

On the surface it would appear that Hodaka is one of the least progressive firms in the motorcycle business. When other companies were creating vast selections of machines for the public to snap up, Hodaka was content to plug along with a little machine they called the Ace 90. Even more amazing was the fact that Ace 90 was available in only one form and one color scheme. A couple of years ago great tremors ran through Pabateo (distributors of Hodaka) when it was decided that perhaps a 100cc machine should replace the proven Ace 90. Even the Ace 100 adhered to earlier practices; it was available in one form and in just one color scheme.

With an outlook of this sort you might assume that the people at Pabateo are ultra conservative. Pabateo is not ultra conservative; it is simply a small company, and being small they realize there is no point in coming into head-to-head competition with the Japanese giants. Instead, Pabateo has concentrated on offering just one quality model motorcycle to the off road enthusiast. Without having to concern themselves with annual model changes and styling face liftings, Pabateo has been able to concentrate on the sort of detail changes that can create a good motorbike into a much better one. Because of this policy, the Hodaka has one of the best reputations in all of off road riding.

Just at the end of 1969, Pabateo shook up the troops when they announced they would shortly be offering a machine to be called the Super Rat. The initial press releases indicated that the Super Rat would be an out and out moto cross racing machine based on the already well accepted Hodaka Ace 100. The photographs that accompanied these first releases showed that the Super Rat was light and agile with no unnecessary extras. It looked like the Super Rat was a true out-of-the-crate racer.

While the power plant in the Super Rat is based on the Ace 100 engine, it has been altered to make it more acceptable for moto cross racing. Most noticeable, at least externally, is the

tuned expansion chamber which is carried high on the right side of the machine. Not quite so obvious are the racing cylinder, cylinder head, and the oversize 24 mm Mikuni carburetor. A stronger clutch has been furnished to handle the increase in output, and a high capacity air cleaner meets the demands of the carburetor. Internally, the engine is "square" with both the bore and stroke at 50 mm. Total capacity of the power plant is 98cc, and the compression ratio is a rather strong 13.5:1. The people at Pabateo make no horsepower claims for the Super Rat—they simply state that the horsepower is "sufficient." Frankly, we are rather pleased to see that someone has withdrawn from the "horsepower race." There are many cases where the horsepower of the machine has no bearing at all on the



way in which said machine performs. For example: A machine that developed maximum usable horsepower between 7500 and 9000 rpm would be of very little use on a moto cross course. After spending a couple of weeks with the Hodaka Super Rat, we can honestly say that the horsepower is sufficient to make the machine competitive.

The little bike is also well built throughout. Caged needle bearings are used at both ends of the connecting rod, and the crankshaft is supported by ball bearings. The piston is fitted with a single "L" type ring, and the crankshaft is forged of Chrome-Moly steel.

As near as we can determine, the transmission in the Super Rat is the same as that used in the Ace 100 Hodaka. Straight cut gears carry the drive from the crankshaft to the clutch hub. The wet multi-disc clutch, in turn, passes the power to the five-speed constant mesh transmission. All shafts in the transmission are supported by either ball or roller bearings resulting in very smooth and positive operation. Shifts are made with a lever mounted on the left side of the machine, and the pattern is: up for low gear, then down for the remaining four speeds.

Hodakas have always had a reputation for having very smooth gearboxes, and the trans in the Super Rat will do nothing to mar that reputation. The shifting lever is of a proper length, meaning that it is not necessary to take your foot off the peg to make gear changes. No great amount of movement is needed to click from one cog to another, and we never had any doubt that the change had been made. The Super Rat shifts in a very positive manner.

The 24 mm Mikuni carburetor comes with a quick change main jet that makes turning for altitude variations quite simple. The blender operates in a very predictable manner, and the bike shows little tendency to load up. Air filtration is of prime importance on a machine intended for racing in the dirt, and the Super Rat is fitted with one of the best stock air cleaners we have ever seen. Two separate layers of filtering foam insure that no dirt or dust will reach the carburetor. The air cleaner cover is held in place with a wing nut, and a small spring clip keeps the nut in place . . . it's touches like this that denote the real racing machine. Secured in place with heavy duty springs, the expansion chamber is carried high on the right side of the bike. Two springs are used to fasten the pipe to the barrel while a third spring seats the chamber in an adjustable collar. The perforated heat shield we found to be a bit short at the front. On more than one occasion our right leg came into contact with the headpipe portion of the exhaust system.

