

# Cycle

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**750cc Royal Enfield Interceptor**

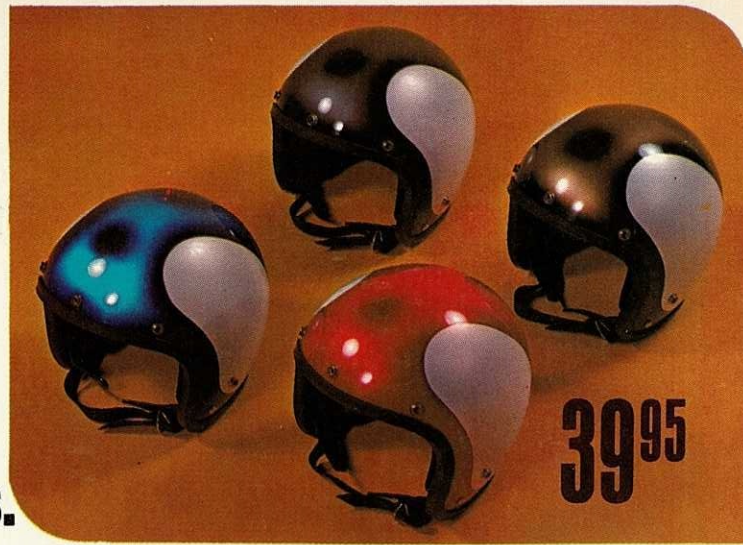
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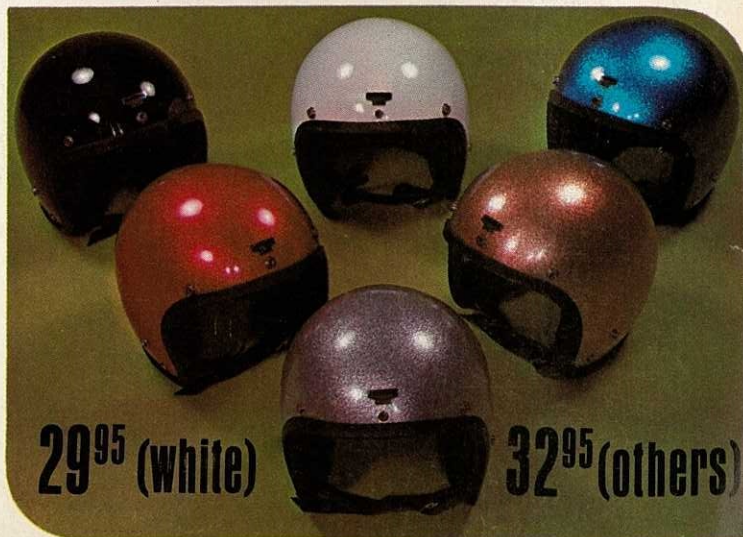
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# Cycle Magazine

August, 1968 Volume XIX No. 8

## ROAD TESTS

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*A long-stroke Supergrunter that just happens to be smooth.*
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*A pretty nice piece of work from those catalogue people.*
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*They came and conquered and were gone in an instant.*

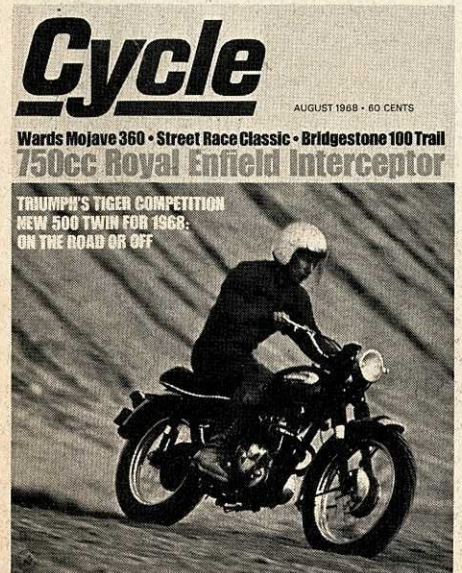
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**This Month's Cover:** There's no sense getting older without getting smarter, and our cover bike, the Triumph T100-C Competition, is a lot smarter than it was before. Once again, racing has improved the breed; the Triumph bristles with features derived from Gary Nixon—type full-house racing machinery. Our road test starts on page 32. Jess Thomas, our Technical Editor, engineered the Triumph into a slide for the cover shot. Eberhard Luethke engineered the camera.



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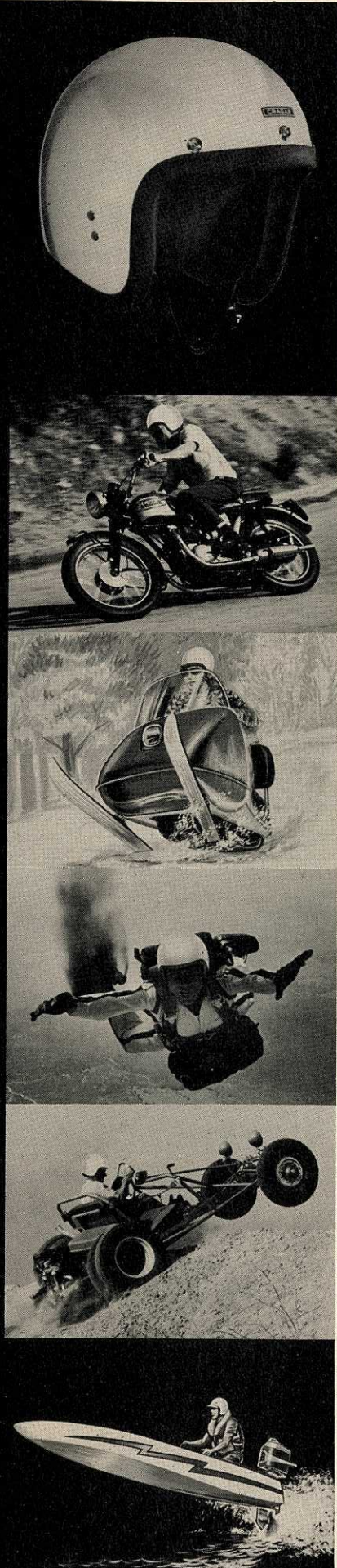
# The Helmet for All Seasons

Cragar introduces a Safety Helmet for all seasons—for all sports. A full coverage model for man-size work or the popular "Shorty" version. Both come in a complete range of sizes—from 6<sup>3</sup>/<sub>4</sub> to 7<sup>1</sup>/<sub>2</sub>—for a perfect fit. Cragar Safety Helmets have been designed to meet USASI Z90.1 specifications and they are approved by the Snell Foundation. They have been accepted by all major racing associations. Cragar's new Safety Helmets feature a strong, lightweight, fiberglass shell with two energy absorbing liners and Nylon covered polyurethane pads for extra comfort. For safety's sake—in all sports—see your motorcycle dealer, speed shop or auto parts store and ask about the Cragar Safety Helmet. It's priced right.

New from



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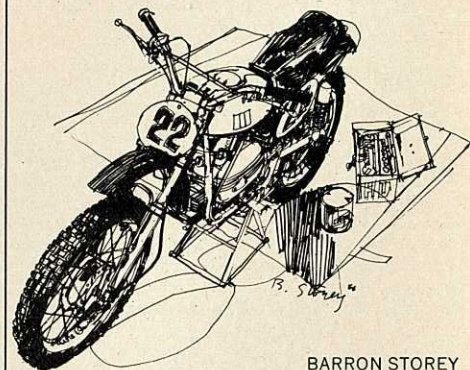
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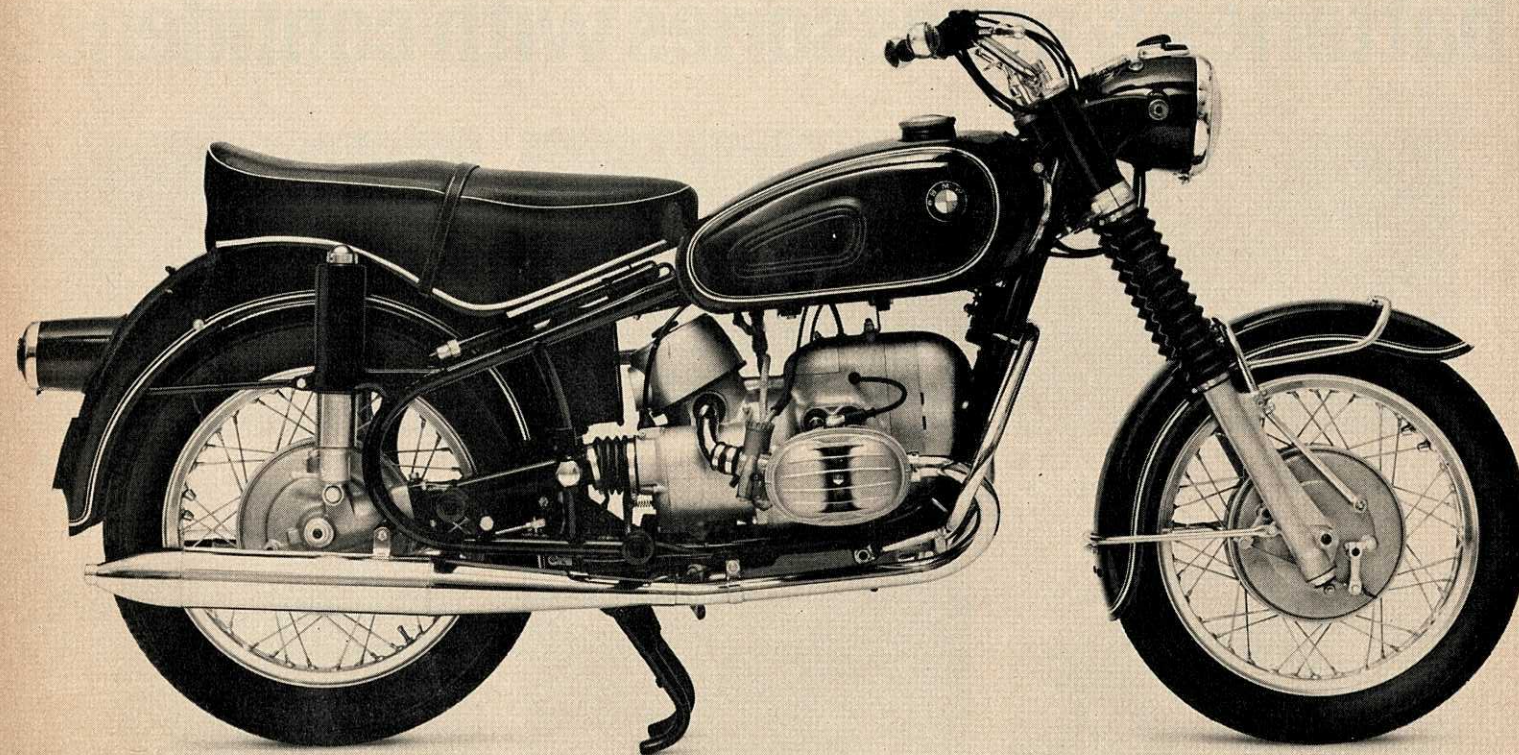
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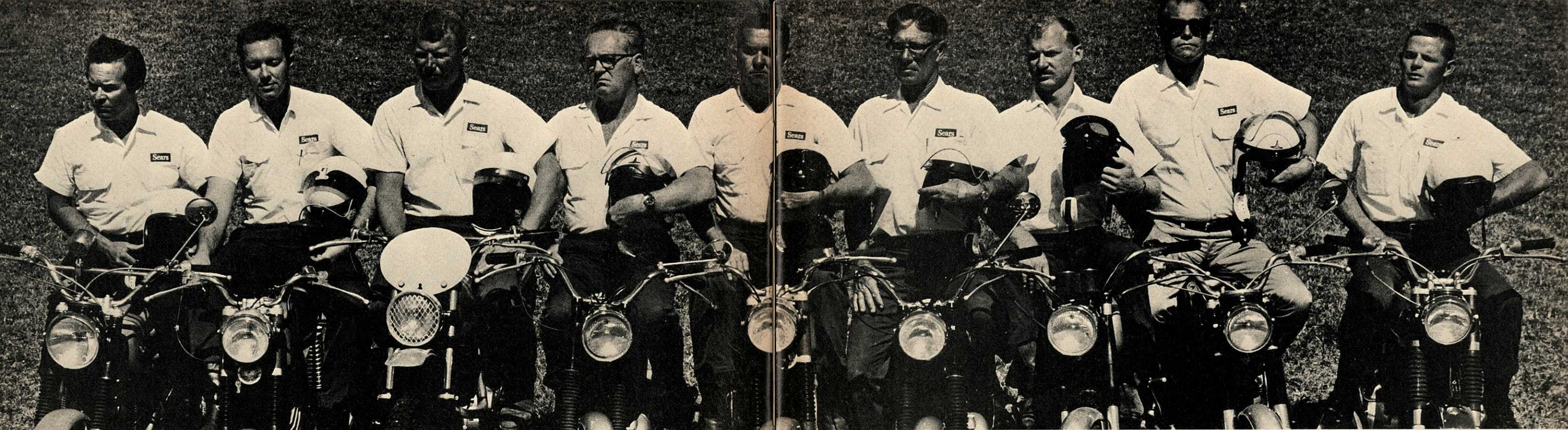
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# When you've owned enough to know better.







# These 9 men are 9 big reasons Sears batteries & accessories with confidence

These nine riders and engineers at the Sears, Roebuck and Co. unique Motorcycle Test Laboratory at Ft. Myers Beach, Florida, are pretty rough on cycles. (We've nicknamed them "The Nasty Nine").

For example, in the past two years alone they have logged more than 200,000 rugged miles consumer testing our own and competitors' cycles.

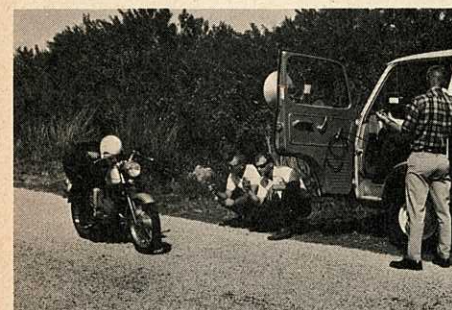
Why competitive equipment? The reason is selfishly simple. Sears constantly strives to bring you the best in price and quality—and rigid comparative testing of competitive products in the field is the *only* way we can realistically hope to achieve this objective.

(Incidentally, the "Nasty Nine" are pretty nice guys—when you get to know them, that is).

**Sears**

You can't do better than Sears

# can sell motorcycles, helmets,



■ Nasty Niners complete standard quarter mile acceleration test. Two men manually clocking while radar gets graphic picture of speed test from start to finish.



■ Finding top center on piston preparatory to timing ignition. Just one of the standard checks made on all equipment tested.



■ Doing "wheelies" isn't playing around. It helps to determine the handling characteristics and balance of the cycles tested.



■ Air cleaner is removed at beginning of carburetor disassembly to see that it meets standard specifications.



■ Spinning "donuts", like doing "wheelies", is a standard check for handling characteristics. Besides, it's fun!



■ Checking the physical characteristics of a competitor's cycle. Just one of 126 units tested in the last two years.

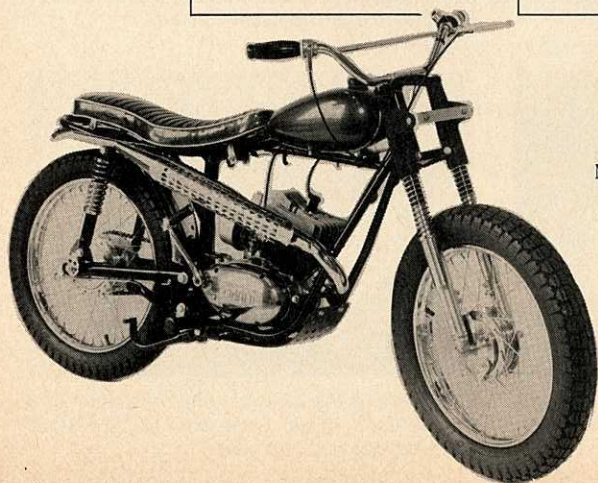


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# the cool one...

The JETSTREAM™ 501 is made of the finest materials, including adjustable crown and headband, energy-absorbing liner, sponge neoprene edging and black acetate interior trim over polyurethane padding.

The VARI-VENT™—ILC's exclusive new scoop sends air into the helmet for cool comfort. Ventilator opens and closes with pushbutton ease.

The JETSTREAM™ 501 meets or exceeds all state and USA SI Z90.1-1966 requirements. All ILC JETSTREAM helmets are available in blue, white, red and gold at no extra cost and in two sizes: A (6<sup>1</sup>/<sub>8</sub>-7<sup>3</sup>/<sub>8</sub>); B (7<sup>1</sup>/<sub>4</sub>-8).

The VARI-SHIELD™—ILC's unique new polycarbonate shield. Has high optical clarity, impact resistance, built-in sun visor, clearance for eyeglasses. Adjusts to any position.

Chin strap is made of tubular nylon for strength and comfort. "D" rings adjust for perfect fit. Comfortable chin cup is perforated, non-allergenic plastic.



The exciting new ILC JETSTREAM™ 501 looks cool, is cool. It's the first air-cooled full jet helmet, that conforms with all state and Z-90 standards. New VARI-VENT™ scoop pushes cool air in, pulls warm air out. This means you can now wear a full jet helmet in comfort, even on hot summer days. In winter the scoop closes for warmth. The JETSTREAM 501 sells for only \$34.95 and is backed by ILC . . . who also developed and is making the astronauts' space suits and helmets for Project Apollo. See the 501 and other JETSTREAM protective helmets, plus our complete line of top quality accessories, at your local cycle dealer or write to us for information.

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# Join the Club

## LOOK



## HELMETS



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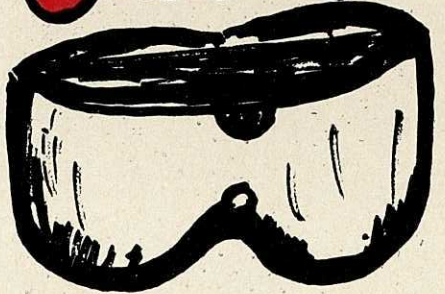
# WHY PAY MORE!

## TIRES



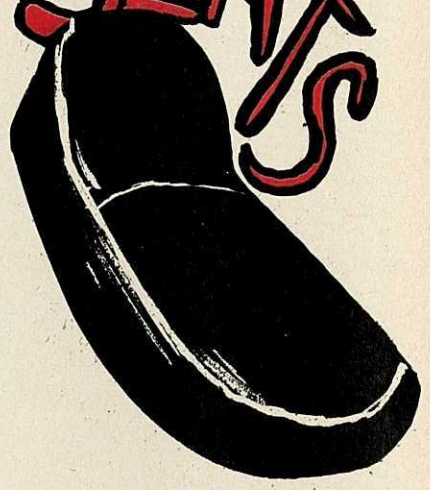
**SOONER OR LATER EVERYONE NEEDS NEW TIRES**  
 Tires... Tires... Tires  
 On the road... off the road... Universal tread... rib... Knobby... sizes for machines... And, you know what?... you buy at the lowest prices.  
**CLUB PRICE AS LOW AS \$4.00**

## GOGGLES



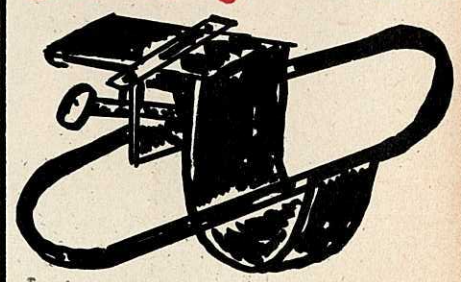
**GOGGLES... GOGGLES... GOGGLES**  
 for street... for racing... for daytime... for night... all prices... all colors... plus... bubble shields (approved) in clear, green, amber, blue... And the price, hows \$2.99 for a bubble? The lowest anywhere!

## SEATS



**SADDLES**  
 Add the custom touch to your cycle with ADC Saddles. We have all shapes and sizes for both street and racing. Our scrambles saddle illustrated above retails for \$34.95 in most shops. ADC price is but **\$14.95**

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ADC members carry their bikes wherever they go. And, at the club price of only \$14.95 who can't afford a cycle carrier? Will fit any car with a 1/2" extension between bumper & car, and will handle any cycle whether it be a mini or full size cycle. The low club price again is only **\$14.95**

AND BUY ACCESSORIES AT Savings of up to **60%** of Retail!

# HERE'S HOW!

## CYCLE INSURANCE RATES CUT 20%

We'll put you in the top cycle insurance company on our group rates and get you the maximum coverage at a 20% discount. When you become an ADC member, tell us your requirements and we quote you club prices.



**THOUSANDS HAVE ALREADY JOINED! WHY WAIT... JOIN NOW!**

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 Here's how easy it is. Just join the club and we'll send you a catalog jam-packed with top brand accessories at prices you won't believe! Also, we will send you our "STEAL OF THE MONTH" flyer at the end of each month with a special super offer.

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 All products are made by well-known companies. When you see them in our catalog you will recognize them as products being advertised in this magazine and sold in the leading shops. The only difference is, with us you buy at wholesale... with savings up to 60%! We're so sure you'll want to be a member we give you a money-back guarantee! If for some reason you decide to drop out of the club (within 30 days of enrolling) we'll give you your money back with no questions asked! You have nothing to lose and everything to gain.

*It Doesn't Cost... It Pays!*

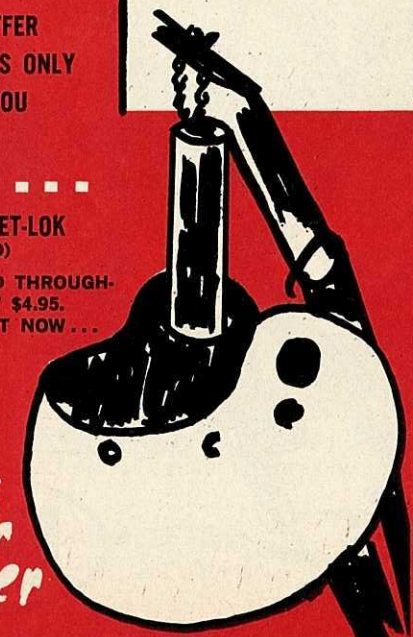


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# LETTERS

## Some answers, some proposals, some rebuttals

### MAJOR APPROVAL

I wish to commend you on your fine magazine. I have some knowledge of the effort necessary to put something like this together. I particularly enjoy your road tests, which are the best in the industry. Just finished reading your test of the BMW. I have ridden these machines many thousands of touring miles from coast to coast.

Your road test on the Moto Guzzi V-7 played no small part in my decision to acquire one. This is a tremendous machine, smooth, powerful and with maintenance accessibility that puts it in a class by itself. Incidentally, I had mine weighed on certified scales, and it tipped them at 520 lbs. with saddlebags and four gallons of gasoline. As a long-distance, high-speed touring machine there is no better motorcycle on earth.

Major Gib Black  
Ft. Worth, Texas

### HONDA 350s

Let me first congratulate you on your excellent magazine. In your latest issue (May), I think you did a great job on a great pair of bikes: the 350's. It seems

unbelievable what Honda does with a small 20 cubes (20 cubes seems small because I own a 1948 74 cubic inch Harley flathead).

Dave Sanford

P.S. The drawings by Barron Storey are just great.

### PRO-HONDA

Having just purchased your current issue, and upon reading your article on the new 350 Hondas, I felt compelled to write you.

First, if I may, I would like to state that personally I find *CYCLE* to be the finest motorcycle publication that I have read. I would also add that your road tests are the most interesting and thorough available. However, it is about your road test of the new Hondas that I write.

I must admit that I am fanatically "pro-Honda", and consider them to be the finest machines in the world. After riding the Super Hawk last year, I recently purchased the new CL 350 scrambler. It is one of the few that are here in Montreal.

In all fairness I should state that I

thought your article on the 350s was the finest diagnosis of a model I have read—except for one point. I refer to your performance tests in the quarter and zero to sixty. I don't know how you arrived at your ET's short of having Jackie Gleason up front. The times you claimed for both the quarter and zero to sixty, I found almost repulsive.

My opinion would be that you tested machines that were not broken in. I found, while breaking in my own, that it was quite sluggish during rapid acceleration—even to the point that I suspected a poor fuel flow. However, this problem resolved itself in time, when the bike was broken in fully. It runs flawlessly now, and everything else about the 350 is just great!

Dave A. Hawkins  
Quebec, Canada

### RACING ANNUAL

I would like to commend you on your efforts to keep us motorcycle enthusiasts, who are locked inside our school compound, informed on the racing events of the year. Your *CYCLE RACING ANNUAL* for 1968 is the best ever. The coverage is great and not only are the photographs good but each and every one is different in its own way. When reading about the events I feel as if I'm there riding myself.

John King  
Buxton School

## Winners go with Bell Gary Nixon

Grand National Champion—1967

Winner: Daytona 200 Mile National Road Race Championship—Daytona, Florida—1967

Winner: 20 Mile National Dirt Track Championship—Portland, Oregon—1967

Winner: 100 Mile Loudon National Road Race Championship—Loudon, New Hampshire—1967



See your local Bell Helmet Dealer

# Straight talk about motorcycles —from A to Zundapp

Let's face it: not everybody wants—or needs—a big boss cycle. True, these giants have their place, but their place is not necessarily in your life.

Most cyclists ride for one thing: satisfaction. They may achieve this through speed, tricks, style, hill-climbing, trail riding or simply by straddling big power. Lucky is he who is able to find some or all these satisfactions in one bike.

When the Bob Lamb Company of Baldwinsville, New York decided to enter the cycle industry as a distributor, Sales Manager Carl Lamb studied and tested scores of machines. The company finally went for one that had earned an unbelievable reputation in Europe, a reputation that was almost too good to be true: 6,000 international medals, for example.

And yet despite the buildup and the fanfare, the cycle was all they claimed, and then some: *Zundapp*.

Zundapp was a lean and sinewy 100cc, considered "small" by some purists, but—and this is a sizable but—the Zundapp people had established itself as a maker of really heavy bikes, up to 1200cc! Therefore they were able to build into the 100, enormous power and stamina, enabling this "small" bike to perform like a much bigger bike.

This was not just theory or promise: this was fact.

A year or so ago Dave Ekins piloted the Zundapp 100cc Scrambler in a series of 6-Day Trials in Europe (including the Alps) and in California's Greenhorn Enduro. Against 350 and 650 machines he confirmed what seasoned cyclists were saying: the Zundapp was constructed for rough-and-ready riding and yet had all the sensitivity to the need for flat out speed of a thoroughbred racehorse.

The secret of his winning the 6-Days (and thereby giving the I.S.D.T. Replica its name) lay in rugged, lightweight construction coupled with highly-tuned engineering. Zundapp can get 9.3 bhp out of its 100cc engine, and the 21-inch front wheel can climb over almost anything, with a full 14 inches clearance to boot. Up front, the telescopic fork is hydraulically damped, while in the rear, the spring unit is also hydraulically damped with exposed shock absorbers and internal expanding brakes.

So far so good. So maybe Dave Ekins was lucky in his amazing victories. Then, early this year Dave Tuxhill of Palmyra, New York, dismounted from his regular machine and climbed on to the 6-Day Replica to put it through some enduro tests in the east. At Palmyra he took 1st in his class 0-250cc. in the 74.5 mile Enduro in Chemung, New York, he took another first (998 points of a possible 1000) and third overall behind a 250 BSA and a 305 Honda. Dave credits Zundapp's excellent handling ability and power for these achievements.

The editors of several publications, as well as freelance motorcycle writers, also gave it high marks after testing.

The I.S.D.T. Replica is street-legal and yet is ready to scramble at the drop of a flag. The 4-speed gear box and the clutch are enclosed in the clean, compact and light powerplant. All the know-how of half a century of cycle-making in West Germany has gone into all the Zundapp motorcycles. No guesswork, not extravagant claims—just plain high-quality reliable race-winning performance.

Gordon Jennings says "it's probably the toughest 100 alive." (In fact, word-of-mouth has been Zundapp's best kind of advertising to date.)

Few machines of any kind are flexible enough to satisfy a wide variety of needs—but Zundapp does this, not once but over and over. *Speed*—when you need it. *Durability*—when things are rough. *Reliability*—when you're far from home. *Style*—always. *Cost*—\$595, p.o.e., including as

standard equipment the I.S.D.T. tool kit and legal lighting.

Zundapp has been out of the American market for quite awhile, but it's coming back strong. We've listed some of the reasons why the R. M. Lamb Company took on Zundapp. We're

convinced, as hard-headed businessmen, that it's the cycle for all seasons and all riders. All we ask of you is to try it. Just once. Then let us know what you think.



I.S.D.T.  
6-Day Replica

**ZUNDAPP**

R.M. Lamb, Inc. Importers and Distributors, Baldwinsville, New York 13207, Telephone (315) 638-0271 Dealer Inquiries Invited

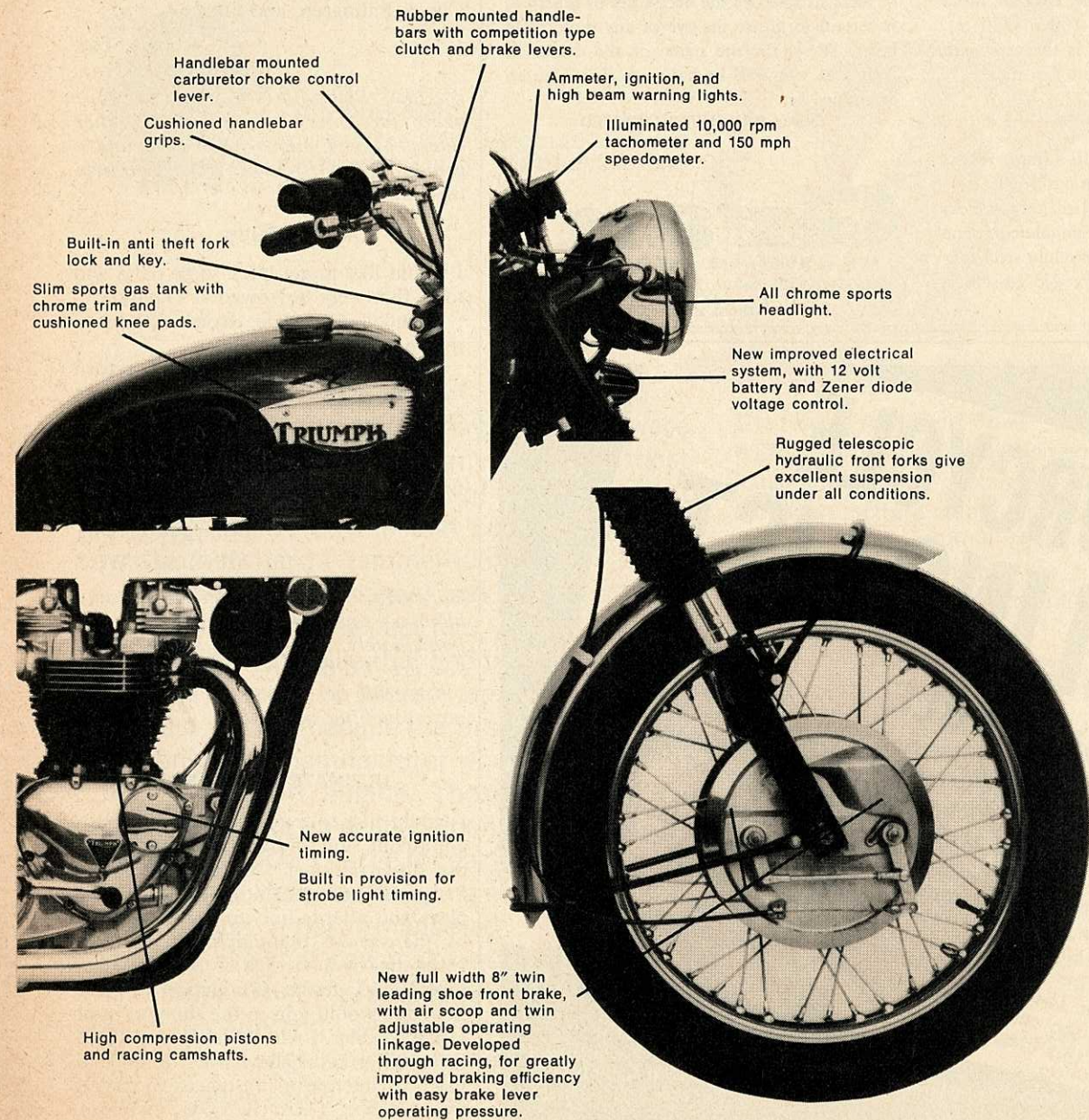
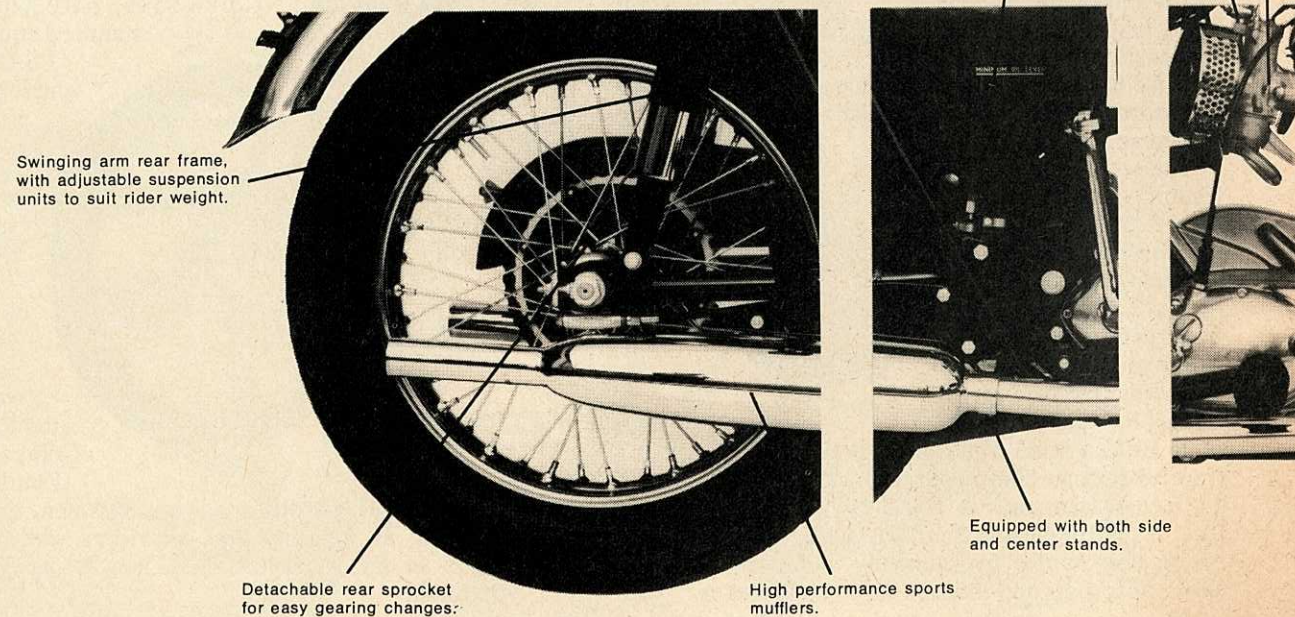
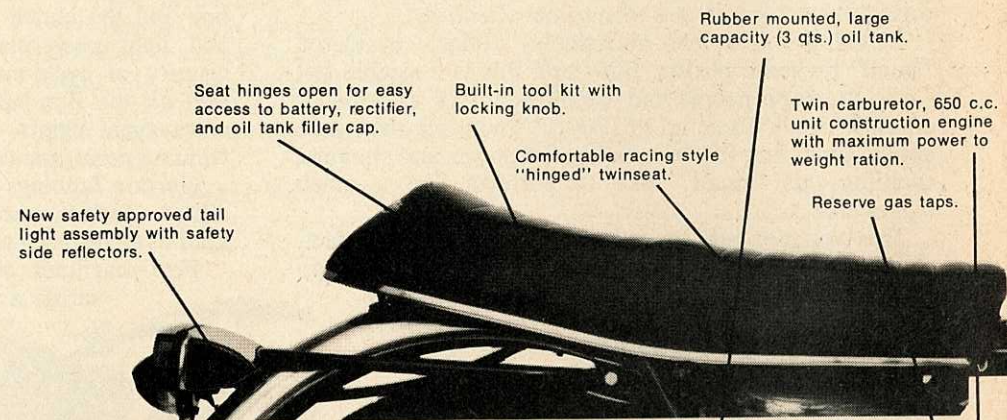


# Put 'em all together,

# and what do you get.

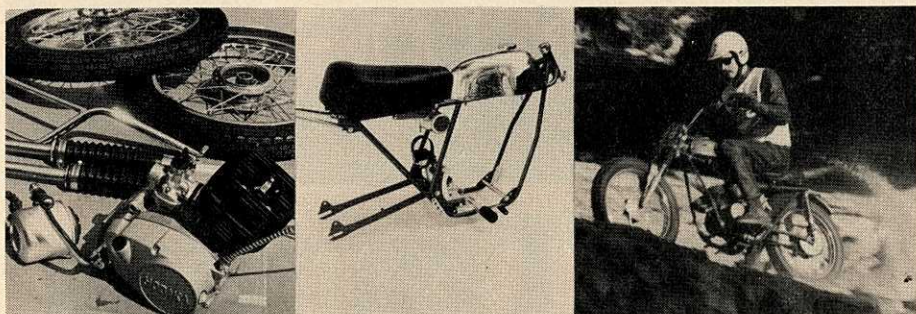
## THE TRIUMPH

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# Grant Van Tech Formula for Fun...



