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**CYCLE**

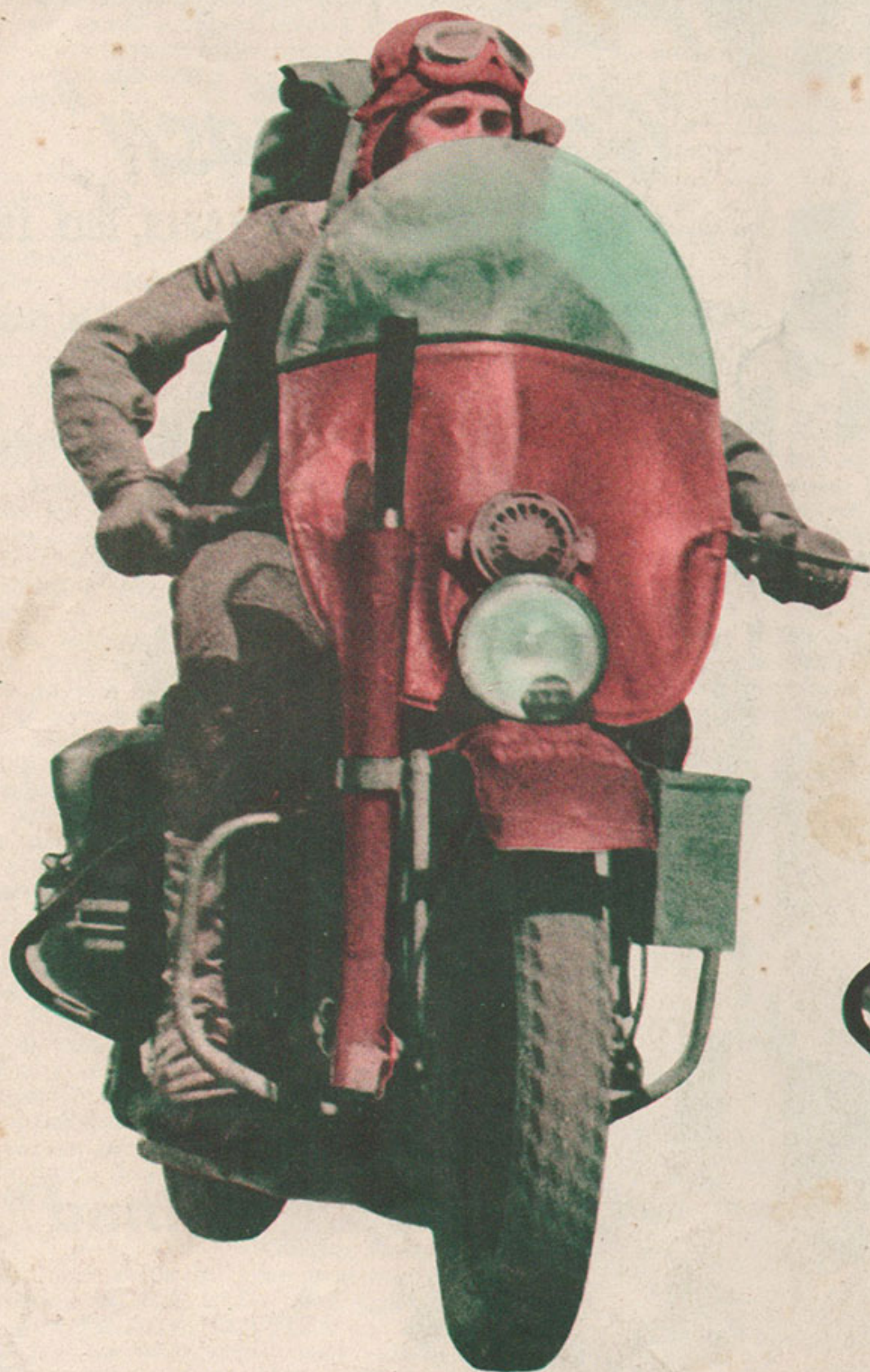


**SEE INSIDE BACK  
COVER FOR DETAILS**

**MARCH 1952**

**35c**

*"World's Largest Monthly Motorcycle Circulation"*



**ROARING ACTION WITH UNCLE  
SAM'S CYCLE SCOUTS—Page 9**

# 137 M.P.H.!

143.54 ON SALT FLATS CLASS A  
on 40 cu. in.

## BSA

### "GOLDEN FLASH"

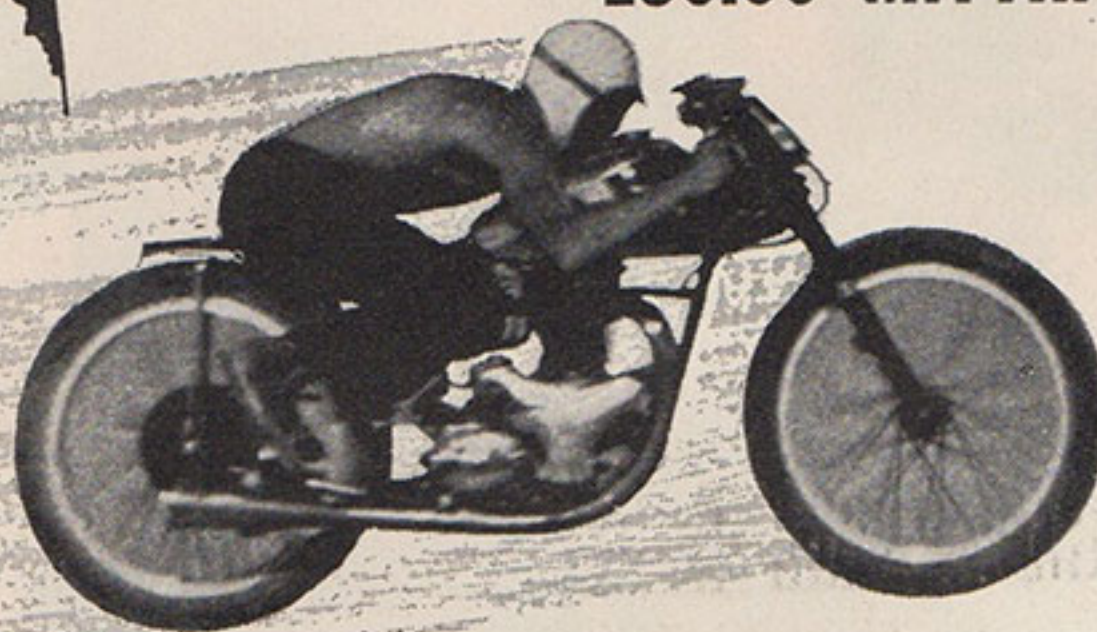
ROSAMOND DRY LAKES, JULY 1951

Gene Theissen establishes

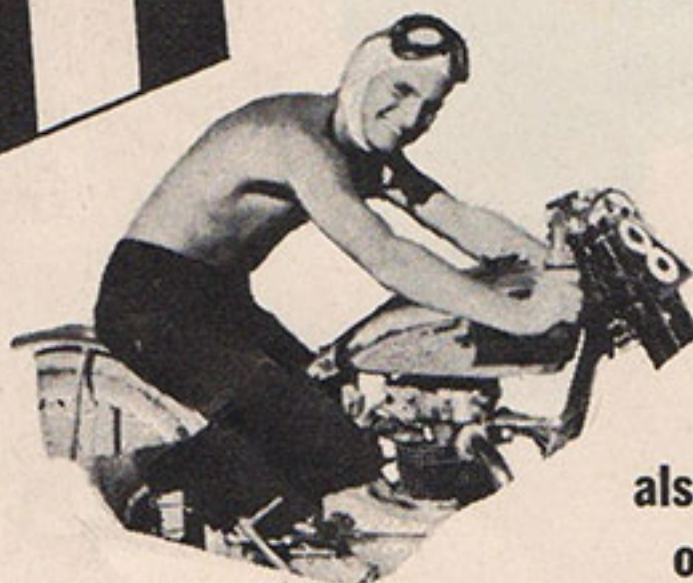
the fastest time in the 40 cu. in. class!

137.30 M.P.H. on Alcohol!

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\*IN THE 40 CU. IN. CLASS

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# RIDERS' WRITINGS

Sir:

To begin with let me say that I think CYCLE is a swell magazine. Photographic coverage is fine and editorials are very good. That covers the constructive criticism. Now for some abuse.

This may come as a surprise to you, (judging from past coverage in your magazine), but we also have motorcycles and motorcycle riders up here in the northwest (Oregon and Washington, that is). Amazing, isn't it? How about some coverage on northwest events and riders? We have quite a few of both.

Eugene Minsker  
Portland, Ore.

(Our kingdom for more northwest contributors—ED.)

Gentlemen:

Since arriving in Canada from the "old country" some six months ago, I have had little chance to see many of the local motorcycle races. However, through the pages of your magazine I think that I have now gained a rough idea of the type of race which draws the crowds on this side of the Atlantic. To my amazement I cannot remember seeing a write-up of a single road race which has not had any rough stuff included in the course . . .

To give you an idea of the type of course to which I refer, for example, to "Oliver's Mount" at Scarborough, England. This course, although only two miles and 780-yards long has four right-angled corners, three hairpins and a one-in-seven hill a quarter of a mile long. This climbed directly after rounding one of the hairpins, so you can get an idea of the thrashing that the "cog-box" gets during one lap. Then there is the difficulty in selecting gearbox ratios when you have such a steep hill with a stretch  $\frac{3}{4}$  of a mile long, slightly down hill where something in the 110-115 mph class is touched in both 21 cu. in. and 30.50 cu. in. races. Average speeds for the course have recently jumped up due to a facial on the road, and the record lap now stands at just over 64 mph.

Unfortunately, I think you'll have a little difficulty in finding a road in the States comparable to the one I've just described, but I can find no reason why Catalina Island should not provide such a rendezvous in the near future. I'm sure that this would have crowd appeal equal to the "Isle of Man" . . .

G. A. Macbeth  
Toronto, Canada

(The latest successful attempt at this type of racing was held at Del Mar, California . . . see February, '52 CYCLE . . . those who saw the event were greatly enthused. Public demand is there if we can only find suitable courses throughout the country. Any suggestions?—ED.)

Dear Editor:

And now for a review of your road test on the 74 Harley. As a motorcycle rider, I would like to see you ride hands off at 100 mph and use a handkerchief to blow your nose while riding over a sandy surface, or even a smooth paved road. Utterly fantastic, misleading comment on the perfect safety of a Harley 74. Their balance is about as good

as any, but not that perfect. Also I see they supposedly have some powerful brakes, will stop in 13 ft. 11 in. at 25 mph. It will take you almost 13 ft. to make up your mind to stop . . .

Russ Peel  
Richmond, Ind.

(A limited number of spectators are usually on hand during the road test. You or other interested parties are always welcome to come ride along. The performance summaries given in each test are for the readers rather than factory satisfaction. Unless they are strictly authentic our purpose is defeated. The human element of reaction is not taken into consideration during the braking test, since each stop is made from a pre-determined mark. Because every test is made by the same person, comparison between machines is consistent—ED.)

Dear Bob:

Thought you might be interested in a picture of the 1928 Harley-Davidson that I gave my son Porky for Christmas.

It gets its steam from a 21 cu. in. single-cylinder engine which was mounted in a cut-down frame that is actually smaller than a motor scooter. The fenders are both off a Cushman with a combination tail and stop light. The frame and forks are shrunk-down Harley parts. Scooter wheels are used, and a Mustang seat is mounted on a regular seat post.

When word got around the neighborhood that a cop was getting his boy a motorcycle for Christmas, several kids inquired if I wanted to adopt them. Luckily we live on a three-acre lot so Porky has plenty of space

to ride, as he is only 14-years-old and isn't allowed an operator's license yet.

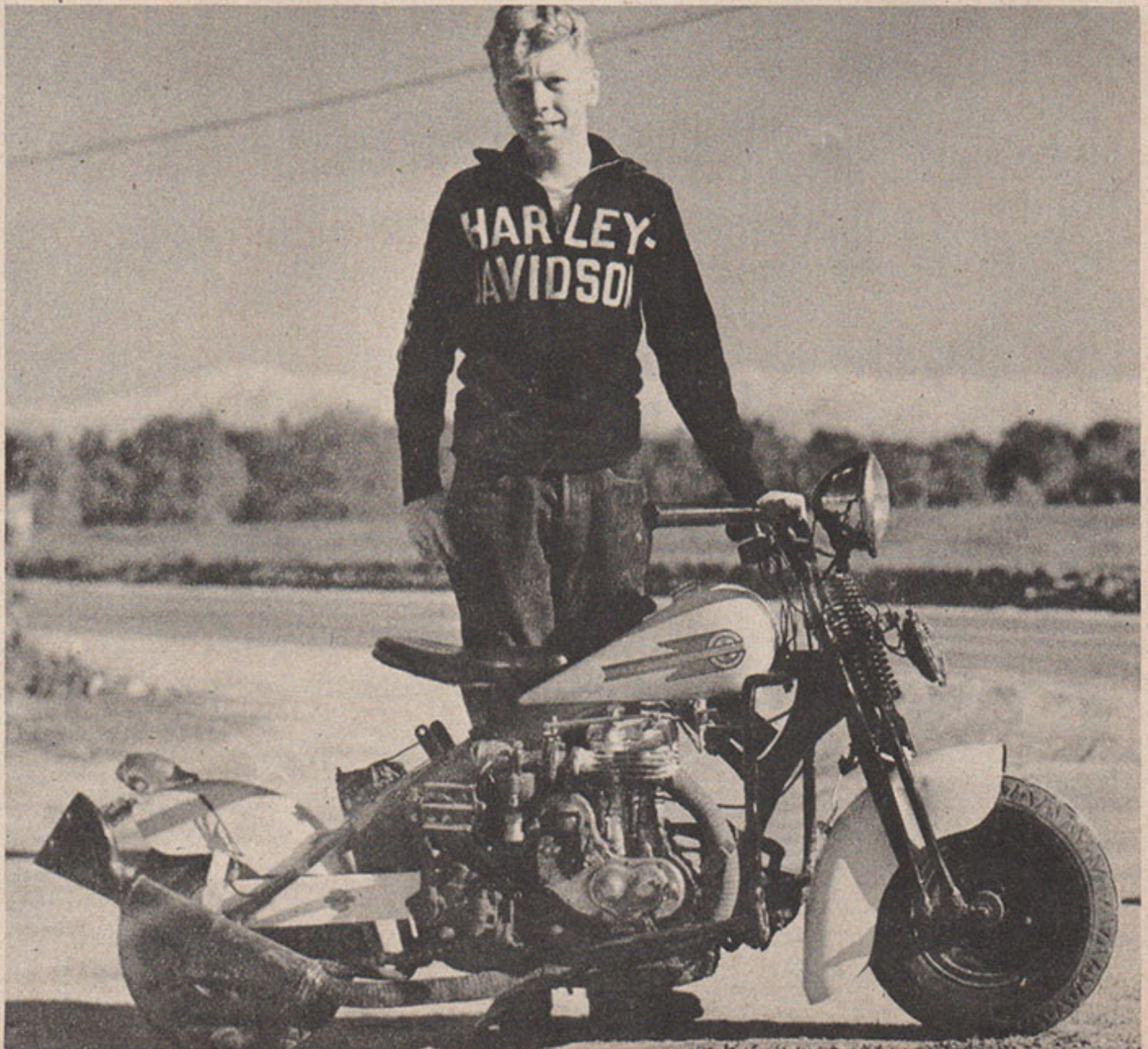
Chuck Pollard  
California Highway Patrol  
Anaheim, Calif.

Sir:

Why did you test the Velocette MAC for your December issue when Office Filker had tested it in your April issue? Granted that it now goes approximately 10 mph faster, due to better cams and high compression, does that rate it a separate write-up? Or are you just running out of cycles to road test? If this is the case, I have a jim-dandy bike for you to test. It's my own creation: a three-cylinder, seven-valve model with one wheel and a stabilizer. (The 7th valve is a water tap, to be turned on if the engine overheats, which it invariably does.) The machine utilizes a torque-converter filled with gin and sour. Thus, if the machine breaks down on the road, and the guarantee positively states that it will, you merely remove the unbreakable plastic tumbler from the handy pocket on the transmission housing, hold it beneath the spigot with the red handle, and open the petcock, draining off as much of the fluid as is necessary to take your mind off your difficulties. The machine will be put on a production basis as soon as my application for a liquor license is approved.

David Goldberg  
St. Paul 5, Minn.

(I think you will agree that a 9-mph increase in top speed, from 81 to 90 mph is worthwhile. May we be the first to test your "alky burner"?—ED.)



# Speaking Cycle

MARCH 1952

## CYCLE

VOL. 3 Published Monthly No. 3

PUBLISHERS—R. E. Petersen, Robert R. Lindsay

EDITOR—Bob Greene

ART DIRECTOR—Al Isaacs

ADVERTISING MANAGER—Ray Bowles

CIRCULATION MANAGER—Gordon Behn

WRITER—Gene Jaderquist

EDITORIAL PRODUCTION—James E. Potter

"World's Largest Monthly Motorcycle Circulation"

NEVER WON A THING in my life, just not the lucky type, I guess." If this has been your crutch with the announcement of each new contest that pops up, forget it, take a fling on CYCLE's new give-away circulation drive and make 50c on each subscription while competing for one of the dandy prizes shown on page 35.

The best part of it is that luck plays a very small part in the contest unless you're lucky enough to have a great many friends who are not at present taking CYCLE Magazine. This is our first attempt at sponsoring anything of its kind and we have no idea as to how many entries it will take to win a brand new Velocette motorcycle, one of the Trojan leather jackets, any one of the many Flanders handlebar sets or various other prizes. It may be a sleeper so don't let one of your buddies snatch that new bike from under your nose by just a few subscriptions.

Incidentally, each of the prizes will be delivered to your door with all freight and taxes paid. This includes a license plate on the new 21 cubic inch Velo. There's one very important thing to remember. Since a special department is set up to handle the contest, be sure that each of your entries has, in addition to the name and address of the subscriber, the name and address of the person to whom it is to be credited. It's advisable that you use the coupon or a legible facsimile of the one in this month's mag for your initial entry into the competition; all of which must be marked ATTENTION: CYCLE Subscription Contest. This assures you that your personal file has been properly established and that your future subs can be properly credited.

After three years of service as advertising director of Trend, Incorporated, Mr. Floyd Wheeler has resigned to accept a similar position with the Southern California Muffler Company of Los Angeles. Beginning with Trend when *Hot Rod* was the sole publication, Mr. Wheeler served as advertising manager of that publication, and when *Motor Trend*, CYCLE and *Auto* were added to the roster of Trend Magazines, Floyd assumed the position of advertising director of all four magazines. Your editor joins the publishers in wishing "Wheel" every success in his new venture.

A new column, "Crossed Up" comes to life in this issue. Its originator, Mr. Bud Hawkins, is a consulting physicist by trade and a cyclist "by golly." Bud is the inquisitive type and promises not to leave a stone unturned in his never-ending struggle to set things right by his fellow sportsmen. If you are faced with a problem or feel you may have the solution to someone else's, call on Bud.

This month actually marks the closing of CYCLE'S Photo Contest, for in the April edition the Grand Winner of the past twelve months will be chosen. His "picture of the year" is to be selected from among all the entries that placed in the money. Will your entry be the one that wins the \$100 U.S. Savings Bond? I wish I knew.

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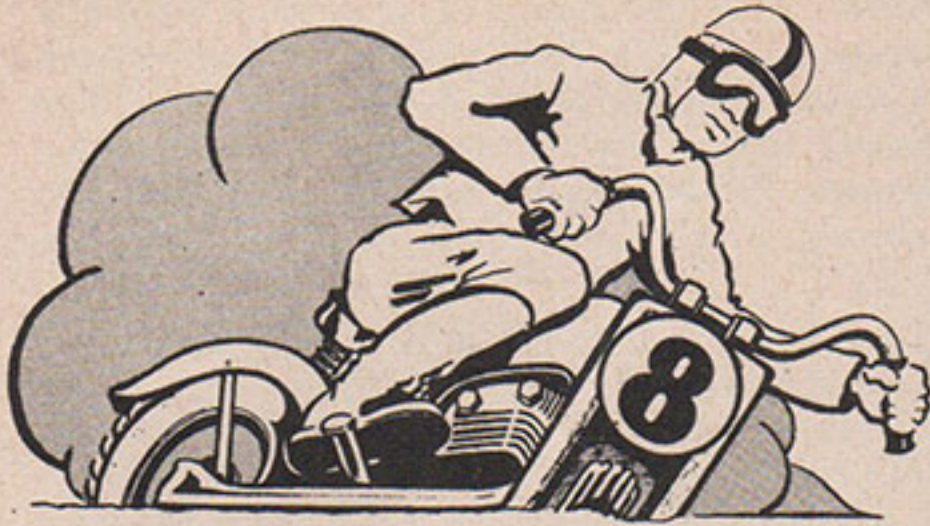


#### ON THE COVER

GIs fly high over torn-up tank proving-ground. Loaded down with heavy ammunition, gun, knapsack and full equipment, these motorized scouts, messengers and military police of the United States Army are taught every trick in the book. They dramatically illustrate the story, "On the Firing Line," page 9 in this issue.

Photos courtesy United States Army

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## CROSSED UP

**N**O ONE KNOWS WHY, but most cycle riders are great talkers. They are full of ideas and anytime you get four riders together you find five sides to every issue. This column will pass along at least one side of many current ideas in our field. Drop us a line and let us know how you think cycle riding can be made better, safer, faster or more fun. Being primarily an amateur sport for most of us, we should kick all the good ideas around so we all may benefit from the experience of the few.

**CRASH HATS**—All riders would probably agree that ankles are most vulnerable, with heads next. We do something about our ankles by wearing boots, and racing rules make us wear crash helmets in competition, but how about all the Sunday drivers' cars we bend with our heads? There is a feeling that crash hats are sissy for road riding. Ball players used to think that mitts were sissy too, but they woke up. We wonder when some enterprising crash hat foundry will design a light model with a good sun shade that looks sharp. What club will be the first to pick a distinctive helmet and require it on all club runs? A really smart workman's compensation insurance company would require all paid delivery riders to wear crash hats.

**RIDERS' SCHOOL**—Why not a riders' school, in fact, one in each cycle center? The dealers should be interested in schooling new riders for safety and fun. I have two boys whom I want properly trained. I'd pay something like \$20.00 apiece for them to take a course of lecture and observed practice run by a good rider who is also a good teacher. The police and the military find it desirable to properly train even experienced riders. It takes real skill to ride well and safely, yet very little is being done to allow the newcomer to profit by the experience of the old-timer. Most state highway police have a real interest in highway safety for motorcyclists.

**TANK TROUBLES**—Leaking fuel tanks are not uncommon on motorcycles, particularly on those ridden hard in the dirt. Most tanks are designed for three point suspension with rubber mounts at two or more support points. One common source of tank distortion and leakage is tightening the nuts on the rubber mounts excessively. This has two bad effects; the rubber loses its pliability when tightly compressed and also the mounting bolts are no longer free to twist in the rubber so the tank itself has to take the twisting forces. Keep the rubber mounts as free and relaxed as possible short of letting the bolts fall out, and your tank will stay tight. If you do have a leak you might try liquid solder, which is neither liquid nor solder but is one of the few adhesives not soluble in Ethyl gasoline. Clean the leak of paint and dirt with sandpaper and spread the liquid solder over the hole. The stuff will harden while the fuel seeps through so you don't have to remove or drain the tank to stop the leak. This remedy will last for years unless the leaky seam flexes and breaks the adhesive. However, certain types of cheap casinghead gas sold without Ethyl fluid can dissolve the adhesive. Strangely enough, the presence of the Tetra-Ethyl somehow tends to keep the patch tight.

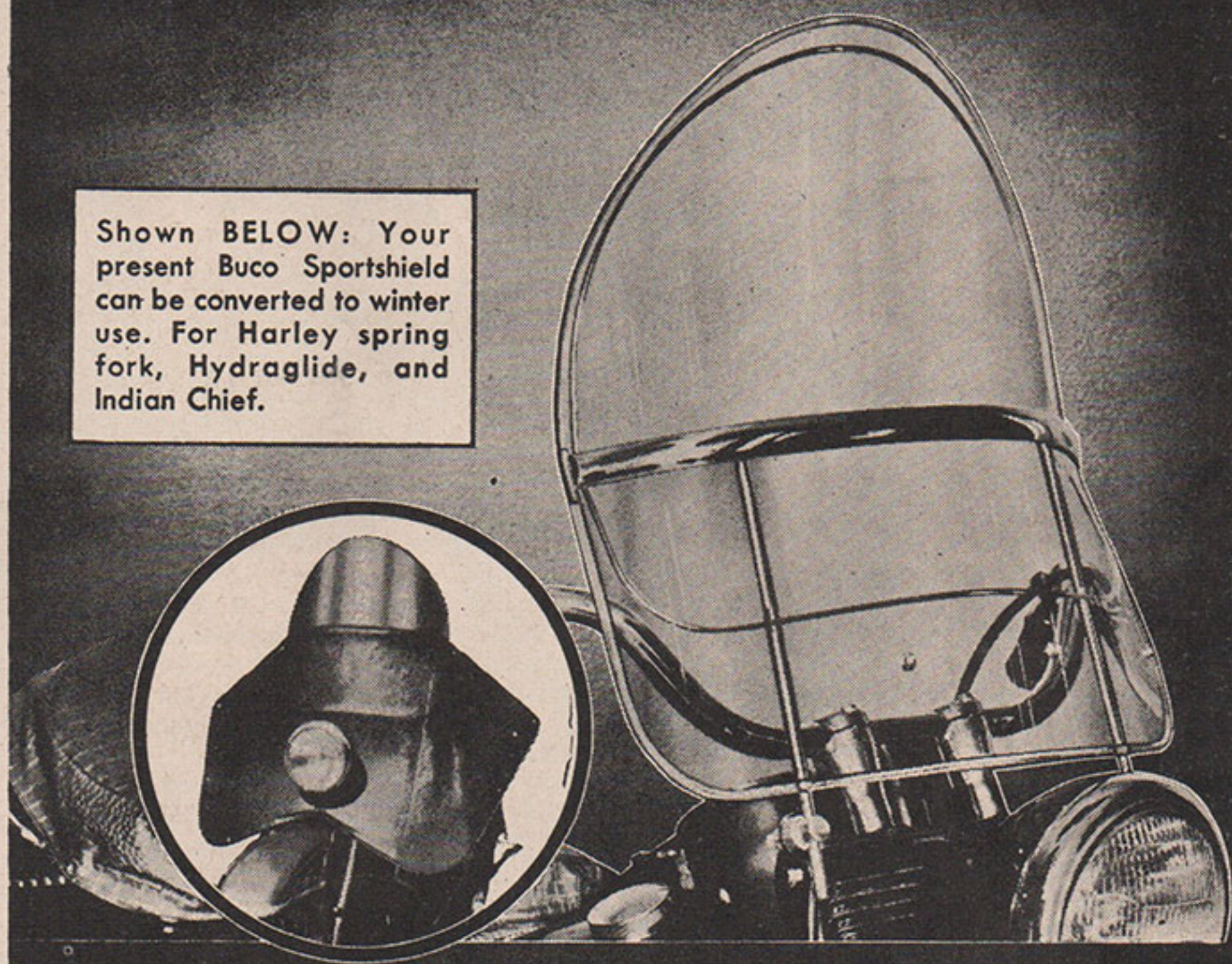
if it has handlebars . . . a

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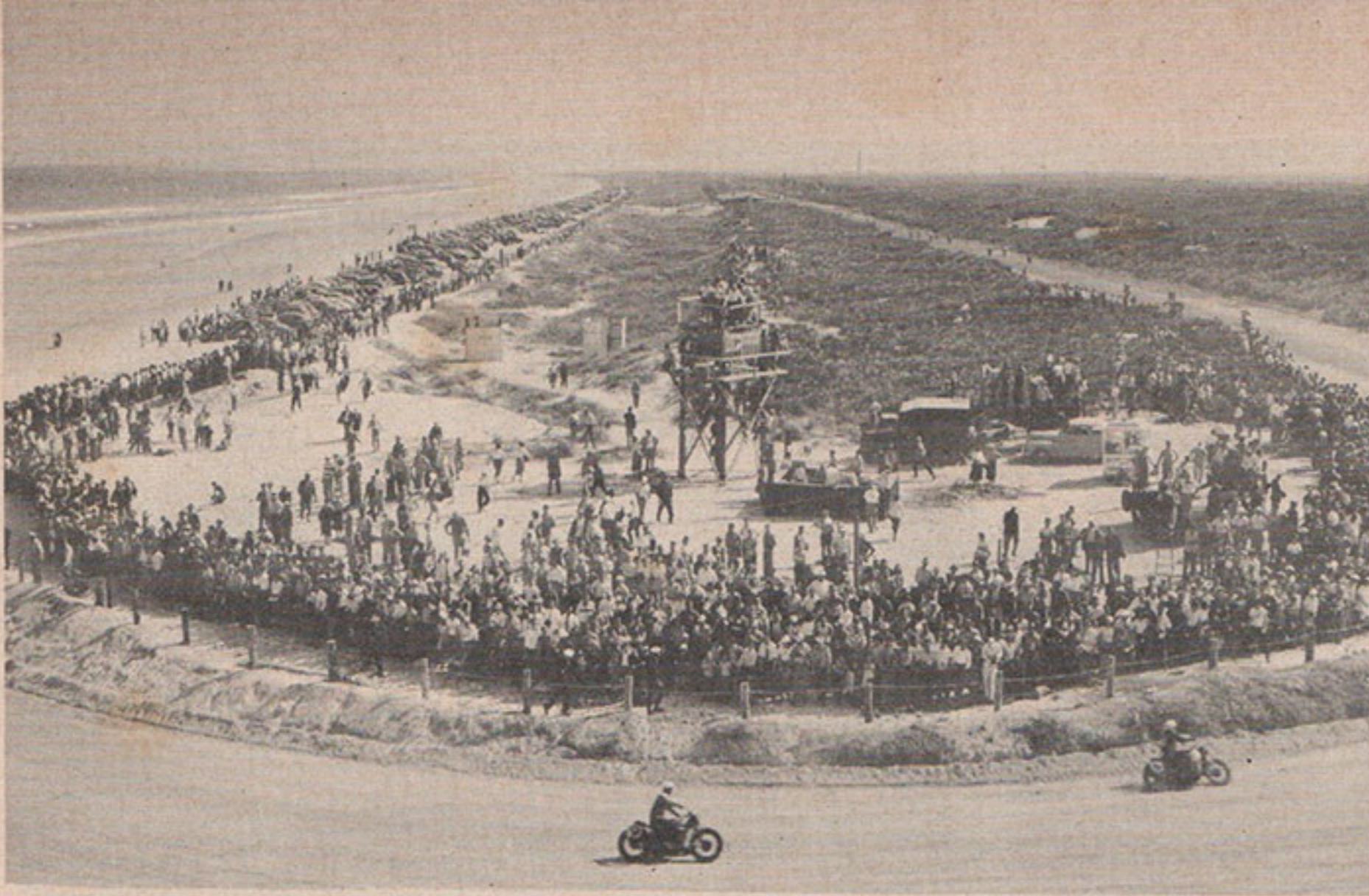
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# DAYTONA BEACH PLUM

ripe for plucking february 23-24

by H. A. Lawing

JUST ONE YEAR AGO this month, an attractive little blonde stepped up to a slender, baby-faced young man wearing a sleek goatee, planted a good luck kiss and then moved back of the guard fence and watched sensational Dick Klamfoth ride to his second victory in the 200-mile national championship motorcycle race at Daytona Beach, Fla.

