

HARKEN®

Integral Backstay Adjuster

Installation and User Manual



Please read these instructions carefully before using or servicing the equipment.
This manual may be modified without notice. See: www.harken.com/manuals for updated versions.

PLEASE SAVE THESE INSTRUCTIONS

Introduction

This user manual contains important information for the correct use of the Harken integral hydraulic backstay adjuster. Read all instructions carefully before use. If you do not understand these instructions, contact Harken. Do not use the integral backstay adjuster unless you have a sufficient level of sailing training and experience.



WARNING! Strictly follow all instructions to avoid an accident, damage to your vessel, personal injury, or death. See harken.com/manuals for additional safety information.

Intended use

The Harken integral hydraulic backstay adjuster is designed for use on sailboats 30 - 60' (9 -18 m). When ordering, always have your choice confirmed by a Harken representative or other sailing professional. The limited warranty does not cover use of product outside of normal sailboat applications.

Features

Built-in, single-acting pump.

Two handle attachment options:

- 1) roll pin to locks the handle permanently,
- 2) roll pin can be left off handle; insert handle when needed

Position indicator for repeatable tension settings

Part ordered separately:

Standard eye/jaw toggle



WARNING! Hydraulic adjuster cylinders are capable of exerting very high loads and can break associated components. Inspect all standing backstay and forestay rigging components to ensure they are in good condition. Failure to inspect components may result in sudden breakage at high loads.

Part No.	- Size	Max wire Ø		Stroke		Pin center length (closed)*		Weight**		Gap/pin Ø		Pull force ‡	
		in	mm	in	mm	in	mm	lb	kg	in	mm	lb	kg
HCI006BCC	-6	7/32	5.5	14.7	360	30	762	8.36	3.79	7/16	11.1	3770	1710
HCI010BCC	-10	9/32	7	14.7	360	30	762	8.36	3.79	1/2	12.7	4710	2136
HCI012BCC	-12	5/16	8	14.7	360	30	762	9.72	4.41	5/8	15.9	6710	3043
HCI017BCC	-17	3/8	9.5	14.7	360	30	762	9.72	4.41	5/8	15.9	8390	3808

*For pin center length open (PCLO) add stroke length to pin center length closed. **Rod ends (forks) included in weights.

‡ Relief valves are preset to limit max tension (pull force) to recommend rigging loads and cylinder design limits. Each cylinder provides a specific max pull force.

Installation

Tools required

- Hex driver, 3 mm
- Blue Loctite[®] 242

Installation

Review all instructions carefully prior to installation of your new integral backstay adjuster.

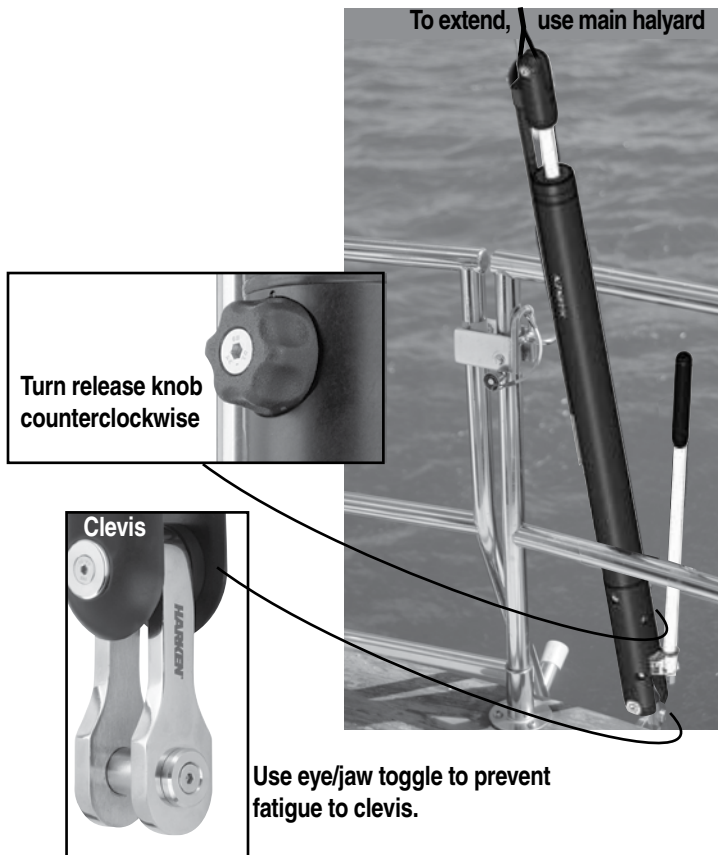
1. Carefully unpack the adjuster and check for visible defects. If any signs of damage are present, contact your dealer at point of purchase or Harken.

2. Extend adjuster to prepare for installation and to measure backstay length.

Turn release knob counterclockwise completely. Attach the bottom (end) clevis to the deck, and attach the upper (rod) clevis to the main halyard.

Pull rod clevis as necessary to fully extend the adjuster. **Note:** the unit does not have a built in return force. You will need to apply force to open unit. When adjuster is extended, detach from deck and main halyard.

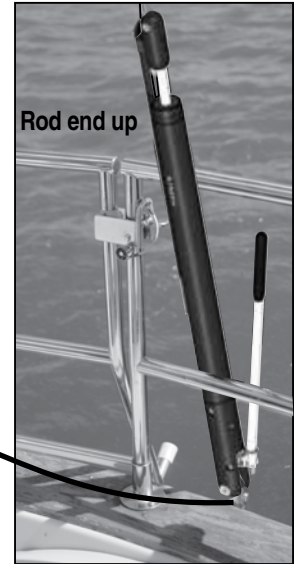
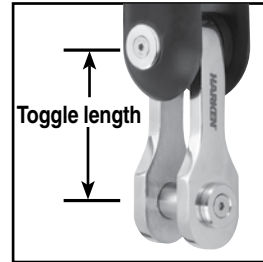
IMPORTANT! Be sure to include toggle length in adjuster length for deduction from stay.



