YAMAHA MOTOR CO., LTD.

# Yamaha News

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BIMONTHLY

# Hot Machine for a Hot Market

**Announcing the birth of Yamaha "Raptor," a sports ATV like none before.
From the R1-look headlights to the YZ-spec 5-speed transmission,
an extra-large aluminum swinging arm
and the industry's biggest, most powerful engine,
this new model is state-of-the-art all the way.**

# Rapid Growth Brings New Needs in American Market

Yamaha's first 4-wheeled ATV, the YFM200 debuted in 1985

## "Raptor (YFM660R)," pioneers a new frontier of sports ATV riding

As their name implies, ATVs are vehicles developed and built to ride on all types of terrain. With their special low-pressure balloon tires, they can take on all kinds of surfaces, from muddy marshland, grasslands and rocky terrain to sand dunes and snowfields, virtually every type of off-road conditions where even 4-wheel drive cars can't take you.
Today, over 3 million ATVs are in use worldwide for a wide range of purposes, from utility work to leisure fun.
Nowhere has use spread as dynamically as in the U.S. market, which boasts 83% of the world demand in ATVs and has seen domestic sales rise from 150,000 units annual in 1991 to 610,000 in '00, to the point where it is not unusual for families to own a second ATV.
And the outlook is for this growth to continue.
Into this market, Yamaha proudly releases this autumn the "Raptor (YFM660R named for European market)," an entirely new type of sports model packing the largest displacement engine ever on an ATV!

Say hello to the new sport ATV Yamaha Raptor. It's a new standard-setter for the 21st century!

### The American market, where ATVs are the all-terrain, all-season vehicle for everyone

"ATVs have long been used in a wide variety of ways in the U.S. and the strong economy over the past decade has added ever greater impetus of the ATV market here," says Mr. Yukio (York) Mizutani, manager in the Sales Div. of Yamaha Motor's Recreational Vehicle Operations.
Demand in the American ATV market today can be divided into three main categories: 1) "General" category models that are used for everything from weekday work to weekend fun; 2) "Utility" models used mainly for work but also for leisure used on the weekend ; and 3) "Sport" models designed specifically for sports riding. Of these, General and Utility use make up about 75% of the total.
According to Mr. Mizutani, ATVs are also increasingly popular today for "exploring" in remote wilderness or mountain areas and also as a vehicle for hunting. "On the weekends many people like to load their ATV on a pick-up truck and head out of the city for a state-approved riding area or mountain trail course to ride," he says.

### Yamaha Kodiak named "ATV of the Year"

Last year, Yamaha released its 2000-model "Kodiak" ATV with 4-wheel drive, a fully automatic transmission and a fully-covered liquid-cooled 400cc engine. The quietness, handling and riding comfort of this model brought it popularity that crossed category lines and won it the coveted "ATV of the Year" award of the U.S.'s *ATV Magazine*. Also, *4-Wheel ATV Action* magazine declared the Yamaha Kodiak its "400 4x4 Automatic Shootout Winner." About its choice, the magazine raved, "Without a doubt, the Kodiak is the lightest steering machine in its class. It's the carving king in the woods."
"We also equip our large-size "Grizzly" model ATV with automatic transmission now, because today's users are looking for the same type of convenience and easy-riding performance from their ATV as they expect from their automobile. As a result, the Kodiak has proven to be a big turning point for us, in that it appeals widely to new users and trade-in customers alike," says Mr. Mitsuaki Matsuo, General Manager, Sales Div., Recreational Vehicle Operations.
This Kodiak has been a hit model with sales topping 20,000 units.

The Kodiak Automatic 4x4, was named "2000 ATV of the Year" with features like Yamaha's exclusive "ultramatic" transmission for easy riding.

From left, Mr. Shiraishi, Mr. Matsuo, and Mr. Mizutani

### Answering market needs with a new direction in model development

Recent years have seen growth in the Sport category as well. The result is a big market sector with an average user age in their 30s, a full ten years younger than Utility model users. Sport model fans like to ride there ATVs very much like a motocrosser, enjoying sporty cornering and acceleration on tracks like in the deserts in the American Southwest. Today there are a growing range of ATV race events as well, including races on motocross courses, drag races, flat course races and enduro races, as well as stadium races too.

The new "Raptor (YFM660R)" that makes its debut for 2001 is the first entirely new model type to appear from Yamaha in the Sport category in 12 years, and the fact that it mounts the largest displacement power unit ever on an ATV in its 660cc liquid-cooled 5-valve engine is clear evidence of the special efforts Yamaha has put into its development as a next-generation ATV.

From its awe-inspiring R1-look front features, "YZ-spec" 5-speed transmission and aluminum rear arm to its radial tires, this new model is high-spec and state-of-the-art literally from head to toe. And, in fact it is quite a different machine even from what the Yamaha engineers had originally set out to build.

"At first we had our sights set on a model that could also be used for the woodland trail riding that is popular in the Eastern United States, so we were working toward an ATV with outstanding riding feeling that stressed torque feeling more than power," says the Raptor's Project Leader, Mr. Nobuaki (Knobby) Shiraishi, General Manager/Chief Engineer, Planning Div., Recreational Vehicle Operations. That direction would change, however, as the calls from the market began to ask for a sport model with more power. Switching direction in response to this call, the new target became a sport category model that could also satisfy a wide range of user needs. The new development concept became a "Versatile Sports King."

### Offering a new type of excitement, the "Ultimate Sports ATV"

"For example, in terms of the power development characteristics, we stressed that feeling of "hit" acceleration when you open up the throttle and take off. We also completely re-thought the chassis dimensions in comparison to the existing models with the aim of building a machine that not only boasted incomparable horsepower performance but was also very controllable with easy-to-handle power-development characteristics," adds Mr. Shiraishi.

The power unit took as its base the engine from Yamaha's proud full-sized Enduro motorcycle model, the XTZ660 Super Tenere, but redesigned almost all aspects of it to produce an almost completely new 4-stroke liquid-cooled 5-valve engine. "Since our aim was a pure sports 4-stroke engine, we made it spin up to 9,000 rpm," according to Mr. Shiraishi, resulting in an engine character that was sharp with excellent response.

Also, in order to ensure optimum ease of use in actual riding conditions, a reverse gear was included. But, at the same time, to make sure that added weight didn't detract from performance as a sports machine, special attention was given to weight reduction throughout the Raptor's design. In the process, an extremely compact design was achieved for the power unit.

Get a look under the skin of the Raptor. Every detail bears the print of Yamaha's state-of-art technologies.

