



MECAL TECHNICAL NOTE

MTN 7-4

Issued by the *MECAL* Technical Committee

BOW THRUSTERS - OVERSPEED

Application: All vessels

An incident occurred in a MECAL coded vessel (not on commercial service at the time) where a stern thruster oversped and the electric motor disintegrated during harbour manoeuvring. Fortunately no-one was injured by the shrapnel and no fire broke out.

The subsequent technical investigation concluded that air was drawn into the thruster tunnel during a sternboard so that the motor became unloaded and, being a series wound type, then oversped and disintegrated.

Surveyors are reminded that most electrical thrusters fitted in small craft use series wound electrical motors which have the characteristic of very rapidly accelerating and overspeeding to destruction when unloaded. If a functional test of thrusters is necessary as part of a compliance examination, then such tests should only be conducted with the vessel afloat and thruster tunnels immersed to avoid the risk of overspeeding. Thrusters should never be "spun up" for test, even momentarily, with the vessel out of the water.