

A Monthly Journal for Yamaha World-Wide Dealers



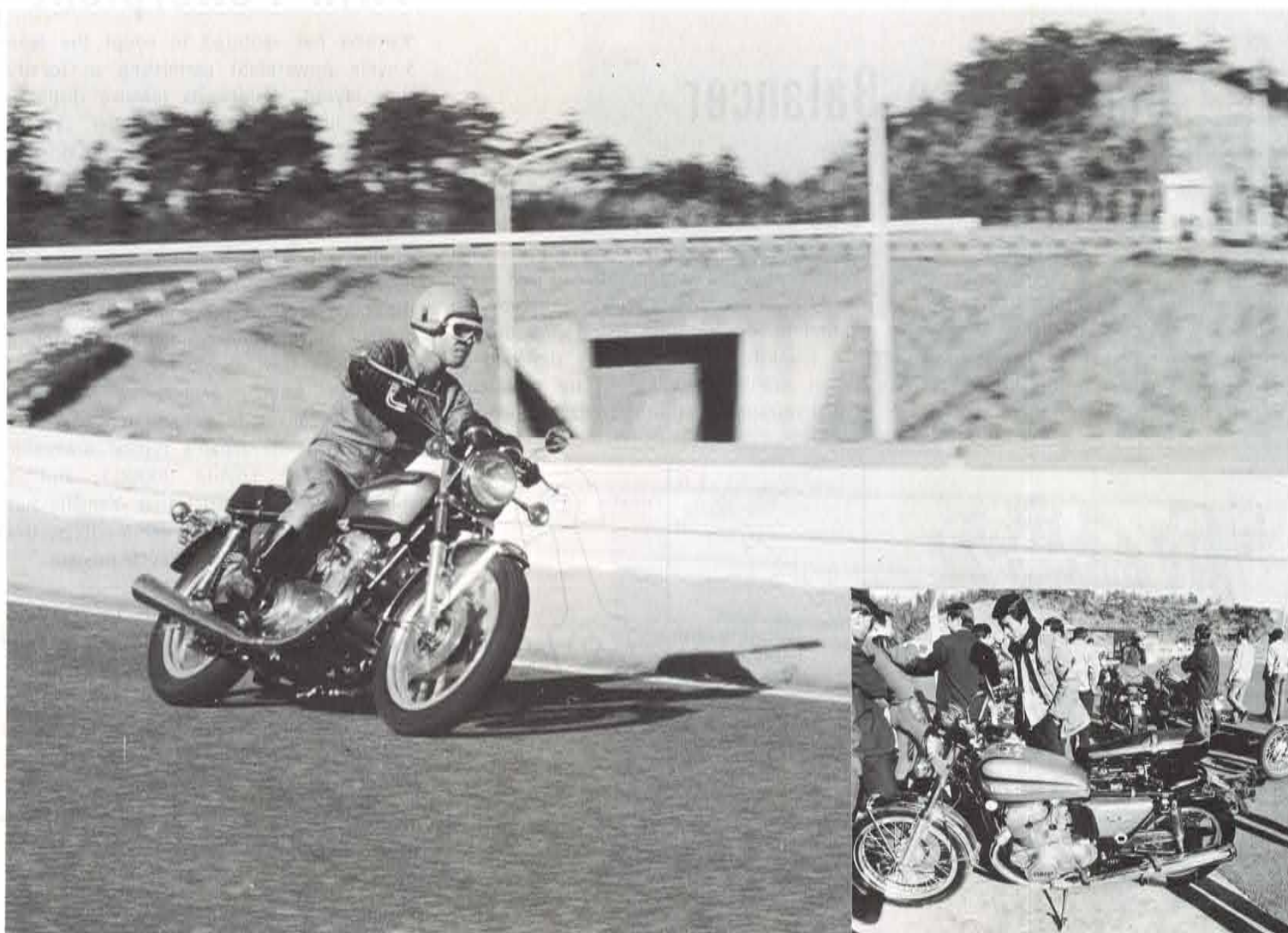
YAMAHA NEWS

1972
October

YAMAHA TX 750

New Model

Big 4-Cycle Twin Marketed



Yamaha's long-awaited Big Twin 4-Cycle TX 750 is now marketed to join the front of superbikes on the international market. Yamaha has captured the best chance to introduce this exciting newcomer at the time when world-wide enthusiasm for heavyweight bikes is fast getting ripe. Yamaha has already long established unrivaled fame in the field of 2-cycle engineering, and

very successful launching onto the 4-cycle field has been also thoroughly backed by Yamaha's long accumulated technological attainments.

