

# **J 109 HAND BOOK**



MADE BY

## **CHARLESTON SPAR**

3901 PINE GROVE CIRCLE  
CHARLOTTE, NC 28206

(704) 597-1502

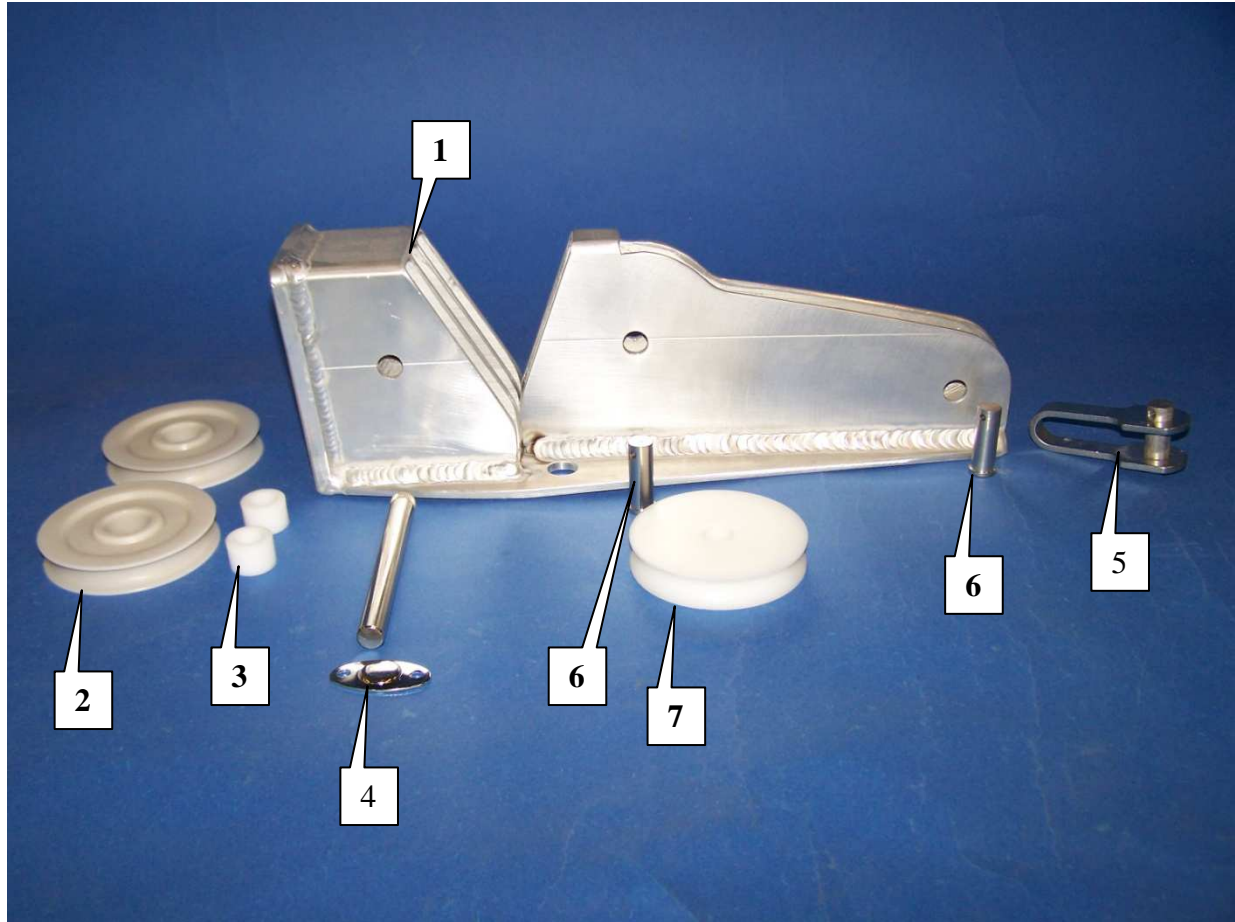
FAX (704) 597-0961

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

# MAST STANDARD SECTION F305



<i>NUM</i>	<i>DESCRIPTION</i>	<b>PART NUMBER</b>	<b>QUANTITY</b>
1	PVC ¾" TO MIDDLE 10'	27902293003	2
1	PVC ¾" TO TOP 10'	27902293003	5



