HOOD
YACHT SYSTEMS

700/800/900 SL

SEAFURL

MANUAL

April 97

HOOD YACHT SYSTEMS
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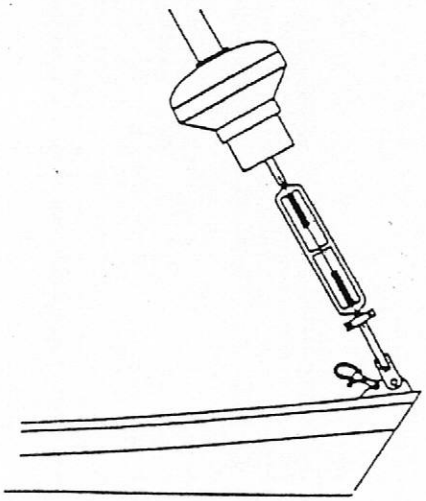
TECHNICAL INSTALLATION INSTRUCTIONS FOR LINE DRIVE TO SINGLE LINE DRIVE UNIT UPGRADE CUSTOMERS



1. Remove the sail and, using a 3/16" Allen wrench, remove the Forward Tack Socket screw so as to slide the Forward Tack Socket up.

2. Disengage the Feed Extrusion and the Aft Tack Socket from the Turnbuckle Tube; then remove the Aft Tack Socket from the Feed Extrusion so that the Extrusions slide down to rest on the turnbuckle.

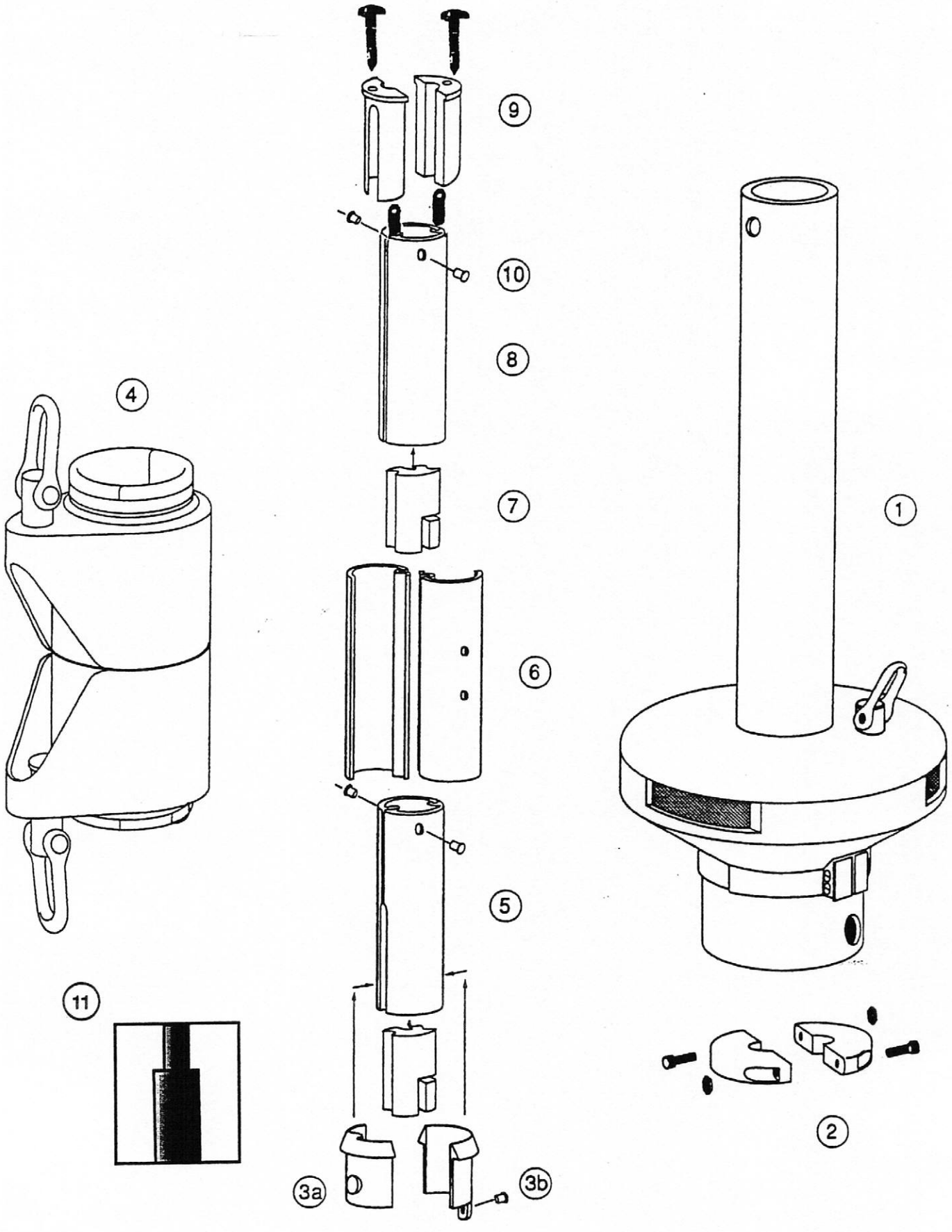
3. Remove the shackle that attaches the Drive Unit Assembly to the stemhead; attach the halyard to the Tack Shackle on the Drive Unit and raise the Assembly up over the Feed Extrusion to expose the turnbuckle.

4. Remove the tape and cotter pins and, with the appropriate tools, adjust the headstay; reverse this procedure to reassemble.

READ THIS PAGE

To insure continued satisfaction and trouble-free operation it is necessary to follow the simple guidelines listed below.

1. Rinse the bearings regularly with fresh water.
2. Watch for halyard wrap. Look up!
3. If it jams – find out why – Don't force it.
4. Treat this unit like any other equipment – inspect it regularly.
5. If any problem persists, call your dealer.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3a
3b

