



## Guide to frame Assembly

The conventional method of frame assembly has been to nail the parts together with gimp pins. While this remains a good method of assembly, the availability of cheap brad nail guns and staplers, both manual and electric, gives a number of quick, cheap and efficient alternatives.

Assembly of the frames and fitting the foundation should be completed as separate operations. The frames can be assembled in advance and stored, however, the foundation should ideally be fitted just before the frames are used.

Tools required:

Flat blade screwdriver or a hive tool.

Sharp knife.

Wood glue (optional).

Set square or right angle to ensure the frames are square.

Hammer and Gimp pins / Hand staple gun and long staples / Electric brad nailer and brads

### Frames

Method of assembly:

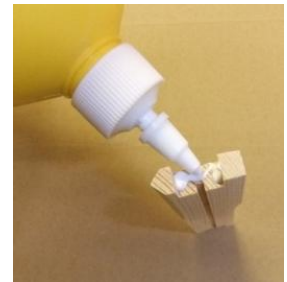
1. To prepare the top bars, use a flat blade screwdriver or a hive tool remove the retaining bar by braking it from the top bar. Any remaining wood should be cleaned from the top bar and retaining wedge using a sharp knife (retractable or craft knives are ideal). The retaining wedge should be kept for use when fitting the foundation.



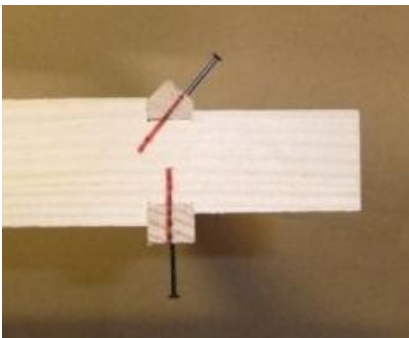
2. Assemble both side bars onto the top bar, with the foundation slot to the inside of the frame.



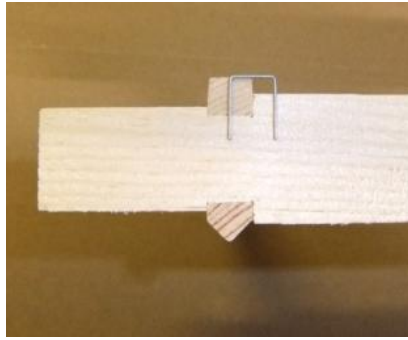
*Optional:* For additional security this joint can be glued, apply a thin film of wood glue to all the mating faces of the top and side bars before assembly.



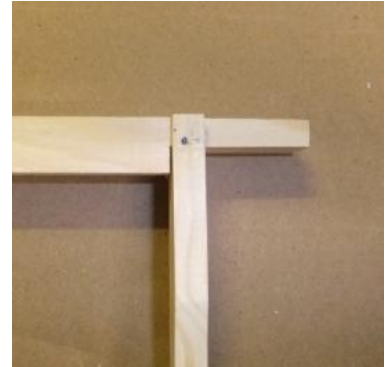
3. Nail the side bars to the top bar, using 2 pins per side bar (see photo for positions), using 1mm x 19mm Gimp pins.



**Alternative:** A standard hand operated staple gun is also suitable provided that the staples are long enough to penetrate through the wood of the side bar, staple positions as above.



**Alternative:** An electric brad nailer is a quick and easy alternative to using pins or staples and is recommended if a larger number of frames are to be assembled. The nailers are relatively inexpensive and the brads are cheaper than Gimp pins. Nail positions as above.

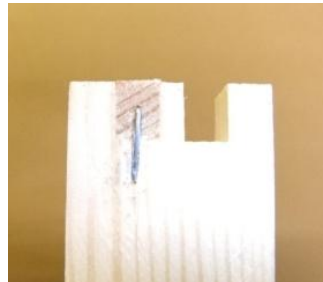
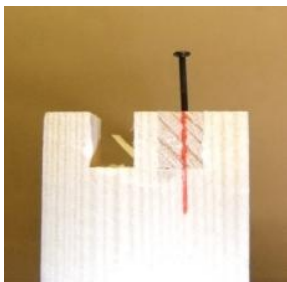


4. Fit one bottom bar, on the opposite side of the frame to the removed retaining wedge, such that when the frame is laid flat both the missing bottom bar and the missing retaining wedge would be uppermost (see photo).

*Optional:* This joint may also be glued. The other bottom bar must not be glued, as this will be removed when foundation is changed in the future.



5. Pin, staple or nail the bottom bar into position. It is usually nailed from the bottom of the bar up into the side bar, although if short staples are used it can be stapled from the side, with one part of the staple in the bottom bar, the other in the side bar.



6. Ensure the side bars are at right angles to the top bar, this must be completed before the glue sets.

7. Retain the wedge and bottom bar with the frame for when the foundation is fitted.



## Foundation

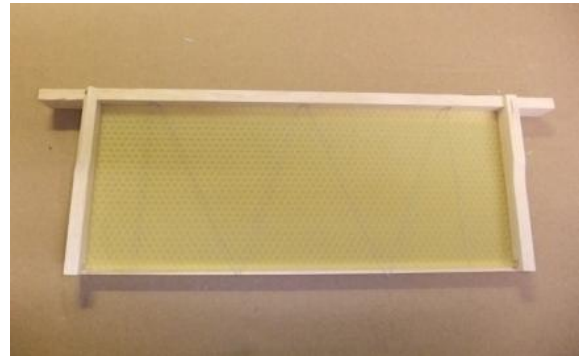
The foundation should only be fitted shortly before the frame is to be used. This will help prevent damage or warping to the foundation and will help to keep it fresh making it more readily accepted by the bees.

Ideally the foundation should be fitted indoors, in a warm room with the windows and doors closed. The fresh wax will be attractive to bees if you work outside the frames and wax will soon have a number of bees on them making the assembly difficult.

Fitting the foundation:

1. Lay the frame flat and slide the foundation up the grooves in the side bars until it is lying on the top bar (where the retaining wedge was removed) and the bottom bar. The foundation should slide in cleanly, it may be necessary to clean up the side bar grooves with a sharp knife.

2. Fold up the 3 wire loops to fit flush onto the top bar, the bottom edge of the foundation should be halfway down the width of the bottom bar allowing the foundation to stretch when being drawn.



3. Fit the retaining wedge back into position trapping the wire loops and foundation against the top bar. Pin / staple / nail the wedge to the top bar through each of the 3 wire loops in the foundation.



4. Fit the missing bottom bar and pin / staple / nail into position as above. This bar should not be glued as it will be necessary to remove it to change the foundation in a few years time.



5. If the foundation looks slightly dry and powdery it can be revitalised by blowing it with a hair dryer for a few seconds to bring back a glossy look, start carefully to ensure you do not melt the foundation during this process. This will help ensure it is more readily drawn out by the bees.