

Development of the Miami 63-foot Aircraft Rescue Boat

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Les bateaux Miami de sauvetage d'avions de 63 pieds ont servi pendant la Deuxième Guerre mondiale dans des rôles bien plus étendus que leur importante mission primaire de sauver les équipages des avions alliés abattus. L'auteur, un architecte naval à Miami Shipbuilding Company, a joué un rôle central dans le développement de ces bateaux. Son mémoire décrit comment la conception a évolué par de diverses étapes pour être conforme aux besoins non seulement de la Marine et des forces aériennes de l'armée américaines mais aussi de la Grande-Bretagne, de la Russie soviétique, et d'autres alliés.

The use of boats to rescue pilots, crew and passengers from downed aircraft is as old as the aircraft industry itself. Initially, the rescue missions were in waters close to an adjacent airfield, but as aircraft design advanced, rescue missions offshore became necessary. And, as in all rescue work, speed is paramount.

Speedboats were not common before the turn of the twentieth century but it is interesting to note that as early as 1876, John I. Thornycroft in England built the 81-foot waterline length torpedo boat HMS *Lightning* for the Admiralty that made eighteen- and-a-half knots powered with a 390 horsepower steam engine.¹ In 1897 Charles Parsons demonstrated HMS *Turbinia* an experimental steam-powered, turbine-driven torpedo boat at the Spithead Naval Review, and, making 35 knots, there was nothing that could catch her.² Both these vessels had fine lines and knifed through the waves.

At the turn of the century the prime interest in speed was from well-to-do yachtsmen. The development of the internal combustion engine with its high power to weight ratio and the introduction of the step-less hydroplane for smooth water operation were the impetus. In 1900 yachtsmen initiated the Harmsworth Trophy in England. Prior to World War I, fast torpedo boats were being developed in Europe: Thornycroft developed the Coastal Motor Boat (CMB), Fiat in Italy built the SVAN MAS boats,³ and

¹ The eighth HMS *Lightning*, built at John Thornycroft's yard at Woolston, Southampton, England. She was the first seagoing vessel to be armed with self-propelled torpedoes. She was later known as TB-1.

² HMS *Turbinia* was the first steam-powered, turbine-driven warship. She demonstrated her speed dramatically at the Spithead Navy Review, becoming the standard for the next generation of steamships.

³ Societa Veneziana Automobili Navali (SVAN) produced two 15-meter boats powered by

Lurssen in Germany built the forerunner of the Schnellboots (E-Boats). The U.S. Navy was not interested in speedboats and preferred to concentrate on battleships. Meanwhile, rescue boats continued to be patterned after fine line military craft.

In 1927 Hubert Scott-Paine founded the British Power Boat Co. to develop a vee-bottom speed boat which he was unable to sell to the Admiralty as a torpedo boat (the Admiralty was more interested in the Vosper and Thornycroft versions), so Scott-Paine built a vessel as an aircraft rescue boat and is unofficially given credit for the label "Air-Sea Rescue Boat." In America, it was the yachtsman with funds for experimenting in power boat racing that provided the interest in high speed, sportsmen such as Gar Wood and Horace Dodge. Prior to World War II, the Navy "brass" were still not interested in small craft until President Franklin Roosevelt forced them on Congress. There were still no specific requirements for a rescue boat. With the clouds of war forming over Europe and Roosevelt's persistence, the PT-Boat became a reality. The Navy sponsored a design contest and George Crouch won the \$15,000 prize for the 59-foot design of PT-1, PT-2, PT-3 and PT-4. The successful bidder was Fogal Boat Yard in Miami with a contract to build PT-1 & PT-2. Since the contract required that the builder have on the staff a recognized naval architect, Fogal hired Dair N. Long, a runner-up in the design contest. Shortly thereafter, Fogal hired Charles David Roach, another naval architect, as Long's assistant.

As the builder of important government boats, the owners of Fogal decided to change its name to the more prestigious Miami Shipbuilding Corporation.⁴ For the next year, in addition to building PT-1 and PT-2, Miami Shipbuilding submitted proposal after proposal to the Navy trying to continue in the PT-Boat building echelon. On one proposal, for an 81-foot PT-Boat, Miami Shipbuilding went so far as to have a model built and tank tested at the Stevens Institute of Technology Towing Tank.

