



# LIVES UP TO ITS NAME

*After four years of  
the same model,  
same color, ' Hodaka  
introduces its first  
production racer.*

Hodaka's first entry into the motorcycle field was their ACE 90 with a four speed transmission. At that time (about four years ago) almost all of the 100cc trailbike classed machines were actually 90cc engines. It didn't take long for the more industrious individuals to find out that stripping the Hodaka of all of its lighting gear made the machine very light as compared to

the other trailbikes. The Hodaka used a tubular double loop frame as compared to the popular stamped steel monocoque structure of other machines.

The little Hodaka 90 was strong, light and seemingly indestructible. But, it was still only competitive in power with other machines and not superior. Then they released an optional five speed transmission for the ACE 90. Interest grew and more racing accessories were becoming available for the Hodaka. It soon became the hallmark in desert trailbike racing, and even scrambles and TT tracks were being flooded with red Hodakas.

As the popularity increased for trail-

bike racing, the mass starts used in the desert races had to be split into two categories. The big bore machines starting ten minutes before the slower trail bikes. The reason for this split was the enormous percentage of trail bike entries. They composed close to one third of the field. Of this trail bike class, the Hodakas made up nine out of ten entries, a fantastic number. Then Hodaka released their 100cc model increasing the displacement another ten cc's.

With all this popularity for the Hodaka there was still not an official racing model. It was not uncommon to see some of these racing machines with a retail value exceeding a thou-

sand dollars counting all the accessories. Rather expensive for a 100cc machine. Still Hodaka had only one machine, one color.

The craze of racing finally caught up with the Hodaka/Pabstco people in Athena, Oregon. Their new machine is one hundred percent racer. Surprisingly, the Super Rat is not designated as a desert machine, enduro mount, TT or scrambles machine, these areas being their prime areas of past successes. Rather it is designed and pointed toward the moto cross market.

To look at the new Super Rat, a lot of people might think it's just another hand built Hodaka racer. Not really. There have been a considerable number of changes incorporated on the Super Rat. Appearance wise, the machine has retained the same general design as the standard Hodaka, less the lighting. The frame is identical to the ACE 100, with a tubular double loop design. Even the red paint is the same. The gas tank appears the same with its all chrome finish and similar shape (it is narrower). The knobby tires, internal spring front forks, smaller seat and larger rear shocks are the main external changes. The machine has been designed as an out of the crate racer, and none of the unnecessary extras from the ACE 100 adorn the Super Rat.

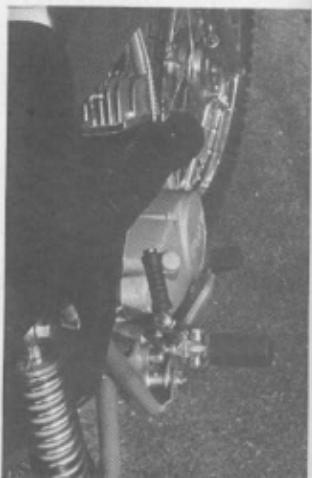
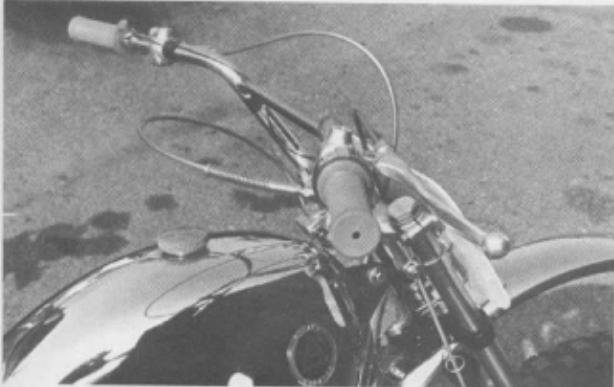
The Super Rat is all business. The handlebars are pretty wide for a moto cross machine, though we didn't find them objectionable. The levers are the soft malleable type which allow them to bend rather than break, should you have

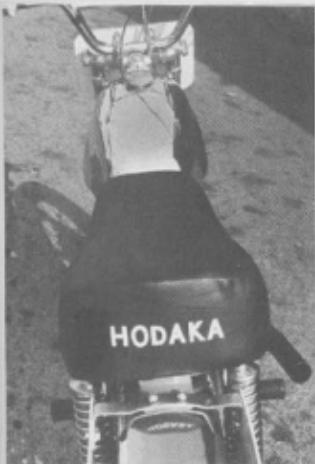
**Handlebars are comfortable, but fairly wide for a moto cross machine. Small hand grips cause the hands to cramp up.**



*The internal spring front forks work very well and have lots of travel. Large knobby tires provide good traction.*

