CROWLEY'S YACHT YARD RIGGING

Standing Rigging

Our capabilities include:

- Wire swaging up to 1/2” diameter wire.
- Rod heading from – 4 to – 40 rod.
- Traditional Rigging (Liverpool Wire Splices in 7 x 7 and 7 x 19 Wire Rope)

BSI Hayn Marine NAVTEC Made By Hayn Marine STA-LOK®

CROWLEY'S YACHT YARD RIGGING

We can replicate your standing rigging in one of two ways:

- You ship your standing rigging to Crowley's Rigging, so we can replicate it by laying each section on our bench to get the measurements needed. This is usually the best way and can reduce a certain amount of confusion and mistakes.

- You take the needed measurements and complete the supplied table. Please follow the given directions for measuring your rigging. All rigging will be made to the measurements that you provide to us. Please take all precautions to take accurate measurements as there is no returns on standing rigging that is not measured by our rigging department.

1) If the mast is not unstepped yet, tape the threads at the turnbuckles. This will give you a mark to go back to after unthreading the turnbuckle to get the needed pin to pin measurement.

2) Determine the type of wire. See wire rope descriptions. Tables 1-5

3) Measure the wire diameter for each section. See figure 3.

4) Determine the pin to pin length for each section. See figures 4-5.

5) Determine the type of fittings. Note the pin sizes for each if applicable. See figures 4-5.

If possible, note the manufacturer of the fittings, e.g., HAYN, CS JOHNSON, SELDEN, etc.

6) Determine the turnbuckle thread size by measuring the stud thread diameter. Note the thread count per inch and if left or right hand thread. See figures 6-7.

CROWLEY'S YACHT YARD RIGGING

Name: Email:

Address: Phone:

Section	Wire Diameter	Upper Fitting	Pin to Pin Length	Lower Fitting	Turnbuckle	Pin Size	Quantity
Uppers							
Intermediates							
Lowers (Aft)							
Lowers (Forward)							
Forestay							
Backstay							
Baby Stay							
Running Backs							
V1							
V2							
D1							
D2							

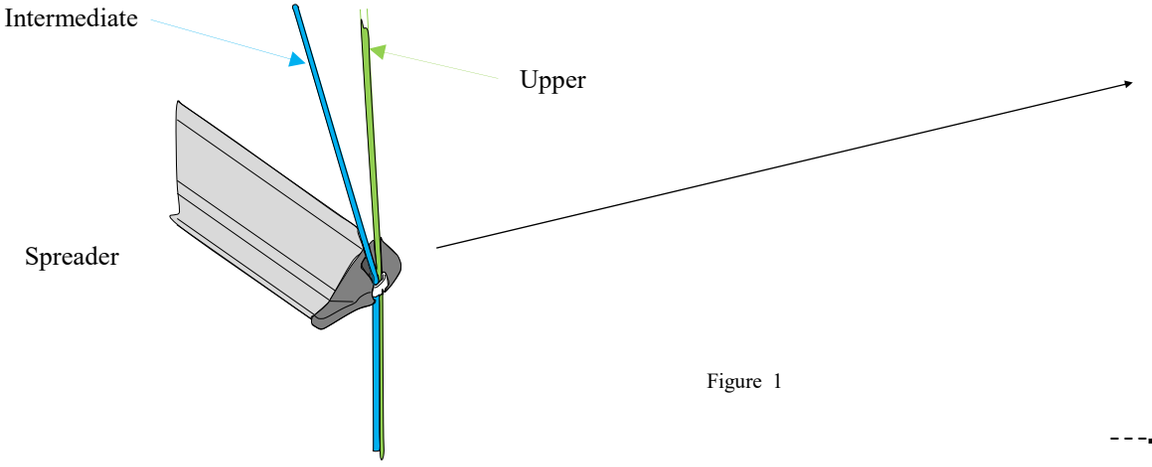
Continuous or Discontinuous Rigging

Continuous Rigging

The shrouds in continuous rigging run from the tang (the connection at the mast) over the spreader tip and to the deck. This eases spreader design and allows for all tuning to be done at the deck level. It is also reduces costs eliminating additional fittings required for discontinuous rigging.

Shroud identification differs from discontinuous rigging.

The drawing below shows both an upper (cap) shroud and the intermediate shroud passing over the spreader and continuing to the deck to meet the chain-plates.