Design

While PT-1 and P1-2 were being built there were many discussions at the local bar with sketch upon sketch on bar napkins of what the ideal shape the bottom of a planing hull should be. This has been a continuing argument to this very day: the flat vee of Scott-Paine, the Oxbow of the Vosper/Thornycroft, the deep vee of early seaplane hulls, a concave vee, a convex vee, or a round bottom. During this time Miami Shipbuilding built three 35- to 42-foot yachts of Long/Roach design in which they experimented with hull shapes, unbeknownst to the clients. Their conclusion was that the best bottom shape would be a warped vee with a deep forefoot and as near as possible a parabolic entrance to reduce the impact with the water to a minimum. The after ends of the parabolas were to fair into straight but not parallel buttocks. The bottom of the

gasoline engines and capable of 30 knots. Armament consisted of two 18-inch torpedoes launched over the stern. They were named Motorbarca Armata SVAN and numbered MAS.1 and MAS.2.

⁴ Miami Shipbuilding Corporation was owned totally by the Buhler family and the author was on board from the beginning, having "come up through the hawse pipe," so to speak, from a "Bull Gang" laborer to the Principal Naval Architect by the end of the war.

transom was to be elliptical rather than flat to keep the chines from digging-in during turns. The quarter beam buttock was made parallel to the base line. Rocker, wedges, and ventilated steps were discussed but discarded. A clean bottom without a skeg was also considered a plus.

One other significant idea came out of the barroom napkin discussions was to make the bottom more flexible to ease the impact or shock loads encountered in planing boats, hence the intricate framing system noted later. Then one day in 1940 Miami Shipbuilding's Washington representative, Fred Flume, learned that the Union of South Africa was interested in purchasing rescue boats that the builder would guarantee to make 42 knots. The most powerful engines on the market were the 1250 brake horsepower (bhp) Packard M-2500-W8, but the U.S. Navy had restricted their use to the PT-Boats. The 630 bhp Hall-Scott "Defender" engine was attractive but the production was sold out to the British for the next year. The third most powerful engine was the Kermath 500 bhp "Sea Raider" and it was available.

Long and Roach decided to use four Sea Raiders to get 2000 bhp and then rework the Stevens tank data to determine the largest boat that could be built to get 43 knots. Voila - the birth of the 63-foot Aircraft Rescue Boat! The author participated in the early discussions, the proposals, and as a summer intern in naval architecture at the University of Michigan. Naturally, they gave him the "dog work" of making the calculations. Miami Shipbuilding submitted a proposal to the Union of South Africa via the British Purchasing Commission and was awarded a contract to build eight boats, named R-1 through R-8. The contract price was on the order of \$1,000,000 making the cost about \$125,000 each.

Specifications of Model 127

Length Overall	63'-0"
Length on Load Waterline	58'-10"
Beam (Max over guards)	15'-6"
Beam on Load Waterline	13'-10"
Depth amidships	8'-9"
Draft (Propeller tips)	3'-10"
Displacement (Light)	37,000 pounds
Displacement (Full load)	50,500 pounds
Fuel Capacity (Three tanks)	2,000 U.S. gallons
Lube Oil (Two tanks)	50 U.S. gallons
Fresh Water	150 U.S. gallons
Complement	2 officers, 2 petty officers, 4 crew members
Max. Speed with Full Load	42 knots
Fuel Consumption	165 gallons/hour
Range	500 nautical miles
Tactical diameter	75 yards
Power	2,000 brake horsepower



Figure 1: 63-foot Aircraft Rescue Boat

General description

The Miami Ship Building Corporation 63-foot Aircraft Rescue Boat was a twin screw vee bottom stepless hydroplane designed for high speed off-shore operation. In Model 127, power was supplied by four Kermath "Sea Raider" engines each rated 500 bhp at 2500 rpm, with each pair of engines coupled in tandem to opposite rotating port and starboard shafts. The forward engines were provided with conventional friction clutches and reverse gears; the after-engines were coupled to the shafts through angle drives and jaw clutches attached directly to the aft engine flywheel housings. The gears were spiral bevel, Gleason-made and Kermath assembled. Cruising was accomplished by using the forward engines alone or with the after engines only.

