

HUSKY Factory works specs for your small bore 125 HOP-UP



The Husqvarna 125 is a very competitive machine as it comes from Husky. Proof of this may be seen in the results column of the weekly newspapers. But the days of winning on stock machinery are rapidly fading. Even the novice classes are packed full of trick machinery. So why should Husky riders be left behind? Especially in view of the showing Nils Arne Nilsson and Bob Grossi made at the 125 G.P. when they walked away with first and second overall, defeating the fastest 125s in the country.

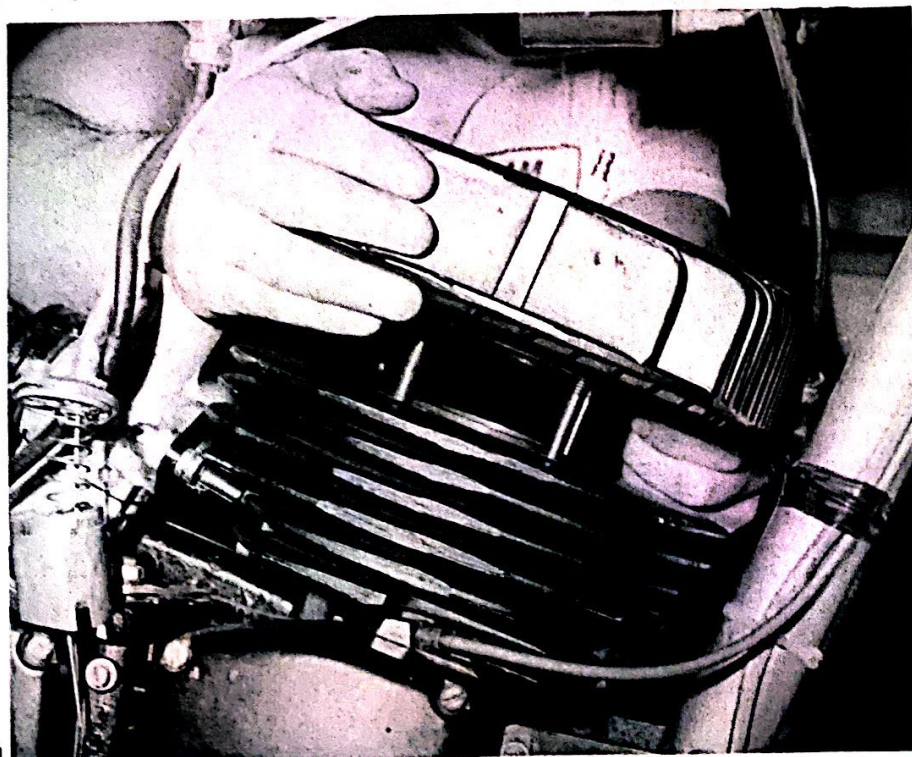
Nils recently returned to Yugoslavia for the final round of the 125 championship. He wanted to take his personal machine back with him but Husky thought that expense too great and promised to have a newer and faster machine waiting for him at the track. When he arrived in Europe, he had

nothing but trouble. The van he was traveling in blew an engine, they had difficulty finding someone with the proper tools to fix the vehicle, and they nearly didn't make it out to the track in time. But Nils did manage to get some practice in, and he found that the bike had not been set up the way he liked. The timing and porting were off, as was the carburetion. He spent the time between practice and the first moto trying to sort the problems, but by race time the bike still wouldn't run strong. He went out onto the muddy course and held down fourth place until halfway through the race when the bike just quit altogether. Upset at the train of events and his misfortune, Nils packed it up for the day. He sure wished that he'd been able to take his personal machine back to Europe with him since he knew that it would be

running spot on.

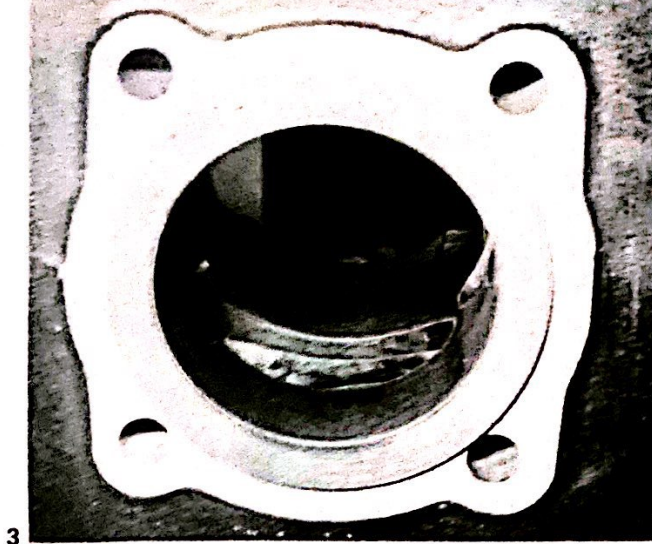
Well, we went to see Nils at Husqvarna West and asked him if he'd show us what made his 125 Husky tick. After some checking he said he'd be glad to. Nils himself was surprised that Husky would let him expose the innards of his G.P. engine to the inquiring camera of a member of the press. "In Sweden," Nils explained, "we let the press visit our racing department maybe once or twice a year. And even then, we spend several days beforehand hiding our special G.P. racing parts and prototype machinery so that they won't be photographed." We should consider ourselves lucky. Not only were we allowed into the R&D department, but this hop-up story will give you the specs on an honest-to-goodness works motorcycle.

