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Ensign's report 1st October 2015



Under the watchful eye of a US Coast Guard picket boat, Murray's Argy-Bargy puts the squeeze on Allen's cabin cruiser Emily to complete another rescue, number 59 or 60 I think he said it was. Poor Emily blew a fuse when her propeller picked up what appeared to be the remains of a party balloon, floating semi-submerged in the lake. It was a balloon, wasn't it? Please tell me it was a balloon...

The Radicon boat

The boat pictured below is a Japanese made tinplate toy that uses the very same primitive coherer type radio technology first used in the 19th century and recently demonstrated by Bob with his test apparatus (see September issue). These were still being made up to around 1960, and the asking price for a boxed one in good condition may be up to US \$10,000!

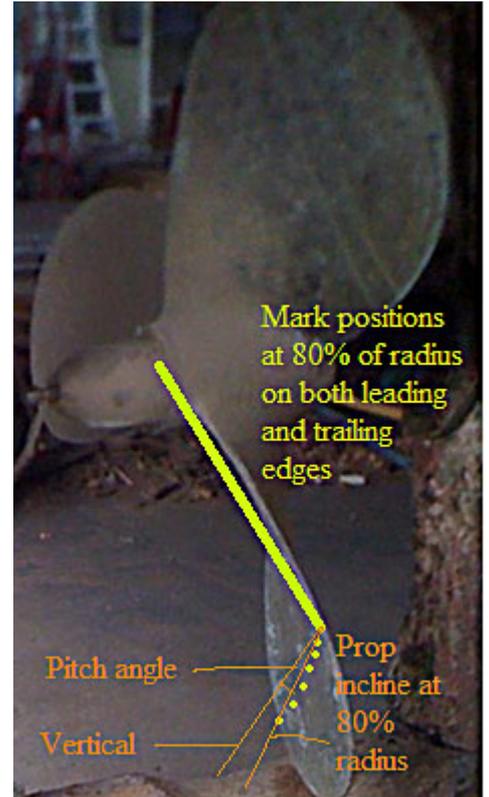


Propeller pitch calculation by Murray

Recent research into a 45' wooden towboat (see August issue) raised the question - can you identify a vessel based upon its propeller?

Documents reveal the propeller specification for similar US Army 45' Towboats was 37" diameter x 18.5" pitch. Assuming the original propeller is fitted all we need to do is measure its parameters and compare.

Pitch is commonly measured at 80% of propeller diameter (or 80% of radius). So I marked these positions on the leading and trailing edges of one blade.



Since the prop shaft was very near horizontal I used a spirit level and protractor to measure the pitch angle relative to vertical.

Radius was 570mm, so diameter was 1140mm (45"). 80% of radius (R) was 456mm. Pitch angle was 23° measured from the rear and 19° measured from the front. Rear value of 23° was used because it was more accurate. Pitch was calculated as follows.

$$\text{Pitch} = \tan(\text{Pitch Angle}) \times 2\pi R$$

$$\text{Pitch} = \tan(23^\circ) \times 2\pi 456 = 1216\text{mm (48")}$$

So this wooden Towboat propeller is 45" diameter x 48" pitch. It's 8" greater diameter and 30" larger pitch than expected. So the propeller did not match the US Army 45' Towboat specification. It could have been changed to give more power and speed at a later stage of the vessel's life.