YOUR POWER UNIT, WHEELS & FORKS + GRANT VAN TECH CONVERSION KIT = PRECISION ENGINEERED HANDLING & RESPONSE

### Versatility

Grant Van Tech motorcycle conversion kits accept components from Honda, Yamaha, Kawasaki, Suzuki, Bridgestone, Hodaka, Moto Beta, Zundapp lightweights (60 to 120 cc). A major feature of the kits is the ease with which parts bolt together...the first time!

### Strength

Superior engineering results in a frame that is very light, yet extremely strong. Joined sections are pre-milled to eliminate excess welding material, and the triangulated frame design allows the use of lightweight steel tubing without sacrificing rigidity. No gusseting is necessary.

### Styling

Naturally appearance is a matter of personal taste; however, the Grant Van Tech's simplicity of form, dictated by the necessities of function, is certain to please the eye of any motorcycle lover. Write for the name of the dealer in your area who will be happy to show you an assembled kit.

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134 W. 168th St., Gardena, Calif. 90247

Phone: (213) 321-8531

## LETTERS Continued

### HE DESERVES IT

As a reader of CYCLE for many years, I would like to say its about time you got around to our top riders. The people would like to know, "What's he really like". The article on Bart Markel was terrific. There are so many rumors about the Grand National champ so many people are confused. I've met Bart Markel on several half mile tracks and he's top man all around. He's helped me with my machine and I've seen him help many other novice riders. It's a great feeling having a guy like Bart lean over and give advice. The article said he likes respect; well, he's got more respect than any other rider I know of. And he deserves it. Let's get together with more articles on Gary Nixon, George Roeder, Chuck Palmgren, and others.

Robert Scott  
Bloomingdale, N. J.

*We like "Black-Bart" too, and we have plans for interviewing various other riders. Maybe, somewhere, we'll find a genuine villain; Markel most definitely isn't one.—ed.*

### OK, YOU GUYS . . .

I would like to get back some parts and tools that were borrowed at Daytona:

Wendell Teasdale from Arkansas, return my carburetor slide.

Cook Neilson from New York, return the main jets you borrowed (they aren't mine.)

The black-headed kid from Florida riding a Sprint, give me back my little red timing-light.

Wade Killen  
1851 N. 27th  
Milwaukee, Wisc.

*Our very own Cook Neilson (sneaky blighter) says he will return your jets immediately, now that he knows where you are (likely story) and we hope the others will be moved, as we were, by your touching story.—ed.*

### ULTIMATE INDIGNATION

I would like to express my great disappointment and indignation concerning the "International" Motorcycle Show. I expected to see exciting technical displays and a large line-up of new models by the various manufacturers. Instead, I was met by a barrage of tasteless "customs" and fewer production models than one would find in the showroom of a single dealer. I will refuse to pay \$2.50 for another cycle show when I can find more of interest in the pages of CYCLE for only 60c. THANK YOU for allowing me to vent my anger.

Gale Ormiston  
New York, N.Y.

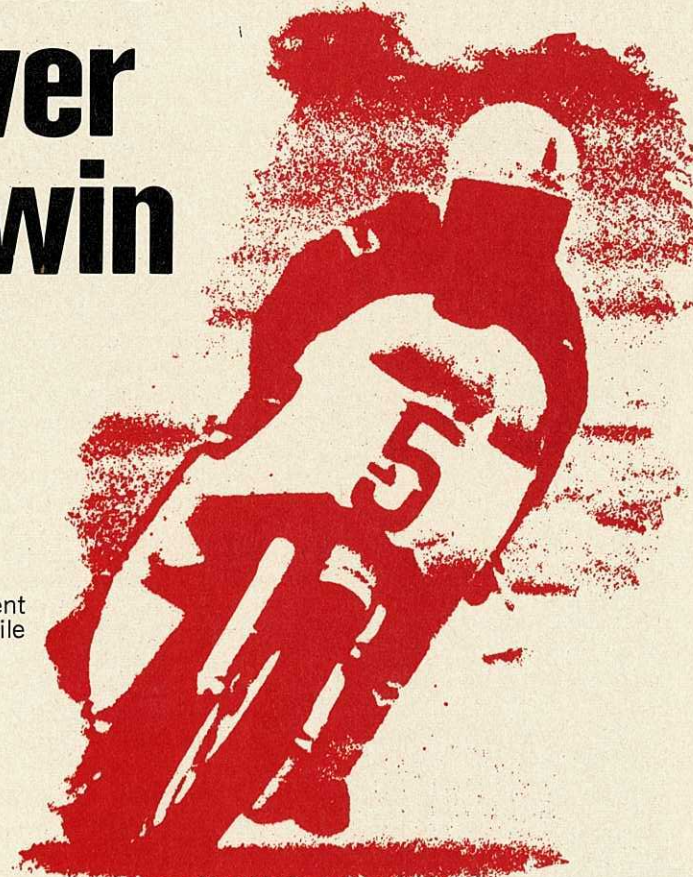
*You're welcome.—ed.*

# How Yamaha's 5-Port Power helped me win at Daytona



by  
**YVON DUHAMEL**

Winner of the 1968 Daytona 250cc Event and Number 2 in the "big bike" 200 Mile Classic.



"When I decided to race at Daytona, there were two things I wanted out of my bike. The most performance I could get out of a given amount of ccs. And an engine that wouldn't quit no matter how hard I hammered it.

"After riding Yamahas, and looking at their Daytona wins for the past four years, I felt that this was the one bike that had the guts to do it.

"The reason, of course, was the fact that Yamaha is the first and only bike manufacturer who makes a 5-port engine. Those two extra ports on each cylinder deliver a cleaner charge for each stroke, and when you're riding in competition, a performance advantage like that can make the difference. That's probably why Art Baumann and I were able to do so well against those big 750cc jobs with our 350cc Yamahas."

### The reason for 5-Port Power

With an ordinary 2-stroke engine, when both the exhaust and transfer ports are open, some of each fresh induction mixture is lost directly out the exhaust port. And the burnt residual gases cannot be scavenged from the combustion chamber, thereby prohibiting the fresh charge of fuel from completely filling the combustion chamber.

Yamaha's 5-Port System eliminates combustion problems. Two additional ports on the back side of the cylinder swirl the fresh charge straight upward toward the top so that burnt gases are swept out and the fresh air-gasoline mixture can fill the top part of the chamber. Consequently, all residual gases are scavenged from the combustion chamber and the fresh induction mixture is spread throughout the entire cylinder area.

**Result: Broader power range ■ Quicker throttle response ■ Better top end ■ Better fuel economy ■ Cylinders, heads and plugs stay cooler.**



**YAMAHA**  
INTERNATIONAL CORPORATION • SINCE 1887  
AUGUST 1968

Ask your dealer for your free copy of Yamaha's brochure featuring all 20 Exciters for '68. Or write: P.O. Box 54540, Los Angeles, Calif. 90054. Dept. CY-8-8 Canadian Distributor: Yamaha Division of Fred Deeley Ltd., British Columbia.



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FREE—Lollo-Pop color chart, write to:

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2920 W. CARROLL AVE., CHICAGO, ILL. 60612

## LETTERS *Continued*

In the past four years, I have endured the usual trials and tribulations of a typical motorcyclist in the New York City area—dealers who don't care about the motorcycles they sell, shoddy servicing and lack of spare parts. After a while, these things are expected and one can adjust to them. However, this past Saturday (4/13/68) I endured the ultimate indignity.

The "International Motorcycle Show" at the Coliseum, which had been lavishly advertised in your magazine for the past three months promising a tremendous assemblage of motorcycles, was a complete fraud. For example, many of the models that were supposed to be there were not, most of the dealers had insufficient brochures and the ones they did have were outdated (some from 1965). Also, after waking up a few salesmen, I realized that they had no interest whatsoever in serving the customer.

All the advertisements over the radio in the last few days were full of numerous lies and "come-ons." Motorcycles like the Moto Guzzi V-8 and the Benelli 4, mentioned over the radio, were nowhere to be seen. This type of shallow deception was typical of the amateurish way in which the entire show was handled.

I was under the impression that this show was supposed to put motorcycles in the "big time" and one had to have seen the sophisticated Automobile Show that the Coliseum offered the week before to appreciate that the motorcycle industry has never really grown up.

Martin A. Pohrille  
New York, N.Y.

*There is much truth in what you say—ed.*

### FAINT PRAISE BY DAMNATION

I seldom buy your magazine as all it usually contains are pictures of motorcycles and advertisements. This time you must have slipped up badly and, doubtless because I have chosen this last issue to give me reason to subscribe, it will probably be the last issue in which you give riders with experience any worthwhile information to use. I refer to the article on lacing wheels. It was well written and will serve my needs shortly as my Hunkie wheel is tweaked.

I liked the article by Byron Black and hope to see more stories like it. All in all it was one of the better issues you have ever published and there is no damned excuse why you can't have an article of real value in every issue.

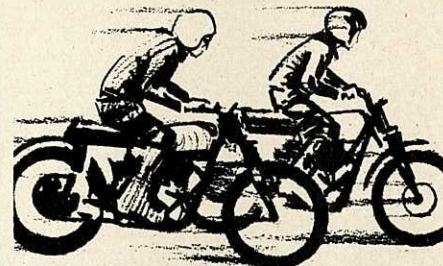
Ronald Haxby  
Kent, Wash.

*Of value to whom? We have some 200,000 readers, each with his own concept of "value." We try to please, even delight, a majority. Sometimes we succeed.—ed.*

## WANT OIL YOU CAN RELY ON?



# WITH OILZUM!



Over seventy-five years of preparing superb lubricants . . . proven in racing competition AND in every day driving. Now, there is a complete line of Oilzum products for the cycle enthusiast.

All types . . . all grades from a simple non-detergent oil to a very special "HP Racing" formulation.

You'll find Oilzum where the action is . . . at the track and at better service centers. If you can't locate this great cycle oil just drop us a card. We'll get someone to introduce you to Oilzum . . . pronto.

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Cleveland, Ohio · Detroit, Michigan

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Over Sixty Years  
If Motors could speak  
we wouldn't need to advertise!



GREAT GETAWAY BIKE—If you'd like to get away from it all, *right now*, BSA has the answer—the Spitfire MK IV. It turns secret little backroads into turnpikes, and turnpikes into take-off pads. Spitfire's big 650 twin pumps out big power, with cornering and stopping power to match. It's unlikely that you'd ever use more than half of Spitfire's

capabilities, but isn't it nice to know you've got that kind of a safety margin? The Spitfire MK IV is rapidly moving to the top of the serious riders' most-wanted list. Try one, the rewards are beyond your wildest dreams. Write for description and mug shots of the whole gang. Specifications may vary East and West.

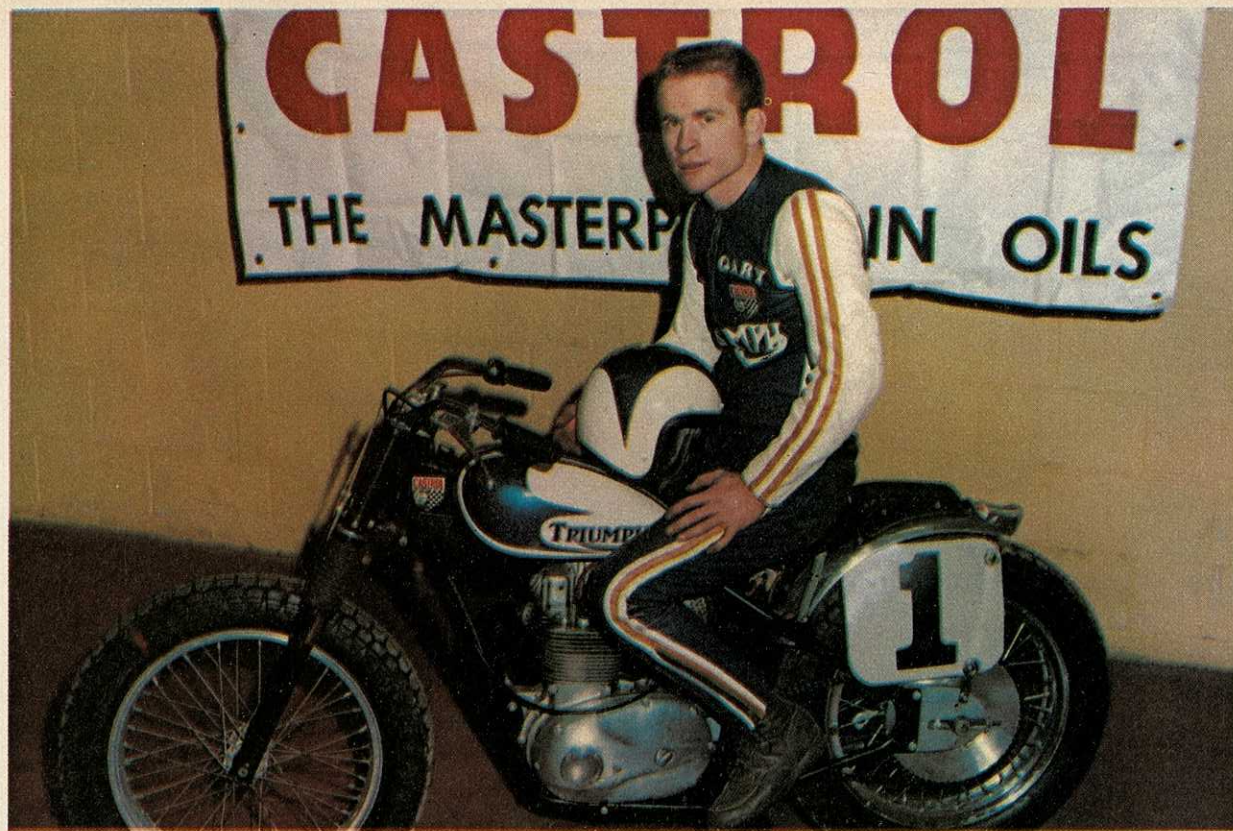


# MOVE... into the BOLD WORLD of BSA

**BIG BSA POSTER BAG!** Next best thing to a full set of motorcycles. Four groovy BSA giant color posters 22" x 34" for \$2.00 per set.

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# Gary Nixon 1967 National Cycle Champion His oil: Castrol Grand Prix



A mineral-base high-performance racing oil available in SAE grades 20/20W through 50. Contains Liquid Tungsten. Many other additives and inhibitors for complete engine protection. Pick whichever grade you need. Gary Nixon, 1967 National Cycle Champion, is a booster for Castrol Grand Prix. Says Gary, "The Liquid Tungsten in Castrol Grand Prix has proved to have a remarkable ability to reduce friction and wear. I like it, too, because I have a choice of SAE 20/20W through SAE 50, which means I can oil up for whatever road condition I expect to run into. What's more it's chock full of additives and inhibitors to correct just about any engine condition."

CASTROL OILS INCORPORATED  
Newark, N.J., Kansas City, Mo., Palo Alto, Calif.

**Castrol is ingenuity**

## LETTERS *Continued*

### WHO'S BEING CHILDISH?

Your otherwise excellent Daytona report was marred by your childish attacks on Phil Read, the best road racer at the event. It would have done to say that Read was a disagreeable young man. Instead, you chose to let personality affect your objectivity in the race report.

So, please fellas, if you didn't get on with Phil, limit your criticism to personalities. Let's don't pretend that he isn't the 2nd best road racer in the world, next to Hailwood.

Gee whiz, I love your magazine.

John Gary Brown  
Lawrence, Kansas

*Read's "personality" problems were with others; not with us. We merely reported what transpired. His being beaten on the track is a matter of record. Again, we reported what transpired. Let's don't pretend that it didn't happen.*

*And let's don't pretend that there is something in England's air that makes their riders better than ours. Too many people, and publications, have already given that notion far more credence than it deserves. In truth, great riders can come from anywhere, and we have our share. It may be that Hailwood is the world's best, but from what we have seen it is also entirely possible that the title should go to one Calvin Rayborn. You have to be a rider, or have been around the tracks a long time, to appreciate just how good Rayborn is, and to understand what he's doing. Gary Nixon, too, is an exceedingly fine rider. He lacks Rayborn's raw, animal willingness to hang right over the edge of oblivion, but is "smarter" and more likely to go the distance without overreaching himself. No one in road racing can beat Rayborn but Rayborn.*

*Of course, there are others. Art Baumann, who is really just getting started, gets faster with each race and is already just about as fast as anyone. Jody Nicholas, now flying jets for the Navy and racing catch-as-catch-can, is a pure phenomenon. We could take the list on and on, and we would guess that there are probably a half-dozen American riders who can beat Read—all other things being equal.*

### THOSE LOVABLE HODAKAS

I'd like to take this opportunity to give you my personal thanks on the very fine article you ran on the Hodakas in the April issue of CYCLE.

I will be out of the Army by next summer and am looking forward to many more fun-filled miles on this fantastic little machine.

Again, thank you for a fine article and photo coverage on Hodaka.

Richard Landsiedel  
APO San Francisco

## ZOOOOOMMM . . .

Complete Kit includes Pistons, Rings, Pins, and Clips.  
90cc to 104cc ..... \$14.95  
160cc to 190cc ..... \$24.95  
305cc to 337cc ..... \$27.95

**NEW** 450 TO 475 OR 500cc  
HOT 450 CAMS

**PARTS** HONDA YAMAHA  
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Most Makes & Models Immediate Delivery

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Same Day) Send 25¢ for 1968  
Custom Catalogue

## HONDA of MICHIANA

220 E. Jefferson, South Bend, Indiana, AC 219, 234-3111



## THE 'TON UP' LOOK

AVON fairings can give a production street machine the look and feel of a full blown circuit racer.

The outfit pictured above is a Honda 305 fitted with AVON Model AS-13. Doing "The Ton" is a phrase invented by a motorcycling group in Great Britain known as the "Rockers." It refers to accomplishing the feat of traveling 100 mph or more on a motorcycle. Besides requiring a performing machine and courage, at such speeds streamlining is an important factor. AVON fairings are produced by the largest manufacturer of fairings in the world and are carefully designed to enable cyclists to achieve such speeds safely.

### You Can Measure the Difference.

A Velocette Venom, fitted with a standard AVONAIRE, was tested first before, then after, the fairing was mounted. Half throttle cruising speed was increased from 70 to 78 mph with the fairing. A top speed of 90 mph was achieved for the first time. Fuel consumption improved from 69 to 71 mpg at a steady 60 mph. All this was possible with the highest windscreen available mounted on the fairing. Performance would have been even greater with a lower windscreen silhouette.

### Installation and Safety.

AVON fairings protect the rider from wind fatigue and airborne road hazards such as bugs and gravel. Many cyclists have claimed their bike was saved from serious damage in a spill because the fairing was mounted. Installation is simple. Only a few wrenches and a screwdriver are needed to complete the job. No cutting or welding is involved on all but those fairings designed for competition use exclusively.

For complete brochure information, complete this coupon and mail to:

Name ..... PABATCO  
Address ..... City ..... The 'Ton Up' Look  
State ..... Zip ..... Box 327  
Athena, Ore. 97813



# SERVICE TIPS

## How you can wrench it right

• My problem is a 1967 305cc Honda Superhawk. Up to 1,000 miles it was an excellent machine, good acceleration, 90 to 95 top speed, good handling. Then it started to lose power. The machine has been checked and rechecked and nothing has been found to cause this condition.

With 7,000 miles, it has not "loosened up", nor has the power changed any. A 305cc machine should be capable of more than 82 mph under any riding condition, with or without windshield, bags, two up or solo, it will reach 80 mph and quit. Also on a grade cruising 70 to 75 on the expressway it will lose 5 to 10 mph before reaching the crest of the hill, even advancing throttle almost one full turn.

Any assistance to cure this problem will be greatly appreciated.

Mitchell R. Berry  
Decatur, Ga. 30032

You really shouldn't have run your poor Superhawk 95 per until somewhat after 1000 miles, but since the deed is done, there are a few obvious items to check. If you've seized a piston(s) during the vigorous break-in, the compression gauge check will show tell-tale. Normal gauge

reading for the CB77 is 114 to 150 P.S.I. Less than 114 means a collapsed piston or burned valves or both. One generally leads to the other in a short time. Have your tachometer calibrated at a local speedometer shop. If the bike pulls well up to about 9000 rpm and begins to lose power, the valve springs are probably at fault. A certain batch of Superhawks sneaked through with valve springs that weakened after a few miles.

• Could you please explain to me the difference in horsepower ratings between bhp, din, and P.S.?

Michael Bryce  
Ontario, Canada

First of all, a few definitions are in order:

1. *B.H.P.* is the abbreviation for BRAKE HORSE POWER, a term which defines nothing except that the power in question was absorbed by a device designed for that purpose and dubbed "BRAKE". There are water brakes, air brakes, electric brakes, leather-belt-against-wood wheel-brakes, etc., etc.

2. *D.I.N.* is the abbreviation for DEUTSCHE INDUSTRIE NORM. This institution is the German equivalent of our So-

city of Automotive Engineers.

3. *P.S.* is the abbreviation for the German term *PFERDESTARKE*, or horse power. 1 PS = .986 h.p.

One B.H.P., as would be advertised by a country using the English weight and measure system, equals 1.014 PS. The European countries use the metric weight and measure system. The power figures from these countries are slightly lower.

To further confound the issue, there are virtually no uniform standards governing the methods used to measure power output. The S.A.E., D.I.N., British Standard, C.U.N.A., all have differing ideas on just how far a manufacturer may deviate from installed operating conditions when determining a horsepower figure to use for advertising purposes. In short: advertised horsepower figures generally mean very little in giving a representation of a machine's overall performance. Careful study of detailed published road tests and the word of present knowledgeable owners are a much more meaningful guide.

• I have recently purchased a new Harley-Davidson XLCH. It came equipped with the steel wheel rims. I am wondering if I might be able to put the aluminum alloy rims on. The dealer, where I bought the bike, says that the handling of the bike will be impaired if I change rims. Is the bike balanced so precisely that this modification would affect it? Bradley Bruckner  
Richland Center, Wisc.

## A Case for Scramblers!

Hey, Scramblers! ... here's the Para Pak Traveler, a colorful carry-all whose plain or metal flake colors give it the sleek, sporty look of the customized accessory! And, it's portable too! Can be mounted or removed simply and quickly!

Put a swingin' friend in the buddy seat, load up and take off for the beach, an overnighter, a weekender, or that cross-country swing. It holds an ample supply of clothing, tools, food or gear. It even stores two helmets safely under lock and key!



### PARA PAK RACING SEATS

A racing seat built to championship specifications. Extra thick foam padding. Quality heavy duty snap-on naugahyde cover.

Short seats.....O/A length 24"—width 7½"  
Long seats.....O/A length 28"—width 7½"



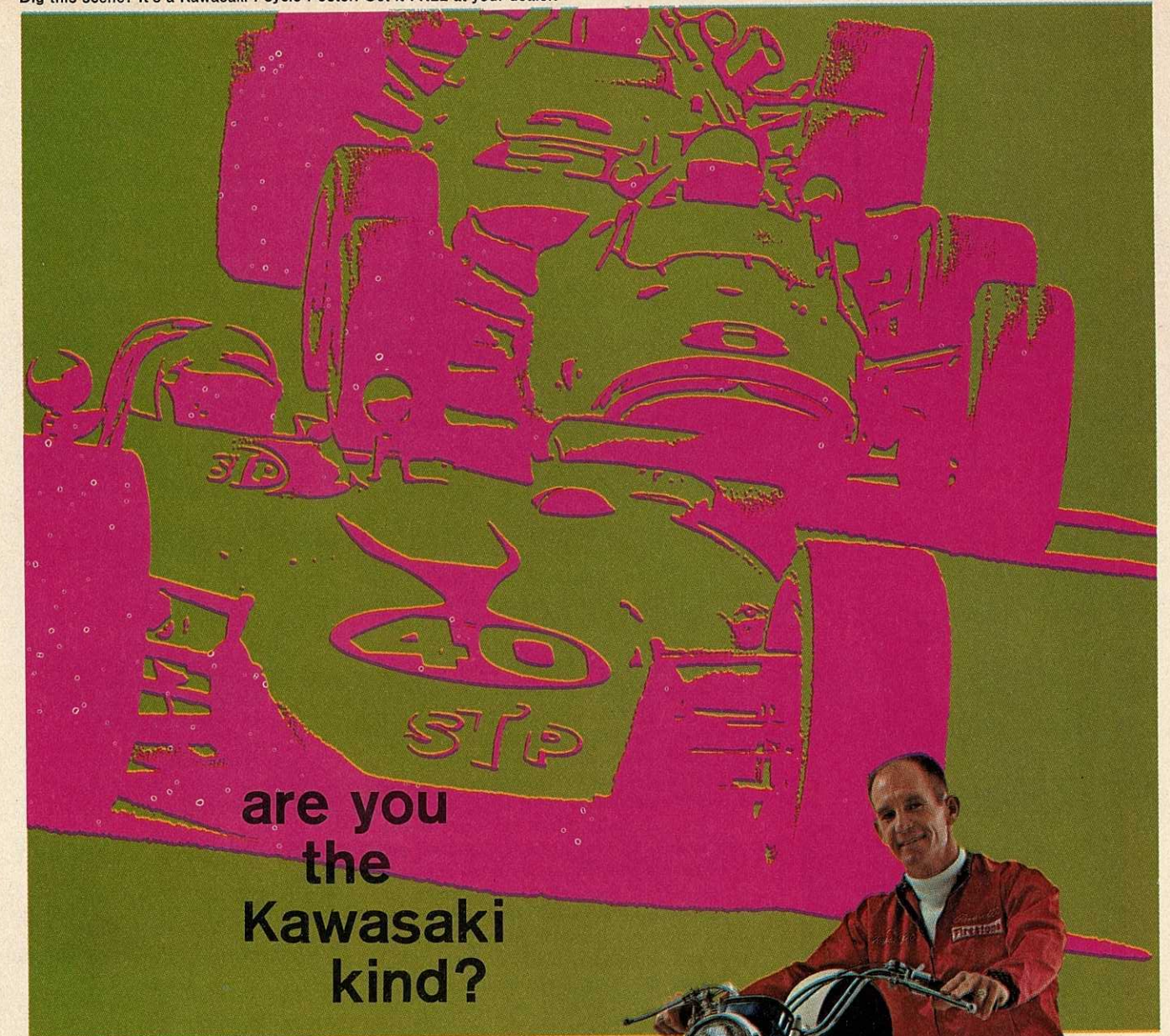
### WATERPROOF - DUST PROOF

Durable chip-proof fiberglass. Mounts easily on standard rack. Available in black, white and metal flake colors: Gun metal, silver, red, blue, gold—with or without padded back rest. (Pictured Model TI-I holds two helmets)

**Para Pak**  
DIV. OF PARABAM, INC. 12822 Yukon Avenue, Hawthorne, California 90250

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K. K. MOTORCYCLE SUPPLY, Dayton, Ohio

Dig this scene? It's a Kawasaki Psyche Poster. Get it FREE at your dealer.\*



**Parnelli Jones**, champion race driver, is. He turns on to the sound of a precision engine roaring in his ears, the exciting feel of power surging at his touch. He seeks the kind of action that comes only from perfection in design. That's why he's the Kawasaki Avenger 350cc kind. If you're the same breed, you'll thrive on Avenger, too. Weighing in at just 329 pounds, Avenger is powered by a potent dual rotary valve, twin alloy cylinder, 2-stroke engine. Outstanding low end torque and 40.5 horses stampeed Avenger through the ¼ mile in 13.8 seconds—climbs 40° easily. And Injectolube ends oil mix fuss. Avenger has a bold look that sets you apart from the rest of the crowd...the look of the Kawasaki kind. Kawasaki is the only motorcycle in the world built to precision aircraft standards... built for people who know what it's all about.



\*Offer good while supply lasts to holders of valid motor vehicle operating license.

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Motorcycles

Precision engineered and manufactured by Kawasaki Aircraft Co. Ltd., Japan. Unsurpassed 12 mo., 12,000 mile warranty.

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Others may try to copy the tread but GARY NIXON knows the difference and rides (and wins) only on

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Don't you be fooled by cut rate tires that try to look like a Pirelli . . . specify the leader . . . buy Pirelli . . . the best value in Motorcycle tires!



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### SERVICE TIPS *Continued*

• I own a Bridgestone 175 HS and am having trouble with the plugs fouling every 100-250 miles. I have changed to L-5 Champion plugs which are the hottest recommended by the owners manual. The bike has 1000 miles on it.

My dealer says if I go any hotter I may burn the pistons. Do I dare change the oil injection adjustment to inject less oil? The tail pipes drip oil occasionally and I am always wiping them off. How about smaller carburetor jets? We are at an altitude of 3000 feet. What do you suggest?

Curtis Apuli  
Billings, Mont.

The amount of oil that your engine requires for adequate lubrication depends on many factors. Engine load, sparkplug type, gasoline quality, type of oil, and mechanical condition of the engine—all go into determining oil quantity requirement.

The pump on your Bridgestone is adjusted to provide the correct amount of oil at all loads when the cable bell crank is  $\frac{1}{8}$ " from its stop-pin at wide open throttle. In adjusting the pump metering, the engineers necessarily set the output to provide adequate lubrication even if the owner should not use the best oils and gasoline. At the factory pre-setting, the pump delivers oil at a ratio of 1 part to 100 parts gasoline at idle. The ratio increases with throttle opening and engine speed to a maximum value of 20:1.

If you habitually ride at moderate speeds and seldom use full throttle, you will get good results with amazingly small amounts of oil. Using the well known brands of special two-stroke oils, many owners of bikes without automatic oil metering systems are using ratios as low as 50:1.

Before adjusting your pump, make a couple of basic checks. Be sure that the check-balls and their springs are in place and no dirt is keeping the balls from seating. Look at the oil pump control cable and jiggle the outer housing to be sure that there is at least  $\frac{1}{32}$ " of free play. If the cable is binding or the pump is sticking in an open position, too much oil will be metered during idle.

If you will use the special oils or you only ride over 60 mph for short bursts and don't climb steep hills, you can set your oil pump to deliver less oil at a given throttle opening. Gradually adjust the pump control cable to start opening the bell-crank at a larger throttle opening. Adjust the cable in  $\frac{1}{16}$ " increments and ride the cycle far enough to determine the net effect of each adjustment. Closely observe the exhaust pipes, amount of exhaust smoke, and the sparkplugs to determine when to stop decreasing the oil flow.

An auxiliary return spring on the bell crank would be a very wise modification. This spring would assure that the cable remained taut when the cable is adjusted with more slack than the standard setting. Be careful that the spring isn't so strong

that the throttle becomes uncomfortably difficult to turn.

Don't use hotter sparkplugs, leaner main jets or advance the ignition timing.

• I am considering a carburation change on my '64 Norton 750cc. Present carbs are stock  $1\frac{1}{8}$ " Amal Monoblocs. Being enamored with the Honda 450's 32mm Keihin, I compiled the following data to first investigate on paper.

