

# CATALINA 470 FURLING MAST HAND BOOK



MADE BY

## CHARLESTON SPAR

3901 PINE GROVE CIRCLE  
CHARLOTTE, NC 28206

(704) 597-1502

FAX (704) 597-0961

[WWW.CHARLESTONSPAR.COM](http://WWW.CHARLESTONSPAR.COM)

# MAST SECTION F-1410



NUM	DESCRIPTION	PART NUMBER	QUANTITY
1	PVC 1" TO TOP 10' LONG	27902253003	5
2	PVC 1" TO MIDDLE 10' LONG	27902253003	2

## Signal Lamps

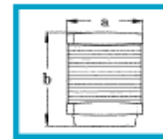


### Model 2984

For permanent installation and hoisting. Seawater-proof and non-magnetic. Packing gland connection. Bayonet-lock on lamp housing for easy bulb change. Pre-fitted long-life bulb, 12 V. Can be used as white navigation lamp, white anchor lamp, red anti-collision lamp, auxiliary red and green lamp for sailboats. BSH approved.

Product description.....  
 Minimum visible distance.....  
 Bulb.....  
 Installation.....  
 Cable entry.....  
 Protective system.....  
 Mounting.....

Shock-proof, form-stable plastic cover and base plate, UV-resistant  
 2 nm  
 Pre-fitted long-life bulb, 12 V, socket BAY 15d  
 6.3 mm flat-plug connectors (2 female connectors  
 6.3 mm nickel-plated brass included)  
 Through base plate with packing gland PG 9  
 Splash-proof and dust proof according to IP 55 (DIN 40050)  
 Direct mounting with 3 stainless steel hex. head bolts and hex. nuts  
 M5, special holder **63495** or bracket for hoisting **62837**

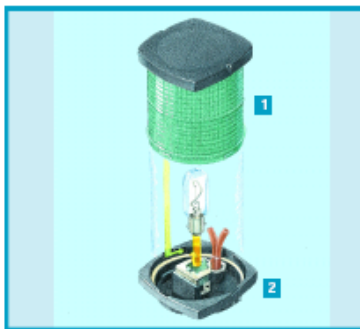


a = 3 7/16"  
 b = 4 3/16"



○ Signal lamp/anchor lamp white	● Signal lamp red	● Signal lamp green
□ 62222	□ 62224	□ 62223
□ 62322		

### Spare parts



- 1 □ Lamp housing  
 ● 63424  
 2 Seal  
 ○ 63237  
 ● 63237  
 ● 63237

- Bulb 12 V  
 ○ 78290 >10W  
 ● 78292 25W  
 ● 78292 25W  
 Bulb 24 V  
 ○ 78291 >10W  
 ● 78293 25W  
 ● 78293 25W



**43003031221**  
**HELLA ANCHOR**  
**LIGHT**

# 43009031221 HELLA COMBO LIGHT

## Deck Floodlights

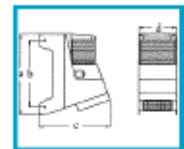


### Model 8504

Deck floodlight with special housing combined with masthead lamp Model 2984. Application for boats with length < 20 m. Available in choice of black or white. Glass lens, FF technology aluminum reflector with high-gloss vapor coating. All metal parts stainless steel.

Production description.....  
 Bulb.....  
 Installation.....  
 Protective system.....  
 Max. output.....

Shock-proof and sturdy plastic  
 Pre-fitted long-life bulb 12 V and 12 V / 55 W H3 bulb  
 Combined screw-flat-plug connection 6.3 mm  
 deck lamp 6.3 mm flat-plug connectors  
 According to IPX 4 (DIN 40050)  
 Deck lamp 24 V / 70 W



a = 7 7/8"  
 b = 9 3/16"  
 c = 7 7/8"  
 d = 4 1/4"

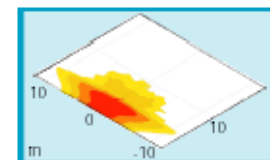
Masthead/deck combination	
<input type="checkbox"/>	62212
<input type="checkbox"/>	63212



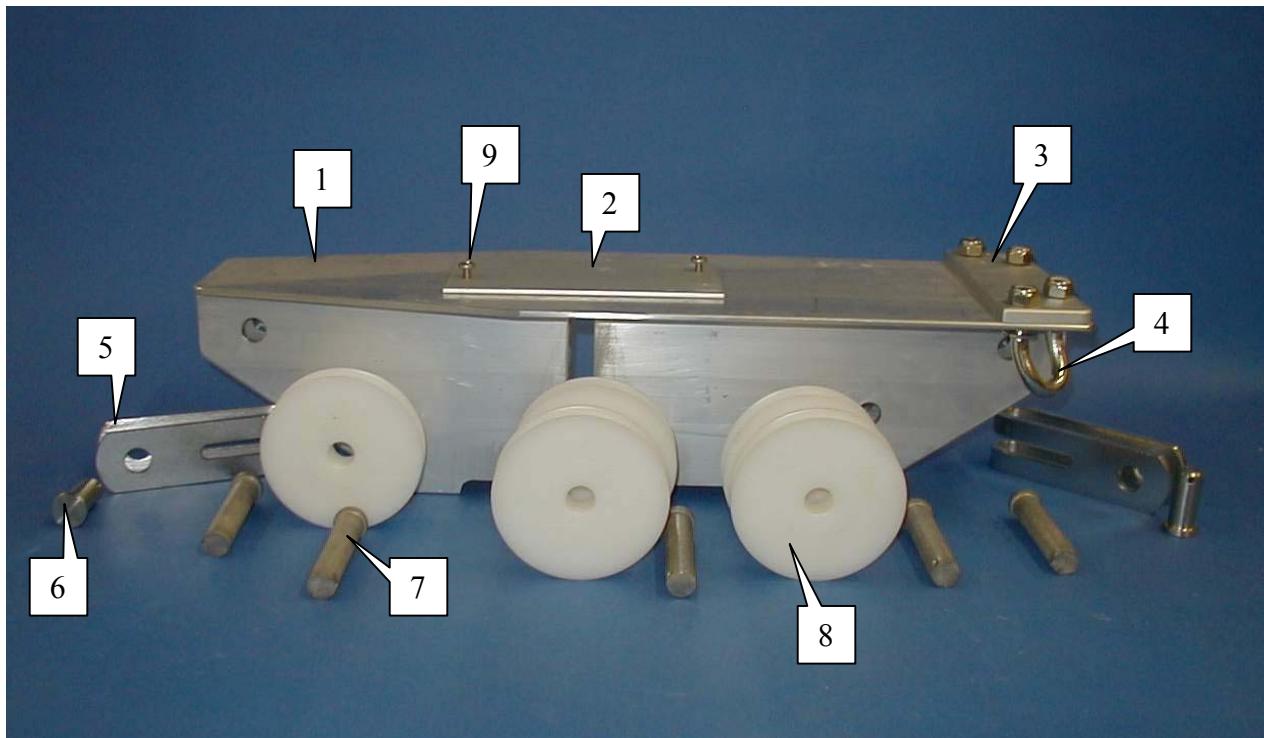
### Spare parts



- 1 Lamp housing  
 63140  
 63240
- 2 Bulb holder
- 3 Insert  
 79560
- 4 Bulb  
 78135 12V/55W  
 78145 24V/70W
- 5 78292 12V  
 78293 24V



