Date	Change History
11 Sep 2015	Original.
11 Dec 2015	Staysail dimensions added. Off-centre bowsprit & sampson post.
20 Mar 2016	Sheet location data corrected.

Whisstock
boats and boat plans

support@whisstock.com

	Scale 1/33.333
Design 165	Date 20 Mar 2016
Sail Plan	Plan No. 165/011/001
Gaff Cutter	Issue No. 03
© Debenriver Ltd 2015 All Rights Reserved	All dimensions in millimetres unless otherwise noted

Mainsail

P	3520	mm
E	3235	mm
Head	2810	mm
Leech	6190	mm
Diagonal Throat to Clew	4615	mm
Area	11.750	m^2

Working Jib

Luff	6265	mm
Foot	3575	mm
Leech	4930	mm
LP	2810	mm
Area	8.800	m^2

Staysail

Luff	4755	mm
Foot	2020	mm
Leech	3775	mm
LP	1539	mm
Area	3.660	m^2

Yankee

Luff	6265	mm
Foot	3180	mm
Leech	4600	mm
LP	2248	mm
Area	7.040	m^2

100% FT

I	6055	mm
J	2810	mm
Area	8.500	m^2

Ghoster

Luff	6265	mm
Foot	4350	mm
Leech	5575	mm
LP	3793	mm
Area	11.825	m^2

Dyneema 1 x 19
(Preferred) S/s Wire

	Dyneema (Preferred)	S/s Wire
Masthead (swifter) shrouds	6 mm	4 mm
Lower shrouds	6 mm	4 mm
Bowsprit shrouds	4 mm	3 mm
Forestay	6 mm	4 mm
Babystay	6 mm	4 mm
Bobstay	6 mm	4 mm

Note: Dyneema is 12-strand braided and is sized for stretch (creep) rather than strength.

Shrouds & stays with hard eye (s/steel rope thimble) top & bottom, set up on 4mm braided polyester lanyards, minimum 4 turns, preferably 6 turns.

Top ends shackled to mast fittings with 8mm s/steel "D" shackles.

8mm s/steel "Bow" shackles in shroudplates and stay fittings to take lanyards. 6mm shackles for bowsprit shrouds.

For designing standing rigging and termination types other than specified consider the following breaking loads:

Masthead (swifter) shrouds	8300 N
Lower shrouds	8240 N
Bowsprit shrouds	3500 N
Forestay	8120 N
Babystay	8440 N
Bobstay	10300 N

Theoretical Stability Curve at Δ = 900 kg and vcg = +175

Max GZ = 0.497m at 52°
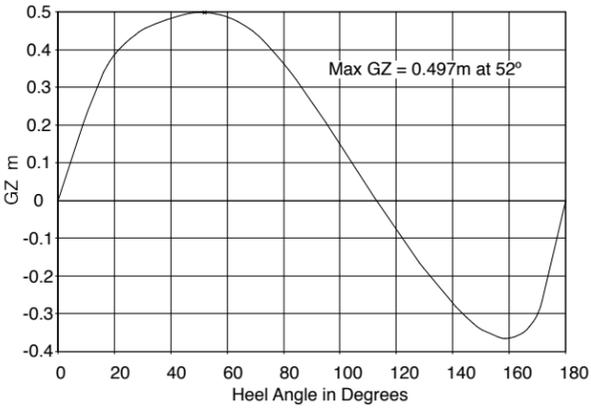
GZ at 30° = 0.451 m
RM at 30° = 3982 Nm
RM max = 4388 Nm

