

THE CHRONOS WHEEL CUTTING ENGINE

INSTRUCTIONS FOR USE

The Chronos Wheel Cutting Engine has been produced to meet the needs of clockmakers and repairers who require to cut new or replacement brass wheels from a very small diameter (according to the ingenuity of the user) up to a maximum of 6.5ins. As well as normal toothed wheels it is capable of cutting locking wheels, striking racks, snails and many other components.

CONSTRUCTION

The machine as supplied comprises a steel frame mounted on tripod feet which are intended to be bolted down to a firm baseboard or bench. Between the main frame members, a steel centre arbor carries a thick steel division plate, which is indexed by a leaf spring detent arm.

The upper frame member carries a substantial cross slide which is adjustable for depth of cut by means of a calibrated feedscrew. On the cross slide is mounted the vertical slide which is moved up and down by the operating handle during the cutting operation and to this vertical slide is fitted the cutter frame which carries the cutter. The vertical slide may also be moved sideways with respect to the wheel being cut by means of transverse slide to enable the cutter to be centred or offset with respect to the wheel.

The wheel blank being cut is mounted on a centre spindle between two wheel clamps and held tightly in place by means of upper and lower locknuts.

SETTING UP

Ensure that the machine is firmly bolted down to a suitable heavy base (minimum thickness 0.5ins) by means of the nuts and washers provided. Arrange for the driving motor to be mounted to the rear (feed screw end) of the machine with its spindle horizontal and in line with the pulley on the cutter spindle.

Drive to the cutter spindle is by means of 0.125in diameter plastic belt and the motor pulley should be chosen to give a cutter speed of some 6000-8000 r.p.m.

The motor should be rated at least 1/20th H.P and the direction of the rotation should be clockwise when viewed from the operating handle of the machine.

For a 1425 r.p.m. motor, a suitable pulley size would be 3.5 to 4ins. Pulley sizes for other motor speeds may be calculated proportionately. The plastic belt provided has sufficient elasticity to make the use of belt tensioners and countershafts unnecessary, although it is advisable to keep a number of belts of varying lengths made up to cater for different requirements.