

# It's Moving....

DT250



**DT250**

The 1/4-litre off-road powerhouse. Race-proven monocross suspension, re-styled tank seat unit, matt black bars and levers and flexible indicators result in a machine that can go anywhere at any time, and get back.



**DT400**

The latest DT400 is for the big country only! A new mono-shock frame, increased performance, better silencing, matt black bars and levers, flexible indicators and a more comfortable saddle provide the off-road rider with everything he wants.

**RD400**

In a competitive class the Yamaha RD400 comes out a winner time after time. With a performance that has astonished and dismayed the opposition, the Yamaha RD400 has already become a classic.



**BOP**

Think small, think BOP. The new stylish commuter from Yamaha. 50cc 3-speed semi-automatic transmission. Bright - eye-catching - economical. A brother to the Chappy and a welcome addition to the Yamaha range.

**DT400**



**BOP**



**YAMAHA**

**1976**

# CIRCUIT.12



## TECHNICAL SPECIFICATIONS

Engine	DT400	DT 250	DT125	RD400	RD250	RD125	BOP
Type	1-cyl, 2-stroke, torque induction	1-cyl, 2-stroke, torque induction	1-cyl, 2-stroke, torque induction	2-cyl, 2-stroke, torque induction	2-cyl, 2-stroke, torque induction	Twin-cyl, 2-stroke, torque induction	1-cyl, 2-stroke reed valve
Displacement	397cc	246cc	123cc	398cc	247cc	124cc	49cc
Bore & Stroke	85mm x 70mm	70mm x 64mm	56mm x 50mm	64mm x 62mm	54mm x 54mm	43mm x 43mm	49mm x 39.7mm
Compression ratio	6.4 : 1	6.7 : 1	6.7 : 1	6.2 : 1	6.7 : 1	6.8 : 1	N/A
Max. horsepower	N/A	13.5 HP	42 HP	N/A	16HP	15HP	N/A
Lubrication system	Autolube	Autolube	Autolube	Autolube	Autolube	Autolube	Autolube
Starting system	Kick	Kick	Kick	Kick	Kick	Kick	Kick
Primary transmission	Gear	Gear	Gear	Gear	Gear	Gear	Gear
Final transmission	Chain	Chain	Chain	Chain	Chain	Chain	Chain
Gearbox	5-speed	5-speed	5-speed	6-speed	6-speed	6-speed	3-speed semi-automatic
Carburetor	VM 34 SS	VM 28 SS	VM 24 SS	VM 28 SC	VM 28 SC, X2	Y 18 P (x2)	N/A
Clutch	Multi plate wet	Multi plate wet	Multi plate wet	Multi plate wet	Multi plate wet	Multi plate wet	Centrifugal
Battery	6V	6V	6V	12V	12V	12V	6V/4AH
Charging system	N/A	N/A	N/A	142W at 12V	142W at 12V	112W at 12V	N/A
Ignition type	C.D.I.	Magneto	Contact breaker/Coil	CB/Coil	CB/Coil	CB/Coil	Flywheel magneto
<b>Dimensions</b>							
Overall length	2,130mm	2,130mm	2,020mm	2,015mm	2,030mm	1,945mm	1,580mm
Overall width	870mm	860mm	830mm	830mm	830mm	790mm	670mm
Overall height	1,165mm	1,165mm	1,090mm	1,085mm	1,085mm	980mm	965mm
Wheelbase	1,420mm	1,420mm	1,340mm	1,325mm	1,325mm	1,240mm	1,055mm
Weight	133.5 Kg.	129.5 Kg.	100Kg	157 Kg	152Kg	111Kg	75Kg
Fuel tank capacity	9.0 lt.	9.0 lt.	7.0 lt.	16.5 lt.	16.5 lt.	11.5 lt.	3.4 lt.
Tires: front	300 21-4PR	300 21-4PR	2.75 21-4PR	300S 18-4PR	300S 18-4PR	2.75 18-4PR	400-10
rear	400 18-4PR	400 18-4PR	3.25 18-4PR	400S 18-4PR	350S 18-4PR	3.00 18-4Pr	400-10
Brakes: front	drum 160mm diam.	drum 160mm diam.	drum 134mm diam.	Hyd. disc 267mm diam.	Hyd. disc 267mm diam.	Hyd. disc 245mm diam.	drum 110mm diam.
rear	drum 150mm diam.	drum 150mm diam.	drum 134mm diam.	Hyd. disc 267mm diam.	Hyd. disc 267mm diam.	drum 130mm diam.	drum 110mm diam.



## COMMENT

As you read this issue of Circuit, the Cologne Motorcycle Show is about to open its doors. When it does the public will be able to see Yamaha's new range of 4-stroke motorcycles altogether for the first time in Europe.

Flag ship of the fleet is the three cylinder shaft drive XS750 but the XS250 and XS360 are going to set the market place alight for they are the most modern machines in their capacity class in the world.