SEA FURL SL CHECK LIST

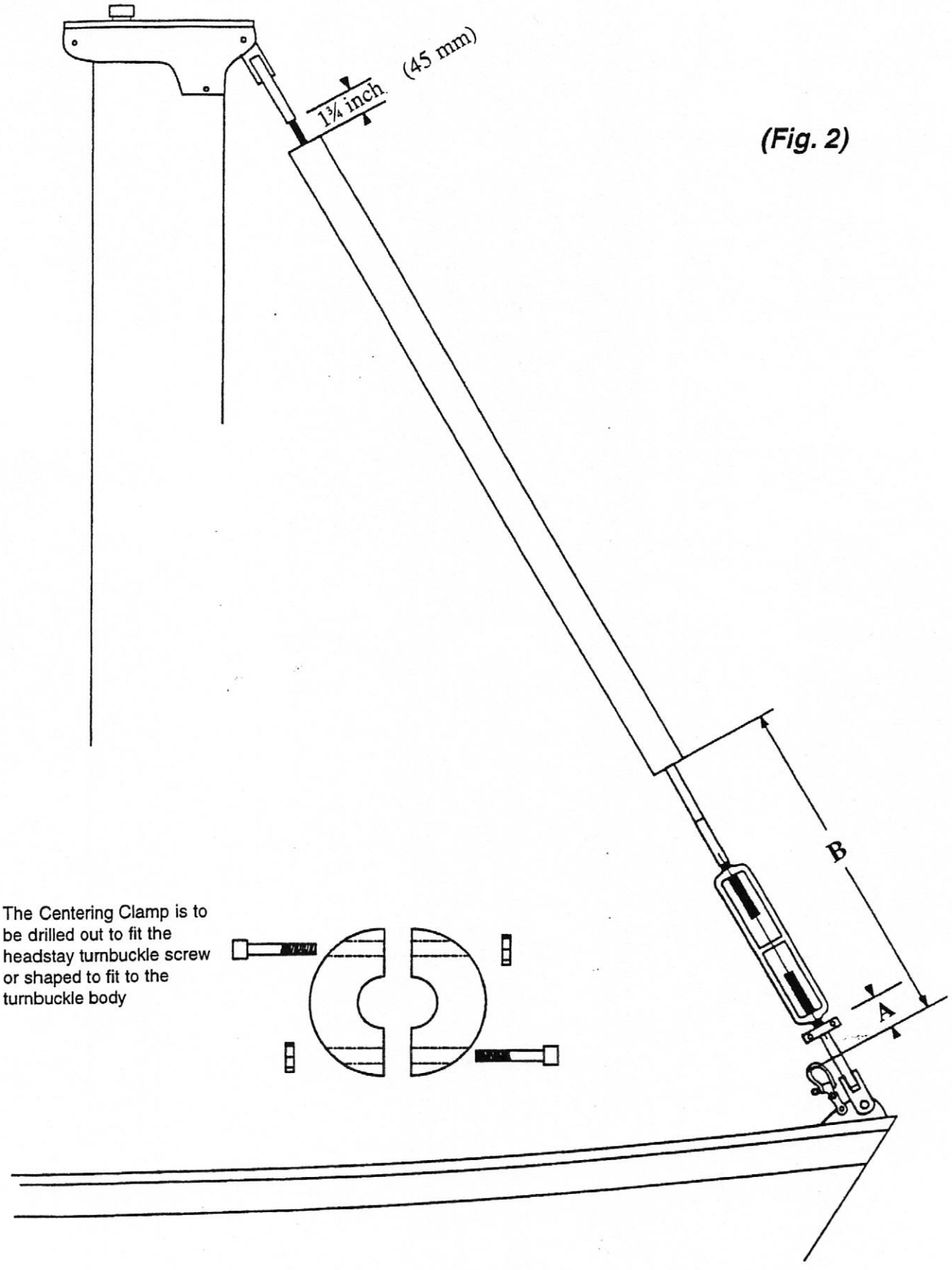
1.	Drive Unit Assembly	☐
2.	Centering Clamp Assembly	☐
3.	Tack Socket (2 halves – 3a aft, 3b fwd)	☐
4.	Halyard Swivel Assembly	☐
5.	Feed Extrusion	☐
6.	Splice Pieces (2 halves per Plain Extrusion)	☐
7.	Luff Bearing (1 per Plain Extrusion)	☐
8.	Plain Extrusions (determined by headstay length)	☐
9.	Top Bearing with (2 Rivets, 2 halves)	☐
10.	Drive Rivets (4 per Plain Extrusion)	☐
Not Shown	Tube of Silicone Seal (1 small tube)	☐

TOOLS REQUIRED FOR ASSEMBLY

1. Tape Measure (50' OR 100')	5. Hack Saw
2. Rigging Tape	6. Fine Metal File or Sandpaper
3. Felt Tip Marker	7. Small Hammer
4. Allen Wrench (Included)	8 Bos'n Chair

If you've gone through the check list and have parts missing please contact Hood Yacht Systems or your distributor.

Packaged by:
Date:



(Fig. 2)

The Centering Clamp is to be drilled out to fit the headstay turnbuckle screw or shaped to fit to the turnbuckle body

1. The Sea Furl Drive Unit should be attached to the deck with a shackle (not supplied). Choose an appropriate shackle (either a snap shackle or twist shackle) to use for this purpose. In most cases, the shackle that was used to tack the genoa to the stemhead fitting will work. Make sure the shackle will fit through the stainless steel grommet on the bottom of the Drive Unit.

2. Determine the Base Line (from which all other measurements will be taken) by aligning the shackle parallel with the headstay and noting where the shackle will bear on the grommet after the unit is installed. Mark thi_ position with a felt tip marker on the headstay (or turnbuckle, if there is one). If the headstay is on the ground rather than on the boat, make your best estimate of where the Base Line position will be based on the shackle length and stemhead configuration. The exact position of the Base Line is not critical as adjustments can be made after the unit is installed. However, every effort should be made to determine this position to within +/-1" (25mm).

3. The Centering Clamp serves the purpose of centering the lower end of the Drive Unit on the headstay. It also serves to hold the furling unit up when halyard tension is released. Determine the position of the Centering Clamp on the headstay by measuring up from the Base Line to the upper side of the clamp (measurement "A" on Figure 2) as follows:

Model 700 – A = 1 1/2" (38mm)
Model 800 – A = 1 1/2" (38mm)
Model 900 – A = 2 1/4" (57mm)
Mark this position on the headstay.

4. The Centering Clamp should be drilled out and filed if necessary to fit the contour of the headstay turnbuckle. Clamp the Centering Clamp to the headstay turnbuckle in its proper location.

5. Before removal of the headstay, mark the turnbuckle's threaded position with tape. This will help you adjust your headstay's position to the original position. At this point, the headstay should be removed from the boat.

6. With the headstay laid out straight on the ground, screw the turnbuckle to the taped reference positions, measure up from the Base Line to the location where the luff section assembly will start (Dimension "B", Figure 2) as follows:

Model 700 – B = 19 1/2" (495mm)
Model 800 – B = 26" (660mm)
Model 900 – B = 33" (838mm)
Mark this position on the headstay with felt tip marker.

These extrusion assembly procedures must be used when the marine eye won't pass through an extrusion:

1. Refer to standard instruction on page # 5 & 7

2. From the marked position on the headstay, lay the feed extrusion alongside the wire. Begin to lay each one of the extrusions out end to end so that the joint is kept as close as possible for the entire length of the headstay during this measurement.

3. Measure down the lower part of the swage the measurements from *(Fig.* 3a). Mark the headstay and the extrusion.

4. Cut the extrusion at this mark and be certain that all sharp edges are filed smooth.

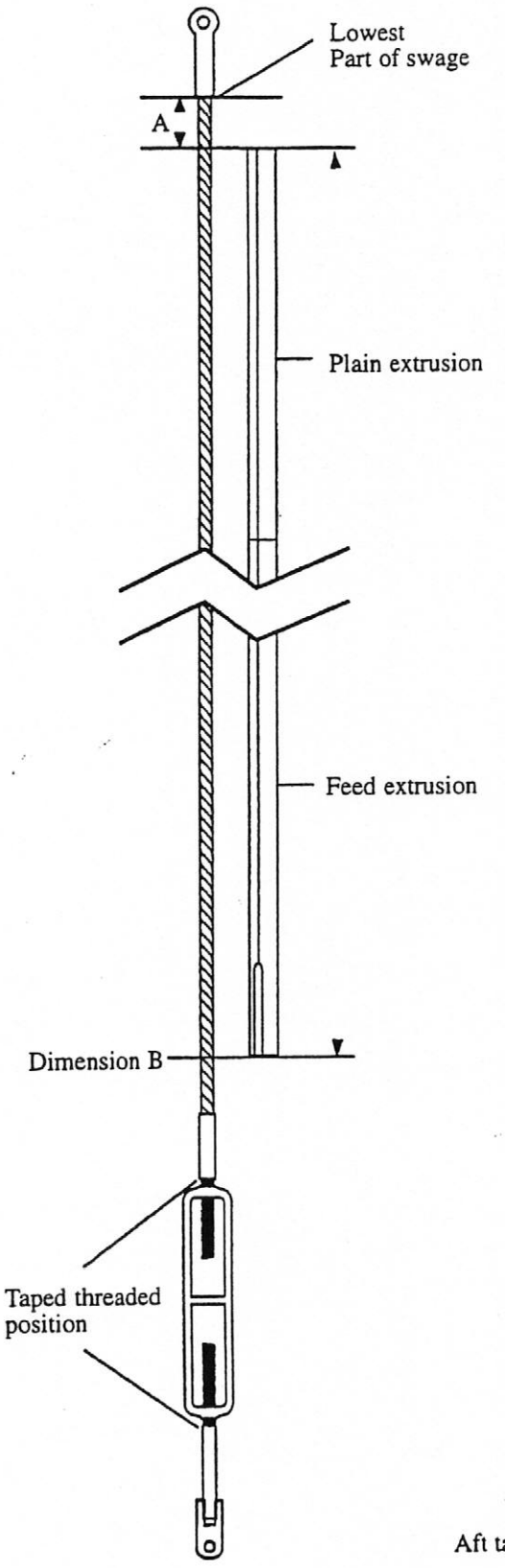
5. Unscrew the turnbuckle to expose the threaded stud. Start to slide the extrusion over the wire beginning with the piece that has been cut.

