



Swan 45

Tuning
Guide

2008

SWAN CLASS 45



Gold Cup Capri 04



Swan 45 Tuning Elements

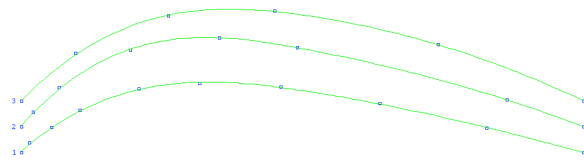


SailScan v2.21t 17-Jul-2001 For North Sails
 C:\Documents and Settings\Andrea\My Documents\My Pictures\Swan45\Scanlight@v24th.jpg

Line	Foot-L	Draft	Center	Back-V	Ending	Existing	Tuning
3:	0.78	0.38	16.39	0.72	41.13	23.65	5.08
2:	0.79	0.34	15.93	0.66	43.33	19.68	4.73
1:	0.78	0.34	12.40	0.65	36.59	14.60	0.00

Line	Luff	1/8	3/8	3/8	4/6	5/8	6/8	7/8	Leech
3:	2.19	2.82	3.10	2.26	1.90	0.86	0.83	0.78	0.74
2:	4.39	6.07	6.56	4.09	1.00	0.80	0.90	0.97	1.02
1:	4.50	5.39	5.07	3.22	1.00	0.70	0.59	0.49	0.44

Boat Name: _____ True Wind Speed: _____
 Date: _____ Checkstay Tension: _____
 Main Code: _____ Deckstay Tension: _____
 Notes: _____



True Wind Speed	Butt Position	Headstay ARC	Headstay turns	Cap D1	D2	Headsail	Spinnaker	Jack Value
5 knots	none	1.25	-5	-4	-4	0	Light 1A	1900
6 Knots	none	1.25	-5	-4	-4	0	Light 1A	1900
8	none	1.25	-5	-3	-3	0	Light 1A	1900
10	none	1.24	0	-2	-2	0	Light or Medium 1A	2800
12	none	1.24	0	0	0	0	Medium 2A/S	3600
14	none	1.24	0	1	1	0	Medium 2A/S	3900
16	none	1.235	4	3	2	0	Medium 2A/S	4700
18	none	1.232	6	3	2	0	Heavy 2A/S	4700
20	none	1.23	8	4	3	0	Heavy 2A/S	5950
22	none	1.23	8	4	3	0	Heavy 4S/4A	5950
24	none	1.23	8	5	4	0	#4 Headsail 4S/4A	6150
27	none	1.23	8	5	4	0	#4 Headsail 4S/4A	6150



This is important too!





SWAN CLASS 45



Measuring the headstay
ARC.

-From top of Gooseneck
band measure down
130cm and make a mark
on side of spar

-Swing Headsail halyard
to headstay from the
mark.

-Make a new mark on the
Headstay.

-Measure from Headstay
mark to Thwartship pin at
bow.

-Base is 124cm

-Adjust headstay length
until base is achieved.



Swan 45 Mast butt position



With mast off jack, adjust mast butt position fore/aft until mainsail has an evenly increasing entry angle progression from gooseneck to head.



North Sails Tuning Table

True Wind Speed	Butt Position	Headstay ARC	Headstay turns	Cap	D1	D2	Headsail	Spinnaker	Jack Value
5 knots	none	1.25	-5	-4	-4	0	Light	1A	1900
6 Knots	none	1.25	-5	-4	-4	0	Light	1A	1900
8	none	1.25	-5	-3	-3	0	Light	1A	1900
10	none	1.24	0	-2	-2		Light or Medium	1A	2800
12	none	1.24	0	0	0		Medium	2A/S	3600
14	none	1.24	0	1	1		Medium	2A/S	3900
16	none	1.235	4	3	2		Medium	2A/S	4700
18	none	1.232	6	3	2	0	Heavy	2A/S	4700
20	none	1.23	8	4	3	0	Heavy	2A/S	5950
22	none	1.23	8	4	3	0	Heavy	4S/4A	5950
24	none	1.23	8	5	4	0	#4 Headsail	4S/4A	6150
27	none	1.23	8	5	4	0	#4 Headsail	4S/4A	6150

