CS 276E Electronic Underpinner

- Owner's Manual -

SETTING UP OPERATIONS

In most of cases, your Cassese® supplier will set up the machine for you.

If this is not the case, first follow the separate "INSTRUCTIONS FOR SETTING UP BEFORE OPERATION" (pages A & B)

As long as you are not instructed to do so, do not connect the machine to any air or power source.

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Cassese.

MACHINES POUR L'ENCADREMENT • FRAME MAKING MACHINES

CS 276 E

INSTRUCTIONS FOR SETTING UP BEFORE OPERATION

(accompanied with drawings Fig.1 and Fig.1.1)

Warning : **DON'T PLUG THE MACHINE TO AIR OR POWER BEFORE FOLLOWING THROUGH ALL THESE INSTRUCTIONS WITH SUCCESS.**

1- (See drawing FIG 1)

In the accessories box, you will find one big handle (B) and two small handles (X and W).

Remove the screws (Allen wrench No 12 and no 5) that are put just for transportation and fix the handles.

2- Loosen the stapling position stops with handles X and W and pull the plunger bracket (E) towards the keyboard side as much as possible. (For security in transportation the bracket (E) is in buttom position.)

3- Fix also the manometer (in the accessory box) on the air regulator of the machine.

* To bring up now the plunger bracket (E) mechanism of the machine ;

4- Remove the side grey casings of the machine by pulling them upside. This way you get access to the inside of the machine.

You have in the accessory box all the keys or wrenches you need for the following instructions.

5- (See now the drawing FIG 1.1)

Loosen the rings A which are put for transportation purposes only. Bring them completely down and tighten them so that they do not vibrate when the machine will work.

6- Take away the adhesive band which is around the hammer support.

7- Loosen (don't take off)the screws P which will fix the parts B and C (parts in form of an L) on horizontal bar.

8- Keep the "down-stop" (part D) in the direction of the lenght of the horizontal bar and bring up (by hand) the hammer support and hammer (the hammer is similar to a long wedge).

Make them penetrate into the wedge distributor until the hammer support comes up higher than the down stop (Part D).

Now turn the down stop (part D) into a 90° position to horizontal bar so that hammer support remains sitting on the part D.

9- Tighten the screw of the Part D (down-stop) (Allen wrench no 5, in accessory box), and let the hammer support sitting on it.

10- Fix the start-of-travel switch (Part C) with the screws P paying attention that the button of the switch **is** upside (like in drawing FIG 1.1).

11- Now, to fix the part B (in form of an "L") you need to bring up the whole mechanism. For this, push up the whole mechanism from the buttom of the stapling cylinder (air piston); bring up the mechanism until the part E (start of travel stop, in form of ⎽⎽⌐‾‾) comes up higher than the screws where the part B will be fixed.

12- Fix the part B to the screws and tighten the screws.

Now the part E should be resting on part B.

The horizontal bracket (Part E on drawing FIG 1) should be now in upper position.

Put back the side (grey) casings of the machine and connect the machine **to both** an **air** and **power supply.**

Follow the Operation instructions of the Manual so to set up, to adjust and to make your first joinings tests.

CASSESE DOCUMENT

INSTRUCTIONS FOR USE :

OPERATIONS (see figure 1)

The Underpinner can work in 2 modes :

- Key MAN : The foot pedal operates the moulding clamp and wedges are inserted by pressing the buttons (Z).

- Key AUTO : The pedal operates both the clamping and the insertion of the wedges.

The red panic button can be used as a general clearing key.

For safety reasons, insertion of wedges can only be done when there are mouldings present in the machine.

Initial wedge insertion can either be at the front  or back  depending on which arrow indicator is lit.

Selection of the number of wedges is decided by the keys 1 & 2.

Wedge insertion will start according to the selection of the key 1 and the position chosen for the arrow key  or  .

if  lights up, this indicates that the wedge cartridge is empty. If the wedge insertion cycle has not been completed the machine will stop but the mouldings will remain clamped. After changing the cartridge, the cycle is continued by pressing the button ''agrafage'' (Z)

If the ''incident'' indicator lights up, it shows there is a problem in the machine and it will stop.

Before starting the machine again, by pressing the key RAZ, it is essential that the origin of the fault is found, (see Fault Indicator Table).

If the **"maintenance"** indicator lights up it is time to grease the hammer and oil the horizontal rods.

Having carried out this maintenance the indicator will go out when **you** press simultaneously on the arrow ↓↑ and RAZ keys.

