



BROOK CROMPTON BETTS
21 HANMER RD REVESBY 774 0146

DURDEN "PACEMAKER"® UNIVERSAL WOODWORKER

CAMPBELLTOWN
046 605.9266

MODELS UP10-600 — UP12-600

Reg. Design
No. 66571

OPERATING INSTRUCTIONS AND PARTS LIST

The batch number of your Pacemaker is stamped on the machined face of the Body Casting (Planer side). Always mention this batch number when communicating with us regarding your Pacemaker or when ordering parts.

HOW TO ORDER REPAIR PARTS

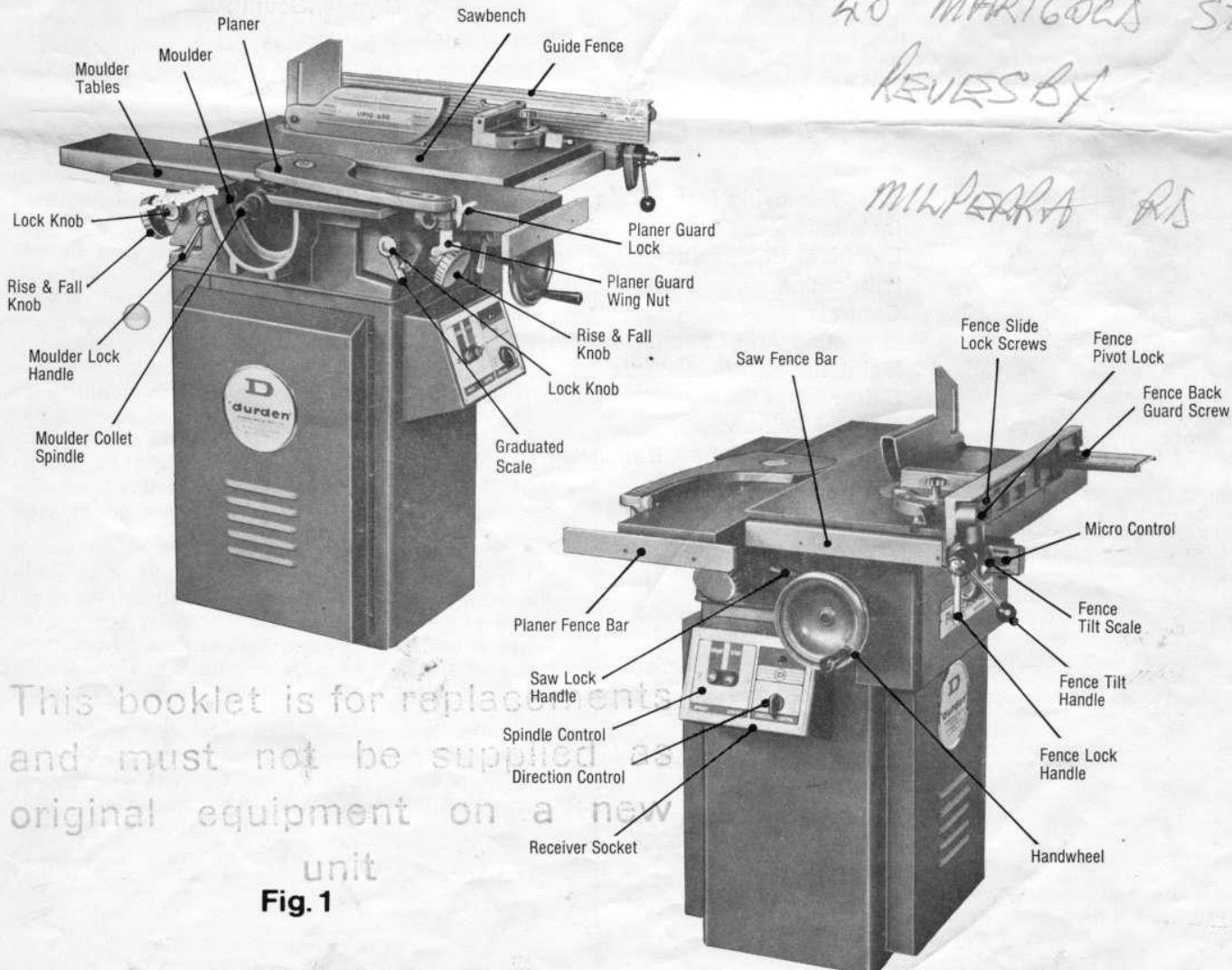
When ordering repair parts always give the following information as shown in this list.

- | | |
|------------------------------|--------------------------|
| 1. THE PART NUMBER | 4. THE NAME AND MODEL OF |
| 2. THE PART NAME | ITEM: PACEMAKER UP10-600 |
| 3. THE BATCH NUMBER UPX..... | OR UP12-600 |

PETER HAYWARD

FOR YOUR OWN INTEREST AND PROTECTION READ THIS BOOKLET THOROUGHLY — REMOVE GUARANTEE REGISTRATION FROM THIS BOOKLET, FILL IN, AND POST WITHIN 7 DAYS.

IMPORTANT: It is expressly intended that only those Pacemaker models having a twin vee belt drive and an electric motor of 1½ H.P. or larger be fitted with a 12" diameter saw blade. The fitting of a blade larger than 10" diameter to any model having less than 1½ H.P. motor will completely void all guarantees.



Foreword from the Makers.

As the owner of a "Pacemaker Woodworker" you will be interested to know that you have purchased a machine that has been developed over many years to meet the needs of the home owner, small tradesman and professional craftsman and many of the features incorporated in the "Pacemaker" are the direct result of suggestions made by owners over the years.