For the chassis, Yamaha's development team set out to achieve a weight no heavier than 400cc class machines, and to help ensure the lightest handling possible, the "extra super duralumin" type aluminum alloy was used in critical parts like the rear frame and swinging arm. What's more, for the first time ever on a Yamaha ATV, the Raptor is mounted on radial tires that let the rider experience both dynamic acceleration and bold drift on turns.

One of the other big features of this exciting model is the styling. By making the Raptor "successor to the DNA" of Yamaha's renowned R1 supersport motorcycle in the design of the front and tail features without sacrificing any on the performance side, "I believe we have created a design that tells people at first glance that this is a machine with awesome sports performance," says Mr. Shiraishi.

The new Raptor has just debuted this autumn in the U.S. market, and its arrival is sure to bring with it a whole new kind of riding experience. This is Yamaha's idea of what an "Ultimate Sports ATV" should be. And, if the proud Yamaha engineers who built it are right, the Raptor is sure offer ATV lovers the kind of excitement and deep satisfaction that the people at Yamaha call "Kando."

## Yamaha ATV Production Tops 2-million Mark

Drawing on the company's respected motorcycle technology, Yamaha Motor entered the ATV market in 1979 with the development and launch of a 3-wheeled buggy. Then in 1984, the line was shifted mainly to 4-wheel models. Today the Yamaha ATV lineup includes a total of 15 models ranging in displacement from 80cc to 660cc.

ATV production originally began at Yamaha's 1st Iwata Factory and was shifted to the Iwata No. 5 Factory in 1991, where the momentous 1-millionth unit came off the line in January of 1992.

On August 28, a second great milestone was reached as line-off of the 2-millionth Yamaha ATV, a "Raptor," was celebrated in a ceremony at the 5th Iwata Factory.

As vehicles that offer exceptional versatility, ATVs are used in all parts of the world today, and in the U.S. market where 83% of the world demand is found, the 2000 season saw an amazing 20% rise in demand, bringing it well above the 610,000 unit mark. Thanks to their appeal to users of a wide range of age groups and a very high rate of new users (40%), all predictions are that stable growth will continue well into the future.

Yamaha shipments of new ATVs have more than doubled over the last four years, from roughly 100,000 units in 1996 to 210,000 units in 1999, while sales value has risen to a level of 63 billion yen, or 10% of YMC's independent total sales.

On the manufacturing side, plans call for all domestic production to be moved from the Iwata No. 5 Factory to YMC's associated manufacturing company SOQI Inc. by the end of 2000. There, the aim is to achieve an even higher level of productivity and quality through comprehensive manufacturing activities covering all aspects from welding and painting to assembly. Meanwhile, overseas production that began at the Yamaha Motor Manufacturing Corporation of America (YMMC) in Georgia in 1998, is being expanded in terms of production capacity, providing a production system that is protected from the influences of currency exchange-rate fluctuations and capable of responding more quickly and flexibly to changes in the market.

By continuing to strengthen the product lineup and production capacity, Yamaha's ATV operations plan to achieve a total foreign and domestic production of 250,000 units (YMC: 188,000; YMMC: 62,000 units) in 2001.


YMC President Hasegawa (2nd from left) cuts the tape at the ceremony.

# Making 'Made in France' a Point of Pride

■ M.B.K. Industrie S.A. ■Founded: 1984 ■Location: Picardie region, St Quentin ■Employees: 1,258

MBK Industrie S.A. (MBK) was founded in March 1984 by regional organizations and three companies, including Yamaha Motor Co., Ltd. It was in 1986 that Yamaha took management control of the company by increasing its capital investment to 66.83%. Today, MBK is 100% owned by the Yamaha Motor group and has 1,258 employees. Corporate activities focus mainly on production and sales of Yamaha and MBK brand scooters, mopeds, bicycles and Yamaha brand outboard motors. MBK is a leading European maker which also undertakes the production of such parts as exhaust mufflers and connecting rod assemblies for the Yamaha group in Europe.

Its production center is located in the Picardie region, near St Quentin about 150 km northeast of Paris. Our Marketing and Sales Operations are located near Paris in St Ouen l'AumÙne and our MBK products are distributed throughout France by a comprehensive network of dealers and distributors. The distribution of our Yamaha brand products is the responsibility of YMENV in Amsterdam. About 65% of our sales are exports, via a network of importers in Europe, Africa, Canada, Australia, the U.S.A. and Japan.

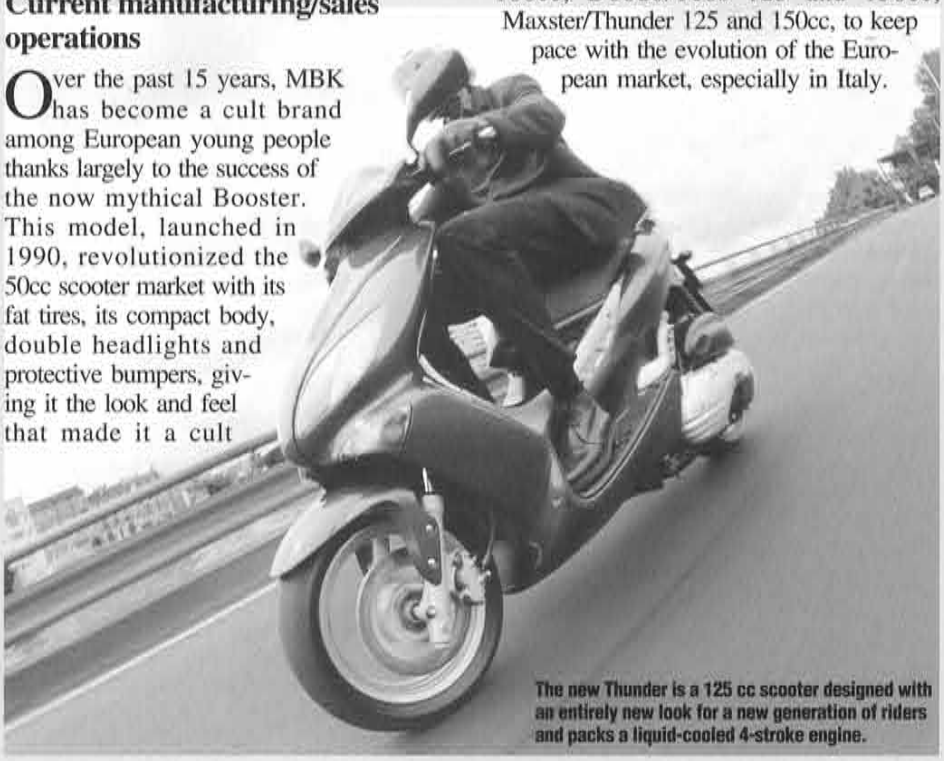
## Current manufacturing/sales operations

Over the past 15 years, MBK has become a cult brand among European young people thanks largely to the success of the now mythical Booster. This model, launched in 1990, revolutionized the 50cc scooter market with its fat tires, its compact body, double headlights and protective bumpers, giving it the look and feel that made it a cult product for a whole generation of teenagers. Always ahead of its time, MBK remains the pace-setter in terms of 50cc scooters, and has kept increasing and diversifying its client base to take a leading share in the very dynamic 125cc scooter market as well.

