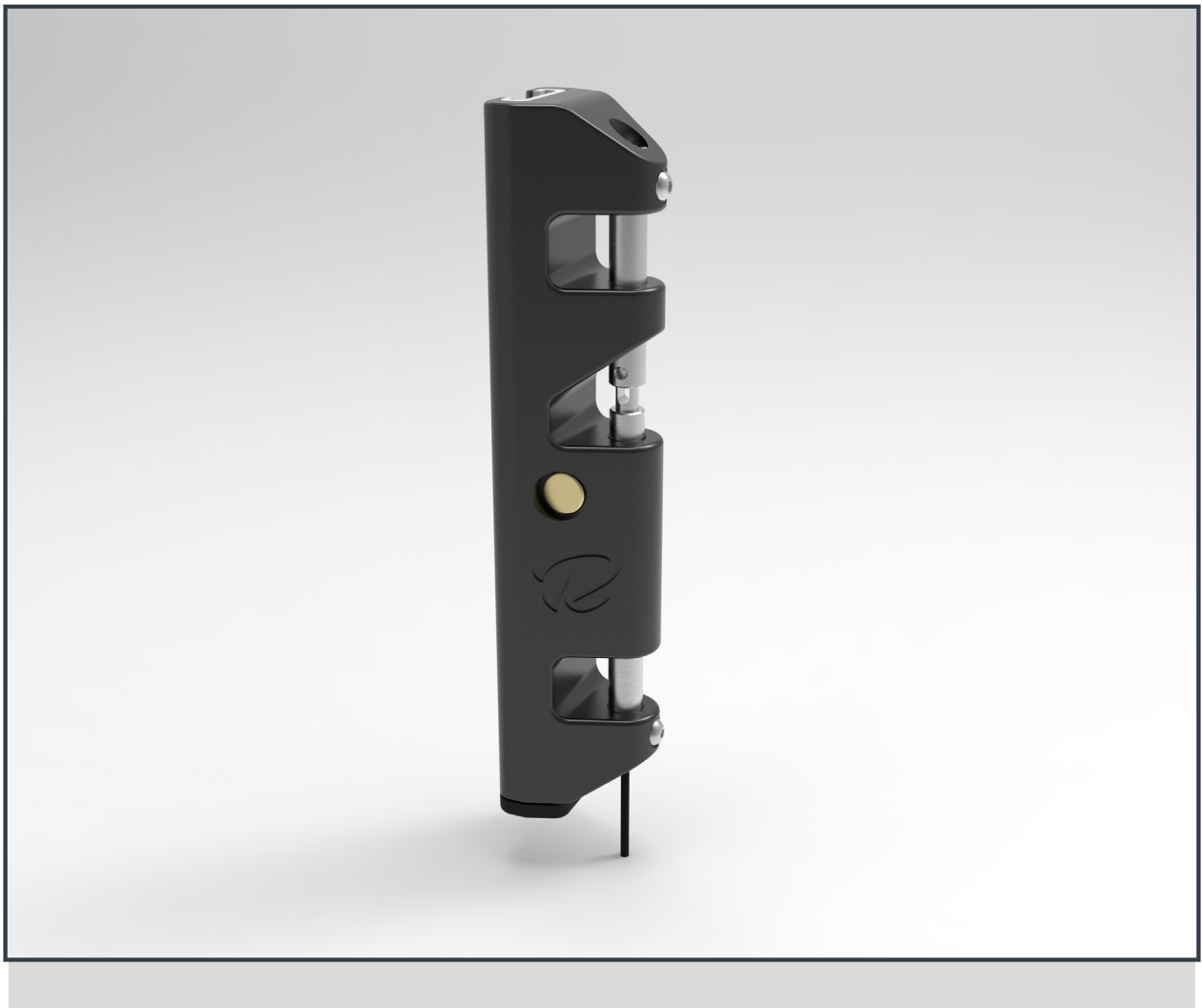


Rigging Projects

Locking Headboard Car 2.5T

With Gaff Lock

User Guide



RP4420 - HB2.5- GL - UG - 01

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Introduction

This manual provides an overview of the Rigging Projects 2.5T Locking Headboard Car system and its maintenance. Please read this manual carefully before installation, use or maintenance, to ensure that you have understood and are familiar with all relevant details.

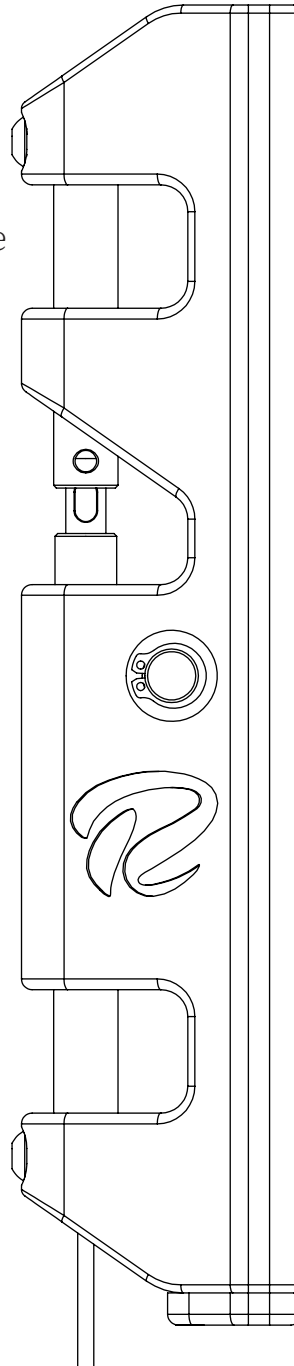
Prior to using this product, all persons should be made aware of the possible hazards associated with its operation and use. Any service work, repairs maintenance or equivalent work carried out on the product should be undertaken by technically qualified persons.

Key Design Features

- Aluminium carriage with independent titanium locking cartridge
- Titanium cartridge carries all the vertical load, hence lowering the centre of effort in the car & reducing track levering
- Impossible to false lock on fastener holes in track

Caution

The Rigging Projects Headboard Car has been tested extensively to ensure the safety anf function of the product. However, it is important for the users to understand the risks involved in the event of a mechanical failure. Care should be taken to stow the halyard appropriately to avoid entanglement should the sail drop unexpectedly. Failure to take safety precautions could lead to severe injury or death.



