

Mains

In cases where I have found the inner race of the drive side main bearing to be loose on the shaft, I have simply re-fitted it with strong Loctite. Turning the shaft down and fitting a sleeve is only inviting trouble.

Tach Drive

Commando tacho drives usually had just one o-ring. Early tacho drives had an o-ring at the bottom of the shaft and a little square recess at the bottom of the housing. Later drives had an o-ring near the top of the shaft and a conical recess at the bottom of the housing. Later shafts were supposed to be scrolled to help keep the oil down but not all of them were. Maybe some of them even had two o-ring grooves. If it keeps the oil in then you can use as many o-rings as you like where you like. Usually neither type of o-ring seal works properly and what we do then is machine the bottom of the housing for a proper lipped oil seal. The type of seal depends on what is available locally. It should have an inside diameter to fit the shaft and an outside diameter small enough to leave some metal in the housing.

Balance

The balance factor to which all twin cylinder cranks were balanced at Birmingham was 70% of the reciprocating weight, but at Woolwich at an Atlas engine number which I do not know they increased this percentage to 85. I certainly have no proof that this figure was or is an improvement and in a conversation with Doug Hele quite recently I was discussing balance factors for the twins because another friend had obtained a Nourish crank for a 500cc twin for racing. I therefore asked Doug If we should raise the 70% factor to 80 which is the figure to which flywheel assemblies on Manx, G50 and 7R engines are balanced. (Incidentally the Norton International engines had their crankshafts balanced to 70% and not 80.) However Doug would not recommend a figure higher than 70% because of the greater distance the main bearings are apart compared with the much shorter distance which separates these bearings in a single cylinder engine, and a higher factor on a wide crank assembly for a twin would be likely to contribute to a flexing of the assembly at high rpm. As I understand it there should not be a mechanical reason why the 750cc Atlas engine should vibrate more than its 650cc counterpart. I would doubt if the hollow crown 7.3:1 Atlas pistons weigh appreciably more than the almost 9:1 pistons in the smaller engine.