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JUNE 15

COVER BY STEVE KEULL

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CHECK POINT

by John Huetter

There has never been a monthly publication focused on the nearly two million off-road riders and competitors in this country. And, in the bike scene today, in the dirt is where it's happening. Cycle World, Cycle, Cycle Guide, Popular Cycling, etc., are fine magazines and I'll undoubtedly continue to buy and read them. They are good general publications covering the entire spectrum of motorcycling with varied emphasis. DIRT BIKE will not cover everything; it's a magazine devoted to the dirt rider, both recreational and competitive.

Aside from the sheer number of people who ride off-road, the dirt rider tends to be a much more involved person. He generally has an extra spark of adventure in his (or her) personality. He gets more involved with his machine and with his sport. And the dirt rider tends to want more out of a magazine or newspaper than the average cycle owner who maybe uses his bike for transportation to work. This is the reason for DIRT BIKE. It is the publication for the off-road (which is a nice way of saying "dirt") rider.

DIRT BIKE is the result of a lot of agitation, persuasive arguing, promises to perform and, in the final analysis, years of flogging various roaches, two-wheeled stones and, more recently, fast, competitive machines around rocks, trees, cactus and dirt courses. The increasing acceptance of off-road riding as fun family recreation (which it is) and the popularity of the Inter-Am and Trans-AMA motocross series, which helped establish dirt competition as an exciting athletic event, didn't hurt in getting the whole number together. People are now prone to listen when you talk dirt bike.

We're going into this thing flat out because, frankly, we dig it. The tradeoff between pounding the typewriter and wringing out some beautiful racing machine around a motocross course is one any rider would be happy to live with, and I'm no exception.

Because we ride, this has got to be a rider's magazine. No way to get around that. And since it's a rider's magazine, that means there should be a two-way communication between myself and every other dirt rider. Maybe we both stand to learn something that way. I think so. We hope you like the stuff we put out but we're not telling you that such-and-such is THE way, it's just one way of doing something. I don't like preachy editorials, or articles, and if we ever get into that, one of you deliver a swift kick to wake me up.

WHAT CAN YOU expect from DIRT BIKE? Basically, the following: off-road comparison tests, i.e., shoot-outs between similar bikes; personality profiles of some of the big guns in off-road racing, whether it be cross country, motocross, enduro, or trials, including the European stars; how-to-do-it and technical articles that we hope will be of interest to neophyte and seasoned expert alike; tasty tidbits of news from Europe and all over the U.S.; a look at some of the rarer off-road machines that are real mind-blowers (like the Wasp sidecar in this issue); recognition of the beginning or novice rider who too often gets passed over in the press; and coverage of the big events, like the Mint 400, Baja 1000 and the Grands Prix. Plus the usual that turns us on as dirt riders and, hopefully, will provide the data, humor or tech tip that will help round out your riding, making the whole off-road scene more enjoyable for you.

DIRT BIKE is coming into your hands at an interesting, perhaps crucial, time in the development of off-road riding. Never has dirt biking been more popular or more widely accepted as good, clean fun and never has the pressure of burgeoning population and uninformed legislation moved so fast to curtail off-road riding activities.

The more people/more riders/less land thing is a real bucket of worms that has got to be sorted out with proper recognition of the rights and pleasures of all concerned and that includes a good-size chunk of weekend off-road riders.

DESPITE THE INCREASING restriction of riding areas in some parts of the country, people are still discovering that there are few experiences so satisfying as following your own track, or a little-used trail, until you find what you're out there riding for. The experience really clears your head out. With the market booming in off-road and dual-purpose bikes, the potential buyer has never had it so good. God, but it's nice to keep the riding that way, too. Wide open with a lot of choice.

I know very well reading about it just doesn't make it compared to the real thing, whether in sex or biking. But on those seemingly endless days between weekends or days off, when you can't get out to ride or race, there will now be DIRT BIKE for you to consider.

We'll be as straight with you as we know how and are determined to do this thing right. After all, I want something I can read between Sundays, too. •

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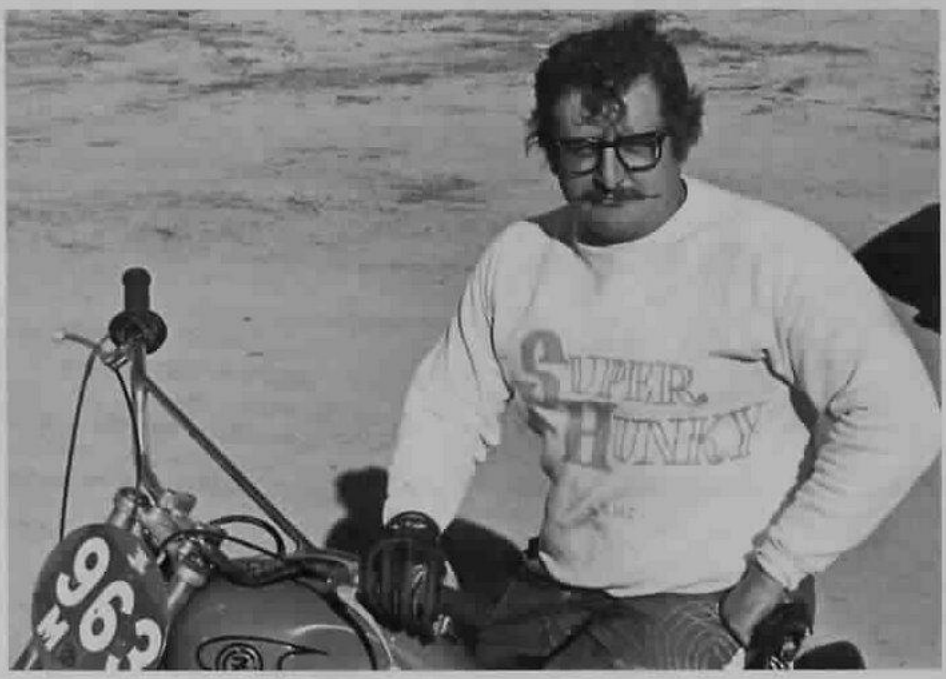
FROM THE SADDLE

by Rick Sieman

Dirt riders are basically very independent, and our independence is causing us an unnecessary amount of pressure from law enforcement types. In this case, I'm specifically referring to the problem of stranded or lost riders. An ever-increasing number of Enduros and Hare and Hounds/Hare Scrambles are being cancelled because a sour taste is left in the mouth of the authorities who may have spent many frustrating hours searching for some inexperienced kid in the middle of the Mojave.

We all break down out in the boonies at one time or another and it's not fun no matter where it happens. It's even less fun 28 miles from nowhere. There's not much you can do if you lunch an engine or destroy a gearbox, but a lot of riders are stranded because of lack of preparation, ninth rate equipment, or insufficient spares carried along for the machine. There is absolutely no excuse for not taping a spare throttle cable to your existing unit as a back up on a long run. Things like plugs, plug tools, assorted wrenches, safety wire, spare links, chain breakers, cables, levers and such should be on your machine before the banner drops. Even if you belong to a club that will search for you if you don't show up after an event, bear in mind that it's sure as hell no fun for them to wet nurse you all the way back at the end of a tow rope.

Enduro riders should have the above gear, plus basic vital components back in the truck, such as clutch plates, pistons, rings, etc. In real Enduro country, more often than not, towing a bike is completely out of the question. A recent enduro comes readily to mind. My DT1 clutch gave up the ghost completely 26 miles from the pits and the many rock-filled rivers and streams precluded towing. A little foresight enabled me, after bumming a ride back to the pits, to pick up the plates and tools needed, have a fellow Dirt Digger pack me double to the machine, rebuild it quickly, and get back in time to see my last beer being consumed by yet another club member. Such is the penalty for untimely breakage. Having the right items available saved untold grief, time lost from work, and maybe even prevented a lost or stolen bike.



You might think that it's unreasonable to expect the average dirt rider to be a mechanical whiz. Well friend, if you want to ride the big toughies, you had better be prepared for almost anything. It's really not all that hard to do most of the common breakage work yourself, especially on today's uncomplicated two-strokes. Anyone, no matter how fumble-fingered, can put a piston or rings in a two-stroke single. The majority of clutches require a twenty to thirty minute job to replace plates, even with the most elementary tools. Take the time to learn these procedures and prepare yourself for any reasonable breakdown. Naturally you can't be expected to carry $900.00 worth of spares and a tracer lathe for emergencies, but common sense should tell you what is likely to fail.

HAVE YOU EVER spent a night in the desert or back country next to your "never-lets-me-down" machine? If you don't mind it, fine. But what about the people who have to look for you and risk their machines while spending hours searching? Dirt riders understand and accept this to some extent, but I'm sure that the local sheriff, who would rather be at home resting, is less than enthusiastic about searching about in the boonies for missing riders after almost every major desert race or enduro. A recent enduro in which over 600 riders were stranded overnight really brought the wrath of the authorities down on dirt riding in that particular area. What do you think of the chances of local approval for that run again?

Something must be done, and done quickly. What about some sort of tech inspection for enduros and desert races? Sure it's inconvenient and a lot of extra work, but it beats not being allowed to ride at all in an ever increasing number of areas. It is absolutely criminal to let an inexperienced rider and totally unprepared machine even start something like the 147 mile Barstow-to-Vegas Hare and Hound race. Yet it is done every year. You could start the majority of desert races on a stock Vespa scooter, and nothing would be said. How many times have you seen riders take off at their assigned time on an enduro with a street bike complete with mirrors, center stands and street tires? Generally everyone shakes their head and thinks what a fool he is, but that is all that happens. Nothing is done by the people in charge to discourage this. If we don't do something to police ourselves, someone will do it for us, in spades. Wake up, race organizers and club officials. Is it worth

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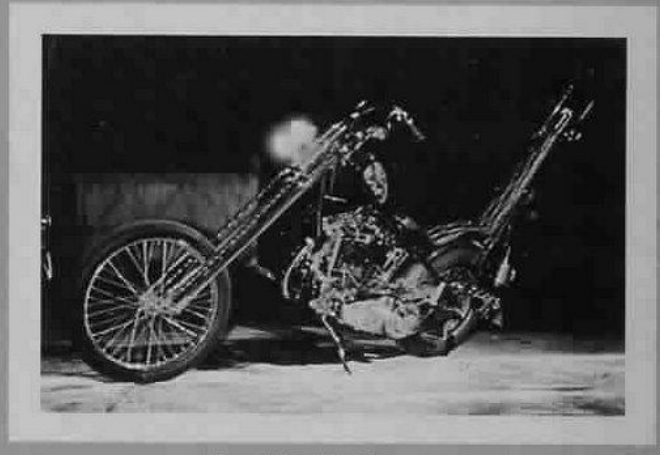

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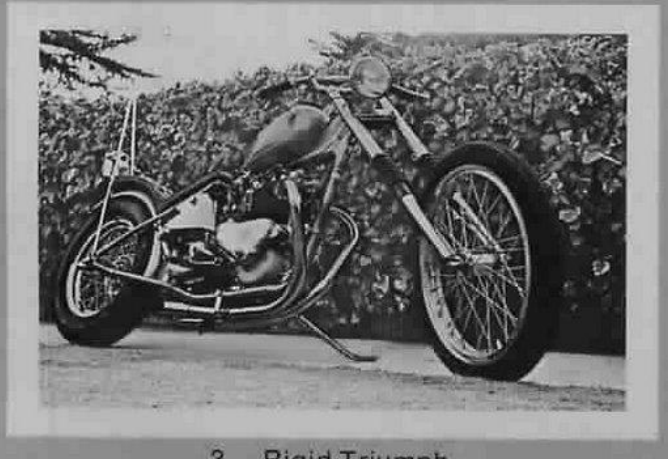

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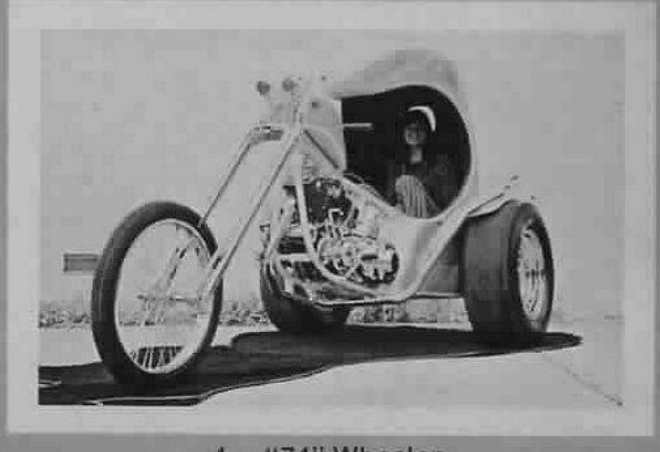

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By Scott Schafer

LOOKING EAST

It's not that far from West to East when you're riding off the road

Your body goes sailing in a great arc and Ouch! Thump!, you've gotten off again. You have once again made contact with the hard, unyielding earth formerly beneath your wheels. Don't get up right away. Sit there on the ground a minute, while you brush off the dust, twigs and grass. Consider the earth.

A lot of smart people are plugging themselves into computers today (and yesterday and tomorrow) to see if they can assign a number to each blade of grass, the grass that makes your feet green when you mow it in the morning. If they can come up with some quantity or summation that equals all the grass underfoot, that tells them how much grass is worth, then real quick they're going to tell you how many cubic feet of grass a 4.00 x 18 knobby eats per second, and next there'll be a restriction on how much grass a knobby is allowed to use up, a tax on knobbies, or no off-road tires at all.

"Far out," you say? Nobody can define "far out" any more. Everything's up close, and that's where Big Brother is going to get if we dirt riders aren't a bit less passionate when we mate our knobbies with Mother Earth. "But wait," you say, "it's just to have some fun. It's not a fight between me and the grass. I'm not spinning the wheel to damage. I need a wheel with bite to make the climb." You've got a point. We're young, and Earth is not. She accepts our play up to a point but, like all mothers, she has her limits. YOU never hurt the Earth, and neither do I, but WE dig pretty deep into her when we chase hard over rolling hills or up impossible ridges.

Nowhere is there a decision-maker or legislator who is not human. He can feel no more for the Earth than you or me, nor does he know more about her, even if he has a dollar sign, or a vote, pinned to each blade of grass. OK, so we know and feel as much, or more, as the next guy, but we're in a position where we have to prove it to him because there are getting to be almost as many people as there are blades of grass.

What to do? Well, I wasn't as worried about these things in the desert, because what damage is done is hard to see since there isn't much change (who looks back, anyway?). Not so in wet climates, where a track in the grass is usually quite noticeable, for a mess of basic agricultural reasons. I can't get too interested in trying to reclaim areas that have already been stripped of their protective covering by loggers, bad farmers, and in a few cases, unthinking bikers. Think ahead, though, to what damage you could do next time you ride. Grass is really fragile stuff. We have to help things along a bit, and ride easy over ground that has to have that green blanket to protect it from erosion. That way when we want to ride it again next year, we'll be able to.

I'M NOT READY to restrict myself to competition, but I don't want to tear up too much virgin turf, either. There should be some way to provide enjoyment for the multiplying numbers of dirt-diggers, without upsetting the populace or the ecology in whole areas of the countryside. Eventually the competition scene will provide a place for those of us who are essentially pleasure riders, much as drag racing has done for car nuts, but right now the situation is definitely not so good.

What would be a good way to have both riding and conservation? One thing that has struck me as logical is to reserve a portion of selected National and State parks for motorcycle activities. A valley or bowl-shaped area would allow a maximum variety of terrain features, restrict potential erosion to a small watershed, and minimize noise pollution. (Noise pollution—you'll hear more about that when Ralph Nader gets tired of his latest kick.) Any ecological imbalance which might result from cycling activity in this area would be centralized, predictable and avoidable by wildlife or anyone else who didn't want to be there. I can understand why I can't go traipsing all over parks. Other people use them for different pleasures that are largely incompatible with trail bikes or all-out competition machines. The government already builds roads through parks, so people who don't want to pack in can enjoy them. It doesn't seem like too much to ask to have a few hundred acres for bikes.

It somehow seems like a shame to have to be responsible while we're out trying to have fun, but responsible behavior today means no harsher laws governing the sport tomorrow. We all saw how fast the helmet laws were imposed over many American motorcyclists. The biggest complaint most of us had was not against wearing helmets, but rather against being forced to wear them. You'll notice that very few states have laws requiring hunters to wear red, although most do because it's a good, safe idea. But they don't have to dress just so, and *we* do in many states.

IF WE AREN'T more careful when we lace green grass with tread-pattern scars, we won't be able to enjoy what freedoms we have now. The momentum is rolling the wrong way. We're picking up restrictions instead of privileges at the same time the sport is expanding.

How many kids have mini-bikes? What are they going to do for fun ten years from now? Take their 200 HP Squatty Hummingbird out to the unispeed roadway and hump its 5000 pounds of smog control devices down the pike? I doubt it. They're going to select an aluminum-stroked, titanium-framed two-wheeled machine that weighs the same as they do, and they're going to thump it around in this dirt that we all end up in. They're going to need room to let it hang out after a week of shuffling computer cards in a windowless cubicle. They'll want to see what it's like, as we do now, to run 400 pounds of man and machine at an unyielding mountain, and conquer it, fight gravity and win. They'll be able to do that only if we aren't too selfish right now. We have to think about conservation before we ride, though. I, for one, have a cable that runs from my throttle hand up into my head. The wider I open the throttle, the narrower my thinking is. It's impossible to ride hard and be thinking about conservation, too. I'm afraid that if we don't develop a different attitude toward the earth *before* we ride, the Man will tie that cable off in the closed position. Think green. ●

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EUROPEAN REPORT

by John Weed

END OF AN ERA

The biggest news to hit the headlines on this side of the Atlantic is the retirement of Sammy Miller from the Trials world. The 'Maestro' has been the king of the plonker brigade for the past twelve years and his loss to the sport will be greatly felt by both fans and participants. He will still keep a hand in at the occasional local or club event, but the big meetings have seen the last of Sammy. This (1970) is the first year that Sammy has not taken the prestigious British Trials Championship; a lengthy reign draws to a close.

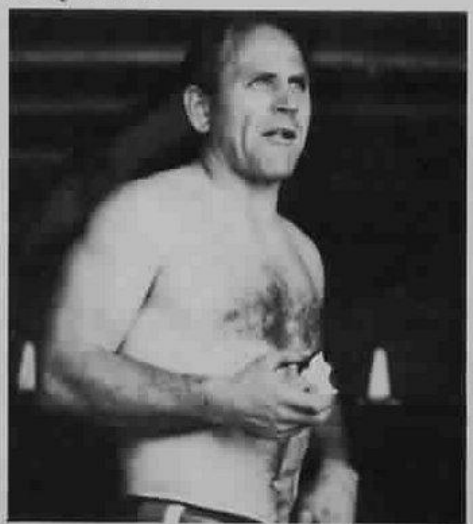
This year Gordon Farley brought the British title home for the Montesa factory and many people believed this to be Sam's reason for calling it quits. Nothing could be further from the truth. At 38, Sam believes his talents could be put to better use. He plans to act as team manager for the Bultaco team of Geoff Chandler, Paul Dunkley and Malcolm Rathmell. These younger riders were possibly the only people not to be hurt at the loss of Miller, for they will now have a chance at victory. When Sam was entered, the competition was usually for runner-up.

Many people do not realize the extent of Miller's talent as a motorcyclist. He made his mark in trials, but before the championship years he was an accomplished sand racer, motocross rider, I.S.D.T. gold medalist, and road racer. However, starting in 1959 Miller captured the coveted British Trials title on his now-legendary 500 Ariel. He switched to Bultaco in '65, proving that it was the man and not the machine that makes a champion, as he clinched the title up until this year. Anyone who competes on a Bultaco Sherpa T has a lot to thank Miller for as he developed this machine into a world champion trials bike, which suits novice as well as expert.

In the Manx Two-Day Trial in 1967, Sammy Miller shows the form that will put him down in trials history.

SMITH RETURNS

Jeff Smith, considered the "grandfather" of motocross at 36, has decided to make a comeback in Grand Prix racing. Smith really shook up the troops on his recent Stateside visit to compete in the Trans-AMA series. He proved himself absolute master of the 250 BSA motocross machine. In a field ruled by the two-strokes and younger men, Jeff showed that the BSA single with an older type at the helm can still be competitive.



Jeff Smith will make a full scale return to Grand Prix motocross. He is 36 years old.

Smith retired from the Grand Prix scene in 1968, but was still active in the non-championship Internationals. He feels that he is still as fit as he ever was and although he won't have full factory support, he will obviously have the factory's blessings. Ringdings beware!

NEW FACES IN THE BSA STABLE

Comes winter and comes the expiration of rider contracts with the factory teams. This means dissatisfied riders on the prowl for sponsored rides. Two riders in this category who resolved their problem are Vic Allan and Andy Roberton. The already talent-loaded people at Birmingham Small Arms, Ltd. have offered them works contracts to ride BSA in this year's classics. Allan has been a works Greeves rider for the past five years, but he really hit his form last year and was Britain's best rider in the 500cc world championship. He is really keen to have a go at the title this year and like most motocrossers in England, he

feels that the 500 BSA is his best chance.

Andy Roberton has been associated with the AJS team off and on for the past three years and has showed that he can really go on a big bike. Once again, he wants a crack at the title and switched to BSA as his best bet. Both of these riders are chargers and would be a welcome addition to any works team. This brings the BSA team up to fearsome strength as they already have John Banks, Dave Nicoll, Keith Hickman and Jeff Smith.

GOSS TOO!

While on the subject of 'musical machines,' Bryan Goss has forsaken his Husqvarna and gone to a Maico. The British champ has been campaigning Huskies for the past four years, but was very impressed by the performance of Ake Jonsson in last year's Grands Prix, and as he plans on importing the machines into Great Britain, he couldn't see himself riding one make and selling another.

WORKS RIDERS TO THE SIX DAYS

Scotland will not be supplying the British Vase 'B' team in this year's International Six Day Trials as the British Auto-Cycle Union has decided to man the team with works Greeves and BSA riders. Scotland has entered the 'B' team for the past two years and one of Great Britain's six gold medals last year came from one of the Scottish teams. The Vase 'A' team will be made up of army personnel as in the past. The Trophy team will once again be mounted on Cheney Triumphs and they will be dealer sponsored but there may be some static yet, as some of the larger manufacturers have plans for their own teams and the problem of who has first choice on the contracted riders may cause friction.

Stocky Scotsman Vic Allan has decided to join the BSA team and now leaves the Greeves factory short of top class talent.

Andy Roberton at Ascot Park in this years' Inter-Am — one of his last rides for AJS. Andy started on a big Matchless single so his change to BSA will not be a new venture.

RUMBLINGS FROM BEHIND THE CURTAIN

Rumors from the factories include the possibility of the Soviet Union entering a national team in championship motocross competition. The machine will probably be a Vostok, although it might very well be campaigned under a different name. It seems that the Russians have taken notice of the good vibes the Czechs have generated with their success, often under adverse political and economic conditions.

It looks very likely at press time that CZ will develop and market a machine for cross-country competition in addition to their motocross models. Changes will probably include a longer swingarm, more rake and increased tank capacity. With the noted CZ engine reliability, they could have another winner, and a challenger for the current crop of desert machines. ●

EDITORIAL

"SUFFER THE LITTLE CHILDREN"

by Swede Carlson

The generation gap is nothing new. It's been going on ever since our ancestors lived in caves. They didn't have the fancy term to define it. They just had the problem. We also have the fancy labels, thanks to modern politics and instant media communication, which have given us so many blessings.

The problem is almost as old as time, because it's essentially a problem of time. Sigmund Freud said, "Anatomy is destiny." He was right, but in a far broader context than he intended, being somewhat preoccupied with matters sexual. The simple fact is that time changes everything, including you and me. As we grow older, from birth onward, our needs and desires change as our bodies change. The truth probably is that our bodies control our minds far more than our minds control our bodies.

Most healthy children are literally bursting with energy. They have to move. Recent scientific experiments have determined that physically restraining a child's movements causes the child actual pain. The same restraint would probably cause an adult only boredom. The same restraint would probably cause an elderly person great discomfort. They prefer not to move too much, anyway.

And therein lies the rub, because the economic systems of almost all societies in all times have required long apprenticeships before the majority of individuals can acquire much wealth or influence. Which means that generally the middle aged and older population have the most power to control the conduct of their culture. It gives rise to some interesting, endless conflicts; the conflicts of the young demanding action versus the old demanding restraint. The generation gap.

The old people, of course, were all young once. But somehow they manage to forget how it was. They only remember how it is now. Their earnest claims to the wisdom of experience and the best interests of everyone are only partly true. What is much more immediately and importantly true is what their tired old bodies tell them they want; peace, quiet, rest. The only way they feel they can get enough of these loves is if they can persuade everyone else to join them. And if you can't persuade them, perhaps you can pass a few laws.

HOW WELL I remember the Sunday mornings of my boyhood. The parents demanded the right to sleep until eight o'clock. I could get up earlier, but I had to quietly dress and go outside and play. That was all right. But when they got up, I had to come in for breakfast and get dressed for church.

How I hated church! A friend of mine, who was as irretrievably damned to hell as I was, collaborated with me in what we called the Preacher Game. All week long we would carefully save all the slivers in our hands, no matter how painful. We would carry a safety pin to church. There, while the preacher droned on, we would slowly, luxuriously extract our slivers, trying to make them last as long as the sermon. Meanwhile, the old folks would listen with shining eyes to the promises about their future. I must admit those promises seem much more attractive now.

It's an interesting, universal bias of human nature. While you know damn well that what's good for someone else may not be good for you, you're sure that what's good for you will be good for everyone else. So naturally, the grandmother with fat, varicose-veined legs is against mini skirts. The prohibitionist is against alcohol. The millionaire is against taxes. And all the folks who don't ride are against motorcycles. Gloom and doom for everyone.

OF COURSE THEY have some legitimate complaints against motorcycles. The things are noisy. They tear up the ground cover. They raise clouds of dust. They disturb the animals. But they also take riders where only a few hardy hikers could go before. And many places even hikers wouldn't go. They disturb the status quo, whatever that is. Most of all, they allow the riders to have fun, and that is the unforgivable sin in the eyes of those whose fun is the more stationary variety.

The Huns who followed Attila out of Mongolia, riding their tough little ponies across the steppes of Russia to plunder the Roman Empire were young men. They knew the odds were very good that they could die in battle. If they lived, their share of the loot probably wouldn't make them rich. They went along anyway, for the ride. It was better than staying home. No doubt the old folks back home shook their heads at such lack of wisdom.

So now we have a population explosion, which compounds the problem. On the one hand, there are more and more young people demanding room to ride motorcycles. On the other hand, there is less room available for anything as the country fills up with people. The frontier has vanished into history. The Great Plains are covered with wheat farms and grazing cattle. The mountains are full of ski resorts. The beaches are overflowing with bodies. The national parks look like a mob scene from a Hollywood spectacular. Where shall we ride motorcycles?

