Codega Sails LLC – A Hyde Sails Distributor

Rig and Sail Measurement Form

Name: Shawn Pichoff
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Boat Manufacturer & Model: Cal 22
Year: 1985 Length: 22 Sail No. _____ Displacement: 2275 lbs

The following measurement can be found on your boat's sail plan, rating certificate or in its specifications online. If you know these, please complete, or if your boat has rating certificate please send us a copy.

I: 24'7" 24.58 ft. J: 8'5" 8.42 ft P: 25'10" 25.83 ft E: 9'3" 9.25 ft.

Circle Whichever Applies:

My Boat Is : (Cruise) Race/Cruise Full Race

Handicap Rules Raced Under: One-Design PHRF Unknown

Boat's Rig: Masthead Fractional* Unstayed

Rig Has: Adjustable Backstay Running Backstays Backstay Flicker N/A

Backstay Tension System: Turnbuckle Block & Tackle Hydraulic

Mainsail Reefing: (Single line in the boom) Slab In- Boom In-Mast

Measurement Notes and Tips:

1. Take your time to be accurate. The expression is "measure twice, cut once." Same here, we want your sails to be the best for your boat. Help us with accurate and well noted measurements. There will be some measurements that are obviously difficult to read, so use your best estimate please. An assistant will be very useful.
2. Take lots of photos. Look at them to be sure the phone focused on the small details before moving on. Photograph the item (tack attachments for example) with the tape or a ruler in the picture. Good pictures can be very helpful so the sail designer can understand your boat's hardware details, layouts, and to visualize the measurements.
3. ***Attach a separate "pull-down" or retrieving line on your halyards before hoisting. DO NOT RELY on the measuring tape to pull the halyard down.*** Preferable to use steel or fiberglass reinforced measuring tape. Set your tape so it measures as close to zero from the bearing surface of the shackle. Note the offset and adjust the final measurement.
4. Regarding old sails, measurements are may be useful depending upon the condition, fit and age of the sails. If they seem to fit and work well, send along the Luff, Leech and Foot measurements (and photos) with brief description of the sail. See Section 5.
5. However, we are designing new sails to fit your rig. So, include any unique details that pertain to the fit of your old sails to your boat, i.e. corner hardware, tacks, outhauls, or reef lines, etc. Make notes about your measurements and hardware fit needs to go with the photos. Note the existing reef height of your current mainsail and the lines for the reefs. Your existing headsail may give you a good distance for height of clew.

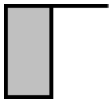
Section 1: Measuring with Main Halyard & Tape from top of mast.

1A – Mast Mast Manufacturer (optional, if known) _____

P Measurement - Maximum Mainsail Hoist - Luff 25'10" _____

Main Sail Maximum Luff is measured by hoisting the main halyard up until it stops and then measure to the top of the boom at the tack fitting. If your mast has a black band at the top, raise the tape until it is just at the lower edge of the band. You'll probably have to sight the position of the tape from off the boat.

____ Check if measured to the band



Crane Length – Mast to Backstay _____ ***Crane above Max Hoist*** _____

Using the mast width as a guide, estimate the distance from the aft side of the mast to the backstay attachment to the crane or masthead fitting. Height above max halyard position to crane.

Straight Line Leech _____

While the halyard is still all the way up, measure to the bearing point on the outhaul shackle /car/attachment at the maximum setting when it is at the same angle as when sailing with maximum backstay. Your boom should be adjusted to clear the bimini, dodger, etc.

Mast Rake Not Raked _____ ***Please also complete if Headsail only.***

Attach a weight to the halyard and measure from mast to halyard at 90* at the boom.

Mast Bend _____

Measure the amount of mast bend by lowering the tape measure and holding the halyard tight at the intersection of the boom and the mast. Sight up and record the maximum number of inches between the mast and the halyard at approximately ¼, ½ and ¾ from **boom up** using the mast width of the mast column as a reference.