>1 LUX    >5 LUX  
 >2 LUX    >16 LUX



**WELD IN MASTHEAD PROFILE #6**

NUM	DESCRIPTION	PART NUMBER	QUANTITY
1	NGIII MASTHEAD SIZE B #6	30014151055	1
2	MAST CAP		1
3	DOUBLER	30014161053	1
4	NGIII S/S SPINNAKER BALE WITH 12MM NUTS	562108	2
5	S/S TOGGLE	41420101861	2
6	S/S CLEVIS PIN	P12-138	2
7	S/S CLEVIS PIN 18X78	40020218078	5
8	SHEAVE DELRIN 110X21X18	48511102125	5
9	1/4-20 X 3/8 PANHEAD SCREW		2



**S/S LIGHT GUARD SER. 40  
49031920864**



**31011048104  
GIBB 840-10 BACKING PLATE  
4 PER MAST  
(29004164180 MONEL RIVET 6.4X17.5)**



**31011048124  
GIBB 840-12 BACKING PLATE  
4 PER MAST  
(29004164180 MONEL RIVET 6.4X17.5)**



43205078075  
HAYLARD RESTAINER  
29002248140 S/S RIVET  
4.8X14



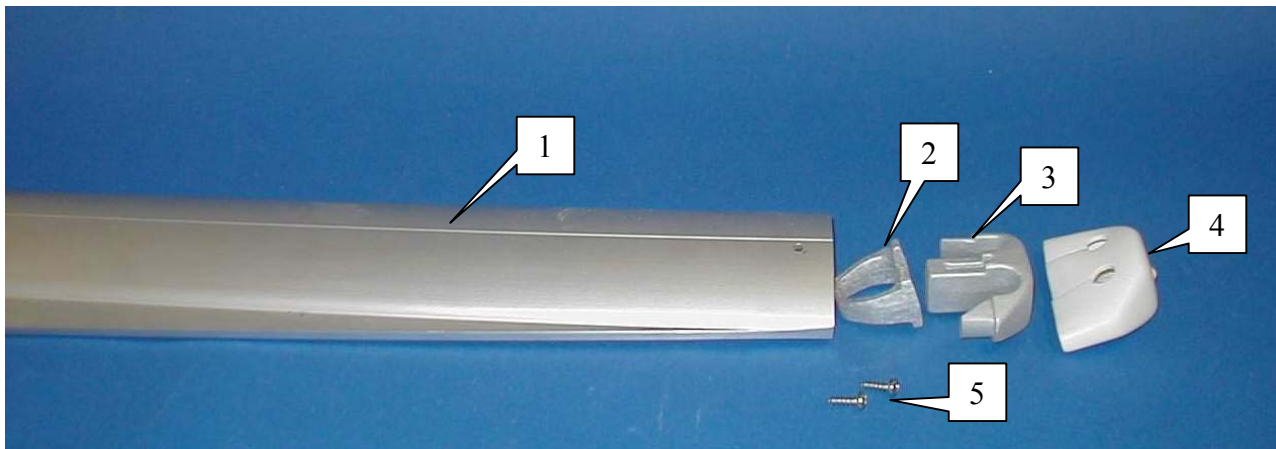
ALUMINUM SHEAVE BOX  
POLE TOPPING LIFT  
48701000011  
(29004164180 MONEL RIVET 6.4X17.5)



LARGE FAIR LEAD  
43205508124  
1 PER MAST  
(29004164125 MONEL RIVET 6.4X12.5)

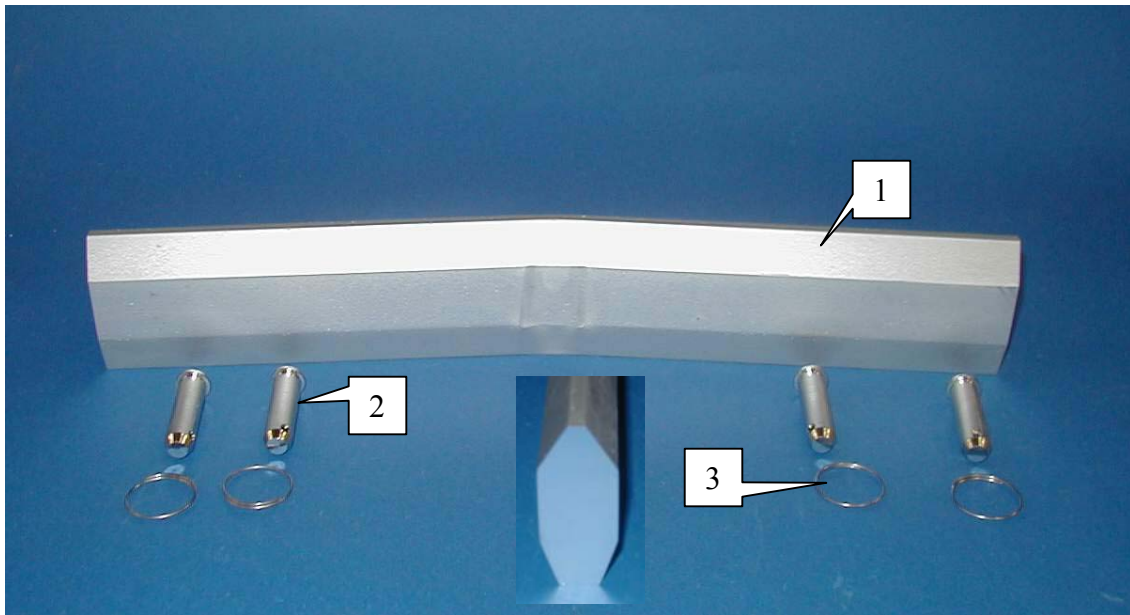


34001171262  
18 MM EXIT COVER  
6 PER MAST  
(29002248110 S/S RIVET 4.8X11)