According to an old HOT ROD article by Jennings:

$$MGV = \frac{MPS \times D^2}{60 \times d} \quad \text{Where } MGV = \text{mean gas velocity}$$

$$MPS = \text{mean piston speed}$$

$$D = \text{bore diameter}$$

$$d = \text{choke size}$$

Norton Specs

$D = 2.96$

$d = 1.12$

Stroke = 3.50

$MPS = \frac{3.50 \times 2 \times rpm}{12}$  (ft/min)

$$\text{so } MGV = \frac{3.50 \times (2.96)^2 \times rpm}{6 \times 60 \times (1.12)^2}$$

$$= .068 \times rpm \text{ (ft/sec)}$$

Now, try Keihin on Norton:

$MGV = \frac{3.50 \times (2.36)^2 \times rpm}{6 \times 60 \times (1.26)^2}$

$$= .0546 \times rpm$$

@ 6800 rpm,  $MGV = 370$  (ft/sec)

Honda Specs

$D = 2.76$

$d = 32mm = 1.26$  in.

Stroke = 2.29

$MPS = \frac{2.29 \times 2 \times rpm}{12}$  (ft/min)

$$\text{so } MGV = \frac{2.29 \times (2.76)^2 \times rpm}{6 \times 60 \times (1.26)^2}$$

$$= .0305 \times rpm \text{ (ft sec)}$$

@ 9500 rpm,  $MGV = 290$  (ft/sec)

*This is to say, the Japanese carburetor on the Norton head would be operating at 28% higher gas velocity than on the Honda. Incompatible? Should I go the more conventioned Del'Orto route?*

David B. Neiwrich

The formulae referred to in that old article were meant only to be used as rough approximations of actual gas speeds since they do not take into consideration the efficiency of the port. Several factors indicate that the Keihin-Seiki carburetors will perform well on your Norton.

Precision Machining Co., in San Bruno, California, are preparing and racing a 450 Honda with conspicuous results. Using the standard carburetors, Precision Machining are revving their engine to a giddy 12,000 rpm. Plugging this value into your formula for the Honda, we come up with almost 380 ft/sec. I suspect that even this is far below the efficient breathing capacity of the carburetor. Honda will probably use the same carb on a somewhat bigger mill in the near future. —Jess Thomas

CYCLE

# the American Eagle O.H.C. 750cc



## All new, yet most likely to become a classic

Yes, the American Eagle 750cc is the new touring machine most likely to become a real classic.

How do you design a classic?

You take an all American team of outstanding experts who understand the needs and desires of the American motorcyclist. You add 18 months of research and engineering, and thousands of hours of road testing under the most difficult conditions (sea level to Pike's Peak — from 120 degrees in the deserts to below zero in the mountains — heat, snow, rain and mud). And you redesign, add the best components available, and test some more until you're finally satisfied that it is the finest touring machine on the road.

The results: A large displacement, vibration free, touring motorcycle with unmatched handling characteristics — the first modern motorcycle larger than 450cc with a combination of overhead cams, electric starter and 5-speed transmission. An extremely smooth 4-stroke, single overhead cam engine that doesn't leak oil — extra heavy duty crankshaft supported by five large main bearings. (The engine and frame are manufactured to rigid American Eagle specifications by Laverda.)

Is that all? Hardly. You also get — • dual concentric carburetion • competition type Smith instruments • 12-volt Bosch electrical equipment • stainless steel fenders • double leading shoe front brake • drive train shock absorbers in clutch and rear wheel to cushion shock of power transmitted • tri-plex primary drive chain • duplex cam drive chain • Ceriani suspension front and rear • Boranni aluminum alloy wheel rims • standing start  $\frac{1}{4}$  mile — 14.0 seconds • brake horsepower — 60 hp at 6500 rpm • rubber mounted mufflers, headlights, gas tank and instruments • and a 12,000 mile or 1 year warranty (parts and labor).

And there are more American Eagle CLASSICS coming in other styles and displacements.



Initial franchises are now being established.

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MOTORS INCORPORATED

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Phone (714) 540-9944 / 654 Young Street





# THE DOWNHILL STRAIGHT

## The Pen of My Aunt Wags the Tail of My Dog

• It was one of those rare days in May, or it would have been if it hadn't been July. It was, however, a rare day for Europe that particular year. That hot, sunny day should have been bronzed, or embalmed, or mummified, or some other-how preserved because it was the first day that it had not rained or been uncomfortably cold since I had arrived in the Old World seven months ago. I had come to do the continental racing season, and with more than a half-year behind me I had about come to the conclusion that the continental racing season had done me. Mine was the usual problem faced by Stateside scratchers who arrive ready to whup the trousers off of the Europeans: Lack of talent. Fortunately I had enough money and lots of spirit.

It was spirit that had brought me to that sun-drenched pit area at Francorchamps-Spa for the Belgian Grand Prix. That course is so fast that only spirit could have enticed me to attempt it. God knows, I'd never have gone up there sober. Anyway, I'd arrived. And while I was thanking Providence for that, and gingerly patting the steaming radiator of

the 1937 Thrupp & Maberly close-coupled sunroof-sports-saloon-bodied Bentley that I used as a van, I made every effort to acquaint myself with what natives dared come near. (Their fears proved baseless: the Bentley auto did not explode, nor was I a carrier of bubonic plague despite my outward appearance—anyone who hangs around race tracks should know grease spots when they see them.) My effort to endear myself to the people was severely limited, however, by the knowledge that two languages are spoken in Belgium, Flemish by the Flemings, and French by the Walloons, and that to speak one to the other could be the cause of an international incident. After all, they could, and did, have riots over the language problem. Governments had toppled because of it. It was certainly not for me to start anything. So, having no ability for the Flemish tongue whatsoever, and only a fair knowledge of French, I kept my salutations down to a mumbled 'Alo' which I thought would please both sides. I later learned that most of them took me for a Cockney Londoner with a speech impediment. At any rate my

Understanding being what it is, having unloaded Old Whomper, my rusty-trusty single-banger racing velocipede, from its resting place in/and/on the spare wheel well and running board where I lashed it, I set about gaining some. More simply put, I tried to find out what in blazes was going on, any idea of what I hadn't the faintest. As I floundered about, I discovered that it was almost impossible to just ask outright, and risky to find out by stealth.

After almost an hour of attaching myself to the perimeter of various conversation circles I had found out absolutely zero. Cursing myself for not applying myself more studiously to some language, any language, I floated from one national group to another. Finally, after five minutes eavesdropping on one bunch I realized that they were British, and with only slight application I was able to understand practically everything they uttered. Addressing myself to a rather heavysset gent wearing a cardigan under his suit jacket and thick Guardsman moustaches who seemed very much a part of the English camp, I inquired in my best 'Queen's own' tones what was happening. All I got for my kindness was a stony glare. So I tried again. At this second interruption the man's temper flared and he shooed me away with a stream of what can only be referred to here as French invective, little of which I understood. But I grasped his meaning

well enough, his fist waving in my face. The French are a very sensitive lot. Inquiring of another member of the crew who looked less English provided me with the information that practice began in an hour, and why didn't I stop for tea later. Warmed by this hospitable gesture, I trundled off to make ready for practice.

But what?! When I got back to where I had parked, Old Whomper, my rusty etc., bike had up and disappeared! And worse still, in the exact place I had left it was an FN. An FN! Crikey! This must be the work of a madman, I thought. Some demented deviate's idea of a sick-joke. Old Whomper certainly was far from the best of racing hardware—but this? Shocked at this turn of events, I quickly checked the back of the car, only to find that my leathers and helmet, my very valuable red, white and blue leathers that guaranteed my high start money, were also gone. In their place were ordinary black hides. A further check of my belongings dealt me a blow that caused me to sink slowly to a seated position where I stood. My genuine American passport had been replaced by a Belgian identity card. My mind in a whirl, I groped in the glove compartment and rapidly partook of several large-ish swallows of the carefully distilled grape by-product I kept there for emergencies.

As if not enough darkness had come to me that day, it was not long before a rather large shadow was cast upon the spot where I sat puzzling my curious fate. What now, I wondered. And I looked up to see the very British-looking nut I had run into before in the English pits! Terror-struck, I attempted to flee, but he was faster than he looked, and he grabbed me before I could take two steps. Putting me back down on my feet, he said in perfect English that he wanted to talk to me. With his big hairy mitt on my throat I had little choice but to listen.

Looking furtively around him, he began his fantastic story. "You are going to help us," he said threateningly, then changing his expression to one of conciliation, "but when you understand our cause you will be happy to do so." I stood immobile, despite the fact that he had released my neck in order to gesture, as he explained that he was a member of an underground Belgian unity movement whose goal it was to end the constant feuding between the Flemings and the Walloons. I did not ask why such a worthwhile organization had to operate as an 'underground'. I understood well enough that if there is anything for people to fight about, they will, and that if you take their differences away, they get mad at you. He went on trying to appeal to my over-developed sense of charity and ended his explanation by pointing out that they had my passport. If I should decide not to help, I could just remain in Belgium. It's a nice place to visit, but I wouldn't want to live here.

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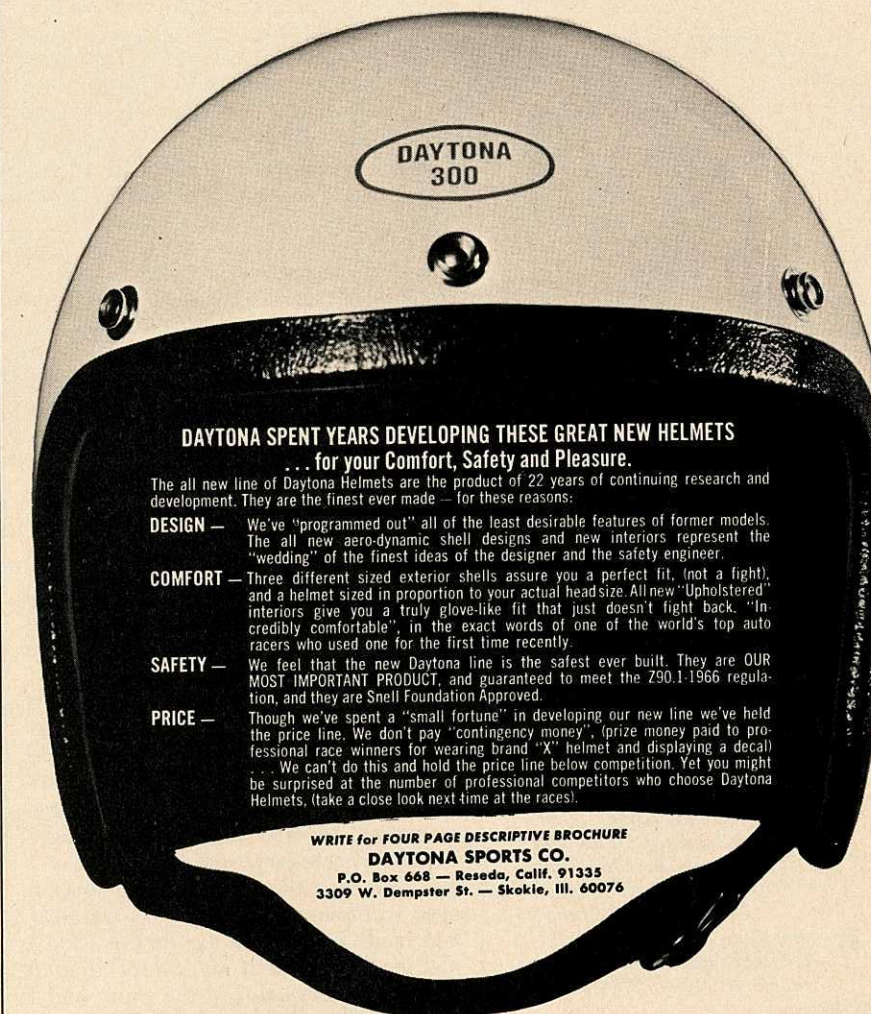
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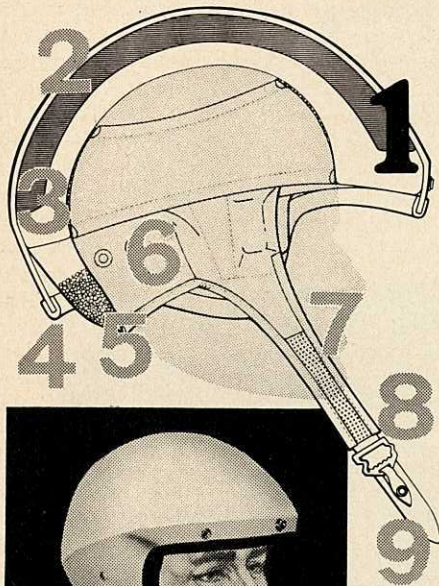
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**DOWNHILL** *Continued*

"But what is the reasoning behind pinching my bike and gear and passport?" I asked still unaware of his plan.

"You look around at the nations represented here," he said, "and you will not find a single Belgian machine anywhere. I am charged with seeing that an all-Belgian effort is made in all fields of sporting endeavor. The FN is, as I am sure you know, a motorcycle of Belgian manufacture. It is made in Herstal-lez-Liege, which is predominantly Fleming."

"I suppose it is equipped with Walloon tires," I quipped.

"Very funny," he snapped. "No. That is where you come in. No Belgian racer, be he from the north or the south, would ride an FN in a Grand Prix. We are not so foolish that we expect to win, but we must participate, and to further cause of unity since the machine is 'north', we must have a rider from the French-speaking people. That, with your new identity papers, is you." He started to walk away. "Oh yes," he remembered, "you *do* speak some French, do you not?"

"A little," I admitted modestly. "Then say very little," he admonished sternly, leaving me to my grape juice and the task of familiarizing myself with the Fabrique Nationale.

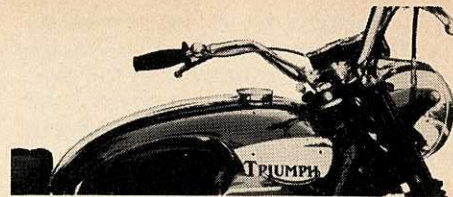
Getting used to the bike was not much of a problem and before long I had worked up to a maximum lap speed of 49 mph. It was all that the poor thing and I could manage. I had much more trouble managing to live off of my meagre French vocabulary, and by race day I was heartily sick of sandwiches de jambon avec fromage Suisse. But above all, I had made peace with my destiny, and I had the assurance of my 'captor' that all I had to do was run in the event and I would regain my property and freedom.

With the pressure thus off, I faced the race in a spirit of frivolousness, and determined to give it the best I had. For unity! The flag dropped, and I was left inhaling everyone's unburnt combustion products. The long-gaited tourer and I then commenced to gallop around the course. The good stuff passed us as though we were flag marshals. By the third lap, though, I noticed that we were getting cheers from the crowd. Buoyed by their support, I gave it everything.

Everything proved to be too much. Coming into the pit straight on the fourth lap the rubber-band front suspenders went west tossing me through the air as though I'd been gored by a bull. As I sailed along, I knew it was all over. I knew that all I had to was land in one piece and I could depart with honor. I'd held up my end of the deal. My trajectory carried me to a spot directly in front of a great mob of spectators, where I landed without any dignity whatever on my posterior.

"Sacrum Bleu!" I yowled. It was all over.

—Michael Shuter



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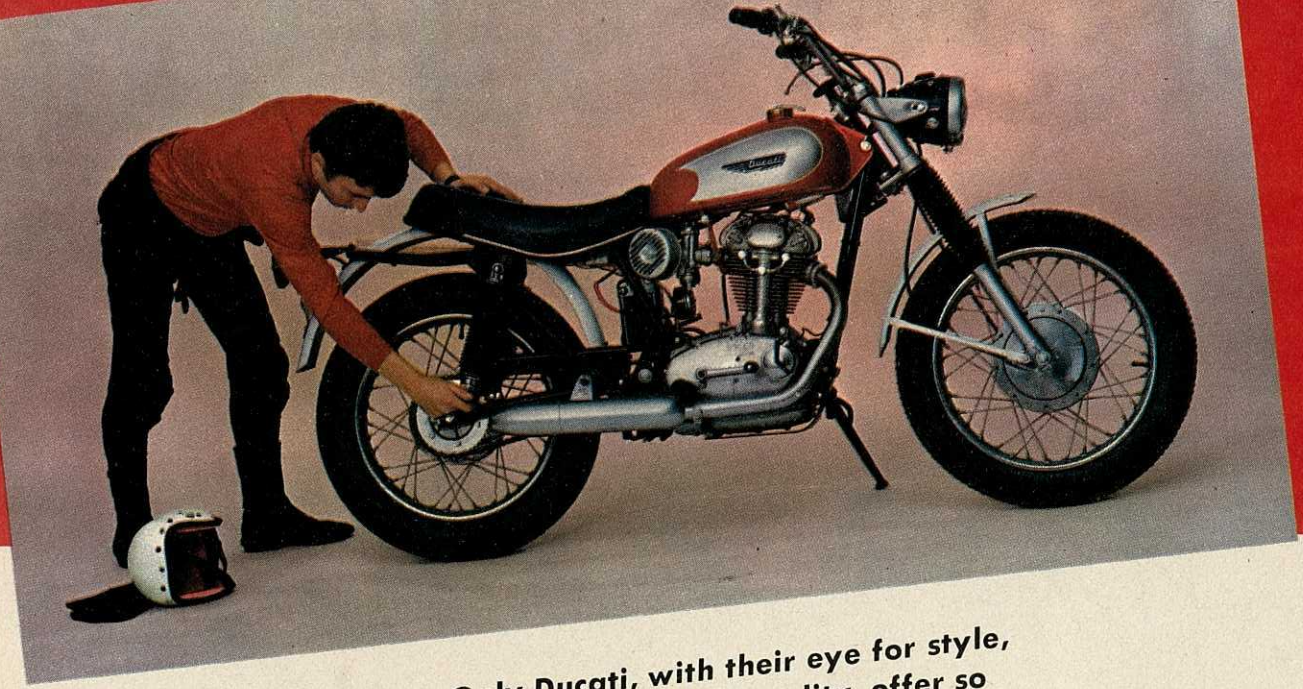
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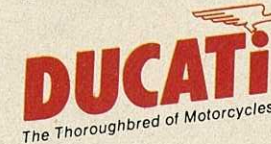
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# TRIUMPH T100C COMPETITION

Here's 500cc of real dual purpose that'll shed its street-legal trappings and roar like its Tiger ancestors.

For those of you possessing sufficient moxie to legitimately sneer at the large capacity "street scramblers" ripening on today's beautiful people market, Triumph offers one of the few true dual purpose motorcycles. Having sacrificed little to Demon Compromise has vouchsafed qualities to the Triumph that the knowledgeable and skilled appreciate.

Don't get us wrong. All the street-legal trappings are there for those who need the convenience. But unguinding the lily is both easy and rewarding. And under that porcine facade lurks 290 pounds of the silkiest purse around. Since the engineers do have to provide the necessary equipment to constitute a real on and off the road job, our test bike weighed in at 350 pounds, ready to ride. You make it into a real-racer by removing the 60 pounds of "wrapping."

We got one of the early deliveries that was equipped with Dunlop Sports tires, some of the knobby knobbies ever invented. After a few easy miles to get the feel of the Competition, we made straight for our test area. At this delightful place there are both smooth and rough dirt surfaces, muddy holes and 80mph deep-sand roads. Here, a machine's assets and liabilities are immediately and sometimes painfully obvious.

In the rough and in the deep sand, our T100C wasn't really very good at first. Going over 65mph in the sand removed choice of direction from the rider's control. Since several moto-cross machines with 21" wheels have traversed this same stretch at over 85 without becoming flighty, we couldn't lay the wandering to tire section or wheel diameter. The 3.50x19 knobby should have been sufficient, so we looked elsewhere. The front end felt heavy and the too-short handlebars soon made our arms and shoulders cry for a rest. Immediate thoughts were of not enough fork rake for the amount of trail, and weak fork springs.

The first thing we noticed, however, was that the forks did not return all the way after depressing them by hand. It took quite a bit of force to start the forks sliding and once they moved, they traveled downward a couple of inches and stopped without returning.

Examination of the problem was easier than the cure. The tool box on the Competition is practically inaccessible. The upswept pipes pass within about

one-eighth inch of the cover on this compartment. After removing the thumbscrew on its cover, you have to jiggle the cover off a couple of locating pegs and skin its paint on the exhaust-pipe clamp. The effort isn't really worth the trouble though, because most of the tools either don't fit the intended bolt or are made so crudely that they last for about one tightening. The 1/4 Whitworth did force on the fork bottom cap bolts, though, and when the loosening was done, the sliders spread noticeably. While removing the cap bolts further, the bolts were forced against the edges of the bolt grooves in the axle. A quick trip back to the shop to file the grooves wider did the trick. The forks then worked freely and returned to the top of their stroke after each depression. What a difference this made in the sand and rough: a whole new motorcycle! The seemingly small amount of friction had made an otherwise enjoyable bike a back-breaking demon.

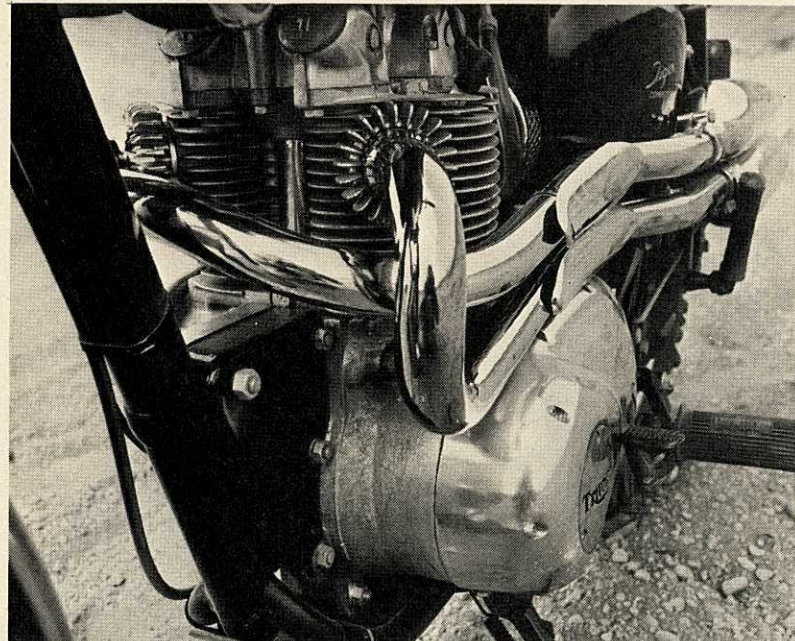
The handlebars are still too short for serious enduro or trail work, but this is the sort of thing that Triumph dealers are happy to change for the demanding rider. When you're turning on a loose dirt surface, the handlebars transmit the front tire's tendency to pull into the turn to your arms. The most effective way to ride a motorcycle fast that handles this way is to use a goodly handful of throttle. Now, slow trials and fieldmeets are another thing. The T100C will pick along a rocky mountain path and cut a passenger pick-up doughnut with the world's best.

The seat is one of the best-designed we've tested. The cushion is just soft enough to take the jar out of rough riding; yet not so soft that you sink to the bottom the second you sit on it. Top edges are closer together than those at the bottom: just like the angle formed by your legs when you straddle the pleated vinyl cover. With 27 inches of solid comfort, there's plenty of room for your favorite lady friend; unless, that is, your local legislators have outlawed two-wheeled togetherness.

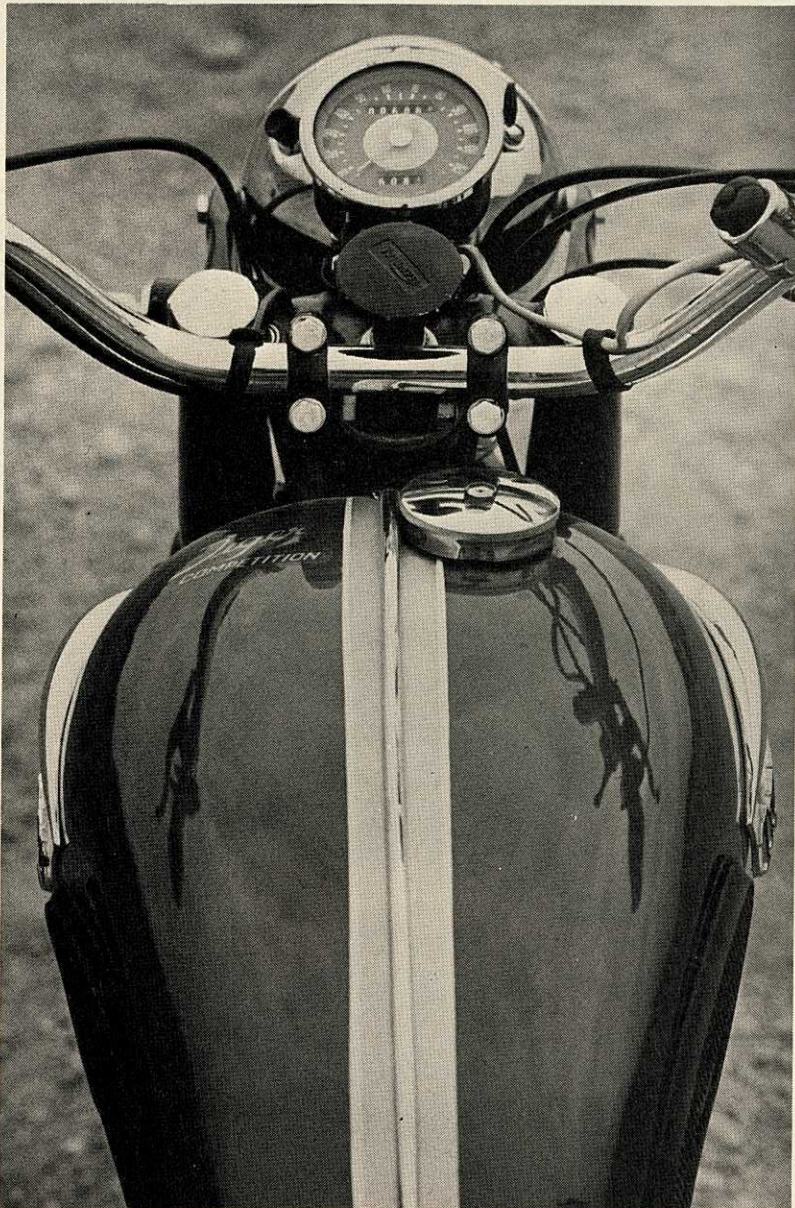
Your passenger will need an asbestos left leg to avoid an occasional encounter with those nifty dual mufflers. You'll be able to hear her scream, though, for the mufflers muffle and that sweet 500cc all-alloy engine is as rattle-free as it is vibrationless.







*A refined alloy engine is quiet and light. Stylish up-pipes make passenger take notice and sit up.*



*Competition's trim two-and-a-quarter gallon tank and small sport light establish design theme.*

The smallness of detail pieces seems to be the design theme on this model and it's an extremely pleasant execution. The trim seat, nice little-two-and-a-quarter gallon gas tank, and small mufflers are balanced visually by the petite Lucas sports headlight. Also good-looking and functional are the polished stainless steel fenders.

Starting this little gem is a cinch. Turn on those satin-smooth pet-cocks (which always face a handy direction now, thanks to a jam-nut fitting) and flood the float bowl slightly. On very cold mornings, closing the choke slide will be necessary until the engine is hot. Flip on the ignition switch up under the left side of the headlight and roll the starter pedal through two or three times. Presto, you're in business. During the whole test, no more than three kicks were ever required to bring the Triumph to life. When you park the machine, the removable ignition switch and separate fork lock will foil mischievous punks and the random thief.

Although the front wheel brake is an inch smaller than a similar one on the 650's, braking is more than adequate to cope with the lesser traction obtainable on a dirt surface. Neither brake fades or becomes grabby after being doused in a creek crossing. You never feel out of control even on a slow descent with wet brakes.

The T100C's power characteristics are ideally suited to the wide ratio gearbox for true dual-purpose usefulness. Camshafts have rather racing timing and lift (the old "Q" grind) to control the intake and exhaust. Newly developed combustion chambers and pistons have been reshaped. With the more modern squish area between the piston and cylinder head, a higher compression ratio can be employed without inducing detonation at high engine loads and low revs. A smallish carburetor (26mm Amal Concentric) and small diameter exhaust pipes keep the specific port gas speeds high. The effect of these breathing-system features is the amazingly broad torque curve. Lots of punch is evident at low revs and the engine continues to breathe freely to maximum output of 37 bhp at 7000 rpm. When you're tooling along in the woods, each of the widely spaced gears has a remarkable speed range. An obstacle that demands a change in your pace doesn't always demand a gear change. At least not nearly so often as it would be with a less flexible engine.

Sparks are supplied to the combustion chambers by an ingeniously flexible system. Primary current is generated by an epoxy-encapsulated-field version of the time-improved Lucas alternator. Alternating current is changed to DC by a full-wave Selenium rectifier before it



charges the PUZ5A Lucas 12V battery. Excess current not needed by the battery, ignition, or accessories is bled off by the Zener Diode regulator and converted into heat. The diode is mounted in an aluminum heat sink, which is located just beneath the headlight. Power for the ignition coils is controlled by a switch placed between the negative battery terminal and the coils.

The breaker-points backing plate is very unusual. In order to get accurate spark timing, the breaker-points assemblies are independently adjustable in a radius around the breaker cam. Most systems have the breaker points fixed in their angular placement on their backing plate; and once one of the points is set at a certain angle, the only way to vary the exact angle of opening is to vary the breaker-points gap. When the points gaps are unequal, problems spring up when an energy-transfer system is used

to eliminate the battery from the ignition system.

When the owner of a T100C wants to convert his machine to serious trail, enduro, scrambles, or racing trim, the first thing he generally does is pare down the weight. By removing the lights, battery, and related hardware, he can save a fair amount of weight. For less than ten bucks, your dealer will sell you an electrolytic condenser and necessary brackets to take the place of the battery. This special condenser takes most of the ripples out of the rectified current, and together with the independently adjustable points, solves the problems with the ET systems that have plagued us so much. Still in the experimental stage is the possibility of using direct lighting with the ET ignition system.

Except for a few tabs and lugs, the frame and forks are the same design as last year's Daytona winners. The forks

are distinguished by their external suspension springs and shuttlecock hydraulic damping valve. External springs seem to work better than internal ones because the internal variety create so much friction against the fork tubes. Besides problems with standing waves in the necessarily long internal springs, the springs make a distracting noise when the forks work. With the shuttlecock oil valve, hyper-critical damping control doesn't rely on easily damaged small springs and washers.

Parts of the frame are direct adaptations of racing practice. On predecessors of our test model, the ends of the swing-arm were unsupported. Now, a gusset on both ends of the pivot are welded to the shock-absorber support tubes where they pass near and outside the pivot. Racing also proved very early in this model's life that a single top frame tube was insufficient. The critical tube is now



## TRIUMPH T100C *Continued*

of a double pattern similar to the 650's frame, and the gas tank is deeply saddled to clear the higher support.

When you sit on the seat for the first time, everything seems familiar. Yet, it may be a natural feeling rather than familiarity. Handlebars are narrow at 27 inches across, but their 5.5 inch rise and 4.5 inch backward bend feel very agreeable. The 31-inch seat height hits a slightly-less-than-six-footer just about right.

Pulling a little black knob just at the base of, and about half way back on, the seat will allow you to swing the seat up to service the battery and get to the oil

filler cap. While poking around under the seat, we noticed that the breather hose from the engine to the oil tank was crimped. Sure enough, a look under the engine confirmed that the hose had been blown off its connector pipe. The hose should be made of a thicker-walled, more resilient material.

Just inside the oil tank filler, an adjustment screw meters off a slight amount of the engine oil return feed to a tube leading to the rear chain. This self oiler can be adjusted to give an occasional drip, or flood enough to keep the chain oily on an endurance run.

The T100C can be converted into just

about any type of racer desired, and all the parts can be had from the Triumph distributor through your dealer.

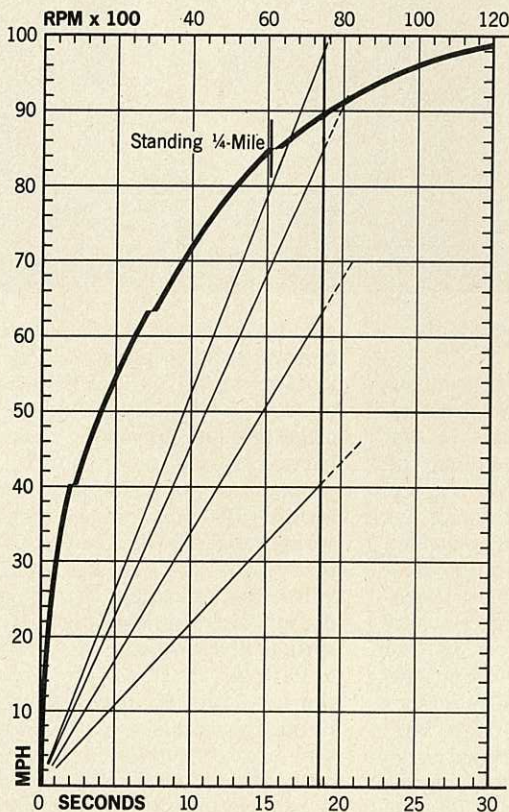
One of the slickest conversions is a change to dual carburetors. A couple of adapters, an extra carb, and some jets and fuel lines are all that you need. Indeed, anything from higher compression pistons to racing pipes are immediately available.

