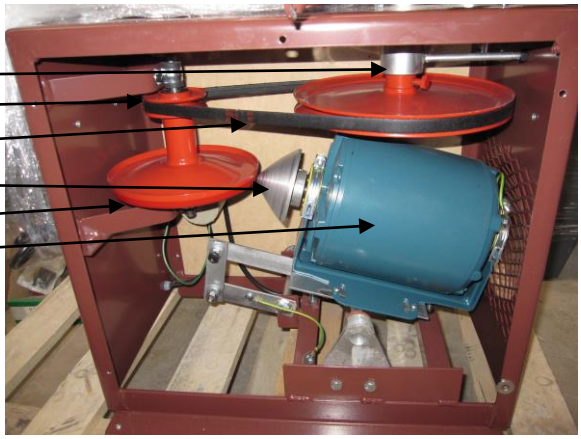
POTTERYCRAFTS LIMITED

OPERATING MANUAL

Cowley Double Drive P6340 and Cowley Traditional P6341

DESCRIPTION

wheel shaft
Small pulley
V belt
cone
drive ring
motor



Registered in England and Wales No 2354827
Campbell Road - Stoke on Trent, ST4 4ET - United Kingdom
Tel: +44 (0)1782 745000 - Fax: +44 (0)1782 746000 - web: www.potterycrafts.co.uk

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INTRODUCTION

Cowley wheels use the ring/cone friction drive system; power is transferred from the motor by a cone that moves against a drive ring. The cone rotates at a constant speed, but the tip rotates at a slower speed than the base of the cone. When the tip of the cone is touching the drive ring it rotates slowly, as the cone is moved bringing the wider bottom edge of the cone into contact with the drive ring it rotates at progressively faster speeds.

The V belt from the small pulley to the large pulley under the wheelhead increases the torque and isolates vibration from the first part of the drive.

The cone is operated by a foot pedal that is tensioned to hold its position when you remove your foot from the pedal at the desired speed. A hand lever is attached to the pedal for people who prefer this method of control and for standing at the wheel when producing very tall pots. The hand lever can be unscrewed if not required.

The illustration of the motor above is a Cowley Double Drive, the motor in the Cowley Traditional is the same and these instructions apply to both wheels.

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CAUTION

- **Before using check that your electrical supply is suitable for the wheel, the wheel requires a 230v 50hz supply and operates off a standard UK three pin socket.**
- **Do not use a hose to clean the wheel.**
- **Avoid splashing water in such a way that it might get inside the wheel.**
- **Do not over-fill the wheel tray, water could flow down the shaft.**
- **Ensure that the power hose does not present a trip hazard.**
- **Check that the cable and plug are correctly wired, in good condition and fused with a 13amp fuse.**
- **Ensure that the foot pedal is always in the stop position when the motor is turned off and when transporting or moving the wheel tie back the foot pedal, this will prevent the cone pressing on the drive ring.**

OPERATING YOUR COWLEY WHEEL

Attach the seat to the wheel by unscrewing the top screw on the side panels and place the seat strut so that the screw passes through the hole in the seat strut and the side panel, screw in tight to retain the seat and the side panel. Check with a spirit level that the wheelhead is level.

Plug in and switch on the wheel with the power switch on the right hand side, rotate the switch forward for anticlockwise rotation of the wheelhead or switch back towards you for clockwise rotation. If switching

between clockwise and anticlockwise first move the switch to the central off position and wait for a few seconds until you hear the centrifugal clutch stop before switching. If you switch too fast, the wheel will continue rotating in the same direction.

Press the foot pedal or the hand lever forwards to start the wheel, the more the pedal moves the faster the speed. The speed will be retained if you remove your foot from the pedal. If you do not require the hand lever, it can simply be unscrewed.

SPECIFICATIONS

Motor: 0.5 hp 0.37kW
Power supply: 13amp 3kW domestic three pin socket.
Speed: 0 to 240 rpm.
Wheelhead: Aluminium 280mm
Reverse switch, clockwise/anticlockwise
Maximum centering weight: 20kgs.
Width:510mm
Length: 700mm (1050mm with seat attached)
Height: 580mm
Weight: 45kgs

OPTIONAL EXTRAS

P6371/8 Easy-lift wheelhead
Spare seat to convert to TUTOR model.