By Fernando Belair

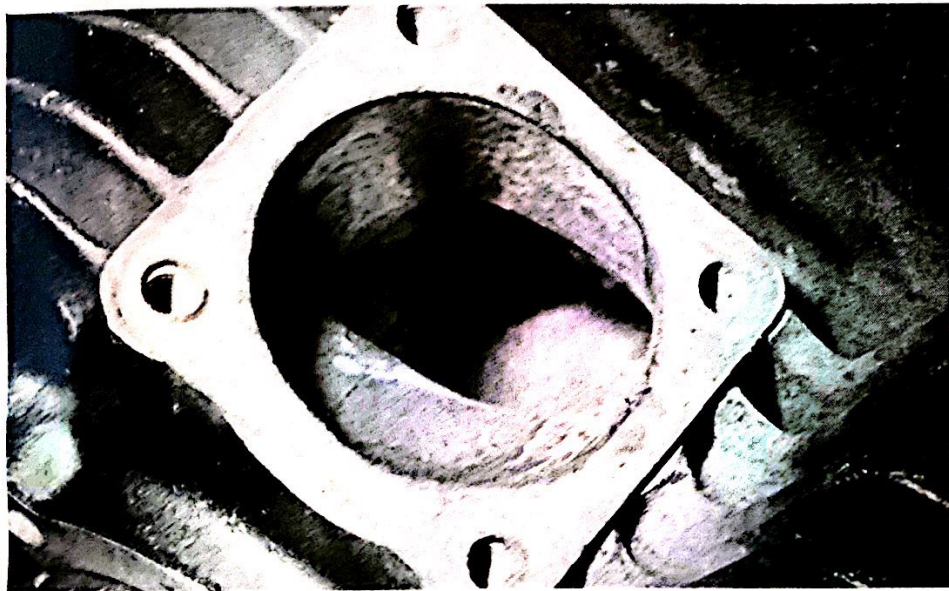


1. Nils insists that many problems are avoided if the machine is impeccably cleaned before any tearing down begins. After disconnecting the air filter and pulling the slide out of the carburetor, remove the head and the cylinder. The first thing to do is to machine .8mm off the mating surface of the head.

2. The standard Husky 125 exhaust port, although not small, does not allow the modified engine to breathe properly. To allow spent gasses to exit with minimum restriction, enlarge the port and raise it 3mm according to Figure 1.