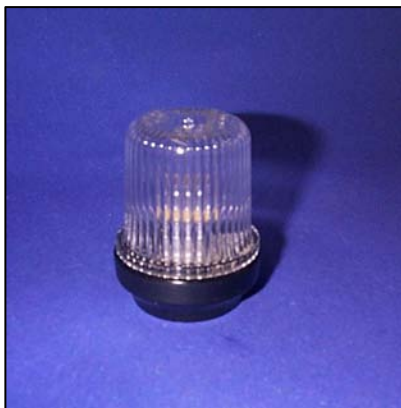
**J109 CUSTOM MASTHEAD WELD IN**

<i>NUM</i>	<i>DESCRIPTION</i>	<i>PART NUMBER</i>	<i>QUANTITY</i>
1	J109 CUSTOM MASTHEAD	J109MH	1
2	ACETAL SHEAVE 85X15 PIN 22mm	48530851515	2
3	ROLLER / BUSHING 12 mm ID	40502021012	2
4	S/S COVER PLATE SMALL	41201501044	1
5	12MM LARGE SINGLE TOGGLE	41410201241	1
6	CLEVIS PIN S/S 1/2 X 1.235 (bee 15-091-001)	P-8-32	2
7	SHEAVE 80 X 15 AXE D12	48510801525	1



**3100 715 0075**

**7/8 ATT WIRE 7MM NO SPECTA W/TOGGLE 12MM COMPLETE**



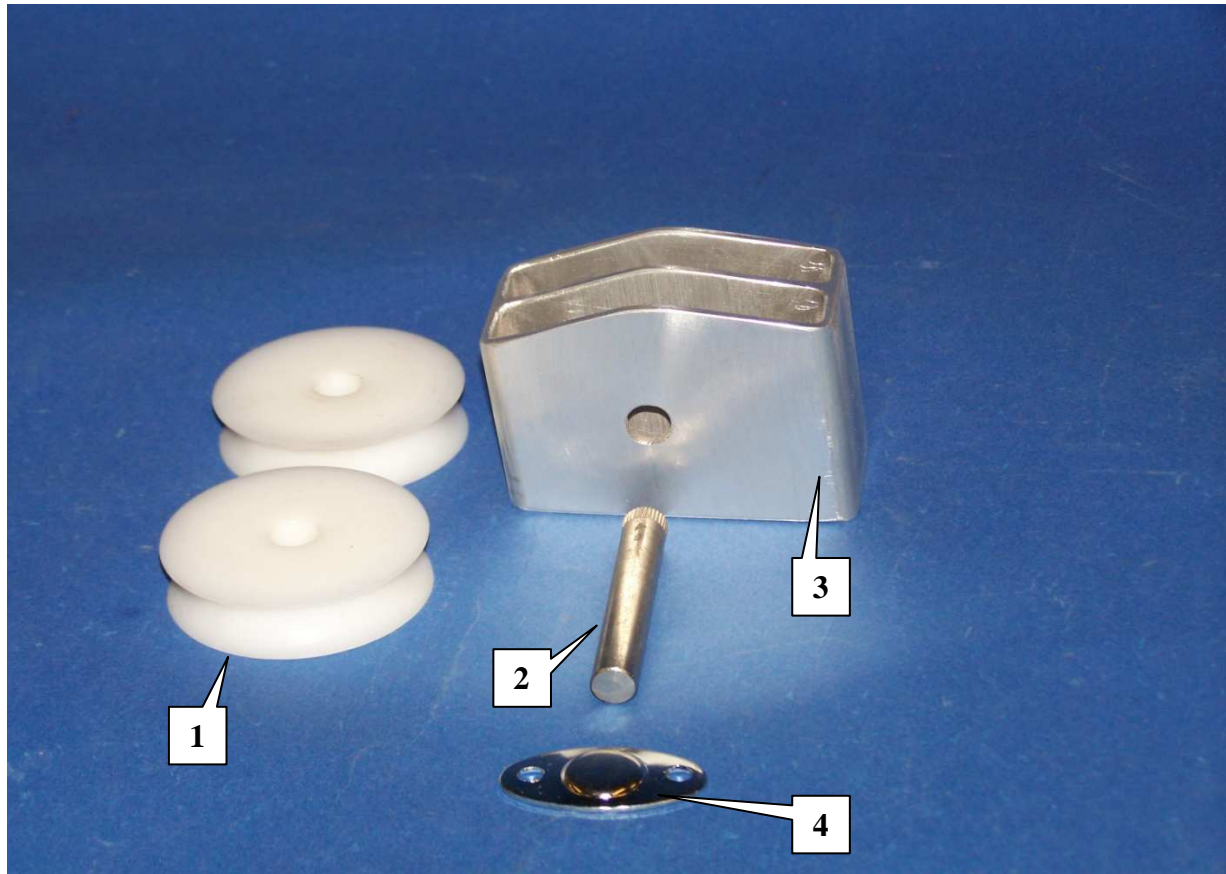
**ANCHOR LIGHT  
HELLA 62171  
43003031211**



**Model 2492**

Ideal as navigation lamp on small boats.  
Low power consumption. Seawater-  
proof, anti-magnetic.

