

and gas seal withdrawn. These should be placed in a box and kept together.

Using an aluminium drift which passes through the flywheel, another sharp blow will dislodge the other crank assembly. Be careful that the rollers do not cascade all over the workshop! The central flywheel and the crankshaft locating key can now be withdrawn.

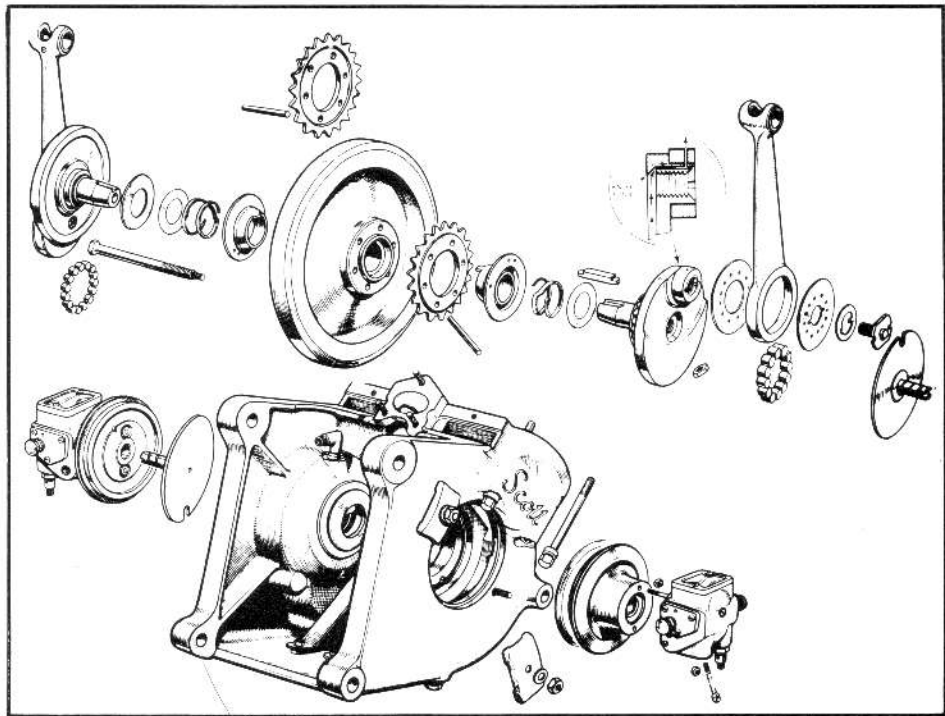
Examined at leisure, the Scott crankshaft assembly is a remarkable piece of work. Using only the simplest methods, it is light and strong and rigid enough to cope with the 30hp or so of which the engine is capable. Were it to be designed today no doubt many of the dimensions would be considerably increased (which in turn would entail redesigning the crankcases) but the principle remains valid.

Apart from obvious, considerable, wear on the bearing surfaces, there are only a few respects in which the crankcase assembly can give trouble. If not re-assembled correctly and tightly enough the locating key can shear. The engine may still run, but the tapers will inevitably start to fret in the female tapers in the flywheel, and can do considerable damage.

So, if a Scott engine, previously satisfactory, starts to pull rough, and especially if the twin exhaust note alters (as the cranks turn and the pistons move out of phase) do not risk real trouble! The key, or its replacement should be made from proper steel and should fit 100% correctly with no trace of slackness or binding on re-assembly. A new central bolt and locking nut should always be used on an engine that has done any great mileage.

The crankcase seals are the work of a genius and provided that they do not run dry, will last forever. They contain ports which are 'timed' to coincide with ports in the crankcase cups at the time when crankcase pressure is lowest, thus drawing oil in through the main bearings. Unfortunately, if the oil supply fails for any reason, they are very vulnerable, and may fail along with the big end and main bearings.

The latter obviously have to be replaced but it is not unknown for distorted gas seals



This exploded view of the Scott's unique 'bottom end' illustrates its unorthodox but logical nature.

to have been put back unchanged. If the crankcase cups are in any way damaged they must be replaced by a professional, one who is experienced in Scotts.

RE-ASSEMBLY simply reverses the stripping procedure. Excessive end float can be taken up with shims of correct type. It is not a bad idea, even if the mating tapers are perfectly sound, to very lightly grind them in with very fine carbonorom paste - making quite sure of course that you are grinding the correct pair of tapers.

Retain the main bearing rollers with grease, place the flywheel (correct way round) between the crankcases and introduce the crank assemblies by hand, taking care not to dislodge the locating key. Then

insert the bolt and carefully draw it up. When the cranks are well and truly drawn into the flywheel, give each in turn a good sharp blow in the centre (making sure that it's opposite number is supported) with a tubular drift and copper mallet. The centre bolt can now be tightened and the left hand thread lock nut fitted with the correct grade of Loctite.

When refitting the pistons the sloping deflector faces the exhaust port - yes, I know you wouldn't fit them the wrong way round but plenty have!

New cylinder base rings, gaskets, head gasket and transfer port gaskets are essential. Do not assemble the engine 'dry' but smear the bores and pistons with the oil you intend to use and fill the wells in the crankcases before replacing the doors.

Make sure that the cylinder is well seated before tightening the four holding down bolts, which should be tightened in turn by easy stages. Equally, do up the cylinder head nuts not one at a time but in turn, and equally. A torque wrench helps here. And don't forget to re-tighten the head after the engine has run for an hour or so.

Ignition should be timed with the ports set to .012" to break at top dead centre, fully retarded. Any trace of shake and worn bearings in the distributor should be corrected. Fit a new pair of Champion D16 sparking plugs and if in any doubt, fit new wire cored ignition leads.

Carburettor settings should be; main jet 170, slide no 6/3, 1/06 needle jet, needle in third notch. These are not necessarily correct for an engine that has been modified but will be found optimum for most. Even if a later concentric carburettor is used the settings remain a good guide.

• Scott spares - Sam Pearce & Sons, Unit 5, Stanley Lane, Bridgnorth WV16 4FF; Silk Engineering, 12 Cranmer Street, Derby DE2 6JL.



The rather clumsy distributor and the dreaded 'Pilgrim' oil pump.