Usually, though, most owners don't want to get involved in extensive modifications. With a modest investment in bolt-on equipment, the Competition can be the most versatile and most enjoyable motorcycle on the market. ©



### TRIUMPH T100C

Price, suggested retail . . . . .	East Coast, POE \$1095
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rear . . . . .	4.00 in. x 18 in. Dunlop Sports Knobby
Brakes, front . . . . .	7 in. x 1.125 in. Single leading shoe
rear . . . . .	7 in. x 1.125 in. Single leading shoe
Brake swept area . . . . .	49.2 sq. in.
Specific brake loading . . . . .	11 lb/sq. in.
Engine type . . . . .	Four-stroke parallel-twin pushrod OHV
Bore and stroke . . . . .	2.72 in. x 2.58 in., 69mm x 65.5mm
Piston displacement . . . . .	30.50 cu. in., 500cc
Compression ratio . . . . .	9:1
Carburetion . . . . .	(1) 26mm, Amal Concentric
Air filtration . . . . .	Dry paper element
Ignition . . . . .	Battery and coil with emergency start
Bhp @ rpm . . . . .	38 @ 7000
Mph/1000 rpm, top gear . . . . .	13
Fuel capacity . . . . .	2.25 gal.
Oil capacity . . . . .	6 pt.
Lighting . . . . .	alternator 120 watts
Battery . . . . .	12v, 10 ah
Gear ratios, overall . . . . .	(1) 14.10 (2) 9.20
	(3) 6.90 (4) 5.70
Wheelbase . . . . .	55 in. nominal
Seat height . . . . .	31 in.
Ground clearance . . . . .	9 in.
Curb weight . . . . .	350 lb.
Test weight . . . . .	500 lb.
Instruments . . . . .	Speedometer, odometer
0-60 mph . . . . .	7.1 seconds
Standing start ¼ mile . . . . .	15.36 seconds—84.5 mph
Top speed . . . . .	98 mph



# CHUCK CONNORS RIDES A BENELLI



MODEL SHOWN:  
BENELLI 250cc BARRACUDA

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11 North Davis  
Helena, Montana 59601

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Associated Motors  
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Cycle Rama  
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Cottage Hills, Illinois

# Benelli

Sole U.S. Importers: COSMOPOLITAN MOTORS, INC., 5521 WAYNE AVE. PHILA., PA. 19144

AUGUST 1968



Back in 1938, when Tom Sifton had only been fussing with bikes for eight or nine years, he built a machine for Sam Arena to race in the Oakland 200. Sam won. Sam took 17 minutes off of the old 200 mile record.

Tom built and maintained a motorcycle for Sam that raced continually from the beginning of 1945 through the end of 1947, *three solid years*, without a single loss. No flat tires, no broken chains, no ignition failures, no engine failures for three years, and then Tom retired the machine and Sam along with it.

In 1954 Joe Leonard won eight Nationals on a machine prepared by Sifton. In 1950 Larry Headrick won every mile race in the country on a Sifton motorcycle. Leonard Andres, who tuned Calvin Rayborn's 1968 Daytona-winning KR, said, "I've never been around him that I didn't learn something new. To me, he's one of the greatest that's ever lived."

The man Andres is talking about dominated the American racing scene like it's never been dominated by an individual before or since, and he did it at a time when the Harley-David-

# Tom Sifton

**The gentle old wizard**

BY COOK NEILSON

son factory was hip-deep in racing and racing sponsorship. He met the factory, all the factories, in a 30-year series of head-to-head confrontations, took them on for the sheer hell of it and to prove that it could be done, and emerged intact and happy and victorious from a war that would have incinerated a man with less mechanical finesse or less fortitude.

He's old now, Tom is, he looks like a weathered, benevolent George C. Scott if you can picture that, and he gets around with a pair of bear-up canes. He has arthritis and his legs are shot. Whenever he walks or gets in or out of a chair or an automobile he whistles tunelessly or just blows out of his mouth because his legs hurt him so much. But his legs don't seem to slow him down; he pushes that old battered body around like he was younger than springtime.

He was sitting in Eric and Emilia Yahl's restaurant in Alviso (a suburb of San Jose and a town totally without pretense), and the reminiscences were flowing out of him unprompted, easy. His wife ("I'd feel a lot better if you just call me Stella.") sits across from him and is quiet. She calls him Tommy and occasionally tells him things like, "Wipe the cottage cheese off your

mouth, Tommy," but mostly she sits still and listens appreciatively to stories she's probably heard before.

"Tell me about that race that Sam Arena won and took seventeen minutes off the 200-mile record, Tom."

"Yeah, that was in 1938, at Oakland. Sam was riding one of our WRs. It was the current thinking at the time that you couldn't run a motor wide open for a whole lap without shutting off at least twice, to draw the oil up the cylinder walls. So before the race we fussed around with oil control rings and got it so the walls would stay fairly wet. We told Sam to go out there and run wide open, which he did and pretty soon he was way out front. A lot of people came running over to me and said that I'd better get Sam to slow off or he'd blow up for sure, but I didn't. Because if Sam had slowed down he would probably have fouled the plugs, that engine was running so wet."

"Actually we didn't do anything too tricky. Sam was an awful good boy. Most of the boys



that rode for me were good boys."

He begins talking about Joe "Moke" Leonard, perhaps the greatest motorcycle rider who ever lived and Tom's favorite "boy". He'd much rather talk about Leonard than about himself.

"Hey, did you hear about Moke being on the pole at Indianapolis this year? Driving one of those new turbine cars, after he crashed one just a few days ago. He lives right down the street, you know. Qualified at just under 172 mph. We're all certainly hoping for him this year." And then Tom launches into a diamond-hard evaluation of Leonard as a motorcycle racer. It's not all good, because Sifton has a great amount of perspective; the picture he draws of Leonard is in living color and 3-D, and Leonard comes across not as a monochrome hero-racer but as a man, a regular man with this great ability who sometimes could have tried a little harder but who was nevertheless a giant.

"I remember back in 1951 when Moke was an Amateur and just starting off. It was at Stockton, and he seemed to be a little uneasy then about riding in the dirt. But he seemed



to get the hang of it real fast in practice, and he was sliding through the corners and throwing dirt over the wall and just having a whale of a time. He came back to the pits with a grin from here to here, happy, saying things like it was as easy as shooting fish in a barrel and so forth.

"I said to him, well, that I was glad he was enjoying himself and had confidence, but while he was out there sliding around in the corners the clock was running. 'Joe,' I said to him, 'You're two seconds slow.' It was like chopping him off at the knees. 'Really?' he said. Anyway, Joe lost. But he got religion real fast and won at Bay Meadows and Springfield and Milwaukee.

"Yeah, Joe learned fast, and he was a winner. But he had to have a competitive machine with at least as much horsepower as the rest. If he did, he was unbeatable. But if his engine was a little down on power, well, Joe always had a high regard for his body and didn't much like to get hurt. He wouldn't really exert himself on second-rate equipment.

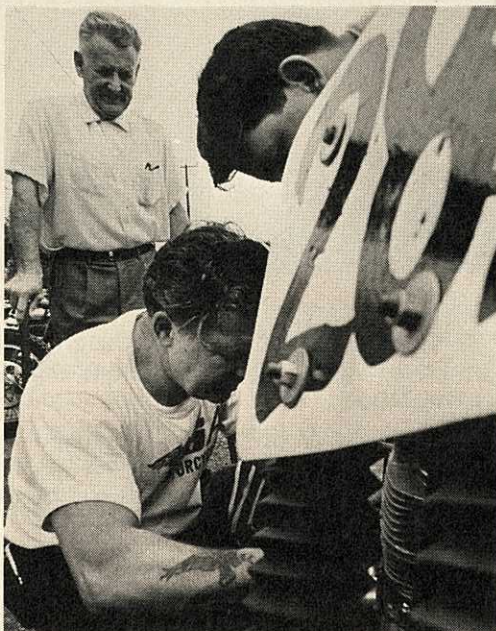
"But Joe could win on anything competitive. He used to race in TTs on an old 74, and won a lot with it . . . Sure, it was a good 74, but even so it was a big heavy bike.

"Even when he was very very green he was a quick learner about lines and traction conditions. He'd hit say a rough spot in a corner and then he'd never hit it again; never hit the same rough spot twice. And after he learned to ride the mile he never wasted a lot of horsepower spinning the back tire and throwing dirt around. We always felt that his throttle was hooked right to the back wheel. And it still is. Car guys tell me he's got the same feel for traction in a car that he had on a bike."

It's 7 o'clock and getting late in Alviso. It's time to go home. Tom picks up the check—there wasn't any question about that. While he was paying for dinner and saying his good-byes and thank yous to the Yahls, his wife said, "If you print our address I'll kill you. He doesn't do any advertising, you know, and if a lot of people find out where we live, well, I'd appreciate it if you wouldn't print our address."

Tom is a full-time valve-train component manufacturer now. He produces cams, pushrods, valve collars, etc. for Harley-Davidson's Sportster and 74, for BSA's complete line, and for Triumph's complete line. A lot of

**"It's the way you put  
an engine together that counts.  
I never build radical stuff.  
It doesn't work."**



people feel that Sifton components are the best available, including, it seems, several motorcycle factories. Tom developed barrel-shaped pushrods for BSAs. Now you can buy the same pushrods from BSA. Tom developed lightweight collars and keepers for the Sportster. You can get the same items from Milwaukee. Harley-Davidson's PB cams for the Sportster series are, a factory spokesman admits, "very close" in lift and duration to cams Tom worked up several years ago.

Sifton got into racing at approximately the same time he got into the motorcycle business: 1929. He ran a Harley-Davidson sub-dealership in San Francisco (under Dub Perkins) and then moved to a full dealership in San Jose in 1933, where he's been ever since. He doesn't run the dealership anymore though; he turned it over to Sam Arena when he was fifty. He had picked up a BSA dealership along the way, and he turned *that* over the Bob Chavez at the same time—1953.

But Tom wasn't out of the business yet. Not by a long shot. Arena and Chavez were having a hard time getting financing, so Tom found himself in the finance business and before long he was carrying paper for seventeen dealers in Northern California. Just when he decided to get out of *that* business the big financing companies became interested in the motorcycle trade, so Tom was able to make a clean break. "Almost like I planned it that way," he said.

And then he went racing pretty much full-time, and raced hard until 1958.

On the way back to Tom's place he was talking about his riders, his boys. Jim Young and Oats Wilson when he was a sub-dealer under Perkins, from '29 to '33. In San Jose he had Louis Guanella, then good ol' Sam Arena, then Gus Hunter who was killed at the Oakland Mile in '41, and then back to Sam through 1947. Sam was one of the best. After Tom retired the motorcycle and Arena along with it, he didn't race at all until 1949, when Bob Chavez rode for him. And then Al Rudi for a year ("A really good boy, a nice boy. He got hurt in a traffic accident.") and Larry Headrick.

"Larry Headrick in 1950 won every mile race in the country on one of our motors. One season of glory then he broke his leg in a traffic accident and that put the kybosh on him.

"That was actually the beginning of the lightweight motorcycle racing era. We had figured out that, from a per-

formance point of view, nine pounds of weight was the equivalent of one horsepower—on a mile track. Headrick weighed 126, he was strong and very good, and the bike we built for him was pretty good too, and light. That was a great year for Larry."

After Headrick came Kenny Eggars, in 1951, and then Leonard until '56, and then Everett Brashear in 1958 on a BSA, and then Tom got out of racing for good. Nearly 30 years in racing. Enough. During that period of time his riders always had a horsepower advantage on their opponents, because Tom was, and might still be, the greatest motorcycle engine builder that ever lived. He was the first engine builder to successfully modify the breathing on the old flathead WR, back in 1938, and he kept the details a secret up until 1947, the year that Sam Arena retired. Then he let the Harley factory in on it.

"There used to be a lot of people that figured we were in racing for ourselves, not for the factory, and that it should really be 'Tom Sifton and Harley-Davidson!' instead of just 'Tom Sifton!' They figured we ought to spill everything to the factory. But we didn't."

Then it all comes out, pretty much what you'd expect, the reason Tom built those awesome powerplants and kept what he found out to himself.

"I felt that if I could give my rider a good machine and have him out in front running in the good clean air and out of the dust, well, it was better than him back scratching in the pack and breaking his neck to keep up. So I wasn't about to let all we knew out. I really loved those boys."

Tom and his wife are back at their house now, a lovely big place way up a hill looking down over San Jose. "We looked for a place like this for four years," Tom said. It's dark outside and every light in the whole town shimmers and flickers, and suddenly Tom puts away the past and is talking about what's going on *now*. No rummaging around in his mind, no putting back old dusty files and pulling out fresh ones, no strain. The man's mind is incredible. He can talk about the time Joe Leonard fell asleep between the heat and the main and the pit crew changed gear ratios on him (Tom remembers the ratios, of course), and then without a blink or a twitch opinionate at length about Eddie Mulder's wheelie ability or any of the good young racers or Boris Murray's double-engined Triumph dragster. Tom can converse on two or three topics (sometimes in-

**Tom raced and fought  
the factories for the hell of it  
and to prove that it  
could be done.**



PHOTOGRAPHY BY PAUL RYAN

tertained; sometimes not) at the same time, tracing out tangents on each topic and eventually getting back to and crystalizing the point he was originally trying to make.

Now he's at home, where he grinds the cams for Leo Payne and Gary Nixon and anyone else who wants to go fast, where he makes valve train components that have been shamelessly duplicated by the parent factories, where he experiments to stay just a little bit ahead of everybody else in the country.

Most of what Tom makes comes from three rooms that extend off one end of the house (including the garage). One room is an office, accomodating all the paperwork, a large inventory of components ready for shipping, a couple of desks, and a blizzard of loose parts that Tom is considering for one reason or another. The next room contains a bunch of highly sophisticated lathes and grinders and milling machines and machines to check the true-ness of his raw stock. The last room, the garage, is where most of the manufacturing goes on. Tom grinds cams for ten or more engines, and he's got one of each kind of engine. Under one bench is a Harley-Davidson XLR mill that Tom's been fussing with. One of the cylinder heads has got a straight-in intake port and a built-up valve seat; nothing terribly, tricky, but clean and well thought out. Tom estimated the engine's horsepower at just under eighty, but Tom has always been conservative in these matters. BSA and Triumph engines sit up on stands, modified so that Tom can slip cams in and out of them without splitting the cases. Over here is the master camgrinder and right in front is a long plank with about 200 Sportster pushrods lying on it. Along one wall are the raw stock bins: yards and yards of the best aluminum tubing money can buy; solid aluminum stock, out of which he makes his collar and keepers; cam blanks for Sportsters, which he makes himself; more lathes, more milling machines towards the middle of the room. Then along another wall is a great pile of old engine parts, some used, some with the original factory part number labels still on them. A pile of girder fork members, brand new, is propped up against a bin; some guy in Texas wants them.

He explains about a new piston he designed, a high-compression job for Triumph/BSA 250s.

"See these little dimples sticking out of the valve relief pockets? They're

*continued on page 82*





## ZUNDAPP finds a home!

McCormack International proudly announces that we have been selected to distribute the internationally famous ZUNDAPP.

After a few years of little activity in the American scene, ZUNDAPP is coming back in force with three spirited lightweights — including a remarkable replica of the International six-days trials model. For the first time, this machine will be available in quantities to meet demand. It is a replica of the ZUNDAPP factory machines that have won the International six-days trials for two years in a row. It was a six-days trials replica that Dave Ekins used to win the 1967 Greenhorn Enduro overall. This lion-hearted 2-stroke, 100cc unit beat them all, including the big 650's.

The discriminating enthusiast will recognize this machine for its world renowned handling characteristics, extremely good torque, and broad power range

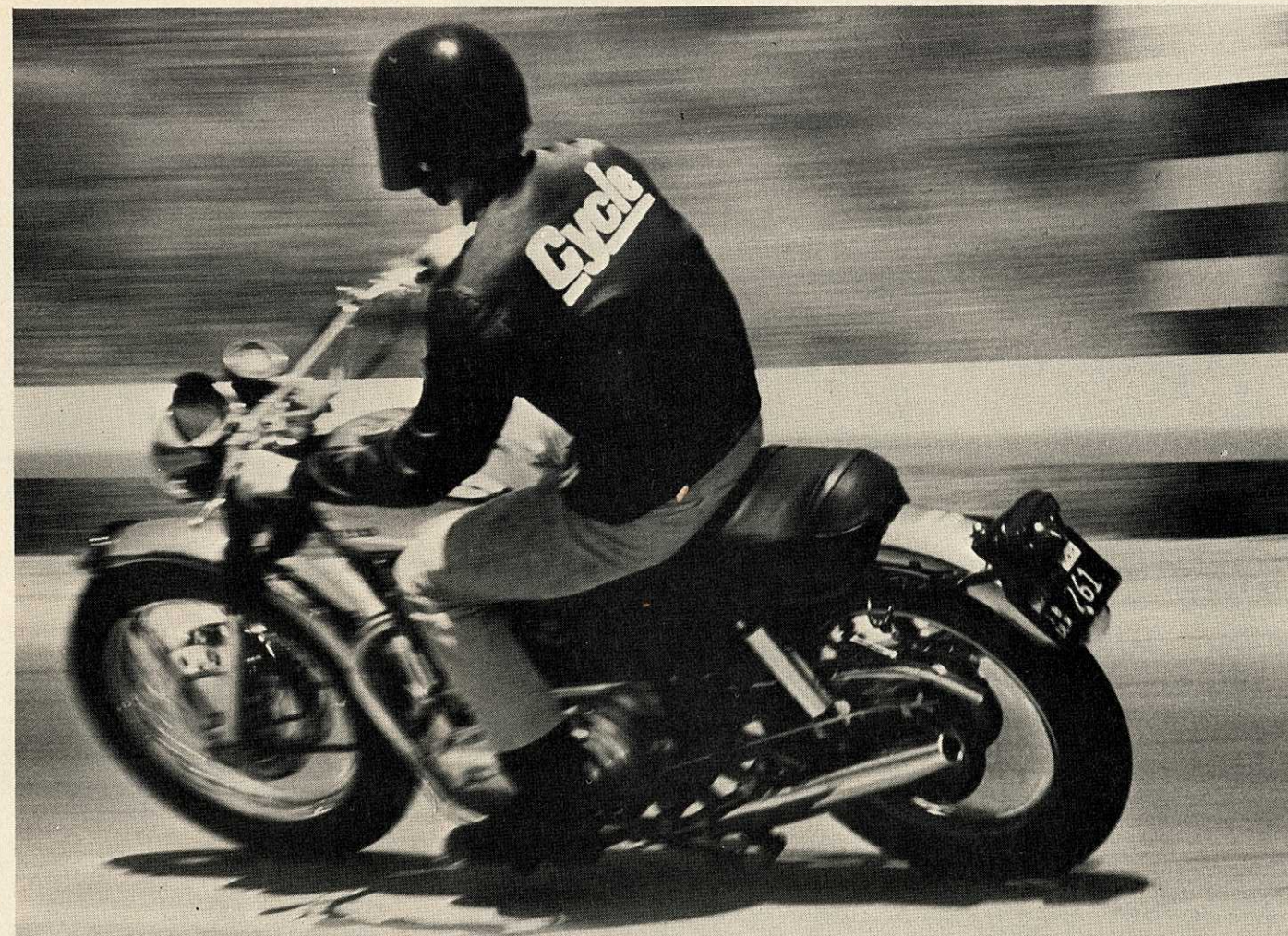
which enable it to traverse the roughest terrain with speed and ease. The machine is notable for its tremendous acceleration capability. The robust 2-stroke, 100cc engine has emphasis on flexibility so that it responds spiritedly over a wide range of speeds.

ZUNDAPP is a machine that is dedicated to the sports fan whose heart is set on stiff sporting competition. The heavy duty central tube frame and suspension systems were developed specifically for cross-country competition. Standard equipment includes case-hardened crankshaft and steel connecting rod, speedometer, knock-out spindles front and rear, cross-country handlebar, sports fittings, raised tuned muffler, underside engine guard, quick action throttle, 21" front wheel and 18" rear wheel equipped with universal trials tires, and Magura controls. In every way, this remarkable lightweight has proved to be tops in quality and performance.

*ZUNDAPP franchises are available from McCORMACK INTERNATIONAL in Puerto Rico and all states except Vermont, New Hampshire, Maine, New York, Pennsylvania, Rhode Island, New Jersey and Connecticut. [For franchises in the states excepted, contact R. M. Lamb, Inc., Baldwinville, N.Y., Telephone: (315) 638-0271.]*



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PHOTOGRAPHY BY DAVID GOOLEY

CYCLE ROAD TEST

## ROYAL ENFIELD 736cc INTERCEPTOR

The big Enfield weighs less than most Monsterbikes, corners beautifully, and starts easily. But freedom from vibration puts it at the head of the pack.

The 736cc Royal Enfield Interceptor is the smoothest-running monsterbike we have tested to date, and close to the smoothest-running motorcycle made—in any displacement category. The engine shakes around a little at idle, and the handlebars (solidly-mounted) buzz somewhat at speeds in excess of 80 mph. But anywhere in between, from two or three miles per hour to well beyond reasonable cruising speed limits, the Royal Enfield just doesn't vibrate.

Vibration has disenchanted more big-bore enthusiasts than any other single characteristic. Some of the large-displacement motorcycles don't stop as easily as they might, they don't corner or handle as nimbly as they might. But these characteristics don't clash with

the reason enthusiasts buy large displacement bikes: these characteristics, though bothersome to some, don't negate what a monsterbike has to offer. If it doesn't stop instantly, just apply the brakes sooner; or if it doesn't corner well, don't flog it through turns; if it doesn't start easily, live with it.

Theoretically a monsterbike, because of its amplified performance and amplified size, gives amplified riding pleasure both in traffic and on the open road. In point of fact few do and the reason is simple: nearly all of them vibrate. It doesn't matter that your motorcycle can go 120 mph if your hands and feet are so numb from vibration that you feel like getting off and scratching. You say your bike can cruise all day at 80 mph without taking a deep breath? What

good is it if you can't go nearly that fast without leaving a blizzard of bits and pieces in your wake?

The Royal Enfield people have worked it all out, though, and a large part of the solution lies in the configuration of the crank. It's a 360 degree crank, like all British vertical twins, with bare crank cheeks supporting the rod journals and a counterweight in the middle. But the mass of the counterweight, instead of being located close to the axis of the rod journals, is held away from the journals by a thick web (or strut). The counterweight factor therefore has been increased without increasing the static mass of the crank assembly.

No engine, especially a twin-cylinder engine, can be made to run with absolutely no vibration, however. You can





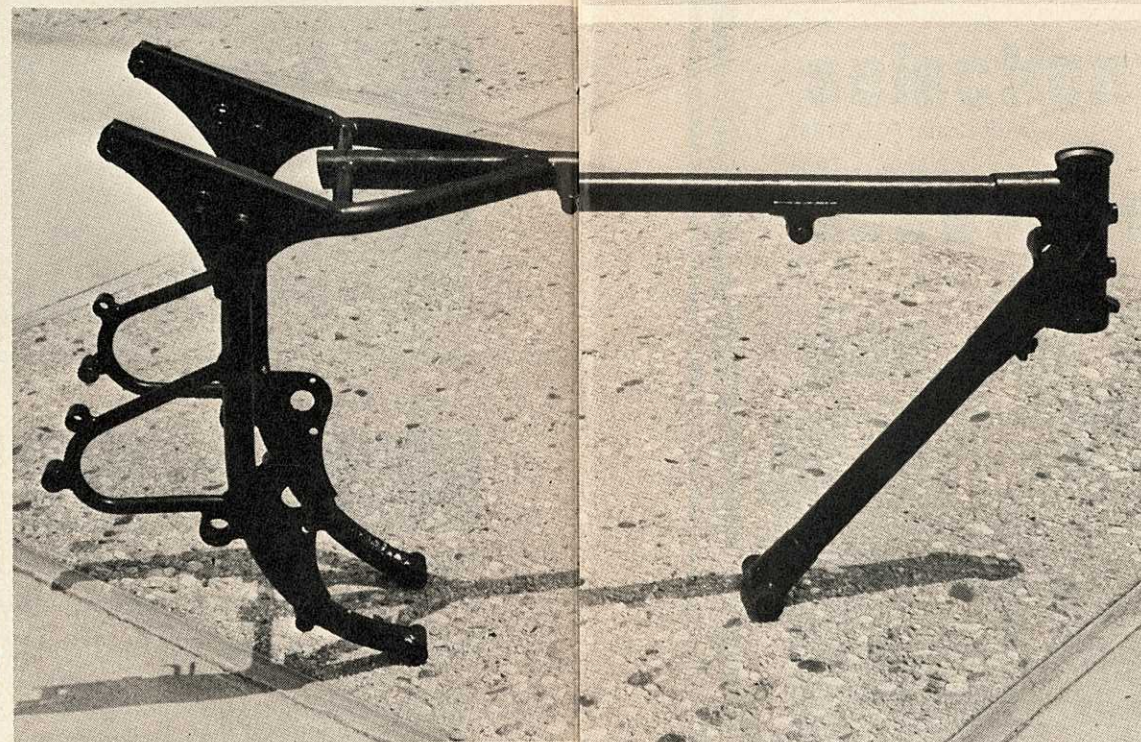
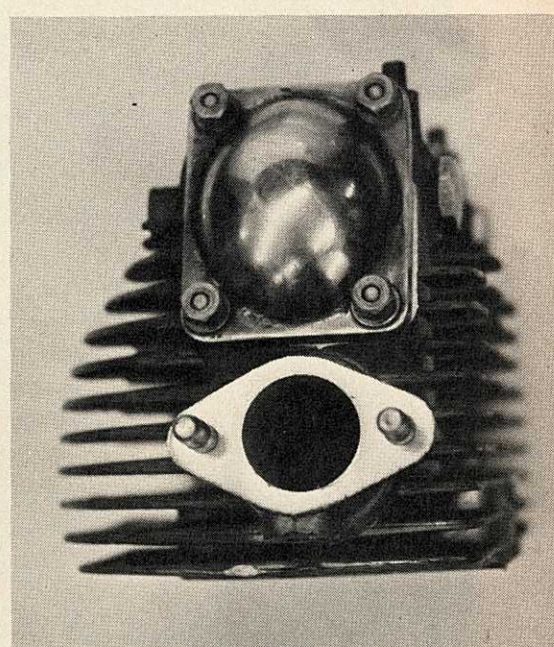
Tank and bars of Royal Enfield have been Americanized, but massive engine (far right) still retains classic nuts-and-bolts look. Tall individual cylinder-

counterweight it until the cows come home and it's still going to buzz (unless the counterweights are independent of the crank and gear-driven); how much of the buzzing gets to the rider depends on the design of the frame. Some years ago the Triumph twins were known as ferocious vibrators, until the manufacturer got smart and changed the frame from double downtubes to a single large-diameter downtube. The engines didn't shake less but the frame no longer resonated and the problem, from the point of view of the riders, was solved.

What vibration occurs in the Royal Enfield engine is almost totally insulated

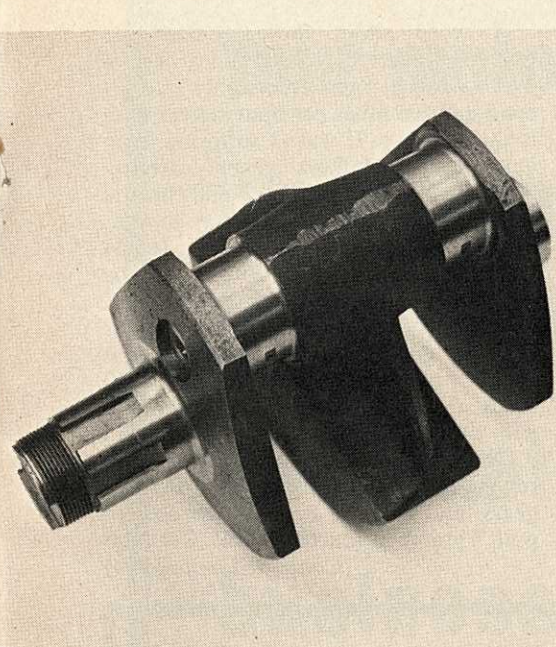
from the rider by the frame. Made of chrome-moly steel and relatively light (26 lb), the frame consists of a large-diameter backbone and a larger-diameter front downtube, and tubular sections emanating from beneath the seat and curling back and down that serve as mounts for the transmission and the swing-arm.

It's not a full-cradle frame. The front downtube is bolted to the front of the engine, the transmission is bolted to the back of the engine, and the rear downtubes bolt to the transmission. The engine and transmission, then, serve a load-carrying capacity, and the rigidity



between these two members determines to a large extent overall frame rigidity.

With an engine as healthy as the long-stroke 736cc R.E. twin, the frame needs all the rigidity it can muster. This engine has undergone an interesting series of changes over the last few years. In fact the 1968½ model (our test bike) is powered by an engine very much similar to the 1966 version, noisy cams and all. In 1967 the factory decided to do away with all the cam noise that was coming up through the aluminum cylinder heads by installing a set of "soft" cams. Apparently this really turned off the Royal Enfield clientele, so in 1968



head houses rocker gear and provides for good cooling. Sturdy crank (above left) turns in roller bearings. Chrome-moly frame weighs only 26 pounds.

the factory went back to the high-performance cams and to hell with the noise.

The Enfield is strong, no doubt about it. The manufacturer and the distributor believe, though, that the huge amount of torque the Enfield generates comes as a result of the long stroke/narrow bore configuration of the motor. It just ain't so. An increase in stroke means an increase in torque because the displacement has been increased. Torque is governed by (1) displacement, (2) breathing efficiency, and (3) compression ratio. Bore/stroke relationship has nothing to do with it.

So the torque, and the horsepower,



that the Enfield is noted for comes from its ability to breathe and its displacement (It's compression ratio is a little down on what everybody else, except Norton, is using). The R.E.'s intake ports are as nice as anything around. They flow from the carburetor straight into the valve, and the valve guide and the port are as close to being parallel as possible. The exhaust ports, though not as crucial, are just as well-designed.

Unlike the other big-bore British vertical twins, the Royal Enfield utilizes twin cylinder heads and twin cylinders, which (theoretically) make for better cooling. Engine cooling is further abetted

by oil lines running external to the cylinders (they're silver-soldered in place and indestructible, according to the distributor) and an aluminum oil reservoir located behind the engine. Two oil pumps are used: one feeds the rocker gear and the rod big-ends and pulls oil from the tank, the other pulls oil from the crankcase and pumps it back to the tank.

The previously-discussed crank assembly main bearings are mammoth: 3 11/32". The rods are plainbushed at the big end and unbushed at the small end, the wrist pin riding in the aluminum of the connecting rod.

The Royal Enfield's magneto ignition



**ROYAL ENFIELD** *Continued*

has gone by the boards, replaced in 1968½ by a dual breaker point battery-and-coil system incorporating an automatic advance unit and a heat sink located just in front of the right shock absorber. The battery sits above and slightly behind the transmission; component accessibility would be quite good except for the rods that hold the battery cover in place. According to the distributor, the dealers and customers have been howling about these little items, and they will soon be replaced or redesigned.

At any rate, we had no problems with the ignition system. It's complex, all right, with two sets of points and an advance mechanism, but starting was easy throughout the test and the ignition didn't break down even when the engine was wound past 7000 rpm.

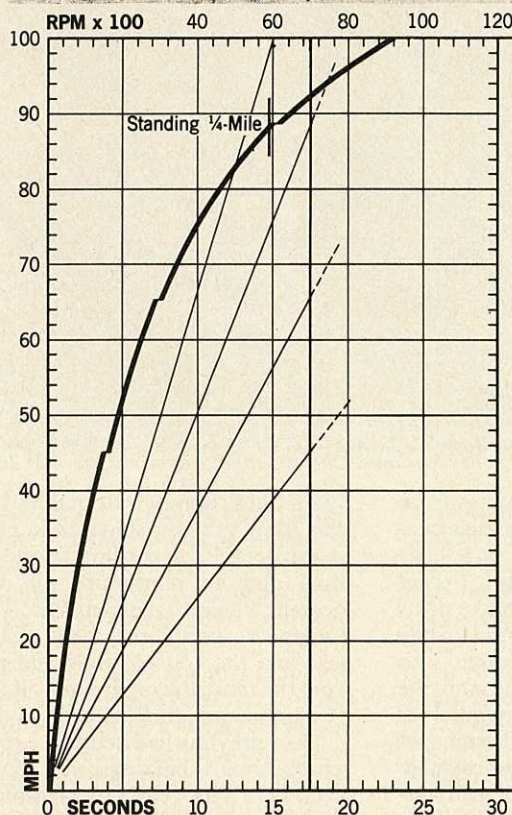
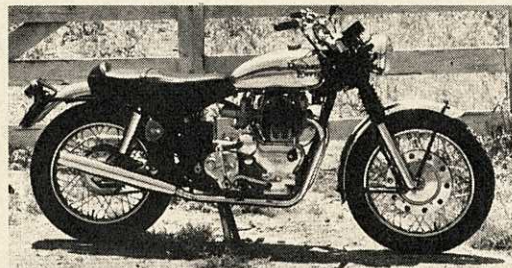
Would that we could say the same for

the carburetion. We have been carping about the Amal concentrics for the past half-year, and getting in trouble with various distributors and factory reps for the past half year, but we're going to continue to carp until they get it right. We have now tested four motorcycles equipped with the concentric carburetor, and all of them have exhibited nearly identical symptoms. Of the four, the Enfield was plagued the worst—probably because it had two of the devices to contend with instead of one, as on the BSA Victor and Thunderbolt and Triumph Trophy Sports. The Enfield, though it started easily enough, refused to idle in anything resembling a trustworthy manner; it surged badly at low-and mid-range; and if the engine happened to shut off accidentally fuel would squirt (not dribble—*squirt*) out the left float overflow.

A word about those quarter-mile times. The Interceptor turned a best of 14.94—88.06 mph, or roughly one second and ten miles per hour slower than it should have. It wasn't suffering from any mechanical flaws (except carburetion, which didn't affect full-throttle performance), ignition was up to par, the engine felt strong and clean. It just wasn't broken in. We drag-tested the bike with no more than a couple hundred miles on the odometer. The distributor said that an Enfield won't perform as it should until it has logged at least 4000 miles, a point we checked and confirmed with other R.E. owners.