In California and elsewhere, more legislation is being enacted to ban motorcycles from more areas. The lawmakers assure everybody that they're not being repressive. It's for the good of everybody. Which really means the slow diers still have more political muscle than the fast livers.

AN EXAMPLE OF the absurdity this can lead to is the California desert. It covers a mere sixteen million acres. For more than a hundred years, it was considered to be a vast wasteland. What a shame that all that land was so useless. Then the motorcycle riders discovered a use for it. And suddenly the old folks realized how precious the desert was, after all. Too precious to allow the motorcycles to tear it up. There are now vast political pressures building to save the desert from the people. They want to ban motorcycles.

The ecologists, who are supposed

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WHITEY MARTINO

DIRT BIKE talks with the top desert heavyweight and U.S. I.S.D.T. team member

James "Whitey" Martino recently won the No. 1 Desert Heavyweight title for A.M.A. District 37 for the second year in a row. He was also a member of the U.S. International Six-Day Trial team for the 1970 trials in Spain. He ranks as one of the top American long-distance cross-country riders in anyone's evaluation and shows signs of continuing to improve in both skill and attitude.

The editor and tech editor of *Dirt Bike* recently had the opportunity to corner Whitey and talk for a couple of hours over a platter of Mexican food. His remarks are candid, and for the most part, unedited. In the following pages, Whitey tells what it takes to get the coveted No. 1 plate and how it is in the upper echelons of dirt racing. He also managed to pass on numerous hints and tips that he uses in the rugged grind of high-speed cross-country competition. Our discussion also provided some rare insight into what it takes to ride at top form, winning overall week after week throughout the year. The knowledgeable rider will recognize the truth and authenticity in what Whitey says. He intended no offense to anyone and neither does *Dirt Bike*. This is the desert racing scene as viewed by No. 1, Whitey Martino.

Huetter: "Whitey, you've competed very successfully on your 400 Husky. Did you ever ride the 8-speed model, either 360 or 400?"

Martino: "I've ridden an 8-speed, but my Husky is the standard four-speed. I'm used to it and it's really all I need."

Sieman: "The Husky has a reputation for being very stiff-shifting. Do you find this true?"

Martino: "Yeah, the shifting is stiff, but I consider that an advantage in desert racing. A bush or something won't knock it out of gear. Besides, you're not changing gears that much if you're riding hard."

Sieman: "What single item on the Husky is likely to break first?

Martino: "Ummh, probably the piston."

Sieman: "Really? Nothing else will crack or rattle off?"

Martino: "No, not if your bike is prepared correctly. There aren't too many weak points on the Husky?"

Huetter: "The 400 has a reputation for having just awesome power; more than most riders can use. There are probably only a handful of racers who can utilize it. How do you feel about that?"

Martino: "Well, I could use some more power at times. It wouldn't hurt to have some more on tap. It really doesn't have enough for my purposes."

Sieman and Huetter: "Not enough power?" (Stunned silence.)

Sieman: "Do you feel it's the best bike out there?"

Martino: "It seems to be the one that's winning, and it very seldom breaks during a race. It depends a lot on who has maintained it and who is riding it. But I'd say it's the best right now."

Sieman: "I'm sure it happens to dozens and dozens of riders. You're 28 miles out and you're out of the race because of your engine, or whatever. What do you do?"

Martino: "Well, if you are 28 miles out, you're probably still in the race pretty well and if there is a lot of traffic, the first thing you do is try to get your bike out of the way of the traffic, get it behind a bush or something. A big enough one where somebody is not going to plow through and rip that metal. And then, what I usually do, is turn the bike around and make sure certain they can see the number and remember that number. Let them see you and just wave and let them know you are there. Don't hide or lay down because they will never find you. Just keep stirring and take your helmet off so they can see your face. And then if nobody stops, (but there is bound to be somebody coming through) well, wave them down and don't just say, 'Give me a ride,' talk to them for awhile. Whatever they want to say. They'll ask you what's wrong and this and that. Try in a nice way to get on the first bike you can and get out of there. When it does break down, one of the other things you want to do is sight in on a mountain or a prominent tree to get two different directions right back to where you can locate the bike. People have broken down out there and it's the only way there is to find the bike again. This is how I can get back to the bike and so many times I've been able to go right to a bike with proper locating by triangulation. Like a lot of people don't want to pack double, but try to get them to. The best thing to do is just get out of there."

Huetter: "How are you in the overall desert ratings now?"

Martino: "I think I am Number One again." (Ed. note: Martino did finish Number One.)

Huetter: "Do you enjoy riding? I mean do you still like it just for the fun and real pleasure?"

Martino: "From time to time. Like a lot of times I'll ride and I'll just

really enjoy it and have a lot of fun. Other times it's just something I have to do."

Huetter: "You mentioned earlier that you'd probably have a sponsor for the next Mint 400. Are you going to accept that? Is it pretty much a sure thing?"

Martino: "Well, I'll accept it, maybe. But, the first thing I'll have to do is go talk to the people. I just can't seem to pin them down."

Huetter: "Do they have a starting position for you already? Do you think you might campaign a different bike next year?"

Martino: "Well, I feel this way. If somebody wants to sponsor you and you ride the bike and everything, then you don't badmouth it. I have seen too many guys do that. Get sponsorships just like (a well-known rider) did and he sits there and badmouths the sponsor. I disapprove."

Huetter: "Yeah, that's not good."

Martino: "I have seen a famous desert rider finish a race and they'll say, 'Hey, did you use such and such an additive?' and he'll say, 'I don't use that____.' "

Sieman: "Say a seventeen year old kid is ready to buy a bike and saves his money. What would you recommend he buy, and how should he start to learn to ride like you do?"

Martino: "Well, just get a bike that is popular. Probably one that is winning the most and just get out and ride as much as possible, not fast. I think one of the best conditioners is riding Enduro. You have to learn how to ride a bike slow before you learn to ride it fast."

Sieman: "Well, one rider said that trials are a good conditioner. Have you ever tried trials with him?"

Martino: "I've played around on trials bikes a lot, but I have never entered any. I've tried the Six Day Trials."

Sieman: "Yeah, what happened on that? You couldn't start your bike."

Martino: "The bike was a dud. I had to completely overhaul it when I got there. The carburetors were the new style Bing and I had to work on them before the start. They didn't pick up the gas right and it wouldn't fire. Three days and it quit again and I was out."

Huetter: "How did you like the Six Days?"

Martino: "I'll tell you the truth, I wasn't ready for it. Financially, I wasn't ready for it, it cost over $1500 and I'm still making payments on

Martino leads a bash around the Indian Dunes motocross course.

that. I wasn't ready financially, and physically too, because I was wounded from a race a couple weeks previous. I did a number on a Husky. Right into the tank bolt."

Sieman: "Do you mean that___ breaker?"

Martino: "Yeah, it hurts."

Sieman: "Is that the one that proves that all Husky riders are not necessarily made of steel?"

Martino: "Yeah, you know I was in pain. Sitting on the plane to go over there was painful for me. I couldn't stand the pain. I was so badly off I couldn't get the bike started."

Huetter: "How did you like the actual terrain?"

Martino: "Rocky terrain. Lots of rocks and a lot of asphalt."

Huetter: "Would you say it's very demanding physically."

Martino: "Very. Very demanding.

Huetter: "What about the mental preparation? Does it equate to something like the Baja 1000?"

Martino: "Yeah, very much so. This thing is to set yourself in the state of mind that says you are going to finish. Six days, that's a long time. You know, riding six days and getting up very early when you are sore from the day before and maybe it's snowing or raining out and you froze the day before."

Sieman: "How long have you actually been winning?"

Martino: "The last couple of years, would you believe it? Well, what happened to me is I was married for ten years. I got a divorce and became Number One. It just did everything. Made all the difference. It just proved to me that a person has to be loose and free to ride and race and win."

Sieman: "You're not married now, are you?"

Martino: "No. I couldn't do much of anything when I was married. I couldn't see anything wrong with marriage. It's a great thing, but it just seems to me I loosened up when I started doing what I wanted to do."

Huetter: "Do you remember back when you first started in the desert? How did you feel about it?"

Martino: "Well, I had to start somewhere out in the desert. A lot of it was really hard for me to cope with, you know. A lot of times I wanted to quit, where now I can just ride weekend after weekend out there and never have any real difficulties. It doesn't bother me at all now."

Sieman: "What about the long down-hills? Sometimes you see guys bulldogging their bikes down there. How do you take those, just slide them carefully or charge or what?"

Martino: "One time I had trouble going down hills like that. Probably everybody's weakness is going down hills. The thing to do when you come to a fair-sized down hill is as soon as you come close to the top of it, pull the clutch in and rev it up and pop the clutch and let the bike wheelie down."

Sieman: "Wheelie down?"

Martino: "Yeah, so then when it

lands you're already going much faster than you want to go and you learn real quick how to balance."

Sieman: "I think you're out of your mind, Whitey."

Martino: "That's what I do."

Sieman: "Let me take that slowly, you come to the top of the hill, I don't believe this, and then you do a wheelie down it. . . ."

Huetter: "And this is when I am carrying my bike down the hill."

Martino: "It's hell going down under any conditions, and then you know there's nothing to do but learn how to steer it going down a hill. That's what I do.

Sieman: "What's your favorite course, if you had to pick one?"

Martino: "Oh, Red Rock I guess, or Holiday."

Sieman: "What do you think is the toughest?

Martino: "Check Chase. And a Checker won this year. That's another first for the Checkers."

Sieman: "How many people do you have in the Checkers?"

Martino: "I haven't gone to the meetings for a long time. There's probably around 30 guys."

Huetter: "You mentioned before that an awful lot of young kids just don't last in the desert. That it's a place where judgement, maturity and experience count."

Martino: "Yeah, that's right."

Sieman: "How old are you, Whitey?"

Martino: "Thirty."

Huetter: "That's the one question I guess that always comes up when you are talking about competition racing. When are you really through? You see all the 14 year old hot shoes. . . ."

Martino: "You know how I feel on that. It's a matter of how you condition yourself. I think a guy is safe 'til about 45 years old. After 45 he shouldn't do it because his bones are brittle and it's harder to heal. But 45 years old, I think a guy could still be winning overall."

Sieman: "Say you are in a typical desert event and your bike doesn't start right away, takes two kicks, and you take off the line, and you suddenly find yourself surrounded by dust, you can barely see your front fender. What do you do?"

Martino: "Well, whenever you start a race, the smart thing to do, which probably I don't do often enough, is take a little time and pick yourself out about three different routes. Check your wind. Like on a day where you feel you're going to take off from the line and you're going to lead it all the way. Then start wherever it's the fastest way to the bomb. But you may have to haul to get yourself some running room so you can get around everything and always try to find out after the smoke bomb which way the course goes. If it goes straight, there's not much to worry about. But usually there will be a turn, right after the smoke bomb. If you're back in the pack, don't go all the way to the bomb. Just head right for the trail, cut across."

Sieman: "That's an excellent tip. I think everybody goes through the smoke bomb first rather than cutting off to the trail."

Martino: "I've had them all pulled on me so many times. It takes several years to become a good cross-country rider, especially a desert rider. Learn to read terrain. Anytime you know you're going near the mountains, you're going to get into wash-out country. You're going against the flow of the terrain."

Sieman: "It's something that every guy who rides runs into. You'e gone along 15 miles, all of a sudden you come to a hill and it looks like there's maybe eight million ants crawling up this hill, riders all over the place. How do you get up the path?"

Martino: "The best thing to do is not look at the congested spot, glance at it, and then glance at the whole area and look for canyons. Go around, or if you can go straight when you can't find a way to go around; if you end up going directly through, do it slowly and smoothly and don't make any mistakes. If you don't try to just bomb your way through, you'll end up picking up 50 positions on a bad hill."

Sieman: "All right, let's carry this further. Let's say you are going through and the guy ahead of you falls and you have to lay your bike down or stop it. . . "

Martino: "I try never to get myself in that position. I keep away from everybody or I'll think whoever's in front of me is going to fall and goof me up, so you allow for that. You allow for him falling. And, if he does fall, you watch how he falls and maybe have to use his bike for traction."

Huetter: "You don't usually run into that kind of situation though, do you? Have any big crowds in front of you?"

Martino: "I have."

Sieman: "What do you do when you get in really blinding dust? Do you still charge or do you wait till you can see?"

Martino: "Get off the trail and ride about ⅔ of your ability. Don't try to go to your peak speed. Just keep steady."

Sieman: "You mean off the trail and blind, you still ride hard?"

Martino: "No, I get off the trail on the opposite side depending on which way the wind is blowing. If there is no wind it just stays there. You just have to go a little bit slower. Naturally, when you can't see the best thing to do is get up on the pegs and stand there and brace yourself. If you start sitting down and even if you are going slow you might get pitched over the handlebars. I've hit a lot of things that I couldn't even see."

Huetter: "Do you wear yellow goggles if there is heavy dust?"

Martino: "Once in a while."

Huetter: "Do they work?"

Martino: "They help a little. Yellow goggles are really bad for your eyes 'cause you get a lot of glare in the desert anyway and that just adds to it. By the end of the race your eyes will hurt. . . . "

Huetter: "More so than with the tinted goggles?"

Martino: "Right. I've tried it once with tinted goggles."

Sieman: "Do you tape up the sides and vents, the whole thing?"

Martino: "Yeah. I leave a couple of them open on the sides."

Huetter: "Don't you still get dust in?"

Martino: "Very little. It just depends on how hard you are thrashing along."

Sieman: "What do you do for body comfort for a long race? You know, the little blisters, the chafed spots, the little irritations.

Martino: "If it is really a long way, I'll try to wear two belts, two kidney belts. One below and one a little higher."

Sieman: "Do you wear a kidney belt all the time? Does it add to your confidence too?"

Martino: "It just doesn't hurt as much. You might as well save a rib."

Huetter: "How long have you been riding?"

Martino: "I've been racing for about 7½ years."

Sieman: "What did you start riding on?"

Continued on page 60

Lengthening the DT-1 and AT-1 swingarm

How to get better handling from your Yamaha

by John Huetter

The Yamaha invasion of the on/off-road motorcycle market shows little sign of slackening. The successful DT-1 of 1968 (has it only been that long?) has resulted in a proliferation of other "Enduro" beasties and their high-performance cousins, the MX models.

It seems everybody starts on a Yamaha, or rides one at some point in their motorcycling career. The 125 and 250 machines are always present in their respective classes at races or enduros. In the hands of the right man, they usually acquit themselves honorably in almost any type of event.

The Yamaha has the virtues of attractive styling, easy maintenance, and reliability. The major drawback in the machines, and one that most owners run into when they start moving out more rapidly in the rough, is the handling. Yamaha's handling is a result of the necessary design compromise in any bike designed for both street and dirt. There are a lot of reasons the bike handles the way it does, but the culminating result is that most people do not find the Yamaha ideal for going fast off the road.

Whether riding for competition or recreation, many riders have availed themselves of the numerous Yamaha handling kits on the market or have gone to different rear shocks. The results of such modifications have often proved less than satisfactory because in most cases, the basic frame geometry is not really altered. One of the surest, most sanitary modifications you can make to improve the off-road handling of your Yamaha DT-1 or AT-1 is lengthening the swingarm. The overall geometry, and handling, of the machine is changed by bringing the rear wheel back from its stock position and raising its position relative to the bike, thereby lowering the center of gravity.

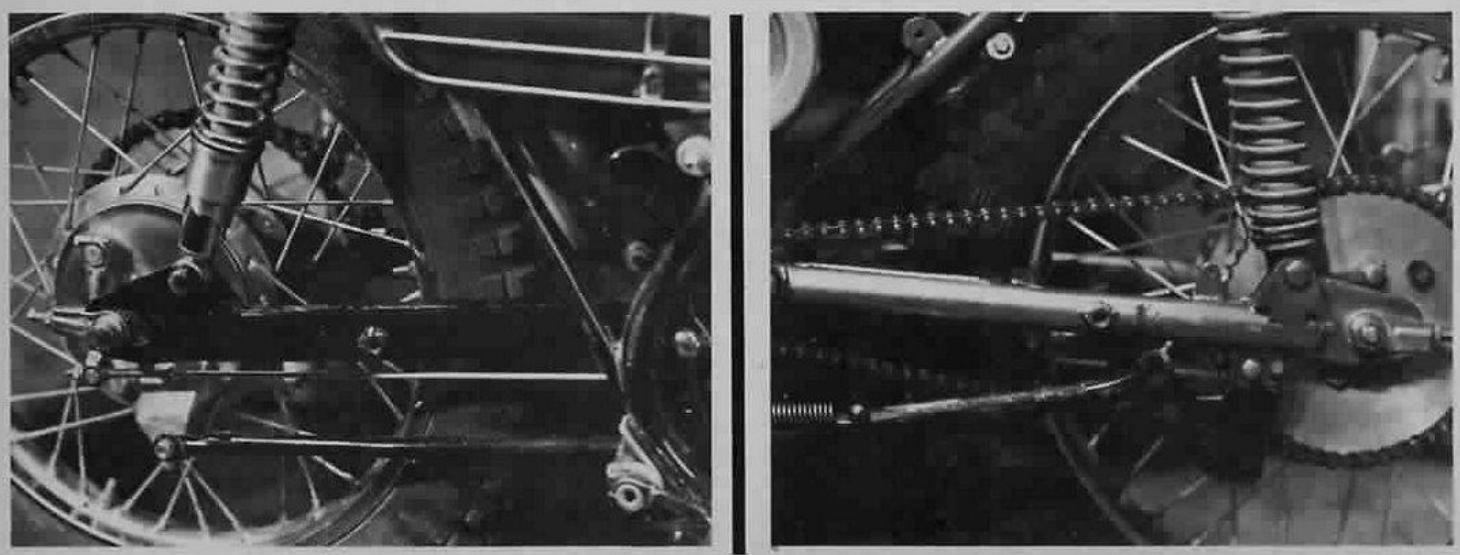
This modification eliminates nearly all of the shudder and wheel-hop native to the DT-1. You also have fewer of those white-knuckle situations where the rear wheel is swinging in great arcs from a position next to your left shoulder over to a point in space beside your right ear. Riders who have tried the modification also report 87% fewer endos in the rough stuff. Once the sideways hop is controlled the Yamaha tends to track pretty smoothly in a straight line through deep sand, mud and other memorable challenges of off-road riding.

THE MODIFICATION IS not that hard if you do it right. If you make a hack job of it, the best that can happen will be ruining a perfectly innocent swingarm. At the other end of the scale, you could kill yourself by doing a sloppy job and having it break underway.

Pre-cut, shaped metal extensions that will extend your swingarm one inch and lower the rear of the machine an equivalent amount are available from Cycle Products West. If you don't want to do it, or have the welding done on your own, they'll take your money and old swingarm and send you back an extended heliarc welded version. The process for doing it yourself is detailed along with the illustrative photos. The mechanics are virtually the same for both the DT-1 and AT-1. The difference is in the size of the metal piece welded in to form the extension. Both types of swingarms are depicted so you can follow the step-by-step whether you're thrashing around on a 250 or a 125. It's a short and simple task, if you have the right tools.

Now that you've successfully completed the Yamaha swingarm modification you have to get the roach back together before you can take advantage of the improved handling. One way that works goes something like this:

1. Reassemble the swingarm as always—insert and tighten the bolt.
2. When re-installing the rear wheel, remove the brake rod



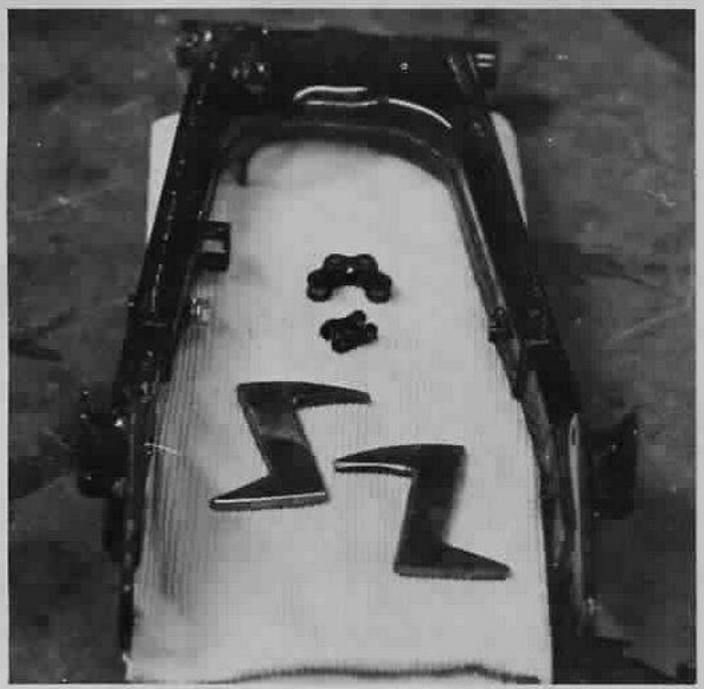
1. Stock length swingarms on the Yamaha DT-1 (left) and AT-1 (right). The DT-1 selected for modification is used for everyday riding and occasional enduros; the AT-1 has been prepared, to some extent, for competition.

attachment from the rear hub.

3. Reattach rear hub and axle to swingarm and remount shocks. No alteration of shock mounting lugs is necessary.
4. Reconnect brake rod, dialing in appropriate adjustment for your bike and your riding style. Tighten all other adjusting nuts, bolts, etc.
5. Fit chain, adding three extra links and a master link if you're running stock sprockets on your DT-1. The number of extra links will vary depending on the size sprockets you've selected for your 125 or 250. Adjust chain to proper tension.

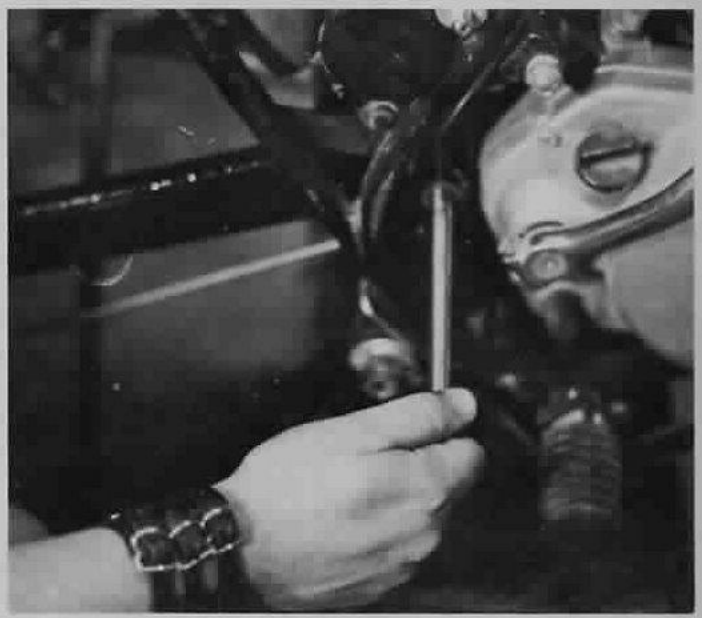
THE VISUAL EFFECT of all this is a tremendous lengthening of the wheelbase. This look is partially due to the fact that the bike sits lower in back. The modification, in fact, lengthens the wheelbase of the DT-1 to 55.5 inches; that of an AT-1 with a 21-inch wheel in front to 53.0 inches. The mod also softens the impact shock of hard riding to some extent because more of the wheel (and weight) is behind the shock mounting.

Charging cross-country at speed no longer is an invitation for the Yamaha to swap ends with quite the eagerness it previously displayed.



2. All that it takes to make a smooth-handling charger out of your DT-1. The exact number of extra chain links needed will depend on the size of your countershaft and rear sprockets.

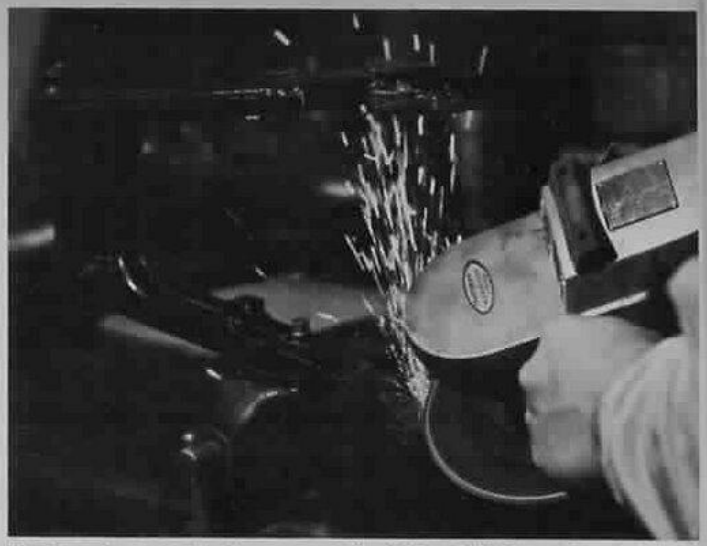
3. Remove the rear wheel, disconnecting chain for later insertion of extra links; disconnect brake rod, shock mounts, etc.



4. Remove the swingarm from the frame.

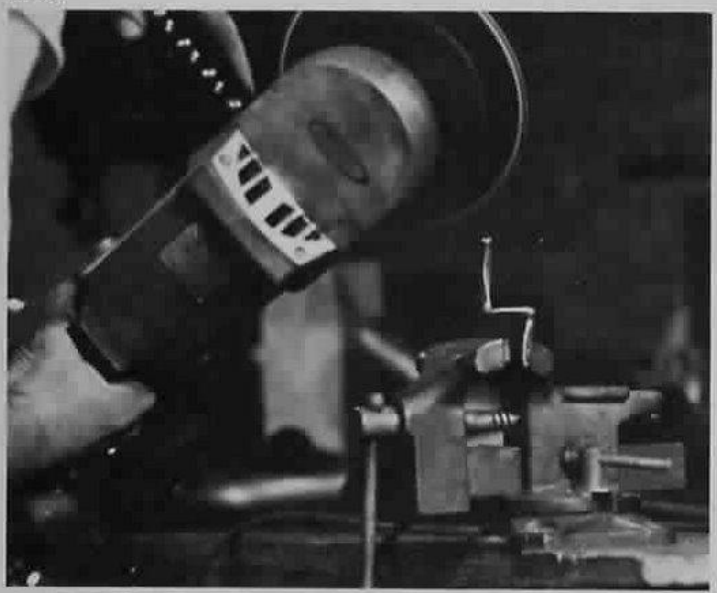
5. Cut off the flat tab at the end of the swingarm as near to the swingarm tube as possible, without cutting through the original weld bead. The cut can be made with a hacksaw and some sweat. If you're using a hacksaw, the swingarm should be mounted firmly in a bench vise. It's quicker and easier if you have a metal cutter. Also more expensive. Cutting the AT-1 is shown; DT-1 process is the same.