Arrangements

Accommodations were provided for a crew of four forward. Two staterooms amidships were provided for two officers and two petty officers. A galley and radio room were adjacent to but half-level below the pilot house. A dispensary aft was formed by concealing the engines beneath fold-down transom berths, which provided a work area equipped with six litters for injured aviators. The enclosed pilot house was fitted with all the controls and instruments for remote control of the engine throttles and clutches, steering and the auxiliary generator.

Construction

The stem, keel and chines were made of Honduras mahogany double-rabbeted to receive the inner and outer planking individually. The stem, knee, forefoot and two keel

sections were carefully scarfed and bolted. The chines were made up in three pieces and scarfs were located between the keel scarfs. The structural watertight bulkheads were hollow, being built up of two layers of 1/4-inch fir plywood separated by 1-3/8-inch spruce stiffeners. The bulkheads were attached to the keel and chines with metal angle clips. The transom stiffeners and boundary framing were made of Honduras mahogany.

After the keel, bulkheads, molds between the bulkheads and transom were set up, spruce longitudinals, spaced one foot apart, were fastened into notches provided in the bottom and sides of the bulkheads and clamped to the temporary molds. These longitudinals were effectively the "ribbands" of a normal building form except that they became a permanent part of the boat steam-bent white oak transverse frames, 1-1/8-inch x 1-3/8-inch were placed inside and outside of the longitudinals. Intercostal tiller blocks of spruce were fitted and screwed in place through the oak frames making each frame an "I-section." The intersections of frames and longitudinal were then through bolted. A shelf and clamp of spruce were then fitted and fastened at the sheer. Knees and gussets of 3/8-inch fir plywood were fitted and screw fastened to both sides of the frames at the sheer and chine. Before the boat was planked, the engine beds, which were prefabricated built-up box girders with oak runners, plywood sides and internal vertical and diagonal spruce bracing, were slipped into place through the transom framing and bolted through each frame. Together with the keel and chines, the engine beds formed the main strength members of the bottom of the boat.

The boat was double planked and had eight-ounce cotton duck laid in marine/aviation glue between the two layers of planking. The inner planking, which was cedar, 1/2-inch thick on the bottom and 7/16-inch on the sides, ran at 45 degrees diagonally. The shipwrights screwed the inner planking to the keel, chines, and sheer clamp, then fastened it to the frames by means 01 copper nails. The outer planking of Honduras mahogany, was 3/4-inch thick on the bottom and 9/16-inch thick on the sides, and ran longitudinally. The outer planking fastened through the inner planking into the frames with bronze wood screws. The inner planking fastened to the outer planking with wood screws between the frames. They nailed the 3/4-inch fir plywood decking with Monel anchor-fast nails to the 1-3/8-inch spruce deck beans, and screw fastened it to the self and clamp. The seams and butts were bolted on seam straps and butt blocks. The plywood was then covered with 12-ounce canvas, laid in white lead paste-paint. The deckhouse erections were made of 3/4-inch fir plywood with mahogany trim.

The contract specified all that hardware must be bronze, deckscuttle, manhole, watertight doors and portlights to be aluminum, as were the tandem engine mounting rails. Galley utensils and flatware were stainless steel. Each boat was provided with pillows, blankets and linen. In addition, they equipped each boat with a nine-foot sailing dinghy, designed by Dair Long and first introduced in California several years earlier as an "Interclub Dinghy." R-1, first 63-footer, was Miami Ship hull No. 127, and thus similar boats became known as Model 127. The author's mother, Jeannette Buhler, christened and launched her with great fanfare on 14 January 1941. On 3 March 1941, Miami Shipbuilding conducted official trial runs of R-1 with Lloyds Surveyor George Bernard aboard, representing the United Kingdom. Speed trials were run along the County

Causeway in Miami, later renamed MacArthur Causeway, where Miami Shipbuilding established a statute mile, measured and surveyed by the Corps of Army Engineers with posts and back ranges to assure accuracy

All eight boats bettered their guaranteed 42 knots speed and frequently caused traffic jams along the causeway with sightseers trying to race or pace the boats. The ship channel along the causeway was only 300 feet wide, and it was quite a thrill to see the boats make a 180 degree turn at full speed in the channel. For delivery Miami Shipbuilding had to ship the 63-footers from Miami, but there were no crane facilities available for handling a 50,000 pound load, so the freighter had to put into Port Everglades, about 25 miles to the north. The first three boats were placed on shipping cradles and towed to Port Everglades. R-4 was still finishing trial runs on the shipping date, but there was not enough time to load her aboard a cradle in Miami. They ran her to Port Everglades under her own power (with about five gallons of fuel in her tanks when she got there) then hoisted aboard the SS *Lancaster* on 22 April 1941.