Backed by not only the technology but also by the outstanding enthusiasm of Yamaha for the motorcycles it makes, these 4-strokes complement a tremendous range of popular and accepted 2-strokes that will continue to be marketed alongside the new 4-stroke models.

The XT500 has already proved itself as the success and innovation of the decade. Yamaha are the first to recapture the single cylinder element of enthusiasm and desirability and wherever motorcycles are being used for sport, the XT500 is a main topic of conversation. Yamaha are determined to lead during 1976 - they are challenging strongly for the sales lead in France and other European markets reflect this exciting trend.

The enthusiasts and the trade will go into the Cologne Show and when the enthusiasts come out they will have one main objective and that will be to acquire one of the new range. Yamaha will have proved again that they are number one off and on the circuit. The dealer's job is to meet that demand.

# the Why 4 Stroke?

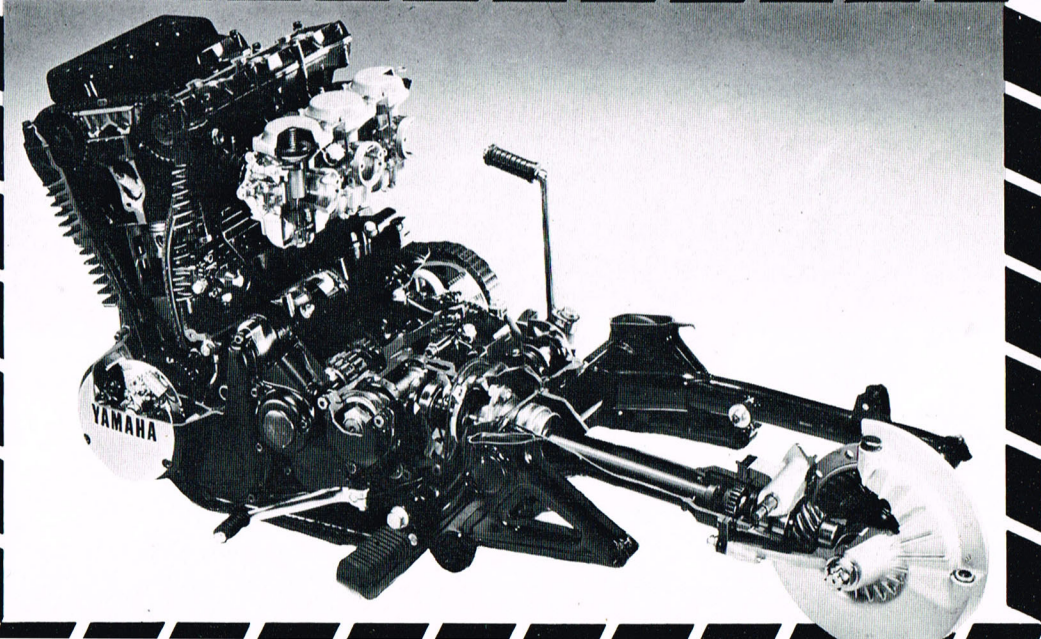
*Yamaha add the 4-stroke to compose the world's most exciting and profitable range of motorcycles.*

In deciding to add a full range of 4-stroke powered machines to their production, Yamaha was determined that the machines would contain the most modern elements of engineering design and production craftsmanship available in the world today. No compromise would be acceptable and the new machines now being announced, together with the fantastic XT500 series, are firm evidence of the success of that policy. Additionally, Yamaha decided that, when expanding their available ranges to come into direct competition with established four-stroke marques, the way to give their dealers better motorcycles to sell and their customers the very best machines to ride, was simply to make them better and at the same time to revise their recognised two-stroke range. The introduction of the RD 400 illustrates that Yamaha had the right idea. All new Yamaha two-stroke road machines have the Autolube oil pump. This operates from ratios of approximately 200 to 1 fuel oil mix when idling to 33 to 1 on full throttle openings, proving that the pollution aspect of the two-stroke is being carefully considered at the design stages. Prospects for the future include: full throttle running ratios averaging 100 to 1; the development of bio degradable two-stroke

oils that contain no harmful emission products whatsoever; the design of even more efficient silencers which also control the oil smoke aerosol inherent in the two-stroke engine. So the two-stroke could be entering a new era of acceptance. The fact that Yamaha are the most firmly based of all two-stroke motorcycle manufacturers, provides even more confidence for the future.

However, the introduction of the four-stroke range has been largely prompted by the need to offer Yamaha's customers an extended choice. Now being introduced to world markets are a range of four-strokes which abound with space age engineering thought. Each individual model will provide exciting performance, economy, consideration of the environmental factors, long running life with minimal maintenance and set standards by which other makers will have to abide.

Establishment of the very best engineering practice in production line machines has long been Yamaha's pride. With the advance of single and multi cylinder four-strokes into their range they have also developed the most complete and most modern attack on the world market from the utilitarian to the exotic. Yamaha customers can now enjoy the widest choice, respect the quality inherent in the product and command the attention of the world of enthusiasts. What more could a dealer want?



