

Volume I, Issue VI

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YAMAHA HORIZONS



Dear Reader:

Many of you are seeing Yamaha Horizons for the first time. Let us tell you about it.

Horizons is a paid-subscription magazine exclusively for Yamaha owners. It is published by Yamaha International Corporation to keep you informed of what is happening in the world of Yamaha and the world of motorcycling in general.

As a regular Horizons reader you will receive information you may not find elsewhere . . . you will be able to keep up with what champion Yamaha racers are doing . . . and you will be able to learn about new Yamaha developments, both in motorcycles and other quality products.

But through Horizons you will learn much more. An important part of many issues are tips that will help to make you a safer rider, help you maintain your motorcycle better, and show you how to have more fun on your Yamaha.

In addition, you'll get to know the people who have influenced your life as a Yamaha owner - - people who have helped in the development of your motorcycle and who work daily toward better and better Yamaha products.

A subscription to Horizons for one year (six issues) costs only \$3. It is a small investment that surely will give you big rewards in furthering your enjoyment of your Yamaha.

The Editors

Letters to the Editor . . .

Dear Sir:

I really like your advertisements on television this year about your Yamahas and their reliability. They make the point that I have been telling my friends: "If you want less problems, get yourself a Yamaha."

Danny Forrest
Los Angeles, California

Gentlemen:

I received a copy of Horizons in the mail. Please send me a subscription. I love my Yamaha and I love your magazine.

Cheryl Klinko
Arlington, Virginia

Dear Editor:

How about printing more stories on motorcycle maintenance and other tips. I have enjoyed the ones you have printed but, as a regular reader, would like to see more.

Martin Huff
Raleigh, North Carolina

Dear Sir:

Your last issue of Yamaha Horizons featuring "The Cats" was interesting. Mine can do just about everything but find me a boyfriend and the only reason for that is that I ride it where guys on other types of motorcycles can't go and, therefore, can't meet me.

Joyce Vanders
Phoenix, Arizona

Gentlemen:

Congratulations on Yamaha's victories at Daytona. Again the superiority of Yamaha machines (and riders) has been proven, almost beyond belief. The performance of Yamahas on the tracks clearly indicates that your products are the ones to buy.

Your Very Truly,
James Wingford
Boston, Massachusetts

Dear Sir:

Congratulations on your racing successes this year. You make me proud to own a Yamaha.

Donald Shuman
San Francisco, California

Dear Mr. Editor:

I am as pleased as I am sure you are with your wins at Daytona, particularly Gene Romero's. I have been one of his fans for some time and know that he works hard. He deserves the best.

Jonathan Hamm
Chicago, Ill.

Dear Sir:

I wanted to let you know that the High School Championship is probably one of the best programs that Yamaha has come up with to date.

Parents who formerly simply acquiesced to their son's racing have begun to take an active interest in getting their child to the Astrodome. More fathers (and mothers, too) are coming into the shop - some, for the first time. I believe this event is promoting better family relationships.

My congratulations to the person who came up with the idea for the Yamaha HS Championship.

Sincerely,
Bill Kasson
Austin, Texas

TABLE OF CONTENTS

Letters to the Editor	3
Romero Takes 'The Big One'	4
Roberts!	8
'Ago,' A Champion Rich in Style	12
Yamaha Has Three Aces for Motocross Showdowns	14
Randy Mamola: A Small Giant in Racing	17
Clean Chains are a Link to Carefree Riding	17
Cats Conquer Kilimanjaro	18
Yamaha RD 350 Road Test	22
Problems Melted for Snow Racing	24
Yamaha Monocross Explained	25
The Composite . . . It Can Make a Difference	28
Yamaha Talks Back	30
Conservation and Yamaha	31

GOT A STORY?

If accepted by editor, Horizons will pay \$25 for articles, story ideas, and items of interest in local communities for future issues of the magazine.

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Romero Takes 'The Big One'

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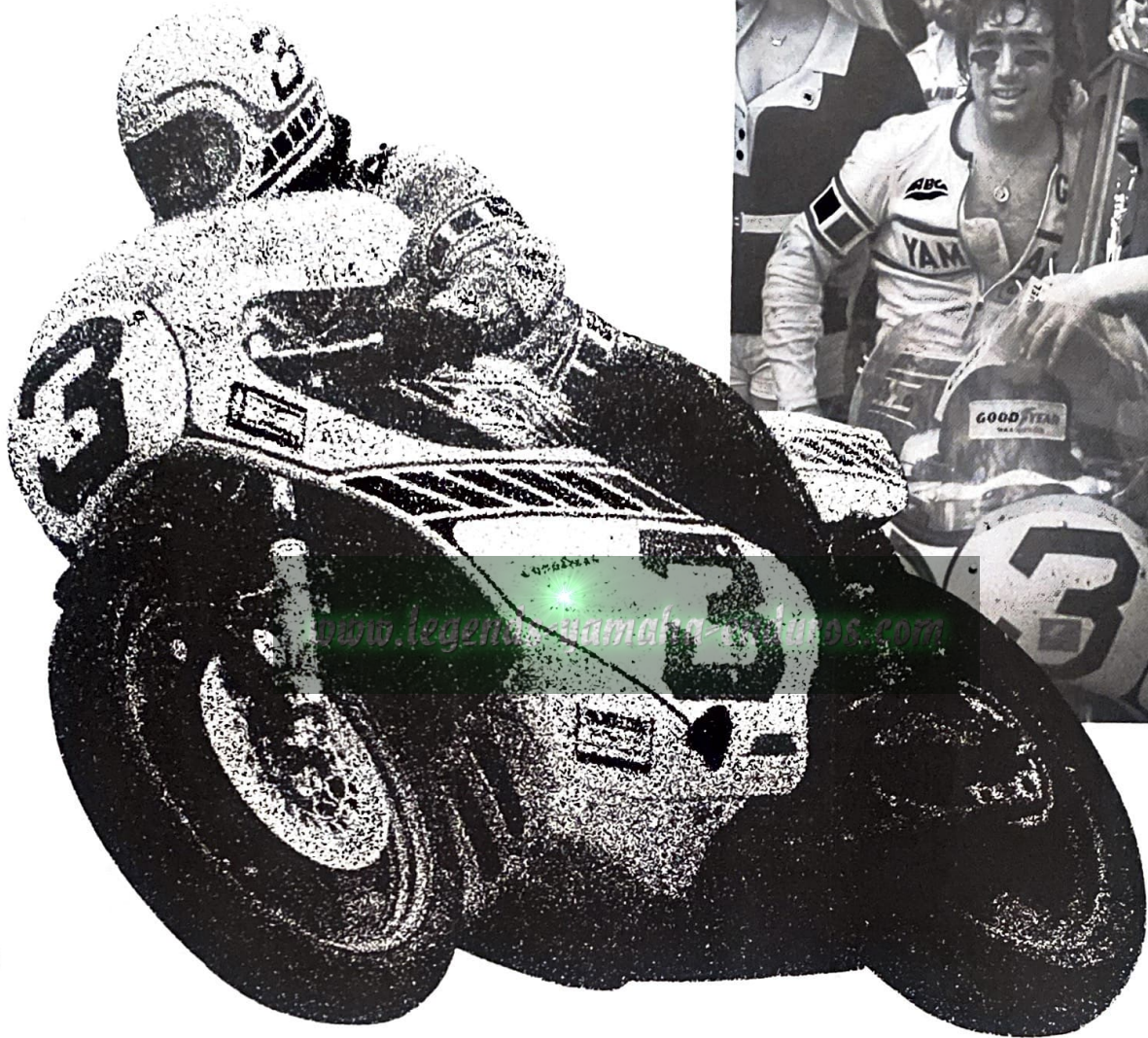
Popular Yamaha racing star Gene Romero was first at the flag in America's greatest road race of the year, the 200 mile National of Florida's Daytona Motorcycle Classic, which Yamaha - riding competitors dominated for the fourth straight year, underscoring again the excellence of Yamaha machines.

The prestigious victory demonstrated that Romero — who last year in his first season as a member of the Yamaha team collected two prize races and established a world speed record — ranks as one of the fastest pavement racers in the world.

Behind Yamaha's "Burrito" on his yellow factory TZ 750 were a host of other Yamaha riders, who captured the first 16 places in the race. Privateer Steve Baker was second, Venezuelan unknown Johnny Cecotto was third, and Giacomo Agostini, who has won 14 world titles, placed fourth after experiencing some difficulties with his motorcycle. Yamaha's American Motorcycle Association Grand National champion Kenny Roberts was forced to quit the race after developing clutch trouble.

Romero, the 1970 AMA Grand National champion, had dramatic wins last year on the mile dirt oval at

Gene Romero, below and at right, rode No. 3 to victory.



the Indianapolis (Indiana) Fairgrounds and over the Ontario (California) Motor Speedway road course.

