



President Eguchi's new year address

Let's combine the knowledge and energy of each and every employee to build new value into the Yamaha name

Yamaha Motor Company opened its regular business this year on January 6 after the New Year's holiday. As usual, at the opening ceremony, President Hideto Eguchi addressed reassuredly to entire company concerning the coming business year. Here are some extracts from the speech.

"Let me begin by wishing a happy new year to everyone, and saying how much I am looking forward to working with all of you in the coming year.

1986 was a year in which we can say with pride that we succeeded in fulfilling all our major business goals. We succeeded in releasing timely new products of high quality worthy of the Yamaha name. We re-built our production capacity to meet the needs of a new market environment, expanded our overseas production bases and started to raise a foreign bond.

As a result, I believe we have laid ourselves a good foundation from which to pursue sound corporate activities in a future which is sure to continue to be governed by the harsh realities of the high price of the yen on the world market.

Also because we maintained a policy of guaranteed profitability of all corporate ventures, we were able to register an acceptable level of profits in the first half of '86 fiscal year. I believe this was possible because each and every one of you understood and cooperated with the new managerial policies I outlined in my speech at last year's new year ceremony.

I would therefore like to take this opportunity to express my sincere appreciation to you and the families who have stood behind you, and my thanks to all our customers here and abroad, as well



as to our dealers, importers, stockholders, finance companies and all the other organizations who have given us their unwavering support.

Our security as a company and as individual members of society depends on our ability to establish a brand image so strong that the name "Yamaha" itself stands for unrivalled quality. Again this year let us work to produce technology and products worthy of the Yamaha name by making the fullest use of our talented employees and stable labor-management relations.

Toward this goal, let us adopt the business slogan "The improvement of quality of every aspect of our corporate activities including the level of our human resources."

A summary of this year's important managerial objectives is:

1. Increasing the international division of

business management—namely the expansion and consolidation of our overseas production bases as well as strengthening the production system of our domestic factories through higher level mechanization and versatility to produce a variety of products that will enhance the commercial value of the Yamaha brand.

2. Refining our advanced technological capabilities, promoting products development that emphasizes originality to meet trend in user needs quickly and turning out products worthy of the Yamaha name on a timely schedule by favoring quality over quantity.

3. Improving our overall financial framework by means of more efficient finance management and the advancement of productivity in all areas of our corporate activities.



Yamy's are introduced at the Semsá dealers meeting.



Semsá employees and their families gather for the company's 5th anniversary party.

Semsá celebrates its fifth anniversary with production of the first European made mopeds

On last October 23, our joint venture company in Spain, Semsá celebrated the 5th anniversary of its founding. On this day in 1981, SEMSA (Sociedad Española de Motocicletas, S.A.) was established for the purpose of manufacturing and selling Yamaha motorcycles in Europe.

To celebrate this memorable anniversary a party was held at the factory for Semsá employees and their families. Planned as an "open factory" party for the spread of mutual friendship and goodwill, the highly successful event was attended by over 400 guests.

In the span of just five years Semsá has grown to become Spain's largest seller of motorcycles as well as the supplier of the largest variety of models. Semsá's line-up is made up of both domestically produced models and imported models from Japan. To coincide with its 5th anniversary Sem-

sa has also begun the production of the "Yamy" moped. The Yamy is the first moped designed and built completely in Europe for the European market. What is more, almost all the component parts of this model are purchased in Europe. This model will be sold not only in Spain but in several other markets throughout Europe. The addition of this new model will surely give a new boost to Semsá's model line-up. Although the "Yamy" moped is produced completely in Europe, it is manufactured according to the same standards of product quality that people expect from all Yamaha products.

With a 49cc engine and other specifications designed to meet European market regulations, this new moped will offer Europe a Yamaha alternative to the existing bikes of its class.



SR500 wins its 7th "Bike of the Year" title

W. GERMANY

Every year Germany's leading motorcycle magazine, "MOTORRAD" awards "Bike of the Year" titles to that year's outstanding machines. In last year's elections Yamaha bikes were awarded first place in two divisions. The SR500 was first in the 27hp class for the seventh time and the SRX600 took top honors in the 50hp class. Also notable was the FZR1000's second place finish only behind the K 100RS (BMW) in the general category. Another German motorcycle magazine, "Motorrad, Reisen & Sport" awarded "Bike of the Year" titles to Yamaha bikes in two of its three categories, the XT600 Ténéré in the off-road category and the DT80LC in the 80cc class category.

Director of Mitsui Maschinen GMBH, Mr. Weihe (right) with the chief editor of MOTORRAD

MACHINES OF THE YEAR

First in 4 out of 6 categories

'86 Japan Bike of the Year

JAPAN

In the '86 Japan Bike of the Year awards, sponsored by two leading Japanese motorcycle magazines, "Auto-by" and "Mr. Bike", Yamaha bikes received top honors in four out of the six categories contested. The four winners included the FZR400 (251-400cc class), the TZR250 (125-250cc class), the RZ125 (51-125cc class) and the YSR50 (50cc and under class).

Also, in the "Big Riders '86" category, Yamaha rider Tadahiko Taira was awarded the title of the outstanding rider of the year. All of the awards in these contests are decided purely on the results of voting by the readers.



Contributing to local motorsports promotion

HONG KONG

The annual Macau Race was held last year on November 22-23. This event has a long history dating back to 1954, when it began as a 4-wheel car race only, and expanding to include a motorcycle division in 1967.

Mr. Mok Kee, President of Man Lee Tat Car Company, Yamaha's Hong Kong distributor since Yamaha's founding 30 years ago, has always been an enthusiastic and energetic supporter of this Macau Race and other Yamaha motor sports.

For the inhabitants of the confined cities of Hong Kong and Macau, this race is a once-in-a-year chance to enjoy motor sports. For this reason Mr. Mok Kee has always gone out of his way to support local riders, and the result has been a race dominated by a large majority of Yamaha machines.

It is said that almost all of the local riders in Macau have been supported by Mr. Mok Kee at one time in their career.