1st Set - Measured with static, minimal backstay tension. ¼ _____ ½ _____ ¾ _____

2nd Set - Measure with **"full"** backstay tension. ¼ _____ ½ _____ ¾ _____

Take a picture of the full rig from off the side of the boat. Note if full or light tension when sending photo. Boom and bimini or anything affecting a less than 90* angle of the boom from the mast *must be* in the picture. Show the tack and boom clearly visible, throw the sail over to the far side if attached.

Reef Height at luff /leech on current sail from foot to reef cringle.

R1 _____ R2 _____ R3 _____

Number of Full Battens _____

Number of Standard Battens _____ Parallel to water? ~90* to Leech?

1B - Measuring Along the Boom Manufacturer (optional, if known) _____

E Measurement - Max Foot 10' 6"

The maximum foot length of the main is measured along the boom, between the aft face of the mast and inner end of the black band at the end of the boom. If there is no measurement band, measure to the clew car pin or shackle attachment when the car is at its maximum extended position. ____ Check if measured to the band

Mast to Backstay 11' 2"

From the aft face of the mast to the backstay along the normal horizontal setting of the boom.

Reef Lines Notes – Please include pictures of your reefing setup:

R1 _____ Distance from mast to reef block bearing point on boom. Block is Port or Strbd?

R2 _____ Distance from mast to reef block bearing point on boom. Block is Port or Strbd?

R3 _____ Distance from mast to reef block bearing point on boom. Block is Port or Strbd?

Notes: Flattening Reef – line in place? Location of outside reef block on boom _____

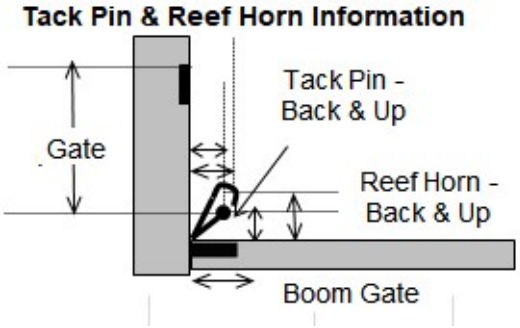
TACK - Use a tape or ruler while taking photos of the tack fitting with a visible measurement.

Tack Set Up 0.3"

Top of boom to bearing point of the tack fitting.

Tack Set Back 2"

Aft face of mast to bearing point of tack fitting.



Reef Hook Up 3' 10"

Top of boom to bearing point of reef hook.

Reef Hook Back _____

Aft face of mast to bearing point of the reef hook.

Mast Track Entry –Bottom of Gate 1' 5.5"

Top of boom to luff entry or slide stop on mast sail track/groove—whichever is lower.

Boom Track Entry – Back of Gate 7 3/8"

Aft face of mast to start of groove or track along Boom top.

Cunningham - Port / Starboard Notes: _____

CLEW - Use a tape or ruler while taking photos of the clew fitting with a visible measurement.

Outhaul Up 3/8

Top of the boom to bearing point on outhaul car/clew pin attachment.

Jaw Width .93"

Jaw Width of shackle or clew attachment.