This same 23-year-old Groveport, Ohio rider, who put away four national championships last year, will be back for the big 1952 race, seeking his third triumph over the hazardous 4.1-mile beach and road course.

Klamfoth, who has never finished lower than second place in four Daytona appearances—once as an amateur—ranked as the nation's No. 1 motorcyclist last year. Following the Daytona classic and his sensational performance in smashing all speed records with an average of 92.81 miles per hour, Dick set a new record for the 10-mile dirt track race over a half-mile course at Richmond, Va., then racked up his first triumph in the 100-mile road race at Laconia, N.H., and followed that with another win in the seven-mile race over a half-mile course at Shreveport, La.

These performances, coupled with two wins, one second in the 200-miler and a second in the 100-mile amateur at Daytona, establish the youthful Ohio farmer as the rider to beat this year over the four-mile course.

Klamfoth's victories rang out another big tune for the British motorcycles which have dominated in recent years at Daytona. His 1951 success was the fourth for Norton machines and the third consecutive win for motors prepared by Francis Beart, the popular Englishman who always gets the same room at a special Daytona hotel for luck.

British machines gained a lead at Daytona beginning in 1941 when Billy Mathews of Hamilton, Ontario streaked to victory in the 200-mile race over the old 3.2-mile course, setting a new record at 78.08 mph.

But it wasn't until 1948 that British-made machines really caught on at Daytona. Don Evans, youthful star from San Bernardino, Calif. won the 100-mile amateur with his Norton that year as Klamfoth finished second. That was the year Floyd Emde won the 200-mile national with an Indian Scout.

Then Klamfoth came back strong and captured the 1949 thriller with a Norton while Mathews won the 1950 classic with another Norton. When the 1951 speed grind started, the count stood at three apiece for Norton, Indian and Harley-Davidson machines in the 200. But Klamfoth's success last year broke the tie to give Nortons their fourth win in 10 years.

Starting 39 years ago at Savannah, Ga., the motorcycle classic originated as a 300-mile road race. The second event at Savannah was captured by Lee Taylor, Indian, at 61 mph, following Bob Perry's victory with an Excelsior in 1913.

After a lapse of many years beginning with the first world war, the event revived in 1932 with Ralph Edwards of Savannah beating out 13 entries. Compare that with the 1947 record entry of 329 riders.

The race shifted to Jacksonville, Fla. then back to Savannah. Finally in 1937 the first Daytona was staged under city supervision. This initial speed-fest attracted 98 entries; veteran Ed Kretz of Monterey, Calif. pacing the field.

Daytona continued during the pre-war years with Ben Campanale of Pomona, Calif., riding his Harley-Davidson to victory in 1938 and 1939. Then came Babe Tancrede of Woonsocket, R. I. to capture the 1940 event, another show of strength for Harley-

Here's how the four-mile sand and macadam course looks from top of north-turn grandstand. Cyclists come up beach into banked turn then travel two miles over asphalt road on backstretch. February 3 through 10, preceding bike classic, will be dedicated to stock car races

Davidson, and in the final event before the second world war, Canada's ace, Billy Mathews, streaked to a new record with his Norton.

When the motorcycle races were resumed after World War II, Bill France, a transplanted Washington, D.C. stock car enthusiast, stepped into the spotlight as director for the races. He initiated the program with a 200-mile national championship on Sunday, supplementing it with a 100-mile amateur race on Saturday. It was from this stage on that Daytona finally became the motorcycle race center of America.

Johnny Spiegelhoff of Milwaukee, Wis., riding a fast Indian, snared the first post-war 200-miler in 1947, but his speed fell short of Mathews' 1941 mark over the 3.2-mile course.

In 1948 Bill France opened the new 4.1-mile circuit, one that has remained in use ever since, and it was Floyd Emde of San Diego, Calif., who rocketed ahead to set a new speed that bettered all marks for the old 3.2-mile course, averaging 84.01 mph on his Indian.

Since then the story has been Klamfoth and Mathews. Klamfoth won in 1949, trailed by Mathews. The situation was reversed in 1950 with Mathews winning and Klamfoth second.

With Daytona just ahead, rated among top entries are Klamfoth, Hill and Tex Luse, the California star who twice finished third in 1949 and 1951.

Now all motorcycle roads lead to the sunny south . . . Daytona Beach . . . for the 23rd and 24th of February.

## DAYTONA RECAP

### 200-Mile Race

| Year | Winner             | Motorcycle | Time       | Mph   |
|------|--------------------|------------|------------|-------|
| 1937 | Ed Kretz, Sr.      | Indian     | 2:43:37    | 73.34 |
| 1938 | Ben Campanale      | Har-Dav.   | 2:42:10    | 73.99 |
| 1939 | Ben Campanale      | Har-Dav.   | 2:36:28.8  | 76.68 |
| 1940 | Babe Tancrede      | Har-Dav.   | 2:39:45    | 75.11 |
| 1941 | Billy Mathews      | Norton     | 2:33:41.18 | 78.08 |
| 1947 | Johnny Spiegelhoff | Indian     | 2:35:33.36 | 77.14 |

(Above records over old 3.2-mile course—  
records below over new 4.1 mile)

|      |               |        |            |       |
|------|---------------|--------|------------|-------|
| 1948 | Floyd Emde    | Indian | 2:22:56.27 | 84.01 |
| 1949 | Dick Klamfoth | Norton | 2:18:53.05 | 86.42 |
| 1950 | Billy Mathews | Norton | 2:15:42.41 | 88.55 |
| 1951 | Dick Klamfoth | Norton | 2:09:15.71 | 92.81 |

### 100-Mile Amateur

| Year | Winner      | Motorcycle | Time       | Mph   |
|------|-------------|------------|------------|-------|
| 1947 | Jack Horn   | Indian     | 1:21:48    | 73.35 |
| 1948 | Don Evans   | Norton     | 1:19:34    | 75.50 |
| 1949 | Don Evans   | Norton     | 1:15:14.89 | 79.73 |
| 1950 | Rod Coates  | Triumph    | 1:13:50.49 | 81.24 |
| 1951 | Bob Michael | Norton     | 1:12:41.22 | 82.54 |

PHOTOS BY JACK CANSLER



Al Aunapu from Fort Lauderdale, Florida gets plenty of assistance from his wife and four children when he turns up for the Daytona race



MOTO GUZZI

**"FINISHES EVERY RUN!"**



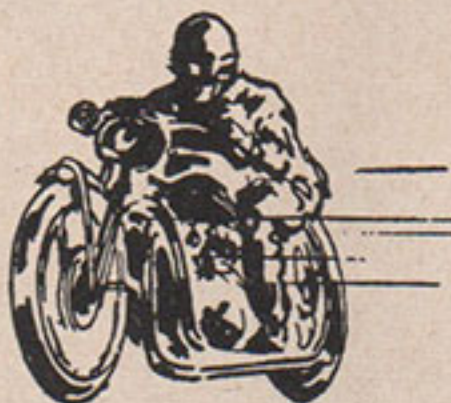
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*Bill Landefeld*

**Bill Landefeld**, one of the original Charter Members of the famed **Rams** Motorcycle Club, knows motorcycles if anyone does—and he's been sold on the MOTO GUZZI line ever since he took a stock Airone Sport, fitted it with a skid-plate and a racing rear sprocket, and proceeded to rack up a series of first and second places (15-inch class) at Hare and Hound runs in the Southern California area. Now many riders are visiting his shop at 10106 S. Normandie, Los Angeles, to get first-hand information on the speedy MOTO GUZZI machines, and take test rides.

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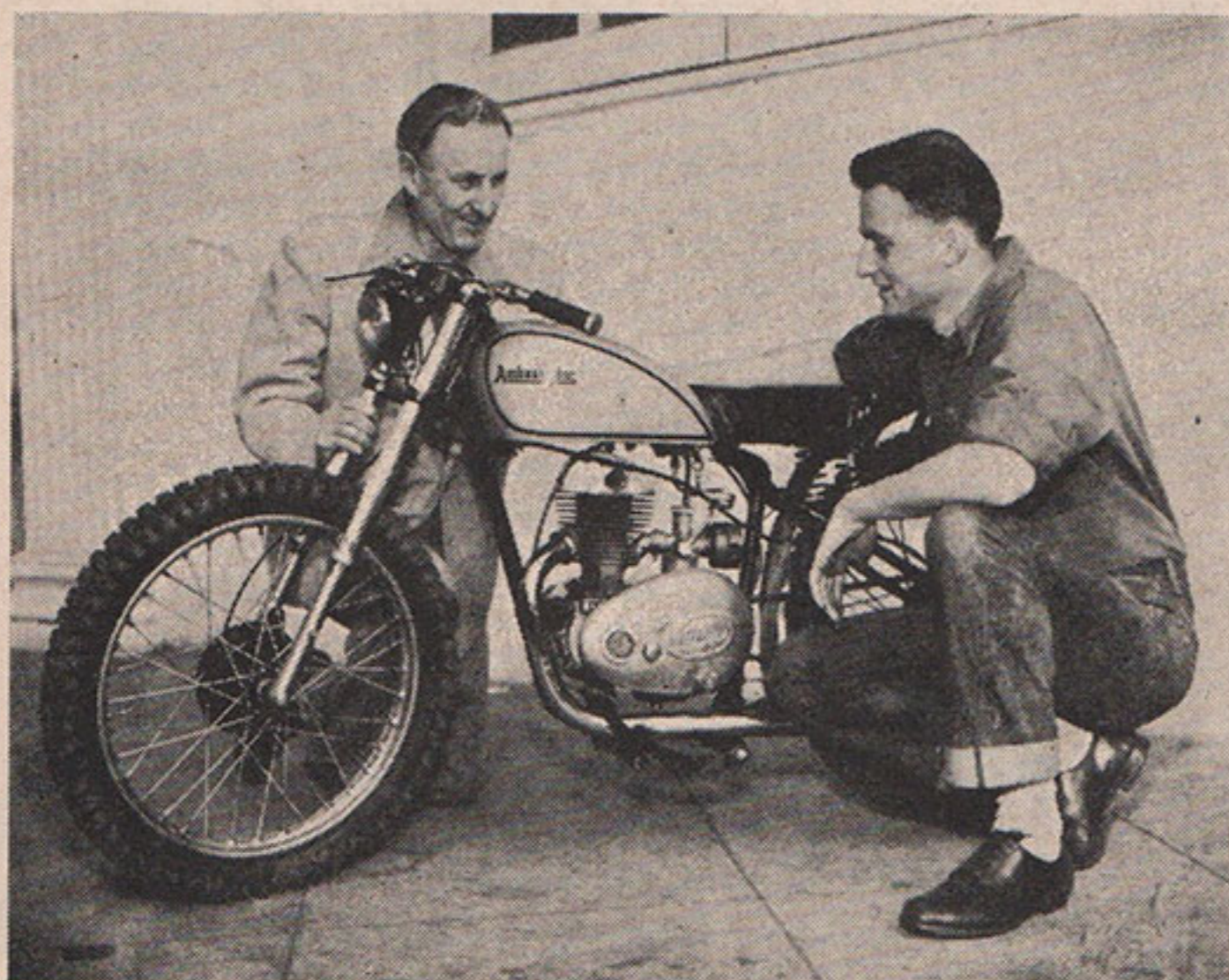
**SUPER-SPORTS  
WARRIOR T.T.**



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Dealer's store!

**INDIAN SALES CORPORATION**  
Springfield, Mass.

## Bob Hughes Wins Big Bear



### Hap Jones & Bob Hughes

This was Bob's first attempt at Big Bear. He's 22 years old and has been riding 5 years. Takes care of his own machine. Works as stock man for wholesale hardware firm in San Francisco.

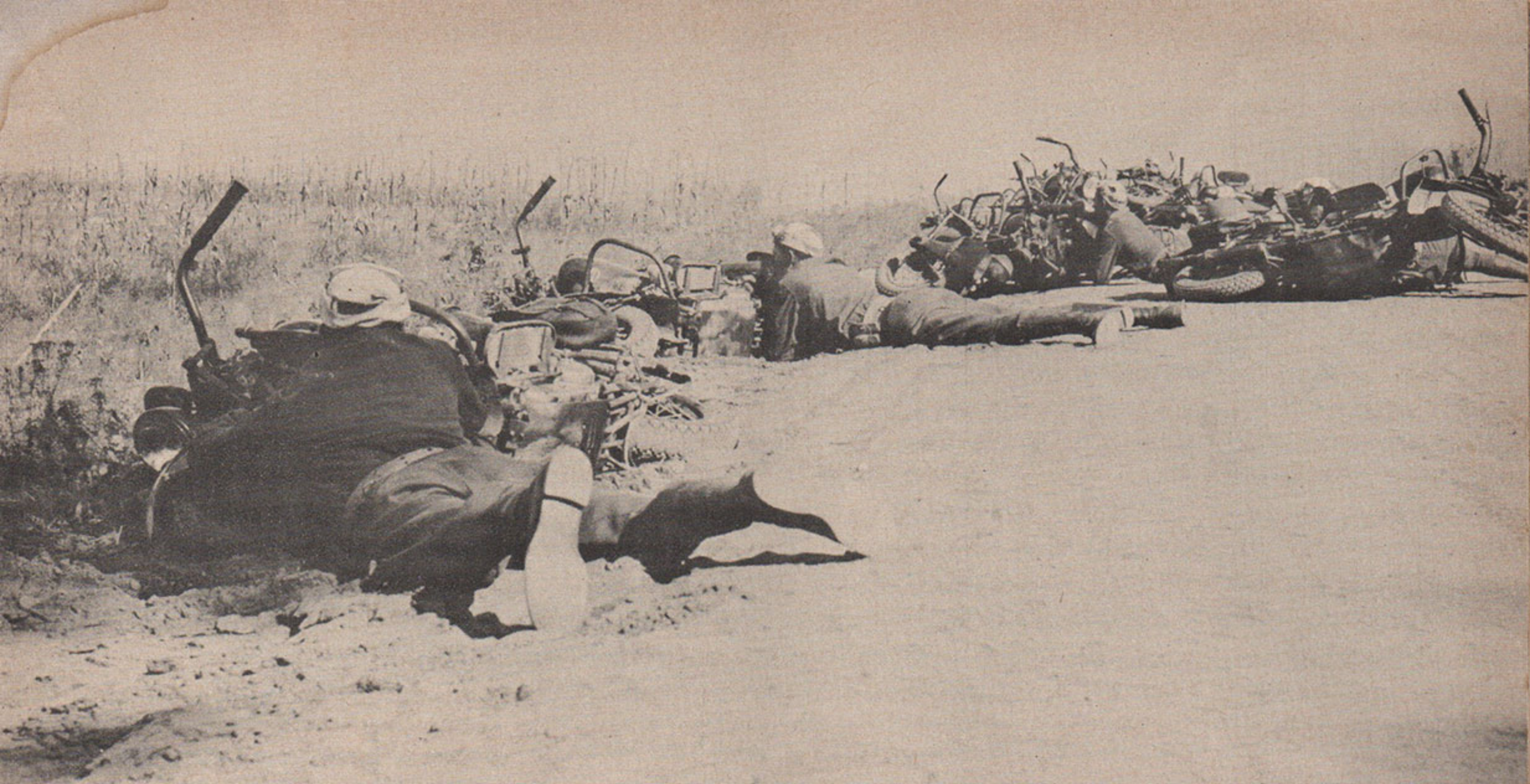
## Lightweight

It's an 80-mile grind for lightweights that starts in the desert and goes thru the mountains. Bob rode his EMBASSY MODEL AMBASSADOR equipped front and rear with AVON GRIPSTERS. The second man in his class was 20 minutes behind him at the finish . . . It's the AMBASSADOR — the lightweight with big machine performance. Retail Price \$339 F.O.B. San Francisco, including Federal Excise Tax.

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## on the **FIRING LINE**



### WITH AMERICA'S "UP-FRONT" SCOUTS, THE MECHANIZED MOUNTIES

BY JOE WHERRY  
& HERBERT SCHWARZ

THERE'S MORE THAN a hurricane blowing across this old world these days, me lads! I have reference to the big wind that's poppin' off over Joe Stalin's way. The Reds have started something, so Uncle Sam has been forced to send those "Greetings" letters to a lot of us.

What's this gotta do with a mag like CYCLE? you ask. Just this. Uncle Sam may be getting set to write you one of those letters, and as a motorcycle fan you have the advantage right off the bat. You have, through your cycling hobby, gained some mighty important technical knowledge and in general have absorbed a lot of know-how about gasoline engines.

Yep, Uncle Sam has been using motorcycles and the guys who ride 'em for a longer time than I can remember. For instance 'way back in 1916 the old 2nd Massachusetts infantry had a number of platoons equipped with cycles; they saw service with General Pershing on the Mexican border. They had Indians with sidecars mounting machine guns, and when the bike outfits were formed, just who do you suppose got first crack at getting into  
*(Continued on next page)*

"Come Heinrich—push!" Greatest emphasis on motorcycles for military use is given by the German people. Each operator is subject to a most comprehensive training program before being entrusted with valuable equipment



Pfc. Edward Mueller of New Jersey demonstrates proper method of spinning down and using the motorcycle as a barricade in combat maneuvers

them? The guys who knew cycles, of course.

They even equipped a few airplanes with motorcycles back in the early years. The Glenn L. Martin Company manufactured several observation planes for the Army—these were fitted with a rack on the right side of the fuselage, and to this rack was strapped a motorcycle. It is believed a few of these ships saw service on the Mexican border during Pancho Villa's unauthorized excursions north of the line; the cycle actually being an emergency "get back home" idea.

For a good idea of how the Army employs motorcycles, let's look at a crack outfit, the 503rd M.P. Battalion now stationed at Fort

Bragg, North Carolina. This battalion is a part of the Fifth Corps, and in time of war would take the field as a combat unit. According to Major Thomas H. Stratton, the C.O., the battalion is authorized no less than 44 motorcycles. Their rugged qualifying course requires six weeks of hard work and the ability to follow orders. Then comes safe driving. These first two attributes were more than many of the aspirants could accomplish. A recent course started with 63 picked soldiers. Before the motorcycle driving licenses were handed out, 42 of the starters had flunked.

During his three weeks prior to actually

mounting a motorcycle, the trainee will ride bicycles for balancing experience. Finally, one man will balance on the cycle while another man pushes. Eventually you'll get your first ride on a motorcycle during the third week of the course, but not until you've mastered the operation of the clutch and gearshift while blindfolded, as well as learned the complete maintenance and replacement of all the many parts.

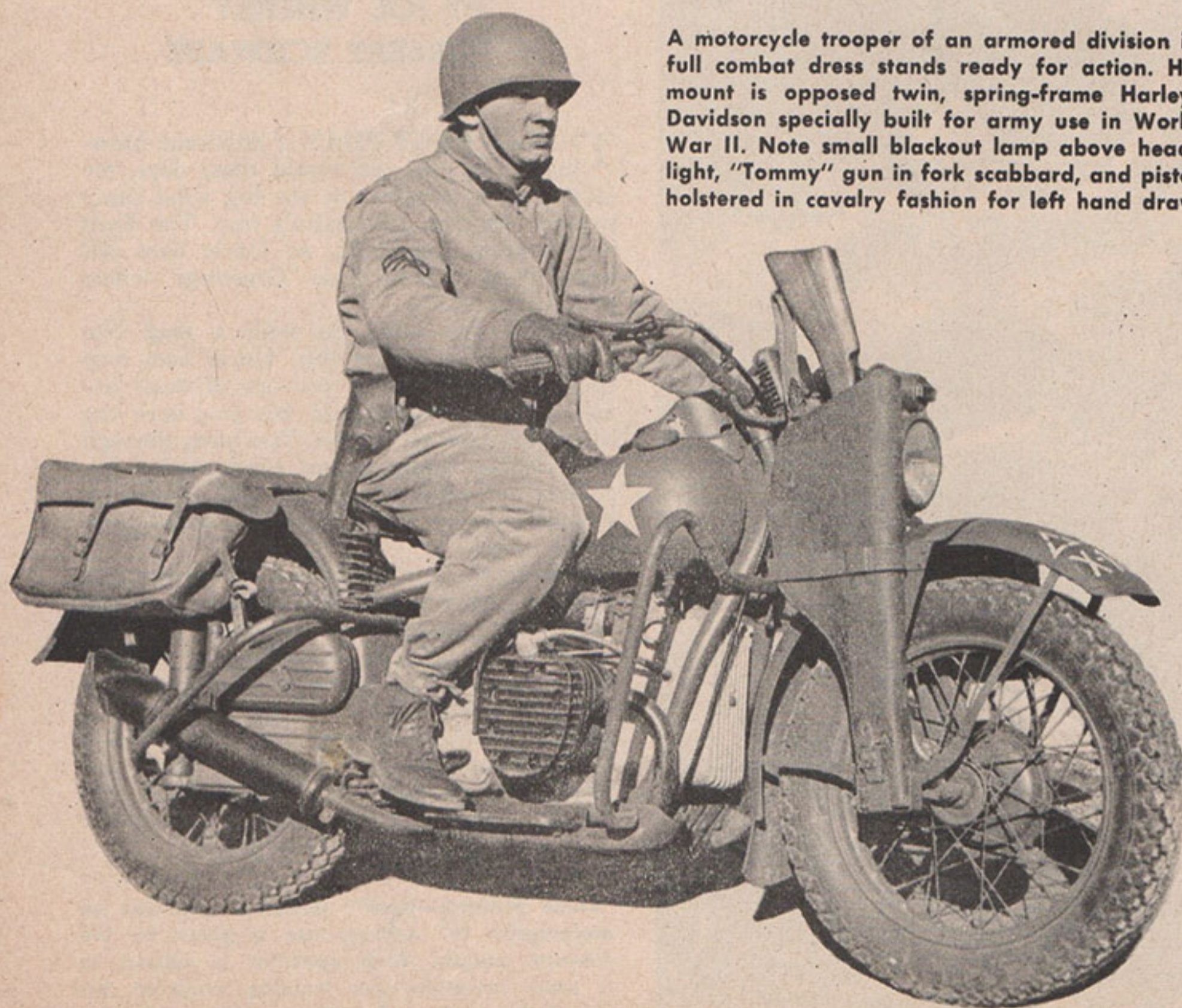
Corporal John E. Sandidge, just returned from a tour of Korean duty, states that requirements for a successful motorcyclist in a war zone are principally the ability to ride through deep mud, ice and snow. Careful attention to map reading instruction may save a soldier's life. The strength to push a cycle at least 5 miles when out of gas, the ingenuity to repair it in the field without parts, and quick wits to obtain food and water strictly on your own are battle-line essentials.

First through visual aid charts, later with the cycle, a man learns quickly how to take the sting out of charging over broken ground by taking his weight off the saddle and posting on the floorboards. However, when maneuvering around obstacles and over bumps, he must learn to constantly and automatically shift his weight in order to maintain his seating.

Major Drain says very emphatically that the real purpose of this school "is to weed out the *THRILL RIDERS* by making the terrain as tough, disagreeable, and dirty as possible and by the use of forced 200-mile marches in rain and through cross-country runs over sand and mud tracks." If you take this course, you'll be required to master the art of fording streams 14 feet wide and two feet deep, and to ride or drag through swamps and mud baths; the latter are fiendishly designed and built by the motorcycle units just to slightly disinterest the guys who volunteer for excitement.

In actual combat the motorcycle as a vehicle is never intentionally exposed to enemy fire. Reason: the motorcycle is a vulnerable gadget; but experience in Korea has shown that in fighting the Kremlin's gremlins, you must be ready for sudden attacks by irregular guerrilla units. Perhaps the best thing a motorcyclist can do if fired on is to ride out of the immediate area at

A motorcycle trooper of an armored division in full combat dress stands ready for action. His mount is opposed twin, spring-frame Harley-Davidson specially built for army use in World War II. Note small blackout lamp above headlight, "Tommy" gun in fork scabbard, and pistol holstered in cavalry fashion for left hand draw



top speed. This is not always possible, so the trainees are taught tactics whereby they keep their vulnerable cycle shielded by larger vehicles. This latter technique is being used successfully where the enemy attacks a column of vehicles. Such situations as an ambush require the ability to throw your cycle into a slide so the course includes a test that must not be failed: you must learn to drop your bike instantly at a minimum speed of 35 mph on a dirt or graveled road. The end of the slide must result in the motorcycle lying on its side, and you alert and ready with your rifle, carbine, or "Tommy" gun barrel projecting across your cycle, which thus becomes your battle shield.

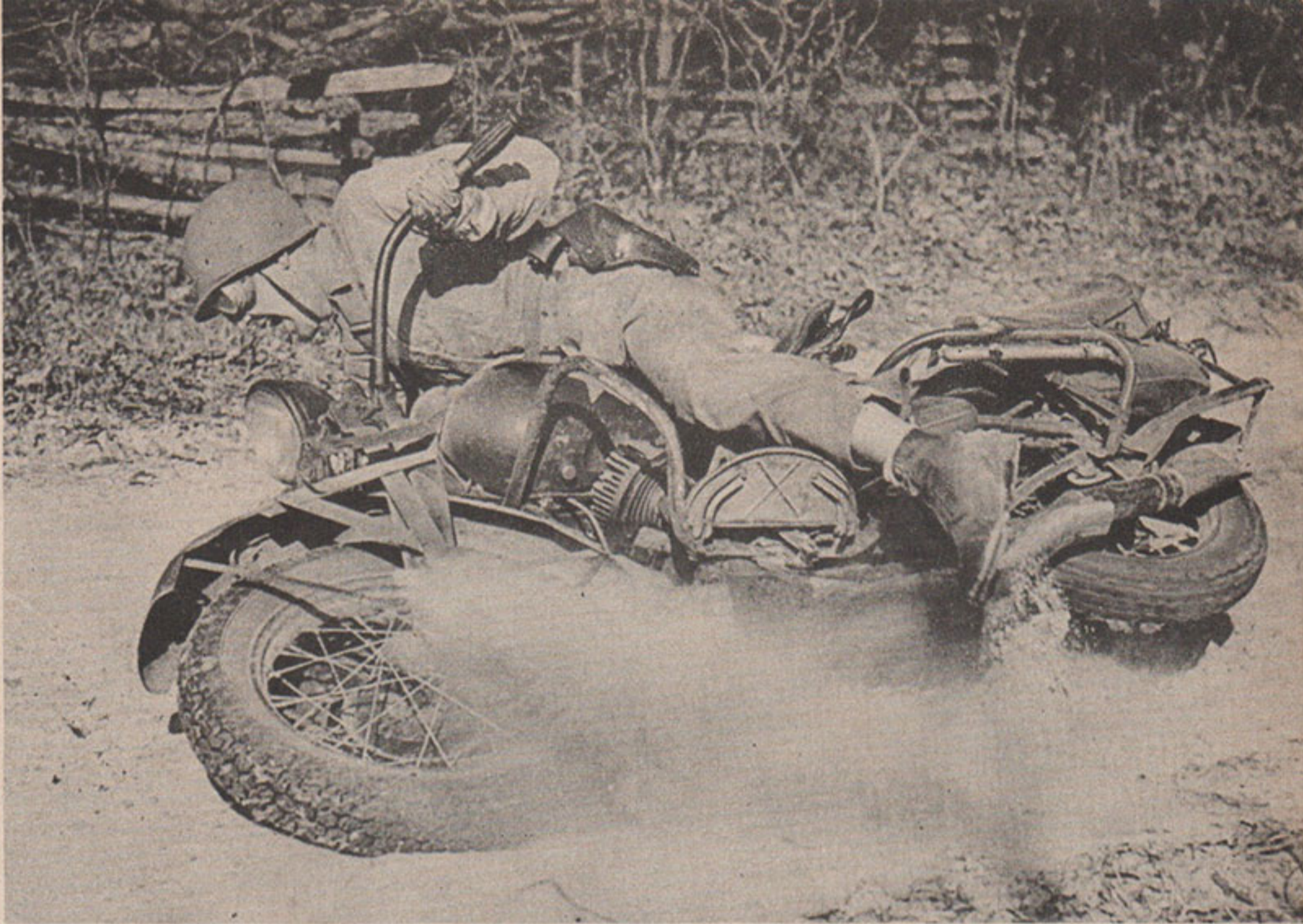
As for other training, after the army decides you're capable of being entrusted with a cycle, you'll follow the "sarge" through dummy mine fields; actual machine-gun fire will whistle over your head, and predetermined, well placed bursts of TNT will condition you to the noise of battle.

As a motorcycle trooper you will often be one of only three or four whose responsibility it is to get a convoy of ammunition trucks through or bring back a company of POW's. You may be assigned to a reconnaissance platoon of armored cavalry—your job being to function as the platoon's only "get-a-way" man in case of an over-powering attack.

Quite possibly you may not wind up as an MP—you may go to a reconnaissance squadron (armored cavalry) with an infantry division, to an armored division, or even to an airborne unit. The duties of an airborne motorcyclist are just as varied as those of an MP; if he is a daring type he may be paratroop material—in which event he'll "chute" to the ground and hope his cycle, also chute equipped, drops near him.

Hardly any armed force during World War II used the motorcycle so extensively as the German Army, and while literally thousands of two and three-wheeled vehicles have been employed during various campaigns, comparatively little has become known as to their mechanical characteristics. We have contacted the two largest suppliers of motorcycles to the German "Wehrmacht" (armed forces) and they obliged by supplying data on the most popular bikes used.

The Zundapp factory at Nuremberg furnished four types for motorized troops, the K 500 for solo use, KS 600 and K 800 for sidecars and the super-heavy KS 750 with



"Hit the dirt!" A cycle scout, suddenly discovering the enemy, flops his motor preparatory to drawing sub-machine gun and making himself scarce behind bike. Motorcycles have low silhouette

driven sidecar wheel, low-low gear, reverse gear and other special equipment for use in roadless terrain. The K 500 was a twin of 500cc and developed 16 hp; all Zundapps have shaft drive and opposed cylinders. The KS 600 had a little more volume (600cc) but developed 28 hp. All bikes for the army had both hand and foot shift and featured the famous pressed steel frame. The K 800 was biggest of them all; a rugged four-cylinder engine. While it developed only 22 hp, the power came in at very low speed. Besides a footshift it had a handshift lever like an automobile, hydraulic shock absorbers, interchangeable wheels, reverse gear and a number of other features.

