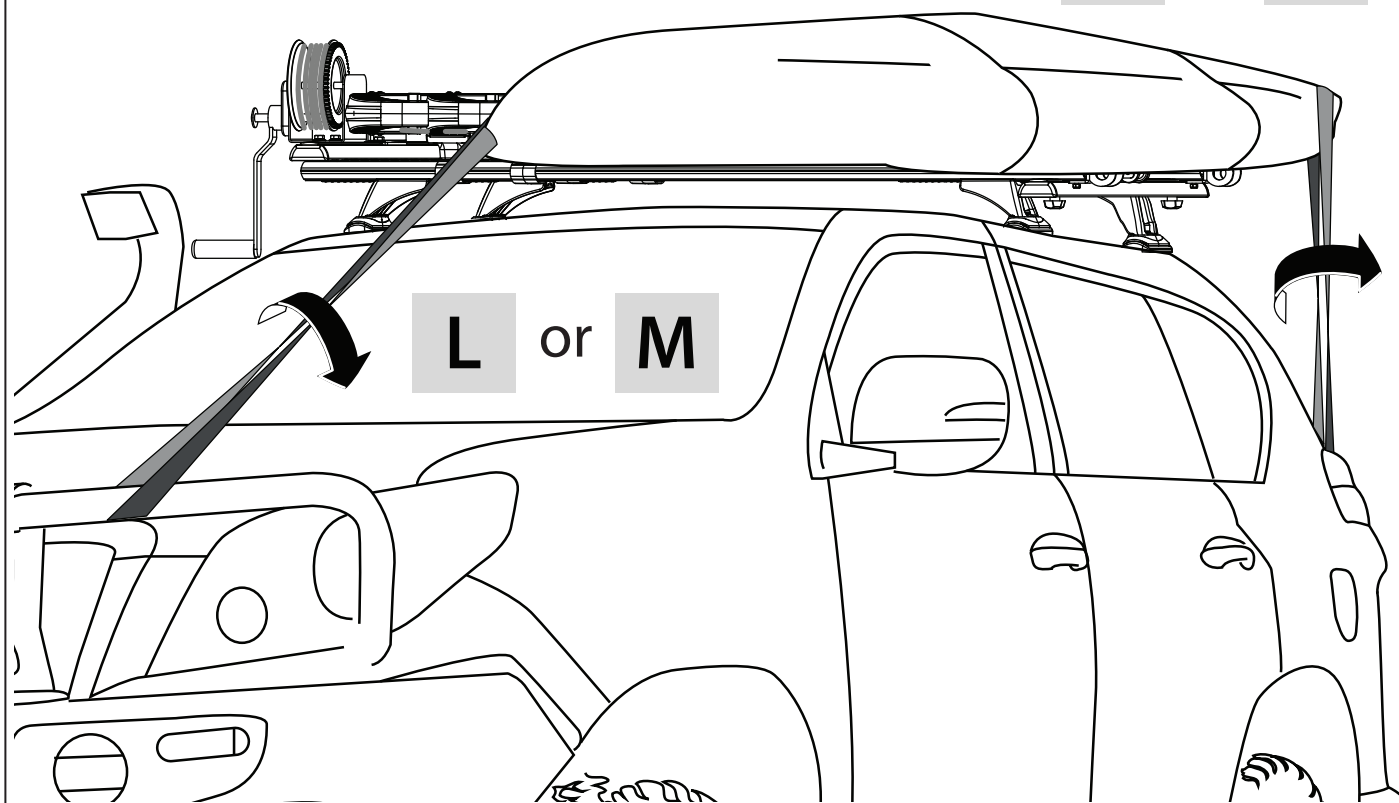
Store the ramps on the RMPH units as shown. For each unit, fold the strap over and hook it onto the location spigot on the opposing side.