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Speeds-Upwind

TWS	VS	TWA	AWA
4	4.8	44	20
6	6.2	41.3	20.3
8	7.0	39.3	20
10	7.4	36.1	20.9
12	7.6	35.3	21.7
14	7.7	35.4	23
16	7.8	35.9	24.3
18	7.8	36.7	24.3
20	7.9	37.2	26.9
22	8.0	37.6	27.9
24	8.0	38	29
26	8.0	38	29



Speeds Downwind

Sail	TWS	Speed	TWA	AWA
1"A"	4	3.9	143	74.5
1 "A"	6	5.2	143	83
1"A"	8	6.7	143	86
1 "A"	10	7.1	150	108
1 "A"	12	7.5	156	126
2 "A"	14	7.7	169	157
2"A"	16	8.2	173	166
2"A"	18	8.6	175	171
4"A"	20	9.1	174	169
4"A"	22	9.6	173	167
4"A"	24	10.1	172	166



Light Air
setup & trim



13⁰ heel or less

**Boom 30cm
above CL**

**Jib inhaled to
SS rail**

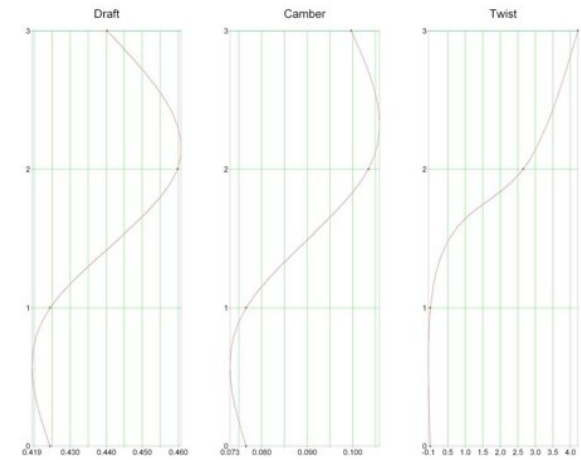
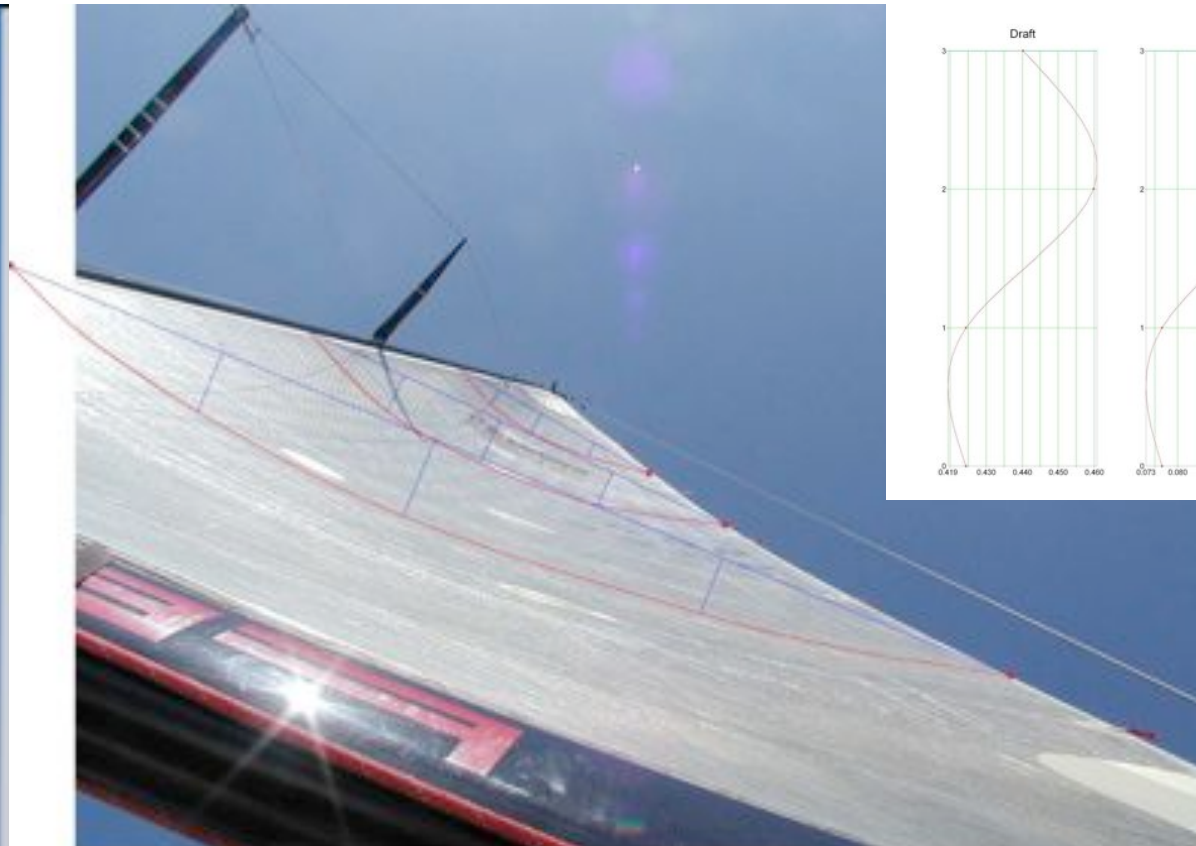
**Top batten of
mainsail is
boom parallel**