# POLOLOLOLOLO

Do you understand environmental fallout?

L. J. K. Straight

The motorcycle's contribution to environmental pollution begins when petrol is poured into its tank, and should end when the machine has departed from sight and earshot. Between the conflicting demands of the pollution scare and the oil crisis, and between the environmentalists and the conservationists, the internal combustion engineer has a tricky commercial course to pursue; but it is not an impossible one.

The burning of fossil fuels ought in principle to produce water vapour and carbon dioxide. The former is harmless, the latter effectively so when diluted. Petrol is a fossil fuel but its use in our motorcycle engines creates more problems than simple theory might suggest.

Petrol is highly volatile. It evaporates on exposure to air from the tank and from the carburettor float chamber. The vapour takes the form of hydrocarbons (of which there are over 200 types) which are offensive to the smell if not noxious when liberated into the atmosphere. Trapping evaporative losses is not difficult, but is only the first stage in rendering a petrol engine innocuous.

The real difficulty lies in the complex processes of combustion within the engine. In simple theory the carbon and hydrogen of the fuel should, after ignition, combine with the oxygen of the air to produce a calculable heat, plus oxides of carbon (CO or CO<sub>2</sub>) and hydrogen (H<sub>2</sub>O - water, hence the steam in the exhaust after a rich mixture cold morning start). The rest should be nitrogen which is a major constituent of air and is supposed to be inert, serving only to slow the combustion process.

In fact what happens across the flame front in the cylinder is a chain reaction, analogous to that in an atomic bomb. The chemical combination of different elements liberates others which are free to combine with whatever they can find. They in turn liberate others to do the same. The substances generated may be ions of hydrogen or oxygen, free radicals (OH, CH, CHO, etc) or even organic compounds such as formaldehyde, which is what gives the particularly acrid and eye-watering stink to diesel fumes.

Mixture strength has a profound effect. The ideal mixture for complete and efficient combustion of all the fuel in the charge is about 14<sup>3</sup>/<sub>4</sub>:1 by weight of air and petrol respectively. It produces a minimum of CO (carbon monoxide, befuddling in small doses, and lethal in large ones) and oxygen, and a maximum of CO<sub>2</sub>. The 12:1 mixture that gives the highest power output (about 4% more than the 'ideal' because flame-travel through it is 17% faster) yields more CO - and any excess unburned fuel emerges, as in the case of misfiring in any engine, as raw hydrocarbon. This with oxides of nitrogen (NOx) in air bathed in strong sunlight produces the photochemical smog, which made Los Angeles foul and initiated anti-pollution legislation.

Combinations of temperature and pressure during combustion are conducive to the formation of NOx which, once formed, cannot break down into separate nitrogen and oxygen again in the time available. Diesel engines are poor in this respect, just as they are in the discharge of formaldehydes and of soot (visible as smoke) which is solid HC resulting from running over-rich. High-compression fourstroke engines also tend to make a lot of NOx at full-load, though at part-load the backflow of exhaust into the combustion chamber during the valve-overlap phase can reduce NOx formation. This is because these vitiated gases are in effect inert, and by diluting the incoming charge they reduce the peak combustion temperature. Hence the use of exhaust gas recirculation through the inlet ports of

some new engines: two-strokes, which are inherently atmosphere-adulterating are not NOx producers, but they do emit too much unburned raw hydrocarbon in the form of unburnt fuel. Other hydrocarbons are contained in fuel contaminated lubricating oil blown out with the exhaust.

Most hydrocarbons from four-stroke engines come from combustion quenching within the cylinder. One way to minimise quenching is to have large capacity cylinders rather than small, so that the ratio of surface area to volume is less.

This involves a power sacrifice, and also increases the engine's susceptibility to knock or detonation. To contain detonation demands a lower compression ratio so impairing power and thermal efficiency and therefore increasing fuel consumption; alternatives are higher-octane fuels containing anti-knock lead compounds which add highly poisonous lead to the noxious emissions list.

Minimising carbon monoxide and NOx calls for very weak mixtures and an acceptance of poor throttle response, but below 2:1 the engine will not run at all.

Noise is also an environmental pollutant. Noise is merely unwanted, and sound is the pulsation of air caused by pressure differences or pulses created, in the case of the motorcycle, by the exhaust and inlet systems. When the exhaust port is opened, the high-pressure gases within the cylinder emerge creating a pulse which travels down the exhaust pipe and sets the air vibrating on its emergence. This pulse can be harnessed by appropriate pipe design to induce a resonance in the exhaust system that may increase the power output appreciably. Anyone who has heard a racing engine 'on the megaphone' will know how the noise is amplified to match the power.

Even without this amplification, noise increases if the energy of the exhaust pulse is increased. The human ear can cope with an amazing range of sound pressure energy, being able to hear pressure variations over a range of ten million to one. However, ears are most sensitive to sounds in the frequency range of 1000 to 4000 Hz. Here two-strokes seem to sound louder than four-strokes, whose frequency spectrum has a preponderance of lower notes.