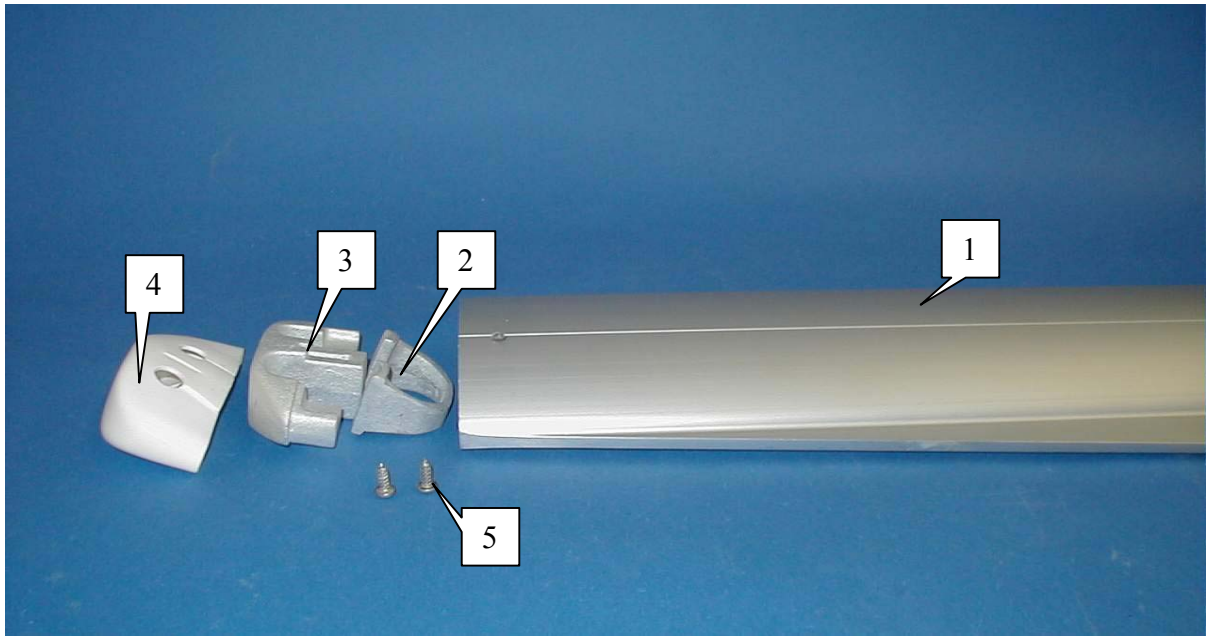
**BF4 UPPER SPREADER SECTION**

NUM	DESCRIPTION	PART NUMBER	QUANTITY
1	BF4 SPREADER UPPER 1054mm LONG 0° SWEEP	NONE	2
2	BF4 SPREADER INSERT	32604040103	2
3	BF4 SPREADER TIP	32604030103	2
4	BF4 PLASTIC PROTECTOR	32604050102	2
5	SCREW	28606408009	4



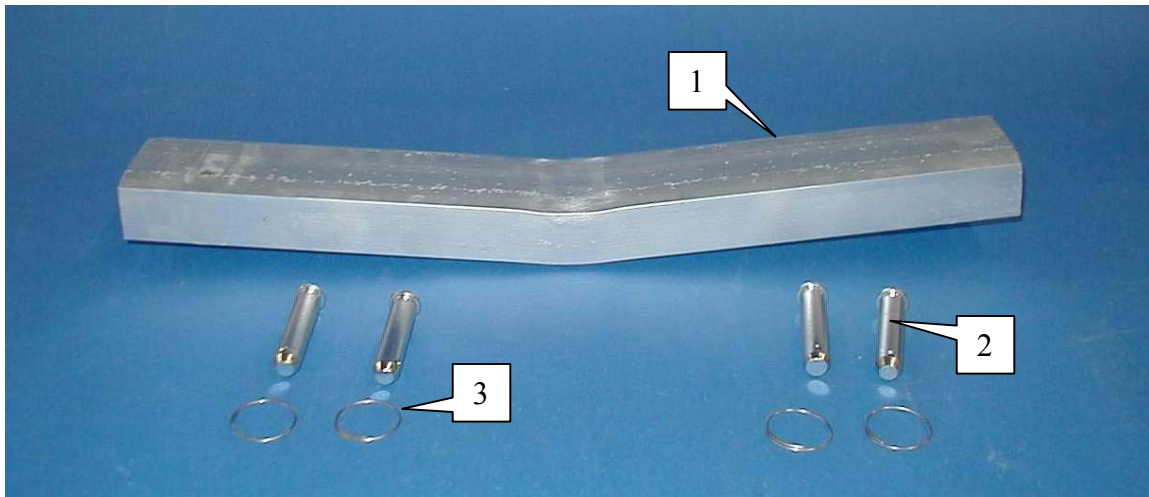
**BF4 SPREADER BAR**

NUM	DESCRIPTION	PART NUMBER	QUANTITY
1	BF4 ALUMINUM SPREADER BAR 405mm 5° LIFT	32101144053	1
2	BF 4 CLEVIS PIN 12 X 37.5	40020212037	4
3	S/S SPLIT RING	28809000020	4



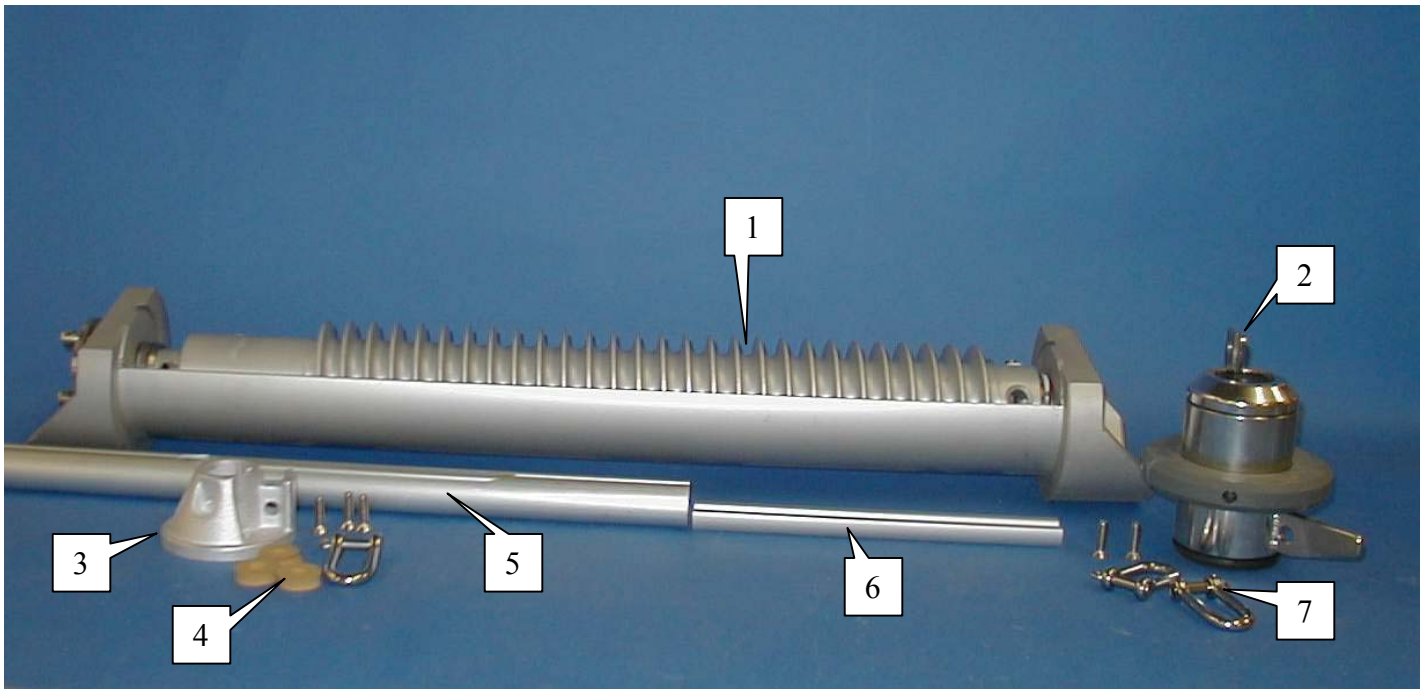
**BF5 LOWER SPREADER SECTION**

NUM	DESCRIPTION	PART NUMBER	QUANTITY
1	BF5 SPREADER 1347mm LONG 0 ° SWEEP	NONE	2
2	BF5 ALUMINUM PROTECTION	32605040143	2
3	BF5 SPREADER TIP	32605030143	2
4	BF5 PLASTIC PROTECTION	32605050142	2
5	SCREW	28606408009	4



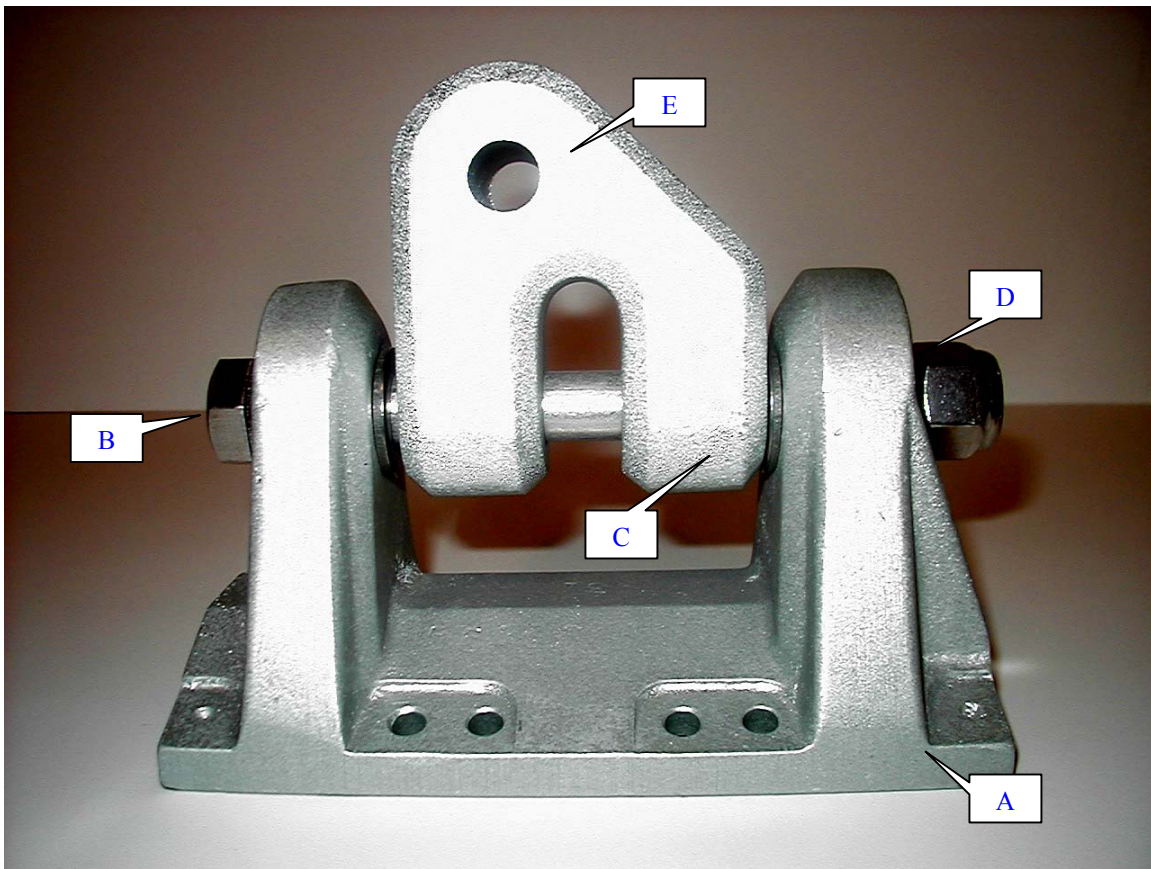
**BF5 SPREADER BAR**

NUM	DESCRIPTION	PART NUMBER	QUANTITY
1	BF5 ALUMINUM SPREADER BAR 445mm LONG 5° LIFT	32101154453	1
2	BF 5 CLEVIS PIN 12 X 45.5	40020312045	4
3	S/S SPLIT RING	28809000020	4



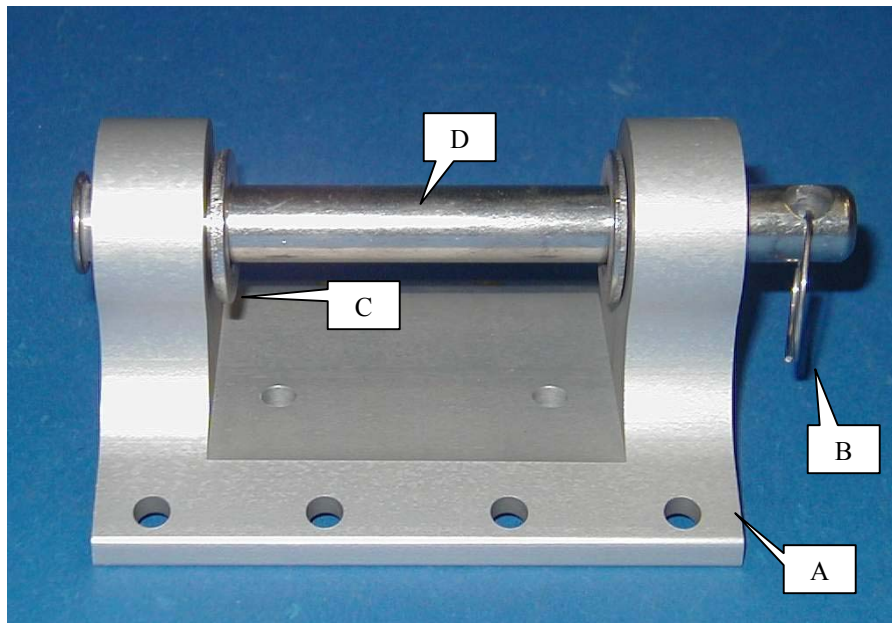
### **F-1410E FURLING SCREW**

<b>NUM</b>	<b>DESCRIPTION</b>	<b>PART NUMBER</b>	<b>QUANTITY</b>
1	FURLING SCREW F-1410E	42201901413	1
2	HOIST CAR F-1410E	42203341305	1
3	CAST COUPLING	42209340005	1
4	RUBBER WASHERS	42217000280	3
5	34 MM SECTION WITH SAIL FEED	42205341800	1
6	SPLICE SECTION FOR D34 10" LONG	42206343040	1
7	WICHARD SHACKLE 1214	46001121214	3
8	ROPE ½" X 20 METERS WHITE		1
9	FURLING FOIL D34 15 METERS LONG	42205341503	1
10	¼-20 X 1" FLATHEAD FOR FURLING SCREW		5
11	6.4 X 17.5 RIVET FOR SPLICE	29004164180	4

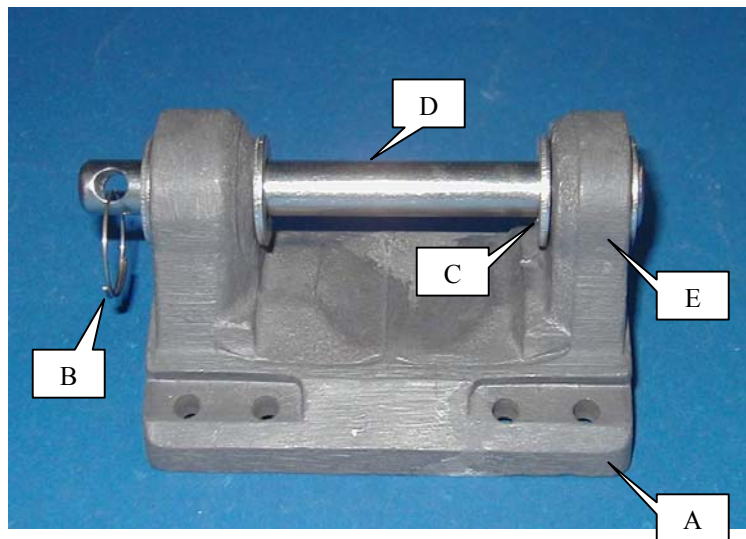


**NGIII / OCIII GOOSENECK BRACKET  
NO REEF HOOKS  
34511770C36**

NUM	DESCRIPTION	PART NUMBER	QUANTITY
A	NGIII / OCIII GOOSENECK BRACKET	34515543103	1
B	S/S BOLT 5/8-11 X 6 1/2"		1
C	S/S WASHER 16mm	28601014000	3
D	S/S LOCK NUT 5/8-11		1
E	BOOM TOGGLE III	34535544123	1
F	S/S RIVET 6.4 X 25	29003164250	12

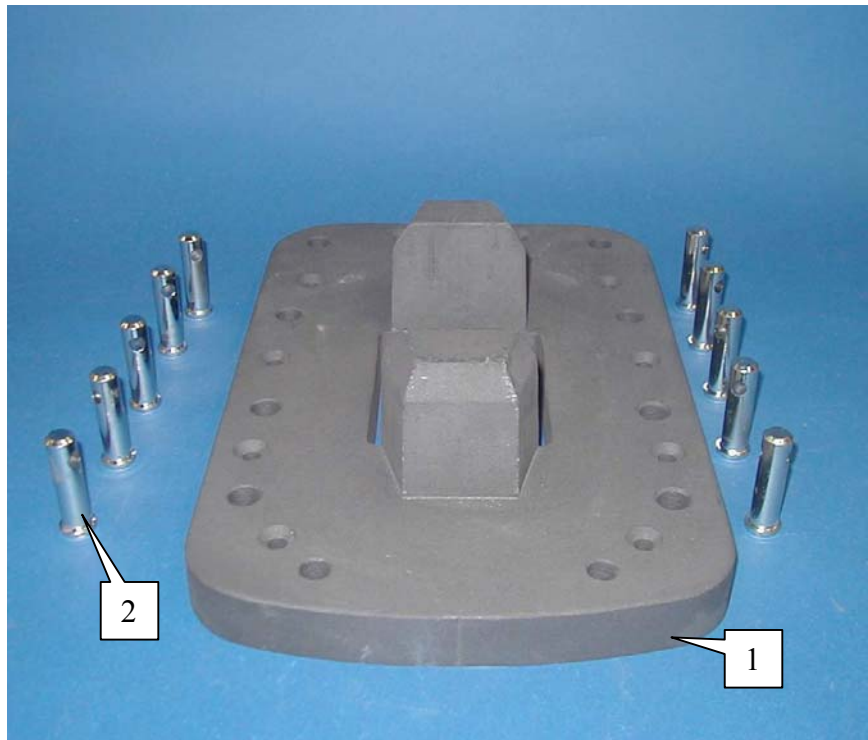


NUM	DESCRIPTION	PART NUMBER	QUANTITY
A	F560-980E GOOSENECK BRACKET	34511770803	1
B	S/S SPLIT RING	28809000020	1
C	S/S WASHER D 14	28601014000	1
D	CLEVIS PIN 14X 125	40020314125	1
E	6 X 25 FLATHEAD SCREW	28601106012	2
F	1/4-20 X 1 1/4 " PANHEAD SCREW S/S		8



**CHANGED TO ABOVE BRACKET 6-03-05**

NUM	DESCRIPTION	PART NUMBER	QUANTITY
A	OCII GOOSENECK BRACKET	34515543083	1
B	S/S SPLIT RING	28809000020	1
C	S/S WASHER D 14 MM	28601014000	4
D	CLEVIS PIN 14 X 125 MM	40020314125	1
E	S/S BUSHING (NOT SEEN)	40502022014	1



**DECK STEP**

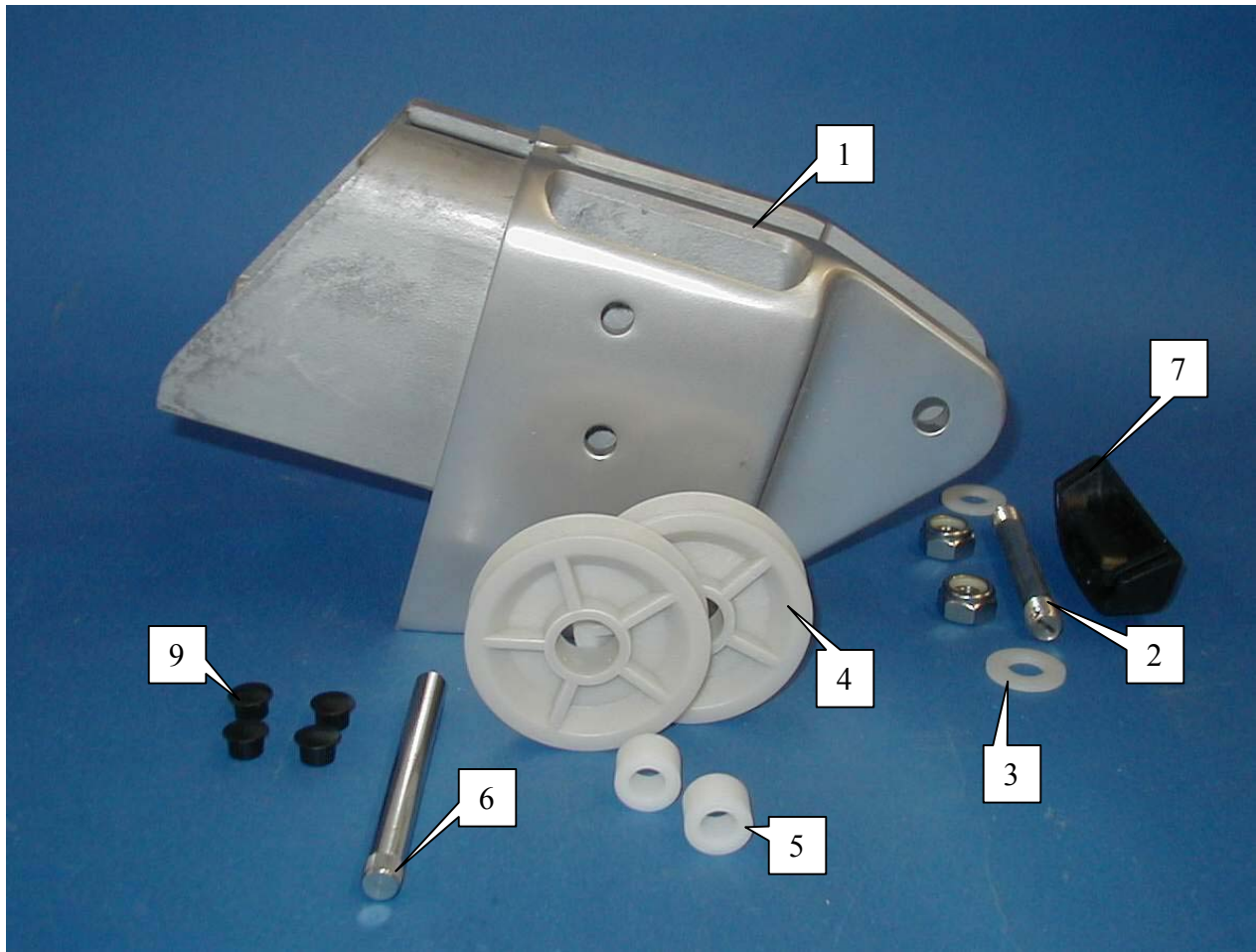
<b>NUM</b>	<b>DESCRIPTION</b>	<b>PART NUMBER</b>	<b>QUANTITY</b>
1	F1395-1410 ROCKER STEP	36053213953	1
2	S/S CLEVIS PIN14X39	40020314039	10
3	14 MM S/S WASHER	28601014000	10



**36014214103**  
**F1410-E INDEXED BASE**  
 MODIFIED FOR STAND PIPE  
 5/16 X 1" PANHEAD 5 PER STEP

# **BOOM SECTION F1700**





**F-810/1700 INBOARD BOOM END**

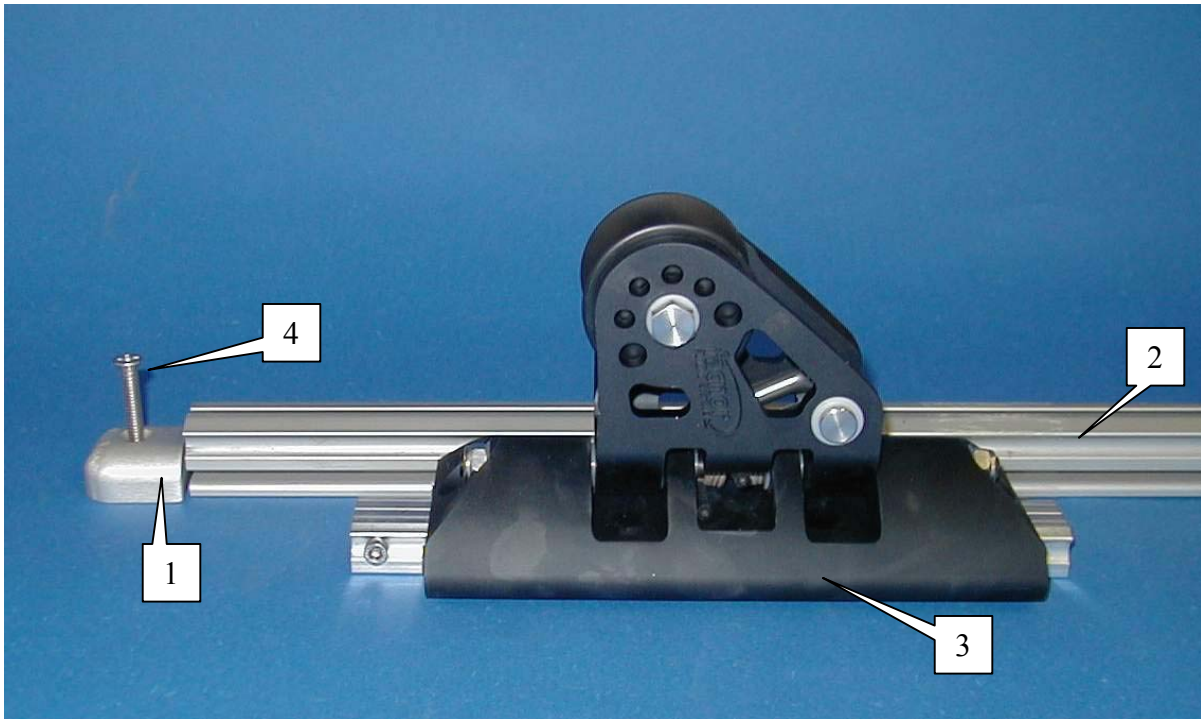
NUM	DESCRIPTION	PART NUMBER	QUANTITY
1	F810-1700 INBOARD BOOM END	37010008103	1
2	S/S THREADED PIN 14 X 102 WITH/ NUTS	40020514102	1
3	NYLON WASHER14 / 2mm THICK	28602314020	2
4	ACETAL SHEAVE 85 X 20	48510852025	2
5	BUSHING 12mm ID	40502021012	2
6	KNURLED PIN 12 X 122 FOR SHEAVES	40021012122	1
7	FRONT F1700 BOOM PLUG	37020017000	1
8	MONEL RIVET 6.4 X 17.5	29004164180	8
9	PLASTIC COVER	41203501011	4



