

Case Study 128: **Hel-a-va Jet – Thrill Ride Boat**

SPECIFICATIONS

Waterjets:	DJ120Z (Twin)
Engines:	Yanmar 6LY3AM-STP 337hp @ 3100rpm
Gearboxes:	ZF280-1
Vessel:	10.1m L.O.A 9.0m L.W.L 5.6tonne
Performance:	45 knots



Third in a series of hard working thrill ride boats from Australia's Calibre Marine

The brief for this boat was full-throttle hard-turning operation, 7 days a week all year round, up to 45 knot performance with 12 passengers, Captain and a full load of fuel. 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 Yanmar 337hp engines are 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, white water 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 an 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 the standard Yanmar engine control system providing a simple single lever throttle and reverse bucket control.