

YAMAHA MOTOR CO., LTD.

# Yamaha News

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## You **R**the **1** for 2002

*The bike that won the hearts of sports riding fans in Europe and the world over is back for 2002 with a new fuel injection engine and speeded-up Deltabox III chassis. Watch out, because this time it is after your heart!*



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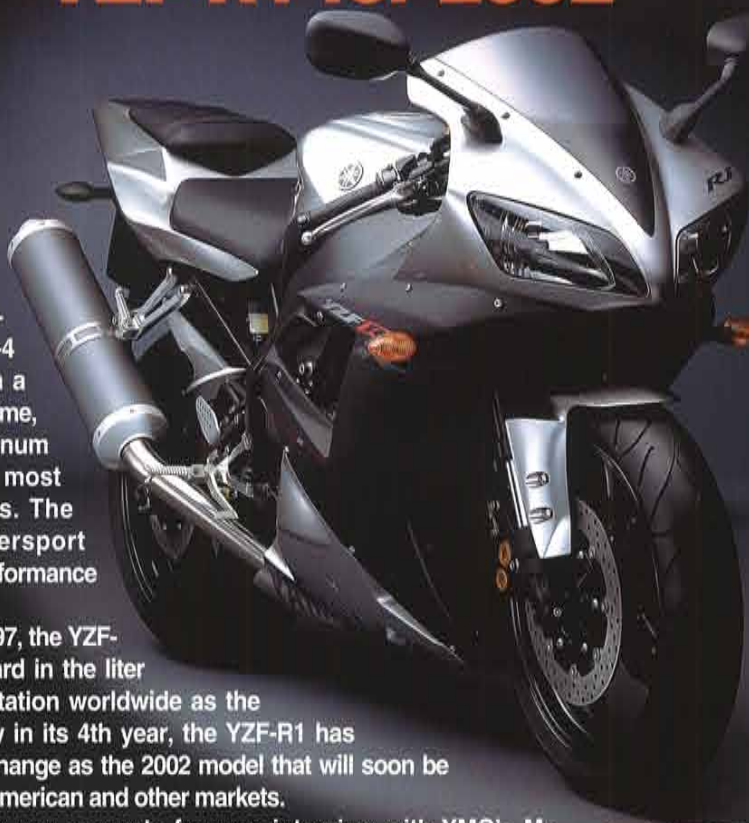
*Creating a New Category of Motorcycle*

# The "Dynamic Cornering Performer" YZF-R1 for 2002

**O**n September 17, 2001, the eve of Milan International Motorcycle and Bicycle Show in Italy, Yamaha Motor unveiled at its press conference the reborn 2002 model YZF-R1 as a new evolution of its supersport flagship. A completely new engine spec that adds a fuel-injection system for the first time on the 998cc liquid-cooled DOHC 5-valve inline-4 power unit. This is mounted on a newly developed "Deltabox III" frame, a lightweight, high-rigidity aluminum frame packed full of Yamaha's most advanced design technologies. The result is a new breed of supersport machine that takes cornering performance to a new dimension.

With its debut in the autumn of 1997, the YZF-R1 immediately set a new standard in the liter bike class, winning itself a reputation worldwide as the "super cornering machine." Now in its 4th year, the YZF-R1 has undergone its first major model change as the 2002 model that will soon be released on the European, North American and other markets.

Yamaha News is proud to bring you excerpts from an interview with YMC's Mr. Yoshikazu Koike, Project Leader for the development of this 2002 model of the YZF-R1. Here, you will get an inside view of the concepts that guided the remaking of Yamaha's flagship motorcycle and Mr. Koike's message to our readers.



Project Leader Koike was a driving force behind the YZF-R1 model change

### A machine to surpass rider expectations

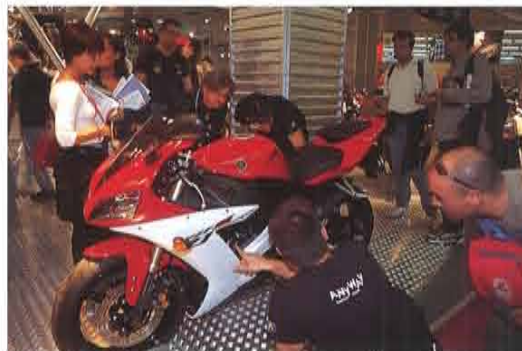
In the spring of 1999, a team of 30 engineers was brought together to begin work on what would be the 2002 model YZF-R1. Separate teams were set up to handle engine design, chassis design and electronic component design, and to each of these teams was appointed a project chief in charge of design and another in charge of running tests.

Says Project Leader Yoshikazu Koike about the central aim at the start of the development project: "We were seeking a machine character with a higher level of responsiveness that would give the rider even greater control if he wanted to really be aggressive in controlling the bike through the turns on winding roads."

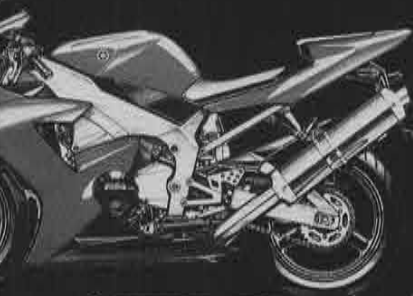
"A group consisting mainly of these project chiefs was sent to Europe to conduct on-site surveys and running tests on various roads which appears typically in European with a primary focus on the three objectives: achieving a higher level of cornering performance, improving power characteristics in the top rpm range and realizing a chassis design that embodied the unity of man and machine in a form that was worthy of a supersport model for the new century. And, at the same time we were determined not to compromise any of the outstanding specs that fans had come to love in the existing YZF-R1," says Mr. Koike.