In the fall, while Miami Shipbuilding was finishing the last four boats, the U.S. Navy Squadron 2 of ELCO PT-Boats (The Mosquito Fleet) arrived in Miami, all with broken frames and needing repairs from their shakedown trip around Cape Hatteras. Miami Shipbuilding made repairs to half of the fleet while the rest went to the competitor shipyard, Merrill Stevens. During trial runs that followed the repairs, some Miami Ship people conducted trials on the 63-footers, and as speedboat crews are prone to do, they could not resist "brushing" with the PT's. On the 30-mile run to Hillsborough Light, the 63-footers were able to out-distance as well as out-maneuver the PT fleet. However, to be fair and compare "oranges with oranges," the 63-footers had only half the horsepower, but they were also only half the weight.

On 7 December 1941 the Japanese bombed Pearl Harbor and the war was on. The Miami Shipbuilding production and conversion work became classified business and their facility was encircled with security systems. The success of the R-Boats soon became well known and now Great Britain wanted seven of these 63-foot boats themselves, and they diverted 14 Hall-Scott engines from their standing order to power them. Among other changes in specifications the British wanted were: a new internal arrangement developed with the engine room and two Hall-Scott engines in the stem that drove the propellers through angle drives in the dispensary area. This shortened the cockpit and dispensary and located the fuel tanks under the dispensary transom berths as well as under the cockpit deck. Other changes involved relocating the officers' quarters, galley, and radio room. They reduced the pilot house in size and added a flying bridge with venturi (no windshield necessary). Only the basic hull and forward crew's quarters remained unchanged. The first boat of the new series was Miami Ship hull No. 152, hence the new version was designated Model 152.

Model 152

Miami Shipbuilding performed its new contract with Great Britain under Lend-Lease, with inspection by the U.S. Navy, although many of the innovations and features in the boats were not Navy standard. "Improvements" always result in compromise, so

after the addition of “bullet-sealing” fuel tanks, armament, the reduction in horsepower to 1260 bhp, the displacement was up to 52,000 pounds, and the speed was down to 35 knots. The rubber bullet-sealing tanks were made with a laminate of special latex which would wipe the phosphorus off the tracer bullets to prevent them from igniting the fuel, then, because of the reaction between the fuel and latex rubber, the bullet hole in the tank would seal. Military aircraft were using this type tank, and Miami Shipbuilding was the first to put them in a boat. The tanks themselves were collapsible or semi-rigid and the tops had to be held up with laminated in place studs which were bolted to the plywood tank box. At one point, U.S. Rubber supplied “C-102 board,” a part of the bullet-scaling process that substituted for the plywood tank box. Miami Ship was fortunate to have the U.S. Rubber Co. representative, Virgil L. Van Dinter come to Miami to provide advice on the project. Van Dinter had worked out the bullet-sealing scheme with General Jimmy Doolittle for his early flight over Tokyo.

Model 168

In 1942, the U.S. Navy Bureau of Aeronautics (BuAer), which was independent of the Bureau of Ships (BuShips) that sponsored the other Miami Shipbuilding contracts, became interested in the 63-footer and ordered 15 boats. BuAer needed a little more speed and provided two 1250 bhp Packard engines for each boat to obtain 48 knots, although MSC did not have to guarantee any top speed. The new Model 168 was similar the Hall-Scott powered Model 152 but had two additional fuel tanks, a modified venturi wind deflector bridge and required some changes to the angle drives to handle the increased horsepower.