Tightness aside, the Interceptor would rev easily to 7000 rpm in the first three gears, and felt like it would be able to pull 7 grand in fourth as well. But high

*(Continued on page 84)*



**ROYAL ENFIELD**

Price, suggested retail	West Coast, POE \$1395
Tire, front	3.50 in. x 19 in.
rear	4.00 in. x 18 in.
Brakes, front	7 in. x 1½ in.
rear	7 in. x 1¼ in.
Brake swept area	.60.5 sq. in.
Specific brake loading	10.1 lb/sq in.
Engine type	.OHV vertical twin 4-stroke
Bore and stroke	2.8 in. x 3.66 in., 71 mm x 93 mm
Piston displacement	43.8 cu. in., 736 cc
Compression ratio	8.5:1
Valve diameter (intake)	1 9/16"
Valve diameter (exhaust)	1 3/8"
Carburetion	(2) 1 3/16" Amal Concentric
Air filtration	None
Ignition	Battery and coil
Bhp @ rpm	60 @ 6500
Fuel capacity	2.7 gal.
Oil capacity	6 pt.
Gear ratios, overall	(1) 12.4 (2) 8.19 (3) 6.05 (4) 4.44
Wheelbase	57 in.
Seat height	30.5 in.
Ground clearance	6 in.
Curb weight	435 lb.
Test weight	610 lb.
Instruments	Speedo/odometer, tachometer, ammeter
Standing start ¼ mile	14.94 seconds—88.06 mph

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• Maybe I'd been reading too many race reports, seeing too many fantastic action pictures. Maybe I was just pent-up and city bored. In any case, I was restless enough to set out one Sunday morning to witness my first sportsman's scrambles race. Had the feeling I'd either end the day in a high state of anxiety or else rush out and buy a CZ motocross machine Monday morning. Didn't know at all. Followed the map to a town named Fishkill, followed the cardboard signs to somebody's farmyard. A

serious, sleepy-looking kid at a plank table took my dollar and pointed me off down a rutted lane.

I parked my bike along with the assorted machines of half a dozen other early comers. Just a big old field with a couple of green out-buildings in the morning haze. Smelled good, and it was quiet. Woods all around the field. Dirt roads here and there. One dirt road was behind a fence, so I assumed it was the track.

A couple of men from the local club were walking the track so I

joined them. They were talking quietly, a little worried. The doubtful weather might keep the crowd down, entries too. And the track was a little wet. It followed the outline of a fat letter 'L'. The short loop was where we were now, running along one side of the spectators field.

The long side ran into the woods and up a hill you wouldn't believe. Then it turned around and came right back down.

"This isn't a scrambles course," one guy muttered. "It's a hill climb

with bends at the ends." I figured him for a contestant, and found out later I was right.

A tractor chuffed up from behind, towing a six-foot section of cast iron fence, smoothing off the track. He paused a few minutes at the bottom of the hill to bulldoze a runoff for a puddle that was there, and to move in some drier dirt. He soon finished and rolled away. Tractor or no, he sweated getting up that hill. And I thought, *Man!*

From out of the woods in every

direction came a squawk that sent the bluejays screaming for cover. I didn't hear a bird for the rest of the day. Loudspeakers all over the place. Some band roaring out "Onward Christian Soldiers" with an indecent number of trumpets. The guy beside me who was going to ride started to laugh.

"Clear the track, please," the PA blared, and more "Soldiers."

When I got back to the main field, it was transformed. It made me think of a fireman's picnic. For one thing the sun was out, and out to stay. For another, there were cars and bikes and people all over and more coming in. No dew now, just dust. And noise.

The front of the biggest green shed flapped up and open, to reveal a counter with coffee smells coming over it. I bought their first cup, winning by a wheel.

Someone had parked one of the most beautiful street Triumphs in the world near the stand but I walked right past. Because behind was a gaggle of pickups with dirt bikes either in or on them, or in the process of being taken off. I'd never seen a big Greeves before. Do you know what it reminded me of? A hoe.

They all did. I wandered around the infield getting all bent-eyed over the scramblers. Something essential about them, something real.

Everybody seemed to have at least one Bultaco Pursang, red as hell and shinier. And noisier. BSAs in every state of dress from full cobby-knobby to let's-take-the-mufflers-off-and-go-racing-after-church. A batch of oldish looking Sprints with their spidery rear suspensions, and exhaust notes like someone firing a forty-five, quickly. Here and here a tame 74 and here and there a wild one. Ducatis.

Twist grips with contoured covers. Twist grips with tape. Twist grips just bare. Air filters that could have come from Rommel's desert tanks, fifty percent. Velocity stacks, thirty percent. Nothing, twenty.

Anybody over forty years old was tuning something. Anybody younger was lacing up his kidney belt. They all had scars.

"Rider's meeting," said the loudspeaker.

"Rider's meeting," repeated fifty people to fifty others, very wisely. A general drift toward a hole in the track fence. On the other side was a tree, with a blackboard and a man underneath it. I zipped up my jacket so my tab-collar Arrow wouldn't show and went along.

The man under the tree was a tough-but-gentle type who had mileage written all over him. The starter. He



gave the practice schedules and the rules, and answered questions. Knew what he was about. The whole thing was shifting gears in my mind from picnic to serious racing. A good thing they were well organized, because there must have been a million people stuffing the spectator's field.

Talk all around me as the meeting broke up. "... bumpy comin' down that big tough hill... lend me a spindle? ... no, the black flag means you're out, baby... don't think I'll sweat the checkered one... yeah."

I went off to get a hot dog, and when I got back the smallbores were making z's around the track. Practice supposedly, but it didn't look it. They seemed pretty grim. Hard not to take it seriously when somebody *your* weight riding *your* bike aces past on the jump, even in practice.

Herb Alpert playing "Brave Bulls" on the loudspeaker, and somebody blasting by on a Bultaco. People always say little two-strokes sound like angry hornets. Maybe it's because they sound like angry hornets.

In a half hour the three-fifties were out there chewing it up. Beautiful noises with a doppler effect as pronounced as a locomotive's. Those boys were going by.

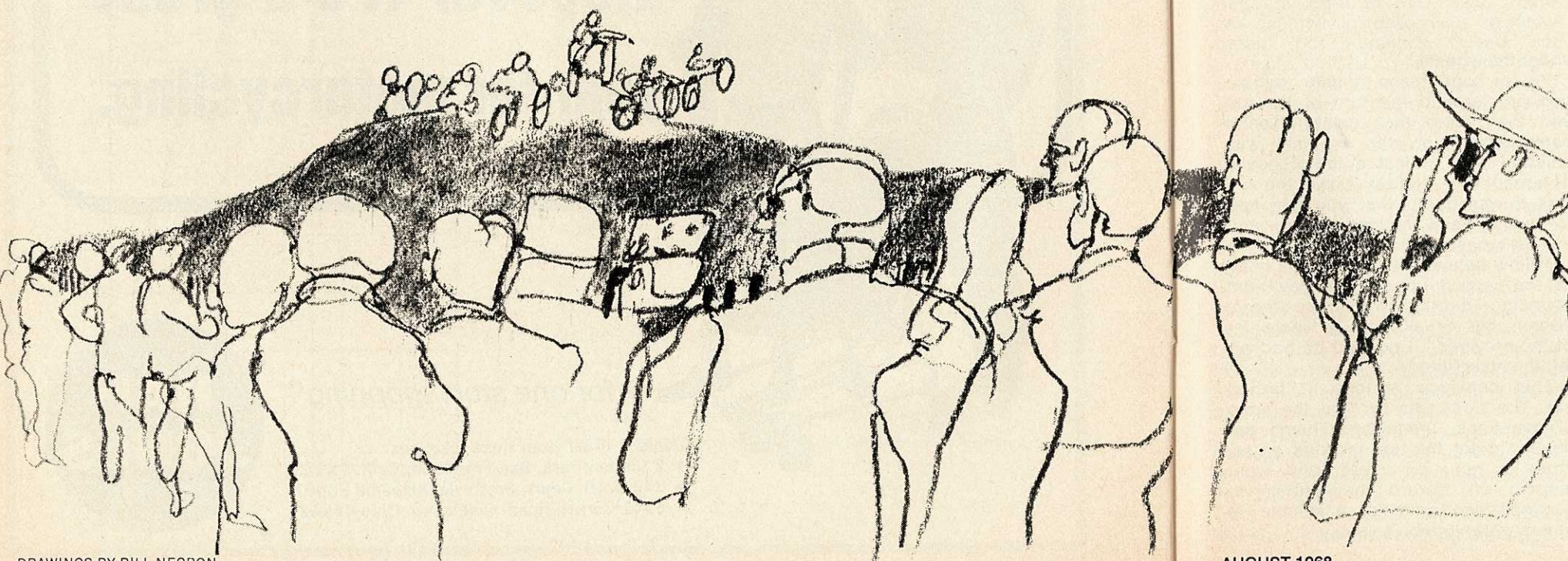
The spectators also cheered me up. Girls all over, all kinds, in all states of tune. Fashion model types in pantsuits. Wholesome types in sweatshirts and levis. Girls with long wheelbases and skinny tires. Girls with short wheelbases and fat tires. One that looked like a dragster. Motherly types setting up picnics under the trees, daughter/sister types running like frantic pullets in every direction, fetching wrenches, oilcans, cokes, whistles.

One flopped in the back of a pickup, chewing bubblegum, mulling over the Flintstones. But most were as keen as the guys, hanging on the fence watching practice.

# INNOCENCE AND SPORTSMAN SCRAMBLING

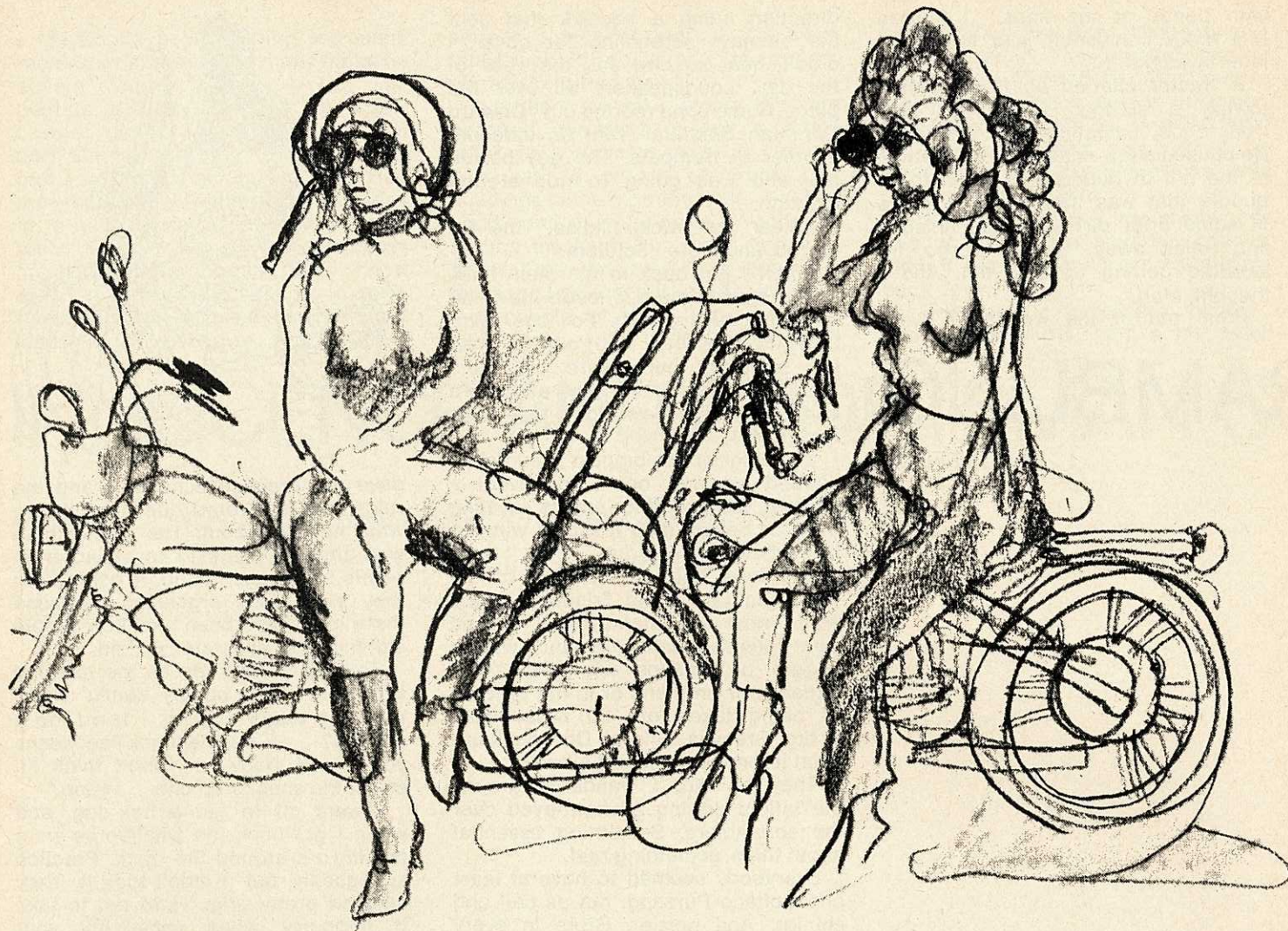
BY BURT FILER

Wherein a street rider does witness his first scrambles race and come to certain timely conclusions relevant to his age, condition and sporting temper.



DRAWINGS BY BILL NEGRON





By the time I got back to the fence, practice was finishing. I chose a spot near a cool-looking honey with three hundred dollars' worth of Nikon around her neck, so there'd be something to watch between heats.

Loudspeaker babbling something I couldn't make out. Cluster of Hodakas up at the starting line. White flag dropping and somebody threw a brick at the beehive. About thirty yards from the S/F line was a fast flat jump. I couldn't imagine how they'd got up the steam to fly so far in that distance. Zee-eee-(chok)errr, one after another and two and three together. They twittered around the washboard at the bend in the 'L' and were gone, to come whining into view on the backstretch a few seconds later. I decided to go up into the woods and watch the action on the hill.

Loudspeaker now playing "With a

Little Bit of Luck," when it wasn't doing anything else.

By the time I'd worked my way back, a couple of heats had gone by. Now the two-fifties were running. The Harley Sprints looked about a mile long and two inches high. They went up the hill like shots—but the turns! Have you ever tried to get through a revolving door with a ladder?

The hill was spectacular, there's no other word. Only about sixty yards long, but it gave the impression of being that *high*, too. The muddy section at the bottom was dry now, but almost everyone walked his bike around that tight ninety-degree turn. Then they'd fish for low, wind it on, grit their teeth and go blasting up. About a third of the way along they'd wheelie over a rock shelf that showed through the dirt, grit a few more teeth and shift to second. Everyone hit the top with all kinds of daylight

under the wheels.

You'd hear them rumble rumble pop pop around the turn at the top and then there they came blasting back down. How the ski-jump was handled won or lost a lot of heats, it turned out. Halfway down the hill was a washboard that you just had to avoid. Land headed for it, and instant bronco.

Fellow behind me shaking his head as the second rider of the day went bouncing through the trees there. "Damn hill breaks up a whole lot of motorcycles." I noticed he had his left thumb splinted.

This one was serious, it turned out. The rider was lying at the edge of the track, unmoving. Things got deathly quiet for ten seconds or so, until he got up, waved, and went limping off toward the ambulance between two officials. A couple of others weren't to be so lucky.

In the next hour almost every kind of motorcycle in the world went whistling past. The riders didn't vary that much, though. There were two kinds: short lumpy ones and long stringy ones. In kidney belts they all had a gaunt, hungry look. It was in the faces too. I wondered how often they had to remind themselves they were in there for the fun.

Just before the finals began, I wandered over to one of the little green portable johns. Inside the shed I noticed that I could see the track through a little screened window up near the roof, even while at the firing line. Thoughtful touch.

In the spectator area a crowd had formed around a white truck, which I joined. With the steadiest hand in the East, a sign-painter was pinstripping someone's helmet.

"How about a double scroll in here?" he asked.

The customer tugged his chin a second, then said, "Okay, good. But keep it black."

He was doing a great job, getting fair prices too. There was a line of guys waiting. One had a Sportster tank slung over his shoulder that looked like an all day job. I wondered if the painter had to work during the week at all.

The loudspeaker began again with "Tiptoe Through the Tulips," and I wondered what *that* could mean. Oh yes, the escape chutes. The finals would start soon, the PA blared. Back to the hill I went. The noise picked up again.

Now that I knew a few of the riders, the finals were more fun to watch. A lot of grouping by manufacturers were in the finals. There was definitely a reason why so many people rode Pursangs. Speed. But a couple of CZs were hanging right in there. The Greeves were moving too, croaking through the turns with that bullfrog note of theirs.

An old Ajay tottered past, beautiful but terribly slow.

Rough luck for somebody. Running second or third on a Sprint, a young rider popped his chain halfway up the hill and halfway through a wheelie. For a minute he hung on the edge of a back flip, and only avoided it because the machine started to roll backwards, fast. It ended in a bad tangle. Bike in the middle of the hill, its tank and handlebars at the top, its rider at the bottom with a bleeding hand.

He got up fast, though dazed, holding his arm, an amazed sort of shock on his face. Pain and surprise, mostly surprise.

As the sun sank the cc's rose, and soon we were watching the bigger

stuff. Victors going pork pork pork up the hill and ftufftufftuf coming down, always moving about twice as fast as they sounded.

A nice looking lady of forty-odd, touched with gray, was shouting at a fallen rider to get his machine off the track because her son was coming round the corner, about to lap him. Son came through, dodged past, stormed up the hill on a Honda with Cerianis.

Some big strong kid *pushed* his half-siezed bike up the hill for three straight laps, wised up, and took a short cut around the thing twice. On the sixth lap he picked up the machine and threw it into the trees because it wouldn't even run on the level anymore. Oh, there was color all right.

Another accident on the downside. Black flags all over and the ambulance again. Someone pointed out that the machine involved was running stock suspension and shouldn't have been. I guessed he was right. You could have treated the whole course as a road race except for that one section, but that one section was there.

I lay down on the grass again, waiting for the restart. Almost fell asleep until some cat started his chopper about six inches from my ear. I sat up fast. Good thing. He was rolling backwards and might have mashed my head. He apologized profusely. New bike, he said, and he wasn't handy with it yet. How new? Well, see that guy up near the hot-dog stand? Just sold it to me. I wished him luck.

The loudspeaker came on again, but no voices, no music. A mistake I guess. Yet in the background was the rumble of the big stuff getting ready for the final final of them all, and it was an awesome sound. Sure enough, a voice came on and announced exactly that.

I stood back up and went to the fence, but a lot of people didn't. All those enthusiastic girls I'd seen earlier were flaked out under the trees. Well, yes, why not? We'd all been there for six hours or better. People were talking about going home.

"So okay, we'll go across 202, through the lakes. Beautiful."

"Where's Needle? Here Needle." Needle was a fox terrier who stuck his head out of an enormous plastic saddlebag but stayed put.

"Duane says ease up going back, he's got that nurse with him—"

Loudspeaker shouted "Go" over the rumble at the starting line. Thunder growing, and the biggies burst into view. Lots of talent in this race and it showed. The first four riders were close enough to play poker. The Norton I'd seen earlier had an edge on speed







and didn't seem to mind the turns at all. But he wallowed badly over the ripples coming down the hill. As a matter of fact they all did, for the day's racing had really chewed up the track. And as they streamed out of sight on the last lap, I still wouldn't have bets on who won. Suddenly it was all over. The bark

of racing engines died and the rumble of roadsters began. Yawns. Squints into the low red sun. Clink of soda cans tossed into the baskets. I made a final trip to the stand, and was given my seventh hot dog free. A leftover.

We rolled down past the farmhouse in a cloud of our own noise, out,

and away. Thirty riders took the same first right I did, and there were ten left when I got on the parkway.

Two exits later I was alone. The old twin purred on with the comforting contralto of Peggy Lee. But I was thinking of being unfaithful. While I could probably afford the CZ, there was the problem of a trailer . . . ©



## The streets of Laredo.

Laredo is the new high-stepping scrambler from Suzuki.

Harnessed into this 305cc pathfinder is a team of wild horses. 37 strong. More horses than any bike in its class. They'll gallop all day at a breezy 7500 rpm.

Laredo has a 6-speed Constant-Mesh gearbox to shift you in and out of all kinds of action. Cam-type brakes stop you in your tracks. Twin swept-back mufflers keep you from brushing with the underbrush.

Oil-gas mixing? Forget it. Laredo



has Posi-Force Lubrication. And for more efficient carburetion there's the Vol-U-Matic Induction system.

Like all Suzuki thoroughbreds, Laredo is powered by the honest engine—the famed Suzuki Dual-Stroke. It's backed up by the exclusive Suzuki 12 month/12,000 mile Warranty. Your dealer has all the spec's.

If you've got some trails you can't wait to blaze, saddle up the Laredo. It's rarin' to go.



For more facts, write:  
U.S. Suzuki Motor Corporation  
13767 Freeway Drive, Dept. C 68-8  
Santa Fe Springs, Calif. 90670

Or, in Canada, Radco Sales Ltd., B.C.

**Suzuki makes it.**  
**The TC-305 Laredo.**



# WARD RIVERSIDE 360

This mail-order, bar-sinister son of Rickman's Metisse is more trail-travelling plunker than scrambler; but who ever said there was anything wrong with that?

Montgomery Ward, the mercantile giant of rural America, is nothing if not adaptable. Now that the isolated farming community is fairly completely a thing of the past, Ward's business has been substantially transferred to suburban shopping centers and business is better than ever. You see them everywhere, surrounded by car-parks and filled with customers.

But that does not mean the traditional mail-order business is being neglected. We don't think the "Monkey-Ward" catalogue still lists false-teeth and eyeglasses, but the lonesome-polecat farmer or rancher can still order anything from a post-hole auger to a pre-fabricated cow shed and have it delivered, sight unseen, to his doorstep (or thereabouts.) And the farmer's son (who may be another George Roeder in the making) can order himself a genuine Ward motorcycle.

We have a couple or three farmers' sons on the staff, so it was nostalgia as well as simple curiosity that moved us to order one of Ward's Wonders for our very own. We sent off for it, and in due course an REA truck came to our shop and delivered a large crate containing one (1) semi-assembled Ward 360 motorcycle. Ward's advertising calls it the "Mojave" (pronounced, mo-hah-vee, you folks who are not familiar with California's southern desert) but the name-plate says "Riverside." No matter, it all seems to be the same thing—the only differences being between the street-model and the "scrambler" (the latter having a high-pipe exhaust system).

So you rip the lid off the crate, unbolt the packing braces, knock out one end of the crate, and drag your Riverside (or whatever) motorcycle into the open. Also extract from the crate the boxes containing the front wheel, rear shocks, handlebars, muffler, front fender and steering damper—and the tool kit. The tools provided are to be used in assembling the bike, and for keeping it in fine fettle after it has been assembled and is running. They are nice tools, incidentally; far better than are usually provided with a motorcycle.

Bolting everything together is a half-hour job for anyone moderately handy with wrenches. You don't have to know anything about motorcycles; an instruc-

tion book provided in the package gives a step-by-step plan for assembly, complete with photos, drawings and what-have-you. And these detailed instructions for assembly are followed by equally detailed instructions for riding the thing. The latter presupposes (or so it seems) that the purchaser knows how to ride a bicycle—but nothing else.

Assembled, and ready to run, Ward's Riverside 360 is quite a nice looking bike. Its design and styling are very much in the Rickman-Metisse mold, and while this does not make the bike very original, it does give it a built-in appeal. Of course, this Italian-built copy lacks the super-clean finish of the Metisse (as in the use of silver paint where the Metisse is nickle plated) but then it is not nearly as expensive.

Being constructed along "Rickman" lines, the Riverside has most of the elements for good handling, and in fact it does handle rather well. Its balance is good, and the steering is right, and the frame is rigid enough to keep the wheels aimed properly. The forks provide plenty of travel, and look like those famous Ceriani telescopics that have become a *sine qua non* for high-performance scramblers, although they are actually "Super Idraulica" forks made by Marzocchi. We think they are good forks, but the springs fitted in them for use on the Riverside are too stiff to let them work. This error is compounded at the rear wheel, where the shocks have too-soft springs. A change in springs, front and rear, should correct this little problem. And when you change the springs, you should also buy a set of Ceriani external dust seals for the fork sliders. The seals on Marzocchi's Super Idraulicas do not fit tightly enough to seal against anything much smaller than mice and pea-gravel.

Good location of seat, handlebars and footpegs does a lot to make riding pleasant, and the Riverside scores well in this regard. The bars are too narrow for serious dirt-banging, but just right for general motorcycling tomfoolery. If you want to carry a passenger, you can, because the seat has the size and shape required for comfortable two-up riding, and there are separate pegs for the passenger. The extra pegs fold neatly out of the way when not needed, and as

these pegs are carried at the ends of bolt-on extensions, you can remove all traces of two-up equipment should you want to do some serious off-road riding.

The rider's pegs also fold, at an AMA-legal 45-degrees, but we didn't like them much. The "peg" is actually a short length of steel tubing, slightly flattened, and just sawed-off at the end without anything to keep the rubber peg-cover from slipping off—which it does almost immediately. But you can fix this by flaring the end of the tube, after which it is hard to shove the rubber cover into place but at least once in place it stays in place.

Nor did we care for the gear-shift arrangement, which has a typically-Italian rocker treadle (so you shouldn't scuff the toe of your shoe) mounted too high above the footpeg. This requires anyone with normal feet to lift

a foot right up from the peg every time they want to make a shift. But it is not to worry: you can bend a droop into the lever that brings it right down within easy toe-reach, and the problem is solved.

While you have your hammer handy (the one used to "adjust" the shift lever) you should deepen the clearance dent in the splash-shield in front of the rear tire. The dent isn't deep enough, as standard, and the tire rubs there at times. Wrap a 4.00-18 knobby around the rear rim and you will likely have full-time rubbing.

Apart from that splash-shield, the bike's various bits of sheet metal are all well-made and well thought-out. The tank (like everything else, a steel pressing) is low and tidy, with stylish knee-notches. It is held on the frame by a single bolt and a spring-clip, and it is a

moment's work to snatch the tank from the frame. A few more moments are needed to remove the 6 bolts holding the seat/rear-fender, and another 6 holding the triangular side panels. This done, you will have easy access to anything on the bike.

Those black oval number-plates are more than just a styling ploy. The black oval on the bike's left side is also a door for the tool-roll compartment—which can be removed by unwinding a single knob. It's a good touch.

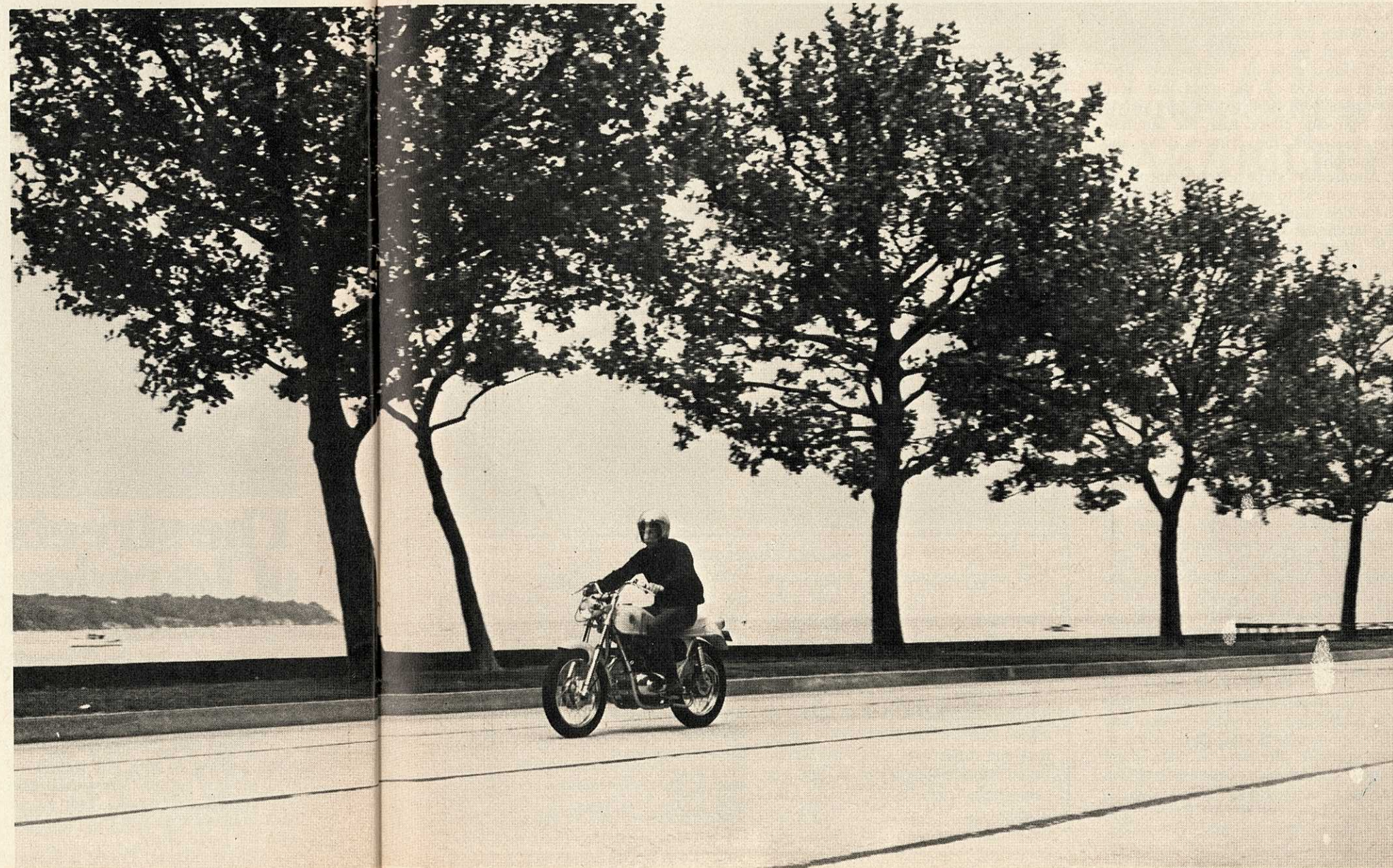
But you will need a lot of help when it is time to start the engine, because you may well have to push the bike before things begin to happen. It isn't impossible to kick-start Ward's Riverside 360—but it's impressively difficult.

Why? We're not entirely sure, but it probably has to do with the fact that the engine, like Topsey, "just growed."

This unit is familiar to the Italians as a 175cc Benelli of placid temperament and moderately ancient lineage. But for its duties in the Ward Riverside, more was needed, and as there is a lot of noise these days about "360s", it was stroked up to 356.3cc.

That's a lot of stroke, and it's a lot more than the kick-start arrangement was designed to handle. So, even though the compression-ratio is a mild 9:1, it is difficult to whip the engine over fast enough to nudge it into life. A compression-release would help a lot, but none is fitted. Again, you could quite easily install one yourself. Just a little finger to hold the exhaust valve a few thou' away from its seat would do the trick: bits from the BSA Victor should adapt fairly readily.

One difficulty you will not have is with the engine biting back as you try



PHOTOGRAPHY BY GARY RENAUD



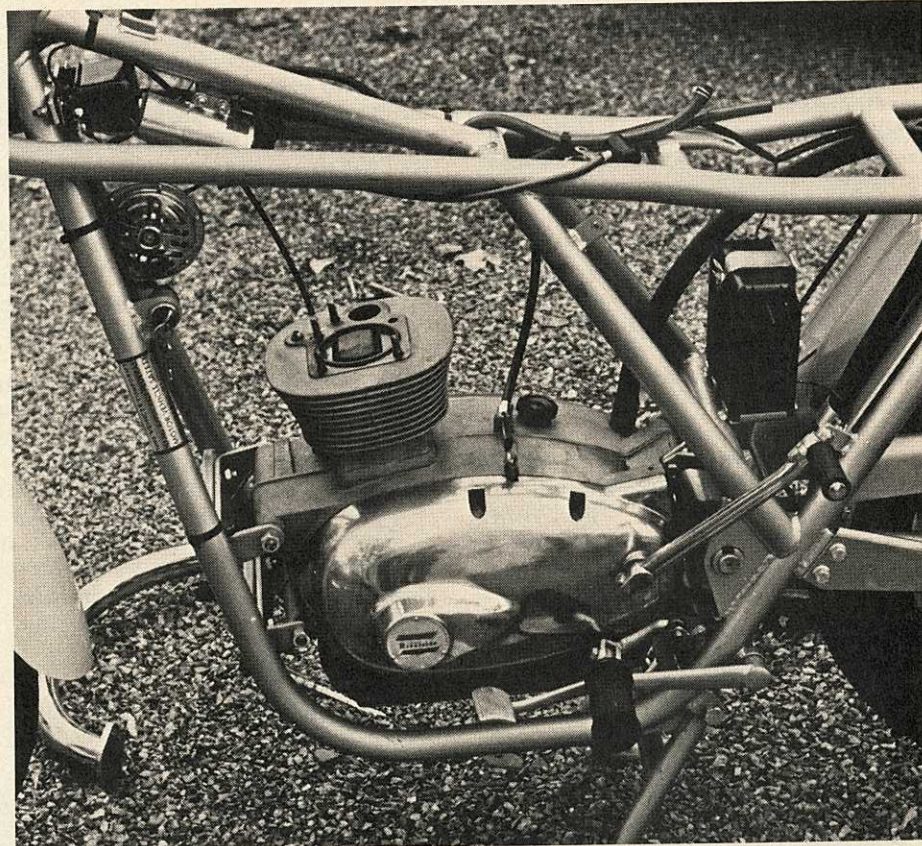
to prod it into life. There is a centrifugal advance for the ignition contact-breaker cam, and full-retard (as it is at cranking speed) gives you firing only 4-degrees before top center. And with a battery to feed the ignition coil, you get maximum spark strength at cranking speed—which should make the engine especially easy to start but doesn't.

The engine is very clean, externally, and has a very simple layout internally. It has the usual built-up crank, with a one-piece rod and roller or ball bearings everywhere. The cylinder and head are aluminum castings, with an iron liner in the former and massive iron perch inside the latter to carry the rocker shafts. It is all very straightforward, and you can strip everything right down to the cylinder base in a few minutes using only those tools provided with the bike.