*The pipe is tucked in close and doesn't bother the rider's leg. Pegs are rubber covered and spring loaded.*





*The recontoured saddle is comfortable, except for letting the rider slide forward. New gas tank is also slimmer.*

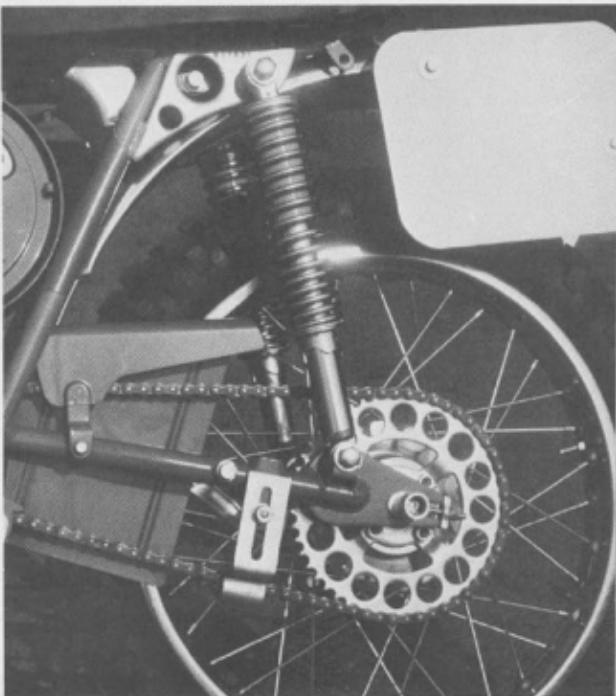
*A larger 18 inch rim and tire are mounted on the rear. Side number plates should be relocated for safety sake.*

*High compression head, racing cylinder and expansion chamber give the engine lots of torque at slow speeds.*



a spill. The handgrips are the small diameter items from the ACE 100. These proved uncomfortable for long periods of hard riding. A kill button is attached on the left side of the bar. The saddle has been redesigned. It's thinner and of different contour.

We have no complaints in the comfort department here. In fact, with the rais-



ing of the machine due to the larger tires and wheels, the lower seat makes it easier to touch the ground.

The only objection we had in the seating department was the tendency of the saddle to push the rider up on the gas tank due to its sloped down contour. The foot pegs are spring loaded and we were glad to see this. Standing or sitting on the Super Rat provided easy balance and a fair degree of comfort. Some of this can be attributed to the smaller and thinner gas tank (now holding two gallons). This permits the rider to get a better grip on the narrower tank with his knees. Also the pipe is nicely tucked in away from the rider's leg.

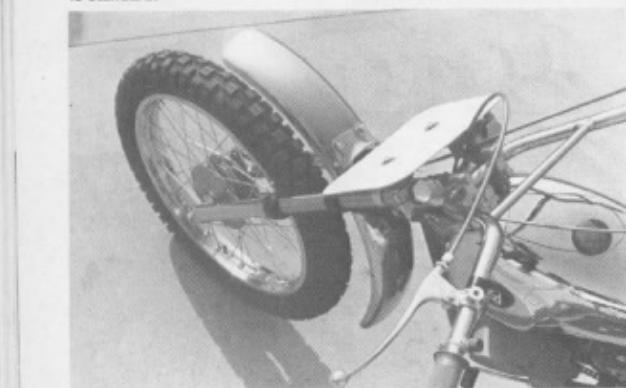
The power plant of the Super Rat appears identical to the ACE 100 on the outside. After riding the machine it is obvious that there have been more than a few changes in the engine department. As with the stock Hodaka engine, the power plant comes to life with only one or two easy strokes of the kick arm. The instant the engine fires there is a series of tiny cracking noises from the expansion chamber. A light upward tap from the toe on the shift lever plunks the

transmission into first gear. Rolling the throttle open just slightly and letting out the clutch gets the Super Rat off to an instant start. It takes only a few minutes to discover that the engine has an abundant amount of torque for a 100cc engine. The engine starts to pull from about 3,000 rpm on up to about 6,500 where it flattens out. Throughout this entire range the engine pulls smooth and steady with its maximum output in the mid-range. Being designed for moto cross, this is important.

Getting maximum horsepower out of the little 100cc engine invariably results in having the power range narrow or peaky as compared to larger displacement power plants. The Super Rat is not what one would call pipey at all. But, by the same token its power output isn't outstanding as compared to some of the highly tuned machines in the trialbike class. Actually, there haven't been an extensive number of modifications done to the engine. A 24mm Mikuni, 13:1 high compression head, single ring Dykes piston and the expansion chamber are the major modifications. Probably with some fine tuning



*The air cleaner is a dual stage washable foam element. Though very large, it required a lot of oil in thick dust.*



one could squeeze a little more power out of the engine. As it is, out of the crate the Super Rat could use a little more horsepower to be more competitive with some of the other highly refined racing machines in the trike class.