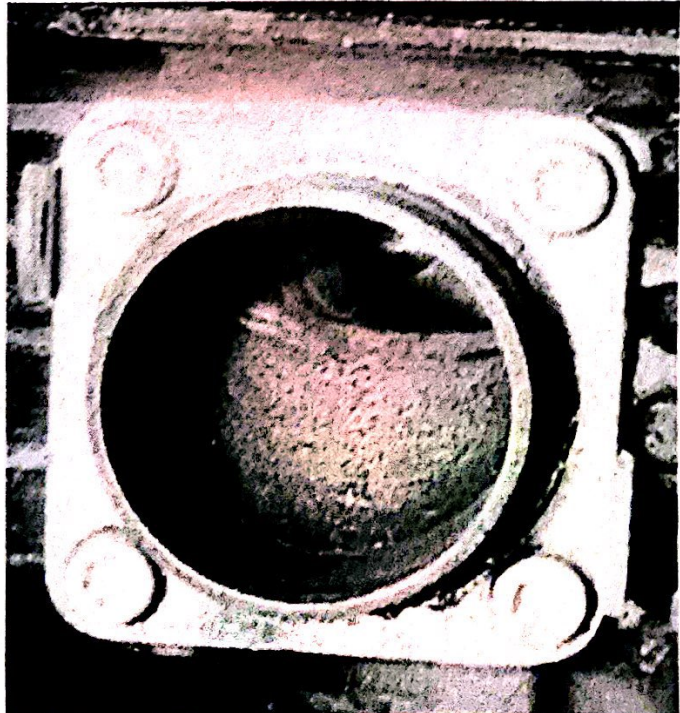
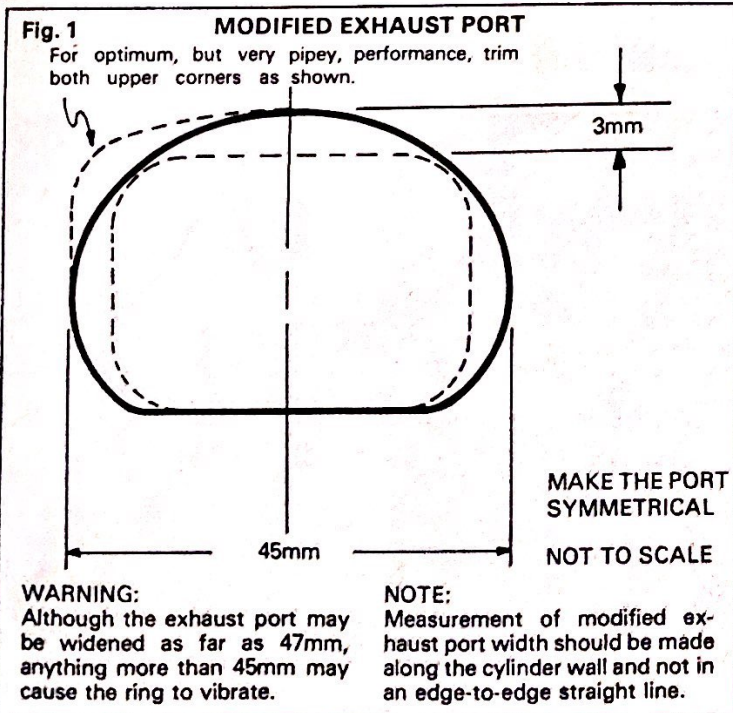


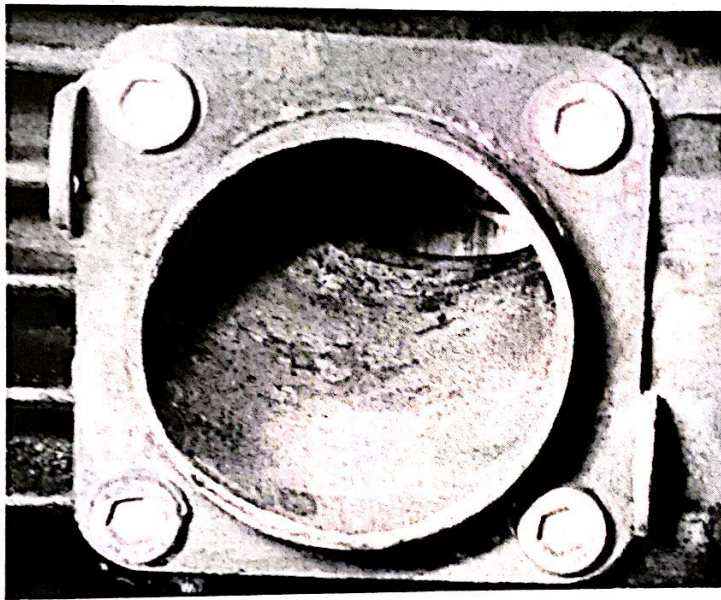
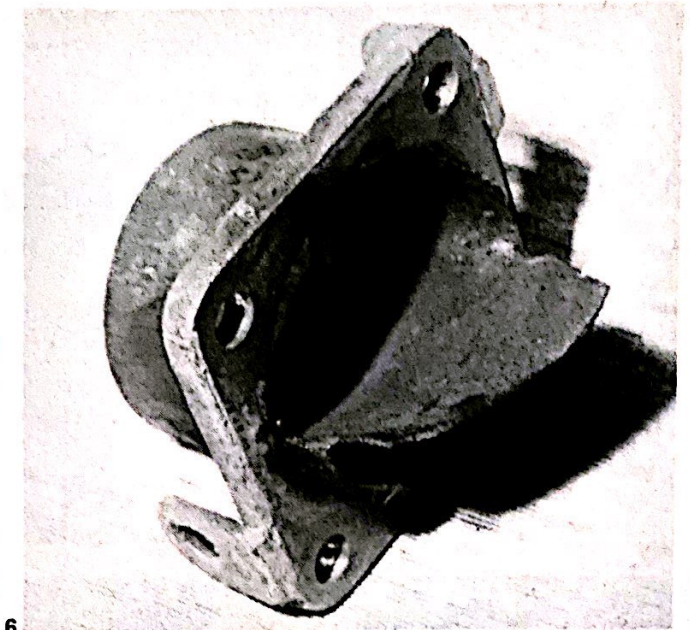
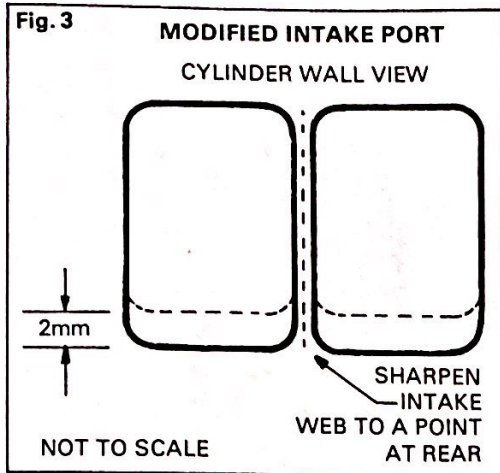
3. The modified exhaust port should look something like this when viewed from the top of the cylinder. Be sure to make the port symmetrical and do not leave any unrounded corners. Before reassembling the engine, smooth all port edges with a mild hand file to eliminate the sharp lips that the porting tool leaves.