To move today's motorcycles as fast as riders want to go, Yamaha Research and Development engineers have increased power outputs and in consequence have had to improve silencing. This in turn has reduced the power outputs obtained by development and the two-stroke engine, especially at the highest performance end of the scale has had to be given a fuel gas flow to cool the vast friction surfaces of the piston and cylinder bore and to waste much of the fuel, unburnt, in the quest for power. With oil injection pumps lubrication is no problem although as engines and oils improve, the pumps, as we know them, will change to meter in the minimal amounts of oil required for lubrication which in turn will reduce the contaminated exhaust emissions.

It is all a daunting business. A motorcycle can smell offensive, it can sound offensive, and if not well bred and engineered, it can also look unpleasant. The latter is not an offence to our environment but rather an offence of taste and the legislators have not expanded their scope to include that - yet.



Yamaha dealers across Europe and Great Britain report that the new XT500 ELITE Programme recently introduced by Yamaha N.V., Amsterdam is well under way.

The new single cylinder, 4-stroke XT500 Enduro with overhead camshaft was designed for the motorcyclist who appreciates a special kind of machine - a rugged bike for on or off-road riding that brings back memories of the big bangers of the past. As you know, the ELITE Programme was set up by Yamaha to give the first 2,000 purchasers of the XT500 "Elite" recognition.

You, the Yamaha dealer, have received from your importer, along with deliveries of XT500 bikes, ELITE Programme reply cards. These cards must be given to your XT500 buyers. Once the new owner fills out his Elite card and mails it in, he is entitled to receive special gift packs from Yamaha which include a signed certificate, a cloth XT500 badge and stickers plus a coloured XT500 mechanical poster.

Rod Gould, Yamaha's publicity chief, reports that already a majority of new XT500 owners have responded and are participating in the programme.

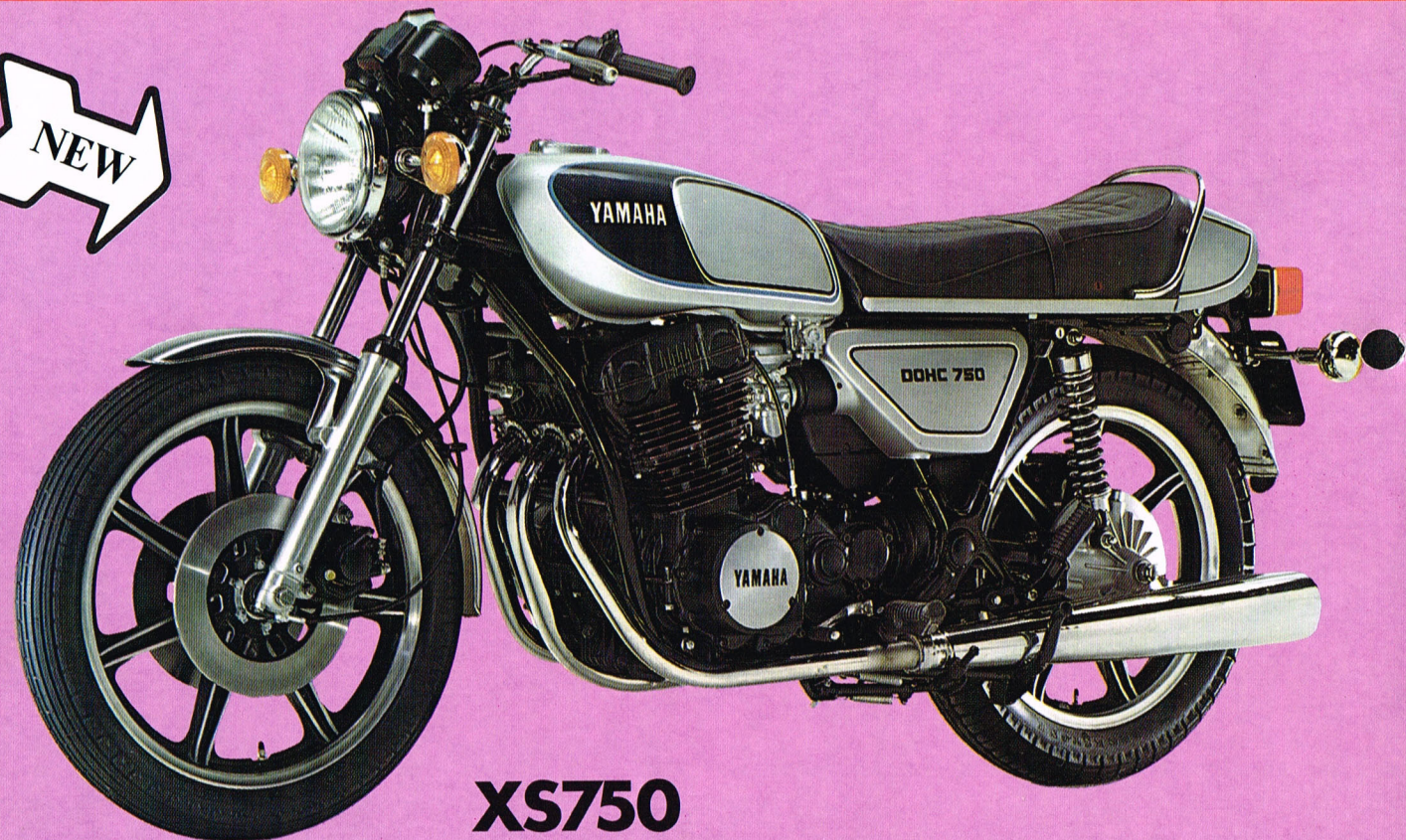
Gould hopes to make XT500 ELITE figures available to Yamaha dealers in the next issue of "Circuit"

