

JOINING THE

KEN DE-GROOME HELPS YOU TO
GET THE VALVE TIMING OF YOUR
AJS OR MATCHLESS HEAVYWEIGHT
SINGLE SPOT ON

IF THE NUMBER of telephone calls I receive are any guide, the timing dot/number system used on the cams of AJS and Matchless heavyweight singles confuses rather than aids most owners. I don't think there's much wrong with the system. It's just the way it's described in some manuals.

First, make sure that the small pinion and timing side shaft are fitted together correctly to the flywheel. A 'good enough' check on this is to first place the engine with the piston at top dead centre. Then look at the timing dot, which should also be at the top. If it is, then you have nothing to worry about.

If it isn't, you're in trouble. For unless the timing key has sheared off, your crankshaft will need stripping to realign the shaft correctly. If your engine has been running previously, then it is highly unlikely that there will be an error in this department. But it's always worth checking.

CAMS WITH THREE DOTS

Ignore the numbers. It's the dots that count.

Rotate the crankshaft until the dot on the pinion is pointing towards the inlet cam bush. Offer up your inlet cam with the top pointing to approximately two o'clock. You may now find that you have two dots close together to choose from.

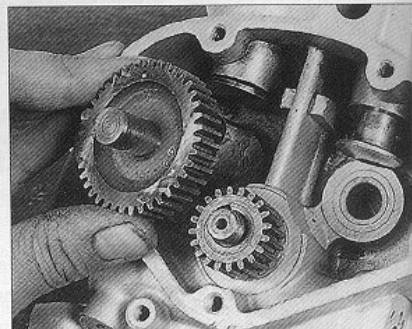
If your engine is a 350, fit the cam in with the lowest dot in line with the one on the pinion. If it is a 500, use the uppermost of the two.

Push the cam in firmly and do not let it fall out while moving on to the exhaust cam.

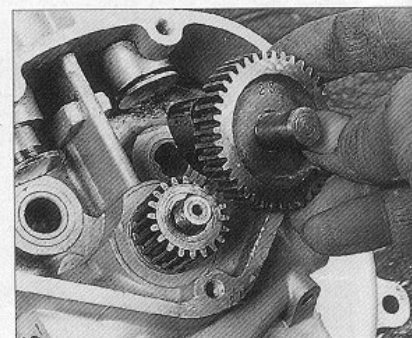
Now rotate the crankshaft clockwise (again, viewed from the timing side), just enough so that the dot on the pinion is now facing towards the exhaust cam bush.

Offer up your cam with the top pointing to approximately ten o'clock and you should find a single dot close to the dot on the pinion. That is the dot to use. Fit the cam with the dots in line and your cams should now be correctly fitted.

Using this method, you need not worry if the cams in your engine are not correct for that year, with one important proviso. If you are fitting cams of a higher lift than the originals, make sure that nothing is going to hit anything else, such as a tappet foot hitting the tappet guide.

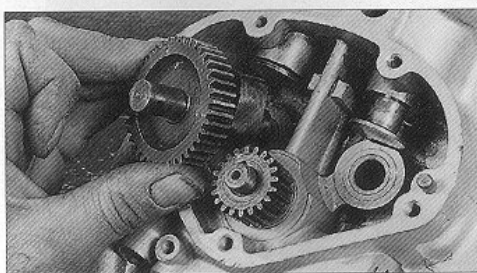


Three dot cams. Use the lowest dot on the inlet cam for a 350, and the uppermost for a 500cc engine.

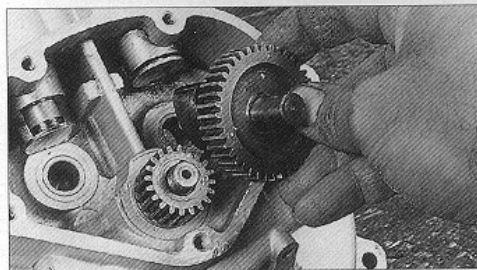


Three dot cams. You'll end up with a single dot on the exhaust cam close to the dot on the small pinion.

One and two dot cams. With the dot on small pinion pointing at the inlet cam bush, offer up the inlet cam with its top pointing at two o'clock. The dot nearest the pinion dot is the one to use.



One and two dot cams. Rotate the crankshaft clockwise so that the dot on small pinion points towards the exhaust cam bush. Offer up the exhaust cam with its top pointing at 10 o'clock and use the nearest dot.



CAMS WITH ONE OR TWO DOTS

Ignore the numbers, just watch the dots and it's easy.

Rotate the crankshaft until the dot on the small pinion is pointing at the inlet cam bush. Offer the cam up with the top of the cam pointing to approximately two o'clock. Use whichever dot is now nearest the pinion dot. Push the cam in firmly and do not let it fall out when moving to the next stage.

Rotate the crankshaft clockwise (viewed from timing side) just enough so that the dot on the small pinion now faces towards the exhaust cam bush. Again, offer up the cam with the top of the cam pointing to approximately ten o'clock. Use the dot that is now nearest the one on the pinion. Your cams are now correctly timed.

THE DOTS

PEPPING UP A 500

A cheap way to liven up a 500cc single which is fitted with three-dot cams is to follow the fitting instructions for a 350 and use Lightweight engine rockers (pushrod rocker arms only), instead of the originals. This makes quite a difference.

A word of warning. Make sure the pushrods don't rub on the tops of the pushrod tubes. On some pattern tubes there may be quite a large burr at the top.