4. Make the roof of the exhaust port smooth and as flat as a ruler's edge. Since this is the first area that the compressed exhaust gasses will whisk by, there should be as little interference as possible.

5. The lower half of the port comes from the factory with a cast-in step. This step creates a swirl chamber which interferes with gas flow.

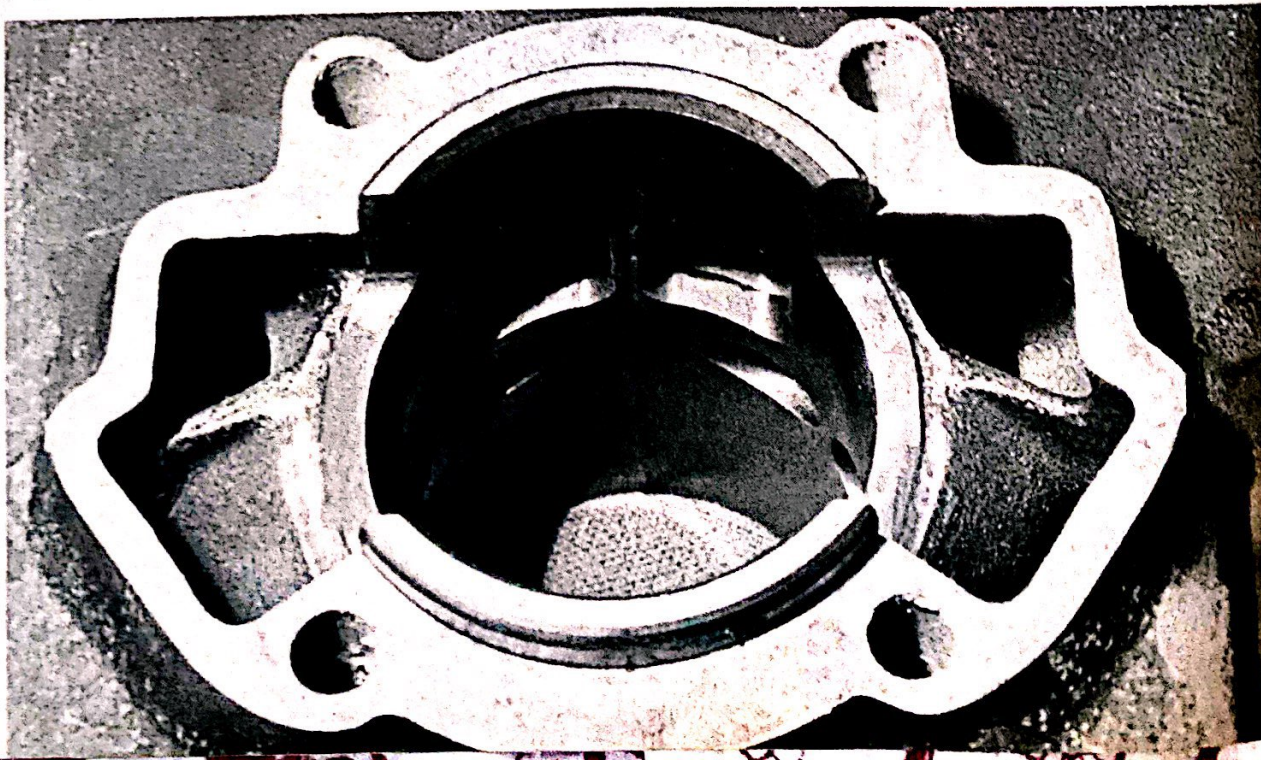


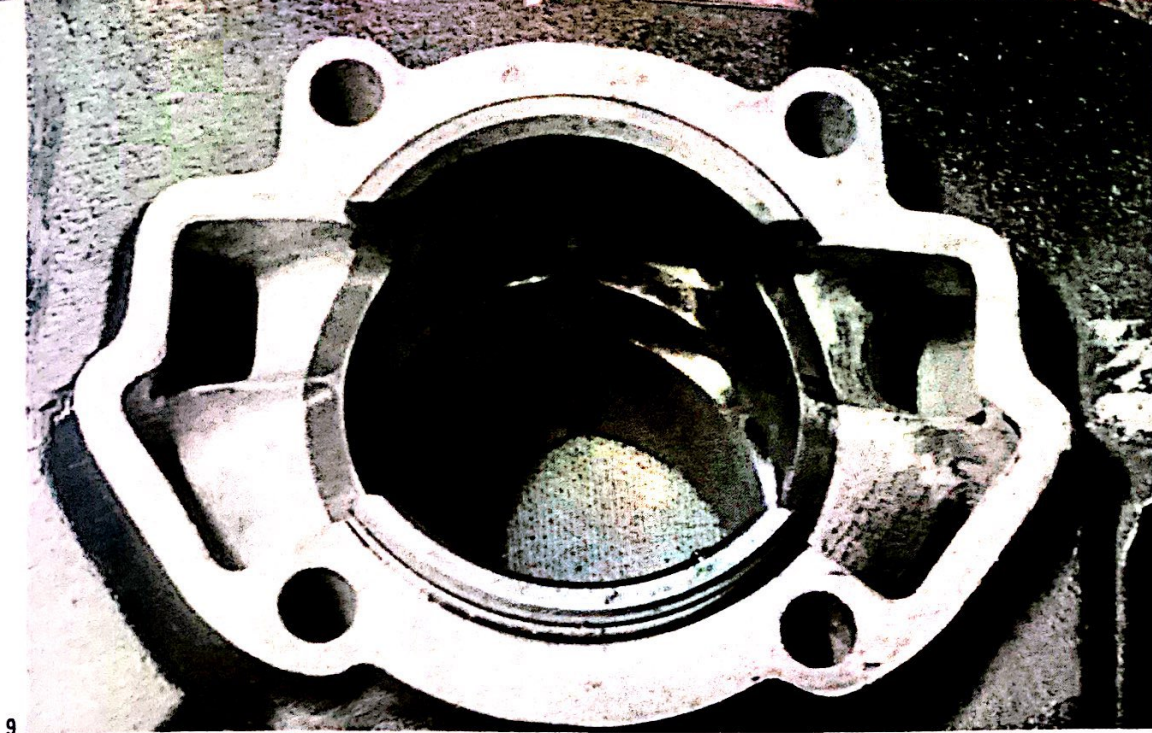


6. To correct this problem, weld a small piece of steel inside the exhaust flange and trim it to meet flush against the inside of the port. Do not attempt to fill in the step in the cylinder with weld as the heat distortion will ruin the barrel. See Figure 2.

7. After the modified exhaust flange has been installed on the cylinder, the lower half of the port should run out smoothly. Be sure that the rest of the flange does not interfere with flow out of the enlarged port. Match up all edges.

8. From below, the Husky cylinder displays its intake and transfer ports. The intake windows should be lowered according to the specifications in Figure 3, and the transfers raised as are the ones in Figure 4. Again, be sure to lightly file all port edges before reassembly.

