Yamaha Motor Monthly Newsletter

The "MJ-FX Cruiser SHO" Personal Watercraft

Spotlight: Personal Watercraft

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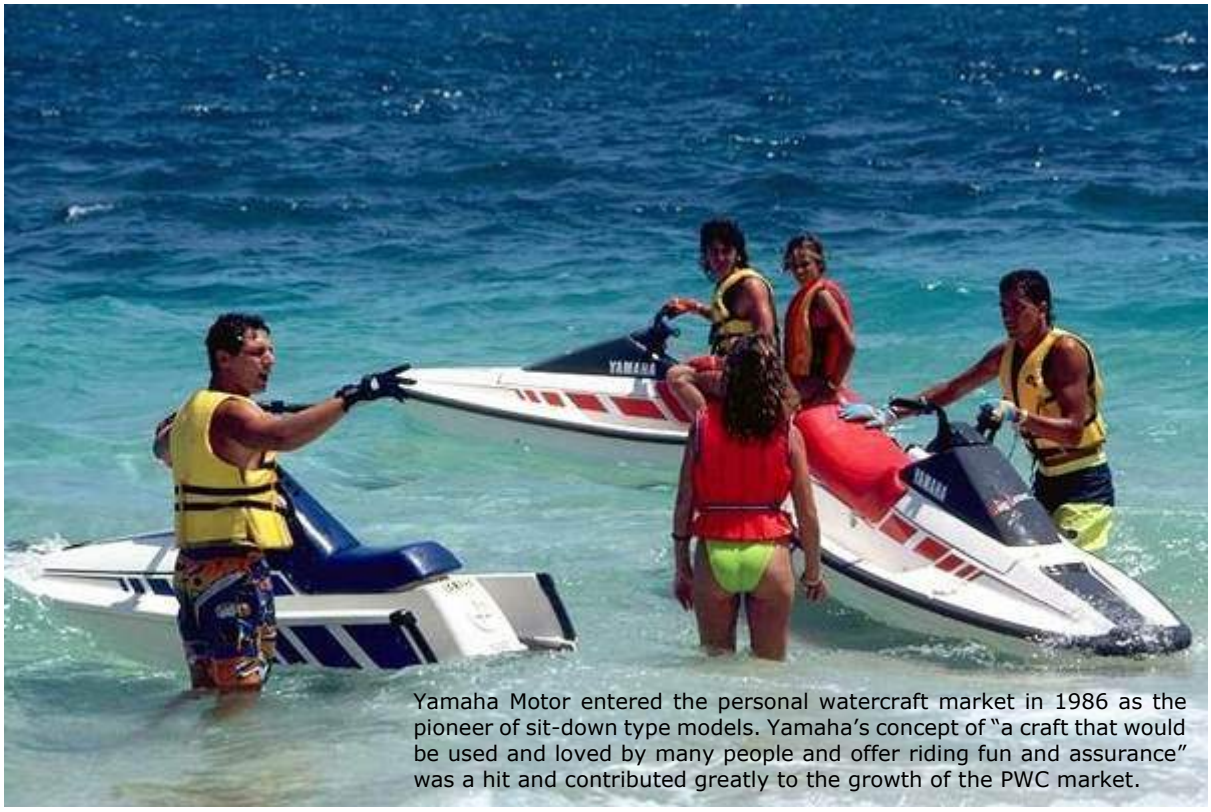
Personal Watercraft

Creating a craft to be used and loved by many



Yamaha Motor entered the personal watercraft market in 1986 as the pioneer of sit-down type models. Yamaha's concept of "a craft that would be used and loved by many people and offer riding fun and assurance" was a hit and contributed greatly to the growth of the PWC market.

As the name implies, personal watercraft (PWC) are personal-sized craft powered by a small engine and a jet propulsion unit that draws in water from under the hull and shoots it out the rear in a powerful stream. PWCs are used and loved today primarily for pleasure riding and touring by marine leisure fans in waters around the world, but their great mobility and maneuverability on the water have also made them the craft of choice for uses such as coastal patrol and the rescue operations of lifeguards. Yamaha's first PWC, the "WaveRunner 500," ("Marine Jet 500T" in Japan) was launched on the U.S. market in 1986, giving the business a footprint of over 25 years. This month, we introduce the beginnings and current course of Yamaha's personal watercraft business.