Where Mr. Koike and his team particularly sought perfection to the very end of the project were the areas of machine handling and running performance.

Yamaha MotoGP rider Max Biaggi introduces the new R1 at a press conference



Visitors listen intently to technical explanations of the new R1 from the Yamaha booth staff



A frontal view of the '02 model R1 (below) and a side view of the suction-valve type fuel injection system Engine



“What makes riding a real joy is having a machine that responds directly to the actions of the rider. That is when you can experience what we at Yamaha call the unity of man and machine. And it also means a bike that responds to the improving skills of the rider. This is a machine that can provide the exhilaration of riding through town or out on winding country roads while maintaining a dialogue and recognition of mutual growth with your machine. We have also made it a bike that gets up to top speed faster than ever before in these types of riding conditions. To achieve this kind of perfection in total machine balance we spent countless hours on the test track and then hashing out our results in pit-side staff meetings.”

### An extreme passion for riding

After joining Yamaha Motor in 1983, Mr. Koike specialized primarily in conducting running tests on motorcycles. His early accomplishments included contributions to the tests for hit models like the Jog (million-seller scooter in Japan) and advanced technologies for large class scooters. “What I learned at that time was to always look beyond state-of-the-art to the possibility of entirely new technological advances. When I was involved in scooter development, even though they are lower priced products they still can sell one or two hundred thousand units a year, so there was a very strong focus on quality.” recalls Mr. Koike.

“There is a fundamental difference between the kind of hit model that sells like mad to users of all types and ages and the model that wins the hearts of true motorcycle lovers.” he adds.

But, at the same time he learned to hold fast to the belief that, in today’s rapidly diversifying motorcycle market, just because a technology may be state-of-the-art, that doesn’t automatically make it necessary for building a better motorcycle.

In 1989, Mr. Koike went to work in the brake group of the running test department,

where he took part in work on a new type of brake caliper. This project was one that contributed to the launch of the Thunder Ace.

“When you are bringing together cutting-edge technologies to build a new machine, you begin to sense the coming of a new realm of technological possibilities.”

In 1995, Koike was put in charge of running tests for the YZF-R1 development project as a Project Chief, a team that was headed at the time by Project Leader Mr. Miwa (present General Manager of 1st Product Management Div. of Motorcycle Operations). Six years later, Mr. Koike succeeded Mr. Miwa as Project Leader for the “YZF-R1” (2002 model) in 2001.

### Even greater integration of manufacturing and design technology

Now, the 2nd-generation model of this eminently popular R1 comes with the first suction piston-type fuel injection system ever on a production motorcycle. With this, it achieves both a better handling engine and compliance with Euro II emission standards.

“Besides the inherent technological difficulty of combining the functions of a digital fuel injection system with an analog free piston, there were also a number of non-technical problems to overcome. But we succeeded in the end, thanks not only to the motivation and aggressive development efforts of the engineers on our development team but also the people in our manufacturing divisions who eagerly took every challenge we gave them. This kind of close cooperation between the design staff and the factory was a tradition passed down from the first R1 project lead by General Manager Miwa, and it came together again with great effect during the development of the new (2002 model) YZF-R1. For this fact, I want to thank everyone involved.”

Even as he walks away from the debut of the new R1, we know that Mr. Koike’s mind has already returned to his ongoing challenge.

“My mission as a development engineer is to



The R1 development team, creators of a new legend. Mr. Koike (3rd from left front) and his proud crew

develop a product that is as close to perfect as I can possibly imagine, within the natural limits of project time and budget. But, after a certain amount of time has passed, I naturally get the desire to make further improvements on those creations. But I also remember to return to the basis whenever I take on the development of something new.”

“I believe that what we have created is nothing less than an embodiment of Yamaha’s Corporate Mission, “We create *Kando* – Touching peoples’ Hearts” for the 21st century,” concludes Mr. Koike.



Project Leader Koike speaking about the development and design concepts at the press conference, and the Yamaha booth at the Milan International Show





## *New YZF-R1 and 2002 MotoGP 4-stroke prototype the focus of attention at Yamaha booth in 59th Milan Show*

It was a scene to rival the sensational debut of the YZF-R1 four years ago at this same Milan International Motorcycle and Bicycle Show in 1997. And while that momentous debut drew some 360 press and guests, this time over 450 people gathered at the press conference for the long-awaited new YZF-R1 held at a local disco club. What clearer evidence could there be of the high expectations and media attention focused on Yamaha's reborn supersport flagship.

The press and industry guests who waited for the start of the conference were anxious to know the meaning of the stage platform designed around an ice motif. At 6:40 in the evening the lights went down and a film sudden lit up the screen; telling the tale of a boy

in rural Italian town growing and maturing with the dream in his heart of someday riding the YZF-R1.

Then came an introduction of the concepts behind Yamaha's approach to business and product development in the European motorcycle market, revolving around the three key words of Innovation, Challenge and Emotion. Finally, as the first letters of these three words came together in the visual presentation to form the word "ICE," the mystery of stage design was solved as the presentation neared its climax.

That was when GP star Max Biaggi wheeled on stage aboard the new 2002 YZF-R1, the model that epitomizes the ICE concept. And, no sooner had Max and the R1 made their

appearance than a shower of real ice cascaded down from the ceiling. The sight of this brought an answering shower of flashes from the press cameras in a brilliantly climactic moment.

After this, Mr. Kunihiko Miwa, former development project leader for the R1 stood up to introduce the 2002 model YZF-R1's new Project Leader, the same man interviewed in this issue, Mr. Yoshikazu Koike. Mr. Koike then presented a brief and to-the-point introduction of the reborn 2002 model to finish up the official event agenda.

