



KAWASAKI GP MOTOCROSSER

*Following the lead of Suzuki and Yamaha,
the big K has begun an all out assault
on the world championship.*

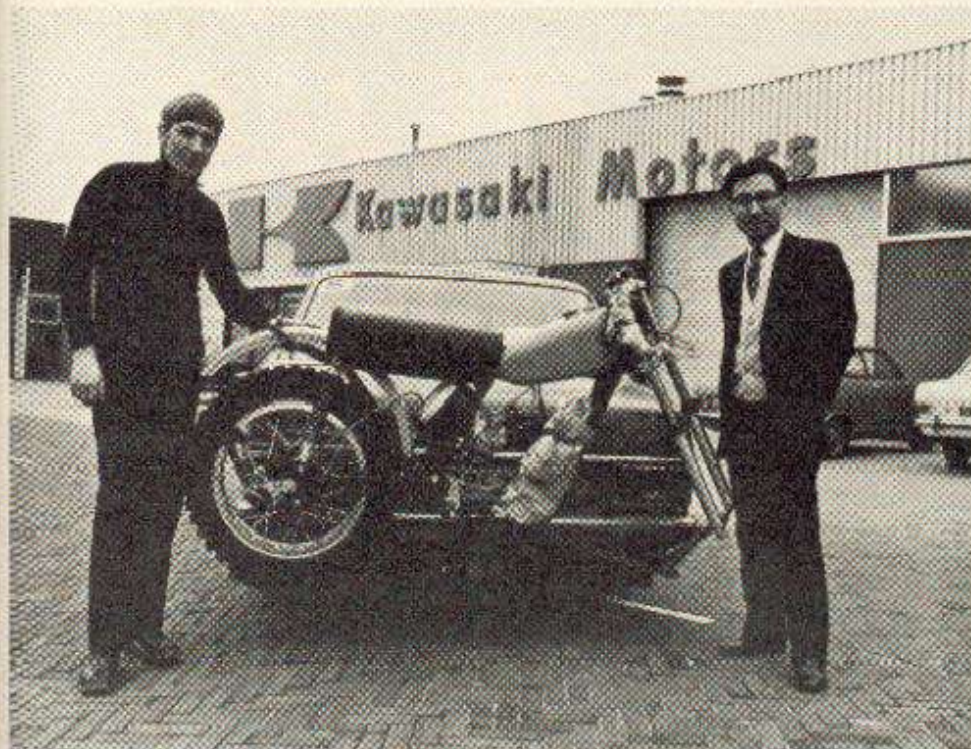
by Ken Olsson

The sport of motocross was born in Europe, a further development of rough scrambles competition which goes back about 50 years. With that kind of history, it is not surprising that the European riders and machines

dominated the world championship competition for many years. Greeves was the earliest two stroke machine to dominate the 250cc competition, followed by Husqvarna, CZ and Maico. There the matter rested, with

the Spanish factories not interested enough in the rewards to give it a first class effort.

Then the Suzuki factory in Japan decided they missed the prestige of holding a world championship title, since they had withdrawn from Grand Prix road racing. The decision was made to begin an all out assault on the motocross world championship in the 250cc class. A prototype model was built and tested in Japan, with indifferent results. It soon became obvious to the Japanese engineers that they did not know enough about the requirements of the competition to design a winning machine. Accordingly, the decision was made to hire a top ranked European rider to head up the development and testing program. The search was ended with the hiring of Swedish rider Olle Petterson, and the rest is history. After two years of development and testing, including competition in Europe, Suzuki hired Belgians Joel Robert and Sylvain Ge-



Olle Petterson picks up his new Kawasaki prototype motocrosser at the European headquarters in Amsterdam. Note the cable operated rear brake with the anchor arm attached to the frame instead of the swing arm. The small air cleaner without a still air box can be seen under the saddle.

boers, and won two consecutive championships.