6. The swingarm, securely mounted, must have the cut edge ground down to a "V" for the strongest heli-arc weld.

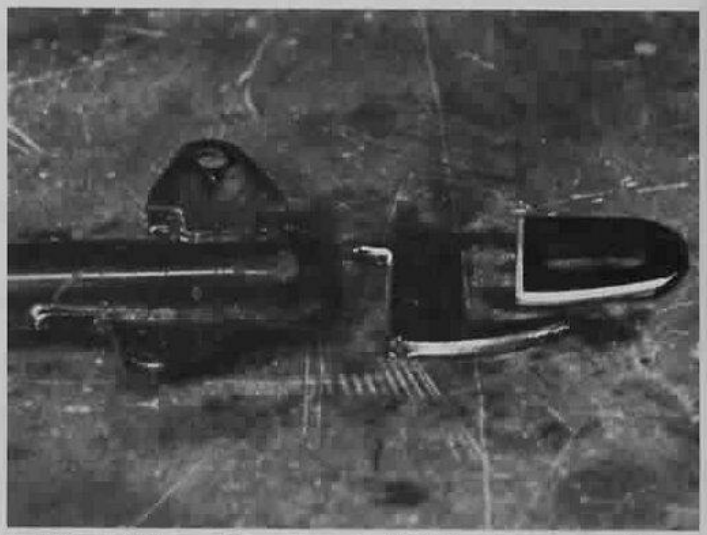


AT-1 swingarm is shown on the left; DT-1 to the right. A power grinder makes the job go faster, edges can be filed.

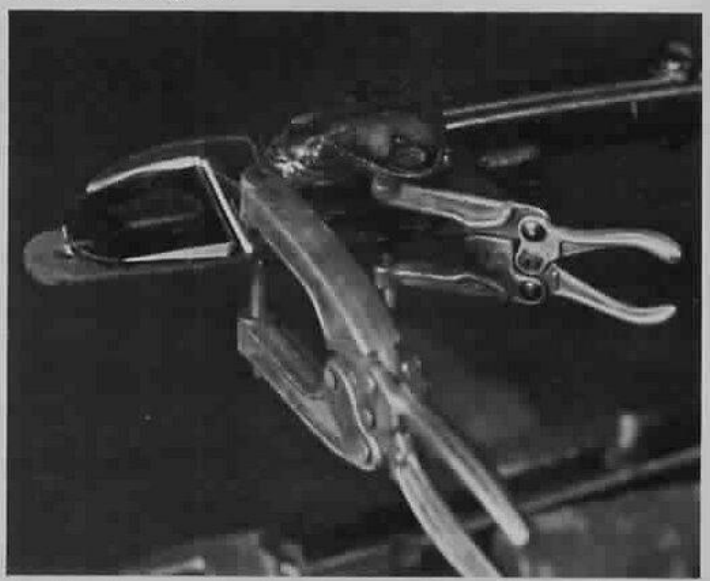
7. Place the cut off tab in a vise and grind the leading (cut) edge to a "V". Grind about 1½ inches back on the bottom of the axle mounting tab. The extension piece will weld on here.



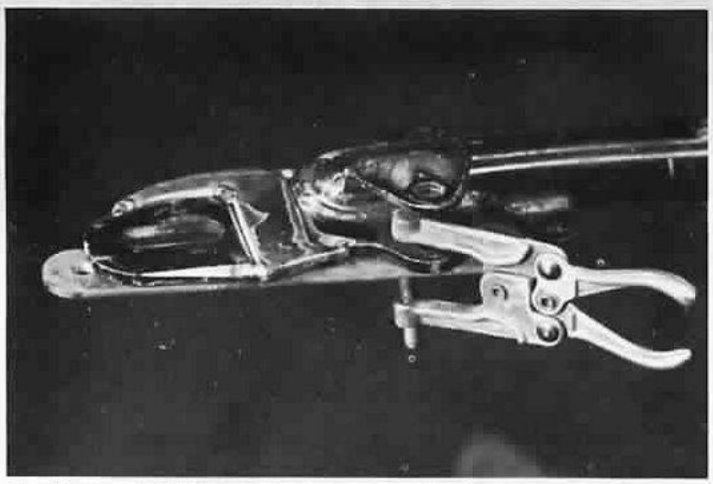
8. Place the shaped metal extension piece in the vise and use the hand grinder (or file, if you're brave but poor) and "V" all edges that will contact swingarm and axle mounting tab when the pieces are welded up. Smooth all rough edges.



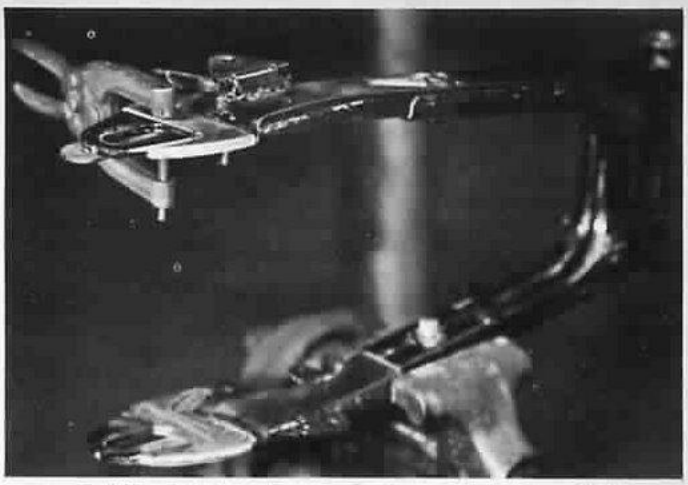
9. After all three pieces have had their edges ground down to a "V", they should look and go together like this. The longer piece of the weld-in extension goes on the bottom of the AT-1 swingarm.

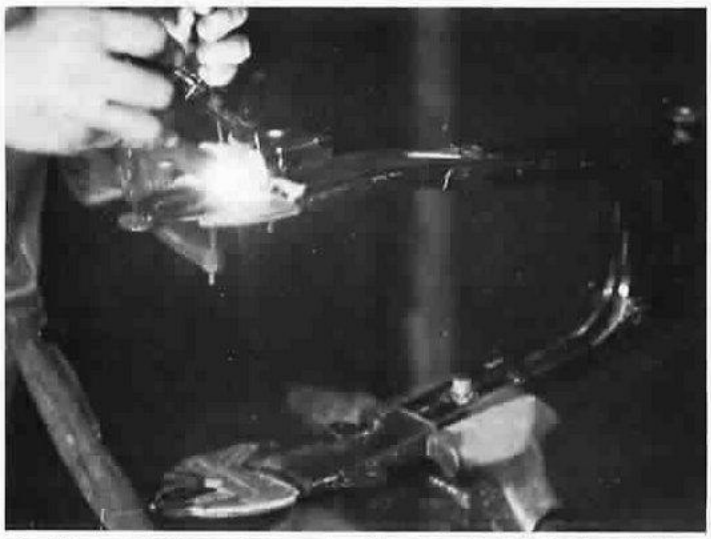


10. Set shaped extension piece against swingarm for welding. Axle mounting tab can be arranged in place at this time also. Note: Putting the components together before welding is just about essential when doing the second mod. Cut only one side of swingarm at a time so they can be lined up at least by eyeball. Finish extending one side of the swingarm completely before you start the other.



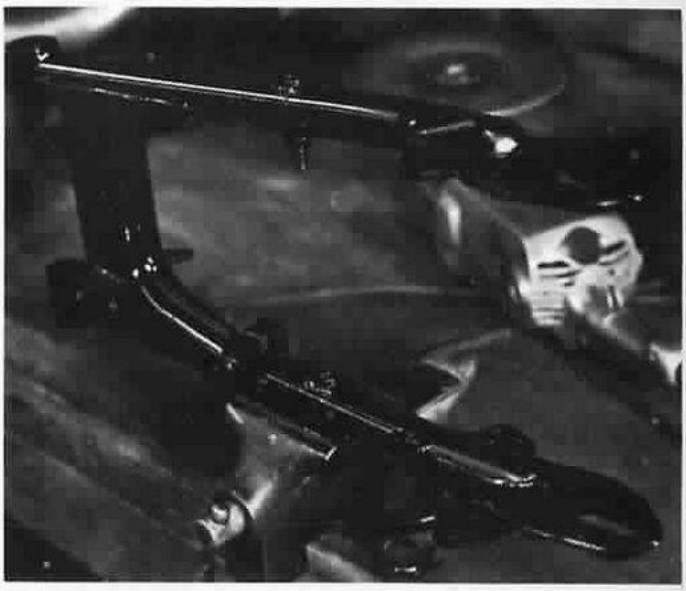
11. Spot weld the extension piece in place. Some clamps can then be removed allowing easier access with the heli-arc torch. The AT-1 swingarm is shown set up on left, procedure is same for DT-1 extension, shown on right.





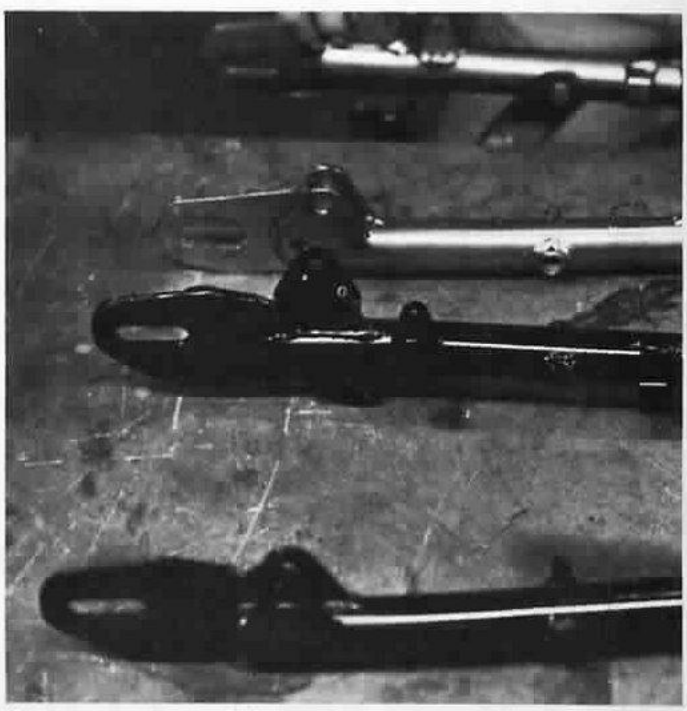
12. The extension piece and axle mounting tab should be HELI-ARC welded onto the swingarm. It is essential to get the "V" where the metal meets filled and completely solid when welding—this ensures the strength of the weld.

13. When you've finished extending one side completely, start on the other.



15. You are now the proud owner of an extended swingarm for your DT-1 or AT-1 Yamaha.

14. Let the finished extended swingarm cool. A coat of spray paint (rust-resistant type) is a good idea after any unsightly gobs or cobby-looking weld beads are ground off smoothly. It preserves the metal and improves appearance. Black has been a traditional favorite for Yamaha swingarms.



16. A comparison of the stock and extended swingarms for the AT-1. It's not THAT much different but the resulting handling is!

Husqvarna/CZ/Maico
MOTO-CROSS COMPARISON

Shoot-out between the hot 250-class moto-cross machines

by the staff of DIRT BIKE

Put together a minimum of two dirt bikers, and the conversation inevitably turns to a comparison of the virtues and vices of various makes of motorcycles. Nowhere is this relative superiority more fiercely contested than with the competitive, flat out, highly specialized class of machines used for motocross competition.

Along about the second six-pack of this fierce wheel-to-wheel pit racing, the field of contending machines which still retain fanatical advocates (who are probably cheating by arguing with the facts) is usually narrowed to three makes in the 250cc class. The big three, acknowledged tacitly by nearly everyone, are Husqvarna, CZ, and Maico. These also happen to be the top three international contenders that can actually be purchased by a rider. Suzuki may have won the manufacturer's championship and BSA the Trans-AMA, but have you seen one of their 250 motocross machines for sale at your local dealer? No way. You're not likely to consider a Suzuki 250 for your competition bike unless your last name is Robert, Geboers, Petersson, etc. Not for a while, anyway. So it remains that a Husky, CZ or Maico is the bike to beat (along with the Spanish 250 machines to be covered in the next issue of DIRT BIKE) at your local motocross track or rough scrambles event. What makes these machines winners? Why choose one over the other? Which one is the right mount for the novice rider, or the expert?

DIRT BIKE acquired the current model of each of these 250 class machines and after weeks of riding, dyno-ing, timing and measuring, managed to put together the info to answer those questions. The source of this data was a head-to-head confrontation of all three: on the track, from the specs, and in the shop. Welcome to the Husky-CZ-Maico shoot-out. The choice of weapons is yours.

More than anything else that emerges from an extensive test of a racing machine, is the personality of the bike. The three motocrossers that we wrung out, even though almost identical in weight, size and dimensions, were distinctively different in feel and behavior. To be competitive in today's market, a 250-class machine must have the following attributes:

1. Close to 30 horsepower (at the crankshaft).
2. A good power range.
3. Brutal acceleration.
4. Light weight, normally around 230 pounds or less.
5. Precise steering.
6. Nearly perfect suspension and predictable handling.
7. Reliability and ease of maintenance.
8. It must instill confidence in the rider and respond instantly to his every demand.
9. It should look like a racer: dynamic and clean, yet functional.
10. It must have all the trick stuff as standard equipment and be ready to win races right out of the crate.

ALL THREE OF the bikes we tested had these 10 requirements in varying degrees, and all are successful in both racing and sales. The minute differences that appear on paper really amount to a world of difference when you realize that the machine will probably spend the greatest part of its existence operating near that thin line that separates crashing from winning. It's an awful lot to ask of a machine and still have it stay in one piece. With this in mind, we put the 250 Husky, C-Z and Maico through THE TEST.

Indian Dunes is sand. And water. And hills. And deep ruts. And everything else you can think of that could possibly destroy a machine in the shortest possible time. It's also one of the neatest off-road playgrounds around, having a very demanding motocross course, lotsa desert terrain, hillclimbs and such. Being only 20 minutes from our office didn't hurt either. We unloaded all of those brand new, shiny machines at Indian Dunes and commenced to filthy them up in a vigorous manner. Some break-in trail riding was the first order of the day and we found out that these hot MX'ers don't really like to be ridden slowly. Except the Husky. It was very torquey at the bottom and seemed content to poke around at low revs all day long. The CZ, being a hair on the peaky side, took a lot of restraint to cow trail properly. The Maico seemed sort of neutral; didn't really like to pok-pok-pok around, but would do so if it seemed really necessary.

After this impatient break-in, the test team of seasoned dirt riders headed right for the big, twisty two mile motocross course and started to get it on a bit. This is when we started

The cooperation of the following organizations and individuals in supporting the CZ/Husky/Maico comparison test is gratefully acknowledged.

Mid-Valley Cycle who made available and prepared the CZ, under the direction of Andy De la Torre.

Cooper Motors, who supplied the Maico, and Brian Fabre who put the machine together out of the crate.

MED International, suppliers of the Husqvarna, and Scuderia Husqvarna who prepared the machine right, i.e., as per customer set-up.

DIRT BIKE specifically requested that the machines be set up in a manner identical to that in which the regular customer would receive them. We checked for modified engines, special lightweight frames and other trick stuff, but found no evidence of any special treatment. Our sincere thanks to all above for the opportunity to wring out one of your scooters.

C-Z

MAICO

PHOTOS BY K. C. BRINTNALL

HUSKY

to find out the true differences in the three machines.

CZ

Our test CZ had incorporated the following non-stock items: folding footpegs replaced the stock rigid pegs which offered almost no grip in addition to being potential ankle-breakers; Champion L3G and L2G plugs replaced the Czech PAL plugs which are factory equipment, but expensive and difficult to obtain in this country. The CZ is the only totally new design motocross engine of the three test bikes. Both the Maico and Husqvarna engines are derived from 175cc road machines.

The overall finish of the CZ was good. The color scheme is attractive while paint and fiberglass are both well done. Accessibility to electrics is excellent on the CZ. The points are in front of the flywheel and can be reached simply by removing the side cover. Generally, all working components on the bike can be reached with a minimum of hassle for maintenance or repair.

The CZ had the lightest clutch action of the shoot-out bikes, with good release: this from a clutch that it was seldom necessary to use. It was possible to slam indiscriminately either up or down the gears without touching the clutch. This included shifting into low at the start. This latter will be appreciated for the quick motocross start. All motocross bike clutches and gearboxes should be as good. The gear ratios are spot-on for MX racing with a good spread. The only fault in this department is the rather long shift throw between all the gears. This can be adapted to, as shifting without removing the foot from the peg is still possible, unless you have less than size nine feet.

The brakes, taking front and rear together, were the best of the three shoot-out bikes. The front brake was particularly impressive, and both could be used severely without any tendency to fade during a moto.

The front forks are excellent. Springing and dampening seem just right, even though the forks travel a good distance before reaching full compression in competitive use. The rear shocks are just OK. They are not quite right and a change of springs is in order for most riders. The front forks leaked oil very freely with the stock seals, and most serious riders replace the Czech items with Honda or Ceriani seals. The quality of Czech neoprene is not up to Western standards. The overall suspension feels light, almost delicate. The steering is very precise as a result, and ultimate control in placement is there for the rider able to take advantage of it. With the stock shocks it is difficult to keep the rear end under you and straightened out through the rough stuff.

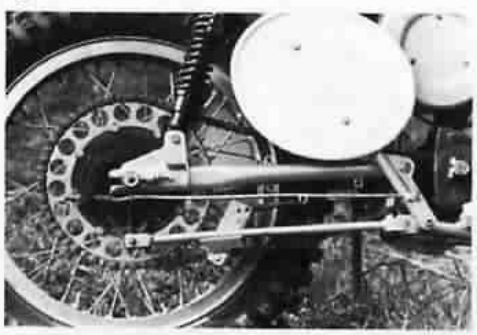
The very good brakes are contained in conical hubs front and rear, which helps to reduce unsprung weight. There is no front brake adjustment at the lever, and the rear brake has no return mechanism. A return spring or piece of strong rubber must be lashed up to insure positive brake return action, particularly when mud or dirt starts to build up around the pivot points. The steel rims are reasonably strong and do not bend easily. Chromed spokes seem unnecessary on a competition machine, plus chroming tends to make the spokes more brittle. The Barum tires are definitely mudders. They wear very rapidly on dry or hard surfaces and tend to squirm a bit because of the flexible sidewall. A 3.00 x 21 front tire would be our choice for bikes imported into the U.S. It gives the rider a better cushion and avoids the tendency of the 2.75 to knife into sandy or loose ground.

The reliable CZ engine deserves the good reputation it has established. It is an excellent powerplant. The dual ignition is a definite asset, ensuring easy starts and complete combustion. There is a wide power band and the bike showed no tendency to load up. Throttle action is smooth, with just the right amount of wrist action for short bursts of full throttle. The low end torque was poor compared to the other two test bikes, but the CZ came on very strong, possibly the strongest, from mid-range through to top end. If the rider is skillful enough to keep the machine up on the pipe, the power is awesome and can be used efficiently. Our test bike proved fairly easy to keep within the power band and was devastatingly quick when wicked on for short bursts between corners. Enough to produce white knuckles if you aren't ready for it or haven't adapted to the potential of the machine.

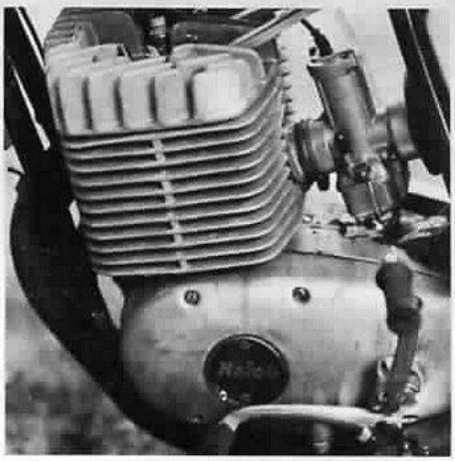
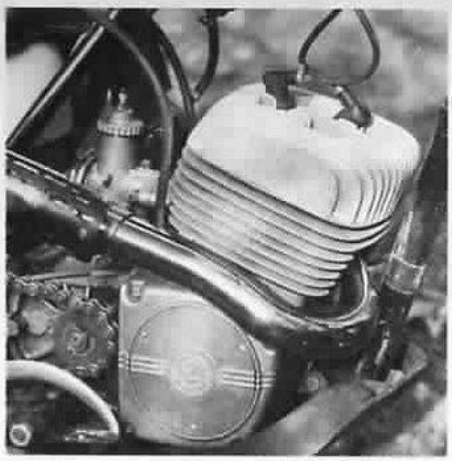
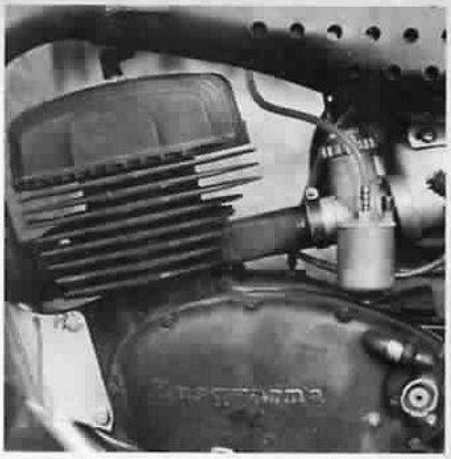
The power characteristics combined with the fantastic handling made the CZ a formidable mount on the medium-choppy straights and through the corners. The tendency of the rear end to hop on deep whoop-de-doos was initially unsettling but no serious problems developed as long as the throttle was kept screwed on. As a matter of fact, the solution to a lot of awkward situations the average rider will encounter seemed to be the application of more throttle. The bike inevitably straightened out in response to the smooth build-up of power and handling came under the control of the rider again, even in near disasters.

The gearing of the machine for different courses or conditions is simple and quick, with a completely exposed countershaft sprocket and a bolt-on rear sprocket. Rear sprocket bolts must be checked for tightness as part of normal routine preparation.

The frame is simple and solid. The



Similarity of swing-arm/rear shock set-up on the three MX bikes is striking. It's the little differences that count. Husky and Maico use Girling shocks, of slightly different types. Rear brake return is spring-actuated on these two, nonexistent on CZ. Husky floating rear brake is a definite plus. (CZ chain guide had vibrated loose during test, but acts about midway up the chain.)

Amount of finning is more than enough for efficient cooling of the high-performance engines. CZ employs dual ignition and Jikov carburetion. Both Maico and Husqvarna have single plug ignition and Bing carburetors. Bing carb on Maico is a whopping 36mm size. Flat black finish on Husky looks very businesslike.

bike is a heavyweight amidst the current crop of 250 competition machines, but was also the most rugged, in integral construction, of the test machines. The true quick-detach wheels and simple chain adjustment are other positive points for the CZ. The stock high pipe inevitably hits (and burns) the leg, regardless of rider size. The heat shield is of marginal utility during the shifting of body position required in motocross. A number of CZ low pipes are on the market and some riders claim both better performance and increased comfort. The paper element air cleaner is inadequate, even though location and ease of access are excellent. Unscrew one seat bolt and the cleaner is there in its 'glass box.

The CZ is a machine which can be ridden, and ridden competitively, by the novice competitor. It takes the skill and experience of the expert to get the full potential out of the bike, something that is true of most all-out motocross machines. The qualities that make it a World Champion in the hands of Robert or Friedrichs also allow the sportsman rider an extra margin for error and recovery during the fast pace of motocross competition.

HUSQVARNA

Our test Husky from MED was not showroom stock, something to keep in mind when considering the following DIRT BIKE evaluation. It had different handlebars and a remote float Bing carburetor. (Huskies generally come equipped with a center float Bing.) It took some preparation to get the Husky "right."

The gearing was quite low and the Husky had a power curve that seemed more suited to enduro riding. The result was overpowering low and mid-range power. There is so much torque, it's hard to tell what gear you are in. The Husky topped out on speed and revs much sooner than the other machines, and it seems that a tooth or two more on the countershaft sprocket would result in a better spread of power.

One result of the brutal low end torque was the suddenness of wheel spin when cornering. This created a problem on a twisting, tight-cornered motocross track as the rear end would break away in an unpredictable manner. The Husky just did not like cornering as well as either the CZ or Maico. The best way to go through a corner, determined after many efforts by the test team, is to go in deep, square it off sharply, pick a line, and carefully wind on throttle to get out of the turn. Too eager a right hand would cause the rear wheel to break loose and put the bike and rider in very undesirable configurations. This condition was aggravated, initially, by a sticky throttle cable, which made it almost impossible to apply power smoothly. This was corrected by Scuderia Husqvarna before the end of our test period.

The Husky proved very responsive at low speeds, due in part to the power band. Steering was neutral, permitting a rider to corner with power either on or off. Handling is very quick. This, combined with the massive low end torque, meant that the bike required constant attention as it wanted to go growling and breaking away if the steering-throttle combination was not correct for the course situation.

Opinion of the Husky suspension varied among the test riders. The bike tended to be more "bouncy" than the others, but the Girlings on the rear were the best shocks on any test bike. The impact after a bad jump was very soft and the bike always stayed under control while pushing it over repeated choppy, hard jumps. It was very stable through deep whoop-de-doos but, paradoxically, the whole machine moved around a lot in the sand. It would cover the same ground over a much wider track than either the CZ or the Maico. Front forks were very good and took front wheel landings with ease. The machine recovered beautifully after jumps or steep drops regardless of rider.

The bars on the test Husky were definitely too high for maximum control in cornering. It required real effort to force the Husky's front end down into a corner. This fact, coupled with a steering head that was nearly an inch taller than that of the other bikes, means that the novice or beginning rider will have to work harder to get the Husky through corners at fast, controllable speeds. It seems that heavier or taller riders do not experience this problem; it could be a leverage factor.

Appearance of the Husqvarna is functionally attractive. The flat black cylinder and exhaust look very business-like. The pipe is tucked away very nicely out of the rider's way; no burns. The red and silver colors are striking, but aluminum fenders are pretty much passé for this type of machine.

The Husqvarna air cleaner is almost a joke in its stock form. It is very exposed and difficult to waterproof. It sits outside of the frame where it can collect an awful lot of whatever happens to be flying around,

such as mud, dust, sand, water, etc. The single paper element just doesn't make it.

Engine parts accessibility is good, except for the countershaft sprocket which is completely enclosed behind a cover on a taper. It is more difficult to change than the exposed type running on a splined shaft. The Husqvarna chassis (a frame type designated MF) appears to have evolved with the machine rather than being an original, integral part of the design. It looks like it's built with the strength of an armored tank, but this is partly due to the many brackets, gussets and reinforcing tubes. One witty dude suggested that they were trying to reinforce the hinge in the frame under the seat. Our test bike, by the way, did not have this tendency to flex, as reported by some Husky owners.