# A MODERN CYCLE ROADTEST

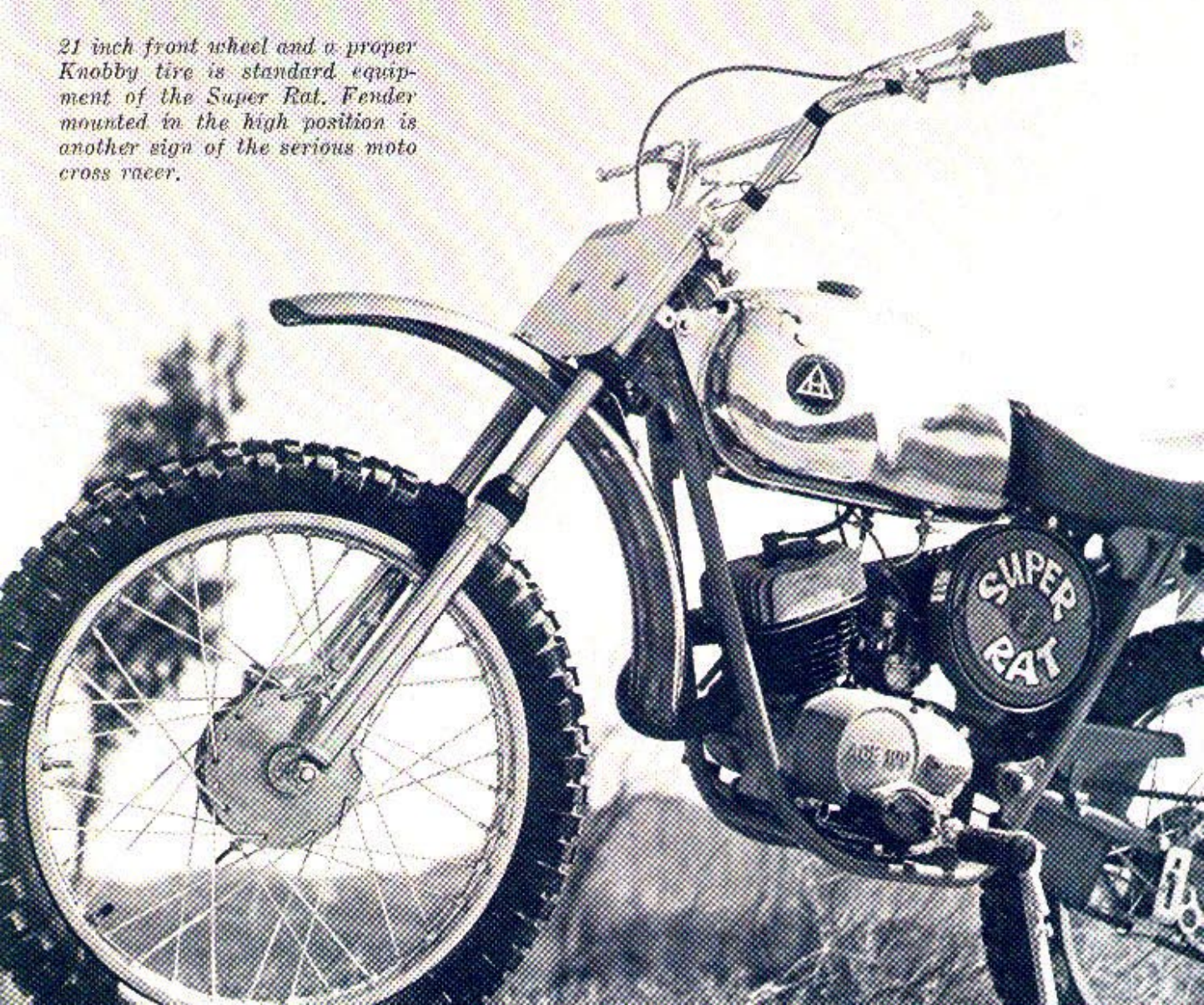
## THE HODAKA SUPER RAT

HODAKA FINALLY GETS AROUND TO OFFERING A RACING MACHINE AND IT LOOKS LIKE THEY HAVE GOT A WINNER ON THEIR HANDS.