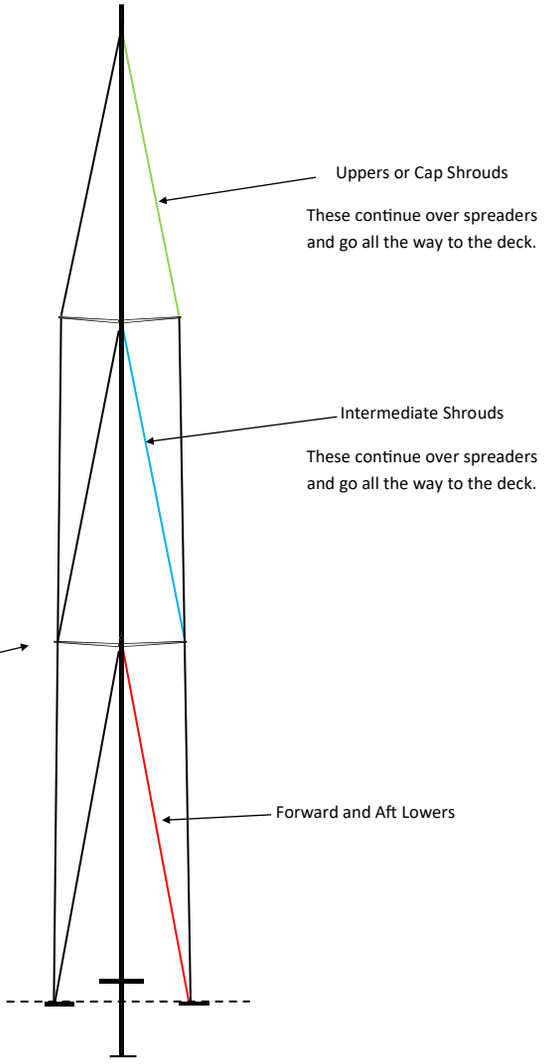


Figure 1

Continuous or Discontinuous Rigging

Discontinuous Rigging

Each mast section is fitted with the size wire or rod to accept the loads generated at that section of the spar. Instead of traveling over the spreader, the wire or rod terminates at the spreader tip commonly known as a tip cup or other fitting. See example.

These are gradually reduced up the mast where the loads decrease. The result is less windage, lowered center of gravity, and lower weight on occasion. Tuning must be completed at each spreader and deck level.

Shroud identification differs from continuous rigging.

