

Installation, Maintenance, Operation

Get the best out of your planer

Read these instructions carefully, study the Planer illustrations, note the names of the parts and controls. Follow on by reading the notes on installation, maintenance and operation and you will get good work from your PR11.

ALWAYS KEEP THE BLADES SHARP

POWER

A motor of 1/4 or 1/3 h.p., running at 2,850 r.p.m., in conjunction with a motor pulley of 3 1/4" overall diameter will prove satisfactory for general work.

Alternatively, a motor of 1/3 or 1/2 h.p., running at 1,425 r.p.m. can be used with a pulley of 6.5/8" diameter.

I N S T A L L A T I O N

A bench of the type illustrated (see Fig.2) arranged with motor mounted on a shelf beneath the planer and fitted with a chute to protect the motor, will conveniently dispose of chips and wood dust.

The bench top should be not less than 18" wide x 24" long, and preferably 1" thick. A height of 30" to bench top will be found suitable for operators of average height.

MOUNTING THE PLANER

- (1) Mark out and drill 3/8" holes for fixing bolts.
- (2) Cut a rectangular hole in the bench top 5" wide and 9" long to permit easy clearance of chips down the chute.
- (3) Make sure that the table surface is flat; if not it will be necessary to use packing shims to prevent distortion of the Planer Base.

THE MOTOR

- (1) Check the supply details given on the motor plate with those on the supply meter before commencing the installation of motor.

NOTE : The MYFORD PLANER requires a 1/4 or 1/3 h.p. motor of 2,850 r.p.m. speed, which must be used in conjunction with a pulley of 3.1/4" diameter to obtain correct rotor speed.

An alternative is a 1/3 or 1/2 h.p. motor of 1,425 r.p.m. speed, in which case the pulley size should be 6.5/8" diameter.

CAUTION : Be sure that you use the correct pulley sizes and make certain that the 6.5/8" diameter pulley is only fitted to a 1,425 r.p.m. motor.

- (2) Place the motor on the shelf, put the belt over the pulleys and slide the motor into position where the pulleys are in true alignment. The fixing holes can then be marked out, drilled and the motor secured.

IMPORTANT : The belt tensioning should be adjusted to a degree of tightness that will prevent belt slip. Over-tension causes an unnecessary load to the bearings.

- (3) The machine rotor should rotate in an anti-clockwise direction when viewed from the pulley end. This should be checked before operating the Planer.

The direction of rotation of single phase motors can usually be changed by reversing the connections of the starting windings relative to the running windings; where this is possible, instructions are normally given on the terminal box cover. Three phase motors are reversed by changing over any two of the three leads from the mains.

CONTROLS

- (1) The inclined knob below the front (in-feed) table controls the depth of cut.
- (2) The rear (out-feed) table has a similar adjustment. It is normally set level with the cutter blade when the cutting edge is at the top dead centre. The table is lowered when chamfering between a set measurement; both tables are adjusted to the same level according to the depth of chamfer.
- (3) The knob underneath the front table below the graduated fence guide bar locks the fence in its required position.
- (4) A graduated trunnion at the rear of the fence enables a tilt of 45° either side of zero. The fence is easily released by slackening one nut.

M A I N T E N A N C E

LUBRICATION (use a light machine oil)

- (1) The spindle bearings are of a taper-roller type and should be lubricated at regular intervals through the oil nipples provided in each end of the spindle.
- (2) Table adjustment screws and slides should be oiled at regular intervals.
- (3) The graduated shaft which carries the fence and guards, also the vertical guard shaft, should be oiled occasionally.

KEEP THE BLADES OF YOUR PLANER SHARP

The Planer works better, and faster, and is far safer when the cutting edges are sharp.

When the work looks ragged, when it requires an effort to feed through, it is time to sharpen the blades.

Unless the edges have been damaged a light honing with a flat oil stone or slip stone, of medium grade, is all that is required. (See honing blades.)

ADJUSTING THE ROTOR BLADES

Before honing, it is wise to check that the blades are all equal in height and level with the vertical edge of the rear table.

For this operation the rear table should be set level with the tip of the blades.

To adjust, see the following notes on inserting blades.

INSERTING THE ROTOR BLADES

- (1) Carefully clean out the slots in the rotor.
- (2) Assemble the blade on the blade carrier and insert in the rotor slot, with the carrier nearest to the front table, as viewed from above.

Adjust the blades so that they project beyond the rotor and are exactly in line with the edge of the rear table, otherwise accurate rebating will not be possible.
- (3) Partly tighten the adjustment by the four locking screws and set each blade to the exact rear table height by means of the two jack screws fitted to the blade carrier, which are for the purpose of setting the blade height.
- (4) Place a straight edge, or rule, on the table to check blade adjustment (Fig.3).
- (5) Revolve the rotor by hand and adjust each blade to touch the rule; check that the side adjustment is correct and then tightly lock each blade assembly by means of the blade locking screws.

HONING BLADES

- (1) Make sure that the blades are aligned correctly, as described above.
- (2) Lower the front table so that when the rotor is turned by hand, the bevel of the cutter is level and is in alignment with the front table.