**Crew forward-
leeward**



Light Air Main Set-up





Date: 15/06/2005 Image code: 860Lmain=1 Boat: Fever Test #: 0

TWS : 7.0 Trav.: +30.0 Cunn.: 0 OutHaul : 0.0
 ANA : 23 Sheets: 0 Jump.: 0.0 MastRam : 0.00
 InOut: +3 Runn.: 0 UpCk : LowCk :
 F.Tacc: 0 Mast : Boom :

Battens :

Stripe	Front%	Draft%	Camber%	Back%	Lead	Trail	Twist			
1	0.771	0.424	0.077	0.720	21.717	13.081	0.000			
2	0.838	0.459	0.103	0.750	23.542	17.434	2.647			
3	0.749	0.440	0.100	0.690	20.376	13.182	4.207			
Stripe	Luff	1/8	2/8	3/8	4/8	5/8	6/8	7/8	Leech	
1	2.860	2.204	1.152	1.431	1.000	0.147	0.960	0.848	1.161	
2	0.274	1.173	2.982	0.583	1.000	1.437	1.100	0.447	0.571	
3	0.319	0.716	1.606	1.289	1.000	0.976	0.470	0.040	0.569	



Fast set-up

Boom 30cm
above CL

Crew well
forward
bunched
closely

Set at 1.25
Arc and
1900# jack

D1 and D2
are loose
sagged in by
2cm



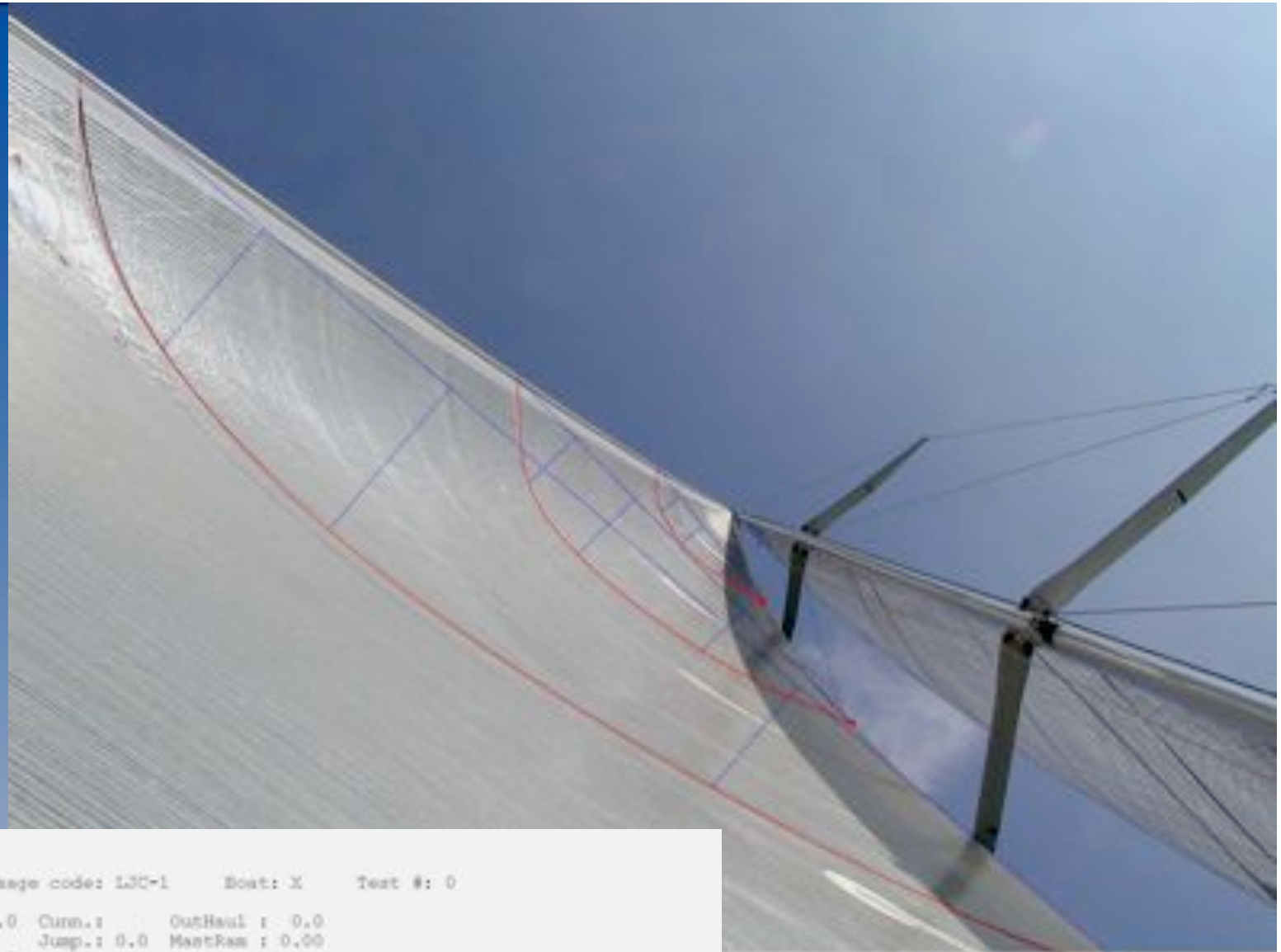