Yamaha TX 750 has been developed and engineered with the ultimate in performance and quality alike in mind, thereby to arouse fresh sensation among big bike fans in the world.

Noteworthy Technical Features

Power plus Handrability

In constant pursuit of every conceivable possibility for improving motorcycles, Yamaha technical staff have introduced their latest fruits, 4-cycle twin OHC air-cooled TX 750. It is a sensational superbike first ever built by Yamaha to claim its own share on the international market. It attracts particular attention that development focus has consistently been on 'More Power plus More Handrability'. The displacement of 750cc naturally means powerful exciting output, but Yamaha TX 750 features one more noteworthy advantage—outstanding handrability. 'Powerful superbike easy to handle' tells everything of this model.



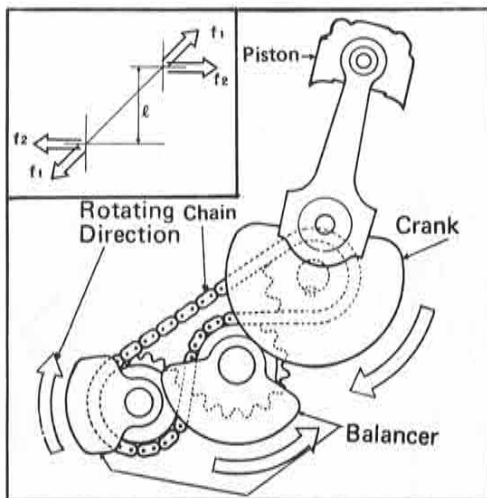
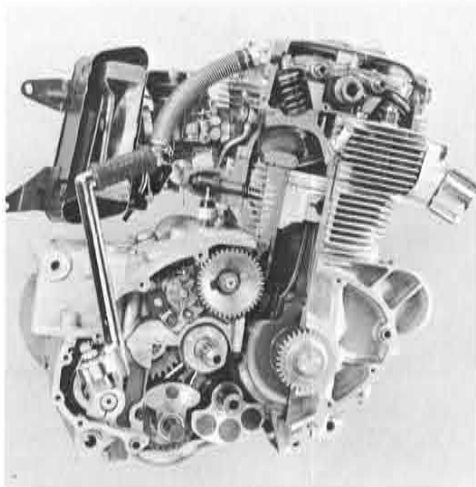
Slim 4-Cycle Twin Powerplant

Yamaha has ventured to adopt the twin 4-cycle powerplant permitting an ideally slim layout despite its massive displacement, instead of multi-cylinder layout, namely, 3-cylinder or 4-cylinder as is usual with most of heavyweight models. The largest merits of 4-cycle multi-cylinder engine are smoother revolution, and less running vibration. Yamaha technical staff have been self-confident enough to attain the same level in these advantages as the 4-cycle multi-cylinder engine in adopting the 4-cycle twin engine for its 750cc TX. Yamaha's 4-cycle engineering has once proven excellent in conjunction with the development of Japan's typical 4-wheeler racing model Toyota 2000GT, and it should not be unusual that Yamaha has succeeded in developing such a noteworthy 4-cycle heavyweight motorcycle model.

Omni-Phase Balancer

The secret of the said excellent quietitude and smooth running is the newly developed 'Omni-Phase Balancer'. It is an entirely-new vibration-reducing device which has completely changed a conventional concept that vibration by a running 4-cycle twin big engine can not be controllable. Of all technical features incorporated in Yamaha's new big twin, this device positively attracts the greatest interest.

This device works as follows: Balancers, large and small, which are located at the bottom part of engine, are driven by chain for rotating motion. Each balancer has the same number of gear teeth as the crankshaft sprocket, thereby to complete each rotation at the same time as the crankshaft. Balancers are designed to offset crankshaft vibration by producing equal vibrations opposing to each other.