In our Research & Development division, over 50 people work to develop tomorrow's best-sellers. Distributed between the research department and the test center, engineers, designers and technicians bring to form the concepts and innovations conceived by the marketing team. Supported by advanced technological tools that include 2- and 3-D CAD, proprietary Yamaha software, a parts list management system, and full test facilities, the MBK R&D team carries out the design and follow-up of products from the first 3-D transcriptions defined by the design office all the way through the first 3 months after the start of production.

Having reached the milestone of 1 million total scooters sales in 1999, MBK moved ahead with the launch of the new "Stunt," a model based on the unique and revolutionary concept of a "free riding" scooter.

In 2000, MBK has developed for production a line of larger scooters in the Aerox/Nitro 100cc, Doodo/Teos 125 and 150cc, Maxster/Thunder 125 and 150cc, to keep pace with the evolution of the European market, especially in Italy.



The new Thunder is a 125 cc scooter designed with an entirely new look for a new generation of riders and packs a liquid-cooled 4-stroke engine.


In just a decade and a half, MBK has established itself as Europe's coolest scooter brand.

Our Doodo and Thunder are powered by the next-generation Yamaha 125/150cc 4 stroke 12 hp engine, which combines performance, design and low emissions. In 2000, our total production reached 165,000 scooters and 22,000 mopeds.

Besides motorcycles, MBK has also diversified into production of Yamaha outboard motors and PAS electro-hybrid bicycles.

Assembly of Yamaha outboard motors at MBK began 1988. In June 2000, we started producing 4hp Yamaha 4-stroke outboards, of which 70% are sold in the European market. From 2,000 outboards in 1988, MBK production rose to 16,000 units in 2000 and plans call for that to rise to 40,000 units in 2004.

As for PAS bicycles, MBK introduced them to its product range in 1997 with an MBK-developed frame made of advanced composite materials. That year we produced approximately 3,450 units. In 1998, the range was expanded and development focused on a traditional bicycle frame adapted to receive the PAS power assist unit. In 2000, we built approximately 7,000 PAS bicycles, and for the 2001 lineup MBK will introduce new product innovations like a model with a suspension fork for greater riding comfort.

At MBK, product quality and customer satisfaction are our top priorities and our motto is "constant improvement."

Ever since 1988, MBK has been an active promoter of TPM (Total Productive Management) activities in our manufacturing, for which we received an award in 1994. The definition of TPM is simple: it is a progressive improvement process which involves the participation of all employees. This dynamic total-involvement program covers subjects as diverse as self-maintenance, opti-

MBK has a long history of building mopeds like this produced by its forerunner company, Motobecane.


The production of the Yamaha F4 4-stroke outboard motor has just started at MBK in the summer of 2000.


MBK introduced PAS bicycles to France in 1997 and annual production reached 7,000 units in 2000.

mization of know-how and knowledge, self-enforced quality control and even the creation of more pleasant working conditions. Intent on reaching even higher levels of goodwill, idea-sharing and thoroughness among our employees, MBK has dedicated itself to winning the TPM Continuity Award in 2001.

At the same time, MBK has established its own rules to ensure product quality. These helped the company receive ISO 9001 certification in 1996. This certification recognizes thoroughness in manufacturing processes and guarantees a high standard of product quality. At MBK we embrace the motto "Quality is everybody's business."

MBK is a leader not only in market share, but also in terms of brand image among both young people and adults since the rise of Europe's 125cc scooter market. Our constant investments in advertising, promotions and public relation activities help develop this image in TV campaigns, cinema, radio, billboards, and magazines. In addition to effective communication through advertising, consumer promotions and catalogs, MBK also stresses participation-based promotional events such as test rides, outdoor events, targeted mailings and our "Booster Circus" with its Mega-Truck that tours France.

The MBK brand carries an image that is young, fashionable, high-tech and fun. Supported by a strong sales network, this gives us a decisive advantage that makes us different and ensures market leadership.

Due to our unique corporate structure, MBK products are distributed through two distinct sales networks. The MBK distribution network consists of over 600 outlets in France, about 70% of which are exclusive, and about 1,600 dealers abroad. Though MBK dealers are independent shop owners, we strive to make sure they are 100% partners in the brand. One of the greatest assets of this network is its wide coverage, which allows MBK to offer a full range of products from regular and electro-hybrid bicycles to mopeds and scooters from 50cc up to 100 and 125cc. To get closer to its users, MBK has created the "Power Spot" shop concept and the system of service standardization called "Top Shop." High-tech design, a friendly atmosphere and quality of service make each of our dealers an example of the MBK world--a vibrant new world. As the French 50cc scooter leader, with a 33% market share, MBK products are chosen for one in three purchases of mopeds and 14% of purchases in 125cc scooters.

The other network is Yamaha Motor France with 268 outlets, 80% of which are exclusive. MBK is constantly monitoring its network and organizes biannual national dealer meetings like the one held this year in Paris on November 12. The objective of these meetings is to inform the dealers on the main marketing and sales policies and the strategic challenges of tomorrow.

## Setting an example as a corporate citizen

As part of its environmental policy, the Yamaha group wishes to ensure a sustainable and harmonious balance between industrial activities and the protection of nature, while contributing to prosperity throughout the world. To help preserve the environment, the Yamaha group strives to develop low-impact products and production processes, through a program of technological innovation that takes ecology as a top priority. At MBK we integrate the results of environmental impact analyses with legislative and regulatory obligations. Since 1994, our environment team has applied the policy of impact reduction to all our corporate activities. Recently, thanks to MBK, a production site for plastic parts was established in the industrial area less than 1 km from our factory that enables us to participate in an enterprise that not only stimulates local industry but also reduces toxic emissions and transport of goods.

Sports promotion is another way MBK contributes as a corporate citizen. MBK is actively involved in the Tour de France with the professional cycling team COFIDIS as well as taking sponsorship roles in sports events like F1 racing.

At MBK we also take great pride in our role as a supplier of mopeds. The low fuel consumption, easy maintenance, cheap parts and widespread service availability as well as the proven toughness of our "Mobylette" mopeds even in extreme conditions of use, make them the ideal means of transportation in many countries. This is why MBK continues to export over 10,000 units each year to Africa on a CKD basis, to be assembled locally in the 9 African factories. Since 1998, distribution of our Motobecane and MBK brand mopeds has been the responsibility of YMENV which, together with OMDO (Overseas Market Development Operations) of YMC in Japan, develops the necessary synergies for the development of sales wherever a potential market is found.