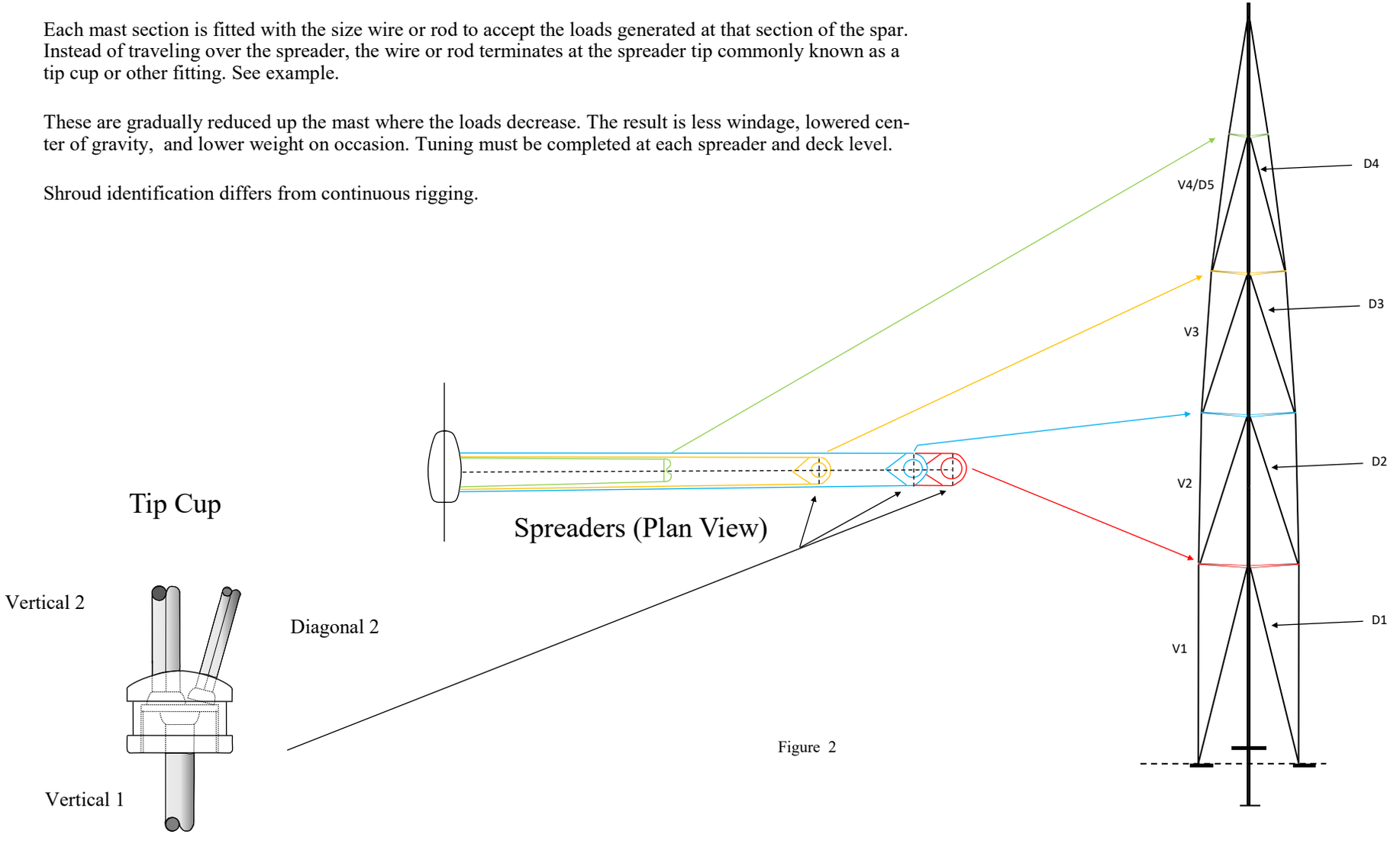
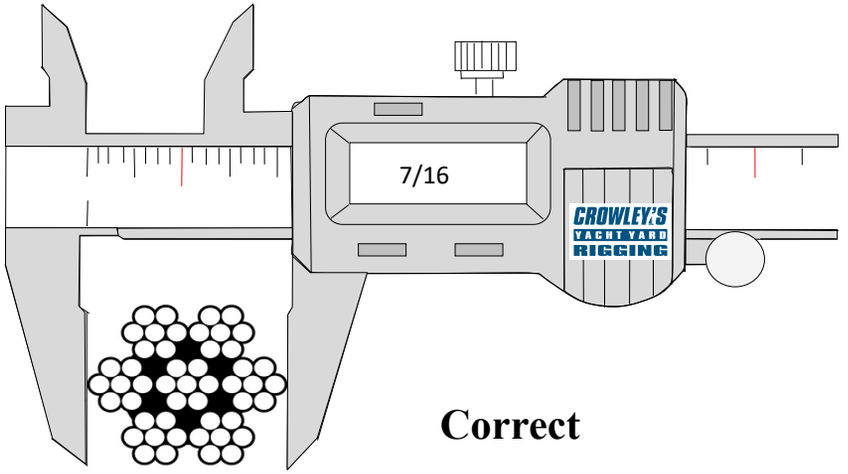


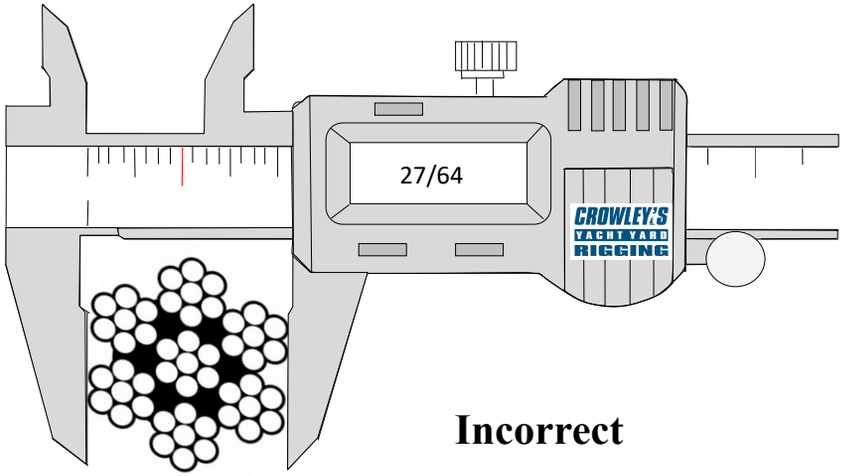
Figure 2

Measuring Your Wire Diameter

Measure wire rope using calipers.