In last year's Macau Race the senior class was dominated completely by the FZ750 and the novice class by the TZR250, giving the event the appearance of a one-make race. As the opportunities and places to practice racing are few for the motor sports lovers of Hong Kong/Macau, the senior/novice classes of the Macau Race are a precious chance to try their skills. This fact also makes this race a very important instrument for the promotion of motor sports in the area.



Thanks for all your letters. We're receiving wonderful letters with interesting topics for Yamaha News from all over the world and every letter we get helps us bring you a more informative and more useful Yamaha Motor News.

So, please keep the letters coming.

Novice class winners with Mr. Mok Kee (dark suit). On the left is Macau dealer, Mr. Lau Yang Kee.



Letter from the reader

Enjoy Yamaha Motor News and you will find...

CANADA

We would like to show everyone a letter we received recently from Mr. Harry Fronczek, Sales Manager of Specialty Yachts in Canada.

"I enjoyed reading about George Gritsis and his around-the-world cruise on a 27-foot sailboat in your Yamaha News 1986 No. 8.

A few days later I was delighted to look

out my office window and see George sailing into Vancouver Harbour. We arranged some free moorage at our docks for the week that he was here and had many very interesting conversations with him. He was most appreciative of the Yamaha outboard that Yamaha Motor Co. gave him."

Mr. Fronczek, we want to thank you very much for writing to us!



In front of the Specialty Yachts shop; Mr. Fronczek and Mr. Gritsis. The yacht in the photo is a Yamaha Y-30.

A successful outboard promotion

TRINIDAD AND TOBAGO

Elee Agencies Ltd. which is handling all the imports and sales of Yamaha outboards in Trinidad, along with other businesses involved in the fishing industry, participated in the exhibition held by the Trinidad Government last October in recognition of the World Food Day 1986. The aim of this exhibition was to promote the important role of the fishing industry in the food production chain, and a lot of visitors had a chance to learn how Yamaha outboards and fishing boats are used in the development of coastal fisheries through Yamaha-supplied PR films and posters shown at the Elee Agencies booth.

Prior to the above exhibition the company had already publicized the superior performance and reliability of Yamaha

outboards in the annual Great Race from Trinidad to Tobago. While the company-sponsored "Mr. Yamaha", a locally built deep-V hull 28-footer powered by two 200hp Yamaha outboards finished a brilliant second in its class, the 21-foot "Miss Yamaha" powered by a single 200hp Yamaha placed 1st in its class.



Two Yamaha 200hp V-6s on the "Mr. Yamaha"

Let everyone see **THAILAND** -it's a better machine

Always diligent in the pursuit of market development ideas, Siam Yamaha has recently completed two unique and aggressive projects called the "Yamaha Friendship Caravan" and the "48-hour Yamaha Endurance Test". As the first event of its kind in the motorcycle history of Thailand, Siam Yamaha's "Yamaha Friendship Caravan" made a 40-day, 12,000 kilometer tour of the entire country. Consisting of 20 motorcycles in a wide variety of models, all ridden by Siam Yamaha staff



Demonstration by Siam Yamaha's team riders becomes the focus of public attention.



Motorcycle journalists astride the Yamaha bikes at the start of the 48-hour endurance test.

Big international journalists test



Let's go into the road for trial riding of the FZR1000

In early December of last year motorcycle journalists from all over Europe and North America gathered at the Paul Ricard circuit to test ride the new FZR1000, FZR750R, FZ750, FZX750 and the TZR250.

The number of participating journalists was so large that the event had to be divided into three sessions; two for the European journalists (representing 15 countries), and one for the U.S. and Canadian journalists.

In all the event was a great success, with every journalist having a chance to test ride the bikes on both the track and the road.

To coincide with this big event, Yamaha Motor Europe NV also organized a "Yamaha Familiarization Party", at which 110 guests enjoyed an extravagant dinner and show.



▲ All these magazines feature articles about the 48-hour endurance test.

members, the tour visited every Yamaha dealership in the country to exchange ideas about the improvement of future models and discuss the needs of each regional market. At the same time the tour proved the versatility and durability of the motorcycles they rode. What better way to prove the slogan, "Yamaha, it's a better machine!".

Soon after the success of the "Friendship Caravan", Siam Yamaha held another history-making event, which it named the "Yamaha 48-hour Endurance Test".

The test was the result of a joint effort including motorcycle journalists and other related companies to contribute to the development of the sport model motorcycles which are so popular in Thailand, in a way that would best benefit the market. It was decided that an endurance event that would provide concrete mechanical data would be the most beneficial type of test because such information could be directly applied to the improvement of future models.

Before the start of the test, however, many people doubted that the engines could withstand 48 hours of continuous use. Several years earlier Siam Yamaha had held a very successful 24-hour endurance test, but now that time was going to be doubled.

The machines taking part in the test were the same eight models that participated in the "Friendship Caravan". The riders included 8 journalists and 64 Siam Yamaha employees. The test started at 5:00 p.m. on September 26. The 8 journalists were given the privilege of riding the first hour, and then the Siam Yamaha staff took over, riding in turns for the next 47 hours with no speed limit. Changing riders every hour, the engines of the 8 motorcycles were never stopped even when adding fuel or oil.

In spite of the fact that neither the machines nor the riders had been specially prepared for the test, they survived the long hot hours magnificently.

At the end of the 48 hours there was nothing but applause for the valiant riders and their tough Yamaha machines, and the success of their challenge was reported in motorcycle magazines throughout the country.



Hostettler organizes Sardinia tour **SWITZERLAND**

Yamaha's Swiss importer, Hostettler AG, is a company devoted to progressive demand-creating activities such as its "Ténéré Club".

Last year, the company organized a motorcycle tour of the island of Sardinia for its XT, TT and Ténéré customers. Chosen as the site for last year's motorcycle journalists test ride event for the '86 Ténéré, Sardinia has the type of rocky courses that off-road fans love.



Held on two separate dates, a total of 35 participants were able to enjoy five days and four nights of touring in Sardinia. The African-type road surfaces, the typically Italian food and hospitality combined with the geographical convenience, made this tour extremely popular among everyone involved. The tour was even given special coverage in the leading Swiss magazine "Moto Sport Schweiz".

