

# ASK E.C.

By E. C. Birt

## CZnakel

I have a 1975 CZ 250 MX-desert, red frame with a two pound Motoplat flywheel electronic ignition, 34mm Mikuni, and a Dean Maro "pipeline" pipe.

My problem is the down pipe is always getting smashed. I was wondering if you could build me an up pipe that would be out of the way, or a snake pipe like the factory Can-Ams were using earlier this year.

I know that MX Fox has an up pipe; but I know someone who has one of their pipes and it seems to stick out too much to suit me. I would also like to know what you do to really make them go.

Keith Opeka  
Beltsville, Md.

I could build you a snake pipe except for one little problem. To do so I would have to have your complete motorcycle mailed to me, and that would be a lot of stamp licking. But I know some one that might handle your problem.

South Bay CZ, 2001 Artesia Blvd., Redondo Beach, California has a craftsman working for them by the name of Chris Allen. There is nothing that he can't do with sheet metal and he can build you a snake pipe if it's possible to do. Cost to build a pipe like this I won't even try and guess, but I would be ready to spend \$100.

As far as the rest of your engine is concerned it looks like you have it. You could bore your carb out to 36mm. CZs like 36mm carbs. After you have filled out the layout sheet that I have sent you we may come up with some improvement in the porting.

## Sachs and the single cylinder

I've just purchased a new Tyran 125 MX and now along with thousands of others own a Sachs 125cc six speed engine.

First I plan to use the bike for desert racing and trail riding. Where can I purchase an "up pipe" with a silencer and spark arrestor for this bike?

Secondly, what are the dimension changes for moderately porting this engine?

Thirdly, is there a reed-valve system on the market for this engine?

Fourth, what is the trick set-up for the Tyran front forks?

Capt. Ray Harris  
Edwards AFB, Calif.

Welcome aboard, Captain, and the next time you drop in at the Ponderosa Inn say "Hi" to everyone for me.

A high pipe for your bike will have to be custom built for your bike. In the L.A. area there are three shops that can do the job right for you. (1) Flying Machine Factory (213) 530-4656 (2) Lee's Pipes (714) 879-1399 (3) Precision Cycle (213) 870-8822. One thing, though, you will find the high-pipe a little uncomfortable because there is just no place for it but up the side of the bike.

Let's skip for the moment to the forks. The forks on your bike are American Profile and the worst part about them is the fork springs are on the soft side. That problem can be handled by converting them to air. Ottows Werks, 15156 Downey Avenue, Paramount, California (213) 531-8801

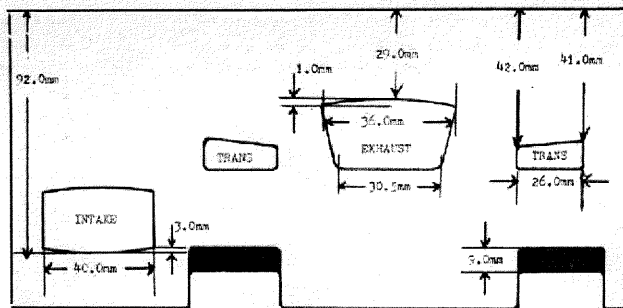
has gas kits that will fit.

Now back to the engine. From what I gather from some of my other readers a lot of the government bases have very well-equipped hobby shops. With this thought in mind let's start from the top and work our way to the end.

First, there is no reed made for the Sachs engine that will just bolt on because of the way the intake port is designed. To install the reed to your engine takes some welding and machining. Is it worth it? As far as I'm concerned, yes. The reed engine will not give you any more horsepower on the top end but it will double the torque down on the bottom end and in the midrange. Sure will make the bike a lot easier to ride.

Let's assume that you want to build it as a reed engine. Now here is a warning. If you are the complete "gassit" type rider and you know that you will have the engine working most of the time at the high end of the rev range, then you better pull the engine, split the cases and replace the rod with a rod from a KTM 175.

Note the pictures of the two different rods and you can see how much bigger the 175 rod is compared to that of the 125. The two rods are the same as far as top pin bearing and length, and there is no problem as far as deck height. However, the 175 rod is wider at the bottom and your crank



Now this porting diagram may be old hat to all you Sachs fiends out there, but ol' E. C. felt like it ought to be exposed to all those virgins who still aren't going fast enough. Right, E. C.?