Ensure that **the** machine is connected to your compressed air **and** electrical supply.

Open the airline valve fitted at the rear of the machine.

Turn the main switch fitted on the panel to **"ON".**

VERY IMPORTANT

AFTER JOINING A CORNER IF THERE IS ANY DIFFICULTY IN RELEASING THE MOULDINGS OR FRAME YOU MUST ENSURE THAT IT IS LIFTED VERTICALLY. IF ANY OTHER MEANS IS USED THERE IS A POSSIBILITY OF BREAKING THE DISTRIBUTOR HEAD (H).

CHANGING THE CARTRIDGE

Remove the spacer bars **in front** of **the fences** M **and** N, if these are being used.

Press the arrow key ↑ to bring the cross bar to the **rear.**

Loosen the locking screw of the plunger (F) and pull the plunger upwards.

Remove the cartridge from the rear and snap the sliding finger **(FA) under** the metal tongue (FB).

Insert the new cartridge from **the** rear and slide it forwards until the front of the cartridge is underneath the distributor head (H).

Lift the lever (HA) to release the sliding finger (FA).

Lower the plunger (F) **and** retighten the holding screw.

N.B. When the cartridge is empty the ⌒ indicator is illuminated
If this occurs in the middle of a cycle the mouldings will remain clamped.
Having inserted the new cartridge, as above, press the buttons Z to finish off the cycle.

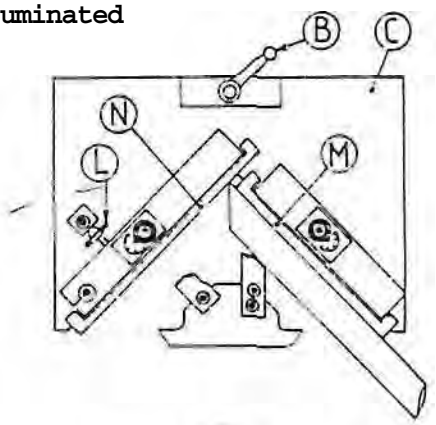


Fig 2

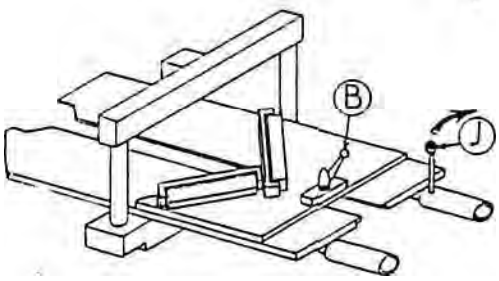
SETTING THE SLIDING **TABLE (C) READY FOR JOINING**

The cross bar must be in **the** forward position. This can be achieved by pressing the appropriate arrow key ↓

Push down the clamp release handle (J)

Place a piece of the moulding to be joined in front of the left hand clamp.

Make sure that the fence tilt knobs (K) **are** at 0 and that the angle adjustment (L) is correctly lined up for a 90° angle. Then slide the **sliding** table (C) forward until the fence presses the moulding lightly against the clamp and tighten locking handle (B).



Lift the clamp release handle (J).

When this has been done there should be a clearance of about 1,4mm (1/16") between **the** clamp and the moulding.

N.B. If this adjustment is not correct wedge insertion cannot take place
For safety reasons when no moulding is in place wedge insertion cannot occur.

POSITIONING THE WEDGES (see Fig. 3)

Either turn off the air or switch off at the main switch.

Loosen the handles X and W.

Slide the cross bar (E) until the distributor head (H) is in the correct position for the rear wedge.

Slide the locking handle forward (W) and lock into position.

Slide the cross bar to the forward position and slide the handle (X) to the rear and tighten.

If wedges are being inserted at different levels check by raising the head with the lever HA that no part of the moulding will prevent the distributor head rising to the correct position.

In order to select the number of wedges press the keys 1 and 2.

