Thank you for choosing the Keencut Evolution. Every effort has been made to bring you a superbly built product with the promise of many years of good service.

Keencut – the world’s finest cutting machines

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2.1 Before you start

CHECKING THE BENCH FOR INSTALLATION

- Do not remove the Evolution from its packing crate until the instruction below says so.
- As part of the installation there are a number of checks/adjustments to be made, it is essential that time is put aside to carry these out properly or the overall performance of the cutter will be affected.

The Evolution Cutter Bar can be fixed to an existing work bench or to a KEENCUT bench, the bench must be stable enough so that it does not flex when pushed from the side and the worktop made from a robust material, firmly fixed to the frame and ideally flat to within 3mm (1/8”).

The cutter can be fixed along the edge of the bench or slightly inboard but do not mount the cutter too far away from the edge as it could become difficult or uncomfortable to operate if you have to lean too far over when making a cut.

If the cutter is to be mounted along the edge of the bench draw a line 9.5cm in from the edge of the worktop and the length of the cutter as listed below.

Worktop

Overall length of cutter

9.5cm

Should you want to use the cutter, say, 15cm in from the edge draw the line $15 + 9.5 = 24.5cm$ from the edge of the worktop.

Worktop

Overall length of cutter

9.5cm

15cm

24.5cm

- Evolution 160cm (64") overall length 177.5cm (69.9") 4 base fixing brackets
- Evolution 210cm (84") overall length 227.5cm (89.6") 5 base fixing brackets
- Evolution 260cm (104") overall length 277.5cm (109.25") 6 base fixing brackets
- Evolution 310cm (124") overall length 327.5cm (128.9") 7 base fixing brackets
- Evolution 360cm (144") overall length 377.5cm (148.6") 8 base fixing brackets
CHECK & ADJUST THE WORKTOP FLATNESS

Check the flatness of the worktop by stretching a thin piece of strong thread between two blocks (of the same height) approximately over the line. Measure the highest and lowest part of the worktop under the thread, the difference between the two measurements should be no more than 3mm (1/8”).

If it is....

Adjust the surface flatness by adding packing pieces made from 2-3mm (1/16”) thick rigid material such as PVC Foamboard, under the Base Mounting Brackets as they are installed (next section).

THE FIXING BRACKET JACKING SCREWS

The Base Fixing Brackets are designed to hold the Base of the cutter firmly in position and provide a means to adjust the cutter Base for both flatness and alignment of the cutting groove. Check the Jacking Screws are screwed up finger tight as shown before fitting the Brackets to the worktop.
2.3 Before you start

SETTING OUT THE FIXING BRACKETS

Place a Bracket 9.7cm (3.8”) in from the left hand end of the pencil line as shown, ensure the groove along the centre of the Bracket is aligned with the pencil line and screw it down to the worktop with two of the short wood screws provided. Fix the remaining brackets along the line leaving a 42cm (16.5”) gap between them. When screwing them all down firmly again ensure the groove in the centre of the bracket aligns with the pencil line.

Example:
Evolution 160, 4 base fixing brackets

Evolution 160cm (64”)
Lift the Evolution cutter bar from its crate but **do not** remove the clear plastic stretch-wrap bands holding the base to the cutter bar. Place the Evolution centrally on the Brackets and manoeuvre it until the base is located properly down on each of the Brackets.

Tighten the grub screws at the back of each of the Brackets by 4 full turns and then tighten the front grub screws fully (approx 4-6 turns).

Remove the clear plastic stretch-wrap bands.
FITTING THE LIFTING HANDLES

Fix the Lift & Hold Handles at each end of the cutter bar, the machined out section of the fork faces to the centre of the machine and is inserted into place at an angle as shown. Once in position straighten so that the rectangular feature on the handle fits into its mating hole in the adjacent black steel part.

Tighten firmly, the clamping screw using the 5mm Allen key provided.
CHECK & ADJUST THE CUTTING GROOVE ALIGNMENT

Check the back of the cutting groove in the Base is in line with the edge of the cutter bar so that a blade in the cutting head will run the full length of the machine without touching either side of the groove, if it does not....