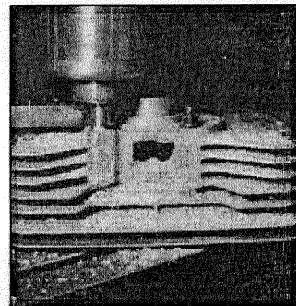
Now the crank is ready to put back together. Note: Be sure that you use the pin from your crank and not the pin from the 175 rod assembly. The 175 crank pin is straight. The crank pin for the Sachs is tapered.

Since you have the cases apart, set each case half (one at a time) on the cylinder and match the case half to the bottom of the cylinder transfer opening.

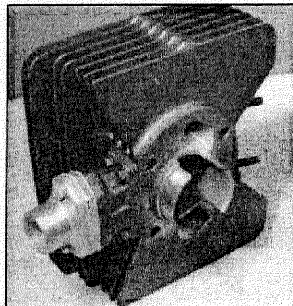
on the cylinder.

Now to machine the cylinder for the reed. First step: go to the local Hodaka dealer and purchase a D.H. reed for the Wombat. Set the cylinder up in the end mill with the bore 90 degree to the mill table. Machine the lower three fins back to the base gasket surface. (Note picture.) After you have the fins cut back remove the cylinder and weld up

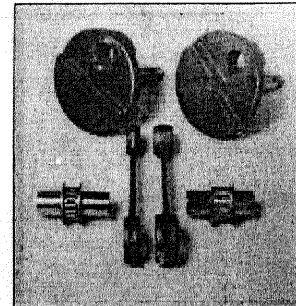
## Five steps toward the definitive Sachs six speed



1) Machining the intake flange for the reed body.

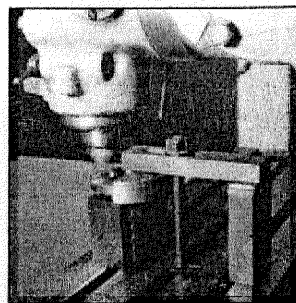


2) D.H. Reed pieces bolted up to the modified jug.

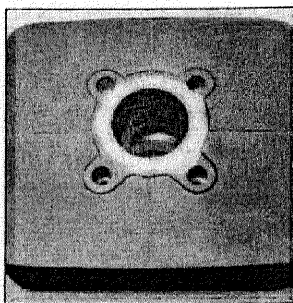


3) For super reliability, KTM 175 rod at right has more meat at both ends

4) Machining extra big-end clearance on your crank wheel to accept the 175 rod.



5) Boost ports for the reed go in at 30 degrees. Piston will be cut to match.



wheels have to be machined to except the wider rod.

First step is to mike the thickness of the stock rod (lower end) then mike the 175 rod. Divide the difference by two and this is the amount that you take from each crank half. The best way to remove this metal from the crank wheel is set the crank half up in a mill and with a fly cutter remove the needed metal. The crank wheels are harder than the hubs of hell and your cutter will have to be carbide. Tool steel won't even touch it. After the crank wheels are machined to the right thickness, polish the surface till it is very smooth (no burrs).

While you are in the bottom end of the motor check all the shimming and be sure that it is shimmed right and everything turns free.

Note the Sachs engine is a little on the heavy side. You can remove about five pounds from it by cutting off all the extra fluff. Along the whole bottom of the engine there is a bunch of fins that are not needed. Cut them all off and grind the cases smooth. These fins hurt more than they help because they hold dirt and mud. Also the cylinder and head can be cut down three-quarter inch on a side. This not only gets rid of some weight but will help keep you from banging your knees

the little low spots that you have left. Put the cylinder back in the mill and now machine this surface on three degrees inclination. Take the reed housing and set it on the cylinder surface, placing it so the top of the reed just touches the fourth fin from the bottom. Mark the four stud holes on the new surface, then drill and tap 6mm holes. Back to the Hodaka shop, get four intake studs and nuts for the Super Rat intake manifold. Install these studs in the cylinder and now you can bolt the reed cage to the cylinder.

If you wish to use your stock Bing or one of the new V84 Bings you will want to use a 10 degree manifold. If you want to use a 30mm Mikuni use a five degree adaptor for the Honda reed.

If you have any problem in finding the parts that you need for the reed then call Dale Herbranson at D.H. Enterprises (213) 679-3402.

Two boost ports are then machined from the back of the cylinder into the intake port (see photo). These ports have to be machined in at 30 degree and are a must for good performance. Be sure that they are not so wide they let the ring pins run over the ports.

If you would rather take the easy way out, I can do all the machining and porting for you for \$140.

Since you are using the engine for desert racing and a play bike, then I would not move any of the ports around. Just clean them up and go ride it.

If you feel that you want to lose some low end torque the enclosed porting diagram will give you some more mid range and top end.