But the excitement around the new "evolution" of the R1 wasn't about to cool among the members of the press. Comments such as: "It looks like Milan has once again seen the birth of another legendary model destined





to be best performer on the roads," and "It looks like the 'super cornering machine' has returned with even sharper performance," could be heard.

There was a confident smile on Mr. Koike's face as he fielded question after question from the inquisitive press.

There was little time for the excitement of that night's press conference to settle before the next morning brought a fresh wave of thrilled response when the Milan show opened to the press and traders on the 18th. From first thing in the morning, the Yamaha booth was buzzing with more excitement than any other. Visitors flocked there to see not only the debut of the new YZF-R1 but also another big first, the unveiling of a prototype of Yamaha's YZR-M1, the all-new 4-stroke racer that will compete in the 2002 MotoGP. This meant that the Milan visitors

were seeing the world debuts of not one but two epoch-making Yamaha models!

Meanwhile, adding to the exciting atmosphere was the design of the booth itself, based on the theme of Yamaha Motor's corporate mission, "Touching Your Heart." Here was motorcycle industry history in the making, as the world's eyes focused on two new models from Yamaha mounted with 4-stroke, parallel-4 and 5-valve engine.

Throughout the show's run there was never a time when visitors couldn't be seen scouring every inch of the M1 with appreciative eyes. And, there seemed to be no end to the groups of visitors gathered around the display stage absorbed in race talk, while other fans in the R1 corner mounted the display models to check out the riding position or practice their crouch position. And on the special invitation day, the booth's staff had the pleasure of hearing press

photographers say that the Yamaha booth had so many guests that they couldn't even get a clean shot of the R1 for their publications.

For the roughly 70,000 enthusiasts who visited during its six-day run, this year's Milan show was full of new attractions, like next-generation concept models, the emergence of new Asian makers and large-class scooters from each of the top manufacturers. For industry watchers from around the world, it was the place to look for evidence of where the industry is headed in the future. What made the Yamaha booth at this important show stand out from the others was the way it presented straight forward statements of corporate philosophy backed by informative product displays rather than a lot of abstract concepts, and also the way that it offered a venue for direct communication with the users.

This fact was clear from the repeated comments heard from different visitors all saying basically the same things: "The display concepts were very clear and the product explanations easy to understand," and "I can't wait to get a chance to try out the handling of the new R1 on winding roads."

The theme of "Touching Your Heart" has now moved on to other big autumn 2001 motor shows like the Paris show at the end of September and the Tokyo show in October. And it won't be long before the winter brings the YZF-R1 to the showrooms and then to the hands of customers anxious to head out for those winding roads.

- ① At the press conference was a birthday cake for the popular YZF-R1, now celebrating its fourth birthday since debuting in Milan in 1997.
- ② The YZR-M1 4-stroke MotoGP race machine for the 2002 season featuring Yamaha's unique 5-valve technology also made its appearance as a prototype for the first time. A constant flow of comments from visitors could be heard: "Which is the variable head pipe?" "This must be the adjustable pivot," "Of course it has fuel injection!"
- ③ The Milan show is for both motorcycles and bicycles. Now in its 59th year, the show attracted exhibitors from 36 countries and some 2,000 members of the press. Exhibition space was expanded by more than 7 percent to a total of 70,257 sq. m.
- ④ The visitors included not only bike enthusiasts but plenty of families as well.
- ⑤ One year after the 2000 Intermoto, excitement was rekindled at the September 2001 Milan show with the first full model change of the YZF-R1 in four years.
- ⑥ Again and again, enthusiasts checked out the riding position on the 2002 model YZF-R1 that debuted here.

Yamaha booth



⑦ Yamaha's French manufacturing base MBK created its own unique booth focused not so much on the technical or functional aspects of their vehicles as on their fashionable appeal. The display of the main model Mach G was interwoven with rock music and dancing that attracted plenty of visitor attention.

## COLOMBIA Incolmotos wins ISO 9002/94 certification for manufacturing quality

General



The ISO9002/94 certificate (right) and the Incolmotos factory

Colombia's manufacturer and distributor of Yamaha products, Industria Colombiana De Motocicletas (Incolmotos) Yamaha S.A., recently became the proud recipient of certification for manufacturing quality under the international ISO 9002/94 regulation. Final certification in the category of motorcycle manufacturing and assembly was granted by Bureau Veritas Quality International, an independent certifying organization.

This achievement is the culmination of years of preparations and a long-term commitment on the part of Incolmotos to supply the people of Colombia with quality products that spans the company's 25-year history. This commit-

ment to quality extends to all aspects of the company's activities as well as to its suppliers and distribution network. All the staff at Incolmotos share a dedication to the corporate ideal of "We create *Kando* - Touching People's Hearts" and a desire to supply the Colombian market with quality motorcycles and service that exceed the expectations of the customers. Incolmotos' President, Mr. Francisco J. Sierra A. says that the recent ISO certification is just one more of the many challenges the company takes one after another as part of its corporate dedication to excellence.

*From Francisco Jose Sierra Arango of Industria Colombiana De Motocicletas Yamaha S.A., Colombia*

## TAIWAN MORIC Taiwan receives ISO9001 (2000) certification

General

On May 10, MORIC Taiwan (former Taiwan IIC) received ISO 9001 (2000) certification from SGS (*Société Générale de Surveillance*, Head Office in Geneva, Switzerland). Taiwan ISO9001 (2000) aims for product quality assurance along with increased customer satisfaction. In this case, the scope for certification was across all departments, covering development of all products cur-

rently manufactured through to sales. MORIC Taiwan has already acquired the international standard ISO14001 that covers the environment, and will hereafter strive to strengthen business by aiming for even greater customer satisfaction around the world.