Installing Headboard Car onto Track

1. Remove gate track section from mast
2. Slide the locking headboard car on to track ensuring the barrel section of the car is at the lower end
3. Reinstate gate section. Ensuring track joins are seamlessly aligned

High Load Track Section Installation

If retrofitting the headboard car, the track section must be installed by a Rigging Projects technician.

Halyard Indicators

Rigging Projects recommends marking your halyard at full hoist and at all reef point with a whipping in different colours.

Disclaimer

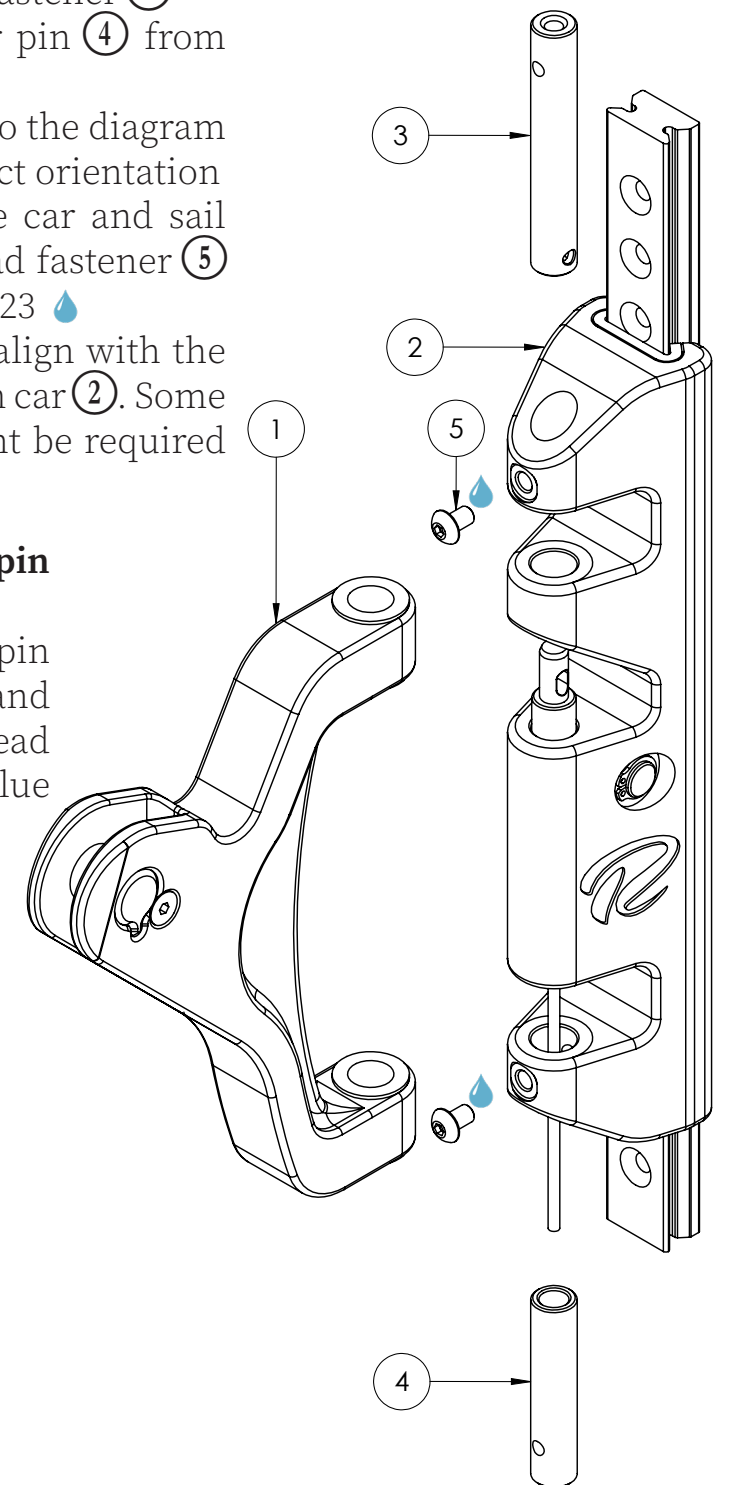
It is not permitted to modify the product or its parts, other than replacing parts specified in this manual. Rigging Projects Ltd is not liable for any dangerous situation, accidents, damage and consequences thereof caused when deviating from the instructions, guidelines and procedures described in this manual. To retain warranty do not deviate from the instructions, guidelines and procedures described in this manual.

Secure Sail Plate on Head Board Car

1. Undo the retaining button head fastener ⑤
2. Remove upper pin ③ and lower pin ④ from the main car ②
3. Align gaff lock ① in place, refer to the diagram to ensure the plate is in the correct orientation
4. Insert upper pin ③ through the car and sail plate and secure with button head fastener ⑤ with a few drops of blue Loctite 423
5. The upper pin ③ is required to align with the pawl shaft located inside the main car ②. Some alignment of the pawl shaft might be required to seat main pin correctly.

Do not use a hammer to secure the pin

6. Thread tripline through lower pin ④ and insert through the car and sail plate. Secure with button head fastener ⑤ with a few drops of blue Loctite 423

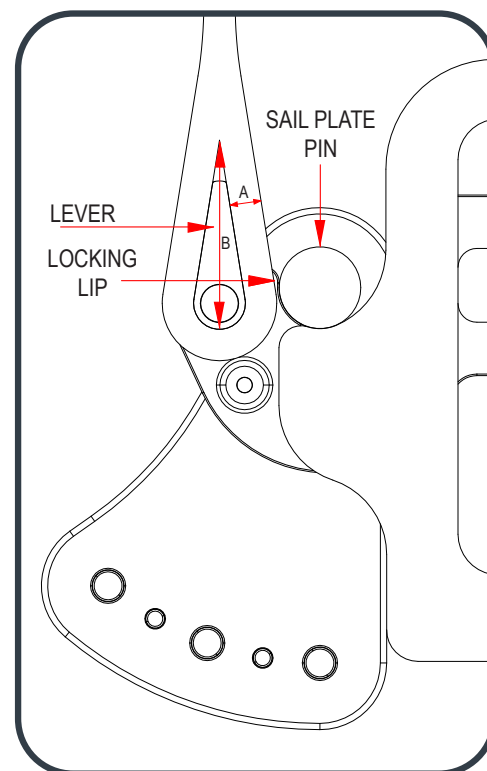


Rigging Projects Gaff Lock	(A) Max Halyard Ø (mm)	(B) Eye Splice for Lever (mm)	Max Halyard Load 80% BL (T)	Min. Gate length (mm)
RBGL2.5	8	70	3.6	265

Running Rigging

In order for the Sail Plate Pin to effectively engage into the Gaff Lock the Sail Plate Pin is levered into position with the halyard. The diameter (A) of the halyard is crucial to ensure the Sail Plate Pin can move past the locking lip.