**YAMAHA**  
**XT500**  
**ELITE**



# Full Range for 1977

Yamaha are happy to announce in Circuit the highlights of the 1977 range. Machines from 50cc economical commuters through to a 750cc 3-cylinder 4-stroke Superbike. Smallest of the newcomers is the 50cc semi-automatic BOP. Mid-range additions are the single overhead camshaft 2-cylinder 4-stroke XS250 and XS360. Monocross suspension is now fitted on the restyled 1977 DT250 and DT400. Exciting new colours and graphics on the XS500 and XS650, plus the line-leader - the all new XS750. From 50cc to 400cc 2-stroke. From 250cc to 750cc 4-stroke. For 1977 Yamaha will cater for all ages and all tastes.



## XS750

The all new Yamaha XS750 proves that not only is it the world's latest Superbike but that it must lead in its class. The XS750 is a machine designed as a complete new motorcycling concept. It is the latest and most modern of all sporting superbikes. Cast alloy wheels, twin disc brakes in front with a single disc at the rear, 5-speed gearbox, three-cylinder, double overhead camshaft engine plus, of course, shaft drive make this THE Superbike of 1977.



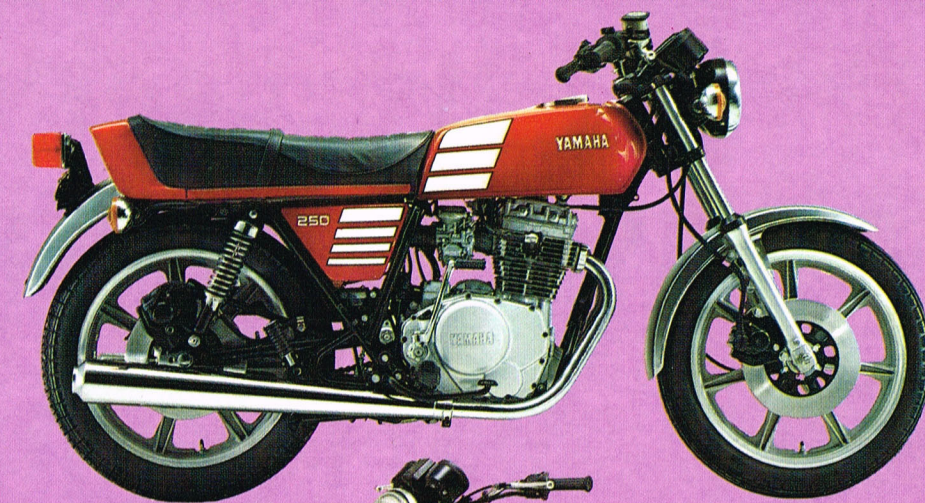
## XS360

The XS360 is not just a new Yamaha motorcycle, it is the world's best quality middleweight contender. Service tasks have been eliminated or simplified. Electric starter is standard equipment as is the unique Yamaha self-cancelling system. The XS360 is economical in every department, yet its 6-speed gearbox can enable the rider to get terrific performance, well over 90 miles per hour. An outstanding safety feature is a double bulb rearlight.



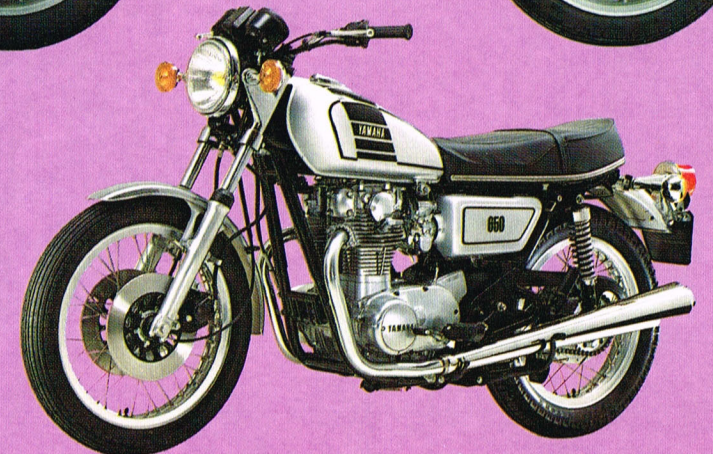
## XS250

A new 250 star has landed on earth. The XS250 is a dream package that holds every element of exciting motorcycling. A 4-stroke single overhead camshaft twin-cylinder engine powers an economical six-speed machine. Cast alloy wheels complete its luxury specifications. Safety factors abound on the XS250. Double bulb rearlight, self-cancelling turn indicators and disc brakes, front and rear, and ultra smart styling will sweep the Yamaha to a new stardom.