Clutch action was stiff and the shift throw was very long. So long that it was necessary to remove the foot from the peg in order to shift. The clutch had very smooth action, however, with good, positive engagement. Shifts were always clean and could

SPECIFICATIONS: MAICO 250 cc K5 Motocross

Price, suggested retail: Approx. $1100 (varies greatly)
Engine type: Single cylinder 2 cycle, air cooled
Displacement: 248cc
Bore x Stroke: 67mm bore/70mm stroke
Compression Ratio: 12 to 1
Carburetion: Bing 36mm
HP @ RPM: Claimed 33 at 6500—actual 26.7
Clutch: Wet multi-plate steel
Primary drive: Duplex chain
Final drive: Chain
Gear ratios:
1 1.99 to 1
2 1.52 to 1
3 1.23 to 1
4 1.00 to 1
Air Filtration: Still air box and paper filter
Electrical System and Ignition: Magneto flywheel, with single plug
Lubrication: Oil in gas—pre-mix
Recommended Fuel: Premium
Recommended Oil: Petroleum base
Fuel Capacity: 1.4 gallons
Frame: Double loop full cradle
Suspension: Front: Hydraulic telescopic forks 7" travel
Rear: Swingarm with Girling shocks
Tires: Front: 3.00 x 21 knobby—Metzler tires standard
Rear: 4.00 x 18 knobby
Wheels: Front: steel
Rear: steel
Dimensions: Wheelbase: 55 inches
Ground Clearance: 8¼"
Weight: Claimed 220/actual 231
Instruments: None
Brake: Front: Leading shoe/light alloy hub
Rear: Twin leading shoe/special light weight motocross hub
Pounds/HP (roadweight): 8.614 lbs. per horse power at crank

SPECIFICATIONS: CZ 250cc Motocross

Price, suggested retail: Approx. $1135
Engine type: Single cylinder 2 cycle, air cooled
Displacement: 246.2cc
Bore x Stroke: 70mm bore/64mm stroke
Compression Ratio: 10.5 to 1
Carburetion: Jikov 2930 30mm
HP @ RPM: 28.6 at 6800 claimed/actual 28
Clutch: Dry multi-plate
Primary drive: Gear
Final drive: Chain
Gear ratios:
1 1.84 to 1
2 1.47 to 1
3 1.18 to 1
4 1.06 to 1
Air Filtration: Paper element in still air box
Electrical System and Ignition: Magneto flywheel with dual coil and dual plug
Lubrication: Oil in gas—pre-mix
Recommended Fuel: Regular
Recommended Oil: Castrol
Fuel Capacity: 2.2 gallons
Frame: Single down tube split cradle
Suspension: Front: Hydraulic telescopic forks
Rear: Swingarm with CZ shock
Tires: Front: 2.75 x 21 knobby—Barum tires standard
Rear: 4.00 x 18 knobby
Wheels: Front: steel
Rear: steel
Dimensions: Wheelbase: 54.33 inches
Height: 42.91 inches
Ground Clearance: 7.48 inches
Weight: 242 pounds actual
Instruments: None
Brake: Front: Internal expansion 180mm x 25mm
Rear: Internal expansion 180mm x 25mm
Pounds/HP (roadweight): 8.643 lbs. per horse power at crank

SPECIFICATIONS: HUSQVARNA 250cc Cross

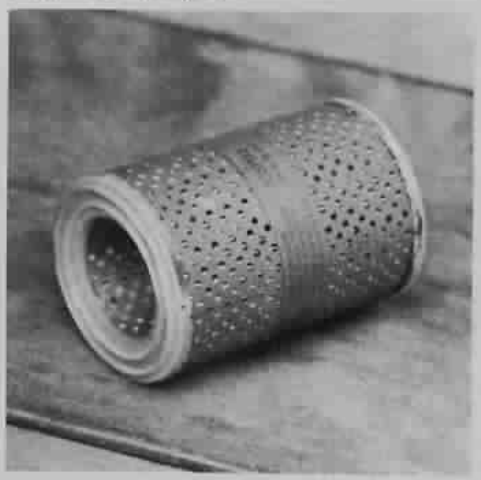
Price, suggested retail: Approx. $1175
Engine type: Single cylinder 2 stroke, air cooled
Displacement: 245 cc
Bore x Stroke: 69.5mm bore (2.72 in.) x 64.5mm stroke (2.54 in.)
Compression Ratio: 12.3 to 1
Carburetion: Bing 32mm (36mm on newer models)
HP @ RPM: 26.2 at 6200 actual/29 at 7000 claimed
Clutch: Wet multi-plate 5 steel, 5 fiber
Primary drive: Gear driven, straight cut
Final drive: Chain
Gear ratios:
1 18.2 to 1 Final drive with
2 13.8 to 1 stock gearing
3 11.7 to 1
4 9.7 to 1
Electrical System and Ignition: Stefa magneto to single plug
Lubrication: Oil in gas—pre-mix
Recommended Fuel: Premium
Recommended Oil: Viking
Fuel Capacity: 9.5 Liters (2⅛ gallons)
Frame: Single downtube MF type
Suspension: Front: Hydraulic telescopic 6¾" travel
Rear: Swingarm with Girling shocks
Tires: Front: 3.00 x 21 knobby—Trelleborg tires standard
Rear: 4.00 x 18 knobby
Wheels: Front: Akront alloy
Rear: Akront alloy
Dimensions: Wheelbase: 54 inches
Seat Height: 31.5 inches
Ground Clearance: 9.0 inches
Weight: actual 234
Instruments: None
Brake: Front: DLS internal expanding 160mm x 30mm
Rear: DLS internal expanding 160mm x 30mm
Pounds/HP (roadweight): 8.916 lbs. per horse power at crank

usually be accomplished without the clutch by blipping the throttle. Third and fourth gears were very close on our test Husky, but with all that low end available, you didn't have to work the gearbox that much to get around a motocross course fairly quickly.

Starting the 250 Husqvarna was a real bear. It was definitely not a first kick starter from cold, even following the proper procedure. If dumped or dropped while riding, it was difficult to *ever* get the bike to fire without a push. The Husky always required some severe booting to get interested in firing. The successful drill, when the bike was warm, went something like this: 1. Petcock off. 2. Lean bike to left. 3. Hold throttle full open. 4. Kick. 5. Kick. 6. Kick. . . . Street bike starts are not expected from motocross machines and this reluctance to run seems to be one of

Countershaft sprocket on CZ is completely exposed, permitting quick and easy gearing changes from the standard 14-tooth sprocket. Maico countershaft sprocket is semienclosed but still reasonably accessible. Husqvarna is completely enclosed. Replacement requires removal of side cover.

CZ conical hubs, front and rear, hold brakes that are outstanding. Hub design reduces unsprung weight and braking does the job.



Of the stock air cleaners, only the wire mesh element on the Maico seemed adequate. Paper element Husqvarna and CZ filters won't hack it for most U.S. riding applications.

Maico was only test bike with a stock downpipe. It is out of the rider's way, but exposed to rocks. A skid plate is a definite necessity for cross-country riding.

Husky had the best chamber arrangement, to our taste. It is high and tucked out of the way. Heat shield works and it is difficult to contact the pipe and get burned.

the personal idiosyncrasies of the Husky, but it got to be a drag. (When it did fire up, it was a gas to be able to loft the front wheel at will just by dialing on the beans.)

Husqvarna's floating rear brake is excellent. A gold star to Husky for this item. The rear brake pedal should have a slightly larger foot tab, however, as it was possible to miss it when stomping in a panic mode. The front brake is not up to the high performance standards of the back end. Why equip an expensive machine with a vital component that just doesn't hack it?

The Swedes should know better.

Bits and pieces: Vibration at any engine speed is severe. Long-time Husky riders adapt to it, but the bike buzzes something fierce. The Akront rims are an excellent feature for the privateer, but do tend to collect mud. Husky cables were the only ones with

Handling through deep sand was most stable on the Maico, most precise on the CZ. Husky was quickest, but over a wider path.

Maico won into the corner and starts to get the power on. CZ prepares to dive underneath and pick up the inside groove.

During a rest break in the day's testing, the bikes were killed to cool and the riders swap opinions on the machines. Left to right: John Huetter, Brian Fabre, Lee Wells.

CZ lofts its front end over an off-camber bump.

lube nipples, an item we like. The Trelleborg tires, like the Barums, are soft and best-suited for mud or soft ground.

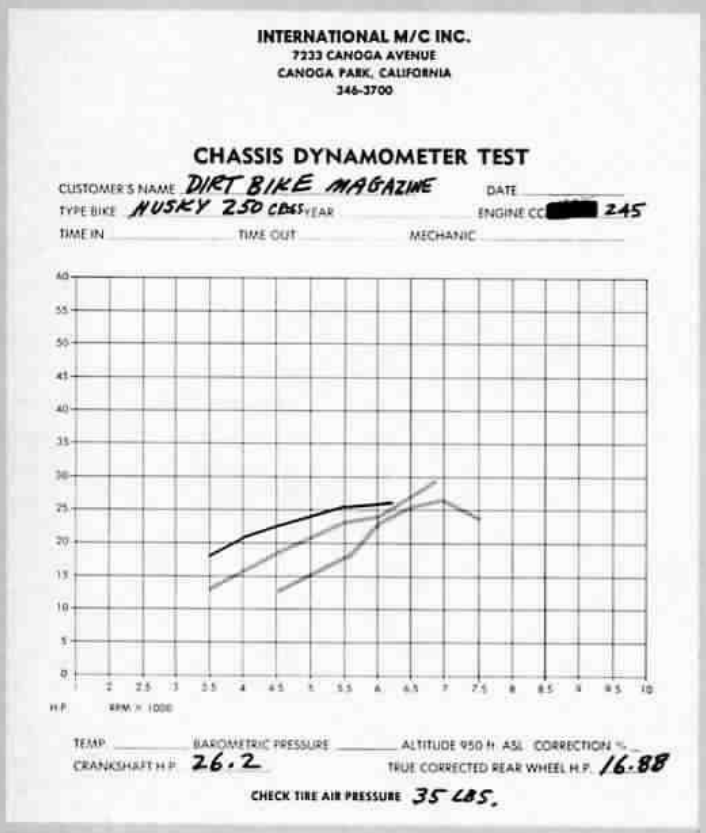
The Husky can be summed up as a heavy-duty package of screaming raw torque. Despite the apparent flexibility this allows your riding style, a lot of the bike would be wasted on the novice rider.

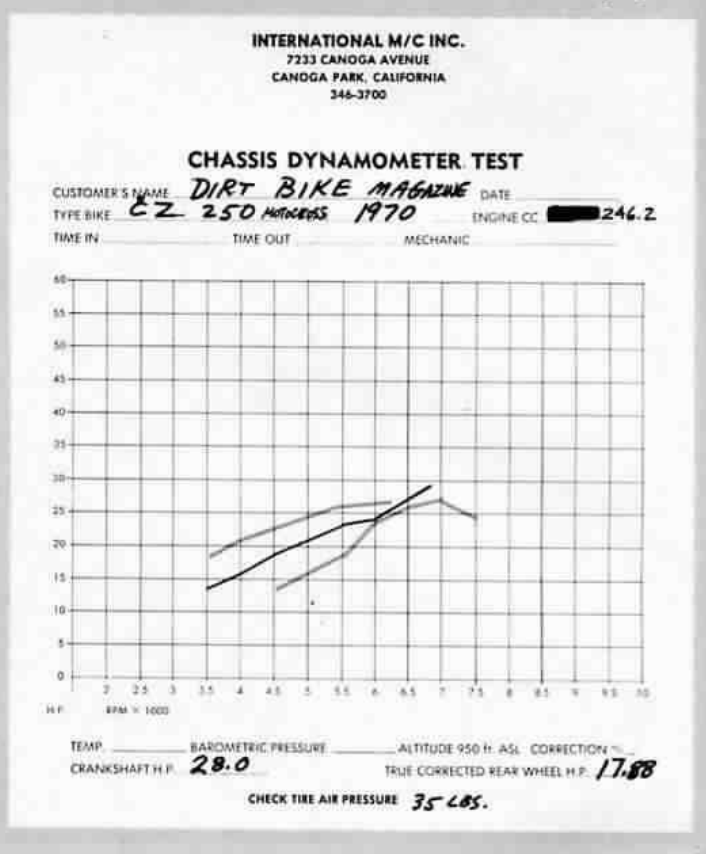
MAICO

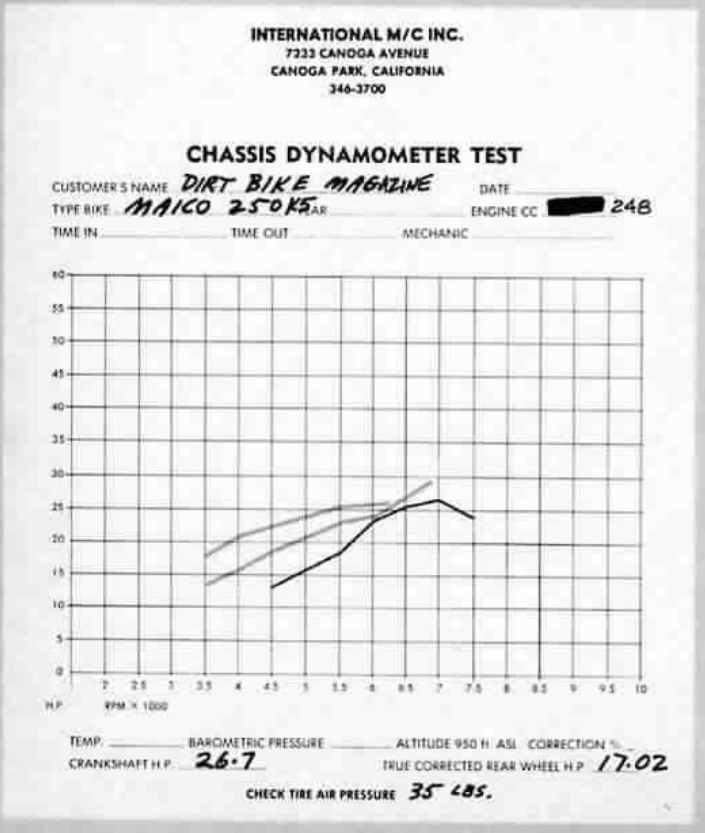
The 250 Maico is a visual machine. It is impossible to ignore the eye-grabbing chrome yellow of the new K5. Add to this the unique fenders, tank and fork boots and you have possibly the most distinctive-looking motocross machine on the market. Nobody ever confuses a Maico for something else, even when it's covered with dust or mud. In some strange, Teutonic way, it all fits together.

Unfortunately, the finish of the fiberglass components is not up to their original promise. Not for an $1100 machine, anyway. The Maico motorcycle comes on with angular purpose: a single purpose: European-type motocross competition. The

Continued on page 57







	RPM	HP at Crank	Actual Corrected HP at rear wheel
HUSKY 250	3500	18.5	12.20
	4000	20.4	13.30
	4500	22.3	14.42
	5000	24.1	15.80
	5500	25.1	16.18
	6000	25.9	16.52
	6200	26.2	16.88
CZ 250	3500	13.5	8.92
	4000	15.6	10.48
	4500	18.2	12.14
	5500	22.8	14.82
	6000	24.3	15.92
	6800	28.0	17.88
MAICO 250	4500	13.5	8.92
	5000	16.0	10.98
	5500	18.2	12.14
	6000	23.2	15.26
	6500	25.5	16.40
	7000	26.7	17.02
	7500	24.7	15.80

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THE FRONT BRAKE- KEY TO CORNERING

by Rick Sieman

DURING THOSE ALL important formative years of riding, most of the action takes place in casual weekend bashes on some isolated piece of ground with your favorite dirt riding buddy. Most dirt bikers have a friend or two, usually at the same level of competence (or incompetence), that they can count on for a real head to head racing session. Quite a few years ago, my riding partner, Tom, taught me a lesson about the front brake that took us out of the level of poor riding all the way up to mediocre.

It was a typical Sunday morning when we unloaded our bikes to do battle on our home-brew motocross course near the famed Mojave desert. One thing bothered me a bit; Tom seemed a little more eager than usual to get on the course. Hmmmm. Could it be that he'd wrung a few more horses out of his ancient round-barrel Victor or perhaps he'd finally gotten his front forks to travel more than their usual three inches?

We warmed the machines briefly and headed for our course, my old 650 Triumph clattering reasurringly. A mutual nod of the head, and we were off, charging madly across the rutted field, rear ends hopping from side to side in five foot arcs. As the first sharp left hander loomed up, I punched the rear brake and deftly down-shifted two gears. The big Triumph shuddered and slowed. Then it happened; Tom's Beezer went howling by, still on full throttle. "Omygawd," I thought, "his slide's stuck and he's going to kill himself!" Tom went deep into the corner, slowed abruptly, banked the machine and neatly squared off the turn, going through a good fifteen mph faster than he had ever done before. I was so astounded by this maneuver that I forgot to take the corner myself, and went ripping off through the tin cans and broken bottles that served as course markers. Immediately thereafter, I performed that well-known racing maneuver, the ENDO. Several times. I propped my battered body up on a Coors can, just in time to see Tom come back around the corner with a grin a mile wide on his face. He helped remove me from under the still running Triumph, which, for the first time since I had owned it, was idling evenly. "Dammit, Tom, how did you take that turn so fast?" I asked, while extracting a pop top opener from my right knee.

TOM HAD LEARNED a lesson that all pros take for granted. The front brake is 75% of your stopping power. Its judicious use enables you not only to go much deeper into corners, but faster down hills, plus a multitude of other benefits. The front brake's effectiveness is so great not because of the efficiency of the unit, but because of weight transfer. This is graphically illustrated by the diving lunge most riders experience with any strong brake application. Assuming front/rear weight distribution is about equal on your machine, an additional 25% or more of the machine's weight will be transferred from the rear axle to the front axle. If the rear brake is used alone, the bike's stopping effectiveness now becomes only 25% of the total possible braking force.

Rear braking alone also induces unwanted slides and hopping, quite often killing the engine in the process. Once that engine is dead, the bike becomes a nearly uncontrollable projectile. Photos A and B show the weight transfer effect on the front end. Add a choppy, rutted surface to this situation and you can see how everything from a simple crash to a locked rear wheel endo can come about.

The greatest fear in the mind of the inexperienced rider associated with using the front binder is that of locking the wheel up and going over the bars. Believe it or not, this is a physical impossibility, as long as the machine is level and straight up and down. A crash can easily occur, however, if the front wheel is the least bit cocked, or "crabbed in." Once that front wheel is off the center line, it's all over and a full lock high-speed spill is in order.

THE BEST BRAKING to date, on asphalt under perfect conditions, is not much over 1.25 G's. In the dirt, this condition does not exist, and the most that can happen is loss of traction on the braked wheel. The 1.25-plus G readings were achieved using both brakes and could not be reached using the front brake alone. Even under optimum front braking conditions, the maximum the front brake alone can generate is around 75% of the total possible G force generated. Carrying this a bit further, let's assume your machine can stop from 60 miles per hour in 100 feet, using both brakes. Using the rear brake alone, would raise the distance required to stop 75%, and using the front brake alone, (very unsafe) would raise it only 25%.

Dirt racing is vastly different from road racing and even though G loads, weight transfer and the like are controlling factors, they must be modified slightly to fit the uneven, unstable dirt surface. Since this surface can be anything from hard packed yellow clay, to axle-deep sand, to bottomless Eastern mud bogs, the braking techniques applied must be modified accordingly. Naturally, the most effective front braking is achieved on a hard surface, where the brake lever may be grabbed firmly, almost to the point of inducing wheel lock. In deep sand, the front brake should be brought on gradually to prevent the front wheel from knifing in sharply, especially so with a narrow 21" front

wheel, or at high speeds in a sand wash. In the muddy stuff, a gentle touch is also the answer, more so when water is covering the mud and the surface beneath is not visible. Rocks, shale, wet rocks and loose rocks should all be treated with utmost respect, as too much pressure, front or rear on braking, can produce instant wheel lock. If possible, try to do all of your braking before you reach this kind of terrain, and accelerate slightly over it. One finger on the front lever, when you must brake is the answer. If you do lock up the front wheel on any of the above, release the lever immediately and try to get rolling again with a quick blip of the throttle. After the wheel is free rolling, resume braking.

POSSIBLY THE SINGLE most effective use of the front brake is on a steep downhill section. How many times have you locked up the rear end and had the machine swap ends during the descent? As long as that front wheel is kept perpendicular to the surface on a downhill, you can use that front brake and the machine will travel in a straight line. If you have to go around a turn or an obstacle during the descent, let go of both brakes momentarily until the machine passes the point in question and straightens, then apply again as necessary.

Off-camber surfaces are death to braking of any sort, because so little of the tire "footprint" is in contact with the surface, and locking up either wheel becomes frighteningly easy.

MOST RIDERS SEEM to delight in keeping their brake lever adjusted incorrectly; that is, no braking action until the lever is almost touching the grip. They seem to feel that this is the safest approach. A little logic (plus observing the European aces) shows that if the lever is adjusted so that the action starts near full extension, the lever can be operated with one or two fingers, instead of a ham-fisted hand. This offers the side benefit of being able to maintain some sort of a grip at all times, very important when negotiating rough terrain. One dangerous thing about having the lever work too near the throttle, is that of brake fade. After a few really hard applications, you could suddenly find yourself with no braking action at all. No one adjusts their rear brakes to the point of sloppiness; why should the front brake be otherwise? Also your hand is much more sensitive than your foot and one finger is more sensitive than a whole fistful.

When adjusting the front binder, make sure that the shoe does not drag at full release, or you'll probably find a spill on your hands. Make it sensitive, not grabby. Once you get used to the procedure of braking properly, you'll find that lap times will come down, as you go deeper and deeper into the corners before you have to shut off. Even if you're not racing, you'll have more control for pleasure riding, and a lot more confidence. Just take it easy and get the feel of the front grabber. Learn the unit's (and your) limitations, until you are able to come as close as possible to the ragged edge before you turn it off. This is one step in becoming the dirt rider of your daydreams.

CZ front end shown at full extension prior to any braking action.

Dive! This is the weight transfer principal hard at work.

Hard braking action will almost bottom out even the finest front suspension made today. This graphically illustrates just how much weight is on the front end.

WASP

The world championship three-wheeled dirt machine, made by Rhind Tutt in his garage

The minute the sidehacks get on the line, everyone makes a mad dash for choice viewing spots along the track. If there's a mudhole on the course, the spectators are lined up 5 deep. Sidecars generate a variety of reactions from spectators ranging from puzzled expressions to "you'll-never-get-me-on-one-of-them" attitudes. Most people feel that sidehacks are merely bulky, ill-handling monsters and that their riders are insane. The three-wheel competition machines have come a long way from the days when all you did was add another wheel, a piece of plywood, some old piping and go racing. Like all phases of your sport, specialized equipment has become a necessity in order to run at the front of the pack. The Wasp represents the ultimate effort to date in the competitive and colorful sidecar racing scene. This machine, abounding with technical innovations, is even more amazing when you consider that one man makes all of them in a small 10 x 10 foot garage in his backyard.

The builder of the Wasps, Rhind Tutt, is one of those rare individuals who is not satisfied with the offerings on the market, and decides to build the right tool for the job. With this attitude and an assortment of basic machine shop tools, he has turned out the World Champion Sidecar chassis. In the last three years, only 60 of these 385 pound units have been built, and all have been snapped up by serious competitors. Offers to go into mass production have been turned down by Tutt simply because he doesn't feel that the personal attention necessary for quality would be retained. Wasps are rare and in high demand. Proof of their effectiveness includes the English sidecar championship and the two Wasps currently dominating the Southern California off-road scene. John Palfreyman, with co-pilot Steve Foss, has recently put together a string of wins, culminating with top sidehack in the grueling 147 mile Barstow-to-Vegas Hare and Hound.

The all-up 385 weight of the Wasp is even more impressive when you consider that a stock 650 Triumph weighs in at over 400 pounds. The Wasp is powered by this proven engine on John Palfreyman's machine, even though the chassis will accept other Triumphs and the Norton or BSA twins as well. The Wasp kit comes from Rhind Tutt with everything but the engine, wheels and shocks. Many combinations of shocks have been tried to date on the Wasp, the most successful being Girlings, Cerianis and Konis. The unique trailing link front suspension works much quicker than a standard leading link springer, making the Wasp much more at home on a tight course.

MUCH OF THE light weight is achieved through the use of glass and alloys. The 2 gallon tank and side panels are glass, while the fenders plus other bits and pieces are alloy. No strength is sacrificed for the lightness, however, as the frame is made from high quality aircraft tubing. Every nut on the machine is an aircraft nut and the owners of both hacks report *never* having a loose nut in two years of racing. More of the big manufacturers should follow this example on their production racers. Greeves is the only other builder to use this practice to our knowledge, and they, too, are sturdy machines.

Oil is carried in the frame (alá Metisse) and even runs through the hand grips. Padding is thick and well placed throughout, and the Wasp, as a whole, seems to have no weak points. The longish 57½ inch wheelbase, combined with the swingarm setup on the hack side, makes the machine stable in even the roughest terrain. A second Wasp, owned by Ray Hunter (longtime friend and competitor of Palfreyman) was different in details from Palfreyman's. The "Bloke," as Hunter is called, is a firm believer in Girlings front and rear paired with an extra heavy Royal Enfield unit for the sidecar. Dozens of personal touches can be made on the Wasp to suit the rider and passenger, as pointed out by the "Bloke."

Riding the berm requires a different technique when you have three wheels and two up.

John Palfreyman, pilot, and Steve Foss, passenger, take a Triumph-powered Wasp over the whoop-de-doos

The Wasp kit will cost you about $950 and Rhind Tutt will supply the right mounting brackets for the type engine you specify. If you want to try riding sidecar in off-road competition, and be competitive, the Wasp is the rig to have.

IF YOU CONSIDER yourself to be an experienced dirt rider and in good shape for riding, try going a couple of laps around a motocross course monkeying on a Wasp. DIRT BIKE's editor and tech editor are in better than average riding condition as a result of weekly competition and test riding during the week, but after two hot laps on a bucking, pitching sidecar both were begging for mercy. Taking jumps at speed and crawling around the frame in anticipation of the pilot's moves leaves you out of

Passenger must be part gymnast and able to anticipate the moves of machine and pilot to split second accuracy.

breath, with aching legs and blistered hands. Riding a hack requires a pain-tolerance and endurance level not even approached on a solo bike. Both troops came away from the experience battered, bruised and, somehow, more humble.

Consider approaching a bumpy right-hander at 40 mph, hanging over the edge of the hack inches from the ground and sliding through the turn under full power. It wakes you right up. If it was this demanding on the Wasp, probably the best heavyweight sidecar rig available, what would it be like on a more conventional home-built three-wheeler? The "Bloke" (Ray Hunter) summed up the experience succinctly in the best British manner, "You fall on your bloody arse a lot, mate."