*From Fu-Hsiung Huang of MORIC Taiwan*



Mr. Hisayuki Atsumi, the accountant (right) and colleagues with their ISO9001 (2000) certificate

## VIETNAM Yamaha Town opens in Vietnam

Motorcycle

YMVN (Yamaha Motor Vietnam Co., Ltd.) opened the renovated Yamaha Town Saigon on Don Koi Boulevard in Ho Chi Minh City on August 28. Established to serve as the information hub for the Yamaha products and targeted at the younger generation, the challenge it faces is to create a new wave of riders for two-wheeled vehicles in Vietnam. Huge

crowds of people thronged to the showroom from opening day, making it a rousing success. The younger generation in Vietnam was attracted to models such as the YZF-R1, VMAX and TMAX, just like their counterparts in Japan.



All the popular models on display in the showroom



## THE NETHERLANDS Non-Package Transport System streamlines shipping, economy of time & effort

Motorcycle

Shipping motorcycles from the factory to dealerships around the world used to be a rather inefficient process. Motorcycles that had been fully assembled and tested once at the factory were disassembled again (handlebars and front wheels removed, etc.) before packaging. When they arrived at their destination they had to be unpacked and reassembled. What's more, much of the packaging had to be disposed of, a wasteful and costly step.

Now all that is changing. Yamaha Motor

Europe N.V. has put into operation a revolutionary "Non-Package Transport System" for motorcycles that utilizes returnable and reusable metal pallets for transporting the bikes in their fully assembled state with only an absolute minimum of protective packaging. This system means shorter lead time, because the disassembly and reassembly time and labor are eliminated, along with the unpacking time and packaging disposal. It also guarantees factory-tested product quality because the bikes

arrive just as they left the factory, without having to be disassembled and reassembled. Another big benefit is in the area of environment friendliness. Almost all of the packaging material that had to be disposed of as waste material in the past has been eliminated. The result is an efficient, cost-saving and environment-friendly system that ensures Yamaha's quality.

*From Katsuyuki Yokota, Logistics Operations Division, YMC*



The Netherlands



Italy



Germany

**NEW ZEALAND** Yamaha two-day ride a success

Motorcycle

Adventure riders from all over New Zealand converged on the Tihoi Adventure Camp in the Pureora Forest Park on Friday, June 29 for the inaugural Yamaha Two-Day Pureora Adventure Ride.

The winter ride attracted 150 riders, and organiser Mike Britton says the move from a one day to a two day format was one of the reasons. On the first day, a 200km route took riders from the Tihoi Adventure Camp north through the Pureora Forest, then on to Lake Whakamaru, a challenging climb up Mount Kuahu, and lunch at the remote Maratiri School. They headed north again to the Maraetai Dams then the famous Drum Bridge Road near Ngaroma, before heading south via large farm and forest tracks and twisty country roads back to Tihoi Adventure Camp. Sunday's 100km loop consisted largely of farmland,

made slippery by a sharp frost the night before. Adventure rides attract motorcycle riders from every discipline - road, off-road, trail and even trials. The only requirements, besides a desire to 'get off the beaten track' and see some of New Zealand's incomparable back country, are a motorcycle license and a current road-registered motorcycle.

Mike plans the rides by working closely with local farmers and forestry groups to gain access to tracks, trails and land never before used by organisers. Entries have already been received for the second ride in the series, the Yamaha Two-Day Central Plateau Adventure Ride on October 6 and 7. Other Yamaha Two-Day rides are planned for the Far North on December 1 and 2, and the South Island on April 6 and 7, 2002.

The inaugural Yamaha Two-Day Pureora

Adventure Ride gave motorcycle riders from every discipline the chance to see some of New Zealand's unparalleled back country on a winter weekend. A series of Yamaha Adventure Rides is planned for the coming year.

*From Perry Francis of YMNZ, New Zealand*



Riders on green hill race course

**CHILE** BW's on the road and on the beat

Motorcycle

In Chile, the BW's100 is ridden not only for commuting and leisure, but is now also utilized in the interests of the public. Police-women use the bike for patrolling and traffic control to protect the nation's citizens.

The successful pilot for this project was held in the north of the country, particularly in Iquique, and to give greater impact to the project, a riding school is being run for the police-women using the BW's in their duties.

*From Mileno Dominguez, Yamaimport, Chile*



BW's 100: new mission to prevent crime and traffic accidents

Smart police officers and BW's 100



**NEW ZEALAND** Be a King for a Day!

Motorcycle

Darryl King, five-time winner of the World Championship Motocross Grand Prix, is sharing the secrets of his success with riders in the Yamaha MX DK-Style Motocross Training Schools being held at five locations around New Zealand until the end of this year. The Yamaha-sponsored daylong events cater to all age and skill levels, and are so popular that the first session held in Auckland was completely booked up.

Darryl says, "My mission is to help you on and off the track," so of course he covers the

mechanics of riding such as how to improve speed on all types of corners, using the clutch positively and preloading and jumping lower.

The training also helps riders learn how to ride faster and with greater confidence around any motocross



track, to look for the right lines and tips on getting the most of out of practice.

The motocross training schools don't stop there, the importance of setting goals, tuning the mind to make every move a winning one and even fitness and nutrition are discussed. Darryl sums up the schools and his philosophy in one of his favorite lines, "Like life, you get out what you put in." Good advice.

*From Gary Sanders of YMNZ, New Zealand*

The instructor teaches the skills and safety points of motocross riding

**THAILAND** Yamaha Riders sweep Top Spots in Asian FIM Road Race!

Motorcycle

Yamaha riders put in an impressive performance at the second round of the FIM Asian Road Race in Thailand on July 29 by sweeping all three classes. T.C. Chia of the Malaysia Yamaha Racing Team rode a YZF-R6 to victory in the Super Sports 600cc Class. Chia was overall champion in the class last year. Preecha posted a win for the TYM Racing Team riding a TZ125 in the GP125cc Class. Also from the TYM Racing Team, Worrawat took first place in the Under Bone 125cc Class

riding a Speed. The FIM Asian road races are staged in three ASEAN countries and in China, with a total of five events taking place every year.