## XS650

The first Yamaha 4-stroke machine was a 650 and it became market leader in its class. Today, refined and improved, the XS650 is a unique class machine. It is smart, functional and powerful with a surprising turn of performance.



## XT500

Yamaha's XT500 Enduro is a bike with real character. And it's unique. The 499cc single cylinder overhead camshaft engine and 5-speed gearbox bring back the delights of the big single "Thumper" to the world of motorcycling, 1977 style.



## XS500

The Yamaha XS500 meets every requirement of a demanding class. A twin-cylinder, double overhead camshaft, eight-valve engine that is a prize winning design in itself. Cast alloy wheels, hyd. disc brakes front and rear - in total a machine that makes any motorcycle enthusiast glow with pleasure.

### TECHNICAL SPECIFICATIONS

Engine	NEW XS750	XS650	XS500	XT500	NEW XS360	NEW XS250
Type	3-cyl. 4-stroke, double overhead camshaft (ohc)	2-cyl. 4-stroke, single overhead camshaft (ohc)	Twin-cyl. 4-stroke, double overhead camshaft, 8-valves (ohc)	1-cyl. 4-stroke, single overhead camshaft (ohc)	2-cyl. 4-stroke, single overhead camshaft (ohc)	2-cyl.
Displacement	747cc	653cc	498cc	499cc	358cc	248cc
Bore & Stroke	68mm x 68.6mm	75mm x 74mm	87mm x 59.6mm	87mm x 84mm	66mm x 52.4mm	55mm x 52.4mm
Compression Ratio	8.5 : 1	8.4 : 1	8.5 : 1	9.0 : 1	8.7 : 1	9.6 : 1
Max. horsepower	N/A	50.1 PS at 6000 rpm	49	30 bhp (S.A.E.)	N/A	27 at 7500 rpm
Lubrication system	Pressure fed wet sump	Pressure fed wet sump	Pressure fed wet sump	Pressure dry pump	Pressure wet sump	Pressure wet sump
Starting system	Electric/kick	Electric/kick	Electric/kick	Kick	Electric/kick	Electric/kick
Primary transmission	H.V.O. chain	Gear	Gear	Gear	Gear	Gear
Final transmission	Shaft	Chain	Chain	Chain	Chain	Chain
Gearbox	5-speed	5-speed	5-speed	Constant mesh 5-speed	6-speed	6-speed
Carburettor	S.U.B.S. 34 (x3)	S.U.B.S. 38 (x2)	S.U.B.S. 38 (x2)	VM 34 SS	34 CV (x2)	34 CV (x2)
Clutch	Multi plate wet	Multi plate wet	Multi plate wet	Multi plate wet	Multi plate wet	Multi plate wet
Battery	12V	12V / 14 AM	12V	6V / 6AH	12V	12V
Charging system	280 W at 12V	168 W at 12V	189 W at 12V	N/A	N/A	N/A
Ignition type	CB/coil	Battery/points	Coil/contact breaker	Magneto	Coil/coil	Coil/coil
<b>Dimensions</b>						
Overall length	2,160mm	2,175mm	2,100mm	2,176mm	2,020mm	2,020mm
Overall width	895mm	780mm	830mm	875mm	730mm/845mm	730mm/845mm
Overall height	1,150mm	1,105mm	1,120mm	1,220mm	1,070mm/1,100mm	1,070mm/1,100mm
Wheelbase	1,470mm	1,435mm	1,400mm	1,340mm	1,340mm	1,340mm
Weight	253Kg	230Kg	193Kg	138Kg	178Kg	178Kg
Fuel tank capacity	17 lt.	15 lt.	8.8 lt.	8.8 lt.	11 lt.	11 lt.
Tyres: front	3.25H 19-4PR	3.25H 19-4PR	3.25H 19-4PR	3.00 21-4PR	3.00S 18-4PR	3.00S 18-4PR
rear	4.00H 18-4PR	4.00H 18-4PR	4.00H 18-4PR	4.00 18-4PR	3.50S 18-4PR	3.00S 18-4PR
Brakes: front	Twin Hyd. disc diam. 226mm	Twin Hyd. disc diam. 298mm	Hyd. disc diam. 298mm	Drum diam. 160mm	Hyd. disc diam. 226mm	Hyd. disc diam. 226mm
rear	Single Hyd. disc diam. 226mm	Drum diam. 180mm	Hyd. disc diam. 267mm	Drum diam. 150mm	Hyd. disc diam. 226mm	Hyd. disc diam. 226mm



# David Allen Looks At Yamaha Motor N.V.



It is considered fact that other major automotive importers are planning to base a "control" operation in Amsterdam. It is also fact that the growing strength of Yamaha and the splendid co-operation it receives from its individual importers throughout Europe results from an effective executive branch of the factory being based in the busy Dutch city. Amsterdam is rapidly becoming the main business centre of the E.E.C. and because of solid Dutch independence on matters of finance, can easily reach out to non-E.E.C. members. Amsterdam is an easy place to get to within Europe and both telephone and telex are efficient.