Key 1 always corresponds **to** the position where the first wedge will be inserted.
This position is selected by the arrow keys ↓ and ↑

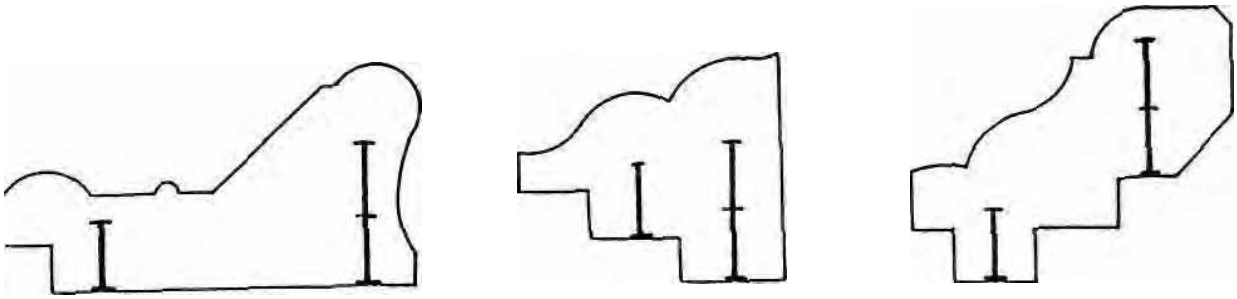


Fig 3

SETTING THE BUNG (0)

Check that the height between the top of the moulding and the bottom of the bung is less than 45mm (1 3/4"). (see Fig. 4)

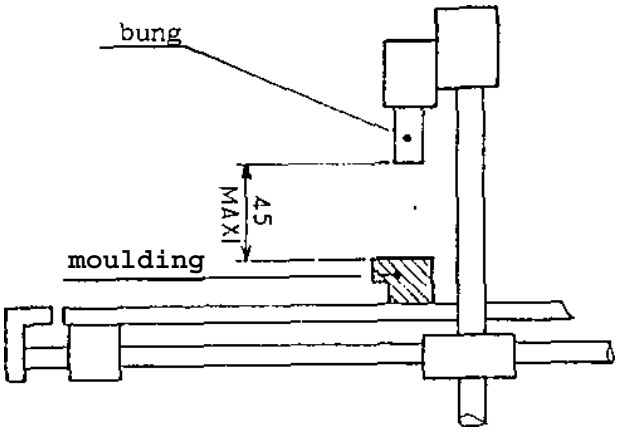


Fig 4

METHOD OF JOINING

Put one piece of moulding in front of the left hand fence (M) and slide it in until it touches the right hand fence (N) (see Fig. 2)

Place the second piece of moulding in front of the right hand fence and slide it forward until it contacts the first piece of moulding.

MANUAL POSITION (MAN)

Press the pedal to operate the clamp. To Release the clamp, press the key RAZ.

Press the buttons (Z) situated at the front of the machine to the left and the right. Each short pressure on the two buttons will insert one wedge. If you press continuously on the buttons the complete cycle will continue until the clamp releases.

AUTOMATIC POSITION (AUTO)

Just press the foot pedal.

One pressure on the foot pedal operates the complete cycle as selected until the clamp releases.

PUTTING IN THE FENCES (See Fig. 5)

If the joint is open on top rotate both buttons (K) the same amount towards the minus sign.

If joint is open at the bottom rotate both buttons (K) the same amount towards the plus sign.

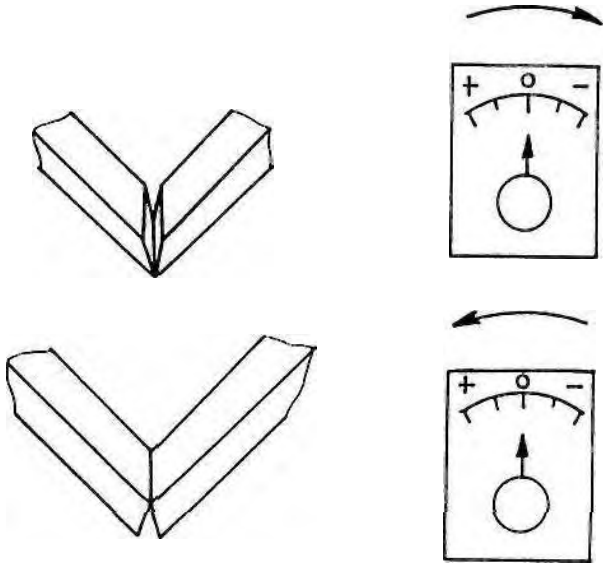


Fig. 5

ADJUSTMENT OF DRAUGHT ANGLE

The draught increases slightly the cut angle of the mouldings so there is extra pressure on the inside of the frame joints.

A 90° angle is obtained when the two lines coincide. Turning the threaded nut (L) increases the 90° angle.

USE OF MAGNETIC SPACER BARS

When the height of the moulding is lower than the height of the fences, (approximately 21mm (13/i6"))spacer bars must be used so that the bung is not obstructed by the fences. Place the spacer bars on the table against the fences prior to inserting the moulding.

