Tuning work – MB RT, Reed 190 – 195

TUNING WORK MB RT REED 190 – 195

A principle I've learn't or at least taught my self from experience over the years is standardisation!

Something I learn't from years of doing one off tunes and parts. When it comes to tuning luckily for me I've written everything down and logged them in files. All the tunes I've done which is now over 1800 is listed (2015). Without logging every kit I wouldn't have a clue what to say when a customer phones and says 'I've got one of your kits and need a piston' it would be impossible, all I would been able to say is 'send in the kit and I will try to remember what I did'. Today when people ask I think I have one of your cylinders, it shows a MB/MRB number, all I have to do is look it up and it reminds me what I did at the time and at least there is something we have a clue about. Most Scooter tuners have not done this.

Having all the kits logged offers a service second to non and leaves a history in Scootering for many years to come.

When I designed the RT pistons I aimed to offer a piston which was standardised from the small block to the large block using standard cranks and con rods without having to find a special con rod and add strange packers. It's the same with the cylinder kits, because of this I made our Race – Tour Shorty Reed Block fit both the 190 – 195 Small Block cylinder and also the 200 – 255 Large Block cylinder because I only offered the same inlet manifold size the same as a 200 cylinder. So in the future when someone says 'I've got one of your RT cylinders and want a new carb kit' we don't have to think or look up our records to see what we did…… easy. But you can't say that from certain manufacturers in Italy.

So why Reed Valve a perfectly good Race – Tour cylinder? To be honest with the cylinders aimed at touring there is only a few small advantages to be had by Reed Valving the RT cylinder. But other cylinders will have many more advantages.

The RT cylinder as a 'standard piston port cylinder' are very good as an all round kit which works from low down speed to flat out speeds, as they pull like a train one up or two up and return very good fuel economy of up to around 60mpg.

Add a MB RT Reed valve and we know of kits doing 80mpg with the added benefit of little or no spit back, tickover is smoother, setting ff is much easier and carbs which fit under the panels, it sounds totally incredible but that's what I designed them for…….. a good all round touring kit with speed where they can sit at 70mph all day and give better fuel economy than other cylinders on the market. What I call a 'Touring, Torquey Tune'

This basic standardisation from MB has been carried on into the new piston

ported MBgm RT 195 and RT 225 kits, both these kits can be converted to a Reed design.

The RT MB Shorty Reed Assembly doesn't just fit a RT cylinder, it will fit all cylinders with 200cc studs which uses the carb on the standard left hand side. They can also be used on small block cylinders where the inlet studs are closer together but I have to modify the inlet manifold to suit, unfortunately at an extra cost.

Below are photo's of a step by step tune of one of the last UK made MB Race - Tour 195 cylinder kits, bored out to either 65 or 65.5mm using one of our hand made Race -Tour forged pistons. The tuning/engineering conversion steps are listed below. Remember this can be done to lots of cylinders. Our RT kits work really well however they are set up, but others don't, as they have poor inlet, transfer and exhaust port timings, by fitting a MB Reed Assembly and with some tuning work we can improve any cylinder to gain power spread, less spit back and that all important improved fuel economy.

This is the work that needs carrying out

- Fins above the inlet port are cut and cleaned to allow the MB Shorty Reed manifold to fit
- Inlet port is marked out to meet the manifold casting
- The inlet port and manifold are bolted together tuned and flowed to each other
- The inlet port is opened, flowed, reshaped and lowered to suit 360 degrees inlet timing
- The cylinder and piston are checked and an extra boost port is added above the inlet port
- Exhaust ports are raised to let the cylinder work in a wider rev range
- All ports are cleaned, flowed and matched
- With a Reed kit a Reed piston is used or a piston is modified
- With a new kit or a an overbore the bore is Ceramic plated
- The head is dropped into the cylinder and modified to suit our poor petrol

We itemised the Reed conversion into labour for alloy and cast type cylinders, each cylinder requires different parts of jobs doing so if your interested give us a call, ideally we need to see your cylinder kit as it is, as there will always be other work, like heads, pistons and rebores.

- Tune a single boost port
- Tune inlet port, bolt the manifold down and flow through
- Grind fins for MB Reed manifold
- Tuning to transfer ports and exhaust port

We offer one Reed Manifold which is very universal and can fit with a number of reed blocks and carb rubbers, you can buy the manifold on it's own and use up old reed blocks and rubbers or as we do make an alloy plate to house the flange type rubbers. Stock comes and goes, we are working on new reed block and stub adaptors, if the part says notify me, you can click it or just give us a ring we usually have alternatives to make up a kit

- MB 6 petal Shorty Reed assembly 22/24/25 Dellorto
- MB 6 petal Shorty Reed assembly 24/28/30 PWK
- MB 6 petal Shorty Reed assembly 26/28/30 Dellorto
- MB 6 petal Shorty Reed assembly 35 Mikuni

This work can be carried out to these cylinders and can be much improved over standard

SMALL BLOCK

- Standard Italian, Spanish, Indian pattern cylinders
- Mugello 186 – 190 – 200
- SR 175 – 190
- Casa 190

LARGE BLOCK

- Standard Italian, Spanish, Indian, pattern cylinders
- Mugello 200 – 225
- Rapido 220 – 225 – 250
- Indian Alloy 200 – 225
- Casa 210

Top fins removed slowly to keep as much fin area as possible

Offer the manifold down the studs, mark the fins where touching a grind a bit more

When rough ground, clean and polished the fins to make a tidy job

Make sure the manifold drops down and seats on the gasket face

Cylinder fitted onto a port timing jig to mark where the boost port should be, looking at ring peg positioning

Set transfer ports at BDC, check port itmings and look where the pegs are and work out where the boost port should be

Mark out where the manifold is and cut the port to match

Bolt the manifold down and grind through the manifold and inlet port

Then flow through to make a perfect match

A properly flowed inlet manifold

Boost port and new shape inlet port

Ports all matched, set up and timed perfect

Exhaust ports raised to increase power and speed, the reed helps spread power so a larger exhaust port can be used without loosing trackability

Fins ground to suit, inlet port finished and cylinder marked and logged

Finished Ceramic plated with Reed manifold flowed and matched

Nice and tidy as with all MB work

Ceramic plated with finished bore

Slightly larger exhaust port to get speed benefits from the reed conversion, matched to a MB exhaust flange

4 studded exhaust port only on an MB RT cylinder

Cast solid, good old British engineering

Inlet port after Ceramic plating, the plating always marks all the clean porting work and I re-flow it afterwards

Porting, flowing and finishing how it should be

A first in Scooters, MB head drop, centralises the head for perfect squish settings, allows setting up with 58, 60, 61, 62, 63 and 64mm cranks

An MB RT piston port piston hand machined to suit reed 360 degrees inlet timing

A good old British over engineered Reed manifold casting, no breaking through this casting, unlike some!

Flowed and matched and CNC machined

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