

Tuning work – MB Rapido, 250 Reed

RAPIDO REED TUNE

Now that's what I call a touring, tourquey, table top torque curve..... flat as?

Well as flat as you will see one.

It's the spec the customer asked for. He wanted a Rapido 250, I wanted to do a RT kit with reed but the customer is always right. Makes no difference to me so as the basis of his engine it was a Rapido 250 Classic cylinder. He wanted to use his MB shorty reed again so the job started.

I've not been too keen on the Rapido design over the years, but if you check piston to bore clearances, use the right piston, junk the original head and do an real head with real squish band and compression ratio the kit is something like OK to use and I've done quiet a few over the years.

The weak link will always be the ultra thin cylinder spigot where the casing has to be bored out which makes the casing thin around the stud holes. IF your real careful on assembly and use the MB super cylinder stud kit it will be fine as long as the casing is good in this area. Use a dodgy Indian one where the casting is very porous in this area and it will fall apart with vibration, unfortunately you never know if you have one of these casings. But this is a good old Italian casing so all's well.... he says! So here you can see the photos of the tuning work, the 3 T's Touring, Torquey, Tuning to suit a larger fellow.

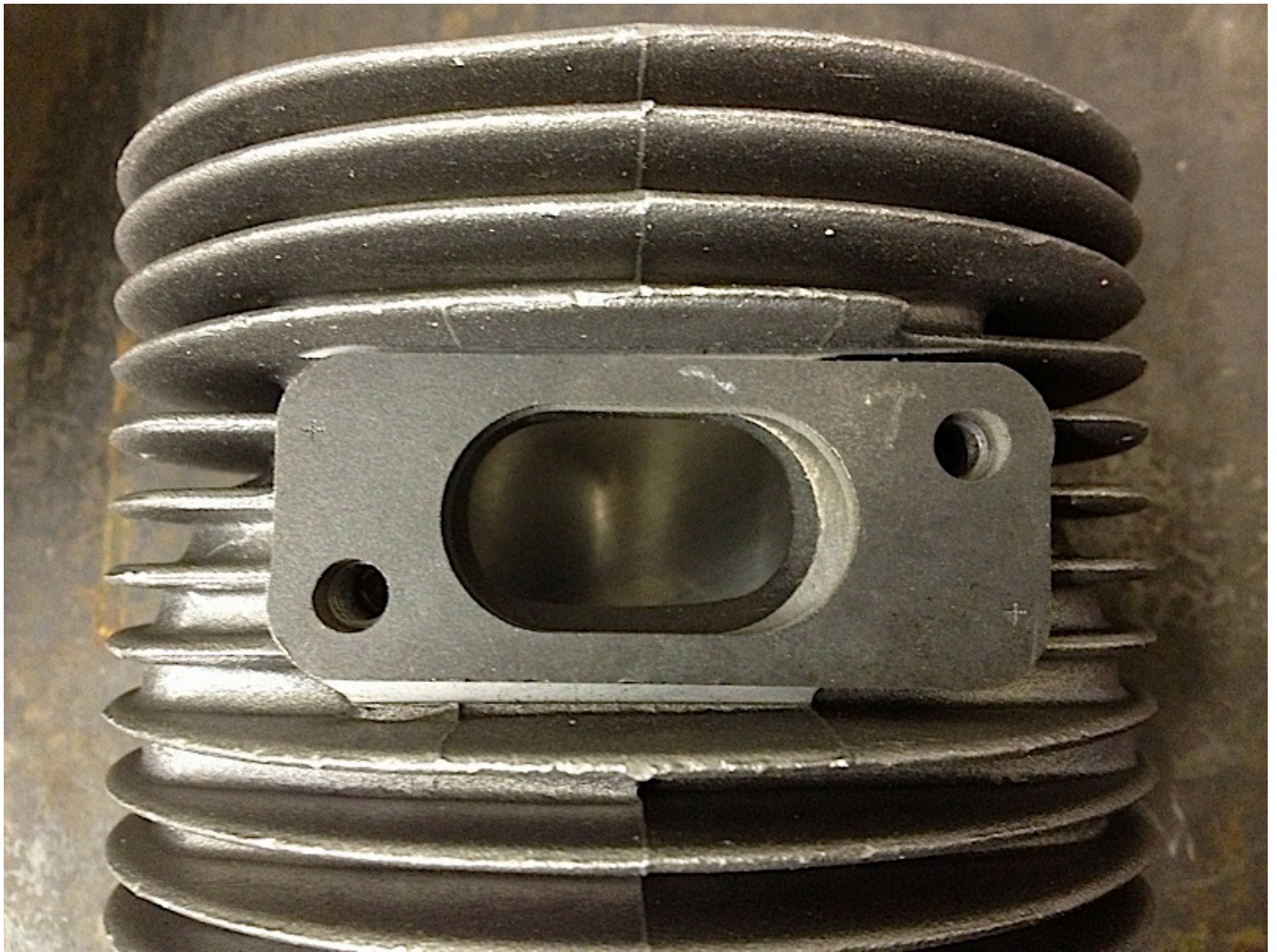
The ports are not over done like the Rapido Classic, they are set to pull like a train and cruise along with the others in a group then when you want it you can open it up! This customer supplied the Italian 5 speed box, I have already done a touring TS1 kit for this customer with my MB UK 5 Speed which absolutely tramps this engine but that's a different story some where else in the Tech Site.