BMW, the other main source, supplied the R75, a 750cc opposed twin with sidecars. Here again the sidecar wheel was connected with the drive shaft. Low-low gear was provided as well as reverse. Shaft drive with differential lock made the unit very useful in rough terrain. Among other features, the R 75 could boast hydraulic brakes,

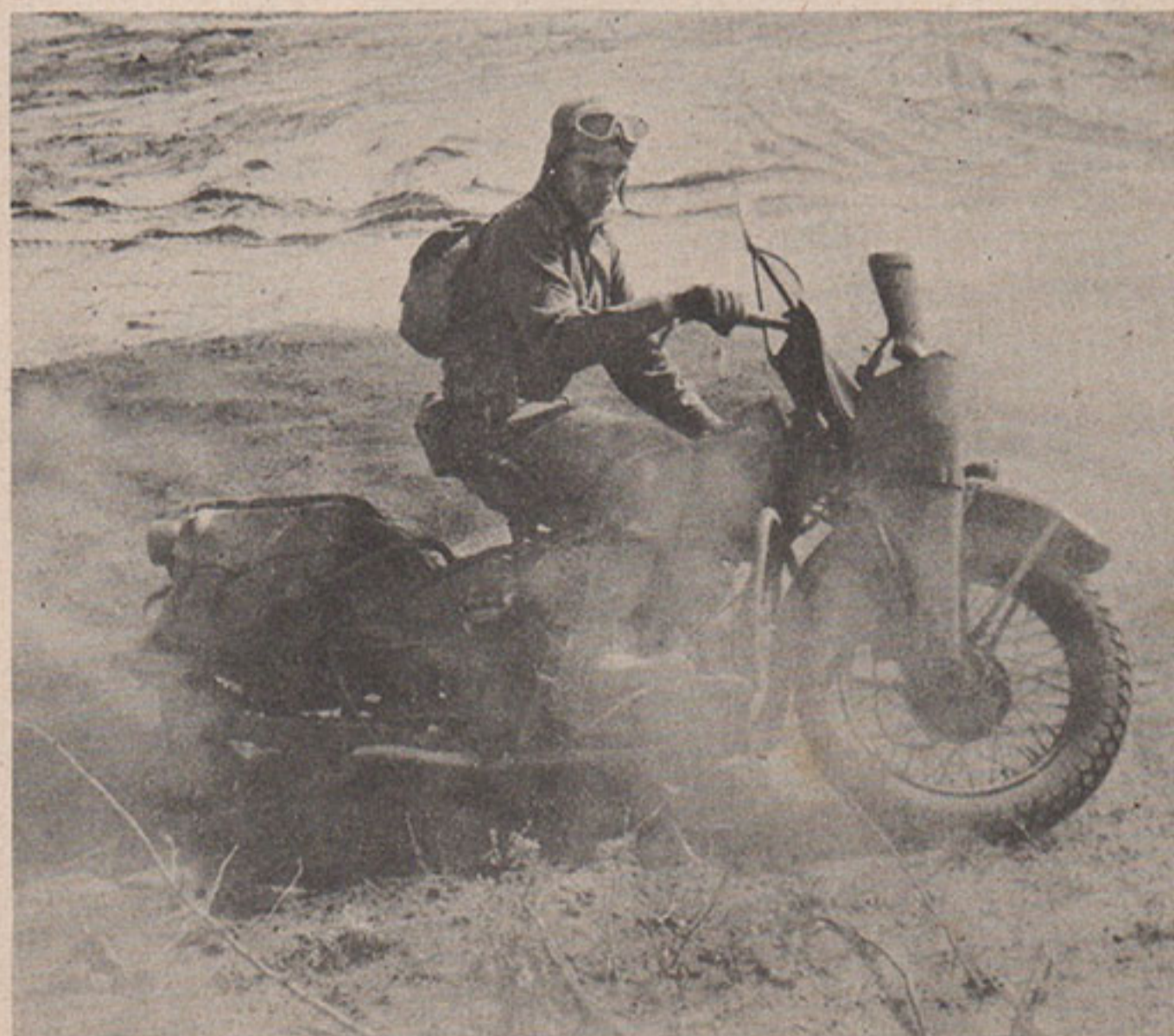
250 miles driving without refueling, interchangeable wheels and a payload of 600 lbs. The OHV engine developed 26 hp at 4400 rpm, compression ratio was 5.6:1. Contrary to the Zundapp the BMW had two carburetors and instead of the double chain transmission of the first, they had a traditional gearbox. All told the bike had seven speeds forward and two reverse. The frame was tubular type, not welded but completely fastened with screws.

Special tires came with all types of motorcycles for the army and all were equipped with spares. Certain units had special accessories such as light gun mounts, litter bearing sidecars, radios and others. The BMWs also have mufflers at the height of the rear fender, another aid to riding in mud and snow.

Yes, the motorcycle is still a prime vehicle whether it be for the convoy patrolling of the Alaskan Highway, or advance guard duty along the West-East line where the Iron Curtain drops with a thud in Europe.

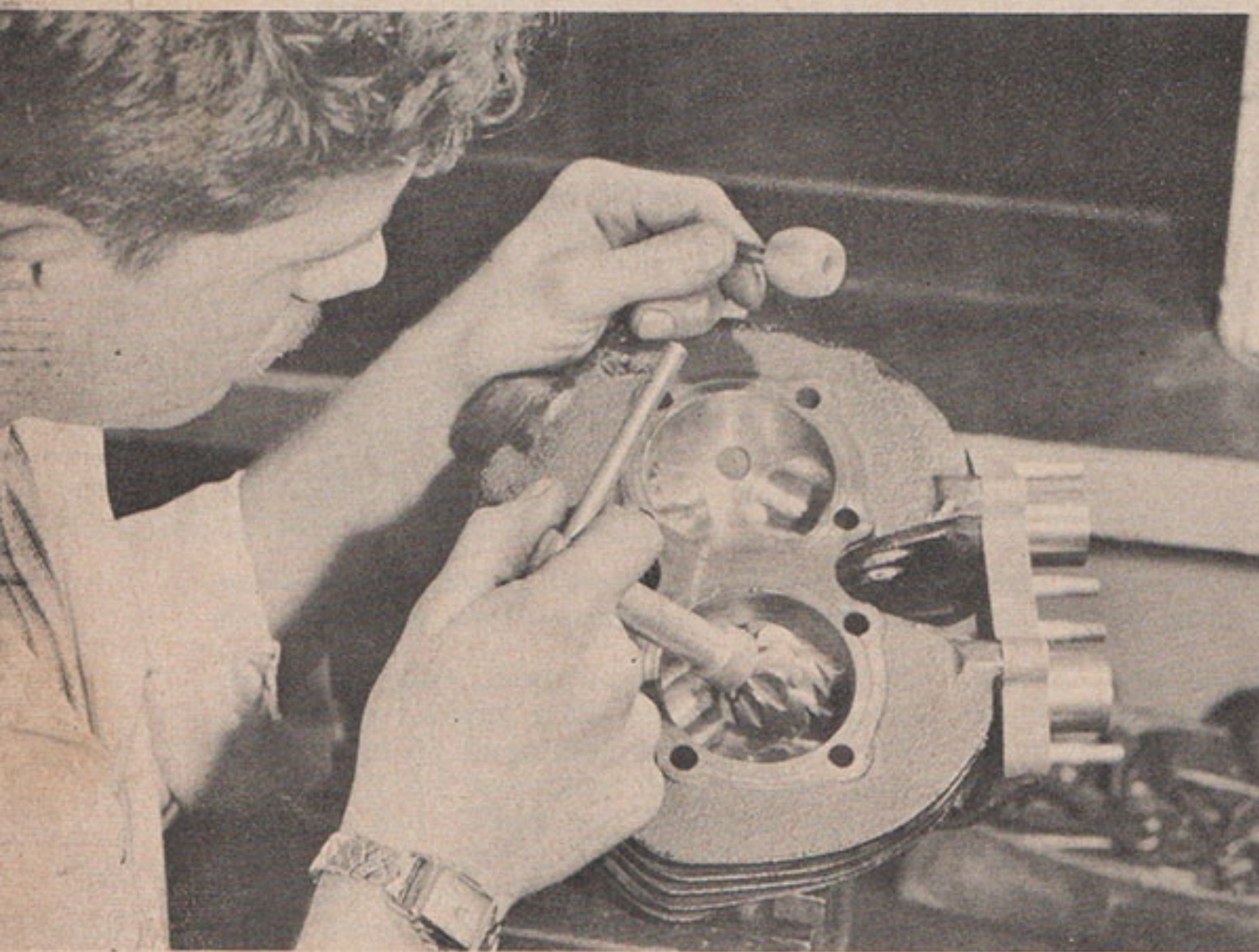


Back into motorcycle history for this picture. A 1916 army observation plane built by the Glenn L. Martin Co. Bike is racked on side of fuselage for a fast get-a-way back home if forced down behind enemy lines



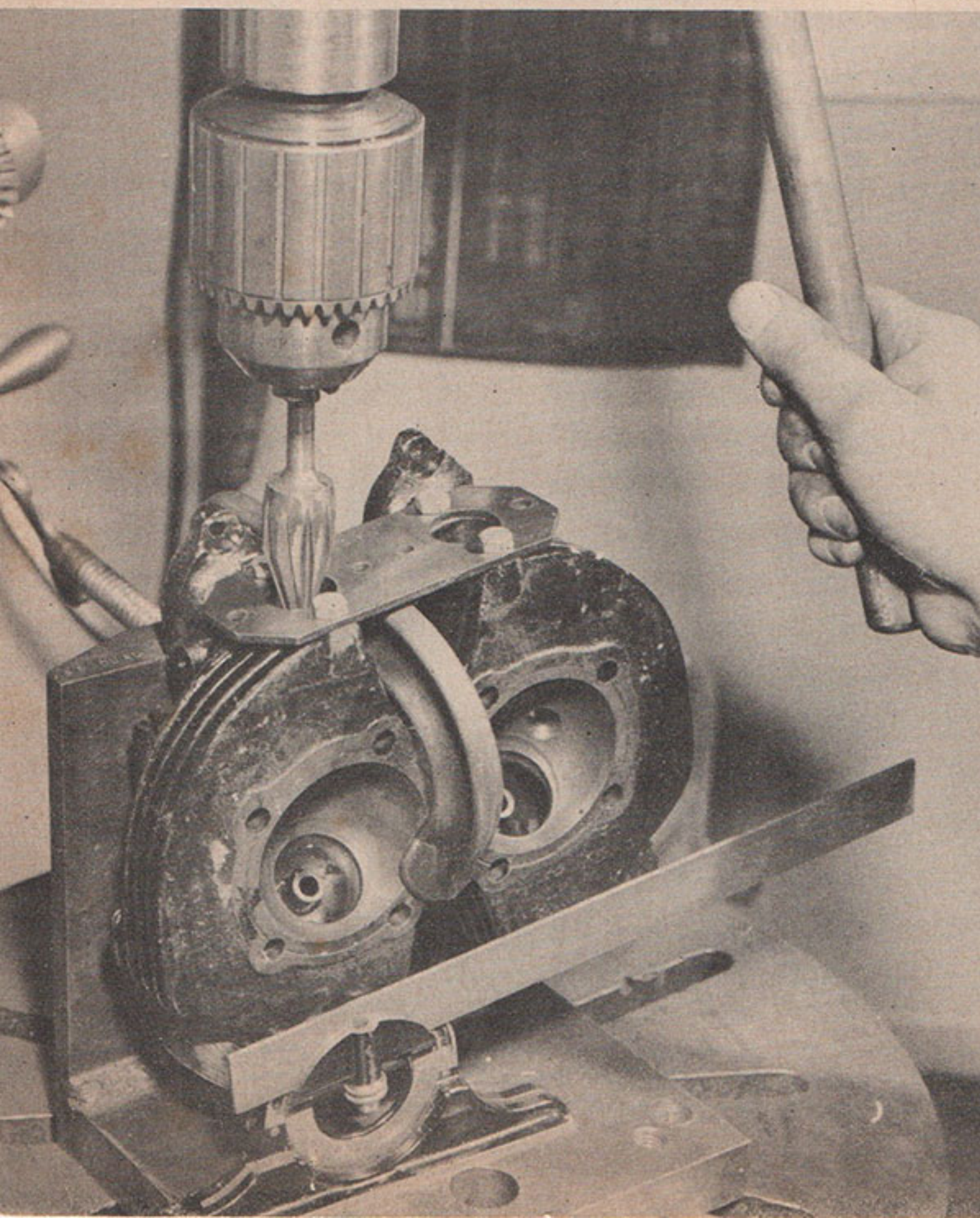
Going into a spin accustoms GIs to sensation of falling and teaches them that going down can be done gracefully and without harm to the rider or his equipment. Engine skid pan extends to protect muffler

# STRICTLY for the



Jimmy Phillips uses another special shop tool to gouge hole for the larger intake valve. Most operations can be done by private owner at home

Shop method of rough porting. Special plate, cut to size, is bolted down, special bit ports straight through in one operation. Level helps align



The men who act as advisors for this series of hop-up articles are the best we can find. Cal Makela, our technical expert on the Thunderbird, is the chief mechanic at Johnson Motors, West Coast distributor for Triumph and Ariel. Cal is instrumental in building up record-breaking Thunderbirds for events such as the Dry Lakes, Daytona, and Bonneville.

But this extensive experience is only part of the story. The reason we chose Cal is that he has been one of the pioneers in setting up a simple, low-cost method for putting more thunder in the Thunderbird. He's done the job with production parts; he's even set up a method whereby his shop can handle the entire operation with special tools in a fraction of the time an amateur would spend. Yet he's still willing to give away the formula to anyone who's interested. To Cal, then, and to the other fine mechanics who have helped us in the past and who will give us assistance in the future, CYCLE'S staff doffs its battered helmets—Ed.

THIS IS THE STORY of the bird that learned to fly. The 40-in. Triumph represented a bold departure from accepted standards of displacement in the last couple decades. The factory in Coventry, England, does not advertise a special racing kit for the Thunderbird as it does for the 30.50 cubic inch Tiger 100. Even so the forty-incher holds its own among the best of the stock bikes. But no matter how fast any stocker will go there is always the gent who wants just a little more jump than the next guy. Many feel so strongly about this that they are willing to hock everything that isn't nailed down just so they can get into the middle of things.

Fortunately the Cal Makela variation on the Thunderbird motif does not require such a sacrifice. He raises the compression ratio, enlarges and smooths the intake path, changes the carburetion, takes the hump out of the combustion chamber and arranges for the valves to stay open longer. With these modifications, the bike isn't going to become a contender at the dry lakes or the drag strips but it isn't going to eat any stocker's dust either. Under capable hands it should clock 115 mph, enough to convince the rest of the boys that when you turn on the throttle you aren't fooling.

You, the shade-tree mechanic and average rider, can make the simple changes yourself. Later, if you feel the urge to try your skill on the tracks, your work will serve as a foundation for competition modifications. Think twice before taking that last step—the Makela hop-up is good for street work but the special drag race and speed trial jobs, with their stomping cams and stratospheric compression ratio, will give you more grief than happiness on the highway.

## Before Starting Work

You'll need:

1. One (1) Thunderbird
2. Basic CYCLE workshop (Jan. '52 CYCLE)

Take the motorcycle and run it in for two or three thousand miles to season the metal in the barrel. If you have already put extensive mileage on the bike or if you have been riding in sand and dirt, you'd better plan to bore out the cylinders before reassembly.

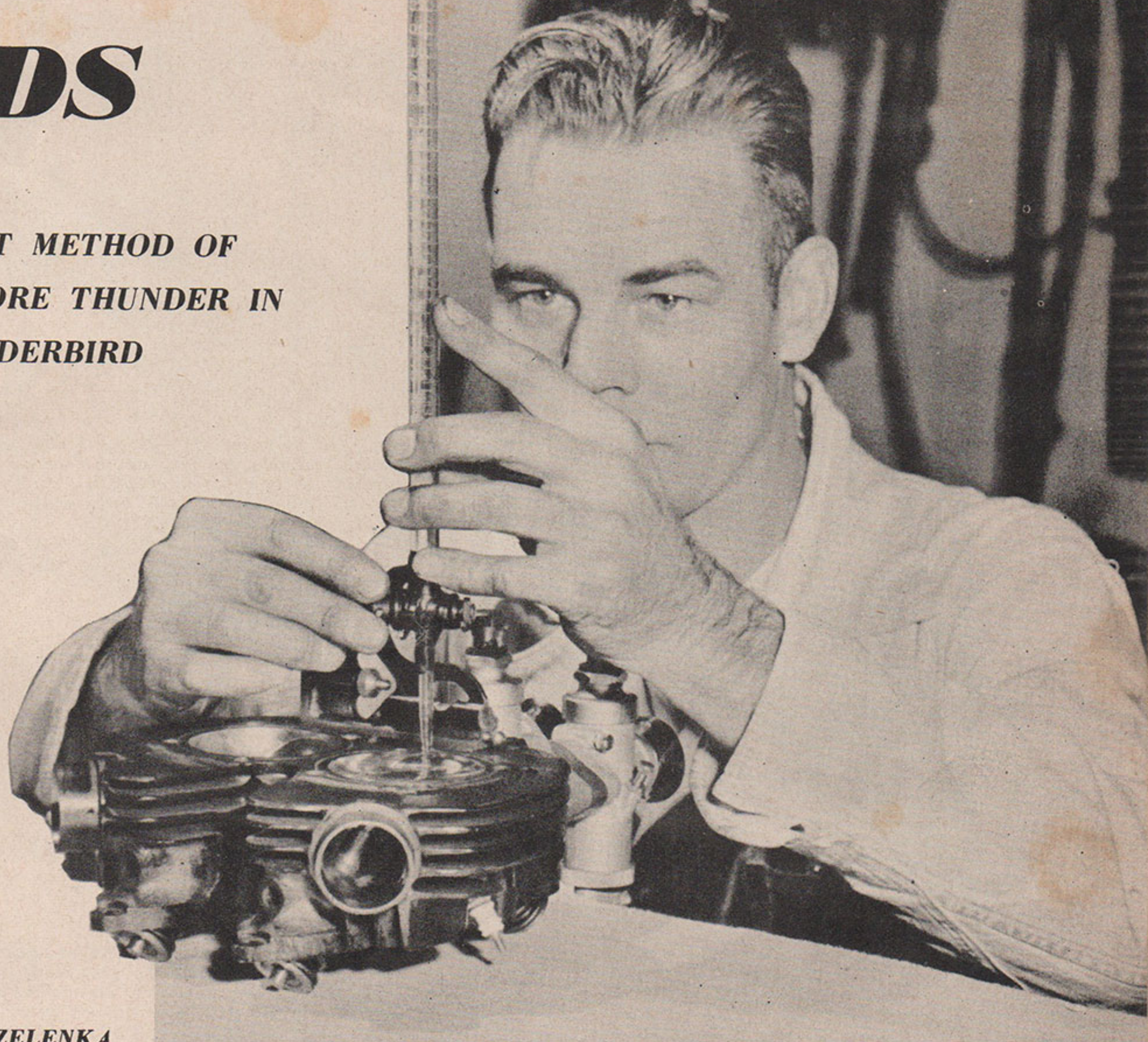
## Disassembly

(Much of the following information is taken from the special factory handbook that is part of the Tiger racing kit. Cal Makela has modified the details to apply to this particular job on the Thunderbird.)

1. Clean and Gunk. There are two very sound reasons for this. In the first place, it is much easier to work when you can see all the parts and when you don't have to keep wiping grease and dirt off your tools. Also, it is fatal to reassemble the machine dirty because a few grains of sand may find their way into the wrong places and chew up bearings or scratch pistons and cylinder walls.
2. Remove gas tank and seat.
3. Remove exhaust pipe and muffler by loosening the exhaust-pipe clip at cylinder head and removing front bracket nut and muffler hanger bolt.
4. Remove carburetor.
5. Disconnect leads and remove spark plugs.
6. Remove top motor mounts that hold front rocker box to frame tube. (The British call these mounts "torque stays.")
7. Disconnect rocker oil-feed.
8. Remove union bolts securing rocker oil drain pipes to cylinder head.

# BIRDS

## A LOW COST METHOD OF PUTTING MORE THUNDER IN YOUR THUNDERBIRD



PHOTOS BY ZELENKA

Cal Makela measures capacity of combustion chamber with graduated cubic centimeter rod. Chambers must be equal for good performance. Use of measuring rod may be had at local school or shop

9. Rocker boxes are removed by taking off the four stud nuts and rocker box screws followed by the four central cylinder head bolts. Be sure the valves are closed.

10. Remove front push-rod cover tube and push rods, then unscrew four remaining cylinder head bolts and lift cylinder head off block. Take away inlet push rod cover tube and push rods. Cal makes a very intelligent suggestion here. If you mark each push rod and keep it with its respective valve and spring, then reassemble the entire unit just as it came from the machine originally, you won't have any trouble with valve adjustments later.

11. Remove valves from cylinder head. Use the special tool for this purpose. The Tiger kit book lists an alternate method not requiring that tool. You get a piece of wood, shape it to fit the combustion chamber to hold the valve in place. Then another piece of wood, suitably slotted, can be pressed down on the valve-spring collar to expose keepers which can be eased out with a small screwdriver. A sharp tap with a hammer on the end of a piece of wood will probably be necessary to disengage keepers before removal. Be sure you mark the valves.

As an extra precaution, Cal always measures the length of the intake valve springs before removing the keepers. During the actual hopping-up of the engine, you will be changing the seat and the size of these valves. If you seat the valve much higher than it already is, you may compress the spring too far, with a possibility of the coils coming together when the valve opens (coil bound).

On the other hand, refacing the valves too thin, or grinding the seat deeper will extend the valve stem to the point where the spring will not be compressed enough, resulting in insufficient seat pressure.

The remedy in either case is obvious. A spacer of proper thickness under the spring cup will properly compress a spring that is too long. A short spring, too tightly packed, can be corrected by grinding the valve seat deeper and grinding some more off the 45-degree valve face to allow the valve to sink deeper into the head. This, of course, will change the compression ratio a bit.

12. When removing cylinder block, care must be taken not to drop tappets into crankcase. To avoid this, place rubber band around heads of tappets before lifting. These will later be removed and replaced by tappets of greater radius for better valve action.

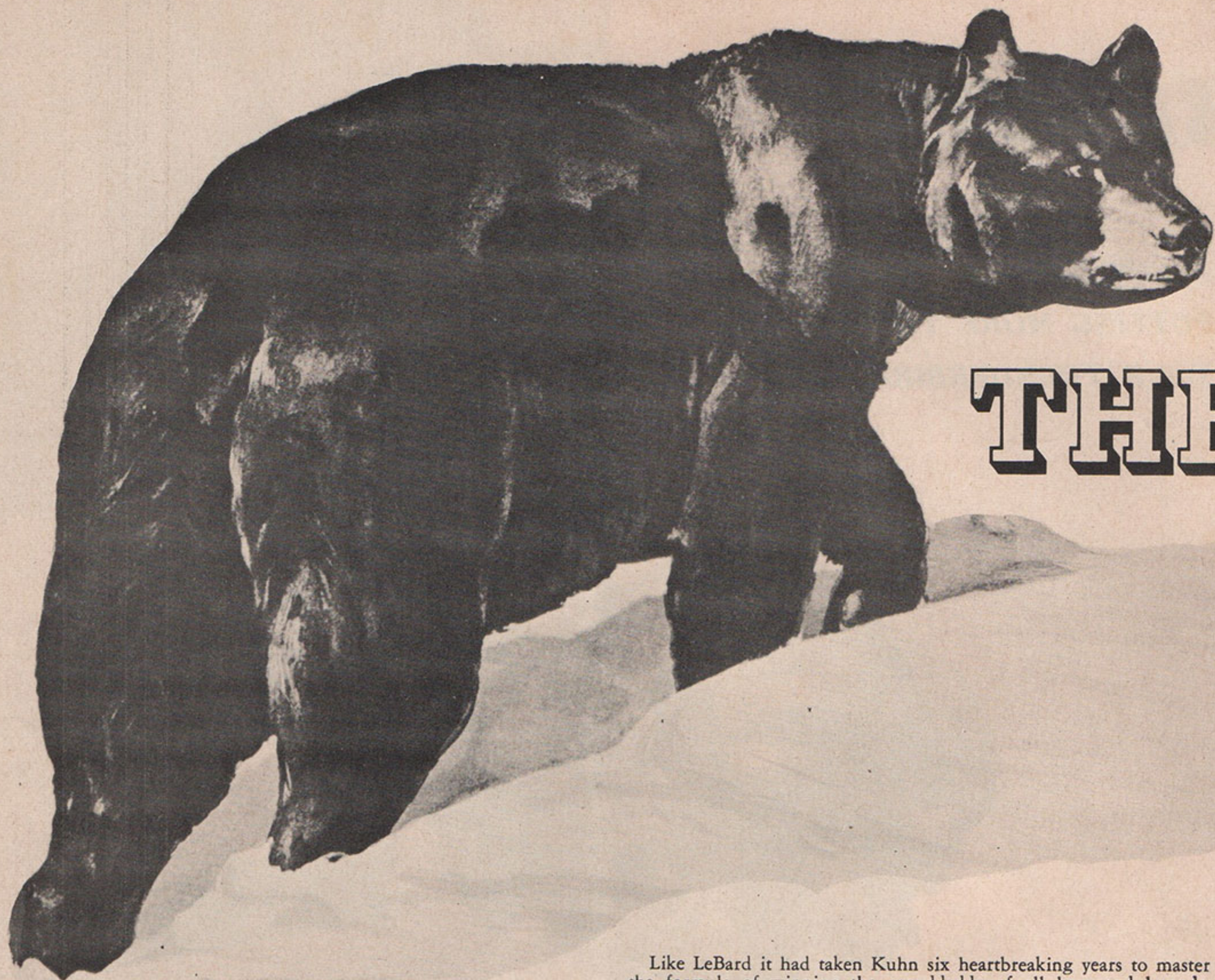
13. Remove pistons. To do this, rake off circlips (wristpin keepers) and tap wrist pins (the British call them gudgeon pins) clear of connecting rods with soft drift (punch), care being taken to support opposite sides of piston while doing this.

### Modifications

Disassembly and reassembly are drudgery, requiring a minimum of creative thought. But the work of "hopping up" is far more interesting. In this stage your skill, ingenuity and resourcefulness really count. Nobody can tell you how smooth your ports should be or how to get them that way; the condition of the engine depends on how thorough and capable you are. Cal knows how he does it and he knows it works. He can tell you the operations he performs but it's up to you to do them right.

Here's what he does:

1. Mike top and bottom of cylinders to check for taper. If too far out, you'll need a rebore and a special piston to fit. If still good, have the barrels rough-honed for smoother, (Continued on page 31)



# THE

**B**EING THE FIRST MAN atop the mountain in the annual Big Bear run was not new to Aub LeBard, only three-time consecutive winner of years past.

Aub's appearance on the frigid pinnacle this year, however, was in another capacity. He had shed the cloak of the snarling hound for that of the timid hare, pitched in with the Three-Point M/C to help lay out and mark the last snow-bound section of their super hare and hound.

In years gone by, LeBard's uncanny faculty for sniffing the hare's tracks had one disturbing element, that being in the form of a gifted, fair-haired competitor by the name of Del Kuhn, who was always ready to strike at Aub's first wrong move. Del's past attempts had somehow always been plagued by trivial mishaps, until he was almost of the frame of mind that this just wasn't his run, and it was only a last-minute hunch that prompted his decision to enter the race one more time.

An interesting sidelight and tribute to his stamina is the fact that Kuhn worked at his duties as California Highway Patrolman all night preceding the run, barely getting off in time to pack up and head for the desert start at Lucerne. After riding and winning the '52 chase, Del hurried home in time to report on the job again at 7:00 o'clock that night.

Following its usual pattern, this year's frantic bid for the lead changed hands in rapid succession before the first check. First, Lamy Lamoreaux gripped it, only to crash and toss his early lead to Del Kuhn, who gave way to Bud Eakins and Russ Goode before finally grabbing it back for the last time. Once out in front, Del's easy, relaxed style began to pay off. The long patches of adhesive dry lake gumbo that jammed the front wheels and threw the majority of the 340 starters were either skirted or deftly mastered by Kuhn, for there wasn't a trace of mud on his leathers as he thumped across the snow-covered finish.

Like LeBard it had taken Kuhn six heartbreaking years to master the formula of winning the granddaddy of all hare and hounds. Both riders show an almost identical style, offer a lesson to be learned: don't overtax your strength by riding at your limit; try to plot general direction of course by path already taken and anticipate next turn; ride your own race with a calm steady pace; remember that the winner is usually the rider who falls the least times, and is seldom first at the first check.

The first 75 miles of this fast, rough but well chosen course formed a huge circle, came back through the start at Lucerne and proved the winner of the lightweight class (250cc and less). Spectators were dumbfounded to see Bob Hughes sail across the lightweight finish line on his 197cc Ambassador 2-stroke barely 20 minutes in elapsed time behind Del Kuhn, and running about 30th amongst the big class hot shoes. Hughes was 20 minutes ahead of the first 250cc bike. Karl Foltz on a 197cc Excelsior popped up next in the lightweight group, running a good five minutes ahead of the first 250cc machine.

Equally astounding was Cordy Pieper, the first 125 rider who arrived one minute ahead of the third 250cc bike on his BSA. Five 125's finished the peewee portion in all. Fourteen out of 21 lightweights came through their circuit as compared to 103 out of 310 big bikes (250cc up) finishers.

In the main event AJS and Matchless riders ran off with eight out of the first ten places, proving the 500cc single-cylinder jobs still a favored means of cross-country transportation.

By following the trail for several miles it was plain to see that the Three Point club had vindication in their hearts and plenty of lime on hand after losing the National Hare and Hound title over last year's questionable course marking. The National Hare and Hound title for '52 has been passed to the Rams M/C, active Los Angeles group, who are laying plans for the early part of December.

The careful thought and planning that was reflected in the 1952 Bear Chase rates the Three Pointers as a very capable group despite their present short membership and it is hoped that they will be among those considered when the national titles are passed around for 1953.