6. Complete extrusion assembly as per standard instructions on page 7.

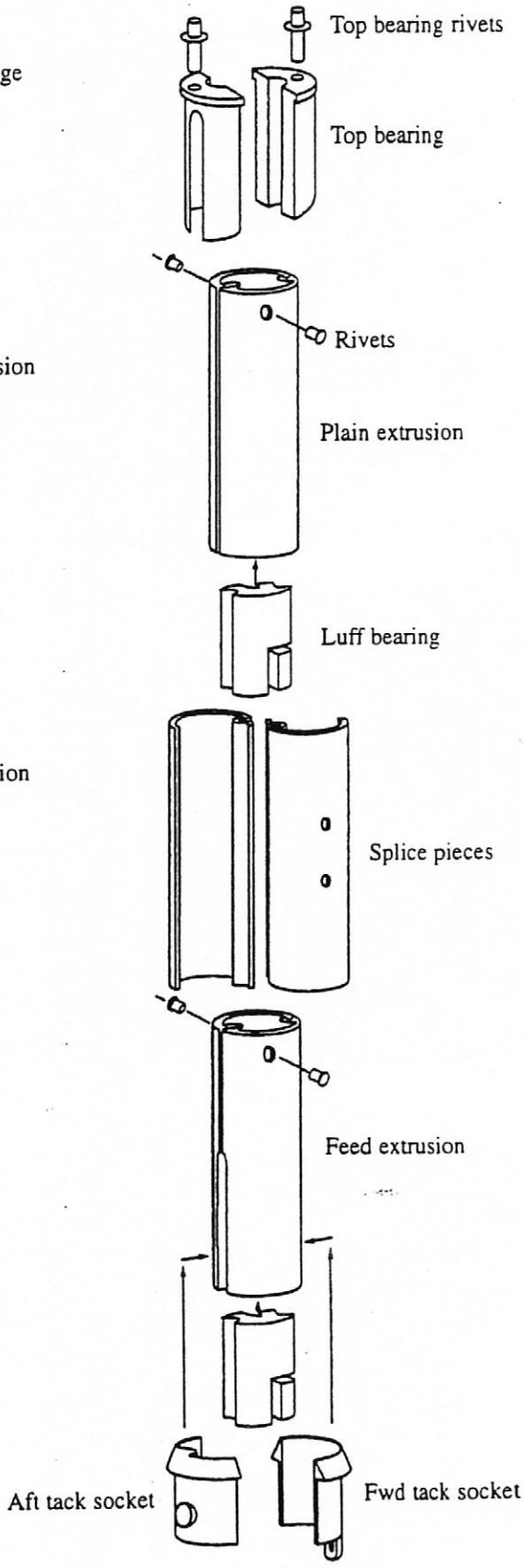
(Fig. 3a)

700	800	900
3/4"	1"	1 3/4"
19mm	25mm	44mm

(Fig. 3)



(Fig. 4)



1. Locate the long and short Feed Extrusion from the Luff Extrusion. Your system now comes with a stainless steel feeder. This feeder when installed between the long and short feed sections equals the length of a regular section.

NOTE: IF THE SWAGED EYE ON THE UPPER END OF THE HEADSTAY WIRE DOES NOT FIT THROUGH THE EXTRUSIONS, THEN FOLLOW THE DIRECTIONS ON PAGE 6 *(Fig* 3)

1. Locate the short feed extrusion and slide it over the top of the headstay with the widened luff groove first. Slide this all the way down the headstay until its lower end is even with the mark, as determined in step 6 on page 5.

2. Take one of the black plastic Luff Bearings and twist it onto the headstay above the short Feed Extrusion. Insert it into the top of the Feed Extrusion. (This Luff Bearing will slide down and rest on the Aft Tack Socket once the system is in its place.)

3. Take two of the Splice Piece halves and mate them together as a pair around the headstay. Apply silicone liberally to the lower half of the splice piece. Insert them into the top of the short Feed Extrusion.

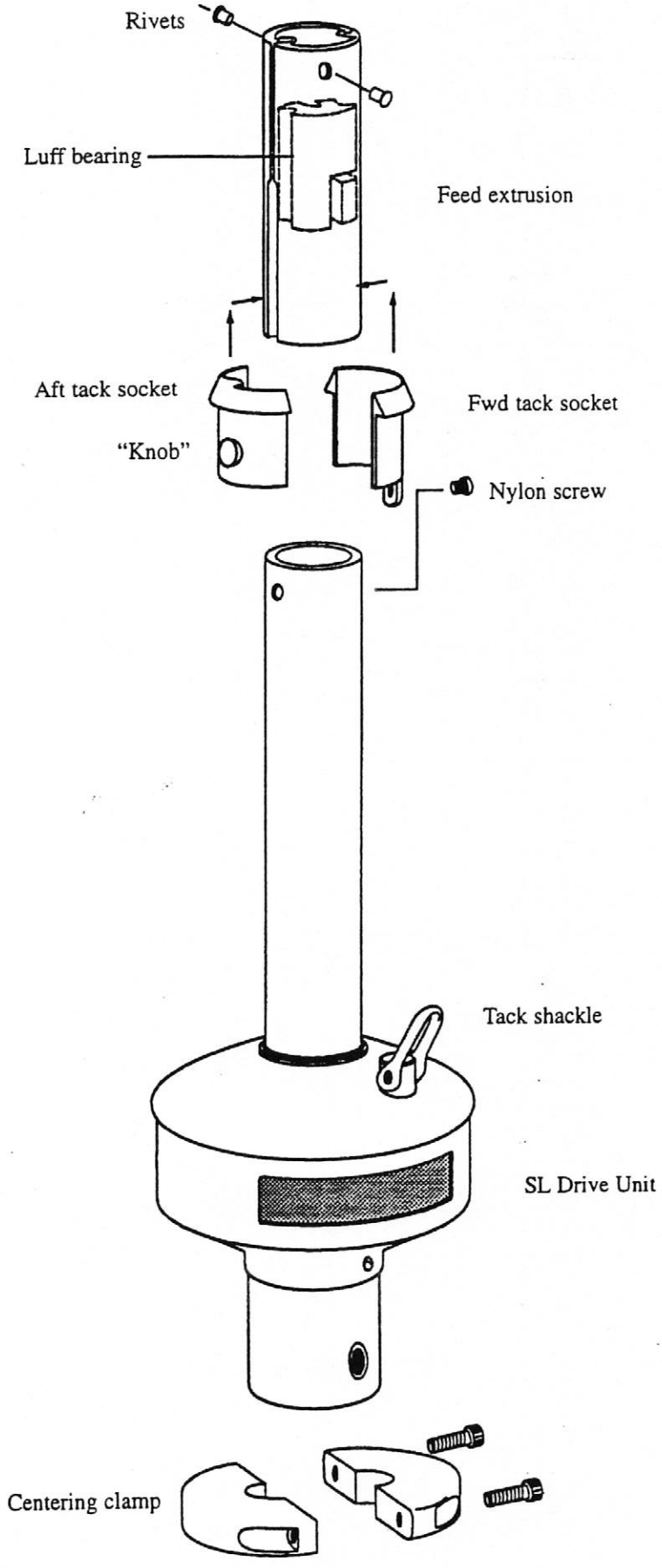
4. Line up the two lower holes in the pair of Splice Pieces with the two larger holes in the upper end of the short Feed Extrusion. Insert a rivet into each hole and fasten them with a hammer. (Note that the head of the rivet should sit inside the larger hole in the Feed Extrusion locking the Splice Pieces into place.)