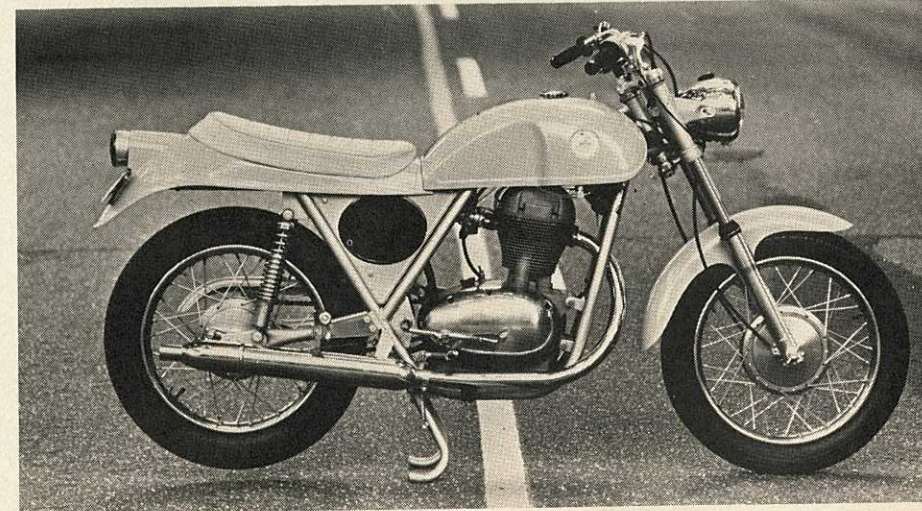
Opening the crankcases is a more involved project. Engine and gearbox use the same oil and live in the same housing. When you separate the case halves, there will be a rain of transmission parts down onto the workbench. Fortunately, most of the parts that need attention from time to time are out in the right-side cover. Like the camshaft and followers, the primary drive and the clutch.

Apparently, some extreme measures were required to make the clutch handle the added displacement—and the measure taken was *stiff* clutch springs. *Very* stiff clutch springs. Clutch springs that transmit a wagon-spring stiffness up to the lever on the handlebar. You can get the lever back, and the clutch plates free, but the degree of effort required is considerable, and borders on being excessive. A change in the number of clutch plates (more) and softer springs is indicated, or the problem could be solved in a more direct manner by changing the leverage in the clutch-release system.

Given all the modifications we have suggested, the Ward Riverside 360 is quite a nice motorcycle. It isn't the best thing around for touring, and it surely isn't any fireball in terms of straight-line performance, but it is a major attraction in the "World's Biggest Trail-Bike" category. The long-stroke, mildly-tuned engine thud-thud-thuds comfortably along without creating a big halo of vibration and noise, and it will thud-thud-thud the bike through places where a duffer rider would bury some snappish high-flyer. It reminds us a lot of that wonderful old AJ'S 350 single, and it seems to us to be worth the dab of crecent-wrench and claw-hammer work that needs doing to correct those problems we have mentioned. The bike isn't ever going to win any races, unless ridden by J.N. Roberts against a bunch of Hubert Hamstrungs, but it offers great promise as an all-around, no-fuss-and-no-noise plunker. ©

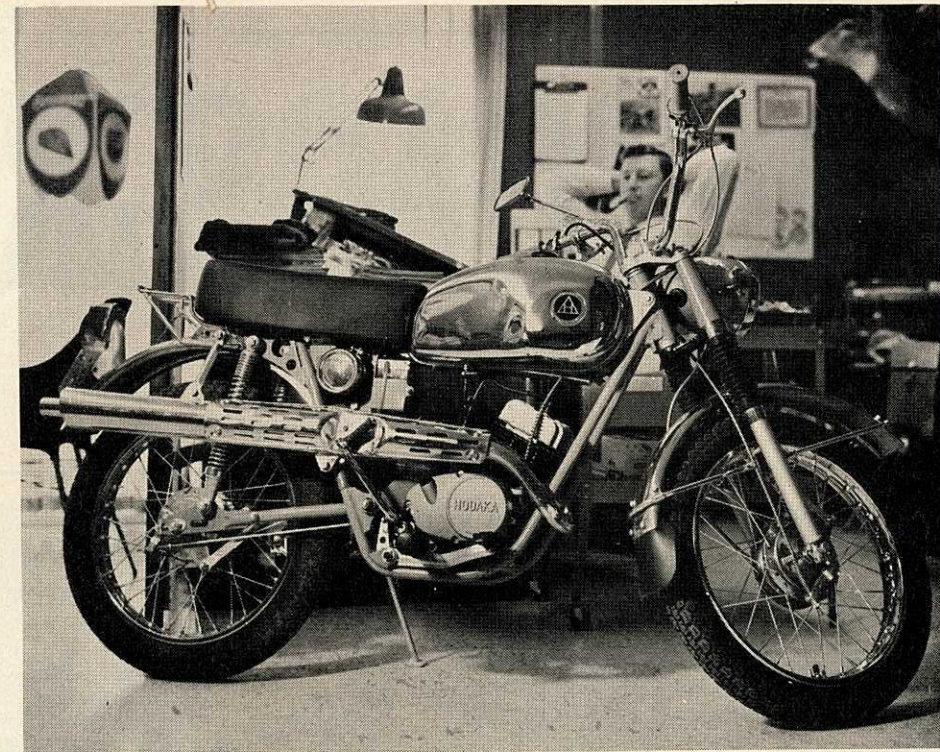


Frame, very much in the Metisse mold, makes up in stability what it lacks in originality.



**RIVERSIDE 360cc TOURING**

Price, suggested retail . . . . .	Either Coast, POE \$849	Ignition . . . . .	Battery and coil
Tire, front . . . . .	3.50 in. x 18 in.	Bhp @ rpm . . . . .	21 @ 6500
rear . . . . .	4.00 in. x 18 in.	Mph/1000 rpm, top gear . . . . .	n/a
Brakes, front . . . . .	7.09 in. x 1.34 in.	Fuel capacity . . . . .	2.3 gal.
rear . . . . .	6.30 in. x 1.34 in.	Oil capacity . . . . .	4 pt.
Brake swept area . . . . .	56 sq. in.	Lighting . . . . .	6 v, 60 watts
Specific brake loading . . . . .	5.72 lb/sq. in.	Battery . . . . .	6 v, 8 ah
Engine type . . . . .	OHV Single	Wheelbase . . . . .	54 in.
Bore and stroke . . . . .	71 mm x 90 mm	Seat height . . . . .	32 in.
Piston displacement . . . . .	21 cu. in., 356.3 cc	Ground clearance . . . . .	10 in.
Compression ratio . . . . .	9:1	Curb weight . . . . .	320 lb.
Carburetion . . . . .	(1) 24 mm	Test weight . . . . .	490 lb.
Air filtration . . . . .	Wire mesh	Instruments . . . . .	Speedometer, odometer
		Top speed . . . . .	82 mph



**John Freeborn is an artist. You wouldn't expect him to know so much about HODAKABILITY.**

The people who design and build the HODAKA don't think it's at all surprising. Over four years ago, John climbed nervously astride a HODAKA for his first motorcycle ride. Once he'd gotten the hang of it, it was even more difficult to get him to climb off. Today, like tens of thousands of other HODAKA owners, John feels cycling is the greatest way in the world to unwind after a tough day at work.

An expert outdoorsman and hunter, John finds his HODAKA

the perfect off-the-road vehicle for exploring and trailing. With a minimum of maintenance and upkeep, his HODAKA does everything a bike can do. In fact, in the four years John has been riding he hasn't suffered a single mechanical failure.

(After a while, most HODAKA owners take such reliability for granted.)

Occasionally, John will attend a cycling event as a spectator, though he hasn't as yet entered such events

as a rider. Of course, he cheers on those contestants who are HODAKA-mounted, and he's not often disappointed. HODAKA was *national trailbike champion* the last two years running, and this year also won the 100cc Daytona Sportsman's roadrace classic.

Like most people, John Freeborn has only got time to ride *one* motorcycle . . . so he chose HODAKA, the one motorcycle that does more of the things motorcycles are supposed to do *better* than any other single motorcycle.

**Some facts about HODAKA.**

The HODAKA is unique in the motorcycle industry because it comes in only one size (100cc) and one color (red). Emphasis is on carefully considered design modifications as the need demands rather than radical yearly changes. To date, over 107 changes have been designed into the HODAKA, yet the overall appearance is almost the same.

Furthermore, almost every design change that has been made will fit the first HODAKA built. This makes it possible for owners of older models to update their machines. Because of such design stability, more accessories have been designed for the HODAKA than any other single motorcycle.

The performance and reliability of

the HODAKA is legendary. In the 1968 Ponderosa Hare scrambles held at Lancaster, California, out of seventy-four finishers in the 100cc class, *fifty-four* were on HODAKAS. The first *ten* places were taken on HODAKAS. Considering the number of makes a rider has to choose from, we think this is mute testimony to the fact that an overwhelming number of serious competitors consider HODAKA to be their best bet. The results show this to be a wise choice.

A five-speed transmission is standard on the HODAKA. So is the rear view mirror, owner's handbook, parts list, service instructions, a copy of Intelligent Motorcycling, tire pump, tool kit, extra carburetor main jets, 50-tooth

overlay sprocket and attachment hardware, and extra chain length and master links. Yet, because design stability keeps retooling costs down, the HODAKA '100' five-speed normally retails around \$435.

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An outline of motorcycle evolution determined by the battle for supremacy on Europe's classic circuits.

BY BRIAN CARRICK

The history of European road racing is a fascinating chapter in the story of the motorcycle. Many of the truly significant motorcycle engineering advances sprang from the heat of fierce international competition and were individually created by a legion of companies located all over the world.

The plot of motorcycle racing began unfolding way back in the very first years of this century when the first motorcycles were produced. These motorbikes were built in Europe in the late 1880s, and by 1903 several British companies were producing a bicycle in which a crude side-valve or inlet-over-exhaust-valve power-plant was mounted. Producing one to two horsepower, these singles featured a belt drive with no method of disengagement, and reliability was something less than perfect.

On the continent the French and Belgian designers were also busy, producing some larger motorcycles with engines from two to five horsepower. The roads in those countries were more open than the narrow, winding English lanes, and a faster machine could use its speed to better advantage. In such a situation it is not surprising that the British were soundly trounced in the first road races that were held.

After a series of defeats by French and Belgian riders, the British aces decided to hold a race in the Isle of Man just off the west coast of England. A 15-mile dirt and cobblestone course was selected, and two classes were instituted—one for singles and one for twins. Charlie Collier won the single-cylinder

class at 38.23 mph on his Matchless, and Rem Fowler won the twin-cylinder class on his Norton at 36.22 mph. Thus was born the glorious tradition of the famous "TT"—a legend that continues to this day.

In America, meanwhile, inventors had also been busy, and in 1901 the famous name of Indian made its debut. The Indian was a great pioneer in those early days. Such innovations as the V-twin side-valve engine (1905), two-speed countershaft gearbox (1911), chain drive (1901), and clincher tires proved Indian a great leader in motorcycle design.

In 1911 the Indian Company even went so far as to enter a team of riders in the famous Isle of Man TT—a brash move to display their superiority over the European machines. The TT course had been changed that year to the now famous 37½ mile course that took in several climbs and descents of mountains up to 1340 feet high. The two-speed Indians proved to be vastly superior to the single-speed belt-driven British makes, and the American cycles took the first three places. This is the only time that an American bike has even won the TT, and the Europeans were quick to copy the chain drive and two-speed gearbox setup.

After that embarrassing episode the Europeans began to race in earnest, while motorcycling began its slow decline in America that endured until after World War II. Prior to the outbreak of World War I in 1914, the British had pretty well gone over to the

# GRAND PRIX ROADRACING

Part One: 1907-1939





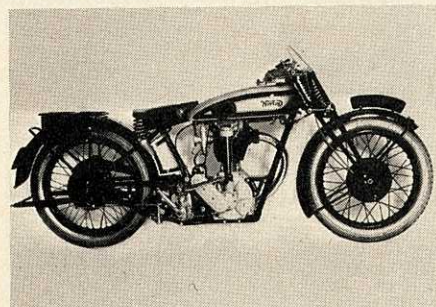
chain drive and two-speed gearbox, and both the two-stroke and side-valve engine designs were popular. Braking power was by caliper brakes on the wheel rims, and the only suspension was by a coil spring in the girder front fork. These were still rather primitive motorcycles, but reliability was slowly improving.

World War I halted all racing in Europe, but the war did provide a great benefit to motorcycle design in the area of increased engineering and metallurgical knowledge. This was quickly adapted for motorcycle use after the war, and a great leap forward was made in motorbike design.

Probably the most significant model then was the 1920 AJS—a 350cc single that featured an overhead valve engine with a hemispherical combustion chamber. The valves were set at 90° to each other in the new design, with the benefits of improved engine breathing and the space to use larger valves. The AJS also had internal expanding brakes—a feature that provided much greater stopping power.

The Norton concern was also a leader in the British industry then, and their three-speed gearbox was a notable improvement on their 1920 model. The Norton still used a side-valve engine with a compression ratio of only 6 to 1, and the top speed of 70-75 mph was reached at 4300 rpm.

During the early 1920s the Federation Internationale Motorcycliste devised a formula that was to have far reaching effects on motorcycle sport.



Big winner in the early '30s was this 500cc ohc Norton single capable of about 90 mph.



In 1934 New Imperial introduced this V-twin that turned 7500 rpm, ran 100 mph.

The new formula limited engines to 500cc for the Senior Class, 350cc for the Junior Class, and 250cc for the Lightweight Class. A series of races were established in which points were earned towards the "European Championship," and these events were given the title of "Grand Prix." The major events then were the Isle of Man TT; and the Belgian, French, and Ulster (Irish) Grand Prix. Thus was born the formal Grand Prix series that continues to this day.

In 1921 Howard Davies won both the Junior and Senior TTs on his 350cc AJS, and his record speed of 54.49 mph made it clear that the ohv engine was a vastly superior powerplant. In 1923 Norton fell in line with their 500cc ohv model, and it featured a bore and stroke of 79 x 100mm. The great Canadian rider Alec Bennett won the 1924 Senior TT at 61.64 mph on one of these Nortons, and after that the side-valve engine was laid to rest in Europe—even though it was to endure much longer in America.

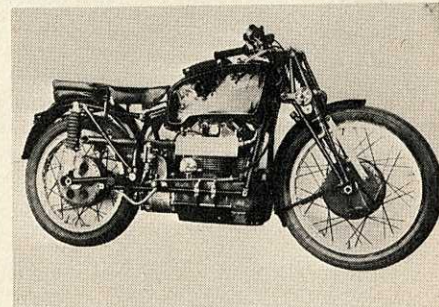
The next great milestone was Bennett's 1926 victory at the Island—this one the Junior at 66.7 mph on his Velocette. The notable item about the Velo was its bevel gear and vertical shaft drive to the overhead camshaft, and within a few years all of Europe became overhead cam conscious. The 350cc single featured a three-speed gearbox, and it developed 20 hp at 5500 rpm on a 7.5 to 1 compression ratio.

During the late 1920s the British assumed complete mastery of the Euro-

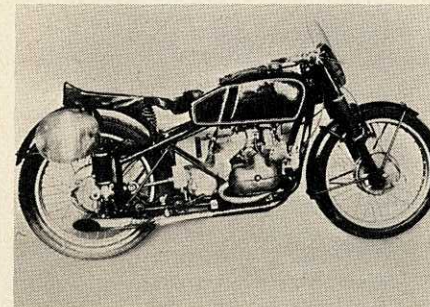
pean racing scene; their engineering was far superior to anyone else's in the world. In 1927 the AJS singles became overhead-cammers, and Norton brought out their OHC 500cc single. Another significant innovation was the positive-stop foot gearshift—much faster than the clumsy handshift. Within a few years the whole European industry had copied it.

During the late 1920s, the AJS and Velocette took nearly all the 350cc class laurels, while the Norton, Sunbeam, and Rudge singles carved up the 500cc Class. The lightweight Class was a battle between the OK-Supreme, Rudge, and Excelsior—all British ohv singles that are no longer produced today. A significant win was the 1930 Senior TT by the four-valve Rudge—the last time that a "pushrod" engine was to win the Senior TT. Another important item was the introduction in 1929 of the Velocette KTT model—the first production racer in England and a practice that was soon followed by other European companies.

In 1931 the 500cc Norton began its dominance of European racing that was destined to last until the late 1930s. The company also built some works 350cc racers that year to contest the Junior Class, and Tim Hunt and Stanley Woods simply annihilated their opposition with these two models. The Norton featured a four-speed gearbox (as did nearly all racing bikes in the early 1930s) and a long straight exhaust pipe that provided terrific acceleration out of corners. A rigid cradle frame



Built to win the 1940 championship, works Velocette had shaft drive and supercharging.



The supercharged BMW of 1938 delivered 78 bhp, ran 145 mph. Note telescopic.

was used in conjunction with a girder front fork, and both the handling and reliability were notably improved.

During the early 1930s the sport became much better organized in Europe, and there was a dramatic increase in the number of races held. The major events then were the Isle of Man TT; and the Belgian, Ulster, Swiss, French, German, Italian, Swedish, Spanish, and Dutch Grands Prix. Road racing had truly developed into a leading sport, and many manufacturers sponsored works teams in the classical events.

Beginning in 1934 the European racing scene entered an era of intense competition and development activity, which was destined to be possibly the finest hour the sport has ever known. At the beginning of this period the famous Norton was considered to be invincible, but many new and exotic machines were soon to come forth and challenge the legendary single. The 1934 Norton was little different than the 1933 model, but the addition of a megaphone exhaust had boosted peak power and provided a 110 mph top speed. The use of hairpin valvesprings, an alloy head and cylinder, and two sparkplugs also made the single more reliable.

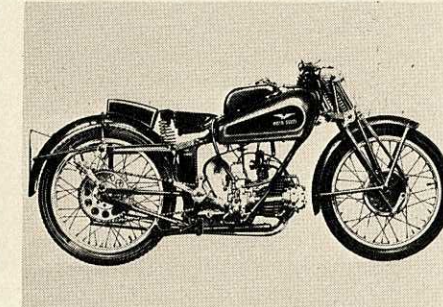
The year also witnessed two new challengers—one from England and the other from Sweden. The British bike was the 500cc Velocette with a bore and stroke of 81 x 96mm, and the ohc single featured a set of massive conical hubs that contained huge brakes with air scoops for cooling. The Swedish

bike was the ohv Husqvarna V-twin—a colorful model that produced 44 hp at 6800 revs. The Velo won the 1934 Ulster GP at record speed and the Husqvarna took the Swedish event, so the Norton had some worthy opponents.

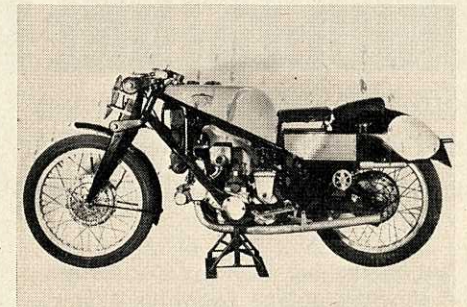
New designs continued to pour forth in 1935, such as the AJS 7R 350cc single that featured a chain-driven overhead cam. Then there was the New Imperial 500cc V-twin and the Royal Enfield 500cc Single—both pushrod engines with a fair turn of speed. The Germans brought out two supercharged models, with the DKW two-stroke being the most unusual. The DKW 250 featured a vertical twin-single design with a common combustion chamber, and a third horizontal piston was used as a supercharger. The other German racer was the 500cc BMW, which was the traditional ohv opposed twin with a blower.

The really big news in 1935 was an Italian Moto-Guzzi. Ex-Norton rider Stanley Woods rode Guzzis in both the Senior and Lightweight TTs, and he won both—the Senior at the record speed of 84.68 mph. Most remarkable about this Senior win was that the Guzzi was a V-twin with a spring frame. The ohc engine pumped out 44 hp at 7500 rpm for a top speed of 112 mph, and the spring frame was an unusual pivoted-fork affair that improved road holding and rider comfort.

The other big races saw the Norton on top in all of the Senior events, but the speedy Velocette was beginning to challenge in the Junior Class. The new



One of the first production roadracers, this 1939 Moto Guzzi 250 was a fast ohc single.



Fabulous dohc Gilera-Rondine of 1939 had four pots, delivered 90 bhp at 10,000 rpm.

250cc DKW proved to be both fast and reliable, but when it did finish it trounced the field badly.

A feature of the 1936 season was the switch to spring frames. Velocette pioneered the now common swinging-arm frame on their works racers, which were ridden by Stanley Woods and Ted Mellors. Norton came out with a plunger suspension that was also popular on many other bikes, and a few tried to combine these two designs into a swinging-arm that used plunger boxes to contain the coil spring units. The Velocette suspension units were Dowty air-oil shocks as designed for airplanes, with the units being pumped up for compression and with the oil acting as a damper on rebound. The swinging-arm and oil-dampened principles of the Velocette proved to be the best, and today they are used by nearly 100% of the world's manufacturers.

There was also a notable attempt to raise more horsepower, and the 350cc Velos featured a double overhead cam head. The now defunct but still famous Vincent factory tried its hand at racing a supercharged 500cc ohv single, but a lack of reliability prevented the company from achieving much with it. The DKW was also improved by replacing its reed valve with a rotary valve, which may come as a shock to many who think that rotary valve two-strokes are something new.

Probably the two most fiercest performers were the ohc BMW twin and the AJS V-4. The BMW produced

*Continued on page 84*



# BRIDGESTONE 100 TRAIL

Borrowing much from the factory's production dirt racers, this dual purpose rotary-valver has been tamed and polished for the street.

Out in the big world of plain folks the State of New Jersey has a reputation for being the industrial sink-hole of the world. If you're going anywhere on the Eastern seaboard, you invariably travel the length of the New Jersey's Turnpike, a grim and ugly byway that ominously foretells the future of the automobile. To the left and right (whichever way you're going) lie giant refineries befouling the air with ton after ton of black-and-yellow soot—and there are steel yards and shipyards and freight terminals and manufacturing plants and oil-drum-reconditioning plants and auto junkyards—all contributing their little bit to beautify America. For the motorcyclist, the turnpike is something to traverse rapidly and, if he's not been asphixiated, to quickly forget. It probably never occurs to the rider in transit that somewhere in the same state, out beyond those refineries, lies one of the richest and most active motorcycling scenes in the country.

Because it turns out that New Jersey is a kind of industrial and population doughnut: people and factories all around the rim and up by New York City and nothing but farms and small towns and swamps and forests and undeveloped land in the middle and the south. Some of the people there in the middle commute to the factories or work the farms, and a huge proportion of them go motorcycling. Mostly the country is flat and the spaces between the backroads are covered with pine trees and crisscrossed with the sandy lanes of Sandy Lane Enduro fame.

All of which brings us to this month's test bike, the Bridgestone 100 trail. You see, all of those riders in central Jersey buy street-trail machines because now and again they must cross a paved highway or maybe drive through a town, but the bikes are all fitted up with real knobby knobbies, even the 370-pound so-called street-scramblers. At the drop of a kickstart pedal these Jersey riders crash off into the pines on some little sandy trail that may wind around for miles until it finally emerges across the highway from the beginning of another little sandy trail. We talked to one guy who rides ten miles to work every morning with only a half mile of paved public highway at either end. And naturally

all the trail riding means meeting other riders on the trail and eventually racing. Bridgestone already has a 100 racer. What they have made now and what we tested in south Jersey is a single cylinder, rotary-valve trail machine.

Bridgestone's trail bike looks like a lashup of existing hardware that has had a thorough going-over by somebody's industrial stylist. Good job. Clean, bright, well integrated—even kind of pretty. Unfortunately there is also a dime-store aura about the whole package. It looks maybe a little fragile, a little tinny, a little bit too tiny to be a real motorcycle. A closer look at details show many production shortcuts taken to keep down overall cost. The Bridgestone sells for just over \$400, which makes it less expensive than its major competitor, the Hodaka Ace 100. Whether the economies realized by using stampings instead of forgings or machined parts will prove out in the very tough environment trail 100s are exposed to these days remains to be seen.

Our test bike was the first and only Bridgestone Trail 100 in this country. It was a pre-production exhibit bike, brought over by the national distributors, Rockford Motor Company of Rockford, Illinois, to show to dealers and regional distributors around the country. Dealer reception was good, so good that there got to be a bit of a tussle as to whom should go the demonstrator. Our hosts in south Jersey were Minnie S. Lore and Charles Strockbine, owners of a motorcycle shop called Sportsmen's Rest in the town of Bridgeton, and they won the tussle. Charlie Strockbine lives right in the center of booming trail-bike country. He liked the little Bridgestone and he knew his customers would like it. So he maneuvered shrewdly and came away with the prize. After buzzing around the sand trails for a few days, he felt good enough about his new acquisition to yield it up at the request of Rockford Motors for us to test.

We began by zapping around the shop's parking lot. Charlie had already put on the larger trail sprocket. He told us, "Wouldn't run it over 60 yet. Only got 60 miles on the clock." A little mental arithmetic told us that 60mph on the trail sprocket would put that engine



PHOTOGRAPHY BY JOHN SENZER

considerably over its power peak at 7500 rpm. We also found immediately that the Bridgestone's street-type tires weren't the answer for a gravel parking lot and weren't likely to be the answer for the rough. But the little Bridgestone fired right up and we were off for a few trial loops. On the street it was obviously undergeared. It would buzz right along at 50 in fourth cog and the brakes seemed happy to haul it down from that speed. We returned to the parking lot and then found a little path leading out into the fields behind. That's where the fun began and that's when we really began to bemoan the lack of knobbies. A short wheelbase and small tires give the Bridgestone a real advantage where the maneuvering's tight. We wound up and down on the trail until Charlie Strockbine offered to take us to a more challenging course.

To our great surprise we soon found that there actually are some hills in south Jersey. Charlie delivered us to the local cycle playground, a series of densely wooded hills overlooking somebody's private lake. Charlie himself took the first bash through this maze of hills, trails, ravines and poison ivy. We could hear the little Bridgestone churning away somewhere among the trees and then suddenly it would leap into sight. If it weren't for those street tires we could have put the little bike to a much more realistic test, for many of the grades were loose sand or dirt and the rear wheel would lose traction and spin out. The same was true to a lesser degree for the front wheel in tight turns. We were again impressed by the great maneuverability of this bike. It is ideally suited to open woods where threading in and out through the trees ala-observed-trials is a delight. The light weight of the machine was also useful when we happened to lose it on a hill or throw it into a bush.

When we took the little Bridgestone out in the open for photography we got a better look at its technical features. The engine is very compact and clean with alloy castings of very high quality. Both carburetor and generator covers are highly polished and the rest has a fine satin finish. Air induction is by way of a high, centrally mounted air-cleaner, through a down pipe to the carburetor on the side of the crankcase. Intake timing is controlled by the crank-mounted rotary valve. An advantage over most of its competition, the Bridgestone has automatic oil injection at the port. This insures good rotary valve sealing and of course provides lubrication for the lower-end bearings and ultimately the cylinder wall. The crank turns on ball mainbearings, with cage rollers in the connecting rod big end. A plain bushing at the small end takes the wrist



## BRIDGESTONE 100 *Continued*

pin, and the standard piston is of the two-ring variety.

In unit with the piston-cylinder-crank assembly is a four-speed transmission. A geared primary delivers power to the clutch housing and thus through the wet-plate clutch to the transmission input shaft. An unusual and we feel unfortunate aspect of this transmission is its rotary-shift sequence. You can get any gear by pumping the shift lever either way. Properly, it's four down from neutral, then down again to neutral and down again to first. You can also go up from neutral to fourth, third, second, first and neutral again. The great liability in all this is that under the heat of high-speed trailing in fourth gear, you just might forget what gear you'd engaged and jab for a taller one. That means grabbing first at 60 mph, which will promptly either blow the engine or effectively lock the rear wheel, either of which is likely to have unhappy consequences. Now there is a half-stop at neutral and you might get that, but you'd never know for sure whether it was true neutral or a false neutral between any two gear sets. Again you jab to correct and again you get first.

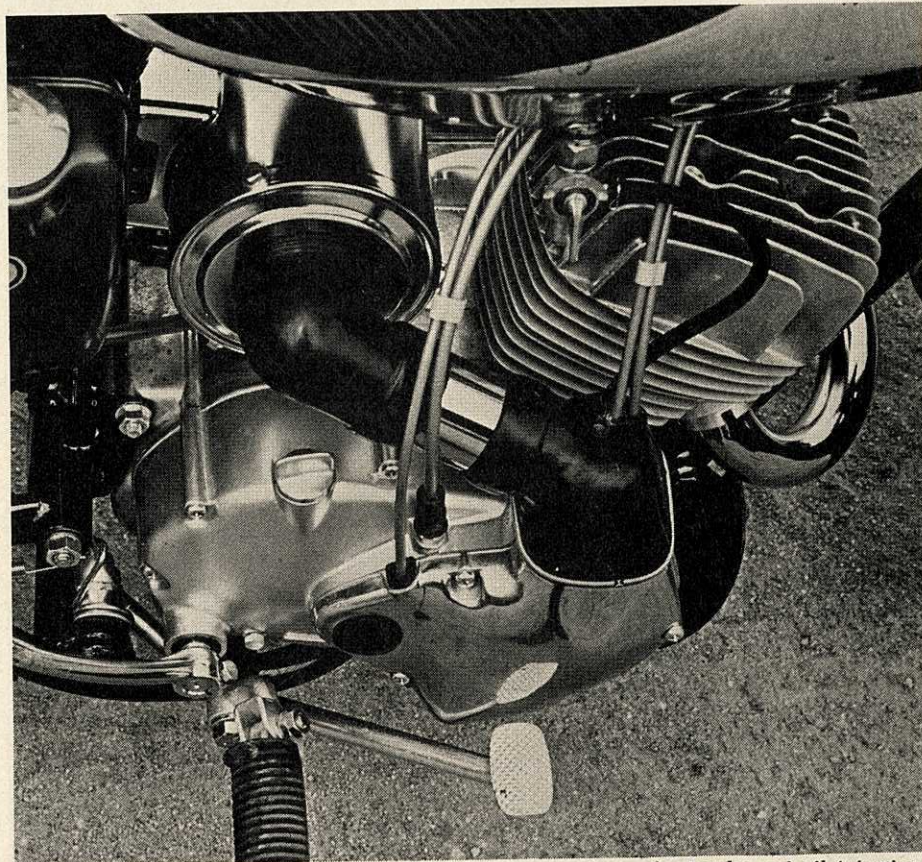
So what's it all about, Alfie? Well, the rotary shift pattern is most at home (if anywhere) on a street bike, especially on a two-stroke street bike. On a street bike you cruise along in top cog until you see a stop approaching. You can work your way down through the gears to first and just tweak the brakes, or you can just roll off in top and declutch sometime before the drive starts snatching, relying all the while on your brakes to do the work of deceleration. On a two-stroke there is very little engine-braking effect anyway and the brake stop requires much less motion at the clutch and shift levers. Then you find yourself sitting at a light in top gear, clutch in, stopped. You half-pump that shift lever down and—there you are—in neutral. Or a full pump and you're ready to take off again in first. That, as far as we know, is the primary usefulness of the rotary shift pattern. A bonus is that you never have to hook under that shift lever and risk scuffing your cordovans. After all, if you just keep pumping down you'll eventually get any gear you want.

The Bridgestone 100 has the benefit of a tubular steel frame, a considerable esthetic improvement over the pressed-steel frames on the earlier 90s and 100s. The frame is, in fact, very similar to the one on Bridgestone's very fast 175cc racer. In Japanese style, the frame begins at the steering head with a single down-tube that forks into two under the engine. Both tubes carry up past the swingarm pivot to the rear suspension mounting

points. For some reason, on the 100 frame, they don't tie-in at the swingarm pivot, a feature that would increase rigidity to side loads at the rear wheel. The swingarm is instead pivoted through the large backbone tube that come down over the engine from the steering head. It is a conventional frame and a good one. Because the Bridgestone didn't have knobbies, we really weren't able to push it hard enough to see if any frame flexing would develop under hard driving in the dirt. And because there was a large trail sprocket on the rear wheel, we weren't able to drive it fast enough on pavement to detect any flexing. Fork travel and general suspension tautness were also better suited to the pavement. The Bridgestone 100

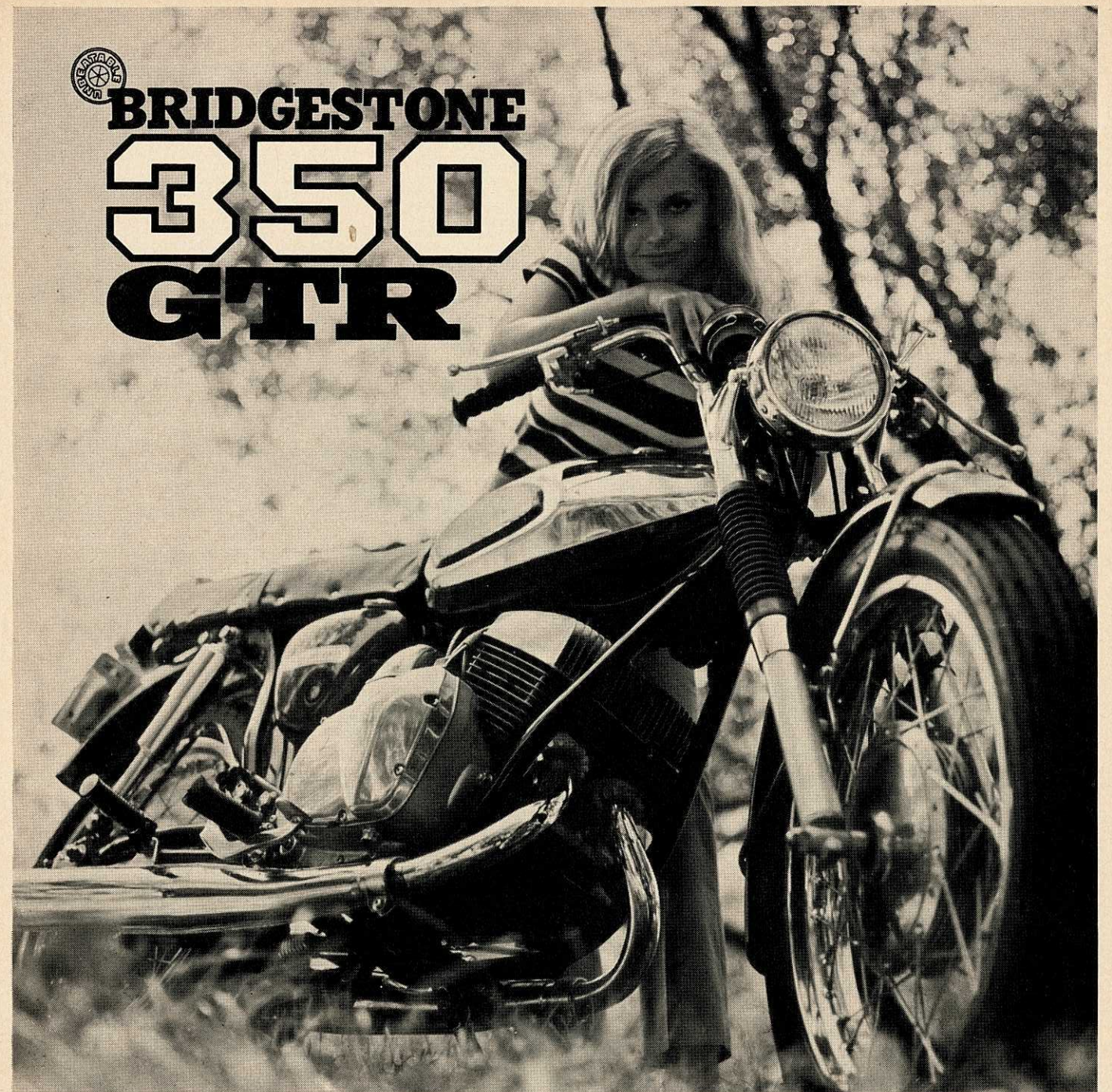
appears to be more a street bike that has been redone for trail riding than a detuned scrambler hung with street accoutrements. In fact, although a solo seat is fitted, passenger peg mounting lugs are left hanging awkwardly out at the rear.