Scheveningen Beach becomes "Yamaha Beach" **HOLLAND**

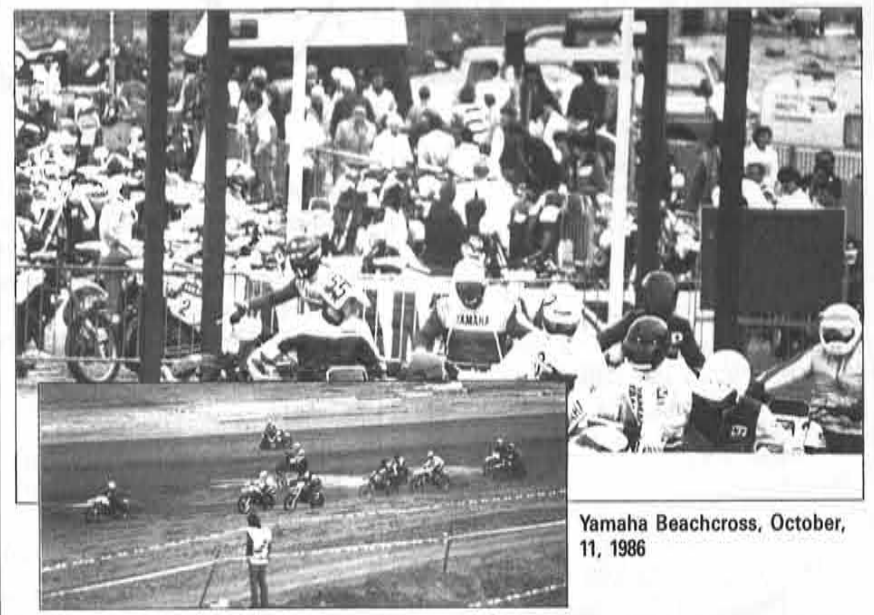
On Saturday October 11, 1986, one day before the Dutch beachcross, the beach of the beautiful city of Scheveningen was the arena for more than 250 Yamaha riders battling for the Yamaha trophies.

Most of the machines were YZ125/250/490s, but there were also XT600 Ténéré and modified HL500, DT125, XT250. etc. This spectacle, already in its sixth holding, is organized by Yamaha Motor Nederland B.V. and supervised by Veronica, a well-known broadcasting station in Holland.

Only Yamaha riders are allowed to participate. So, on that sunny Saturday, a huge Yamaha family gathered to enjoy some exciting races. Also some staffmembers of Yamaha Motor Europe N.V., the so-called "Turtle Team" turned in a good performance.

Three main YM(N)BV-sponsored riders for '87, Eric Stuurman, John van den Berk and Frank Xhofleer were introduced to the public during the awards ceremony.

Yamaha Motor Nederland B.V. has already made an agreement with "Veronica" for next year, and then they plan to also invite riders from other European countries.



Yamaha Beachcross, October, 11, 1986

Highest interest in trends within YMC and overseas markets



Questionnaire gathers opinions from Yamaha Importers and Dealers

Last year marked the twentieth year of publication for our overseas Yamaha News. Over the years Yamaha News has grown and changed along with Yamaha Motor and the motorcycle industry in general, in our attempt to provide our readers around the world, consisting primarily of motorcycle dealers, with the most useful and valuable information possible as dictated by the needs of the times.

For example, in its early years, the role of Yamaha News was to spread the Yamaha brand name and to search out dealers suitable for selling Yamaha products. (from 1966 - early '70s). In the next stage, it became a media for helping to build the importers' and dealers' sales networks and to build a consciousness among them as members of a larger "Yamaha family" (until the end of '70s). Since then we have worked to make Yamaha News a vehicle for the vital exchange of information between YMC and its importers, overseas corporations, dealers and customers around the world that is necessary to survive in the mature motorcycle market of the '80s.

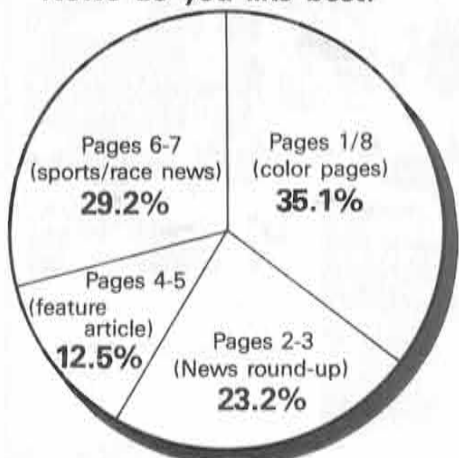
Starting this year Yamaha News has changed its name to **Yamaha Motor News**, and as one step toward making our new **Yamaha Motor News** an even more vital media that answers the needs of the times better than ever before, the PR Division of Yamaha Motor sent out a questionnaire at random to our importers and dealers around the world late last year. We would like to take this chance to thank everyone for the overwhelming response we received from the questionnaire.

Your responses told us how many serious readers of Yamaha News we have and filled us with both gratitude and a deep sense of responsibility; the responsibility to take this valuable information you have given us and use it to make this year's **Yamaha Motor News** a publication of real value for all our readers.

The following is a sample of the type of information we received from this questionnaire that we think will be of interest to our readers, as well.

High interest in trends within YMC and overseas, but also an enjoyment of other topics

Q: Which pages of Yamaha News do you like best?



*Although in general the features pages got a low rating, many people cited some feature articles, like the "Long Seller Story (XT/SR series)", and the feature on robots as being extremely interesting.

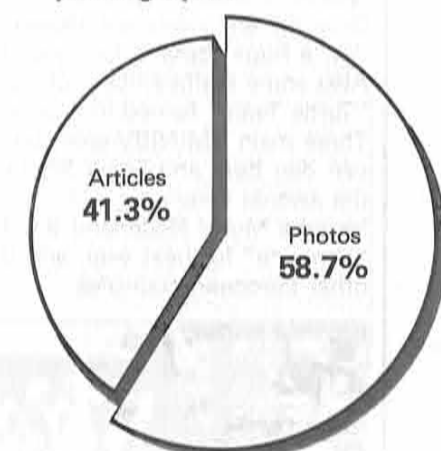
*The sports pages prove to be popular with people everywhere, but we also got responses that suggested these pages be cut because the news was already old by the time it was received.

