

Hamilton Jet Model HM811
Application Review

Twin HM811 Jets for Canadian Passenger/Vehicle Ferry



Maintaining a schedule of 6 one hour trips each day across the St. Lawrence River between the towns of Rimouski and Forestville requires equipment with a proven reliability record. When Quebec designer Rejean Desgagnes Concept Naval was asked to design a new 43 metre passenger/vehicle ferry for this route, their past experience with Hamilton Jet HM811 propulsion systems in the 40 metre ferry Famille Dufour II. (refer JetBrief No.266) left them in no doubt as to the suitability of these jets for the new vessel.



The twin HM811 jets, driven by V16 Caterpillar 35168 diesel engines through ZF gearboxes, push the ferry, when laden with 150 passengers and 30 vehicles, to an operational speed of 30 knots. The design of the Hamilton Jet package meant the jets were easily integrated into the vessel structure and simply interfaced with the engine and gearbox control systems for optimum propulsion functions.

▶ Brief Specifications

NAME: CNM Evolution	WATERJET CONTROLS: Hamilton Jet Type CMU
SERVICE: Passenger/Vehicle Ferry	ENGINES: Twin Caterpillar diesels Model 3516B, each 2088kW (2800bhp) @ 1800rpm
LENGTH: 43.10 metres [LOA] 40.10 metres [LWL]	GEARBOXES: Twin ZF Model BW755 reduction/reversing type
BEAM: 10.4 metres [BPX]	DRIVELINES: Twin GWB 390.65
DRAUGHT: 1.44 metres [static laden]	CERTIFICATION: ABS [waterjets] Canadian Coast Guard [boat]
CONSTRUCTION: Aluminium	DESIGNER: Rejean Desgagnes Concept Naval Inc, Quebec, Canada
PAYLOAD: 150 passengers & 8 crew 30 vehicles	BUILDER/OPERATOR: Chantier Naval Matane Inc, Quebec, Canada
DEADWEIGHT: 60 tonnes	Hamilton Jet DISTRIBUTOR: Jastram Engineering Ltd, St Catherines, Ontario, Canada
SPEED: 30 knots (90% MCR)	
WATERJETS: Twin Hamilton Jet Model HM811	



Key Propulsion System Features

- **Installation**

Being supplied completely assembled with integral intake, corrosion protection and hydraulic reverse systems, the HM811 jets were easily installed. Custom-built matching intake/transitions were supplied for welding into the hull structure and the jets were simply bolted to these during the machinery installation phase.

- **Electronic Control System**

The Hamilton Jet CMU Control is a software driven modular digital electronic system incorporating proportional joystick steering, integrated throttle reverse levers interfaced with engine and gearbox electronics and joystick back-up facility. Appropriate thrust vectoring using the steering joystick and reverse/throttle levers in unison provides full rotational and translational control throughout the vessels entire speed range.

- **Manoeuvrability**

Vehicle access is through doors at both the bow and stern. When berthed bow-on, the propulsion systems enables the vessel to be reversed out and turned quickly. Good acceleration is exhibited, an important feature given the relatively short transit distance, allowing the vessel to reach operational speed quickly.

- **Optimum Propulsion**

The HM811 jets were selected taking into consideration factors such as fuel costs and consumption, operating hours and payload, vessel economic life etc., to return Maximum Transport Efficiency Factors with Minimum Lifetime Propulsion Costs, over the economic life of the vessel.