If it is required to deviate from the stated diameter, please contact Rigging Projects to discuss a redesign of the lever.



⚠ Important: Gaff Lock Sail Plate Installation

Please find attached to your user guide pack a sail maker installation guide supplied by Rigging Projects to ensure the correct geometry for the head of the sail with the Gaff Lock sail plate.

Please note:

- The sail plate geometry is **critical** to the function of the RP Gaff Lock system
- Rigging Projects highly recommends installing an adjustable lashing system to facilitate the fine tuning of the sail head relative to the sail plate
- The head plate must be installed so the sail plate sits inline with the track
- It is **critical** the the sail cut out is clear of the headboard car
- If installed- the luff penant **must** be short enough to allow for the head to automatically disengage from the gaff lock
- The position of the trip line luff exit to should allow the sail disengage effectively

Connect Halyard to Gaff Lock

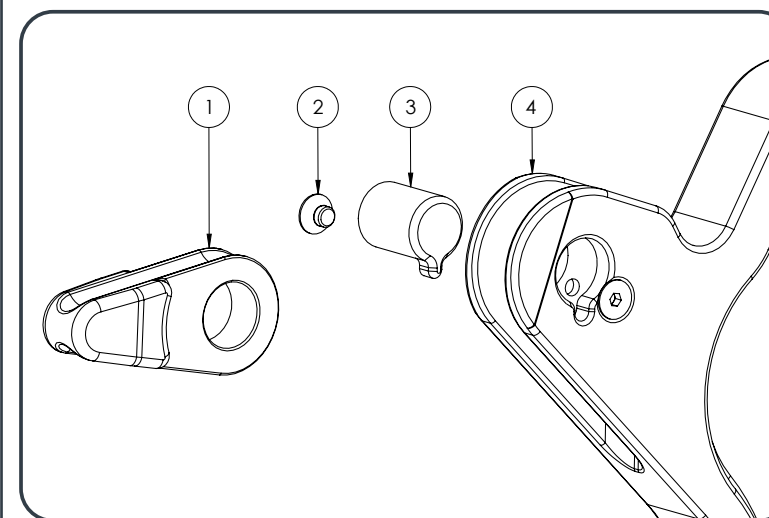


Fig. 1 Remove Thimble

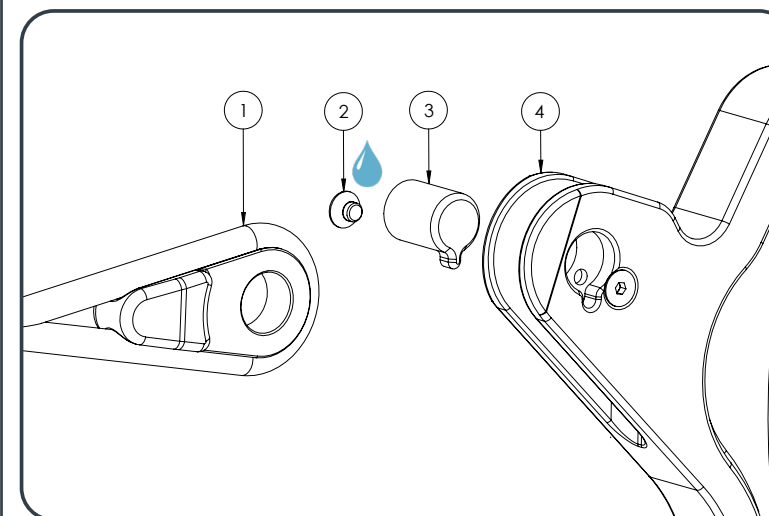


Fig. 2 Attached Thimble with Halyard

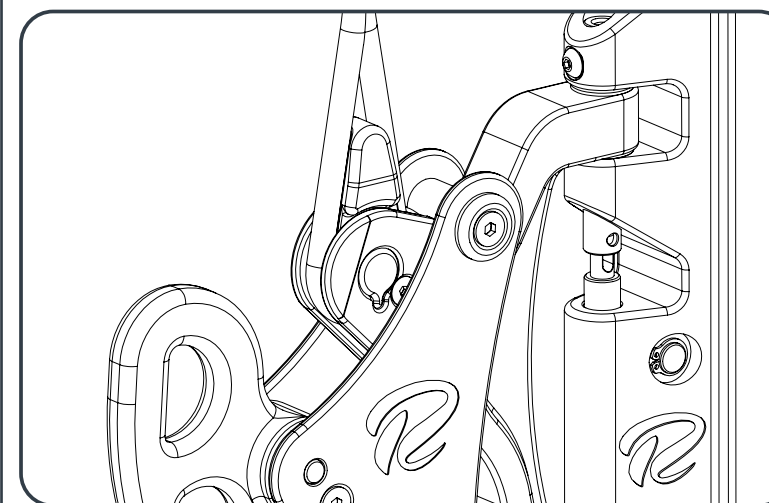


Fig. 3 Sail Plate Engaged

1. Remove halyard pin fastener ②
2. Remove main halyard pin ③
3. Remove thimble ① from gaff lock ④
4. Secure spliced halyard eye to thimble ①