The popularity of road racing is burgeoning in each of the ASEAN countries, and everybody is talking about the GP rider Norick Abe who is being used to promote new products in Malaysia and Thailand.

*From Hirokazu Yoshimitsu, Southeast Asian Business Division, YMC*



The TYM Racing Team dominates in two classes

## COLOMBIA National dealer meeting celebrates 25 years of Yamaha

Motorcycle

In May, Colombia's National Yamaha Dealer Meeting was held in Santa Marta. The 150 participants included representatives from 84 dealers from around the country and employees of Incolmotos Yamaha S.A. Mr. Manabu Tsuura from the Central & South America Sales Div. of YMC (Yamaha Motor Co., Ltd.) came from Japan, and Mr. Roberto Gasser, President of Vicar came from Bolivia. The meeting was themed "All times Yamaha," signifying a quarter of a century of Yamaha's presence in the Colombian market. The meeting gathered business partners and supporters to consider the pioneering spirit that Yamaha has supported over these 25 years. Since

Yamaha encountered the spirit of challenge, there has been a spirit of transformation within the business - Yamaha have supported change



through a determined will to take on new challenges.

The meeting also built on the already comprehensive 2- and 4-stroke motorcycle lineup in Colombia, with the release within the sales network of Yamaha's new motorcycle models, the YBR125, BW's and RX115 with this season's new colors.

*From Claudia C. Ruiz Duque of Industria Colombiana De Motocicletas Yamaha S.A., Colombia*

Colombia's dealer meeting, held in Santa Marta, attracted more than 150 participants from across the country

## THE NETHERLAND Delft Univ. of Technology wins Rookie prize in Formula Student Competition with YZF-R6 engine

Motorcycle

On July 7, 2001, the "Formula Student Competition" for college student-built race cars was held at the NEC complex in Birmingham, UK. Of the 34 European and world universities nominated for the competition, 25 entered the main "Class 1" race, where the student-built machines were judged not only for speed but in a total of eight categories that included engineering design, presentation, cost, acceleration and durability.

While the top prize went to the team from the Georgia Institute of Technology in the USA, the prize for the best rookie team went to the team

from Delft University of Technology in the Netherlands for its machine that was jointly supported by YMNL and YMC PR with Yamaha YZF-R6 engine. Even though they were unable to finish the race, the high points they got for their machine design that used the R6 engine to pump out an impressive 83 hp helped them win the IMechE Rookie University Runner Up prize.

Another team from Ireland's Queens University (Belfast) also chose the YZF-R6 engine to power its machine that finished 8th in the competition.



An YZF-R6 engine was used in the Formula Student Competition

## COLOMBIA Innovative Yamaha DT owner creates the "Moto-train"

Motorcycle



Making a living with a Yamaha bike in Colombia

In the Colombian market motorcycles are used not only for daily personal transportation, leisure and sports but also for commercial uses. Indeed, Colombian motorcycle owners find an imaginative variety of ways to use their motorcycles as a source of income. Take the example of Mr. Jose Tarazona of Barranca-bermeja in Santander. Modifying his dependable Yamaha DT, Mr. Tarazona created his own "Moto-train" on a section of unused railroad track. Now he hauls

up to 12 passengers and 2 tons of luggage over distances of up to 80 km along the tracks for fares of 20 to 50 thousand pesos. With this much-appreciated transportation service, and his hard-working Yamaha DT, he is able to make a better living for himself and his family.

*From Claudia C. Ruiz, Duque of Industria Colombiana De Motocicletas Yamaha S.A., Colombia*

## GUAM Yamahas dominate at new track inaugural

Motorcycle

Motorsport has come alive again on the South Pacific island of Guam after a five-year hiatus with the opening of the Guam International Raceway facility. The off-road section of the facility, known as the Calvos Memorial Off Road Park, was recently the site of the grand opening and the rebirth of the island's most popular racing event, the Miller Lite Smokin' Wheels weekend.

Over 120 competitors and some 8,000 spectators turned out for the weekend of racing which included Supercross, Flat Track and Endurance races for all sizes of off-road motorcycles, ATVs, mountain bikes and off-road cars. Making a guest appearance from the U.S. was the

legendary multi-time Baja 1000 winner, Ivan "Ironman" Stewart. From Japan came Yamaha Racing Team star Hisashi Tajima, who dominated the Supercross, Flat Track and Endurance races on his four-stroke YZ250F. Finishing second to Tajima in these same races, also on a YZ250F was local Guam rider Steven Santos. Other top participants making this a truly international competition were Mr. Glenn Aguilar of the Philippines, Mr. Cuci Alvarez of Saipan and Mr. Lai Chiu Tung of Taiwan. Race Director and Guam Racing Federation chairman Dennis Quinones says that the 252-acre facility will have a year-round schedule of events and continued construction of new courses by the

year 2005.

*From Dennis Quinones of Royal Pacific Motors Yamaha, Guam*



Tajima (1st) and Santos (2nd) sporting the YZ250F four-stroke machine



**NEW ZEALAND** Yamaha boat show booth judged Best Commercial Stand

Marine

A Yamaha display booth was awarded the prize for Best Commercial Stand at a New Zealand boat show held from May 31 to June 4 this year in New Zealand.

With a colour scheme based on black, the booth was reminiscent of New Zealand's rugby team, the All Blacks, and the yachting world's Team New Zealand. The F225 was the central display in the booth, which was judged to be at once delicate and powerful.

