



SRM Big Bore Kit Fitting Instructions

The big bore kits comprises of the following:-

- A) Cast Iron Cylinder block Grade GGL25
- B) Pair of full skirt cast Pistons with strengthened gudgeon pin boss, wide gudgeon pin. (Forged pistons available at extra cost)
- C) Steel pushrods with Chrome Moly steel hardened steel caps.
- D) EN24 Head bolt set heat treated to "T" condition tensile strength.
- E) Annealed copper head gasket with "O" ring seals on oil drain holes.
- F) Base and rocker box gaskets.
- G) 3/8" base stud and nut kit

Before fitting the kit, the following is strongly recommended for the reliability, efficiency and maximum performance of your engine.

- I) Needle roller bearing and oilend feed conversion to the crankcases and crankshaft.
- II) Dynamically balanced crankshaft assembly.
- III) 32mm Gas flowed cylinder head with SRM 1.725" (43.5mm) inlet valves. (an extra 8 to 10 brake horse power can be obtained with ease, using twin or single carburettor gas flowed head)

All the above services are available at SRM.

N.B. If fitting to an A50 engine a 650cc cylinder head is required plus the above numbers I to III.

FIRST WIPE INSIDE BORES WITH OILY RAG OR J CLOTH UNTIL RAG WIPES CLEAN.

- 1) Remove the cylinder head and cylinder barrel as per BSA workshop manual.
- 2) Check that your engine cases have the large diameter 3/8" base studs, if not replace them with the kit available from SRM or get a reliable and trusted local engineering workshop to carry out this job for you. Please make sure that the studs replaced are vertical to the base flange or problems will develop. (SRM cannot be held responsible for any damages or injury occurred if this is not carried out correctly, if in doubt get SRM to do this for you.) Studs are 3/8" UNC in the crankcase and 3/8" UNF for the nuts.

N.B. On engines 1970 to 1973 the cylinder base studs with the location dowel shoulder must be replaced by plain studs.

- 3) Offer up cylinder block to the crankcases, then check if cylinder liners are touching inside of crankcase mouth, and check that cylinders are sitting down onto the base gasket face flush.
- 4) If cylinders are not sitting down correctly, making sure not to let any alloy swarf to drop inside the engine, cut away any excess aluminium on the inside of the crankcase mouth with a rotary Carbide cutter in an electric drill. A handy tip is to use Engineers blue to find out where the cylinders are touching. Or strip engine and get a machine shop to bore out crankcase mouth. (SRM cannot be held responsible for any engine damage or injury from this operation not being carried out correctly)
- 5) Check that cylinders have clearance all round the crankcase mouth to allow for any expansion in use.
- 6) Fit pistons as per BSA workshop manual.
- 7) Fit cylinder block and standard tappets as per BSA workshop manual.
- 8) Place cylinder head gasket not forgetting the front oil drain hole "O" rings. Gasket must be placed on before outer studs. DO NOT make the bolt holes larger in the gasket.
- 9) Fit the four outer head studs making sure that the bottom tips stop at the bottom of the stud hole.
- 10) Fit the cylinder head as per BSA workshop manual, but torque the bolts and nuts to **25Ft lbs (3.45Kgm)**

N.B. Do not torque any more than this specified setting, the bolt kit has been designed for this setting only.

Note that for 1971 to 1973 cylinder heads,

1/8" (3mm) in length must be removed from the front two head bolts!

Technical specifications and recommendations

Piston to bore clearance is already set on the cylinders, but for racing use hone out an extra 0.001" (0.025mm)
Piston sizes:-Standard 79mm, Oversizes 79.5mm 80mm 80.5mm Cylinders can be re-lined later but only 79 and 79.5mm pistons can be used on a liner.

Compression is 9:1 using thick head gasket 0.059"(1.5mm) or 10:1 using thin head gasket 0.036" (1mm)

Lubrication for road use must be Mono Grade oils, for racing use Castrol "R" or Silkolene "R40"

Ignition Timing for 74mm stroke crankshaft is 32 Degrees BTDC on full advance

Ignition timing for 84 to 90mm crankshafts is 30 Degrees BTDC on full advance

Carb settings Using Amal Concentric 32mm Mk1 and Mk11 Carburetors for twin carbs (single carb settings in brackets)

750cc:- Throttle slide No3 (No3.5)	840cc/900cc:- Throttle slide No 3
(No3.5)	
Needle jet No106 (No 106)	Needle jet No 107 (No 107)
Needle position Bottom notch No3(No3 position)	Needle position middle
No2 (No2)	
Main Jet No 200 (No 270)	Main jet No 220 (No310)



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