The first "Pacemaker" was produced by us in 1952 and proved an immediate success. This model is easily recognised by the two round bars used to support the tables. Then in April 1954 a new model was introduced incorporating in place of the round bars, a vee slide table support and this model was also fitted with the new all angle sliding fence which was used unchanged right up to the advent of the present UP10-600 machines. In January, 1956 we introduced a later production featuring a longer planer with manual adjustment on the rear table. This was the last of the "Pacemaker" models having the "Unilever" handle for all table height adjustments and production of these continued until the end of 1956. January, 1957 saw the introduction of the first "Pacemaker" with the handwheel control for all table adjustments and this was also the first model to incorporate a 6" inch wide planer (all previous models having a 4½" planer). During 1957 we produced this handwheel model with optional 4½" or 6" planer but subsequent demand did not warrant continuation of the 4½" version and it was discontinued. In January, 1967 the "Pacemaker" model SP10-600 was released and this unit while still having the single handwheel at the front, is identified by the wider saw table with a 5/8 inch mitre track and the larger indexing type mitre quadrant. This was the last model change prior to the introduction of the UP10-600 "Pacemaker" in March, 1975.

We feel sure that given the care and attention it deserves your "Pacemaker" will give many years of safe, reliable and accurate work and repay you many times for your outlay.

In compiling the information in the following pages, we have assumed throughout that the operator is new to the processes of wood machining, but we feel also that to the skilled tradesman the information given will prove profitable. Should you have any suggestions which you feel would improve our product in any way, we would be very pleased to hear about them.

Yours faithfully

DURDEN MACHINERY CO.

3 Provident Avenue

Glynde, South Australia 5070

Barry Storer
Storer

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AFTER REMOVING FROM CRATE

To prevent damage in transit some of the parts were dismantled from the machine. These parts are listed below. Be sure they are all accounted for before discarding any of the packing materials. The following parts are all contained in a carton attached inside the lower front section of the crate:—

1. Back Planer Table complete with two 5/16" whit. Set Screws and Washers.
2. Planer Fence Bar.
3. Saw Fence Bar.
4. Fence Bar Spacers (4 off).
5. 1/4" whit. H.H. Set Screws 1 1/2" long and Washers (4 off).
6. Fence.
7. Fence Block Assembly.
8. Saw Guard and Splitter.
9. Planer Guard.
10. Mitre Quadrant.

In a parcel attached to the saw table top:—

- 1 only Saw Blade.

Enclosed with the Instruction Book:—

1. Moulder Collet Wrench.
2. Spindle Holding Bar.

ASSEMBLY (Figs. 1, A, B, D.)

1. Wipe clean the mating face of both the Back Planer Table No. 124 and the Planer Adjustment Casting (upper) No. 99 before placing the Back Planer Table into its position on the machine. Using the two 5/16" whit. set screws and washers tighten the table down making sure that the gap between the side of the Back Planer Table No. 124 and the adjoining Saw Table No. 53 is parallel and measures approx. 1/32" in width.

CAUTION

After refitting the Planer Table carefully rotate the spindle by hand to ensure that nothing is fouling.

2. Fit the Saw Fence Bar No. 54 and Planer Fence Bar No. 129 to the front of the tables by locating the Fence Bar Spacers No. 55 and 128 into their respective sockets in both the machine tables and Fence Bars. Insert the 1/4" whit. H.H. set screws and washers through from the tables into the Fence Bars and tighten. (See Graduated Fence Bars for correct scale readings under Maintenance Adjustments Section.)

3. Place the Saw Blade on the spindle. (Refer to Changing Saw Blades in the Operating Adjustments Section.)

4. Place the Fence Block Assembly on the Saw Fence Bar No. 54 and tighten the Fence Lock Handle. Fit the fence into position on the Fence Tilt Casting No. 256 and align its face parallel with the mitre track in the Saw Table. Finally tighten the Fence Pivot Lock.

5. Fit the Saw Guard and Splitter using the two 5/16" whit. set screws and washers retained in the Splitter Bracket No. 38. (See Fitting and Removal of Saw Guard under Operating Adjustments Section.)

6. Place Planer Guard on Planer Guard Support Peg No. 134. (See Removal of Planer Guard under Operating Adjustments Section.)

7. Place the Mitre Quadrant on the Saw Table and re-arrange the stop rods as follows:—

- (a) Unscrew the chrome lock knob and release the unthreaded clamping piece. Using a screw driver remove the 3/16" round head screw and release the threaded clamping piece. The round head screw and nut can now be discarded.
- (b) Assemble the rod clamps by inserting the chrome lock knob through the unthreaded clamping piece and screw it into the threaded clamping piece a couple of turns.
- (c) Insert each of the two chrome stop rods into the receiver holes formed by the two clamping pieces and then tighten the chrome lock knob until the clamp grips the rods.
- (d) This whole assembly can now be attached to the appropriate side of the Mitre Quadrant by inserting the straight rod into the 5/16" receiver hole and tensioning the grub screw in the Mitre Quadrant Body using the hexagon key supplied.

NOTE

It is usual to fit the rods to the right hand side of the Mitre Quadrant when the Quadrant is used on a machine having a mitre track to the right of the Saw Blade and vice versa if the machine has a left hand track.

INSTALLATION

In most cases it is not necessary to fix the "Pacemaker" to the floor. However if the machine is to be used in a joinery shop or workshop where it will not be subject to any shifting about, then

it can be bolted down by means of four 3/8" bolts. Provision for these are made in the lower base portion of the unit.

If it is desired to move the "Pacemaker" from one place to another on the workshop floor, provision to fit wheels has also been made. Refer to "Accessories" Section.

