

## Case Study 120: **U.S. Navy RIB Tender**

### SPECIFICATIONS

<b>Waterjets:</b>	<b>DJ110Z (Twin)</b>
<b>Engines:</b>	<b>Cummins QSB-380 380hp @ 3000 rpm</b>
<b>Gearboxes:</b>	<b>Twin Disc MG5075</b>
<b>Vessel:</b>	<b>11.0m L.O.A 10.0m L.W.L 8.5 tonne</b>
<b>Performance:</b>	<b>36 knots</b>



### 11m Standard Navy R.I.B.

Twin **DOEN DJ110Z** waterjets propel this 11.0m aluminium RHIB. Since 2003 more than seventy units of this ongoing US Navy spec. vessel have been built by both Willard Marine and Zodiac Hurricane to U.S. Navy Standards. This version of the 11m Standard Navy RIB makes a comfortable and fast patrol boat providing protection for the crew during long patrols.

The Doen DJ110Z 11.0-inch (279.5mm) diameter high volume axial flow impeller provides excellent cruise capability and fuel economy with un-compromised top speed under varying load conditions

Power is provided by twin Cummins QSB 380hp diesel engines, which are coupled to the Doen waterjets through Twin Disc marine transmissions. A 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 balanced steering nozzle gives fast, precise response with minimal input force. This is simply controlled using a conventional manual hydraulic steering system with inboard cylinder, which is mechanically connected to the waterjets inboard steering tiller. This provides the vessel with exceptional easy control at both high and low speeds. A simple mechanical tie bar is used to connect the waterjets providing synchronized steering at all times.

Each waterjet has its own hydraulic reverse system. The hydraulic reverse system uses gearbox mounted PTO driven hydraulic pumps in conjunction with compact aluminium canister reservoirs, with filters and 316# stainless steel sea water - oil coolers.

For reverse bucket control the DJ110Z waterjets are fitted with DOEN's Rotary Servo Control (**RSC**). The RSC is a hydraulic control system providing simple and exact mechanical follow up control of the waterjets reverse buckets. Operation of the system by way of conventional hand control levers using push pull cables; bucket position follows and is relative to the control lever position.