

## **PART VII – PROPELLER**

### **7.01 General Requirements.**

The hydrodynamic drag of the propeller installation shall be taken into account by the Velocity Prediction Program and will be determined from the Propeller Installation Projected Area (PIPA) only if the propeller is at all times ready for use and shall not be retracted, housed, or shielded except by a conventional strut or aperture nor in such a position as to be clear of the water under normal sailing conditions.

### **7.02 Propeller Types.**

**7.02.1 Folding Propeller.** To qualify for measurement a "folding" propeller shall be a standard model in series production, unaltered, having a minimum of two blades that fold together pivoting on an axis at right angles to the shaft line when not being used for propulsion.

**7.02.2 Feathering Propeller.** To qualify for measurement a "feathering" propeller shall be a standard model in series production, unaltered, having a minimum of two blades that pivot so as to substantially increase pitch when not being used for propulsion.

**7.02.3 Solid Propeller.** To qualify as "solid" a propeller shall be a standard model in series production, unaltered, having a minimum of two fixed blades of normal elliptical shape and a maximum width of not less than .25 times the propeller diameter measured across the driving face of the blade on a chord at right angles to the radius of the blade. Pitch shall not be greater than the propeller diameter. Hub and blade area projected into a plane at right angles to the shaft line shall not be less than .2 times the propeller diameter squared. If any of these conditions are not fulfilled the propeller is to be measured as a folding propeller except that if the projected area requirement is confirmed by template and the pitch requirement is confirmed by inspection, all other conditions shall be deemed to have been fulfilled.

### **7.03 Installation Types.**

The propeller installation shall be classified according to the following rules:

**7.03.1 In Aperture.** To qualify as an "in aperture" installation, the propeller must be solid or three-bladed and entirely surrounded (in the vertical plane of the shaft line) by the keel, skeg, and/or rudder.

**7.03.2 Strut Drive.** To qualify as "strut drive" the drive train shall be enclosed in a strut and the unit incorporating drive train and strut shall be of a standard model in series production. The surface and shape of the unit may be faired (e.g., with fillers) provided that its function is in no way impaired and none of the dimensions required for measurement of the unit are reduced relative to those as manufactured.

**7.03.3 Out of Aperture.** All other propeller installations qualify as "out of aperture".