ELECTRICAL EQUIPMENT (Fig. 1)

Your "Pacemaker" is fitted with a totally enclosed fan cooled electric motor and is controlled by a Direction Control Switch wired in conjunction with a Spindle Control press button overload release switch. The housing containing these switches incorporates a receiver socket to accept a 3 pin 240 volt extension lead which can then be plugged into the normal domestic power point. Avoid using long extension cords where possible as these cause considerable loss of voltage resulting in decreased h.p. especially when using the saw bench.

NOTE

If your Pacemaker is fitted with a 415 volt 3 phase electric motor the switch box will not contain the 3 pin receiver socket mentioned above but in its place will be a removable closure plate. It is intended that your electrician will make an opening hole in this closure plate just large enough to allow the necessary wiring to enter the Switch Box. An indicator light is fitted to the electrical control panel and this will light up when the Direction Control Switch is moved from the "off" position. When the indicator light is illuminated the motor will start the moment the Spindle Control button is operated.

CAUTION

Always disconnect the machine from the electrical supply before dismantling any part of the "Pacemaker" switch box. The fact that the indicator light is off should not be taken to mean that the electrical supply has been isolated.

LUBRICATION (Figs. A, B, D.)

THE MAIN SPINDLE BEARINGS are of the deep groove type and have been pre-packed with grease at assembly. However after 500 hours of use the bearings should be repacked to maintain long working life. To do this carry out the following procedure.

Remove the Under Saw Guard No. 81 (See Maintenance Adjustments Section) and remove also the Under Saw Baffle No. 52. Unscrew the two 5/32" screws visible on the Large Bearing Housing No. 197 and prise out the Large Bearing Cap No. 193. Thumb into the bearing a lithium base E.P. Grease (do not over-grease as excessive heat may be generated). Replace the Bearing Cap, screws, Under Saw Baffle and Under Saw Guard.

Using a suitable grease gun pump the same type of grease into the Small Bearing Housing No. 182 via the grease nipple fitted to its underside. The Moulder Bracket No. 156 will need to be removed and again the bearing should not be overgreased.

RISE AND FALL MECHANISMS

The lubrication of these parts is best carried out with a pressure oil can containing a light grade machine oil. With the Undersaw Guard No. 81 removed (See Maintenance Adjustments Section) place a few drops of oil in the hole provided in the boss of the Rise and Fall Sector No. 46 and a few drops on the teeth of this part as well. Oil the bearing surfaces of the Rise and Fall Slide No. 2 the Con Rod Stud No. 37 and the Sector Stud No. 48.

The Handwheel Bush No. 14 is fitted with self lubrication bushes and should not need oiling.

With the front planer table set on "zero" on the depth of cut scale place a few drops of oil down through the four holes in the planer tables to lubricate the rise and fall components situated underneath. Occasionally apply oil to the mitre track in the saw table, the tilting mechanism of the guide fence and to the sliding parts of the saw guard where necessary.

CAUTION

Do not oil that area of the Fence Bars Nos. 54 and 129 that comes in contact with the Fence Fine Adjustment Rubber No. 283 and avoid getting oil on the rubber itself otherwise the operation of the Fence Micro adjustment will be impaired.

AUTOMATIC GUARD

Normally this item will not require lubrication, but should it show a tendency to jam instead of lifting, see that the front vertical face of the Splitter No. 90 is free of paint and then apply a drop of oil to this face.

CONTROLS

SAW BENCH (Fig. 1)

The Handwheel is used to position the saw table height in relation to the saw blade. The Saw Lock Handle locks the saw table slide and no attempt should be made to operate the handwheel while this lock is engaged.

PLANER (Fig. 1)

The Rise and Fall Knobs are used to position the table surfaces in relation to the cutting line of the blades. The graduated scale fitted to the Front Planer Table indicates the depth of cut. The Lock Knobs lock the tables in any position on the scale. The Planer Guard Lock is pushed forward to prevent the guard from opening or is drawn full back when automatic guard operation is required. The Planer Guard Wing Nut is loosened to remove the Planer Guard when necessary.

MOULDER (Fig. 1)

The Planer Rise and Fall Knob is used to position the Moulder Tables in relation to the Moulder Collet Spindle and the Graduated Scale on the planer can be referred to for moulding operations. The Moulder Lock is used to lock the moulding tables prior to any moulding work being performed and it is quite important that this lock be released before any attempt is made to operate the Planer Rise and Fall Knob.

FENCE (Fig. 1)

The Fence Lock Handle locks the whole fence assembly to the fence bars while the Fence Tilt Handle enables the fence to be tilted over to any angle shown on the Fence Tilt Scale. The Fence Pivot Lock allows the fence to be aligned to an angle across the table while the Fence Slide Lock Screws are loosened when it is required to draw the fence back for rip sawing work. The Fence Back Guard Screw can be locked to contain the length of the back guard where necessary. The Micro Control will move the whole fence assembly along either fence bar providing the Fence Lock Handle is loosened.

OPERATING ADJUSTMENTS

TABLE INSERT (Fig. 2)

To remove Saw Table Insert push it in a downward direction at its rear end (a sharp tap with a closed hand will suffice). To replace the insert lower the rear end down into position first and while exerting a pressure towards the rear, click the front down flush with the table top.

NOTE

It is not necessary to remove the automatic saw guard in order to remove the insert. Simply lift the guard, fold it back over the splitter and after the insert is removed slide it as far as it will go to the rear.



Figure 2

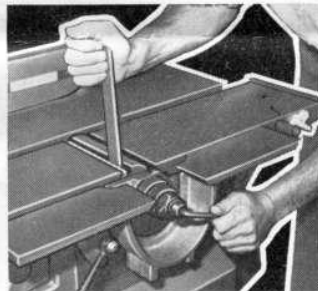


Figure 3

SPINDLE HOLDING BAR (Fig. 3)

This bar is intended for use in the fitting or removing of saw blades, boring bits, etc. Use as follows: Insert the bar into any one of the slots in the planer cutterhead and by rotating the spindle the bar can be brought into contact with the appropriate planer table edge so as to resist the applied spanner pressure when the saw or collet nuts are tightened or loosened.

