Yamaha Motor Monthly Newsletter

The "SRViper R-TX SE" Snowmobile

Spotlight: Snowmobiles

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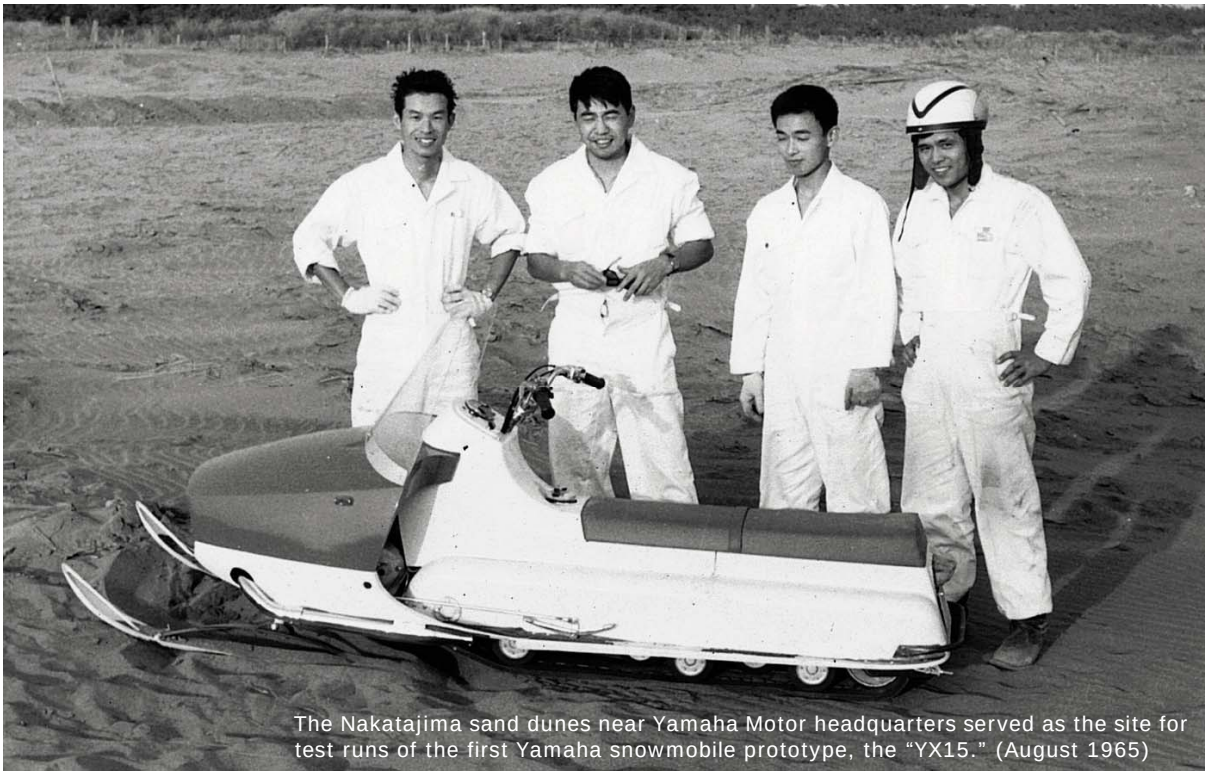
Snowmobiles

A personal vehicle for work and for play on the snow



The Nakatajima sand dunes near Yamaha Motor headquarters served as the site for test runs of the first Yamaha snowmobile prototype, the “YX15.” (August 1965)

What at times felt like a long year now seems to have flown by as it comes to an end. As we enter a new year, one of the world’s biggest sporting events is also about to commence - the Winter Olympics. Beginning from February 7th in the Russian city of Sochi on the shores of the Black Sea, Yamaha Motor’s group company in Russia, OOO Yamaha Motor CIS (YMCIS), will be lending snowmobiles, Golf Cars and Recreational Off-highway Vehicles (ROVs) as an official supplier for roles in moving people and equipment around the various venues to help the event run smoothly.
In anticipation of their special role this winter, we would like to introduce the story of Yamaha snowmobiles as multi-functional personal vehicles that support the lives and livelihoods of people in snow regions and provide a popular way to enjoy winter sports and recreation.