With good logistics in mind Yamaha wanted to provide all its importers, in whichever country they were based, with a European central point of reference. Foreseeing the complication of individual countries' traffic and vehicle legislation, Yamaha also wanted a central analysis bureau so that compatible regulations could be combined and thus only one submission made to the factory for a production line alteration.

The problems of dealing with multi-national requests, all made with local emphasis and pressure, and perhaps all for the same item, are resolved and presented in a uniform and therefore instantly and precisely understood form.

This one example illustrates one of the many facets of Yamaha Motor NV. The operation does not exist to control importers or even to suggest how they run their business. Amsterdam does not hold stocks of machines or spares - or in fact any saleable item. It is an establishment that exists for planning the marketing of Yamaha products over a continuously extending five-year plan. The plan caters for a Pan-European operation and looks at every aspect of the business of a Japanese manufacturer engaged in a world trading operation.

Yamaha Motor NV receives and consolidates orders from Japan from the national importers. Naturally it has the problems of co-ordinating production with Japan, so it also accepts the liaison with the importer over his ordering and the major headache of future market requirements against an order that has to be placed almost six months ahead of a forecast delivery.

In consequence Yamaha Motor can gauge European trends against their total work with all importers and the orders confirm trends that will allow the Amsterdam executive to place an independent "reserve" order as a strategic reserve - or, alternatively, to advise, contain and divide a production run or delivery to obtain concrete evidence of sales of a particular model.

With new model call through taking about a year, the planning and forecasting to enable the factory to obtain raw materials, spares, shipping space and to allow Amsterdam to promote, via its p.r. arm and to approach the buying public for their reaction to a new engine capacity or styling, is a real advantage that the other manufacturers may now realise they cannot allow Yamaha to retain alone.

Under no circumstances do Yamaha Motor NV interfere in the pure sales business between an importer and his dealer customers or their customers, the buying public. The Amsterdam set-up aids the overall marketing mix so that by speaking to the manufacturing plants with the authority of the importers, this outweighs the American influence to ensure that European importers receive the machines which meet the dictates of their customers and not the modifications of the American market which differs in taste and legislation. In America the operation is run by Yamaha International who are an importer the same as any in Europe but set up on the grand scale of the vast American market.

Look for a moment at Europe without Yamaha Motor NV. Fragmented ordering. Unco-ordinated factory contact by importers resulting perhaps in too infrequent Japanese executive visits and the penalty of indifferent communication. Now look at fact. From Amsterdam and America and other similar combined market areas IWATA hears single voices and its problems are those of straightforward production. It is a consequence of the Amsterdam office that the factory European liaison office is only 5 strong. This endorses the strength and planned efficiency of the whole control structure that is Yamaha's key to its growing sales successes.

Inside Yamaha Motor NV in Amsterdam a modern office contains a keen, enthusiastic and ably managed team. Naturally visiting on importers' grounds is carried out and while a dealer in Denmark may have a surprise visit for a discussion on his problems, the visit is always undertaken with the authority of the importer who naturally receives notice of the results of the visit. All importers are aware of the usefulness of the annual meeting called in Amsterdam and they know of the Central Service Department where their own service controllers are trained and later kept informed so that their countrywide operations can have the information disseminated in a form they know and enjoy.

At any one time more than 25 percent of the 50 strong team in Amsterdam are travelling around Europe to aid importers acting as both receivers and transmitters of fact. As example, the training of service staff at importers' premises and its extension into "Yam Exam" stems from Yamaha Motor.

Complex in the extreme are the requirements of Homologation in the legalities of every country. Yamaha Motor have a 3-strong bureau who deal with nothing else. The leader is Mr. A. Van Vliet, Dutch with Japanese as his second language plus English, German and French. He translates problems and requirements in a way which reflects the formulation of legislation by bureaucratic European minds. Translated into Japanese by a European they are at least understandable in Japan and that alone sums up one facet of how Amsterdam's operation works, and works well.

Across the homologation bureau's desks go every item of official government information from E.E.C. and neighbouring countries for it can easily be seen that if the machines ordered today do not meet the legislation of 3, 6 or even 12 months when they actually arrive they could forcibly be restrained from sale. "Co-operation and understanding" are the watchwords of this Yamaha Motor service to its importers and to the Japanese producing factories.