CHANGING SAW BLADES

Remove the table insert and using the Spindle Holding Bar remove the saw nut with a 1/2" whit. open ended spanner. To replace the saw blade reverse the foregoing procedure making sure that both the saw collars are perfectly clean and free from all sawdust, grit etc. and apply the same treatment to the area of saw blade which comes in contact with these collars. Teeth at the top of the blade must face toward the front of the machine and the hollowed out section of the collar must go against the blade and the blade must engage the saw driving pin.

FITTING AND REMOVAL OF SAW GUARD AND SPLITTER

To remove the automatic guard first remove the table insert as detailed in para 1 of this section then remove the two 5/16" set screws holding the splitter to the splitter bracket and lift the guard and splitter as a unit from the machine.

To remove the "Hood" type saw guard raise the saw table and using a 1/4" whit. spanner remove the two nuts from the bottom of the saw guard arm and lift the complete guard assembly from the machine. The splitter can then be removed by taking out the table insert as detailed in para 1 of this section and using a 1/4" whit. spanner take out the two set screws holding the splitter to the splitter bracket.

REMOVAL OF PLANER GUARD

Loosen the wing nut and slide the guard off its support peg. When replacing the guard hold it up so that it is slightly off the surface of the front planer table prior to tightening the wing nut. This will ensure that the guard does not drag on the table when operated through its travel.

REMOVAL AND REFITTING OF MOULDER COLLET SPINDLE (Fig. 3)

To remove the Moulder Collet Spindle insert the Spindle Holding Bar in the planer cutter head and using the moulder collet wrench engage the moulder collet cap screw by inserting the wrench in through the 1/2" bore of the moulder collet spindle and remove the cap screw (right hand thread). The moulder collet spindle can now be gently with-drawn from its locating spigot. Care should be exercised not to exert pressure unduly in a sideways direction when removing this spindle, keep the main removal pressure along the axis of the main machine spindle. Should the moulder collet spindle be accidentally jammed on its spigot during removal then re-insert the moulder collet cap screw and tighten to bring the moulder collet spindle back to its correct alignment. If very severe jamming has occurred a light tap in the appropriate place with a wooden mallet on the flange of the moulder collet spindle should bring it back to its free position. To replace the moulder collet spindle simply reverse the above procedure taking care to see that the driving slots in the moulder collet spindle engage with the driving pins in the moulder driving dog.

NOTE

The trueness of the moulder collet spindle is entirely dependent on the spigot diameters and the locating faces. Be very sure these are quite free of any saw dust grit etc., when the refitting procedure is carried out.

GUIDE FENCE (Fig. 1, D)

Will tilt in either direction by loosening the Fence Tilt Handle and reading the angle from the Fence Tilt Scale. When tilting to the left the fence should be lifted to assist it to rise up in its guide slot as it goes over. (See Saw and Planer Sections for more specific Uses). The fence can be placed on either the Saw Fence Bar or the Planer Fence Bar in the approximate position required and then minutely adjusted by applying thumb pressure to the Micro Control. The Fence Lock Handle when tensioned locks the whole fence assembly to the fence bar.

To shorten or lengthen the fence past the saw blade loosen the two Fence Slide Lock Screws sufficiently to allow the fence to move easily. The fence can be aligned to or pivoted across the table by loosening the Fence Pivot Lock.

The Fence Back Guard can be positioned in either the vertical or horizontal positions depending on where the fence is being used.

NOTE

Should the fence lock mechanism fail to lock the fence to the fence bars check to see that the Fence Lock Pad No. 275 has not inadvertently been dislodged from its locating hole in the end of the Fence Lock Screw No. 276. Should this have happened apply a small amount of grease to the shank of the Fence Lock Pad before replacing it in the Fence Lock Screw.

USING FENCE BACK GUARD TO SUPPORT FENCE (Figs. 4, 5)

During moulding operations this is achieved by raising the saw table sufficiently to allow the Fence Back Guard to be held hard against the side of the saw table while the Fence Back Guard Screw is tightened. This will give the necessary support to the end of the fence. If support of the fence is required during rebating operations we recommend that a wooden frame, as illustrated, be made up and located in the saw table mitre track. The Fence Back Guard can now be adjusted and locked against the side of this frame in the same manner as described in the preceding paragraph.

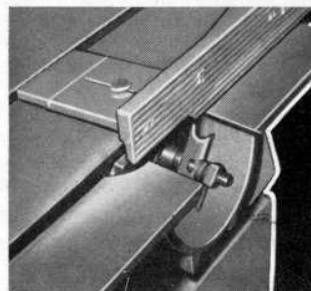


Figure 4

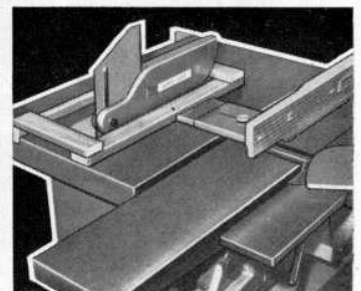


Figure 5

MOULDING TABLES

Moulding Tables can be opened or closed by loosening the holding bolt under each table (refer to the Moulding Section for more detailed use).

MOULDING BRACKET

Moulding Bracket can be removed when necessary by taking out the two holding screws that affix this part to the adjoining planer table. In replacing the Moulder Bracket put the outer screw in first as this will make it easier to engage the other screw. Flush the surface of the Moulder and Planer tables before finally tightening the screws.