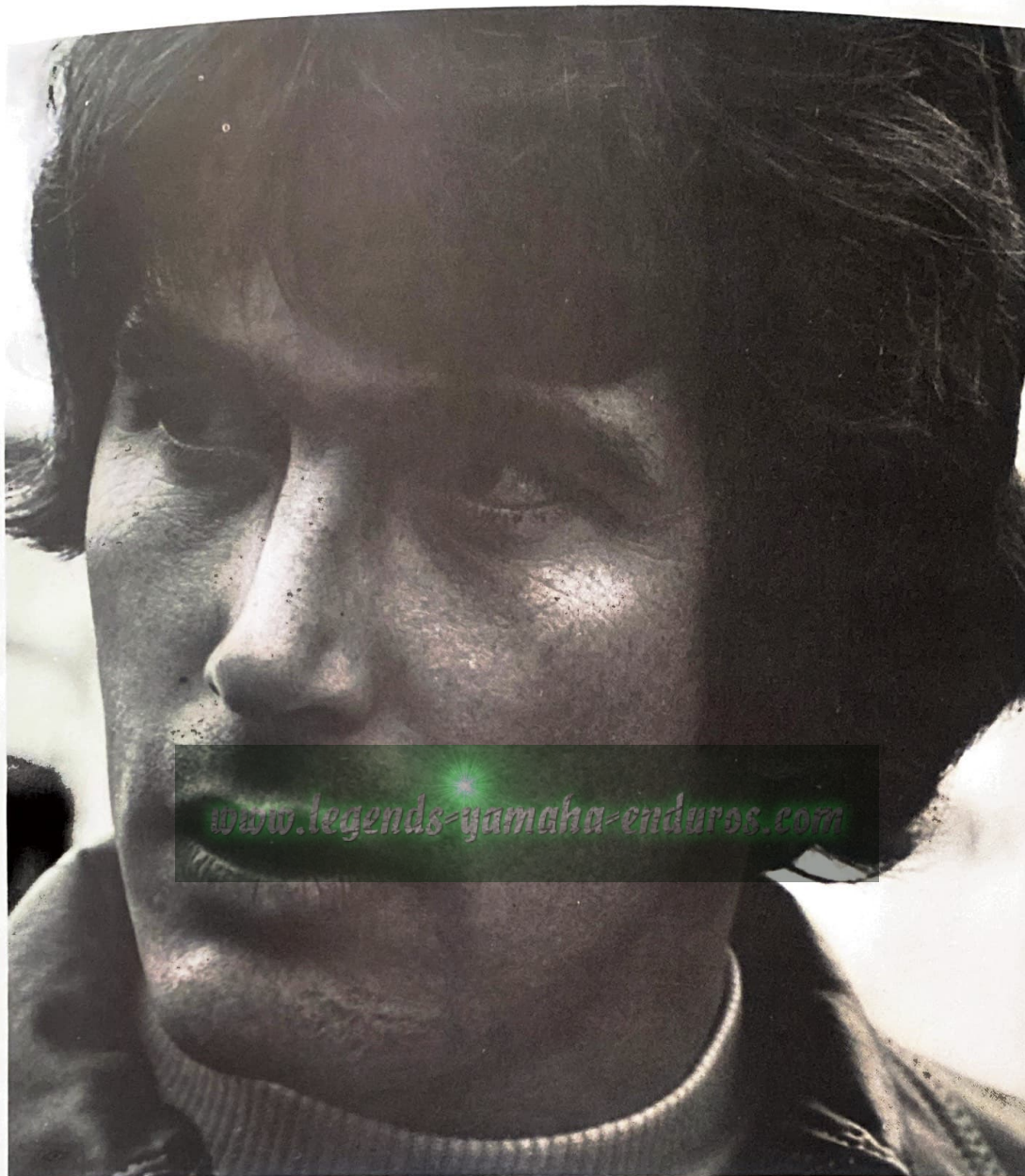
In the former, "Burrito" rocketed into the lead on the final turn of the race and out-dragged Doug Sehl to the finish line. At Ontario, he won one 100-mile heat and was second in the other to nip teammate and reigning champion Roberts for the overall victory, Romero's first ever on pavement.

Those efforts ran his total of career wins to 11. He also rode one of the Yamaha road racers to a world record by averaging 150.8419 mph for one hour around the high-banked 2½-mile Daytona

International Speedway tri-oval (last year) That blitzed an 11-year-old mark established on the same course by Mike Hailwood of England, who had averaged 144.8297.

In the process, Romero broke his own one lap mark which had stood for four years. His peak lap of 159.8074 mph eclipsed his 1970 standard of 157.342. The impressive Yamaha performance in this year's 200 Mile National was only part of the list of victories compiled by racers on Yamahas at Daytona this year.

Roberts captured the 250cc lightweight race with ease as Yamaha riders swept seven of the first eight



positions in the 100-mile race.

The first 32 finishers in the 76-mile Novice event - - won by Dana Dandeneau, a 17-year-old first-year Novice from Pleasant Valley, New York - - rode Yamaha 250cc machines.

Yamaha-riding Gary Blackman won the 76-mile Junior event, which was dominated by Yamaha 750 and 350 machines.

These victories - - coupled with Roberts' win of the Tourist Trophy (steeplechase) and Texas Yamaha shop operator Darryl Hurst's vistory in the short track event in the Yamaha Gold Cup program at

the Houston (Texas) Astrodome, among others - - points up that Yamahas again this year will consistently be in the lead.

And it all adds up to better products for the average motorcyclist, for one of the reasons for racing is to perfect engines and components so that there are more reliable motorcycles for public consumption.

That's the reason Yamaha has continued its sponsorship of prime American Motorcycle Association Grand National and motocross racing events, such as the Gold Cup Program and the Yamaha Super Series of Motocross.

ROBERTS!

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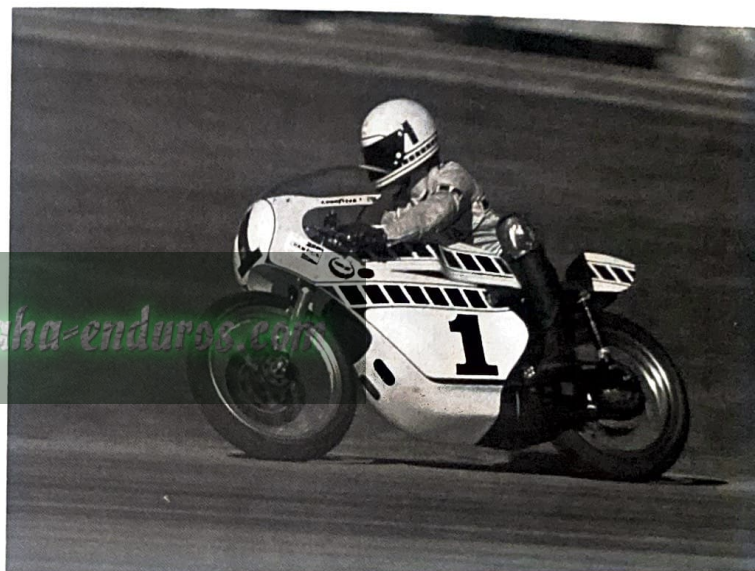
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PLACE
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*One of the most natural riders
ever to come along,
Yamaha's Mr. No. 1 this year
is looking for his
third crown.*



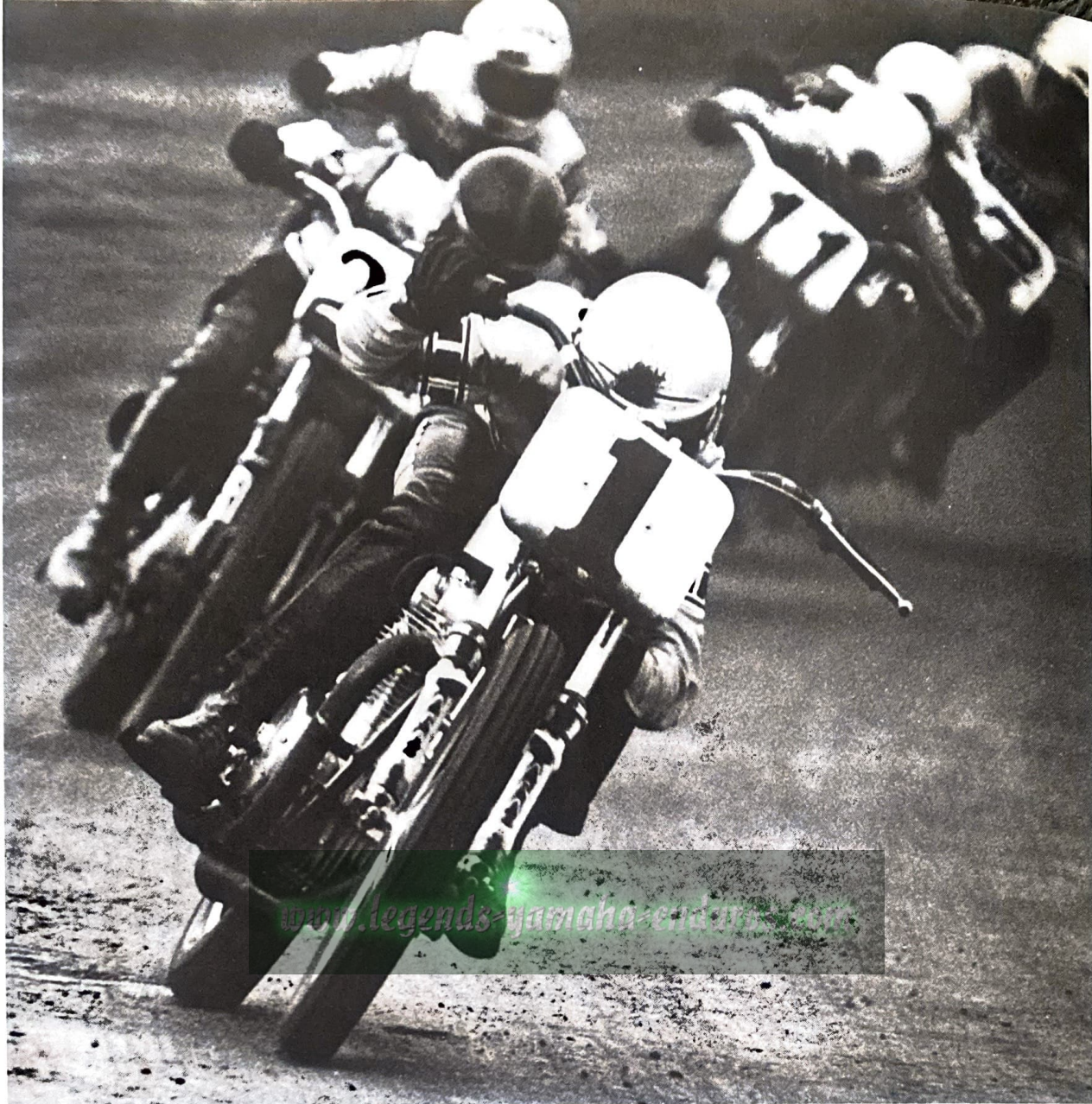
This year Yamaha's Mr. No. 1, Kenny Roberts, has his eyes on his third consecutive American Motorcycle Association Grand National racing championship and veteran observers of the racing circuit, who rate him as one of the most natural riders ever to come along, feel certain he will make it.