You will see my Chicken Pox tuning around the transfer areas this is to improve lubrication a known problem on a big Rapido.

The crank was a hand made 60mm BGM item and matted with one of our MB RT 72mm pistons modified for a reed block. Clutch is the very popular MB 5 plate kit using 20 x 47 sprockets. And this is the engine with our down ward constant adjusting chain guide development because he wanted one. And then I have to dig out the dyno, re set it all up and do a dyno run. That took two days..... bloody dynos never work when you want them to.

And whilst I was at it I set up the M Tec to keep the motor a little cooler with the shit fuels we have. This dropped power a bit but better safe than sorry. And he got one of the first to arrive MBgm Clubmans, which fitted like a glove. OK the peak bhp isn't like TS1 or race spec motor but combine it with a high torque curve from no revs to where the torque drops and the revs

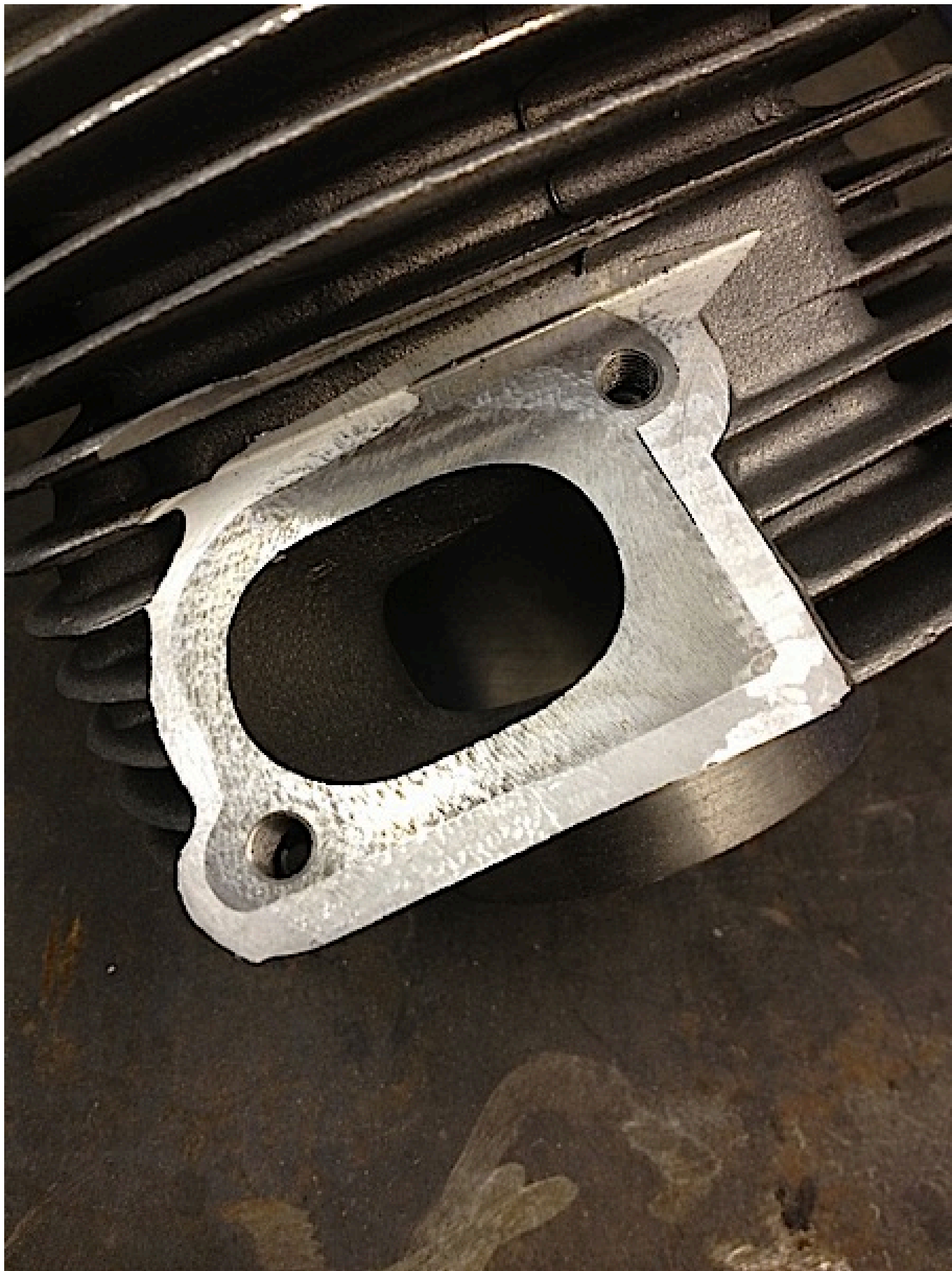
pick up with 4.50:1 gearing you have a bike which should pull 35mph to around 80mph in 5th without changing gear! I'm sure it would pull higher gearing but I've left in ride-able, drive-able and hopefully reliable.



