Keiran Ryan Models
KRM 7mm 011 7mm Ladder Forming Jig

Instructions.

Produced By
Keiran Ryan

Introduction to this Jig

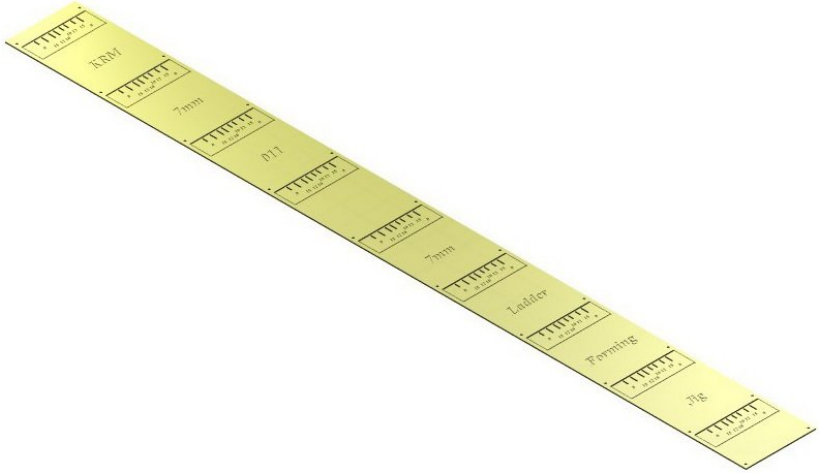
Have you ever tried to build a ladder with wire rungs and keep the stiles (ladder sides) straight and parallel?

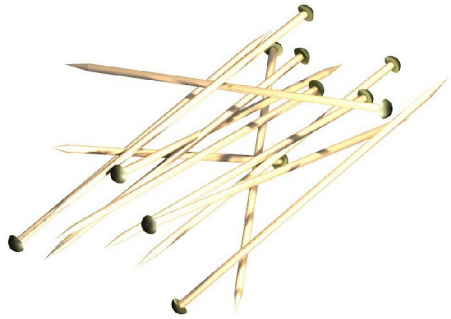
The problems are many and varied, from warped sides to rungs that don't look square to rungs that fall out when finished. With the KRM 7mm 011 Ladder Forming Jig, all of these problems, pale into insignificance.

This jig, allows you to build up a straight, square ladder using whichever size wire rungs that you like.

Used in conjunction with the KRM 7mm 012 Ladder Stiles, this jig becomes a very valuable easy to use tool, that you can use over and over again.

Use this tool to make ladders in 6 sizes, 10", 12" and 15" centres, as well as the same sizes with inside measurements.





Hints & Tips

•Read the instructions 3 times so that you become familiar with them.

•The holes etched in the stiles can take 0.3mm wire or be drilled out to accept larger wire sizes.

•The modeller will need to supply the base for the jig out of any material that they desire, my suggestion would be to use balsa with a thickness of 6mm to 9mm.

•Wire is available in bundles of 10 pieces within a 16 mm PVC tube for safe postage from KRM

•Be very careful when soldering the rungs to the stiles that you don't solder any thing to the jig.

•Wash, both the jig and the ladder when finished building a ladder, using warm soapy water and an old toothbrush.

•Practice using the Jig and have fun.

How does it work?