But the third straight championship isn't the only challenge that awaited the sensational Roberts this year. The gifted California super cyclist - - known for his versatility on the varying lengths and textures of tracks which provide a true all-around champion in AMA competition - - has been asked to demonstrate still another facet of his brilliance: organization.

As leader of Yamaha's factory team and its only full-time representative in Grand National racing for the current season, he has assumed full responsibility for the dirt track phase of the operation. Since dirt races make up about 80 per cent of the schedule, that's a substantial order.

The entire program, as usual, is overseen by Peter S. Schick, manager of research and development for the Motorcycle Division of Yamaha International Corporation.

But Roberts will be responsible for having the dirt racers built, maintained and transported to the



various tracks. He will rely on Bud Aksland, who supplied the impetus that launched Roberts on his meteoric professional career five years ago, for the mechanical work.

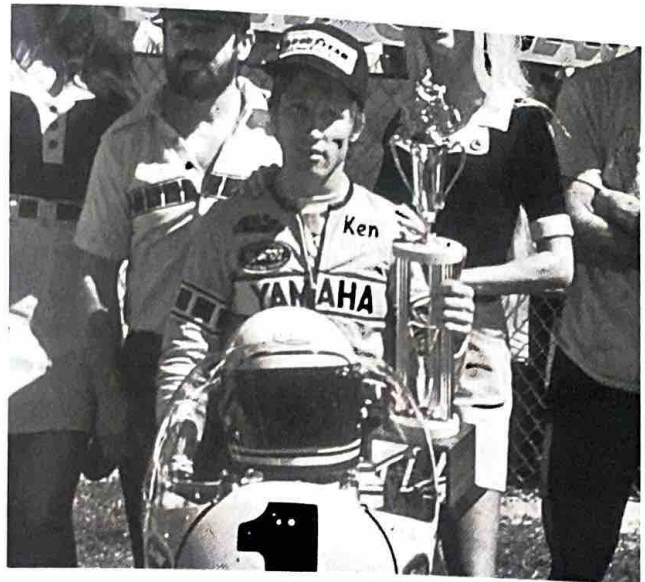
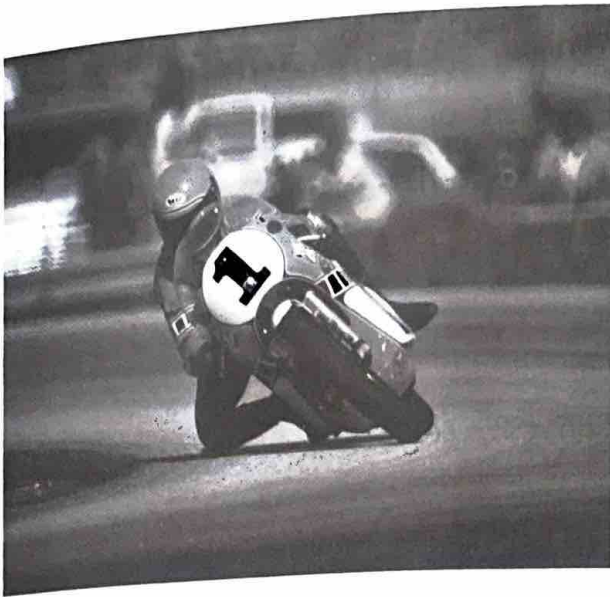
Roberts opened the 1975 racing season with a victory in the Tourist Trophy (steeplechase) in the Astrodome at Houston.

At the famed Daytona Motorcycle Classic in March he walked away with the lightweight class race and he was in the lead in the 200 Mile National when he developed a clutch problem that caused his first retirement in a road race National in two years.

The Yamaha ace won six features on the rugged Grand National circuit last season, twice as many as he collected in the previous campaign, when he also sped to the title with ease. He scored points in each of the 23 races on the 1974 schedule and finished fifth or better on 17 occasions.

All of this carried him to another record point total. He garnered 2,286 points, 272 more than his all-time mark of 1973.

During the banner season, he earned an estimated \$200,000. Roberts last season also became the second rider in history to attain the distinction of having scored victories in all five of the demanding



types of racing encountered on the AMA Grand National circuit - - mile, half-mile and short-track dirt oval varieties, along with Tourist Trophy (steeplechase) and road course competition.

In his spare time during 1974, Roberts also went overseas to win even more acclaim. Among other honors, he collected the individual championship of the annual "Easter Match Race Series" by winning three races and finishing second three other times in a string of road races run at various English courses which he had never seen before.

He also dazzled European cycling enthusiasts by sprinting to huge leads in meetings with the world's

best riders at Imola, Italy, and Mallory Park, England, only to encounter trouble with experimental tires that relegated him to second place in the former and to the sidelines in the latter.

Roberts' versatility is stressed by the range of victories he collected on the AMA circuit last season. He won a race on the mile dirt track at San Jose, California; a short-track event at Hinsdale, Illinois; a TT at Peoria, Illinois; and road races at Atlanta, Georgia; Monterey, California; and Talladega, Alabama.

For Roberts, his racing is not the only thing "natural". Winning is, too.



"Ago"

**A Champion
Rich in
Style**

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Comic strip hero, cinema swashbuckler, millionaire playboy . . . these are the substance of dreams.

Everyone allows his mind to wander into these misty roles from time to time, to taste the sweet nectar of the limelight. But one mere mortal, at the age of 33, can claim possession of these and other titles in a lifestyle which would make that of Superman pale by comparison.

Giacomo Agostini, mainstay of the European Yamaha racing effort, is an authentic Italian national hero and is the idol, at least in lifestyle, of nearly everyone who has ever harbored a secret desire for adventure.

"Ago" has parlayed his myriad accomplishments into a fortune in his home country. He is the owner of several apartment and office buildings, his own grocery firm and a fertilizer company.

A movie star of some acclaim, Agostini has portrayed everything from Robin Hood to a continental playboy, not a difficult role for this wealthy, handsome native of Bergamo.

As his direct challenge to heroes of a bygone era, Ago is the central character in a widely syndicated Italian comic strip dealing with motorcycling.

Despite these singularly impressive credits, Ago's primary vocation is racing motorcycles. And at that, he excels perhaps even more than at his several other avocations.

His unprecedented 14 world titles put him far ahead in that historical phase of the sport. Mike Hailwood and Carlo Ubbiali, both now retired, shared the previous record, both with nine championships.

Agostini has dominated the two major road racing classics on the Grand Prix circuit in recent years, winning each seven straight times. He collected 500cc honors from 1966 through 1972 and has been 350cc champion every year since 1968.