HOT FACTORY CAMS

Competition cams with various profiles were available from the factory. I can supply most of these. They have various identification letters stamped on them.

SH Scrambles cams — good sporty profile.

HS SH — you're reading it upside down.

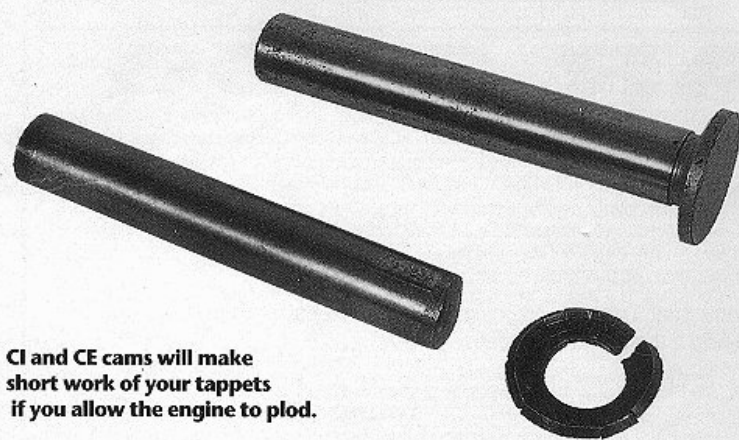
R Same profile as SH (an earlier designation).

CI Inlet cam used in the G80R and the late scramblers — a bit peaky.

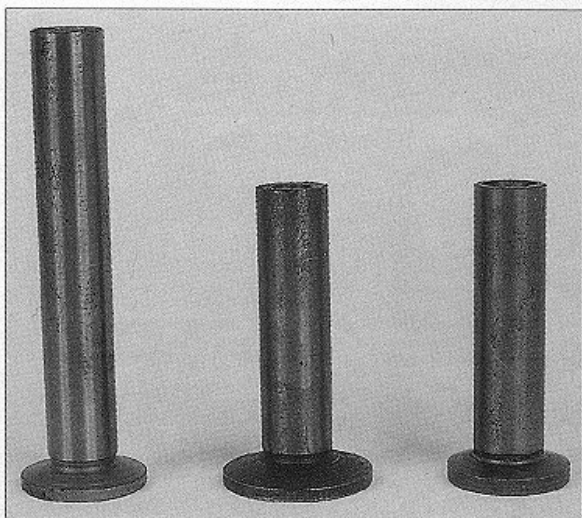
CE An exhaust cam used also in the G80R and in the last pre-1964 scramblers — over the top, except for serious racing.

Both the CI and the CE cams will make very short work of your tappets if the engine is allowed to plod at all.

Most people who do use them fit post-1964 tappets. These have a bigger foot than both the standard tappet and the late G80CS item.

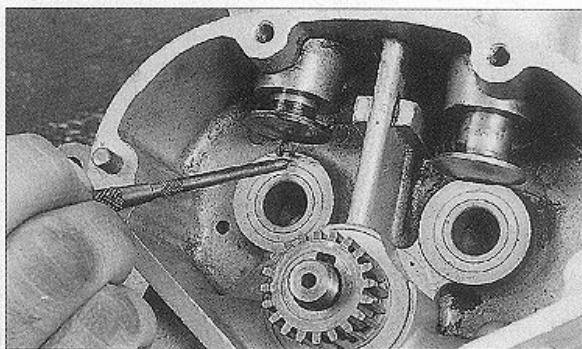
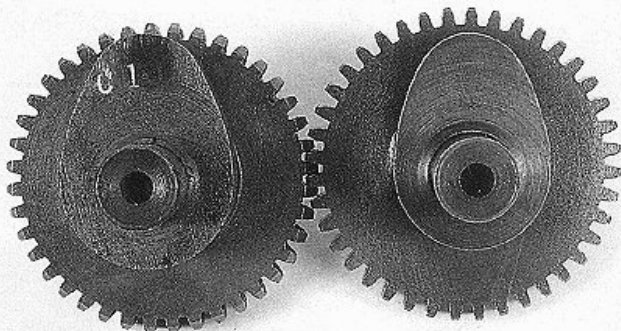


CI and CE cams will make short work of your tappets if you allow the engine to plod.



Fit post-1964 tappets (centre) if you use CI or CE cams.

Ken's hot cams (right) have a smaller base circle than the factory's comp cams (left).



KEN'S HOT CAMS

Several hundred of my performance cams for scrambles and road race engines are now in circulation.

A few have been fitted to road machines as a tuning mod. If you want to use them, be careful. These cams have a smaller base circle diameter than original cams. Any engine that is to receive one of these cams must have its crankcase machined to allow the tappet to drop down far enough.

If you fit one of Ken's hot cams, this area must be machined to allow the tappet to drop down far enough.

SPINDLE SWAP

A lot of people don't realise that AMC cam spindles can be pressed out of the cam on all years of camshaft. This means that if you find you have an inlet cam that you would prefer as an exhaust cam, then you just have to swap spindles.

Remember that the cam spindles are (or should be) a very tight fit and you are not likely to succeed in changing them without a professional workshop press.

If you are still confused, you can always ring me between 9am and 6pm on 0945 870382. As well as cams, I also have lots of other engine goodies available. Send me a stamped addressed envelope for a list. Ken de-Groome, The Bungalow, Fen Road, Newton, Wisbech, Cambs PE13 5HX.