



All Clements Engineering high performance propellers are manufactured from high integrity castings and a full range of designs are available with a 3, 4, 5 or 6 blade configuration suitable for all types of semi and deep V planing hulls. Sizes range up to 1.5metres in diameter with a minimum standard class 1 with ISO standard 484/2 and if required to meet the demands of classification society inspections.

Our unique Hyperform blade propellers are acknowledged as having the ability to provide optimum speed and acceleration under vibration free operation for all hull designs lifting the hull up on to the plane in the shortest possible time.

The careful analysis and design of propellers for an individual hull is essential, requiring close liaison between Clements Engineering and the customer. This is particularly important for a new boat designed for series production with several engine options and alternative gearbox reduction ratios. Clements Engineering are able to offer solutions giving the customer expect maximum efficiency in terms of ultimate speed and smoothness from the propeller design.

All propellers are cast from British Standard approved ingot using specialised mould design certification can be supplied on request detailing full mechanical characteristics and chemical composition. Castings are normally made from EN1982, CBG 'AB2' nickel aluminium bronze, and EN1982CB765S 'HTB1' high tensile brass is often used for certain commercial and leisure applications. All propellers are precision balanced to ensure maximum smoothness and are finished to ISO classification or other classifications as required. Our range of high performance propellers are based on blade area ratios designed to suit individual hull application.

Clements Engineering also manufactures ranges of standard propellers for displacement leisure and commercial craft, and design custom propellers for special service commercial vessels.



Propeller Repairs

Clements Engineering maintains full propeller repair facilities, using TIG and MIG welding and highly accurate re-pitching methods and standard practices. Turnaround can be provided within a 24 hour timescales. Pitch checking ensures that the vessels speed requirements are maintained.

If alterations have been made to engine output or gearbox reduction ratios, the required pitch alterations can be made following the repair process. Repaired propellers are carefully balanced and finally inspected before despatch to ensure vibration free operation.

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Technical Datasheet TD08

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Design Department

Clements Engineering design department provide help and assistance for propeller applications including choice of optimum gear-box reduction ratio(s) and the most efficient propeller design, to ensure the hull achieves its optimum performance potential.

Installation Considerations

Propeller Tip Clearance

There should be a tip clearance of at least 15% of the propeller diameter between the blade tips and the hull.

This clearance should normally not be less than 2" (50mm) on any hull, and as smaller propellers mean less efficiency most installations are a compromise between maximising propeller diameter and minimising the risk of vibration, noise caused by inadequate tip clearances and poor water flow to the propeller.

Propeller to Rudder Clearance

It is important that adequate clearance is maintained between rudder and propeller and the general rule is a minimum of 15% of the propeller diameter is usually considered adequate for this dimension.

Propeller support bearing

The maximum exposed propeller shaft between inboard face of propeller boss and aft end of shaft bearing should be not greater than 1.5 x shaft diameter.

Propeller to shaft relationship

It is recommended that the maximum propeller diameter should not be greater than 15 x shaft diameter.