Snow in a temperate country? Snowmobiles from Japan

The origins of the snowmobile as a vehicle are said to lie in prototype motorized sleds built in North America and Europe around 1910. Later, larger snow-going vehicles like buses and tractors running on continuous tracks began to appear. The first smaller, motorcycle-like “snowmobiles” to go into mass production were those of a maker in Quebec, Canada in 1959. These new machines became a big success in Canada and the United States as winter recreational vehicles. When these exciting new vehicles were introduced in an English-language newspaper in Japan, it was a time when Yamaha Motor was searching for new businesses to complement its motorcycle business, and a study was launched immediately to ascertain the possibility of developing a snowmobile in-house.
Situated off the eastern seaboard of the Eurasian continent, Japan is a long and narrow island nation stretching north and south with mostly mountainous terrain. The climate is relatively temperate, but has four distinct seasons and considerable snowfall in winter primarily on the northern island of Hokkaido and in the Tohoku and Hokuriku

regions of the main island. Particularly for the cities on the coast of the Sea of Japan, it is not uncommon to have snowfalls of one to two meters caused by northerly winds blowing down from Siberia that pick up moisture as they cross the Sea of Japan. As for the mountainous areas, Japan still holds the Guinness record for snow accumulation with the 1,182 cm recorded at the Mt. Ibuki meteorological observatory in Shiga Prefecture in 1927. For Yamaha Motor, the snowmobile looked to be an attractive new type of product and a potential source of new demand during times when selling motorcycles was unfeasible in some regions.

Unlike the country's snowbelt however, Yamaha Motor's headquarters is located in Shizuoka Prefecture in the more southern part of Japan. The Pacific coast here is washed by the warm *Kuroshio* current and receives almost no snowfall. This makes it a great location for developing products like motorcycles and boats, but when it came to snowmobiles, there isn't even a place to test-run prototypes. Mustering all their resources and ingenuity, the development team came up with a solution. They took a recently imported sample model out to the sand along the nearby coast. The sand hills there have very fine-grained sand and the idea was that running on it would be quite close to the feeling of running on snow.

Once the Yamaha team felt that they had found solutions for most of the technical aspects of a snowmobile, they completed their first prototype, the "YX15," and began final testing in the U.S. and Canada in 1966. The aim was to prepare the model for production and release into those markets. However, one after another, the drawbacks of the in-house development methods soon became apparent. The situation changed completely and all the plans had to be scrapped.

Yamaha's first snowmobile model, the "SL350." Statistically, it had a maximum output of 20 hp, a top speed of 60 km/h, could climb an incline of up to 25 degrees and pull a 500 kg load (1968).

"The front end of the prototype put so much pressure on the snow surface that it would immediately sink into soft snow. The test riders laughed at the prototype, saying that it was more of a 'snow submarine' than a snowmobile. Even on harder packed snow the local test riders gave it very low marks, saying that its low center of gravity resulted in too much stability, giving it cornering performance that lacked agility and any kind of enjoyment," one of the developers at the time recalls with a wry laugh. However, the painful lessons of this experience would be put to use when the project was restarted and eventually led to the birth of Yamaha's first snowmobile model, the "SL350."

Learning from the development process, and progressing with each lesson learned

The SL350 had a stylish white body and a 2-stroke, 350cc 2-cylinder engine with a V-belt type continuously variable transmission driving a 15-inch wide track with two steerable skis in front. It was produced in a lot of about 300 units in the autumn of 1967, with 270 of them shipped to the North American market and 30 kept for marketing in Japan. The aim however, was no more than a test to monitor market reactions and sales to prepare for the mass-production model to come later.

A gala test-ride event was held at a hotel in Tokyo in September 1968 for Yamaha's first production snowmobiles for the Japanese market, the "S350" (pictured) and "SD350."

Determined not to repeat the mistake of the first prototype tested in North America the year before, thorough supplementary market surveys

were conducted and the various issues revealed by them provided invaluable feedback for the ongoing development.
In January 1968, Yamaha Motor announced the completion of the Yamaha SL350. After that, the “S350” and “SD350” models for the Japanese market and the “SL351” model for the North American market were unveiled and released one after another. One of the Yamaha engineers who joined the snowmobile development team around this time told us about that period.
“It was a vibrant market at the time with about 50 companies exhibiting their models at the snowmobile trade shows in the U.S. and other markets. The very fact that we were trying to join such a market says something about the great determination we had as a team. But rather than praise, we mostly got complaints. We knew we had to build a better product, and in search of improvements, we spent most of the year traveling from one test site to another with a development team of 30 or 40 people. We flew all over the world to sites ranging from Mt. McKinley in Alaska to the Rocky Mountains of the American west to places like Sweden and Australia.”


