

Case Study 138: Search & Rescue Boat

SPECIFICATIONS

Waterjets:	DJ110 (twin)
Engines:	Cummins QSB5.9 355hp@2800rpm
Gearboxes:	Twin Disc MG5061SC
Vessel:	11.9m L.O.A 10.7m L.W.L 9.0t (light) -10.8t (laden)
Performance:	30 knots



Australian Coast Guard – 12m SAR Vessel

Capitalizing on Australia's fantastic indigenous marine capabilities, this vessel is designed and constructed in Tasmania and is in service by the Australian Coast Guard Association. The role of the vessel ranges from assisting sinking vessels, towing disabled vessels back to safe harbour, performing Medivac responses to hard-to-reach islands and beaches and to provide crucial search and rescue functions at sea or in other waterways. It is therefore expected that the vessel be ready to respond 24 hours per day, every single day of the year.

Power is provided by twin Cummins QSB5.9 diesel engines, which are coupled to the DOEN DJ110 waterjets through Twin Disc marine transmissions. A 1.15:1 reduction ratio is used to optimise the waterjet impeller selection and the gearbox also provides the vessel with disengagement and a back flushing capability. The DOEN 11-inch (280mm) diameter high volume axial flow impellers provide excellent cruise capability enabling long range at reduced fuel consumption as well as high towing capacity whilst delivering top speed of 30 knots.

The DOEN balanced steering nozzle gives fast and precise response. They are controlled using a conventional helm, manual assisted hydraulic steering system. Inboard cylinders are mechanically connected to the waterjets inboard steering tiller. This provides the vessel with exceptional easy control at all speeds and especially when maneuvering around rigs and alongside other vessels. A simple mechanical tie bar is used to connect the waterjets thereby providing synchronized steering at all times.

The DJ110 waterjets are fitted with DOEN's Rotary Servo Control (RSC), which is a proportional hydraulic control system providing simple and exact follow up control of the waterjets reverse buckets, by conventional lever. This system has fully integrated hydraulics with in-built cooling; RSC interfaces with standard 33C push-pull cables system.