The success and world prestige of the Suzuki effort was closely monitored by Yamaha, Kawasaki and even Honda. Yamaha hired four-time world champion Torsten Hallman last year to assist in the development of their GP machines. Now along comes Kawasaki, following the same proven pattern by hiring Olle Petterson away from Suzuki. Petterson is 35 years old, and 1972 marks his 18th year in motocross competition. Although overshadowed by his Belgian teammates on the Suzuki machines, Petterson is still a fine rider, who one year finished second in the world championship standings in the 250cc class. But more important is his outstanding ability to translate the motocross rider's knowledge and experience into the design for a winning machine. Suzuki will be the first to admit that Petterson contributed more to the design of their winning GP bikes than any other individual.

Kawasaki has no plans to attempt to win a world championship this year. They know and Petterson certainly knows they could not accomplish it no matter how much they spent.



The finning on the cylinder and head of the 250cc engine is different than the production model. The right case cover looks like it once accommodated a carburetor for rotary valve induction. The shift lever has been switched to the right side because that's what Olle is used to.

1972 will be spent on a concentrated program to develop a winning machine to attempt to win a championship next year. If all goes as planned,

they will be searching for top ranked European riders to join Petterson on the Kawasaki team for 1973. And if Petterson himself never wins the championship, the factory will be fully satisfied. His main responsibility is to develop and test the prototypes until the final design is the best possible.

The original plans of Kawasaki were to begin the development program next year, but then one of the Suzuki mechanics was hired by Kawasaki. When he told them that Petterson had not yet signed a contract for 1972, Kawasaki decided to proceed with their plans this year if they could sign Petterson to a contract. His name is tops in Japan after his development work for Suzuki. From the beginning, it was the American operation of Kawasaki which had been urging the factory to join the motocross competition. So it was that a representative in Houston, Texas, telephoned Petterson in Sweden, urging him not to sign with Suzuki until he had negotiated with Kawasaki. The original plan was for Petterson to fly to the factory in

Japan to discuss terms, but this was later changed and the contract was completed at their European headquarters in Amsterdam, Holland.

From this point, progress was rapid. A prototype 250cc machine was flown to Amsterdam where Petterson picked it up at the beginning of March. The engine is based on the design of the production 250cc F8 which is sold in the United States. However, the relationship is not very close even at this stage of development. The motocross engine is a pis-



With his spiked knobby biting, Petterson rockets off a snowy berm. Now you know why European motocrossers are tough. They practice in conditions like this in the winter. The handlebars appear to be made of titanium, and the lower fork legs have been machined to reduce weight.



The clutch cable enters the primary housing just forward of the exposed counter shaft sprocket. The left side brake pedal is of course Petterson's preference, and the double cradle frame is well triangulated. Note the massive forging of the lower triple clamp, and the spikes on the snow tires.

ton port design, instead of rotary valve as commonly used on production machines up until now. The piston port engine is specially tuned to performance specifications, and already the earliest prototype will outperform the production power plant. All other components on the motocrosser are specially designed for the machine;

none of the parts are standard production items.

The basic plan and schedule of Kawasaki's 'P Project' (P stands for Petterson, of course) is to have Petterson test the new bike and make necessary modifications and comments. These will be forwarded to the factory, to be incorporated into a second stage prototype which will be rushed back to Petterson in Holland. In the meantime, the first prototype was to be entered in a motocross race in Belgium on March 19th, providing Petterson was satisfied with his progress with the machine after only three weeks of testing. Admittedly, that's not much time, but Petterson was optimistic about their chances because he felt the original prototype was basically a well designed machine.

The factory hoped to be able to send the second stage prototype to Petterson in Europe by the end of April. He was to then begin testing and modifying the new bike, working toward the final design. When the testing program is finished, the factory will go on a crash program to build a GP bike with a completely new

engine. It hopes to be able to deliver this machine to Petterson in Europe in time to contest the final 250cc GP rounds beginning in August.

These are very optimistic plans, and such a schedule would be unthinkable in Europe, but we have seen fantastic speed in development and production of machines in Japan before. They have an outstanding ability to embark on a crash program, translating the specifications on the drawing board into the finished product. So confident is Kawasaki of their ability to complete this schedule on time that they already have plans to build a GP bike of 400cc or bigger. The testing program for the prototype frames of this bike is being conducted in the United States at this time.