A busy production line turns out the 1970 model “SS396” bound for the North American market.

The reason that Yamaha was developing different models for the Japanese and North American markets lay in the difference in market backgrounds. In the U.S. and Canadian markets where the snowmobile was born, the types of use were clear-cut and mostly recreational. For this reason, Yamaha Motor’s president at the time, Genichi Kawakami, directed the developers to design the SL351 with a sporty, high-quality finish for the exterior and interior alike, based on his familiarity with the North American market.
On the other hand, the aim in Japan was to market the snowmobile as an alternative means of transportation in the snowbelt where heavy snowfall often made it hard for people to get around. To do this, Yamaha lobbied the related government agencies to get the snowmobile legally approved for operation by anyone with a regular driver’s license by having it classified as a light automobile (there is currently no such designation). For this reason, the two models marketed in Japan each mounted two headlights, turn signals, rearview mirrors and other safety equipment required by motor vehicle laws, enabling the snowmobiles to be used in the snow regions for jobs such as delivering mail, hauling goods or as vehicles for doctors making house calls.

New challenges bring product maturation and a return to new dreams and fulfillment

Around the time that Yamaha entered the snowmobile market in 1968, worldwide annual demand had already exceeded 250,000 units, and over the next two years that demand doubled in size. At its peak, market demand reached approximately 500,000 units. At the time, snowmobile races using oval courses such as horserace tracks were popular in the largest markets of the U.S. and Canada, and Yamaha also took on the challenge of competition in the pinnacle classes as a means to develop its technology and promote sales. Winning one of the most prestigious titles of all, the World Championship Snowmobile Derby at Eagle River, Wisconsin, in 1971, ’72 and ’76 immediately brought widespread recognition for the Yamaha brand.
However, the excessive competition for technological dominance in racing alienated many general consumers and they began to resist buying the resulting products, drastically dropping demand. Many makers were forced to withdraw from the field, but Yamaha was one of the first to shift its focus away from oval track racing. Instead, Yamaha focused its development on models for touring on the groomed trails that had become popular primarily in the snowbelt of the Great Lakes region of the U.S. and Canada and models designed for cross-country riding. This change in direction would

see Yamaha through this critical period that continued into the early 1980s. Then in 1984, Yamaha produced a hit model with the “PZ480 PHAZER.” Its lightweight, compact and stylish body, 53 horsepower engine and Yamaha-exclusive “Telescopic Strut Suspension” provided a great combination of comfort and performance, and brought the Yamaha brand a big boost in market share.

As the 1990s approached and the snowmobile market expanded to Europe, demand grew gradually. The uses showed diversity from touring on trail courses and cross-over riding on vast snowfields to mountain climbing on steep slopes, sport riding in the various types of races and utility uses such as patrol work on ski slopes, ranches and the like, and transport of goods.

Yamaha’s development rider at the time and 3-time consecutive All Japan Snowmobile Champion Morio Ito also entered the World Championship Snowmobile Derby at Eagle River in 1977 and took an impressive 7th place finish.

Over the years, Yamaha Motor had established Yamaha Motor Canada Limited (YMCA) in 1973, Yamaha Motor Corporation, U.S.A. (YMUS) in 1977 and a snowmobile R&D center in Minnesota in 1978. The increased sales capacity, development capability and a full selection of model variations saw cumulative Yamaha snowmobile production reach a total of one million units in 1997. At the same time, Yamaha actively supported the ventures of a number of adventurous riders. First, Yamaha cooperated in the 1985 expedition of Japanese actress Masako Izumi to reach the North Pole by snowmobile and “stand at the top of the world.” That year’s expedition failed to reach the Pole, but Izumi’s second try in 1988, again supported by Yamaha, finally saw her reach that goal in a 62-day journey that covered some 800 km. After fulfilling her dream, Izumi commented, “Rough ice fields and big breaks in the ice blocked the way, so a number of times I thought we would have to give up. But, we finally made it to our goal after a long and arduous journey thanks to the reliable performance of the snowmobiles that started with one turn of the key every time.”

The compact and easy-to-use “Snoscoot SV80E” released in 1988 helped expand the customer base primarily among family-type users.