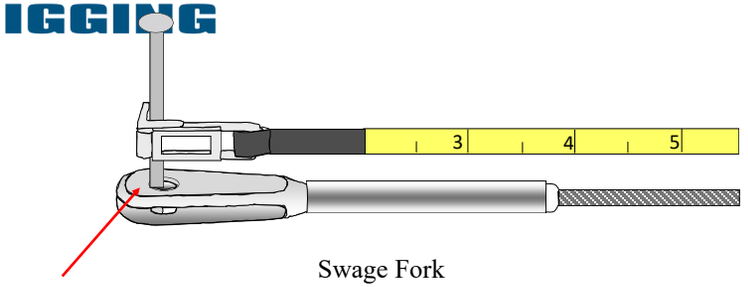
Correct



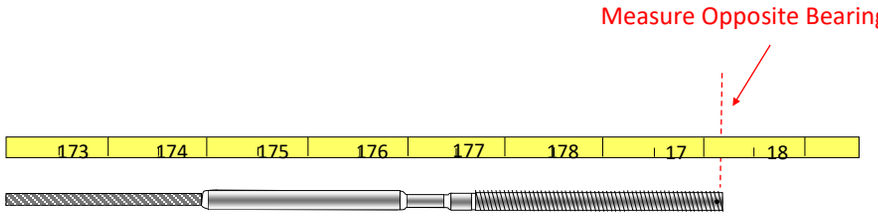
Incorrect

Figure 3

Measuring Your Pin to Pin Lengths For Replacement



Figure



Lay out each section on a flat surface. Ensure that that section is tight and straight. Hold rigging in place using a nail (or similar) as an anchor point through the clevis pin hole, measure from the bearing point to the bearing point on the other end. (Make sure to use a steel measuring tape that wont stretch.) Ensure there are no bends. Larger rigging components may benefit from using a trucker's hitch to another fixed point to stretch the rigging taught.