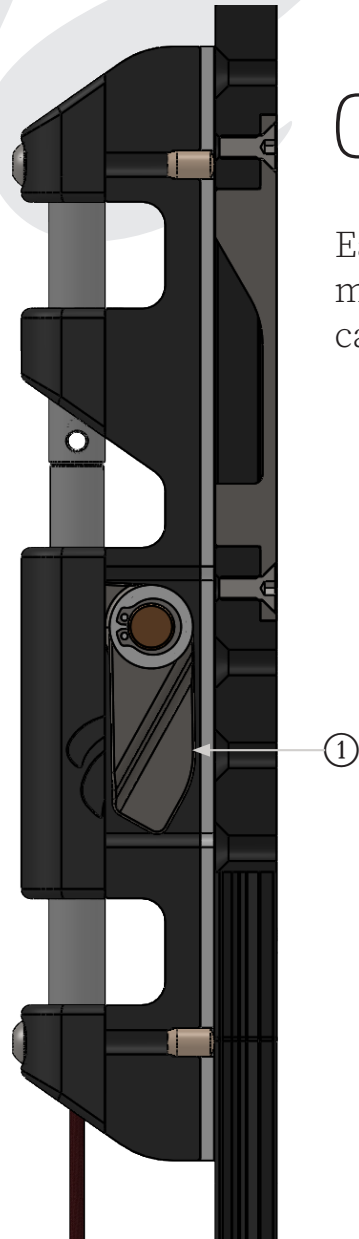
5. Thread the halyard eye fitted with the thimble ① through the sail plate ⑨ fitted to the sail (fig.2)

6. Install thimble ① in between gaff lock cheeks ⑤
7. Insert pin ③, rotate until it is seated and secure with fastener ② with a few drops of blue Loctite 423 💧

On The Lock

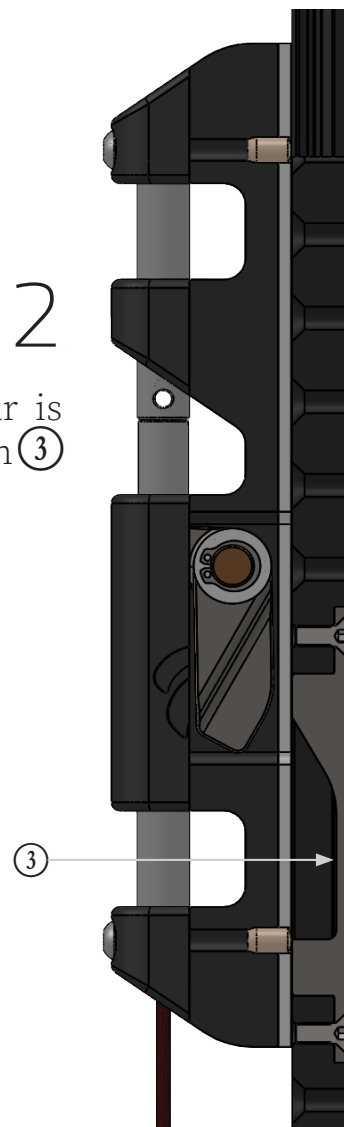
01 During Hoist
Pawls Retracted

Ease main sheet, vang and tack tension before manoeuvre. The pawl ① is retracted into the main car body.



Over Hoist 02

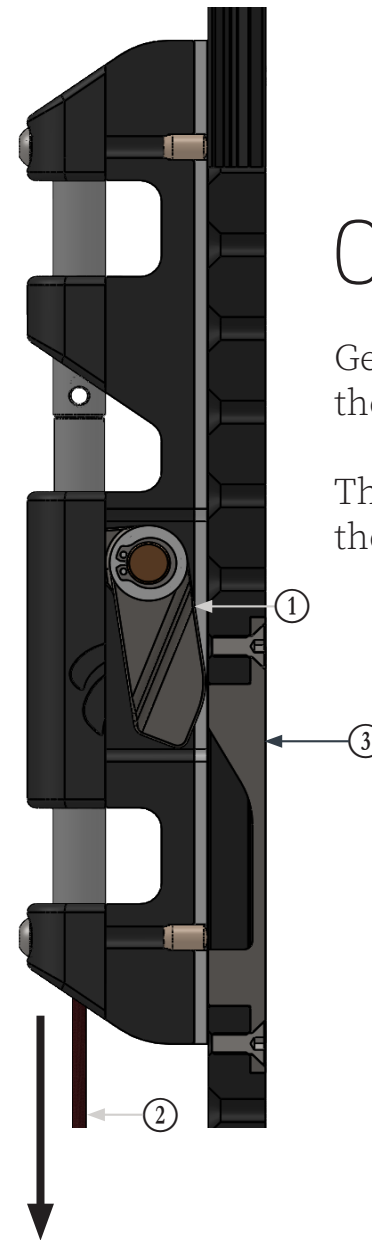
Hoist the halyard until the car is above the high load track section ③



03 Engage Trip Line

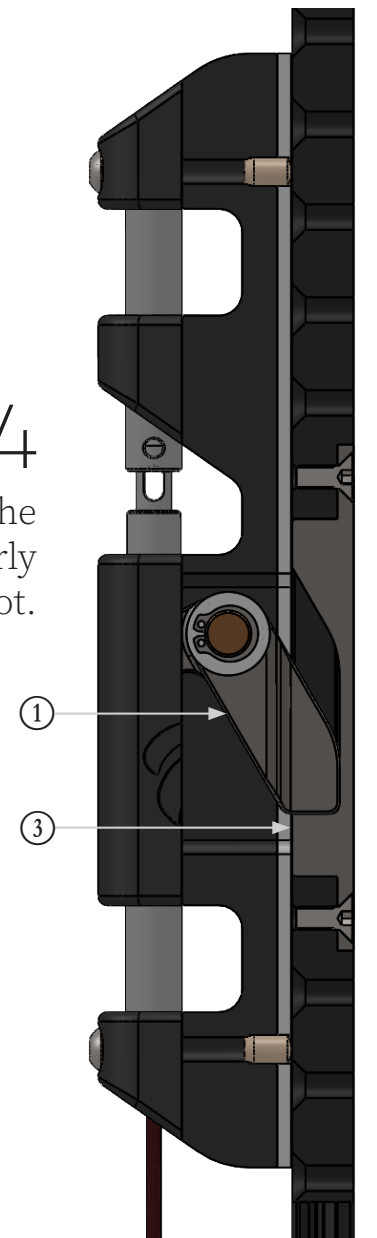
Gently pull on the trip line ② while **slowly easing** the halyard to activate the pawl ①

The mechanism causes a chain reaction to activate the pawl ① into the high load track section ③.



On the Lock 04

There will be no weight on the halyard if the pawl ① is properly engaged. Repeat the process if not.