Light Jib set-up for maximum pointing:

-Exit of top
batten parallel
to CL.

-No wrinkles in
luff.

-Inhaul to SS
rail.

-Lead well
forward to
induce foot
depth.



Date: 16/06/2005 Image code: L3C-1 Boat: X Test #: 0

TWS : 7.0 Trav.: +0.0 Curm.: OutHaul : 0.0
AWA : 25 Sheet: Jump.: 0.0 MastRam : 0.00
InOut: 7 Runn.: 0 UpCk : LowCk :
F.Tac: 0 Mast : Boom :

Battens :

Stripe	Front%	Draft%	Camber%	Back%	Lead	Trail	Twist
1	0.851	0.348	0.133	0.710	49.336	19.513	0.000
2	0.821	0.351	0.165	0.724	40.668	22.504	5.268
3	0.859	0.432	0.162	0.645	37.144	20.301	5.491

Stripe	Luff	1/8	2/8	3/8	4/8	5/8	6/8	7/8	Leech
1	3.345	3.134	2.586	1.714	1.000	0.715	0.782	1.366	1.489
2	2.022	3.239	4.723	1.947	1.000	1.024	1.505	0.194	1.265



Med 15 vt



**You must be at
the max hoist
upwind-always**





Thread lines and Suspension bridges





Off the line:

Speed/Speed/Speed

Height ok?

What is other boat's speed?