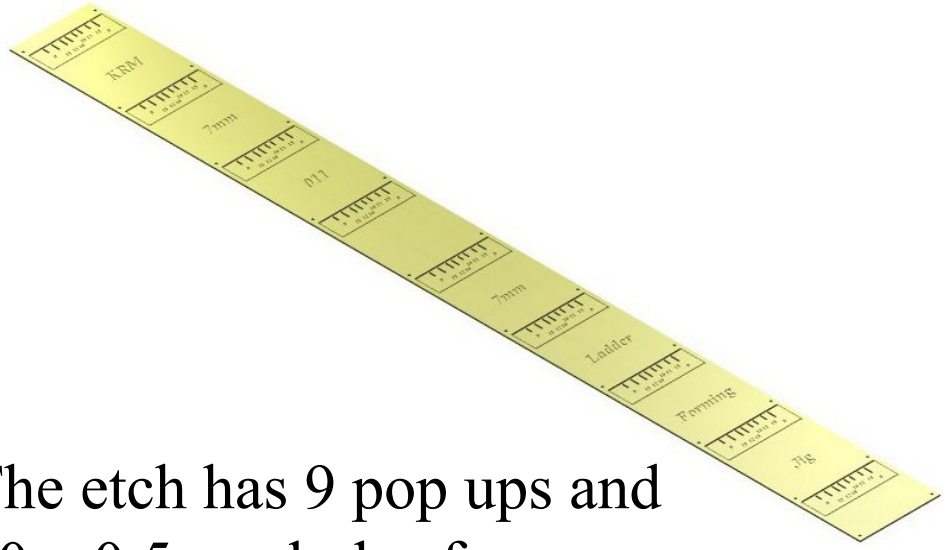
The idea behind the jig, was based on my need to produce long straight ladders for model silos (40ft long in some cases), and my need to produce jigs to be able to cope with menial every day tasks, that were repeated over and over.

The ladder stiles can be placed in the slots of the jig and kept in line and small lengths of 0.3mm, 0.4mm or 0.5mmbrass wire, are placed through the holes in the stiles. The wire is then soldered into stiles and the ladder slowly takes shape.

This type of task, done without the jig would be a nightmare of epic proportions.

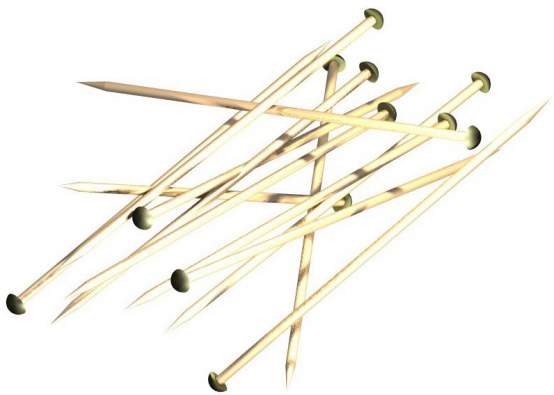
This 7mm version is just a larger version with more options than the HO Ladder Forming Jig.

What do you get with the Ladder Support Jig.



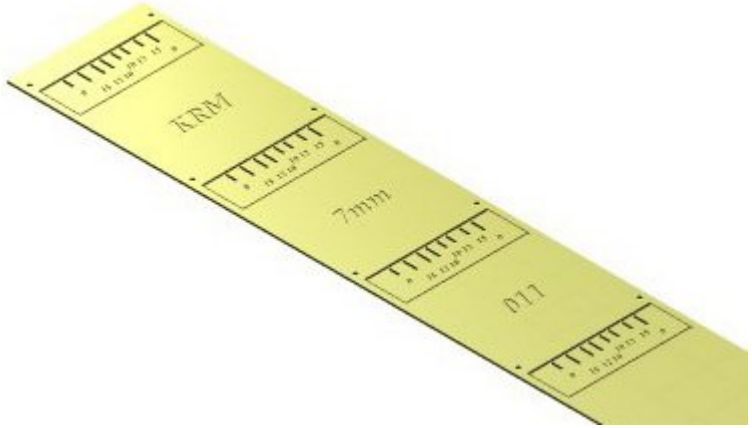
The kit is simply the 0.3mm brass etch as well as 12 0.55mm brass lace pins to locate it onto a balsa base.

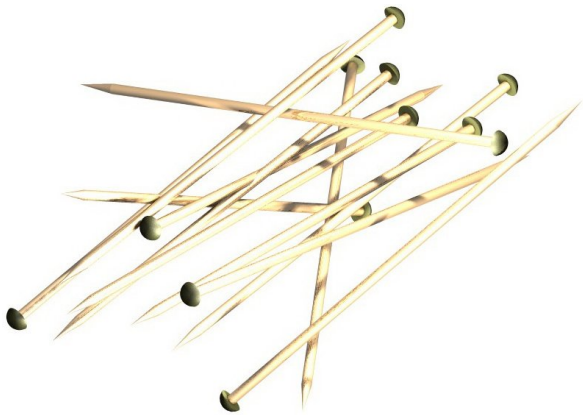
The etch has 9 pop ups and 20 x 0.5mm holes for placing the pins. You don't need to place pins in every hole, just 2 each end and then alternating throughout the rest of the jig.