## Into the new millennium with pride

At the opening of the 21st century, MBK is completely integrated into the Yamaha policies in Europe. The small- and mid-size scooter market is changing, environmental concerns are becoming an increasingly important aspect of client satisfaction, on top of the other priority criteria of product quality and price.

Thanks to our TPM activities that extend to all our activities under the motto "More Powerful Together," MBK confidently greets the challenge of the new millennium by offering a more competitive approach to products based on the concept of people in harmony with the community. We take pride in offering products that will also give our customers pride and confidence in the "Made in France" mark that all our products bear.

***From Sophie Delaittre of MBK, France***

In 2000, MBK's total production of scooters reached 165,000 units.

# WORLD TOPICS

GENERAL

NETHERLANDS

## YMD Operator Course

Yamaha Motor Distibution B.V. (YMD) in the Netherlands was founded in 1992 as the central Spare Parts & Accessories warehouse for Europe. The warehouse handles 130,000 different items and is picking 7 million order lines into 1.2 million cartons on a yearly basis, 90% of those cartons are sent to dealers direct. This warehouse runs in a 2 shift operation with 70 permanent staff operators and a group of temporary workers added to it to meet seasonal fluctuations. In 1998 YMD developed an educational program for its existing and new permanent warehouse staff. The goal of this education is to improve the knowledge, quality and involvement of our employees.

Also YMD is positioning itself as a more attractive employer by doing this. The total course takes one year and the lessons are on a weekly basis. The students have to invest 4 hours of private time for attending the lessons. The teaching takes place in the YMD building before or after working hours. A government certified school is taking care of the theoretical lessons and exams, YMD is taking care of the practical lessons and exams.

At this moment there are groups educated for the level "warehouse operator" and a big group of 32 people is even educated for the "group leader" level. Up to now the pass rate for the exams is 100%, and so far 95% of all warehouse staff have passed their exam or are studying for it at this moment. It is surprising to see the social motivation that comes from studying with colleagues in the same course. People are helping each other out and are very proud to pass their exam. Compared to other companies using the same course, YMD people score consistently better results! In September we again had a celebration ceremony in YMD, handing out the diplomas to another 10 operators who passed their examination.

*From Duco Hoekstra of YMD, Netherlands*

**YMD handed out diplomas to the operators who passed their examination.**

MEXICO

## Service forum for info exchange

For three days from September 11, 2000 the Second Central & South American Service Forum was held in Mexico. The Dominican Republic and Belize were added to make 12 participating countries. Each country gave presentations on their successful Service activities. Guests from Taiwan and Indonesia introduced improvements in the Cross Trade model, and YMC presented information on a new education system. These added to a good exchange of information, as Service activities are expected to increase market share in this region.

*From Hiraku Onishi of YMC, Japan*


**Participants in the Yamaha Service Forum exchanged information about their service activities.**

BRAZIL

## Brazilian TPM analyzed

From October 2 to 4, 2000, the Second Occidental TPM Joint Meeting was held in Brazil, using the TPM (Total Productive Maintenance) activities of Yamaha Motor Da Amazon (YMDA) and Yamaha Motor Do Brazil (YMDB) as case studies.

Twenty five people from 10 companies in nine countries participated, and learned about TPM activities more specifically through diagnosis of current TPM practices at the two Brazilian companies.

On the first day there was a presentation of TPM activities in both companies, and processes at the YMDA factory were looked at. On the second day, YMMC (USA), Incolmotos (Colombia) and MBK (France) shared their TPM results. On the third day, the TPM activities at the YMDB factory were looked at. Mr. Nagayasu, the special adviser, gave some general comments, and in doing so re-emphasized the fundamentals of TPM: "To strengthen competitiveness, we need to work hard at improving QCD (Quality Control Development) with TPM throughout the entire organisation."

Further, participants were able to compare their own companies with the sample results reported, and return to their countries unanimously promising to polish up their TPM activities, and apply them diligently.

*From Shigeo Onishi and Nobuaki Nagai of YMC, Japan*


**The 2nd Occidental TPM Joint Meeting was attended by 10 Yamaha group companies.**

TAIWAN

## Commendation for YMT

On September 14, 2000 the Taiwan Ministry of Industry held an award ceremony for manufacturers who have achieved excellent results in exporting automobiles and motorcycles from Taiwan. Yamaha Motor Taiwan (YMT) was recognized as a superior exporter and manufacturer along with other manufactures. YMT was also commended as a collaborative exporter and manufacturer, along with some other automobile manufactures.

In 1999, Taiwan exported about 15,000 motorcycles to Japan, of which more than 90% were YMT-made. From here, YMT plans to work on improving quality and continue exporting.

*From Sales Dept. of YMT, Taiwan*

**YMC's Senior Managing Director Mr.Ogura (right) and YMT's Chairman Mr. Xie Wen Yu with the commemorative plaques awarded to YMT.**

U.S.A.

## *Environmental award for YMMC*

Yamaha Motor Manufacturing Corporation of America (YMMC) in Newnan, Georgia, USA, was awarded a Certificate of Achievement from the Georgia Chapter of the Air and Waste Management Association (AWMA) on September 14, 2000. The award recognises YMMC's "significant progress in pollution source reduction and process efficiency improvements which have yielded impressive environmental gains".
Improved processes at YMMC have allowed for reductions in air emissions and hazardous waste generation. Chemical and product substitution has lead to a safer work environment for employees and protection of the environment. Yamaha is committed to conserving the environment and improving the quality of the local community.
The mission of the Georgia Chapter of AWMA is to promote a cleaner, safer environment in Georgia by focusing on air and waste issues. AWMA achieves its mission through information transfer, technology exchange, education and environmental leadership. The AWMA Annual Environmental Awards provide recognition for organizations that share the commitment to these environmental principles, and put these principles into action.
***From Tomohiko Matsuyama of YMMC***

**YMMC received the AWMA Environmental Award in September.**

LEBANON / SYRIA

## *Major contracts for Lebanon and Syria*

On October 24 at YMC in Iwata, Japan, a CBU distribution agreement in Lebanon and CKD technical assistance agreement in Syria were signed. The business partner, Salah Eddine Itani Est. based in Beirut, has had business relations with Yamaha for many years ever since YMC began the motorcycle exporting.
Scooters are extremely popular in Lebanon, and it's expected that the YMT-made Majesty and smaller scooters will find a big market. In Syria, production and sales of RX135s is underway.
It is hoped that these contracts will develop business in both these countries.