POSSIBLE INCIDENTS

If the maximum distance of 45mm *(1 3/4")* between the bung and the moulding is exceeded the machine will stop and the **"incident"** indicator will illuminate during the joining cycle.

The bung can slide up. due to the pressure of the wedge insertion if the locking handle (T) is not sufficiently tightened.

If a wedge is found to be partly in the moulding and partly in the distributor head (H), lift the frame out vertically.

If a wedge does not enter the moulding it is essential to take off the distributor head and remove the loose wedge inside it.

After regulating any of these points press the key RAZ to restart the machine.

ADJUSTMENT OF CLAMPS (see Fig.6)

If, when the clamps are operated, the left hand moulding is not gripped properly adjust the left hand clamp by unscrewing the knurled knob R on the front of the machine. If, on the other hand the right hand moulding is loose the clamp can be tightened by screwing in the knurled knob R.

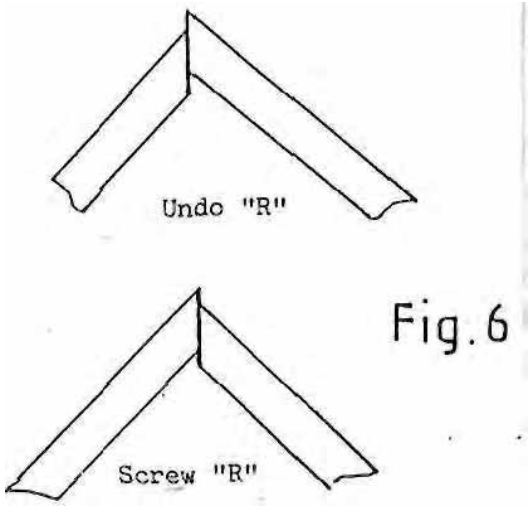


Fig.6

If the joints are being glued apply the glue before carrying out this adjustment.

Correctly adjusted the clamp marks in the moulding should be between 0 and 0.4mm (0 - 20/1000") deep depending on the hardness of the wood.

SELECTION OF WEDGES APPROPRIATE TO MOULDING (see Figs. 7 & 8)

The height of the wedge should be 2mm (/12") less than the height of the wood in the moulding, i.e. excluding any whitening.

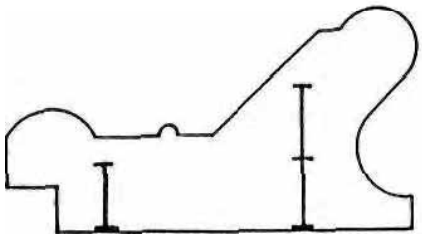
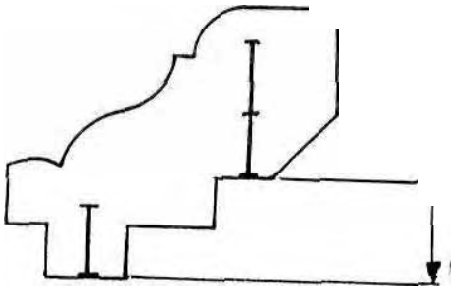


Fig. 7

Examples of joining at 2 positions - 2 wedges superimposed.



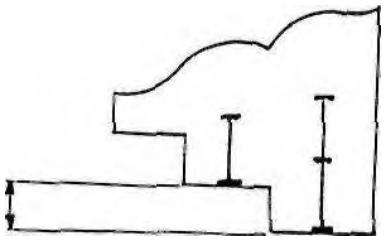


Fig 8

CHANGING THE HAMMER (see Fig. 9)

BEFORE STARTING ANY SERVICING WORK DISCONNECT THE ELECTRICAL SUPPLY

The hammer is the part which drives the wedges through the distributor head (Fig. 5)

Procedure

Slide the cross bar until it is approximately 10cm.(4") from the front of the machine.

Remove the plastic bung (0) by pulling down.

Remove the side panels to gain access to the interior.

Above the vertical cylinder is the lower horizontal bar (Fig. 9)

Release the screws holding the microswitch (P)

Remove the microswitch (P), sliding the assembly towards the left and then pulling towards you.

To avoid any maladjustment do not remove the microswitch from its mounting point.

Slacken the Allen screw holding the fixed stop in position.

Hold the vertical cylinder and lift it slightly so that the fixed stop can be turned through 90°.

Lower the cylinder and hammer assembly until the cross bar touches the worktable.

Undo the screw holding the hammer.

Remove the hammer to be changed.

Grease the new hammer and fit carefully into place.