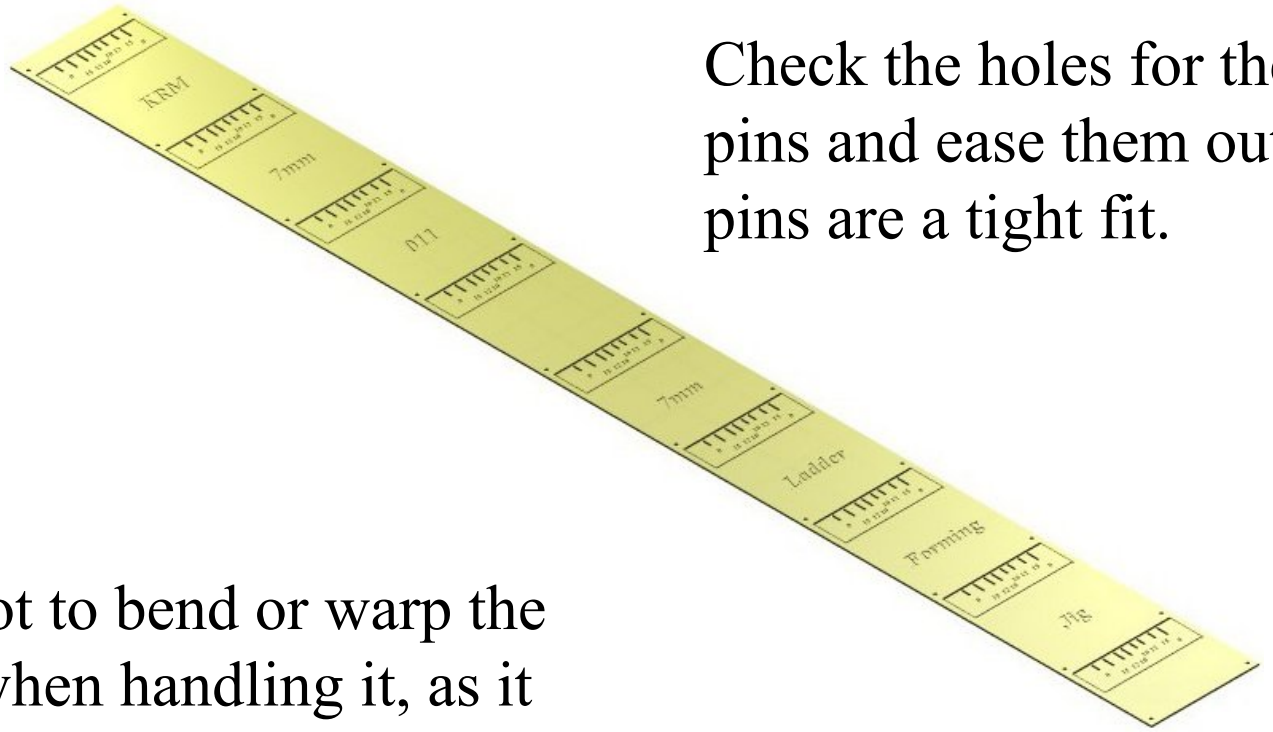
Lets Look at the Jig

The jig comes as a thin flat 0.3mm etch with 9 small pop ups that are folded 90 degrees upward, to form the stile locating section of the jig. Because the pop ups are etched, when folded, they remain horizontally in line, ensuring that the ladders will be as straight as possible. The skill of the modeller will also have an influence of the straightness of the ladder, so a little practice on a smaller ladder is possibly the best way to start. Practice makes perfect. There are also 0.55mm holes etched into the jig. These are for locating the jig onto a balsa base using brass lace pins (KRM Misc 002) The jig is then flat and stable for you to work with.