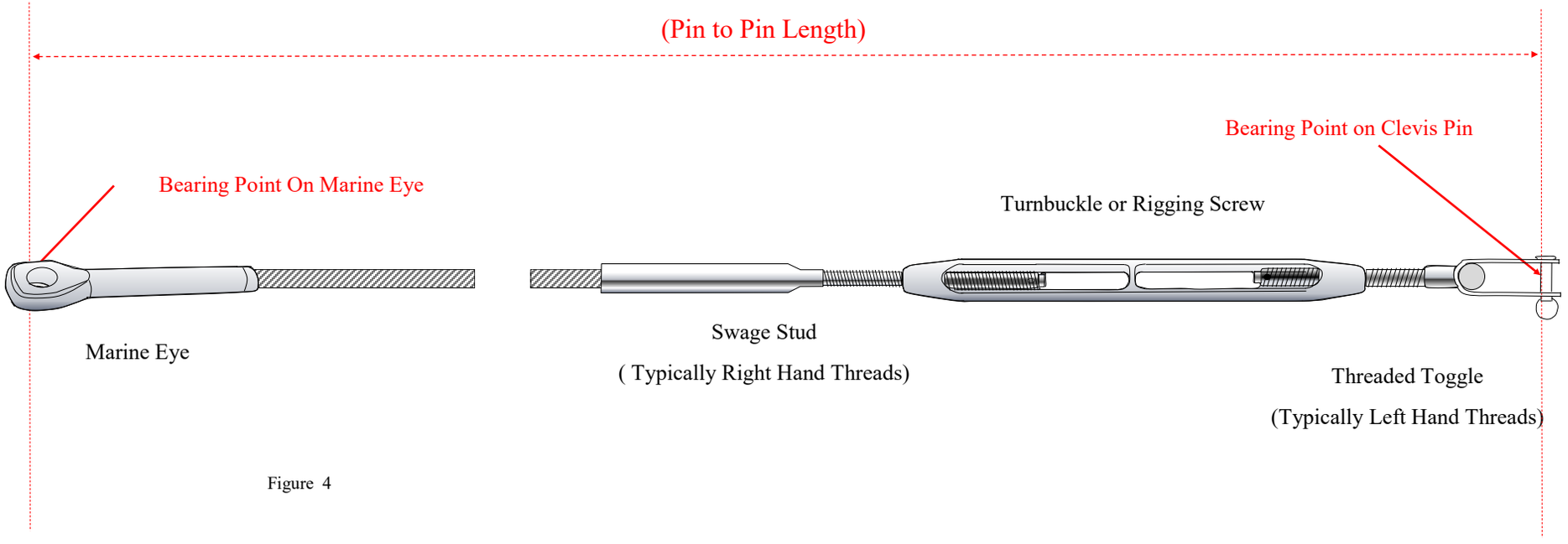


Figure 4

Measuring Your Rigging Lengths For Replacement

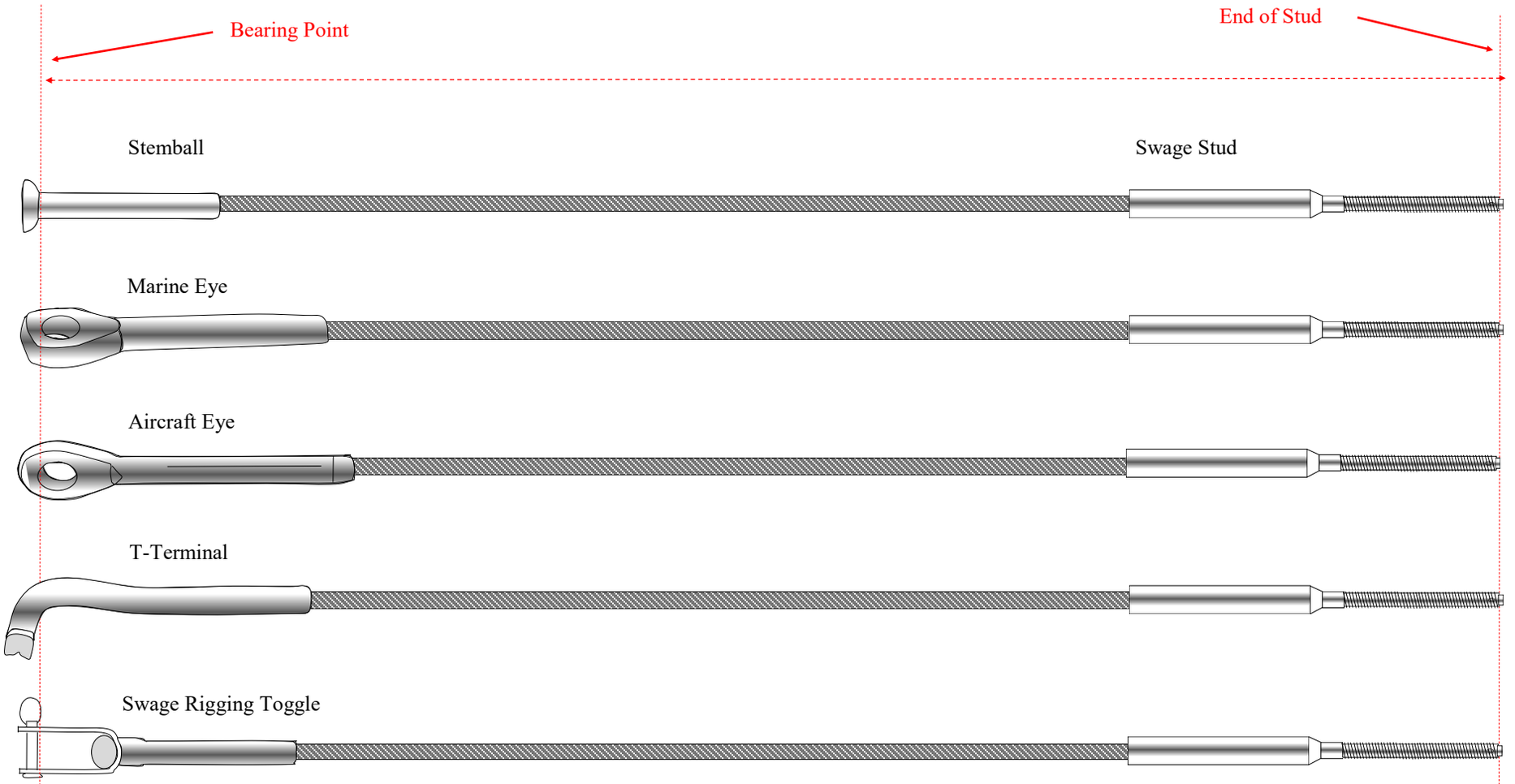
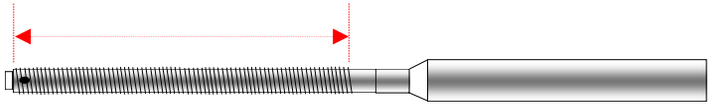