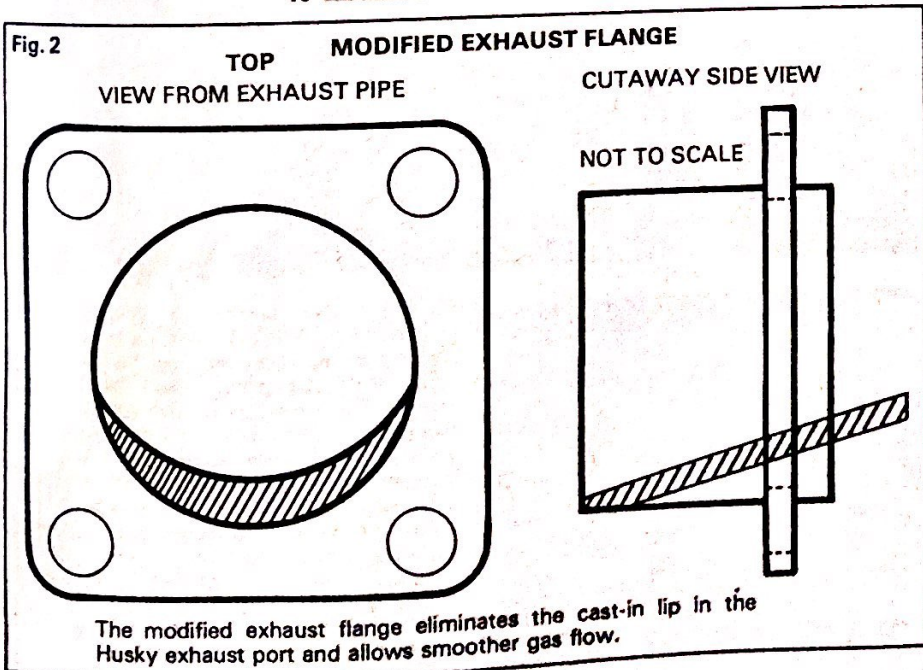




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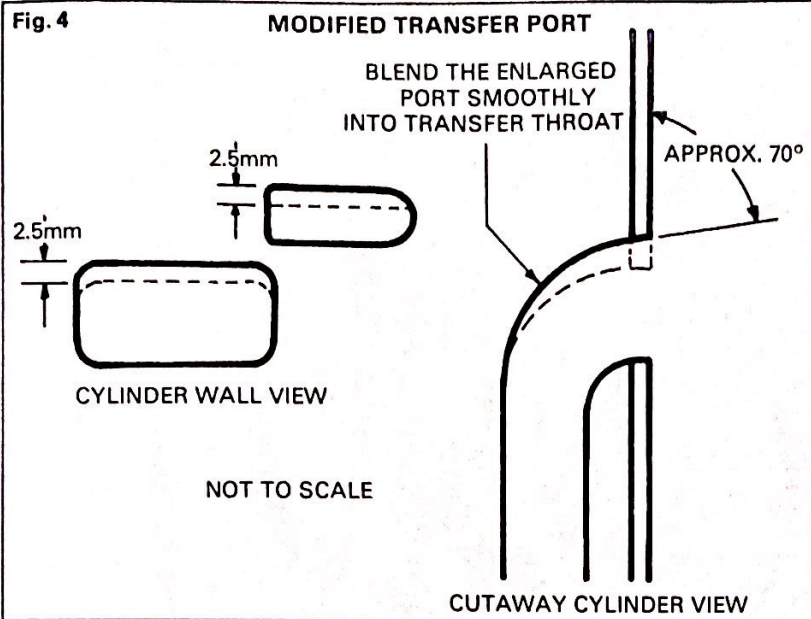
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The modified exhaust flange eliminates the cast-in lip in the Husky exhaust port and allows smoother gas flow.

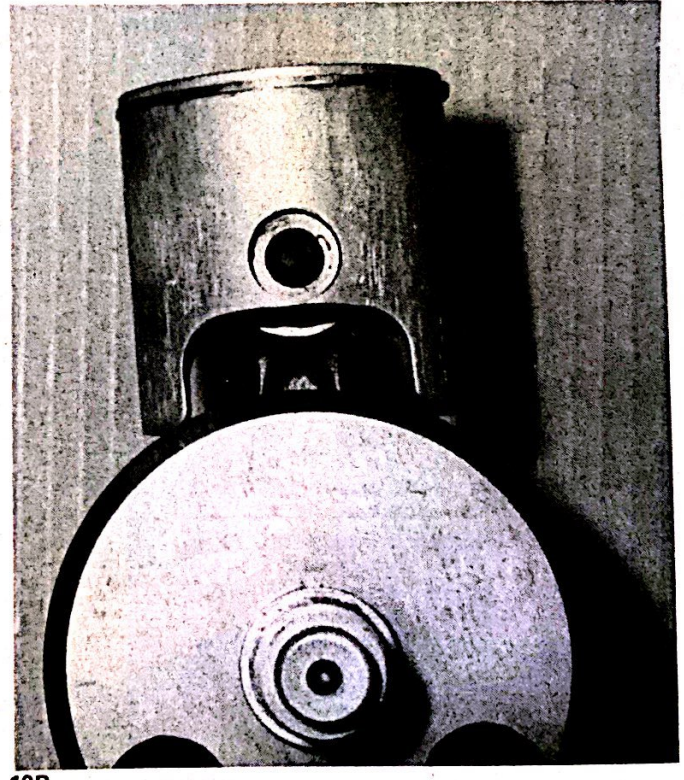
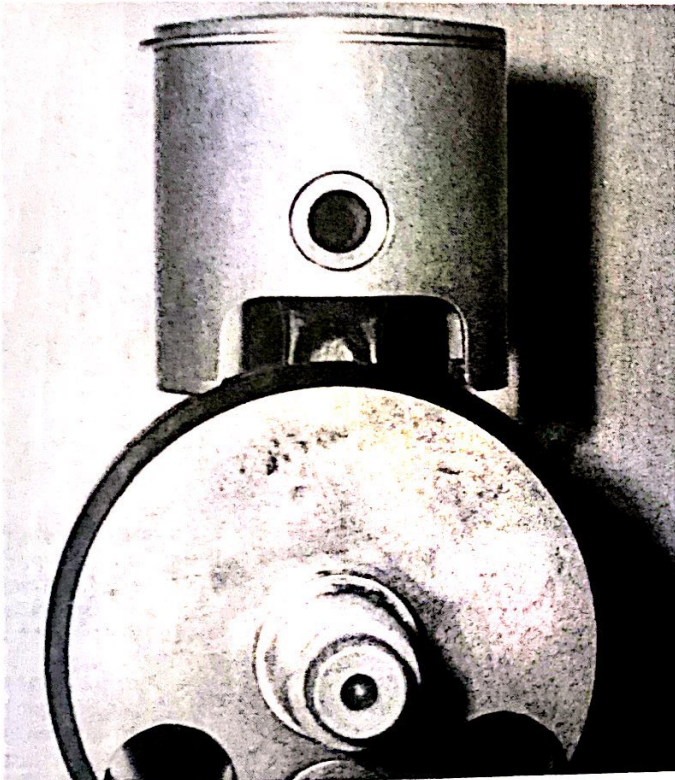
9. The lowered intake port will yield an appreciable boost in top end performance as will the additional height of the transfers. But the transfers will work a lot better if the "intake" end of these ports is cleaned and smoothed as has been done to this cylinder. After bringing the edge of the sleeve into line with the cast of the barrel, de-burr the edge slightly to eliminate slag.

