

TPV Top End Kit

Thank you for buying my Top End Kit, new heads and barrels. As second hand heads are not obtainable you now have a new head with new metal and 600cc capacity per cylinder.

All standard parts will fit, the inlet and exhaust ports are in the same position as standard heads, so carburetors and headers will fit with no modifications I wanted to incorporate features that upgraded the engine to suit modern fuels and the performance orientated rider.

TPV Top End kits have been developed after many years of experience with Vincents.

Countless circuit races have been won and 5 land speed World record in different categories have been broken using TPV top end kits.

TPV Top End Kit Fitting Instructions

Please check parts in box against photo and parts list below.

The kits are 600cc with a 92mm bore, the crank case mouth will have to be machined out to 3.814" +001"-000" to give a slide fit. Only bore the crank case to a depth of 66mm as the 92mm liners are shorter than standard, so avoiding cutting through the case stud hole.

Cylinder head.

Valve guides and seats have been fitted, the guides having been reamed to suit standard Vincent valves. If you have not bought valves from us it is advisable to check

clearances, as other valve suppliers valves may not be the same sizes.

Valve to guide clearance:

IN .001”

EX .0015”

A tolerance of +.0005” is permissible.

Valve seats.

Seats have been cut with a 3 angle seat cutter, with the main seat cut to 30 degrees. Valve and seat have not been lapped in but would benefit from doing so. (Only use fine lapping paste)

Two pieces cylinder head studs should be fitted with sealer on the part that fits in the crank case and anti seize on the top 10mm thread.

Rockers & Rocker tunnel bushes.

Bushes have been made to very close tolerances to fit tight in the tunnels. It may be necessary to warm the head to facilitate fitting.

Rockers must run completely free in the rocker bush, there maybe some small burs from machining the bush, and they should be removed with a flat file.

Valve Springs.

The head has been machined to give more clearance from the valve collar to the top of the bottom guide so as high lift cams can be fitted. Kits are now supplied with R&D valve springs kits, installed height must be check. This should be not less than 1.400” (35.6mm

Oil Hose has not been supplied as most customers prefer to fit the original braided hose.

Ports & Combustion Chamber

These have been fully CNC machined to give the best possible gas flow with the original inlet and exhaust positions. Unless you desire to go to a larger inlet port size for racing no further work should be required. Heads should be thoroughly cleaned and all parts assembled with a good assembly lube.

Cylinder Muff and Liner.

Muffs have been machined to give a .006" interference fit to the liner at 200 degrees C. After fitting the liner it is best to put a light pressure on the top of the liner while still hot, to avoid the liner pulling away from the muff when cooling down.

As the liner flange is now wider than previous, a small amount (approx 1mm) of metal will be protruding into the 10mm through bolt holes. This must be removed with a round file. Lapping of the head to liner flange is not necessary as clearance has been pre-machined.

Honing and Boring.

This must be done by a competent workshop. The clearance measured at 10mm from the bottom of the piston should be: .0035" *For racing .0045"-.005" must be used*

RING CAPS

| | |
|-------------------|-----------------------|
| TOP CHROME | 0.015"-0.020" |
| SECOND | 0.010"- 0.020" |

Oil hole is optional with forged CP pistons

Before finally fitting of cylinder muff and piston the squish clearance must be checked, it should be .050" to .055"

Fit muff and piston without rings onto crank the case; the piston should be level with the top of the liner flange. If there is more than .005”protuding a gasket of the required thickness must be fitted under the muff,

On twins the rear cylinder muff may have to have clearance cut away for the front carburetor, depending on what make and size of carburetor fitted. Where `O` rings are not supplied STD seal and gaskets can be fitted.