Installation

3. Check installation site for clearance.
Attach a standard eye/jaw toggle to the adjuster's bottom clevis before securing to the chainplate.
 - Eye/Jaw toggle pins have different orientation to accommodate both fore/aft and athwartships stay movement so clevis doesn't fatigue during use.
 - Standard toggles fit all Harken adjusters.
4. Mount adjuster rod end up. When mounting, orient pump handle to your preference.
5. Attach adjuster to backstay.
 - Use 3 mm hex driver to remove screw from clevis pins.
 - Attach lower clevis to eye/jaw toggle.
 - Attach toggle to chainplate.
 - Open the release valve and extend the adjuster.
 - Attach upper clevis to backstay.
6. Use blue 242 Loctite® when installing screws to prevent loosening.

Loctite is a registered trademark of Henkel AG & Company KGaA.



Bleed Pump

Harken integral backstay adjusters are cycled and tested at factory, however, oil can become displaced inside adjuster during shipment or storage.

1. With adjuster in vertical position, rod end up, fully extend the adjuster.
2. Open release valve by turning counterclockwise and pump handle for one (1) minute. When complete, the pump and adjuster are bled.

Operation

Follow these simple steps for adjuster operation.

Increase tension

1. Turn pressure release knob clockwise to close. Close to hand tight only. It is impossible to damage the valve by hand. **IMPORTANT! Using vise grips or pliers to apply excessive force can cause damage.** The resting position for the pressure release knob is closed.
2. Move pump handle in and out until desired tension is achieved.

Decrease tension

Turn release knob counterclockwise to open. Release speed depends on how far the knob is turned.



IMPORTANT! Backstay adjusters can overload jib halyard and jib luff components including furlers. Be sure to check and/or ease jib halyard before tensioning backstay.



Operation

Relief valve settings

The adjuster relief valve is preset at our factory to limit the tension to the maximum load of the recommended cable of the rigging for which it is used. Each adjuster cylinder is set to provide a specific maximum pull force.

IMPORTANT: If relief valve setting is readjusted higher than factory setting, overloading issues may occur and warranty may be voided.

Position indicator

The fiberglass position indicator provides easy visual reference to duplicate desired tension settings. For replacement position indicator assembly, order part number H-85275.

Handle roll pin

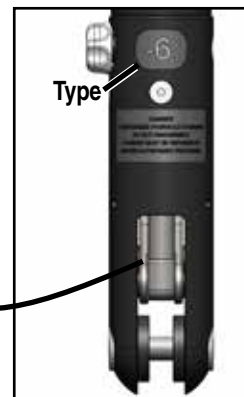
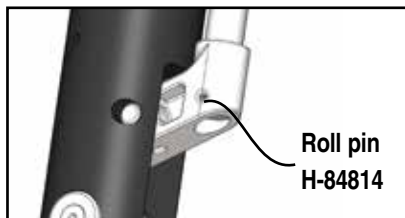
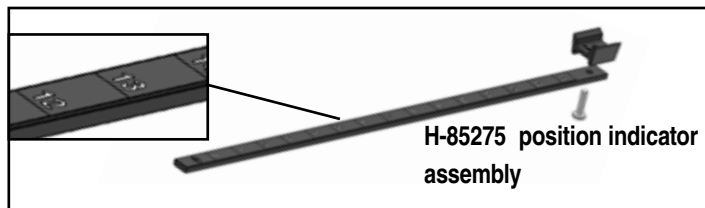
Lock the handle in place by tapping the roll pin in place. The roll pin can be left off the handle to use the handle when needed.

Cleaning

Clean visible areas using soap and water solution. Rinse with fresh water.

FACTORY-SET MAXIMUM PULL FORCE BY ADJUSTER

Type	Adjuster Part No.	Maximum Pull Force	
		lb	kg
-6	HCI006BCC	3770	1710
-10	HCI010BCC	4710	2136
-12	HCI012BCC	6710	3043
-17	HCI017BCC	8390	3808



Inspection

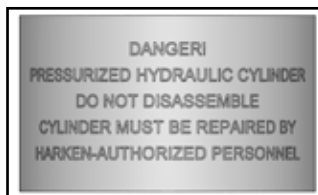
Perform a visual inspection of the integral backstay adjuster prior to each use to ensure clean, unobstructed working conditions.

Cylinder care and maintenance

The Harken integral backstay adjuster should give years of reliable service. If it is properly bled, and clean environment is maintained, no regular maintenance is required. Seals should be changed every ten years (dependent on use) unless adjuster eases without pressure relief valve releasing the pressure first. If you experience any problems with your Harken integral backstay adjuster, contact your Harken service representative.



DANGER! The Harken integral backstay adjuster is a pressurized hydraulic cylinder. Do not disassemble. Cylinder must be serviced or repaired by Harken-authorized personnel.



Harken warrants that each Harken product, when properly used and maintained, will be free from defects in material and workmanship from the date of receipt of the product by the final customer. Harken products are covered by two different kinds of warranties, on the basis of the purchaser and use made of them.

For complete warranty or for information relating to a specific warranty concern, please refer to the following:

Harken Catalog,

Website: <https://www.harken.com/en/worldwide-limited-professional-customer-warranty/>

Call or email the nearest Harken distributor or Harken corporate headquarters.



Corporate Headquarters

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for an up-to-date list of Harken dealers and distributors**