So we had our bash in the south Jersey woods and sand trails and we enjoyed the little Bridgestone a lot. What it lacks in peak horsepower, it makes up for in rotary-valve power spread—flexible enough to get away with four speeds when most of its competitors have five. Comfortable if not fully happy in the dirt, the Bridgestone 100 Trail is a street legal, well mannered and well finished combination—and the price at just \$425 is right. ©



Little 100cc Bridgestone mill generates 11 hp., features rotary valve intake and oil injection.

BRIDGESTONE 100 TRAIL			
Price, suggested retail	\$425	Ignition	Magneto
Tire, front	3.00 in. x 17 in.	Bhp @ rpm	11 @ 7500
rear	3.00 in. x 17 in.	Fuel capacity	2.5 gal.
Brakes, front	4.33 in. x 1 in.	Oil capacity	5.2 pt.
rear	4.33 in. x 1 in.	Lighting	6 v, 20 watts
Engine type	Rotary-valve two-stroke single.	Battery	6 v, 2.5 ah
Bore and stroke	2.09 in. x 1.77 in., 53 mm x 45 mm	Gear ratios, overall	(1) 26.6; 36.9 (street; trail) (2) 16.5; 22.8 (3) 11.8; 15.4 (4) 8.8; 12.3
Piston displacement	6.04 cu. in., 99cc	Wheelbase	46.9 in.
Compression ratio	6.8:1	Seat height	26.4 in.
Carburetion	18mm, Mikuni	Ground clearance	7.5 in.
		Curb weight	185 lb.
		Top speed	63 mph



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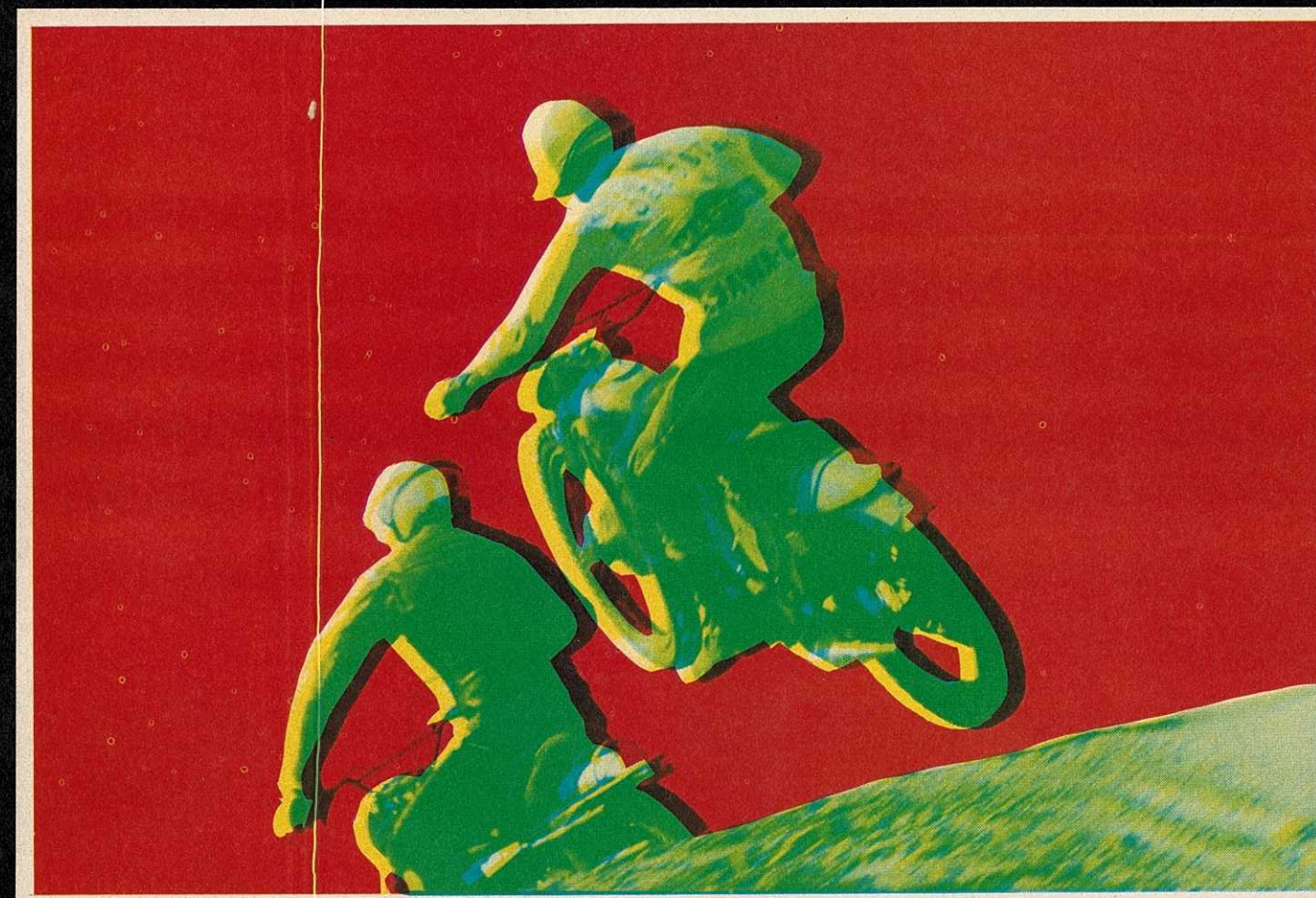
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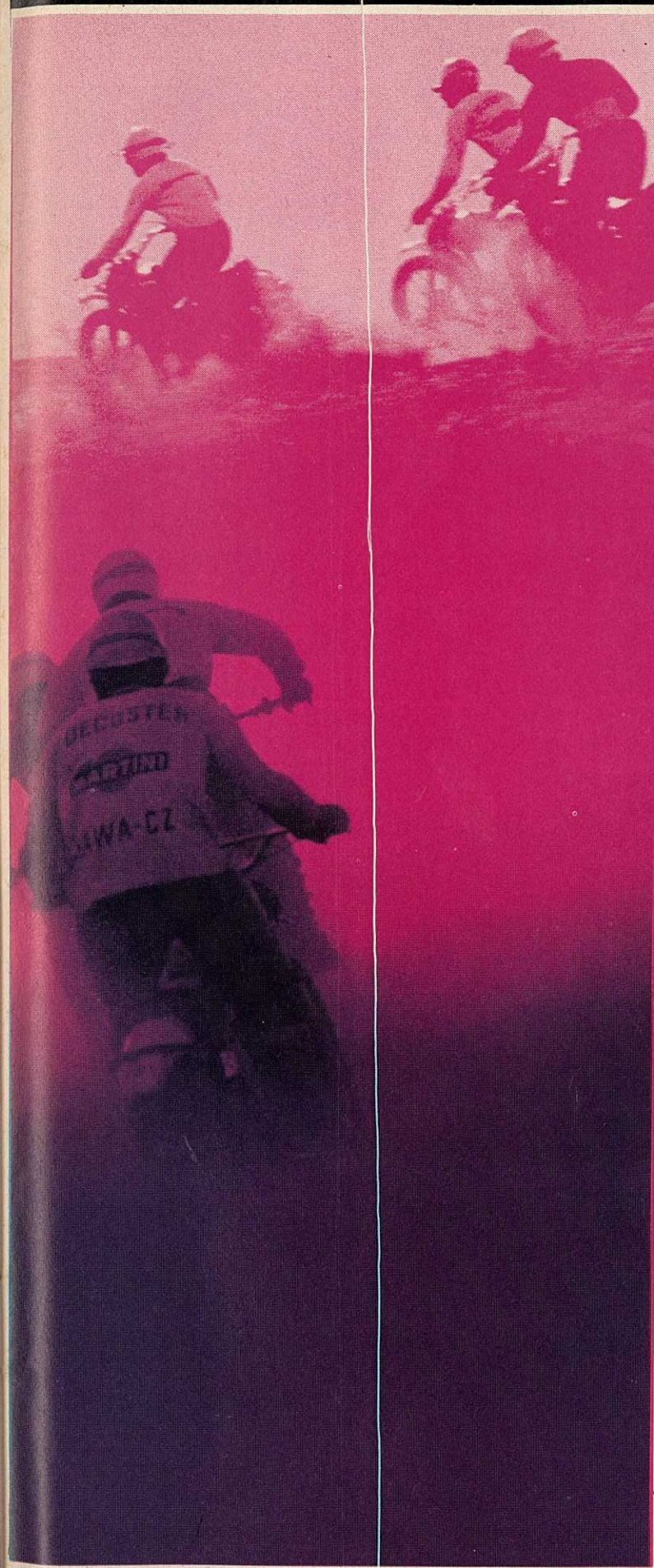
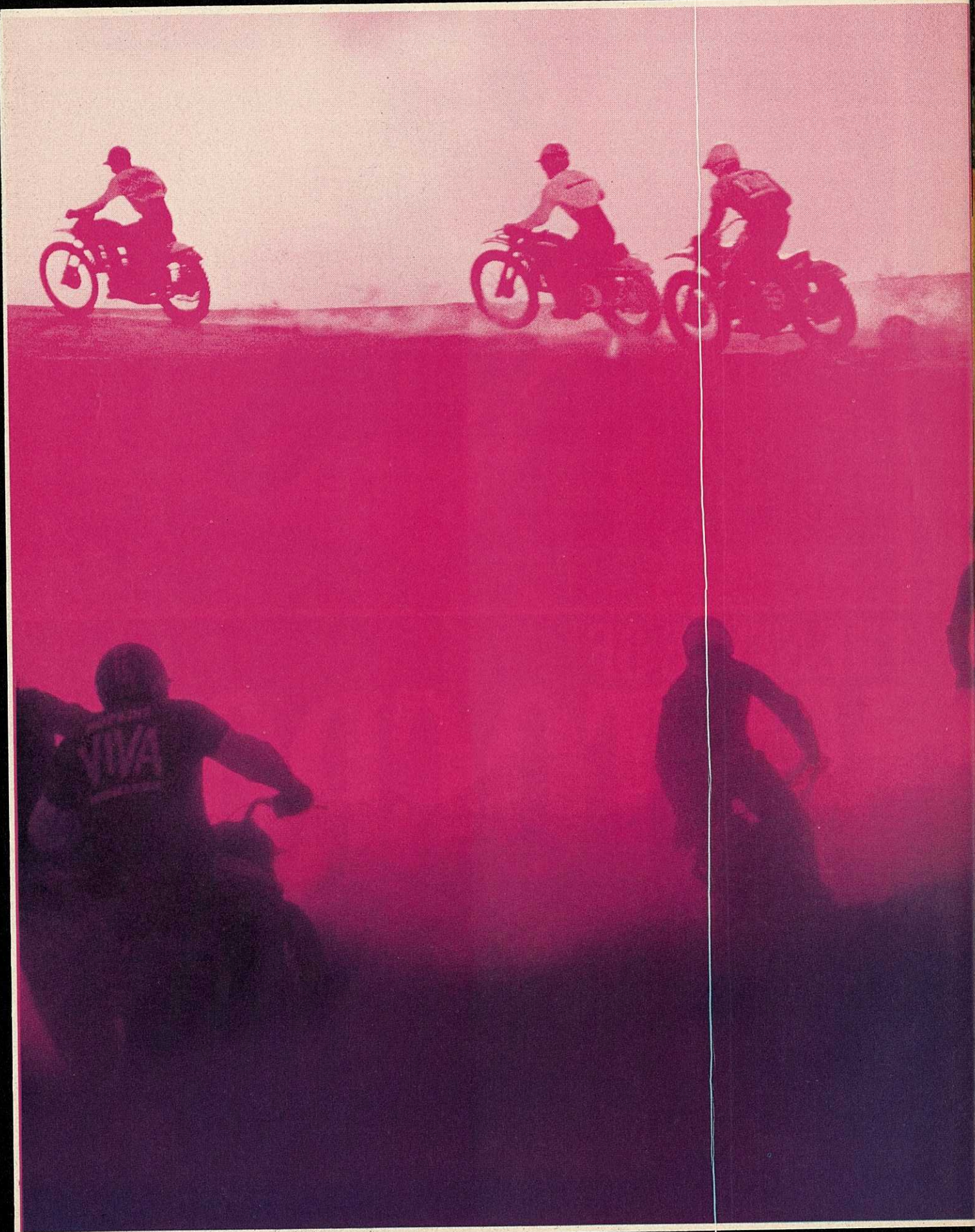


# THE STYLE OF MOTOCROSS

DESIGN BY EBERHARD LUETHKE • PHOTOGRAPHY BY DAVID GOOLEY • TEXT BY JOHN P. COVINGTON

More returned in the fall, Europe's best bringing motorcycles little different from our own, and they charged the flags at Pepperell and Hopetown and Kansas and Castaic. They raced in packs over the jumps and hills and among the trees—over sand, rocks, mud, dirt, loam. Ah, they were fast in the rough! Some were cool like Hallman, others tough like Robert, still others wild and fearless like DeCoster. Seventy miles an hour over the ruts and bumps,



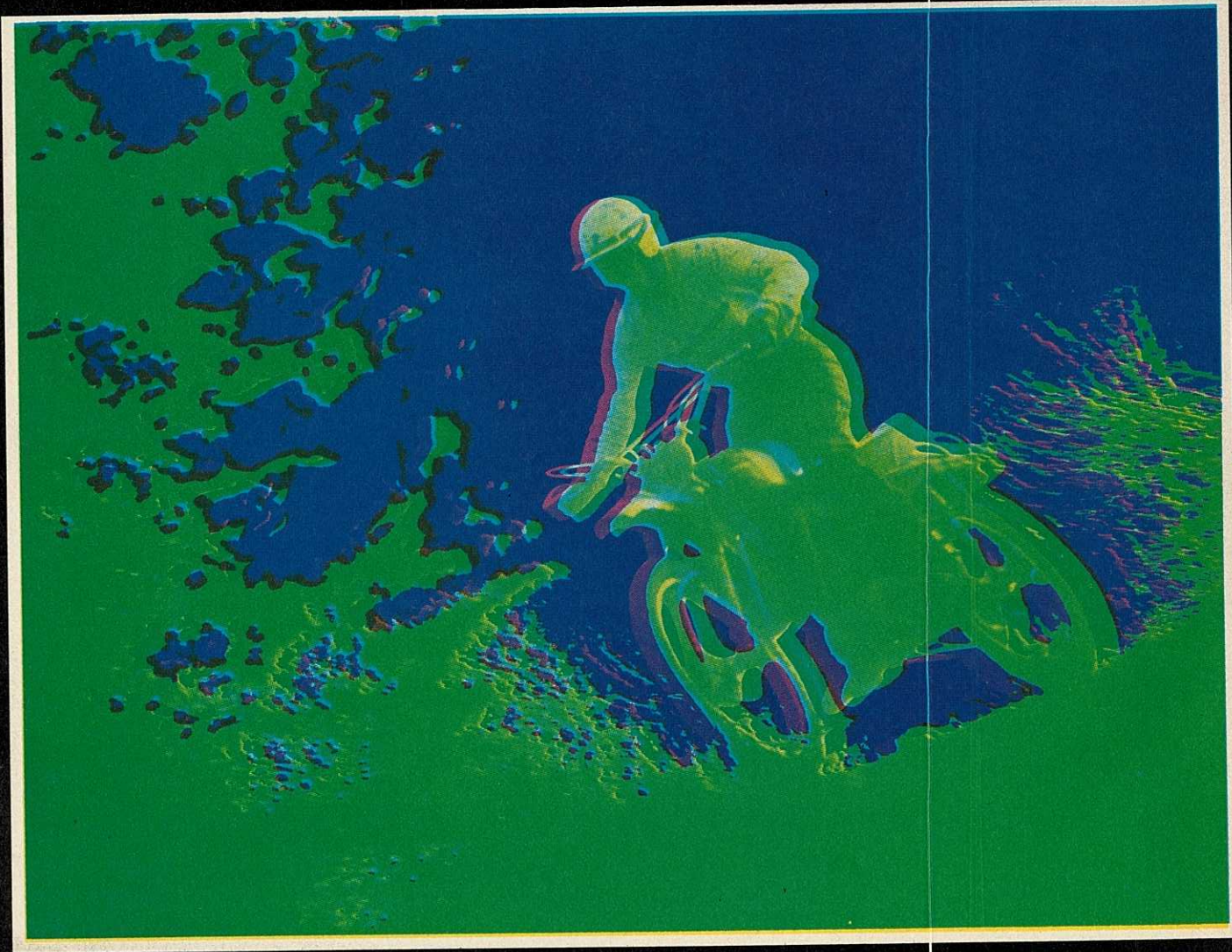


cycle leaping and bucking like a bee-stung colt, rider perched tautly on the pegs. The only emotions showing were fury at a machine that could not be hurled along any faster and zest for a fight each was determined to win. They did not steer, they carved a course by yanking the throttle and shifting weight, by stabbing for an opening, clawing for traction.



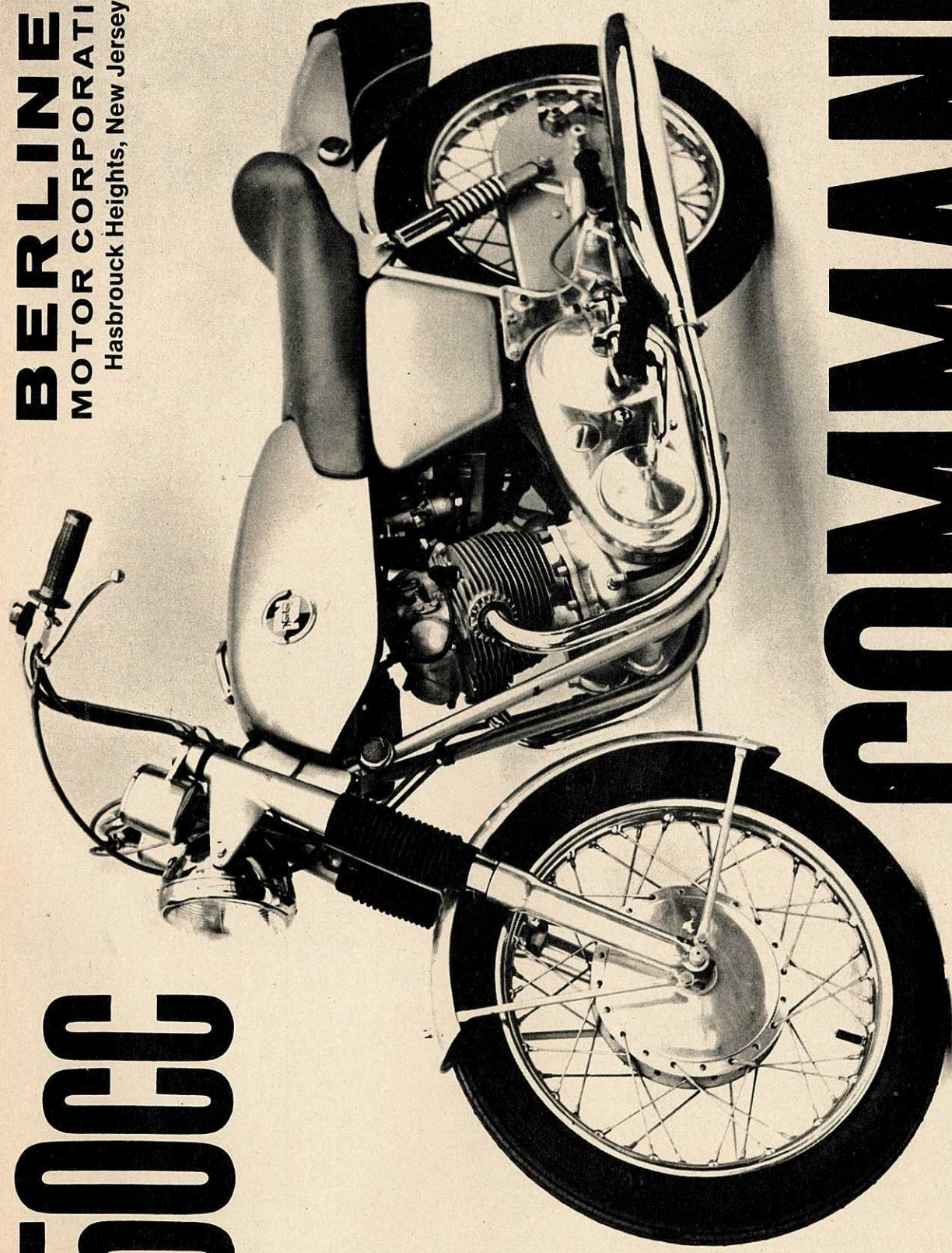


In Sweden and Belgium and Britain there is no desert racing, no prairie like ours. They came, and almost before the grit had settled and the ringing of their engines stilled, they had gone again. We looked at our courses with reborn eyes, but all we would think of to say was that we had been beaten by professionals.



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# NEWS FROM EUROPE

## Including Triumph's retaliation for Daytona

**Moto-cross Crown Grab:** Bengt Aberg of Sweden, one of MX's young lions, won the 500cc World Moto-Cross Championship opener in Austria. Riding the latest 420cc Husqvarna, 22-year-old Arberg failed to win either leg, but his two twos collected him victory overall from CZ riders Willis Brunis of Russia and Czech Vaclav Svastal. Reigning champion Paul Friedrichs slammed the first leg field, then ignition funny

business blew his chances in heat two. Birmingham Small Armer, John Banks, had his first-heat hopes gunned down with a flat battery on his coil-ignition BSA. But Banks raised Small Heath's sagging morale with a second outing victory.

The narrow, twisting, bumpy Austrian GP is a notorious form up-setter. So too much shouldn't be read into the Arberg-Brunis-Svastal result. Our



Young Bengt Aberg on a 420cc Husky looks like a prime contender for world MX crown.

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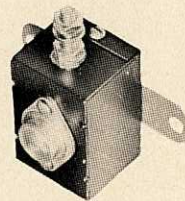


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prediction is for the old firm of Friedrichs-CZ, moto-crossers extraordinary, finishing the season up there on top. Given two things not happening. One: the CZ will not have reliability bothers. Two: Friedrichs will not despair to the depths when inevitably some things go wrong. So here's to Paul Friedrichs defying tradition and becoming the first ever three-in-a-row World MX Champion—if two-fifty ace Torsten Hallman doesn't beat him to it. And here's to the "unknown" Bengt Arbergs if they are capable of sneaking away the titles from the fancied few.

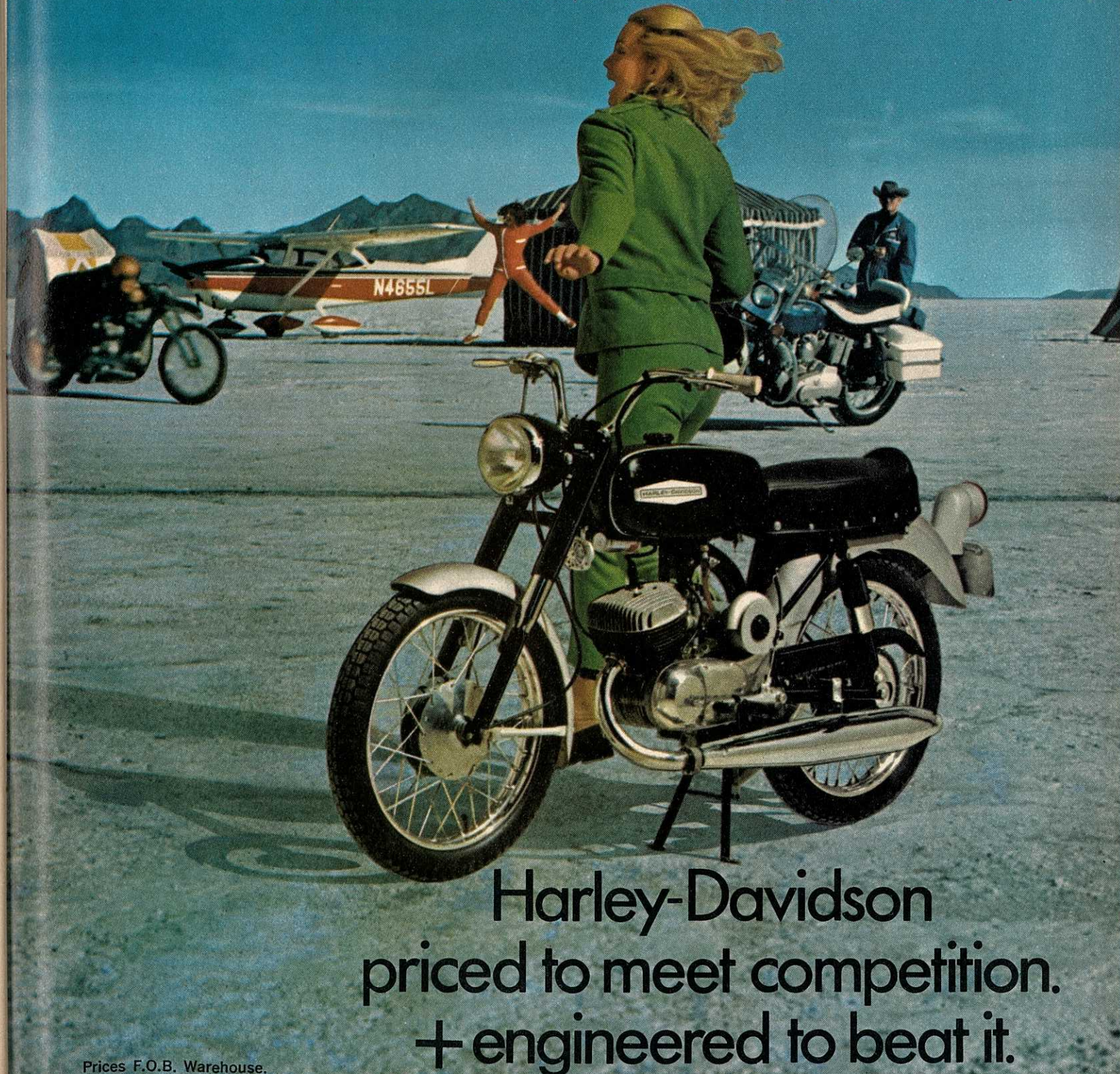


Hailwood may look grim, but Honda-4 with custom frame dominates non-classic events.

**Honda Four Framing:** After seeing the frightening antics of the 500cc Honda "four," and the Japanese failure to effect any sizeable cure, some of us were willing to believe that it was impossible to successfully harness Honda's power bomb into any sort of frame. Others, no doubt cynically inclined, reckoned that Mike Hailwood's moans about the Honda's horrible handling were being overdone. But Hailwood was so convinced the handling could be transformed into something reasonable that when his five-hundred went "private" he immediately contacted Reynolds Tube's frame wizard, Ken Sprayson, for a manageable article.

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**EUROPE Continued**

The problem facing Sprayson was how to construct his frame around the massive power unit without using the engine as a strut, knowing its width ruled out a conventional full-twin-loop layout. Sprayson's solution is what can be termed a "frontbone". He has employed a large-diameter single tube, running down from the steering head and under the engine. From this basic beam a "duplex" of tubes grows outwards, upwards and rearwards, stiffening the steering head and providing engine, gearbox and swinging fork mountings.

With Hailwood's racing necessarily being restricted by the Honda "no-classics" ruling, his early outings in Italy have really done no more than prove the frame is promising. And while many people banked on Honda allowing the HRS (Hailwood-Reynolds-Special) loose on the Isle-of-Man for Hailwood's final TT fling, those chances are rated very remote. Indeed, reports originating in Italy see Hailwood quitting motorcycles almost immediately to race "prototype" and Formula 2 automobiles, almost certainly for Ferrari.



Vic Eastwood (7) tries Husqvarna after telling BSA to improve his factory motocross ride.

**Eastwood's Beezer Tiff:** Vic Eastwood, generally considered as Britain's best chance for a 500cc World Moto-Cross title, has been sacked by BSA. Vic's crime was to criticize the 1968 machines he was given and to openly invite BSA to get its finger out and supply some real world championship stuff. Unfortunately, this got into the Press and, wham, out went Eastwood. Happily, the livewire Husqvarna importers quickly came up with a temporary offer of machines, then successfully negotiated a "works" contract with the Swedish factory.

Whatever the rights and wrongs of Eastwood's brush with BSA, the motorcycling public is solidly lining up behind the rider. Eastwood's sin is a burning desire to win, goes one argument, even wanting to beat his teammates. (for teammates, read Jeff Smith.) Certainly the BSA handling of the affair has been a classic example of how not to conduct public relations. Equally for sure, there is going to be one Husqvarna rider absolutely determined to blow BSA into the weeds at every conceivable opportunity.

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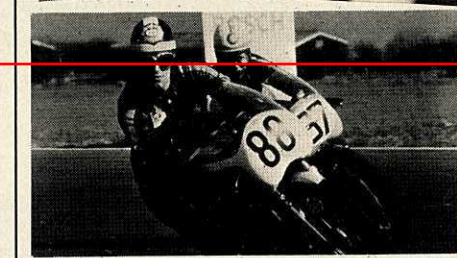
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Yes, BSAs can win. Here's Tony Smith (88) at opener of new Thruxton roadrace course.

racing has taken a knock. The 1968 works machines for events like the Brands Hatch 500-miler will be the 1967 bikes brought out of store and polished up. The plans to build a batch of saleable extra-performance Bonneville's have definitely been scrapped. On the other hand, works tester Percy Tait is confident of continued racing with the experimental Daytona model. (Top of the pops with racing fans is Percy these days). While from the parent BSA factory, Tony Smith gallops works 350 and 500cc "singles", which are powered by derivatives of the motor-cross units. Really not works experimental bikes, old chap, but merely experimental playthings belonging to and developed by the competition department. Of course. Works bikes which are not works bikes but works bikes. Does it seem puzzling? It's often confusing enough for the average British race spectator, at any rate. Not that we have any grumble about BSA/Triumph using racing to test things that may improve their normal catalogued models. In fact, we welcome it. But BSA/Triumph should formulate a rational policy for support.

—Jim Greening

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BACK TO THE DRAWING BOARD: Bob Labitzke, part-time racer and full-time policeman, noted at the time this picture was taken that his engine had lost some horsepower throughout the RPM range.

**EUROPE** *Continued*

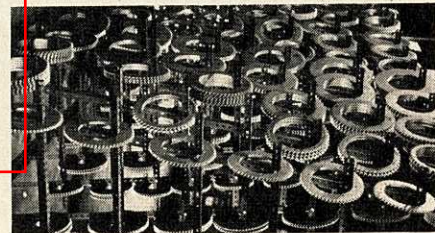
The problem facing Sprayson was how to construct his frame around the massive power unit without using the engine as a strut, knowing its width ruled out a conventional full-twin-loop layout. Sprayson's solution is what can be termed a "frontbone". He has employed a large-diameter single tube, running down from the steering head and under the engine. From this basic beam a "duplex" of tubes grows outwards, upwards and rearwards, stiffening the steering head and providing engine, gearbox and swinging fork mountings.

With Hailwood's racing necessarily being restricted by the Honda "no-classics" ruling, his early outings in Italy have really done no more than prove the frame is promising. And while many people banked on Honda allowing the HRS (Hailwood-Reynolds-Special) loose on the Isle-of-Man for Hailwood's final TT fling, those chances are rated very remote. Indeed, reports originating in Italy see Hailwood quitting motorcycles almost immediately to race "prototype" and Formula 2 automobiles, almost certainly for Ferrari.

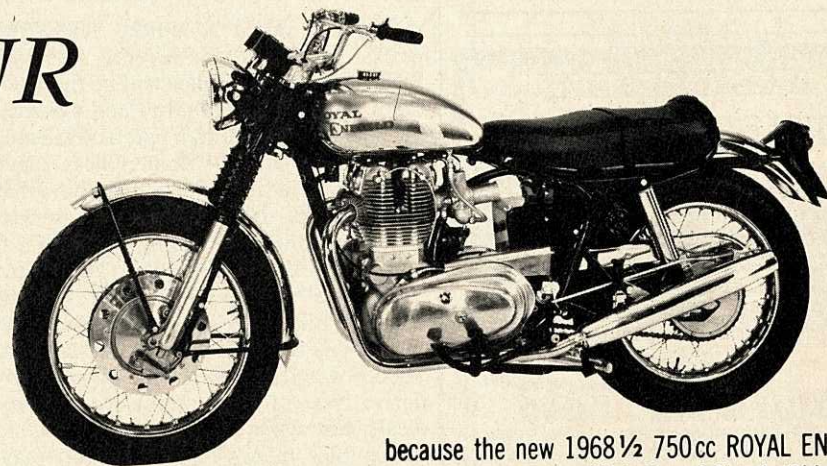
As a matter of fact, it seemed to be running on only one cylinder, so he pulled into the pits to see what the problem was. As it turned out, only one spark plug was firing. . . .