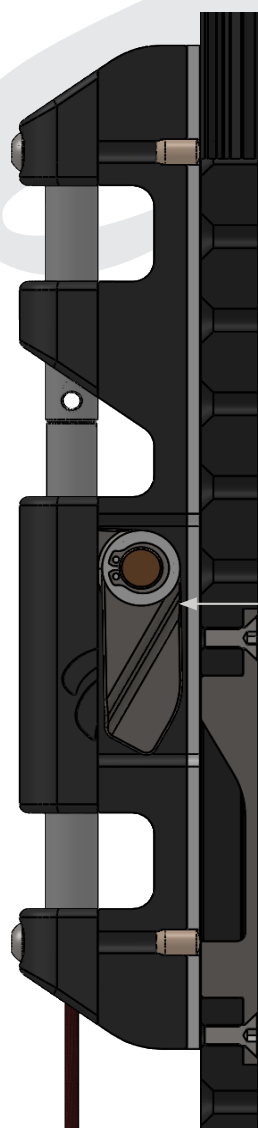


Important

Due to the nature of mechanism for the manual trip line it is important the line is **free to run** if not in use.

Please ensure the halyard is stowed appropriately so that there is no risk of entanglement in the event of mechanical failure and the sail drops unexpectedly.

Off The Lock



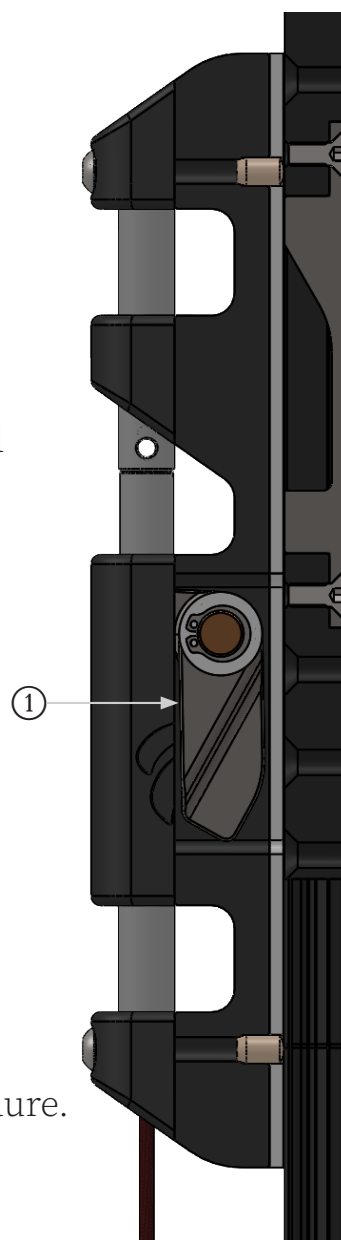
01 Over Hoist

1. Ease main sheet, vang and tack tension before manoeuvre
2. Hoist the halyard

During the hoist the pawl automatic retracts is disengaged from the highload track section.

02 Halyard Ease

1. Ease the halyard to drop the sail



Important

The manual trip line must be **free to run**.

Reefing

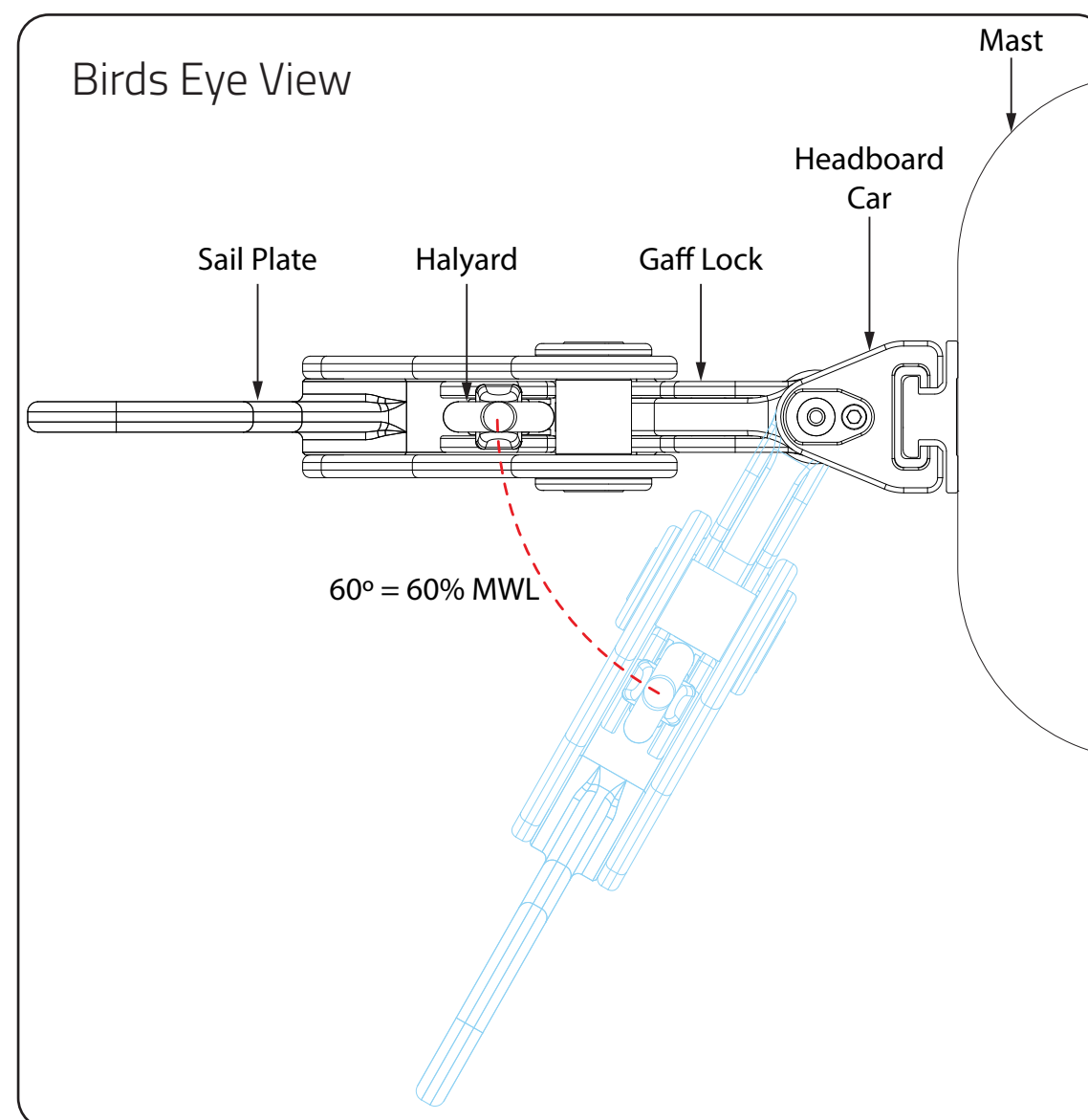
To reef the sail, please follow the same 'On The Lock' procedure.