The Packard engines were manufactured in right hand rotation only hence the boat was provided with two right hand propellers. These engines were light weight “souped-up” “Liberty” aircraft engines developed through Gar Wood’s *Miss America* race boats. They were very delicate compared to the Hall-Scott “Defender” engines. They were dry sump with an external lube oil tank which had special baffles to reduce frothing. The engines were fresh water cooled and the water jackets were made of thin steel sheet prone to getting small pin hole leaks. Packard had a factory representative, Len Thompson, on the Miami Shipbuilding premises to supervise the installation and be on hand anytime the engines were run. Len also took special care in instructing the Navy motor mechanics in the proper operation of the engines.

Dair Long engineered Model 168 but at this time again expressed the opinion that he had always wanted to design an 81-foot PT-boat or rescue boat on speculation for selling it to the military. The Buhlers had continually resisted his efforts. Since it had taken so long to break even with the 63-footers they did not want to tackle a newer and larger boat on speculation in the midst of 63-footer production. Long decided to leave Miami Shipbuilding to start up a design company in California for the Army Transportation Corps. Shortly thereafter, Charlie Roach left Miami Shipbuilding to join Dooley’s in Fort Lauderdale, where he eventually built the new Long 85-footer.

On 4 June 1942, Mrs. Paul Buhler christened and launched hull 168 *Miss Iceland*, and Long returned to Miami Shipbuilding for the official Navy trials of Model

168. Except for steering, the trials were up to specifications and the vessel made 48 knots in a light condition. The two right hand propellers made turning to starboard more difficult. The constant differential steering load meant the helmsman constantly had to hold pressure on the starboard side to maintain a straight course. The hydraulic steering system leaked across from starboard to port gradually until the helm was hard over, unless the helmsman remembered to equalize the system frequently. Trim tabs were added to the rudders for top speed operation, but the amount of tab needed varied with speed, so the problem still existed at lower speeds. This same condition existed on the PT-boats with three right hand screws but with their mechanical system there was no need for constant adjustment.

In August 1942, Miami Shipbuilding received the first of several Army/Navy Production awards, the E-Pennant, for "High Achievement in the Production of War Equipment." After Long left Miami Shipbuilding, the author took over as Principal Naval Architect and the company hired Selden L. Stewart as chief engineer. Selden's first job was to design a replacement mechanical steering system which was adopted for all future boats.

Model 252

As production of the Model 152 boats continued, the Union of South Africa ordered eleven more of the Kermath powered model, designated R-9 through R-19, but with bullet sealing fuel tanks, a flying bridge and accommodations similar to Model 168. Georgia Kingsbury, Paul Buhler's secretary from the time the Buhlers purchased Fogal Shipyard in 1935, christened and launched "R-9" at a ceremony during which U.S. Navy Commander Pillsbury, Superintendent of Ships, Tampa, presented a star to the Army/Navy E-pennant for "Continued Excellence in Production."

Model 314

Late deliveries of Watson-Flagg angle drives held up deliveries of Model 152 boats to the Navy. So, the Navy, in its wisdom, decided to invite other shipyards to build the 63-footer to help with the Miami Shipbuilding delivery deficiency. Obviously, no matter how many yards were selected none of them could produce boats without angle drives, so what was to be gained? The Navy had not previously mentioned the matter to Miami Shipbuilding, had said nothing about use of the plans nor anything with regard to the proprietary issue. Miami Shipbuilding was miffed to say the least. To make matters worse, the Navy mixed up a batch of plans of several different MSC Models for the contractors to bid on. But the nation was at war, so Miami Shipbuilding came up with the solution of building a model of the same hull with engines amidships, eliminating the need for angle drives.

On response to Miami Shipbuilding's bitter complaint, BuShips called a conference in Washington to decide what to do. For two or three days, the whole engineering staff at Miami Shipbuilding hovered over two drawing boards with pencils, erasers, slide rules, and the good old Marchant calculator, frantically putting together a workable plan showing midship engine installation without angle drives. At the

conference, after much Navy agonizing, the author whipped the new composite blue print out of his back pocket. BuShips personnel asked how long it would take to build a prototype. Young Buhler brashly replied, “three weeks!” When he returned home everyone was shocked. But given the go-ahead and with a number of prefabricated parts on hand, Miami Shipbuilding:

- Laid keel on 11 November 1942
- Completed framing on 14 November 1942
- Completed planking on 15 November 1942
- Completed decking on 16 November 1942
- Installed engines on 20 November 1942
- Launched vessel on 24 November 1942
- Ran Navy trial on 28 November 1942 (just 18 days)