**Are the
mainsail
&
headsail
twist
profiles
matched
?**

**If not, how
to fix?**



**This looks
very fast!**



**Very
traditional
soft and
sleazy set-up!**

**-Tighten and
trim**

**-Load all the
fibers you
paid for!**



**-Looks
good**

**-Nice and
vertical
set-up**



**6.5 degree
inhaul**

**-Watch out
for fwd/aft
pull on
Inhauler**





**Looks
Good!**





Medium or Code II
-Range is 7 flat
water
Up to 17 rough
water.
-Sheeting angle
from SS rail
as far outboard as
20cm
from rail in max
wind
-Rig should be
124cm Arc and
3660#
for 12 vt.



Date: 16/06/2005 Image code: MJC-2 Boat: X Test #: 0

TWS : 10.0 Trav.: +0.0 Cam.: OutHeul : 0.0
AWA : 21 Sheet: Jump.: 0.0 MastRam : 0.00
InOut: 7 Runn.: 0 UpCk : LowCk :
F.Tac: 0 Mast : Boom :

Battens :

Stripe	Front%	Draft%	Camber%	Back%	Lead	Trail	Twist
1	0.801	0.354	0.107	0.653	33.314	13.852	0.000
2	0.783	0.389	0.147	0.639	38.379	17.334	6.940
4	0.794	0.418	0.144	0.717	34.349	20.212	6.904

Stripe	Luff	1/8	2/8	3/8	4/8	5/8	6/8	7/8	Leech
1	2.024	4.084	3.140	2.019	1.000	0.533	0.336	0.638	0.669
2	1.025	2.175	1.678	1.576	1.000	0.462	0.144	0.503	0.148
4	0.963	2.146	1.738	1.435	1.000	0.917	0.821	0.125	0.535

