

Hamilton Jet Model HM402
Application Review

Indian Coast Guard Interceptors



A fleet of 10 new high speed Interceptor Craft will strengthen the Indian Coastguard's surveillance operations by providing a versatile high speed, quick reaction capability around an extensive coastline. The waterjet propelled vessels are reported to be ideal for the Coastguard's operations, which are carried out in a wide variety of conditions.

GRP HULLS

Specially built for the Coast Guard by Anderson Marine Pvt.Ltd. of Goa, the 21-metre GRP monohull Interceptors are based on a well proven design.

This design is suitable for a number of versatile and wide ranging options from crew boats and quick reaction anti-pollution roles to surveillance, pleasure craft and seaward defence duties when fitted with guns and/or missiles.

In the surveillance configuration, a spacious wheelhouse is incorporated whilst providing ample clear deck space for carrying a boarding craft and fitting a 20mm gun. Airconditioned accommodation for a crew of 10 is concentrated below decks with separate cabins for the Captain and Chief Officer. Extensive use of modular GRP construction techniques was used in the accommodation areas.

TRIPLE WATERJET PROPULSION

Making a significant contribution to the overall success of these vessels is the triple Hamilton Jet model HM402 propulsion systems. The two outer (wing)

jets are driven by MWMV12 diesel engines with the centre jet driven by a smaller V8 engine.

This propulsion arrangement offers considerable advantages over a twin jet configuration, which was originally specified for these craft...

The triple jet arrangement has a greater cavitation margin, allowing full power to be applied at much lower boat speeds than would be possible with twin jets.

Engine matching for the triple jet option was achieved without employing reduction gearboxes, consequently there was no increase in the craft's final displacement and no power transmission losses.

No extra cost was involved with the triple jet option.

Since Coast Guard work involves many hours of surveillance, slow speed loitering can be maintained using only the single lower V8 powered centre jet. With the main V12 engines shut down for a large part of the operational time, significant overall fuel savings extend the craft's endurance and the time between engine overhauls. By comparison, a twin jet configuration requires both main engines to be operational at all times just to maintain manoeuvrability.

40 KNOT PERFORMANCE

Contracted speed of 25 knots at 85% MCR was easily achieved, with a maximum speed of 40 knots at half load and Sprint Rating being exhibited during trials. In fact, the delivery voyage from Goa to Bombay was the fastest ever for this passage, despite heavy monsoon conditions being encountered enroute which proved the hull's excellent seakeeping qualities.

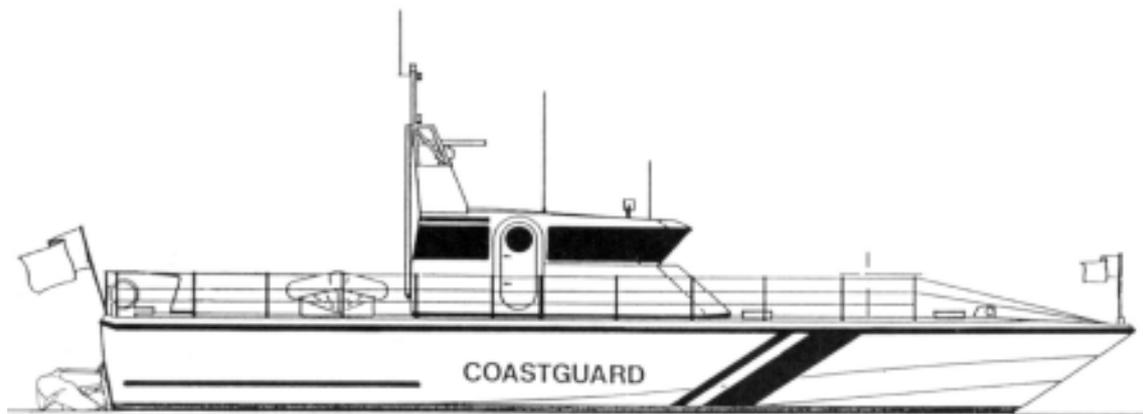
With a range of 600 nautical miles, the AMI-101 Interceptor is capable of remaining at sea for periods up to 72 hours in Sea State 4.

Efficient low speed loitering coupled with high speed intercept capability makes the craft ideally suited to the needs of the Indian Coast Guard in their coastal surveillance operations.

NOWHERE TO HIDE

Typical operational areas include the high seas, inshore shallows and rivers, none of which are beyond the scope of these vessel's capabilities. The clean underwater installation of the Hamilton Jet propulsion systems provide both shallow water capability and the ability to operate in fouled waters without fear of damage to any vital underwater components. High speed pursuit can be safely maintained close inshore and over fishing nets etc.

Outstanding manoeuvrability, throughout the vessel's entire speed range, ensures precise high speed tracking and simple slow speed operation, making these vessels formidable opponents for those who challenge their capabilities.



Outboard Profile of the AMI-101 Interceptor



Brief Specifications

TYPE:

AMI - 101

SERVICE:

High Speed Interceptor

LENGTH:

20.62 metres [LOA]

18.00 metres [LWL]

BEAM:

5.60 metres

DRAUGHT:

1.00 metres [static]

DISPLACEMENT:

37 tonnes [lightship]

43 tonnes [laden]

CONSTRUCTION:

GRP

SPEED:

40 knots (0.5 load at 115% MCR)

30 knots (laden at 100% MCR)

WATERJETS:

Triple Hamilton Jet Model HM402

WING ENGINES:

Twin MWM diesels

Model TBD234V12, each

695kW (932hp) @ 2300rpm [sprint]

605kW (811hp) @ 2200rpm [MCR]

CENTRE ENGINE:

Single MWM diesel

Model TBD234V8,

465kW (624hp) @ 2300rpm [sprint]

405kW (543hp) @ 2200rpm [MCR]

BUILDER:

Anderson Marine Pvt.Ltd, Goa, India

OWNER / OPERATOR:

Indian Coast Guard

Hamilton Jet DISTRIBUTOR:

Grieves Ltd, India