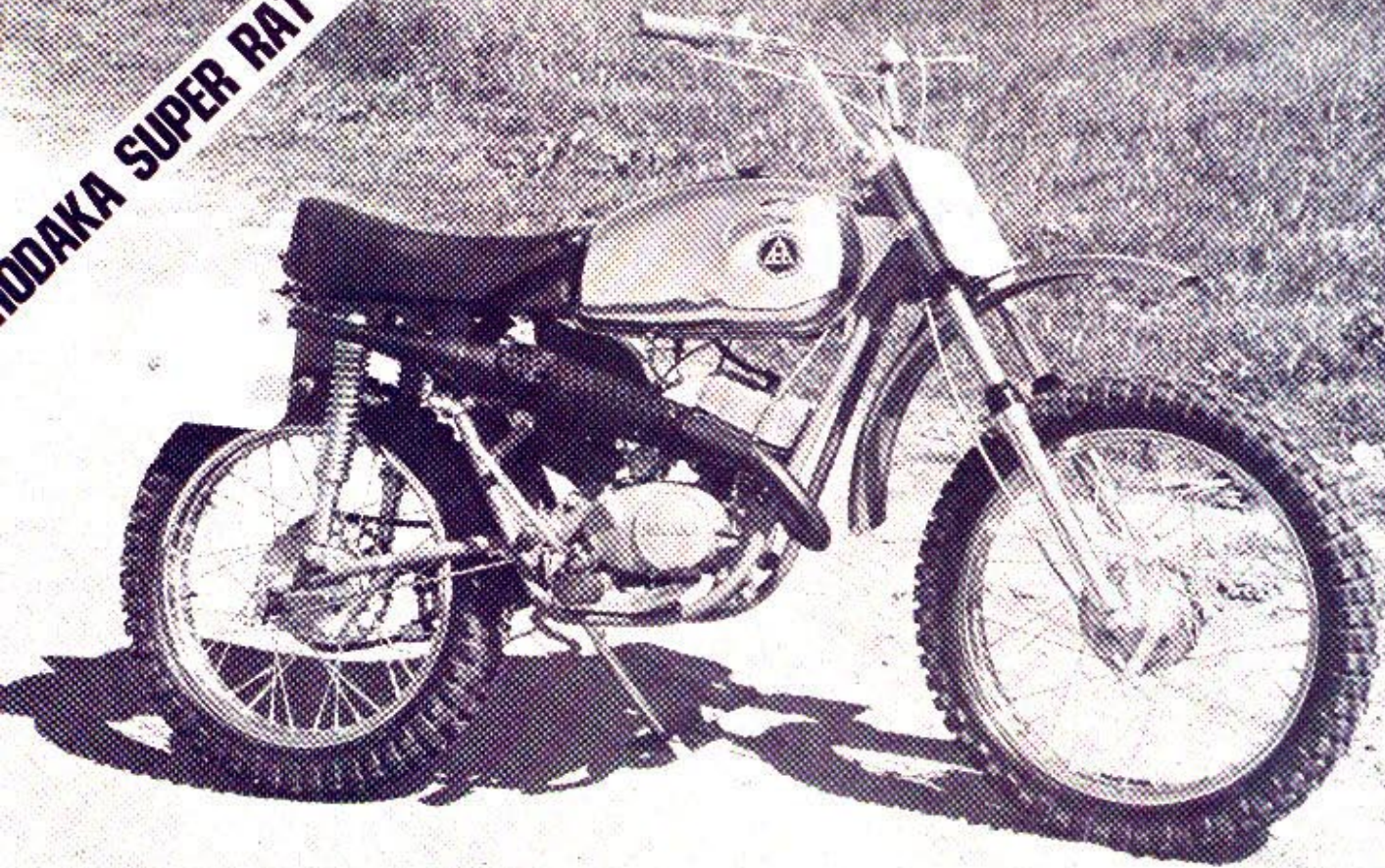


*21 inch front wheel and a proper Knobby tire is standard equipment of the Super Rat. Fender mounted in the high position is another sign of the serious moto cross racer.*





# HODAKA SUPER RAT



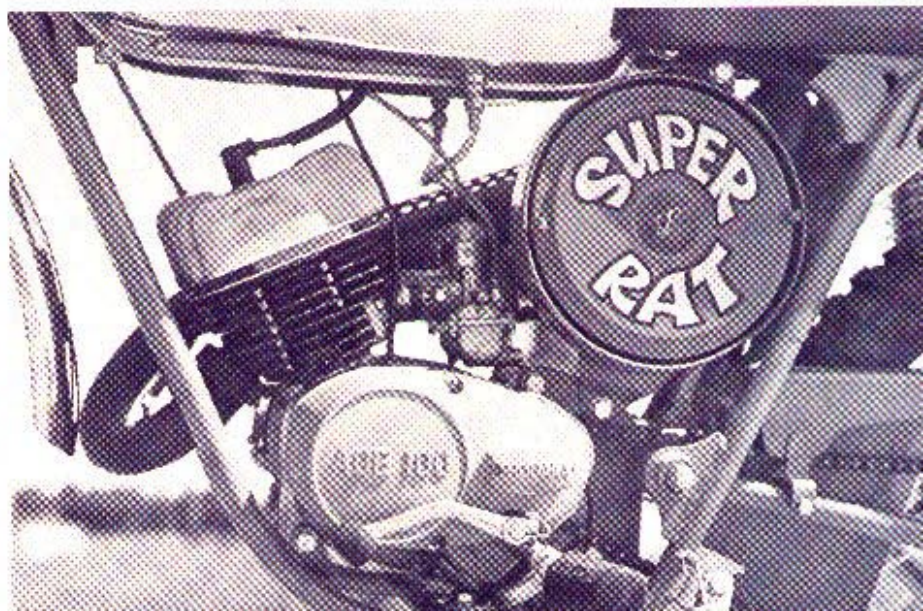
*A proper out-of-the-box racer. Simply add fuel and oil and it's ready to race!*

Finished in the familiar red paint, the frame on the Super Rat appears to be much the same as that used on the old Ace 100. The steering head is all new and has been considerably strengthened to handle the rigors of moto cross racing. A pair of downtubes descend from the head, pass under the engine, and then sweep up to terminate at a point beneath the saddle. Paired backbone tubes, one above the other, connect the steering head to the nose of the sub-frame loop. A large, flat steel plate welded to the cradle tubes beneath the engine adds substantially to the strength of the frame. Slots cut in this plate allow the peg assembly to be moved forward or backward to suit the needs of the individual rider. A large boxed structure at the rear of the cradle tubes provides most of the support for the engine. Additional engine mounts are on a cross brace just at the bottom of the downtubes.

