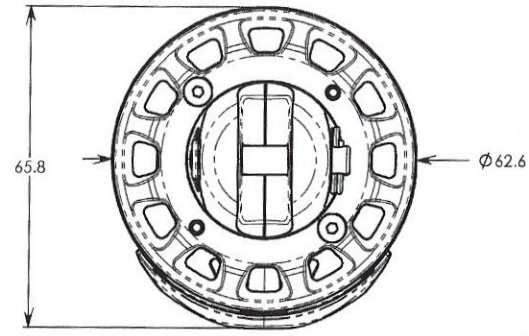
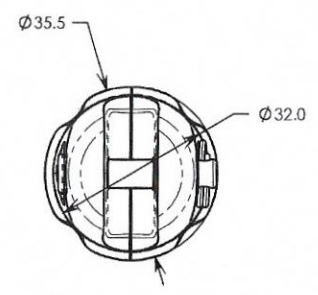


Hunter 216 asymetrical Spinnaker top down furler						
Manufaturer	Model	SWL lbs	MSRP	Best price	Notes	Website
CDI					Discontinued product line several year ago	
Harken	Reflex unit 1	3300	\$2,318.00	\$1,941.00	Propreitary torsion, T fitting allow detach of drum	https://www.harken.com/productdetail.aspx?sku=7351.10.20m
Karver	KSF 1	3000	\$1,980.00	\$1,880.00	Drum lock, detachable torsion rope	https://www.karver-systems.com/en/?option=com_opencart&Itemid=263&route=product/product&path=1_469_473&product_id=1224
Facnor	FX+ Fast 1500 ?		\$1,499.00	\$1,170.00	No torsion cable included	http://www.facnor.com/uk/products/asymmetric_spinnaker_thim/default.asp
Profurl	Spinex 0.9	1900	\$2,049.00	\$1,430.00	Propreitary torsion spheres, detachable drum	https://www.profurl.com/fiche-A%7CPROFURL%7CSPINEX09-020301000000000-theme-UK.html
Selden	GX 7.5	1700	\$1,734.00	\$1,210.00	drum and furling line removed with torsion cable	http://www.seldenmast.com/en/products/code_0_and_gennaker_furling.html
Colligo	CN1.5S	3000	\$1,661.00	\$905.00	No torsion cable included	https://www.colligomarine.com/products/top-down-spinnaker-furlers
Ronstan	Series 80	2090	\$1,037.00	\$881.00	furling line easily removed, unsure if torsion cable included	https://www.ronstan.com/marine/furlers.asp
Comparison of Ronstan and Harken Line drive systems						
	Ronstan	Harken				
Price	\$350	\$716	(furler,top swivel,snap shackle and line)			
MWL	650kg	431kg				
Drum diameter	66mm	73mm				
Height Pin to Pin	52mm	68mm				
Jaw size	8.6mm	8mm				
Max line	5mm	5mm				