MITRE QUADRANT STOP RODS

To set the rods for cross cutting operations loosen the chrome lock knob and position the bent rod so that its bent end will contact the workpiece at the desired point. If necessary reverse the bent rod in the clamp to achieve the maximum cross cutting length and likewise reverse it to a position close to the saw blade for those very short cross cutting operations.

MAINTENANCE ADJUSTMENTS

TO REMOVE THE UNDER SAW GUARD (Figs. 1, A, C)

To remove the Under Saw Guard No. 81 first wind up until the Automatic Guard No. 86 reaches the top of its travel in the Splitter No. 90. If your pacemaker is fitted with the "HOOD" type Guard wind the table up as far as it will go. Take out the six self tapping screws and remove the Base Cover No. 209 from the side of the Base No. 210.

Push the Saw Lock Handle inwards to overcome the spring pressure and while holding it in, unscrew the Main Lock Screw No. 28 until it can be removed from the machine. While supporting its weight remove the Under Saw Guard No. 81 by taking out the four set screws No. 80 that hold it to the underside of the saw tables Nos. 53 and 82. Hold the guard with both hands and tilt it away from the machine and carefully remove it from the Hand-wheel Bush No. 14.

THE SAW TABLE VEE SLIDE (Fig. A)

The Saw Table Vee Slide No. 2 can have any excess play removed by first just barely loosening the two set screws No. 34 that hold the Gib Strip No. 3 to the side of the Body Slide Casting No. 1 and then minutely adjust the two set screws Nos. 11 and 25 that tension the Gib Strip No. 3. Relock the two holding screws No. 34.

THE HANDWHEEL SHAFT (Fig. A)

The Handwheel Shaft No. 12 is adjusted for any excess end play by tightening the set screw No. 17 in the centre of the Handwheel No. 15. It should be tightened just enough to remove the end play and no more, otherwise the wheel will become tight to turn.

RISE AND FALL SECTOR (Fig. A)

Rise and Fall Sector No. 46, the clearance between the Sector teeth and the worm on the handwheel shaft No. 12 can be varied when necessary by loosening the set screws that affix the Handwheel Bracket No. 6 to the Body Slide Casting No. 1 and while keeping an upward pressure on the Handwheel Bracket No. 6 retighten the set screws.

ALIGNING SPLITTER WITH SAW BLADE (Figs. 6, A)

Aligning Splitter with Saw Blade is carried out by first ascertaining that an error is in fact present by placing a steel straight edge against the side of the saw, between the teeth, and observe the difference between the straight edge and the splitter No. 41 then apply the same procedure to the opposite side of the saw blade. Should there be a difference between sides then equal this difference up by first removing the Under Saw Guard No. 81 (refer to this item under Maintenance Adjustments) and loosening the Splitter Bracket No. 38 where it affixes to the rear of the

Body Slide Casting No. 1 so that the Splitter Bracket No. 38 can be moved in the required direction to correct the splitter alignment.

TO ALTER LOCKING HANDLE POSITIONS (Figs. 1, D)

To alter Locking Handle positions proceed as follows. The Saw Lock Handle and the Moulder Lock Handle are repositioned by pushing them inwards and re-engaging the hexagon section. In the case of the Fence Lock Handle and the Lock Handle on the "Hood" type guard (if fitted) it is necessary to undo the handle sufficiently to allow the spring pressure to be overcome so that the hexagon can be re-engaged in the desired position. To alter the locking position of the Fence Tilt Handle place the complete fence assembly on a bench and remove the Fence Lock Screw No. 276 by unwinding the Fence Lock Handle right out. Next unscrew the Fence Tilt Handle No. 273 from the Fence Tilt Lock No. 272 and unscrew the Fence Tilt Lock No. 272 just sufficient to allow the hexagon head on the Fence Lock Sleeve No. 258 to be re-engaged in the desired position with the Fence Sleeve Retainer No. 260 that is situated inside the Fence Block No. 257.

FENCE TILT SCALE (Fig. D)

To adjust the reading of the Fence Tilt Pointer No. 268 in relation to the scale first remove the Fence Lock Screw No. 276 by unwinding the Fence Lock Handle right out. Next unscrew the Fence Tilt Handle No. 273 from the Fence Tilt Lock No. 272 and remove the Fence Tilt Lock No. 272 and the Fence Tilt Lock Washer No. 271 from the Fence Lock Sleeve No. 258. Using a screw driver release the round head screw No. 270 holding the Fence Tilt Pointer No. 268 to the Fence Tilt Spacer No. 267. With a square placed on the saw table hold the Fence face firm against it and the Fence Tilt Pointer should now be rotated slightly to bring about the required correction and the round head screw re-tightened.

GRADUATED FENCE BARS (Figs. A, B)

Graduated Fence Bars are fitted to both the saw and planer and the distance the fence is set to the right of the saw or to the right of the cutting end of the planer blades can be seen by reading those graduations to the left of the fence block. To correct one or either of these readings loosen the set screws Nos. 57 and 127 under the leading edge of the tables and move the fence bar to the left or right as required and relock the holding screws.

THE FENCE BACK GUARD (Fig. D)

The Fence Back Guard can be adjusted to maintain its horizontal position by loosening the two round head screws No. 293 that hold the Leaf Spring No. 292 to the Fence No. 250 and raising or lowering the leaf spring as required prior to relocking the screws.

THE MITRE QUADRANT (Fig. D)

The Mitre Quadrant is adjusted for squareness when necessary by loosening the two screws that pass through the Mitre strip No. 238 and hold the Mitre Index Block No. 242. This block is then moved slightly to correct any error prior to re-tightening the screws.