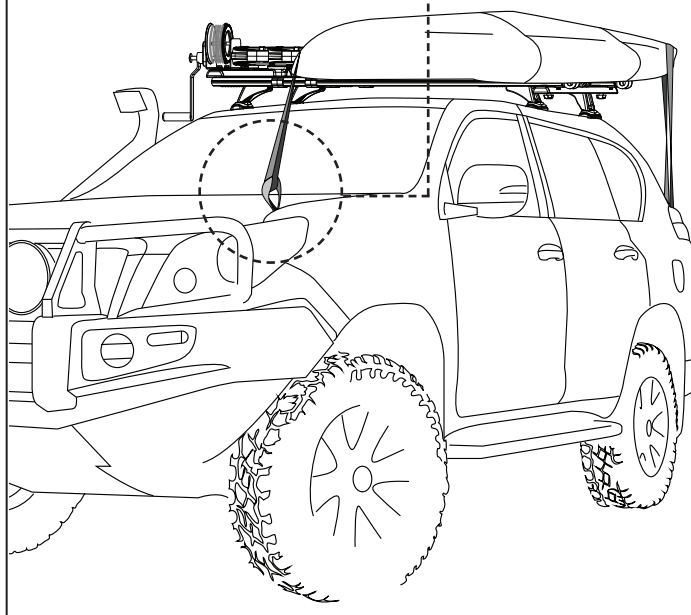
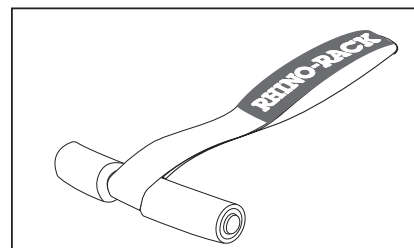


## Rhino-Rack Nautic Kayak Loader (NKL)

**L** or **M**



RBAS Anchor Straps (sold as separate) can be used as well.

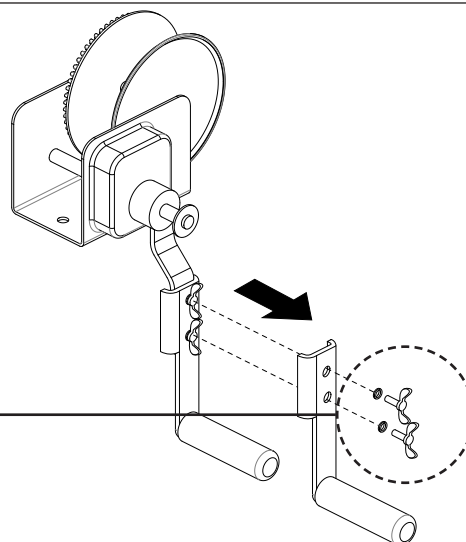




## Rhino-Rack Nautic Kayak Loader (NKL)

When the Kayak is fixed in place on the NKL remove the winch hand as shown. Store in an accessible place.

Unscrew the hardware to remove the handle. This will prevent possible contact with the vehicle door.

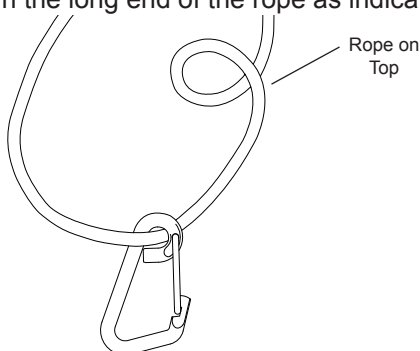


### Appendix A

#### How to Tie a Bowline Knot

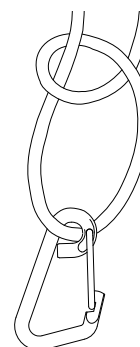
##### **Step 1:**

Thread one end of the rope through the eye of the snap hook and pull through approximately 20cm of rope. Create a loop in the long end of the rope as indicated below.



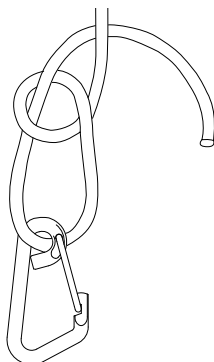
##### **Step 2:**

Insert end of rope through the loop from the under side.



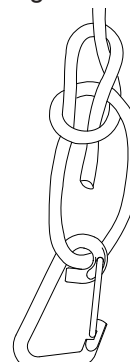
##### **Step 3:**

Pull the end around and behind the standing part.



##### **Step 4:**

Insert the end back through the loop entering from the top side.



##### **Step 4:**

Set the knot in this position.