5. Apply silcone to the rest of the Splice Pieces. Slide the Stainless Steel Feeder down the headstay open (wide grooved) end first, over the Splice Piece. Then slide the Long Feed Extrusion down the headstay and onto the Splice Piece, sandwiching the Stainless Steel Feeder on the Splice Piece between the two sections. Line up the fastener holes and rivet in place as in step 4. Repeat steps 2 and 3 on the long feed section.

6. Take one of the Luff Extrusion and slide it over the top of the headstay; liberally apply silicone to the upper half of the splice piece. Slide it down over the Splice Pieces that are now sticking out of the top of the Long Feed Extrusion. Rivet the Luff Section to the Splice Pieces. Twist on another Luff Bearing on to the headstay, insert it into the top of the Luff Section. Rivet another set of splice pieces into the top of the section. (Remember to clean off excess silicone from the jointed extrusion)

7. Repeat step 6 until the top of the Luff Extrusion assembly comes within 6 ft of the top of the headstay. (Remember to apply silicone to each splice piece and to clean off excess silicone from the jointed sections.)

8. The last section to be assembled should be cut so that when the Top Bearing is installed the upper portion of the Top Bearing should be within 1/4" (6.35mm) of the lowest portion of the wire terminal. After cutting this upper Luff Extrusion (**be sure to deburr the edges**), slide it over the top of the headstay and rivet it to


Rivets
Luff bearing
Feed extrusion
Aft tack socket
Fwd tack socket
"Knob"
Nylon screw
Tack shackle
SL Drive Unit
Centering clamp

(Fig. 5)

the Splice Pieces of the next lower section. Remember to apply silicone to the upper half of the splice piece before you rivet the Top Extrusion together. After riveting, insert a Luff Bearing into the top of the Luff Extrusion. To complete the Luff Extrusion assembly, insert the two halves of the Top Bearing into the top of the Extrusion assembly. The Top Bearing should be installed in the upper section and secured with the rivets supplied.

9. Install the Luff Extrusion and Headstay to the Masthead. There must be a toggle at the masthead for a proper headstay installation. (A stemball-type masthead fitting will not give the proper headstay movement.)

10. Remove the Centering Clamp.

11. Slide the Halyard Swivel Assembly up over the Feed Extrusion. The tabs on the inserts should be down.

12. Slide the Drive Unit up over the turnbuckle and the Feed Extrusion. Secure it over the Feed Extrusion temporarily so that the turnbuckle can be attached to the stemhead. (Refer to page 10 & 11 for furling line installation)

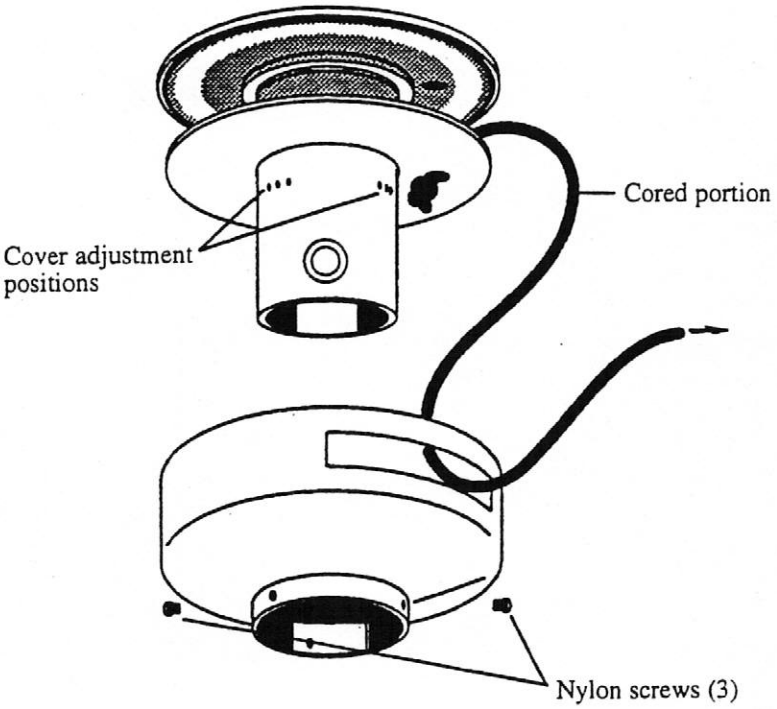
13. Adjust the turnbuckle to the taped position. Secure the turnbuckle screws properly and tape over the bent cotter pins.

14. Reattach the Centering Clamp in the position mentioned in Fig.2 **Do not over tighten it.**

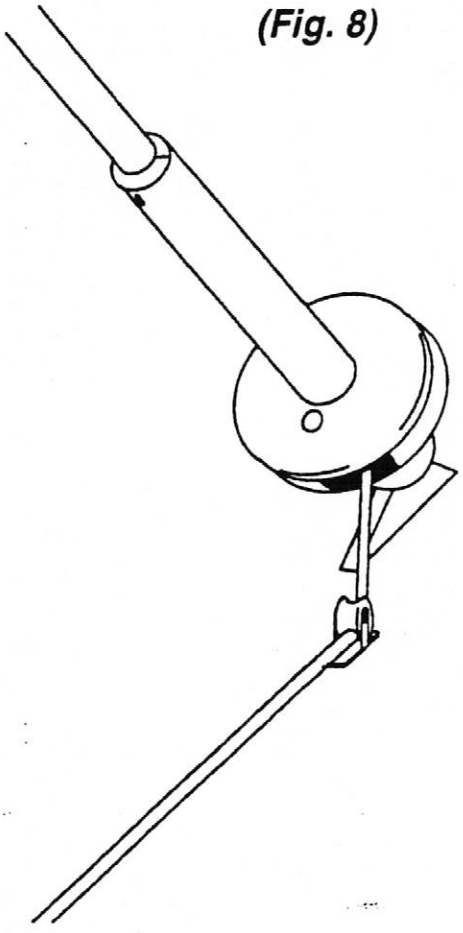
15. Slide the Drive Unit back down over the Centering Clamp. To assemble the Feed Extrusion to the Drive Unit. (Refer to #2 of the Extrusion Assembly instructions,) it is important to make sure that the Luff Bearing is installed in the lower end of the Feed Extrusion just above the Aft Tack Socket. Attach the Aft Tack Socket to the Feed Extrusion (Fig. 5) and insert into the Drive Assembly, aligning the "knob" on the Tack Socket with the hole in the turnbuckle tube. Slide the Forward Tack Socket into the other side and tighten the screw. (Do not over tighten this nylon screw as this screw carries no load. The nylon will avoid corrosion problems that may occur in dissimilar metals.)

Assembly Is Now Complete.

