HOW TO CHOOSE YOUR MAGIC TRIM FOR MAINSHEET

The buckling length is one of the Magic Trim size selection. Here is a simple procedure to calculate the effective mainsheet stroke and therefore the minimum Magic Trim stroke required.
You need to know only two things:
- the effective main sheet stroke
- the maximum load on mainsheet

Follow this easy example to calculate your mainsheet stroke:
d = distance between sheet and mast
b = distance between boom and deck
α = back spread angle
β = effective maximum mainsail angle
(ex: α -10° to avoid any contact between mainsail and cross-trees)

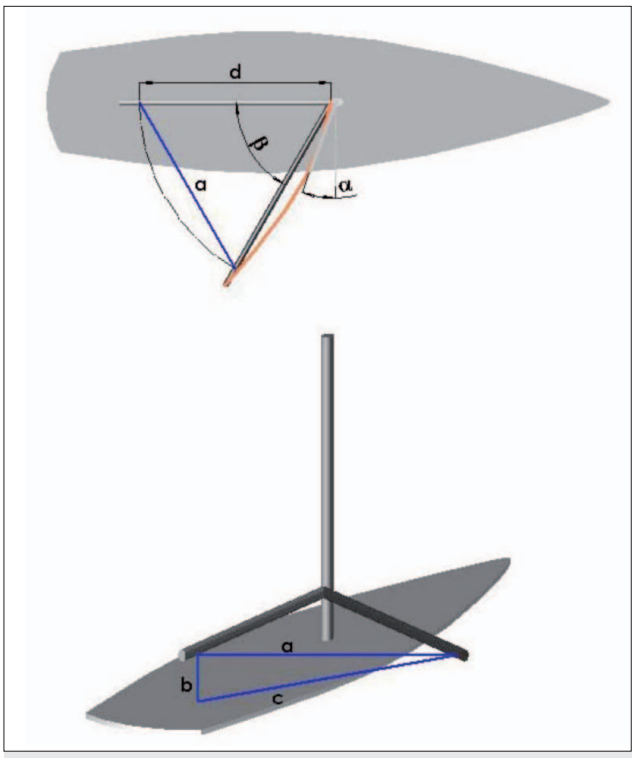
You have to calculate first of all the "**a**" length:

$$\alpha = 2\ x\ d\ x\ \sin\left(\frac{\beta}{2}\right)$$

the "**c**" dimension:

$$\alpha = \sqrt{a^2 + b^2}$$

And the effective sheet stroke
s = **c – b**
Suppose to have **d**=10m, **b**=2.5m and β =60° you calculate:
a = **d** = 10m
c = 10.3m
s = 7.8 m



Mainsheet lenght

Now put this sheet length and the maximum load on sheet into this diagram and found out which is the size your Magic Trim for mainsheet.

Example: effective mainsheet stroke s = 7.8 meters, load on sheet of 1800kg -> Your Magic Trim is: **MT_90_1850** (90mm of bore, 7.8/4=1950mm of stroke)