

## Inspection and maintenance

When docking, the propeller equipment is to be checked as follows:

### 1. Stern tube

Remove the guard around the aft stern tube seal for inspection, and remove any nylon cord or other debris.

Check all assemblies for any oil leaks. No leaks are acceptable, and the stern tube oil must not be contaminated with water.

Check and overhaul the stern tube seals according to the instructions of the seal manufacturer. Check also the bearings for wear. See separate manual.

### 2. Propeller hub

Check the propeller hub and blade connections for any leaks. Take an oil sample from the hub, check for impurities and water and if necessary, refill with new oil.

### 3. Propeller blades

Check the propeller blades for damage and any wear at the blade flanges. Damage to the propeller blade edges can be repaired by welding, provided such repairs are approved by the classification society.

Repairs to aluminium bronze is preferably carried out by MIG welding, though welding using clad electrodes is also possible. The metal must be carefully cleaned before welding. Preheating is not necessary. In the following, some practical information of MIG welding aluminium bronze:

Inert gas: Argon approx 1400 l/h (purity min 99.8%), welding wires C13 and C20 (according to BS 2901). C13 is to be used

as a parent material because of its higher ductility for larger repairs.

C20 must always be used for cover surface because of its better corrosion resistance.

Voltage with 1.6 mm welding wire: 28–30 V, 280–300 Amp DC having the wire as positive lead. Wire speed approx 5 m/min. The welding to be carried out with multi, narrow runs, and the temperature between each run to be kept below 200°C.

### 4. Bolts and securings

All outside bolts and securings to be checked for tightness, corrosion, and possible damage (See *Tightening instructions for screws 2036393-1* chapter 310).

### 5. Zinc anodes

Zinc anodes on propeller hub, shaft seal, stern and nozzle, if fitted, are to be checked and replaced, as necessary.

Where inboard shaft current collectors are fitted, the contact surfaces and contact brushes to be checked.

### 6. Repairs

When dismantling and repairing propeller equipment, all sealing rings should always be renewed.

Before reassembling, the sealing rings must be carefully checked for cracking or other damage.