**(From left in front) Mr. Hisham S. E. Itani, YMC Director Mr. Shibuya, and Mr. Imad S. E. Itani complete the contracts with their signatures.**

**MOTORCYCLE**

ITALY

## *Max Day at Misano*

"Max Day" was the main event of the Yamaha Sport School 2000 at the Misano racetrack in Italy, hosted by Belgarda on September 6. Seventy "students", owners of Yamaha supersports bikes, participated in the theory and practical learning, and had a full day on the track with an absolutely essential "teacher" – bike racing star Max Biaggi himself!
Special invitations were sent to motorcycle press journalists, along with camera crews from the national TV networks RAI and Telemontecarlo.
The day started with a theory lesson, followed by a track ride, with Max leading the pack on an R6. This way Max was able to show the right trajectories. He didn't need special requests to show off his "aerobatic" repertoire. Then it was back into the "classroom" to cover subjects such as late braking, cornering, bike setup, as well as a few funny moments when Max told tales of his personal race experiences, particularly those at Misano. Then, it was back to the track for more thrills, before the finale where all 70 students did a lap right behind Max.
***From Ugo Pistolesi and G. Paolo Cerizza of Belgarda, Italy***

**An important day at the Yamaha Sport School for Yamaha riders at the Misano racetrack was called "Max Day" in honour of the special "teacher".**

GERMANY

## *Intermot Show in Munich*

The second Intermot Show in Munich received more than 150,000 visitors, including journalists, dealers and customers from all over the world between September 12 and 17, 2000. They came to see 1,033 exhibitors in one of the most important international shows for motorised two wheelers and accessories in the world.
The Yamaha booth was one of the largest in Munich, with the FJR1300, FZS1000 Fazer, TMAX, and Maxster presented to the public on special highlight displays over 1,820 sq. meters.
An international press conference was held, followed by the national dealer convention of Yamaha Motor Germany (YMG) for 830 guests on September 12. The theme for both the press conference and dealer meeting was the gladiator shows of the ancient Romans, drawing analogy between motorcycles and gladiators. The show included gladiator fights representing freedom and excitement for motorcycle owners. Dealers could bet on the winner, and prizes included a trip to Rome on a new TMAX.
The audience enjoyed technical and marketing presentations of the products, and the new 2001 R6 was presented with the R6 Super Sport World Championship racing bike by riders Christian Kellner and Jorg Teuchert, with YMG Managing Director Mr. Manfred Weihe.
President of YMG, Mr. Ichizo Kobayashi, took the opportunity to say farewell to the dealers and introduce Mr. Tooru Iribe, the new YMG president from October. The evening was capped off with a dinner.
***From Karlheinz Vetter of YMG, Germany***

**The Yamaha booth at the Intermot Show in Munich was the scene of great displays of four big models and Gladiator games and prizes, supporting the international press conference and YMG's national dealer convention.**

# WORLD TOPICS

U.S.A.

## *"Man of the Year"*

The respected U.S. motocross magazine *Motocross Journal*, has named YMC's Mr. Yoshiharu Nakayama its "Man of the Year." This annual award is given to the person who makes the most significant impact on the sport of motocross. Past winners include Yamaha's Doug Henry, who battled back from injury to win the 1998 AMA National Championship on his YZ400F, and Yamaha's Jeremy McGrath for his 1999 Supercross Championship domination.

Mr. Nakayama, motorcycle project leader for the 2001 YZ250F, received the award based on the success of his four-stroke innovations, the YZ400F, YZ426F, and YZ250F, and the impact they have had on the motocross community. According to the December 2000 issue of *Motocross Journal*, "Mr. Nakayama didn't just start Yamaha's motocross four-stroke program, he started everybody's four-stroke effort. You are witness to a revolution that will change the way we race. Yoshiharu Nakayama is the man who started the revolution." Accepting the award on October 21, the night before the first-ever race of the YZ250F at the All Japan Motocross Championship, Mr. Nakayama said the award belongs to his entire staff. The next day, Team Yamaha's Ernesto Fonseca on his YZ250F won both heats!

***From Terry Beal of YMUS, U.S.A.***


BAHRAIN

## *Ride for Charity 2000*

On October 6th, Kooheji Marine Centre in Bahrain staged it's very first motorcycle ride for charity.The event is to become an annual feature on the island and will benefit local charities. This year's beneficiary was the Al Noor Charity Welfare organisation. Kooheji Marine Centre's Director, Mohammed

**The Yamaha Charity Ride event attracted a big turn –out made up of Yamaha motorcycles.**

Kooheji stated "Not only are these events raising money for charity, they also do much to diffuse people's conceptions, myths and stigmas regarding motorcycles and their riders."

Men and women, of many different nationalities enthusiastically took part in the event, proudly showing off their powerful machines. As they waited for the start of the rally, friendships were forged and knowledge exchanged. Police outriders escorted the huge cavalcade of over 100 riders on an impressive procession around the island, ending the rally with a reception, prize giving and a buffet at Le Royal Meridien Hotel.There they were also joined by motorcycle enthusiasts from the ruling family. It was a tremendous show of unity by the bikers of Bahrain, who turned out in force to take part in what was a very exciting Yamaha Ride for Charity 2000.

***From Tina Dornan of Kooheji Marine Centre, Bahrain***

TURKEY

## *Yamaha-Mobil dominates Balkan Cup*

The Yamaha-Mobil Team Turkey with Beldeyama-Turkey rider Suleyman Memnun has won the last round of the Balkan Cup in Romania to become the 2000 Balkan Cup champions in both the Supersport and Super Bike classes. The races were held at the Bucharest Baneasa Airport on October 8.

After winning the Balkan Cup Supersport class in 1999, and taking second place in Super Bike in the first race of 2000 in Yugoslavia, it was decided that Suleyman Memnun would race in both the Supersport and SuperBike classes. Before the last race in Romania, Suleyman had enough points to be the Champion in the SuperBike class, and second in the Supersport class. He still had to win the race in Romania to become champion in the Supersport class.Yamaha-Hellas Racing Team's Greek Rider Costas Politis was invited to Romania to take part in the race and share different experiences with the team.

On race day, Suleyman chose softer tires because of the cold weather and the track's cement surface. He was on pole position at the start, but had a problem with the shift pedal so started poorly. Then he pushed himself very hard, passing the riders one by one, and finished in first position! Suleyman followed with pole position for the Super Bike race, and led from start to finish with the confidence that he was already a champion.