Adjust the straightness of the Base by adjusting the back and front grub screws in the Base Fixing Brackets:

To push the groove away from you, loosen the back grub screw in the adjacent Bracket/s and then tighten the front grub screw by the same amount, this slightly distorts the Base and aligns the groove to the cutter bar. You may find that if a part of the groove needs to move by a large amount the neighbouring Brackets may also need to be adjusted. After making an adjustment pull the lift and hold handles towards you to lift the cutter bar and lower it again to re-settle it, check and adjust further if required.

To pull the groove towards you the procedure is the same as above, but loosen the front grub screw and tighten the back grub screw.
3.3 Setting Up

Place two of the long wood screws in the front holes of the Fixed Arms (A) and screw then in but do not tighten them. Loosen the four Allen head screws (B) joining the Fixed Arms to the Base by one turn then fully tighten screws (A).

To enable the table surface to be cleared of the cutter bar when it is required for other work the whole cutter bar can be lifted and swung on its hinges towards you so that it hangs down along the edge of the work bench (this also helps with cleaning).

**NOTE:** Be particularly careful with the longer versions of cutter as they are very heavy.

Carefully swing the cutter bar down now and place the remaining two long wood screws (C) into the back two holes of the Fixed Arms and tighten. Return the cutter bar to its working position.
It is essential that the material being cut, whether a thin paper/film or a thick board, is clamped securely in the machine whilst being cut. There is a silicon cord set into the Base to grip the underside of the material and two similar grippers set into the underside of the Cutter Bar. These should be periodically checked and kept in good condition; replacement silicon cords are available from your Keencut dealer.

There is a Tilt Adjustment Knob at each end of the cutter bar to set the angle of the Cutter Bar to suit different thicknesses of material. When changing the thickness, place the material to be cut under the Cutter Bar, release both knobs, raise the Cutter Bar slightly then lower it again to settle it in position. Tighten both Tilt Adjustment Knobs and the cutter is set for that thickness of material.

Set the tilt adjustment knobs to suit paper.
CHECK AND ADJUST THE CLAMPING

Check the grip of the cutter bar using an A4/foolscap piece of paper. Starting at one end, lift the cutter bar and place the paper under it, when lowered, the weight of the cutter bar should grip the paper. Try to pull the paper free, if it is not clamped sufficiently note its position and work your way down the cutter repeating the test with the paper and noting where it is not clamped sufficiently.

Adjust the clamping by turning the Jacking Screws in the Base Fixing Brackets that are adjacent to the areas that are not clamping the paper. Turn the Jacking Screws clockwise (as you look down on them) using the wrench supplied. Turn both the front and back Jacking Screw by the same amount (to keep the Bracket level) until the paper is gripped. You may find that two or three adjacent Brackets need adjusting if you have a wide area that does not clamp.

**TIP:** Each full swing of the wrench adjusts the Base by the same amount, so by adjusting the Jacking Screws in full swings, counting them will help to keep the Base level.
Once the Evolution has been set up all that needs to be done is build the level of the worktop surface up by 15 - 16mm ( 5/8") in the area behind the cutter. If you have mounted the cutter away from the edge of the worktop you can build this area up as well. Either solid boards or thin boards supported on packing strips can be used.

**NOTE:** If your worktop is not flat and the Jacking Screws have been set to compensate for it, should a solid board be used to build up the worktop and screwed down unto it, it could alter the levels of the bench and affect the clamping. It is better to use an adhesive (a few spots of silicone adhesive/sealer generally works well) or double sided sticky tape to stop it sliding out of position.
The Evolution Cutter Bar has been designed to cut a variety of boards to a thickness of 10mm (0.4") using a Medium Duty utility blade. However, an increased cutting depth of 13mm (0.5") can be obtained using the KEENCUT XR utility blade, available from your distributor or Keencut.

Consideration should be given to the toughness of the board being cut and the maximum depth of cut. It is recommended that heavy materials such as PVC foamboard should only be cut to a maximum of 6mm (0.25") whereas, lighter materials like foam centred board can be cut up to 13mm (0.5") thick using the KEENCUT XR blade.
INSERTING THE BLADE AND SETTING THE DEPTH

1. The blade is inserted from the back of the blade holder, push it fully forward and tighten the wingbolt.

2. To set the blade for a repeatable cutting depth unclamp the blade and turn the knob at the front of the cutter, clockwise to increase blade depth & counter clockwise to decrease. Re-clamp the blade before use.