Developing the PWC and the era that gave birth to it

The 1970s can be viewed as a golden era for marine leisure in Japan. The waters around the Enoshima Marina that had been built for the 1964 Summer Olympics in Tokyo were an especially popular leisure destination. Countless motorboats and sailboats plied the waters on weekends, and you could frequently see a variety of personal watercraft slicing through the waves as they threaded in and out between them. The origins of the PWC are said to actually go back half a century before this to a craft invented in France, after which a variety of types of craft in different shapes and designs were created around the world, but none of them developed into a widely accepted mainstream category. In the waters of Japan at the time, an array of stand-up, sit-down and even belly-ridden craft could be found.

In response to this trend, Japan's Ministry of Transport (name at the time) undertook measures to establish a PWC license system and inspection standards, and commissioned surveys by the Japan Boating Industry Association (name at the time). As a participant in this project, Yamaha Motor took a leading role in testing the different types of PWCs and in creating standards for PWC use in Japanese waters.

These efforts of the industry and affiliates led to the official announcement of the "specialized standards for PWC" in 1980, and the state of the personal watercraft scene in Japan quickly changed.
Three years later in 1983, Yamaha Motor began full-fledged development of its first personal watercraft. It was a time when the company was stepping up efforts to develop new businesses, and as one of the development staff at the time recalls, "There were big expectations for the project within the company and we received a good budget for research and development."

From failure to acclaim in U.S. tests

The "Power Ski" prototype model tested in the U.S. in 1984 was a stand-up type powered by the engine from a 25 hp outboard motor.

A new prototype embodying the project's new keywords of "sit-down type" and "tandem model" was immediately developed. Initial R&D was carried out with the prototype mounting an outboard motor.

At the start of the R&D project, Yamaha's aim was to build a slim, stand-up type PWC that would have excellent speed and sharp turning performance. The performance characteristics of the existing makers' models might be likened to the stable feeling of waterskiing on two skis. What Yamaha wanted to develop in contrast was a PWC with a lighter, more agile performance feeling similar to waterskiing on a single ski. The first result was a prototype called the "Power Ski." Initially, the plan was to start by marketing it in Japan, but there was a management decision that it would be better to begin by marketing it in the U.S. where a market for personal marine leisure craft already existed. To prepare for a U.S. market launch, tests were conducted in the U.S. in September 1984.
To make a long story short, the U.S. tests were a complete failure. The local test rider was a large man weighing over 100 kg who had trouble even getting into a standing position on the relatively unstable Power Ski. Even once up and running, it lacked the power to perform as the rider wished. The test rider even questioned whether Yamaha was capable of building a decent PWC.
After the utter failure of the first tests in the U.S., Yamaha made a 180-degree reversal in its PWC project concept. The painful realization that the American market wanted a stable craft that a wide range of users could enjoy with assurance led to the idea of a sit-down type tandem model. A team of skilled engineers from the various marine division departments was quickly assembled and work began on a new prototype model for the next test session in the U.S.
That subsequent test session took place in July 1985, and it was with the same local test rider who had doubted Yamaha's potential as a PWC maker a year earlier. This time, with the new tandem model it was a completely different story. "This is great!" he exclaimed after performing 360-degree spins one after another. He went on to praise it profusely as a machine with a feeling like no other PWC. It seemed clear that this model that required no special riding skills and could be spin-turned by practically anyone was exactly what American users were looking for. This test session gave Yamaha confidence that its product concept was right on target and development was accelerated to bring the new business to life.

Yamaha entries spark growth that quadruples PWC market demand in four years

The tandem model that had won test rider praise in the U.S. was set to be marketed as the "WaveRunner 500" and, at the strong request of the marketing division in the U.S.,

development began on a single-seat model that would join the lineup as the "WaveJammer 500." Another request from the U.S. was for something that would easily distinguish Yamaha models from the competition as the newcomer brand in the market. This led to the adoption of Yamaha's trademark Visibility Spout (the tall plume of spray from the rear of the machine that increases conspicuity on the water) just prior to the start of production. This spout remains standard on all Yamaha PWC models to this day.