***From Osman Lav of Beldeyama, Turkey***

**Thanks to two great performances in Romania, the Yamaha-Mobil Team Turkey has become the 2000 Balkan Cup champion in both the Supersport and SuperBike classes.**

JAPAN

## *Around the world on a Ténéré*

**Mika Kuhn dropped in at YMC on his way around the world from Germany on a XT600 Ténéré.**

In October 2000, employees at Yamaha Motor Co., Ltd. (YMC) welcomed the young German Mika Kuhn to Japan on his way around the world on a Yamaha XT600 Ténéré. Mika left Germany in May last year, crossing Northern Europe, the Middle East, West Asia, then Central Asia and Siberia before arriving in Japan. He plans to take years to tour the world comfortably, giving himself time to meet people and enjoy the experience, and his '89 model Ténéré has been virtually trouble free.

On his visit to YMC, Mika saw the Communication Plaza, and the manufacture and quality control of Yamaha products. Next, he'll see some more of Japan before heading off for Southeast Asia, the Pacific, the Americas, and Africa before heading back to Germany in about another 4 years.

We wish Mika the best of luck for the rest of his exciting journey!

**MARINE**

U.S.A.

## *F225A wins Innovation Award*

High praise has been bestowed on the compact, high performance, world's first V6 4-stroke 225hp outboard motor. Yamaha received the "Innovation Award" from the US Boating Week 2000 marine show in

**Yamaha's technology in the F225 V6 4-stroke 225hp outboard motor makes it a world first, and was honoured by US marine industry with the US Innovation Award.**

Orlando, Florida on September 28 for Yamaha's new outboard motor "F225."
The F225 is a pioneering Yamaha design that inverts the conventional intake and exhaust system layouts by an "in-bank exhaust system" to achieve an exceptionally compact, lightweight 225 hp engine as a 4-stroke. Also, the Yamaha-exclusive electronic fuel injection system further enhances the inherent 4-stroke qualities of better fuel economy, cleaner exhaust and quieter running performance.
Boating Week is the world's largest marine industry show, with sponsorship shared between 25 marine industry associations from around the USA. As well as displays of new technologies, the show also included a full agenda of seminars and conferences.
The Boating Week 2000 Innovation Awards are technical awards over 11 categories, including boats, marine engines, and electrical and nautical equipment. For the 2000 awards, some 100 products from 73 manufacturers were submitted. The qualified judges evaluate on overall value on the basis of technical excellence, performance, contribution to industry, originality, utility, price, and other factors, as evaluated by the US marine industry. This award recognises the F225's advanced technology, high performance and economy.

U.S.A.

## Team Yamaha Wins!

The latest heroics by Yamaha/Skeeter member Alton Jones in Louisville, KY brings the Team Yamaha WCF (World Championship Fishing) trophy count to 6 titles in 5 events. Team Yamaha was the overall team champion in 3 out of the 5 events in the inaugural season of Lowe's World Championship Fishing. This exciting new format tests angler's fishing skills in a three-day tournament along with their boat handling and performance skills in afternoon powerboating time trials. Yamaha's 3 man WCF team consisted of Dean Rojas (Skeeter), Dustin Wilks (Triton) and Alton Jones (Skeeter).
At each event, engines and boat packages were displayed by local Yamaha, Skeeter, G3, and other dealers within the giant Yamaha tent. Factory personnel also assisted at each event in preparing, testing, and maintaining the team's boat rigs each day. The "Blue and White" received heavy attention from the public and those in the industry.
Within other tournament circles, Team Yamaha continued its presence in the winner's circle. Including a 1st place by Yamaha/Lund member Scott Glorvigen in the largest walleye tournament to date (the RCL Championship).
***From David Simmons, of YMUS, U.S.A.***

**Team Yamaha completes WCF season with yet another triumph!**


**The winners of the Finnish dealer-incentive campaign enjoyed traveling in Yamaha's home country.**

Arwidson Ab, the Finnish Yamaha importer organized a sales competition for snowmobile dealers during the 2000 season with the aim of increasing market share. By analyzing the market in every town in every region in Finland, the goal was set together with the dealers and, as figures show, they managed to reach the best-ever market share in history.
The cream of the crop left Helsinki Airport on September 16. They toured Tokyo and Lake Ashinoko, and enjoyed the hot springs in Atami. Then they headed to the Yamaha resort Tsumagoi by Bullet Train, where they played golf and drove go-karts.
The next day saw them at Yamaha headquarters to see the engine and assembly factories, and the last snowmobile made this season. The most interesting point for the dealers was how precise and controlled everything is. They also found the visit to the Communication Plaza very special. They were pleased to see that Finland was a part of Yamaha history, as the first snowmobile, the Yamaha SL350 displayed at the Communication Plaza has been brought from Finland.
***From Anssi Lillberg of Oy Arwidson Ab, Finland***

**POWERPRODUCTS**

FINLAND

## Japan trip for snowmobile dealers

Eighteen of Finland's best snowmobile dealers toured Yamaha factories in Japan in September, winners of a dealer incentive. Oy

Letter from YAMAHA PITMANS

AUSTRALIA

## Go-kart FK250 the one to beat

*Here at Yamaha Pitmans, the largest Yamaha dealer in South Australia and a recipient of the top ten dealer award for the last five years straight, we have a midget car project for 1/4 scale speedway cars. We've been experimenting with motors for these cars for the past couple of years. Firstly we used KT100S motors, which proved to be very reliable. We heard of the Yamaha FK250 motor early in 1999, and with the help of Mr. Yosei Sugimura from the Kart Division, Power Products Operations of YMC, we started testing pre-production motors early in 2000.*
*With standard go-kart gearing, we couldn't gear the cars low enough. So again Mr. Sugimura helped us by manufacturing some output shafts designed to take the 219 pitch front sprockets instead of the 415 pitch. The gearing we are using is 10/82, the rear tire size is 18X9.00X8, the tracks we race on are usually 250m long clay and dolomite. The FK250 motor has superior low-down power, is very economical to run, and there have so far been no problems. A plus is the electric start so a pit crew isn't needed to push start the cars.*
*In Australia, there are about 100 1/4 scale cars racing with a variety of motors. Now the FK250 is the one to beat! We'd like to thank Mr.Sugimura and his staff at YMC for their help in the project.*
*Kind regards,*
***Chris Sharpe of Yamaha Pitmans, Australia***

**Yamaha Pitmans has developed the 1/4 scale car to beat in Australian racing with the superior Yamaha FK250 motor.**

# WORLD TOPICS

NETHERLANDS / GERMANY

## Wire guided vehicles at Expo

The Cycab has arrived. No driver necessary. The latest Yamaha technology, in the form of a wire guidance system, was installed on a small cybernetic urban vehicle, the Cycab, which was let loose at the Hanover World Expo 2000 held in Germany. Visitors to the Expo's French Pavilion were viewing Yamaha's latest research on Advanced Guidance Vehicles (AGVs) when they discovered the two small, strange Cycabs moving automatically around the large pavilion without a driver.