(Continued on page 16)

# BEAR CHASE



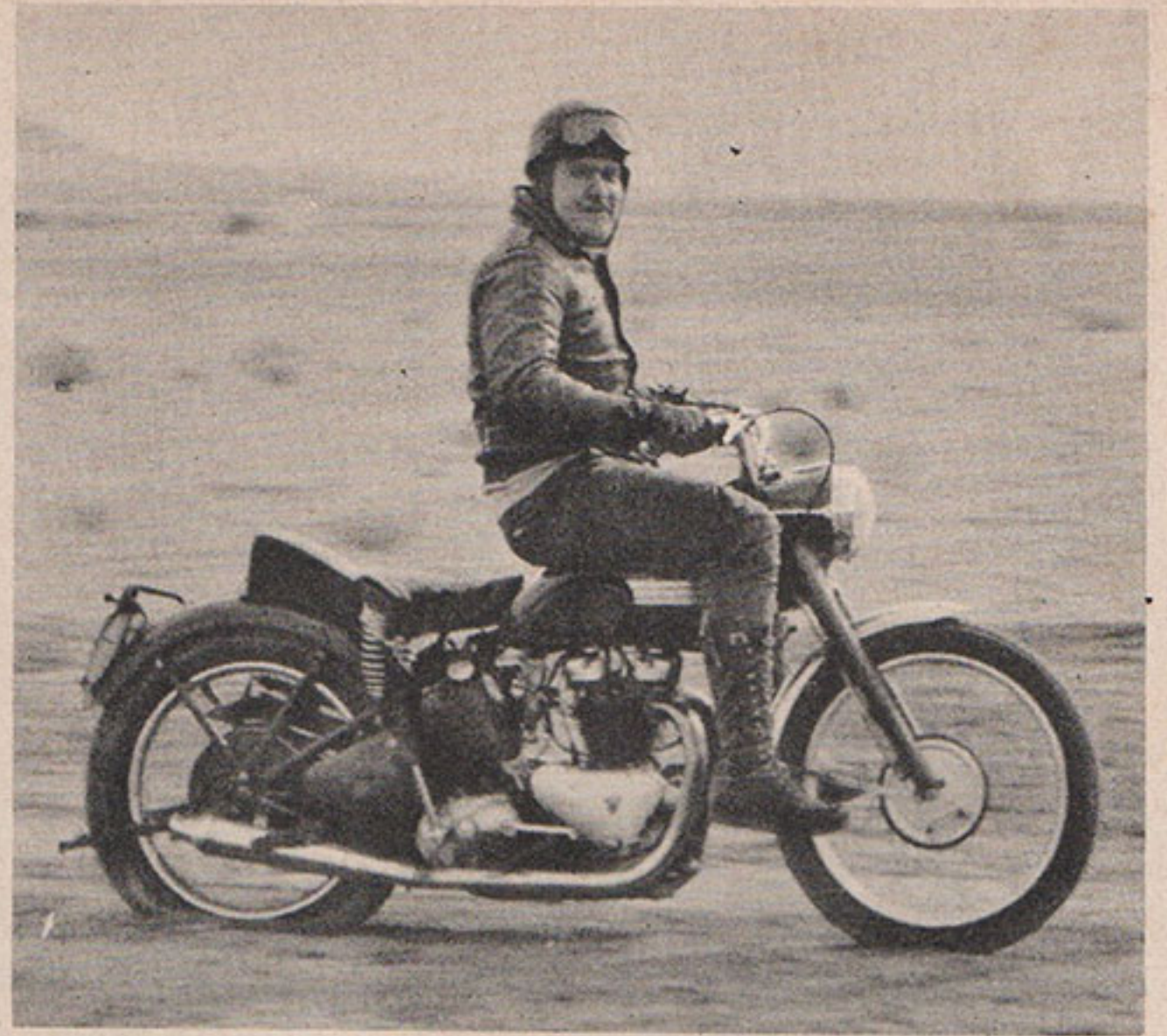
Few thrills match that of being pitched over the side. Deep snow hid such things as rocks and ruts, which accounted for many a rider's upsetting

## DEL KUHN, AJS, TAKES MOUNTAIN SPRINT AT 32 MPH AVERAGE

PHOTOS BY ERIC RICKMAN, AL PALOCZY AND JACK CAMPBELL



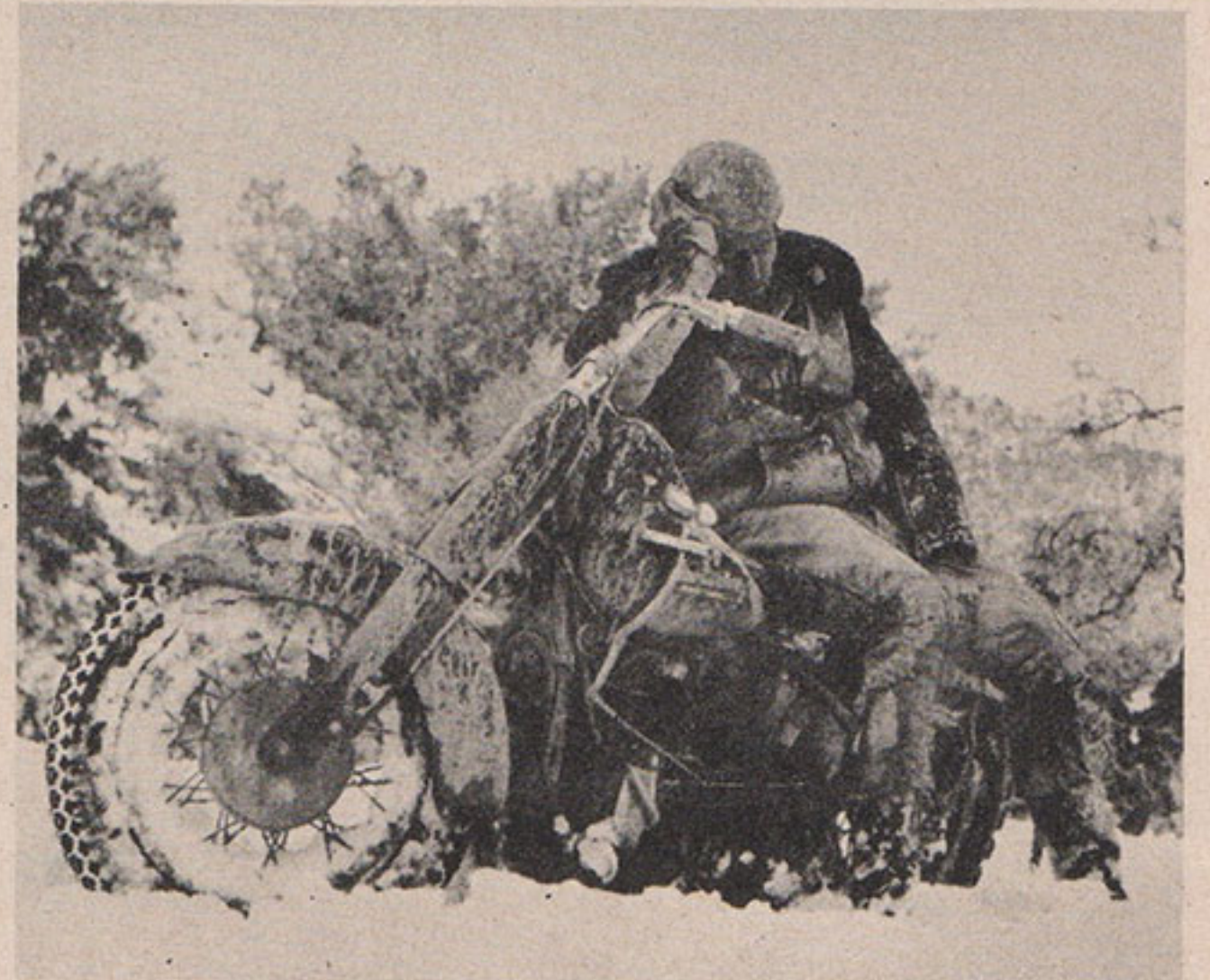
The Masked Man's two-striker rears at the first mud. About one quarter of the riders spun out at this point. Nearly all had too little clearance between the fenders and tires, mud eventually stopped wheels



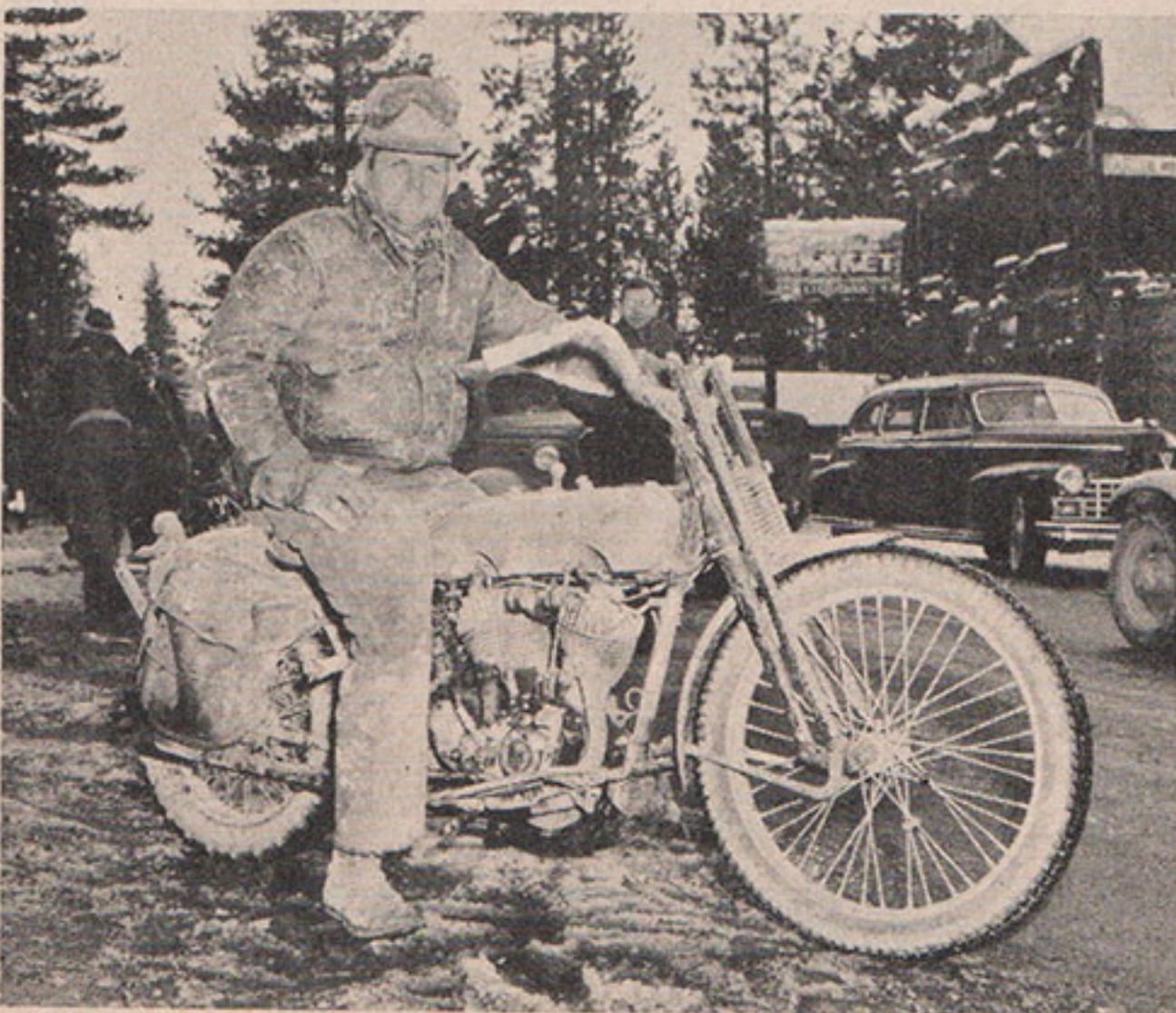
Flat tires on the Big Bear run were nearly as commonplace as full ones. This unfortunate lad good naturedly forgoes the comfort of his saddle to shift weight forward to one remaining good tire up front



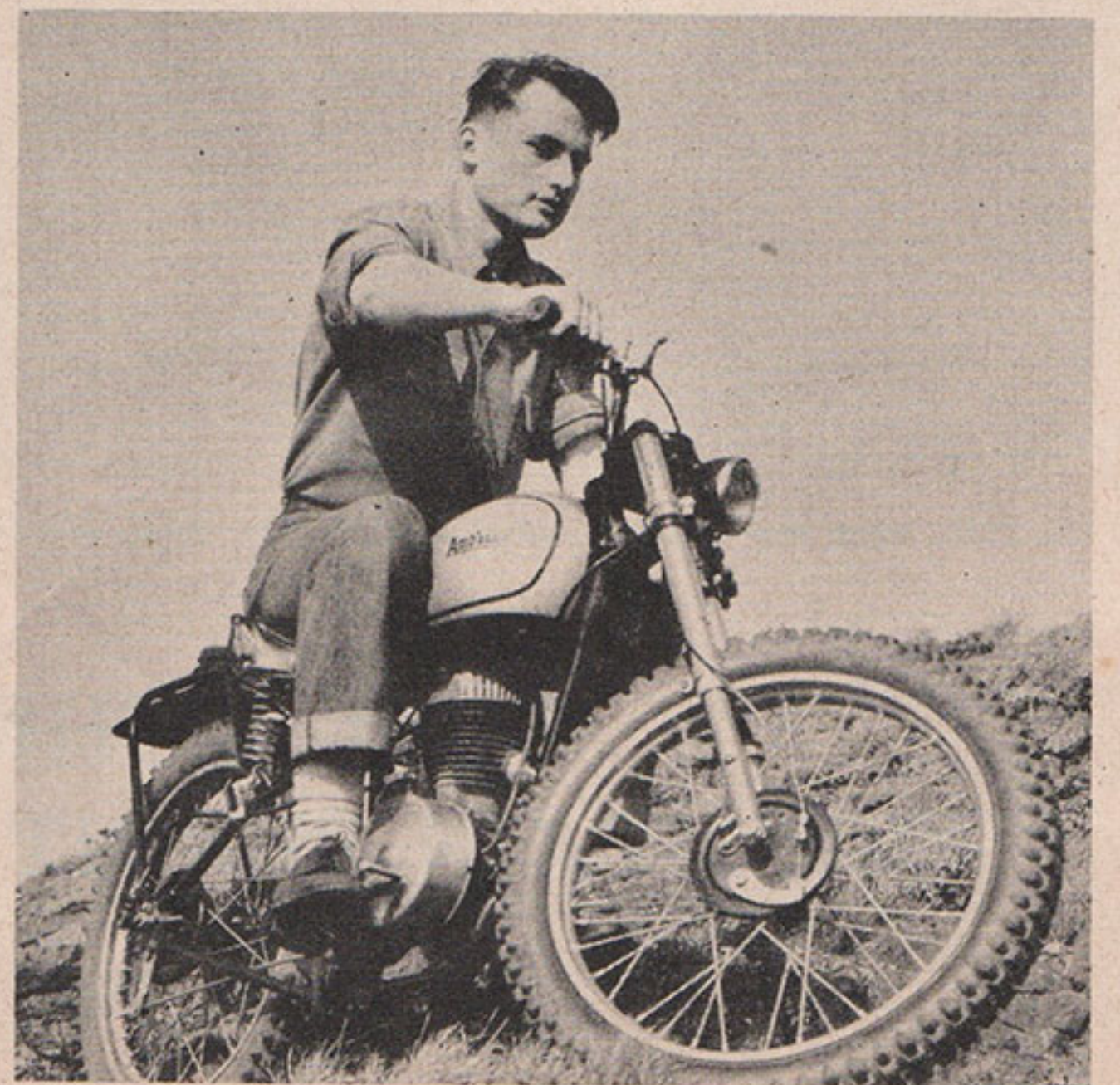
Fur-lined Freddie Ellsworth braved the trail with an empty bucket just for kicks, stopping occasionally to watch the fun. It's been many a year since a hack man entered the chase with serious intentions



Bushed and mud splattered from the (anything but) dry lakes below, Ray Tanner, one of the West's finest, spends a few pensive moments on the mountain side before forging on to finish first Harley



ABOVE, Still finishing runs after 35 years—John Cameron's 1917 Harley. RIGHT, Bobbie Hughes, lightweight class winner, practiced for run by winning Redwood Reliability on his 197 cc Ambassador







A Beezer with natural disk wheels nears the finish. Three Italian Moto Guzzis and one German NSU were among the 331 entries of this year's run. Course marking was claimed to be near perfect



Picture of a winner hard at work. Del Kuhn traveled 147 miles in 4 hours, 34 minutes; for an average of 32 miles per hour. Eight out of the first ten positions were either AJS or Matchless motorcycles



By the time the distant starting bomb shook the earth, the boys were well under way, having seen it burst in mid-air an instant before. Mass start is most thrilling to watch, un-nerving for riders



Rammin' it home! One of those hustlin' checker sleeved Rams whistles through the brush. Their club will be responsible for this year's national hare and hound run and it sounds mighty promising

### BIG BEAR RESULTS

|                |                        |
|----------------|------------------------|
| Del Kuhn       | AJS 30.50 single       |
| Ralph Adams    | Matchless 30.50 single |
| Roy Burke      | BSA 30.50 single       |
| Russ Good      | BSA 30.50 single       |
| Dalton Holiday | Matchless              |
| Charles Cripps | AJS 30.50 single       |
| Gorden Millen  | AJS 35 twin            |
| Gary Mullard   | AJS 30.50 single       |
| Butsy Mueller  | AJS 30.50 single       |
| Wally Albright | Matchless 35 twin      |
| Kenny Yarn     | Triumph 40 twin        |
| Stubby Free    | Triumph 40 twin        |
| Don Surplice   | BSA 30.50 single       |
| Bob Southern   | Triumph 30.50 twin     |
| Cleve McNeal   | Triumph 40 twin        |

### SMALL MOTOR CLASS RESULTS—200 cc

|              |                   |
|--------------|-------------------|
| Bob Hughes   | Ambassador 197 cc |
| Karl Foltz   | Excelsior 197 cc  |
| Cordy Pieper | BSA 125 cc        |

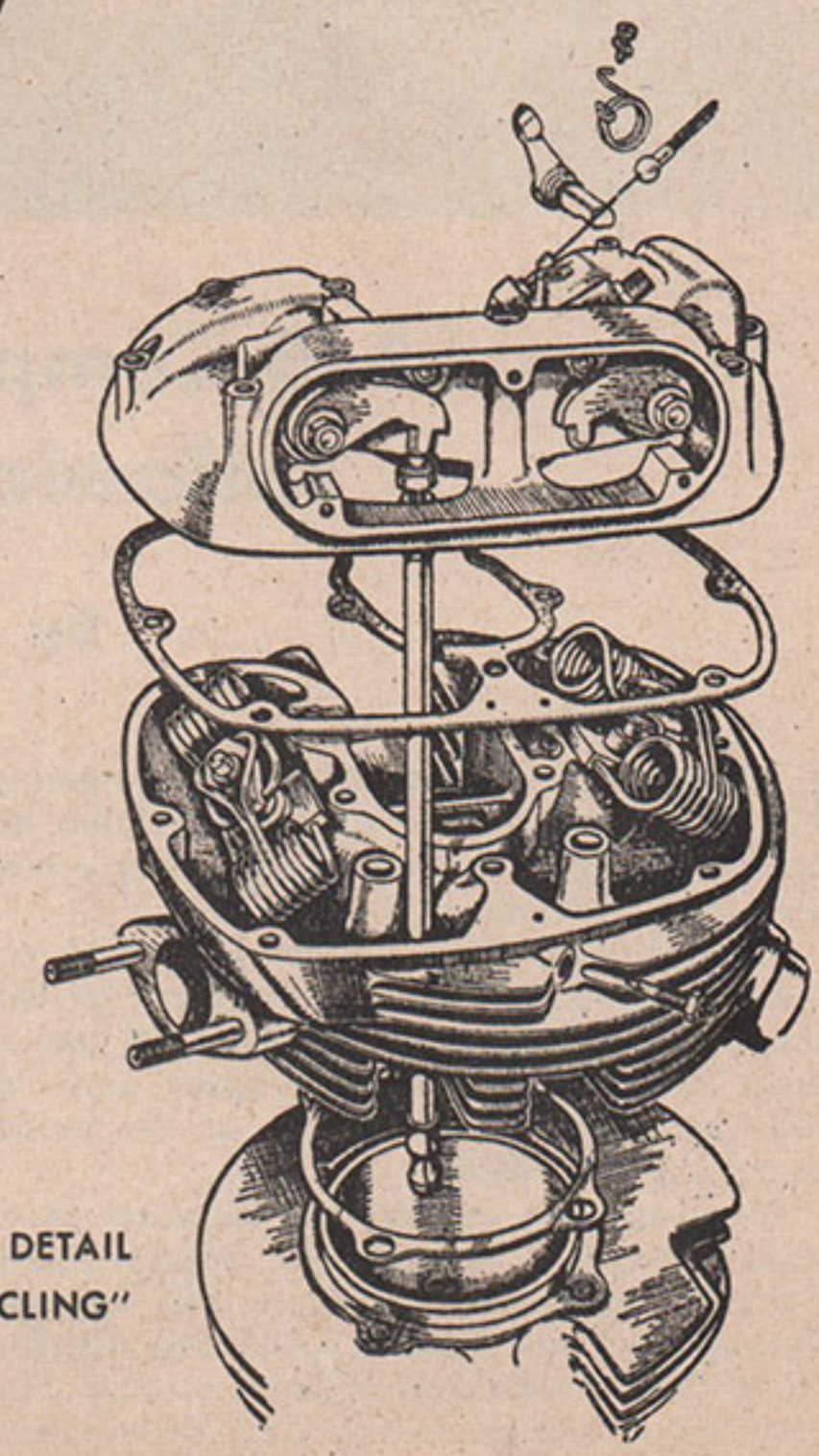
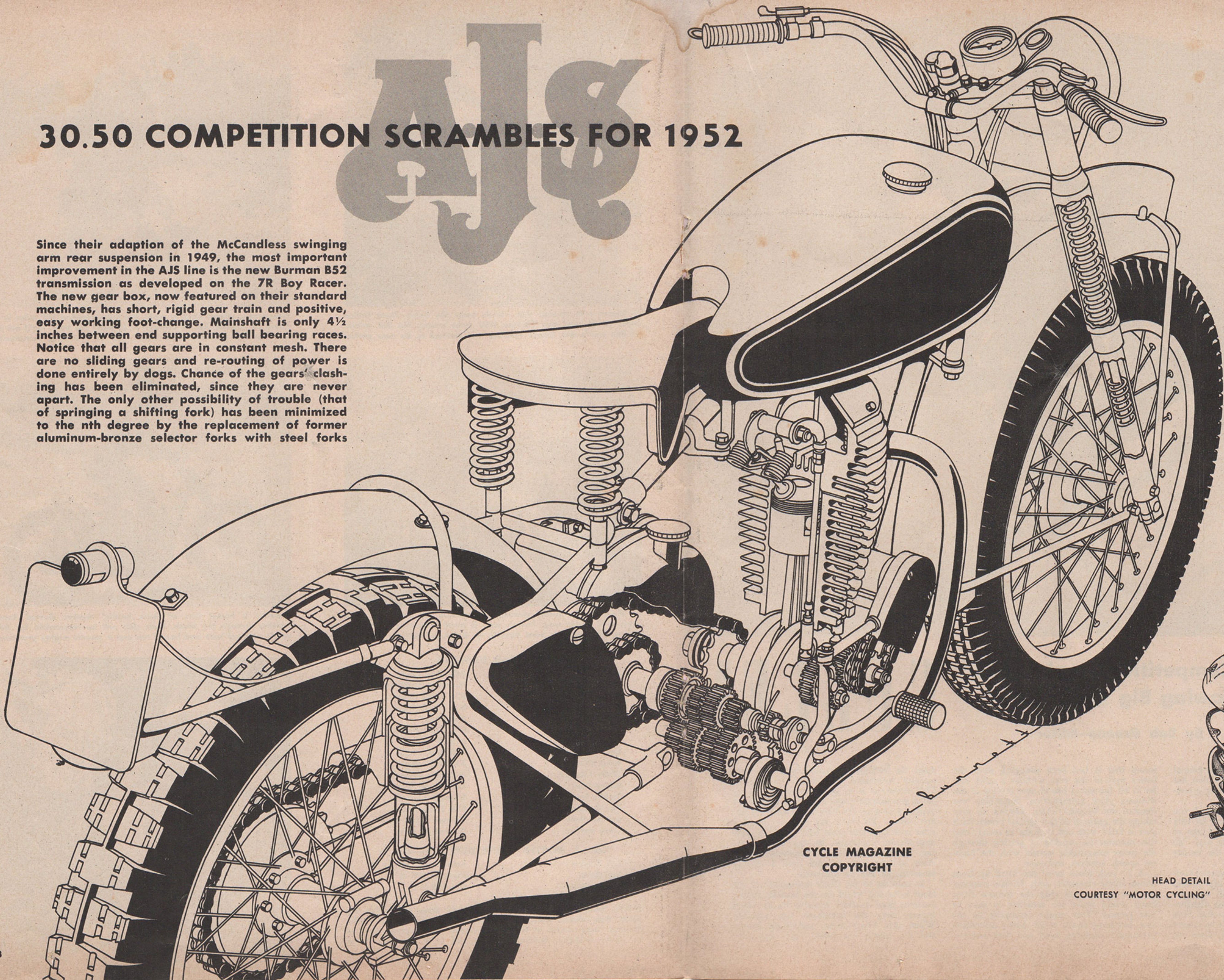
RIGHT, Hare greets hound. Winner of past three consecutive Big Bears, Aub LeBard, welcomes Del Kuhn to Fawnskin (actual finish). Policing along course at highway crossings was expertly handled by Victor McLaglen Motorcycle Corps and Calif. Highway Patrol



# 30.50 COMPETITION SCRAMBLES FOR 1952

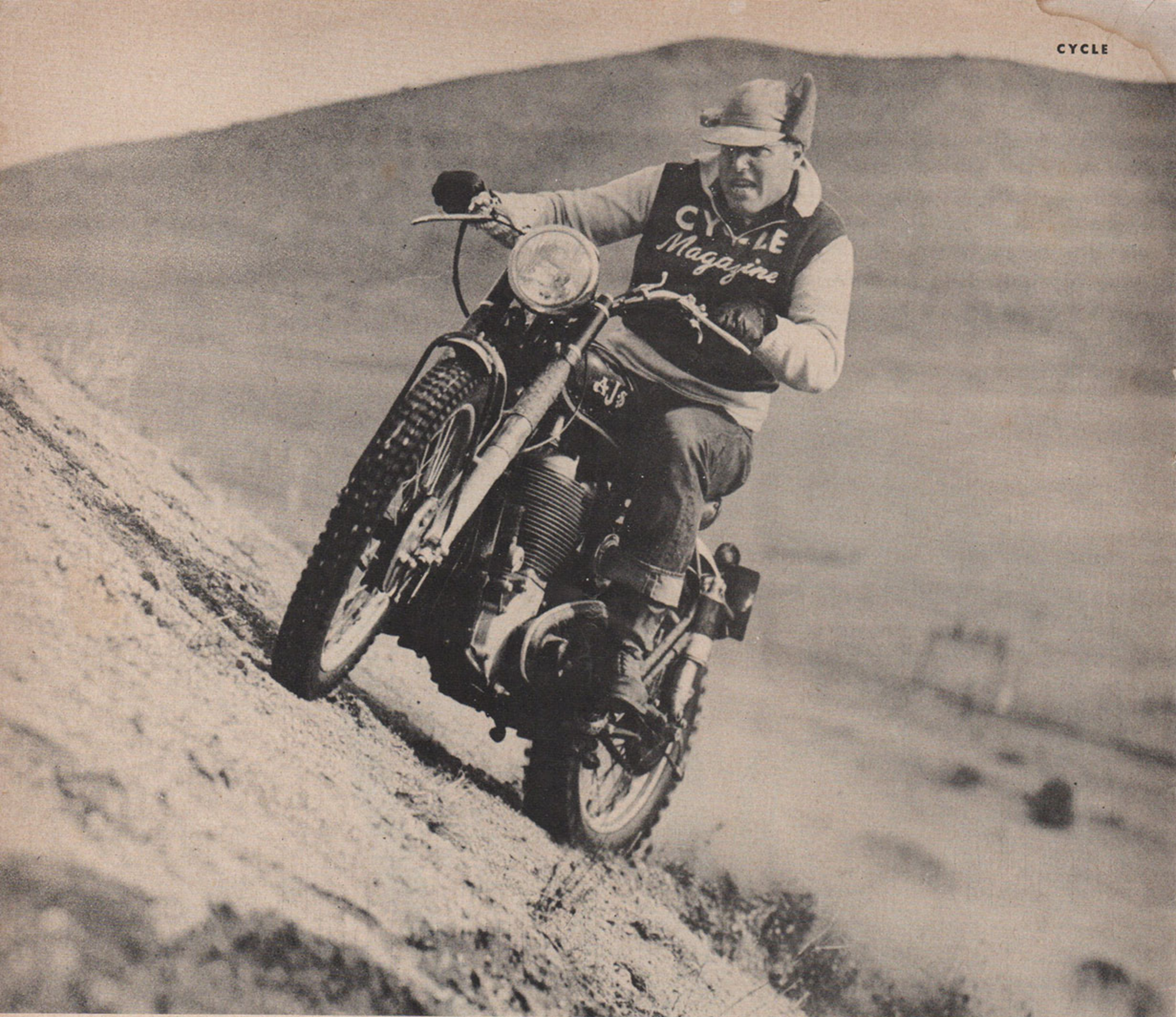


Since their adaption of the McCandless swinging arm rear suspension in 1949, the most important improvement in the AJS line is the new Burman B52 transmission as developed on the 7R Boy Racer. The new gear box, now featured on their standard machines, has short, rigid gear train and positive, easy working foot-change. Mainshaft is only 4½ inches between end supporting ball bearing races. Notice that all gears are in constant mesh. There are no sliding gears and re-routing of power is done entirely by dogs. Chance of the gears' clashing has been eliminated, since they are never apart. The only other possibility of trouble (that of springing a shifting fork) has been minimized to the nth degree by the replacement of former aluminum-bronze selector forks with steel forks



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HEAD DETAIL  
COURTESY "MOTOR CYCLING"



## AJS Competition Single Tested Following Big Bear Victory

By Bob Greene—Editor

# GULLEY

**H**ERE IT IS! Hot on the tail of the annual Bear chase, a test on the bike that has been cleaning up in every type gulley scrambles from Kokomo to Cucamonga.

A week ago, I could only have told you that for some strange reason riders of very short experience could climb aboard one of these mechanized mountain goats and "go like the wind," finishing up in the money overnight . . . Why? . . .

Deciding that hearsay and personal observation weren't enough to satisfy either CYCLE'S readers or myself, a call was put through to Frank Cooper, California distributor of this famed single cylinder acrobat. First plan was to commandeer Del Kuhn's very own machine, but was dismissed when we

found that it had been plugging away the better part of the year without a coke job. So in all fairness a brand new replica of the winning Ajay Competition Scrambles was checked out to your tester. There's no mistaking the purpose of this special breed. Each part is fitted with one thought in mind: that this machine be capable of getting through the worst imaginable terrain with the highest speed, comfort and ease.

A 21 inch block tread tire fitted up front boosts frame clearance, adds delicate steering. At first it was felt that the narrow front hoop would prove too sensitive in sand or soft ground. This might ordinarily be the case, but some factor in the Ajay's makeup—presumably steering head and fork angle—

make the bike feel as though each end were actually suspended by strings in mid-air. This sensation is so pronounced that I, not being accustomed to the Ajay, noticed a slight hesitancy to turn the bars when entering my first corner. To check my reaction, another rider took over and came back with the same unprompted comment. By the end of the day, however, this inherent tendency to remain upright had changed from a strange sensation to one of assurance.

In contrast to the slight appearance of the front forks and wheel are the brutish, strictly business hind quarters. Massive  $\frac{3}{16}$  in. wheel spokes carry the knobbyest tire possible. When this wheel turns, something moves, and it's usually the bike. Near impassable

# General Specifications

**ENGINE.** 500 cc displacement, bore 3.25 inches, stroke 3.65 inches. Compression ratio 7.5 to 1. Aluminum alloy cylinder heads, cast-in cast steel valve inserts. Hair pin valve springs enclosed in oil. Aluminum alloy pistons, aluminum alloy cylinder with a permanent cast-in, cast-iron liner. Extremely large lower end of three rows of  $\frac{1}{4} \times \frac{1}{4}$  in. rollers. Two large ball bearing races on drive side of main shaft. Magneto and generator both operated by chain drive, contributing to longer life of electrical parts.

**CARBURETOR.** Amal  $1\frac{3}{32}$  in. diameter venturi. Air cleaner optional at extra cost. Choke lever on handlebar.

**TRANSMISSION.** A constant mesh direct gear to gear system eliminates usual spool or sliding gear. Shifting by dogs, similar to synchromesh. **LUBRICATION.** Circulating dry sump system; two-way plunger type oil pump actuated by sliding worm gears. Built-in filter in oil tank easily replaceable. Oil system through internal passages. Only outside leads are flexible mounted pipes from oil tank to engine, pressure lubrication to top end.

**IGNITION.** Lucas magneto. Chain drive and shielded by metal deflector, manual control.

**ELECTRICAL.** All electrical equipment is Lucas, new long type heavy duty 6-volt generator has voltage regulator, chain driven. High and

low beam headlight, taillight and parking light. **CLUTCH.** New heavy duty 5-stud with fibre inserts. Multiple disc dry type.

**DRIVE.** Pre-stretched Mark 10 Reynolds racing chain, shock absorber on engine sprocket. Single row  $\frac{1}{2}$  in. pitch by  $\frac{5}{16}$  in. wide roller primary chain. Rear chain is  $\frac{5}{8}$  in. pitch x  $\frac{3}{8}$  in. wide roller, same size as American big twins. 18 tooth sprocket instead of standard 21 tooth.

**GEAR RATIOS.** Top 5.83; 3rd, 7.47; 2nd, 12.20; 1st, 18.44 to 1.

**FRAME.** Single loop front section with rear suspension swinging arms set in large, wide journal bearings. Huge rear main springs are 6 in. long by 3 in. in diameter.  $3\frac{1}{2}$  in. travel on rear swinging arms.