Typical Moments of Inertia for Mainmast at 30°:
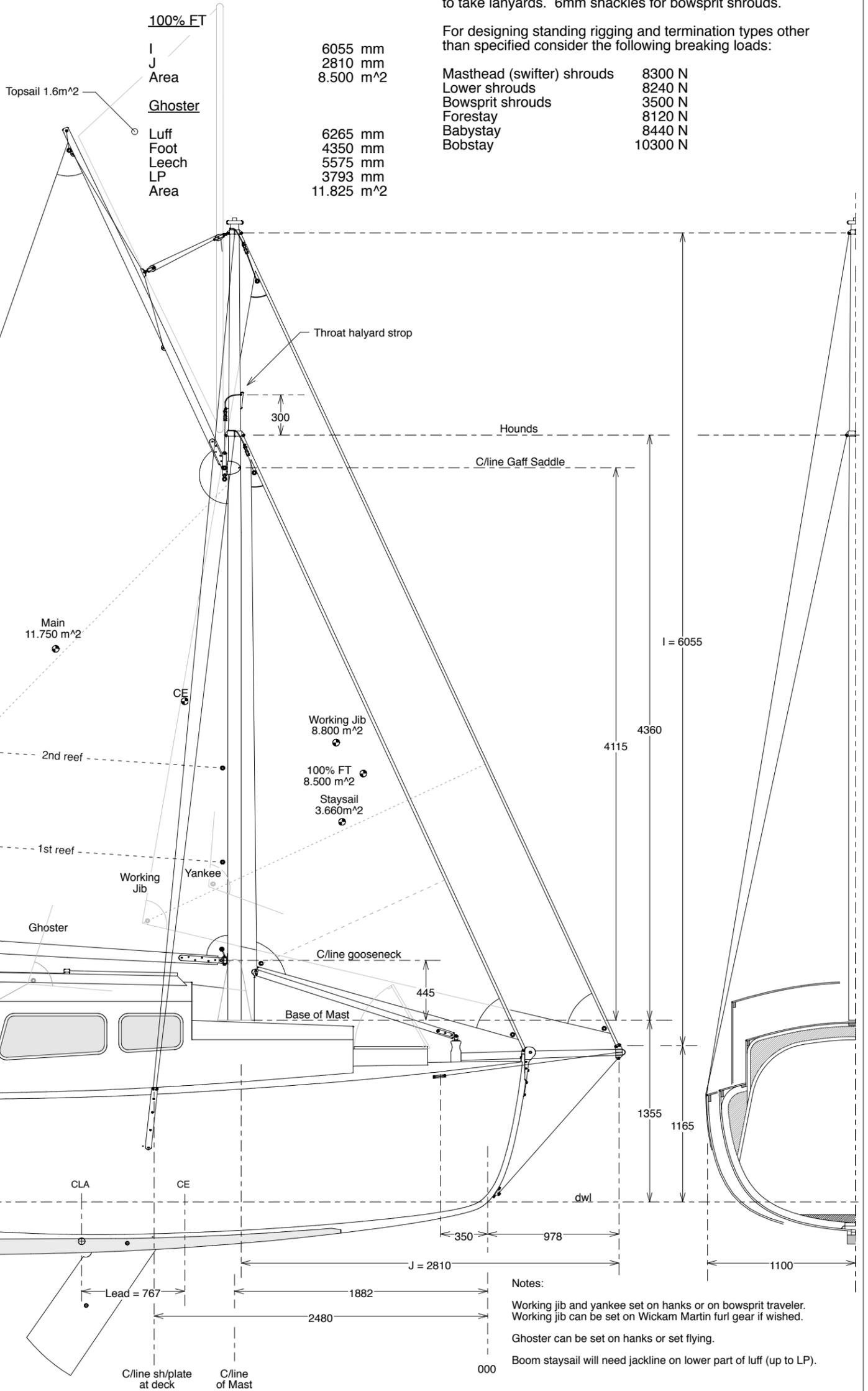
Aluminium alloy:

Ixx = 33 cm^4
Iyy = 49 cm^4

Spruce:

Ixx = 238 cm^4
Iyy = 356 cm^4

Douglas Fir:

Ixx = 194 cm^4
Iyy = 290 cm^4

Moment of Inertia for 100mm Ø spar
with 20mm walls = 427 cm^4

Topsail 1.6m^2

Throat halyard strop

300

Hounds

C/line Gaff Saddle

I = 6055

4360

4115

Main
11.750 m^2

CE

Working Jib
8.800 m^2

100% FT
8.500 m^2

Staysail
3.660 m^2

2nd reef

700

1st reef

700

Yankee

Working Jib

Ghoster

C/line gooseneck

445

Base of Mast

Sheet position approx.
-5200 to -4400

1355

1165

dwl

dwl

350

978

1100

J = 2810

1882

2480

Lead = 767

CLA

CE

C/line sh/plate
at deck

C/line
of Mast

000

Notes:

Working jib and yankee set on hanks or on bowsprit traveler.
Working jib can be set on Wickam Martin furl gear if wished.

Ghoster can be set on hanks or set flying.

Boom staysail will need jackline on lower part of luff (up to LP).