Yamaha Motor also provided snowmobile support for Japanese adventure rider Shinji Kazama on his expeditions to successfully reach the North Pole (1987) and the South Pole (1992) by motorcycle and the attempt by photographer and mountaineer Susumu Nakamura to reach the South Pole on skis (1997). In the field of racing, Yamaha supported a dealer team’s entry in the world’s largest scale snowmobile endurance race, the Harricana International Snowmobile Rally. In it, the team of three Yamaha “VK540” snowmobiles and one sled crossed 2,500 km of Canadian snowfields to win consecutive victories the first and second running of the Rally in 1990 and ’91.

Leading the way with 4-stroke snowmobiles and developing new markets

As times changed with the coming of the 21st century and eyes turned to a new future, Yamaha Motor made what was at the time a big gamble by taking on a completely new challenge: shifting to 4-stroke models.

The general assumption had always been that the 2-stroke engine, with its light weight and high power output, was the best power unit for a snowmobile designed to travel at high speeds over soft snow and through its heavy resistance. However, a 4-stroke

engine has many advantages over a 2-stroke engine such as its flatter, easy-to-use torque characteristics, better fuel economy, cleaner emissions, quieter performance and good durability. What's more, considering the less consistent snowfall due to global warming and the growing concern of society for preserving the natural environment, the days of the 2-stroke snowmobile were surely numbered. Motorcycle makers had already made the shift to 4-stroke models and Yamaha knew that the snowmobile would be next.

At the world's pinnacle snocross race event (at the time), the WPSA PowerSports Snowmobile Tour, Robbie Malinoski rode the Yamaha FXNytro and became the first rider ever to win a race on a 4-stroke machine.

As its first 4-stroke models, Yamaha developed the "RX-1" series powered by a 1,000cc, in-line 4-cylinder engine in 2002 and chose to launch them as its flagship sports models to maximize the impact on the market. After that, 4-stroke models like the 3-cylinder "RSVector" and "FXNytro" series and the 2-cylinder "Phazer" series were added to the lineup one after another. Along with these new model entries, Yamaha continued to build its market advantage by introducing fuel injection, electric power steering, the Exhaust Ultimate Power Valve (EXUP) system and other features that have helped cement the current trust in the brand as the leader in 4-strokes and advanced technology. The Russian market mentioned at the beginning of this issue represents another recent challenge undertaken by Yamaha. In 2005, Yamaha Motor established YMCIS as its group company in Russia. In its efforts to spread Yamaha brand products in this vast market, YMCIS positions snowmobiles as one of its main product lines alongside outboard motors. By offering a solid lineup of models, putting in place a nationwide sales and service network and implementing promotional programs such as snowmobile riding courses, the company has succeeded in selling more than 12,000 snowmobiles annually (as of 2013). This has raised Yamaha to a position where it competes for the top share in Russia's snowmobile market.

Behind the growth of demand for snowmobiles and outboard motors in Russia today is the established lifestyle in which families enjoy spending their weekends at cottages called *dacha* in the countryside.

Yamaha snowmobiles will be used in running the Sochi 2014 Winter Olympics. Yamaha also supported the Winter Olympics as an official supplier at Sapporo in 1972, Lillehammer in 1994 and Nagano in 1998.

"Thanks to these efforts, we were able to convince the organizing committee of the Sochi Winter Olympics that YMCIS is a company worthy of supporting the operations of one of the world's largest scale sporting events as a supplier, which helped us to win an official contract," says a marketing representative at YMCIS.

Before the end of 2013, new models sporting special commemorative Olympic graphics will be launched in hopes of developing even more demand in this important market.

Message from the Editor

The Sochi Winter Olympics are now less than two months away. The competition venues and ceremony facilities are said to be nearing completion one after another. The Yamaha Motor group company in Russia, YMCIS, is fully prepared for the event and their desire is to have “as many Yamaha vehicles as possible in use throughout the Olympic venues.” If you have a chance to cover some of the events in Sochi, we hope you will also notice all the Yamaha products in use.
As for Japan, we’re still in the afterglow of the Tokyo Motor Show. Although it may not have received as much attention as Yamaha’s two big highlights, the “MOTIV” automobile prototype currently under research and development and the “TRICITY Concept” 3-wheeled commuter vehicle, I hope you’ll take a good look at this video:
http://www.youtube.com/watch?v=-uAaIT_Blyw
I can’t wait to see the full release; it looks so cool!
I want to thank everyone for the cooperation and support you gave us in 2013. What did you think of the product introductions we brought you over the last 12 months? In 2014, we’ll go beyond our businesses and products and introduce Yamaha’s wide range of activities and programs. Please look forward to our coming issues!

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