The shift mechanism of the Super Rat is the same pawl/cam plate assembly



*The Super Rat has been designed for moto cross, yet it retains a close resemblance to the ACE 100 street machine.*

erably in the first few hard miles. Replacing the chain with a high quality item would be a good idea as the stock chain refused to stop stretching. This will result in very poor sprocket life.

The Hodaka people have really made some tremendous changes in the suspension department as compared to the ACE 100 equipment. The front forks are internal spring/oil damping type. The spring tension is apparently well matched to the damping rate as we never had them bottom. What was quite surprising was the fact that we didn't have the forks top out either. This is very unusual for an oil damping system. The rear shocks are also quite an improvement. They are larger than the street machine, and again the spring tension and damping rates are well suited to one another. No problems here.

The frame and swing arm appear to be identical to the ACE 100 street model. The general geometry, and rake and trail of the front end also appear to be unchanged. The improved suspension of the Super Rat combined with the light weight make the machine very docile and well mannered. It's doubtful that anyone could expect any better handling qualities from a trail bike than exhibited by the Super Rat (we still can't get used to that name).

The tires are another radical change for the Hodaka. The big knobbies are probably the ideal choice for a moto cross or even a mud machine. They give

as used in the ACE 100. This assembly operates the ball-lock type transmission. During our test period we found the shifting to be smooth and requiring just a light movement of the lever. The multi-plate wet clutch also operated perfectly and never hinted of any slippage. We did notice that the chain required a close eye as it stretched consid-

a tremendous amount of traction. The only problem with these type tires on a small machine is that they give too much traction. With the limited amount of power available from a 100cc engine, it is sometimes advantageous to have a rear tire that will slip and allow the engine to stay in its power range.

The wheels and tires are bigger than the street version. The front is a 3.00 x 19" and the rear is a 3.25 x 19". Both rims are therefore the larger WM-2 type laced up to the hubs with heavy duty spokes. Both wheels have tire locks to prevent tire slippage on the rim when using low air pressure.

The air cleaner is a very large item for a 100cc machine. For dusty conditions it's a real must. We found that it is a necessity to heavily oil the dual stage foam elements and grease the ends to insure clean running plugs in thick dust. Upon arriving at our test riding area we performed a minor bit of tuning after our first few break-in miles. The machine seemed to be running a bit on the lean side so we raised the needle one notch and removed the stock main jet (# 270) and put in a #300. Even at the altitude we were at (3,000 feet), we found that the machine can better with these minor changes. It didn't blubber at any throttle

position (an indication of richness) and did not give us any problems after the jetting changes. It was also at this time we discovered that the air filter elements needed more oil as we bridged four spark plugs in the thick dusty conditions.

The Pabatco people have done an admirable job in presenting the new Super Rat as their first out of the crate production racer. Its chassis design and engine have long since proven themselves dependable in trailbike racing. It's easy enough for your wife to start with, yet serious enough for the professional to take out of the crate and race. ■



## HODAKA SUPER RAT

### ENGINE

Type	single cylinder two cycle piston port
Bore and stroke	50x50 mm
Displacement	98cc
Compression ratio	13:1
Max. horsepower	N/A
Max. torque	N/A
Ignition	flywheel magneto/coil
Carburetion	24mm Mikuni concentric
Lubrication	pre-mix gas/oil

### DIMENSIONS

Length	72 in.
Seat height	33 in.
Wheelbase	50 in.
Ground clearance	11 in.
Dry weight	172 lbs.

### WHEELS AND BRAKES

Front tire size	3.00x19
Front brake type	internal expanding
Rear tire size	3.25x18
Rear brake type	internal expanding

### DISTRIBUTOR

Pabatco  
Box 327  
Athena, Oregon 97813

### TRANSMISSION

Type	ball lock 5-speed
Clutch	wet, multi plate
Overall gear ratios	1st 42.23, 2nd 26.43,
	3rd 18.53, 4th 14.70, 5th 12.35
Countershaft sprocket	15T
Rear wheel sprocket	50T

### PERFORMANCE

Indicated highest one-way speed 54 mph

### GENERAL

Air filtration dual stage, washable foam

### CAPACITIES

Fuel tank	2 gal.
Gear box	800cc

### FRAME AND SUSPENSION

Front suspension	telescopic oil damping
Rear suspension	adjustable shocks
Frame type	tubular double loop

### COLORS: Red

PRICE AS TESTED — \$495.00 F.O.B.  
LOS ANGELES