Figure 5

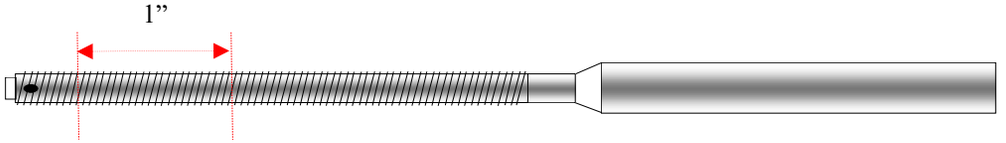
Thread Size and Length

Thread length is the linear measurement of the threaded portion of the stud.



Thread count is the number of threads in one inch.

(Example 20,24,28)



Measure thread diameter with calipers.

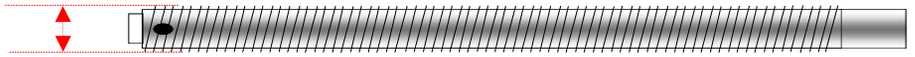


Figure 6

How to Determine Left or Right Hand Threads

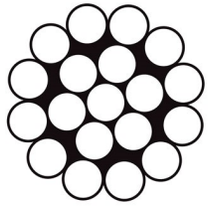
Left hand threads tighten counter clockwise.

Right hand threads tighten clockwise.

Figure 7

CROWLEY'S YACHT YARD RIGGING

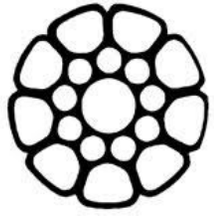
Wire Rope Breaking Strength Averages



1 x 19

Diameter	Average B/S (Lbs.)	Weight Lbs/100'
1/8"	2,100	3.5
5/32"	3,300	5.5
3/16"	4,700	7.7
7/32"	6,300	10.2
1/4"	8,200	13.5
9/32"	10,300	17
5/16"	12,500	21
3/8"	17,500	29.4
7/16"	22,500	41
1/2"	30,000	52.1

Table 1



Dyform or Compact Strand

Dia.	B/S
2.5mm	1518
3mm	2200
4mm	3915
5mm	5638
6mm	7810
7mm	10820
8mm	13530
10mm	21490
12mm	31746

Table 2

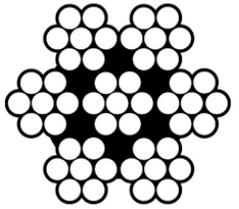
Rod Rigging

Rod Size	B/S	Diameter
-4	4700	.172
-6	6300	.198
-8	8200	.225
-10	10300	.250
-12	12500	.281
-17	17500	.330
-22	22500	.375
-30	30000	.437
-40	38000	.500

Table 3

CROWLEY'S YACHT YARD RIGGING

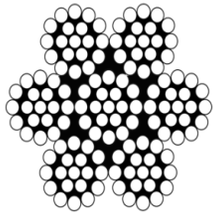
Wire Rope Breaking Strength Averages



7 x 7

Diameter	B/S (Lbs.)	Weight Lbs/100'
1/8"	1,700	2.8
5/32"	2,400	4.3
3/16"	3,700	6.2
7/32"	4,800	8.3
1/4"	6,100	10.6
9/32"	7,400	13.4
5/16"	9,000	16.7
3/8"	12,000	23.6
7/16"	15,600	34.2
1/2"	23,300	44

Table 4



7 x 19

Diameter	B/S (Lbs.)	Weight Lbs/100'
1/8"	1,760	2.9
5/32"	2,400	4.5
3/16"	3,700	6.5
7/32"	5,000	8.6
1/4"	6,400	11
9/32"	7,800	13.9
5/16"	9,000	17.3
3/8"	12,000	24.3

Table 5

CROWLEY'S YACHT YARD RIGGING

Liverpool Eye Splices in Wire Rope

We also provide traditional rigging services for classic yachts including wire rope splicing. Please contact us directly for pricing.

