Measurement of large number of masts

Tools and Gauges

Measuring table, 30 x 700 cm. Height 70 cm. It must be possible to draw lines on the surface and use screws and double-sided stick tape to fasten gauges onto the table.

Mast heel support gauge and Mast Aft Edge Line (AEL) supports. Wooden blocks or pieces of aluminium angle at least 60 mm high. To be fixed on the table with screws.

Fork fitting hole gauge for checking the distance of the centre of the hole from the heel (F.2.6) and AEL.(F.2.6). Strong line, 7m long.

Boom pin hole gauge for checking the distance of its centre from the outer point (F.3.4).

Wedge, minimum 80 mm high, to be laid down under the mast at 2400 mm from the heel (the heel shall leave contact with the horizontal table), to check location of the Centre of Gravity (CG) above heel (F.2.7).

Go-type steel gauges (U-shape) for fore-aft cross-sections of the mast, respectively 100, 95, 85, 75, 65, 55 mm wide, 50 mm deep.

Digital calliper for transverse dimensions.

Platform or hook scale, 15 kg/20 gr. weighing gauge

Preparing the Table

Choose “measurer’s side” of the table. Mark the AEL on the table, appr. 120 mm from the measurer’s side, using taut line.

Draw the lines across AEL (and table) as follows:

- heel (point) line appr. 100 mm from the left end of the table. Base for vertical measurements

- 820 mm from the base, fork fitting hole centre line

- 2400 mm, 2060 mm, 2560 mm, 356 0mm, 4560 mm (Fore-Aft section lines),- 5560 mm
Fore-Aft section and Mast Upper Point line

Fasten the heel gauge at heel line and AEL supports, one approx 160 cm, second 260 cm from heel line to measurer’s side of the AEL on table (see pics below).

Fasten fork fitting hole gauge (see pic below) to check hole location according to F.2.6.
Fasten Boom Pin Hole gauge (see pic below) close to the Upper Point Line and draw the outer point line across the table 3230 mm from gauge's centre to the left (heel) end of table.

Place the scale on special support on the opposite side of table next to CG position (see pic left).
Recommended Procedure

Place the mast with the halyard in the correct position (F.2.7) on the table, with the heel towards the heel gauge and fork fitting towards the measurer.

Check the weight of the mast (see pic left) and the height of the CG above the heel, using wedge (see pic below).

Pull the mast against AEL and heel supports. (see pic left) Check the position of the fork fitting hole (see pic below), upper point height (see pic next page), halyard lock or sail stop.
Check the fore-aft cross sections using U-gauges (see pic below). Measure transverse dimensions if needed.

Place the boom on the table with the pin hole on the gauge (see pic below).

Check the distance of the hole from upper edge. Check the clew stop and boom outer point against the corresponding line (see pic below).

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