**FORKS.** Teledraulic, fitted with metered pistons for constant control with oil on both sides of piston to buff counter recoil as well as recoil. This same system applies to rear forks.

**MUFFLER.** Short, upswept, pipe chrome-plated plus extra straight pipe for competition at no additional cost.

**HANDLEBARS.** Chrome-plated competition, rigid mounted. Left bar: clutch, compression release, spark control, dimmer switch. Rear bar: front brake, throttle, choke lever and horn. Clutch and throttle have extra control cables at no additional cost.

**WHEELS.** Mounted on Timken type roller bearings. Safety washers on hubs prevent spokes from tearing out. Rear wheel:  $\frac{3}{16}$ -in. spokes and extra heavy rim.

**BRAKES.** Internal expanding 7-in. front and rear, shoes  $\frac{7}{8}$  in. wide.

**TIRES.** Front: 300x21 Trials Dunlop. Rear: 400x19 Dunlop Sports knobby.

**TANKS.** Pressed steel 2.8-gallon competition type with double outlet, single filler cap.

**INSTRUMENTS.** Smith's 120 mph illuminated speedometer, ammeter and light switch in headlight shell.

**SADDLE.** Wide Lycette, leatherette covered. Sprung with conventional coil springs.

**FINISH.** High temperature baked enamel black finish. Very hard and durable.

**FENDERS.** Lightweight high polished aluminum alloy sports type with braces over outside of fender.

**TOOL KIT.** Complete set of tools, grease gun, tire irons and ignition tools. Tire pump mounted on left side of frame.

**WEIGHT.** 375 lbs. with oil.

**OVERALL LENGTH.** 85 $\frac{1}{4}$  in.

**OVERALL WIDTH.** 29 $\frac{1}{2}$  in.

**WHEELBASE.** 55 $\frac{1}{4}$  in.

**GROUND CLEARANCE.** 7 in.

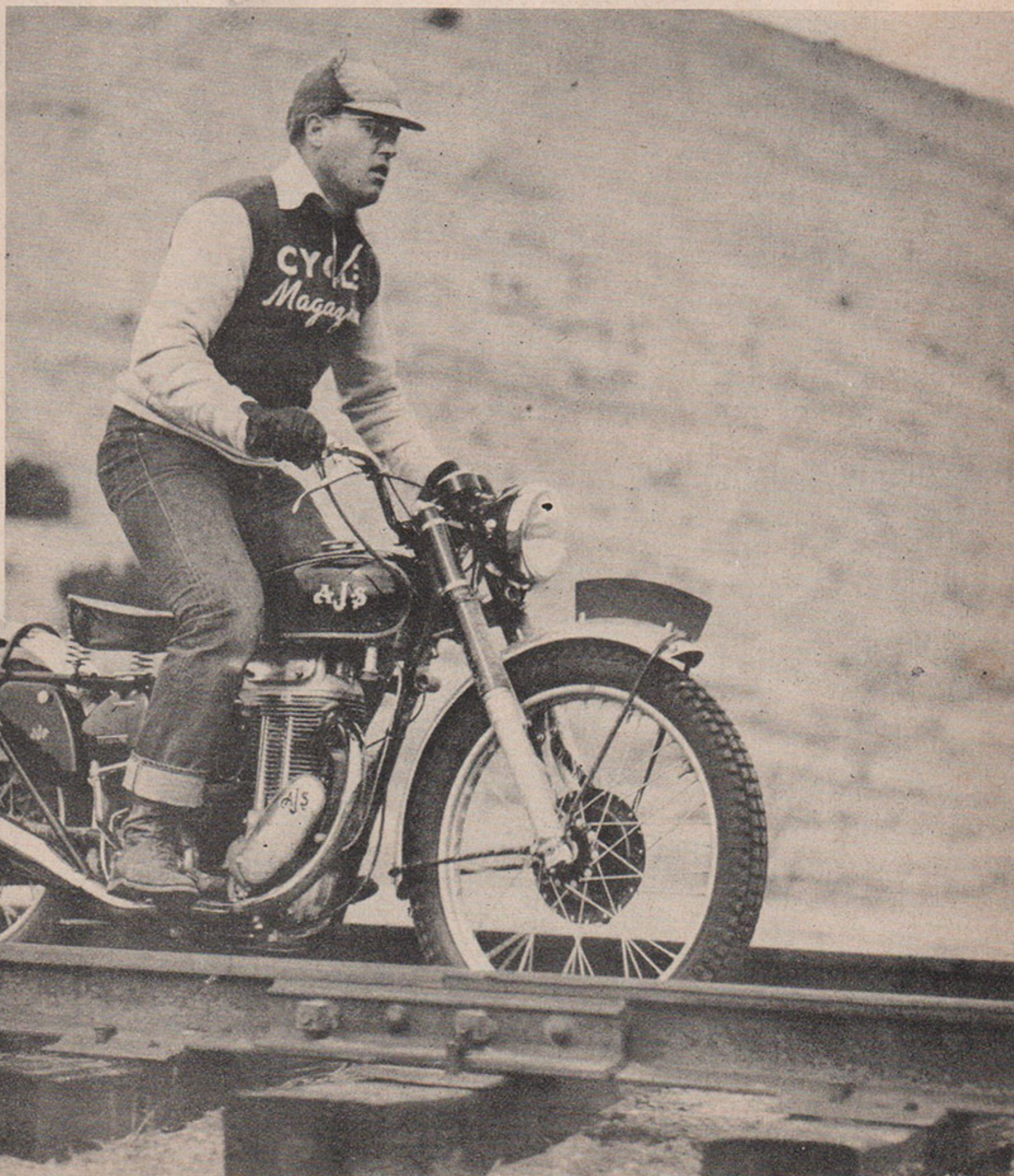
**SADDLE HEIGHT.** 32 $\frac{1}{2}$  in.

sections of boulder and brush-studded open countryside were challenged with deliberate cockiness. Usually the Ajay proved itself just a shade more flippant than its tormentor. At times when it seemed certain that the machine would hang up or stick, the bike and I would catapult over the mess without so much as ticking the frame. On rare occasions when it would dig in after hanging on fallen trees or rock, it was only necessary for me to lean the bike over, while still astride, kick dirt or rock beneath the rear wheel with my heel, right the little job again—and be gone.

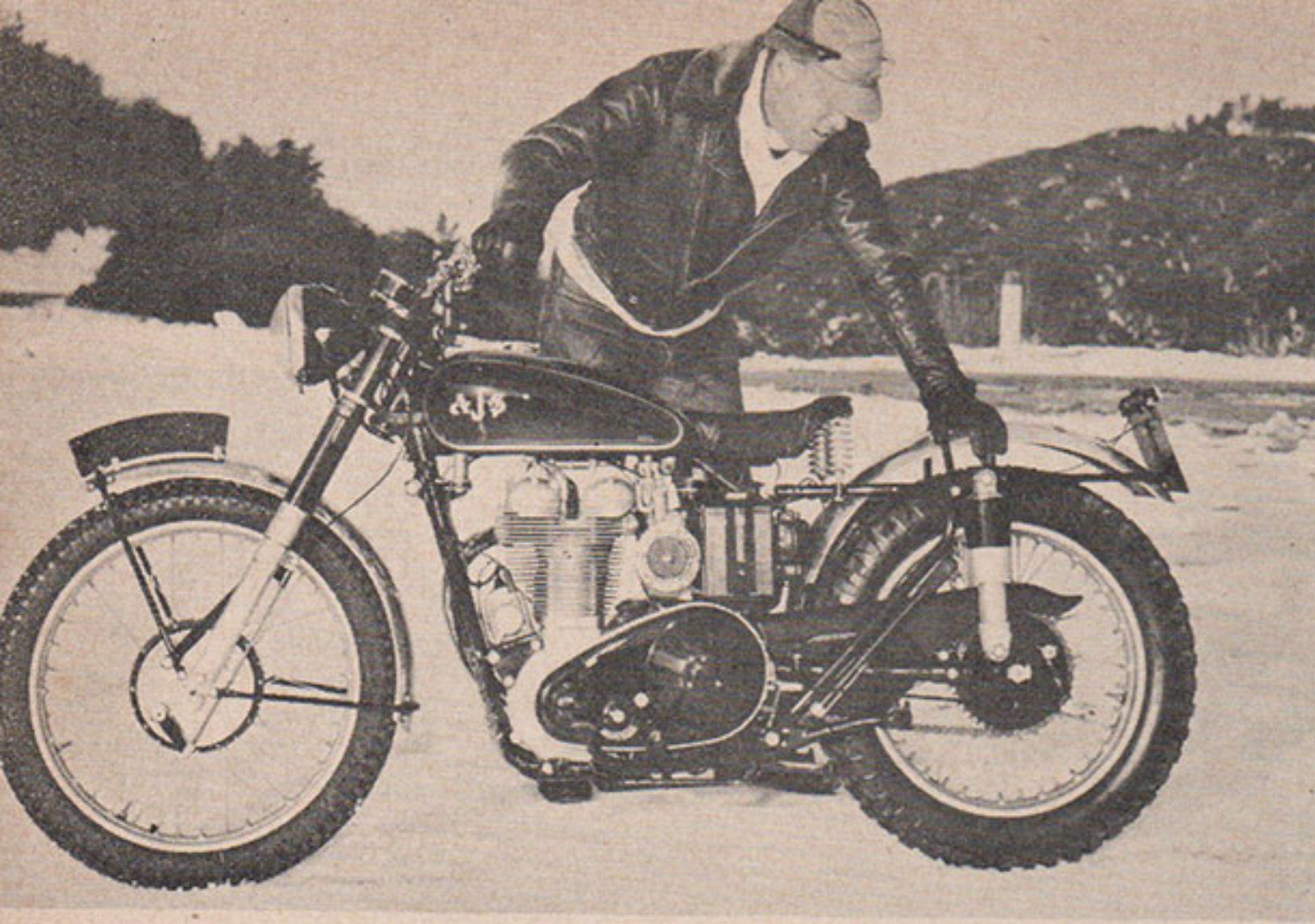
Special consideration is given to riders' comfort by the soft, swinging arm suspension system similar to the McCandless type used on the Isle of Man Velocette, Norton and Gilera. Unusual in appearance, this design was determined one of the most practical rear suspensions yet to be tested.

Although the rear of the machine did creep sideways when the pressure was turned on in a fast pavement corner, the blame

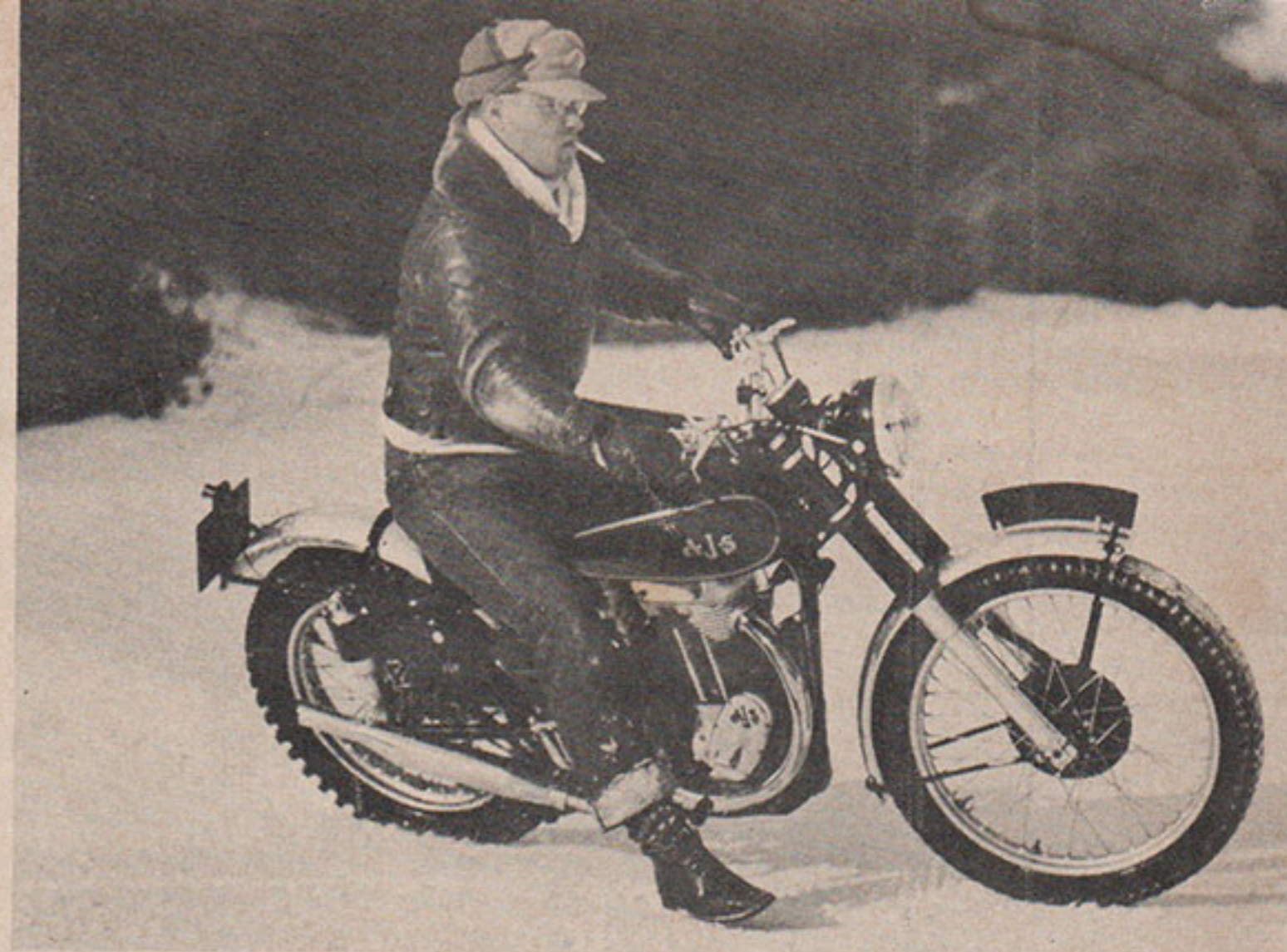
*(Continued on next page)*



# KING



The unusually soft, long action rear plungers, like the patented Tele-hydraulic front forks, are oil cushioned at both ends of their travel. Result —no metallic bottoming. Quick-release headlight plug is novel feature



High Scrambles seat position makes it easy to uncoil a leg and stab at the ground when cornering on a slick surface. Rear Dunlop Trials tire held well in snow. Rear shock has compressed almost an inch during turn

(Continued from preceding page)  
 was attributed directly to the radical knobby dirt tire, for when heeled well over, the entire weight of rider and machine was concentrated on the single outer row of knobs. Here at last is a rear fork that has a slow and soft full length travel. That this design reflects thoroughness is shown by the fact that each rear shock unit is additionally cushioned with 85 cubic centimeters of hydraulic fluid. I can't recall a metal to metal bottoming once during the test.

On the timed run over Angeles Crest mountain range, speed fell off. This challenge to engine power and handling qualities was further enhanced by intermittent patches of ice. The nasty road condition and previously mentioned radical rear tire were the slowing forces that clutched at the speedometer all the way over the mountain. This cushioned my surprise when the watch was whipped out at the end of the run. The usual 35-minute, 35-mile ride had taken exactly 39 minutes.

Because of their short wheelbase and other obvious handicaps, motorcycles have always

posed a problem in springing. AJS approaches the epitome. The long lazy action of the rear member works hand in hand with the front forks, taking the sting out of sharp dips with a minimum of counter-recoil whip. Both front and rear plungers are not only oil dampened, but have the same liquid cushion at each end of travel.

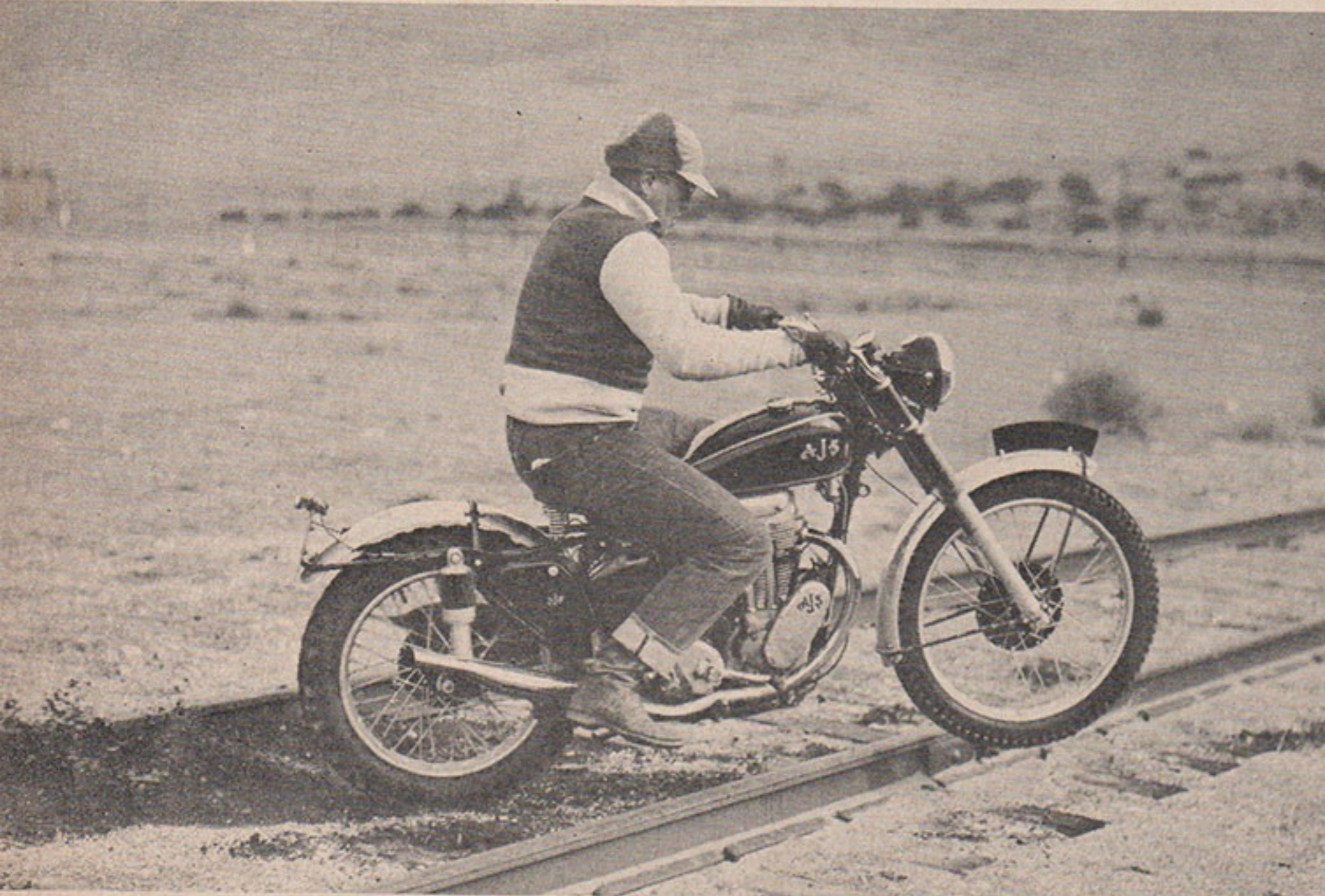
A full appraisal of the Scrambles' handling ability and clearance can be appreciated through one of its many tricks. Riding between the rails of an ordinary railroad track at an approximate 7 mph it was possible to turn sharply and ride right over and out of the rails without hesitating. Even here the frame didn't as much as touch the rails when crossing over.

In over 200 miles of rough and tumble riding, it is easy to assume that a few shifts would be missed. Not on your life! This new gear box, an adaptation of the one used in the famed AJS Boy Racer, can hardly be compared to anything you've ever experienced. Very little more than the weight of your foot on the shifting pedal is needed

for each change. Once the pedal has been depressed it seems to suck itself into the next gear. Direction of travel is the same as in the past, up for low, then down through to high. This gear box is a direct take-off on the Boy Racer model except that it is not full ball bearing throughout. Practically speaking, it is impossible to miss a shift with this new arrangement.

While the braking figures were not phenomenal, it must be remembered that the bike is rigged strictly for competition, and that neither the narrow block tread on the front nor the accented knobby on the rear are conducive to braking efficiency over pavement. Both pedal and hand lever action were easy and progressive. With more rational tires fitted, it is believed that this model would show high braking efficiency in view of its springing range.

Everything is up out of the way on the Scrambles including the rider. Although the rigid gull-wing footpegs are nearly a foot off the ground, the relative high location of the saddle keeps the rider's legs at such an up-



Running between railroad tracks at 5 mph it was possible to turn sharply and ride over and out of the rails without pause or footing. Contributing factors here were bike's short turning radius and high frame clearance. Note contoured exhaust system is out of the way



Rear wheel is practically geared to road for slogging. Fender braces are mounted outside to help keep inside of fender from loading up in mud

right angle that rising to a post position can be done quickly and with little effort.

The handlebars, although not of the extreme high type, are a perfect match both in rise and sweep back. This is not a factory bar, but is optional according to rider's choice, in the California area.

Another aid to riding control is the narrow, trim-looking gas tank which allows the knees to be kept close in when picking a path through a difficult section of ground, and seems to make for more sensitive control.

Down in the engine room Ajay differs in several ways from many of the singles. Few cylinders have the massive finning area that has been dedicated to cooling. Head hold-down bolts run clear through the cylinder to the cases for added top end rigidity. Racing type hairpin valves, enclosed in those two large domes atop the barrel, are claimed to have more snap than conventional coil valve springs and are less affected by heat because of their more remote position. An especially heavy formation of finning can be noticed about the exhaust port area.

We were also interested to learn that a new type of steel flywheel is now being used that allows a much tighter fitting of the crank pin; thereby reducing chances of flywheel slippage. A large flanged bronze bushing on the timing side of the main bearing now stands ready to back up the main shaft in case of failure of the shock absorber spring on the engine sprocket. Continued running after breakage of the shock absorber spring has in the past occasionally resulted in end play which allowed the main shaft to pound through the opposite side of the case. This condition can no longer be a threat.

Fortunately for those who will be unable to obtain true Competition Scrambles jobs in '52 (yes, production is limited on the Competition model) there is little basic difference between it and the standard single cylinder model. The stock job can be converted by replacing its 19 inch front wheel with a 21 inch hoop, switching fenders, fuel tank, exhaust pipe and cams. The standard 500 has hairpin valve springs this year, and with the addition of the longer duration competition cams, only the alloy cylinder remains as a major difference.

For the lad who just can't seem to get the hang of backwoods riding, or the elder who's about to toss in the towel because the runs are getting too tough, the Ajay is a shot in the arm. It may be worth \$865\* to your ego. To those who are already Scrambles-mounted I say, "So long—wait for me at the next check."

\*Plus tax and license at Los Angeles, Calif.

**PERFORMANCE SUMMARY**

|                   |           |
|-------------------|-----------|
| Maximum in Low    | 32 mph    |
| Maximum in Second | 51 mph    |
| Maximum in Third  | 65.45 mph |
| Maximum in High   | 81.81 mph |

**BRAKING**

|                                      |       |
|--------------------------------------|-------|
| From 25 to stopped, rear brake only  | 43'4" |
| From 25 to stopped, front brake only | 36'5" |
| From 25 to stopped, both brakes      | 24'   |

**ACCELERATION**

|                                           |               |
|-------------------------------------------|---------------|
| *1/10 mile drag (9.2 sec.)                | 39.1 mph avg. |
| 8.51 mph/sec. (avg. velocity change rate) |               |
| *1/4 mile drag (17.3 sec.)                | 52.0 mph avg. |
| 6.01 mph/sec. (avg. velocity change rate) |               |
| *Low, second and third gears used         |               |

**SLOW RUNNING**

|                          |        |
|--------------------------|--------|
| High gear without snatch | 14 mph |
|--------------------------|--------|

**TURNING CIRCLE**

|                  |       |
|------------------|-------|
| Minimum Diameter | 12'6" |
|------------------|-------|

**MILEAGE**

|                                 |        |
|---------------------------------|--------|
| Under competition circumstances | 44 mpg |
|---------------------------------|--------|

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**FOX—125 cc—5 H.P. Semi-telescopic front fork and rear springing adjustable. 4 speeds.**

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**FOX—100 cc—6 H.P.—OHV Semi-telescopic front fork and rear springing adjustable. 4 speeds.**

**OSL—250 cc—10.5 H.P.—OHV 4 speeds.**

**OT—350 cc—13 H.P. OHV Link action front fork. 4 speeds.**

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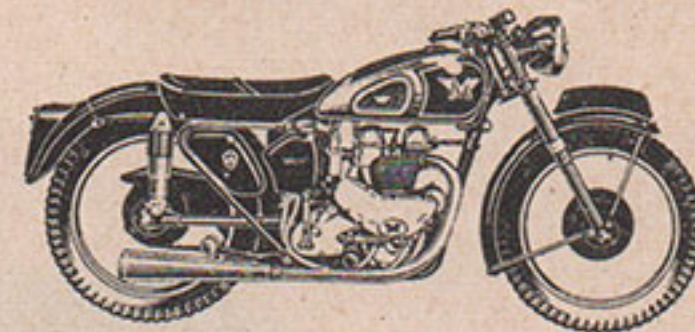


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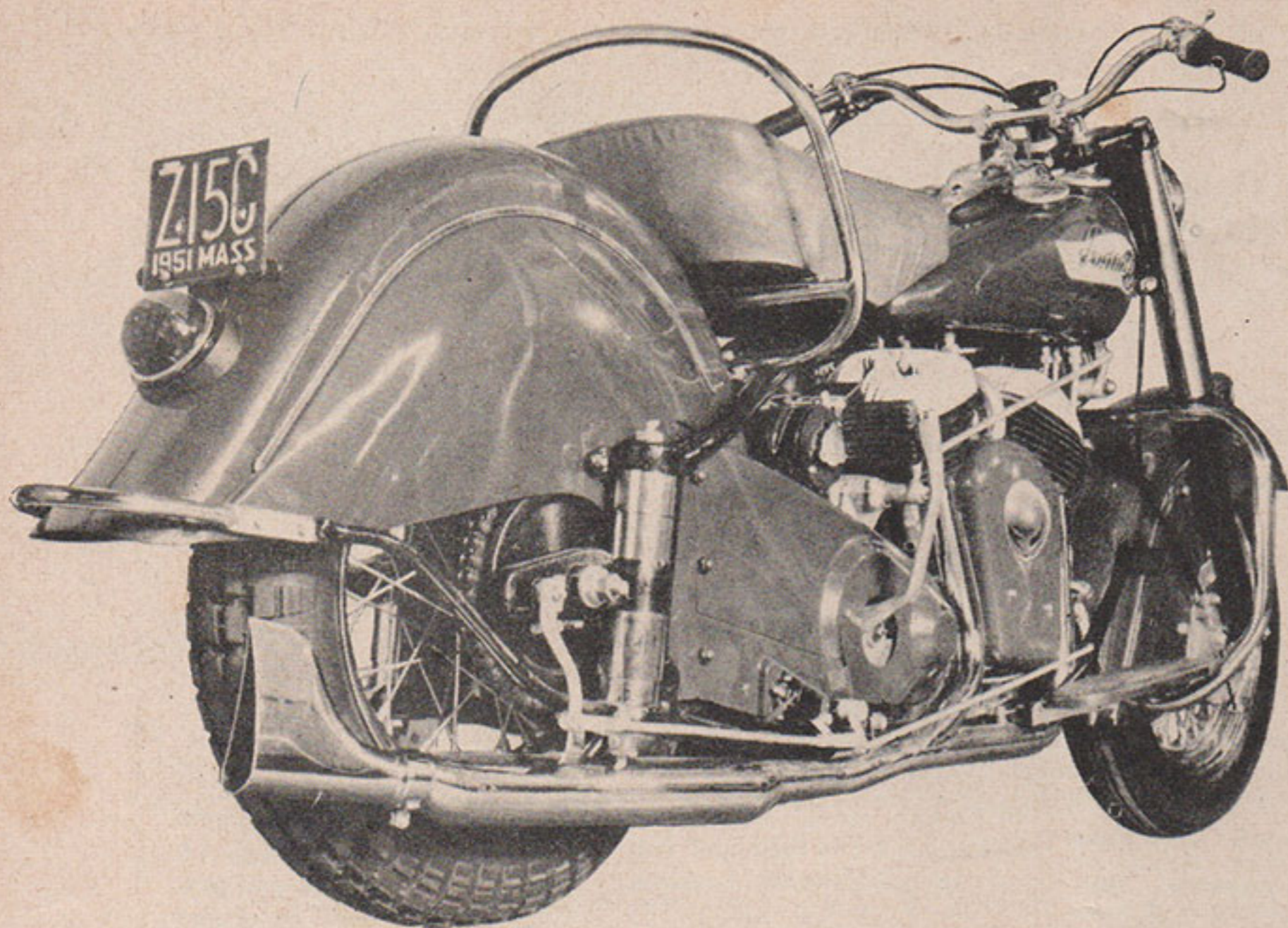
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| <input type="checkbox"/> Aug. | <input type="checkbox"/> May  | <input type="checkbox"/> Oct.  |                               |

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## *Indian's big chief dons new bonnet for '52*

Eighty cubic inch offers spring frame, super streamlining. Dimmer switch for headlight has been removed from handlebars and is now a push-button control located on left floorboard

# **STRAIGHT FROM THE WIGWAM**

WHEN THE CURTAIN was drawn on the first "new look" Indians in 1940 the Chief, then a 74 cubic incher, was established as the most streamlined motorcycle in the world. Today, with the announcement of the '52 model more than a decade later, the tendency is toward further enclosure and smoothing of outward appearance.

First to strike the eye is a smooth nacelle covering push rods, distributor, cam case and oil pump protrusions on the right side of the engine. In addition to eye appeal, the new cover protects clothing from oil seepage while acting as a shield for the distributor and otherwise exposed parts, both from the weather and accidental breakage. Through this panel addition the 80-in. powerplant resembles the Vincent Black Shadow engine.

A radical departure from seat post springing was taken with the substitution of a sta-

tionary deep airfoam cushion complete with hand rail and suitable for solo or double riding. A straight solo saddle is optional. Appearance in general is snapped up with a chrome flourish about the upper fork legs, smart looking rubber-mounted bars fitted with an Amal quick twist throttle, and a low swept exhaust muffler.

Boosted performance is a result of the newly acquired Amal carburetor, raised compression and high stepping cams. The 42-degree twin is claimed to have greater precision throughout. Main bearings are roller type running in precision line ground crank-case housings.