Suggested carburetors for 1200cc Top End Kit

PHM38 DELLORTO SETTINGS

PHM38 Dellorto Type. R 4813 (BMW R90S

SLIDE 60/1

NEEDLE K4 (SET IN MIDDLE)

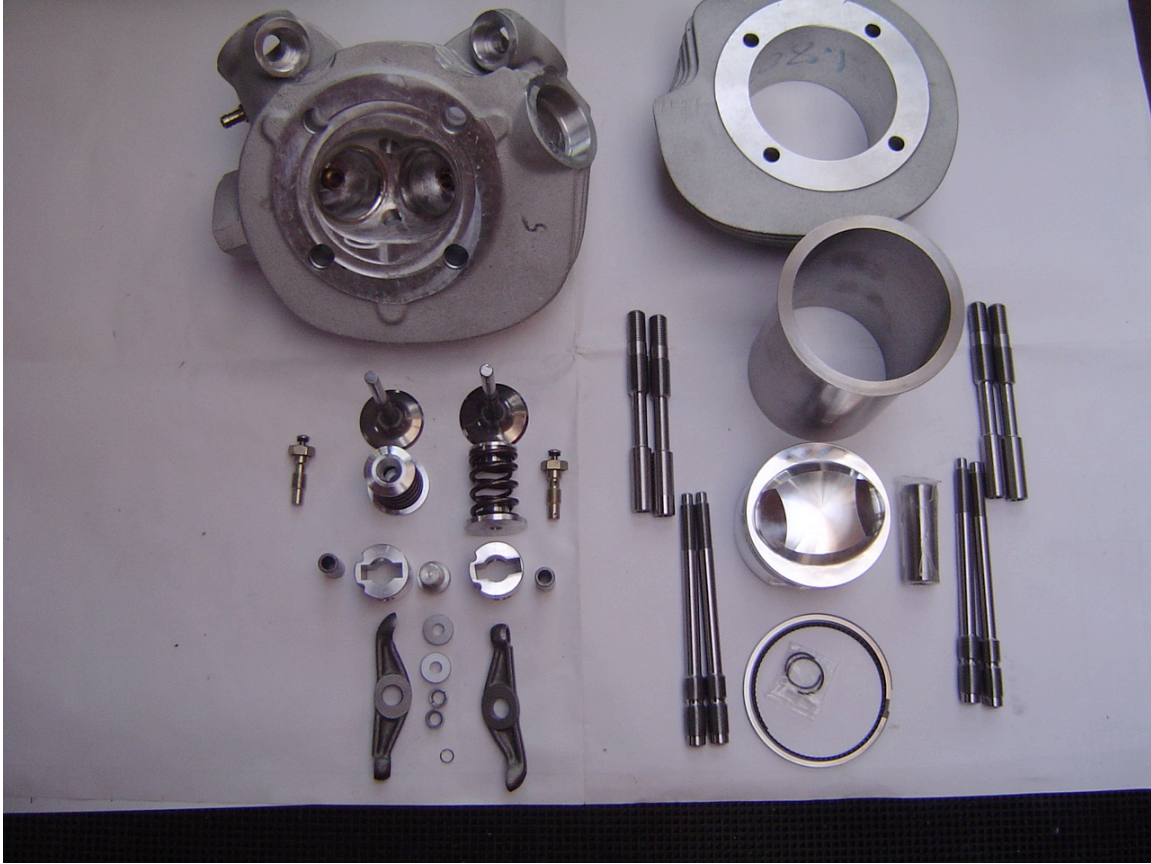
MAIN JET 165

PILOT JET 60

I hope you have many years of success and fun with your Kit.

Terry Prince

Parts Check list



Note photo shows 1 Top End Kit, 2 are needed for a V twin configuration.

Included PER KIT

- 1 ET22P FULLY MACHINED ALLOY FRONT CYLINDER HEAD
- 1 ET21P 600cc ALLOY CYLINDER MUFF
- 1 ET150P 600cc CYLINDER LINER
- 4 ET155P HEAD / CYLINDER BOLTS 2 PIECE
- 1 ET7P 92MM PISTON, PISTON RINGS, PIN AND CIRCLIPS
- 2 ET25 INLET AND EXHAUST ROCKERS,
- 2 ET28 ROCKER PINS
- 2 ET26/2 LONG TUNNEL BUSHES
- 1 ET34 INLET VALVE HARDENED
- 1 ET33 EXHAUST VALVES HARDENED
- 2 ET35 VALVE COLLARS

- 2 ET39 RD VALVE SPRINGS
- 2 ET37P SPRING CAPS
- 2 ET40P TOP GUIDE
- 2 ET36 COLLETS.
- 1 ET32P FRONT INLET MANIFOLD