"The Bloke" lofts the front wheel of his Wasp, passing another Rhind Tutt original, and gets by on the outside. Both machines are Triumph-powered

RICKMAN METISSE ZÜNDAPP

RICKMAN METISSE ZÜNDAPP

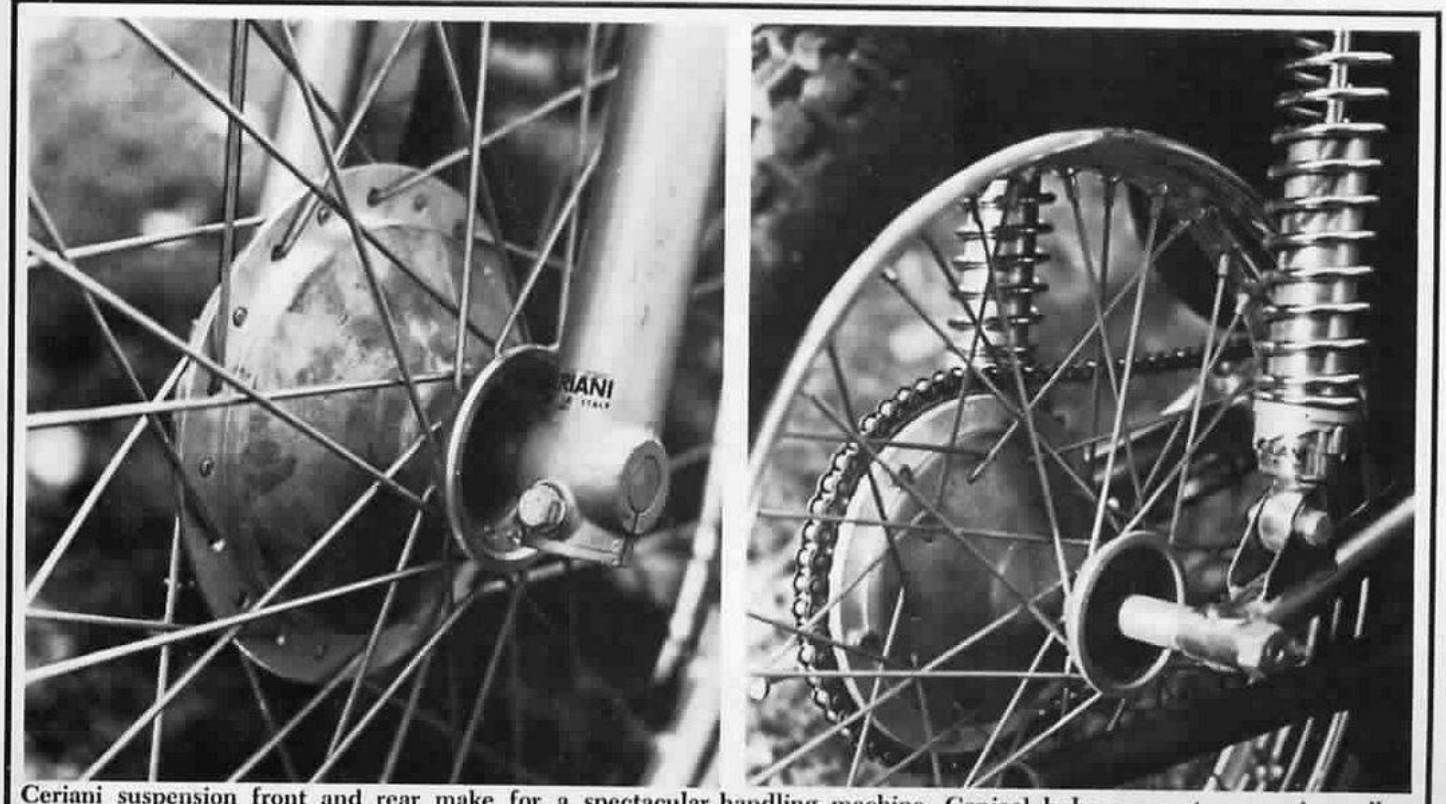
Nine hundred is a lot of bucks. There are plenty of adequate 250's around for that price. So when someone asks you to part with 900 green ones for a 125cc motocrosser, you have to do some close, hard looking. Is the Rickman Zundapp Métisse worth that kind of money? Maybe not for everybody. However, I doubt if that one factor will stop many people from buying one.

The brothers Rickman are past masters in the art of making a motorcycle so throat-chokingly beautiful, that all common sense is thrown to the wind. There are many riders who have eaten beans for extended periods of time, just to own such a work of art on two wheels. The machine is done right and is a delight to ride, but putting all of that beautiful, fragile fiberglass on a racing bike seems like overkill.

A perfect example is the road-racy low and slender front fender. This unit offers no protection at all from mud and sand thrown up at the rider; often creating mottled patterns on one's face. A more conventional alloy full fender would have been a wiser (though not as pretty) choice. Loading and unloading the bike from the truck leaves you puzzled as to what to grab. The glass is far too flimsy and no protective tubing is exposed. Everything is neat and concealed for looks, sacrificing convenience in the process. You know, you just painfully know, that one good spill and all that glass beauty will be marred. Expensively marred. Even though you know this, you will probably still buy it, because the bike handles like a dream and instills confidence like few other 125's in the world.

Based on a lightweight, double downtube Rickman frame, the major working parts of the bike are the Zundapp engine with a five-speed box, Ceriani suspension front and rear, and Bing carburetion. This selected combination of ingredients should be a winner on motocross tracks.

BEFORE THROWING THE bike through the rigors of the sandy Indian Dunes motocross course, we dug into the innards a bit to see how a Rickman really goes together. The small paper element air filter does not appear adequate for any serious riding and Steen's, the U.S. distributor



Ceriani suspension front and rear make for a spectacular handling machine. Conical hubs are cast magnesium alloy and keep unsprung weight down to an absolute minimum.

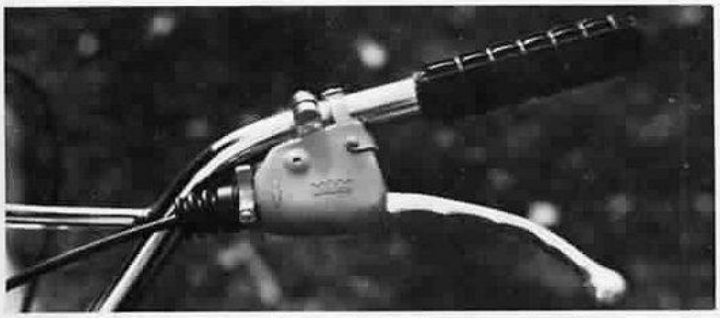
for Rickman machines, replaces the unit with a foam-type cleaner before delivery to the customer. A point for the good-guy dealer. The bolts holding on the head are very long, and number only four. Their length and number means that there is a fair likelihood of vibration loosening them, so a heavy-duty gasket and gasket sealer, while not required, seem like a good idea.

The biggest problem we encountered in dismantling the bike was the gas tank. Its dimensions just miss being an easy pop-on, pop-off, fastening, with a single nylon-fitted bolt and rear flange. The tank is about ½-inch too long in front and hangs up on the bars in removal and re-installation. This means that the vinyl-covered seat takes more abuse than is strictly necessary. No big thing, admittedly, but shaving just a hair off the non-functional fiber-glass at the front of the tank would cure this annoyance. Removing the bars in order to easily remove the tank is a drag. Our only other reservation about the machine is the fiberglass itself. It is light, very attractive, generally high-quality molding, but even if you don't dump as frequently as our more-speed-than-skill staff, you could be facing a sizable cost in 'glass work before the end of the season. The answer, of course, is not to lay it down, but that's not always something you can control. The Rickman frame itself is beautifully engineered. It looks light almost "airy" to someone used to thick heavy downtubes and centertubes.

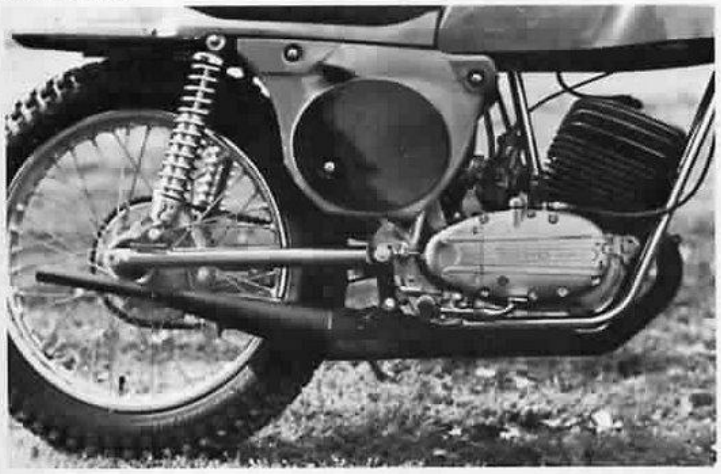
One loop on a twisting motocross circuit is enough to make you forget all the cautionary words in the above paragraph and start trying to figure out how you can justify buying one. The handling is *that* good. It really does improve your riding by 20%. The Rickman ads are not an exaggeration in that respect. It is great fun.

GETTING OUT THERE on the course should happen something like this. Tickle the Bing slightly and stomp the kick-starter through about medium-hard. First kick every time got the beastie ticking over. Warm-up time, at least until the two-stroke burble stopped, was very short. The bike pulled quite strongly from an idle in both first and second gear. This was a surprise for a racing 125 that we had thought *must* be peaky. It was no problem to putt around enjoying the countryside in the lower gears, but that is really not what the Micro-Metisse is all about, though it makes a nice trail bike. The riding position for this machine, up on the pegs and leaning back slightly, is immediately comfortable and seemed quite natural even the first time aboard. This statement has to be modified for the heavier or larger rider. The 200-lb., 6-foot rider may never find a comfortable position or get sufficient performance out of the machine, but it seems ideal for weights up to about 175 and riders of average (or less) height. The small seat is attractive, fitting in with the overall look of the bike, but that's about all it does.

Handling is the Rickman Zundapp's strong suit and, in the right hands, could make it unbeatable. The combination of light weight, well-planned geometry and Ceriani suspension is the right one. Riders kept taking it flat-out around the course, without braking in places where, on other bikes, it had been necessary. Throwing the bike into corners was a ball. It was possible to lay the Rickman over and stuff the front end into a corner exactly where you wanted it.



Outstanding feature of the Micro-Metisse is the use of Magura controls and levers. Rubber covers over pivot points keep the muck out of the moving surfaces. Large plastic knobs allow easy adjustment of cable tension. Levers will bend back.



Exhaust exits through the tuned downpipe, which is too vulnerable for cross-country bashes without a skid plate. It is right for motocross as is.

The Zundapp 125cc engine sucks up to 1.7 gallons of premix per tank through the Bing carburetor. First kick starts are the rule.

Handling was very precise with the 6-inch travel Cerianis and well-dampened shocks of like manufacture in the rear.

The DIRT BIKE editor could manage to get into some impossible crossed-up situations in corners and recover from them with minimum loss of time or dignity. It was possible to lay the machine over in the corners until knees and knuckles grazed and still come out of the turn on the pipe. If you want handling in a machine, this is it. The "feel" of the bike is very light and the amount of precise control possible inspires confidence in even the novice rider. The Ceriani forks were brand new and, as such, quite stiff. This was felt particularly over hard-packed washboard and deep whoop-de-doos. The benefits of the stiff forks were manifested in the ability to carve a line through a corner with amazing precision. The rear shocks, also Cerianis, are quite good. They do the job for the weight and set-up of the bike. We suspect that handling on this scooter will even improve as it's broken in.

Clutchless shifting is the rule and that's a definite plus, since the box is necessary to keep it up on the pipe while negotiating a twisty uphill-downhill course. The Zundapp gearbox had a bad case of the "neutrals." There seemed to be a neutral on each side of every gear. Long-time Zundapp riders seem to adjust to the shift-hesitate-snick gearshifting drill, but it can be a real drag to slap up and get nothing but an over-revving engine, particularly in motocross where a missed shift can mean a difference of a dozen finishing positions. One of the many Zundapp gearbox fix-it kits would seem to be necessary for the serious competitor. Or else more experience in working that particular shift sequence.

The front brake was surprising on the Rickman Micro. It was more than adequate for a 125, and really hauled the bike down without getting twitchy or locking it up. The cable-operated rear brake is spongy and was never just "right," even after adjustment. A rod-operated brake has got to be better. The cable will always stretch a bit and doesn't give the positive feel that a rigid rod imparts to the rider.

TAKING A FEW laps at speed has a way of making all these nit-picking gripes disappear. The bike was capable of beating 250cc bikes of respectable makes around the track, almost regardless of who was at the controls. The bike was quite sensitive to weight, however, as already mentioned. It is definitely underpowered for the big man, but he is probably not going to pick up on a 125 in the first place. In the hands of the 135-lb. hotshoe, the Micro-Rickman is a real screamer.

The Dunlop Trials tires that come as standard equipment proved quite adequate, even in deep sand. There was no apparent loss of traction and the high speed stability was excellent through the rough stuff. The 53-inch wheelbase, long for a 125 lightweight, contributes to the stable feeling and the rear wheel showed no tendency to come around even on a series of high, hard bumps. It is almost impossible to fault the handling of the Micro-Metisse in any respect.

The full size tires are what should be on a machine of this caliber. The 3.00 x 21 and 3.50 x 18 skins would be our choice for any serious competition machine in this size/power bracket. There is a strong prejudice among the staff against inadequate or "toy" wheel/tire combinations, even on the smaller machines. Ground clearance of 9-inches is ample for motocross, even with a downpipe. As on many machines of the MX-type, a skid plate is necessary for any bashing off a course as the pipe is outside the frame and quite vulnerable. An up-pipe is available as an option. It tucks up under the tank and exits through the fiberglass side cover. The kick-stand is another option, handy for propping up the scooter when you're out cow-trailing but, as it attaches to the swingarm, it's not something you'd be likely to keep on a competition machine.

The 1.7 gallon capacity gas tank is standard issue on the Micro-Metisse. A 3-gallon tank is available for the cross-country or desert rider and adds $15 to the cost. The only color is blue, identified by Steen's as U. S. Racing Blue. Whatever you choose to call it, the color is rich, deep (permeates the 'glass) and intense. Black number plates are molded into the side panels and one is supplied for the front. The rather brittle plastic of the strap-on plate is prone to cracking, but at that level of criticism we are really digging for the nits.

The Zundapp-powered Rickman scales out at an honest dry weight of under 200 lbs. With the potential inherent in the Zundapp engine, the serious rider can arrive at some favorable power to weight ratios. Top that off with the completely controllable, precise handling and all the ingredients are there for one of the best-performing "little" machines on the market.

There are a lot of cheaper 125's available but very few that will deliver, even with modification, what the Rickman Zundapp Micro-Metisse offers right off the dealer's floor. ●

Full-size 21-inch Dunlop goes on the front. Sidestand is an extra cost option; mounts on the swingarm.

HOW TO WIN MOTOCROSS

PART 1

by Larry Kumferman

There may come a time in your life when you decide to get serious about racing. It's not easy to pinpoint exactly when or why. Maybe you're just tired of running "somewhere in the pack" or you figure if someone you know started winning, you can too. Or what about the young kid you used to beat with ease, who is now a fully sponsored winner? Whatever it is that gives you a steely-eyed look is not that important. The important thing becomes winning. The following is a collection of hard learned lessons that can make this goal easier and let you concentrate on riding competitively, rather than bemoaning mistake after mistake, or going back to a steady diet of play riding.

Preparation is the key to success in motocross, and preparing for a race can be divided into three phases, with the actual racing being a separate fourth phase. Machine preparation, mental preparation and physical preparation will be covered in this issue as Part One. Actual motocross racing techniques will be detailed next issue in Part Two.

MACHINE PREPARATION

Do not even think of competing against top riders with second rate equipment. Once in a while, some natural comes along who can do it, but this type is very rare. If your equipment is more than two years old, the rigors of motocross will just about guarantee a whole string of DNF's. It is cheaper over a season to have a more expensive piece of equipment that will stay together for a while, than a less expensive machine that you are constantly repairing. Let's assume you have a year old MX machine that is in good shape and has been fairly reliable for the duration. Before serious motocross riding, the bike should be gone through completely. This includes things that everyone takes for granted like wheel bearings, steering head bearings, gearbox bushings and bearings, shifting dogs and plates, new cables, seals, etc., etc. The machine, when detailed properly, should be virtually as good as, or better than, new. This keeps the DNF's to a minimum, and nothing dampens the spirit as badly as not finishing a moto.

Before every race, your MX-er should be meticulously cleaned, all nuts and bolts checked, timing checked, all oil levels topped up, loose or frayed wires and cables replaced, air filter cleaned, chain adjusted properly, all controls functioning smoothly and a generally detailed inspection of the entire bike performed. Before each moto, instead of bench racing with your buddies, check all spokes for looseness, go over all control adjustments, and wipe the bike down. Between motos, the Europeans (or their factory mechanics) fine-tooth comb the machine. Just because the machine is perfect in the first moto doesn't guarantee something didn't start to go that will show up halfway through the second. A perfect example took place during the 1969

Roger DeCoster displays his unique style on a stock Yamaha DT-1 proving that, beyond a certain point, it's not the bike; it's the rider that makes a difference.

Photo courtesy of Mike Burke Cycle Specialties

Grand Prix circuit in Europe. Ake Jonsson, riding a Maico, had done well during the first moto, only to have his handlebars come loose during the second, causing a spill and consequent loss of his high placing. Needless to say, the Maico mechanic who overlooked the loose clamps between motos had his ears burned severely. It is this attention to detail, and constant practice, more than anything else, that separates the Europeans from us. It is not uncommon to see a European rider race an entire season on the same piston and rings. Mechanical failures during an event are not as common as they are here. In this country, when we install a new set of rings for example, we give the cylinder a quick hone, pop on the rings, give it a brief break-in before racing and that's it. In Europe, when a rider installs a set of rings, the machine is given a brief run-in; then taken apart and examined closely. If a high spot is found on the cylinder wall, the ring (rings) will be carefully filed and sanded to the correct contour, then re-installed. This process may be repeated several times until all high spots are eliminated and the ring seal is perfect. The chances of seizure on this type of an engine are greatly reduced, and this knowledge lets you relax a bit more while racing.

Part of machine preparation is taking the right stuff to the track with you. You can waste a great deal of time scrounging around for parts that a little foresight could have prevented. If the course demands a gearing change, make sure that you have the right amount of chain with you, *pre-cut*, to make the change in the quickest possible time. Always carry at least one countershaft sprocket for gear changes in each direction: up and down. If stock gearing is 14 teeth on the countershaft, have a 13 and a 15 tooth with you. Have a good selection of jets to meet any possible requirement, and have at least one fresh plug in each heat range available. Safety wire, bungee cords, washers, cotter pins and all the little bits and pieces laying around your garage should be in your toolbox. A tire pump and an accurate air gauge are a necessity to meet widely varying course conditions. We are not trying to suggest that you turn into a tool freak, but it is a reassuring feeling to know that you're ready for most any emergency.

PHYSICAL PREPARATION

Contrary to what some people believe, motocross is one of the most physically exhausting sports on the face of the earth. A 30 or 45 minute moto will leave an unprepared rider with blistered and bleeding hands and cramped muscles, and quite often, unable to start the next moto because of sheer fatigue.

Your hands and legs take more abuse than the rest of your body and require special exercises to prepare them for the grind. One very effective movement for building leg endurance is the jumping squat. Assume a stance approximately the same as a normal seating position on your machine, with the feet about 18 inches apart. Then leap as high into the air as you can, landing with the knees bent to take the shock. Repeat this as many times as you can until your legs are cramping and you are breathing heavily. When you can do three sets of 100 repetitions of this toughie, your legs should be ready for anything. Add a day or two each week of running for insurance and don't be afraid to sweat a bit.

The hands require more work than the legs, especially so if they are on the small side. Plain old-fashioned chinups are good and just hanging from a bar helps a great deal. A few more specialized exercises produce faster results. A particularly effective one is that of crumpling news-

To get consistently faster lap times, go deep into the corner at speed, hit the grabbers and square it off. Come out of the corner on your selected line with the power on. RD Team Maico shows how it's done leading the pack at Baymare.

John DeSoto passes on some pointers to brother Ron. It doesn't hurt your riding if your older brother is the top US rider.

Photo courtesy of RD Sportcycles

paper up with one hand. Take a full sheet of newspaper and lay your palm on it. Now start squeezing and crumpling it into a ball. Try to get it down to the size of a grapefruit if you can. After three or four sheets, the hands and forearms should really be burning. This may sound weird, but it works surprisingly well. Another, and my favorite, is using a gripper and squeezing it as long as you can without opening it up. This one can be done anywhere. You can keep one on your dash and use it as you drive to work. An old weightlifter's trick is also very useful. Take a section of broom handle at least 18 inches long and tie a 4 foot rope to the middle of it. On the other end add a five pound weight, hold your arms straight out in front of you and slowly wind it all the way up. After it's wound up, unwind to the floor and repeat until you feel it in your fingers and forearms.

Combining these exercises with riding at least twice a week should turn you into a man of iron, able to charge the entire length of any moto. To back up the conditioning exercises, try to maintain a balanced diet and stay away from too much junk food, especially before a race. There is no way that you can ride at your best, if you get bombed the night before and ate 14 enchiladas on the way to the track. Take vitamins and a few basic food supplements. They work. You don't have to turn into a complete health freak, but the better condition you are in, the easier it is for you to win. Getting to a physical peak is harder than keeping it once you get there, but the work is worth it. If you do crash, the chances of getting hurt are less if you're in shape.

Tim Hart checks over his Montesa Capra between motos, a good practice to follow. Make sure all the nuts are tight before you line up for that next moto.

Ron DeSoto (John's younger brother) flat out over the jump at Ascot Park. It takes meticulous machine preparation to compete against the good, sponsored riders.

Jim Wilson (formerly Greeves, now CZ) passes Tim Hart (Montesa) on the inside of an off-camber turn. Don't attempt the gestures until you are to Wilson's skill level.

MENTAL PREPARATION

The mental aspect of motocross preparation has to be the most important. The best equipment and body conditioning in the world will not win a race if your attitude isn't right. An old, but true, saying, "Success breeds success, failure breeds failure" applies here. Set attainable goals for yourself, and one at a time, reach them. Even if your goal is a simple one, like passing two or three other riders, aim for it, do it and classify the accomplishment as a success. When you find that you can reach a goal easily, raise your sights a bit, until you succeed again. Keep this process going and someday *you* will be the winner. Make your goals realistic and keep them in proportion with your increase in riding skill. Picture yourself as a successful rider and get that mental picture set in your mind. If you cannot picture yourself as a winner, then you will *never* be a winner and will be better off going back to fun riding or even ping pong.

When you arrive at the track, take the time to walk around it slowly and paint a mental picture in your mind of how you are going to take each section, corner or straight. Combine this with the knowledge that your bike is at its mechanical peak; your body at its physical best, and you are half way to that trophy. Instead of yakking it up with your pals all day, take a bit of time out before the race. Go off by yourself and get serious. Put your mind away from all those distractions and prepare it for the task ahead. And when you ride, try to put your head 20 feet in front of your bike and concentrate. Watch the top experts on the starting line sometime, and look at the intense, almost painful expression they're wearing. They are aware of nothing but the starter's flag and the need to explode away ahead of the pack. No smiles or laughing here. But then, winning is serious.

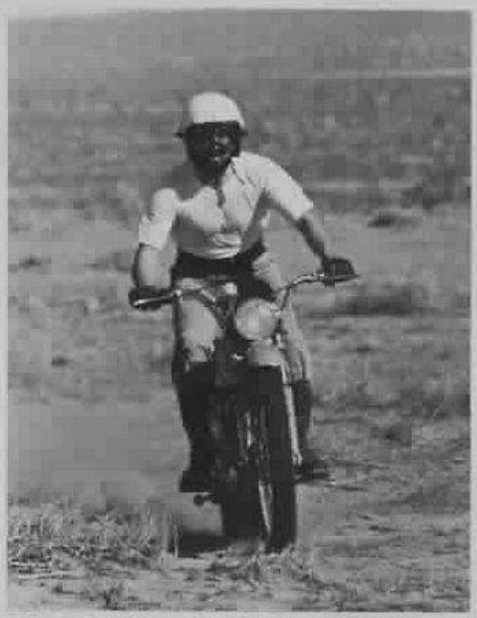
Next issue, how to ride and the actual techniques used to win at motocross.

BULTACO MATADOR

Everybody makes a "dual purpose" machine. At least that's what they call them. There are two basic schools of thought on building dual purpose motorcycles. One way is to take a street machine, install knobby tires, high exhaust, a thicker seat, cross-braced dirt bars and think up some sort of neat name for it. Calling a machine the Mountain Mother or the Mud Scrambler, we feel, doesn't really help a lot in the design and development of a real combination dirt/street bike. The other tack is that of taking a genuine dirt racing machine, detuning it slightly, adding the necessary legal hardware, and ending up with something slightly less than a full out racer. The bulk of the dual purpose bikes that will take some thrashing use this approach. There is a third approach. Only a few manufacturers attempt it, and that is building a machine from the ground up as a true dual purpose bike. Bultaco has taken this approach in designing their new Mark IV Matador.

The Bul can be used for enduros, successfully ridden in the desert, raced cross-country, or ridden to the store for that occasional pack of butts. Any motorcycle that can do all of these things, without so much as changing a plug, has to be dollar for dollar, one of the best fun buys today. It will cost you a bit more than the typical Japanese dual purpose bike, but the Bul's handling inspires twice the confidence of the best Oriental effort.

The awesome low-end torque on hand makes the Bul a favorite for mud-slogging Eastern riding conditions as well as the deep sand encountered in the great western deserts. All of the power is not isolated at the lower end of the rpm scale, however, as the Matador pulls strongly all the way through the power band, flattening slightly at peak revs.



The Matador Mk4 lends itself to hard cross-country charges with completely predictable power and handling.

Second gear starts are not only possible, but very easy. In fact during our testing, more than one member of our staff started off in second, thinking it was low. Low gear is not really needed in any but the most trying circumstances. The Matador would pull strongly from idle, in any of the first four gears, making it an ideal mount for the most demanding trail rider.

HANDLING, AS PREVIOUSLY mentioned, was first class, due in large part to the plush, soft suspension. The Telesco front forks cannot be faulted in performance, but in typical Bultaco fashion, leak from the very first downstroke. It's about time someone corrected this small problem in an otherwise superb set of forks. Travel is a genuine, usable 6½", and no topping or bottoming was experienced. Dampening is something the Japanese manufacturers should copy immediately. The Betor rear shocks were a perfect match for the excellent front end. The only time bottoming could be induced was on a hard landing from a jump. Then the impact could be felt, but caused no adverse effects. Strangely enough, a long series of bad dips would not cause bottoming of any sort, except for the initial bump. Dampening seemed to increase with progressive pumping, and maximum ground contact was maintained at all times. Betor shocks, even though an excellent unit, don't seem to last as long as some others available, and are not rebuildable. Travel is 3 15/16" and the shocks are five-way adjustable, allowing a good selection for any rider's demands. The Bul was a good slider in sand or soft ground, but the front end tended to knife in a bit if the power was backed off. It definitely is a "power on" handler. For slower riding and picking your way over rough ground, the Matador is almost as good as an all-out trials machine. In fact many riders have acquitted themselves honorably in trials competition on this model of the Bultaco line-up.