Here's an idea, why don't we set up the jig and build a small ladder



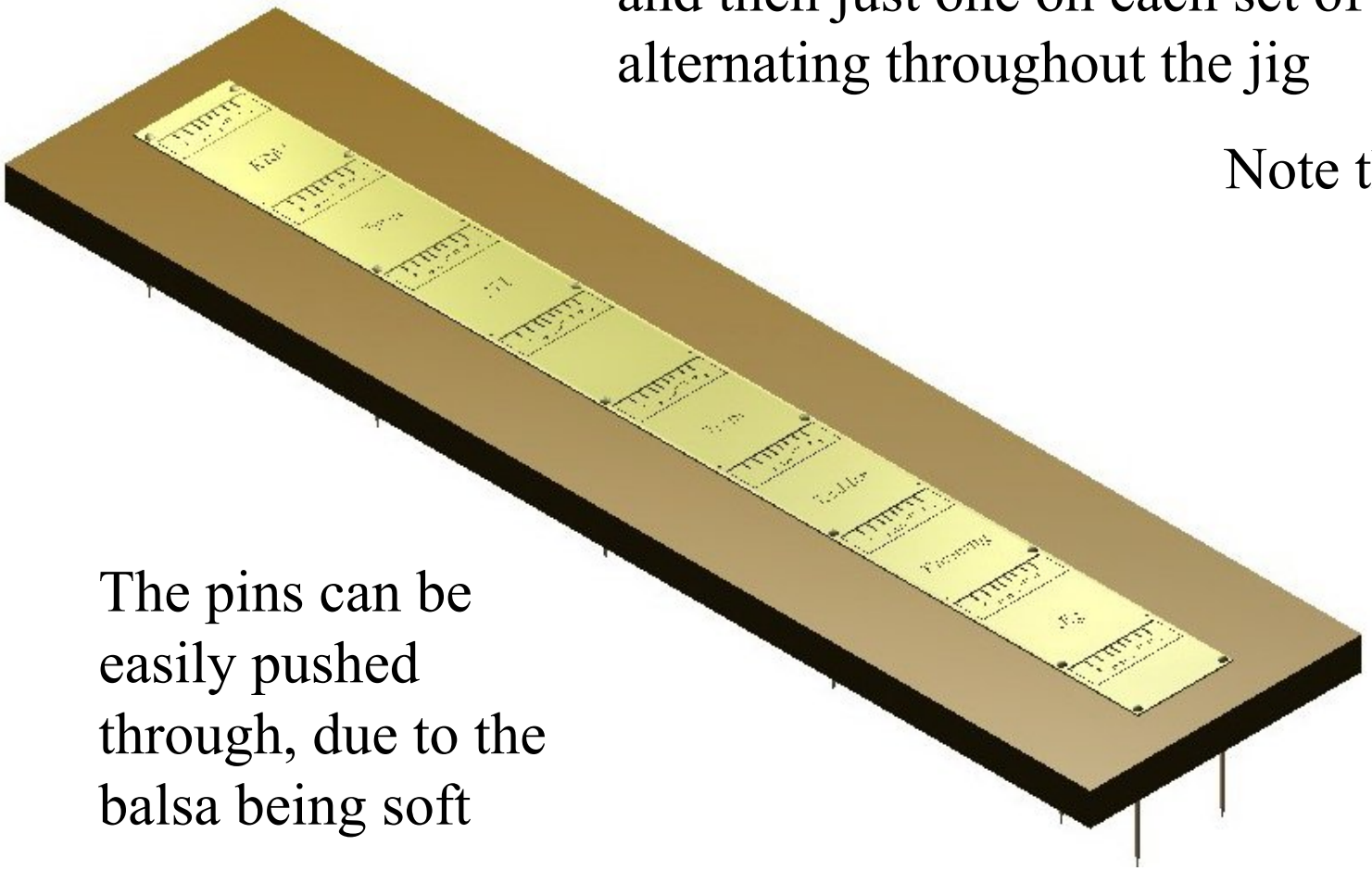
Check the holes for the lace pins and ease them out if the pins are a tight fit.

Try not to bend or warp the etch when handling it, as it easier to work with if it is flat.

