

Iron Ship "Blanche"

Guedes Ltr  
19/2/18 r 22/2/18Rule Sizes for Proposed Diesel Engine.

4 CY 4 S.C. S.A. Diameter 17.7" (= 450<sup>mm</sup>)  
 Stroke 26" (= 660<sup>mm</sup>) Maximum Pressure 469 lb (= 33 kg)  
 Span of bearings (crankshaft) 24.8" Propeller Dia = 90.55"

$$^3\sqrt{\frac{469}{500}} = \frac{7.77}{7.94} = .98$$

$$\begin{aligned} \text{Crank Shaft} &= ^3\sqrt{17.7 \times 17.7 \times \left( \frac{.089 \times 26}{2.32} + \frac{.056 \times 24.8}{1.39} \right)} \\ &= ^3\sqrt{313 \times 3.71} = ^3\sqrt{1160} = 10.5" \end{aligned}$$

Crank shaft should be  $10.5 \times .98 = \underline{10.3"} - 9.25"$   
 (9.45" crank pins)

$$\text{web breadth} = 10.3 \times 1.33 = 13.7$$

$$\text{" thickness} = 10.3 \times .56 = 5.76$$

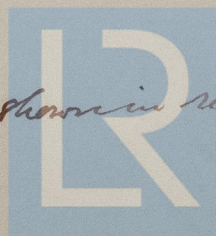
$$\begin{aligned} \text{Intermediate Shaft} &= .405 ^3\sqrt{17.7 \times 17.7 \times 26} = .405 ^3\sqrt{8140} \\ &= .405 \times 20.11 = 8.14 \end{aligned}$$

$$\text{Int. Shaft abaft flywheel should be } 8.14 \times .98 = \underline{7.98"} - 8.66"$$

$$\text{Thrust Shaft } 7.98 \times \frac{21}{20} = \underline{8.37"} - 8.66"$$

$$\text{Screw shaft (C-L)} = 1.07 \times 7.98 = 8.55" - 9.05"$$

Sizes as actually made shown in red.



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