Product description.....	Shock-proof, sturdy plastic housing and lamp housing UV-resistant
Minimum visible range.....	2nm, for vessels <20m
Bulb.....	Pre-fitted spherical incandescent bulb 12 V / 10 W, socket: BA 15s
Installation.....	6.3 mm flat-plug connectors, 2 flat female connectors 6.3 mm included
Cable entry.....	Through base plate
Protective system.....	According to IP 54 (DIN 40050)
Mounting.....	Direct attachment, 2 mounting screws 5/32"

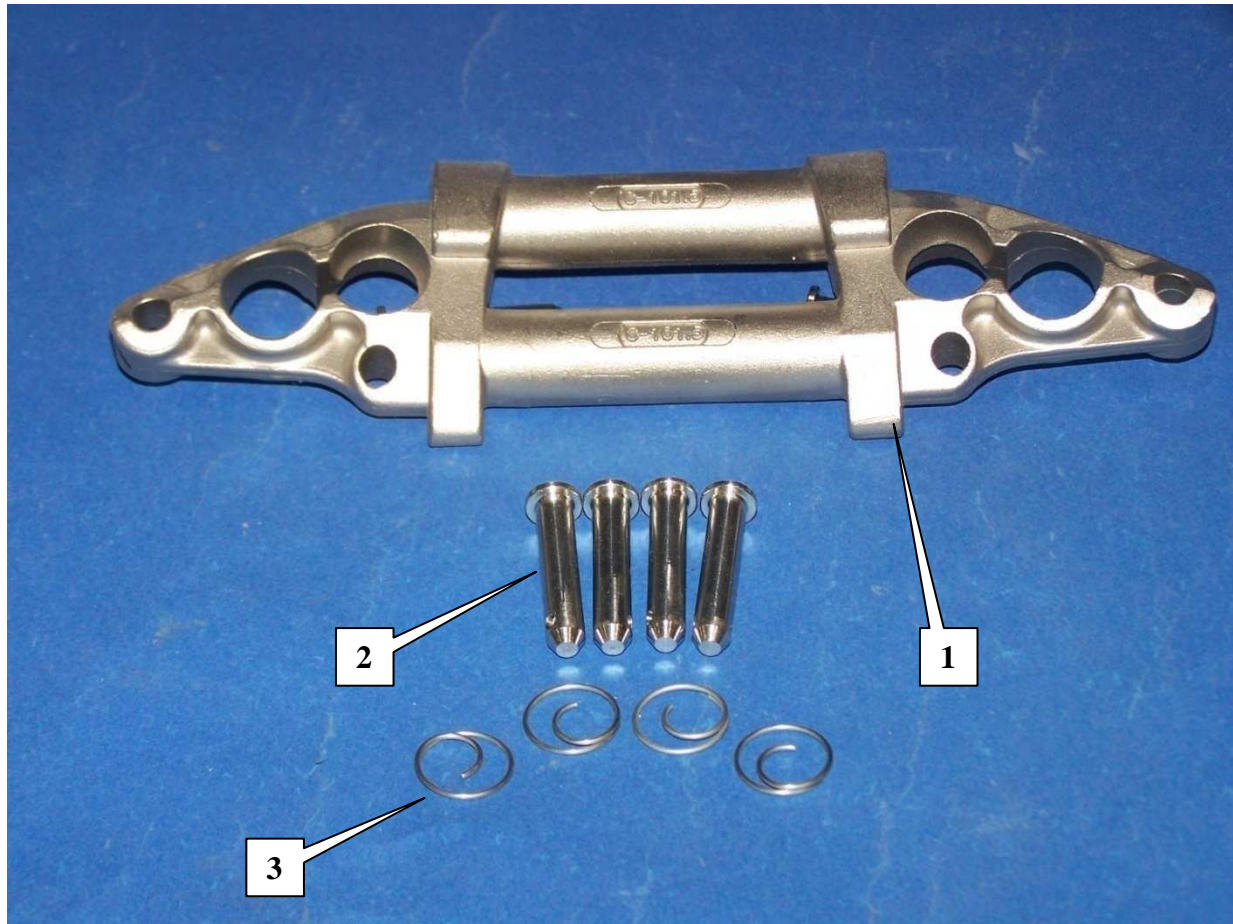


<i>NUM</i>	<i>DESCRIPTION</i>	<i>PART NUMBER</i>	<i>QUANTITY</i>
1	DERLIN SHEAVE 60MM OD	48510601425	2
2	S/S CLEVIS PIN 10 MM		1
3	NGI DOUBLE EXIT BOX WELD IN	NONE	1
4	S/S COVER PLATE SMALL	41201501044	1