10. The piston at the left is the modified piston and the one at the right is a stocker. If you can't see the difference it's because you're probably looking at the length of the pistons' skirts. They are both the same length so forget it and focus your attention on the undersides of the wrist pin bosses. Nils removes much of this metal so that there is more room between the boss and the crank wheels during the last few millimeters of downstroke. This allows that little extra bit of fuel to get out from under the piston and up into the combustion chamber. Note the differences in the aforementioned space as shown in photos 10A and 10B.



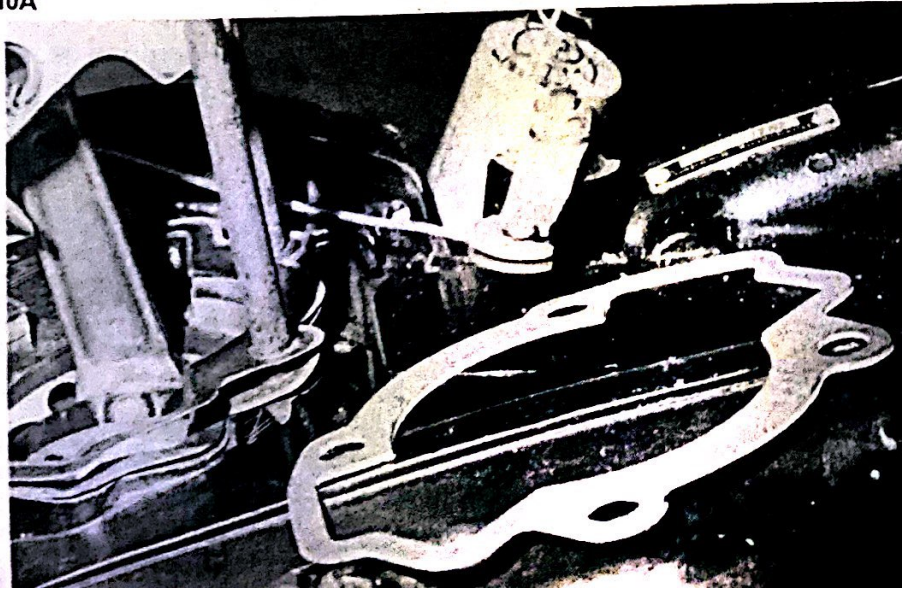
10A. The standard piston leaves very little room between the wrist pin boss and the crank wheels.

10B. When the modified piston is put on the same crank, the distance increases. Another advantage of the modified piston is that it begins blocking the lower end of the transfer ports several degrees later than stock, again increasing the amount of fuel that can be fed into the upper end. For those of you who are concerned, as we were, about weakening the piston, Nils points out that all of the pressure exerted on a piston is downward force. The area above the wrist pin absorbs the strain, eliminating the necessity of having a strong lower half.