Efficient Counterbalancing

As shown in a diagram, both balancers are designed to rotate in opposite directions to each other. The two f_1 moments thrust in a line but in opposing directions, thus, counterbalancing each other. On the other hand, however, the two f_2 s are not on the

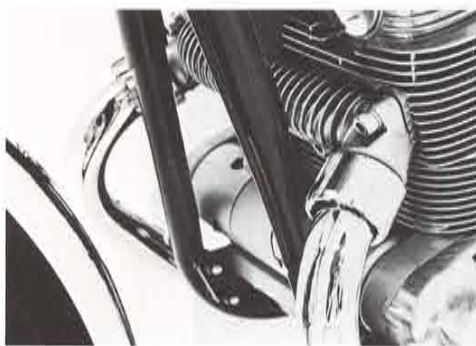
same line, thus failing to achieve complete counterbalance, though resisting each other. A couple of forces ($f_2 \times l$) is generated between the crankshaft and the balancer shaft. In this case, the small balancer works to remove it.

SPECIFICATIONS OF TX750

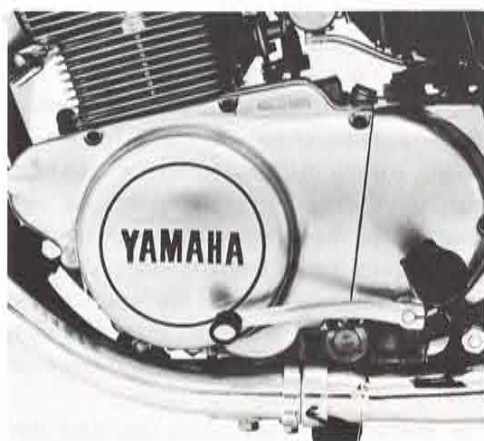
PERFORMANCE	
Max. speed range	195km/h plus
Climing ability	0.48
Min. turning radius	2,400mm
Min. braking distance.....	14m @ 50km/h
ENGINE	
Type.....	4-stroke, SOHC, Parallel Twin
Displacement.....	743cc
Bore & Stroke.....	80 x 74mm
Compression ratio.....	8.4 : 1
Max. horsepower.....	63hp @ 7,500rpm
Max. torque.....	7.0kg-m @ 6,000rpm
Lubrication system	Forced dry sump
Starting system	Primary kick starter & Electric starter
Transmission	5-speed gearbox
DIMENSIONS	
Overall length.....	2,205mm
Overall width	910mm
Overall height.....	1,165mm
Wheelbase.....	1,455mm
Min. ground clearance.....	160mm
WEIGHT (Net).....	210kg
FUEL TANK CAPACITY.....	19 lit
OIL TANK CAPACITY	2.8 lit
TIRES front.....	3.50-19-4PR
rear.....	4.00-18-4PR

Well Considered Anti-Pollution

Yamaha TX 750 is mounted with the slightly leaning-forward twin engine. The valve seat made of special light alloy can accept low-lead gasoline with no adverse effects, thereby checking air-pollution to a minimum. The crankshaft is made of precisely engineered aluminum for improved durability while running at high speeds. Both exhaust ports are connected with each other in order to ensure higher exhaust efficiency and less exhaust noise.



Impressive Performance



Max. power is attained at 63hp/6,500rpm, and max torque at 7.0kg-m/6,000rpm, reflecting impressive handrability peculiar to this model. Performance proves amazingly steadfast at speed range from low to medium, while S.S 1/4 mile can be covered within 12.3 sec. Top speed is hit at 195km/h or more through the constant-mesh 5-speed transmission. The massive powerplant is securely supported by the rugged full double-cradle type frame which has been straight developed from that of the world-invincible Yamaha production racer.

Favorable Public Reaction

Prior to its market debut in Japan, every detail of this largest displacement Yamaha was made open to the public at spot shows held by Yamaha throughout the country. Public reaction to this model turned out to be much more favorable than had been anticipated. Spot shows were held at parks,

drive-ins, parking areas, public halls, school grounds, shrine precincts, etc., but regardless of places, lots of fans gathered together to come in direct touch with Yamaha TX 750 which was expected to offer something new and exciting for the action-loving and speed-thirsty youth.



Dry Sump Lubrication

A separate pressure pump is employed to feed the engine with oil through an oil pipe. The oil returns to the sump installed on the crankcase bottom after every part of engine has been lubricated. By repeating this action, no oil is allowed to stay in the sump. The merits of this system are that no large space is needed for the sump, and overall engine layout can be made compact, while a larger quantity of oil can be used for higher cooling efficiency.

Higher Safety

The braking system proves very efficient and powerful. The front hydraulic disc and rear 200mm drum brakes guarantee outstanding safety for high speed cruising at any times. The headlight has a 170mm lens, and the 40w/50w sealed-beam lamp incorporates a 5w parking light. The lamp features the reserve lighting system to automatically and instantly change brightness to low when high beam fails to work, and vice versa. In case only high beam is used, brightness is automatically reduced to prevent oncoming vehicle drivers from dazzling.