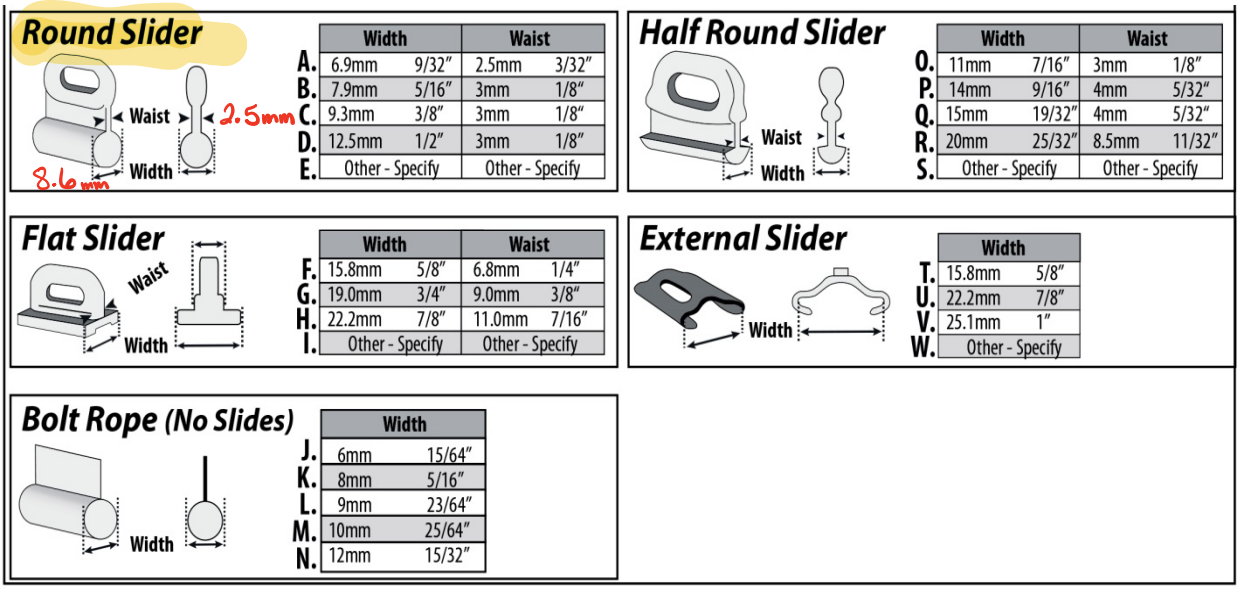
1C - Luff and Foot Slides

Luff – Mast Slides/Slugs/Bolt Rope - Note letter or add information if an "Other" section.

Regular Slides _____ Headboard Slide (if different) _____

Batten Slides _____ Bolt Rope _____

Other: _____



	Width		Waist	
A.	6.9mm	9/32"	2.5mm	3/32"
B.	7.9mm	5/16"	3mm	1/8"
C.	9.3mm	3/8"	3mm	1/8"
D.	12.5mm	1/2"	3mm	1/8"
E.	Other - Specify		Other - Specify	

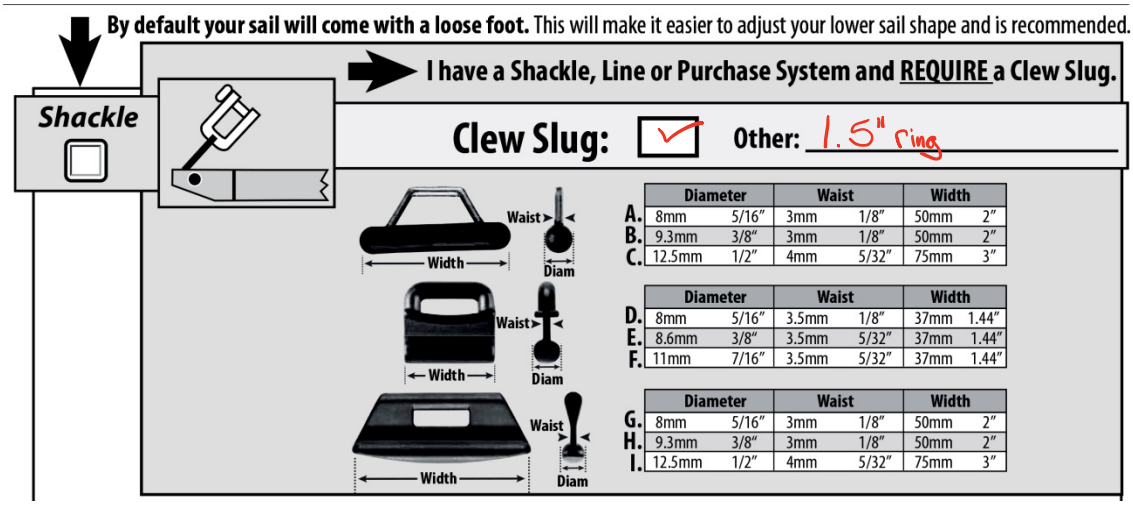
	Width		Waist	
O.	11mm	7/16"	3mm	1/8"
P.	14mm	9/16"	4mm	5/32"
Q.	15mm	19/32"	4mm	5/32"
R.	20mm	25/32"	8.5mm	11/32"
S.	Other - Specify		Other - Specify	