The award at this time is particularly good news for the newly formed YMNZ (Yamaha Motor New Zealand), a 100% Yamaha-owned company.

*From Greg Fenwick of YMNZ, New Zealand*



The F225 has pride of place in Yamaha's award-winning booth, themed on New Zealand black

**JAPAN** Release of world's first PWC with 4-stroke engine

Marine



Yamaha Motor announces the release of the world's first PWC mounted with a 4-stroke engine, the WaveRunner FX140 (Marine Jet FX140 in some markets) that goes on sale worldwide in early spring of 2002. The development concept behind the FX140 was touring with performance – this model combines nimble handling and acceleration with economy and quiet running. Vast improvements in areas

affecting the environment such as fuel consumption and exhaust emissions mean that the FX140 clears by a wide margin both the environmental guidelines for 2006 established by the EPA (U.S. Environmental Protection Agency) and the self-regulatory controls for 2006 set by the Japan Boating Industry Association.

**AUSTRALIA** 2nd consecutive "Best" awards at Sydney Boat Show

Marine

From July 26 to 31, Sydney held its annual International Boat Show in the Darling Harbour Exhibition Centre, with a display area for larger cruisers and yachts at the nearby Cockle Bay Marina. This year's show boasted record size, with 300 exhibitors, and attendance, with 75,000 people visiting over the 6-day run.

For the second year in a row YMA (Yamaha Motor Australia) had its own corporate exhibit and for the second consecutive year it was honored with the show's "Best Engine Display" award. Highlighted at the Yamaha booth were the new four-stroke outboard models F225A, F200 and F60. And, from the amount of visitor

attention these models drew, YMA is confident that they will be big sellers in the near future.

With the ever-expanding use of Sydney's waterways, the demand for Yamaha marine products is growing year by year along with the brand's popularity. Here in Australia's Olympic city Yamaha is fast becoming known as the maker of the most reliable products on the water.

*From Jim Robertson of YMA, Australia*



Many visitors were attracted to the Yamaha marine display

**PERU** Generators for Peruvian Relief Effort

Power Products

YMC, together with YMDP (Yamaha Motor del Peru S. A.), donated five ET1500S electric generators to the Peruvian children's foundation *Fundación por los Niños del Perú* to assist in rebuilding efforts after the massive earthquake that occurred on June 23, 2001 in the southern part of the country. The foundation helps impoverished children in

Peru, many of whom have lost their parents, become productive members of society. YMC and YMDP contributed equal shares of the cost of the donation to help the children whose lives have been ravaged in the earthquake.

The massive quake that registered 8.1 on the Richter scale caused destruction throughout

Peru, claiming over 100 lives, injuring 1,300 and damaging more than 46,000 homes. Particularly hard hit were the cities of Tacna, Moquegna and Peru's second largest city Arequipa, approximately 800km southwest of the capital Lima, where more than 70 percent of the houses were damaged.

**Apology**

The editors of Yamaha News sincerely apologize for the fact that Mr. Tetsuya Matsuoka was mistakenly referred to as Mr. Tesuya Matsuoka in the article "YMG Inaugurates New Home Office" on page 7 of the English issue of Yamaha News No. 4, 2001, and Mr. Toh was also mistakenly referred to as Mr. Fuji in the article "Showroom on Silk Road a country first" on page 6 of the above issue.

## EX'REALM opens in Tokyo

September 12 saw the opening of EX'REALM by Yamaha Motor Co., Ltd. (YMC), a new communication space in Harajuku, the fashion center of Tokyo so popular with the younger generation. Designed with an event space and special exhibition area, EX'REALM will offer attractions aimed to appeal to the sophisticated sensibilities of the contemporary generation. The name EX'REALM is intended to express the spirit of challenge that seeks new experiences that often reach beyond conventional realms.

YMC seeks to offer people whose lives are based in Tokyo a communication space that can be used in a variety of ways, and at the same time enable our staff to absorb the free thinking of young Tokyoites and tap into their energy to further our future corporate activities.

The basement floor will be used to stage special events – from collaborations with other companies or individuals and exhibitions of new products to preview showings of new films. The first floor houses the Ex'café serving reasonably priced French food and a full assortment of refreshments. There is also a salon where customers can enjoy a selection of snacks and perhaps a chat with Yamaha staff, as well as a shop selling selected merchandise such as accessories and apparel created in collaboration with designers on the cutting edge of the fashion

world. The shop also features EX'REALM's own "±name" brand of original goods. A Web access corner, special exhibition space and library are found on the second floor. As one of the first events following the opening, images of vehicles of the future designed by contemporary creators will be on display.



YMC's Chairman attending the opening ceremony

## Government buys Yamaha Autonomous-flight Unmanned Helicopter

On May 16 an unveiling ceremony and demonstration-flight press event was held for two Yamaha Autonomous-flight Unmanned Helicopters built and supplied on commission from the Hokkaido Development Agency. This helicopter takes as its base the Yamaha industrial-use unmanned helicopter RMAX, a production model used for remote-control crop dusting, and outfits it with a GPS (Global Positioning System) sensor and gyroscope sensors to make it capable of fully autonomous programmed flight operated from a land-based computer.

When Yamaha engineers developed a similar model to carry observation equipment into the no-flight zone over the erupting volcano Mt. Usu in Eastern Hokkaido last year, it was the world's first successful practical use of a fully autonomous-flight unmanned helicopter. The outstanding technological achievement of the Yamaha development team was later recognized when this helicopter won the Outstanding Achievement Prize in the industrial category of the 33rd Ichimura Academic Science Awards.