Weight distribution was beautiful and with all the torque, the front end could be lofted at will in almost any gear. If any one thing stood out about the Matador's handling, it was the lack of shock impact on landing from a long, high jump. One unplanned front end landing at speed even proved comfortable. Not fun, mind you, but a lesser suspension might have tossed the rider on his ear.

The machine had a poor combination of very low saddle and very high footpegs. In a seating position, the legs cramped quickly, especially for some of our taller test riders. In a standing position, nothing got in the way of the rider and the bike could move around freely between the riders' legs. The big problem, however, was the distance one had to

Power slides were easy and great fun. The Bul's center of gravity and geometry made for very smooth entries and exits in and out of the slide.

Lofting the front end could be accomplished at will in any of the bottom four gears.

travel to stand up. It's a long, long way 'twixt seat and butt and very hard on the legs when a lot of position changing is required. Seat-peg relationship needs some re-thinking.

CONTROLS WERE EXCELLENT and well placed. Everything fell right to hand almost immediately. Those clip-on Bul bars can be adjusted to any position and any reasonable height, and if the bike is dropped, the bars will slip rather than break. Clutch action is feather light and no sign of slipping was detected at any time. We might add at this point that the Matador was subjected to more abuse than any motorcycle tested. Everyone thrashed the machine to its limit because it had the magic combination of being forgiving and fun. Nothing broke or fell off. It was dropped at least 10 times and generally required only re-adjustment of the bars.

When we received the Matador it had over 800 miles on it; all of them hard test miles, and we added hundreds more. It is still quiet and smooth running, with no mechanical clatter to be heard. This is one Bultaco that will not self-destruct, and is probably the most reliable in their line.

Shifting was crisp and clean (clutchless if desired) and properly spaced. Shifting could be accomplished without removing the foot from the peg, a definite advantage over rough ground. Care had to be taken if you had a size 10 or larger foot, however, as the kickstarter locking bolt was in the way and could hang up the tip of your boot. The rear brake was a joke, and not in keeping with the quality of the rest of the bike. Bultaco has had a history of rear brakes that cease to function when wet or dirty, a condition that happens quickly, as the brakes are not sealed from the elements. This is surprising when you consider that the front stopper is one of the best. (Señor Bulto, maybe you ought to put the front on the back too?)

Topping off all of the neat things, like good paint and glasswork, are a pair of lightweight alloy rims, mounted with a 4.00 x 18 rear knobby and a 3.00 x 21 motocross-type front. Unsprung weight is very low and contributes in great part to the excellent handling. Some possible improvements would be an oil injection set up a la Yamaha and a non-leaking gas cap.

THE KICKSTARTER WAS very awkward to use and had a short arc of travel. Shin guards would be a good Christmas present for any Matador owner. Fortunately, the machine starts easily, normally with one kick, except when it's very cold. Liberal flooding of the 32mm Amal concentric carburetor is an aid to cold starting and the bike will idle sweetly after a brief warm up period. There seems to be some magic in the Spanish Amals that the British Amals never have achieved. No one seems to know why, but the Spanish carbs are trouble free, while the others tend to be plagued with minor hassles.

The exhaust system on the Mk IV is one of the most outstanding on any of the current crop of enduro machines. The pipe is tucked out of the way where it is virtually impossible for it to contact your body and is surprisingly quiet, even without the detachable muffler/spark arrester. The exhaust note is very mellow, not at all pingy or disturbing. It sounds almost like a smaller four-stroke and speaks of latent power which, happily, is there in great gobs. The rubber attachment hose between muffler and pipe tended to smoke a bit when hot but aside from that, no complaints.

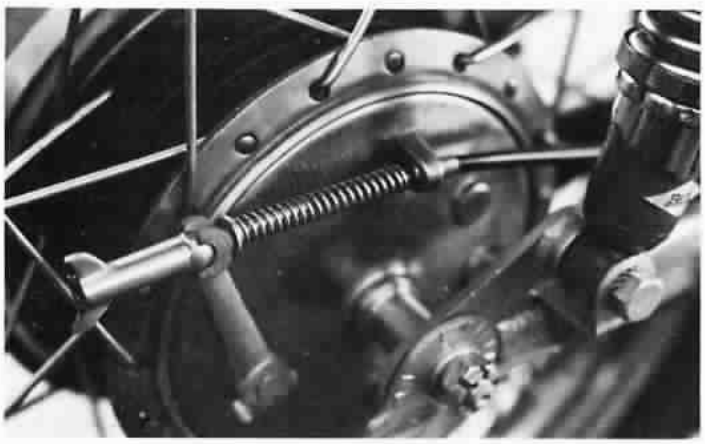
The finish of the machine was attractive, with red and metallic gray predominant. The polished aluminum fenders look great and the shape and placement of the front mud-grabber is perfect for enduros. The bike has a lot of functional beauty.

OTHER NICE TOUCHES include a fully enclosed rear chain, a rubber suspended speedo and an all-important kill button. We feel that every machine, street included, should have an easily accessible kill button. Nit picking a bit, the electrics were nowhere near a quick disconnect and required a good bit of effort to detach, and a few miscellaneous nuts and bolts vibrated off during the test. A dab of Loc-Tite quickly cured this. It would probably be a good idea to go over all nuts and bolts when you buy a Matador, as some vibration is present.

To sum up, we felt that the Matador would make an excellent first bike, even if you wanted to race with it. It has more than enough power for a novice, and it's all predictable power. Long, controllable slides were a gas. It is possible that a beginner could go around an MX course faster on the Matador than its hairier brother, the Pursang, simply because of the confidence this machine instills. It will not do anything surprising, but will go where you point it quickly and comfortably. When you think about it, that's all you can really ask of any dirt bike.

Betor shocks could be bottomed coming down after a jump but generally provided smooth, stable ride even in the rough.

Finish of the Matador was quite good. Carburetion is by 32mm Amal. Skid plate is effectively designed.



The rear brake was definitely not dirt or waterproof. It emanated grinding sounds and minimal stopping power during our test.

The muffler attaches to the exhaust with a rubber hose and two bolts. Even without the muffler, the Matador has a subdued, mellow sound. Tool kit is contained in inset canister.

SPECIFICATIONS BULTACO MARK IV MATADOR

Price, suggested retail: $895.00 F.O.B. Santa Clara, Calif.
Engine type: Two-cycle, single cylinder
Displacement: 244.28 cc
Bore/Stroke: 72 x 60 mm
Compression Ratio: 10:1
Carburetion: 32 mm Amal
BHP @ RPM: 23.5 at 7000 rpm
Clutch: Multiple plate, oil bath
Primary drive: ⅜-in. chain
Final drive: ½-in. chain
Overall gear ratios:
1 27.45:1
2 17.83:1
3 12.62:1
4 9.54:1
5 7.89:1
Air Filtration: Paper element
Electrical System: 6 v., Battery
Ignition: Electronic
Lubrication: Pre-mix, 20:1 or 25:1
Recommended Fuel: Premium grade
Recommended Oil: Bardahl VBA, SAE 40
Fuel Capacity: 2¾ gallon
Frame: Single downtube, split cradle
Suspension—
Front: Telescopic, hydraulic, 6½-in. travel
Rear: Swingarm/5-way adjustable spring over hydraulic shock absorber
Tires—Front: 3:00 x 21 cross
Rear: 4:00 x 18 cross
Wheels—Front: Akront alloy 2½"; 36 spoke Rear: Akront alloy 3"; 36 spoke
Dimensions—
Overall Length: 79½ inches
Wheelbase: 53½ inches
Seat height: 30¾ inches
Ground clearance: 9¼ inches
Footpeg height: 12½ inches
Weight (full tank gas and tool kit): 282.65 pounds
Instruments: Speedometer, odometer
Brake—front: 2-shoe, rear: 2-shoe, internal expansion
Brake swept area: Front—140 x 35 mm Rear—160 x 35 mm
Pounds/HP (roadweight): 12 pounds

MZ 250

An off-road test of the I.S.D.T. Championship Replica

Man, that is the strangest-looking bike I ever saw."

"Is that a 1949 Greeves? Ha, ha, ha."

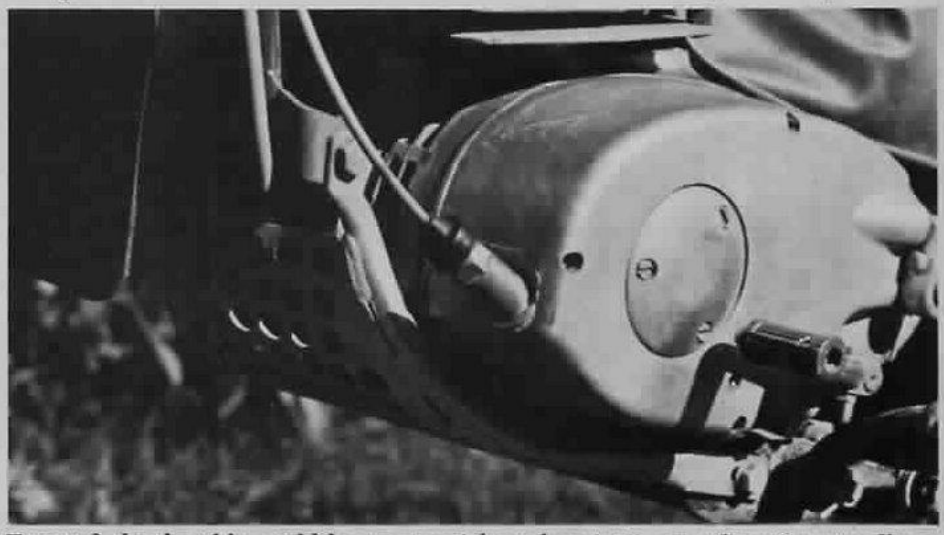
"Hey, buddy, what the hell is that thing?"

We heard these and other witty comments as we putted the MZ 250 up to the starting line. Just to see how tough the machine really was, we entered the beast in competition and the reaction was definitely not neutral. All xenophobic American comments aside, the bike ran rapidly with a very good feel. And it should. The MZ has been the International Six Day Trials champion six times. That's no small accomplishment when you realize that the I.S.D.T. is recognized as the most grueling, demanding single event in the world. If nothing else, you know you're going to finish on this bike.

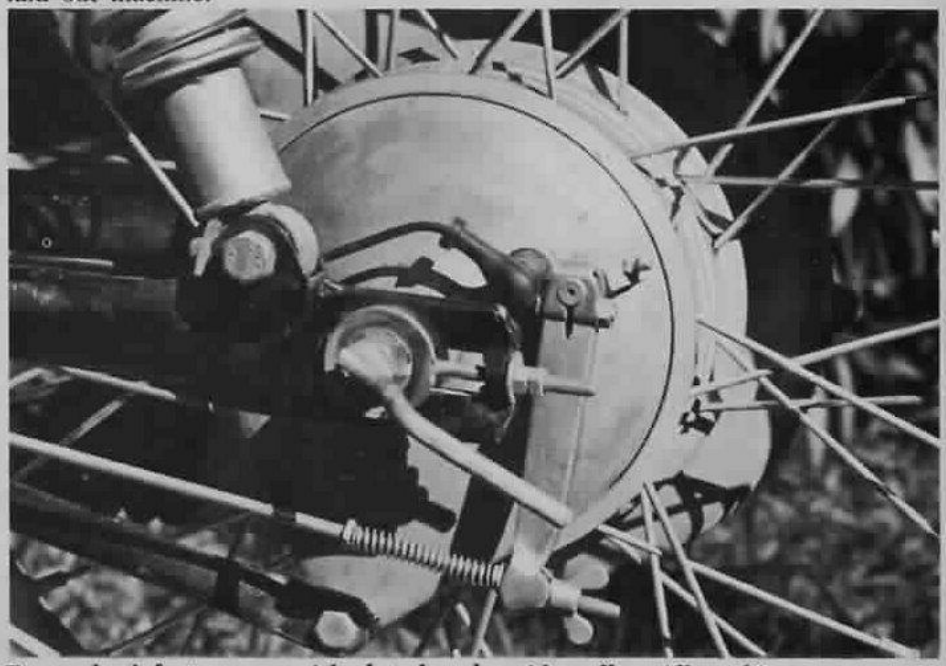
The MZ has got to be the epitome of everything that is East European in motorcycle design and construction. Everything about the bike is starkly functional and there have been no compromises in favor of styling. Every component is extra strong and cobby looking. All bolts, nuts, brackets, tubes, everything, is much stronger than is strictly necessary. Nothing flimsy here.

It was difficult to know what to expect from a bike that is almost a legend by virtue of its I.S.D.T. performances. What emerged was a solid, heavy, fast machine that looked like a street 500 standing still and, once underway, handles with the lightness and responsiveness of a good 125. The MZ is not designed for all-out charging over hill and dale, but rather for maintaining a brisk pace over miserable terrain for extended periods of time without breaking. Not only is this machine able to do this, but it provides excellent rider comfort as well. Riding position is initially alien, yet quite comfortable. The bars are wide and all controls fall readily into place. Opinion on the correct riding position varied from test rider to test rider. Some felt it had the best saddle in the world; others maintained that the only comfortable, confident position they could find was up on the pegs. All of the controls seemed to have a neutral feel. You weren't aware of them, which is great. If you are aware of a control's operation, something is not quite right. You should be able to take them for granted so you can concentrate on riding.

INITIAL IMPRESSIONS OF power are misleading, until you consider that the machine is geared for 100 miles an hour. The 250 puts out a claimed 32 horsepower and if geared for 70 or 75, the power would be fierce. Lack of beans was never a real problem, however, even in deep sand. The low end could be a little torquier for the American enduro rider. The bike instills confidence in terms of acceleration ability and top end. It



Exposed clutch cable could be a potential weak point in an otherwise soundly laid out machine.



Rear wheel features a quick detach axle with puller. All working components are heavy duty and extensively waterproofed.

feels like it could run at speed all day. It's as rapid as you could want, and it has been shown that in the hands of the right man, like East German champ Werner Salersky, that the bike is very competitive. The MZ will appeal to the enduro rider in this country and should perform admirably in this role. The only drawback in this application is the weight. With a full tank of gas and the very complete tool kit strapped on the tank, the MZ came out to a hefty 328 pounds. It's a good thing the bike performs as reliably as claimed, since it would be a bear to push the scooter out of a mud bog.

THE MACHINE IS actually deceptively fast, belying its bulky appearance. On desert fire roads or other secondary roads, such as one encounters in Europe or most enduros, the thing moves out faster than a greased eel. Several times the speedo was pegged while still accelerating in fourth, and speeds of 80-90 were attainable by dialing on the throttle. The fifth gear is rather high, more like an overdrive, and could be used only on flat, smooth surfaces. Shifting is very quick and positive; use of the clutch is optional but recommended in order to save the gearbox on long hauls. It doesn't make much sense to slam through clutchless shifts only to find yourself 20 miles from nowhere with a crunched gearbox. The smooth shifting action is there if you need it and should pay off on some tight enduros. Say, on a rocky downhill where you really don't want to change your body position or can't take the extra time (and mental effort) to clutch.

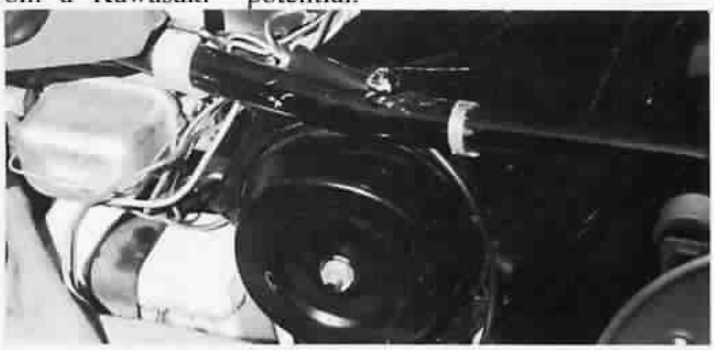
Doug Evans, who made the MZ available through the importer (MED International) and also does a gig as Eastern distributor, is familiar enough with the machine to push it along at a pace equal to, or better than, many riders on flat-out racing machines of very competitive makes. The machine has the potential if you do. Doug also pointed out some of the things that time and trial have brought out in the MZ. The biggest problem has been attaining proper jetting of the carb. This is the result of the climatic conditions and gasoline differences between Eastern Europe and the various areas of the U.S.

THE ONLY PROBLEM we encountered with the bike during the test period was with the fuel line petcock. A ten-cent gasket in the shut-off valve tends to work loose, become misaligned and starve the engine of fuel at higher revs. The recommendation is to replace this culprit with the nylon gasket from a Kawasaki petcock. It's a drop-in fit. There have never been any reported (or experienced) problems with the electrics, even though some fuses and connections are exposed under the seat/skirt combination. While on the subject of electrics, the lighting is quite adequate for its intended purposes and even passes as being street legal.

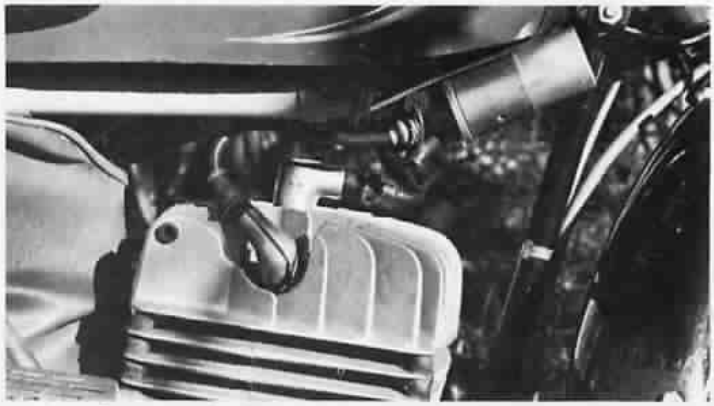
The air cleaner is tucked away under skirt and seat and is virtually waterproof. It's a decent size, also. The large skirts are quite functional and seem to keep dirt, mud, sand and other undesirables out rather than collecting the stuff. The carburetor is tucked away under there, also. The carb is a BVF 30 KN-1, of East German manufacture, with a 30mm throat.

First kick starts were the rule, either hot or cold, and the successful starting procedure from cold went something like this. Turn ignition switch on, to straight down position. Open fuel petcock. Apply slight choke. Lift up skirt and reach under to press tickler until it splashes. Apply one smooth kick to the kickstarter and blip throttle as necessary. Choke can be closed as engine smoothes out. The engine responds with a tinny ping-ping-ping which gives no aural indication of its power potential.

The MZ ETS 250/G I.S.D.T. Championship Replica in all its stark, functional glory.



Large paper element air cleaner is buried under seat and side skirt. Electrical contacts and fuses are exposed but have posed no operational problems in international use.



Engine features dual ignition, a nice feature on any bike and uncommon on an enduro machine. Finning is more than adequate as engine was never too hot to the touch even after hard running.

Our main criticisms of the machine sound almost petty but there are some areas for improvement. The chain is completely enclosed, with the rear sprocket encased in a lightweight magnesium casing. This has the obvious benefit of keeping garbage out of the chain, but it is almost impossible to repair it or change the countershaft sprocket (should that seem desirable) out in the field. The rubber fittings are quite good, but the links are very difficult to get to. Second, the clutch cable, where it enters the casing, is quite vulnerable. It sits outside the protection of the bashplate and is a prime candidate for getting sheared off by a rock or catching a low branch in the woods. The team I.S.D.T. bikes had a protective metal bar welded on in addition to the regular bash plate and some such protection seems necessary. Detachable lighting is another good idea that is not incorporated in this machine. It would be nice to have the option of removing at least the front headlamp if its use was not required. One comment advanced by several, but not all, of the test riders was that the tank with its rubber pads is too wide when riding the bike in a standing position and tends to force the legs out and off the rigid pegs. The tank holds an ample 3.75 gallons of pre-mix (25:1) but could be narrowed so that gripping with the knees is less of a chore.

SOME OF THE positive, even unique for an enduro machine, features included the deep front fender which did keep ground matter off the rider and the bike. The ample fender combined with the mud flap prevented any mud or wet sand from reaching the cooling fins which gave the engine a better chance to avoid overheating and to work at full output longer. The travel of the oil-dampened front forks has been increased from four to six inches and they are excellent units. The center-line braking also gave swift, sure stops. No complaints there. The dual ignition (with double coils) is via metal-capped Isolator plugs when factory stock. They are difficult to find in this country, and expensive, but replacement is accomplished with NGK, Champion or Bosch plugs, all of which have been used and work with no problems. The MZ comes equipped with durable metal number plates and a highly audible squeeze bulb horn, which is a nice touch.

The real goodies package, though, is the fantastic tool kit provided with the machine. It is unbelievably complete, down to a first aid kit, which has instructions printed in German. (Too bad if you have to repair and you don't know how or can't read German.) Part of the kit is a real working tire pump which attaches under the right side of the tank. The rest of the tools and repair items are contained in the large leather box which is strapped to the top of the tank with two leather crossbelts.

Contents of the kit include: spare carburetor jets and gaskets, a 13-tooth countershaft sprocket, a 15-tooth countershaft sprocket (the 14-tooth sprocket is already on the machine), spark plug tool, extra clutch and brake cables, spare plug, tire irons, tire patch kit, a selection of metric crescent wrenches from 8 to 22mm, grease gun, cut-edge pliers, two metric sockets, and the emergency first aid kit complete with smelling salts.

FRAME CONSTRUCTION IS alloy with a single downtube and center tube and has the reputation of being indestructible. Overall geometry is good for enduro or I.S.D.T. competition but requires more rake and a longer swing arm for any high speed cross-country bashing, as in the desert.

Overall impression: the MZ 250 was designed specifically for I.S.D.T. type competition and that is what it excels at. That can mean an outstanding enduro mount for the U.S. rider, particularly in the events common in the East like the Berkshire. And since it's street legal, you *could* license it and ride it to work.

Tool kit, complete with spare cables and first aid materials, is very extensive and should permit complete field maintenance.

SPECIFICATIONS: MZ ETS 250/G

Price, suggested retail ..... US $950
Engine type ..... Single cylinder two-stroke
Displacement ..... 243cc, 14.8 cu. in.
Bore x Stroke ..... 69mm x 65mm
Compression Ratio 9.5:1
Carburetion ..... One 30mm Type BVF 30 KN-1
HP @ RPM ..... 32 @ 6800
Clutch ..... Aluminum alloy multi-disc wet
Primary drive ..... Gear driven
Final drive ..... Fully-enclosed chain
Air Filtration ..... Paper element, 105mm x 140 mm
Ignition ..... Dual coil with two spark plug head
Electrical System ..... 6 v/12 Ah battery delivering 60W continuous and 90W for short period
Lubrication ..... Oil in gas, SAE 40-20, 25:1 ratio
Recommended Fuel ..... Gasoline, 85-100 octane
Recommended Oil ..... SAE 40-20
Fuel Capacity ..... 3.75 gal. (U.S.); 15 liters
Frame ..... Alloy center tube single downtube
Suspension:
Front — Oil-dampened telescopic
Rear — Swingarm; hydraulically dampened shock absorbers
Tires: Front — 3.00 x 21 Knobby
Rear — 4.00 x 18 motocross type
Dimensions ..... Length overall: 81.09 in. (2060mm)
Width ..... 35 in. (890mm)
Height ..... 47.23 in. (1200mm)
Ground clearance ..... 8.3 in. (210mm)
Weight: (full gas tank and tool kit) ..... 328 pounds
Instruments Speedometer, odometer
Brake:
Front — Center line, Double Leading Shoe Drum
Rear — Centerline internal expanding drum
Pounds/HP (roadweight) 10.25
Max. speed (actual) ..... 95 mph

Nate Sciaqua, DIRT BIKE's coming novice for this issue, manages a pose at the end of a day's riding.

THE NOVICE

by Rex McMasters

The vast majority of people who ride in off-road competition are not the big names that always appear in print. Even though it's the experts who make the news, there are a bunch of hard-riding novices around that the motorcycle press, by and large, chooses to ignore. DIRT BIKE wants to recognize the novice rider, the sportsman who is riding for the fun of it on his own hard-earned machine, without a sponsor.

Each month, DIRT BIKE will focus on a novice rider on his way up. The green plate guys deserve recognition, even if they're not as spectacular as the experts and the International class riders. These riders are the backbone of the sport and give dirt riding most of its color and popularity. If you know of a rider, a novice, who exemplifies where the sport is at today, we'd like to hear about him. If you think you personally qualify, don't be modest, drop us a line and a photo.

DIRT BIKE's Novice of the Month for this issue is Nate Sciaqua (pronounced Shakwa), a 30 year old school teacher and father of two ankle biters. Nate, who lives in Inglewood, California, has recently started to attract attention with his racing performances and we thought that we'd look a little deeper and see what makes him, and thousands like him, tick.

AMA DISTRICT 37 is often considered to be one of the toughest districts in the country, so when a rider starts to do well in this area, you wonder how he rose above the pack. Nate's racing career started back in 1965 on, of all things, a hammered 250 Honda Hawk. After playing around in the desert for a long time, he saw a race start while out riding one Sunday and just jumped in and tried to finish, without even paying the entry fee. His first experience with racing (a Hare and Hound) ended abruptly when the battery fell out of the bike and he had to be towed in. Rather than getting turned off by this, it fired him up to try again. And again. Finally, on his third legitimate attempt, he finished a long, grueling Hare and Hound on that Honda. The 'only modifications he had made were lengthening the swingarm two inches, raking the neck to 30 degrees and a bit of tampering with the front to try to get a bit more travel out of the street/touring design forks. The reason he stuck with this ill-suited machine was a common one: money. The Honda was cheap and it didn't break.

When he decided to move up to a real racing machine, his real troubles started. Troubles encountered by most novices. For $300, he purchased a much abused 250 CZ twin pipe that had been thrashed past the point of reason. To quote Nate, "Oh, I paid a fortune for that veteran. It cost me $300, and to me, that's a lot of bread. But anyway, that was the sweetest handling machine I have ridden to this day. Like riding on a cloud." A lot of riders have echoed this, and rumor has it that Bob Messer (of Maico fame) has one tucked away in his garage. Off the record, Bob'll tell you what he thinks of it, even though he's not sponsored by CZ.