**TIP** - Set the blade depth so that you are only just cutting through the board, it takes much less effort and produces a better cut.
4.3 Operation 4.3

INSERTING AND ALIGNING THE MATERIAL

Pull either of the two Lift & Hold Levers forward to raise the Cutter Bar and slide the material to be cut underneath it use the position of the cutting groove in the Base to get an approximate position, lower the Cutter Bar pushing either Lift & Hold Lever away from you. Align the sight edge with your cutting marks by slightly raising the Cutter Bar and adjusting the position of the board at each end. The cutter will cut within 0.5 to 1mm [0.02" to 0.04"] of the sight edge; this small gap allows easier alignment when cutting to the edge of an image.

Check that the width of the Cutter Bar is laying flat on the surface of the material, if not loosen both Tilt Adjustment Knobs, lift the Cutter Bar and lower it down again to settle it in position and tighten both Tilt Adjustment Knobs. The cutter is now set for cutting all types of material of that thickness.

The flip over Material Stop can be introduced to prevent heavy materials sliding when taking deep cuts.

NOTE: If you are cutting small pieces of board place it at right hand end of the Cutter Bar against the Material Stop and place scraps of the same thickness material under the remaining bar to support it and prevent sagging.
4.4 Operation

...for cutting foam centred board, PVC foamboard and heavyweight materials.

Place your hand on the cutter, as shown, with the palm of your hand positioned over the silver coloured bar on the front edge of the cutter. Place your left hand on the finger grip of the straight edge, depress the cutter and push it away from you to cut. Dependent upon the nature and thickness of the material you may need to take more than one cut gradually increasing the depth.

..for cutting film and lightweight materials.

Place your hand on the cutter, as shown, with your finger tips positioned on the silver coloured bar across the front edge of the cutter. Depress the cutter and pull to cut, there is no need to hold the cutter bar down when cutting.
USING THE TEXTILE CUTTING ATTACHMENT

The Evolution is supplied with an attachment that fits onto the cutting head to enable it to cut textiles. It uses a circular blade to press down onto the surface of the textile held over a plastic strip embedded in the base of the machine.

Firstly, raise the Cutter Bar using either Lift & Hold Lever, then Loosen both of the Hinge Knobs until the underside of the knob clears its' location recess, Push the Cutter Bar away from you until the underside of the knob is positioned over the middle recess and tighten the knob holding the knurled end of the Hinge Bolt to prevent it turning. Repeat at the other end. The Cutter Bar is now positioned over the plastic Cutting Strip.

The third (furthest) position is also for cutting textile but uses a different part of the Cutting Strip should it become worn. The Cutting Strip can also be removed, turned around or flipped over then replaced to further extend its life. Replacement Cutting Strips are available from your Keencut agent.
To fit the Textile Cutter, remove the utility blade, unscrew the Thumb Cap and position the attachment on the side of the Cutting Head then replace the Thumb Cap.

Position the textile on the machine and lower the Cutter Bar. Rotate the red safety guard into the cutting position, lower the Cutting Head in the normal way and draw the cutting wheel along the textile in one small motion.

This facility can also be used to cut thin papers and many other flimsy materials, always carry out a test cut on materials that have not been cut using this method.
CUTTING HEAD BEARINGS

The bearings that control the sliding motion of the cutting head are manufactured from a high grade polymer and under normal use will last for an extremely long time. As they settle into position you may find a slight amount of side play, this can be removed by tightening the two adjustment screws:

Place the long end of the 2mm Allen key provided onto either of the two screws and very gradually tighten it with one hand whilst moving the Cutting Head up and down with the other. Once you feel the sliding motion start to tighten undo the screw the smallest amount so the Cutting Head just slides easily.

Repeat this on the second screw, two or three finer adjustments on each screw may be needed to achieve an easy sliding movement with zero side play.