Setup – Step 1

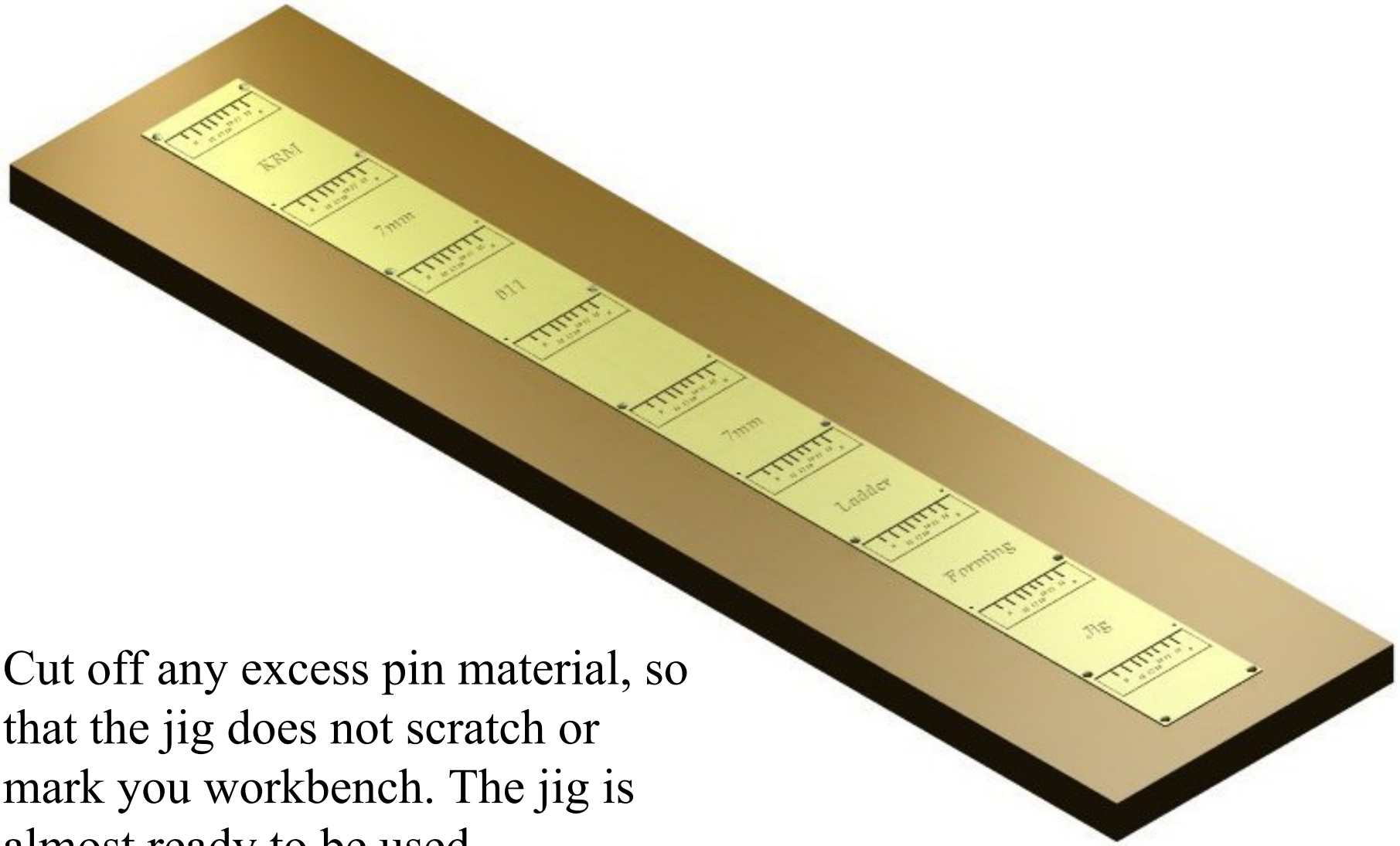
Cut a piece of balsa to form a base. Locate the Jig with lace pins, with 2 on each end and then just one on each set of holes alternating throughout the jig