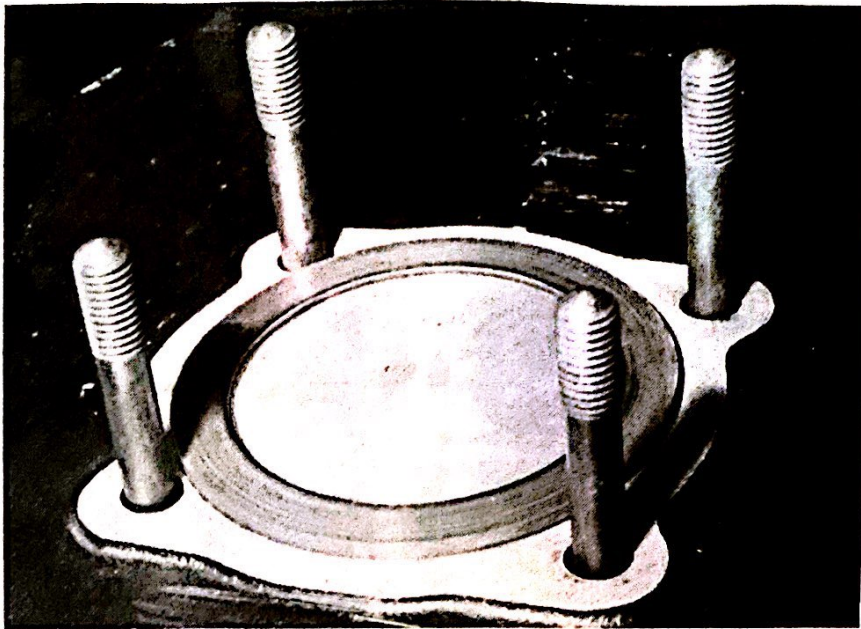


10A

10B



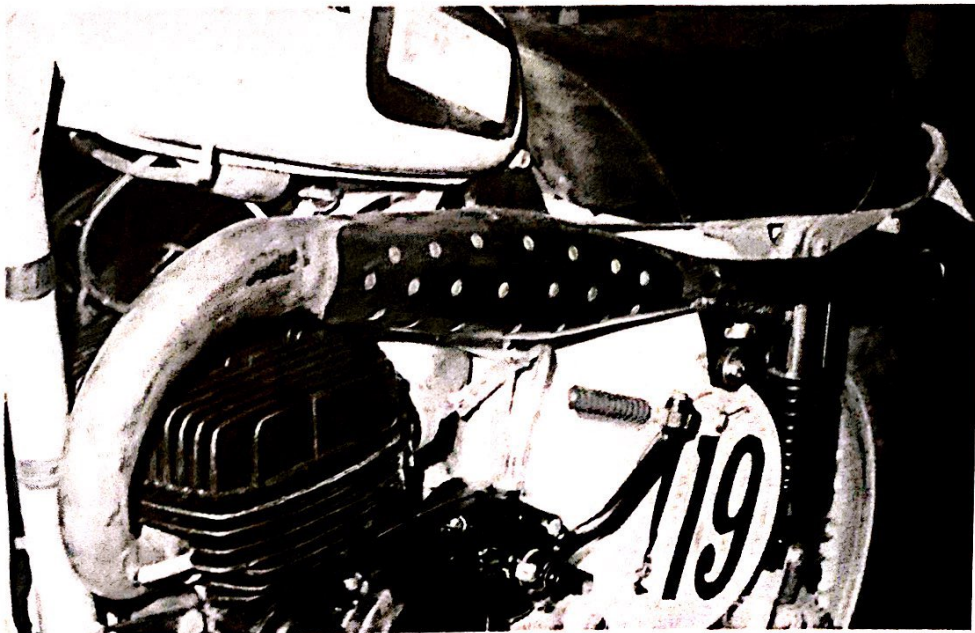
11. Now the engine is ready for reassembly. Nils showed us what he had to do to this cylinder to assure that all of the ports were properly lined up in relation to the stroke of the piston. The gasket on the right is a Husky 125 base gasket. It should be used as a template to cut others from standard gasket paper which is available at any automotive store. Gasket paper is very thin. Cut several gaskets and use however many as are necessary to position the cylinder so that it barely surpasses the upper edge of the piston. On this particular engine it took two gaskets. Yours may take anywhere from one to five.



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12. At TDC this is how far from the top of the cylinder the piston should be for maximum performance. it may take several tries with the gaskets before you get it right, but you do want to do get it right, don't you?

13. No racing motorcycle is complete without a custom-built exhaust pipe. Following the instructions in Figure 5, weld together this pipe. Now for super tuning instructions, read on.



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There are several variable measurements in those we have given you. The purpose of this is to allow you to tune your Husky to either go fast while still retaining some of its fine trailing qualities, or to make the thing jet about with Cobra-like quickness. One variable is the length of the center cone on the exhaust pipe. For high horsepower and rpm output make the center cone 100mm in length. To retain some of the Husky's mid-range grunt, lengthen this pipe section to 140mm. Do not go beyond these two extremes, but you can go between them to make the machine suit your purpose.

The exhaust port also offers a little room for experimentation. The maximum safe width for the port is 47mm. You should widen the port to this size for all-out racing. For even greater performance, at the loss of all mid-range power, slightly square off the upper corners of

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Fig. 5

HUSKY 125 FACTORY RACING PIPE SPECS.

All length measurements taken through the center of the pipe.