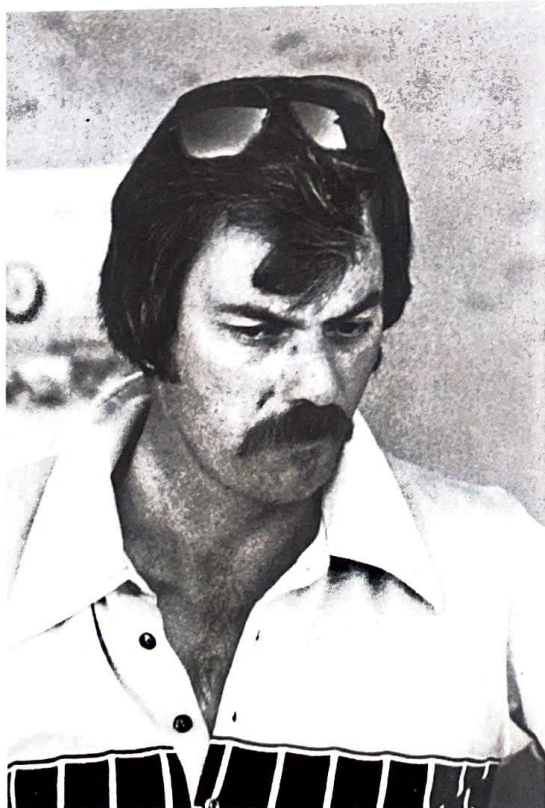
A broken collarbone resulting from a spill in the Swedish Grand Prix kept him out of two key races and foiled his bid to also collect a 500cc title during the 1974 season.

But Agostini shows no sign of aging, no sign of losing the razor-sharp edge he employs to cut his European opponents down on the tortuous Grand Prix circuit.

Move over, Marcello, "Ago" is on the scene.



NO BLUFF! Yamaha Has Three Aces for Motocross Showdowns



PETE SCHICK



JIM WEINERT

As a testimonial to the ever-mushrooming popularity of motocross racing in the United States, Yamaha in 1975 fields what has the potential of becoming its most balanced and formidable team in history.

Headed by defending American Motorcycle Association National Open champion Jim Weinert, it has specialists in all three classes of competition who will double in brass to lend strength to the overall team effort. That was the design of Pete Schick, who heads up the Yamaha racing effort.

Augmenting Weinert are Yamaha veteran Tim Hart, returning to camp for his third consecutive season, and the youthful Bruce McDougal, runnerup for the national title last year in the AMA's newly instituted 125cc division.

Weinert, who soared into national prominence as a member of the Yamaha operation in 1972, returns to concentrate on defending his National Open crown with the big machines, naturally, but also will compete in selected 250cc events.

The versatile Hart and the blossoming McDougal both will divide their riding time between the 250 and 125cc classes.

A grueling schedule lay ahead for the talented trio. In addition to AMA Nationals, these included the three circuits that were to enlist the finest European riders against America's best—the summer Inter-AMA Series, the fall Trans-AMA and the burgeoning Yamaha Invitational Super Series of Motocross.

The latter is a spectacular tour decided in three late-winter events on courses especially constructed amid comfortable spectator surroundings. Sites included Texas Stadium, near Dallas; Daytona International Speedway in Daytona Beach, Florida, and the Houston (Texas) Astro-dome.

This series is in keeping with the Yamaha goal of bringing the thrills of the popular form of motorcycle competition to more people in metropolitan areas.



TIM HART



BRUCE McDOUGAL

For the most part, however, Weinert, Hart and McDougal will operate in the usual haunts where man, machine and nature conspire in a fascinating blend of the sport as it is contested over natural terrain.

Involved are all sorts of bumps, jumps, bogs and steep downhill runs, all taken at optimum speed. And these must be negotiated lap after lap twice each program for 30 or 40 minutes at a time in a field of 40 starters before an overall winner is determined.

Endurance is the key to this form of exercise which, according to the AMA, a medical survey has ranked second only to soccer in sustained physical demands. Professional football, by contrast, was rated eighth in the study.

Weinert, Hart and McDougal are up to it, thanks to a physical conditioning program which they follow with a fanatical dedication. There are no shortcuts, as American riders have learned in the few short years since the late 1960s when a traveling European troupe first introduced the sport to this country.

Pierre Karsmakers, the transplanted Dutchman, was one of the leading disciples of rugged physical preparation and introduced it grandly by winning the AMA National Open title aboard a Yamaha in 1973.

Injury is the chief bugaboo and none of the current team members have been without their frustrating share of it.

Weinert first came to national attention as a frequent winner in flat track racing in the east, only to suffer a shoulder injury that kept him out of competition for several months and ultimately required corrective surgery.

Later, in 1972 just as he was rounding into fine fettle in Trans-AMA competition for Yamaha, a knee injury sidelined him for the final weeks of the season.

Hart, in both 1973 and 1974 broke his right wrist on the National circuit and missed long periods of the schedule.

McDougal suffered perhaps the most curious incident of all at age 17 in 1971. Already showing promise as a fine junior motocross racer in southern California competition, he entered an off-road race on the desert outside of Las Vegas, Nevada, drove into a chuckhole and suffered a neck injury that delayed his progress for a period of nine months.

All three came back to register some of their brightest moments in 1974, however.

Weinert put together a string of four straight victories in the middle of the National schedule to run up a point lead that proved insurmountable. Three of his victories were scored at stops in Ohio—Hamersville, Delta and Hillsboro—and the other came at Mexico, N.Y.

Hart, recovering from his broken wrist, collected two big victories in the 125cc class, the World Championship Cup Race at Springville, N.Y., and the final 125 segment of the Inter-AMA at Lexington, Ohio.

McDougal, though winless in the 125 division, registered a string of consistently high placings to finish second to Marty Smith for season honors.

"I believe this is the most versatile motocross team we have ever put together here at Yamaha," Schick observes. "Because of this versatility and their individual experience in the various classes, we have depth for any category, something we lacked in the past."

Weinert, Hart and McDougal will be riding motorcycles with the new monoshock system, pioneered and developed by Yamaha technicians and riders last season. It allows greater control and a much smoother ride at maximum speeds.

The dependable Yamaha machines accounted for 12 victories in major competition last season under Karsmakers, Hart and Mike Hartwig.

Randy Mamola: A Small Giant in Racing

Randy Mamola, the youngest performer in the stable of gifted Yamaha motorcycle racers, shows a remarkable new dimension to his talents these days.

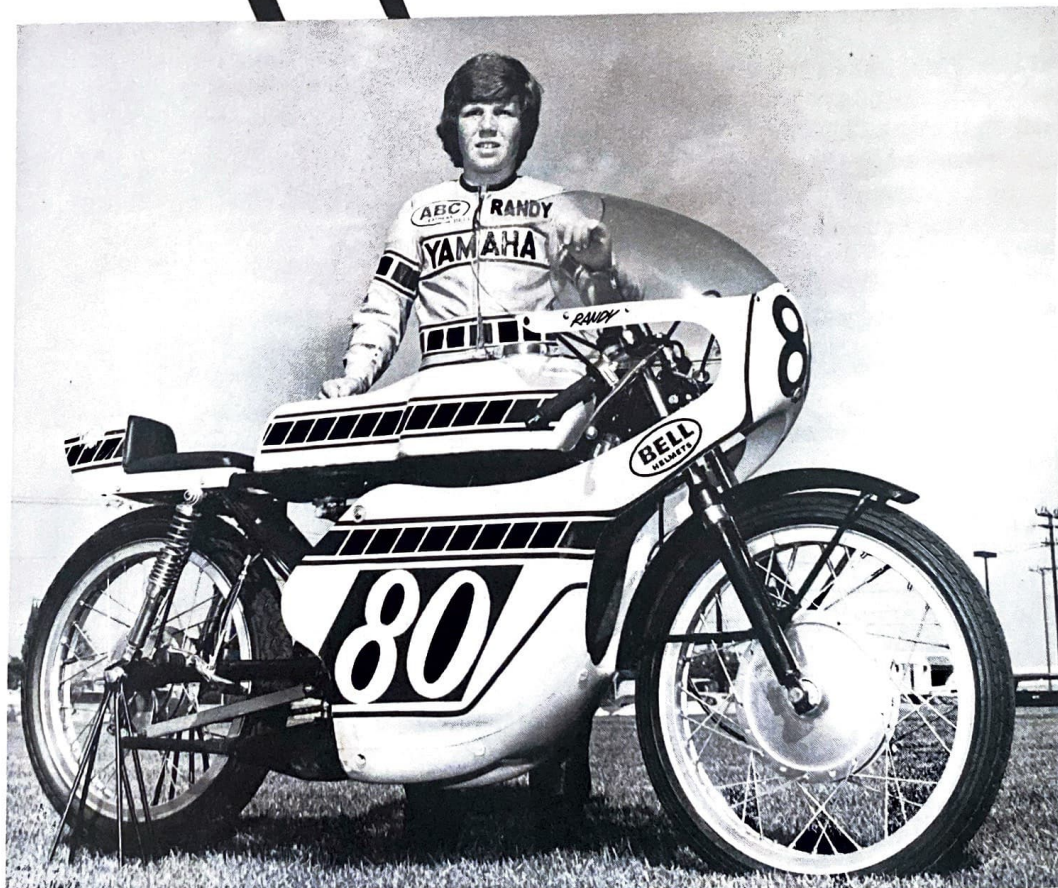
Mamola, 15, entered a road race for the first time recently at Riverside, California International Raceway and handily defeated a cast of rivals who ranged in age up to 40 in the 20-mile 125GP event, sanctioned by the American Federation of Motorcyclists.

Mamola, who maintains a "B" average in school, was ranked as the most promising young motorcycle racer in northern California last year.