YMC's Power Product Division and Yamaha Research & Development of Europe have been working on advanced guidance systems in collaboration with the French National Institute for Research in Computer Science and Control (INRIA)

For the World Expo, INRIA and their associated manufacturer Robosoft installed the wire guidance system in the two Cycabs. The clever collision avoidance function allowed the Cycabs to stop for visitors in front of them and restart automatically. A digital screen gave visitors information on the Cycab's automated control functions.

The first public appearance in Europe of an AGV product of Yamaha's R&D research was very successful, and gives hope for genuine usage of this type of AGV at exhibitions or similar usage in the future. At this stage, the German Expo management did not allow the Cycabs to go outside the pavilion, but they are undoubtedly the future of personal transportation within large exhibitions. At the Hanover Expo, many small electrical vehicles such as golf cars were offered for rent around the huge Expo area, but those were manually driven.

The Hanover World Expo hosted 12 million visitors, and the French Pavilion was the second most visited after Germany, with 25,000 visitors per day – more than the Eiffel Tower's 17,000 visitors per day.

*From Francois-Marie Dumas for YMENV, The Netherlands*

A digital screen (right) gave the visitors information on the Cycab's automated control functions.

JAPAN

## NASA buys "RMAX" unmanned helicopters

NASA (the U.S. National Aeronautics & Space Administration) has purchased two of the Yamaha Aero Robots "RMAX," the industrial-use, unmanned helicopters designed and manufactured by YMC. The RMAX attracted the attention of NASA engineers when it was demonstrated in the United States and during observation of the volcanic eruptions at Mt. Usu in Hokkaido, Japan last spring. The Mt. Usu flights were the first successful autonomous flights of the RMAX in the world.

In October, two pilots from NASA visited YMC's Aeronautic Operations for training before their units were delivered. They explained: "The RMAX is outstanding compared with other products when hovering in terms of stability and payload performance, and we think it will be an excellent base unit for our autonomous flight research." The units will be used as the platform for development of a NASA helicopter, and research will focus on observation, measurement and rescue functions in the future.

**We are always looking for interesting stories.**
**Write to Chief Editor T. Sato of the PR Division.**
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**Shizuoka 438-8501 Japan.**
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YMC's Aeronautic Operations have sold approximately 1,200 units of industrial-use, unmanned helicopters for use in Japanese domestic agriculture. Overseas they have had limited sales of the helicopter, using it as a platform for autonomous flight development at various University research facilities.

With NASA's acquisition of the RMAX helicopters, we hope to see significant progress in their research in the near future.

*From Takafumi Itagaki of YMC, Japan*

**NASA's pilot learns about control of the RMAXs before their delivery.**

GERMANY / U.S.A. / CANADA

## PAS on show in two continents

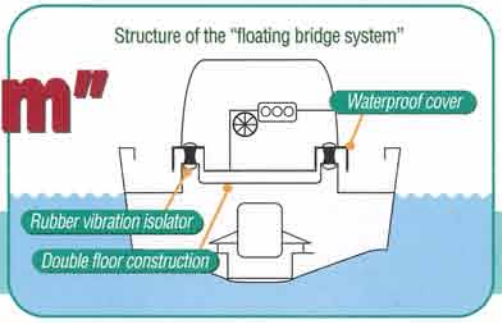
The new Yamaha PAS "Easy Super" was displayed at the International Bicycle Market (IFMA) 2000, held at the Koeln Messe exhibition grounds in Cologne, Germany from September 15 to 18 this year. The show hosted 732 exhibitors from 38 countries, and 23,400 visitors from 77 countries. A special treat for visitors was the test rides on electric bicycles set up by electric bicycle manufacturers in one area of the exhibition. So the visitors got to ride the PASs for themselves.


Later in the month, the MBK-made PAS "Easy" was displayed at the 2000 Interbike International Bicycle Expo held at the Sands Expo and Convention Center in Las Vegas, USA from September 24 to 27. This show boasted 2000 companies exhibiting from 20 countries, with over 20,000 visitors. At the Yamaha booth, the PAS "Easy" was joined by the world's first electric-hybrid bicycle model with automatic gear shift, the PAS "Royal Raku-matic", which attracted plenty of attention from visitors.


The PAS "Royal Raku-matic" and the PAS "Easy" were also on display at the 17th International Electric Vehicle Symposium held in Montreal, Canada from October 15 to 18. Further, the IFES (Intelligent & Flexible Energy System) being promoted by Yamaha was introduced to the audience, and questions on the system were fielded. In Canada, regulations regarding electric bicycles are being established, and in Montreal where a bicycle culture is taking root, there is ample time for a good market to develop.

*Yamaha's history is one of technological innovation, and our tradition of developing original technology and outstanding products continues as we head into the new century. In this "High-tech Expo" section, we will introduce examples of the remarkable technologies that are the common heritage of today's Yamaha products.*

# "Floating Bridge System"




***Increases riding comfort and decreases noise level of a boat***

## The Complex Problem of Composite Noise

Speed is something we humans seem to naturally crave, and its true with our boats, too. But increasing the speed of a boat unfortunately brings other annoying problems. Because greater speed demands a bigger engine, noise and vibration also become greater. What's more, higher speeds mean stronger wave impact which in turn makes the ride less comfortable. All this engine vibration and noise plus the impact of the waves combine to fill the cabin of the boat with noise.

This problem of "composite noise" poses a challenge to boat designers that is much more difficult to solve than one might expect. The natural inclination for designers is to try to change the shape and structure of the hull in order to reduce vibration as much as possible. But, in fact, there is a limit to how much noise can be reduced by that approach.

For example, inboard engines are usually installed on rubber mounts in order to reduce the amount of vibration transferred to the hull, but this alone can not solve the composite noise problem.

## A Reverse Approach: Float the Cabin!

What would happen if the cabin itself were floated on rubber mounts? Yamaha's "floating bridge system" was born from this idea that completely reversed the conventional approach in boat design.

In fact, a diagram of the floating bridge system looks very similar in to the "vibration dissipating building" concept that has received so much attention since the Kobe Earthquake of 1996. The idea of "floating" the entire bridge (cabin) of a boat on rubber mounts, with their vibration absorbing and shock prevention capacity, is very similar to the rapidly increasing practice of mounting entire buildings on large rubber cushions to prevent damage during earthquakes.

The original idea for the floating bride came from long-haul trucks. In these trucks, the driver's seat is just above the truck's diesel engine. If the driver were subjected to the direct vibration from the engine for long periods that stress on the body would be tremendous. In order to separate the driver from that vibration, the seat is installed on rubber mounts that effectively isolated it from the engine vibration. This system has proven so effective that nowadays almost all long-distance trucks used it. The same kind of rubber mounts are also used in buses and trains to improve the comfort of the ride. In fact, rubber mounts are so common today for a wide range of uses that they are mass produced in a variety of types and sizes.