The best plan is to put the straight edge on the front table to overhang the rotor and raise or lower the front table until the straight edge beds exactly on the bevel of the cutter. The latter will, of course, have passed its maximum height and be pointing forward, as in Fig.4.

- (3) Now wrap a piece of paper around a flat oil stone to prevent scratching the table, and rub down the high parts, as shown in Fig.4. It is important that the stone is kept down flat and that the cutter is not moved. All that is required is a slight upward pressure to keep the cutter up to the stone, and this can be done by keeping the left hand on the pulley wheel and pressing lightly backwards. Each knife can be tested without altering the set-up by using the straight edge from the back table. The advantage of this method is that the correct sharpening bevel is maintained and there is an angle of clearance on the cutters. Apart from correcting any slight difference between the cutters, this method can be used for occasional sharpening, providing that the cutters are not really blunt.

GRINDING

Where blades need grinding, they will require removing from the rotor, and we recommend that they are ground by a specialist. If the edges are nicked, or otherwise severely damaged, it will be necessary to fit a replacement set of blades. It is advisable to keep a spare set of blades on hand and so avoid inconvenience by an idle machine.

REMOVING THE ROTOR

- (1) Remove the vee belt from the motor pulley.
- (2) Remove the guard complete with its vertical shaft.
- (3) Remove limit stop washer from the graduated shaft carrying fence and withdraw shaft complete with fence and rear guard.
- (4) Protect rotor by wrapping with strong paper which can be conveniently secured by plastic or gummed tape.
- (5) Remove near side round slotted adjusting screw and locking screw at side (safety set screw, socket head). Repeat for far side.
- (6) Remove near side oil nipple and insert 2BA screw; withdraw trunnion by means of screw. Repeat for far side.

NB : Support rotor whilst withdrawing trunnions.

- (7) Lift out rotor complete with vee belt.

O P E R A T I O N

PLANING

The full capacity of the blades to plane wood 5" wide can be used without removing either guards or fence.

Before planing, ensure that the rotor guards are in position, leaving just sufficient room to clear the timber.

Commence planing by first controlling the work with both hands at the front table end, the left hand applying downward pressure, and proceed by feeding towards the rear table. As soon as the work is well over the rear table, the left hand is transferred to the rear table, and as the right hand approaches the rotor guard, it also must be transferred to the rear table.

Always plane with the grain and should the direction change reduce the rate of feed; take light successive cuts, where necessary.

IMPORTANT : The hands should NEVER be passed directly over the blades.
A pusher stick should be used when planing boards under 1/2" thick.

JOINTING

Maintain even pressure along both fence and table, and feed at uniform speed. Where the ends require jointing, take very shallow cuts, plane the ends first, then the sides, leaving surfacing to the last.

The fence is provided with holes to enable an auxiliary wooden fence to be attached to help when planing large boards and when taking end cuts (Fig.5).

REBATING

This operation is only possible with the front guard removed and, consequently, care must be taken. The principle of the hand NEVER passing over the rotor is a very important safety factor.

The fence is brought forward until the distance from the near edge of blade and table is the same as the desired width of the rebate.

The maximum rebate depth is 1/2" and, whilst this can be taken in one cut if the rebate width is not too great, better finishes are achieved by taking successive roughing cuts and a light finishing cut. Feed the work slowly for a good finish.

BEVELS AND CHAMFERS

Lock the fence at the desired angle of tilt and use the guards when possible.

The method of inward tilt of the fence (Fig.6) is easier and safer than using a tilt exceeding 90° relative to the table.

TAPER CUTTING

The maximum taper which can be obtained in one cut is 10" long. Should longer tapers be required, a light finishing cut will extend the taper the full length of the work.

Proceed by lowering the front table about 1/32" less than the depth of the desired taper. Make a taper cut by positioning the work so that the leading edge will fall on the rear table. On completion, raise the table and take light finishing cut the full length of the stock.

Long tapers must be divided into a number of equal parts, each slightly less than the length of the front table. The depth of cut must be divided to correspond. An example would be a 16" board to be tapered 1/2". The rear 8" section of the work would be tapered by lowering the front table 1/4"; the second cut would be started at the front of the work and proceed right through the full length of 16" to complete the taper.

Short tapers can be cut by making and attaching a template. The taper is cut by pulling the work over the blades. Several cuts should be taken if the angle of taper is steep.

S A F E T Y N O T E S & O P E R A T I N G S U G G E S T I O N S

1. Make sure that the guards are securely fitted.
2. Look over the stock for nails, loose knots, etc. BEFORE machining.
3. Use pusher stick when feeding thin stock.
4. NEVER pass your hand over the cutter head, feed with the right hand and take the work over with the left hand.
5. Do not make adjustments whilst the machine is running.
6. Check the cutter blades periodically to make sure that they are in correct alignment and that the screws are tight.
7. A slow rate of feed and slender cut will give an excellent, smooth finish.
8. Keep all bright surfaces clean. The tables and fence are precision ground to ensure highly finished surfaces.

The working faces should be cleaned after use and protected by some form of cover. Where the machine is housed in a workshop inclined to dampness, a sheet of V.P.I. paper will give excellent protection against rust.

NOTE : In Figs. 5 & 6, the front guard has been removed for illustrative purposes only.