SLACKNESS IN PLANER RISE AND FALL SLIDES (Fig. B)

Can be corrected by slightly increasing the pressure on the Rubber Tension Bushes No. 103. Using a 1/4" whit. spanner, reach up into the Planer Adjustment Casting Lower No. 100 and minutely tighten the nylon nuts No. 105.

END PLAY IN THE PLANER RISE AND FALL SCREWS (Fig. B)

End play in the Planer Rise and Fall Screws can be eliminated by unlocking the 5/16" grub screw in the boss of the Planer Rise and Fall Knob No. 114 and using a small round bar inserted into the hole in the side of the Planer Thrust Adjuster No. 111. Revolve the adjuster until the end play has been taken up. Relock the grub screw.

TO RESET PLANER BLADES AFTER SHARPENING (Figs. 7, 8, B)

A little extra care in refitting your planer blades will ensure a clean, smooth planing action.

1. Place the first blade in the head so it is just proud of the moulder side of the rear planer table (not more than 1/32").
2. Lift blade, keeping it reasonably level until it measures 1/2" above the surface of the adjoining Bearing Housing No. 182, lightly tension the outer planer head screw, now adjust the

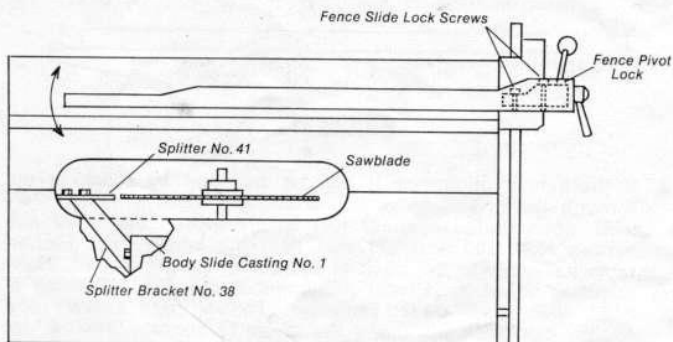


Figure 6

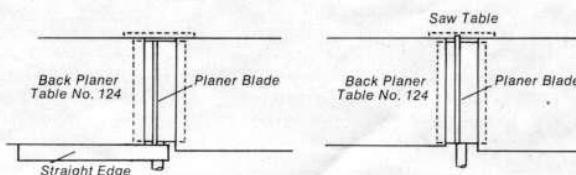


Figure 7

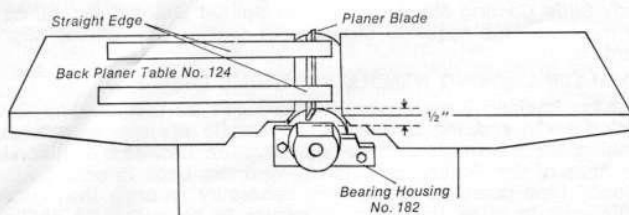


Figure 8

Back Planer Table No. 124 until a straight-edge is just barely scraped by the blade when the planer head is revolved backwards.

3. Move the straight-edge to the saw side of the back planer table and raise or lower that end of the blade until it is just scraping the straight-edge also, tension that side planer head screw.
4. Repeat the same procedure with the other two blades with the exception that one of these blades be set so that it extends slightly under the saw table to ensure that full width planing is achieved.
5. Securely tighten all planer head screws, now that all blades have been individually adjusted, remembering that the two end holding screws were only lightly tensioned while this procedure was carried out.
6. For safety sake check tightness of all holding screws again. The accuracy obtained when resetting planer blades can be greatly increased by the use of the "Durden" Blade Setting Gauge. (Refer to "Accessories Available" Section). Price and details are obtainable from all leading stores.

CROSS LINE-UP AND LONGITUDINAL LINE-UP OF "PACEMAKER" PLANER TABLES

The "Pacemaker" is designed to allow adjustments of its planer tables to ensure that timber pieces can always be produced perfectly straight, no matter how much wear the unit has had, the procedure, should it ever become necessary, is as follows:—

ACCESS PROCEDURE (Fig. C)

Before any adjustments can be made to either alignments the Base Covers No. 209 must be removed from each side of the machine. The Chute Clip No. 213 is now visible midway up the slope of the shaving chute, remove this and the Chute Bottom, No. 210 can now be pushed up and by turning it partly on its side the chute bottom can be withdrawn out through the shaving opening in the Base No. 210. Run the belt off the motor pulley and remove the four 5/16" whit. set screws affixing the Motor Plate No. 223 to the Base No. 210. The motor should be carefully laid to the bottom of the base without restricting the wire coming from the switch area.

CROSS LINE-UP (Figs. 9, B)

1. To check cross line-up of planer tables place a straight edge on the surface of the Back Planer Table No. 124 and lower the table down until the straight-edge just touches the planer cutter head. Move the straight-edge across the table to test that the surface of the back table is in fact parallel with the cutter head right across its width.

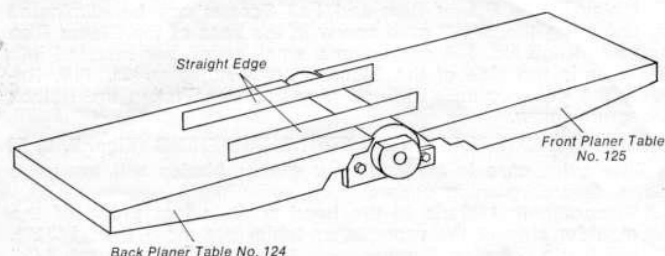


Figure 9

2. Whether an error is apparent or not, wind the table up so that the straight-edge, while still resting on the Back Planer Table No. 124 can be extended out over the surface of the Front Planer Table No. 125 for about 1". Now wind the front table up until a minute light gap is visible under the straight-edge where it extends over the front table and by moving the straight-edge sideways test if there is any variation in the light gap.
3. **Results** — (a) If the first test as in para 1 showed no error but the second test as in para 2 did show an error then the

front table is the offender and this will need adjusting. (See adjusting cross line-up).