The articles are easy to read, but "a picture is worth a thousand words"

Q: Is the writing easy to understand?



Q: Which do you prefer, the articles or the photographs?



*Yamaha News is presently published in English, Spanish and French, but we had several requests that it should be published in other languages as well.

*Several importers reported that they used Yamaha News as a base to publish their own corporate newsletters.

Examples
Escorts Ltd.:

"Profitably Yours" (quarterly)
"Escorts News" (monthly)

Young Yamaha:

"Young Yamaha" (periodical)

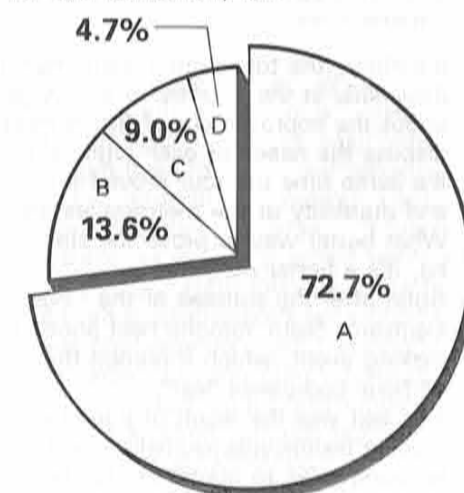
*Even though the vast majority said our articles were easy to read, the fact that more

response favored the photographs over the articles is perhaps an indication that in the dealer's busy day "a picture is worth a thousand words".

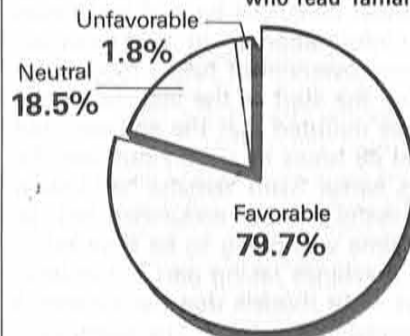
Many dealers have their customers read Yamaha News, too

Q: How do you make use of Yamaha News in your business?

- A. Keep it in our shop for regular customers to read, or distribute it actively among users
- B. Use it as an interior display item (poster, etc.) for our shop
- C. Show it to management and staff to help provide information and motivation
- D. Self education, etc.



Response which dealers got from customers who read Yamaha News.



*When the same question was asked of importers, the answers we got included:

- For example, when Yamaha News contains articles about motorcycle clubs or customer group, we send it to the club or group to let them know Yamaha is interested in their activities.
- When it contains an article about a certain model we send it to our customers who have an interest in that model.
- Use it as a newsletter and communication tool within our own company.
- Use it as a guideline for evaluating our corporate direction and philosophy.
- Use it as a guide in the publication of our own house journal.
- Some articles are used as a news media by own PR agency.

Keep the size as it is

Q: What do you think about the size of Yamaha News?



*Among those who said they did not like the present size, most suggested that the easy-to-handle and easy-to-file A4 size (about half the present size) would be better. But there were even a few requests to make YMN larger than the present size.

Concerning suggestions for the types of subjects our readers would like to see in the future pages of Yamaha Motor News, here are some of the subjects that came up most often:

- Reports on market conditions in Japan and the various overseas markets and countries, plus reports on new motorcycle models
- Articles about Japan and YMC itself (corporate identity, factories, future plans, etc.)
- Reports on all Yamaha products, not just motorcycles

As you can see from the results of this questionnaire, **Yamaha Motor News** is a publication which must appeal to a wide range of people with different needs and interests in different countries around the world. Of course, it is a very difficult task to try to please everyone, but we are determined to work to create a publication that will best serve the needs of the many people who face the same problems and concerns in dealing with Yamaha products, by helping to present a clear corporate identity and facilitating communication between the widespread members of the Yamaha family.

APOLOGY

The feature about the YFP350 Terrapro on page six of our last issue was not correct.

The first sentence reads "Among the many features of the YFP350, the most attractive of all is the oil-pressure driven Power Take Off (PTO) unit". The words "oil-pressure driven" are a mistake and should be deleted from the sentence. We are awfully sorry for this error.

Little rookies of the year YSR50/80

Mini-bikes that ride like the real thing open a new market

When Yamaha set out to develop these new YSR models, its development staff were not interested in making models that just looked like racer replicas. They were determined to build the first 50cc and 80cc motorcycles to give the rider a real taste of the drive and cornering feel of a racing machine.

A large part of the reason behind this design concept can be found in the present composition of the Japanese motorcycle market. In spite of the fact that the Japanese market is presently filled with an endless variety of styles and sizes of motorcycle up to 750cc, nearly 3/4 of the market is made up of 50cc models 2/3 of which are scooters. This means that about half the motorcycles sold in Japan are scooters. The vast majority of these scooters, however, are designed to appeal to the woman who would like the convenience of a small around-town bike but has some reservations about the traditional motorcycle image. Therefore, they bear very little resemblance to today's large-capacity motorcycles. With small 8-inch wheels and an engine placed in the rear to allow for a closed-leg riding position, there is no way that a scooter can provide any of the cornering thrill of a big motorcycle.

In general, big bike riders are ones who have moved up from smaller straddle-seat models, while scooter riders tend to stay with scooters or move up to 4-wheel cars. Therefore, they never get to know the joys of true motorcycle riding. This type of market information led Yamaha to feel that the number of riders moving up to big bikes would gradually decrease if market trends remained as they are. Also Yamaha engineers regretted that the true joy of 2-wheeled machines would gradually be lost from motorcycle designs.

In light of such trends, the YSR was designed to be a miniature that preserved the joys of the ride and operation of real motorcycles. A member of the development staff once commented; "Even if it wasn't much out on the full-scale test course, when we took it to a kart course the YSR proved to be a real bundle of riding fun. We used to take it out and ride it every day on the excuse that we were "testing" it. It was because the designers themselves were enjoying this project so much that probably accounts for the fact that they can now claim with confidence



MP12 racing has grown in tremendous popularity since it started last year. This year will see nearly 300 races organized mainly by Yamaha Sales Companies.