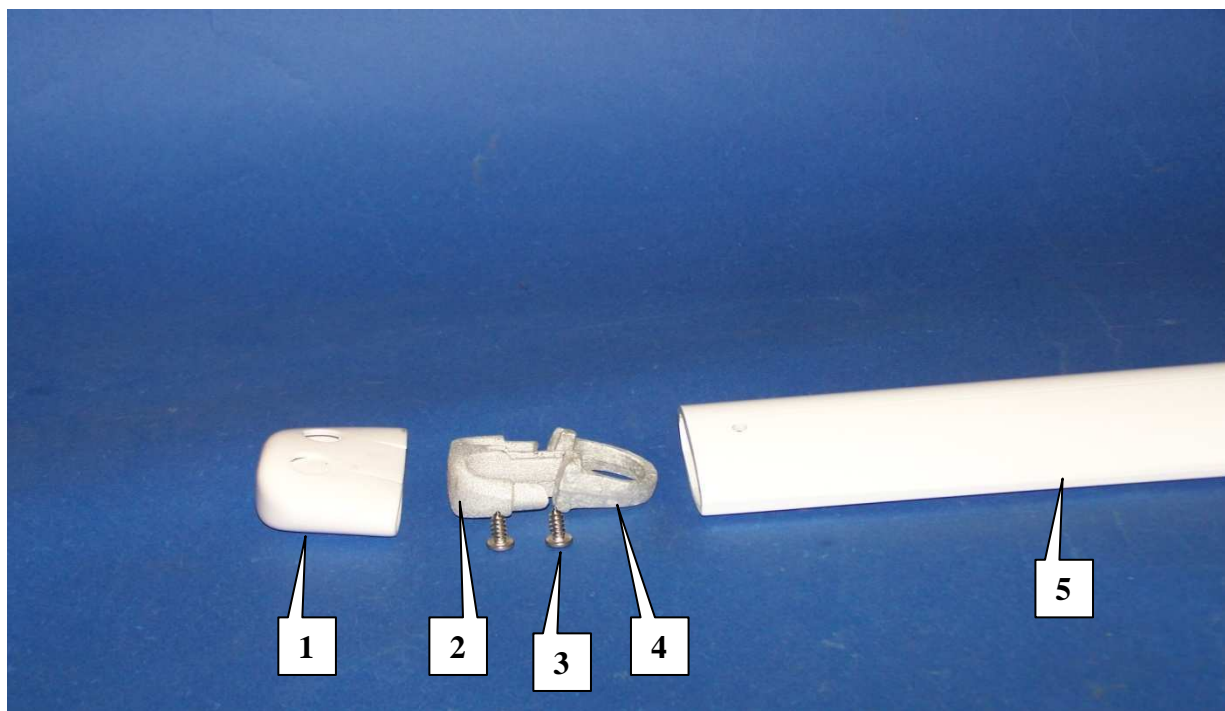
**PERKO 1331 STEAMING  
LIGHT  
43011061211**





**2 BF3 S/S BARS PER MAST**

<i>NUM</i>	<i>DESCRIPTION</i>	<i>PART NUMBER</i>	<i>QUANTITY</i>
1	S/S BF3 SPREADER BAR F-305	32153030001	2
2	BF3 SPREADER PIN 8 X 33.5	40020308034	4
3	SPLIT RING 15/	28809000015	4



**SPREADERS PAINTED WHITE**

<i>NUM</i>	<i>DESCRIPTION</i>	<i>PART NUMBER</i>	<i>QUANTITY</i>
1	BF3 8MM PLASTIC PROTECTION	32603050082	4
2	BF3 SPREADER TIP ANO	32603030083	4
3	SCREW 10 X ½ PPTS 18-8 S/S	28606408009	8
4	BF3 8MM ALU PROTECTION	32603040083	4
5	BF3 UPPER SPREADER 760MM 18 DEGREE SWEEP	NONE	2
6	BF3 LOWER SPREADER 1155MM 20 DEGREE SWEEP	NONE	2