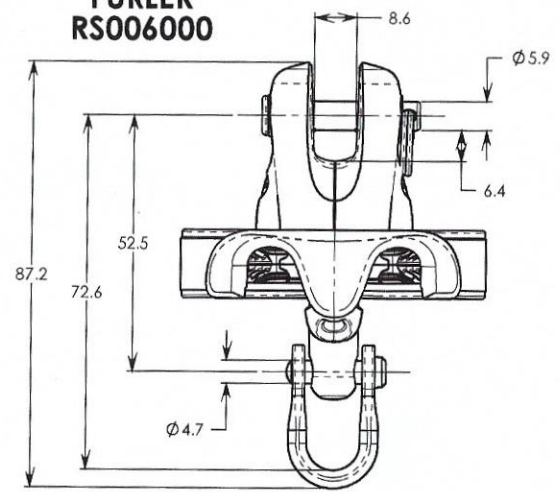
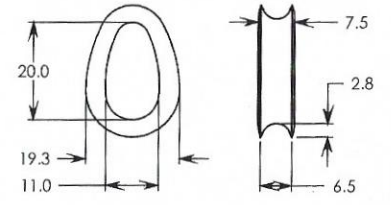
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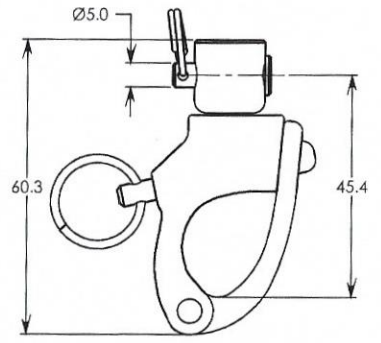
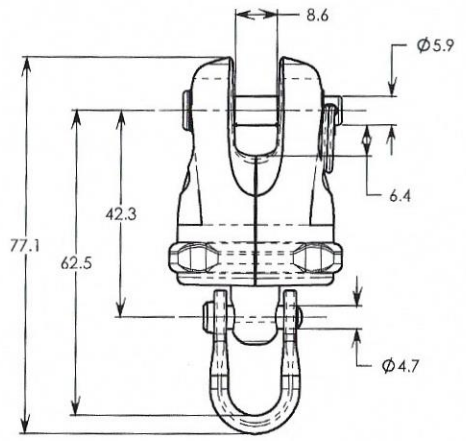
**FURLER
RS006000**



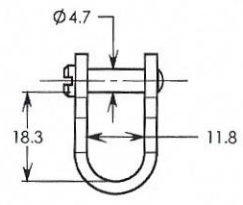
**THIMBLE
RF2181**



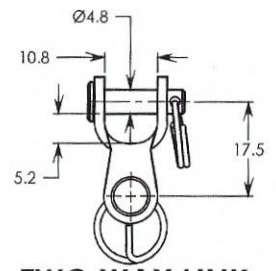
**TOP SWIVEL
RS006010**



**SNAP-SHACKLE
RF6170**



**SHACKLE
RF150**



**TWO WAY LINK
RF815**

**SPECIFICATIONS: SMALL BOAT GENNAKER
FURLER**

- RS006000 - FURLER**
 - MWL = 650kg (1430lb)
 - BL = 1300kg (2860lb)
 - WEIGHT = 138g (4.9oz)
 - FURLER LINE Ø = 4-5mm (5/32"-3/16")
 - SHACKLE = 5mm (3/16")
- RS006010 - TOP SWIVEL**
 - MWL = 650kg (1430lb)
 - BL = 1300kg (2860lb)
 - WEIGHT = 84g (3.0oz)
 - SHACKLE = 5mm (3/16")
- RS000001 - SERIES 60 FURLER PRE-SPICED LINE**
 - DIAMETER = 5mm (3/16")
 - PRE-SPICED LENGTH = 8m (26ft)

ACCESSORIES:

- RF6170 - SNAP SHACKLE ADAPTER**
 - MWL = 500kg (1100lb)
 - BL = 1000kg (2200lb)
 - WEIGHT (RF6170) = 49g (1.7oz)
 - WEIGHT (RF6171) = 62g (2.2oz)
- RF150 - SHACKLE**
 - BL = 1500kg (3300lb)
 - WEIGHT = 10g (0.4oz)
- RF815 - TWO WAY LINK**
 - BL = 1100kg (2425lb)
 - WEIGHT = 14g (0.5oz)
- RF2181 - SAILMAKER THIMBLE**
 - MATERIAL = SS316
 - WEIGHT = 5g (0.2oz)

THE DOCUMENT & THE DESIGN ON IT IS THE EXCLUSIVE PROPERTY OF RONSTAN INTERNATIONAL PTY. LTD. & IS THE SUBJECT OF COPYRIGHT.