1. Over hoist the car above the high load track section
2. **Slowly ease** the halyard to next reef point
3. Gently pull the trip line to engage the pawl as per page 7

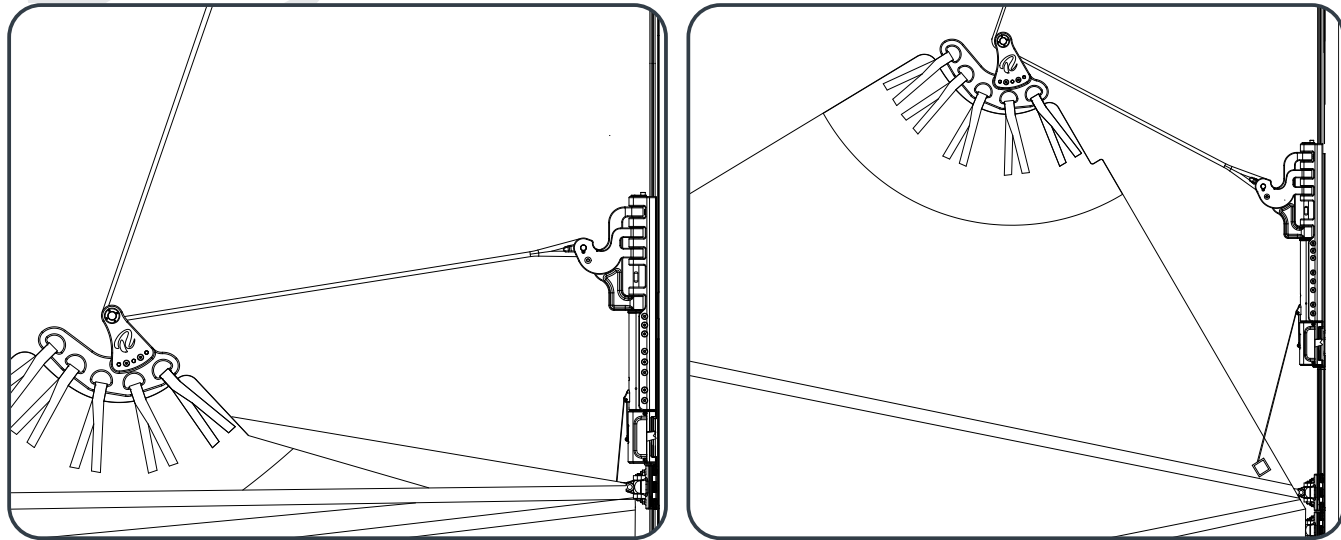
Headboard Car Load Diagram

Rotation from Center	% of Maximum Working Load
0°	100%
15°	100%
30°	85%
45°	70%
60°	60%
More than 60°	Not advised
105°	Maximum Rotation

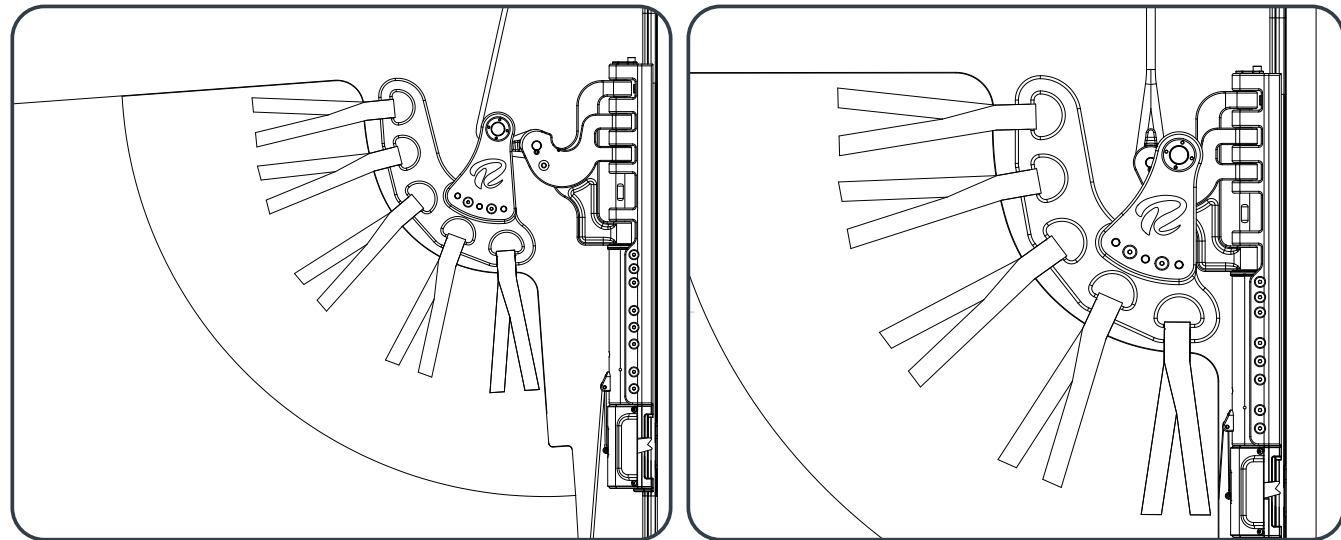
This diagram shows the operating range of a mainsail headboard car relative to the boat's centerline. As the headboard car rotates away from the centerline, its load capacity decreases.