The standard Rapido exhaust port is wrong so needs matching to a flange



The very thin base spigot



The standard piston port inlet port



Standard transfers



The casing needs boring to suit the oversized cylinder



The BGM crank is fitted with a 115mm Yamaha con rod, transfers are tuned to suit the cylinder



Fins need grinding to suit the MB short reed block



The shorty now fits



Inlet port is tuned to suit a reed conversion



A finished tuned cylinder



Inside the bore with Chicken Pox tuning to aid cooling



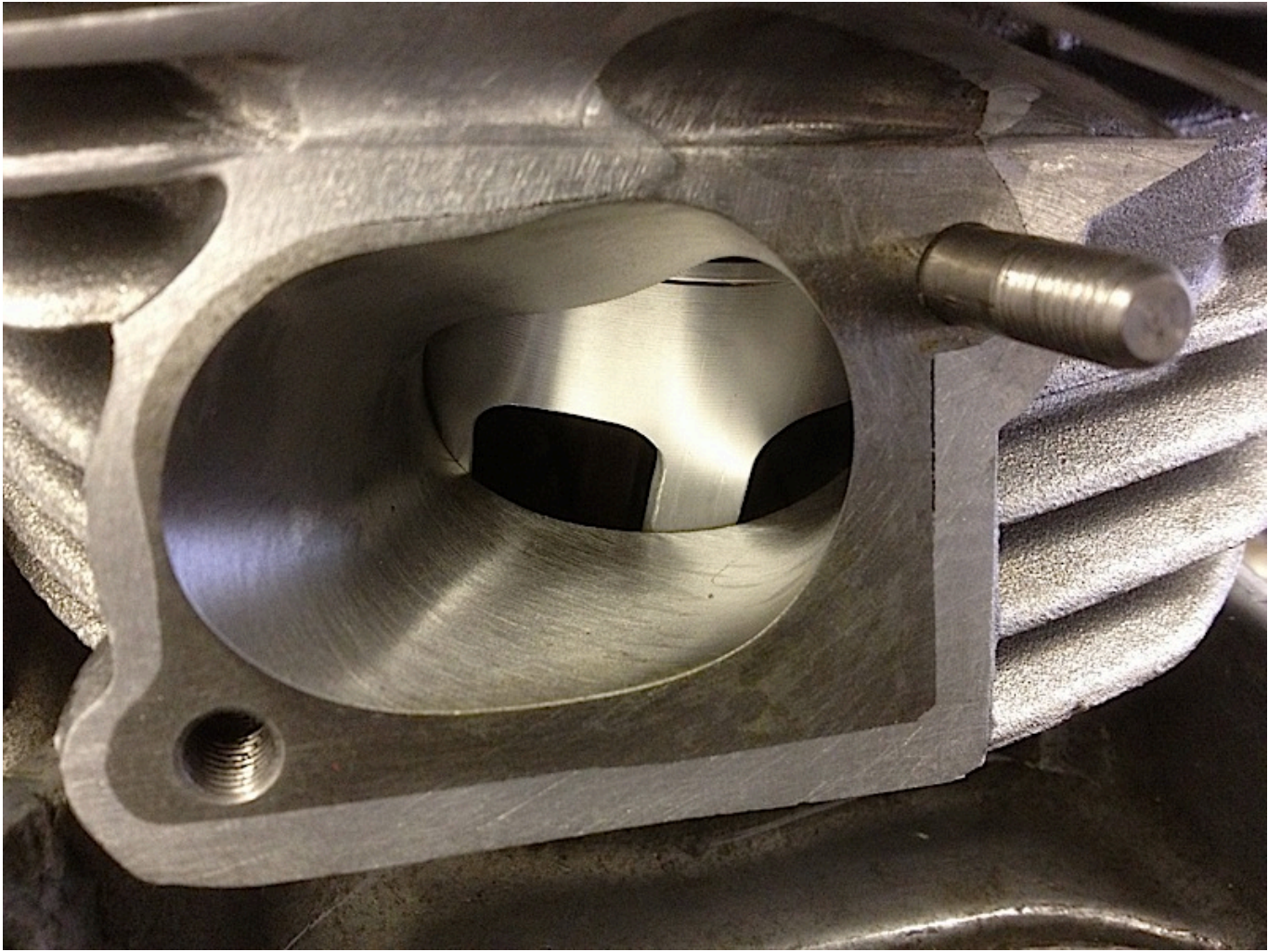
Exhaust raised to suit touring reed tuning