DATE: 13/04/11
ALL DIMS IN MM
DO NOT SCALE

www.ronstan.com

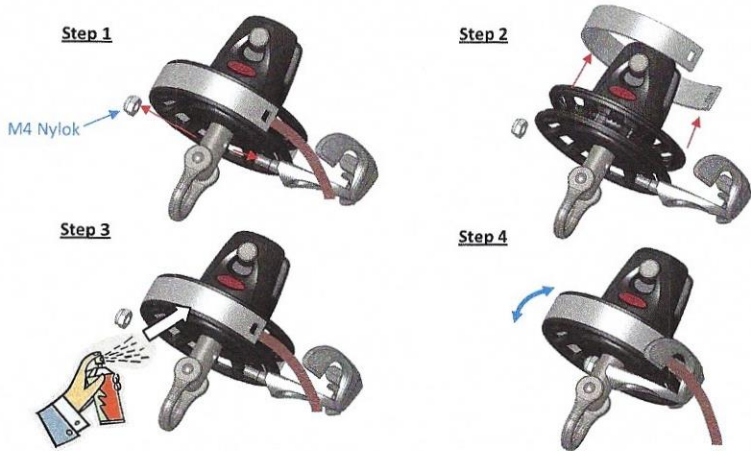
S60 Furler Maintenance Manual



I - FURLING LINE REPLACEMENT:

- RS000001 – 8m (26ft) pre-spliced continuous loop.
- RFSPLICE-1 – Splicing needle can be purchased if a custom length is required. Cut the RS000001 loop and re-splice.
 - Refer to next page for splicing instructions.

What you will need: Spanner to suit M4 (5/32") nut, Silicon lubricant spray (eg: Ronstan Sailfast RF3000).



NOTES:

- Remove the M4 Nylok nut holding the Stainless Steel guide to the furler shaft.
- Slide out the guide from the shaft allowing the PTFE strip to come free.
- Replace the furling line with the RS000001 new pre-spliced continuous furling line.
- Spray Ronstan Sailfast or similar silicon based lubricant in to the groove in the plate to ensure smooth operation.
- Re-connect the guide to the shaft ensuring that the 2 bosses on the guide push in to the matching cutouts in the PTFE strip.
- Swivel the drum by hand to check that the drum spins freely over the PTFE strip.

Two Cam cleats can be used to keep the furling line tight when not in use and keep the sail from unfurling.

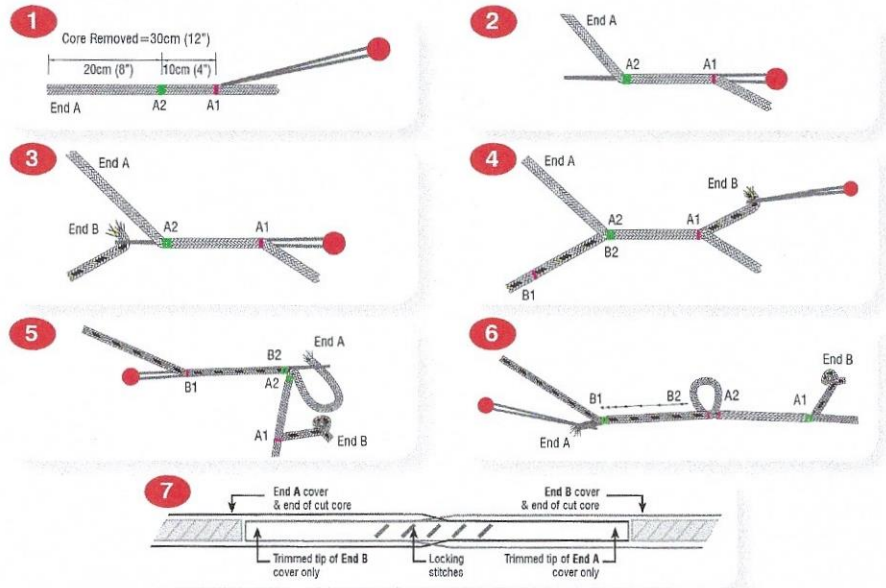
II-Maintenance:

- Rinse regularly with fresh water to remove salt.
- Apply Ronstan RF3000 Sailfast (or a similar silicon based lubricant) over the body and components to enhance performance and prolong service life.
- Replacement, continuous furling line loops are available, order part number RS000001.