Gaff Lock On the Lock

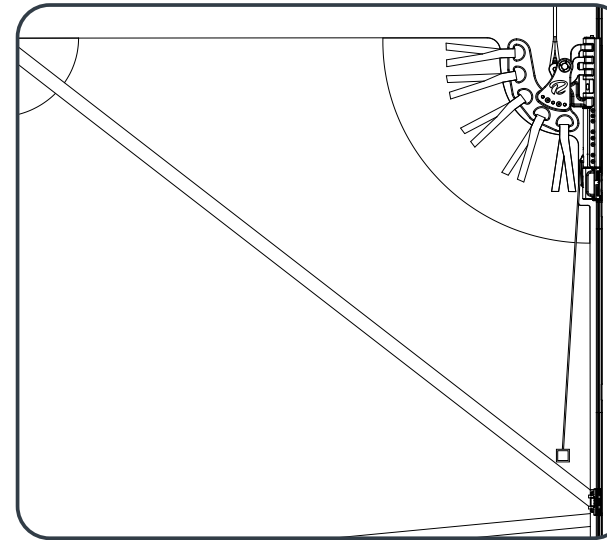


1. During the initial hoist the 2:1 system engages with the Gaff Lock sail plate and lifts the head of the sail away from the sail stack on the boom
2. The halyard will engage with the gafflock and hoist the headboard car to meet the sail plate

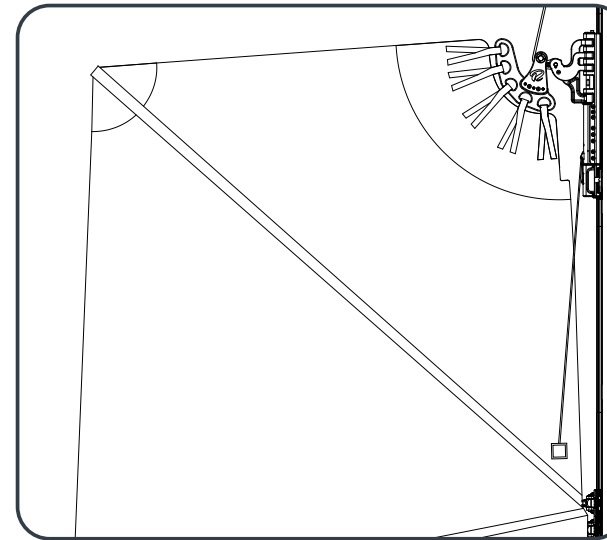


3. The sail plate will slide onto the lever and engage with the gaff lock
4. During the hoist the sail plate will automatically lock into position under the weight of the sail

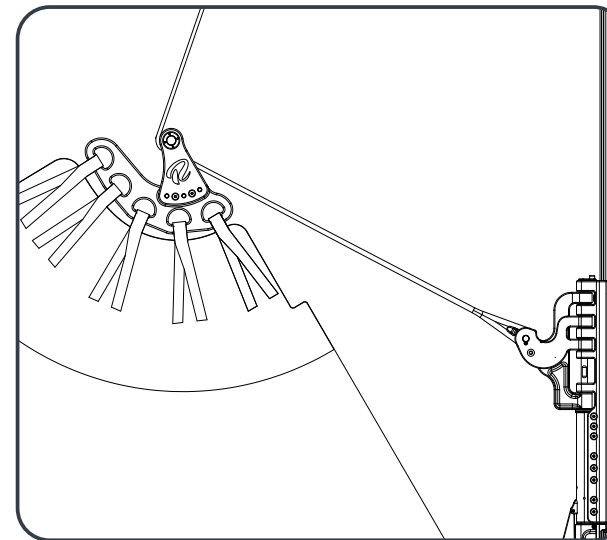
Gaff Lock Off the Lock



1. During the dropping of the sail the sail plate will be locked in the gaff lock until the baton car engages with the car stack at the base of the mast



2. The gaff baton then forces the sail plate to disengage from the gaff lock



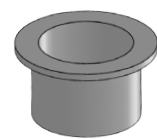
3. The head of the sail is now able to be eased onto the sail stack

Inspection Intervals

During each interval please carry out preceding inspection advisories

Interval	Advisories
Inshore Racing Daily Inspection	Visual inspection over the body for signs of wear and tear
	Ensure all fasteners are secure of the high load track section, sail plate and the main car
	Rinse thoroughly with fresh water
	Inspection of top of car for deformation
Offshore Sailing or 2 Months or 2500nm	Inspect the top hat bushings of the sail plate for signs of wear and tear
	Inspect the upper and lower pin for alignment and deformation
	Check the sail plate is free to rotate on the upper & lower pins
	Check for chafe on the trip line
2 years or 35,000nm	Send back to Rigging Projects HQ for full inspection

Serviceable Parts



Sail Plate Top Hat Bushings
Please note: Do not remove these until you have received new parts

Please contact Rigging Projects customer support for assistance with replacing parts.