	Width		Waist	
F.	15.8mm	5/8"	6.8mm	1/4"
G.	19.0mm	3/4"	9.0mm	3/8"
H.	22.2mm	7/8"	11.0mm	7/16"
I.	Other - Specify		Other - Specify	

	Width	
T.	15.8mm	5/8"
U.	22.2mm	7/8"
V.	25.1mm	1"
W.	Other - Specify	

	Width	
J.	6mm	15/64"
K.	8mm	5/16"
L.	9mm	23/64"
M.	10mm	25/64"
N.	12mm	15/32"

LOOSE FOOT – No Car – Use a Clew Slug – Note Letter in Box



	Diameter		Waist		Width	
A.	8mm	5/16"	3mm	1/8"	50mm	2"
B.	9.3mm	3/8"	3mm	1/8"	50mm	2"
C.	12.5mm	1/2"	4mm	5/32"	75mm	3"

	Diameter		Waist		Width	
D.	8mm	5/16"	3.5mm	1/8"	37mm	1.44"
E.	8.6mm	3/8"	3.5mm	5/32"	37mm	1.44"
F.	11mm	7/16"	3.5mm	5/32"	37mm	1.44"

	Diameter		Waist		Width	
G.	8mm	5/16"	3mm	1/8"	50mm	2"
H.	9.3mm	3/8"	3mm	1/8"	50mm	2"
I.	12.5mm	1/2"	4mm	5/32"	75mm	3"

IF *NOT* LOOSE FOOT - Check type

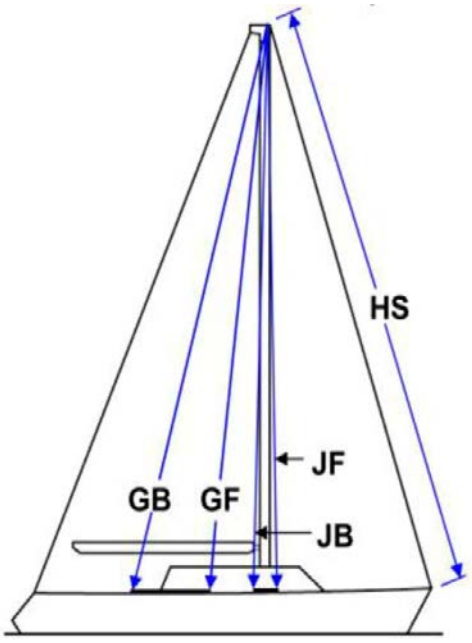
Using - Bolt Rope or Slides/Slugs - Note letter or add information in Other.

Bolt Rope 9mm Regular Slides _____ Clew Slug (if no car) _____

Other: _____

Section 2: Measuring with the Headsail Halyard

2A - Measuring Rig – Use straightest line possible. When crossing shrouds stay high and free from spreader ends.



Headstay 23' 1.5"

Hoist the jib/genoa halyard with the tape and pull-down line until the halyard taut. Measure along the forestay to the attachment pin of the forestay on the stem fitting.

Genoa Track Front 23' 1.5"

Top of the headstay to bearing point of block at forward position of genoa track.

Genoa Track Back 24' 2"

Top of the headstay to bearing point of block at aft end position of genoa track.

Jib track Front _____ ***Jib track Back*** _____

Same as GB. Same as GF.

Shroud Base _____

Top of headstay to intersection of main shroud and deck.

Headstay to Stanchions – S1 _____ S2 _____ S3 _____ S4 _____

Top of headstay to stanchion bases forward of shrouds starting at the bow.

Stanchion Height 23' 1"

Height of Stanchions

Spreaders – See Section 4 below, *but complete while* at headsail halyard.