Insert the locating pin and the hammer holding screw into the hole and tighten the screw sufficiently until the hammer is held against its support.

Raise the cylinder and hammer assembly so that the fixed stop can be turned back through 90° to support it.

Replace the microswitch (P) and tighten the fixing bolts.

N.B. The hammer is the delicate part of the machine. You can avoid breakages by following certain rules.

Use hardwood wedges when joining certain timbers such as Ramin or Oak.

If the bung is maladjusted (see page 3), or if there is blockage, or the wedge has difficulty in penetrating because the wrong wedges have been chosen, the machine will stop and the **"incident"** indicator will illuminate.

In order to start the machine again check the reason for the breakdown (see page 8) and just press the key RAZ.

SERVICING

Adjustment of the starting microswitch for the vertical cylinder (see Fig. 9)

If despite pressing the button S the descent of the bung is very harsh, bring the starter microswitch nearer to the limit stop by adjusting the blocking nuts.

Adjustment of the limit stop on the vertical cylinder (See Fig. 9)

At the end of the wedge insertion the limit stop activates the microswitch which controls the return of the cylinder. If the wedge has not been inserted fully into the moulding screw the limit stop so as to increase the travel.

Removing the sliding table

Unscrew the locking handle and release the table by lifting it with the two fence tilt adjustment buttons.

Servicing the wedge distribution area

From time to time remove the distributor head (H) and clean all the area in contact with the front of the wedge cartridge with a stiff brush used dry.

Service and greasing

If movement becomes sticky oil the horizontal bars (use 20/20 SAE oil).

Cleaning: Do not use any wet materials to remove excess glue that has collected on the machine. It helps to remove the glues if the area is sprayed with a silicone grease prior to the machine being used.
To remove the distributor head (H) undo the locking screw and remove it by pulling it upwards. Remove the head, clean the area underneath it with the aid of a small, stiff brush. **Do not** use **dry cleaning fluid**

IMPORTANT:

When replacing the distributor head only tighten the locking screw gently. **Do not overtighten.**

When the **"maintenance"** indicator illuminates apply grease to the hammer area. After greasing press the arrow ↓↑ and RAZ keys simultaneously in order to extinguish the **"maintenance"** indicator.

FAULT OR BREAKDOWN	**CAUSE AND REMEDY**
Clamps fail to grip properly	incorrect adjustment of the sliding table. Key in number of wedges required No. 08 wedges indicated against Key I is 0
Both clamps fail to grip properly	check if the air pressure is adequate.
Clamping is insufficient on the left hand moulding but OK on the right hand.	see page 5 ADJUSTMENT OF THE CLAMPS
Clamping is insufficient on the right hand moulding but OK on the left.	see page 5 ADJUSTMENT OF THE CLAMPS
The wedges do not come out.	The distributer head area is blocked. Clean it (see SERVICING) Check the tension of the springs which pull forward the wedges The hammer is broken
The traverse is too brutal or too slow	Adjust the valves situated on the traverse cylinder
The fences shift after fixing a certain number of wedges	Traverse is too brutal (see above)
The **"incident"** indicator is illuminated the machine does not work Refer to page 5 (POSSIBLE INCIDENTS)	The maximum distance between the bung and the moulding is incorrect (45mm Max). The stopping microswitch is out of adjustment (page 6) check the position of the bung (fig. 4) check that the air pressure is a minimum 5 bars. If the speed of the descent of the bung is too slow make the necessary adjustment A foreign body is preventing the hammer rising completely. Check the area around the hammer support. Blockage: remove the head (H), remove the cartridge, remove the damaged wedge, check the state of the hammer. The V shape must match completely the hammer support against which it slides. The top edge which pushes the wedge must be undamaged and with no burr. The hammer cannot be repaired, it must be changed. Carry out the cleaning procedures. Normal wedges are being used in a hard wood.
The **"alimentation"** indicator does not light up	Check the fuse underneath the plate where the electric wire joins the machine.
Bung descends too harshly	Adjust the speed of descent by use of button S The starting microswitch is out of adjustment (see page 6)

IMPORTANT: THIS MACHINE HAS BEEN ADJUSTED IN OUR FACTORY. YOU SHOULD NOT ATTEMPT TO ADJUST ANY PARTS OF THE MACHINE WHICH ARE NOT MENTIONED IN THESE INSTRUCTIONS.

NO RESPONSIBILITY WILL BE TAKEN FOR DIFFICULTIES AND FAULTS CAUSED BY NO OBSERVANCE OF THIS NOTICE.