Ruth Trumpy, wife of Lieutenant Donald Trumpy, the resident supervisor of shipbuilding, was an appropriate sponsor to christen and launch hull 314, just 15 days after the keel had been laid. The Navy was convinced but did not give up the idea of having additional shipyards building the boat. They ordered Model 314 boats from Miami Shipbuilding and straightened out the mixed-batch of plans, made Miami Ship design and lead yard to supply plans, parts, and supervision to seven other yards, namely:

- South Coast Co. in Newport Beach, California
- Fellows & Stewart. Inc. in Long Beach, California
- Harbor Boat Budding Co. in Long Beach, California
- Stephens Brothers, Inc in Stockton, California
- Truscott Boat & Bock Co. in Benton Harbor, Michigan
- Huckins Yacht Corp in Jacksonville, Florida
- John Trumpy & Sons, Inc in Gloucester City, New Jersey

The arrangement of the new Model 314 was similar to the 152 Model for the crew and petty officers quarters, pilot house, officers quarters, radio room and galley. Aft of midships the arrangement was entirely different, starting with the engine room, tank/dispensary compartment, cockpit and access to the lazarette through the seat in the cockpit.

It was necessary to increase the shaft angle, meaning new shaft logs and struts, which, plus the absence of 24:25 reduction in the angle drive, resulted in a slight speed loss. Two identical rigid 795 gallon U.S. Rubber bullet-sealing fuel tanks simplified the installation and piping. And by this time MSC had developed a torque tube steering system to replace the hydraulic system which had been a constant problem.

Model 293

Under the Lend-Lease program, the U.S.S.R. ordered thirty 63-footers basically of the Model 314 design, but of course they wanted some changes. Primarily they wanted a flush deck with a 20 milli-meter Oerlikon gun, in addition to the four .50 caliber machine guns, plus eight 420-pound depth charges, and 12 smaller Russian depth charges. In place of the former cockpit, they wanted four additional berths below deck

(berthing in the ammunition storage area). Miami Shipbuilding provided office space for the Russian officers and staff. The crew was there to receive training in operating the boats and later take delivery. In the office they looked at plans, made requests (which were ignored), and tried to communicate but the language barrier was too great except for the word “nyet.” Two Russian midget employees, Basil Fillin and Johnny Velikanoff, were of some help in translating, particularly in making all the laminated bakelite instrument panel labels for all the Russian boats. The labels were engraved in English on one side and Russian on the other side so they could be reversed after the delivery trio.

Interesting incidents

Wartime security restrictions prevented word getting back to the shipyard, after the boats were delivered, about the activities of the crews or fates of the boats. There are, however, a few tales about the boats before they left that are of interest. In the first days of making speed trial runs along the County Causeway, the 63-footers created a great deal of interest not only to the public but to the operators as well. One such day President Roosevelt was embarking on an “R and R” cruise aboard the USS *Tuscaloosa* (CA-37); the R-Boat crew decided to give the president a thrill. While the Navy vessel eased her way out Government Cut, the 63-footer roared past with all four Kermath “Sea Raiders” at full throttle. Unfortunately, on the return run, the jaw clutch combining the two starboard engines slipped out, disengaging the after engine which immediately raced to terminal velocity throwing engine parts all over the engine room. With only three engines still working, the 63-footer passed *Tuscaloosa* at a modest 30 knots and the crew waved casually to Roosevelt, who was seated in a canvas chaise lounge on the upper deck. Unaware of the problem, he waved back.

Later when the British Model 152 boats were being delivered in pairs via Canada, Canadian ferry crews came to the shipyard every two weeks to outfit and provision two boats for the ferry trip. At the dock, the boats were berthed two abreast and the American crews outfitting and provisioning their own vessels always insisted on having the inside berth. This was no problem until the U.S. Navy truck from the Opa Locka Naval Air Station showed up with supplies for the Canadians and had to carry cases of beer and whiskey across the decks of the U.S. Navy boats. Did you think the war was in Europe?