The flasher lamp has a number of fish-eye lenses arranged in radial directions for the sake of effective diffused reflection. The large-size taillamp illuminated even when the front brake is being employed, thus ensuring high safety for a rider against following vehicles.

The separate panel type meters are mounted at an ideal angle so that a rider may effortlessly take every reading. All switches are easy to operate.



“One of the Most Noteworthy Big Twins” Says an Expert Journalist

Road Impression



Vibration-free Engine

Of all technical characteristics, Yamaha-developed vibration-free mechanism attracts my greatest interest. It has been a conventional concept that any big twin can not be free from vibration. However, Yamaha has proven it wrong by introducing its TX 750 featuring excellent quietitude and smooth running, while retaining the compact 4-cycle twin layout. Unique vibration counterbalancing mechanism called 'Omni-Phase Balancer' largely accounts for these outstanding merits. Running quietitude made me feel as if I had been riding a 4-cycle multi-cylinder superbike.

Soft Feeling

Sitting astride the biggest Yamaha, I felt this model unusually soft despite its exciting and massive cylinder displacement. Start in low was smooth with no knocking nor wheel spin. Engine performance proved steadfast and flat, permitting smooth and quick acceleration at every speed range slightly exceeding 2,000rpm. The test

model hit 80km/h in low gear with no adverse effects felt. Handling was light and nimble, enabling me to maneuver this heavyweight model at my will. Both shock absorption units worked efficiently to ensure maximum riding comfort.

Delightful Driving Performance

The first impression after the vehicle gets under way is the refreshing way in which it can be handled. There is hardly any feeling of unsteadiness or heaviness at extreme low speed. At middle low speed, it responds sharply to quick turns and gives easy and comfortable maneuverability equal to that of a medium-weight model when it comes to bringing the machine to the exact point desired. There was absolutely no feeling that the vehicle I was swinging around weighed 230 kg.

The entire suspension is soft and gives the comfortable feeling suggestive of a real touring model. For this reason, a side sway could be felt when cornering at high speed, although the amount was extremely small. The straight ahead stability when running at over 180 km/h in fully flat style was excellent with good seating performance.

Safety and Anti-Pollution Measures

The heavy weight models in general have features that make them unsuited for riding inside cities and also give the impression of having been made solely for touring purpose. But on viewing the features of this TX750, there are hardly any that could be taken as making this model unsuited for city riding. The exhaust noise in particular is soft and gives the impression of quietitude. A good feeling is created by not having a show off point that distinguishes the heavyweight class. In addition to this prevention of noise, the valve seat made of special alloy can accept low-lead gasoline for much less air-pollution.

As this is the latest 750-cc model ever developed, it would not be strange to see many new designs incorporated in it. But with the

adoption of electronic mechanisms, the impression is that this model fully features up-to-date mechanical advantages.

These new improvements include not only those solely for running purposes, but also for safety purposes.



Powerful Braking

The front disc brake was basically the same as that of 650 XS2. It displayed powerful and reliable function at any requirement during test. The rear large-dia. drum brake also sharply worked to bring this massive model to smooth standstill.

Generally speaking, heavyweight bikes are just intended for high speed cruising over a long distance, but, on the other hand, a number of Yamaha's technical refinements represented by quiet and pleasant exhaust sound make this model a good tourer through urban traffic as well as an exciting runner on highways.

As my conclusion, I can say with confidence that Yamaha TX 750 is one of the most noteworthy big twin bikes ever appeared on the market.

Home of Motorcycles

It was in Europe about one century ago that revolutionary 2-wheel motorized vehicles, namely, motorcycles were born just to meet the trend of booming motorization in those days. So many powerful makers, so many impressive brands have left their imperishable footmarks in the history of world motorcycle industry. Without referring to those great pioneers, we can never speak of the history of world motorcycle industry. It is true that

business expansion by Japanese makers to Europe has been powerful enough to change the substantial setup of market in this part of the world, recently, especially, since the Mid-Sixty. It is, however, also true that a lot of famous time-honored brands are still securing their exclusive or individual markets throughout this 'Mecca of Motorcycles', despite consistent efforts exerted by Japanese makers for more market share.