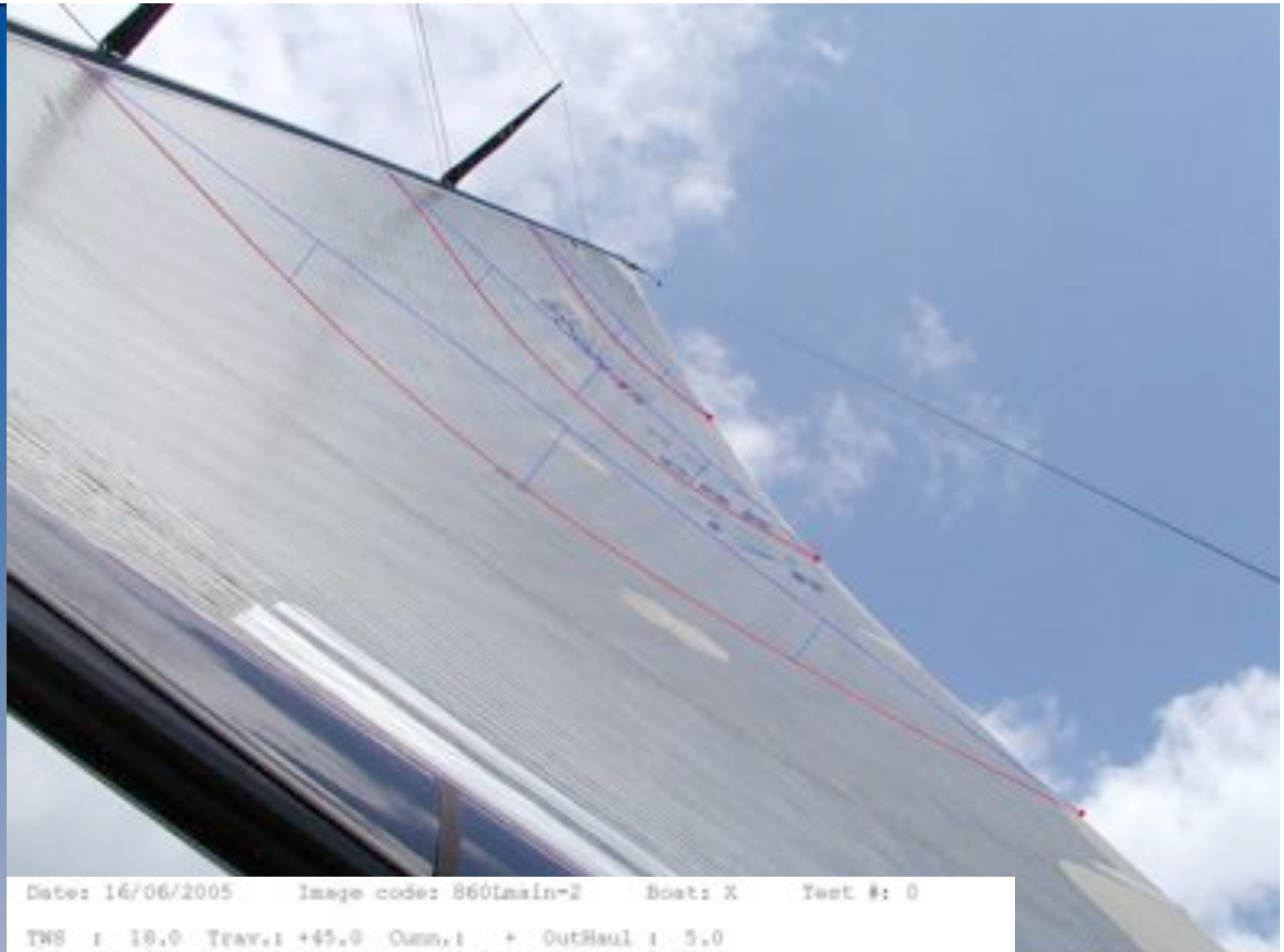
**Batten
compression
is too soft**





Set up:

- Headstay at 123
- Jack at 6000
- Tip to leeward 10cm
- S1 and S2 proud by 2cm
- Vang with 2 hands
- Taveller 20cm up from bottom
- Hard cunningham
- Backstay almost at overbend



```
Date: 16/06/2005      Image code: 860Lmain-2      Boat: X      Test #: 0

TWS : 18.0  Trav.: +45.0  Cunn.: +  OutHaul : 5.0
AWA : 20  Sheet: +  Jump.: 0.0  MastRam : 0.00
InOut: 0  Runn.: 0  UpCk :      LowCk :
          F.Tact: 0  Mast :      Boom  :

Battens :

Stripe  Front%  Draft%  Camber%  Back%  Lead  Trail  Twist
1      8401197.000  0.922  0.000  17508366.000  0.000  0.000  0.000
2      0.481  0.491  0.058  0.690  9.518  10.628  2.779
3      0.464  0.502  0.070  0.786  8.232  13.049  3.170
4      0.579  0.537  0.064  0.650  7.885  9.825  4.973
```