As in the case of the Mt. Usu observation flights of March 2000, these helicopters now supplied to the Hokkaido Development Agency will be used for unmanned observation flights during natural disasters. Since the Yamaha autonomous-flight helicopters were used successfully over Mt. Usu and later over an erupting volcano on Miyakejima island, inquiries have poured in from governments and agencies around the world, including the US's NASA space agency.



## PAS bicycles help World Championships run smoothly

As official pool builder and sponsor of the "9th World Swimming Championships - Fukuoka 2001," YMC made a big contribution to the sport of competitive swimming this year. Besides building the special temporary-facility competition pool that was the scene of so many new world records at the championships, YMC also helped the event run more smoothly by lending the organizers a total of 15 Yamaha PAS electro-hybrid bicycles to help event officials get around the spacious event venues.

The Marine Messe Fukuoka venue chosen for the site of the indoor main pool for swimming races and synchronized swimming as well as an outdoor warm-up pool, is one of Japan's largest convention centers, with grounds covering over 28,000 square meters and a main hall capable of holding 10,000 people. Meanwhile, the Water Polo competition pool was installed about one kilometer away at the Hakata-no-mori tennis competition facility of the Higashi-Hirao Park Hakata. As competition officials found out, that hilly 1-kilometer distance was perfect for bringing out the advantages of the PAS bicycles, whose power assist from an electric motor supplements the rider's pedaling force to make hill climbing a breeze. Since their release in 1994 as the world's first electro-hybrid bicycles YMC has shipped over 500,000 of the PAS units, which are now used not only by Yamaha but OEM (original equipment manufacturing) partners in Japan, Europe and North America and as well.



*It was a dream engine that most experts said could never be built: a 225 horsepower class four-stroke outboard motor that was as light and compact as the two-strokes of the same class and also able to match them in acceleration and speed.*

## The Revolutionary F225A

### The World's First 225hp V6 Four Stroke Outboard Motor



#### The challenge to build a dream engine

Due to the environmental concerns of an increasing number of today's customers and the ever-stricter emissions regulations being placed on outboard motors, the demand for four-stroke outboards with their inherently superior fuel economy, low emissions and quieter performance is here to stay. But, to fulfill the original role of an outboard, the motor must also be compact and light enough to mount on the transoms of boat designs that boatbuilders have perfected over the years for outboard power.

A four-stroke engine by the nature of its design has more moving parts than a two-stroke and traditionally takes a larger cylinder displacement to pump out the same power as a two-stroke. And, the larger the horsepower—and consequently the larger the number of cylinders—the tougher it is to keep down the weight and size of a four-stroke. That is why most experts thought that a four-stroke outboard in the 200hp and over class was simply not doable. What those experts overlooked, however, was the fact that building an engine more compact and powerful than anyone thought possible is exactly the kind of challenge Yamaha engineers thrive on.

#### An "in-bank exhaust system" was the key

When Yamaha's engineers took on the challenge of designing an outboard motor in the popular 225 hp class that was comparable in size and weight to the two-strokes of the same class, they knew that they had to throw out the rulebook on conventional four-stroke engine design and come up with something that was truly revolutionary. It was this kind of thinking that led to the idea of reversing the conventional layouts of the intake and exhaust systems by tucking the exhaust system components neatly into the "V" of a marine-specific 60-degree V6 engine block. At the same time, this unique design contributed to another important goal of the design team: achieving high performance comparable to the two-strokes. The compact "in-bank exhaust system" design also contributed to performance by means of a layout that reduced exhaust resistance compared to a conventional external exhaust system layout.

Another important element in achieving the kind of high performance mandated by the F225A's development goals was electronic fuel injection. In designing the intake system to house the EFI system, Yamaha

ingenuity once again shone through. To save space inside the cowling, six individual inside-track fuel injectors were positioned on the inside walls of "pulse-tuned long intake tracks" running along the outside of the cylinder block. With control from an ECM (Engine Control Module), this system delivers the precise air/fuel mixture necessary to each combustion chamber under any load or speed conditions. That means optimal combustion is achieved at all times, to boost engine torque and power development.

The end result is performance that is sure to exceed the expectations of any user. Until now, four-stroke outboards were recognized as having a definite acceleration handicap compared to the two-strokes. The F225A has proved that assumption to be no longer true. In the F225A, Yamaha engineers have built a motor that holds its own against the two-strokes in speed and even beats out the competitors' 225hp two-strokes in acceleration tests (in-house) from standing to 50 meters.

#### What you expect from a four-stroke, and more!

To achieve this kind of performance from such a compact, lightweight motor, you might think that we sacrificed the inherent four-stroke virtues of good fuel economy, cleaner emissions and quieter running performance. That is not the Yamaha way. Using straight gasoline, the F225A is up to 20% more fuel efficient than the two-stroke direct fuel injection models at cruising speeds. What's more, thanks to the F225A's highly efficient combustion and our "Blow-by Gas Reburning System" that first separates oil out of the blow-by gas before returning it to the combustion chamber, this model achieves emissions levels that easily clear the US's EPA (federal Environmental Protection Agency) emissions standards for the year 2006 and the C.A.R.B. (California Air Resources Board) exhaust emission limits for the year 2004. Boaters will also appreciate the fact that the F225A runs virtually smokeless, odorless and without oily deposits on the water.