**BAJA RACE FILM AVAILABLE:** "Twenty-Seven Hours to LaPaz", the official motion picture of the Inaugural Mexican 1,000 Rally, has recently been released for special showings in Southern California, according to Ed Pearlman, President of NORRA. The film is 23 minutes long and includes scenes of the starting lines in Tijuana and Ensenada, the end of the pavement at Arroyo Seco, check points along the way and, of course, the finish line in La Paz. Also featured is on-the-trail footage photographed by *Hot Rod Magazine's* Ray Brock. Groups interested in seeing the film should contact Pearlman at NORRA, 19720 Ventura Blvd., Suite H, Woodland Hills, California 91364.

**A FOREST OF SPROCKETS** is now hanging around the warehouse of the Florida Cycle Supply Company. They're Wheelsport sprockets, made of aluminum alloy, and are available in both bolt-on and overlay for most motorcycles. Sizes range from 35 to 70 teeth. Contact your local dealer.



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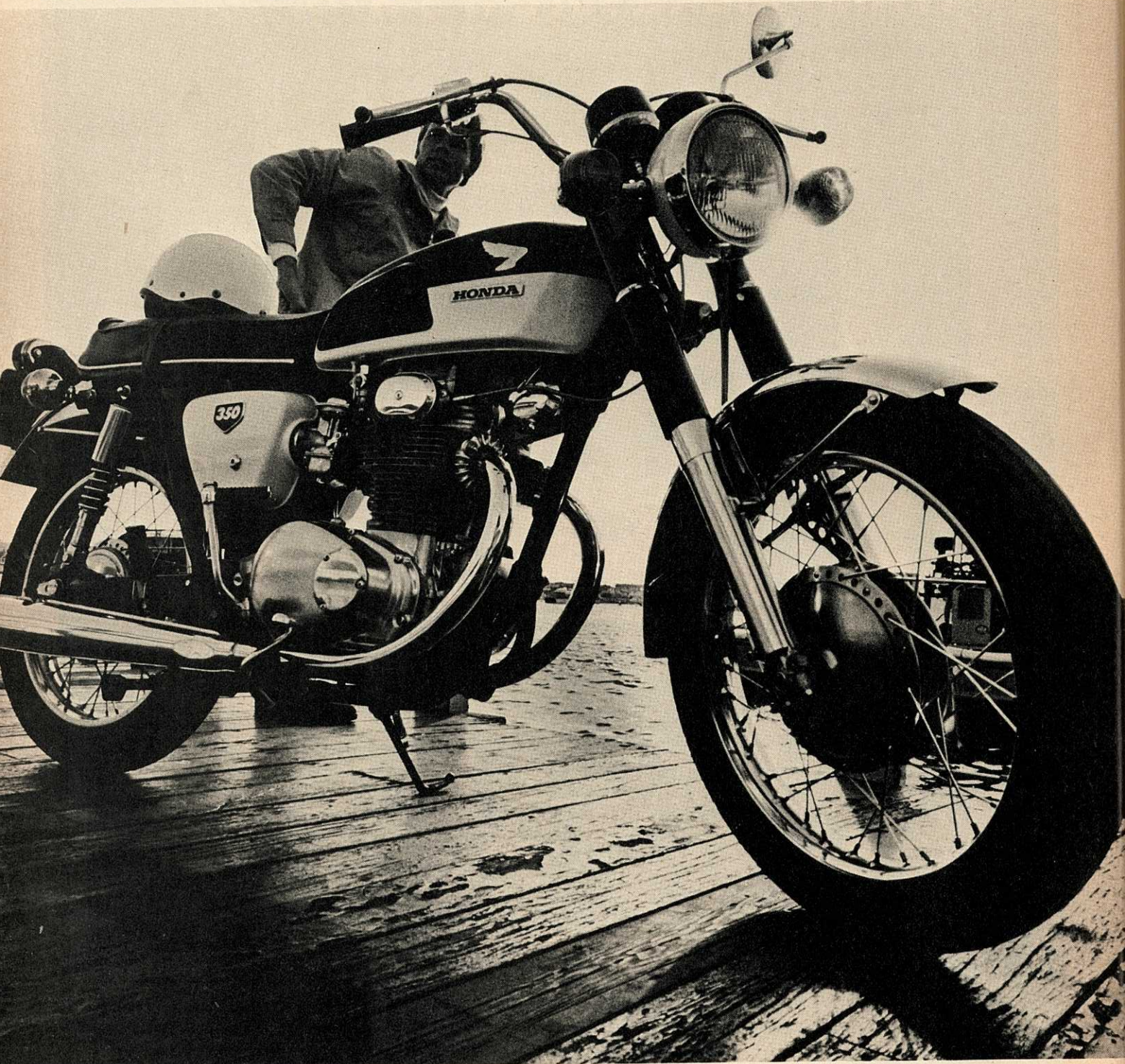
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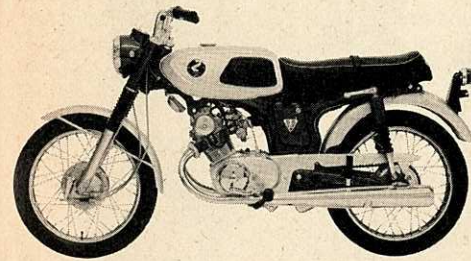


**Super Sports!** Just when you think you've seen it all, Honda comes on with more. Lots more. And this great 350 SS is just a teaser. Rugged as they come. Ready for anything. Eager to take you anywhere — and in a hurry. Its four-stroke OHC straight-up twin willingly unleashes 36 horses that can push the 350 to 106 mph. And through the quarter

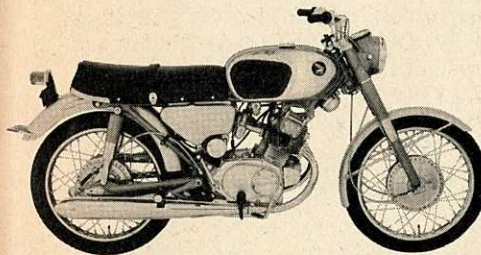
in 13.8 seconds! The 350's advanced constant-velocity dual carburetion system automatically adjusts to any altitude, and the five-speed transmission lets you feel like Mike Hailwood at Brands Hatch. You've never ridden anything quite like it. If you're ready for a roaring good time, try the new Honda 350 Super Sport. It's the Moment of Truth!

See your Honda dealer for a color brochure, safety pamphlet and "Invisible Circle" film; or write: American Honda Motor Co., Inc., Dept. RP, Box 50, Gardena, California 90247 ©1968, AHM.

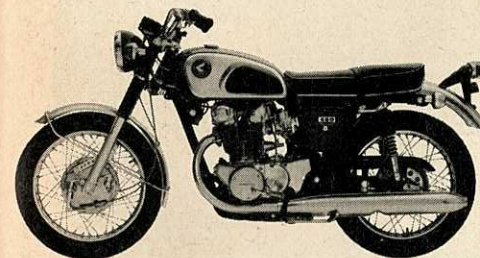
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**THE 125 SUPER SPORT** — Two fistfuls of performance and styling in a lightweight sizzler. Its four-stroke OHC twin conjures up 13 bhp @ 10,000; moves you along up to 153 miles on a gallon of gas. Sleek 2.2 gallon tank, rugged front forks, heavy-duty chrome tuned pipes and rich candy colors.



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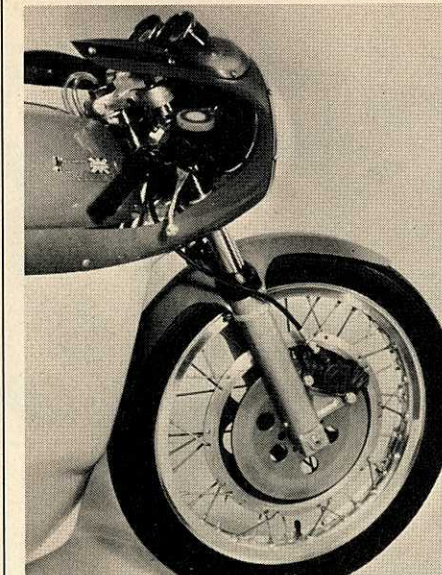


**THE 450 SUPER SPORT** — One trip on this baby and you'll be convinced. The new 450 K-1 is loaded. Top speed 112; standing quarter in 13.2. Forty-five big horses brought under control in a trim twin with power-saving double overhead camshafts. CV carbs, too, plus independent instruments and a great five-speed transmission.

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### NEWSLINE *Continued*



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**OK, BUT WILL THE KANGAROOS LOVE IT?** Pictured here is a Kangaroo-paw bottle-opener that ought to turn your neighbors green (presumably with envy). Send \$8.95 to Australian Kangaroo Paw Co., 1567 Springfield Ave., New Providence, New Jersey 07974. We don't know what it's doing in a motorcycle magazine either.

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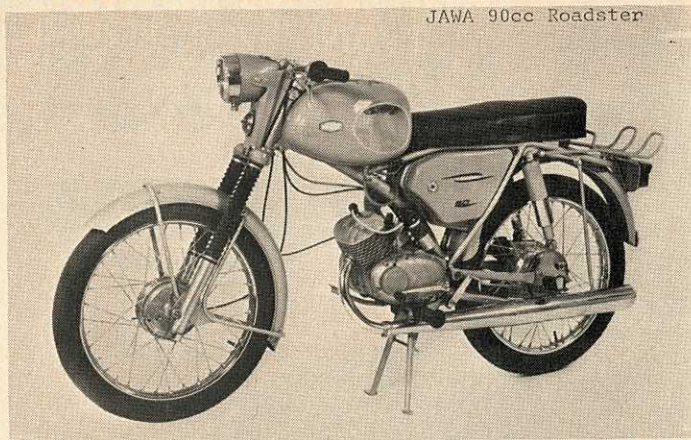
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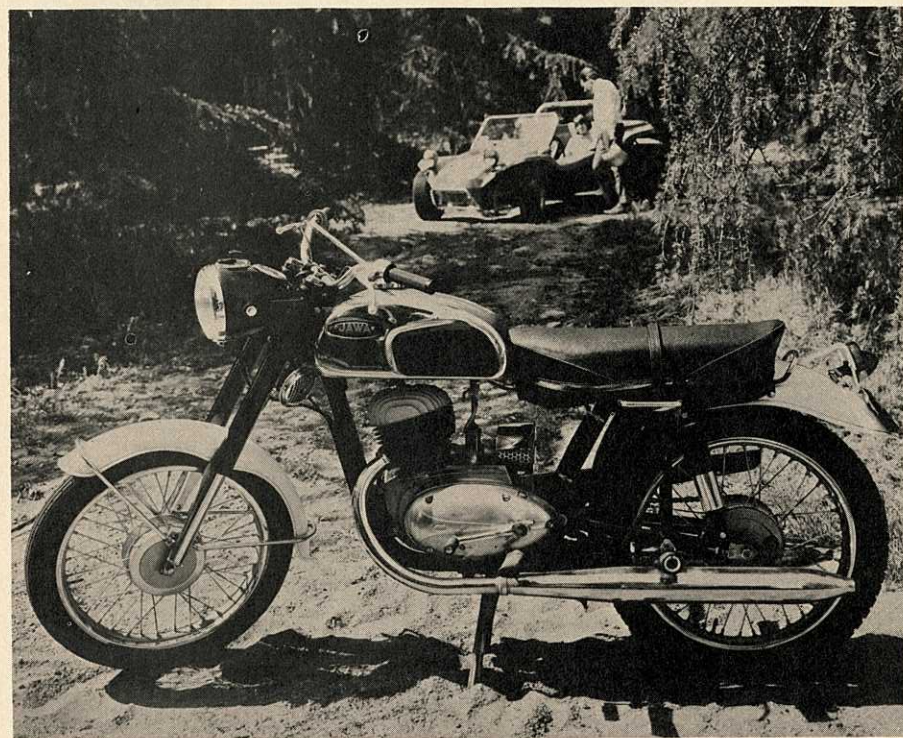
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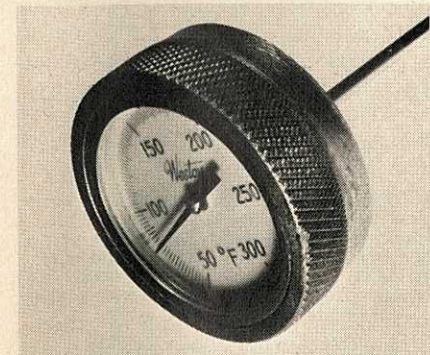


**A SUPER IDEA,** and it couldn't have come at a better time. Borg-Warner Corporation's "safety bright" fluorescent orange vest is tailored from lightweight nylon and reinforced vinyl knit and weighs a mere 6 ounces. Its light weight permits wearing of the vest over heavy clothing when it's cold out; its true knit design allows for increased ventilation when it's hot. Adhesive front eliminates fussing with buttons, hooks, or zippers. Price is \$3.60. A poncho version is available too; costs \$3.40. Write Safety Guide Products Dept., Borg-Warner Corp., Washington, West Va. 26181.

**NOISE, NOISE, NOISE:** Webco now has available for purchase tuned expansion chambers for the following two-strokes: Bultaco Bandido (\$54.95), Pursang (\$54.95), Hodaka (\$39.95), Sachs (39.95), Yamaha 80 (\$39.95), Yamaha 100 YL2-C (\$39.95), and Yamaha DT-1 (\$54.95). Each expansion chamber is tailor-made for its particular engine and, according to Webco, provides a noticeable performance increase. Contact your local dealers.



**THE YOUNG LOVELY** is seated aboard the brand new Charger minibike. Actually there are three Chargers: 1, 11, and K. Charger 1 boasts a 40" wheelbase, 5 5/8" of ground clearance, 6" aluminum wheels, a 5" brake, and chromed fenders. Charger 11 has an automatic clutch and goes 30 mph powered by a 3 hp. engine. And Charger K is a lot like the first two except that you put it together yourself. For complete information and literature write to Central Cycle Supply, Dept. CH, 51025 US 31 North, South Bend, Indiana 46637.



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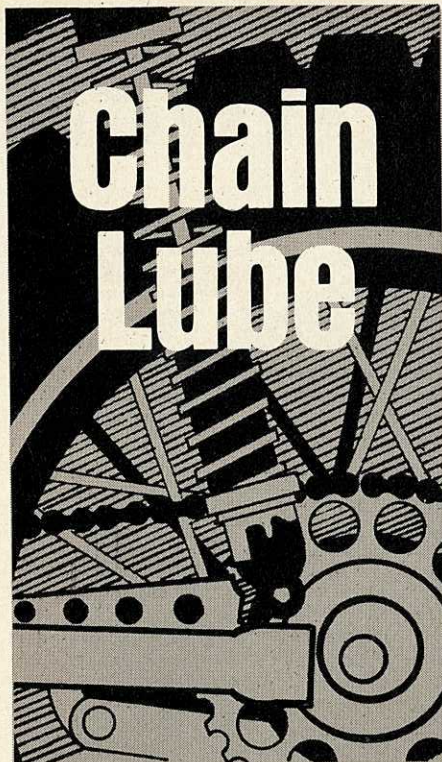
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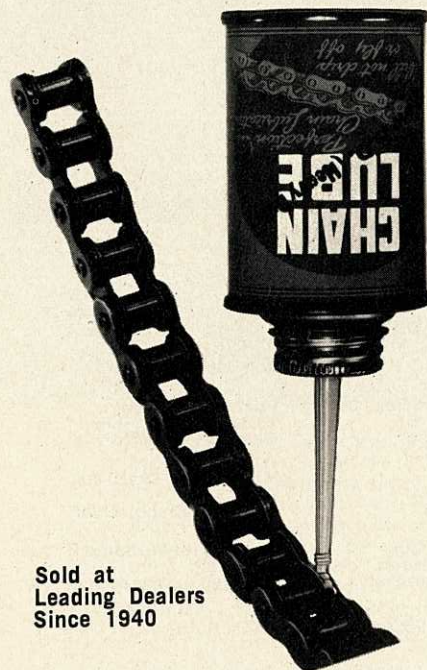
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**TOM SIFTON** *Continued fr. page 41*  
there so that if the valve floats, the only place it hits the piston is right smack in the middle of the dimple. The dimple lines up with the dead center of the valve head, so that the valve can't possibly bend from hitting the piston. Mercedes used to use this kind of a piston, and so did Porsche." Tom is not above eclecticism.

It's getting really late now, but Tom is awake and alert, prowling proudly through his shop, explaining what each machine is for, how it works, how it can be made to work better, explaining the difference between his cams and somebody else's, explaining ramp theory, explaining about valve float and where it occurs, explaining the performance difference between roller tappets and flat tappets, working his mind fast and easy and pushing those bad old legs around the shop and whistling whenever he moves.

This cam-grinding thing started out as a sort of a hobby for Tom, but ever since the mid-fifties it's been a business. Tom runs it like a business. Like any good businessman, he hates to be worked by his customers.

"Here's an example of what sometimes happens," he said. "Look at this cam. It's out of a Triumph, and the guy sent it back because he said it failed on him, and I should fix it for nothing. Brand new cam, and it failed. Well, my cams don't usually do that, because we hardface them, so I looked it over pretty careful, and then got the guy to send the tappet so I could look at that too. Here's the tappet. Look a little funny to you? What do you think happened?"

"Right. The guy put the tappet in a quarter-turn twisted, so it was riding crossways on the cam. I fixed the cam for the guy, but not for free. It'll cost him \$15. "Something else guys'll do is buy a cam and run it for a long time and then send it back and say, well, that they just got it a few months ago and I should replace it. So what I do is stamp the date of manufacture either on the shaft or on one of the drive gear faces, so I know if a cam's old or new or whatever."

Tom doesn't do too much work himself anymore. He's got five people working for him, young people, and he sets up the mills and grinders for them and watches.

"They seem to work better when they know they're being watched," he said. "But they're all real nice young kids, and they work pretty hard. There's one guy, though, who can't seem to make it to work on time. He shows up two or three minutes late every morning, and he comes back from lunch a couple minutes late too.

"But when five o'clock comes and it's time for him to start working on his own engine, boy! You ought to see the wrenches fly," he said, laughing towards



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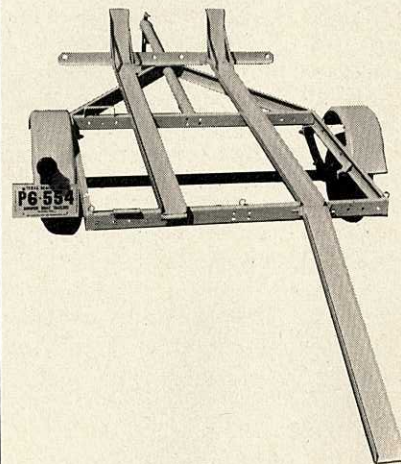
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the end. It doesn't bother him all that much, and he doesn't take it too seriously; but it's on his mind. Tom notices these things.

The next day was race day at the half-mile track located in the middle of the San Jose State Fairgrounds. Tom drove off the main road, saying hello to all the people that he knew and knew him, stopping at the entrance to the track proper.

"I always like to make a little contribution to their rider's fund," he said. He parked his big tan car next to the hedge where the bikes come out of the pits and go onto the track. Before he had struggled from the driver's seat (he works the brake pedal with one foot and the accelerator with a cane) the car was surrounded by young riders, young tuners, old friends and opponents who wanted to talk. He talked graciously with everybody, answering questions, reading the odd spark plug ("Did you get a good clean plug chop? You did? Then your engine's too rich."). One of the guys that works for Tom was tuning a Sprint and having trouble. He had the side cover off and was looking around for a degree wheel to check the timing. The rider explained the symptoms. "Better check the carburetor. Undo the fuel line—no the other end—and hold it up next to the carburetor body. Now turn on the gas. See? No gas is getting to the carburetor body. Float level's set too low." That cured it and Tom walked away, a little pleased in spite of himself.



During the day Tom doesn't move out of the pits. The only other place to go, really, is the grandstand, and Tom doesn't like stairs too much. He doesn't like sitting still much either, so he prowls the pits, talking, listening, looking around, curious. He's still very curious. If he asks a question he listens carefully to the answer, mulling it over, evaluating it, pushing it around in his mind until he's got it perfectly. Every now and again he turns his attention to the track, commenting on the fresh young riders that are there, reminiscing kindly about the older ones who aren't quite as good as they used to, enjoying himself in an environment that is as familiar and comfortable to him as an old wrench. He stands there in the pits with his feet together and leaning forward slightly on his canes and lets the noise and the smell and the sense of motorcycle racing wash over him, a timeless, ageless, battered man who has given a lifetime to motorcycle technology and motorcycle racing. And loved every single minute of it. ©

AUGUST 1968

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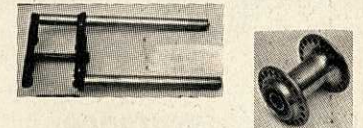
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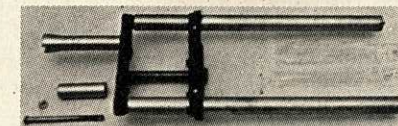


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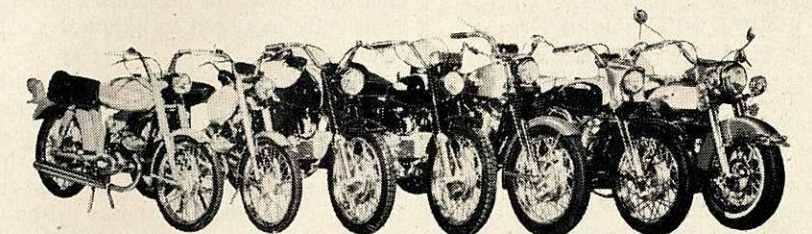
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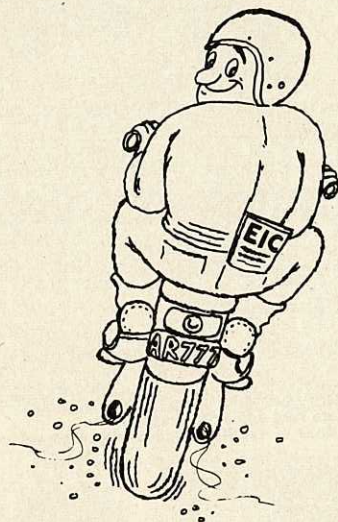
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**ROYAL ENFIELD** *Cont. from p.46*  
crank velocities are not the Enfield's strong suit—high-speed cruising at relatively low engine rpms is. The Interceptor can cruise at an indicated 70 mph with the tachometer steady at 4000 rpm, and it can deliver 40 miles per gallon doing it.

And the bike *handles*, in spite of a fairly high center of gravity (that's a tall engine, remember). It was wailed around the corners of California's fabled Mulholland Drive (an ersatz roadrace course for Los Angeles' ersatz roadracers) for an entire afternoon; the bike never gave us an uneasy moment. The angle at which the Enfield can be heeled over is governed, it seems, only by the location of the aluminum center-stand, which tended to scrape upon occasion. Following standard practice the front forks are oil-damped telescopic units. The rear shocks are Girlings.

The 1968½ Interceptor is only slightly different than the 1968 version. Its seat is slightly longer and has been contoured so that it's higher in back than in front; the upswept mufflers are larger and quieter than they were before; the rear fender has been widened one inch and its valence increased a half-inch; and the aforementioned battery-cover has been added. All of these changes make the Interceptor a little more attractive than it was before. But the biggest attraction remains its freedom from engine vibration. Hopefully, that'll *never* change. ©

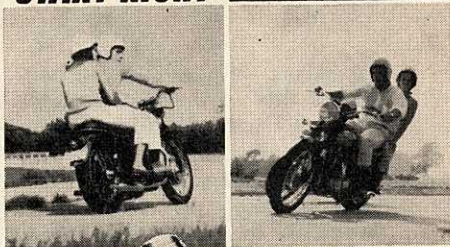
**GRAND PRIX** *Cont. from page 61*

something like 70 hp for a top speed of 140 mph, which made it 20 mph faster than the unblown British singles. The AJ's was a bold effort to raise more horsepower, and it featured a 50° V-4 with a bore and strokes of 50 x 63 mm. The two overhead cams were driven by chain from the center of the engine, and two carburetors were used. The crankshaft was supported by no less than five roller and ball bearings, and the rockers were eccentrically mounted to adjust the valve clearances.

The 1936 racing season was a great one, with Jimmy Guthrie and Fred Frith winning the Senior and Junior TTs at 85.8 and 80.14 mph on their Nortons. Norton also dominated the 500cc continental events, although Stanley Woods did win the Spanish GP on his big Velo single. Norton did not win the Swedish GP, though, and therein lies the crux of the situation. The Swedish course was big and fast, and Otto Ley and Karl Gall simply outsped everyone on their BMWs to score a resounding win. The BMW still lacked good handling, but on a fast course it proved that sheer speed can win.

In the Junior Class Ted Mellors

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scored many victories and in the Lightweight Class the British New Imperial and Excelsior singles scored surprising wins over the ailing DKWs. The German 30 hp two-stroke still had the speed, of course, but many technical problems were encountered in developing this exotic design.

The European Grand Prix scene became terribly competitive during the late 1930s, and, when the 1937 works racers came out of the shops, it was apparent that the engineers had been busy. This was particularly true in Germany and Italy, where Hitler and Mussolini had poured money into their country's racing campaigns as a part of their broad propaganda efforts. The results were some of the most powerful and exotic racing bikes that the world has ever seen, and a classic battle shaped up between the fine handling British singles and the brutishly powerful continental multis.

The BMW was the most raceworthy 500cc aspirant, and its supercharged mill was by then pumping out 78 hp at 8000 rpm. The BMW sported a new frame that featured a plunger rear suspension, which was a move to improve the somewhat less than impressive roadholding. Turning up the wick on the 145-mph bike over narrow and rough roads was still a chore, though, and the BMW was a difficult model to ride.

The DKW was also further improved with a new frame that featured a swinging-arm rear suspension connected to a pair of plunger boxes, and the blown engine was at last becoming a horizontal single that scorned supercharging in order to get a light and fine handling combination.

In England the Norton and Velocette factories struggled to improve their singles. The Norton was modified to double overhead camshafts, and the speed rose to 125 mph on the big 500cc model. Velocette brought out new engines with huge fins so that higher compression ratios could be used, with the 500 clocking 124 mph and the 350 doing 117 mph.

The 1937 racing season was a terrific battle, with the British 500cc singles winning on the more twisty circuits such as the Isle of Man, Swiss, and French; while the BMWs dominated the faster events in Sweden, Holland, and Ireland. The Norton narrowly retained the European Championship, but it was obvious that more power would be needed.

In the Junior Class it was strictly a battle between Norton and Velocette, with Ted Mellors once again gaining the title on his Hall Green single. The little Guzzi single won the 250cc events in the Isle of Man and in Italy, but the howling DKWs dominated all the other races to win the Championship.

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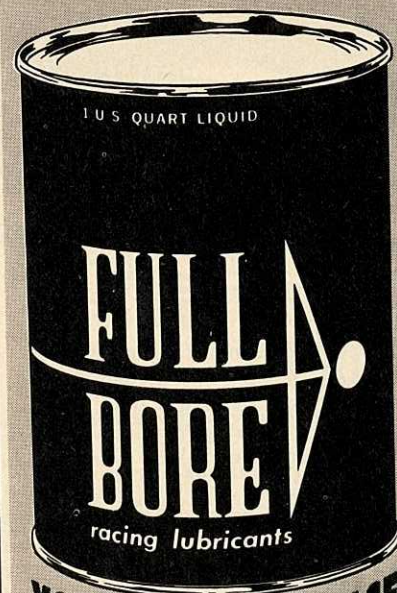
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### GRAND PRIX *Continued*

During the long winter the companies frantically improved their raceware, and Grand Prix racing became a leading sport in all of Europe. The Norton engineers brought out a new telescopic front fork on their works bikes to further improve road-holding, and the bore and stroke was changed to 76 x 77 mm on the 350 and 82 x 94 mm on the 500 in an effort to get more revs. Greater braking power was also provided with huge air-cooled brakes that were mounted in massive conical hubs cast from magnesium alloy. These were magnificent road racing machines, and they represented the very ultimate in the classic single.

The BMW was further improved by fitting a telescopic front fork, and large full-width hubs housed powerful brakes to match the terrific speed of the bike. The weight of the BMW had been paired to only 306 pounds by the use of many alloy parts, and this was actually 24 pounds less than the unblown British singles.

The German NSU concern also jumped into the battle by discarding their old ohc singles and replacing it with a supercharged twin. The NSU was first produced as a 65 hp 350cc model, but a 500 was soon added that churned out 90 hp. The NSUs were very heavy at 440 and 486 pounds, and poor handling prevented them from scoring any great victories.

In England the AJS concern responded to this challenge by supercharging their V-4, but engine overheating constantly plagued the model. The frame was also new and featured a swinging-arm connected to a pair of plunger boxes, and huge 8-inch brakes were fitted with air scoops and deep fins for cooling.

The 1938 racing season was a classic battle between brute force and finesse, with George Meier finally subduing the 50 hp Nortons with his powerful BMW. Harold Daniell scored the only Norton wins in the TT and Swiss events, and the glory of the Championship passed to Germany. England was still victorious in the Junior Class, with Stanley Woods and Ted Mellors dominating the show on their Velos. The Lightweight Class was again won by DKW, with only one loss to the unblown Benelli single in Italy.

During the winter the engineers desperately searched for more power and improved roadholding. The DKW had its piston blower replaced with an eccentric-vane supercharger, and a new 350cc model was added to do battle with the British. Horsepower jumped to 40 and 56 on the two models, but the colossal thirst for fuel required nine-gallon fuel tanks. This large fuel load plus water cooling increased weight to 316 and 350 pounds, and

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handling was not the best.

From Italy came some fabulous bikes, such as the supercharged Gilera-Rondine—a four-cylinder masterpiece that featured a double ohc head and water cooling. The Gilera pumped out 90 hp at 10,000 revs, which provided fantastic performance. Other Italian bikes were the 250 dohc Benelli single that turned to 9000 revs and ran 110 mph, the blown 250cc Guzzi single. Then there was the supercharged Benelli 250cc "four" that churned out no less than 62.5 hp, but its 146-mph performance saw little competition because of development problems.

The English responded by bringing out water cooling on the AJS V-4, and Velocette built a new twin that featured supercharging and shaft drive. Without government financial support, development was slow on these bikes, and the British had to rely on their trusty old singles for most of the races.

The 1939 season proved to be a classic as well as a great one, with George Meier winning the Senior TT at the record speed of 98.38 mph. Norton took only the French GP that year, and Dario Serafini won the rest on his screaming Gilera-Rondine. In the fast Ulster GP Dario had a tremendous battle with Walter Rusk on the AJS V-4, and Walter racked up the first 100 mph lap in a Grand Prix race before he retired with a broken front fork. Serafini won at 97.85 mph and lapped at 100.03, with his four being clocked at no less than 150 mph on the seven mile Clady Straight.

In the Junior Class Woods and Mellors defeated the faster DKWs with their superb handling Velocettes, but it had been a very close struggle all through the season. DKW salvaged its honor in the Lightweight Class, although Benelli won the TT event and the blown 132 mph Guzzis scored a surprising 1-2 win in the German GP.

And so ended the pre-war era of international motorcycle racing. From a humble beginning it evolved into a spectacular and well organized show that fostered intensive development of the motorcycle. This development was particularly manifest in the production racing models that became available during the 1930s, with such famous names as BSA, Rudge, Excelsior; Norton, AJS, Vincent, and Velocette, (British); Moto Guzzi, Gilera, Benelli, (Italian); BMW, DKW, NSU, (German); Jawa (Czechoslovakian); Husqvarna (Swedish); and FN (Belgian); all producing replica racing models for the private owner.

Often referred to as the "Golden Years," the pre-war racing scene left us a history of great men, machines, and races that is truly classic in stature. After the War racing resumed under a new formula, but that is another story. ©

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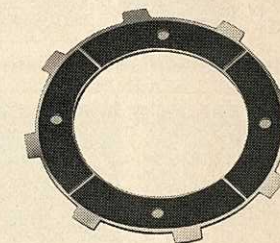
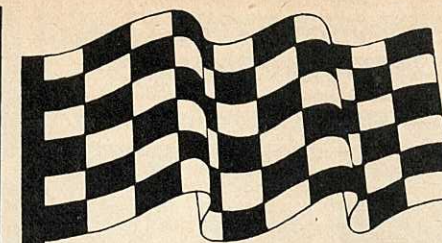
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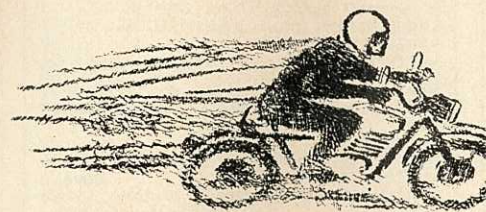


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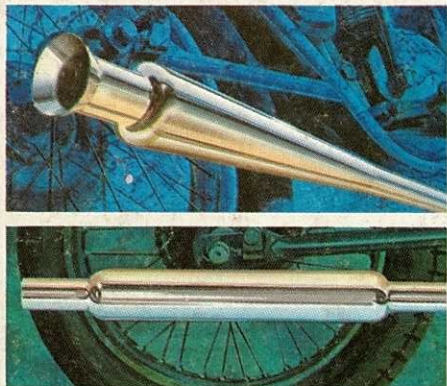
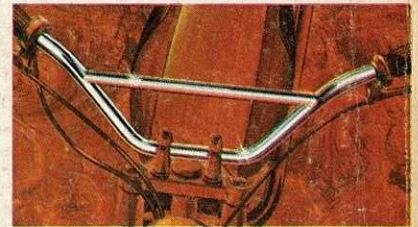
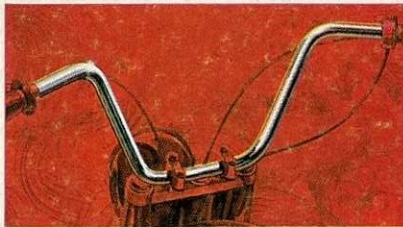
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