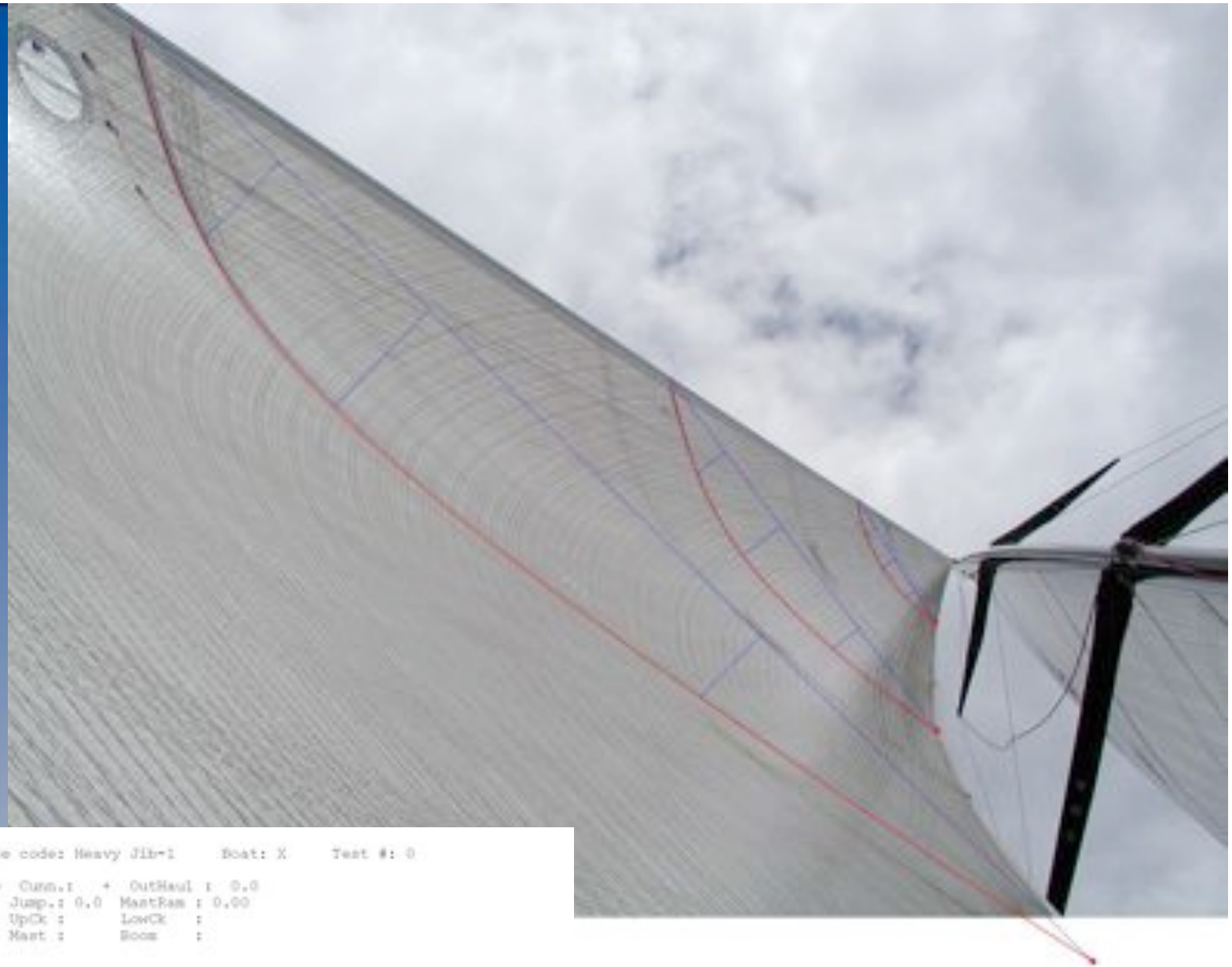


Heavy Jib Setup:

-Significant halyard tension. Add 3cm from zero wrinkles in luff.

-Lead almost fully back.

-Sheet tension such that top batten is open from Centerline by 10 degrees.