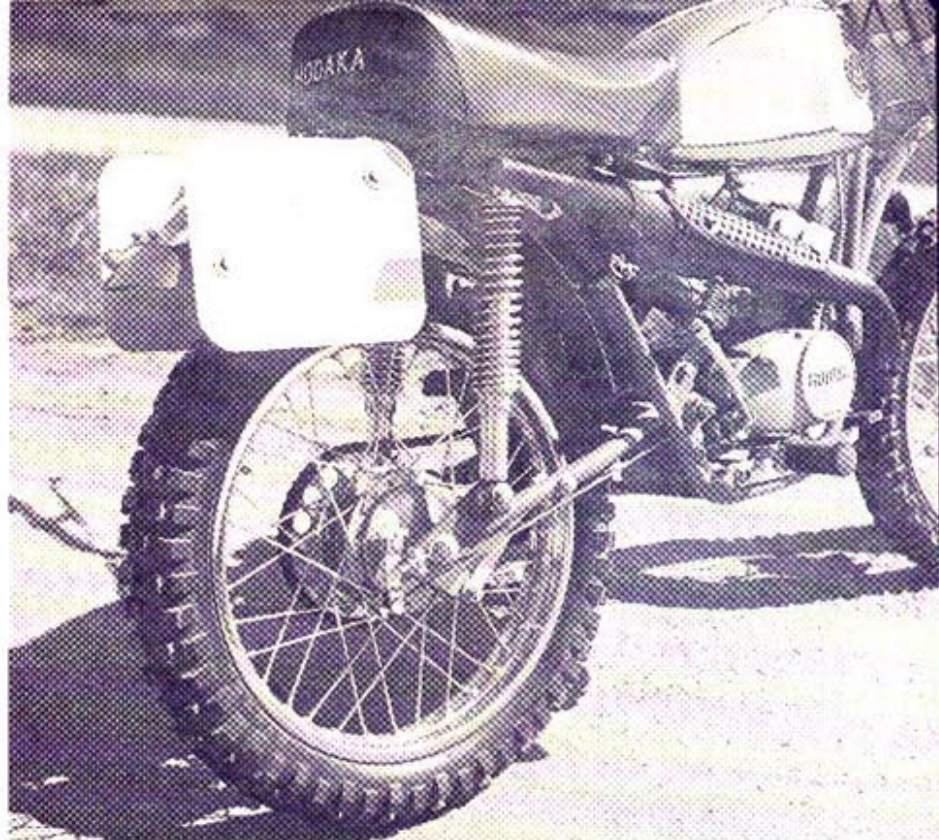
The swinging arm pivots on frame mounted bushings which are three piece in construction. The inner and outer surfaces of the bushings are steel tubing vulcanized to a rubber center. The bushings in the swinging arm itself are of cadmium plated steel. Bracing in the area of pivot tube and trailing member lends additional rigidity to the unit. Flat steel plates welded to the ends of the

Hodaka frames have long been noted for reliability and strength, and the unit used on the Super Rat is, if anything, stronger than its predecessors. Though simple in design, the tubework on the Super Rat proves to be quite rigid and free from flexing. The additional bracing in the area of the steering head insures that the bike goes where it is aimed with no distressing wobble of the front end.

One of the major complaints with the Hodaka Ace 90 and Ace 100 was that the tires, while fine of use in the street, left a lot to be desired with the dirt riding enthusiasts. No such complaint can be leveled against the Super Rat. This little moto crosser comes with tires that are ideally suited for racing purposes. The front cover measures 3.00 x 19 while the rear tire measures 3.25 in section and is mounted on an







18 inch rim. Both tires are mounted on heavy duty chrome steel rims which are laced to full width heavily finned hubs. The braking system housed within these hubs seems ideally suited to handle the weight and power output of the machine. The rear binder is actuated by a rod, while the front brake operates in the normal (cable) manner. The brakes on our test bike were relatively fade free and had no tendency to squeak or squeal.

Without proper suspension, the quickest bike in the world would be a slug on a moto cross course. We can think of no other form of competition which demands so much from the suspension on a motorcycle. When the engineers at Hodaka set about to design the Super Rat, they saw to it that the suspension received its fair share of attention. In appearance the front forks resemble the fabled Ceriani suspension units. The fork legs are exposed, and a neoprene wiper fastened to the top of the sliders keep dirt and moisture from reaching

*The rear shocks are three-way adjustable and come with progressively wound springs. Three num-*

ber plates are standard equipment on the Super Rat. Note the nicely contoured saddle.

the damping components. Maximum travel of the forks is 5.7 inches, and the damping action is controlled hydraulically. Pinch bolts are used to secure the fork legs at the triple clamp and at the fork crown. The owners manual that accompanies the Super Rat points out that the dampening effect of the forks may be changed to suit individual riders by using different weight oils and/or amounts of oil. Naturally, a heavier weight oil will increase fork stiffness, while a lighter oil will ac-

complish just the opposite.