Finally in a fast moving scene, there are the worlds of public relations, promotion, advertising via the sporting aspects of a world-wide operation, financing and accounting and today the study of the European scene as a supplier of components to Japan. Here the elements of cost, quality and customer acceptability are all under consideration.

Yamaha Motor NV is a service organisation to importers, a service to the factories and a background to the marketing of every Yamaha motorcycle in Europe. For you the dealer reader of Circuit, the establishment in Amsterdam is often remote but the reason it was established was to provide an essential business umbrella for Yamaha's multi-national sales operation. Like all good umbrellas it protects, it shades and it can prove a useful weapon which can be picked up and used when required or kept conveniently to hand for rainy days even in sunshine!

A visitor from Amsterdam to your shop does not arrive to check up on you or how you trade - that is your business, but what that visitor wants is information which, when combined with the overall European picture, will help the name Yamaha to forge a future of profitable service to the motor-cycling public internationally. And you are part of that profitable picture too!



Most businesses are established on the principle that to make a profit is the ideal goal. Real profit to benefit the owner or major shareholders can be elusive. The number of motorcycle retail operations, where that element of real profit remains permanently out of reach, is perhaps one element which could not the future prosperity and full commercial recognition of the powered two wheeler world.

Selling new motorcycles is the most easily recognised profit element, for the reward for selling a new machine is clearly defined between the importer's stated retail value of a motorcycle and what he asks the retailer to pay for the machine delivered to the door of his shop. What is not so easy to define is the number of new machines which each retail outlet must sell in a year to survive and the overall expenses of the business concerned in trying to reach its own particular target. Too many businesses simply hope that sufficient customers will come through their door to buy without considering how to consolidate that hope into fact.

Equally hard to define is the profitability of the numerous smaller businesses which every

## Profit! The Essential Part of your Business

retailer runs inside and alongside his motorcycle sales operation. Second-hand machine buying and selling, for instance, is often very profitable if operated in conditions of lower overhead expenses for property and advertising. Second-hand machine selling also needs some background workshop skills for renovation, a fairly fast moving stock operation and a local population conditioned to buy used machines. Advantages of second-hand sales operations are that they pull in customers who can often be sold new machines as a better investment.

Insurance and Finance commissioning can be profitable, but great care and attention have to be given to the selection of those companies supplying these essential facilities to your customers through your shop. After all, it is the needs of the eventual customer which should always be considered against the commission factor for the major profit lies in the machine itself.

Today, when it is the Finance companies who pay for first year's Insurance within the overall loan made to the customer, it can be seen that in a 15% deposit

agreement on a medium priced machine, the customer's cash deposit hardly covers the value of the compulsory Insurance.

Left without any initial equity in the new machine until the fourth or fifth monthly payment, the care with which the Finance companies are researching their customers becomes understandable.

Skill in selling aids profit and, while most dealers throughout Europe acknowledge that a mechanic must be trained to be able to realise a profit on his work, few recognise the need for training in sales techniques, relying largely on the active intuition and independent desire to sell on which the business was originally founded. However, all recognise the fact that the motorcycle customer is now becoming more knowledgeable about his machine and, indeed, more sophisticated in his choice of model. Possibly even he is more selective of his dealer so ensuring that the various aspects of selling need to be studied by the dealer to ensure that from so careful a purchase, he can still make a profit.

The elements of profit are

contained not in good luck but in planning and the ability to contain expense. In the second-hand machine operation the workshop plays a big part. With the new machine the service and spare part supply element become even more important and so too does the analysis of the work performed against the charges made on the customer. It can take a couple of hours to resolve a simple job if the right tools, techniques or spares are not to hand. If you cannot rightly charge the customer, the loss factor looms large and so does the temptation to fractionally overcharge on legitimate jobs, so making the whole aspect of motorcycling uneconomical to the customer. We hope to cover more fully workshop control and profitability factors in later editions of Circuit so please let us know if you think this useful.

Already mentioned are the other smaller sales operations which run in every business. Clothing, accessories, specific products such as oils and greases and of course the mini lines such as transfers and "bolt-on goodies" beloved of the motorcycle fraternity.

It is after all one of the objectives of a retailer to know where his profit lies and to do this, each profit or loss area must be measured precisely and consultation with a good accountant is worth every penny spent. Each and every sales operation is part of the whole business but each department must also have objectives - must become capable of contributing in its own right. For instance, one dealer in an area where Enduro machines are popular may find that stopwatches and map cases are a fast selling line, returning 33% on investment every three months, but another dealer will find that his stock holding in such items is both expensive and wasteful. Every inch of space in your total sales operation has a job to do and every purchase you make, be it capital items like machines or support items like branded accessories, has to provide a contribution. If by buying the wrong goods you move them from purchase to sales ledgers too slowly, your overheads for property and staff may well have eaten into the resulting profit and while providing you with a living, may not have passed on the benefits of a business where the problem had been recognised earlier.

In a nutshell, Circuit is saying to all dealers that they should make time to examine profit and to ensure that it is part of the business - every day.



### Yamaha Circuit

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