Date: 16/06/2005 Image code: Heavy Jib-1 Boat: X Test #: 0

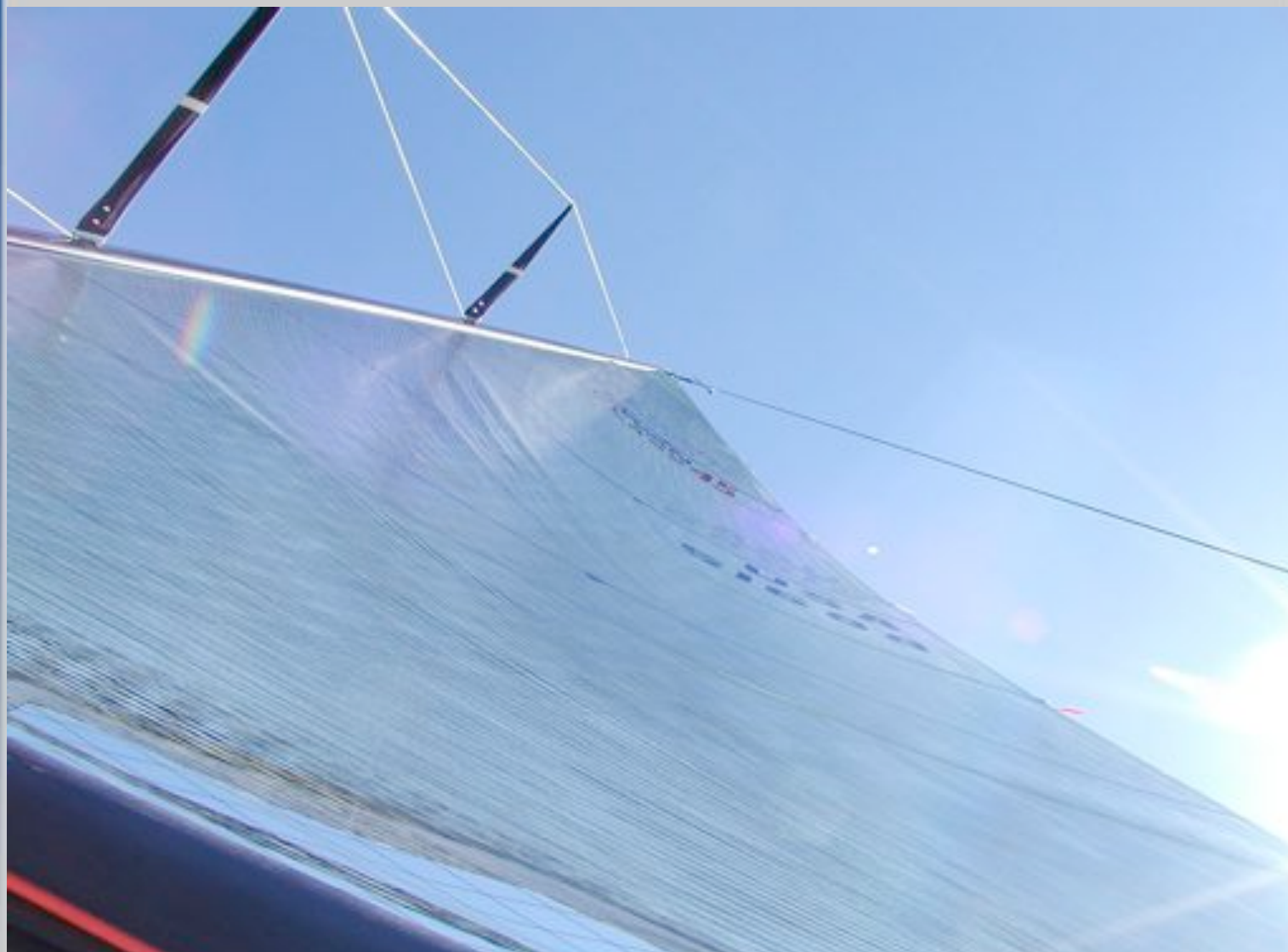
TWS : 18.0 Trav.: +0.0 Curv.: + OutHaul : 0.0
 AWA : 22 Sheet: + Jump.: 0.0 MastRam : 0.00
 InOut: 8 Runn.: 0 UpCk : LowCk :
 F.Tac: 0 Mast : Boom :

Stripe	Front%	Draft%	Camber%	Back%	Lead	Trail	Twint			
1	0.789	0.311	0.102	0.631	31.967	11.985	0.000			
2	0.738	0.418	0.109	0.691	22.666	15.322	8.314			
3	0.803	0.487	0.111	0.736	23.033	17.847	4.970			
Stripe	Luff	1/8	2/8	3/8	4/8	5/8	6/8	7/8	Leech	
1	2.442	5.724	4.991	1.821	1.000	0.402	0.098	0.804	1.014	
2	0.245	0.686	1.842	1.544	1.000	0.612	0.621	0.156	0.415	
3	1.015	1.344	1.495	0.939	1.000	1.198	1.195	0.181	0.777	



SWAN CLASS 45

Fast
Mainsail
trim in 22
true







Note

- Flat foot on both sails.
- Matched twist profiles.
- Nice angle of heel.
- Controlled wake action.
- Boatspeed is 7.87 knots.
- Leeward V2 is just coming loose in 20 knots.
- Mast is 2cm proud at S1/S2 and tip off is 4cm.





Breezy running when a broach could happen.

-Crewweight aft

-Headsail up to allow boat to be steered onto a run after the broach.





Two 45's
nicely
set-up

-51688 is
"A"

-14545 is
"S"

Both look
good!





**Good
Sailing &
Good Luck
in 2008!**