Some specifications are available on the first stage motocrosser being tested by Petterson. With a bore and stroke of 68mm x 68mm, the engine has a capacity of 247cc. It develops 28.4 hp at 7,500 RPM, and 2.75 kg/m of torque at 6,500 RPM. The carburetor is a 32mm diameter, and the compression ratio is 7.9 to 1. The five speed transmission has very close ratios, which Petterson says will have to be changed. Some of his comments after a few days of testing on the first stage prototype follow:

"It's true that the gearbox is too closely staged, but the greatest problem so far is the fact that the weight balance of the bike is too far forward. In hard, sandy races, the close ratio gearbox would be a great disadvantage, so it must be changed, but I'm very pleased with the gearbox performance otherwise. By the way, the whole bike is much better than the original Suzuki I had to begin developing in 1968.

"It's obvious, though, that many details must be attended to before we can hope to start winning. For example, I don't think the finning on the cylinder is rough enough for adequate cooling, and there are too few fins as well. The air cleaner is too small, so for the time being I've had to tape around the filter to make a provisional box for the air cleaner. The Japanese find it hard to believe that the saddle on a motocross bike is of great importance. I had a lot of problems with the Suzuki people before I could persuade them to make a good saddle, and I still had to reinforce it myself at the end. I've done that for both Joel Robert and Sylvain Geboers too, by the way. Now the same problem comes up again, but I'm getting used to it by now.

"The gauge of both the chain and sprockets is too small. They have to be stronger in order to be reliable. The tank has a nice shape, but it's too

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small also. The Grand Prix machine will have to have a larger tank; six liters are not enough under rough conditions. The front forks and rear shocks are very much like the Suzuki works bikes, and no wonder. Both factories buy their suspension components from the same vendor, instead of making them themselves.

"It is very difficult to make any judgment of the engine after only a few days of testing, but it seems to have nice, smooth pulling power from the bottom up through the revs. A little more power throughout the RPM range and we will have something very promising. Personally, I find this encouraging after so short a period. The fenders are presently made of aluminum, but they will have to be made of plastic in order to last. As the bike is now, it weighs 88 kilograms (194 pounds) without petrol and oil. This is roughly the same figure as for the Suzuki works bikes."

Kawasaki has come up with a unique answer to the problem of mechanics. Instead of sending men over from the factory, they hired Olle's brother, Stig Petterson, to serve as the mechanic and also do double duty as a test rider, as he is very experienced in motocross. He has been riding for many years, consistently placing among the top 250cc Swedish riders. Kawasaki feels that by gaining his experience as a mechanic and test rider, they have eliminated the necessity of teaching inexperienced mechanics from their own country to cope with the hectic life of a moto-

This worm's eye view is what you might see if you had crashed and were lying on your back on the course while Petterson ran over your tender body with his spiked tires. If the situation were reversed, it probably wouldn't bother him. Note how little clothing he wears on a snowy day.

cross rider in Europe, with all the traveling involved during the season. Stig will have an opportunity to ride the Kawasaki in the national championship in Japan, and if things go well enough, he might even get a factory contract for 1973. In any case, he will at least continue as Olle's mechanic. So the Kawasaki battle to challenge the other factories in motocross is really in the hands of the Petterson family for now.

Olle Petterson is signed to race in the first four Grand Prix meetings in Spain, France, Holland and Czechoslovakia. It will be extremely interesting to see what he can do against the best riders in the world, on a prototype machine. No one expects him to do well in the beginning. Not until he gets his final factory racer in late summer will he be riding competitive machinery. But then some of us remember the Belgian 250cc GP in 1968. Olle had just signed his contract with Suzuki and the world championship series had begun. He rode this second GP on the new and untried bike and did fantastically well. He tied with Geboers for the winning finishing order, with each of them winning one moto, and the time difference between them was a half second in favor of Geboers. Petterson never came closer on the Suzuki, but maybe he can come up with a Grand Prix victory on the Kawasaki now. **CG**