*Front view of Elite Motors, British Importer (left)
Massive array of motorcycles of various brands
(below)*



More Sophisticated, More Versatile Efforts Needed ; All Dealing People of Yamaha Are Keen to Promote Sales throughout Europe

Yamaha is gradually and steadily expanding the market of motorcycles in this part of the world where more sophisticated or more versatile efforts are needed in close cooperation with Yamaha distributors and dealers who are without exception keen to promote sales in their respective territories in such a way as just fits actual conditions peculiar to their individual countries.

Yamaha Motor N.V., Yamaha's European headquarters located in Amsterdam, Holland, is taking a very important role in every aspect of Yamaha's business activities in Europe.



More Attractive Layout

Here introduced are just a few examples of how Yamaha dealing people try to attract more customers to their shops, but it is strongly felt that all of them are putting greater efforts in making their shops, both inside and outside, more attractive and impressive for more visual effects. Really, first impression or just a glance by

customers over shop layout must not be made light of. For it must have much to do with eventual success of over-the-counter business in most of cases.

Besides, they are also attaching greater importance to the improvement of after-service system.

High Sensed Black-Yellow Inside Shop



Hahne Automobile which is located at the center of Dusseldorf, West Germany, features black finished walls facing the street. Inside walls are finished in yellow overall. High-sensed black-yellow combination is pleasing to see, and noticeably improved Yamaha motorcycles in image.

1. The yellow finished inside of showroom. Black finished pentagon type accessory racks are in excellent harmony with walls.
2. Overall black finished walls are felt refreshing against sparkling Yamaha models.



Wesda Technik & Freizeit within 30-minute driving from Dusseldorf, has a big showroom, which may be called an exhibition hall more accurately. The hall covering a total floor area of some 700 square meters, provides a massive array of motorcycles.

3. Outside view of motorcycle hall. Simple design appreciably elevates motorcycles in image.
4. Yamaha motorcycles occupy considerably large portion of floor.



Spacious Exhibition Hall



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Popular Race-Kitted Model

J.O.H. VD Wal is located in a country town within 40-minute driving from Amsterdam. Mr. Wal is one of the famous riders in this country, and the race-kitted 650 XS1 which he rode in the 24-hour endurance race, is exhibited in the front of shop to attract particular attention from younger race fans who expect to be racing riders in the future.

1. Mr. and Mrs. Wal
2. Front view of Wal's shop
3. Big tank-equipped 650 XS1 which took major placing in the 24-hour endurance race.



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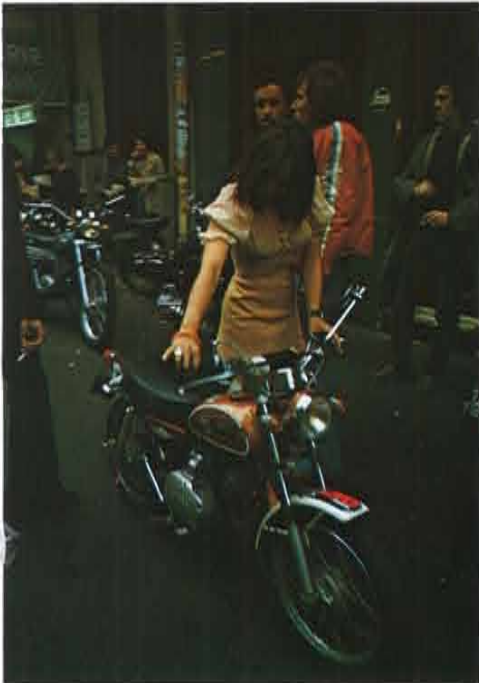


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Special Effects



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Sourier located at the center of Paris successfully produces special effects upon the mood of inside showroom by spotlighting models exhibited against overall black finished inside walls. Pleasing notes of light music also draw young customers' interest. Mr. Sourier is specially keen to sponsor motorcycling activities such as touring, trial, etc., in order to more consolidate the link with customers.



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4. The Yamaha Mini proves suitable for a lady rider.
5. Yamaha trail models are exhibited over the main floor.
6. Shop front is finished in bright green.
7. Mr. Sourier (right) and manager.



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Extensive Range of Leisure Commodities

Gunn Hegner in Oslo, Norway is handling very extensive range of leisure commodities including motorcycles, outboard motors and motor boats, acting as distributors for Yamaha in this country. They have a powerful dealer network consisting of some 150 affiliated dealers.