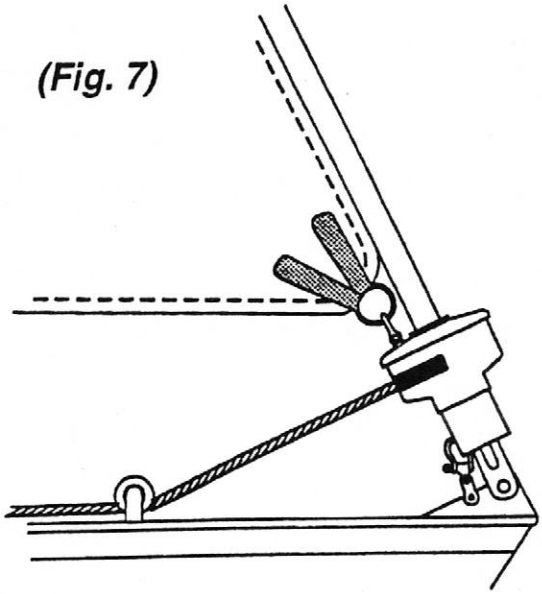
(Fig. 6)



(Fig. 8)



(Fig. 7)



Furling Line

Secure the furling line to the drum by first reaving the cored portion of the furling line through the stainless steel cover then through the hole provided in the drum with a over hand knot. Refer to *(fig.6)*. To obtain a fairlead for the line from the Stainless Steel Cover opening to the first block, it may be necessary to re-align/adjust the Stainless Steel Cover. To do so simply remove the three nylon screws on the underside of the Stainless Steel Cover. Refer to *(fig.6)*. *You* can now rotate the drum to obtain the required lead.
Replace the three nylon screws. (DO NOT overtighten).
Note: be certain that the knot isn't too large that it interferes with the cover.

	700	800	900
Recommended Line Diameter	5/16" 8mm	5/16" or 3/8" 8mm or 10mm	3/8" or 7/16" 10mm or 11mm
Remove Core (If required)	1/3 of Length		
Length of Furling Line	Twice the Length of Boat		

One third on the length of the line can be cored, this will allow more line to be furled onto the drum.

The furling line should be run through the appropriate blocks that lead it to the cockpit where it can be lead to 6" or 7" cleat. (not supplied)

Correct lead from the drum

The angle between the headstay and furling line leading to the first fairlead blocks should be 90 degrees (as shown in Fig. 8). This will prevent chafe and friction on the Drive Unit Assembly.

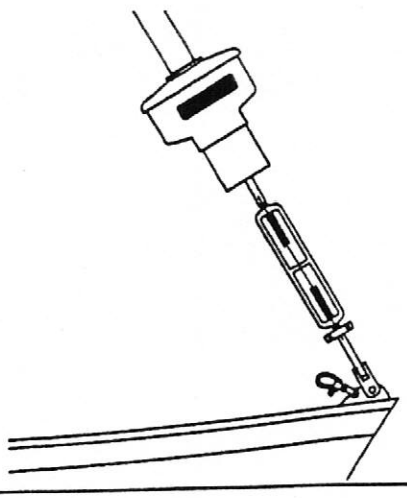
Readjusting the headstay

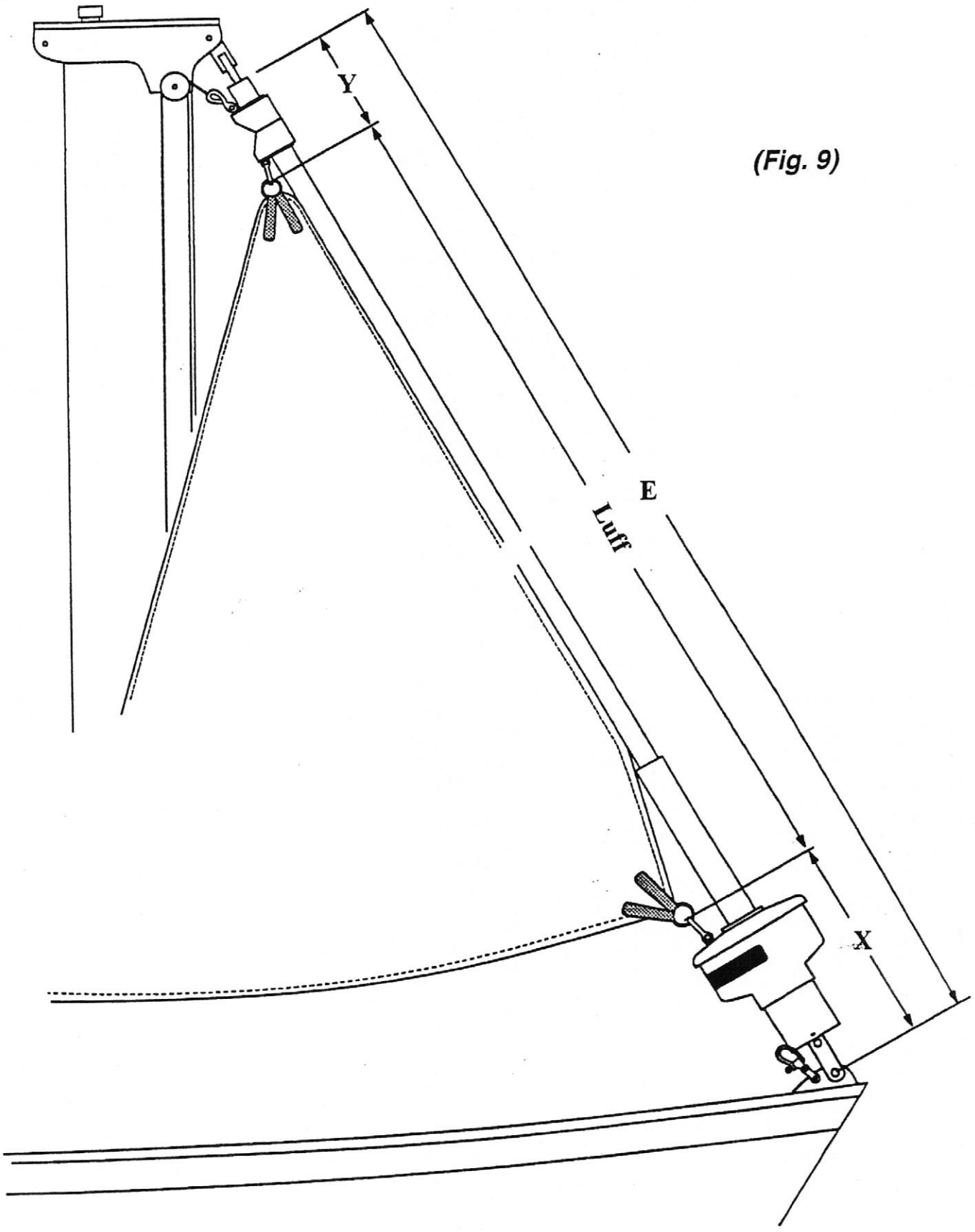
(Refer to Fig. 5)
1. Remove the sail and, using a 3/16" Allen wrench, remove the Forward Tack Socket screw so as to slide the Forward Tack Socket up.

2. Disengage the Feed Extrusion and the Aft Tack Socket from the Tumbuckle Tube; then remove the Aft Tack Socket from the Feed Extrusion so that the Extrusions slide down to rest on the tumbuckle.

3. Remove the shackle that attaches the Drive Unit Assembly to thc stemhead; attach the halyard to the Tack Shackle on the Drive Unit and raise the Assembly up over the Feed Extrusion to expose the tumbuckle.

4. Remove the tape and cotter pins and, with the appropriate tools, adjust the headstay; reverse this procedure to reassemble.





(Fig. 9)

Seafurl Sails

Precisely measure the distance from the bottom of the halyard shackle (at the masthead) to the center of the stemhead pin (Dimension E).

From Dimension E, subtract drum and halyard swivel measurement using the table.

This will give you the maximum luff dimension for your sail, when it is fully stretched.