He won the short track championship at Fremont and was undefeated in seven appearances at half-mile dirt tracks throughout northern California.

Like two-time American Motorcycle Association Grand National champion, Kenny Roberts, and his teammates on the AMA circuit, Mamola is fully sponsored by Yamaha International Corporation.

And he hopes to follow in Kenny's footsteps.



One day Randy hopes to be No. 1.

clean chains are a link to carefree riding

The key to chain maintenance is "clean, lubricate and adjust" but before you clean, lubricate or adjust anything it's a good idea to know exactly what it is.

The chain used on today's motorcycles is a roller type made up of pin links and roller links. The roller links consist of tubular bushings joined together by sideplates. Pin links join together the roller links with pins inside the roller link bushings. The ends of the pins are held firmly by the pin link sideplates which overlap the roller link sideplates. If you find this confusing, it is; but the point to be made is that motorcycle chains are complex and if they are to survive the beatings of today's superbikes, they'll need all the attention they can get.

Before you lubricate the chain, it definitely should be cleaned. Cleaning can be anything from a quick wipe with a rag to a bath in safety solvent agitated by a supersonic transducer. At first glance the quarter car wash might look like the answer to the cleaning problem, but water does nasty things to chains. So if you do, don't.

Cleaning the chain on a dirt bike may require a more direct method. A wire brush used on the top and sides of the chain should free up anything you can get into in a day's romp in the dirt, mud or sand. This method also allows you to clean the chain while it is still on the bike. At any rate, be sure to clean the chain before you lubricate it. Applying lubricant over dirt or grit will only accelerate chain wear.

Lubrication is needed in order to reduce friction between the chain and the sprockets. There are four places on the chain that require lubrication. First and most-important is between the pin and bushing bearing which carries the majority of the load of the chain. The other three points are between the bushing and roller, between the overlapping sideplates and finally, the roller/sprocket interface.

If you are successful in lubricating the pin/bushing joint then you have reached the other three points in the process. An almost sure-fire way to lubricate this point is to apply lubricant to the upper edges of the sideplates as they move around the lower part of the rear sprocket, while you slowly turn the wheel backward.

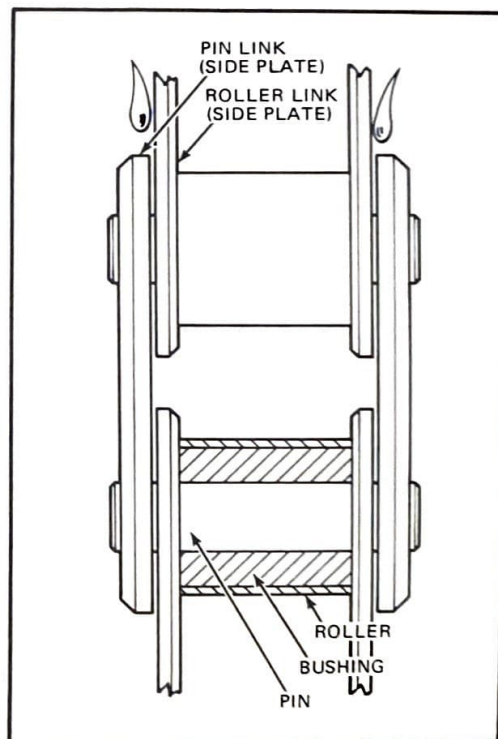
If you lack the ability or willingness to apply "hot petrolatum lubrication," which is what you get from the factory, then try a commercial chain lubricant that displaces water in an aerosol can. Yamaha's chain and cable lubricant is as good as most, if not better, and contains a solvent which thins the oil during application and eventually evaporates leaving a thick oil stock. This enables maximum penetration of a thick oil, keeping the oil on the chain and not on you. As far as how often you should lubricate your chain, do it every chance you get. It is best to clean and lubricate after you ride, which will protect the chain from corrosion while it sits. If you're the type who wants dates and places, then clean, lube and adjust every 200 miles unless you've been in the dirt. Then clean, lube and adjust after the day's ride.

Your owner's manual will tell you to fool around with the rear chain adjuster until you get about 20mm (3/4") of vertical play in the chain midway between the sprockets. This freeplay should be measured with both wheels on the ground and the rider in position.

When you have the chain adjustment where you want it, but before you tighten everything down, check to see that the rear axle is aligned properly in the swing arm adjusting slots. There are alignment markings just above the axle on the swing arm for reference. After you tighten the rear axle nut give the rear wheel a healthy spin (with the bike on its center stand) and look down the chain from the rear sprocket to the drive sprocket and see if everything looks in order. After you adjust the chain be sure and check the rear brake adjustment.

Even if you keep your chain in optimum condition it will eventually wear out. This is measured in terms of "percent elongation" or "stretch." To check the chain's stretch, lay the chain out straight on the floor and push on its ends to bring the links together and measure its length. Now give the chain a pull and measure it again. If the difference between the two figures is 2.5% to 3% you should replace the chain.

Chains cleaned, lubricated and adjusted as described will last longer and, more importantly, will take you where you're going and get you home.





Cats Conquer Kilimanjaro



Mountaintops are traditionally the domain of eagles, but the largest mountain top in Africa now has been claimed by The Cat.

Driven by boredom to find escape from their "peaceful life," two inveterate French adventurers, Messrs. Christian Lacombe and Pierre Barret, recently rode Yamaha's TY 250 Cat literally to new heights in an assault on majestic Mt. Kilimanjaro in Tanzania, East Africa.

Rising more than 19,000 feet above the African plain, Kilimanjaro presented a truly unique challenge for both motorcycle and rider, but the Frenchmen, aided by Yamaha, rose to the occasion and charted a path up the face of the mysterious mountain of Hemingway fame.

A careful reconnaissance of the peak was essential to the pair's plans, as was meticulous attention to every detail in preparation for the unique adventure. All necessary arrangements and expenses were posted in advance to take all foreseeable conditions into account.



Yamaha engineers, convinced The Cat would be up to the climb, were nonetheless concerned about performance at the extraordinary heights the Frenchmen were contemplating.

After first settling on a 50:50 gasoline-nitromethane fuel mixture, the engineers finally opted for conventional 80-octane gasoline after they realized the nitromethane would evaporate at the 19,000-foot altitude and would prove useless to the riders.

Altitude posed a second problem. Preliminary reconnaissance had told the French pair that the extreme lack of oxygen at the peak would place their bodies under severe physical stress. Thus, oxygen bottles were absolutely indispensable to their adventure. Their personal equipment, such as boots, trousers, gloves, helmets, jackets, et al, were also prepared.

As a final solution to the problem of power under extremely abnormal conditions, one of their trials machines was mounted with a 360cc Rayer engine.

While it normally takes anybody three days to attack Kilimanjaro, the pair had only two days to reach the summit by any means, since they had needed much more time for preparations than originally scheduled.

After taking a first stop at Mandarahut, at about the 1,000-foot level, the Frenchmen pressed through the savanna, where rolling stones made the going extremely hard. To make things even more difficult, the path disintegrated to a mud quagmire at several points en route to Horombo Hut, about 13,000 feet from the mountain base.

At Horombo, the pair began to worry about the condition of their Yamahas, which had withstood punishments all the way. But an inspection provided both machines with a clean bill of health—nothing was in need of adjustment or replacement.

Between Horombo and Kibo-Hut, more than 16,800 feet up, they had no difficulty. In every delicate or tricky passage, the 250 motorcycle tried first and the other followed.



Mt. Kilimanjaro has two peaks, the Mawenzi, 16,896 feet high, and the Kibo, 19,340 feet. Between the two peaks, there is a desert of raked sand. It is another world above the clouds, and the Frenchmen were greeted there by fog, snow and drizzle.

They decided to stay below Kibo peak that night, since it seemed impossible for them to climb higher or even to take pictures.

After having inhaled copious amounts of oxygen, the pair fell into a deep, well-earned sleep and arose the next morning to find their motorcycles covered with frost. It was blowing, and the ground was frozen.

Their final attack started. Undoubtedly it was the hardest part of the climb. To complicate the final assault, all their bottles were fast running out of oxygen.

Nearly exhausted and short of oxygen, the pair pressed on. Obstacles like a motorcycle which

rolled into the mud, forcing a stop to haul it out and get it back on track, hampered them but didn't dim their view of the summit.

Sweaty, thirsty and feeling the effects of the unshrouded sun, the pair trekked on as hours passed. One seven-hour stint saw only 2,300 feet pass under the cyclists' wheels.

At last they were there! More than 19,000 feet above the African landscape, at the summit of mysterious Mt. Kilimanjaro, with The Cat and an overriding feeling of elation.

What kept them going during those agonizing last few thousand feet? "We were furious," they explained. "So close, we didn't dare stop short of our goal."

"We have done it!" echoed from the snow-capped spire to the plains below, as the Frenchmen claimed the mountain for motorcyclists.

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After a day's work, Kenny Roberts relaxes with a copy of Yamaha Horizons. Why don't you?