(b) If the first test as in para 1 did show an error and the second test as in para 2 did not show any error then no action should be necessary other than to perhaps reset the cutting blades (See "To reset Planer Blades after sharpening".)

(c) If the first test as in para 1 did show an error and the second test as in para 2 also showed an error then the back table should be adjusted. (See adjusting cross line-up) and the tests repeated again to see if in fact the front table might also need some correction.

ADJUSTING CROSS LINE-UP

BACK PLANER TABLE (Figs. 9, B)

1. Using a 1/4" whit. open ended spanner reach up through the underside of the chute body and just barely loosen the three set screws Nos. 120 and 121 that hold the whole table assembly to the back of the Body Casting No. 93, taking special care not to disturb the Planer Alignment Screw No. 118 as this would affect the longitudinal accuracy of the machine.
2. Now minutely adjust the offending cross line-up set screw No. 96 so as to cause that side of the back table to equalize its surface with the cutter head, relock the three set screws Nos. 120 and 121 and carry out the straight-edge test as in "Cross line-up test" para 1 to prove that the correct amount of adjustment has been achieved.

FRONT PLANER TABLE (Figs. 9, 10, B)

1. Remove the Moulder Bracket No. 156 from the machine.
2. Using a 1/4" whit. open ended spanner reach up through the underside of the chute body and just barely loosen the three set screws No. 120 that hold the whole front table assembly to the front of the Body Casting No. 93. Now minutely adjust the offending cross line-up set screw No. 96 so as to cause that side of the front table to equalize its surface with that of the back table, now relock the three set screws No. 120 and carry out the straight edge test as in "Cross line-up Test" para 2 to prove that the correct amount of adjustment has been achieved.

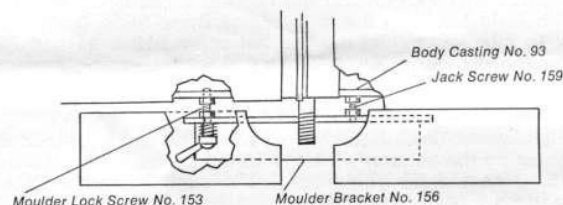


Figure 10

3. Replace Moulder Bracket No. 156 and check that the Moulder Lock Screw No. 153 is correctly adjusted so that it just barely touches the adjoining machined face on the Moulder Bracket No. 156.
4. That the jack screw No. 159 is bearing correctly. This jack screw can be adjusted by first loosening its lock nut and revolving the screw so that it bears lightly against the machined surface of the adjoining body casting No. 93.

LONGITUDINAL LINE-UP TEST AND ADJUSTMENT (Figs. 11, B)

1. With a straight-edge extending well out over the Front Planer Table No. 125 and held down firmly on the surface of the Back Planer Table No. 124 wind the front table up until only a small light gap is visible between the straight-edge and the surface of the front table. Observe any difference in this light gap.

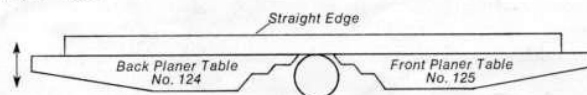


Figure 11

2. If there is a difference it can be adjusted by reaching up through the underside of the chute body and using a 1/4" whit. open ended spanner just barely loosen the three set screws Nos. 120 and 121 that hold the whole back Planer table assembly to the back of the Body Casting No. 93. Now minutely adjust the Planer Alignment Screw No. 118 using a 3/8" whit. open ended spanner. Turning this screw very slightly clockwise will cause the tables to become "hollow" in their lengths and the reverse will give them a "rounding" effect.

- Relock the three set screws Nos. 120 and 121 and carry out the straight-edge test again as detailed in para 1 to prove that the correct amount of adjustment has been achieved.

TO TENSION THE DRIVING BELT (Fig. C)

Remove the Base Covers No. 209 and loosen the four set screws No. 225 holding the electric motor to the Motor Plate No. 223 and force the motor downwards via its slotted base until the belt is re-tensioned. Relock the four set screws. The belt should be tensioned so that when grasped by hand midway between the pulleys the belt can only be squeezed together for approximately 3/4".

SAFETY

SAW BENCH

Make the maximum use of the saw guard by not removing it from the "Pacemaker" except for the odd operation when it would be impractical to leave it on. Replace it immediately such an operation is completed. Where your "Pacemaker" is fitted with the "Hood" type guard always keep this guard correctly adjusted so that while the work piece can pass freely under it there is no more of the saw blade exposed than is absolutely necessary.

MOST IMPORTANT

When the saw bench is not in use *always* adjust the "Hood" type guard right down on the table so the saw blade is completely closed off. Where wide sheet sawing is contemplated we recommend the use of a 10" diameter saw blade in conjunction with our Automatic Saw Guard Cat. No. UP/Z/7.

PLANER

Always use the planer guard where practical. It is efficient and safe and no advantage is to be gained by leaving it off the machine. When the planer is not in use always lock the guard by pushing the trigger lock into its full forward position. This is especially important when cross cutting operations are being performed on the adjoining saw bench. When using the fence on the planer make use of the fence back guard by ensuring that this guard is in its horizontal position.

MOULDER

Keep the Moulder Tables adjusted as close together as possible at all times and remove the Moulder Collet Spindle from the main spindle whenever the Moulder Bracket is taken off to accommodate some attachment (one that does not make use of the Moulder Collet Spindle) such as the Thicknesser. When Moulding make use of the Fence Back Guard by adjusting it out in its horizontal position to fully cover the adjoining planer head.