III – SPLICING INSTRUCTIONS:



You will need:
 Ronstan supplied splicing needle
 Sharp knife
 Marker pen
 Tape measure
 Wipping twine & needle



Series 60 Gennaker Furler – Continuous furling line splicing instructions

1. Cut the over length continuous furling line either side of the existing splice.
2. Cut to required length plus 40cm (15 3/4").
3. At each end:
 - 3.1. Pull the core out and cut off 30cm (12") of core.
 - 3.2. Milk the cover back over the core until there is no slack in either core or cover.
 - 3.3. The point where the core ends inside the cover should now be about 30cm (12") from the end of the cover.
 - 3.4. Mark the cover where the core now ends (A1), and also mark it 10cm (4") further toward the end (A2) (Diag. 1).
4. Insert splicing needle into End A at A1 & out at A2 – be careful not to enter or exit through the middle of a plait (Diag. 2).
5. Insert 3-5mm (1/8 – 3/16") of End B into the splicing needle (the less line through the needle the easier it will be to pull back through the cover) (Diag. 3).
6. Gently pull End B through the cover of End A and out at A1 of End A, until A2 & B2 on both ends are together (Diag. 4).
7. Tie a figure 8 knot in the end of End B.
8. To complete the second half of the splice repeat steps 4-6 (interchanging End A and End B) (Diag. 5).
9. Massage each cover between A1 and B1, drawing the ends through (by pulling on the knots) until there is no slack. The finished line should be smooth at A1 & B1 and the diameter less than 6.4mm (1/4") – required for proper operation in the furler (Diag. 6).
10. Mark the knotted end of each cover where it exits the other cover.
11. Slide the outer cover back slightly and cut the inner cover off about 2mm (1/16") short of the mark.
12. Work the outer cover back until the tip of the inner cover disappears into the outer cover. Ideally the inner cover will butt up against the end of the core that we trimmed in step 2 and we will have a nice consistent line diameter all the way through (Diag. 7).
13. Make a few locking stitches from A2-B2.

*Colour markings used for identification purposes only.



HOME > HARDWARE > HEADSAIL HANDLING > FURLING > SMALL BOAT FURLING



Small Boat Furling

Continuous Line-Drive Furler

\$328.10

Part No. 1134

NOT AVAILABLE ON-LINE. PLEASE CONTACT YOUR HARKEN DEALER.

Drum Ø (mm)	73 mm	Maximum luff wire Ø (in)	1/8 in
Drum Ø (in)	2 7/8 in	Maximum working load (lb)	950 lb
Maximum luff wire Ø (mm)	3 mm	Maximum working load (kg)	431 kg

The continuous line-drive furler is the perfect solution for high-performance skiffs and dinghies that use oversized jibs/genakers and for staysails on larger boats. Unlike conventional furling drums, the low-profile line-driver never runs out of line, and can completely furl any sized sail. Offset holes in the drive sheave grip line securely, with the stripper arm and feeder working together to prevent line from jamming. The line guard adjusts in 90-degree increments to accommodate attachments to the boat.

Pin-to-pin length (mm)	68 mm	Maximum luff wire Ø (in)	1/8 in
Pin-to-pin length (in)	2 11/16 in	Clevis pin Ø (mm)	6.4 mm
Drum Ø (mm)	73 mm	Clevis pin Ø (in)	1/4 in
Drum Ø (in)	2 7/8 in	Weight (g)	154 g
Maximum line Ø (mm)	5 mm	Weight (oz)	5.4 oz
Maximum line Ø (in)	3/16 in	Maximum working load (lb)	950 lb
Jaw width (mm)	8 mm	Maximum working load (kg)	431 kg
Jaw width (in)	5/16 in	Use with	164
Maximum luff wire Ø (mm)	3 mm		

Manual: [5195 Manual: Small Boat Continuous Line-Drive Furler](#) (open/save)

DWG: [1134.dwg](#) (open/save)

DXF: [1134.dxf](#) (open/save)

IGS: [1134.igs](#) (open/save)

EPS: [1134.eps](#) (open/save)

High-res JPG: [1134.jpg](#) (open/save)

- [Harken Develops Continuous Line-Drive Furler for Small Boats](#)

DO NOT use Harken equipment for human suspension unless product is specifically certified and labeled for such use.