Overall length from sheave top to Stemhead Pin	(E)_____
Halyard swivel deduction including shackles	(Y)_____
Drum assembly deduction including shackle and toggle	(X)_____
Maximum sail luff length	_____

"X" tape or 3/16" diameter bolt rope tape must be used on the luff so that the sail easily slides up and down, yet doesn't pull out in heavy air.

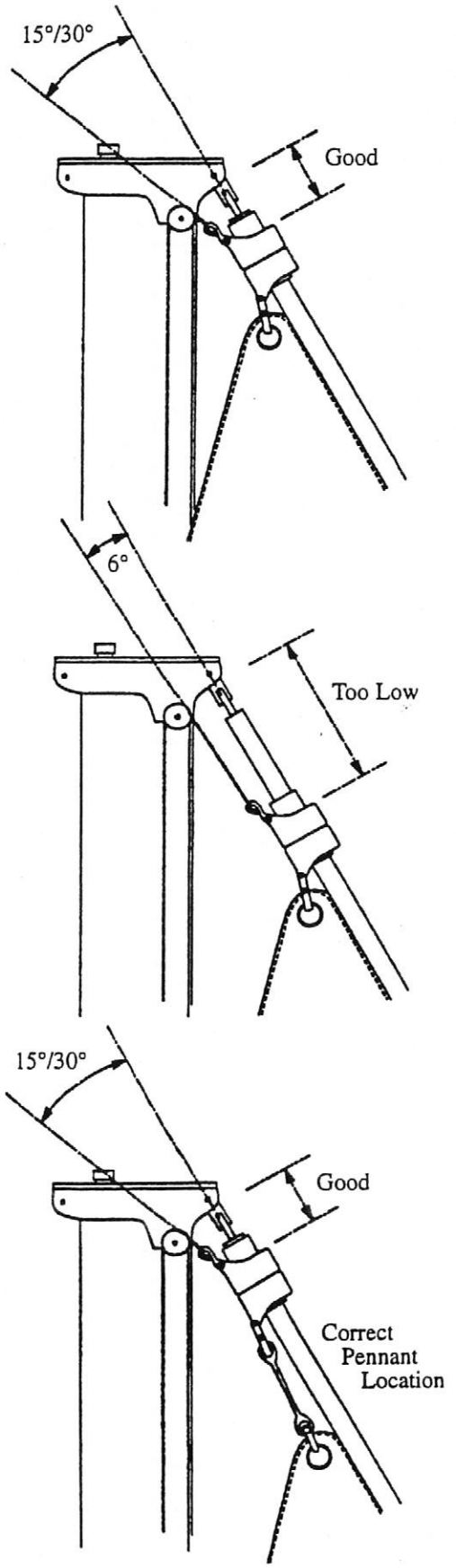
In order to accomodate the halyard swivel and tack shackles, the head and tack rings in the sail should be sewn in with webbed in stainless steel rings. The rings should be no smaller than 1 1/2" x 1/4" for the 800 and 900.

Webbing loops can be sewed at the head and tack of the sail, to replace cringles. These loops should be 2" to 3" longer than the corner of the sail. Their use creates a much tighter roll, improving sail shape, and eliminating the need for swivel shackles. The webbing can easily twist 90 degree to allow the sail to lie flat against the luff extrusion when reefed, whereas cringles and twist shackles promote wrinkly furls.

Your sailmaker should terminate the luff tape portion of the luff tape approximately 30" (762mm) down from the head, and 30" (762mm) up from the tack. This provides better reefed shapes.

If extreme halyard tension has been applied to alter sail shape when sailing, it is advisable to ease the halyard once the sail is furled to relieve the static load on the swivel bearings. This is especially true if the boat is moored for days at a time.

	700	800	900
X	10" 254mm	14" 356mm	18" 457mm
Y	7.5" 191mm	8.5" 216mm	10.75" 273mm



Sail Installation

Due to the great variation in masthead construction, sail stretch and individual halyard loads, the following sail installation steps should be carefully followed. If you install your SL as follows a smoothly operating system will be assured.

Attach the head of the sail to the lower shackle of the halyard swivel, but DO NOT attach the tack.

Feed the sail tape into one of the luff grooves as you hoist it. A swivel deck feeder can be used to assist the luff tape in to the feed extrusion.

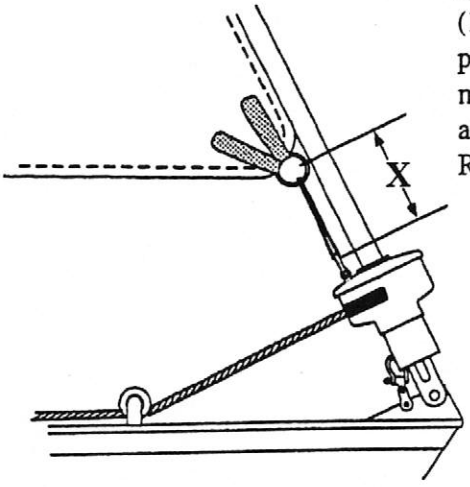
Hoist the swivel and sail as high as it will go, without straining, and secure.

Down haul the sail, utilizing a spare line temporarily attached to the sail tack and lead thru the tack sheave shackle, until the maximum desired luff tension is achieved.

Furl and unfurl the sail several times while watching the halyard swivel, to see if it is rotating smoothly and not being restricted in its operation.

(Fig. 10)

Installation



If the final distance between the sail tack and tack shackle is greater than 6" (152mm), the temporary lashing should be replaced with a permanent wire pennant. If this distance is less than 6" (762mm), a pennant lashing (a minimum of 3 turns of line) can be used. You may choose to leave the pennant at the bottom or place it between the halyard swivel and the head of the sail. Refer to *(Fig. 10)*.

Maintenance

Maintenance

The bearing assemblies in your SL Seafurl have been equipped with Torlon balls. Whenever possible flush the bearings in the drive unit and halyard swivel assemblies with water. Torlon is self lubricating therefore it is not necessary to use any additional lubrication. In fact, many commercially available lubricants will be absorbed by the Torlon bearing, making the balls enlarge, affecting the operation of the system.

If after extensive use, or at any time stickiness or friction becomes excessive such that the bearings are not functioning acceptably, remove the entire offending assembly from the boat and return it to a Hood Yacht Systems Dealer or distributor for servicing. At no time attempt to disassemble these swivel (bearing) units yourself.