GENERAL

Always switch the machine off before making any adjustment other than perhaps to the depth of cut. After making any adjustment or alteration to cutting blades, table settings, etc. make it a practice to always rotate the spindle by hand to ensure that nothing is going to foul when the machine is switched on.

CARE OF PAINTWORK

Your "Pacemaker" is finished with a non-reflective black enamel and it should only be necessary to lightly dust the surface with a clean rag. Oil or grease on the surface will show as shine areas and these are best removed with luke warm water and detergent. Do not rub them with a dry rag as this will only increase the size of the affected areas.

THE "PACEMAKER" SAW BENCH

TYPES OF SAW BLADES (Fig. 12)

There are available for the "Pacemaker" many types of saw blades for various uses, but the most important is the rip blade, which is used for all that "along the grain cutting". A rip blade is standard equipment on the "Pacemaker."

Second choice should be a cross cut or fine tooth blade for clean and square cross-grain cutting.

The two above mentioned blades have definitely been proved the best for these two operations but if the saw is to be used for alternative ripping and cross-cutting a general purpose blade

will prove quite satisfactory, as it saves considerable time in changing over. Also well worthy of mention is the planer blade, which is hollow ground and uses a tooth form of unique design to give smooth cutting for both ripping and cross-cutting, but its cutting speed is not as fast as ordinary blades. The name "planer blade," however should not be taken literally, as it by no means does away with the necessity of a subsequent planing operation, except perhaps in the case of glueing joints, etc.

NOTE: Your "Pacemaker" has a 3/4" dia. saw spindle and is fitted with a driving pin through the saw collars. When purchasing a replacement blade always specify it to have a 3/4" bore and a 1/4" dia. hole for the driving pin. This 1/4" hole to be on a 2 1/8" Pitch Circle Diameter or 1-1/16" centres when measured from the blade centre to the pin hole centre.

RIPPING (Figs. 1, 6)

(The operation of cutting with the grain)

The saw bench is probably used more for ripping wide timber into narrower sections than any other operation which may be performed on it. It is the simplest of operations, but even the simplest of operations can be carried out more efficiently by following a few simple rules:—

- Never use the guide fence in its fully extended position when ripping. Adjust the fence by means of the two Fence Slide Lock Screws so that the end of the fence does not extend more than approx. 3" past the gullet of the saw teeth. This allows timber being ripped complete freedom after the cut and eliminates jamming which would otherwise occur between the back of the saw blade and the fence if the fence is left in its extended position. By following this procedure unnecessary friction on the saw blade will be avoided thus increasing cutting power and time between blade sharpenings.
- Make sure the fence is running parallel with the saw blade. If it is not parallel it can be corrected by loosening the Fence Pivot Lock. Do not attempt cutting if the fence is out of alignment as this will usually lead to burnt saw teeth and the necessity to sharpen the blade prematurely.
- To avoid unnecessary friction, always allow the saw blade to protrude above the table to a somewhat greater height than the thickness of the timber being cut. This allows the saw blade to clear itself of sawdust, thus producing a cleaner cut than that which would otherwise result.
- Unless it is impractical to do so, always leave the saw guard and splitter on the machine. The "Pacemaker's" saw guard and splitter are very efficient and apart from their obvious safety factors they completely eliminate sawdust being thrown into the operator's face. The splitter must be in alignment with the saw blade as any error here will have a binding effect on the blade and can lead to burnt teeth etc. (See "Aligning Splitter with Saw Blade" Maintenance Adjustments Section.)
- When ripping timber, the width of the finished piece is governed by the distance the fence is set from the saw blade and to the right of it. Accurate settings can be obtained by first positioning the fence after loosening the Fence Lock Handle then with reference to the graduated scale on the Saw Fence Bar finally adjust the fence to the desired setting by means of the Micro Control. When ripping pieces where the distance between blade and fence is less than 3", use a properly made pusher stick or finish the last of the cut from the rear of the machine. The practice of pushing narrow timber through with the fingers is obviously dangerous and should be avoided.
- NOTE** — After ripping a piece of timber, examine the cut surface of both pieces. If one appears considerably rougher and shows deeper saw marks than the other or the blade did not cut freely, the fault may be traced to one of the previously explained faults e.g. blunt saw blade; incorrect fence alignment; not using shortened fence for ripping; splitter not in alignment with saw blade.

RESAWING

The cutting of a piece of timber which is, in the first instance, greater in thickness than the maximum cutting capacity of the saw blade, also comes under the heading of ripping.

This operation necessitates the timber being passed over the saw blade twice, first to a depth of cut a little greater than half the thickness of the stock and then repeating the procedure after having reversed the timber in an end for end motion, not just turning it from side to side, as this would mean that the same surface was not against the guide fence for both cuts and an error would be the result. The "Pacemaker's" saw guard and splitter will need to be removed for a resawing operation (see Operating Adjustments Section) and it should be remembered that the first cut is made with the saw blade being unable to clear itself of sawdust, so this first cut should be made without any forcing on the part of the operator, otherwise burning and jamming could occur.

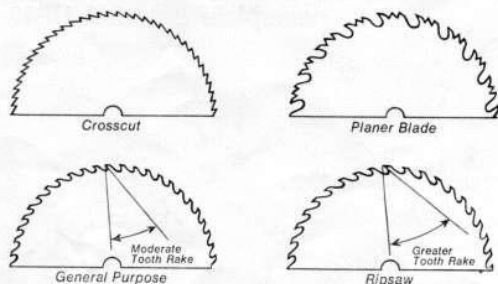


Figure 12