Suspension at the rear of the Hodaka is furnished by a pair of very normal looking shock absorbers. The shocks are three-way adjustable, and are fitted with chrome plated progressively wound springs. A plastic sleeve mounted within the coils of the spring protects the damping rod from dust and moisture. The shock absorbers offer just under three inches of travel, and as at the front of the machine, damping is con-

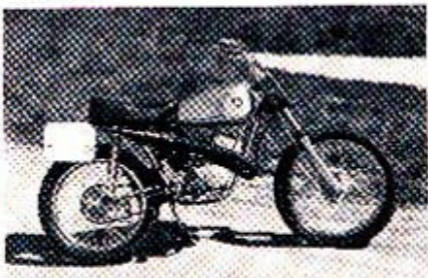
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Make .....	HODAKA
Model .....	SUPER RAT
Price As Tested .....	\$495.00
Engine Type .....	TWO STROKE, SINGLE CYLINDER
Bore .....	50MM
Stroke .....	50MM
Displacement .....	98CC
Compression Ratio .....	13.5:1
B.H.P. at R.P.M. ....	SUFFICIENT!
Carburetor .....	MIKUNI (24MM)
Ignition .....	FLYWHEEL MAGNETO
Fuel Capacity .....	2 GALLONS
Lubricating System .....	GAS/OIL MIST
Clutch Type .....	WET, MULTI-DISC

Final Drive .....	CHAIN
Starting System .....	KICK, FOLDING CRANK
Gear Ratios .....	1st—43.23; 2nd—26.43; 3rd—18.54; 4th—14.70; 5th—12.35
Top Speed .....	54 MPH
Tire Size .....	Front—3.00 x 19; Rear—3.25 x 18
Suspension .....	Front—TELESCOPIC FORK; Rear—SWINGING ARM
Frame Type .....	TUBULAR STEEL, DOUBLE LOOP
Weight .....	179 POUNDS
Wheelbase .....	49.5 INCHES
Ground Clearance .....	11.2 INCHES
Peg Height .....	12.5 INCHES
Seat Height .....	33 INCHES



# SUPER RAT



*Expansion chamber exhaust system is one of the first clues that the Super Rat is not the Hodaka of old. The heat shield is well positioned, and the pipe is tucked in out of the way of the rider.*

trolled hydraulically. Considered as a whole, the Super Rat suspension performs very well indeed. On hard packed turns the bike steers with utter precision. Over a rough, cobby field the springing does a very acceptable job of absorbing the jolts.

While both the seat and gas tank resemble the units used on the earlier Ace 100, they have both been redesigned to meet the peculiar needs of the moto cross racer. The front end of the seat and the aft portion of the gas tank have both been slimmed to allow the rider to get a better grip on the machine with his knees. This slimming process has reduced the gas tank capacity from 2.6 gallons to an even 2 gallons. The handlebars are cross braced in true moto cross fashion, and a "quick" throttle and kill button are standard equipment on the machine. Also standard are the three number plates.

The Super Rat is a real pleasure to ride. The seat is quite comfortable, and the handlebars are of a sufficient width to give very good leverage. The pegs, as we have already mentioned, are easily repositioned to suit the needs of the individual rider. Weighing in at less than 180 pounds, the Super Rat is definitely a lightweight 100. This lack of weight, coupled with a wheel base of under 50 inches, makes the machine extremely easy to toss around a tight moto cross course. Power is spread over a good usable band. Couple this with the five speed gearbox and you have a bike that pulls well out of almost any racing situation.

Some of the characteristics that have endeared the Ace 90 and Ace 100 to thousands of trail riders are retained on the Super Rat. Two of the most impressive are ease of starting and an almost total lack of temperamentality. The Super Rat is a bike created in the Hodaka tradition. We look for it to quickly become as popular as its older brothers. ●