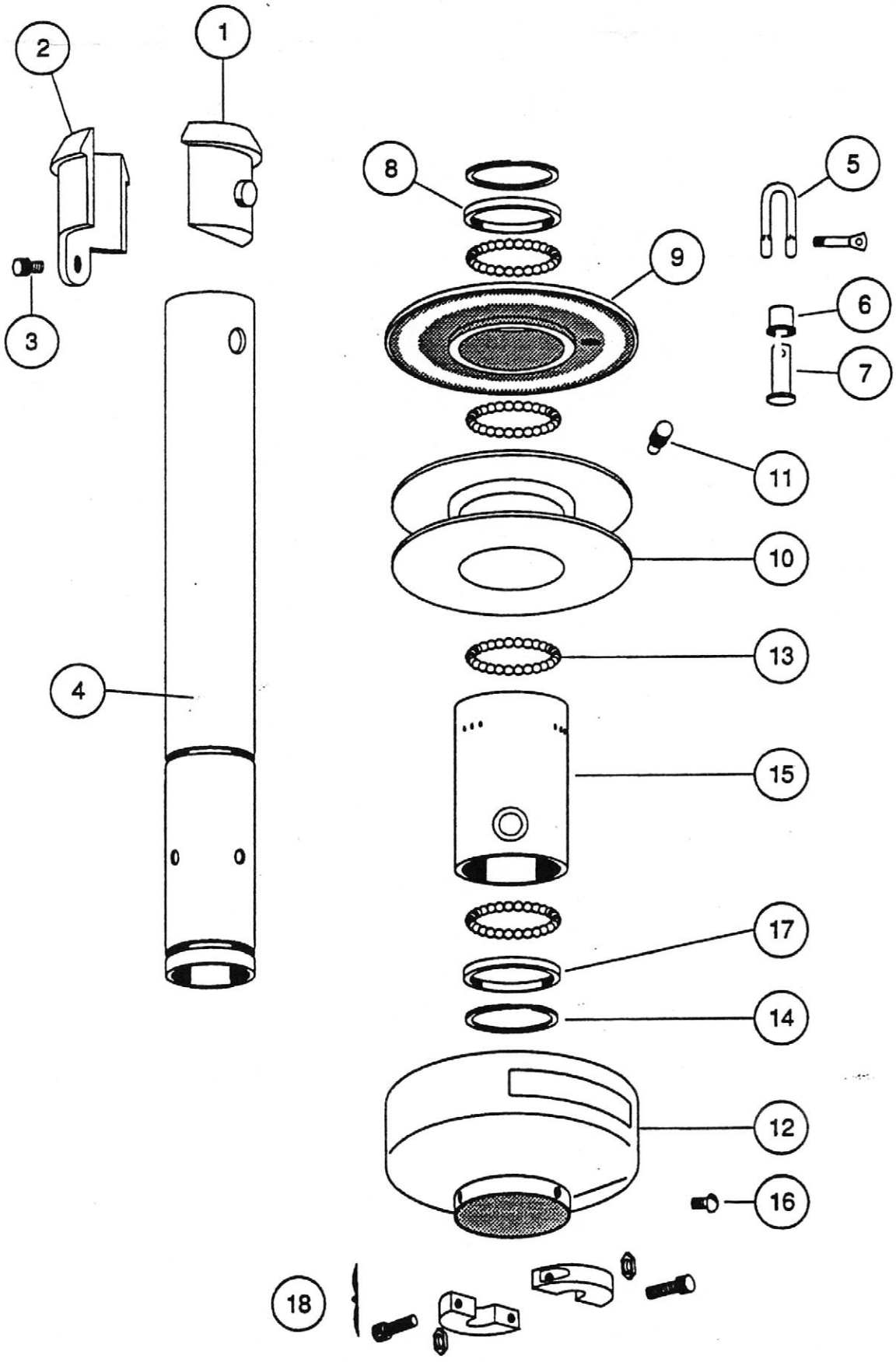
Storage

When rigging or unrigging your Seafurl, for storage or any other reason, every attempt should be made to keep the extrusions as straight as possible. When storing, the entire unit can be lashed to the mast or supported on a mast rack.

Winter Storage

Remove the drive unit and swivel and store them in a dry compartment onboard or at home. It isn't good practice to completely cover the drive unit and swivel assembly with plastic, this will trap any condensation that occurs, and the aluminum components will eventually start to oxidize.

During recommissioning in the spring, it is recommended to soak both the drive unit and swivel in a bucket of hot soapy water, then rinse them both with fresh water before installing them.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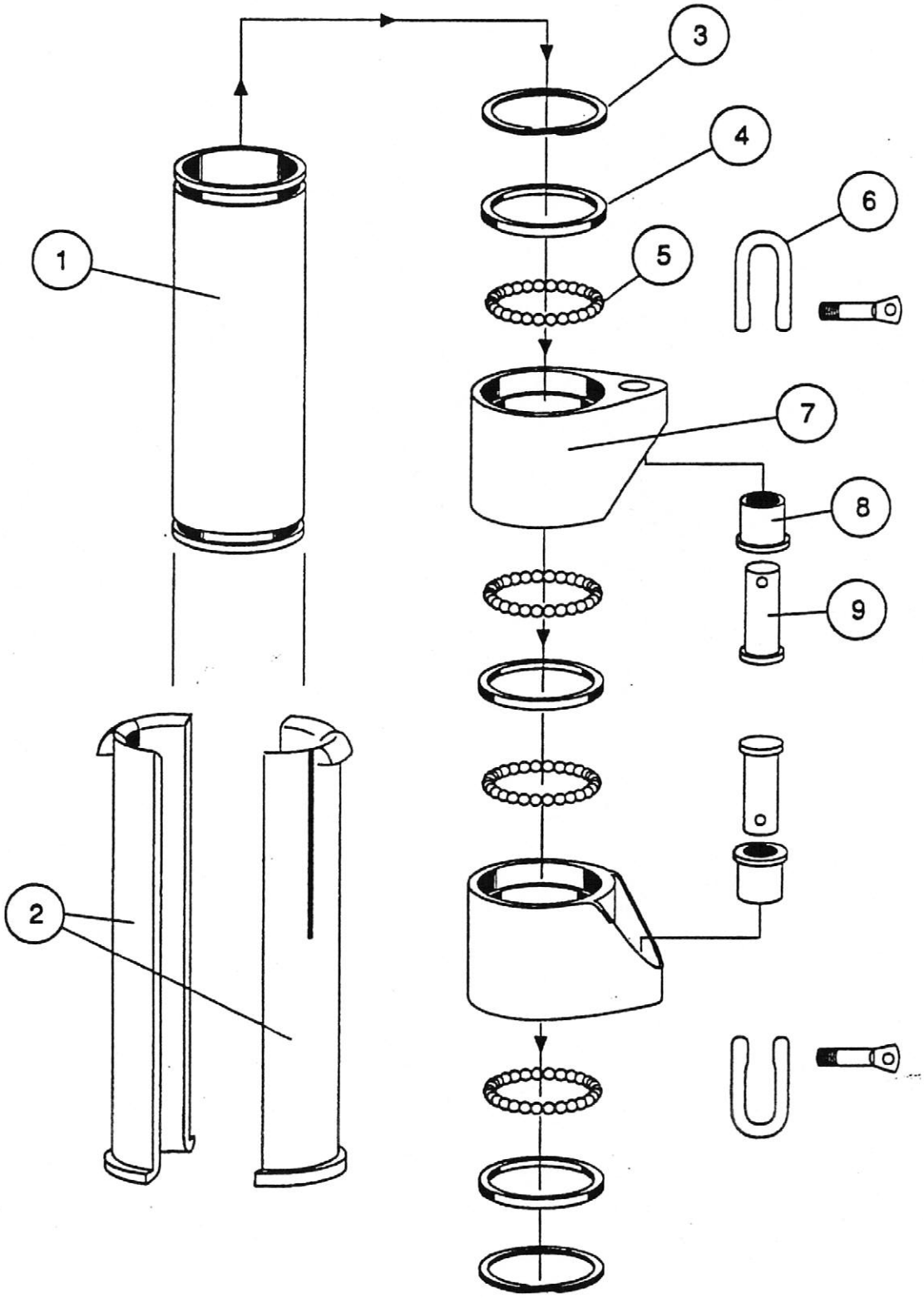
Reference # Description	Part Number 700	800	900
1. Aft Tack Socket	6405	5960	5997
2. Forward Tack Socket	6406	5959	5998
3. Tack Socket Screw (Nylon)	l/4-28 X 1/4	l/4 – 20 X 3/8" SHMS	
4. Turnbuckle Tube	7666	7571	7572
5. D Shackle	WICH 1212	WICH 1213	WICH 1214
6. Shackle Stud Bushing	6412	5983	5994
7. Shackle Stud	6411	5982	5993
8. Bearing Washer	6410	7611	7612
9. Swivel Top	7667	7549	7548
10. Drum Assembly	7668	7554	7555
11. Drum Set Screw (4 ea.)	3/8 – 28 x 3/8"	Half Dog Point Set Screw 3/8 – 16 x 1/2"	
12. Stainless Steel Cover	7669	7587	7597
13. Bearings (Torlon)*	1/4 – 4203L	1/4 – 4203L	3/8 – 4203L
(2 Bearings Races)	23 balls per race	28 per race	23 per race
14. Spirolox Rings	WSM 168 S	WSM 200 S	WSM 237 S
15. Bearing Tube /w Grommet	7665	7608	7609
16. Cover Screw (Nylon) (3 ea.)	1/4 – 20 x 1/2" Round Head		
17. Thrust Washer	6410	5957	5995
18. Centering Clamp Assembly	6429-0	5861-0	5999-0
SL Drive Unit Assembly	7654	7654-01	7654-02
Torlon Bearing Assembly Bag (2 ea.)	7604	7605	7606