1. Yamaha motorcycles are the mainstay of business.
2. Impressively arranged Yamaha accessory corner
3. Front view of main office



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Outboard Motors Getting More Popular, Too

Lightweight Yamaha outboard motors are also steadily expanding their market in Europe for high reliable performance plus outstanding economy. In this part of the world Yamaha models are mainly intended for leisure or sporty use.

2. Yamaha brand is fast becoming more popular among water enthusiasts. (Holland)
3. Norway has been traditionally famed for spirited activities on the water. Here pictured is a scene of marina.
4. Yamaha models are winning high popularity among the youth. (Norway)
5. Boats powered by Yamahas are increasing in number. (Great Britain)

1. Lots of waterways running through cities best fit leisure motorboating. (Holland)



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H. Andersson Wins Final Round 250cc World Championship Motocross



Riding a Yamaha machine, H. Andersson of Sweden repeated his impressive victory at the Swiss GP, final round of the '72 250cc world championship motocross series on August 27. In his hectic hope for the position of runner-up to champion J. Robert, S. Gebores on a works Suzuki desperately strived to win this 2-leg race staged at Wohlen near Zurich. He, however, disastrously crashed some 50 yards from the start of the first leg, and failed to finish even a single leg, eventually.

Champion Robert riding a Suzuki also retired halfway at the second leg, though he won the first leg. Andersson rode his reliable Yamaha to overall victory in this round. Resultantly, he, with this win, secured 2nd place in 250cc title point table this year.

Mr. Moreira, Double Class Winner

Mr. Limberg Moreira, president of Yamaha distributing company in Uruguay won two classes in the recent international road race meeting held in Argentin. Mr. Moreira, riding a 175cc Yamaha won the 16-lap race, beating rivals on Spanish Bultaco and Italian Aermacchi racers. The 10-lap unlimited capacity class was even more exciting. The fast and reliable 350cc TR3 ridden by Mr. Moreira fought its way to victory against 650cc Triumphs and 1000cc Harley Davidsons.



'72 Manx GP

Manx GP which is annually organized on the famous 37.75-mile mountain circuit of the Isle of Man, Great Britain, is well known as the highest-level production machine race.

'72 Manx GP's lightweight class on September 5 was highlighted by impressive domination of Yamaha riders.

W.P. Carpenter led the 4-lap race all the way, riding a Yamaha 250cc production racer well ahead of others, most of whom also rode identical Yamaha machines.



Most Powerful Team

Motorcycle sports are now fast getting popular in the Republic of Dominica. The team sponsored by Motorambar, S.A., distributors for Yamaha in this country; proved most powerful in all types of sport events such as road race, speedway, motocross, etc. Yamaha machines ridden by top class riders always monopolize all of major placings.

Wide Usage of Yamaha Outboard Motors

Lightweight Yamaha outboard motors ranging from the 2hp P-45 and the 25hp P-450 are enjoying high popularity around the world for their unique maneuverability and seaworthy quality. In Great Britain enthusiasts find Yamaha outboard motors very much useful for sport or recreation purpose on the water, as auxiliary engine for a sailboat or motor for a pleasure runabout.



YAMAHA Topics



Cindy Baby

Cindy Baby mounted with a 360 Trail RT2 engine features excellent creative talent of Mr. Ken Lovegrove who did most of the work on the machine although he did not actually build the coach body.

Some data are introduced as follows:

Front forks: specially made in Melbourne, Rear wheels: 10" wide, modified Volkswagen 15", Differential: Ford, Coach: exterior covered in orange vinyl, interior upholstered in gold draylon and black nylon carpet, Rear tires: Goodyear Racing 6.00/1370 x 15" Cindy Baby is expected to be shown in many a major city in Australia and New Zealand within the year.



Football Club in Malawi

Successive wins by Yamaha football club in Malawi greatly interest the local press, and the name of Yamaha often appears very prominently on the sports pages of leading newspapers, thus making the brand of Yamaha more impressive to the public.

The club consists of four separate teams as follows:

- A. First Team
- B. Reserve
- C. Young Yamaha Wanderers (under 18)
- D. Junior Wanderers (under 14)

The first team has once retained Malawi's Football League Championships for four years running.



A rubber boat powered by a lightweight 5hp Yamaha outboard motor proves amazingly tough and strong. A Volkswagen can be carried together with crew aboard it with no unease felt at all. Both an outboard motor and a boat can be housed in rather a narrow space of Volkswagen's front trunk.