During one of the delivery trips, MSC received a frantic phone call from one of the crews saying that the weather was so severe outside in the ocean they elected to continue their trip in the Intracoastal Waterway. And, while doing so, the steering system failed, resulting in the boat ending up on the canal bank near Marineland, south of St. Augustine. Captain Pugh, the Miami Shipbuilding superintendent, and the author caught the next train to St. Augustine to investigate. Sure enough, the boat was on shore, 105 feet from the water!

The crew had started their trip offshore but put in at the Ponce de Leon inlet because of having to battle 50 mph northeast winds all the way. They were unaware of a small leak in the hydraulic steering system, which, because of the constant right helm, caused the steering wheel gradually to creep to starboard. They navigated the inlet but

upon proceeding up the inland waterway continued to experience wind on the starboard bow. Just before coming to the area known today as Palm Coast, the pilot found himself with the steering wheel bottomed-out to starboard and thinking it was just binding rotated the wheel momentarily to port then hit it harder to starboard. He was not only unable to manage a slight turn to right but now was heading for the left bank and as he reached to close the throttles, he hit the bank, and was thrown forward shoving the throttles wide open.

Captain Pugh rounded up a local shrimper and a Florida chain gang from the local sheriff. The gang dug a ditch in the soft muck 16 feet wide, 3 feet deep, and 105 feet long from the stem of the boat back to the waterway. They then rigged a bridle around the bow of the 63-footer back to the shrimper and upon the order to “gun it” got a big surge of water in the new ditch which floated the boat off just so easily. The shrimper then towed the 63-footer south to the Daytona Beach Boat Works where she was hauled out on a marine railway. Believe it or not, shafts, rudders, props, and bottom were all OK and only the bottom needed a coat of paint.

In addition to the South Africans, British, and U.S. Navy, Miami Shipbuilding received orders from the Dutch, Belgians, and the Russians. All these crews had their first operating experiences right at Miami.

The Netherlands Government took delivery of two Model 314 boats for Surinam. They had no special requirements but insisted on testing everything before leaving including setting off a depth charge in Biscayne Bay. This was no problem, but the bay is only 12 feet deep and there was some question whether they could get away quickly enough without blowing themselves up. With the test successful, they proceeded out Cape Florida Channel, south of Key Biscayne, into the ocean and returned via Government Cut and the Ship Channel. Before they could get to the MSC Main Yard on the Miami River, the *Miami Herald* called Miami Shipbuilding frantically to get some information on two “Free French” boats that had come in the ship channel at full speed and suddenly disappeared up the Miami River. The *Herald* reporter mistook the horizontal red, white and blue stripes of the Netherlands flag for the vertical blue white and red stripes of the French flag.

For the official trial runs of Model 168 Commander Bogle of BuAer came down from Washington to check out the boat personally. During the trial he ordered “full speed ahead” (48 knots) as the hull departed Government Cut into the ocean in six-foot breaking seas. Dair Long at the helm, with his spring-like double jointed knees, obliged. After flying out of the crest of the third wave, Commander Bogle lost his grip and fell down the companionway stairs into the crews' quarters. He was unhurt but he yelled up the companionway, “O.K., I accept the boat, take us back to the dock.”

Not long after the Packard-powered boats were in service Lenny Thompson, the Packard Factory representative at Miami Ship, was ordered to go to England to check on reports that the British were running the Packard engines in the 63-footers at higher than the prescribed rpm. Packard had issued strict instructions not to exceed 2500 rpm, and to run at that speed for no more than five minutes in any one hour of operation. Lenny came back confirming the report; they were actually running the engines at 3200 rpm, and they

said they had to do so on channel patrol to save themselves and that they intended to continue doing so!

The best of “small world” stories for the author came in 1993 when he discovered that his college classmate and fraternity brother, U.S. Navy Commander Stuart Giles, and their college professor, Harold Burns-Meyer, had been skippers of 63-footers during the invasion of southern France in Operation Bigot-Anvil. This was not rescue work, but rather deception. The boats were equipped with pyro-technics, loudspeakers, smoke generators and other equipment to simulate landings at places remote from the actual landing, an interesting story covered in the book *Seaborne Deception: The History of U.S. Navy Beach Jumpers*.⁵

⁵ John B. Dwyer, *Seaborne Deception: The History of the U.S. Navy Beach Jumpers* (N.Y., 2002).