Yamaha racing champion Kenny Roberts likes to know what's going on. That's why he reads Yamaha Horizons. That's why you, as a Yamaha owner, should, too. Look forward to the latest information on the Yamaha racing team. Read what fellow riders are doing. Improve your skills on a motorcycle and keep up with new developments. You'll find all that in Yamaha Horizons and more.

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SUBSCRIBE NOW!

YAMAHA RD350

Reed Valve Induction, A Disc Front Brake And A Six-Speed Gearbox Add Class To An Already Superb Machine.

Cycle World Road Test



THE NEW YAMAHA RD 350 might well be termed the brother of the giant killer, if it were compared to its stablemate, the TR3. Racing versions of the RD 350 have successfully trounced machines over twice their size in AMA Class C competition for the past several years with such regularity that you know it couldn't be a mistake.

Many features of the new RD 350 have come as a direct result of Yamaha's participation in road racing, both in the United States and abroad, proving that there is truth in the adage "racing improves the breed."

The RD 350 is a cafe racer's delight with its slim, sleek styling, disc brake on the front wheel and a closely-spaced six-speed transmission. It also appeals to the daily commuter who rides his motorcycle back and forth to work. Its light weight and nimble handling characteristics make it an ideal vehicle for combating the traffic jams found in so many of today's cities.

Or take the RD 350 out on a favorite stretch of hilly, winding road where the six-speed transmission and powerful front disc brake can be used to their fullest and you'll find a race-bred motorcycle in a street machine's clothing.

Here is where we find out what a motorcycle can do. Accelerate rapidly to a certain speed, decelerate by use of the brakes, swoop through a series of turns at a good angle of lean without dragging the side or center stand. This is where the RD 350 excels.

High speed turns exhibited the bike's near neutral handling characteristics with little tendency to oversteer when the power was applied. It had no tendency to plow or turn in on itself in slow turns. It felt as though the Yamaha was on rails, the rear wheel faithfully following the line taken by the front wheel. These are the same fine characteristics we found on the R5 that we tested a couple of years ago.

Aside from the reed valve induction system and the six-speed transmission the RD 350 is almost a carbon copy of last year's R5D. The narrow crankshaft assembly is supported by four hefty ball bearings and a labyrinth seal separates the two crank chambers. Roller bearings support the connecting rods at the bottom and needle bearings are employed at the small ends to carry the two-ring pistons.

Like most Japanese two-stroke Twins, the RD 350 requires several kicks with the choke full on to get it running and then a minute or so warm-up before setting off on a ride. Snick the short-throw gear lever down into first gear, release the clutch and you're off on a ride that closely approximates the ride on a road racing machine.

Even though the new transmission has six speeds, first and sixth gears provide almost the same reductions as did the older first and fifth gears. The RD 350 pulls well from about 3500 rpm to 8000 rpm which makes it seem unnecessary to have an extra gear. But the joy obtained from riding an RD 350 with its closely spaced gears is worth the extra trouble Yamaha went to. Shift lever throw is short and positive and the gearbox is very quiet in operation.

Of special interest is the reed valve induction system, called Torque Induction by Yamaha. In this system an additional seventh port is present and is really just an upward extension of the inlet port. The reed valve unit is located in the original inlet tract and opens as long as there is a demand for a fresh fuel/air charge, hence there is less chance of fuel being wasted by too great a throttle opening in relation to the engine's rpm or from blow-back through the carburetor because of too low an engine rpm for a particular throttle opening.

Peak horsepower of the RD 350 is up to 39 bhp as opposed to 36 bhp for last year's R5C. The RD 350 also got slightly better gas mileage than the first R5.

Oil for lubricating the engine's internals comes from a tank located under the right hand side of the seat and is metered by the Auto-lube pump. This pump works off the end of the crankshaft and meters the engine's oil according to the crankshaft rpm and the throttle opening. As the throttle is opened when climbing a hill the pump's output is increased, but when cruising on level ground or descending a hill, the pump's delivery is cut down accordingly to keep the engine from loading up with unburned oil.

Even though the RD 350 is not what we would call a full-sized motorcycle, the riding position proved quite comfortable to all our staff members for a short ride around town, but really more comfortable to the shorter ones.

If we were grading the suspension, it would get an "A" for road-holding and a "B" for comfort. The seat is a little hard and the front forks and rear suspension members are too firm for the Cadillac ride. But it's hard to combine this kind of handling with armchair comfort, and this firmness adds to the feeling of confidence you get when flicking the RD 350 from side to side in an exciting set of bends. Stability is first rate and the rebound damping of both the front forks and the rear shocks seemed just right.

The excellent brakes were also part of the RD 350's charm. Although greatly overshadowed by the fadeless stopping power of the 10.5 in. disc on the front wheel, the rear drum brake performed well and only faded slightly during our 60-0 mph stopping tests. The front brake features a double acting caliper unit in which both pads are forced into the disc to perform the braking operation, rather than the earlier design where only one pad moves and the caliper floats into alignment when the brake is used.

A handsome instrument panel encases the tachometer, speedometer, turn signal indicators, high beam indicator light and a light that comes on when the brake light is activated. This lamp merely tells the rider when his brake light isn't working and although we felt it was annoying at first, we realize that it is an important safety feature. An "off-run-off" switch is located on the right handle-

bar and a flick in either direction will stop the engine should trouble arise.

Much of the RD 350's sure-footedness comes from the double cradle frame, which bears a strong resemblance to the TR series racing machines. Additional bracing and gussets in highly stressed areas like the steering head and swinging arm pivot points aid in making the RD 350 the handler that it is.

We like the appearance of the engine/transmission unit which is finished in a dull black with the fin edges and heightened portions highly polished to accent the classic design lines. This dull black finish also serves to dissipate heat and adds an air of authority to the unit.

We also like the vane-type steering damper which fits below the bottom triple clamp. It adds just the right amount of drag to help steady the front end when traversing bumpy corners at speed.

Another nice touch is the locking gas filler cap which is unlocked by the ignition key. This will keep the curious little guy down the street from dumping a handful of gravel in your gas tank when you won't take him for a ride!

The RD 350 fills the bill in many respects. Few are the enthusiasts who would want to journey from coast to coast on one, but the short haul commuter and inveterate cafe racer will love it.

The RD 350 has its parallel in the automotive world—the Datsun 240Z. Like that popular medium-priced sports car, it offers a combination of two winning features: devastating performance and excitement at a moderate price, and the seemingly contradictory promise of appliance-like reliability.

The enthusiast who wants a taste of that elusive racing quality without the more odious tasks of maintenance which sometimes seem to go with it would do well to try the RD 350.

RD 350B: THE PERFECT COMPROMISE OF ROAD RIDING AND ROAD RACING

PERFORMANCE

Max. speed 100 mph
Min. turning radius 90.6 in.
Min. braking distance 46 ft. @ 31 mph

ENGINE

Displacement 347 cc (21.18 cu. in.)
Bore & Stroke 2.520 x 2.126 in.
Compression Ratio 6.6:1
Max Torque 28.0 ft.-lb @ 7,000 rpm
Lubrication system Autolube
Starting system Primary kick
Transmission 6-speed gearbox

DIMENSIONS

Overall length 80.3 in.
Overall width 32.9 in.
Overall height 43.7 in.
Wheelbase 52.0 in.
Min. ground clearance 6.1 in.

FUEL TANK

Capacity 3.2 U.S. gal.

OIL TANK

Capacity 2.1 U.S. qts.

TIRES

Front 3.00-18-4 PR
Rear 3.50-18-4 PR

Specifications subject to change without notice.

Problems Melted for Snow Racing



A second-year effort even more aggressive and expansive than the first has been completed by the Consumer/Dealer Support Team of the Snowmobile Division of Yamaha International.

The Support Team traveled throughout the snowbelt to assist at major races throughout the country, providing assistance to dealers, racers, race promoters and course personnel.

Two teams, each staffed by two service technicians made the snowbelt circuit, traveling in fully equipped mobile service shops providing parts and technical knowledge.

Service vans were equipped with welders, grinders, drills and compressors to make quick, necessary repairs on competition sleds. Service technicians applied Yamaha's philosophy: Actually help the dealers and consumers prepare their sleds, not only with instruction but with physical assistance in performing the necessary work.

An unprecedented feature of this year's program were two fully equipped heavy-duty support sleds aboard each of the Support Team trucks, used by race sponsors as track patrol vehicles and first aid machines, and providing valuable radio communications to race directors and officials.

Other services provided to race sponsors by Yamaha included use of support truck sound systems, banners, starter flags and orange Dayglo safety vests for all race officials and corner workers.

Enthusiastic response from this second-year support effort signals an even greater expansion of the program during the 1975 season.



YAMAHA MONOCROSS EXPLAINED.

Or why one big shock absorber is better
than two small ones.



Yamaha Monocross is really much It's a new kind of motocrosser. than you ever have before.

Monocross = more travel.

When your bike hits a bump, conventional shock absorbers let the rear wheel travel about 3-3/4 inches. After this travel is used up, the bike's rear end starts traveling toward your rear end. This costs you more than a

kick in the pants. It costs you time. Because when the rear wheel leaves the ground, so does the power.