"anyone who rides this bike is going to find it a lot of fun".

Prior advertising brings good results

The first time the YSR50 ever appeared before the public eye was at the first round of the Japanese Road Race Championships last March. Yamaha's works riders T. Taira and H. Kawasaki used it as their paddock bike at this race. When people saw them riding their YSRs finished in the same color scheme as their YZR500s, they couldn't help but stop and take another long look, with an expression that said; "Hey, what's that?" It was a great advertising stunt in anticipation of the YSR's May 10 debut on the Japanese market.

Marketing activities were also well conducted. Taking into consideration the important influence of motorcycle magazines on user opinion, a unique type of press meeting was held for the introduction of the YSR. In order to give journalists a better opportunity to get to know the YSR, after the usual test ride session, a special race between journalist of the different magazines was held. This 90 minute endurance race was really a great fun, and the magazine articles that resulted expressed the journalists excitement over this unique new bike in phrases like; "Great fun", "Exciting", "You enjoy a real racing feel without the worries of a big bike", "Here is cornering you can really skin your knees with!", "The design and coloring are fantastic", etc.

Top-class riders use YSR machines as their paddock bikes. This is one of the most effective PR activities. Randy Mamola (top) and Tadahiko Taira (bottom).



to heighten its racy feel, the YSR originally appeared in two color variations, the Yamaha works red and white and the Gauloises blue. The popularity of these designs led to the addition of two more variations; the TECH 21 violet-grey and the Marlboro red, white and yellow. These color schemes are another factor contributing to the YSR's popularity.

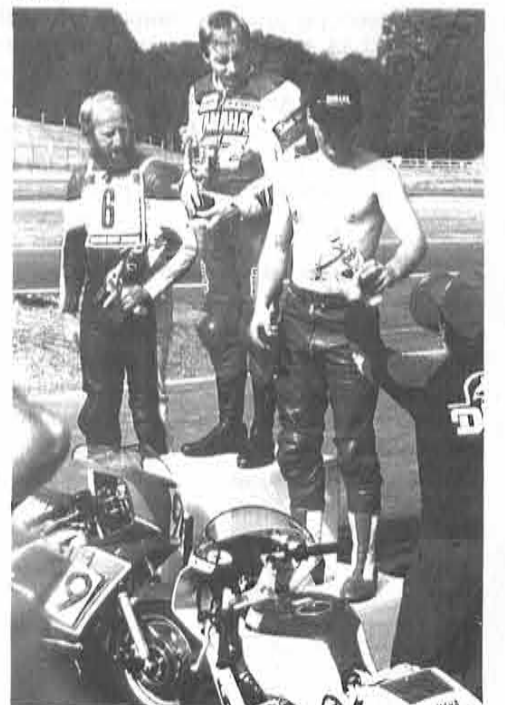
Even more interesting than endurance

European dealers visiting Japan last November were also given a chance to test ride and race the YSR at the Tsumagoi kart track. In qualifying rounds eight finalists (two each from Norway, Switzerland, Sweden and Austria) were chosen from among about 80 participants. The 10-lap race was full of excitement for both the riders and the spectators cheering them on. The awards ceremony that followed took on an Olympic mood as the winners broke into a spontaneous rendition of their national anthem.

Then again in December "YSR fever" traveled to Europe when an "International YSR50 mini-bike race" was held for journalists at the Paul Ricard Circuit in France. The winner of the race, Mat Oxley of Motor Cycle News (GB), made the comment as follows;

"This is more fun than endurance racing any day!"

"YSR fever" is sure to spread faster than ever.



From left; Mr. C. Jordi (Switzerland), Mr. B. Heggen (Norway) and Mr. Tomas Eriksson (Sweden).

Organizing a race series

A bike so fun to ride that even the development staff couldn't keep from playing with it was bound to be a hit among the users as well.

Convinced that the YSR was going to be a popular model soon after they began to develop it, the marketing team started planning a race series for the YSR to participate in long before it was completed. Then, in June of last year, a new "MP-12" (Mini-Production 12-inch) class race series was started in accordance with the regulations of the Motorcycling Federation of Japan.

The series included an S50 (50cc) Endurance class, a Ladies S50 (50cc) class and an S80 (80cc) class in which the YSR80 released in last September could participate.

The appeal of the YSR included not only performance but styling, as well. In order



5-valve engine

This is one of the most significant developments Yamaha has ever achieved in the field of 4-stroke engine technology. In designing a high performance, low fuel consumption 4-stroke engine Yamaha has given specific importance to the best ideal development of performance potential that the engine has in itself. While striving to improve the intake efficiency, Yamaha has pursued a new combustion chamber design with the optimum combustion efficiency in mind. These efforts have resulted in a technological goal of designing a multi-valve type engine, eventually a 5-valve engine that is sure to satisfy the above high performance and high fuel efficiency factors.

Characteristics of a multi-valve type engine

In general, in designing a high performance, low fuel consumption 4-stroke engine the following three factors must be met:

1. Larger air intake
2. Higher combustion efficiency
3. Less power loss

In a conventional 4-valve engine an increase in the amount of air intake is obtained only when the size of each valve is increased. But there is a limit to an increase in valve size as too large a valve inevitably results in a flat combustion chamber configuration, causing a decrease in combustion efficiency. Therefore, even one of the above three factors is not easy to handle. In order to avoid such 4-valve type engine problems, Yamaha adopted the development of a multi-valve type engine that would most likely satisfy these factors. But after repeated testing a 6-valve design (3 intake and 3 exhaust valves) was rejected for the following reasons:

- 1) A 6-valve combustion chamber is less effective than a 5-valve combustion chamber, and each intake valve size is smaller than that in a 5-valve design.
- 2) The exhaust valve (center) is easily affected by heat. A 7-valve design was also turned down as it was hard to mass produce due

