

PREPARATION AND ASSEMBLY OF

TRIUMPH TIGER CUB

ENGINES

FOR MAXIMUM PERFORMANCE

A series of alternative components have now been made available for the Tiger Cub to provide a 'Conversion' condition, giving a 40% increase in overall B.H.P. output with a corresponding increase in road performance for those wishing to participate in sporting activities with their machines.

The conversion is regarded here as being applicable to a 1958 T20C (Competition version) but obviously the basic engine tuning applies to all the T20 range. A table giving recommended overall ratios with different available tyre and wheel conditions is appended at the end of the bulletin.

A detailed parts list of the above items is also appended which is based on a T20C Competition Cub basic specification, and any variation from this on a machine on which work is to commence must be taken into account when compiling the necessary spares requirements.

It will be assumed that a Tiger Cub Instruction Manual and a Tiger Cub Replacement Parts List is to hand before work commences on the machine, and any detailed work described therein will not be repeated here.

The components are available as follows:

For the Engine

Piston 9:1 CR complete with high duty piston rings.
Camshaft.
Cylinder head with large inlet port and inlet valve.
Stronger valve springs.
Carburettor adaptor.

For the Gearbox

Mainshaft high gear assembly.
Layshaft high gear 27/18T combination.

For the Primary Drive (for machines fitted with the $\frac{3}{8}$ " pitch single or duplex chains)
Engine drive sprocket and spacer.
Clutch assembly complete. (See Section 2).
Primary chain $\frac{1}{2}$ " pitch.

SECTION 1 ENGINE

Strip out completely as described in the Instruction Manual and examine for wear, fatigue, damage, or failure. Do not refit any components which are suspect, or all the work carried out on the machine will be wasted if later a failure is suffered as a result. Rebuild with new gaskets and washers throughout.

(a) Crankcase

If the machine is prior to engine No. 24090 strip out the flywheel assembly and fit the present specified big end liner which is of high duty material (VP3).

The flywheel timing side journal and bush should be examined for wear and the latest material (VP3) liner, Part No. E3655, fitted (standard equipment from engine No. 26276).

Rebuild the engine components into the crankcase as described in the Instruction Manual, ensuring that the primary inner cover is a good interference fit (.0027") in the crankcase. Fit the new camshaft to the "dots" as described for the standard camshaft, when the "High Performance" timing will be automatically achieved. Fit the new piston and rings, and a new barrel if there is the slightest signs of a "step" in the location of the top compression ring in the old cylinder barrel. In any case it is advisable to lightly scuff the surface of any used barrel before fitting new pistons and rings, to ensure suitable running in conditions are achieved.

Assemble the engine, oiling all the components separately and using oil liberally during the assembly process.

(b) Cylinder Head

The cylinder head has been modified to the condition shown in the drawing below, but care must be taken to ensure that a break through does not occur in the zones indicated, on engines prior to the time when the head casting was built up in these areas. Before refitting the valves, the carburettor adaptor should be

Rear Drive

Gearbox sprocket 19T
Rear wheel sprocket 54T (for the range of rear wheel and gearbox drive sprockets available, see Table 2).

Exhaust System

Downswept exhaust pipe.
Exhaust pipe extension.

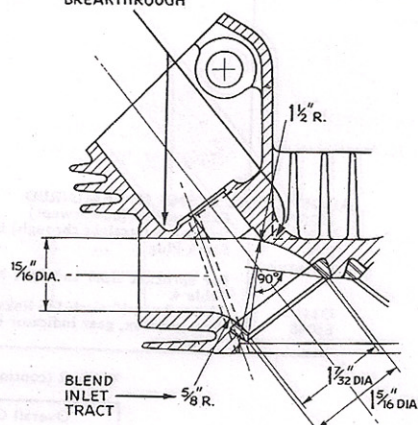
Carburettor assembly

Amal Type 6. $\frac{15}{16}$ " choke.
Remote float bowl, rubber mounted, with associated fuel lines.

Shorten the valve guides by $\frac{5}{64}$ " at the top end in the rocker cavity, to a dimension of $\frac{9}{16}$ " from the top of the circlip groove as shown in the diagram to allow for the greater cam lift.

Fit the new inlet and original standard exhaust valve if it is satisfactory, together with the new valve springs and special bottom cups. Reassemble the head as described in the Manual. Note that the tappet clearance is 0.002" inlet, 0.004" exhaust, with "High Performance" camshaft.

ON HEADS PRIOR TO THE MODIFICATION OF THE CASTING SECTION IN THESE ZONES, CARE MUST BE TAKEN TO AVOID BREAKTHROUGH



OPEN UP TO SUIT INLET VALVE