

Rigid-Hulled Inflatable Boat (RHIB)

Engineering Assessment and Documentation

Date: November 2006 to November 2007

Client: Australian Navy

Project Summary: SOFRACO were tasked with assessing the suitability of the proposed Zodiac 7.2m Jet RHIBs to be fitted to numerous RAN ships, in addition to providing technical documentation for the RHIBs and lifting davits.

In November 2006 the National Port Services Office contracted SOFRACO to carry out an Engineering Assessment on an ARMIDALE Class Patrol Boat 7.2m Jet RHIB. This was the proposed replacement for the obsolete propeller-driven RHIB that was in service with many Navy ships.

The 7.2m Jet RHIB is a high-speed, high-buoyancy, extreme weather craft which is manufactured by Zodiac. The hull is comprised of a reinforced fibre glass shell and an inflatable collar. A Hamilton water jet provides propulsion, driven by a Yanmar diesel engine that provides the desired speed and range to meet Navy's capability requirements.

The assessed RHIB's configuration was significantly different from its predecessor. Notable changes were in its propulsion

system, seating arrangements, life saving equipment, communication & navigation equipment, size, and weight. The increased vessel weight also necessitated changes to boat lifting gear that required detailed investigation.

SOFRACO assessed the results of a six-month long sea trial against Navy requirements, and provided a comprehensive report on the suitability of the vessel.

The assessment was wide-ranging, and required an understanding and evaluation that included:

- Craft stability, performance and reliability;
- Ergonomics, wave impact, noise and vibration;
- Life saving equipment, self righting mechanisms, and fire suppression system;
- Navigation and communication equipment;
- Hydraulics;
- Lloyd's compliance;
- Stowage, launching and recovery, including detailed analysis of various lifting davits.

SOFRACO were also asked to provide operations and maintenance documentation for the RHIBs, developed in accordance with the DEF(AUST) 500 standard.

The SOFRACO team have a diverse background, with both Naval and commercial backgrounds. The engineering assessment and documentation requirements utilised the wide range of disciplines that SOFRACO offer, including mechanical & electrical engineering, naval architecture, CAD, and Desk Top Publishing. The RHIB project benefited from our team members wealth of experience, and saw us working to a common goal of understanding different systems and configurations and relaying that information in clear terms.



Zodiac 7.2m RHIB