# Hive Tools & Their Use

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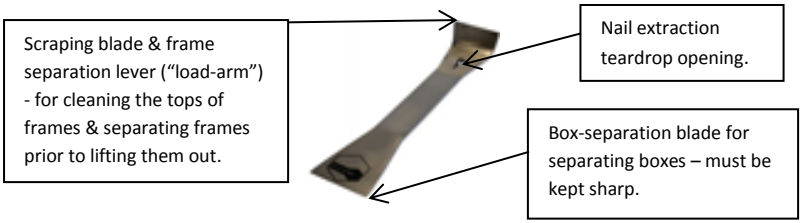
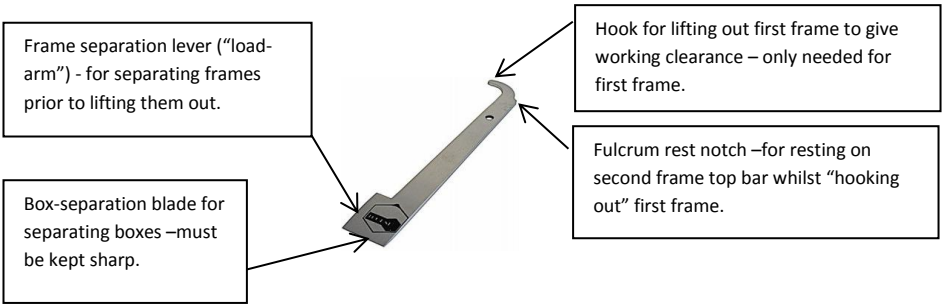
Hive tools come in various types and shapes, but none of them come with instructions for their use. This article explores the various types and describes how to best use them.

There are two main types, the conventional twin blade tool with an opening-up or box-separation edge and a scraping edge, quite adequate for use with National long lugged frames and the **J** type tool, (sometimes known as the Italian tool) essential for use with short lugged frames.




**Conventional British Hive Tool for use with long lugged British National frames**




**J Type Hive Tool for use with short lugged frames (i.e. everything other than British National & WBC hives)**

In use the box-separation edge is carefully inserted between the two boxes being separated (the bees will have the boxes well glued together with propolis). This is why a sharp, slender blade is preferred for easy insertion without damaging the edges of the boxes, crown-board or queen excluder.

Once the box being inspected is exposed, the next task is to extract an edge frame in order to provide space for separating and lifting out the subsequent frames. Of necessity this first frame has to be lifted out vertically and there may not be much space to free it from its neighbour (again the bees will have the frames or spacer ends propolised together). However, insert the lever portion of the hive tool, whilst holding the tool at its end to provide maximum leverage in order to get a controlled break-away, as shown in Figs 1 & 2. Note the tool is not inserted between the self-spacing vee & flat of the frames (risking

damage to the wood), but between the flat edges of the top bars, just inboard of the frame vertical bars. The hand is moved in a horizontal plane. The “load-arm” to “effort-arm” ratio on most tools gives a 4 or 5 to 1 leverage if the tool is held at the end of the handle.

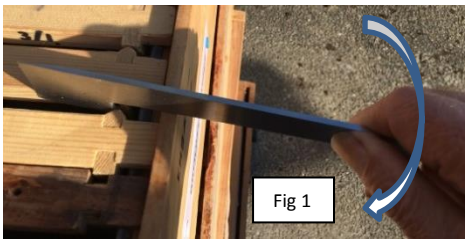


Fig 1


Fig 2

Carefully lever the first two frames apart. Then insert the hook (J type) or bend (Conventional type) of the hive tool under the top bar of the first frame as shown in Fig 3 (J Tool with short lugged frames) and Fig 4 (Conventional Tool with long lugged frames). Note on the J tool, rest the fulcrum notch on the top bar of the second frame to provide a controlled levering action. It may also be noted that for extracting that first frame, the J tool is essential for short lugged frames and probably superior even for long lugged frames.

Slowly lift this first frame as there is very little space between the first and second frames or between the first frame and the inner surface of the hive wall at this stage and there is a danger of “rolling” bees and squashing them.

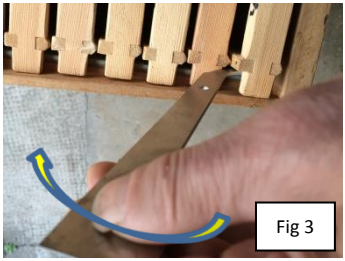


Fig 3

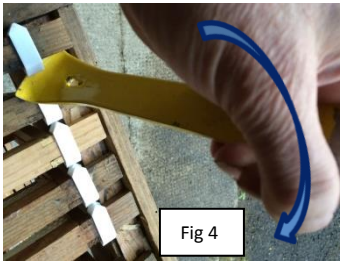


Fig 4

Once the first frame has been lifted out and carefully stood on its end at the hive entrance (or even more hygienically placed in a spare Nuc box), there is now space to separate the frames one by one, allowing them, once freed from their neighbour to be lifted out without risk of rolling the bees or queen. Note only the separation lever of the tool(s) are now needed, as the frames once freed can be lifted out easily by gripping the two ends of the frame with your fingers. This need to separate the frames to provide space before lifting out is why castellated spacer runners should never be used in brood boxes. If leather gloves are being used, it sometimes helps to grip the frame in the middle of the top bar when re-inserting to prevent the gloves being trapped between the frame end lugs and the frame-rests or runners. The frames should be reinserted close together so that at the end of the inspection they can all be levered back to their original position without danger of trapping bees between the self-spacing edges or spacer clips.

Finally when the inspection is complete and the frames have all been replaced except for frame number 1, the frame “pack” can be carefully levered back into its original position as shown in Figs 5 & 6 – use the flat

of the J type separation blade or the curve of the Conventional tool against the upright of the frame and heel the tool carefully against the inner surface of the box wall, taking care not to damage the woodwork. Frame number 1 can now be replaced leaving the frame pack as it was before inspection.


Fig 5

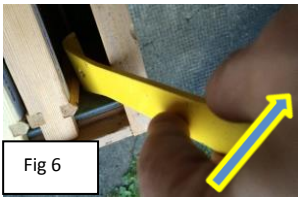


Fig 6

Fig 7 shows a recent hive tool development which aims to combine the advantages of both the Conventional & J type.


Fig 7

My experience of this new tool was that it is worthy of consideration, but was not quite up to the quality standard of the Conventional & J type tools above. However, when I reground it to produce sharp blade edges it performed satisfactorily. Note the fulcrum notch of the normal J tool is replaced by a series of serrations on this combi tool.

The original designers of all these tools no doubt spent many hours developing the detailed features. They are there to help beekeepers.