NATE SCROUNGED SOME money together and purchased a Yamaha DT-1 MX. When asked why a Yamaha, the answer was predictable, "The price was right. I could have gotten a better handling bike for 150 or 200 dollars more. The only problem was I couldn't afford to maintain a better handling bike, like Husky or CZ. They are definitely better handling than the Yammie, but I figured with a little extra effort, I could learn how to handle the Yamaha and I wouldn't have to spend so much money on parts. I'll give you an example; the most expensive gear in the Yamaha transmission is $5.40. It's not the best handling machine around, but is super-reliable."

Once he adapted to the Yamaha's handling, Nate put together a string of desert and motocross wins. To further increase reliability, he removed the MX barrel and piston, and replaced them with the milder enduro

Nate doing his motocross thing. He flings his DT-1 around the course at white-knuckle speeds.

. . . and into a stretch of deep-rutted sand, grinning broadly behind the full-coverage helmet.

items. A strange move to most racers, but one that insures a lot of finishes.

To quote, "You get a lot of guys out there who think that just because they can afford to buy a hot-rod racing machine, they are going to win the race. This just isn't true. You could take a guy like John DeSoto, Jim Rice or Jim Connolly and they could get on a mini-bike and win. They could get on any machine, and beat you or me 'cause it's the racer. These guys are superior. They know what they're doing."

WHEN NOT RACING or riding, Nate is a school teacher at Belmont High in Los Angeles. He just turned 30 and has been riding for only the last five years, never having been on a bike until he was 25.

He started racing on older bikes and recommends that anyone getting into competition do likewise.

"For a youngster or any beginner, I suggest he get a 125 and learn how to handle it. It's not the machine, it's the way the guy handles the machine. If a guy buys a cheap Yamaha, it will run and it won't cost him a lot to operate while he learns how to handle the thing. He could even be a winner."

We asked Nate how a novice could get to his level and he firmly believes there is only one answer. That's to ride. Every other day, twice a week or every weekend. Ride whether it's racing or trail riding. If you want to race and be good, ride. Regardless of the machine you have.

Nate manages to get around a course very rapidly and he seldom crashes. He says he rarely crashes because he doesn't go fast enough. "If you ride fast enough, you're going to crash. You either crash or you win. And the difference between a winner and a loser is the guy who is willing to push himself a little bit farther, a bit over his head to win."

Nate lists his most satisfying race as the California North-South Motocross at Baymare, which he won, but perhaps his most spectacular single performance was at the Dirt Diggers' Grand Prix at Hopetown. Nate took off dead last, way behind the pack, after his dinosaur CZ twin-pipe refused to fire at the starting line. After finally getting the 250 to fire (post-race inspection revealed a missing piston skirt), he took off after the other sixty-three starters. When the checkered dropped, Nate was closing on the first and second place finishers, having worked through sixty other bikes for a very respectable third. Nate gives some insight into his feelings on that race. "The bike was running *so* bad. I'd go down the straights and I was almost pedaling. You're right, though, I was very happy with that race."

NATE'S FUTURE PLANS in competition are those of any novice: to improve. Having attained his goal of a two-digit motocross number plate, he now has his sights set on a possible move up to the amateur ranks. His wife, while not overly enthusiastic, tolerates his racing and motorcycles in general because Nate gets such a personal reward from competition. His kids are not that stroked on bikes and he refuses to push them into it just because he digs off-road racing. His attitude on pushing his son: "If they don't want them (bikes), then that's fine. They don't have to have them. But, if my kid wants to ride, I'll get him the best bike I can afford."

Nate Sciaqua's high school students enjoy talking to him about racing and he has taught several to ride dirt bikes, taking them with him trail riding. "I encourage a lot of kids to ride dirt bikes. I don't encourage them to ride street bikes so much because it's awfully dangerous and kids don't have as much fear. Consequently, they sometimes do things that are riskier, and in street riding you don't make too many mistakes and live through it."

When the subject of possible sponsorship came up, Nate responded that the only effect it would have on him would be an incentive to ride harder; having a sense of obligation to the sponsor. He would, he continued, reserve the right to race the events he wanted to every weekend, including the big game runs, like the 147 mile Barstow-to-Vegas Hare and Hound, in which he placed twelfth in class out of field of over 2000 riders. He managed to pass close to 90% of the experts and amateurs who started fifteen minutes ahead of the novices in this race.

DIRT BIKE asked Nate if he had any good words to pass on to the novice rider, or the beginner who is interested in improving his performance. His reply: "There's only one thing I can say and that's *ride!* Ride, ride, ride. It's the only way to get better."

WHEN YOU BREAK

Before you buy know what your bike will really cost

by Larry Kumferman

We all tend to get a little stoned on overall appearance when we decide to buy a new thrashing machine. Even the experienced competition rider gets his head turned by a racy tank shape or a sleek paint job. Every one of us, right down to the lowly Sunday afternoon plonker, is inevitably faced with the task of making a single selection from a bevy of contenders using a confusing variety of consideration factors while being influenced by slick advertising claims and a beautiful beast that sits there and shines, providing punch lines for the Madison Avenue copy.

There are dozens of factors which could and should influence selective preference. By and large, they are all predicated on price, personal fit, handling feel, power characteristics, performance profile, and of course, the least important but most influential—appearance. Traditionally, we apply these factors with varying degrees of body english, and end up with a not-much-narrowed group of candidates. Most competition machines meet the fit and performance requirements of most novice competition and non-competition riders. We tend to completely overlook the one major consideration, or really two associated considerations, which will show us the way once the contender pack has been narrowed through other means—engine life expectancy, and cost of engine repair.

TWO-CYCLE ENGINES for competitive dirt use are like thoroughbred race horses—lightweight and line bred for ragged-edge performance. Every ounce of fat is pared, every last inch-gram of torque is wrung out. These mills are designed to deliver hair-raising power peaks under tremendous stress loads, but, and this is the kicker, not with excessive chamber temperature. You allow too much summertime in the bore and you're begging for a repair bill. There is no quicker way in the world to scatter a two-stroke top end all over the terrain than to relax vigilance and let chamber temperature build to abnormal highs. Just two minutes of screaming toward a smoke bomb with a lean carb is enough to hole a piston. You can zonk an entire mill by care-

TABLE I

250 CC COMPETITION MOTORCYCLE	RETAIL PRICE	(A) PLUG	(B) RINGS	(C) PISTON	(C) PIN	(C) SMALL BEARING	(D) SLEEVE (LINER)	(D) BARREL W/GASKET	HEAD & GASKET
A J S (STORMER)	$1075.	3.90	2 RINGS (2) 5.04	(1) 19.48	7.00	6.62	58.08	97.10	30.12
BULTACO	945.	4.75 1.20	1 RING 5.40	(2) 24.00	2.50	3.00	30.20	98.40	40.00
C Z	1075.	3.00 3.00	2 RINGS 4.40	(2) 32.00	8.52	8.88	47.24	172.34	47.24
GREEVES	1095.	1.12	2 RINGS 8.10	(2) 23.40	1.68	(3) 1.56	50.00	120.18	57.60
HUSQVARNA	1130.	1.57	1 RING 6.90	(2) 34.50	4.40	3.60	48.00	87.90	48.00
KAWASAKI (GREEN STREAK)	845.	1.10	2 RINGS 5.00	(1) 12.50	1.61	2.50	NA	48.25	18.05
MAICO	1098.	3.00	2 RINGS 14.00	(2) 30.00	4.00	3.85	NA	180.00	NA
MONTESA	960.	1.80	2 RINGS 4.20	(2) 27.50	3.50	2.80	29.50	108.50	52.00
OSSA (STILETTO)	945.	1.20	2 RINGS 3.48	(1) 12.00	2.20	2.50	30.00	85.25	27.95
SUZUKI (SAVAGE)	895.	1.10	2 RINGS 3.25	(1) 7.53	1.85	1.53	NA	31.93	17.99
YAMAHA (MX)	870.	1.25	1 RING 3.00	(1) 13.00	1.97	2.40	NA	75.40	18.95

(1) PISTON ONLY
(2) PISTON, RINGS, PIN, CIRCLIPS
(3) BUSHING
N.A. NOT AVAILABLE

lessly hauling butt on a fireroad or fighting a sand wash. But a high performance two-stroke churner doesn't always let go in a spray of shrapnel. Usually it's a slow process that doesn't really show itself until you shuffle the sheaf of repair bills at the end of the season. Whenever you operate your machine over an assortment of demanding conditions you add a few nails to the coffin.

Even fun riders tend to get caught up in the spirit of competitive style riding and forgetful of the mill's limitations. It is not uncommon to see a lone rider belting hell out of the boondocks, pitting his riding skills against himself. It's kind of like trying to ride over your own shadow, or beat yourself to an imaginary finish line. The competition is very keen. It is also not uncommon for these treadmill riders to lose sight of just what stress demands they are placing on an engine and inadvertently overheat it.

IT ALL BOILS down to this—a two-stroke engine is an excellent power source for its purpose, with rather a short life expectancy on certain parts, particularly when subjected to its Achilles heel—excessive heat.

Excessive heat originates from one or more of five sources—inadequate cooling, inadequate lubrication, lean air/fuel mixture, rpm's wound out for extended periods, and low speed lugging. It is difficult to engage in any kind of hot pursuit and not subject the mill to some measure of these overheat sources.

Since there is such a high mortality rate on engine parts, the relative cost of vulnerable parts and a projection of repair frequency probability should be strong considerations when planning a bike purchase.

Some machines have mills which withstand overheat better than others. In a very general sense, the more expensive machines do. But the more expensive mills are more costly to repair. Somewhere there is an appropriate tradeoff of original machine cost, and projected frequency and cost of repair, with intended use of the machine.

Table 1 shows cost breakdown on upper end parts for 11 of the most used 250 cc off-road machines. In addition, suggested new retail price of each bike is included for convenience.

Parts are priced in the manner in which dealers supply them. You will note that in some cases pistons, for example, are priced with rings, wrist pin, and circlips. Other prices represent the piston, alone. Where no price appears, the part indicated is not available for installation by owner or repair station. Any given repair would include the parts listed to its left.

DEFINITION OF RIDER style in the four categories is, by necessity, rather broad. It is assumed that each rider will assess his own riding style and bike use, and form a composite where he tends to straddle two or more categories.

COMPETITION RIDER—
CROSS COUNTRY

Defines the serious, AMA competition rider who follows the circuit and races in organized, sanctioned events on a weekly, or near weekly, basis where 80 percent or more of running time is devoted to racing or practice in a competitive manner over off-road terrain with extended runs through adverse topography such as sand washes, mud, water, high-speed stretches, and grades. Hare and Hounds type races or Rough Scrambles, for example.

COMPETITION RIDER—MOTOCROSS

Riders who ride motocross courses competitively with 80 percent of running time given to organized, sanctioned racing where terrain features include steep up and down grades, jumps, loose surface, and abrupt speed changes with frequent gear shifts.

OFF-ROAD RIDER—
NON-ORGANIZED COMPETITION

Riders who tend to race themselves or a few friends in impromptu or non-sanctioned cross country or motocross events where an attempt is made to best rivals by pushing rider and equipment to ability limits over typical motocross or cross country terrain as described above.

OFF-ROAD RIDER—
NON-COMPETITIVE

Riders who enjoy biking cross country for pleasure at medium to leisurely speeds, with an occasional go at bashing. Although non-competitive, they spend many weekends thrashing the tules.

IN ADDITION TO the kind of use to which a bike is put, what might be termed the awareness of the rider is a factor greatly influencing machine longevity and expected frequency of repair. Most competition riders, except for the very skilled, get so emotionally engrossed in the spirit of competing that they mentally lock onto what they are doing to the exclusion of all else. In this mental state it is easy to subject the engine to the kinds of operation stresses that effectively shorten normal engine lifespan or worse. Some of the more expensive-to-repair engines have the greatest tolerance for mistreatment, and become the better buys for those riders who are prone to this oversight.

Compute the cost of top end repairs as indicated opposite the bike selected according to the prices in Table 1, and add the sum to the original cost of the machine. By performing this tabulation for all the bikes in your list of potentials you will discover an amazing range of probable operating costs.

It is possible for you to go through an entire season without the need for anything more expensive than an occasional new plug. Maybe even two seasons. If you do, color yourself lucky. If you don't, color yourself average, and add a logical dimension to the considerations you use to decide on your next machine—figure projected repair costs as part of the original cost. Know what the bike will cost you . . . when you break.

Continued from page 28

whole personality of the bike follows from this. It is very precise and rather stiff, as you might except from a piece of German machinery.

The most striking performance feature of the Maico is the ability of almost any rider to go very fast on it his first time aboard. The machine instills confidence and, due to a number of characteristics, forces the beginning rider to ride like an expert. The low position of the bars feels strange at first, but they permit the rider to fling the Maico into turns, making it do exactly what he wants it to do. As long as you keep the power on. The bike must be ridden, and cornered, with the power on. That's the way the international stars ride, and the Maico requires correct riding techniques to make it handle right. Fortunately, the techniques come easily on this machine and the lesson is more inspiring than painful. The 250 Maico is smooth and predictable, even in the rough. The steering is slow compared to the other two shoot-out bikes, but at this performance level, that will be counted as a virtue by many who are moving up to an all-out competition machine for the first time. The Maico is not as exciting as the other machines at first ride, but this is largely due to the smooth, predictable handling and power combination. It's almost a surprise when you see how many bikes you pass, with everything still under control. For some reason, the Maico was always being ridden with two other bikes available during our test period; possibly because it is the most confidence inspiring for the beginner.

The Maico does have some weak points, which are almost chronic with the breed. The clutch is very stiff and drags continually. It takes both hands and a foot to pull in on the lever and disengagement is never complete. This has been happening with Maicos since 1956 and should have been corrected by now. Gunther Schier, are you listening? As if to compensate, the shifting is short, smooth and positive and the clutch is not needed except for starting and stopping. Shifting is right up there with the CZ for ease, with the advantage of shorter throws. There were no missed shifts experienced and no tendency to bog down. Maico and CZ gear ratios are almost identical and right on for motocross.

The Maico has no front brake to speak of; the front hub is almost an ornament. It was easily the worst of test bike brakes and five or six pounds could be saved by eliminating it since it is nearly useless functionally. Again, compensation is made for the fault through a good rear brake. It is adequate for stopping in nearly any situation, but it would be nice to have two working brakes. The factory rims are another weak point. They were crinkled after one day of testing. Severe competitive use would undoubtedly add more corners to them.

The 250 Maico engine can be started in any gear. However, with a non-releasing clutch, the advantage of this feature is somewhat nullified. It was the only test bike with this desirable feature and it seems a shame to lose it. It could be very useful for quick recovery after a get-off. Out of gear, the Maico started first kick every time, even when cold.

The engine generates a very flat power curve with no peakiness. The wheels will not break loose with sudden applications of throttle, possibly because the Maico generates the least power to the ground of all the bikes in the shoot-out. Frankly, it did not pull as strongly as expected. The power was adequate, but most of the riders had anticipated a hotter machine. Apparently, the 250 Maico wins are not accomplished on sheer power.

The front end is stiff and felt very hard coming off jumps. The bike was crate-new but it seems possible that more progressive dampening would give a better ride. The rear suspension, Girling, is neutral and gives a very stable feeling. The Maico had no tendency to "swim" even in deep sand. The seating position is low and this helps keep the center of gravity down, a contributing factor in the excellent handling. The low downpipe also helps to keep weight down low, and the rider unburned, but is exposed to rocks, etc. A skid plate would be required for any cross-country riding. Don't be misled. The K5 is not intended for cross-country use. The unique double-downtube chassis is a no-compromise motocross type and alteration would be required for Hare and Hounds-type races. This is a highly refined single-purpose motorcycle and should be approached as such.

The Metzler tires are better suited for hard or cobby ground than the stock skins on the Husky or CZ. They have very good wear characteristics but are not really the equal of Barums or Trelleborgs in the deep mud. However, rubber on all machines was top quality and such details would probably not be noticed by the vast majority of riders.

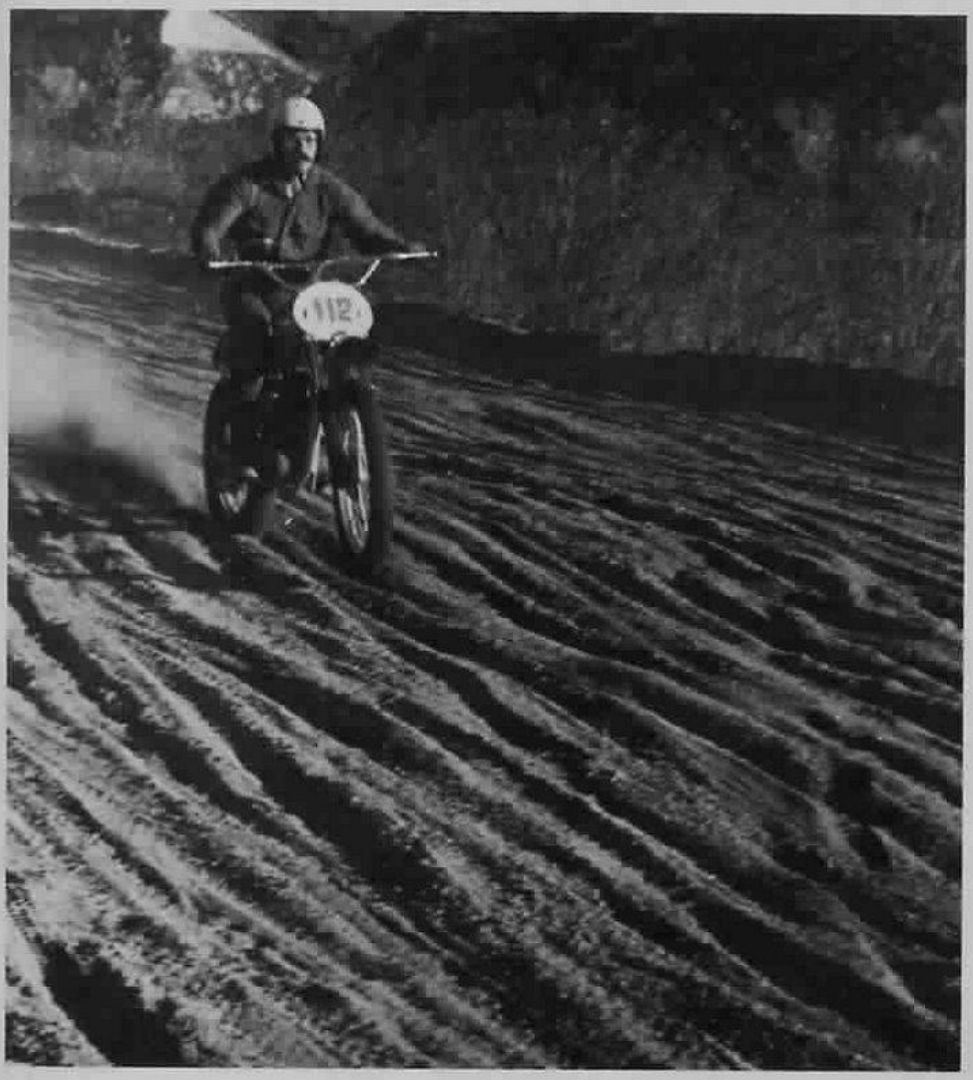
Summing up, the Maico is not a fierce screamer but strong in handling and has smooth, controllable power. It's a mount that will make the beginning competitor get better.

ANALYSIS

When it comes down to the final decision as to who gets your 1100 or so hard-earned dollars, it's a matter of "You pay your money and you take your choice." The advantages and disadvantages in performance and handling of these three first class motocross bikes have been outlined, but the final decision to buy is made up of other factors. The reliability of the bike, for instance. The availability and cost of replacement parts, for another. Which machine has the best reputation for holding together throughout a race? Or a season? Opinions on this will vary all over town, and the individual's diligence in performing maintenance may be the deciding factor between a winner and an also-ran. All the machines are competitive and the one that feels right for you, and your level of riding skill, is the one that will make you most competitive. The most important thing in purchasing your motocross mount may be the reputation of the dealer in your area. Will he stand behind his machine, or is he indifferent to your problems and motocross in general?

The profiles presented are the consensus of opinion by many riders, testing all three machines. The personalities of the bikes were all distinctive, but there were no dogs in this group. The right man can win on any of them. The final decision is yours.

COURSE OF THE MONTH



THE PONDEROSA- sand and whoop-de-doos

by Swede Carlson

Do you *really* want to see if you have a good suspension? Do you want to find out if you're in shape to ride? Short of dropping your motorcycle from the Goodyear blimp, the Ponderosa has to be the roughest test going. The nine mile course is a mind boggling series of whoop-de-doos, axle-deep sand, fire roads, a fast dry lake bed full of chuckholes and one sandy hill-climb replete with rocks and cactus. The bulk of the course is made up of bike-breaking whoop-de-doos. For the uninitiated rider, whoop-de-doos are a series of undulating peaks and low spots shaped something like a roller coaster track. They are too close together to ride sitting down, and must be taken on the pegs when traveling at speed. A good comparison would be riding over choppy waves on a windy day.

Whoop-de-doos are not really all that hard to ride, until you want to get some speed on. Then, if you're a fast rider, you just hit the tops, like a stone skipping across the water. Having watched some of the better desert rats ride this course, I have seen one 20-foot leap after another, from crest to crest, each landing with impact enough to wrench the bars out of even the strongest hands. If one miscalculates and lands in a low spot, it's time for a SANDwich: motorcycle, man, dirt are the ingredients. After running 3 loops (totaling 27 miles) which is the normal scrambles, forks are leaking, rear shocks are bottoming, a multitude of nuts and bolts are loose and the riders are at, or past, the point of exhaustion.

Even though the race sponsors at the Ponderosa offer a very high 40% trophies for finishers, not that many trophies are given out, simply because many starters don't finish. Poor machine preparation takes the largest part of the toll, crashing takes another large portion, and rider fatigue takes the rest. Many of the top desert aces use the Ponderosa to get in shape in the shortest possible time after a layoff.

THE LAYOUT OF the course is roughly a large triangle and is well marked with colored tape and lime slashes. The start is in extra-deep sand, making it relatively safe for mass starts.

Normally 150 to 200 big bikes rip off the line, followed a few minutes later by the trail bikes. The rider is immediately faced with about 2 miles of fast riding over deep, widely spaced whoop-de-doos until reaching a flat hard section at the smoke bomb. After the bomb, the deepest, raunchiest, nastiest collection of brush, whoop-de-doos and cactus on the whole course faces the riders. Most of the spacing out of competitors takes place through this demanding area. After a mile of this torture, a sharp right is made at the first check, only to find more of the same terrain with a slightly firmer surface. This is where the fast "ragged edge" riding occurs if you're getting it on. To complicate things a bit, a few road crossings are thrown in just to keep you honest. Three miles of this takes you to the base of a long, sandy, rock up hill that must be taken briskly or not at all. The little trail bikes have an especially hard time here, and have to keep their engines up on the pipe to prevent bogging down. Miss a gear and it's all over.

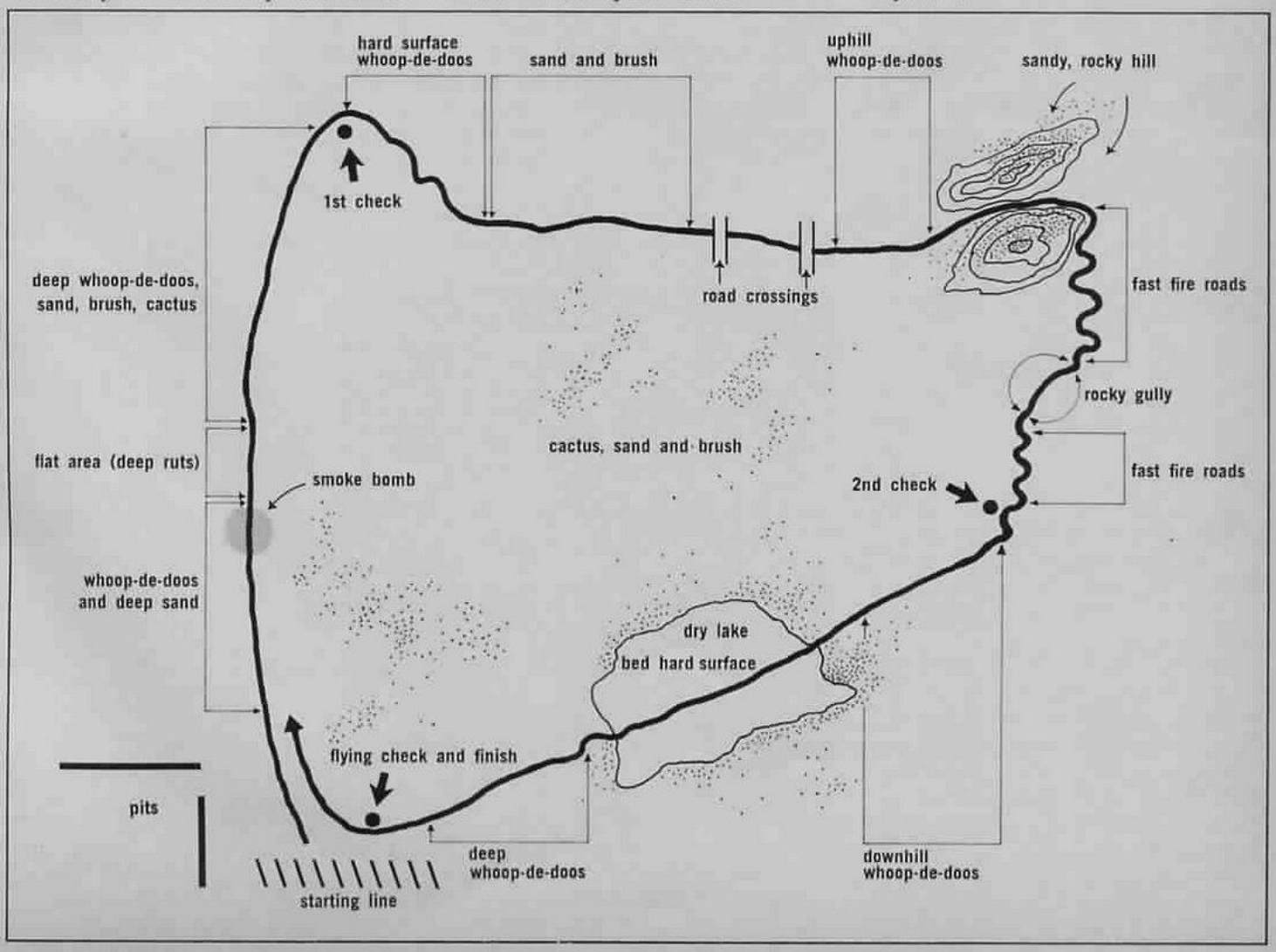
Immediately after this gruesome climb, concentration becomes the word, as rock-lined fire roads with sharp corners face the rider. Overcook it on a turn and the chances of hitting a boulder are high. The fire road is interrupted after a half dozen scary turns by a tricky gulley with an off-camber turn at the bottom. More curving fire roads take you to the second check. After the check, a new hazard is presented, downhill whoop-de-doos. There are probably more crashes on this particular section than any other, because it is so easy to get the machine rolling faster than you intended.