Note the drawing



The pins can be easily pushed through, due to the balsa being soft

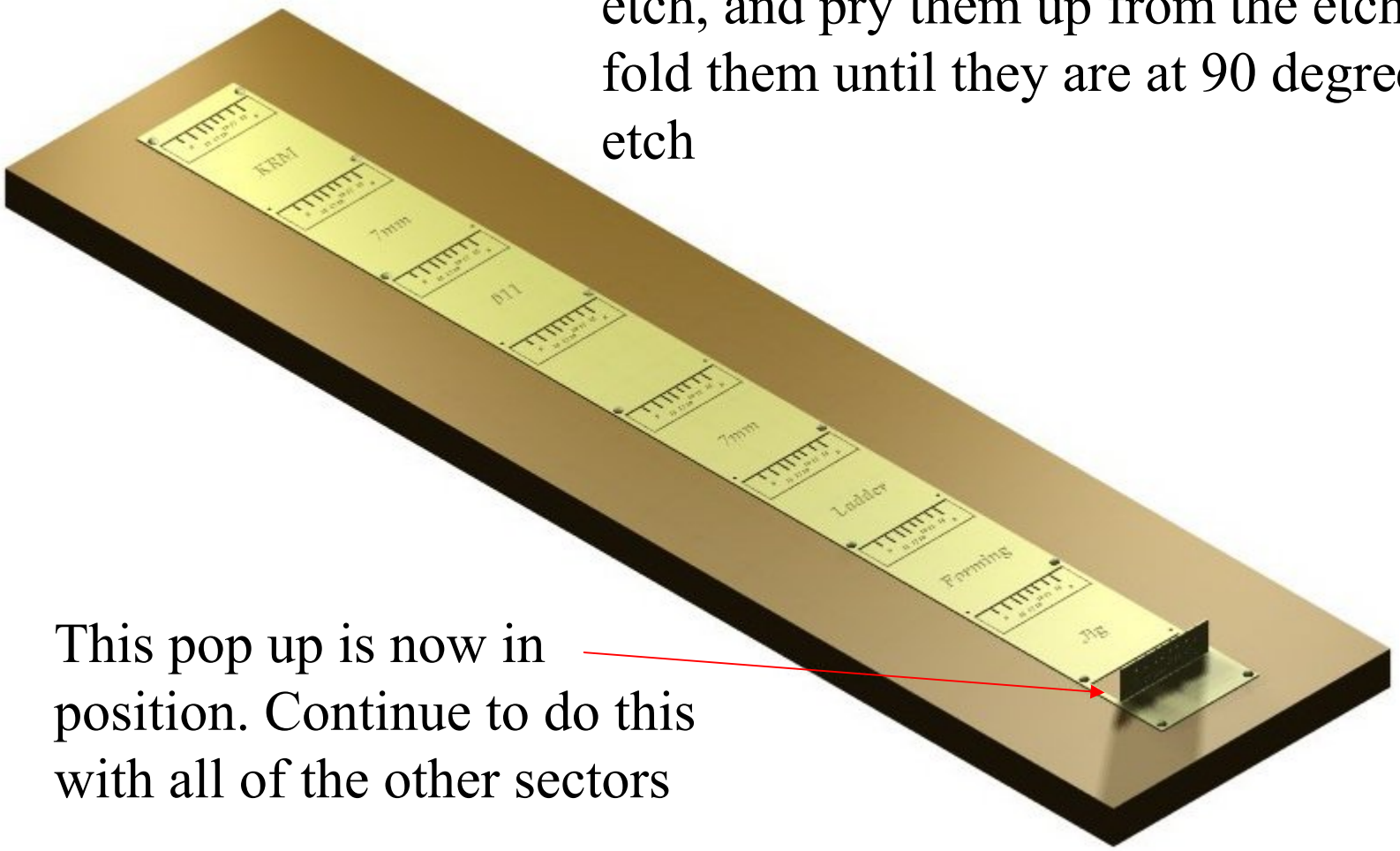
Setup – Step 2



Cut off any excess pin material, so that the jig does not scratch or mark you workbench. The jig is almost ready to be used.

