

Case Study 135: **Fast Dive Boat**

SPECIFICATIONS

Waterjets:	DJ120Z (Twin)
Engines:	FTP N67-ENT M56 500hp @ 3000rpm
Gearboxes:	ZF280-1
Vessel:	11.5m L.O.A 8.8m L.W.L 8.8 tonne (fully laden)
Performance:	45 knots



JET SPRINTER – 11.5m Speedboat

The brief for this boat was full-throttle hard-turning operation, 7 days a week all year round, up to 45 knot performance with 14 passengers, Captain and a full load of fuel. Built by Elite Marine in Western Australia, and operated by Reef Sprinter in Queensland, this boat gets put through a series of full throttle; hard turning, spin and crash stop maneuvers during every one of the many 20 minute rides it takes passengers on every day.

A pair of Doen DJ120 jets, coupled via ZF transmissions, to FTP 500hp engines is ideally suited to the task. The 310mm diameter, high volume axial flow impellers, providing the immediate high thrust that is needed even under extreme acceleration and hard cornering conditions.

The DOEN balanced steering nozzle gives fast, precise response with minimal input force allowing simple light duty steering system to be used. An electric power steering system is used to provide small turn ratio's with little effort. The heart of the package is the microprocessor controlled pump unit which senses loads and instantly delivers flow and pressure when loads are applied, reverting to minimum current draw when no load is sensed. This provides the vessel with precise control for the quick and aggressive maneuvers that this boat has to perform many times in daily operations

The DJ120 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; bulkhead mounted steering and reverse cylinders and all connections inboard and protected from corrosion. This system interfaces with standard 33C push-pull cable system.