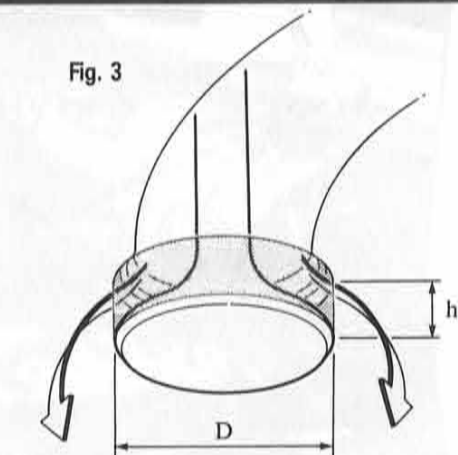


Fig. 3

The adoption of 3 intake valves has increased effective valve area, S , for larger air intake.

$$S = \pi D (\text{valve circumference}) \times h (\text{lift}).$$

to its too complex a mechanism, in addition to the above reasons. What is more, a couple of exhaust valves were found practical enough.

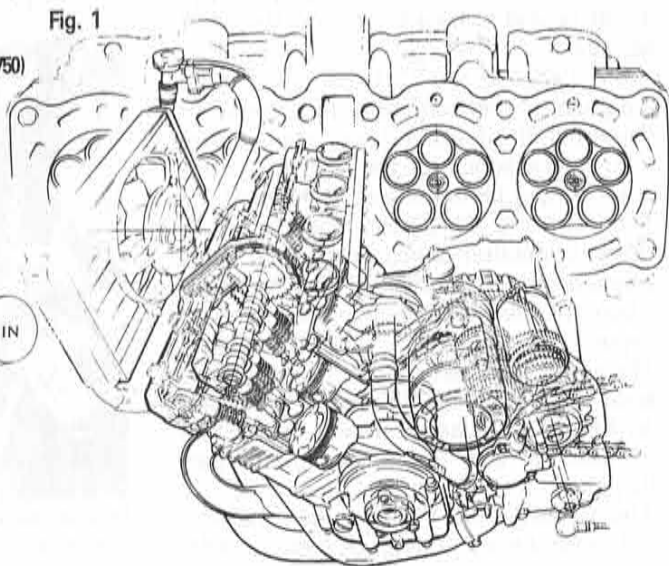
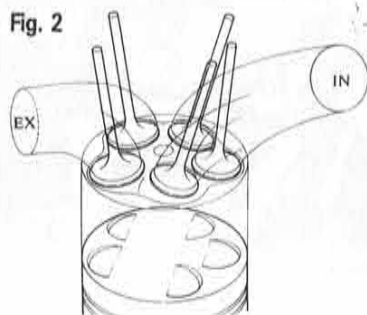
In the meantime, a 5-valve design featured the following advantages:

1. Increased effective valve area due to the adoption of 3 intake valves (Larger air intake).
2. A high compression ratio resulting from a compact combustion chamber. (Higher combustion efficiency)

Fig. 1

Fig. 1 Engine cutaway-view (FZ750)

Fig. 2 Each cylinder features 3 intake and 2 exhaust valves. These valves are neatly arranged to make up an extra-compact new combustion chamber.



M. Dawson and K. Magee rode the 5-valve engine powered FZ750 in the '86 Suzuka 8-hour endurance race. They left a number of works machine trailing behind and finished a brilliant second.



While the 5-valve engine proves itself to be superior in motorcycle racing, it shows off its tremendous performance potential in car racing as well.

Fig. 4

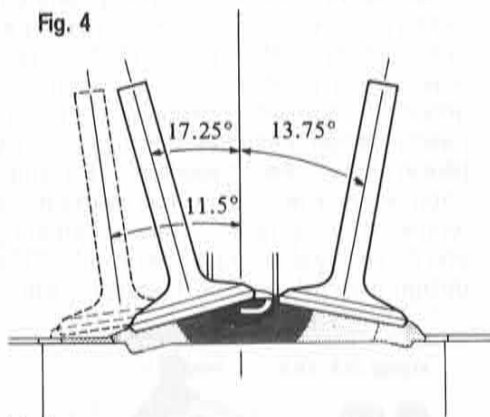


Fig. 4 Valve angle is kept to a minimum and 5 valves are neatly arranged within cylinder bore, thus helping to make the combustion chamber configuration as compact as possible with almost flat piston head and a high compression ratio.

The result is higher overall combustion efficiency. Valve angle is a crucial factor in the design of a combustion chamber.

Intake 17.25° (11.5° center valve) and exhaust 13.75° have been obtained after extra-minute adjustments. (Angles shown in this fig. are those for the FZ750)

3. Reduction in each valve weight (Less power loss)

The combined effect of these exclusive advantages has given this design superior qualities that satisfy the above high performance and high fuel efficiency factors. Although a 4-valve design proves effective when it is adopted in an up-to 100cc cylinder, in the case of 750cc or 1000cc class machines, a 5-valve design ensures 5% better fuel efficiency plus 10% higher power output than a 4-valve design.

Tremendous race performance

Yamaha became the first manufacturer to mass produce 5-valve type engines and the 1985 forward-inclined in-line four FZ750 was the first production model to feature the 5-valve system using a DOHC mechanism.

The newly introduced FZR series models also employ this system. These 5-valve engine powered models are becoming the most successful machines in a number of big endurance races, thus giving substance to the excellence of Yamaha's 4-stroke engine technology.

Even in F2 car racing G. Lees drove the 5-valve engine powered OX66 (V6) to the '86 Fuji GC Championship victory.

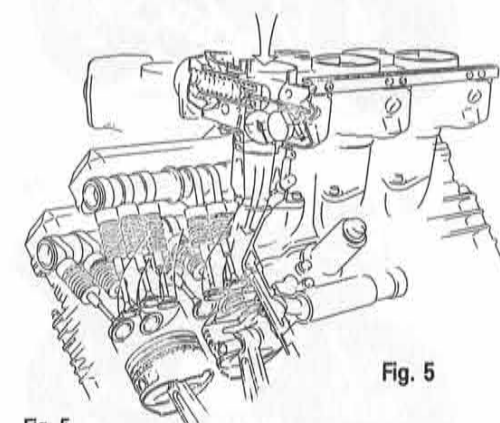


Fig. 5 20 valves on 4 cylinder heads are directly driven by the camshafts via the direct lifter. The function of these valves is excellently reliable and positive in the entire speed range. This helps to ensure stable engine performance.

