

This document is for the lovers of Vintage racing, and is the rebirth of an original racing Victa.

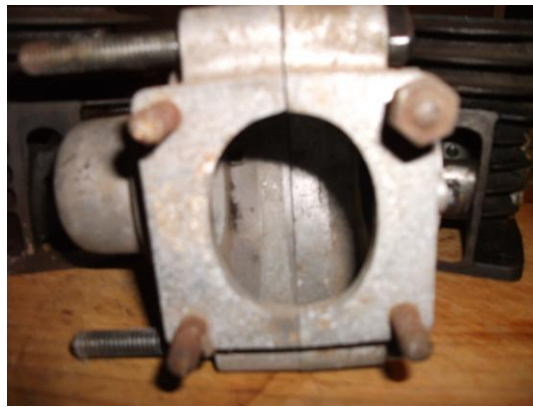
This motor is only one example of a modified Victa, and is fairly typical of what was going on in the day some Fifty years ago!

Let's start at the bottom and work up!

With the standard bottom end of the victa being as strong as is it there is not a lot required to modify, however there are things that can be done to help it in the performance area, First is to match up both half's of the crankcase?

How do we do this you ask? Well take the 2 half's and place them together, hold them up to the light you may see that the half's let light through in small cracks where the 2 half's come together, to fix this problem you place fine wet and dry sand paper on glass and using a figure of 8 motion rub both half's until the 2 half's meet with no gap, this will help when we go to seal the 2 half's to which will be under fairly high pressure when the motor is running.

You can see that the crank cases have been machined as well to match the porting on the barrel, this will allow for the gases to flow better around the crank and intern up the ports into the top of the cylinder ready for the noise.



Modified

Standard

Next is the crank! There is debate about the filling of the crank; some say that it will increase the pressure therefore better performance? Others say that this makes no difference at all, others will say that it will actually decrease the amount of volume of gas available therefore decrease the performance.

This motor has the crank filled, and we will run with this, as it is intended to restore and not to modify this old motor. See the photograph and note the holes filled with wood and covered over with glue.



Filled Crank

Standard

Still working up from the bottom!

Looking at the Cylinder Barrel the ports on this standard barrel are quite small as compared to our modified cylinder you can see the difference in the photos,

This racing barrel has inlet porting of 22mm vastly larger than what was on the original motor mower,



Top Left & Bottom Right are standard barrels

When the gases flow to the top of the motor the porting is angled to the rear of the barrel to allow for better burning of the fuel air mix, you can see this if you have run a motor for a while and then remove the head, clear markings of burnt gas and flowing gas can be seen.

This motor has oversize transfer port covers these were very popular in the early days of victa racing and were cast or made from flat steel bent to shape and the sides filled in, all designed to give greater volume flow of gases from the crank to the top of the cylinder





Top 2 Photos are of the cast racing ports, and the bottom 2 is one modified

But what has pushed the gases up to the top?

The piston,

Our piston has had some work performed on it, it has the port cutouts enlarged to match the porting, small drill holes in the little end for lubrication and the skirt rounded off (no sharp bits).

There are many way of modifying a piston



Modified with large cut ports



Standard Piston

Exhaust port.

This barrel has had the exhaust port worked on as well and it has a 26mm outlet, the port timing has been altered, meaning that the exhaust will open earlier and stay open longer, this will allow for the total expelling of any burnt gases ready for the new charge of fresh mix.



The Carby

SO what mixes the fuel? This motor has a Dellorto carby with a 22mm inlet cone delivered and has been previously run on a Harley Davison 125cc motor bike. This should give outstanding performance and reliability.

There were a multitude of carby's that were used I have an original Victa and an Amal to show just 3 types, other carby's such as Tillitson and many motorbike carby's were used.



The head,

this head is a high compression head and is setup for alcohol, it has a very small squish band, we have decided to detune this by placing a spacer under the head therefore lifting the head and lowering or decreasing the compression ratio to allow us to run this old thing on petrol and not alcohol, it is an attempt to preserve and give reliability, many types of heads were used, homemade cast, some off other motors and some purposely made for racing such as the one shown.

All with the idea of dissipating heat.



Top 2 photos are high compression head used on this motor, Bottom 2 are of a cast racing head.

The Spark!

The motor we have runs a Victa coil and points, Victa coils and fly wheels were changed very quickly after they started running harder than a lawn mower. The fact that this motor has original coil and points dates this motor to early 60's, The reason for the change of coil was for the fact that enormous amounts of

fuel air mix many times more than a lawn mower would have at full revs, the coil would not cope with the spark required to burn or run at very high revs.

Other coils were quickly sorted and allsorts of creations were made or modified to fit.



Standard Coil Victa



Battery and car coil on this one

It is worth noting that the Victa Lawn mower was designed to cut grass at 3000rpm and gives 3hp
And still today will perform with constant reliability, with the modifications done to this Victa it should
give performance of around 6-8hp at approximately 5000rpm, Not bad for grand dads lawn mower??????

This paper was written to show just one old motor and to preserve the knowledge of the
RACING VICTA.

Post note: I am pleased to say that today 28th January 2012 Graeme and I fired it up with an ear splitting
victa crack it ran and filled the dungeon with copious amounts of smoke and noise.

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