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MAINTENANCE

Bearings

Bearings are sealed for life and do not need any greasing. All ballrace bearings are rubber sealed, the main shaft pair are reference: 62032RS. If the main wheelhead shaft is noisy, it is usually the top bearing only. To remove the main spindle housing you will have to remove the motor. Take both side panels off; remove the clips from around the resilient mounts beneath the cone and at the back of the motor. This is easily done with a long Phillips screwdriver. PLEASE NOTE. You will have to remove the M5 nut holding the earth wire on the back clip first; a long nut driver is needed for this operation. After removing the clips swing the motor to a horizontal position and it will clear the underside of the large pulley. Do not unwire the motor, just remove the insulation tape tying the cable to the aluminium bracket, lift the motor out and place it next to the wheel on the bench. The main spindle assembly can now be removed. After replacing the bearings refit the assembly and adjust the V-belt tension before tightening the three retaining bolts. The smaller bearings on the small pulley assembly are well away from moisture and are unlikely to need replacing; they are 62012RS.

Ring Replacement

Over time, the drive ring may need replacing as they can harden and become rough with wear making the wheel very noisy. To replace remove the left hand side panel (the plain side) with an allen key. Remove the four screws holding the saddle clips. Remove the pulley. Place the pulley end in a vice and flip the old ring off with a small screwdriver. Stretch the new

ring on by fitting from the front and stretching on with your two thumbs from the inside. Fit the pulley assembly back in with the saddles and allen head cap screws, try to seat it in the position it was originally. By sliding the pulley down slightly you can achieve a little more pressure on the drive. This can be obtained by undoing the screws slightly and levering the pulley downwards with a screwdriver placed between the top bearing and the frame. Make sure that you do not lever on the pulley. NB Make sure the V-belt is fitted under the small pulley before fitting the pulley.

Increasing Drive Pressure

You can achieve a heavier drive by loosening the cone screw and levering the cone forward slightly. This will change the accuracy of the radius slightly but not enough to upset the mechanism. If the drive is set fairly heavily over time the rubber mounts on the pulley and motor will allow the drive to settle to its own tension.

Wheelhead Removal.

The wheelhead fits over the drive shaft which has a locating pin projecting from one side the wheelhead sleeve has a vertical slot which fits over the pin holding it in position. To remove the wheelhead lift upwards, if the wheelhead has not been removed for some time it might seize so considerable upwards force may be needed. Remove the wheelhead frequently, make sure the shaft and inside the wheelhead sleeve are clean and apply a small amount of WD40 or similar to prevent corrosion.

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Foot pedal

The correct tension on the foot pedal alloy the speed to be maintained when the foot is removed from the pedal. The tension can be adjusted by tightening or loosening the locknuts on the top and bottom of the linkage slightly. If the linkage is removed completely remember when re-fitting the order of parts is: fibre washer, linkage, spring washer, flat washer, nuts. When not powered up the foot pedal must not be pressed as this can damage the drive ring.

On/Off/Reversing Switch

The switch on the right hand side panel is power off in the upright position, the forward position marked FWD starts the wheel in an anti-clockwise direction, reverse marked RVS starts the wheel in a clockwise direction. To change direction you must first move the switch to the off position and wait a few seconds for the centrifugal clutch to disengage, you can hear it wiring then stop, then move the switch to the new direction. If you switch too fast the wheel will just continue in the original direction.

Motor

If the motor fails to work, check the overload switch first. This can be reset through the mesh at the wheelhead end of the motor. Check for damage to cable, plug connections and plug fuse. If the motor hums and gradually starts in either direction the fault will be in the centrifugal switch inside the motor. The contacts should be touching when the motor is stopped so that the start windings are powered initially when the motor is

turned on. At about mid revs the start windings disconnect and the run windings are brought into operation. You can tweak the contacts a little closer and make sure they are in contact when they should be.

Wheel Tray

Ensure that excess water does not build up in the wheeltray to avoid it flooding over the moulding and into the motor. The tray can be removed by unscrewing the four screws, remove the wheelhead before lifting the tray clear. It is worth doing this occasionally to ensure that there are no deposits of water under the tray which can over time cause rusting on the frame. Never lift the wheel by the tray, always use the lifting handles provided.

KS. 31/1/2018

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