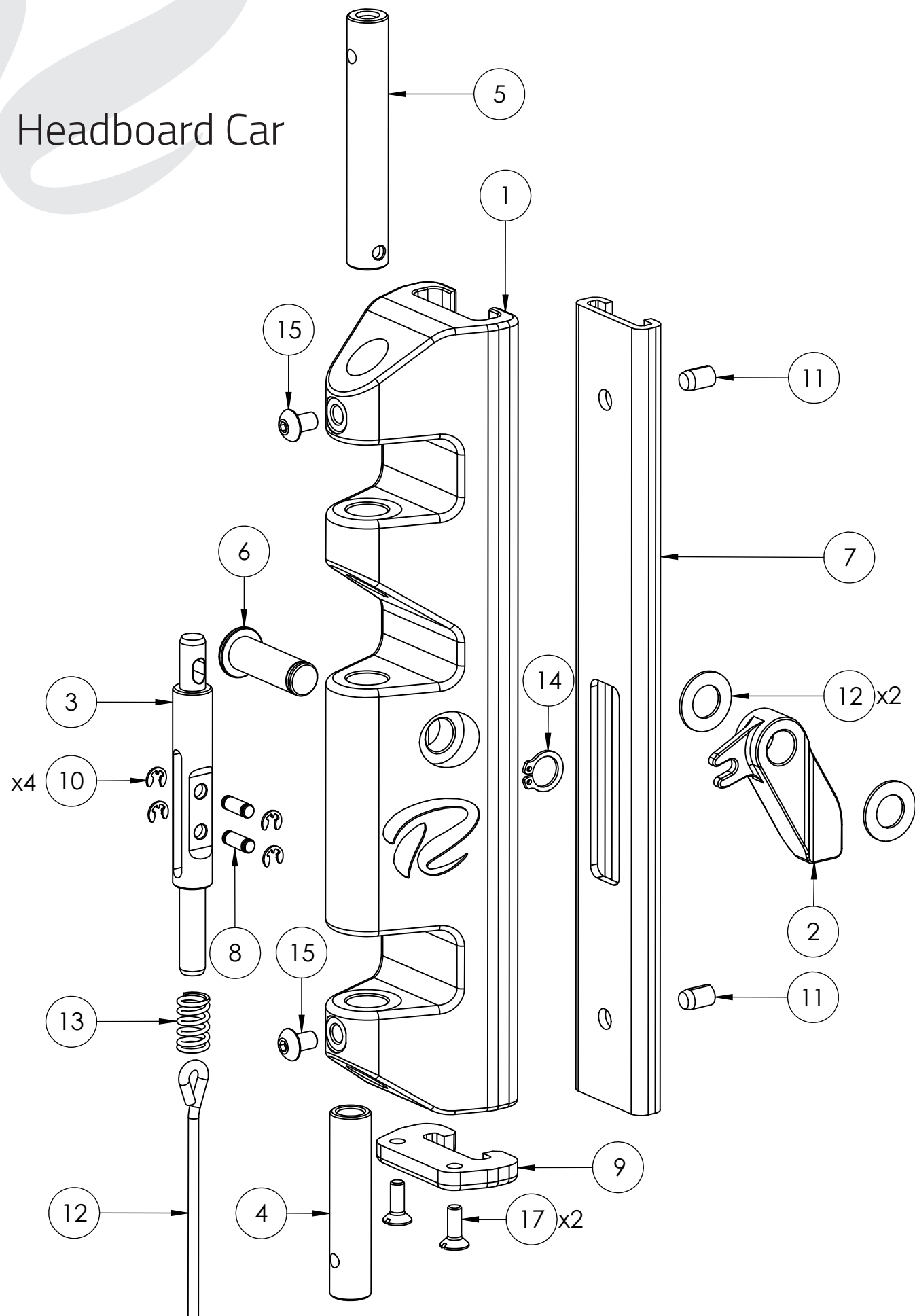
Troubleshoot

Problem	Probable Cause	Solution
Car binds on track	Slider damaged or missing	Check or replace slider and dowels
	Track misaligned	Check alignments on track
	Track fasteners protruding	Check all track fasteners are properly secured
Car jams when hoisting	Headboard is catching on running rigging e.g. lazy jacks, reef lines and halyard	Use topping lift to hold boom and pull lazy jacks forward if possible
Luff on sail is loose and car is engaged	Check range of Cunningham and luff length	Adjust Cunningham or luff length
Luff of sail is tight and not engaging	Incorrect set up of control lines	Mainsail tack should be eased, or consider floating tack car instead of lashing
Car is not locking	Trip line damaged	Check trip line is activating lever and replace if necessary (Should be carried out by qualified personnel)
	Trip line under tension	Ensure the trip line is not snagged
	The car is not moving past the high load track section	Ensure the halyard marks are correct and the car has reached the appropriate height
Car is not unlocking	Manual trip line is under tension and forcing the pawl to engage	Go aloft to visually inspect the manual trip line is slack

Important

Rigging Projects equipment is designed for minimal maintenance, but some maintenance is required for optimum and safest possible operation and to comply with the Rigging Projects limited warranty. In general, the most important aspect of maintenance is to keep your equipment clean by frequently flushing with fresh water. In corrosive atmospheres, stainless parts may show discolouration around holes and screws. This is not serious and may be removed with a fine abrasive. Exposure to some caustic solutions can result in discolouration of part and is not covered under the Rigging Projects warranty.

Headboard Car



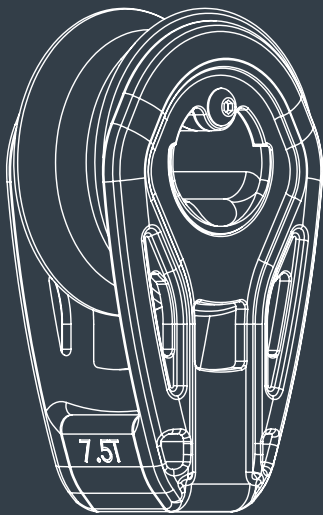
Parts List

Item #	Description	Qty
1	MAIN CAR BODY - HB2.5	1
2	PAWL - HB2.5	1
3	PAWL SHAFT - HB2.5	1
4	LOWER PIN - HB2.5	1
5	UPPER PIN - HB2.5	1
6	PAWL PIN - HB2.5	1
7	SLIDER - HB2.5	1
8	PIN - TRIP LINE	2
9	RUBBER BUFFER	1
10	E CLIP	4
11	6 x 10 DOWEL PIN	2
12	THRUST WASHER	2
13	COMPRESSION SPRING	1
14	CIRCLIP FOR SHAFT	1
15	M5 x 8 SOCKET BUTTON HEAD SCREW	2
17	M4 x 12 SLOTTED CSK HEAD SCREW	2

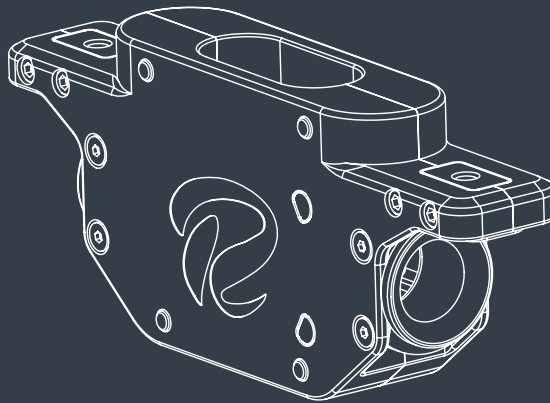
Customer Support

Info@riggingprojects.com

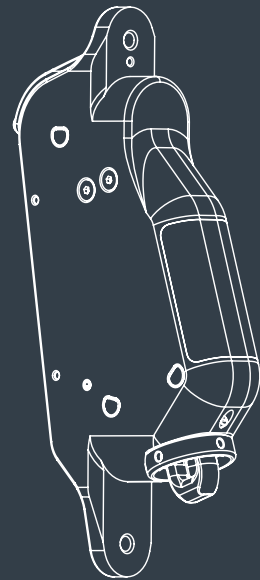
+44 23 8045 6358



X- Glide Range



Internal Lock Range



Fwd Lock Range

Newport RI, USA

Southampton, UK

Zaandam, Netherlands

Palma de Majorca, Spain

AHEAD OF THE CURVE

-  Project Management
-  Sail Handling
-  Hardware
-  Textile Solutions
-  Service
-  Custom