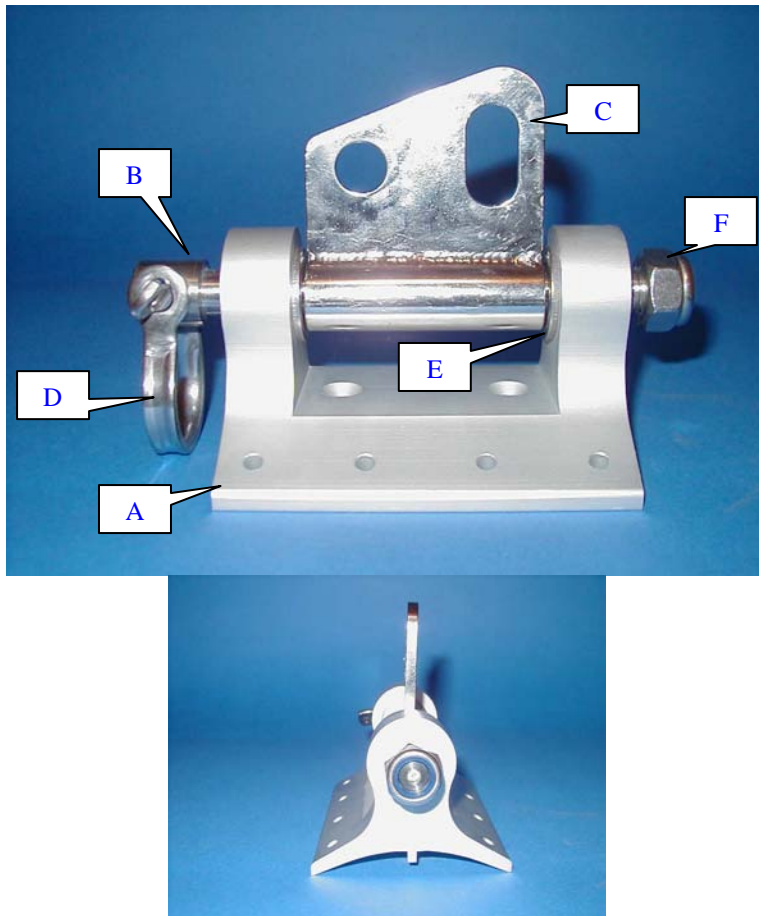


**3451177PF15**

**F195-460 COMPLETE GOOSENECK F220-550 COMPLETE**

NUM	DESCRIPTION	PART NUMBER	QUANTITY
A	F195-460 GOSSENECK BRACKET	34511774813	1
B	TOGGLE 12mm HOLE	34531792183	1
C	D14 GOOSENECK PIN+10MM HOOK	34561771464	1
D	NYLON FLAT WASHER 14/2.5MM	28602314025	2
E	BOW SHACKLE	46001151008	1
F	A4 M6X35 ROUND MACHINE SCREW	28601306035	2
G	S/S LOCK NUT 14 mm	28600514000	1
H	S/S RIVET 4.8X25	29002248250	8