Australian FM Challenge Series

Yamaha FZR1000

A sweeping victory in its world debut

Coming out as Yamaha's top-of-the-line Genesis model for '87, the FZR1000 showed its tremendous performance potential by outclassing the competition in its debut race, the first round of the FM Challenge Series, run in conjunction with the Swann Insurance 1986 International Motorcycle Series on the Surfers Paradise International Raceway in Queensland, Australia on November 23 last year. The race was run in two 8-lap legs in excellent weather conditions, before large crowds of Australian race fans. In these legs the FZR1000 was ridden by Michael Dowson of the Marlboro Yamaha Dealer Team. He won both of the legs brilliantly creating a hot sensation in FZR1000's world debut. Another highlight was provided when Dowson rode the FZR1000 in the first round of the Swann Series. This race was also run in two 12-lap legs. Although the race developed into a two-man battle between Rob McElnea and Kevin Magee, both aboard Yamaha YZR500 racers, the FZR1000



proved to be a good match for works machines. In each leg Dawson finished a brilliant fourth, demonstrating the FZR1000's high, reliable performance once again. Dowson-mounted FZR1000 repeated its success by winning the se-

cond round of the FM Challenge Series in an even more convincing manner. (Nov. 30, Oran Park Circuit)

RACE RESULTS
Round 1, FM Challenge Series — November 23 — Surfers Paradise

- Leg 1 (8 laps)**
1. M. Dowson Yamaha FZR1000
 2. P. Feeny Kawasaki GPX750
 3. G. Hodgson Suzuki GSXR750
 4. R. Haze Kawasaki GPX750

- Leg 2 (8 laps)**
1. M. Dowson Yamaha FZR1000
 2. P. Feeny Kawasaki GPX750
 3. R. Haze Kawasaki GPX750
 4. G. Hodgson Suzuki GSXR750

Round 1, Swann International Series — November 23 — Surfers Paradise

- Leg 1 (12 laps)**
1. R. McElnea Yamaha YZR500
 2. K. Magee Yamaha YZR500
 3. D. Osbourne Honda RS500
 4. M. Dowson Yamaha FZR1000
 5. S. Buckmaster Honda NS500

- Leg 2 (12 laps)**
1. R. McElnea Yamaha YZR500
 2. K. Magee Yamaha YZR500
 3. D. Osbourne Honda RS500
 4. M. Dowson Yamaha FZR1000
 5. S. Buckmaster Honda NS500

Round 2, FM Challenge Series — November 30 — Oran Park

- Leg 1 (10 laps)**
1. M. Dowson Yamaha FZR1000
 2. R. Holden Suzuki GSXR750
 3. D. Luthji Yamaha FZ750
 4. T. Manley Suzuki GSXR750
 5. G. Hodgson Suzuki GSXR750

- Leg 2 (10 laps)**
1. M. Dowson Yamaha FZR1000
 2. R. Holden Suzuki GSXR750
 3. D. Luthji Yamaha FZ750
 4. T. Manley Suzuki GSXR750
 5. G. Hodgson Suzuki GSXR750

Yamaha continues dominance in Sri Lanka



Sri Lanka's racing star, Nihal Perera wins the 250cc 350cc, 500cc and open classes.

In the curtain closer for the 1986 season in Sri Lanka, held at the Katukurunda racing circuit on October 19, 1986, Yamaha once again proved its superiority by winning all the major motorcycle races that day.

It was once again local racing star Nihal Perera astride his legendary Yamaha TD2 with a TZ250 engine (he was introduced in our No.4, 1986 issue as the "Prince of two wheels") who stole all the honours with yet another superb exhibition of motorcycle racing.

He completely outshone his rivals by winning the 250cc, 350cc 500cc and unlimited road racing classes.

He also emerged as victor in the "Standard Modified Motorcycle Unlimited" event on a 1981 Yamaha RZ350 model.

In the 125cc motorcycle road racing event young Mahen Chanmugam on a TZ125, rode admirably to claim 3rd place despite his rear brake failing just after the start.

Yamaha wins at Lake Havasu World Outboard Championship



Piloting his Yamaha-powered tunnel boat with the coveted "US-1" number, Brian Daley of Diamond Bar, California, USA won his first victory at the 22nd Annual Lake Havasu Classic Outboard World Championship in Arizona on November 29, 1986. His victory also marked the first major U.S. title ever taken by a Yamaha-powered raceboat since Yamahas were granted official sanction two years ago. This feat was especially significant because Daley's boat was the only one in its category using Yamaha outboard motor.

New superbike champ in Germany



Riding a Yamaha FZ750 supported by Mitsui Maschinen GmbH of West Germany, Michael Galinski captured his country's '86 Superbike Championship title in the last race of the series after a close, season-long battle with the factory prepared GSXR750's of Suzuki Germany.

Galinski made his debut in national level racing in 1981 in a race in Gie-

belstadt, taking second place. In 1982 he participated in the Yamaha RD Cup races in which he finished fourth overall.

In that same year he also took part in his first international endurance race, an 8-hour event at Nürburgring.

He made his national Superbike debut in 1983, finishing the year in fourth place. Consistently a top finisher, he took 5th place in '84 and 3rd in '85 before finally making his successful run at the championship last season.

- Final results**
1. Michael Galinski 83 points (Yamaha)
 2. Ernst Gschender 81 points (Suzuki)
 3. Peter Rubatto 68 points (HG-Suzuki)



YAMAHA OSAKA CUP

Race Topics

Sailing for Melbourne from Guam

—Another Yamaha Team—



In the mid-December of last year, with the application deadline of entry coming soon, one more Japanese team gave its name as a contestant using the Yamaha-R34 (Tsubakuro).