2B - Measuring Headsails Rigging

2BF - Furling Sails – If no furling go to 2BH

Furler Brand & Model & Year (if known): _____

Luff Tape size: _____

Drum Rotation: ____ Clockwise (UV on Port) ✓ Counter Clock Wise (UV on Starboard)

***I* Measurement** _____

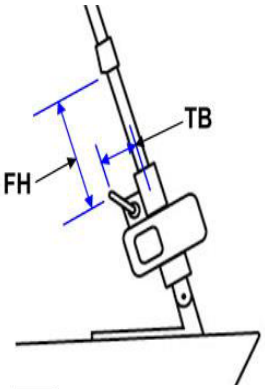
Hoist the jib/genoa halyard with the tape and pull-down line until the halyard stops. Measure from the hoist to the ***deck level*** even with the mast. Note the height of the cabin roof above the deck if the mast is stepped above the deck. **Cabin Height** 14" ← forward mast

Max Luff 22' 4"

Hoist the jib/genoa/furler halyard with the tape and pull-down line until the halyard stops. Measure along the furler foil to the bearing surface of the tack fitting point (shackle). See ML below.

Feeder Height 1'

Measure from the bearing surface of the tack attachment point to the feeder entry point on the furler luff track . FH in image right.

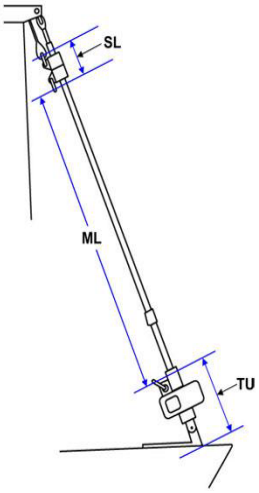


Tack Up 10.5" ***Tack Back*** _____

The distance from the tack fitting bearing point on the drum to the forestay deck intersection. Hold the shackle at 45* and measure from the mid-point of the forestay/drum to the tack attachment bearing point.

Headback _____

This is the distance from the forestay/furler center line at the top swivel to the head fitting (shackle) attachment surface. This may be estimated. See SL at right.



Clew Height

Typical Genoa clew height on a furling sail is approximately 1" off the deck for every foot of boat length. This will vary depending on where the sail will sheet on the jib/genoa track. We want to leave room on the track so the sail will sheet to the track when reefed. If you know or have a height in mind, tell us here> _____

2BH- Non-Furling Sails – Hanks, Wire luff, Zipper Luff

I Measurement _____

Hoist the jib/genoa halyard with the tape and pull-down line until the halyard stops. Measure from the hoist to the ***deck level*** even with the mast. Note the height of the cabin roof above the deck if the mast is stepped above the deck. **Cabin Height** _____

Forestay _____

Hoist the jib/genoa halyard with the tape and pull-down line until the halyard stops. Measure along the forestay to the attachment pin of the forestay on the stem fitting.

Max Luff _____

Hoist the jib/genoa halyard with the tape and pull-down line until the halyard stops. Measure along the forestay to ***the bearing surface of the tack attachment point*** (shackle, hook, etc.).

First Hank _____

Measure from the top of the turnbuckle or swage fitting on the forestay to the bearing surface of the tack attachment point.

Tack Up _____ ***Tack Back*** _____

The distance from the tack fitting bearing point to the headstay deck intersection. Hold the shackle at 45* and measure from the mid-point of the forestay to the tack attachment bearing point.

Note type of *tack attachment*: Shackle Hook Bar Other_____

Tack Pendant – How long or N/A? _____

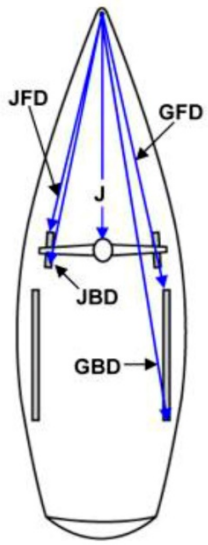
Clew Height

On hanked-on sails clew height will vary depending the jib/genoa track location and planned sail use. If you know or have a height in mind, tell us here> _____

Section 3: Measuring the Deck Rig Layout

J Measurement 8' 6"

A straight line from the forestay at the deck level to the front face of the mast.



Genoa Track Front at Deck 11' 5½"

A straight line from the forestay at the deck level to the front center of genoa track. If Genoa track is on an outboard toe rail, how high is the toe rail above the deck? _____

Genoa Track Back at Deck 13' 1"

A straight line from the forestay at the deck level to the back center of genoa track.

Jib track Front _____

Same as GFD.

Jib track Back _____

Same as GBD.