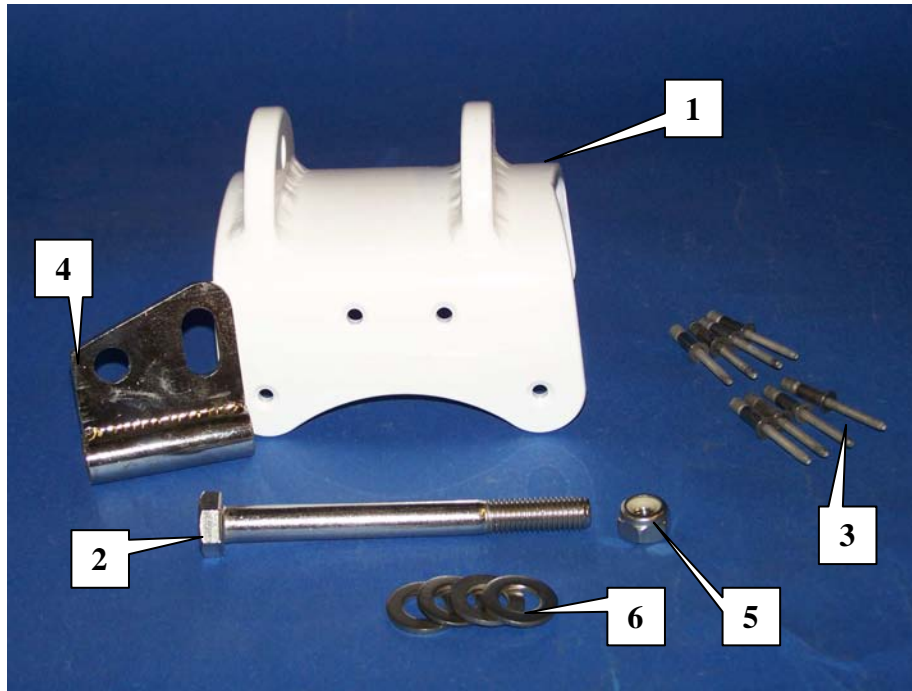


**REMOVED 5-16-2006**

**3521181PF15**

**F385-460 VANG BRACKET COMPLETE**

NUM	DESCRIPTION	PART NUMBER	QUANTITY
A	F385-460 GOOSENECK BRACKET	34511774813	1
B	S/S THREADED PIN 14 X 138	40022014138	1
C	D14/14 VANG TOGGLE POLISHED	35231790104	1
D	BOW SHACKLE D8	46001151008	1
E	S/S WASHER D14	28601014000	2
F	A4 M14 NUT	28600514000	1
G	S/S RIVET 4.8 X 25	29002248250	8



NUM	DESCRIPTION	PART NUMBER	QUANTITY
1	CUSTOM GOOSENECK BRACKET	352100J1091	1
2	14 X 140 S/S BOLT	28609012140	1
3	RIVET ¼ FLATHEAD	MGL-100-U8-8	8
4	VANG TOGGLE D14/14	35231790104	1
5	14 MM LOCK NUT	28600514000	1
6	S/S WASHER 14 MM	28601014000	4



**6000 7J1 0901**  
**J109 SPARTITE INJECTED WEDGE F-305**



**3607 356 0121**  
**F305 WATER PROOF RUBBER COAT**

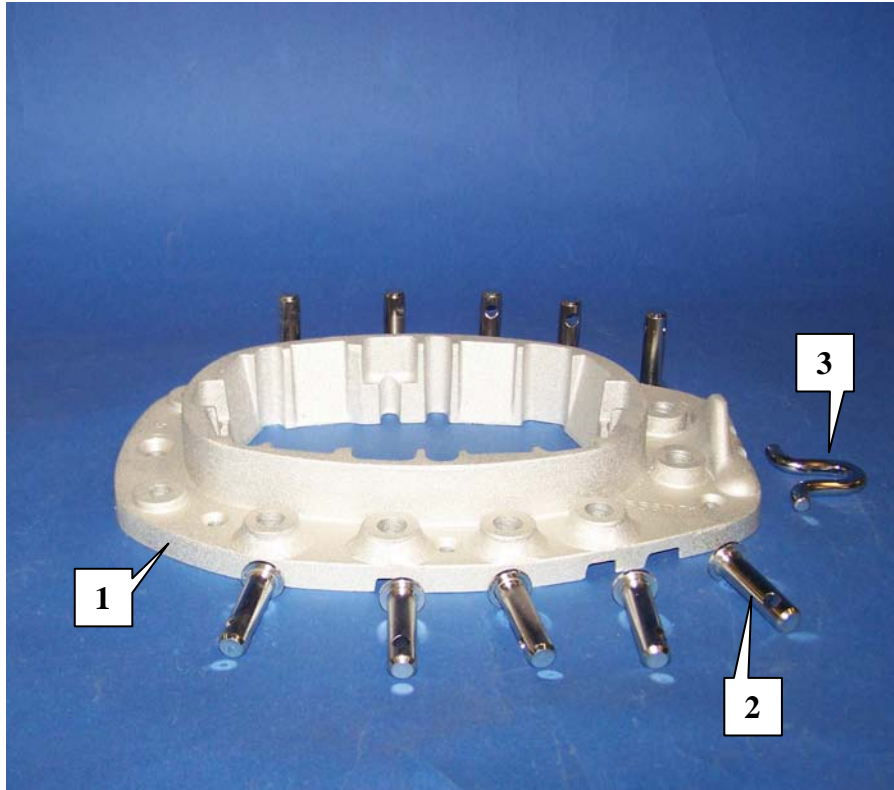


**3550 200 0305**  
**F305 INTERNAL WATER PROOFING**



**6026 300 0005**  
**J109-BACKSTAY EXTENSION USA VERSION**



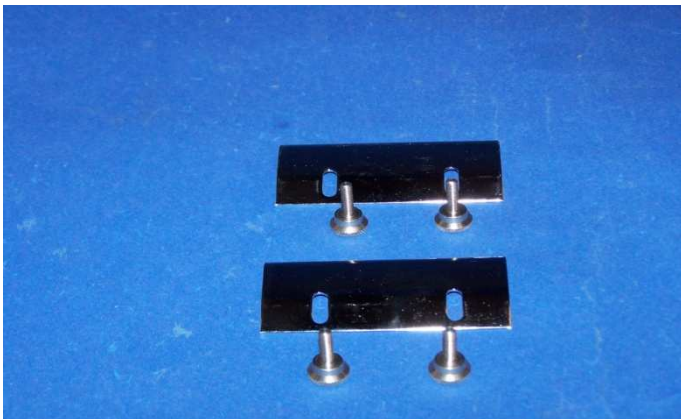


**J109 MAST COLLAR**

NUM	DESCRIPTION	PART NUMBER	QUANTITY
1	DECK COLLAR F305	36061203853	1
2	CLEVIS PIN 14 X 39 LARGE HEAD	40020214040	10
3	S/S BAIL	47505558124	1



**3603 220 3053  
F305 KEEL STEP**



**S/S SAIL GATE LONG 34206157009  
S/S THUMB SCREW 28607604015**



**LEAD BLOCK 48011421040  
2 PER MAST**



**31011010074 T TANG**

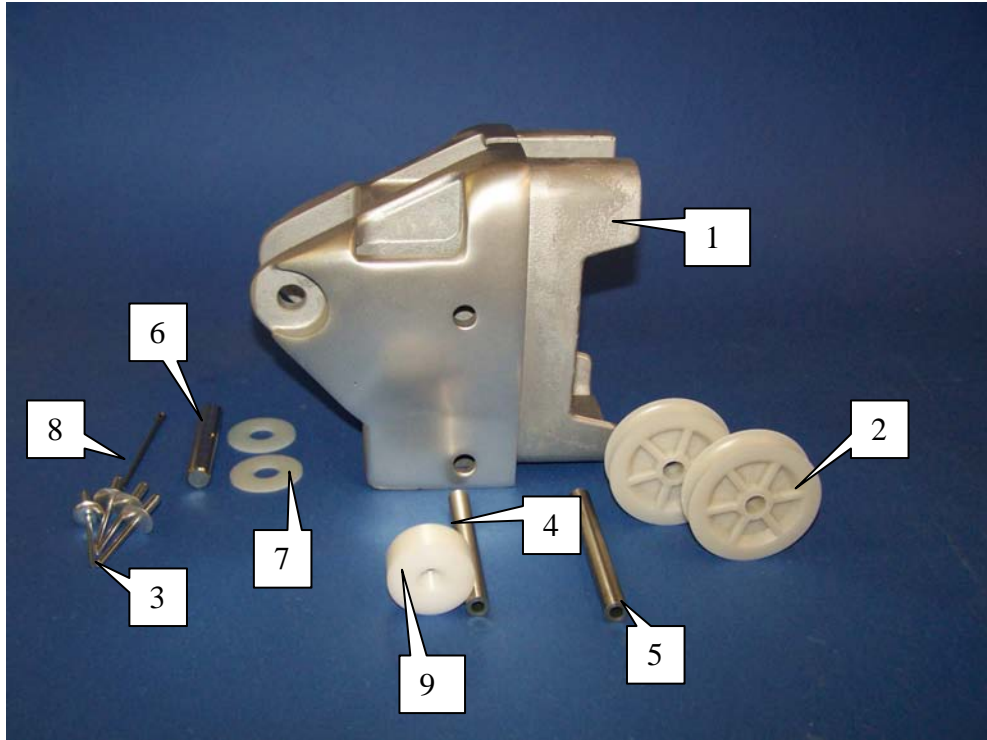


**47509558126 EYE STRAP**

# BOOM SECTION F550



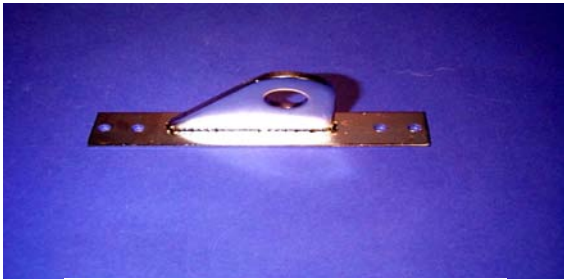
98 X 160 mm



### F550 INBOARD BOOM END

NUM	DESCRIPTION	PART NUMBER	QUANTITY
1	F550 INBOARD BOOM END	37010005503	1
2	ACETAL SHEAVE 60 X 14 mm	48530601415	2
3	ALUMINUM RIVET 8 X 14	29001248140	4
4	HOLLOW PIN 10 X 90 FOR JAMMERS	40020710090	1
5	HOLLOW PIN 10 X 98 FOR SHEAVES F550	40020610098	1
6	S/S CLEVIS PIN 12 X 62 mm	40020312062	1
7	FLAT NYLON WASHER D12 / 2.5 THICK	28602312025	2
8	S/S COTTER PIN 12 X 2 X 2 1/2	28803032630	1
9	ROLLER BIG SIZE NB40-55	48011009036	1