N15W24983 Bluemound Rd.
Pewaukee, WI 53072, USA

Mailing & Delivery Information

Tel: 262.691.3320 | Fax: 262.701.5780

Email: harken@harken.com

Technical Service: technicalservice@harken.com

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Small Boat Furling

Standard Furling Swivel — 3 mm Luff Wire, Shackle

\$164.85

Part No. 1878

NOT AVAILABLE ON-LINE. PLEASE CONTACT YOUR HARKEN DEALER.

Use with furling unit **165, 477L, 1134**

Upper halyard swivels feature multiple stacked races of Torlon® ball bearings for smooth rotation under load.

Torlon is a registered trademark of Solvay Advanced Polymers L.L.C.

Pin-to-pin length (mm)	64 mm	Weight (g)	77 g
Pin-to-pin length (in)	2 1/2 in	Weight (oz)	2.7 oz
Maximum luff wire Ø (mm)	3 mm	Maximum working load (kg)	431 kg
Maximum luff wire Ø (in)	1/8 in	Maximum working load (lb)	950 lb
Clevis pin Ø (mm)	6.4 mm	Use with furling unit	165, 477L, 1134
Clevis pin Ø (in)	1/4 in		

EPS: [1878.eps \(open/save\)](#)

High-res JPG: [1878.jpg \(open/save\)](#)

DO NOT use Harken equipment for human suspension unless product is specifically certified and labeled for such use.

N15W24983 Bluemound Rd.

Pewaukee, WI 53072, USA

Mailing & Delivery Information

Tel: 262.691.3320 | Fax: 262.701.5780

Email: harken@harken.com

Technical Service: technicalservice@harken.com

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[HOME](#) > [HARDWARE](#) > [HEADSAIL HANDLING](#) > [FURLING](#) > [SMALL BOAT FURLING](#)



Small Boat Furling

Small Boat Furling Snap Shackle

\$173.40

Part No. 891

LIMITED QUANTITIES IN STOCK

Use with **163, 165, 1134, 434, 435, 483**

Use the 891 snap shackle to easily attach Small Boat furling drums to deck or sprit. Fits 163, 165, and 1134 drums and 434, 435, and 483 kits.

Weight (g)	65 g	Maximum working load (lb)	950 lb
Weight (oz)	2.3 oz	Use with	163, 165, 1134, 434, 435, 483
Maximum working load (kg)	431 kg		

EPS: [891.eps \(open/save\)](#)

High-res JPG: [891.jpg \(open/save\)](#)

N15W24983 Bluemound Rd.
Pewaukee, WI 53072, USA

[Mailing & Delivery Information](#)

Tel: 262.691.3320 | Fax: 262.701.5780

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HARKEN®

INSTRUCTIONS

1134 Small Boat Continuous Line-drive Furler

N15W24983 Bluemound Road • Pewaukee, WI 53072 U.S.A.
 Telephone: (262) 691-3320 • Fax: (262) 701-5780 • Web: www.harken.com • Email: harken@harken.com

