SPARES for ROYAL ENFIELD & AMAL

EMAIL: info@hitchcocksmotorcycles.com
WEB: www.hitchcocksmotorcycles.com

HITCHCOCK'S MOTORCYCLES LTD
ROSEMARY COURT
OLDWICH LANE WEST
CHADWICK END
SOLIHULL
B93 0EY ENGLAND

TELEPHONE: 01564 783 192
FAX: 01564 783 313

CAM SHAFTS Part 90023 May 2017

The following is the timing for the above camshafts set with **0.040"** tappet checking clearance:
(Please do not compare to workshop manual settings as these are set to 0.012" tappet checking clearance)
NB THIS TAPPET CLEARANCE IS USED FOR CHECKING CAM TIMING ONLY. FOR RUNNING CLEARANCE WE RECOMMEND 0.001" FOR THE INLET AND 0.003" FOR THE EXHAUST. (MEASURED WITH PISTON AT TOP DEAD CENTRE ON COMPRESSION STROKE).

Inlet opens 50° BTDC (33°) Exhaust opens 70° BBDC (60°)
Inlet closes 70° ABDC (42°) Exhaust closes 40° ATDC (14°)

The figures in brackets are a set of standard Indian cams measured with the same 0.040" tappet clearance

Inlet cam lift 0.420" Exhaust lift 0.395"

Things to check

Please check the following clearances:

It will be necessary to machine the crankcase to allow full rotation of the exhaust camshaft. This can be done using a small grindstone on an electric drill with the engine in place. Care must be taken to ensure that only the minimum of alloy is removed to avoid weakening the main bearing housing. This job will be made easier with the timing pinion removed. Be certain that all debris is removed and the crankcases thoroughly cleaned. Also check that there is clearance for the inlet cam to rotate as the crankcases can vary. Our recommendation is at least 0.020" for each between the top of the lobe and crankcase.

Clearance between the piston and Inlet valve minimum of 0.080" and for the exhaust valve a minimum of 0.100"
Clearance between the Inlet valve guide and top collar minimum of 0.060" and for the exhaust a minimum of 0.100"

Make sure that the valve springs are unlikely to get coil bound. We suggest using our special competition valve spring set, part number VS420A.

Due to the tolerances in crankcase machining please check the clearance between the cam follower head and the cam gear wheel. Use the enclosed shim(s) to place on the cam spindle before fitting the cam to give a clearance of at least 0.005".

As with the original equipment cams, it is not necessary but preferred that the end float between the cam and timing cover is adjusted to 0.005" - 0.010". This is done with the standard shim(s) (part number 112078). This will help prevent excessive gear train noise. Later timing cover gaskets are thicker than the earlier gaskets and although a better gasket these will require more shimming.

Please ensure that the cam spindles and cam followers are in good condition, as any wear in these components will transfer to the new cams reducing their life span.
To ensure maximum performance gain from these cams the rest of the engine needs to be in good working order. E.G. valves seating correctly, no excessive wear in cylinder bore and piston and correct setting of carburation and ignition timing.