You may recall that with the old Chief, it was difficult to engage low gear without clashing. (As pointed out in Chief road test, June '51 CYCLE.) It is now claimed that this condition has been eliminated through the

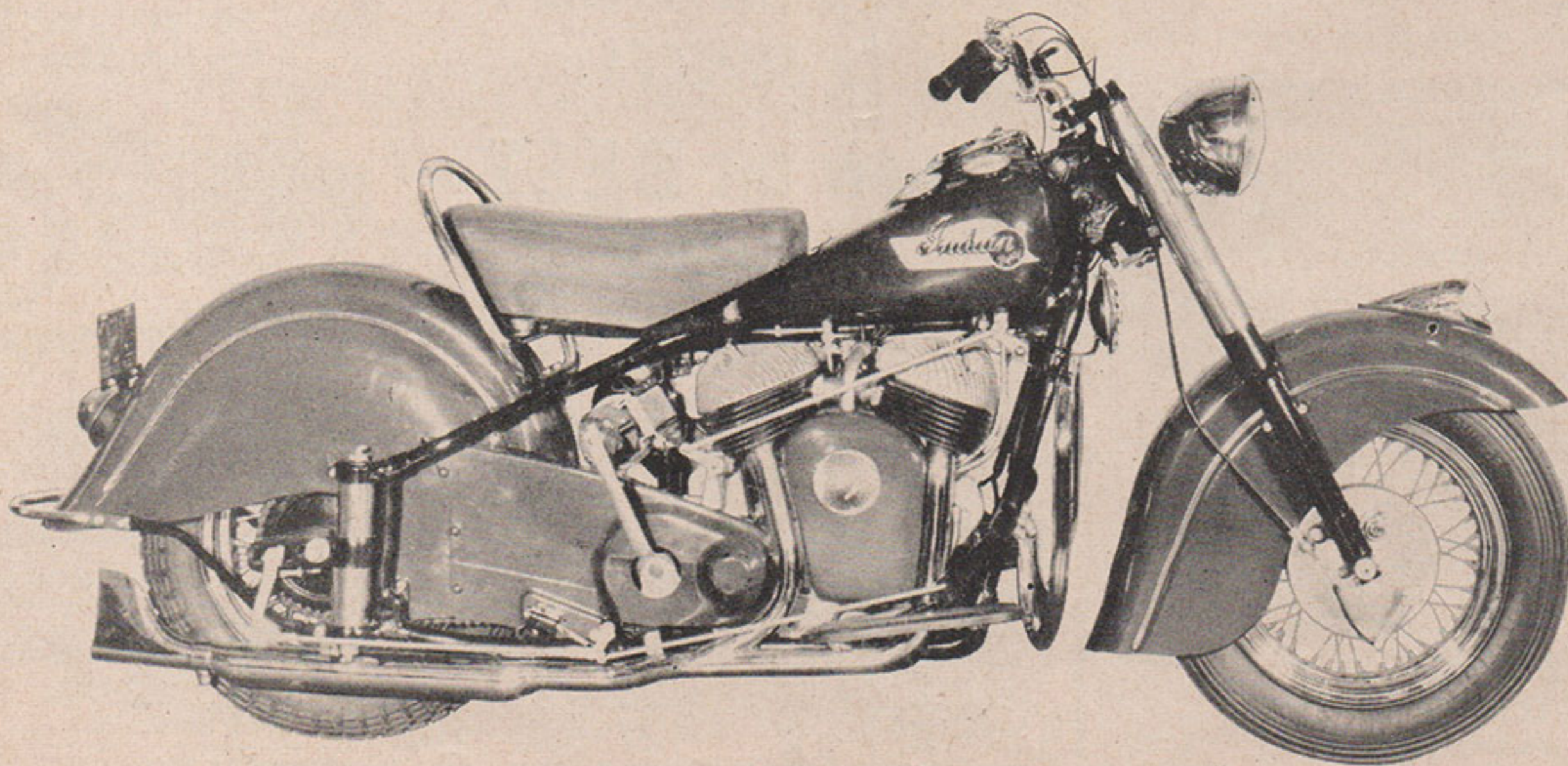
use of a clutch-brake that stops the clutch driver from turning while gears are shifted.

A new oil seal in the primary now makes it possible to use No. 10 weight oil there, while the gear box is individually lubricated with regular transmission gear lube. Direction of gear shift lever travel is now forward for high, keeping it well out of the way when traveling double.

Less noticeable but equally interesting are the 4.75 x 16 Dunlop tires with a rib tread up front and semi-knobby behind. This replaces their former 500 X 16 tire size and may offer slightly better handling qualities.

Factory specs give a top speed reading in the three-figure bracket, a point that we hope to enlarge upon through a road test report in the very near future.

Ownership of the new Chief takes around nine hundred and eighty five wampum.



New, adjustable, rubber-mounted sports or semi-western bars are optional. Choke and spark control levers are newly positioned on handlebars

## New Class D Competition Rules Set by AMA

APPARENTLY, MEMBERS of the AMA Competition Committee fully recognized the rapid trend toward specialized equipment and nodded to the many suggestions submitted from every section of the country, then actually made a start toward getting most competition back into the hands of the average road rider.

The 1951 annual meeting will compare favorably with that famous meeting back in 1934 when Class C was instituted and started motorcycling on the high road to a period of activity.

There has been a new class added to our program, namely, Class D. The equipment must be a standard road job. It cannot be a "counterpart" or a "competition model." It means that any production machine manufactured for road use will be eligible. Parts CANNOT be interchanged, and only novice riders can use this type of equipment.

This new class has no effect on the present Class C program. A novice using Class C equipment does not have to sell his competition model in order to compete in sanctioned competition.

Prize money has been reduced to permit clubs in sparsely settled areas to conduct race meets and TT races using local riders with their regular road equipment, shipped as specified in the rules.

Particularly popular will be 125 cc and 250 cc short track race meets, with very low prize money, to permit every owner of this type of machine to have some fun riding against regular road jobs.

The committee was literally swamped with suggestions that they do something to stop the influx of specialized equipment into every type of competition. For example: the average field meet, originally arranged for the average rider to let off steam, now looks like a race meet, with trailers filling the "pit area" and Mr. Average Rider standing around watching some fellow unload two or three machines especially worked over for certain events.

In 1952, towing or hauling a motorcycle to a field meet, observed field trial or gypsy tour means disqualification of the motorcycle! Now, local clubs can have some activity for their members and permit them to attain the one big goal—that of winning an AMA trophy in competition.

After the committee was presented with facts and figures on the 1951 program in which occurred a 25 per cent decline in competition licenses, it was pointed out that about 30 competition riders actually controlled all race meets and major activities. These two factors illustrate well the trend toward specialized equipment, in fact, Class A racing. When equipment becomes so highly specialized, any motor sport loses its interest. Witness the decline of midget car racing and big car auto racing. Stock car racing is becoming popular, and over the years motorcycle racing was popular because it stressed "stock" machines. Factory-supported riders create a very commercial aspect and eliminate the young man who has an enthusiastic desire to be a racer. This youngster doesn't have a chance against factory-tuned equipment, and he knows it. So he sits on the sidelines.

With the new Class D set-up, it is hoped that the average rider will come back into his own by once more being encouraged to take an active part in his own sport.

(Condensed from AMA bulletin)

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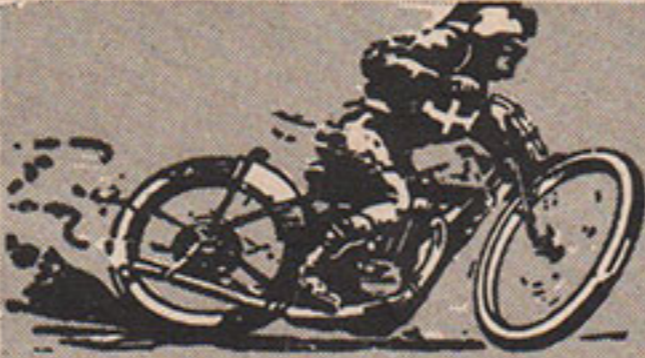
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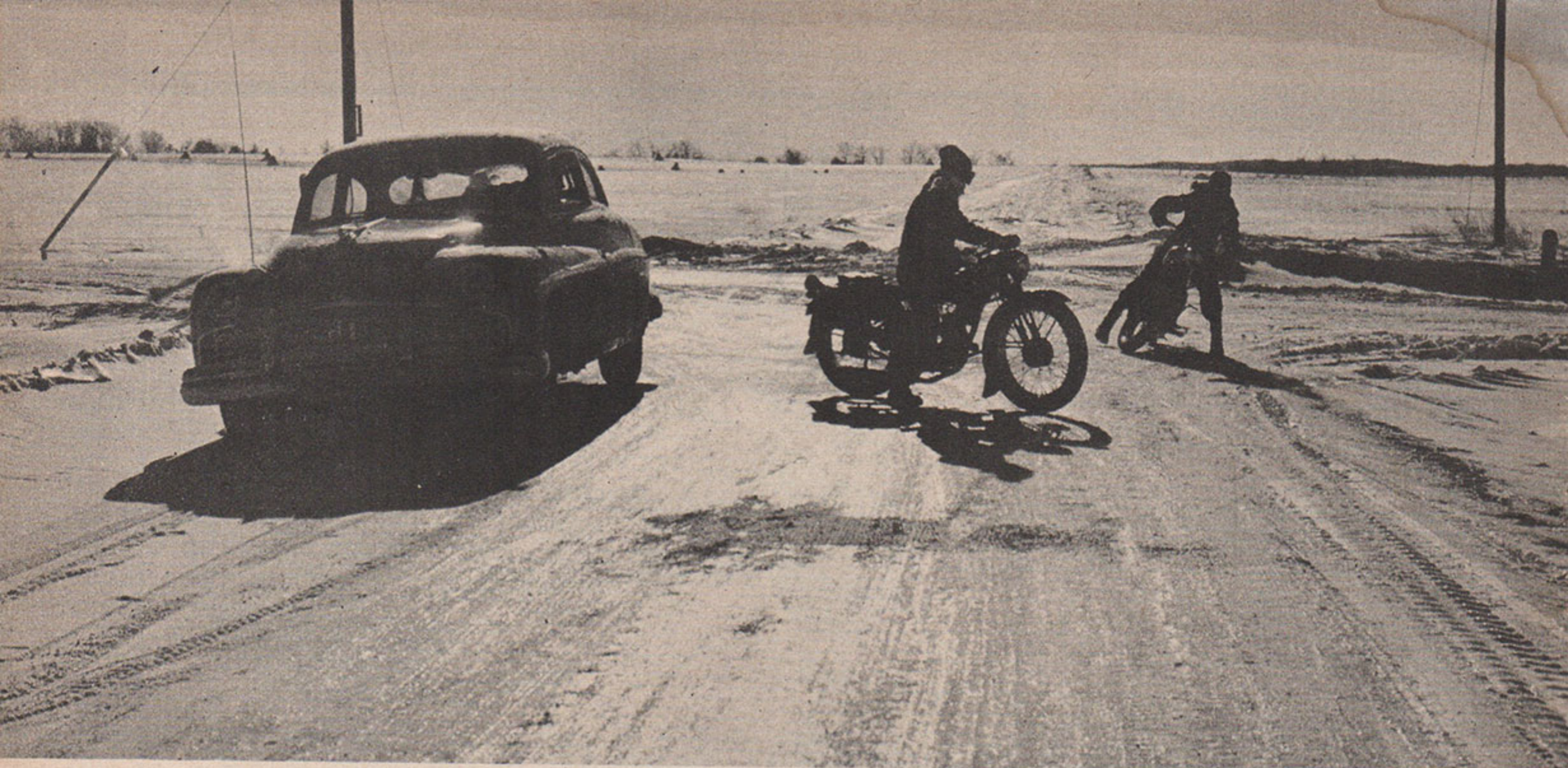
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Ronald Reed (left) on Har.-Dav. 125 and John Dickenson, 15 years old, on Check 125 make a skidding stop at check point. Ice spilled nearly every rider

## ***EIGHT BELOW RIDING***

### **Icy 30 MPH Gale Gives Minnesotans Yen to Ride**

Text and Photos by Robert Travis Keagle

**I**CY ROADS AND BELOW zero temperatures failed to put the skids to 25 red-nosed riders intent on inaugurating the New Year in their own frigid way—taking part in the New Year's Day run sponsored by the Gopher State Motorcycle Club of the twin cities.

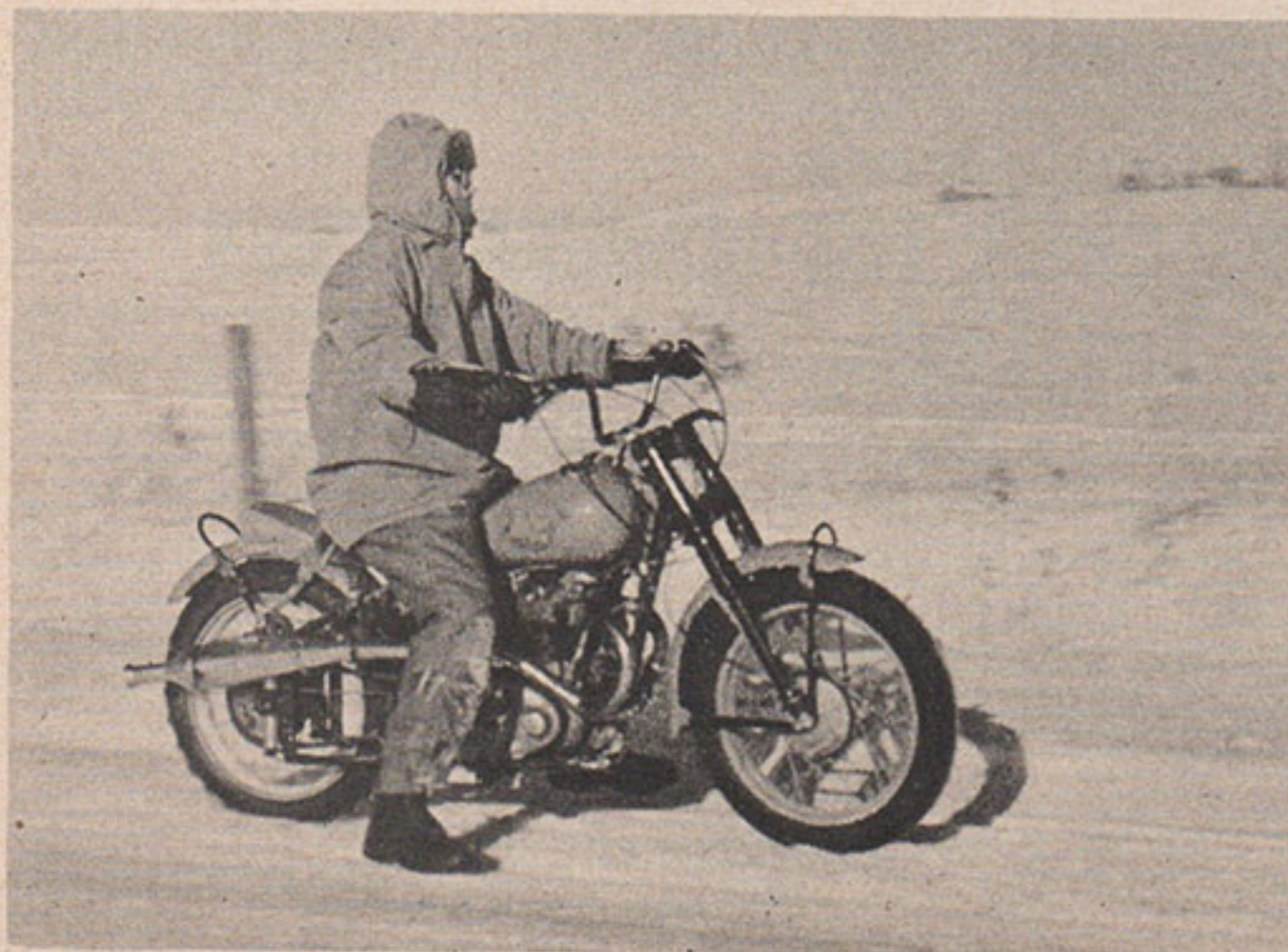
Huffing and puffing vigorously over their kick-starters, some got underway with comparative ease; others who had let their bikes stand inactive a little too long found it necessary to bring their engines around by fanning the vital parts with a blow-torch.

Skill permitting, the starters made their way along the course at a precarious 24 miles per hour.

Leaving Smoky Point at two-minute intervals, the lads circulated 28 miles through the Mendotta-Rosemount area before homing on their starting point. Never before had such great respect for throttle and brake levers been shown. One over-eager pull on either of the controls would send the jockey spinning helplessly, but wiser, over the glassy ice into the first handy obstacle.

Seventeen proved they were masters of the elements by finishing the test; Bill Rooney, Minneapolis, showed best of all on a Harley-Davidson 125 with a loss of only eight minutes. Vern Anderson of St. Paul tailed him in on a 61 Harley with 989 points, followed by Bruce Brown on an Indian Warrior with 984.

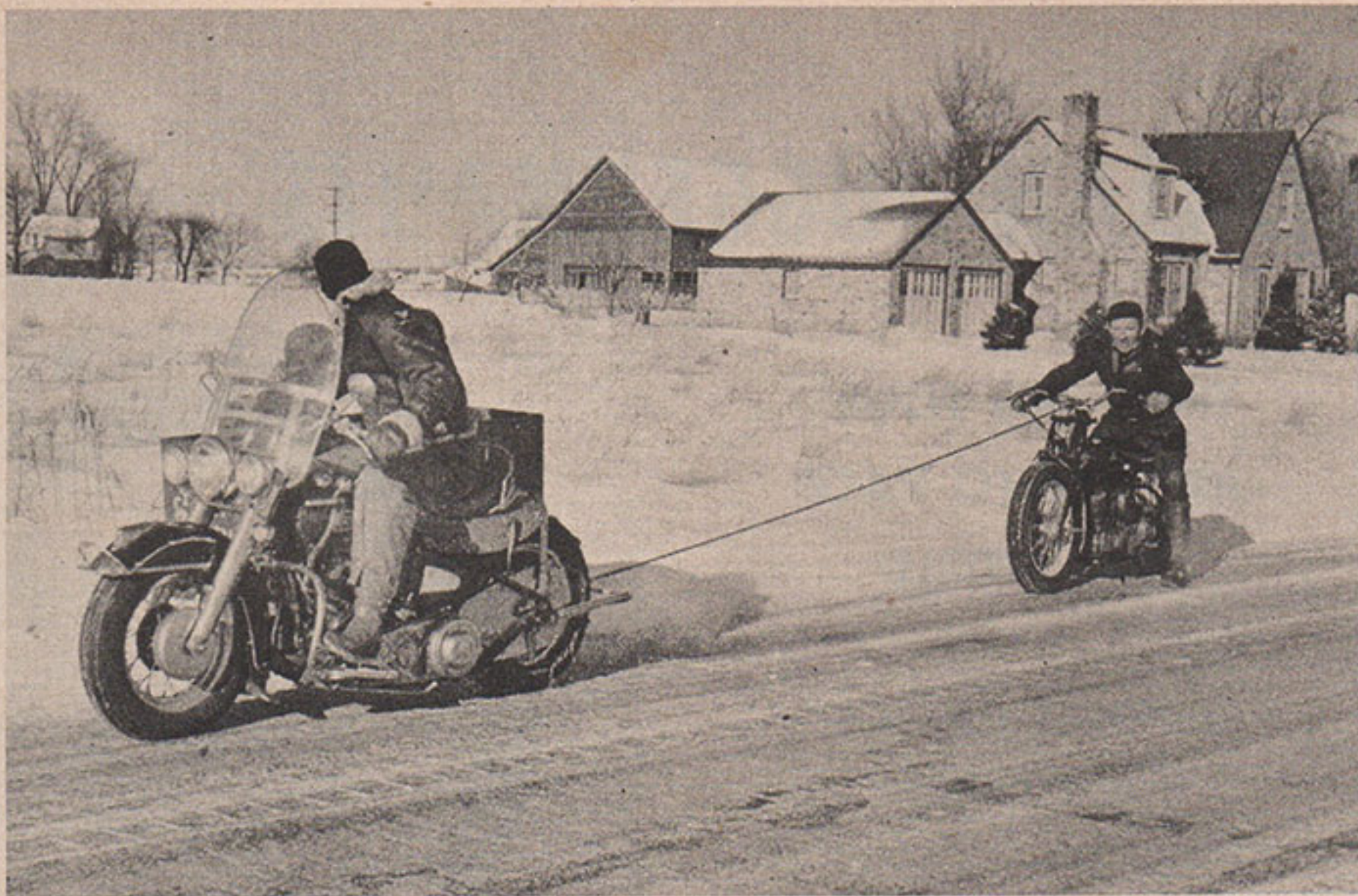
Most surprising of all was the fact that sidecar operator George Shallbetter, although winning the three-wheel class, fell well below either of the top three with a score of only 965.



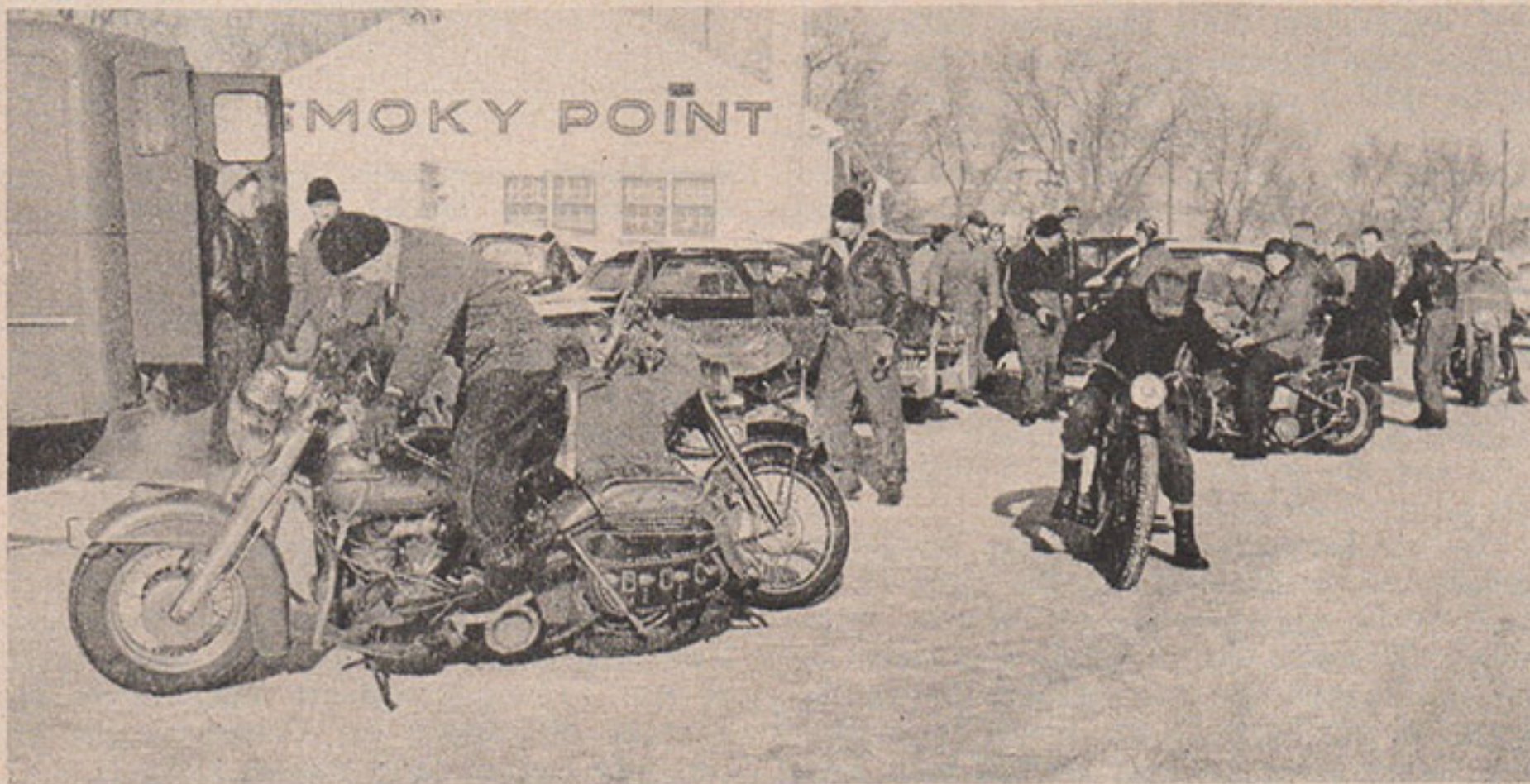
40 mph on glare ice means trouble so Bruce Brown of Minneapolis maintains balance on his Indian Warrior TT. The Indian Company markets a pair of moveable skis that can be attached directly to this model



"Did you get my name and number?" asks Ronald Reed, 16-year-old rider of the 125cc bike in foreground. The winner rode a machine identical to this one. Speed was limited by icy conditions, slow schedule

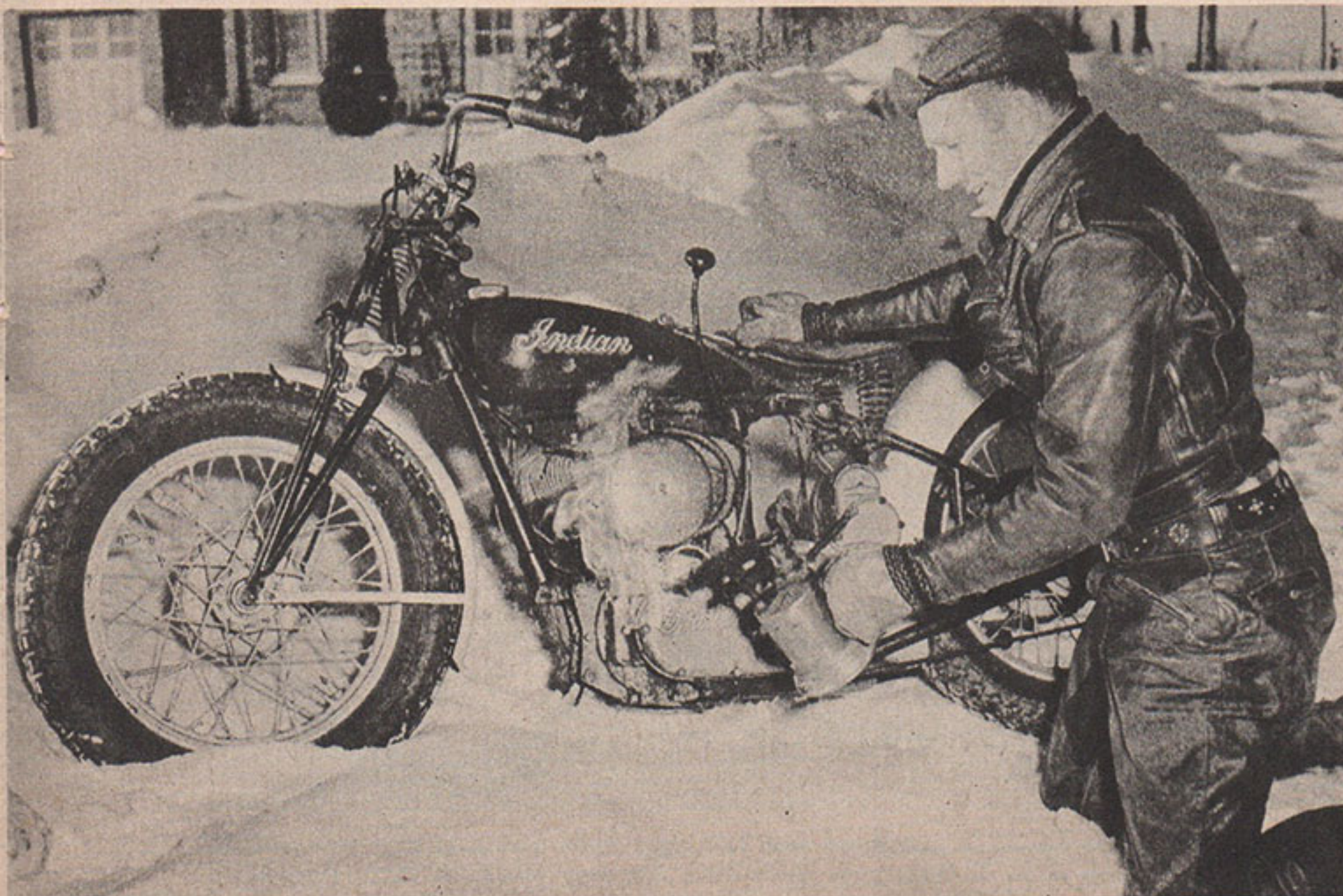


Better results were obtained when Bob Haugh was towed and started by George Shallbetter, sidecar class winner with 965 points. Rear fender on sidecar rig removed to accommodate tire chains



ABOVE, View of the 25 riders firing up their reluctant machines at "Smoky Point." A number of cycles arrived by truck and trailer. Padded pants, mackinaws and galoshes ward off the bitter cold

BELOW, Too cold to properly vaporize the gasoline in the blowtorch was the condition that confronted Bob Haugh and his Indian Scout on the annual New Year's Day Minnesota run



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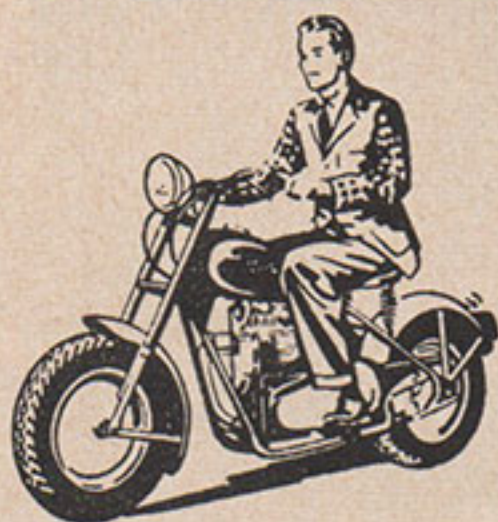
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## ITALIAN JUGGERNAUTS

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THE WORLD

GIOVANNI LURASCHI

LA MOTO MAGAZINE

**D**URING THE RACING SEASON just ended, the most important Italian machines have been in the 500 class, the Gilera 4, the MV 4 and the Guzzi twin. In 250 cc circles the Guzzi Gambalungino (Small Longleg) Bonelli, and Parilla double knocker excelled. Those terrific Mondial, Morini and MV four-stroke overhead camshaft jobs earned the most respect in the 125 class.

Around these principals are still seen the old Gilera Saturno single now fitted with telescopic fork, the Guzzi Gambalunga (Longleg) 500 single, the Guzzi Albatross 250 and the Morini and MV 2-stroke 125s, all privately owned.