The Yamaha is crewed by two Japanese yachtsmen from Tokyo; Mr. Munetaka Komura (40 years old) and Mr. Toshihisa

Okada (42 years old), both of whom rank among Japan's most experienced ocean race specialists.

They are now on the way to the starting point of YOC, Melbourne from Guam where they finished 3rd in the 3rd Japan-Guam Race.

FINAL NUMBER OF ENTRIES

Total: 90 vessels, 10 nations (as of December 31, 1986)
Breakdown by Nation: Australia: 38, Japan: 23, New Zealand: 11, United States: 5, France: 5, United Kingdom: 3, Canada: 2, West Germany: 1, Denmark: 1, Holland: 1.

OUTLINE OF RACE

Starting date: Saturday, March 21, 1987
Course: Port of Melbourne — Port of Osaka (Melbourne is a sister city and a sister port of Osaka)
Distance: Approximately 10,200km or 5,500 nautical miles
Duration: About 40 to 60 days
Type: Crewed by two persons
Prize: All prizes shall be awarded on the basis of elapsed time. A prize will be awarded to the first yacht to finish regardless of division or class. Prizes will also be awarded to the

first, second and third yachts in the cruising division and the two classes of the racing division. All yachts finishing will be awarded a memento.

Organization
Planner: City of Osaka
Organizer: Nippon Ocean Racing Club with the cooperation of Sandringham Yacht Club (Australia)
Sponsor: Yamaha Motor Co., Ltd.
Cooperating bodies: Port of Melbourne Authority (Australia) City of Melbourne (Australia) Slocum Society (U.S.A.) Osaka Port Promotion Association (Japan)



YOC PR posters

**YAMAHA
NEW PRODUCTS**

A sounder, more popular race-oriented model

The new **FZR250**

On December 10 of last year, YMC introduced its newest race-oriented 4-cycle quarter, the FZR250 for the Japanese market.

Since 1985, multi-cylinder 4-cycle 250cc sports models have become very big sellers. In the 2-cycle sports field, Yamaha has added to its famous "RZ" series the exciting TZR250 to make its Yamaha 2-cycle image stronger than ever, and now, Yamaha has set about to do the same with its 4-cycle image by the introduction of its strong new contender in the extremely popular multi-cylinder 4-cycle market, the all new FZR250.

In the past, race-oriented sports models were thought to be too sophisticated for the average rider to enjoy, but with the changed mood of the times and technological advances that have led to easier-to-ride machines, today they are no longer considered to be bikes for a restricted group of devotees. And, Yamaha's new "Genesis" design concept, which strives to combine easy handling with high performance, is steadily creating a spot in the marketplace for the race-oriented sports model as a standard category.

The new FZR250 is the latest addition to the line of high-performance race-oriented 4-cycle machines that began with the FZR400 introduced last May and the fabulous FZR1000 which created such a sensation at the '86 IFMA show in Cologne, Germany last Sep-



tember. Its features include a 4-cylinder, DOHC 4-valve high speed type engine with a red zone that begins at 17,000rpm, a 400cc class size large body that is still, extremely lightweight with a low seat height and easy to handle layout, racer-type full fairing and color scheme. Other touches like a fresh air intake (F.A.I.) system for high power output and a digital ignition-timing advance system make this the model to beat in terms of advanced design and tech-

nology. Summarized below are the responses from Japanese journalists who test-rode this model: "It has really a racy styling. In fact, in the high speed range it runs as fast as the 2-stroke TZR250. What is more, its low-and-midrange torque is found ideal for stable, comfortable street riding. In a word, it features the combination of exciting high-speed performance and mild street manners. That's a bonus even for a female rider."

**A new design with
the feel of speed**



Y-25 "My Lady"

Yamaha Sailing Cruiser

In the field of marine sports, an all new sailing cruiser model, Y-25 "My Lady", was released this January on the Japanese market. The new Y-25 comes in three variations; the O/B (Outboard), I/B (Inboard) and I/B-S (Inboard Special).

The cabin features a revolutionary new layout that gives unprecedented width headroom, and comfort for a 25-foot cruiser.

Such features as an easy to control 93% fractional rig made possible by a unique mast head ring, and super-light construction achieved through the adoption of the racer-proved elliptical keel, give this cruiser outstanding sailing performance. This is a model with the capability of a top club racer.

SPECIFICATIONS

Length overall	7.49m
Breadth	2.74m
Draft	1.50m
Sail area	24.56m ²
Auxiliary engine power	8ps

"Fishing China '86"



Guangzhou was the site of the "Fishing China '86" trade show held last November 13-18. Although the show was not open to the general public, it still drew over 10,000 representatives involved in fishery and marine industries from all over China. The Yamaha display of six outboard motor models was one which attracted a big share of the visitors' attention to the show.



An adjustable, cleanable helmet

(For the Japanese market only)

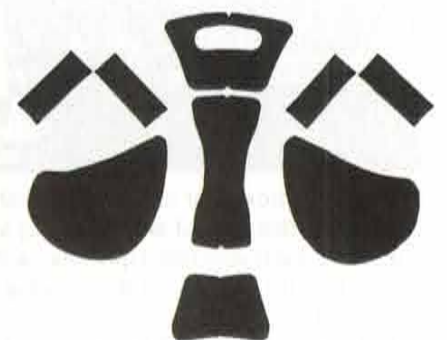


Since July of last year, Japanese law has required that all motorcycle riders wear helmets. To coincide with the implementation of this law, Yamaha developed a new, more comfortable type of motorcycle helmet. Recently, following the earlier introduced jet open shield type cleanable DE helmet, the second of this series of new-helmets, the Yamaha FE-X was released on the Japanese market on January 20 of this year.

The new-full-face type FE-X helmet was designed to achieve the ultimate in com-

fort and function. The new design features removable inside pads that allow for easy washing, and special adjustment pads that can be inserted beneath the inside padding to enable the rider to fit the helmet exactly to his individual head shape.

The pads also feature a special sweat absorbent material for effective humidity evaporation that combines with the direct ventilation design to provide outstanding comfort by preventing the build-up of heat and humidity inside the helmet.



Specially designed inside padding parts