Description, Features, and Requirements

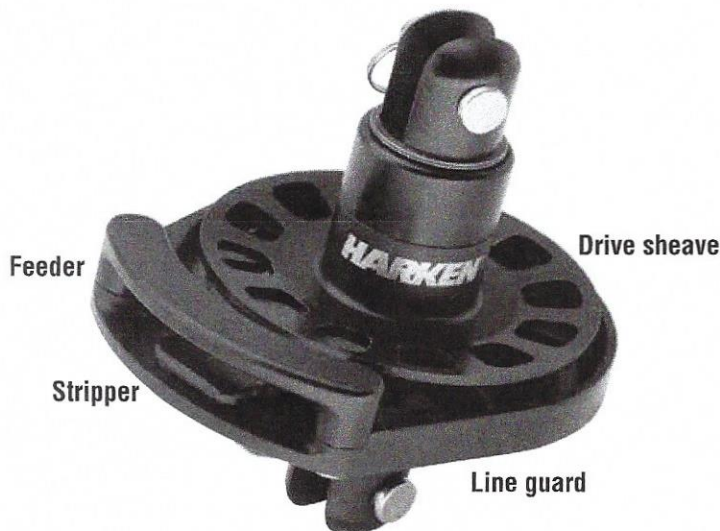
Use the continuous line-drive furler for high-performance skiffs, dinghies, sportboats, and multihulls using large jibs, reaching, and offwind asymmetrical sails. It can also furl staysails on offshore boats.

Features:

- Drive sheave furler never runs out of line and can completely furl any sized sail.
- Line is easy to install and remove from sheave without disassembly.
- Offset holes in the drive sheave grip line securely.
- Stripper and feeder work together to prevent line from jamming.
- Line guard adjusts in 90-degree increments to accommodate attachments to the boat.

Requirements:

- Sail with torsion rope or 1 X 19 counter-laid stainless steel wire sewn into the luff with thimbles that are stitched to the tack and head so they will not turn.
- 164 upper swivel
- For a hoistable jib furling system, purchase an additional 464 hoistable halyard swivel and adapter tang. See instruction manual 4350 on www.harken.com