OCII S/S BAIL 47505558124  
 OCII PLATE 47550553407  
 29004164180 MONAL RIVET 6.4X17.5  
 1 PER ROOM

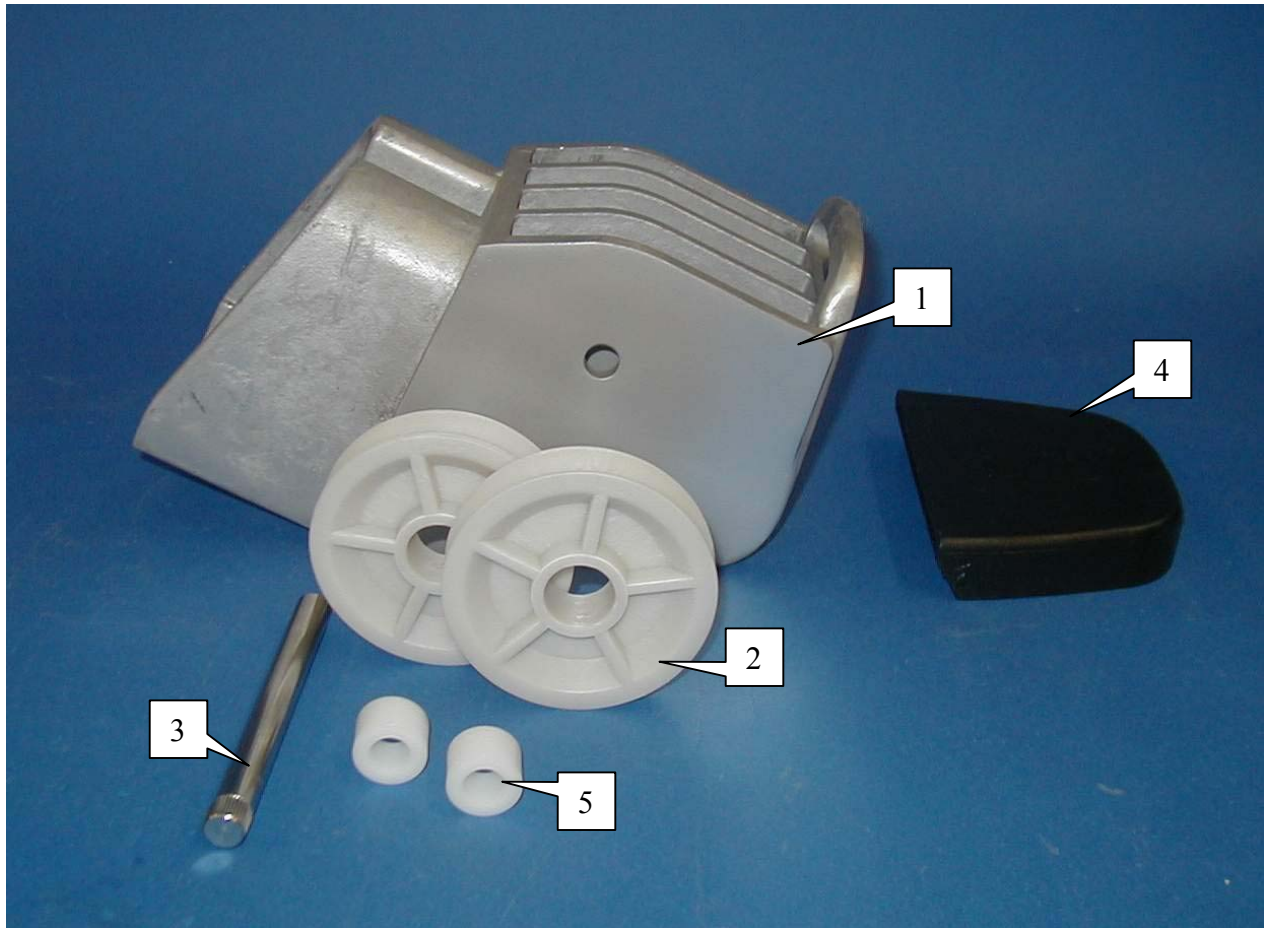


MANSHEET BAIL  
 4750331865  
 29004164180 MONAL RIVET 6.4X17.5  
 3 PER ROOM



**REMOVED 9-22-02**  
 FACNOR SIZE II SYSTEM

NUM	DESCRIPTION	PART NUMBER	QUANTITY
1	SIZE 1 & 2 ALUMINM END STOP	33513123456	2
2	SIZE 2 TRACK 4 METERS LONG	45003162290	1
3	FACNOR CAR SIZE II	54020400850	1
4	¼-20 X 2" S/S FLATHEAD SCREW		2



**F810 / 1700 OUTBOARD BOOM END**

<b>NUM</b>	<b>DESCRIPTION</b>	<b>PART NUMBER</b>	<b>QUANTITY</b>
1	F810 OUTBOARD BOOM END	37030008103	1
2	DELRIN SHEAVE 80 X 20.5 HOLE 10.5	48518020525	2
3	KNURLED PIN 12 X 117	40021012117	1
4	REAR BOOM PLUG F1700	37040017000	1
5	BUSHING 12mm ID	40502021012	2
6	6.4 X 17.5 MONEL RIVET	29004164180	8

# CATALINA 470 HANDBOOK

Thank you for the purchase of your new mast and boom from Charleston Spar-Sparcraft. This handbook is to familiarize you with cleaning, maintenance and servicing of your spars. You will find the pictures of the components with part numbers that are located in the service section particularly helpful.

## I. Maintenance.

Regular maintenance will ensure that your spars remain trouble free and safe. At the beginning of the season, all moving parts, (sheaves, gooseneck toggles, vang etc. should be cleaned and lubricated. Check also for signs of stress cracks if the vessel has been in extremely heavy weather or has taken a knock down.

Regularly wash the spars and fittings preferably with hot soapy water to remove salt and grime. Make sure that all sharp edges are fully taped for protection. At the end of the season, thoroughly wash and lubricate the fittings to ensure that they do not corrode during the winter. Secure all rigging away from the surface of the spars as there could be corrosion between the dissimilar metals or chafe caused by the wind.

Standing Rigging: Check Headstay and Backstay pin holes for elongation.

Check swaged terminals for signs of rust which leads to cracks.

Check wire for broken strands. This usually occurs first at bottom terminal.

Mast and boom cleaning procedure. Occasionally your anodized spar may need cleaning. The following is a restoration procedure.

1. Materials: There can be substitutions but a sample piece is advised to assure that the spar surface is not scratched.
2. "Mirlon" surface finishing pads, 6" x 9", grade VF, ([www.mirka.com](http://www.mirka.com)).
3. Dial Corporation's "Soft Scrub with Bleach", ([www.softscrub.com](http://www.softscrub.com)).
4. Dial Corporation's Boraxo TMT, Borax Powdered Hand Soap.
5. "Corrosion Block" by ([www.learchemical.com](http://www.learchemical.com)).

Procedure:

1. Rinse surface of spar to remove obvious abrasives, (sand and grit).
2. Wet surface of finishing pad. Apply mixture of Boraxo powder and Soft Scrub to create a loose paste.
3. With firm pressure in a linear direction, (along section), scrub surface. Concentrate on areas of discoloration with additional paste application.
4. Rinse with fresh water and repeat as needed to improve appearance.
5. Dry.
6. Using a dry lint free rag, to complete surface, apply "Corrosion Block".

7. Wipe with dry towel.
- II. Furling Masts: NOTE – Tune mast with no pre-bend. Please use a wooden wedge in the cavity opening at the lifting strap when stepping to avoid damage.
1. Hand operated Sparcraft furling masts use furling systems equipped with endless screws. This system is the only one allowing for a safe guidance of the furling control while avoiding over furling and the only one which may be operated by a single person.
  2. The diameter of the endless screw has been optimized in order to reduce furling stress under load. They are made of anodized aluminum and fitted on stainless steel roller bearings.
  3. The furling rod is free-floating within the cavity with no interior tensioning cable. This type of design does not increase mast compression.
  4. The furling rod is larger than the furling cavity opening and therefore can in no way pull out.
  5. The headboard swivel has a top and bottom shackle. It is best to put the main halyard eye splice direct to the top shackle. The lower shackle receives the mainsail. The swivel is the guide for the furling rod in the upper section. It can be removed for maintenance.
  6. The furling line is rolled onto the endless screw at the factory. It is held in by a socket-head cap screw at the base of the unit.
  7. Sail installation:
    - a. Mast and boom in place, attach the head of the sail to the lower swivel shackle. Hoist the mainsail slowly and carefully assuring the bolt rope is guided into the furling rod. Fix the tack before full hoist. Adjust the halyard tension for a slight fold in the sail along the furling rod.
    - b. The outhaul line comes from the sheave in the aft boom end, thru the block in the outhaul car, thru the clew in the mainsail and attached to the shackle in the front of the outhaul car.
  8. Setting the Mainsail: Note – With a solid strut, the leach is adjusted simultaneously with the foot.
    - a. Hold the boom in place by the topping lift or rigged vang. The solid strut will be pre-adjusted.
    - b. Pull the outhaul line until the sail is all the way out. Cleat off the line and go sailing. This will load the screw.
    - c. Setting the main in medium to heavy air. Head into the wind as necessary. Control the furling line to assure steady deployment. Using a winch as a brake in heavy air may be necessary.
  9. Furling and Reefing the Mainsail:
    - a. The aft end of the boom should be up slightly to allow for even layers of the sail on the furling rod.
    - b. Ease the mainsheet.
    - c. Pull on the furling line while keeping tension on the outhaul line to ensure a tight wrap of the sail. Stop where desired for reefing.
    - d. Secure both lines.
  10. Furling Mast Maintenance:
    - a. The maintenance of a furling mast is the same as the standard mast.