**BOOM VANG LUG  
35243206504**



**K-10991 CLEAT SEA DOG**

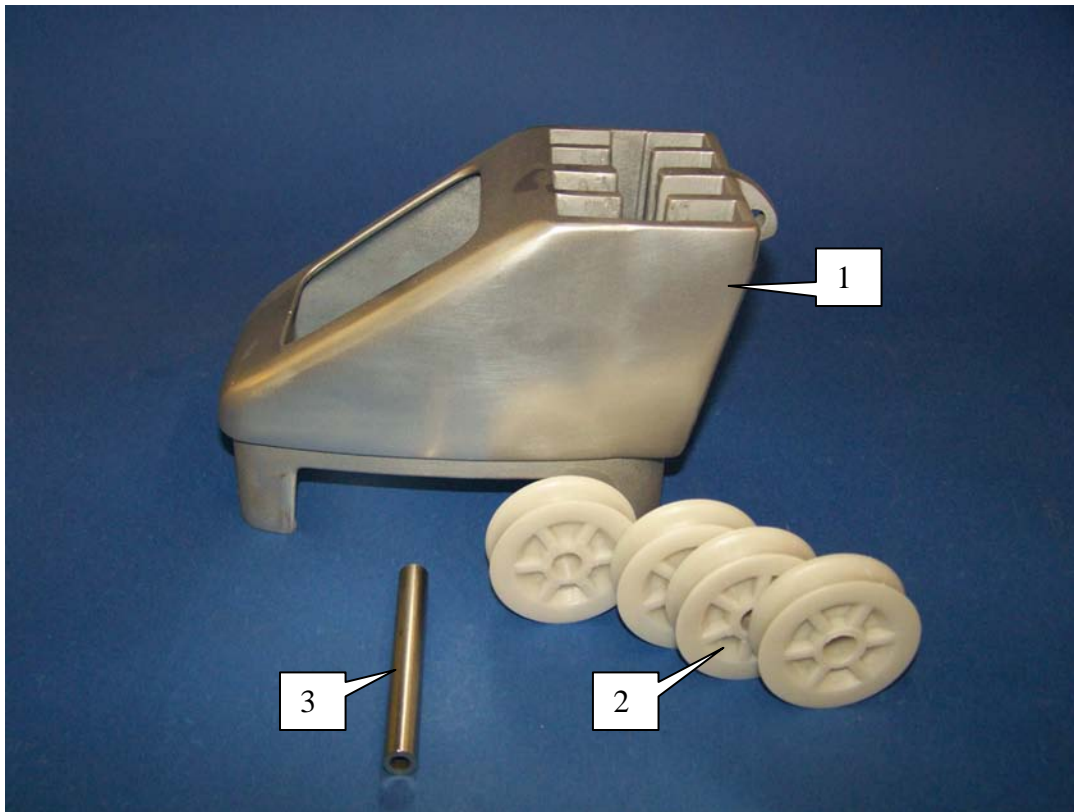


**1) NGII BAIL 47505558124  
2) NGII BAIL PLATE 47550553407**



**47501318172 BALE DIA 6MM  
48204000098 HARKEN BLOCK**

**J109 OUTHAUL LINE  
60007J10509**



### F550 OUTBOARD BOOM END

NUM	DESCRIPTION	PART NUMBER	QUANTITY
1	F550 OUTBOARD END	37030005503	1
2	ACETAL SHEAVE 50 X 14 mm	48530501415	4
3	S/S STRAIGHT PIN 10 X 83	40020110083	1

## **STANDING RIGGING J109 ROD**

<b>DESCRIPTION</b>	<b>QTY</b>	<b>DIA</b>	<b>LG</b>	<b>TOP</b>	<b>BOTTOM</b>
FORESTAY	1	-10 ROD	14620	EYE	TURNBUCKLE
TOP SHROUD	2	-10 ROD	10088	BACKING SHELL	TURNBUCKLE
INTER	2	-6 ROD	10159	BALL (BF3)	TURNBUCKLE
LOWER	2	-10 ROD	5468	BALL (BF3)	TURNBUCKLE
BACKSTAY	1	-8 ROD	14580	EYE	EYE

# J109 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 387.

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 electrostatically 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.