These bags have enough Torlon halls to replace two complete bearing races, with two extra balls.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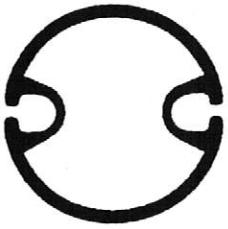
HALYARD SWIVEL ASSEMBLY

Parts List

Reference # Description	Part Number 700	800	900
1. Swivel Tube	6874	6012	6016
2. Halyard Swivel Inserts (Half 2 ea.)	6875	6017	6018
3. Spirolox Rings (2 ea.)	WSM 168 S	WSM 200 S	WSM 237 S
4. Bearing Thrust Washer (3 ea.)	6410	5957	5995
5. Bearings (Torlon)*	1/4 – 4203L	1/4 – 4203L	3/8 – 4203L
4 Bearings Races	23 per race	28 per race	23 per race
6. D Shackle (2 ea.)	WICH 1212	WICH 1213	WICH 1214
7. Halyard Swivel Cup (2 ea.)	6398	6011	6015
8. Shackle Stud Bushing (2 ea.)	6412	5983	5994
9. Shackle Stud (2 ea.)	6411	5982	5993
* **Torlon Bearing Assembly Bag** (2 ea.)	7604	7605	7606

These bags have enough Torlon balls to replace two complete bearing races, with two extra balls.



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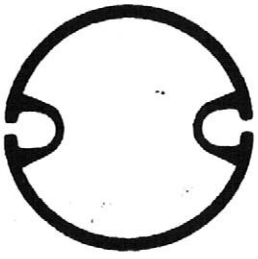

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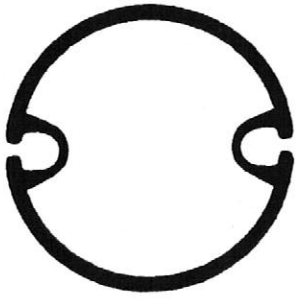

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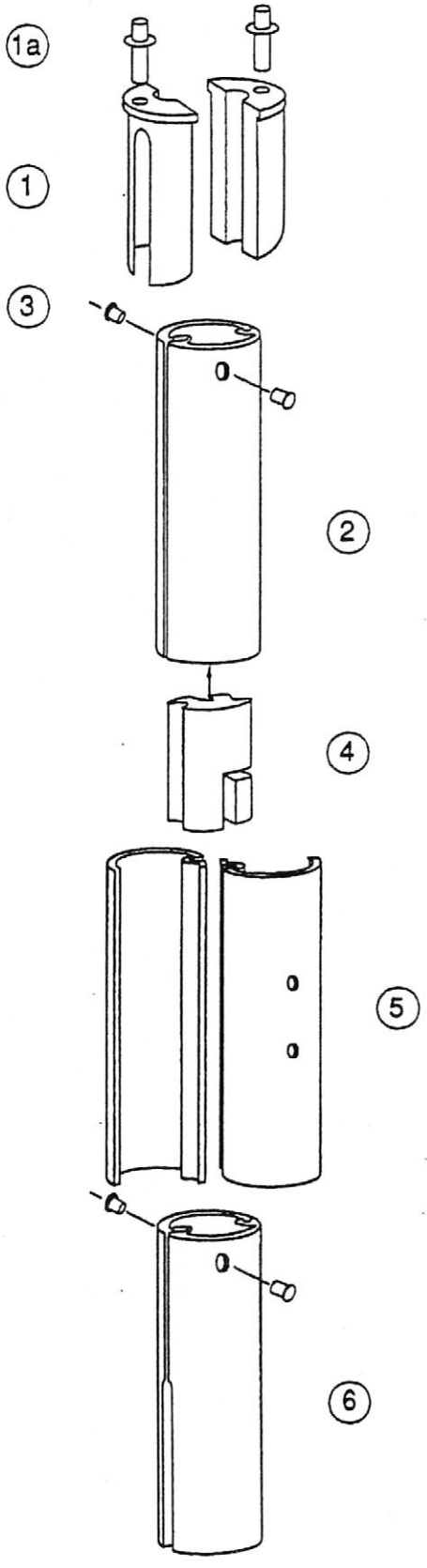

LUFF SECTION ASSEMBLY

Parts List

Reference #	Description	Part Number 700	800	900
1.	Top Bearing (Half) (2 ea.)	6428	6019	6020
1a.	Top Bearing Rivets (2 ea.)		38-106-20-13	
2.	Luff Extrusion	6432	5945	5946
3.	Drive Rivet		3/16 Alu.	
4.	Luff Bearing	6431	5985	6007
5.	Splice Piece (Half) (2 ea.)	6404	6112	6113
6.	Feed Extrusion	6433	6125	6126
	Rivet Bag (25 per bag)	6837		
	Rivet Bag (40 per bag)		6838	6838
	Assembly Bag	6839	6840	6841
	2 Top Bearing (Halves) W/Rivels, 40 Drive Rivets, 3/16" alien wrench			
	Plain Extrusion Assembly	6424	5945-0	5946-0
	Plain Extrusion-Luff Bearing-Splice Pieces (pr.) -4 ea. Rivets			
	Feed Extrusion Assembly	6425	6125-0	6126-0
	Feed Extrusion-Luff Bearing-Splice Pieces (pr.) -4 ea. Rivets			

HOOD LIMITED WARRANTY FOR SEAFURL PRODUCTS

I. WARRANTY: Hood Yacht Systems warrants that Hood Seafurl and Gemini headstay products will be free from defects in material and workmanship for a period of five years. That period shall commence upon receipt of the Hood warranty registration card within 30 days upon receipt of the goods. Any part which proves defective in normal usage during the five year period will be repaired or replaced by Hood Yacht Systems.

This Warranty is subject to the following conditions and limitations:

A. Hood Yacht Systems liability shall be limited to repair or replacement, at Hood Yacht Systems discretion, of goods or parts defective in materials or workmanship. This shall be the buyer's exclusive remedy.

B. Except where otherwise specified, quality shall be in accordance with Hood Yacht Systems specifications.

C. The Hood Sea Furl and Gemini must be installed and maintained properly and used under normal conditions in the application for which they were intended.

D. This warranty does not apply to any products that were improperly installed or maintained, or subject to misuse or negligence during normal operation and storage.

E. Hood Yacht Systems shall not be responsible for shipping charges or installation labor associated with any warranty claims.

F. Terms of this limited warranty shall be one year if the product is used in commercial, rental or charter operations as well as with respect to any swaged attachments to wire, either standing or running rigging.

I. Failure to obtain an owner's manual or otherwise be aware of the information contained in the owner's manual may void this warranty.

II. The limited warranty is in lieu of all other warranties; any implied warranties are limited in duration to the duration of the warranty stated here.

III. Hood is not responsible for consequential damages of any sort, to the extent that such exclusion is permitted by applicable law.