Some of the mechanical parts require yearly verification. Remove the mainsail once a year for inspection. Check the halyard swivel for proper integrity. Check the screw mechanism for ease of rotation. Listen and feel while rotating for roughness or binding. Flush screw and bearings with fresh water. If you have a question, please call Charleston Spar at 704-597-1502

11. Furling Control Line Replacement:

- a. Remove the sail.
- b. Unroll the line from the screw.
- c. Loosen the locking screw.
- d. Remove old line and install the new one to the previous depth.
- e. Tighten the locking screw.
- f. Load the endless screw to a point where the line is horizontal leading to the block on the boom.
- g. Reinstall the mainsail.

III. Go Sailing, Have Fun and Enjoy Your CATALINA 470.

Sincerely, Charleston Spar



## SPARCRAFT MAST WARRANTY BY CHARLESTON SPAR INC.

### I. WARRANTY, TERMS AND CONDITIONS –

Ocean & Performance Series& Sparcraft One Design Masts, Booms, and Mast Products. CHARLESTON SPAR for SPARCRAFT MASTS warrants its products in normal usage to be free of defects in materials and workmanship for a period of one year from date of invoice to the original purchaser, subject to the conditions, limitations and exceptions listed below. Any part, which proves to be defective in normal usage during the warranty period, will be repaired or replaced by Charleston Spar.

#### A. CONDITIONS AND LIMITATIONS:

1. CHARLESTON SPAR for SPARCRAFT MAST LIABILITY SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE GOODS OR PARTS DEFECTIVE IN MATERIALS OR WORKMANSHIP. Please note that CHARLESTON SPAR for SPARCRAFT MASTS usually does not supply standing or running rigging with mast orders; consequently, defects in rigging not supplied or manufactured by CHARLESTON SPAR are not covered by this warranty.

2. CHARLESTON SPAR for SPARCRAFT MASTS shall not be liable in any way for:

- a. Failures due to use of products in applications for which they are not intended, or on a boat other than intended.
- b. Failure due to considerable difference in displacement or stability from original design basis, or for more extreme use conditions from original design basis.
- c. Failures due to improper handling or storage after delivery, or for damages during commissioning or installation by others, or due to improper installation or tuning.
- d. Abnormal use or accident, including but not limited to accidental jibes, running aground or in ungrounding operations, or due to lightning strikes.
- e. Loss of boat use; dockage or boatyard storage; or for crew/passenger expenses or reimbursement.
- f. Ultra violet degradation, chafe, corrosion, or wear and tear.
- g. Breakage, damage, or failure while racing, unless CHARLESTON SPAR has expressly authorized limited racing coverage by separate written agreement.

3. Requests for warranty claims shall be in writing and should include sketch, pictures or detailed description of defective part or reason for claim. Fax or letter is acceptable to initiate claim and to establish age of product. FINAL CLAIM TO BE ON CHARLESTON SPAR AUTHORIZED FORM. CHARLESTON SPAR may request that part(s) be returned to the FACTORY. Return Authorization required for large objects. For SPARCRAFT MASTS not directly purchased through CHARLESTON SPAR, initial requests for parts or repair should be through your dealer/boat manufacturer. Installation labor associated with any warranty claim shall be according to CHARLESTON SPAR repair policies.

#### B. EXCEPTIONS:

1. This warranty is limited to six (6) months for any product that is being rented or leased (chartered), or which is installed on any vessel that is being rented, leased, or charter, with the exception of items in 1BII.

2. Electrical or hydraulic motors or controls; hydraulic or pneumatic cylinders, valves or seals; and electrical equipment shall carry a one year warranty unless the part's manufacturer carries a longer warranty.

3. CHARLESTON SPAR for SPARCRAFT MASTS shall not be liable for consequential damages to yachts, equipment or other property or persons due to any failure of CHARLESTON SPAR for SPARCRAFT MAST equipment. Some countries and states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation exclusion may not apply to you.

**II.** This warranty gives you specific legal rights, and you may also have other legal rights, which vary from state to state. Some states or countries do not allow limitations on how long an implied warranty lasts, so the above may not apply to you.

**III.** Due to ongoing design development and materials/parts procurement, CHARLESTON SPAR reserves the right to alter design and specifications without prior notice. Such changes shall not be taken as retroactive for any existing mast or parts.

**IV.** Pre-commissioning inspection, installation and tuning of your CHARLESTON SPAR MAST should be performed by an experienced rigger or sailor under his sole responsibility. Adequate time should be allowed between mast inspection and mast stepping. Any discrepancies or missing parts not listed, as backordered should be faxed in to Charleston Spar's attention "Pre-installation Inspection". Due to trucking schedules, masts are sometimes sent incomplete. Missing and/or backordered parts are sent by regular UPS service. Overnight delivery of parts is available for a surcharge.

**V.** The plastic packaging that masts are wrapped in is for protection during shipping. Condensation can occur and be trapped inside the packaging and possibly cause corrosion. Please do not leave masts stored for long periods in plastic wrap.

**VI.** Safety precautions should be taken when working on or up a mast. A second halyard or a safety line should be used when going aloft. Halyards, sheaves, bearings, external blocks, bails, lugs, shrouds and spreaders should be checked periodically AND REPLACED IF SHOWING SIGNS OF WEAR, CHAFE, OR AGE. Be aware of the dangers of masts coming into contact with power lines, particularly areas of boatyard/marinas.

**VII.** Masts and mast products are designed to be used in a sometimes harsh marine environment. It is common sense and prudent seamanship to inspect masts regularly and to practice good care and regular maintenance. Your CHARLESTON SPAR / SPARCRAFT MAST has most likely been either electrostaticly powder coat painted or anodized to produce a long lasting attractive finish. While these finishes are possibly the best available on the market, the sun and salt can eventually take a toll. Periodic cleaning, rinsing and lubricating can extend your use. Replacement sheaves and other mast parts are available for purchase through Customer Service after your warranty period has expired. CHARLESTON SPAR looks forward to servicing you.