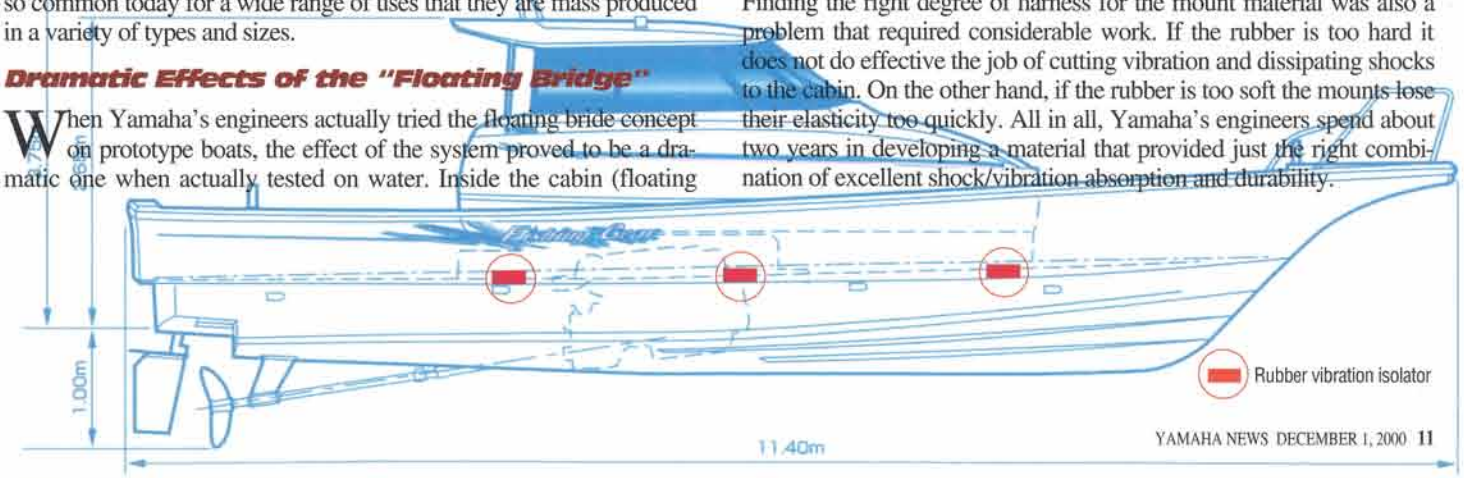
## Dramatic Effects of the "Floating Bridge"

When Yamaha's engineers actually tried the floating bride concept on prototype boats, the effect of the system proved to be a dramatic one when actually tested on water. Inside the cabin (floating bridge) people could actually carry on a conversation easily, and the mount system was clearly absorbing much of the shock caused by waves, resulting in a dramatic increase in riding comfort. Actual test data showed that the noise level in the cabin has been decreased remarkably compared to similar models without the floating bridge. As a matter of fact, results demonstrated that the noise energy level decreased by as much as 50%.

**Yamaha fishing boat "FG-35" with the "floating bridge system"**

However, during the tests other problems came to the attention of the Yamaha engineers. Sometimes the initial prototype system caused sympathetic vibration patterns between the bridge and the hull that resulted in a double vision phenomenon that caused view outside the cabin windows to appear blurred or double. Setting to work on this problem, the engineers soon found that the double vision problem could be solved by changing to more suitable materials and modifying the shapes of the vibration-absorbing mounts. In the end, a V-shaped design for the mounts was found to solve the problem.

Finding the right degree of harness for the mount material was also a problem that required considerable work. If the rubber is too hard it does not do effective the job of cutting vibration and dissipating shocks to the cabin. On the other hand, if the rubber is too soft the mounts lose their elasticity too quickly. All in all, Yamaha's engineers spend about two years in developing a material that provided just the right combination of excellent shock/vibration absorption and durability.



# Jacque and the YZF250 are World Champs! Yamaha wins manufacturers title at both GP250 and GP500!

Road Racing World Championships


Jacque and Nakano enjoy their podium finishes together.

At the final round of the 2000 FIM Road Race World Championships, the Australian GP held at Phillip Island on Oct. 29, Olivier Jacque, riding a YZR250 works machine for the Chesterfield Yamaha Tech 3 team, scored a dramatic victory to win the race and clinch the world championship title in the hotly contested 250cc class. This was Jacque's third win of the season and brought his season point total to 279. His closest rival was his Chesterfield Yamaha Tech 3 teammate Shinya Nakano, who finished this race a fraction of a second behind Jacque in 2nd to end his season in a close 2nd in the rankings as well with 272 points on five season victories.

The two Yamaha men had gone into this race knowing that whoever won the race won the season title. Nakano had won the pole position and led the race from the beginning with Jacque in close pursuit. From mid-race the two teammates were all alone in the lead. Coming into the home stretch it looked like Nakano, who had led virtually the whole way, would take the checkered first. But, just before the finish line Jacque edged a half-machine ahead to take the win by 14/1000 of a second.

Afterwards, Jacque said, "All season we have been so close. It has been so difficult to beat each other. I was quite nervous for the team and didn't want to make a mistake. ....I am very glad for myself and the team. We have been working five years for this. I know how hard this is for Shinya. We did such a good job together all season."


The Chesterfield Yamaha Tech 3 team staff put on their very best smiles!

This is the first championship for a Yamaha rider in the GP250 in seven years. In the manufacturers points as well, Yamaha totaled 342 season points to win the manufacturers title, its first at 250cc in 10 years and 14th overall.

Meanwhile, in the GP500 race, Marlboro Yamaha Team's Max Biaggi rode his YZR500 to victory in a tough race to score his second win of the season. In this class as well Yamaha captured the manufacturers title for the first time in seven years.

In the race, Biaggi had to start from the third row on the grid due to a crash in the qualifying round the previous day. Still, he fought back brilliantly and brought the race right down to the wire.

After the victory, Biaggi said, "That was a real race, win or lose, it was so exciting.... My thanks to the team and I'm happy Yamaha have won the manufacturers title. It's important because we race for the factory, but next time I want the riders' crown too."

The final season rankings for Yamaha riders in the GP500 class were 3rd and 6th respectively for Biaggi and teammate Carlos Checa of the Marlboro Yamaha Team, 5th and 12th for Red Bull Yamaha WCM riders Garry McCoy and Regis Laconi and 8th for Norick Abe of the Antena 3 Yamaha D'ANTIN team.

Biaggi celebrates the 500cc manufactures title with Mr.Nakayama, General Manager of Motor Sports Promotion Div. of YMC.

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