By mounting the Yamaha Mono-shock at 75° from the vertical, we increased the travel of the rear wheel to more than 6-1/4 inches. This helps keep the wheel—and the

power—on the ground.

Equally important, this longer travel means there's much less chance you'll perform the spectacular and much-dreaded "endo." This explains why Monocross riders can keep the throttle on when others are backing off.

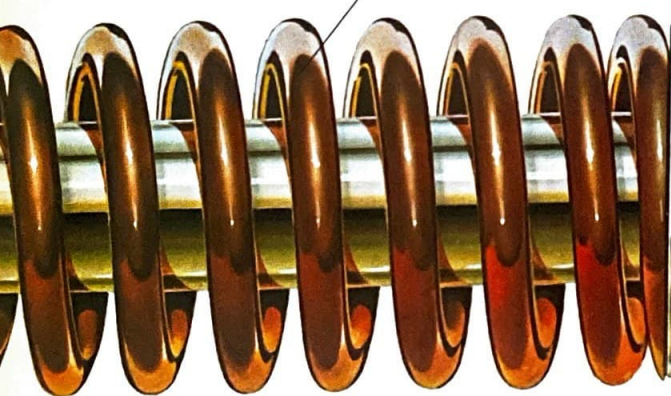


Conventional dual shocks. After about 3-3/4 inches of travel, the shocks bottom. Result: Your rear wheel leaves the ground. You lose speed. You may even lose control.

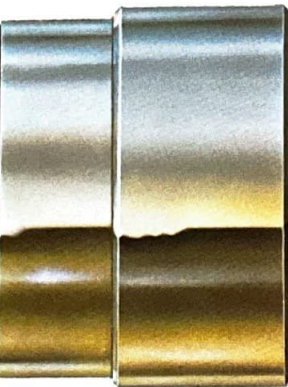


Yamaha Monocross. By mounting the shock absorber diagonally, rear wheel travel is increased to 6-1/4 inches. Result: Your rear wheel—and your power—stays on the ground.

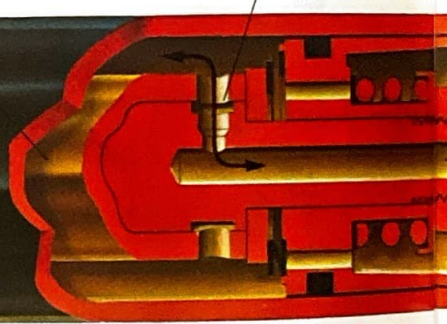
Spring. (Available in three different weights.)



Piston rod.



Piston. (Metered hole controls oil flow.)

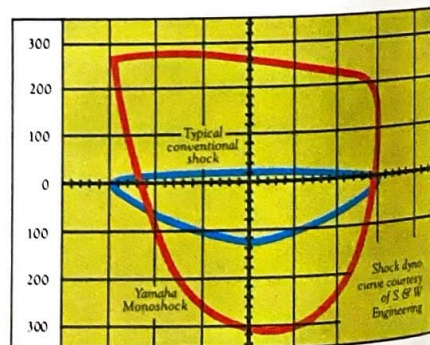


Monocross = better damping.

Yamaha Monocross isn't just a longer shock absorber. It's a better shock absorber. In addition to conventional oil damping, the Yamaha Monoshock utilizes a pressurized nitrogen chamber. Under compression, the oil displaced by the piston rod exerts pressure against a flexible

rubber membrane. Which exerts pressure against the nitrogen.

As the shock dyno curve shows, the compressed nitrogen acts like a second spring inside the shock absorber. The Monoshock is able to provide damping under conditions where conventional shocks cease to function. But this is just one of the Monoshock's beauties. Some others:



more than a new kind of shock absorber. A motocrosser that lets you ride faster Let us explain why:

Monocross = better tracking.

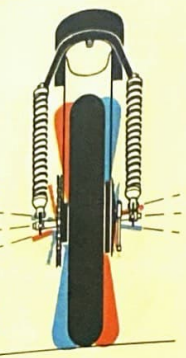
With two separate shock absorbers, you get two separate responses to every shock. One shock absorber compresses more than the other. Your rear wheel is out of line with the rest of the bike. While you're trying to steer the bike through a turn or over whoop-de-doo's, the rear wheel is trying to steer you into the woods.

With Yamaha Monocross, the rear wheel is supported by an extremely rigid triangular swing arm. Instead of two wobbly shock absorbers. So the rear wheel is always in line. And you spend less time fighting the bike and more time fighting the competition.

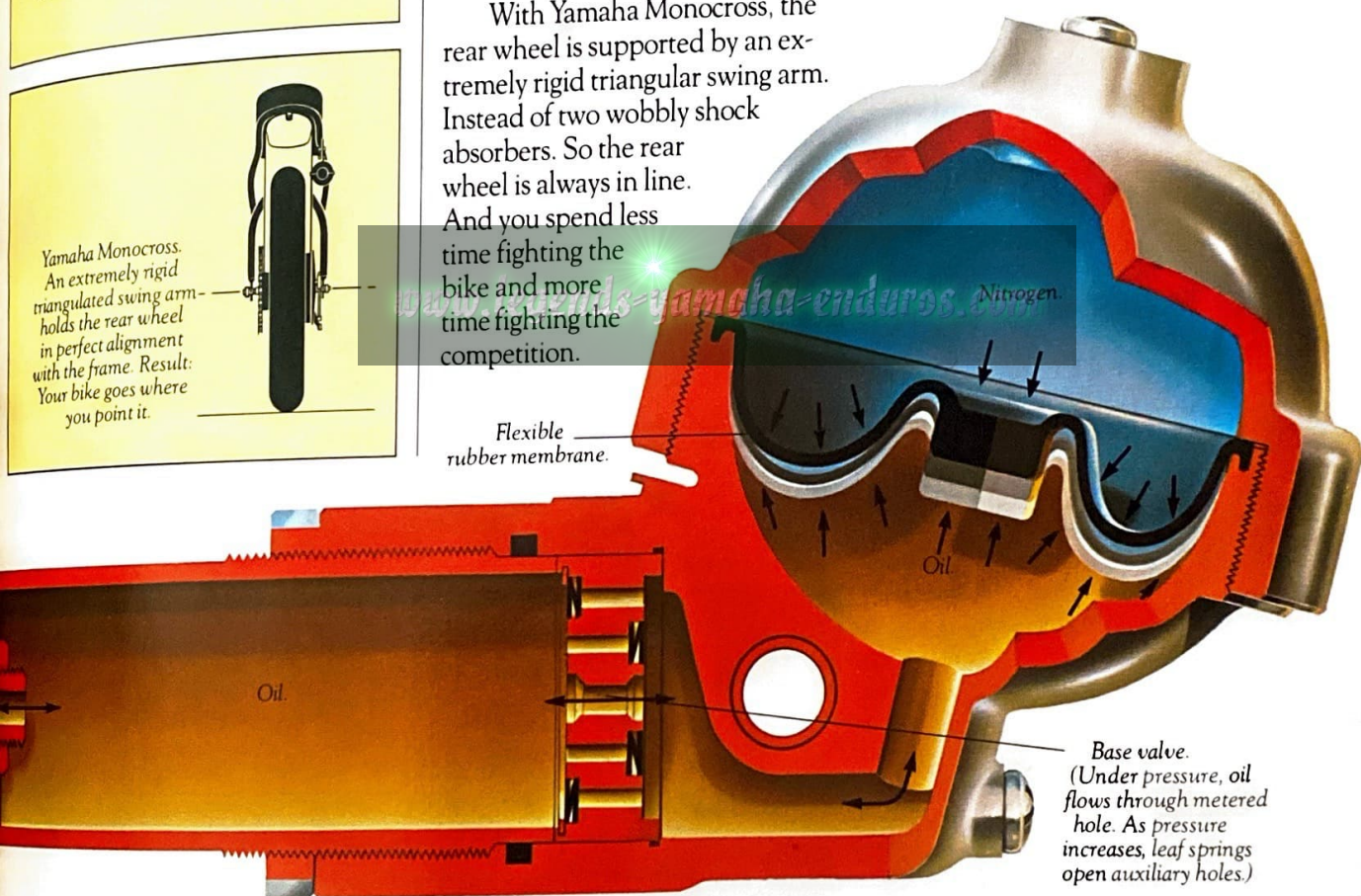
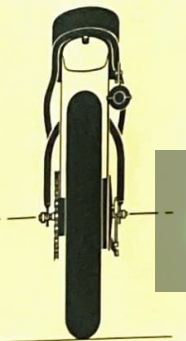
Monocross = Yamaha.

Someday, all off-road motorcycles may have a Monocross-type suspension. Right now, however, it is standard equipment only on the Yamaha MX 250, MX 400, YZ 125, YZ 250, and YZ 360 motocrossers. Right now, riders of these machines have a distinct advantage over all other riders. That may be unfair. Or it may be progress.

Conventional dual shocks. Rough surfaces, fast cornering, or hard braking can make the rear wheel wobble out of line. Result: Your bike doesn't want to go where you want it to go.



Yamaha Monocross. An extremely rigid triangulated swing arm holds the rear wheel in perfect alignment with the frame. Result: Your bike goes where you point it.