Purchase separately



164 upper swivel

Hoistable system components



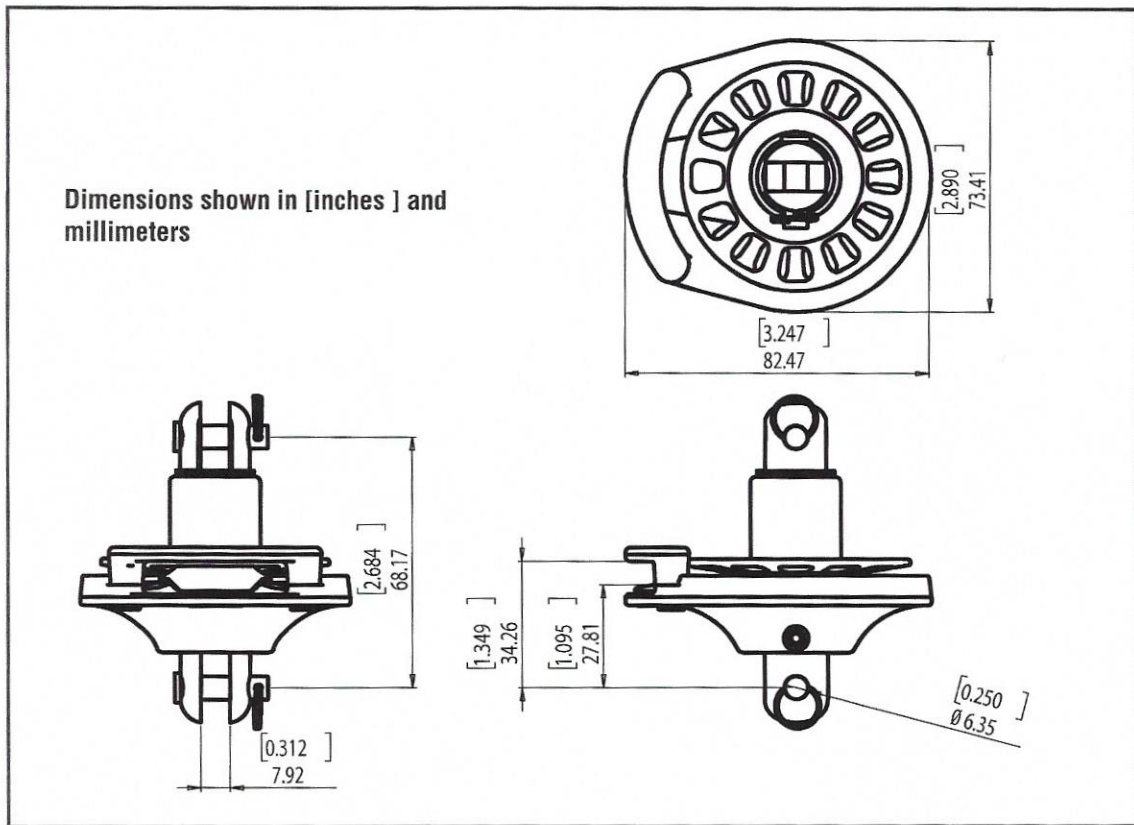
479, 480, 481 tangs

464 hoistable swivel

1134 Specifications

Pin-to-pin length		Drum Ø		Line Ø		Jaw width		Max luff wire Ø		Clevis pin Ø		Weight		Maximum working load	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	oz	g	lb	kg
2 11/16	68	2 7/8	73	3/16	5	5/16	8	1/8	3	1/4	6.4	5.4	154	950	431

Dimensions



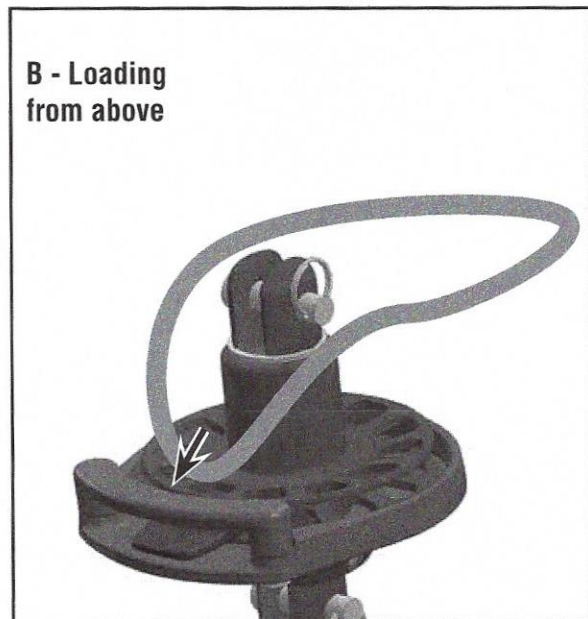
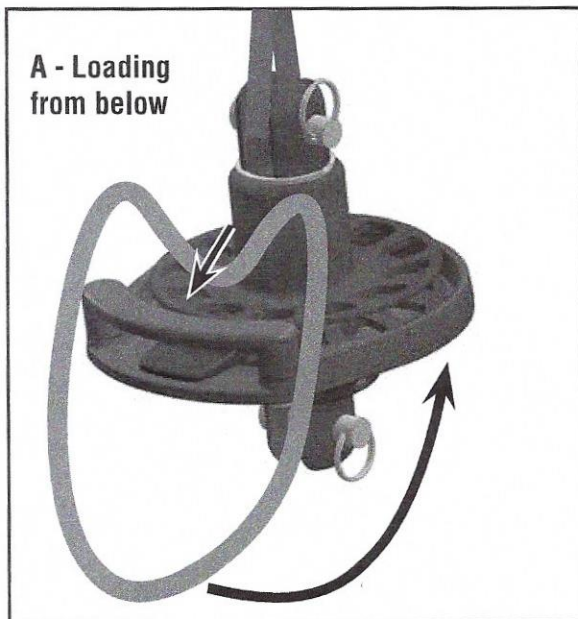
Furling Line - Type and Loading

Consult rigger for best type of continuous furling line and end-for-end splice. A smooth splice is critical for smooth furling operation.

Loading line onto furler:

- Pass one end of loop into feeder, pull through, and pass the other end under the furler.
- Pass loop into the feeder and over the top.

Press the furling line into the drive sheave.



Short continuous loop shown to illustrate loading