The next generation of patrol boats has arrived. Introducing the Metal Shark PBX.
Introducing the Metal Shark 40 PBX, an entirely new monohull patrol boat platform that combines an extensively proven hull with industry-leading features enhancing performance, capability, and crew safety while reducing total operating costs. Following an exhaustive multi-year effort to determine the best possible replacement for the U.S. Navy’s NECC Coastal Riverine Forces patrol boat fleet, the Navy recently selected the Metal Shark 40 PBX above all other patrol boat offerings either currently available or proposed. Like all Metal Sharks, this innovative new patrol boat platform may be fully customized to meet a wide range of mission profiles. We invite you to read on, and get to know the new face of maritime security: Metal Shark’s formidable 40 PBX.
Economical Design: To minimize total ownership cost, the 40 PBX has been designed to perform its mission utilizing the lightest, most compact, and fuel-efficient propulsion package available, as fuel use is the largest driver of ownership cost. Following careful analysis, vessel testing, and extensive engineering efforts, Metal Shark created a moderate aft deadrise, wide-waterplane, sharp-entry hull form specifically optimized for operation at escort and patrol speeds which represent the bulk of typical patrol mission profiles.
Extensively Tested: In order to fully optimize the PBX hull, Metal Shark built a PBX running prototype hull, designated PB(X)-P1, which has been extensively tested in a wide range of operating conditions. This test platform became the basis for Metal Shark’s resistance, powering, and weight testing, and determined the final configuration for the Navy as well as the wider range of configurations and propulsion types now offered on the vessel. Above, PB(X)-P1 is shown testing in the open Gulf of Mexico, 25 miles off of Port Fourchon, Louisiana.
**Escort Speed:** The 40 PBX hull has been designed to optimize escort and cruise speeds while achieving sprint speed with less power. Moderate aft sections prevent squatting, flatten hump speeds, and reduce bow rise during transition, resulting in significantly better performance in the 10-12 knot escort speed. Unlike deep transom deadrise vessels, the PBX operates at a lower trim angle through the hump speed ranges, resulting in better performance, increased maneuverability, and lower operating costs. The flatter hump transitional speed allows a wide range of mid-speed operations without the wallowing and steering wander typically associated with patrol crafts at this speed range. Shown here, PB(X)-P1 demonstrates its escort speed maneuverability during testing.
**Sprint Speed Performance & Offshore Capability:** The 40 PBX hull design minimizes the power required to operate at sprint speed. The wider waterplane and flatter aft sections carry weight better, reduce bottom loading, and keep operational trim low, allowing the sharp forward deadrise to remain the principal area of wave impact. Above, test platform PB(X)-P1 demonstrates its level running attitude and dynamic stability during sprint speed operation in 3’ to 5’ swells offshore in the Gulf of Mexico.
**Design Considerations:** The 40 PBX is a smartly configured vessel able to carry and support an assortment of payloads and weapons systems. Once the hull was designed and optimized, Metal Shark’s design team strove to configure a vessel arrangement allowing the best use of the hull’s capabilities, keeping a vigilant eye on weight, center of gravity, and performance considerations. In lieu of the heavy-duty rubber rubrail shown here, the 40 PBX may also be equipped with a urethane-sheathed, closed-cell foam collar for additional impact protection.
Forward Layout: The 40 PBX is available with a smartly designed forward gunner’s tub, which can accommodate either a Remote Stabilized Weapon or a crew served .50 caliber, allowing for flexibility in armament. A breakwater provides a safe area for the occupant, while a dedicated access door allows direct access to the cabin. Neatly integrated lifting eyes, crew bolster and ammunition storage are all unobtrusive yet readily accessible. A bow-cabin version with v-berth and gallery or multi-use storage space is also available.
Aft Layout: The aft deck of the 40 PBX is shown here configured with three weapons mounts and two LRAD mounts. Ammunition storage and outfit gear are appropriately located around the deck area. Multiple quick-acting hatches allow fast access to the engine spaces. A two-part canopy allows partial or full deployment, with each section stowing easily on the vessel. The aft portion folds neatly onto the platform and the forward portion stows abaft the house while allowing continued use of the rear door and/or folding of the antenna mast.
Design Cues: As Metal Shark was designing the 40 PBX a concerted effort was made to incorporate visually intimidating design details, including the vessel’s unique faceted hull. This chiseled look, combined with the 40 PBX’s low-slung, athletic stance and bristling array of armament combine to underscore the serious nature of this highly capable patrol craft. PB(X)-P1 test platform shown above.
**Pilothouse:** The 40 PBX pilothouse may be custom-configured to suit a wide range of mission profiles and is available with multiple seating options. As in all Metal Shark pilothouse vessels, visibility is a major consideration and excellent lines of site are provided. By keeping the glass relatively close to the occupants, Metal Shark is able to create better effective visibility while keeping armor weights as low as possible. Forward of the main pilothouse area is a “mid cabin,” which supports the installation of server rack equipment, crew and spares storage, as well as the head area. Forward of the mid cabin is direct access to the gun tub with a watertight door.
The Strength of an Industry Leader: Metal Shark is a stable, family owned, financially secure company with the resources, commitment, and determination to best serve its customers for decades to come. With two facilities, 350 employees, 30+ in-house engineering department, and dedicated customer service and training departments assure each customer receives the highest level of care. Metal Shark facilities cover 40+ acres with established work forces, management, and systems that are innovative while being tried and true. With nearly 1,000 boats in military service, Metal Shark boasts the experience to support even the most challenging requirements.