1. You can make your Yamaha Monocrosser ride stiffer—or softer—just by having your Yamaha dealer change the pressure in the nitrogen chamber, a relatively quick, simple operation. (If you're determined to tinker, you can further fine-tune the suspension by changing the strength of the spring or the viscosity of the oil, just as on conventional shocks.)

2. When you sit down on a Yamaha Monocrosser, the nitrogen pressure keeps it from sitting down on its suspension so you can use all the Monoshock's extra travel for racing.

3. Nitrogen pressure also prevents air from getting into the shock oil. Which prevents foaming. Which prevents your suspension from losing its damping halfway through a moto.

When you know how they're built, you'll buy a Yamaha.



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the COMPOSITE



...it can make a difference



From a musical instrument called a reed organ through audio equipment, motorcycles, snowmobiles and skis, the transitional process has brought Yamaha to tennis rackets.

The evolution has not been unnatural, nor has it been limited to the nature of the products themselves, but has flowed along the lines dictated by scientific advances in materials and engineering.

The result is a racket that has gone through devastating heat, humidity and shock tests, and comes out with a rating that not only surpassed competitors, but showed qualities that might even help prevent tennis elbow.

Warping and delamination were held to a minimum under temperatures that ranged from -4 degrees Fahrenheit to a blistering 140 degrees, and relative humidity cycling from 20 per cent to 95 per cent at 100 degrees.

The frame and grip materials and molding act as a shock absorber to minimize vibrations that contribute to or aggravate stress in a player's elbow.

The Yamaha racket, called Composite, is a laminate of aluminum, fiberglass and a polyurethane foam, a testimony to the fact that since 1887, when Torakusu Yamaha made his first reed organ of wood, the principal aim behind all innovations has been advancement through technology.

Such advancement has led the company through the technology of woodcraft, to metallurgy and electronics, and finally to chemistry.

Yamaha pioneered the development of fiberglass-reinforced plastic, which permitted construction of pleasure boats and, later, skis. With the skis came development of the new lightweight substance, polyurethane foam, which forms the core of the

Yamaha Composite tennis racket, with a laminate of lightweight aluminum alloy and fiberglass covering it.

This unique method of construction not only passed the heat and humidity tests, but proved in many hours of rigorous play that it maintained consistency of ball control, flexibility, and liveliness. String tension remained virtually unchanged after months of tests, and weight and fatigue characteristics of the strings remained consistent.

The Yamaha Composite comes in two models and four weights.

The YCR-128 has a closed throat, providing a high degree of control, extra power and full flex and snap.

The YCR-130 features open-throat construction for less wind resistance and, thus, faster swings.

Nylon sleeves give added protection to strings in the holes near the top of the racket, and large holes all around the rim of the frame allow easier re-stringing.

The polyurethane foam core in the shaft and grip provides maximum damping effects to ease shock transmitted to the hand, forearm and elbow.

The strength of the frame will allow up to 70 pounds of string tension, although 57 pounds tension is recommended.

Weights range from under 12-3/4 ounces to 13-3/4 ounces, and grips from 4-3/8 inches to 4-5/8 inches.

The Composite, selling for \$110, is being made available through all major tennis pro shops and specialty stores, and comes in red, blue, or black finishes.

Yamaha Talks Back

LEARN TO RIDE BROADENED

My brother and I first learned to ride at a Yamaha Safety Clinic two years ago. Now I understand that the Learn to Ride Safety Program has been expanded to include instruction in riding Motocross, Trials and Enduro. I'm interested in learning to ride motocross machines. Will the Learn to Ride Safety Program be returning to my area this year?

Julian Borschardt
Miami, Fla.

The Learn to Ride Safety Program has not been expanded. Instead LTR has become part of a broader program through which people can be introduced to various forms of motorcycle riding including bicycle motocross.

These family events are called "Dirt Days" and are offered free to the public on weekends in cities throughout America.

At each event, "Dirt Days" participants first view the exciting motorcycle film "On Any Sunday" which provides an enticing glimpse of all forms of motorcycling.

Following the film, guests are invited to attend the Learn to Ride Safety Program. For the more-experienced rider, Motocross, Enduro and Trials machines and riding areas are available. In addition, a bicycle motocross course and Yamahas' new competition bicycle, Moto-Bike, are available for the younger members of each family.

"Dirt Days" is the first program of its kind to offer the entire family an opportunity to enjoy so many different types of motorcycles and an opportunity to experiment with various forms of dirt riding in one place under professional supervision. "Dirt Days" has proven to be a unique experience for everyone interested in the sport of motorcycling.

For locations of "Dirt Days," check with your local Yamaha dealer.

KENNY ROBERTS FAN

I have been a fan of Kenny Roberts for a long time and read everything I can find printed about him. I haven't been able to find much about him personally, can you fill me in?

Margaret Windsor
Dallas, Tex.

Kenny Roberts, America's Mr. No. 1, is a great athlete as well as motorcycling superstar. He is well on his way to be No. 1 again for the third year in a row. Raised in Modesto, California, Ken first entered motorcycle competitions at age 13. He joined Yamaha's "First team" in 1972. Now at age 23, he resides with his wife Pat and their two year old son Kenneth Lee in Orange, California. During off season you will usually find Ken on the golf course playing his second favorite sport . . . Look out Arnold Palmer.

PROSPECTIVE AMA MEMBER

I want to ride in some semi-professional competitions sponsored by the American Motorcycle Association. I know I must be a member of AMA in order to compete. Can you tell me how to join and what benefits there are by being a member?

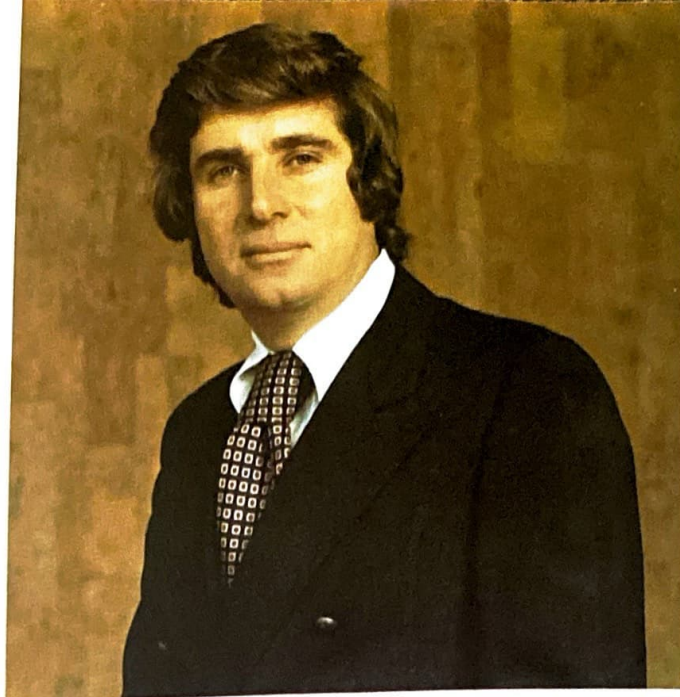
George Tourville
Los Angeles, Calif.

Competition membership is one of three memberships offered by the AMA. The other two are the enthusiast membership and associate membership.

With the competition membership, you may enter any of the sanctioned events described in the AMA amateur and semi-professional or Road Rider rulebooks. As a member you will receive a membership card, an AMA insignia, monthly newsletter, right to vote for members of the Board of Trustees, a \$2,000 death and dismemberment benefit and a gold lapel pin indicating your years of membership. Equally important is the fact that a portion of your membership fee supports the AMA's legislative programs which seek to open land, improve highway safety, and promote equitable laws for motorcyclists.

The fee for a competition membership is \$10.00 a year; other membership fees vary.

Write the American Motorcycle Association, P.O. Box 141, Westerville, Ohio, 43081, for additional information.



Conservation and Yamaha

By Dick Thomas
Manager of Advertising
and Public Relations

In the past few years we have all become increasingly aware that the world's petroleum supplies are not an inexhaustible energy resource. This irrefutable fact threatens to change all our lives to some degree. Throughout the world increasing manufacturing costs make food production and distribution more difficult and expensive.

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We at Yamaha are doing our utmost to conserve energy in every way possible. For example, our research and engineering staffs have been hard at work on a new, more-efficient engine design which will deliver more horsepower per gallon of gasoline. This type of advanced engine technology will generate greater efficiency with lower exhaust emission pollution.

It is generally acclaimed that a motorcycle is one of the most economical and fuel-efficient means of mechanical transportation available. Nevertheless, we at Yamaha are committed to increasing this economy and efficiency. When you consider that transportation alone accounts for almost 60 percent of all U.S. oil consumption and that Americans alone burn one-third of all the world's oil, a motorcycle can have a drastic effect on energy conservation.

You have probably noticed on today's highways that many automobiles carry only the driver as a passenger. This practice not only leads to excess gasoline consumption, but contributes to traffic congestion, smog and parking problems. Naturally, the motorcycle is not the only answer to the present oil crisis. Coupled with car pools and increased reliance on mass transportation, it is up to each of us to join in on the energy fight. It has a direct bearing on you and your family's way of life.

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