The starting line at the Ponderosa on a cold Sunday morning. For some riders, this is the best part of the race.

NOW IT'S REST TIME, if you can rest going flat out on a dry lake bed for a minute or so. If your machine can pull 100 mph, now's the time to wind it on. Stay alert for the occasional rut or pothole on this lakebed and before you realize it, you are back in deep whoop-de-doos *again*, heading for the start/finish line and two more loops of this madness. If you can tour this circuit in 15 minutes a loop, you should trophy. If you are in the mid-or low 14's, you should place in the top ten. In the thirteens, and you stand a good chance of winning. Unless of course, J. N. Roberts decides to ride that day. J. N. has lapped the Ponderosa in 11 minutes, taking little more than half an hour to finish the entire race. If you get a chance to ride it, see how close you can come to his time.

The Ponderosa is located 15 miles east of Lancaster, California, near the Mojave desert and the races are currently being held on the first and third weekends (Sat. and Sun.) of each month, all year 'round.

There is a friendy western-type bar and restaurant run by the land-owner, located near the course and the beer is good and cold. Dirt riders are very welcome and made to feel at home. Riding is open any time and it doesn't cost a dime except to race. It's an excellent place for an inexperienced rider to learn the basic skills and still have a ball doing it. There is one comfortable thought about this killer course. If your bike will stay together at the Ponderosa, it'll stay together anywhere. •



MARTINO INTERVIEW

Continued from page 15

Martino: "I started riding on a Triumph Cub."

Sieman: "One of those turkey rod breakers?"

Martino: "Yeah, which I got a third overall on at Pioneertown European Scrambles. It literally melted.

Sieman: "Why do you ride a Husky? If you had your choice of any bike around, which you more or less do, and, say, a deal from any sponsor, which would you ride?"

Martino: "I probably would have to stick to Husky right now, because it is already tested and proven and I know a lot about it and I'd just be stupid to go with something else right now, to experiment with it unless I got a really good offer from somebody and then I would go ahead and do the experiment."

Huetter: "Then it's a matter of knowing your machine and what its limitations are?"

Martino: "Right."

Huetter: "Would you go along with that for most dirt racers?"

Martino: "Yes. There are too many guys who have switched brands and have a six months to a year period where they didn't do anything, and right now I don't want to be there. I just want to keep getting better, and I don't want to be playing around with different motorcycles."

Sieman: "What would you do if you had the power to change the Husky in some way to make it better?

Martino: "I would probably give it another inch in wheel base."

Sieman: "Swingarm?"

Martino: "Yeah."

Sieman: "What about the rake? Would this be a factor you'd change?"

Martino: "No, no, not bad. Pretty good there. I just have an extra inch in my swingarm and it made all the difference in the world. I was getting seconds and the first time I changed the swingarm, I won overall. It made that much difference."

Huetter: "Were you using stock Husky shocks?"

Martino: "Stock Husky shock supports. I've changed the seals. I've changed the downward dampening."

Sieman: "Were they topping out a little?"

Martino: "No, bottoming out. I restricted the downward dampening a little bit."

Sieman: "How did you do that? Plugging the holes?"

Martino: "Yeah, plugging the holes and putting a washer in on the little sleeve."

Huetter: "What oil do you use?"

Martino: "20 weight."

Huetter: "Lubritech or just straight oil?"

Martino: "Lubritech. I've used straight oil, but. . . ."

Huetter: "Do you think any of these trick racing oils really give you any advantage?"

Martino: "Well, you can only take their word for it."

Sieman: "How about Shockrol?"

Martino: "I don't know. It's probably like Lubritech. They say it's good, but you probably can just go to a gas station and their oil might be just as good."

Sieman: "What do you use for chain lube?"

Martino: "I use whatever's handy. It all comes off in just 20 minutes of riding, anyway."

Sieman: "Are you using a standard Husky carburetor?"

Martino: "Sure. I'm using the old Bing."

Sieman: "Have you used a Mikuni on a Husky?"

Martino: "Good carburetor. Works good."

Huetter: "Would you prefer to have one on your own bike?"

Martino: "Well, I would stick to the Bing 'cause I know it's proven."

Sieman: "Have you ever tried Curnutt shocks?"

Martino: "Ker-clunks? I don't think he's on the right track at all."

Sieman: "Seems as though all you see at the track these days is red shocks."

Martino: "Well, the only advantage I can see to them is they have probably a little more travel. That's where the guys are getting their difference. Most guys that put them on say they work beautifully, and the reason why they say that is because they never went out and bought a new Girling, and they've ridden with the old junk that didn't work, and they put on their new Curnutts and oh, boy, it works good."

Huetter: "What do you think the best shock is?"

Martino: "Girling."

Sieman: "What about Konis?"

Martino: "Koni is not a bad shock. It still doesn't work as good as a Girling. It lasts a little longer. I played around with shocks for so long trying to get somewhere."

Huetter: "Do you still have the stock shocks on your Husky?"

Martino: "Yeah, stock shocks and stock springs."

Sieman: "What do you get out of a pair of stock shocks? How long?"

Martino: "Oh, about 10 races. That's pretty good. I used to ride BSA and after 45 minutes my shocks would be completely gone. Every race you had to have new shocks. I used the first 5 years of racing experimenting, playing around with things, and now I'm just content in having something that works and now I want to work on myself, rather than buying stuff. There's no easy way to ride the desert."

Discussion of the tight battle for the championship between Whitey and Rich Thorwaldson, who took No. 2 by a narrow margin. DIRT BIKE's tech editor digs on the 400 Husky.

Sieman: "Say you are going to crash. You say, 'Well, this is it. I can see that this boulder is not going to move and it's all over.' What do you do?"

Martino: "Well, I don't crash that much, so I'd say that whatever is going to happen just happens. If I'm going to go over the handlebars, I'll just go. I only went over the handlebars once in my life."

Sieman: "Any injuries? Any serious injuries?"

Martino: "In seven and a half years I've had 3 broken ribs, and that's it."

Huetter: "It happened all at the same time?"

Martino: "Oh, yeah."

Sieman: "How about a short racing biography? How did Whitey Martino get to the point that he's arrived at right now? What did you ride? When did you get serious?"

Martino: "I've never been serious. Like I say, it's mental attitude. If a guy starts getting serious, he just gets messed up. You got to be the loose and easy-going type."

Huetter: "Do you think that attitude will eventually help the Americans a lot in international competition?"

Martino: "Sure. It's just like J. N. Roberts. Now he's probably one of the loosest guys around. Never worries about anything, and I think that's the way he should be."

Sieman: "How do you compare yourself to J. N.?"

Martino: "Well, occasionally."

Sieman: "What would happen if there was a match race? Just you and him, nobody else?"

Martino: "Well, if I really conditioned, I could probably beat him. Of the two of us, not doing any special conditioning, he has a lot better chance to get in shape, plus a lot of natural ability. He's always training, whether it is horse training or stunt riding. He has a lot more time at it and I'm over here stuck in the shop and I can't do any conditioning."

Sieman: "How would you like a match race for money between you and 5 or 6 top riders chosen by *Dirt Bike* magazine?"

Martino: "I could dig it. That's what I do every weekend anyway."

Sieman: "Who do you think should be in this race?"

Martino: "J. N. Roberts, Phil Bowers, Thorwaldson, Steve Kirk, that's about it."

Sieman: "How would you rate these guys? Who would you put 1, 2, 3?"

Martino: "Well, J. N. would have to be number one."

Huetter: "Would you say Whitey Martino number two?"

Martino: "Yeah. I'm probably the only guy that has honestly had a battle with J. N. and I don't know of anybody else who has. When we were both still running and I beat him; there's not many guys who have."

Huetter: "Do you know of any others who have said they have?"

Martino: "No. I don't know of any others."

Huetter: "You mentioned conditioning before in terms of lifting weights. You also do running. About how much?"

Martino: "Oh, about 3 nights a week for about a mile."

Sieman: "How about a brief history of your transition before I forget."

Martino: "Well, from the Triumph Cub I went to the BSA Victor. Very good machine. I rode that for about 2 years. Both years I got in the first ten in the big bikes and probably the only single four-stroke that made it. I went from novice to expert in less than a year."

Huetter: "That somewhat speaks for your natural ability, doesn't it?"

Martino: "I don't know. I think that it was a little different back then, than it is now. Then from there I went to the BSA Twin. I wasn't sponsored yet, but I had a lot of troubles with it. I experimented with it. I had a few races, but it let me down every race I led, so I got tired of that and I got a BSA Victor which I finished for a long time in the first ten. I won my race when the Ponderosa was going strong, about 350 entries, and I rode that and won it."

Huetter: "On a Victor?"

Martino: "Yes, then put it in the truck and went down to Deadman's Point and won that in the same day."

Sieman: "What would you equate the handling of the 441 Victor to?"

Martino: "Not very good at all."

Sieman: "Then what happened?"

Martino: "Well, I think about that time is when I got my BSA sponsorship. I took the same bike I bought all through my sponsorship."

Huetter: "Were they very good at picking up expenses for you?"

Martino: "Yes, plus the bike gave enough power."

Huetter: "What do you think the future of the big four-strokes is? Triumph and BSA just put a charge on this year."

Martino: "This year it probably would be good. Maybe next year, but a couple years from now nobody will even care about them."

Huetter: "That technology has just been surpassed?"

Martino: "Yeah. They cost to maintain them and they're too fidgety. You have to play with them to make them work."

Huetter: "Do you find you do most of the work on your Husky yourself?"

Martino: "I don't do much of it, just 100% of it."

Sieman: "Do you think the Husky or a comparable 2-stroke gives the average rider a better chance of keeping his bike in better shape?"

Martino: "Five or six years ago you had to know something about your bike and do your own work, where now you can be a rider and buy a two-stroke and become a star overnight. You can become a star overnight and not even have to check your timing. Like 10 years ago you had to make all kinds of novel additions and just do everything to it, you know. It's a lot easier now. I'm just happy that I can still beat a lot of these kids that go out and do it. I have to keep improving myself all along. It's really hard to do."

Huetter: "Do you think there really is a trade-off today between experience versus these young kids that just don't know fear and start to charge and have no idea of the consequences?"

Martino: "I don't know. There is always the young charger next to you. Usually they end up in a big pile of dust. I have seen so many come out and do good for a few months and then all of a sudden you don't hear about them any more. There are just so many things to learn. Like I said, it's the mental attitude. A young kid comes out to the desert to race and he does real good and somebody might sponsor him, but they don't realize, I think, they're better off finding someone a little older who's been through the draft and knows what he wants to do in life. He's got his women figured out, whether he's going to get married or what."

Sieman: "Have you ever run over your head? Just put on a charge and

Continued on page 66

SADDLE *Continued from page 6*

the extra few dollars in entry fees to have to go out and rescue these guys who should have spent more time learning what it's all about before they wade in with both eyes firmly closed?

THERE ARE PLENTY of races where a novice rider can develop much needed skills and accumulate knowledge about machine preparation. Shorter events, such as European Scrambles, where you don't have to stray too far from help, are ideal. Most European Scrambles are between 5 and 10 miles in length, so you are never out of walking distance, unless you're injured. Which brings up another point. Would you pay a few extra bucks for an entry fee, knowing that a helicopter was scanning the course, keeping an eye out for injured riders? Even the best dirt riders bite the dust now and then, and it sure would be comforting to know you didn't have to lay there with a broken stem or two pinned under your machine. This is being done by a few clubs in some of the larger events, but not nearly enough. The few overworked organizations like the International Racing Radio Crew and Rescue Three, simply do not have the funds or personnel at present to handle it all.

DIRT RIDING is big enough to deserve the best possible treatment for the thousands of competing riders. In order to help in some small way, Dirt Bike magazine is including, in the next few issues, a Dirt Riders' Check List, to enable everyone to have a fighting chance at proper machine preparation. This list, prepared by Steve Hurd (one of the finest long-distance riders in the game), is similar to an aircraft pre-flight sheet, in that all critical, stressed components are given priority. Use this sheet. Keep it near your machine and go over your bike and spares before you enter a long, tough event, or if you're smart, before every ride. This check sheet will be made available to any clubs or race organizers upon request, and we hope you use it as a guideline for some sort of inspection setup and preparing your own bike. Race sponsors are the key to success.

There really is no choice. We help our own or get helped right out of the dirt forever by some politician who couldn't care less about riding, but doesn't want the sheriff's patrol tied up. Think it over. •

CARLSON COLUMN *Continued from page 12*

to be experts, talk learnedly of how fragile the desert is. You simply can't allow all those rubber tires to disturb the sand and bruise the sage brush. You might cause a tarantula to stop laying eggs.

Have you ever seen the desert? Anyone with normal intelligence knows that one sandstorm or flash flood will do more damage to the desert than all the motorcycles in all the years they've been out there.

I REMEMBER THE experience of a motorcycle club which was sponsoring a desert race. They decided to have it in the same area they had used a year before. In the interests of time, they planned to use part of the previous course for this year's race. They couldn't find it. There was not a trace of course markings or tire tracks or ecological erosion to give them a hint of where it had been. Out of more than two dozen club members, not one could find a single foot of the previous year's course. And these were all experienced desert riders, men who certainly qualify as experts on how the desert normally looks.

I am one of those whom the young warn you never to trust. I'm on the wrong side of thirty. I am not a rabid revolutionary. I work for a living and I pay taxes. I'm a square. But I enjoy living. I want to die all at once instead of drawing out the process for thirty years or so. And I would like to extend a friendly warning to the repressive, intolerant elements in our society.

If we ever completely run out of room for the young to live, to express themselves in motion and exercise their bodies, then we'll have a youthful revolution that will be the real thing. From the viewpoint of too great a distance, the young will fool you. Underneath that smooth-skinned exterior lives another man; a hairy, muscular hunter armed with crude stone weapons. For a million years, he has lived with action and violence and death. Perhaps he can be persuaded to live without the violence and death, but not without the action.

So the next time a motorcycle offends your artistic sensibilities, try to see the other side. It beats smoking tobacco, or other things. It beats guzzling booze. It beats getting blasted on narcotics. Last, but not least, it sure beats walking. •

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BARUM TIRES & TUBES

BEFORE YOU KICK IT OVER

A dirt rider's checklist • Use it and avoid regrets •

by Steve Hurd

HOW MANY TIMES have you heard riders (or yourself) say they always break down, foul a plug, have a throttle stick open, or they sieze or hole a piston? Whether playing or racing, that set of stories is very common. These events are all part of a little game that motorcycle riders seem to play when they get lazy and don't prepare their motorcycles properly. Proper preparation is essential to any type of riding. I call this preparation PREVENTIVE MAINTENANCE.

WE ALL KNOW that the modern motorcycle, be it two- or four-stroke, is every bit as good as the bikes of 20 years ago. We also know that 20 years ago riders were able to get these machines across dirt trails for hundreds of miles without too many problems. The fact is that these machines had to be properly maintained to complete such heroic feats. The machines are better today, no doubt about it; but for the most part, maintenance is not. All it takes for you to rid your motorcycle of those nuisance breakdowns is to make a habit of PREVENTIVE MAINTENANCE every time you ride.

The following checklist should be gone over, and applied, each and every time you head for the dirt. It doesn't take much time, especially when it could mean the difference between a full day's ride instead of half, or placing in an event instead of a DNF. If you hang this list above your work bench and follow it faithfully every week (no shortcuts) you will definitely find that you will be enjoying a full day's ride.

DIRT RIDER'S CHECKLIST

1. Before even starting to work on your bike, wash it thoroughly and take note of any oil leaks or broken parts.

2. Check timing and point gap. Make sure all connections are secure, that point tips are clean and free of oil and the point cam is greased (preferably with white grease) just enough to lube the cam lobe. Seal timing-side cover so dirt and water cannot get in.

3. Check air filter and clean it. If you have a Filtron element, wash it in detergent and water until thoroughly clean. Let it dry completely. Oil with Filtron oil or a similar type of filter oil. DO NOT blow out paper elements with an air hose as this will cause holes in most filters, which lets the dirt in. Be sure all sealing surfaces are tight so they will not leak in dirt or water.

4. Tighten spokes — ALL of them — every week. To do this, go all the way around the wheel taking half a turn on each spoke nipple. Spokes that are finger loose should first be brought up until they start gaining tension and the half a turn taken to get all spokes tight. Check the sprocket bolts, also, as they tend to loosen up.

5. Check or tighten all nuts and bolts. If you have a particular bolt or nut that always comes loose, Loc-tite it and you won't have to worry about it any longer. Don't complain that you lost a nut or bolt because it always comes loose — FIX IT!

6. Check transmission oil and motor oil. Change it at recommended intervals, more often if you're competing.

7. Clean and gap your spark plug. Make sure the washer is good and don't let any dirt or gravel drop into the plug hole when checking.

8. Lube your cables, especially at the connection points. They must be able to pivot freely when the levers are pulled back, without hanging up. If they don't, find out why because they will break or fray if not maintained.

9. Fix or replace all bent parts. Make your machine safe to operate.

10. Adjust your rear chain so that it is tight but has adequate free play in it, about ½ to ¾ inch on most machines. When you wash your bike be sure to lube the chain right away or it will rust even if it just sits overnight. When you adjust your chain, don't go by the marks on the swing arm. Visually sight down the chain, from the rear, to make sure it is traveling straight.

11. Stop and look at EVERYTHING carefully. Don't try to convince yourself that something is right when you know it's wrong. GOOD RIDING!

The Hot Set-up

by Rick Sieman

Tricks and tips for the dirt rider

AMAL CARB SLIDES

Many riders have had trouble with slide breakage on the British Amal carbs, notably the concentric version. It seems that the lower edge of the cutaway breaks off in a chunk about the size of a quarter and gets sucked into the intake port. This is bad enough, but quite often, the piston skirt will catch it while passing and BANG! Kiss one engine goodbye. Replacement with a new slide doesn't seem to help, and more than a few riders have reported multiple failures. Short of replacing the entire carb with a more sophisticated (and expensive) unit, there is an answer. Replace the existing slide with a Spanish Amal slide. It is an exact fit made with a better quality metal and they have proven to be less prone to breakage. If any breakage is experienced with the Spanish slide, then the inner block on the carb body is probably warped and should be replaced. No further problems should be encountered once this step is taken.

REMOVING GRIPS

Trying to remove a set of handlebar grips by brute force is a lot like beating your head against the wall. The harder you squeeze and pull, the greater the contact force is. It's a lot like the ol' Chinese finger trap toy. The easiest way is to take a very narrow screwdriver and stick it under the grip as far as you can without splitting the rubber. Half way down should be far enough. Then dip a rag in some gas and let a bit drain down inside the groove. Remove the screwdriver and the grip will almost fall off with the lightest push. The gas will dry out in short order, and you're all set. To install grips, wet them lightly on the inside and slip on the bars easily. When the gas evaporates, they'll be as tight as you could want.

C-Z BRAKE RETURN WOES

C-Z brake pedals work fine until they get dirty, which happens every time you ride it. Why they don't have a more positive return mechanism baffles us, but the practice in these parts is to do one of two things. The first, and most common, is to cut a piece of inner tube (approx 1½ inches wide) and loop it over the wing nut on the brake rod and stretch it down to the axle adjuster bolt. This helps quite a bit but the best method is to drill a small hole in the brake lever and run a spring from the hole to a screw on the expansion chamber heat shield. Throttle return springs from the auto supply houses seem to work as well as anything.

PROTECTING "SOCK-TYPE" FILTERS

The foam type sock filters seen on many machines, do a very good job of filtering, but are generally out in the open with no panels or still air boxes to protect it. A good temporary way to protect it from the direct blast of the air/dirt flow is plain old aluminum foil. Take a good sized piece of heavy duty foil and wrap loosely around the filter, conforming to the shape as much as possible. Crimp down on the end nearest the carb and put a piece of wire around the bell and snug down to prevent losing the foil. Check carefully and insure that there is sufficient space between the foil and the foam (½ inch is fine) and make sure that the back of the foil is left open. After a session of hard dirty riding, you'll be surprised at how clean the filter

is. Of course, this is only a temporary fix-em-up, as a still air box is more desirable, but it's better than no protection at all.

CHEAP BULLET PROOF SKID PLATE

If you can't afford $25 to $50 or more for a good skid plate, here's a way out. For 3 or 4 bucks you can buy a coal shovel at most any hardware store. Remove the handle and hacksaw the handle bracket off, then lay it against your engine and make chalk marks wherever you have frame tubes. Drill holes to match and mount the shovel with "U" clamps, taking care to 3M or Loc-tite securely. If the edge is hanging out further than you want, either saw it off or hammer the edge of the shovel to the desired shape. The shovel will fit a surprising number of bikes, with no modification needed at all and, with a coat of paint, looks really professional.

MARTINO *Continued from page 61*

then realize you're over your head?"

Martino: "Oh, I guess I have. But usually I see the front wheel in front of my face and I slow down."

Huetter: "You mean that's bad. My God, I'm like that all the time."

Martino: "Yeah, I don't like that. I have only been over the handlebars once, and never again."

Huetter: "Do you wear a Bell helmet?"

Martino: "Yeah, I got a 500 now. It's a little lighter. For long runs like that you're a little better off."

Sieman: "Do you wear a sweat shirt and helmet?"

Martino: "Yeah."

Sieman: "No elbow protection?"

Martino: "No. Sometimes I switch off. I might put a little pad on if I've skinned my elbow. I always have that stuff handy."

Sieman: "What happened after the BSA sponsorship?"

Martino: "I rode that BSA up until one day out in the desert I was leading the race and I came over this rise and there was about a 4-foot rock and I landed directly on top of it. I just sat down. It just completely ruined the whole motorcycle. Drove the engine four inches up into the seat."

Huetter: "How about your spine?"

Martino: "Well, I believe in well-padded seats. I just sat there and fell over. I looked up and Mike Patrick was going by and I waved at him. That was the end of the BSA. I fixed it and rode it one more time and I didn't like it so I said I was getting a Husky."

Sieman: "What made you decide on a Husky?"

Martino: " 'Cause I borrowed one in the week in between when I was fixing the BSA, and I automatically ran third. So I sold the BSA and gave up my whole sponsorship and I put the money down and bought the Husky with my own money and have been doing pretty good ever since. Had a lot of good luck."

Huetter: "Whitey, aside from luck, you've got a fair share of skill, experience, and determination. How does somebody go about winning in the desert and any long-distance off-road race?"

Martino: "Know your bike, prepare it right, and get some riding experience. Experience really helps. There's no easy way to win in the desert." ●

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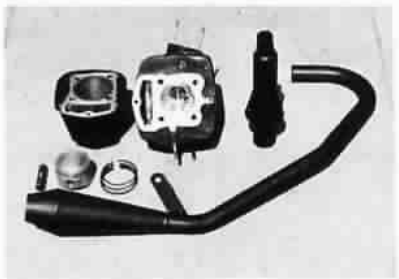

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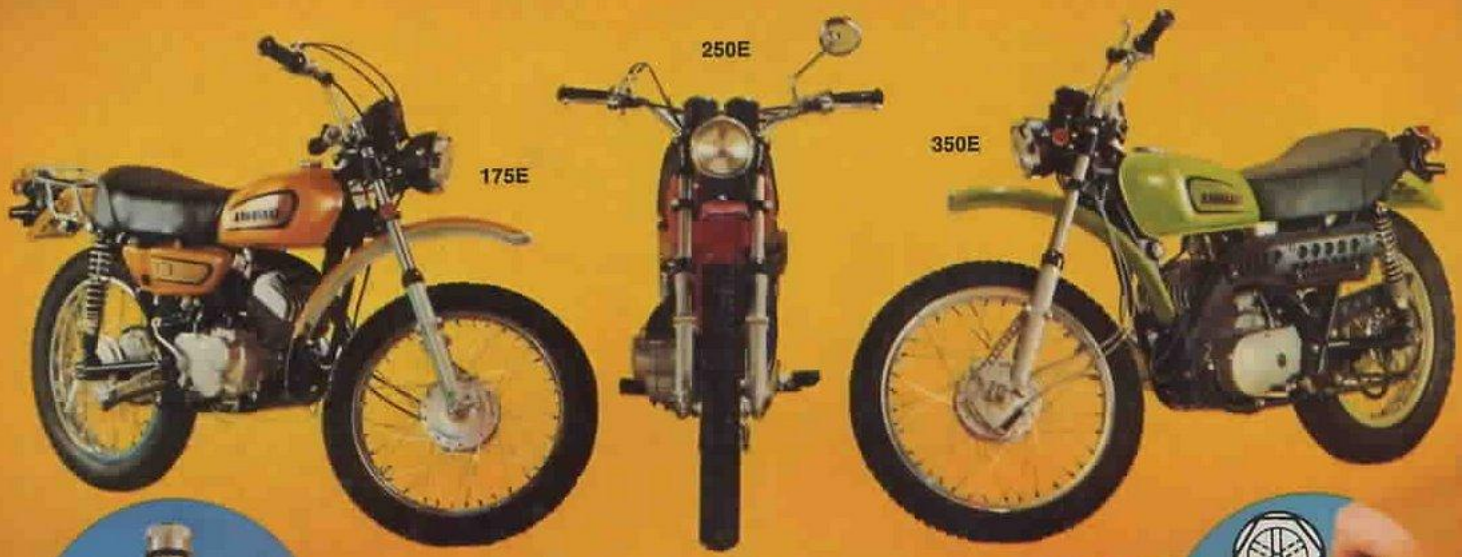

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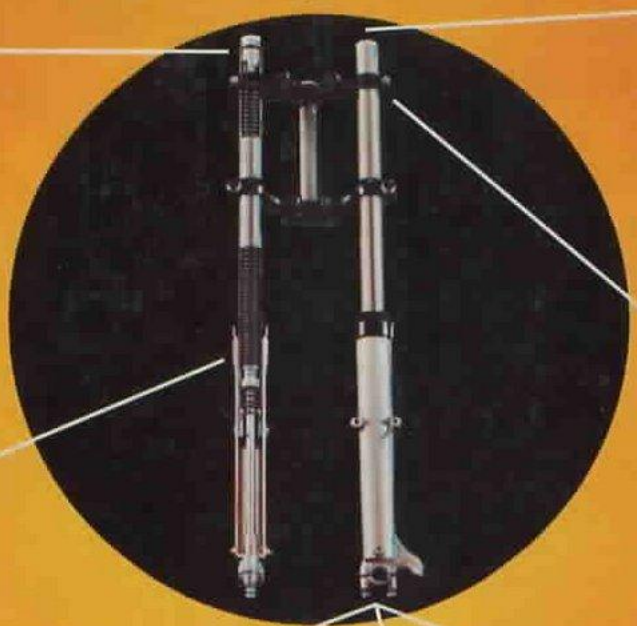

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