If Jib track is on cabin top, how high is the cabin top above the deck level? _____

Shroud Width _____ *Are Shrouds outboard? Y / N*

Distance between the main shrouds at their bases where the shrouds meet the deck.

Tack to Waterline 2' 8"

The vertical distance from the waterline to the bow where the forestay and deck intersect.

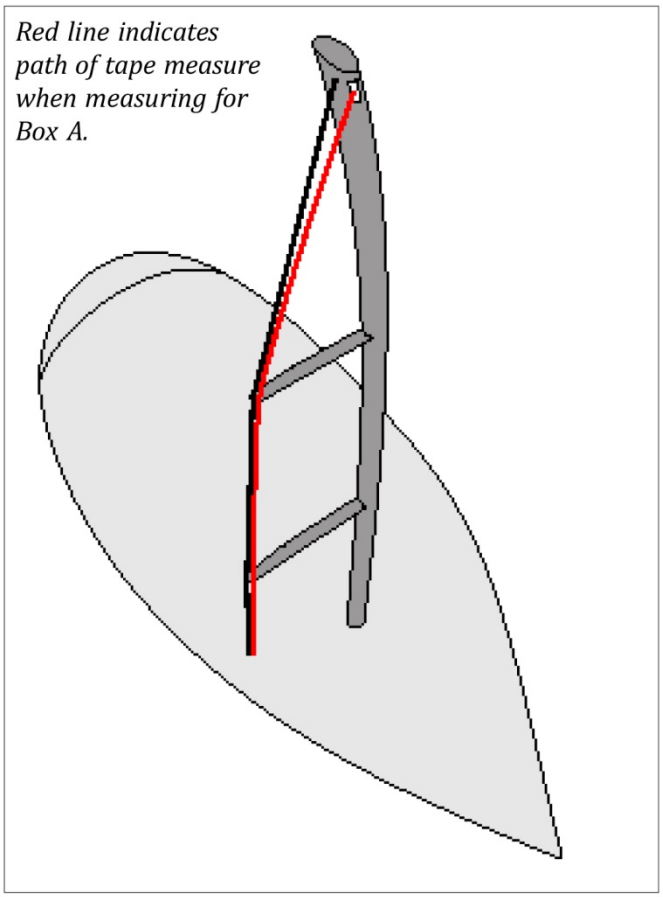
Track to Waterline _____

The vertical distance from the waterline to the mid-point of the Genoa track .

Luff Sag - Low Med High Unknown (estimate)

Section 4 – Measuring Spreaders

A	*From genoa halyard all the way up to deck at chain-plate passing around top spreader tip.*
B	*From upper spreader tip to the deck at the chainplate*
C	*From upper spreader tip to the bearing point of the genoa tack* fitting.
D	*From second spreader down's tip to the deck at the chainplate*
E	*From second spreader tip to the bearing point of the genoa tack* fitting.
F	*From third spreader down's tip to the deck at the chain-plate*
G	*From third spreader tip to the bearing point of the genoa tack* fitting.



The red line may appear gray on a monochrome print. The black line represents the shroud. This measurement may be done when measuring other halyard distances to the deck by lowering the halyard & tape to reach the spreader tips for B – G.

Section 5 – Current Sails

If your current sails fit well, feel free to send the measurements.

Main	**Headsail 1**	**Headsail 2**	**Headsail 3**
Luff 25'9"	Luff 23' 5.5"	Luff _____	Luff _____
Leech 25'9"	Leech 22' 1"	Leech _____	Leech _____
Foot 8' 6.5"	Foot 11' 2.5"	Foot _____	Foot _____
	LP 130%	LP _____	LP _____

Notes:

Section 6 – Other Requirements/Options

U/V Cover Color Preferred _____ (we will provide available choices as needed)

Std Colors for stripes and numbers are Black, Red, Green, Blue (Maybe light or dark), White

Draft Stripes Color _____ # preferred: 1 2 3

Sail Number Color # _____

Boat Insignia (Logo): YES NO

Foam Luff: YES NO

Overhead Leech Line: YES NO

Mast Luff Cars – If cars installed along mast track, please provide all details – model, brand, etc.

Other Notes/Questions: