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Tuesday, May 27, 2003

Local

Posted on Tue, May. 27, 2003

The Philadelphia Inquirer

Boatman plans to take a dive

The Shore's Bill Gifford, ex-racer and clammer, has made his own submarine from scratch.

By Joseph A. Gambardello
Inquirer Staff Writer

EGG HARBOR TOWNSHIP, N.J. - Bill Gifford has spent most of his 60 years on the water as a clammer, offshore racer, marine salvager and boatyard owner.

But of late the call of the sea has been sounding more like: "Dive. Dive. Dive."

Gifford, you see, has spent a good part of the last two years building from scratch a 32 1/2-foot submarine at his marina on the Margate Causeway.

And not just any submarine.

The Needlefish, as Gifford is calling it, is a miniature replica of a World War II submarine. The only thing that seems to be missing are the torpedoes.

"I didn't just want a submersible," he said. "A submersible needs a mother ship. I wanted to build a sub that comes and goes."

In other words, he wants to be able to sail the submarine to his diving destination under its own power.

Two thousand hours of work and nearly \$80,000 later, Gifford

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is almost there, and this weekend he will display the Needlefish during a boat show he is sponsoring with a neighboring marina.

Building it is something he had long thought of doing, inspired by his many years on clam boats.

Gifford spoke of how the boats' dredges would bring up more than shellfish from the bottom. Sometimes it would be an ancient brandy bottle or an old ship's telescope. It might be the stock of a gun or a wooden sailing block. And it was an ebony, ivory and bronze quadrant that could date as far back as 1650 that really got him wondering what else was down below.

That called for a submarine.

"I've built boats before," said Gifford, no stranger to a welder's torch. "A sub is a boat. I knew I had the mechanical ability."

Gifford, who lives in Absecon, clearly is not someone to do things by half. He wasn't just a clammer. He once owned a fleet of clam boats. He didn't just race boats at speeds of 100 m.p.h. and more. He won a world championship.

So after deciding to build a submarine, Gifford said, he spent about 1,000 hours - the equivalent of twenty-five 40-hour workweeks - learning about them in books and on the Internet, where he discovered that others like him have built or are building personal underwater craft.

He came up with a design and started with a 1,550-gallon propane tank made of 3/8-inch metal.

At first, Gifford said, friends and family did not know what to make of the tank with a hole cut in it for a conning tower.

"But I could see the whole picture," said Gifford, taking a pen and sketching out the placement of ballast tanks to show how they - with the smoothing effect of fiberglass - would change the profile of a propane tank to that of a submarine.

He bought the equipment he needed from stores, catalogs

and even eBay. Things such as batteries, diesel engines, carbon-dioxide scrubbers, oxygen monitors, high-pressure pumps, and even a surplus dive Klaxon, which he calls an *ooga* horn.

Things he could not buy he made, including a depth gauge and a inclinometer, which shows if the sub is pointing up or down or running even.

"When I set my mind to do something..." he said, leaving it to a visitor to complete the sentence.

The sub seats two people, Jet-Ski-style, and a view is provided by seven portals made of 2-inch acrylic plexiglass in the conning tower.

Gifford is hoping the sub will have a speed of up to 10 knots (about 11 m.p.h.), be able to dive to 300 feet, and stay underwater for four hours. It weighs about 16,000 pounds.

Such a project would not have been possible 20 years ago, he said, because the equipment needed to run the sub would have been too big. Technology has changed all that.

Besides exploring wrecks, he wants to take the submarine to lakes around the country and use it in fisheries research.

That is why he is going to register the sub as the R/V Needlefish. That's R/V as in research vessel, but it could just as easily be a recreational vessel.

Sea trials are expected to begin in late July or early August, and already several friends have expressed an interest in joining Gifford on the first dive.

But Gifford, who credits the right equipment, proper planning and luck with helping him escape some close calls over the year, has decided to take his service manager, Bill Bubeck, with him.

Bubeck has experience as an offshore racer and is a certified mechanic, the sub's skipper said.

"He understands danger and what to do in a tight situation," Gifford said.

As they say, take her down.

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