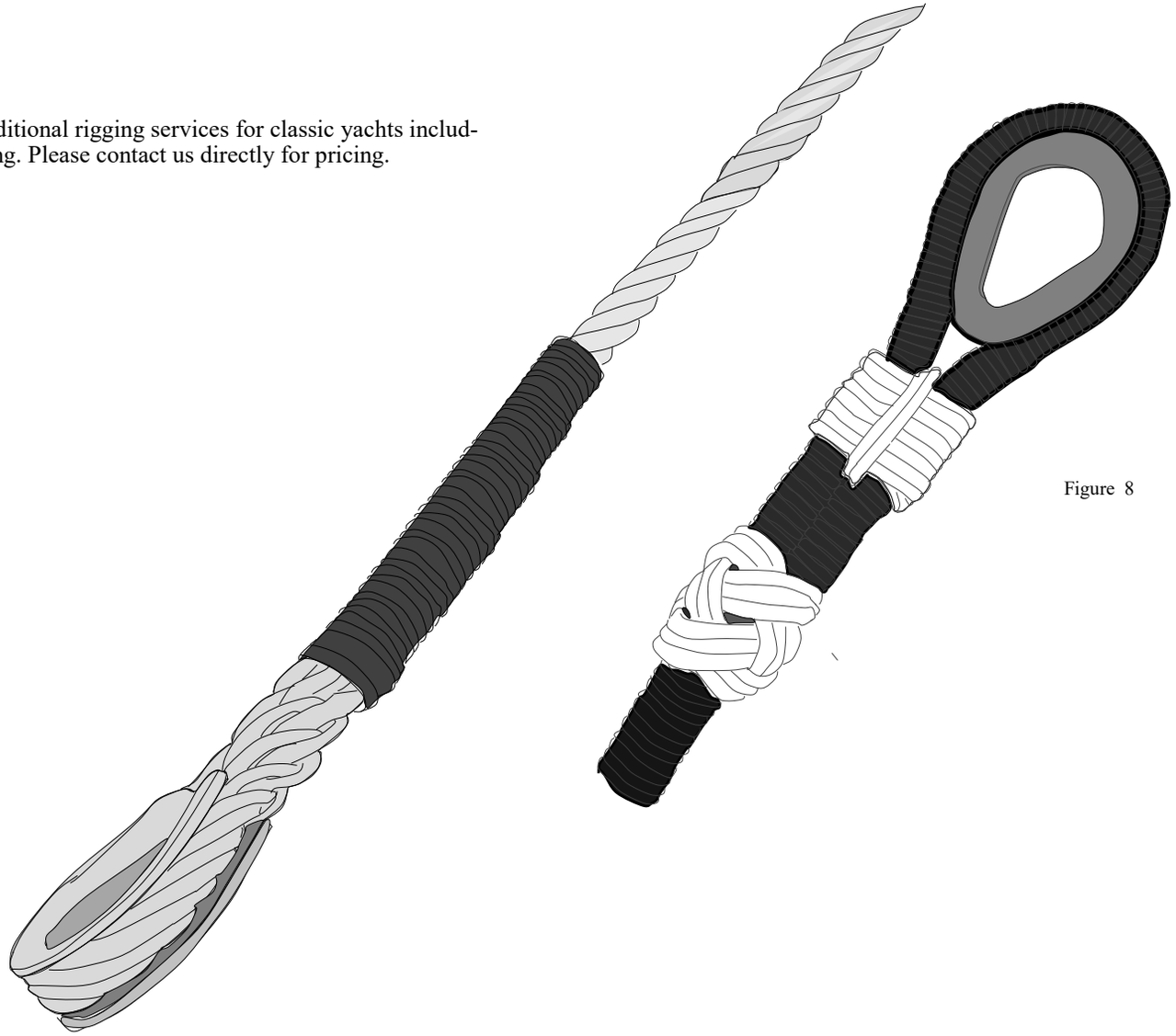


Figure 8