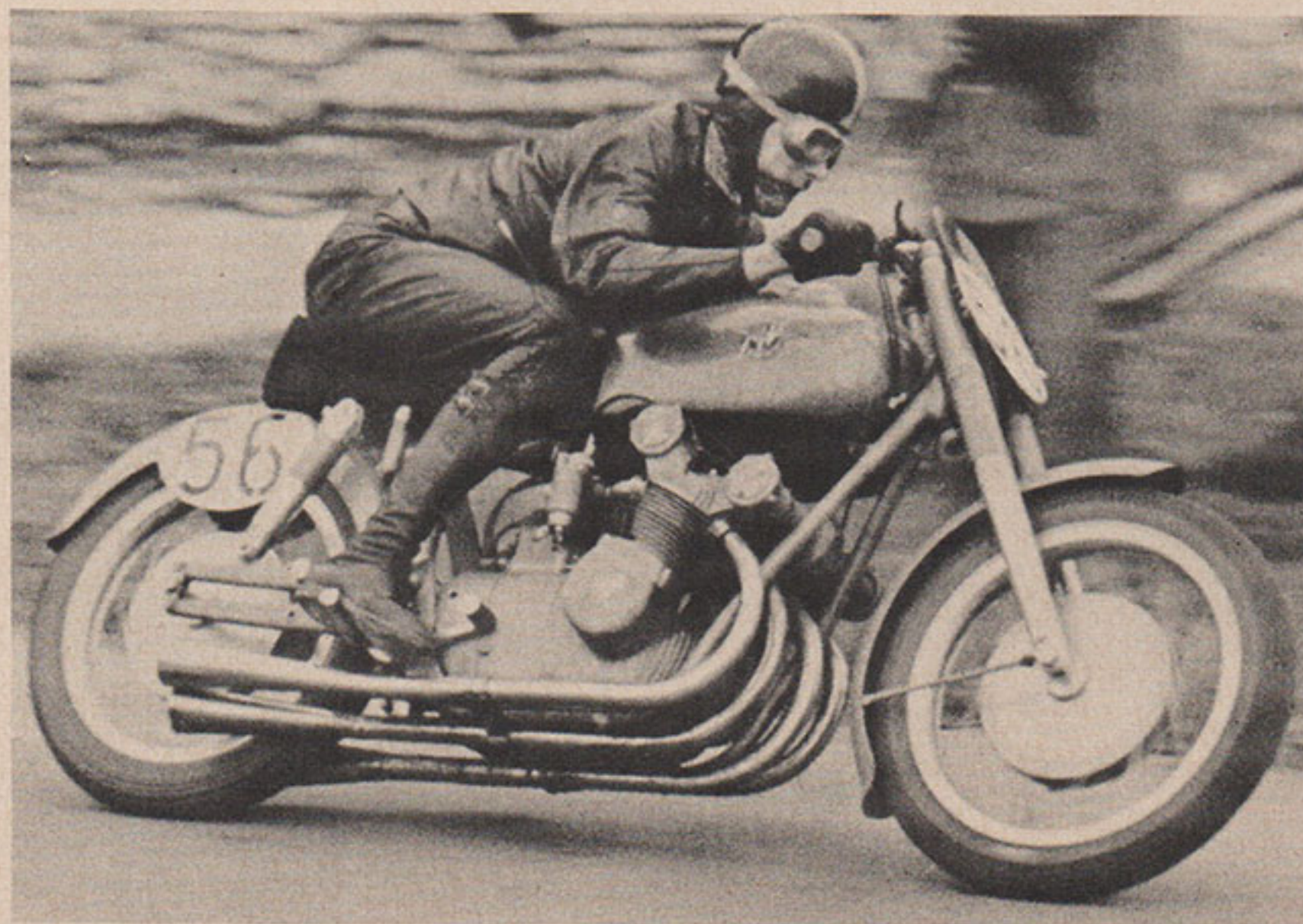
Italian development in racing motorcycle design can be evaluated in the light of the last world championship at Monza Autodrome. Britain's Norton single was bested by the Gilera four, the only machine that can be hoped to ride behind Italy's finest. To be sure, the details given here are all that have been released to the Italian press, for in Italy factory speed secrets are strictly confidential.

The Gilera in-line four mounted crossways in its double-loop frame has great frontal area. This 494 cc engine has overhead valves and double overhead camshaft

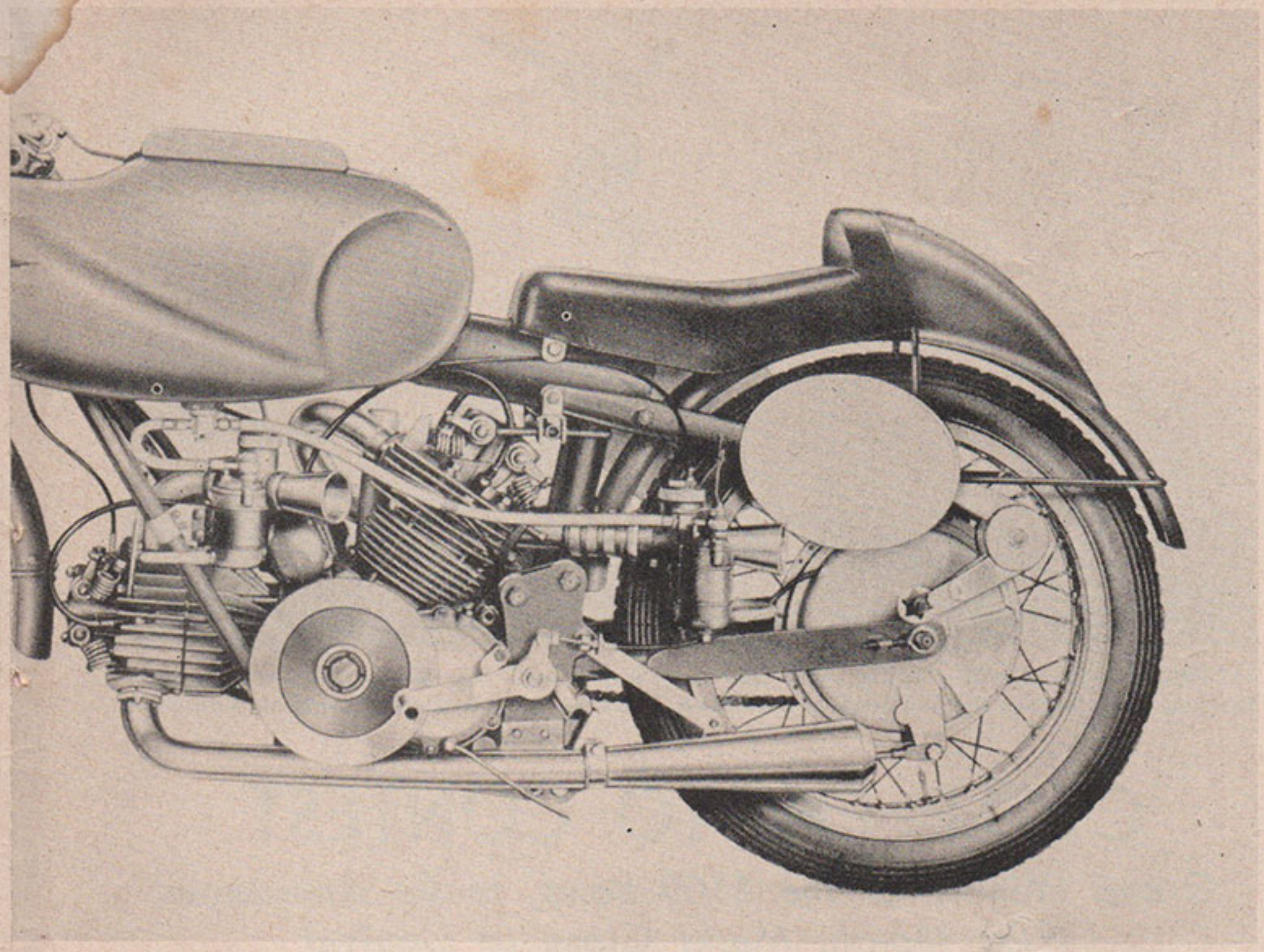
Moto-Guzzi's completely functional wide angle twin racer. Cylinder finning runs in opposite directions

operated by a column of gears fitted between the two couplets of cylinders, all valve operations being completely enclosed. The foot-shift four-speed gear box is driven from the engine by gears, the power then being transmitted to the rear wheel by chain. Each cylinder has a separate carburetor, all being actuated by a single throttle. The clutch is disengaged by the conventional handlebar lever. The Gilera develops 52 hp and a speed of over 130 mph, without supercharger and burning 80 octane gas (superchargers are currently banned in European racing).

Italy's latest, the MV 4, closely resembles the Gilera, being designed by the same engineer and having identical overhead camshaft arrangement. Each barrel has 54x54 mm bore and stroke, 498 cc total capacity, 9500 rpm, 52 to 54 hp and 127 mph. It has mag-



Latest MV four speed demon is now fitted with telescopic forks, swinging arm rear suspension. This is the only racer in Italy with shaft drive but may return to chain drive soon



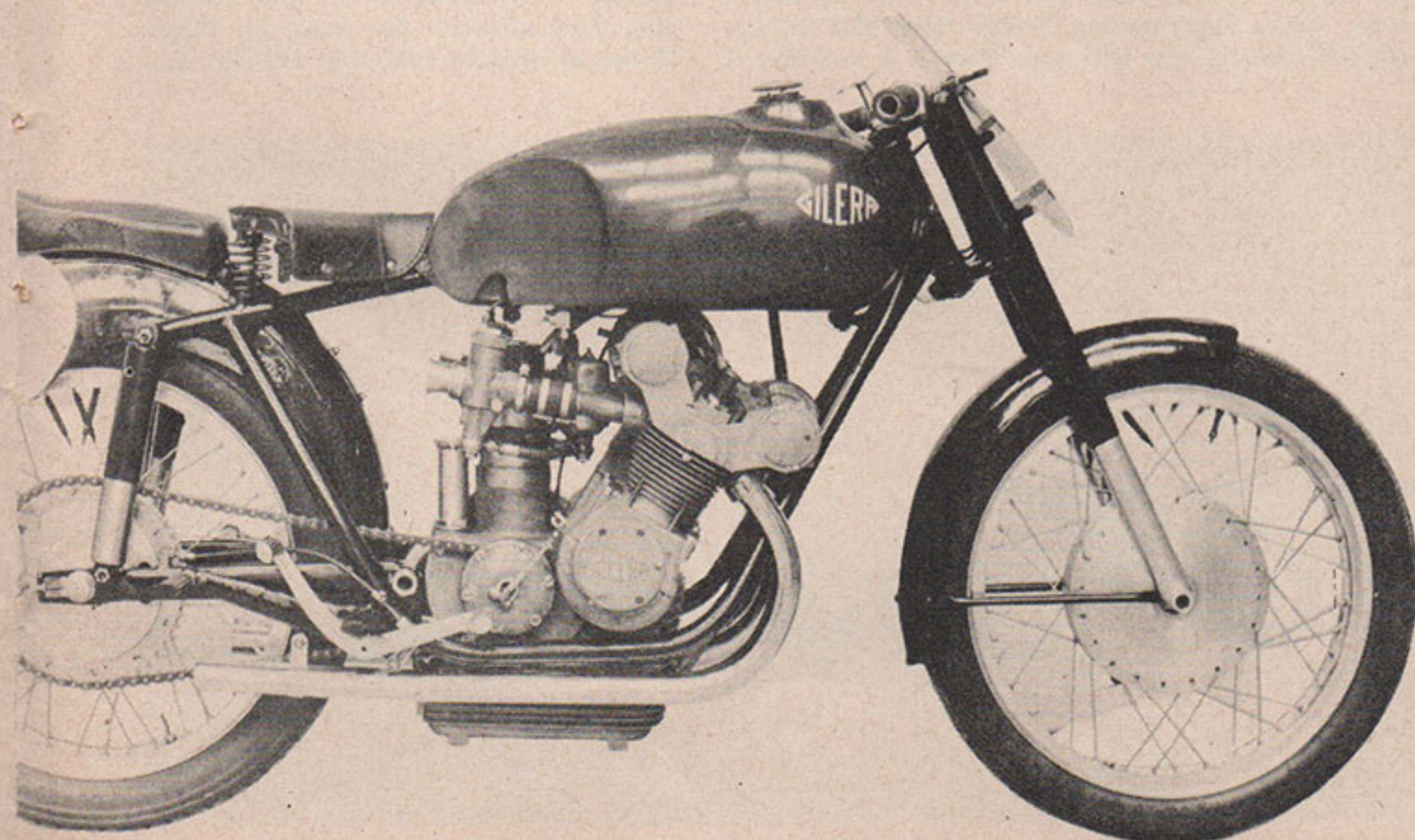
Frame tube from steering to saddle has been enlarged to act as an oil tank. Gas tank, recessed for rider's arms and knees, extends beyond and around forks. Note position of rear carburetor, rear fender fairing

neto ignition, oil bath clutch, four-speed gear box and shaft drive. There are actually two models in the MV range. One has two carburetors, the other four. The first has torsion bar front and rear fork. The second has telescopic front forks and rear torsion bar with swinging arm and telescopic dampers. The MVs are reported greatly improved for the coming season.

The other important contender in the 500 cc class is the Guzzi twin, an old racer still doing well despite its 1933 origin. It has been developed from year to year to the point that it has capably fought off the younger Gilera of 1948 and later MV 1950 vintage. Its engine is a 120-degree twin mounted similar to American machines, differing only in its wider angle cylinders. Here again its 494 cc displacement is made from a

square bore-stroke ratio, both being 68 cc. 46 to 48 hp is obtained at 7500 revolutions, 50 hp at a rate of 8000. The engine is still out of danger at 8500 revs per minute. Speed of this machine is rated at 129 mph. The frame is quite interesting since main tube from forks to saddle is oversize, acting as a true oil tank, while one of the front frame members takes the place of an oil pipe to the engine. Aside from making for lightness, this innovation allows simplicity and cleaner appearance. Front fork springing is obtained by means of a small enclosed swinging arm, while the rear suspension is a swinging arm with friction damper.

These are Italy's finest 500s that have defended their colors during the past year and are expected to come forth in new fighting trim during the 1952 international contest.



Four barrels, four pots distinguish Gilera. Here again the same swinging arm rear suspension. Note large V-shaped enclosure of double overhead camshafts. Front tire is 3.00 x 20; rear 3.25 x 20

## The Beast—Fastest Harley-Davidson In America

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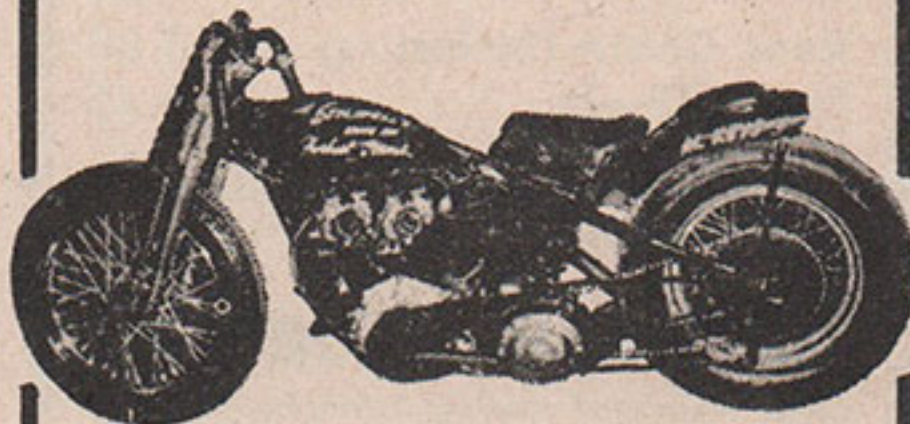
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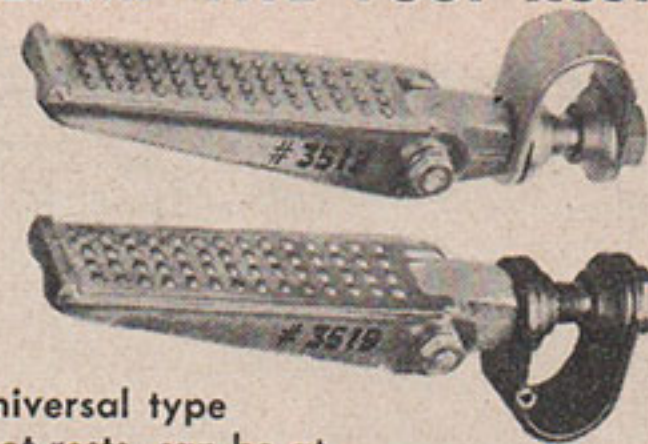


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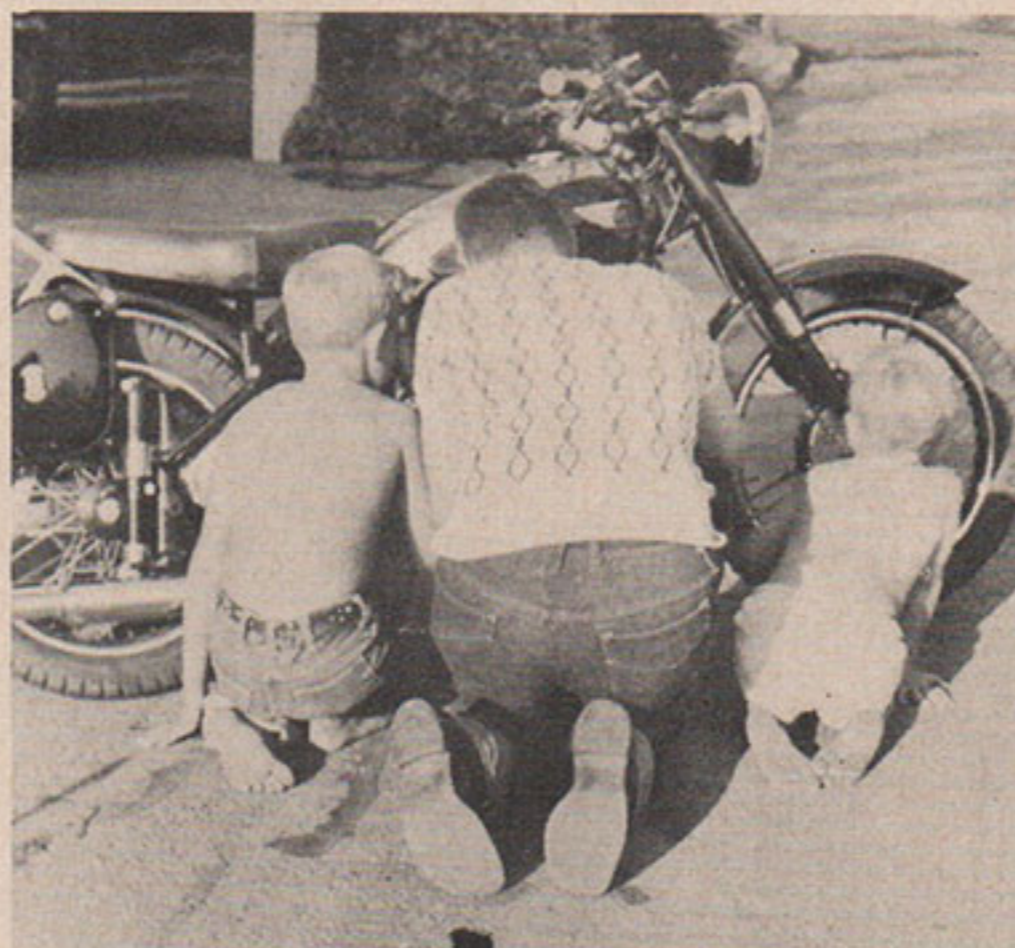
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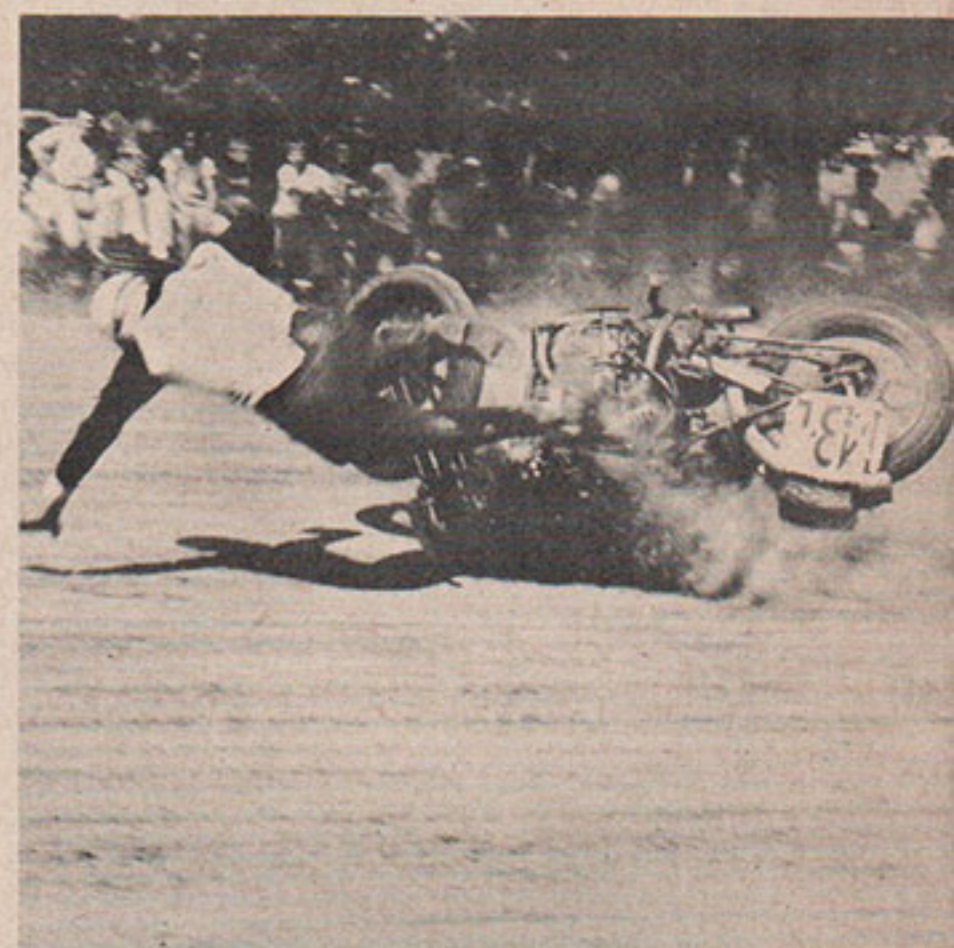
**1ST PRIZE PROFESSIONAL**—"You go your way and I'll go mine." Sam Arena adds an extra gull-like flourish as he tops the 200 mark at a hillclimb. Photo by H. E. Andrews, Riverbank, California

## CYCLE PHOTO CONTEST

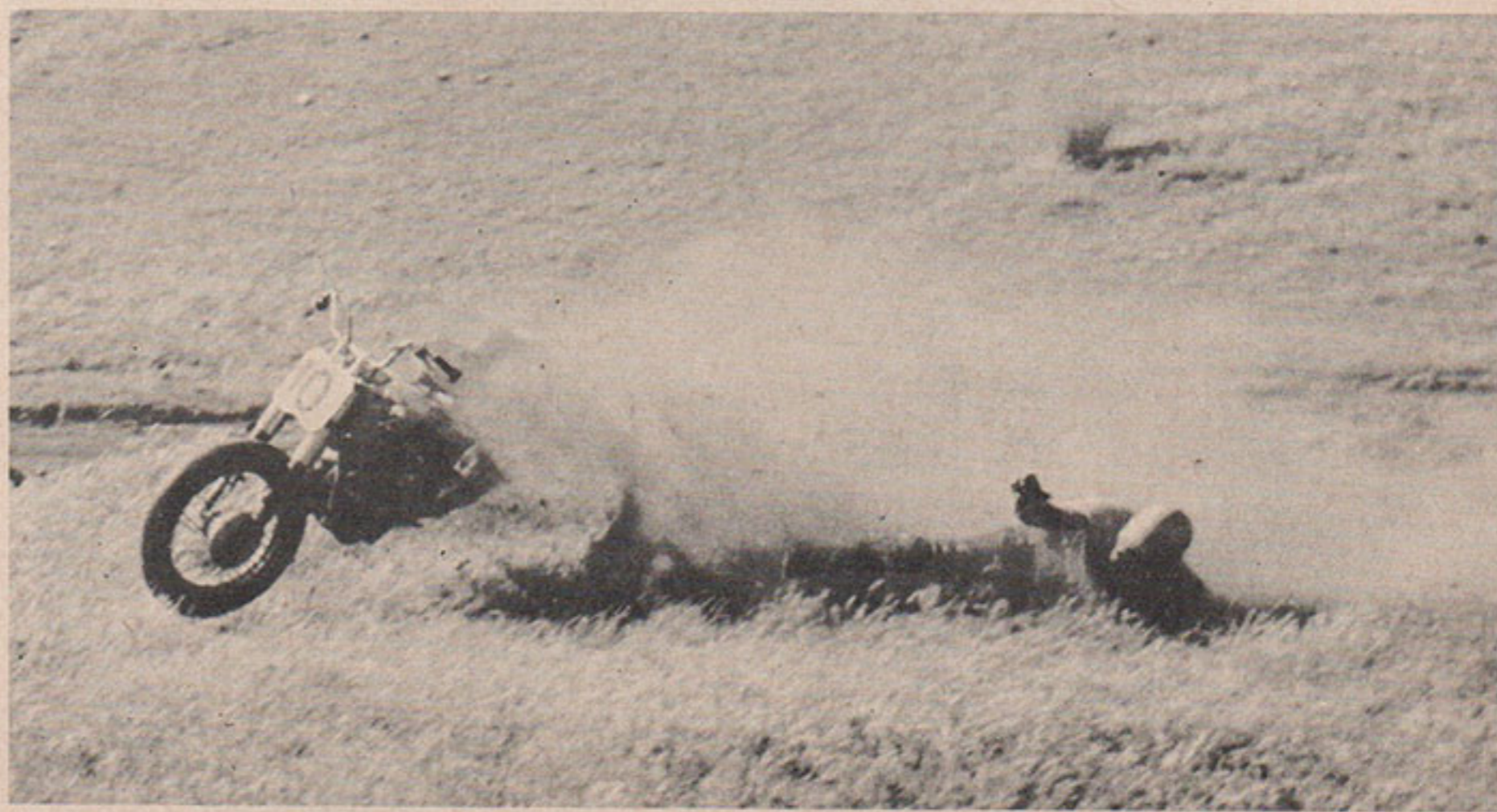
*Grand Winner of the \$100 Bond, to Be Announced  
Next Month, Marks Close of Contest*



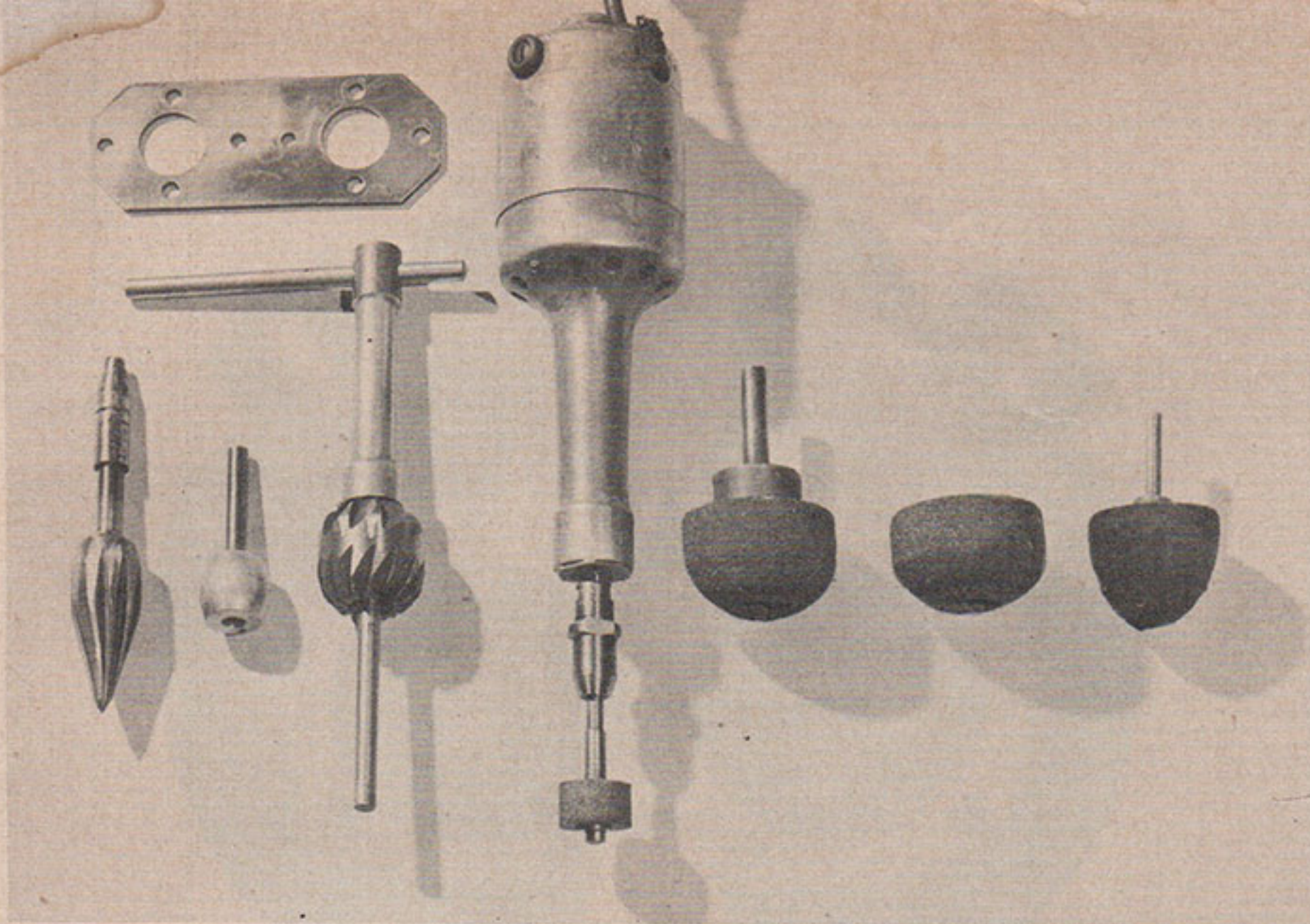
**HONORABLE MENTION**—"C'n I help, Daddy?" by Myra Jones, Studio City, California with Rolleicord camera, Ansco Supreme film. Daddy rides BSA Golden Flash and looks it over with sons Dennis, 8, and Eric, 5



**1ST PRIZE AMATEUR**—Falling didn't hurt Stanley Hergersheimer, it was sudden stop that sprained his wrist. By Paige Ooten of Hopkinsville, Ky. F11 at 1/200



**HONORABLE MENTION**—Winn Young clobbers the terra firma in a spectacular spill at Santa Barbara. This shot was a very large blow-up taken from about 150 feet, using 2 1/4 x 3 1/4 Speed Graphic Super XX film, shooting 1/250 second stopped down to F8 by Ray Porter, San Bernardino, California



Shop tools are not essential but make the job easier. Two-hole guide on top fits over the ports

## STRICTLY FOR THE BIRDS

(Continued from page 13)

more efficient operation.

2. Clean out the intake passages. Porting is a simple operation but it requires close attention to detail and careful work. Since you want both intake passages to be equal, you must measure their diameters as you go along. Begin by roughing out the passages with the heaviest-cutting rotary file you have. Try to make them as straight as possible without getting too close to the edge of the head. After the heavy cutting has been done, take a steel ball one inch in diameter and roll it into each port. It should stick part way through. Hold a light at the other end of the port and see which side is holding back the ball. Then go to work on that side with whichever grinding tool seems to apply. Keep testing for size and grinding, stopping only when both ports are polished to a shiny, smooth finish and the ball just makes its way to the other end.

3. Clear and smooth the exhaust channels. A polished finish is not necessary.

4. Fit larger intake valve. This is a delicate job because the new seat must be bored to

the precise size. If you don't want to take any chances, have the shop do this for you at the same time they hone out your barrels. If you want to do it at home, however, here is a technique suggested by Cal. Color the valve with crayon or ink, insert the valve in the guide, close it, turn it. Now you have a circle of color in the combustion chamber of the diameter of the new seat. Grind down close to this line, repeat the marking, grind, mark and keep repeating the process until the new valve fits. Whatever you do, don't take off too much. A fit of eagerness may leave you with such a large hole that you'll need to have a larger valve made to order. That costs money.

5. Grind out the hump between the valves. The combustion chamber will then have almost a true hemispherical shape.

6. Now enlarge the intake valve pockets in the new pistons. To do this, put modeling clay in the pocket, put the piston in the barrel and bring it to the top of its stroke. Now push the new, larger intake valve down with your finger until it hits the clay and leaves a clean impression. Then remove the piston from the barrel, note the new contour, grind the lower edge of the piston to fit. You'll have to repeat the operation a few times because it is important that you don't take off too much. If you do, you may cut into the top ring land or make too thin a separation between the pocket and the land, thus creating a hot spot. When the pocket has been widened to just barely miss the edge of the valve, round the new edge off slightly to eliminate the possibility of a hot spot.

