



**HITCHCOCK'S MOTORCYCLES LTD  
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**SPARES for ROYAL ENFIELD & AMAL**

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## DECOKE YOUR BULLET

The need for a decoke will vary greatly in mileage depending upon the condition of the bore, rings, carb setting and use the machine is regularly employed for. Poor hill climbing accompanied by pinking when hot and unreliable starting due to burnt valves are the best indicators.

Dismantling is straightforward, first remove the petrol tank, carburetter, head steady tie bar and exhaust system. Unscrew the 8 sleeve nuts and remove each rocker cover. Unscrew the 2 oil pipe rocker feed banjo bolts and the bottom nut, support the pipe so as not to let it twist. Release the decompressor cable at the handlebar end, this will then allow you to slip a ring spanner over the cable and remove the decompressor complete with the cable if required. Position the piston at top dead centre with both valves closed. 4 small nuts hold each rocker in place, unscrew these and remove the rocker assemblies. Lift out the pushrods noting which is which. (The inlet is the shorter of the two).

Remove the 6 nuts, which hold down the head, (4 central sleeve nuts, 1 nut by the spark plug and the other by the decompressor). The cylinder head is now ready to lift off. This can often be stuck with jointing compound, if so try kick starting it with the spark plug in, this may be just enough to break the seal. If not a little patience and a rubber / hide mallet will free it. Gently tap under the exhaust and inlet ports, but use with caution! You may also need this if the head is stuck on its studs. This is often caused if the 4 narrow washers were missing or have been squashed beneath the internal nuts.

To remove the valves, first lever off the stem caps, (not fitted to English Bullets with alloy top spring retainers). Use valve spring compressor, part 2018 to remove the split collars giving them a little tap to free them if necessary. Remove the springs, top and bottom collars and valves. Keep the inlet and exhaust components separate to allow you to reassemble them on to the same valves. If the valve will not pass easily through the valve guide, you will need to carefully remove any burrs that have formed on the end of the valve with a fine file or carborundum stone.

Remove any carbon from the cylinder head, valves and piston by gently scraping. A 2p coin is good for removing the worst and then finish off with fine wet and dry paper dipped in paraffin or carb cleaner. (Please note that large amounts of soft carbon could mean that the valve guides or the piston rings are

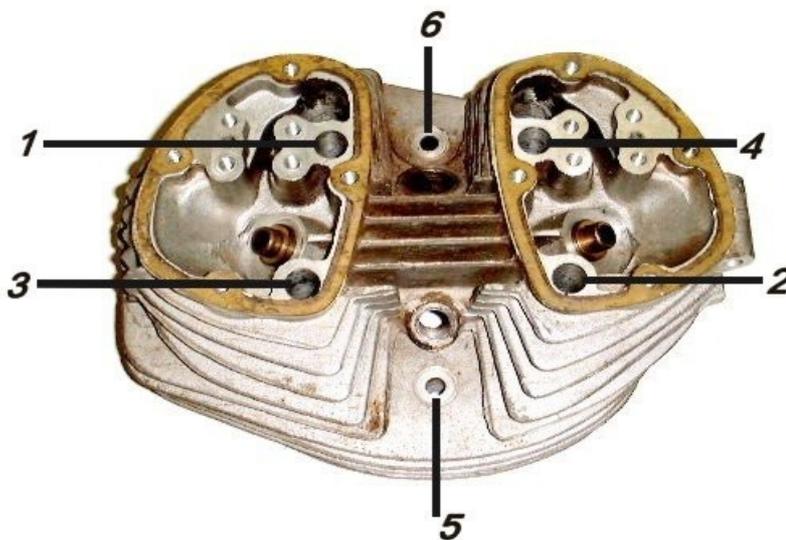


worn or the common problem of wet sumping is present. Hard shiny carbon would indicate a rich fuel mixture). Check all parts for signs of wear or damage and replace if necessary. Ensure that the valves are seating correctly and lap in with a fine grinding paste if required. Wash all parts in paraffin and reassemble the valves and collars, giving the top of the valves a light tap to ensure that the split collars have seated correctly.

Should the bore show signs of wear, scoring or glazing, you will need to remove the cylinder. Slacken off the 2 crankcase studs just below the cylinder. Remove the small nut just above the tappet inspection cover, the cylinder can now be gently pulled off. If it is necessary to remove the piston, first stuff the crankcase mouth with a clean rag before springing the gudgeon pin circlip out. A little heat on the piston crown (this can simply be done by wrapping the piston with a hot wet rag for a short time), this will allow the gudgeon pin to be removed, ideally with the special tool (part 2015), however with enough heat the gudgeon pin should easily push out without this.

If re-fitting the same piston clean the ring grooves, a piece of broken piston ring in the end of a wooden handle makes a good tool for this. Check the end gap of the piston rings in the bore. This should be a minimum of 0.015" and maximum of 0.030" for the 350cc and a maximum of 0.039" for the 500cc. Check this gap using the bottom part of the cylinder. If fitting new rings, it may be necessary to carefully file the end gap to achieve the minimum gap. When re-assembling ensure that the piston is fitted the correct way round, i.e. with the split skirt at the front. Fit a new gudgeon pin circlip making sure that it is the correct type for the piston. **Most** Enfield pistons use a round section wire circlip. Under no circumstance should a square section circlip be used on these pistons. Refit the cylinder barrel using plenty of oil. Do not forget to tighten the 2 crankcase studs and re-fit the small nut above the tappet cover.

Refit the cylinder head using new gaskets. A little jointing compound on the head gasket should be used, we would favour Wellseal or Blue Hylomar. Make sure you replace the 6 washers (4 small and 2 standard diameter before fitting the 6 nuts. (We recommend our improved hardened washer set, part 90123). These should be tightened down in a sequence as suggested in the photo, in two stages, 15 and 22 ft-lbs.



Refit the valve stem caps, pushrods, rockers and bearings tightening the 8 nuts to the correct torque, 9 ft-lbs. (If you have the alloy Samrat rockers the manufactures recommended torque is 5 ft-lbs).

Whilst on top dead centre check and set the tappets to zero clearance, assuming you have standard camshafts. (Free to spin with no up and down movement). Replace the rocker covers and tappet inspection cover. Refit the exhaust, carburetter, head steady tie bar and petrol tank.

After a short run, allow the engine to cool before re-torqueing the 6 cylinder head nuts, check and re-adjust the tappets and you should be rewarded with many trouble free miles.