Yamaha's first PWC, the "WaveRunner 500" (1986)

The release of the first two Yamaha models, the WaveRunner 500 in 1986 and the WaveJammer 500 in 1987, impacted the PWC market in a way that far exceeded all of Yamaha's expectations at the time. Prior to Yamaha's market entry, annual demand for PWCs worldwide stood at approximately 25,000 units. This jumped to 31,000 units in 1987, 57,000 units in 1988, and by 1990, world demand topped 100,000 units. In just four years, these Yamaha models sparked growth that saw the market quadruple in size.

To answer this growth in demand in the U.S., the world's largest market for PWCs, and to deal with fluctuations in the exchange rate, production of Yamaha PWCs began at Yamaha Motor Manufacturing Corporation of America (YMMC) in the state of Georgia in 1989.

At the strong request of the marketing division in the U.S., a single-seat "WaveJammer 500" model was added to the lineup (1987).

A prime success story in Yamaha's "multi-axial business" policy

The world's first 4-stroke engine PWC, the "FX140" (2002) cleared the U.S. Environmental Protection Agency's emissions standards.

After entering the PWC business with the WaveRunner 500, Yamaha Motor went on to introduce a number of epoch-making technologies and products.

One shining example is the "FX140" model launched worldwide by Yamaha in 2002 as the world's first PWC powered by a 4-stroke engine. Yamaha Motor had long been an innovator for environmental friendliness with its outboard motors, and the same stance was apparent in this new 4-stroke PWC engine that brought dramatic improvements to environmental performance with improved fuel economy, reduced emissions, less noise, etc. Furthermore, the 4-stroke power unit was developed based on the high-performance motorcycle engine in the YZF-R1 and gave the FX140 a dynamic performance feeling. Yamaha continued to develop its PWC engines, releasing the "FX SHO" model mounting the world's first supercharged PWC engine in 2008. This engine has won high praise not only for its raw performance but also for its environmental performance that meets the 2008 CARB (California Air Resources Board) emissions standards. At the same time, Yamaha has also been a leader in hull construction technology, succeeding in the development of its exclusive NanoXcel material that reduces weight by 25% while increasing strength by 15% compared to conventional materials. NanoXcel is used on PWCs like Yamaha's flagship "MJ-FX Cruiser SHO" model.

Today, approximately 40,000 Yamaha PWCs are manufactured annually, with about 60% of them, or 24,000 units (2012 figure), wholesaled in the U.S. market. Also, Yamaha's line of 19-24 ft. Sport Boats using PWC engines are manufactured at Yamaha Jet Boat Manufacturing U.S.A., Inc. (YJBM) in Tennessee. These boats are prized by customers and are the top-sellers in their class in the American market.

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After being founded as a motorcycle manufacturer in 1955, Yamaha Motor adopted a

"multi-axial business" policy to aggressively broaden its range of businesses with new product lines that today include the outboard motor, Recreational Vehicle (RV), Golf Car and Power Products businesses. Among these, the PWC business launched in 1986 is one of the leading success stories of Yamaha's multi-axial business policy, having achieved more than 10 billion yen in annual net sales in its first three years, going on to win markets in more than 100 countries around the world, as well as producing more than 100 patents that can be licensed to other manufacturers. Today, it remains a prime example of the value of pioneering new business fields.

Message from the Editor

It's the middle of summer here in Japan. Underneath the glistening sun day after day, the waters around the country are full of people enjoying marine sports and leisure. Yamaha's PWCs are known as "Marine Jets" in Japan, and they can be found almost anywhere in the archipelago. Even from ashore, you can tell right away that it's a Yamaha from the spout spewing water high into the air.

The picture at the right shows a scene from the popular *Sea Jetter Kaito Show* held at the Ishinomaki Mangattan Museum, a facility dedicated to one of Japan's most famous *mangaka* (manga artist/writer), the late Shotaro Ishinomori. The Ishinomaki Mangattan Museum is located in the city of Ishinomaki in Miyagi Prefecture and was heavily damaged by the tsunami of the Great East Japan Earthquake on March 11, 2011, and just reopened recently after being closed for roughly two years. The road to recovery of the area is still a long and hard one, but every time this superhero rides one of our PWCs to defeat the bad guys to the cheers of children watching the show, the road gets a little shorter.

Yuriko Senga

Corporate PR Group, Public Relations & Advertising Division, Yamaha Motor Co., Ltd.
2500 Shingai, Iwata, Shizuoka, 〒438-8501 Japan
TEL. 0538-32-1145 FAX. 0538-37-4250
E-mail: sengayu@yamaha-motor.co.jp