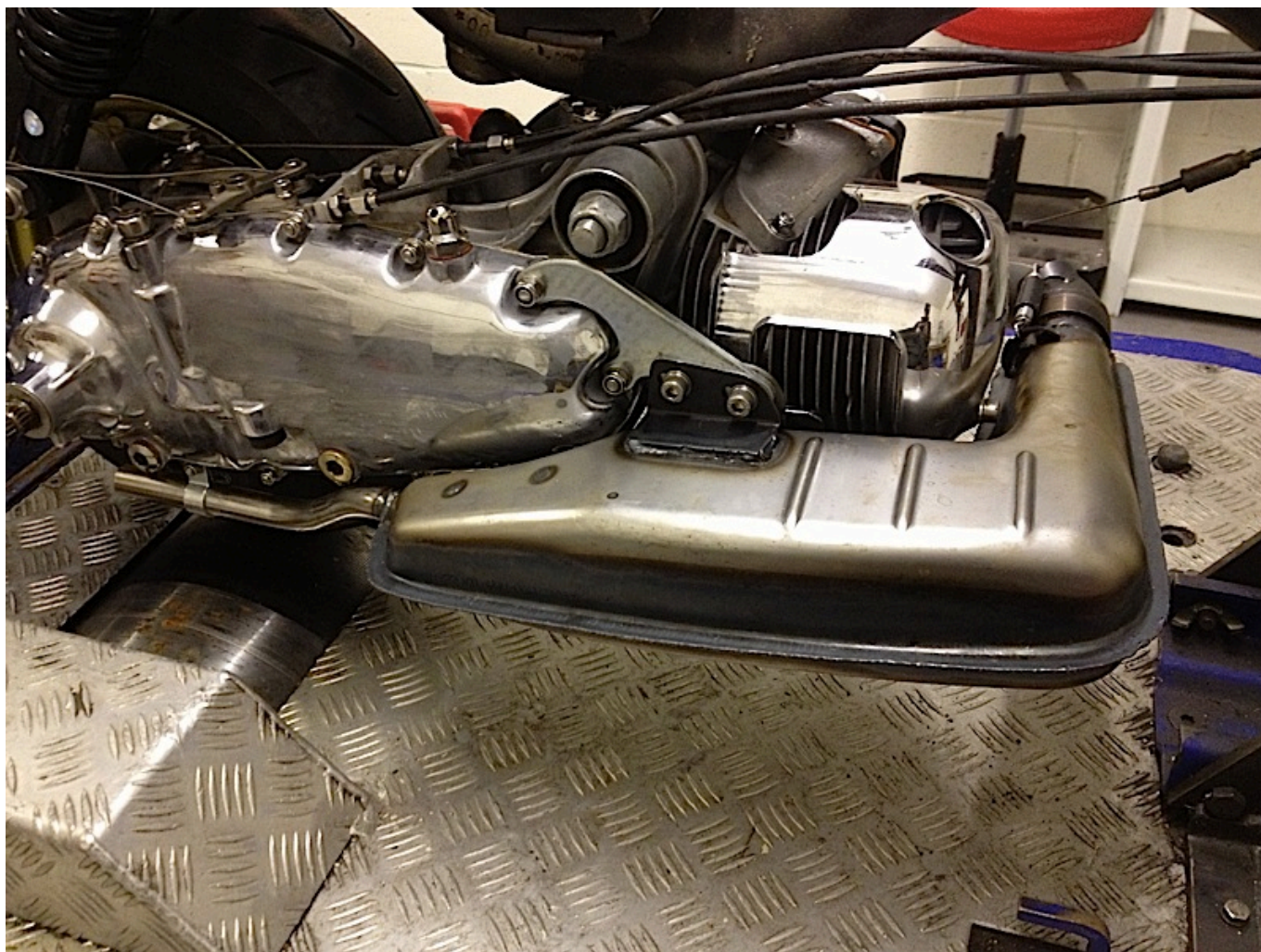
The MB RT Rapido short crown height piston to suit the 115mm con rod