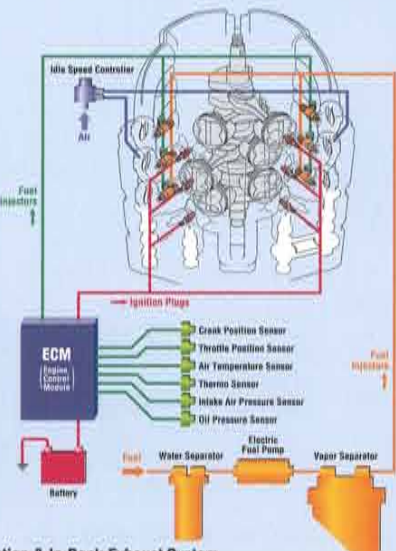
Quietness is another virtue our engineers built into the F225A. The combination of an "Idle Speed Controller" and our "Labyrinth Exhaust System" makes this model exceptionally quiet at idling and low speeds, while the "Water-sealed Outer Wall" drastically reduces noise at all operating speeds. Boaters will find to their delight that they can hold a conversation easily over the sound of the engine with the F225A.

#### Revolutionary but still a Yamaha

What consistently makes Yamaha outboards No. 1 in customer satisfaction in markets around the world is the legendary Yamaha reliability and durability. The F225A is no exception to that Yamaha tradition, with its anti-corrosion system that includes the use of a special corrosion resistant aluminum alloy "YDC-30," our 5-stage multiple coating finish, self-sacrificing anodes and a convenient freshwater flushing device. Unmatched reliability is also ensured by features like our fail-safe system that protects the engine in case of malfunction, a water detector, overheat and over-rev warning systems and low oil pressure warning system.



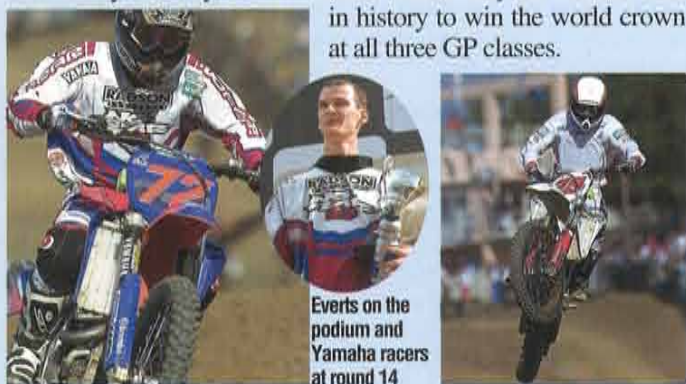
Electronic Fuel Injection & In-Bank-Exhaust System



## Everts Clinches 5th World Title on the New YZ500FM

Going into the 14th and final round of the World Motocross Championship series, the Sept. 23 Austrian GP at the new facility, series leader and 4-time World Champion Stefan Everts only needed two points to win the season title. Though he would be playing it smart, Everts went out on Saturday and won himself the pole position. In the finals on Sunday he did what he had been doing all season, getting a perfect start with his beautifully prepared Yamaha YZ500FM and dashing to the holeshot. The champion was confident: "I know my Yamaha will get me to the first turn in front." From there he let his rival Smets take the lead and concentrated on just making it home to the title, which he did easily in finishing 2nd. Close behind him came his Rinaldi Yamaha teammate Marnicq Bervoets, who finished both this race and the season in 3rd place.

Stefan was thrilled by his 5th world title, but his team, led by manager Carlo Rinaldi, were perhaps even more thrilled at their first world title and the manufacturer's title they had clinched in the previous round with the amazing YZ500RM, and in its debut season! By the way, this title made Everts only the second man in history to win the world crown at all three GP classes.



Everts on the podium and Yamaha racers at round 14

## McCoy powers to podium, as Biaggi stumbles again



Garry McCoy with his trophy and Olivier Jacque in the race

On September 9th, at the Portuguese Grand Prix, round 11 of the 2001 MotoGP, Marlboro Yamaha ace Max Biaggi needed a strong performance to keep alive his hopes of winning the 500cc season title. He had won the Pole Position once again, but what awaited was a repeat of the nightmare that had visited him two weeks earlier at the Czech GP. He had gotten a perfect start to lead the pack through the first lap, thus escaping the four-bike crash at the first turn that took Antena 3 Yamaha's Norick Abe out of the race. But, with just seven laps to go, and on course for a certain podium finish, Max suddenly lost the front end of his YZR500 and went down. In a valiant show of determination, however, he pulled his machine out of the sand and battled back to a 5th place finish and remain 2nd in the points standing.

It was Australian star Garry McCoy (Red Bull Yamaha) who would carry the Yamaha banner this day. After barely escaping the pile-up on turn one, McCoy regained his poise and raced with the kind of command that made him winner last year on this murderously difficult Estoril course. McCoy took the checkered in 3rd, giving him his second podium finish of the season. Coming home in 4th with another outstanding performance was Biaggi's teammate Carlos Checa.

### World Supersport (WSS)

## Yamaha gets 3rd straight Manufacturer's title as Casoli wins again

The 10th round of the 11-round World Supersport championship series was held on September 9 at the Assen circuit in Holland, and for Yamaha it turned out to be a banner day that typified the maker's year-long dominance of the series with the amazing YZF-R6.

The season point leader, Paolo Casoli, who rides for the team of Yamaha's Italian importer Belgarda, came into the race knowing that all he had to do was stay close to his rival Andrew Pitt (Kawasaki) to maintain his series lead. And, when a heavy rain shower forced officials to call the race after just three laps, Casoli already had a 1.7-second lead over his rival. It was decided that a second race would be run



after the rain let up and the day's victory decided on the aggregate results of the two races. In the second race Casoli took the lead and went all the way to victory. Meanwhile, Casoli's Belgarda team-

mate James Whitman was also having a good race, nearly grabbing 2nd place from Pitt on the chicane of the last lap. He was pleased with his 3rd and a spot on the podium, however. Following in 4th place was another R6 rider, Jorg Teuchert of Wilbers Suspension Yamaha.

With these performances, Yamaha captured the Manufacturer's title for the third year in a row.



Riders like Casoli bring Yamaha manufacture's title again