How Strong!



Celebrating Independence Day

In commemoration of the 27th Independence Day of Indonesia, people made a big parade through the City of Djakarta as part of festive events program. P.T. Harapan Motor, distributors for Yamaha in Indonesia sponsored a team of riders to join this parade. 25 locally assembled Yamaha motorcycles ridden by motorcyclists, male or female in attractive uniforms made the most colorful demonstration.



Miss Yamaha with TR3

Posing, with a 350cc TR3 is Vivien Botterill, Miss Yamaha in the Miss Australia Quest.

She herself is one of the enthusiastic motorcycle fans, and can ride her own Yamaha expertly. Pictured here in John Maher's over-140mph production racer TR3 which dominates big road race events. She and a Yamaha make an eye-pleasing combination.



Be Familiar with Them, Now

Scavenging

A sort of cylinder function. Mixed gas which has been compressed beforehand in the crankcase, is induced into the cylinder for the purpose of driving out burnt gas after combustion has taken place.

Port

Openings on the cylinder barrel. The 4-stroke engine features the intake and exhaust ports, and the 2-stroke engine, in addition to them, has some transfer ports.

Port timing

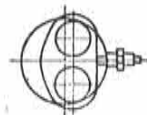
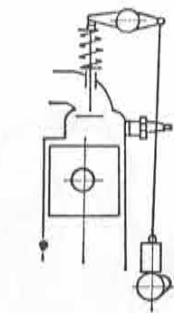
To set the areas, shapes and angles of intake, transfer and exhaust ports in their interrelation with each other. Port timing greatly affects engine performance.

Transfer port

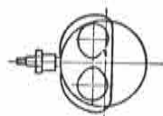
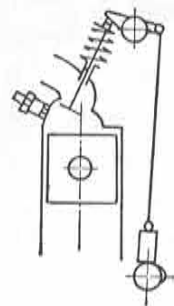
The port through which mixed gas is induced to the cylinder from the crankcase. Its passage is inside the cylinder wall.

Primary compression

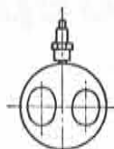
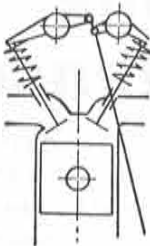
Mixed gas which flows into the crankcase from the carburetor, is primarily compressed by the piston moving downward therein, in order to increase scavenging efficiency.



Oval type



Wedge type



Semispherical type

Multi. Porting

Scavenging function by increased transfer ports for higher engine performance. Yamaha-developed 7-port system is a good example.

Side valve (S.V.)

A sort of valve layout for the 4-cycle engine. The intake and exhaust valves are housed in the main body of cylinder, and arranged in line with the cylinder.

Overhead valve (O. H. V.)

A sort of valve layout for the 4-cycle engine. The intake and exhaust valves have their seats on the cylinderhead. O.H.V. layout features three different types, namely, oval, wedge and semi-spherical types in accordance with the shapes of combustion chambers.

Overhead camshaft (O. H. C.)

A sort of O.H.V. layout, but in this case the cam and camshaft are mounted on the cylinderhead. The cam directly drives valves through the locker arm or sleeve.

High camshaft

A sort of O.H.V. layout, and in this case the camshaft position is higher than the conventional type.

Mini Yamaha in Full Activity for '72 Olympic Games

Mini Yamahas ridden by promoting officials and soldiers were kept busy going from one stadium or ground to another every day throughout the session of the '72 Olympic Games in Munich, West Germany.

The Games ended in a big success with lots of new records attained in every field of sport. Contestants did their best, of course, but at the same time strenuous efforts by people acting behind splendid scenes of

games can not be overlooked, too. Mini Yamahas which had been delivered to the Organization Committee by Fischbeck, a dealer in Munich, proved the best means of transport for smooth execution of their daily duties, providing one of the most impressive topics concerned with the Olympic Games.



Correction

Running time of 'It's wonderful to be young' as stated in texts on Page 12, September Issue, is corrected to 20 minutes from 17 minutes.

CONTRIBUTIONS INVITED

Just send us pictures you've taken of stories, interesting happenings or, extraordinary incidences—any-thing if it's about YAMAHA. A commemorative gift will be sent to those subscribers whose pictures are accepted for publication.
YAMAHA MOTOR CO., LTD. 2500 SHINGAI, IWATA SHI, SHIZUOKA KEN, JAPAN.