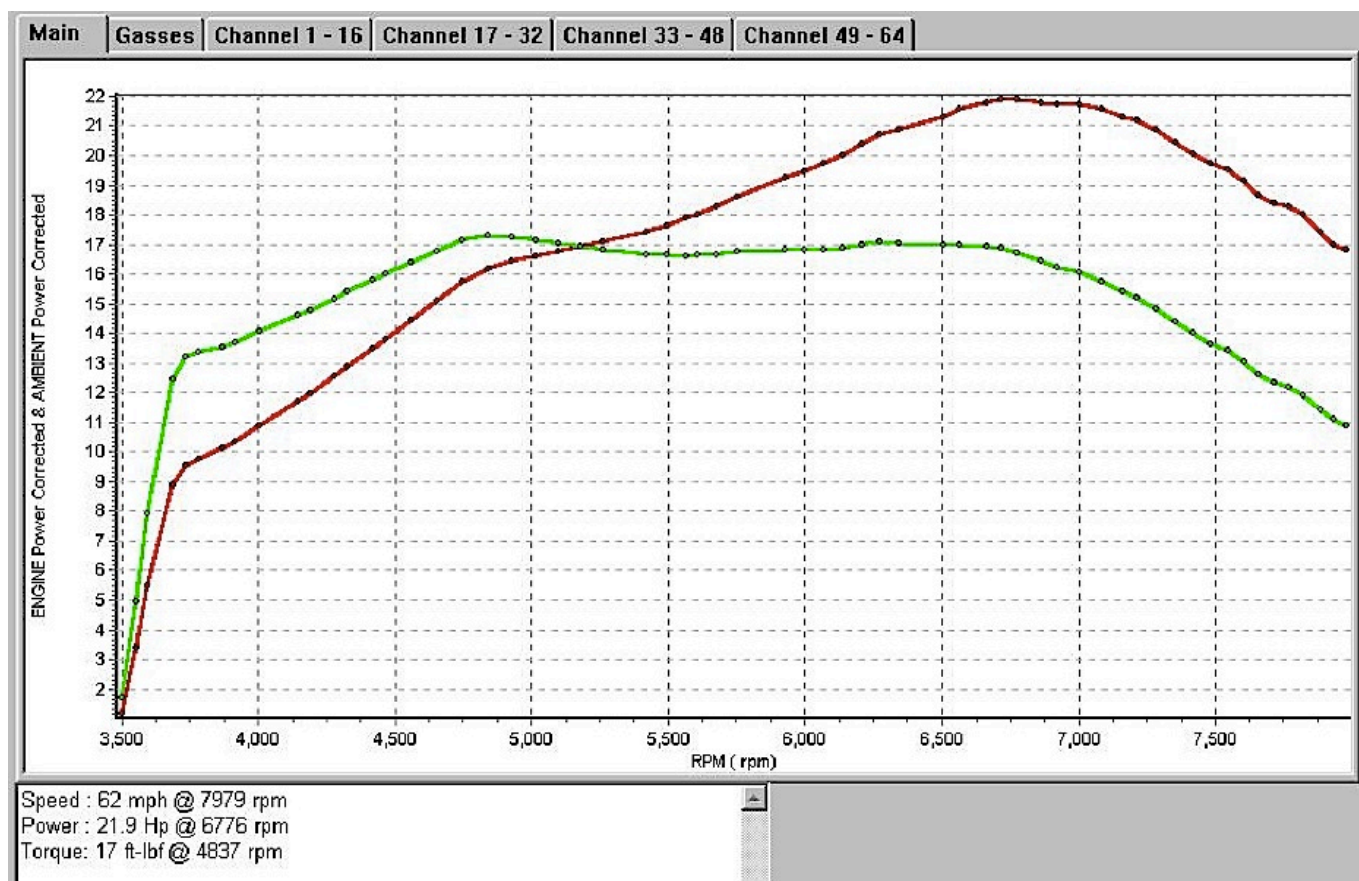
Modified for Reed tuning



Flowed the MB way with reed piston fitted giving 360 degrees inlet timing



The first MBgm Clubman fitted by MB



Now that is a table top torque graph

Mark Broadhurst, any questions ask mark@mbscooters.co.uk