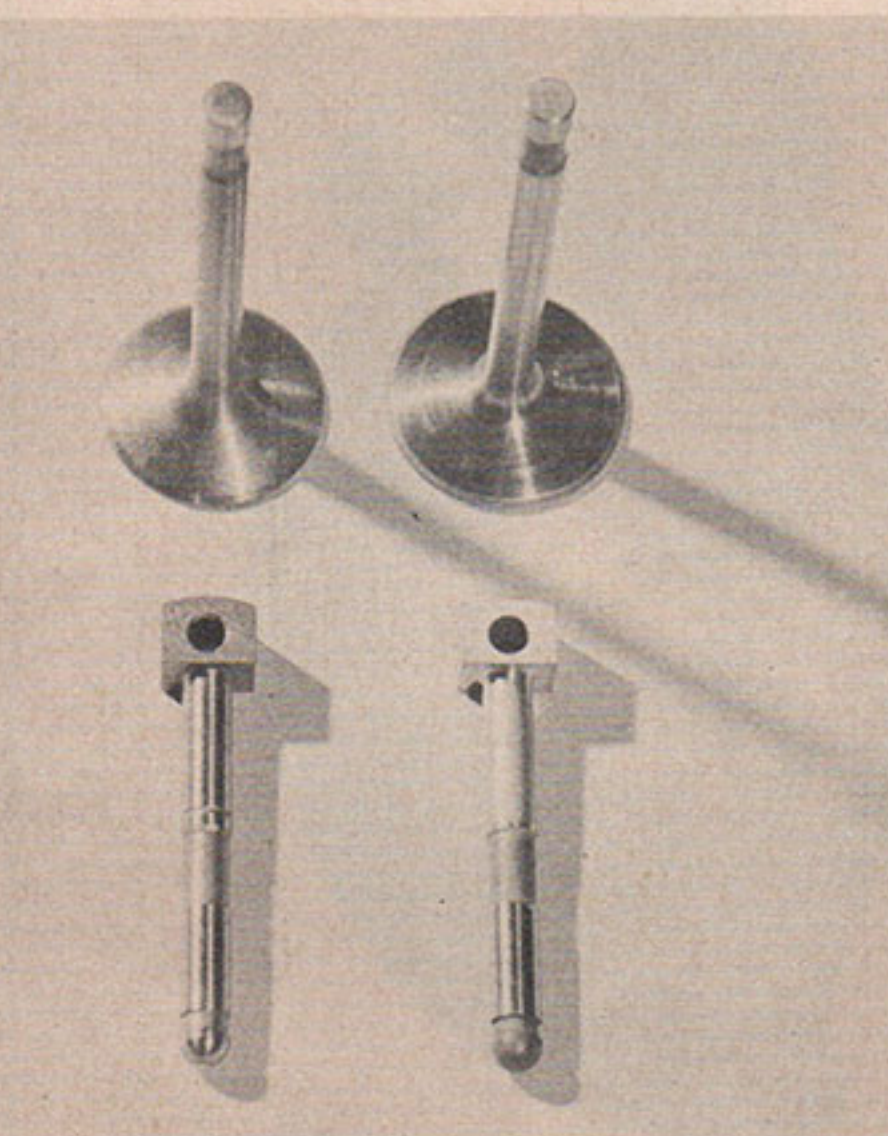
7. Measure combustion chamber capacity. The two chambers should be equal. Cal uses a long graduated glass rod, marked in cubic centimeters, similar to the titration rods used in chemistry labs in high schools and colleges. You fill the rod to the top mark, then empty it drop by drop into the chamber until full and read the volume of water which has been used. If the two combustion chambers are not the same size, carefully grind some metal out of the smaller.

8. Blend intake manifold to head and polish.

9. Test the fit of the valves against their seats by closing them and pouring gasoline through the ports. None should leak into the combustion chamber. If it does, polish the valve to a smoother finish.

10. Finally, check valve spring tension. If a gauge is not available measure the overall

(Continued on next page)



Stock and oversize intake valves with stock and special cam followers. Special cam follower has flatter curve where it contacts cam lobe

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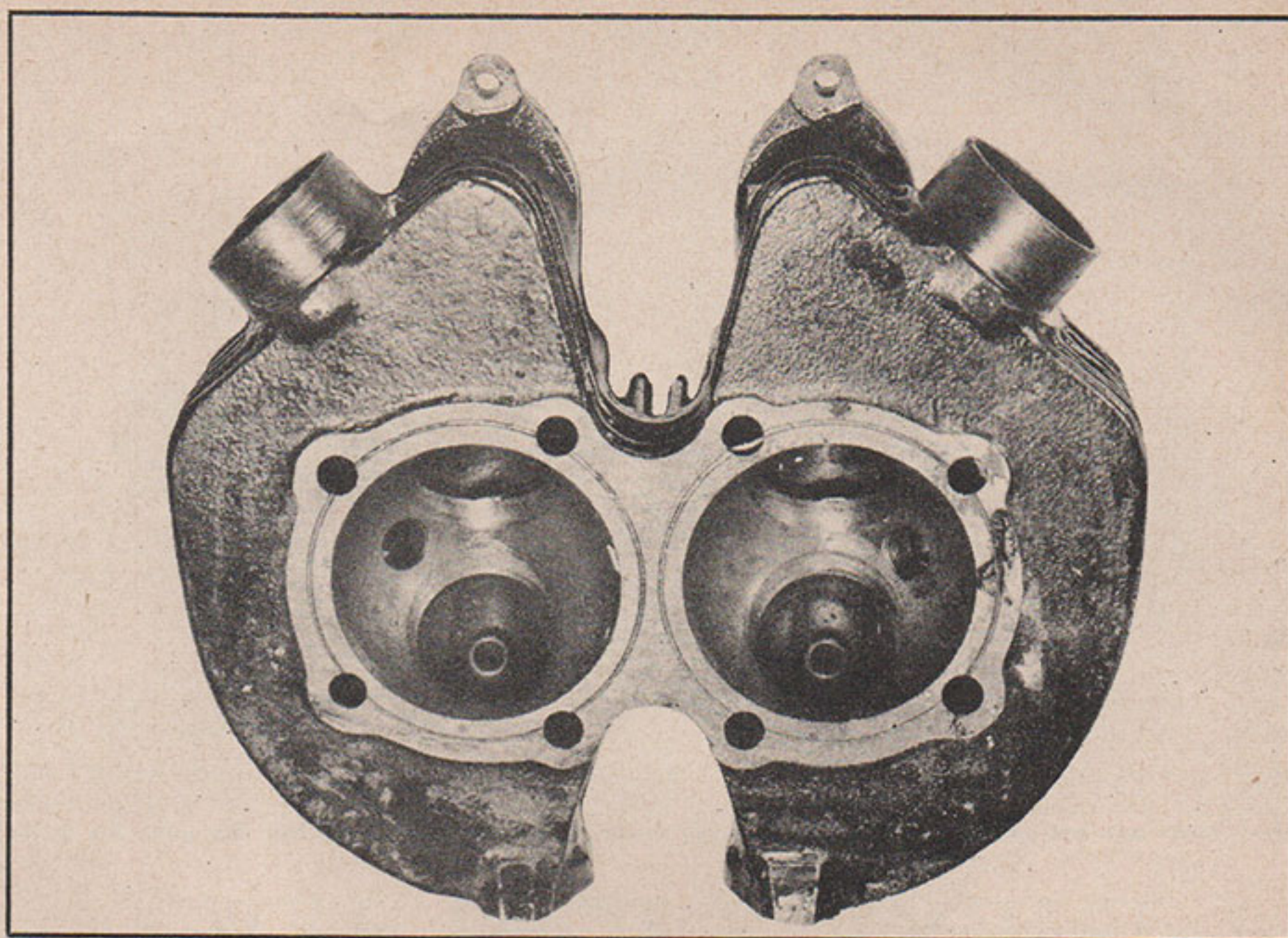
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Thunderbird combustion chamber before work. Intake valve openings are smaller. Hump visible between the two valve openings is restrictive to the flow of gases at high speed, therefore must go

(Continued from page 31)

length of the spring and if less than two inches long, replace. Triumph racing springs are recommended. Install valves, springs and keepers. If packed length of spring does not measure 1¾ inches, correct as noted earlier.

#### Reassembly

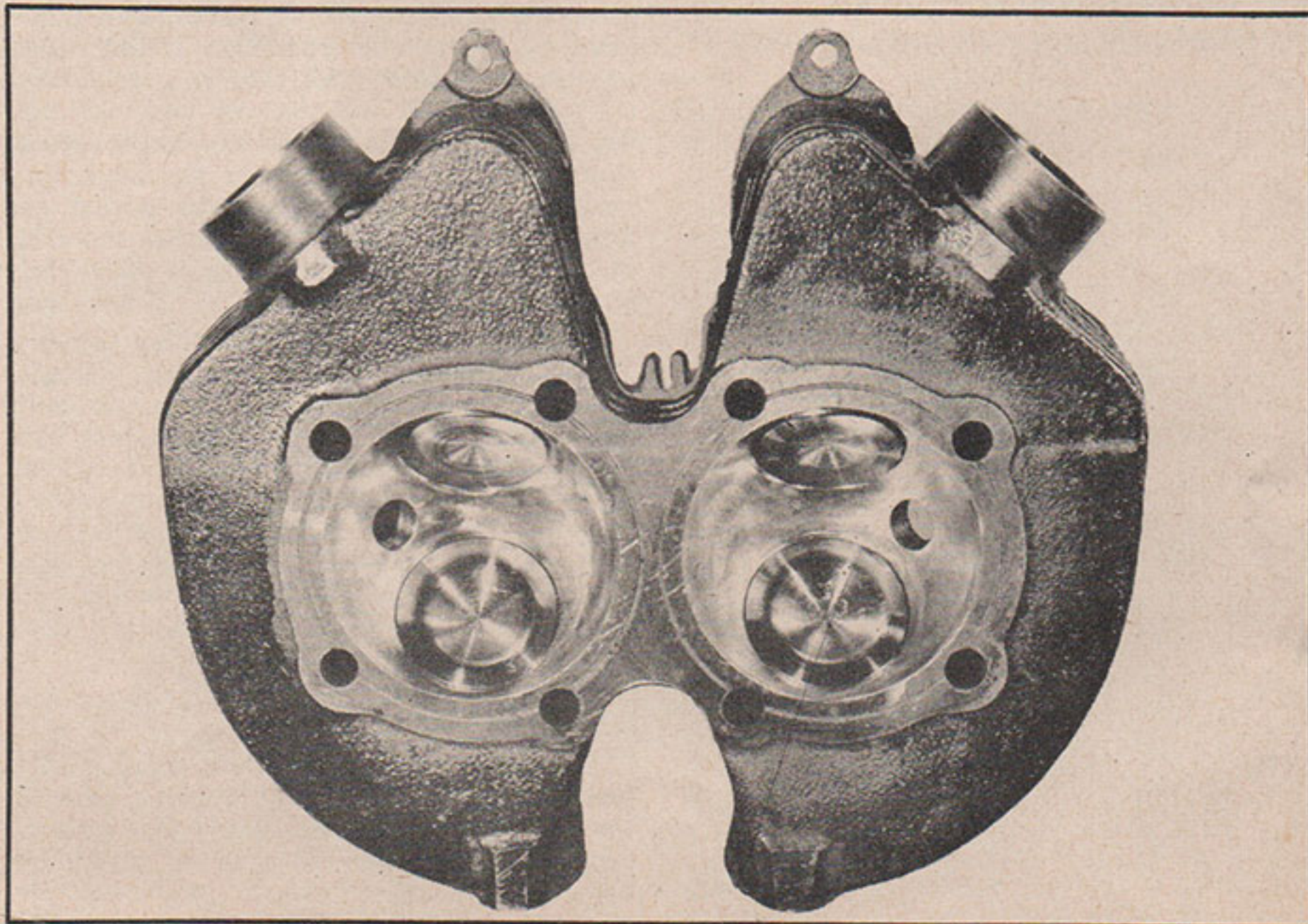
1. Fit rings to new pistons, leaving minimum .015-in. gap, making sure that all gaps are not in line.
2. Fit new pistons to rods.
3. Fit new or reground tappets to cylinder block with rubber bands.
4. Place cylinder block over pistons. This is not the easiest operation in the world. Find someone to help you for a moment and have him hold the block. You push the rings together while he rocks the block gently down over the pistons. Rings break very easily. If your friend rocks the block too far to either side he might snap one; if you

try to jam the block down over the rings too hard, you can also break one. Don't forget the cylinder base gasket.

5. Inlet push rods and cover tube should now be positioned to tappet block. Assemble the oil drain pipes to cover tubes before fitting.

6. Fit cylinder head complete with manifold to cylinder block and lightly tighten the four outside bolts.

7. Prepare rocker boxes and push-rods for final assembly. Check all parts for cleanliness and fit the push-rod cover rubbers to tappet block and the drain pipes to cover tubes. Assemble the cover tubes and push-rods to the inlet side of the cylinder and fit the rocker box to the head, using new gaskets. Both push rods must be at their lowest possible position during this operation. Repeat this operation on the exhaust side and tighten all head bolts evenly. Set tappets to a minimum of .002 clearance. After approximately



After—combustion chamber should look like this with new oversized intake valves installed and hump between valves ground down. Now, improved draft over pistons will help scavenge and pack gases

50 miles of running, tighten head bolts again and reset tappets to just a perceptible clearance—approximately .001 with a cold engine.

8. Fit the four oil drain adaptors to the cylinder head.

**Final Instructions**

Timing is vastly important. Cal recommends a setting of 37 degrees before top dead center. For maximum speed on special runs, use a setting of 42 degrees before TDC.

The gap on the magneto should be .012. Spark plug gap is best at .018. (Street plugs—L—11S Champions, possibly LA-11.)

The last major expense will be for the new carburetor. Now that you've cleaned out the ports and installed oversize intake valves the old 1 1/16-in. pot will be too small. Just right is the 1 1/8-in. size.

Jet sizes are something you'll have to play with. Have an assortment from size 200 up to 240.

The exhaust pipes from the Tiger kit are available from open stock and they seem to scavenge better than the Thunderbird stock pipes. They're the last step in the operation. You're buttoned up and ready to run.

For speed work, it is a good idea to cut out the drag of the generator. Probably all you'll want to do is disconnect the wires and let the armature turn free. Most of the power is lost from the effort of making electricity, so a free generator will not hold you back appreciably. Since the Triumphs run on

magnetos, you won't drain your battery unless you're using lights.

The air cleaner is another hindrance to top speed. It's good to keep it on for casual cruising, but when you're trying to prove the machine, take it off.

Now the Bird is ready to fly. Try out your wings carefully at first, reserving top-speed runs until after the rings have seated and tappets have been adjusted down to their proper clearance. Now that you've got the speed, handle it with good sense. When you're good, you don't have to prove it.

**You'll Need . . .**

1. Rudge-Whitworth tools to fit the British fastenings.
2. Gasket kit.....\$2.10
3. Head gasket..... 1.25
4. Intake valves (1 9/16-in. dia.) \$3.80 each. Total for two..... 7.60
5. Tappets (special grind).....12.00
6. Pistons (8.5:1) \$7.95 each.....15.90
7. Rings ..... 2.40
8. Carburetor (1 1/8-in.).....21.00

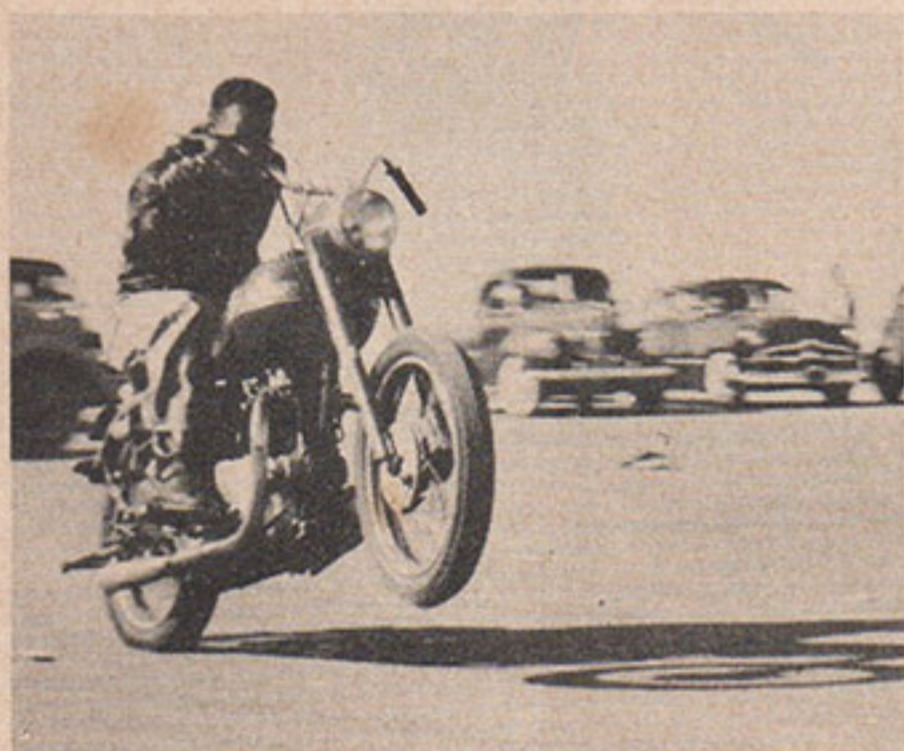
**You May Need . . .**

1. Racing valve springs.....\$6.84

**You May Want . . .**

1. Dual manifold.....\$16.35
2. Two 1-in. carburetors, pair..... 35.00
3. Racing megaphones, pair..... 15.36
4. Exhaust pipes from Tiger kit.....32.52

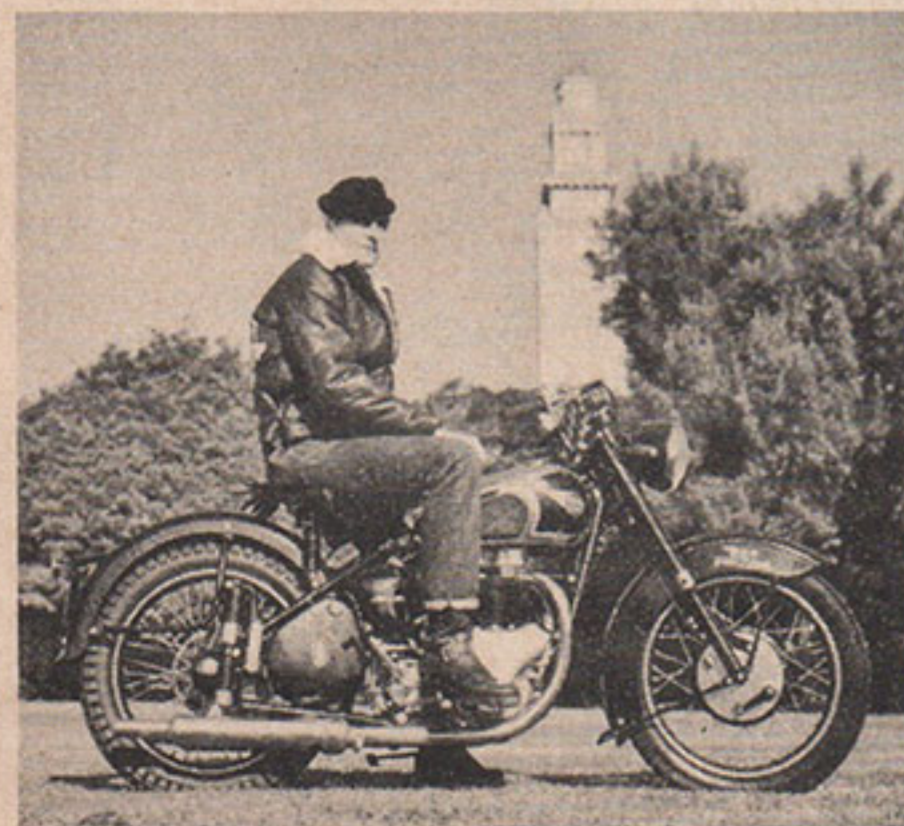
**CYCLES IN THE NEWS**



Next time you have trouble with that hill or sandwash remember Earl Raloff, one-armed cyclist of San Diego, Cal. Determined his handicap would not interfere with his favorite hobby, Earl had all controls changed to the right handlebar and left his native home in Maryland for the West Coast. Earl excels at drag racing



Flyin' Patricia "Pat" Bradley storms over the hills surrounding Santa Barbara, California on her individually tailored Indian Warrior TT. When Pat makes a bid for the lead, it's usually a good one. Pat finished 2nd in 75-mile Cactus Kate Derby, 1st in Los Gauchos annual run at Santa Barbara (open class for men and women)



Lucky Norman Davis of Los Angeles won Caspary Brothers contest. Norm had 95 tickets, receiving one ticket for each \$1.00 spent throughout the year. Being allowed the pick of any machine in stock, he chose a 40 cubic inch Golden Flash which he is planning to modify in his own unique way. Take a last good look



The Japanese have put motorcycles to more extensive use than have Americans. Three-wheelers fitted out with truck bodies or with passenger-carrying cabs are common sights on Japanese streets. This three-wheeler carries five passengers, three on automobile type main seat, two more on jump seat. Make of machine unknown

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- 45" Sport Scout Inner Chain Guard..\$5.00
- 45" Sport Scout and 741 Indian Generator complete with Relay.....\$16.95
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- Front crash bar chromed for 249 & Warrior 30.50.....\$6.00
- Center Stand for 249 & Warrior 30.50.....\$2.75

Many, Many Indian parts not listed.

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Used parts for Har.-Dav. 1930 to '36

- ✓ 40% discount on all Indian parts.
- ✓ Complete line of Triumph parts.
- ✓ One day service on all mail orders.

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Approved for all sports by Competition Technical Committees

- Model A—Without Visor.....\$21.00
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Sizes 6¾ to 7½

FREE . . . We process your new Cromwell in color with a brilliant glazed finish. We re-finish your present helmet for \$4.00. Not a paint or lacquer. We cannot rush the processing so ORDER NOW for prompt service. State color and size. Money order or 25% deposit, balance COD. Check our personal design service.

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Old Antique Pedal Motorcycles Wanted, Any Condition. Will Pay Top Cash. Also Cash for Information. Marion Diedriks, 1827 Broadway, Seattle, Wash.

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Indian Motorcycle Sales

Complete Mail Service

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Experience on Harley Davidson Motorcycles. To work in modern equip't shop. Steady employment, paid vacations and holidays. \$60 to \$80 per week, depending upon qualifications. Harry Ison Co., Inc., 352 East 76th Street, New York City. Phone Regent 4-6630.

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Write for current price list

ROBBINS MANUFACTURING COMPANY

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**1<sup>ST</sup> PRIZE**



**WILL THIS BE YOU?**

Delivered to your door  
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50c for each subscription sold



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5th PRIZE:  
**JOHN BULL TIRE**



6th PRIZE:  
**FLANDERS BATTERY**



7th PRIZE:  
**FLANDERS HANDLEBARS with cable controls**



8th, 9th and 10th PRIZES:  
**FLANDERS HANDLEBARS (less controls)**  
Your Choice of Bend

**SIMPLY SELL  
CYCLE SUBSCRIPTIONS**

## CYCLE OFFICIAL CONTEST RULES

**1. WHAT CONTESTANTS MUST DO:** All participants in this Cycle Subscription Contest must fill in the registration coupon printed at right (or a reasonable facsimile) and mail it to *Cycle Magazine CONTEST*, 5959 Hollywood Blvd., Los Angeles 28, Calif. Additional subscription forms will be forwarded to contestants who do so. Subscription forms unaccompanied by payment or incompletely or incorrectly filled out will not receive credit. All subscription forms must be printed or typewritten. Contestants may enter their own or renewal subscriptions for credit. Extensions to current subscriptions will also be credited.

**2. WHO MAY ENTER CYCLE SUBSCRIPTION CONTEST:** All persons residing in the United States may enter except employees and families of employees of *CYCLE MAGAZINE*, *TREND INC.*, advertising agencies of *CYCLE MAGAZINE* and *TREND INC.*, *BRANCH MOTORCYCLE SALES*, *TROJAN LEATHER SPORTSWEAR* and *FLANDERS MANUFACTURING COMPANY*.

**3. BASIS FOR PRIZE AWARDS.** The contestant who sells the most subscriptions to *Cycle Magazine* and sends the order blanks together with payment for the orders, to the above address in envelopes postmarked not later than midnight, May 21, 1952, will win a Velocette Motorcycle. Second, third and fourth prizes are identical Trojan Leather Jackets. Fifth prize is a John Bull Tire; sixth prize, a Flanders Battery; seventh prize, a Flanders Handlebar with cable controls; and eighth, ninth and tenth prizes, Flanders Handlebars (without cable controls) and the winners' choice of bend. Prizes will be awarded on the basis of number of subscriptions sold, and for which we have received payment. Contestants will collect from each subscriber the regular rate per subscription (\$3.50 for one year and \$6.50 for two years). The contestant will retain 50c per order regardless of whether the order is for one year or two years, and forward the balance to *Cycle Magazine CONTEST* without delay. Two-year subscriptions receive the same contest credit as one-year subscriptions. If there are ties for any prize the decision will be based on the earliest postmark of the initial entry. In the event there are still ties, tying contestants must submit a 25-word statement on "Why I like *Cycle Magazine*" for the judges' decision. In the event ties still exist, duplicate prizes will be awarded. Decision of the judges will be final in all cases.

**4. ALL CONTESTANTS MUST AGREE:** As conditions precedent to participation in this contest, all contestants agree: (a) to abide by the rules and regulations already published, and such rules and regulations that may be published in the future; (b) that no contestant, by reason of his or her participation in the contest, shall be or be deemed to be an employee or agent of either *Trend Inc.* or *Cycle Magazine*; (c) that *Cycle Magazine* reserves the right to correct any typographical errors that may appear in any advertisement or announcement concerning this contest by publishing the amended rules in *Cycle Magazine*; (d) that *Cycle Magazine* reserves the exclusive right and option to reject or disqualify any entry not submitted in accordance with all rules of the contest; (e) that the decision of *Cycle Magazine CONTEST* judges shall be final, conclusive and binding on all contestants.

In fairness to all, *Cycle Magazine* cannot enter into personal correspondence regarding this contest.

**DRAG OUT NOW—  
BEAT THE FIELD!**

**MAIL THESE IN TODAY!**

**CONTEST ENTRY BLANK**  
(or use reasonable facsimile)

This coupon serves both as registration in the contest and as the initial subscription credit toward the contest. **YOUR OWN NEW OR RENEWAL SUBSCRIPTION** receives same credit as subscriptions sold to others.

Please enter my name in the *CYCLE Magazine* subscription contest:

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CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

Please enter my first subscription as printed below:

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CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

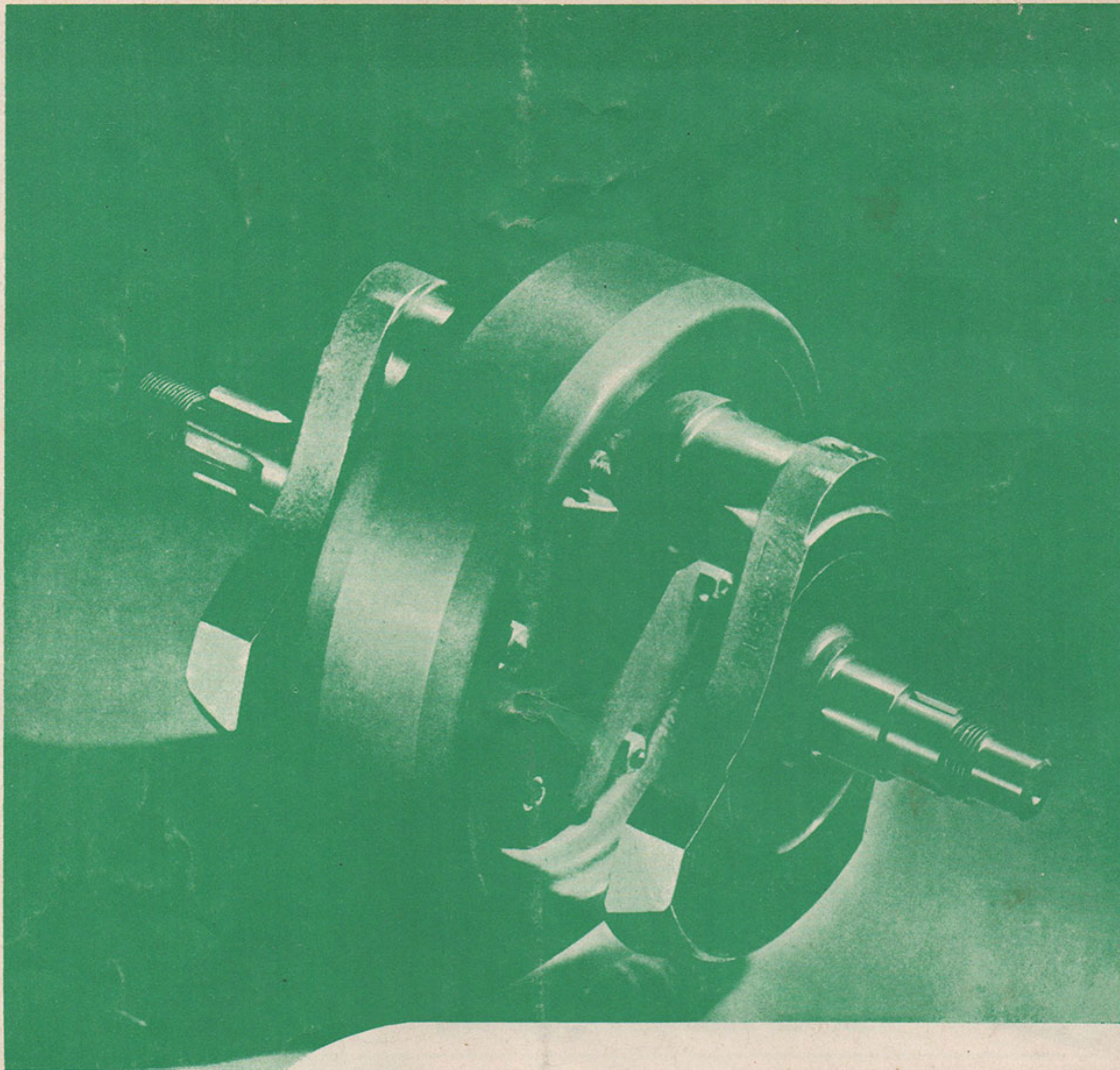
Enclosed find \$.....for.....year(s).

Cash  Check  M.O.

1 year \$3.50 2 years \$6.50

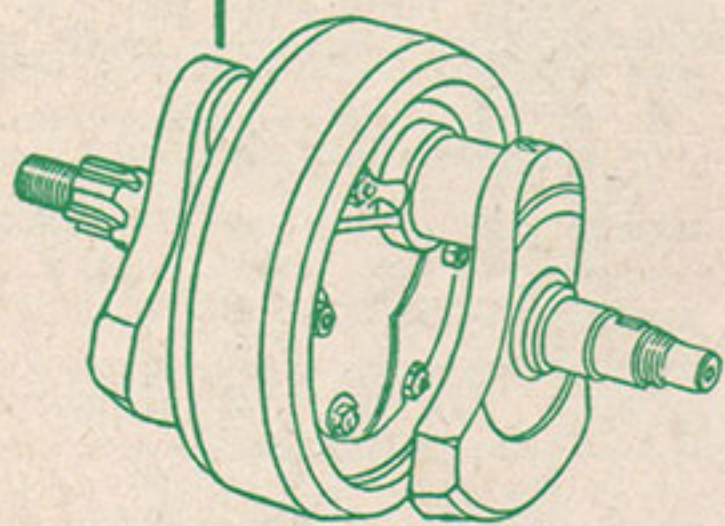
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FEB 21



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