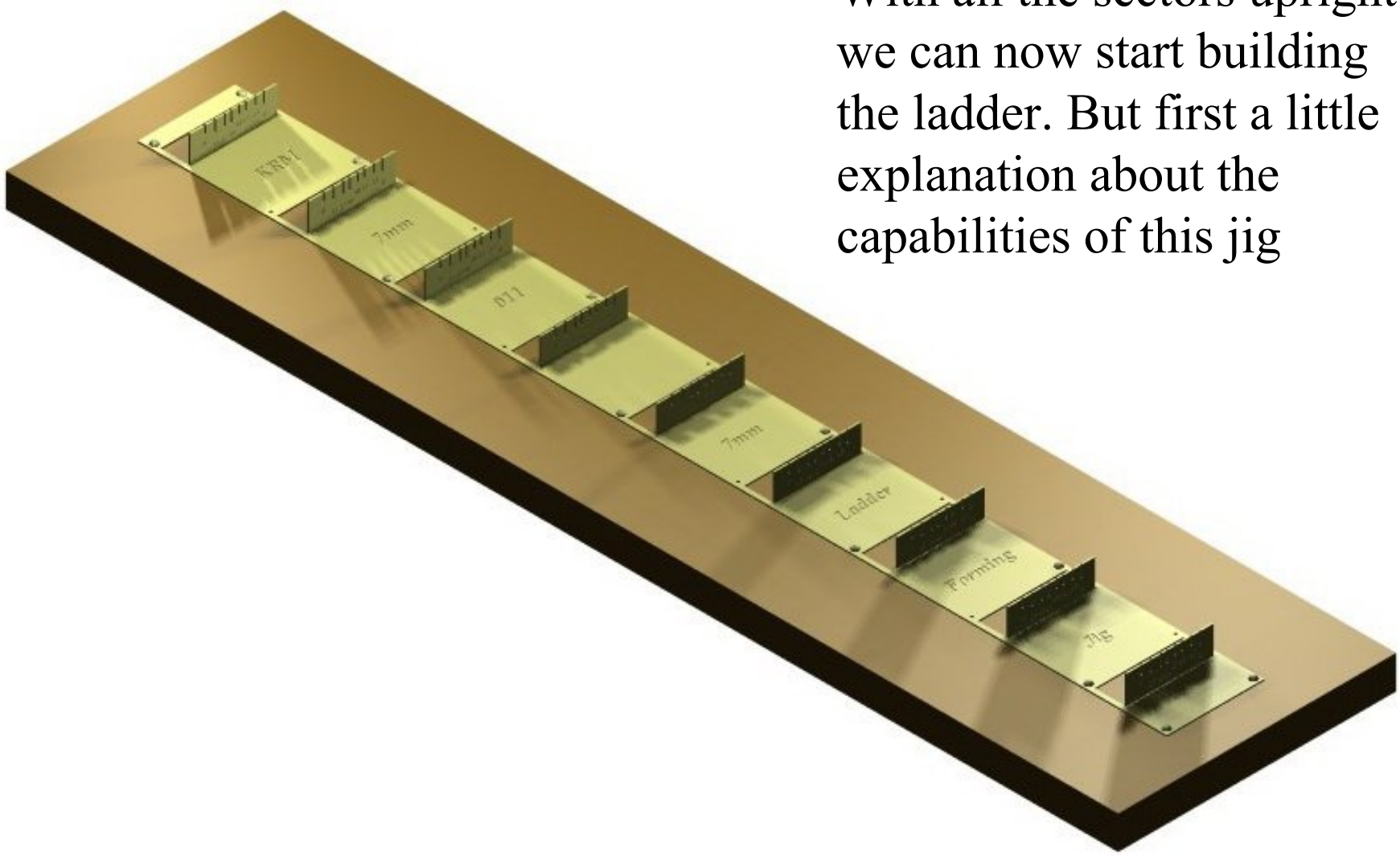
Setup – Step 3

Starting at either end, place your hobby knife blade under the pop up sections of the etch, and pry them up from the etch then fold them until they are at 90 degrees to the etch



This pop up is now in position. Continue to do this with all of the other sectors

Setup – Step 4



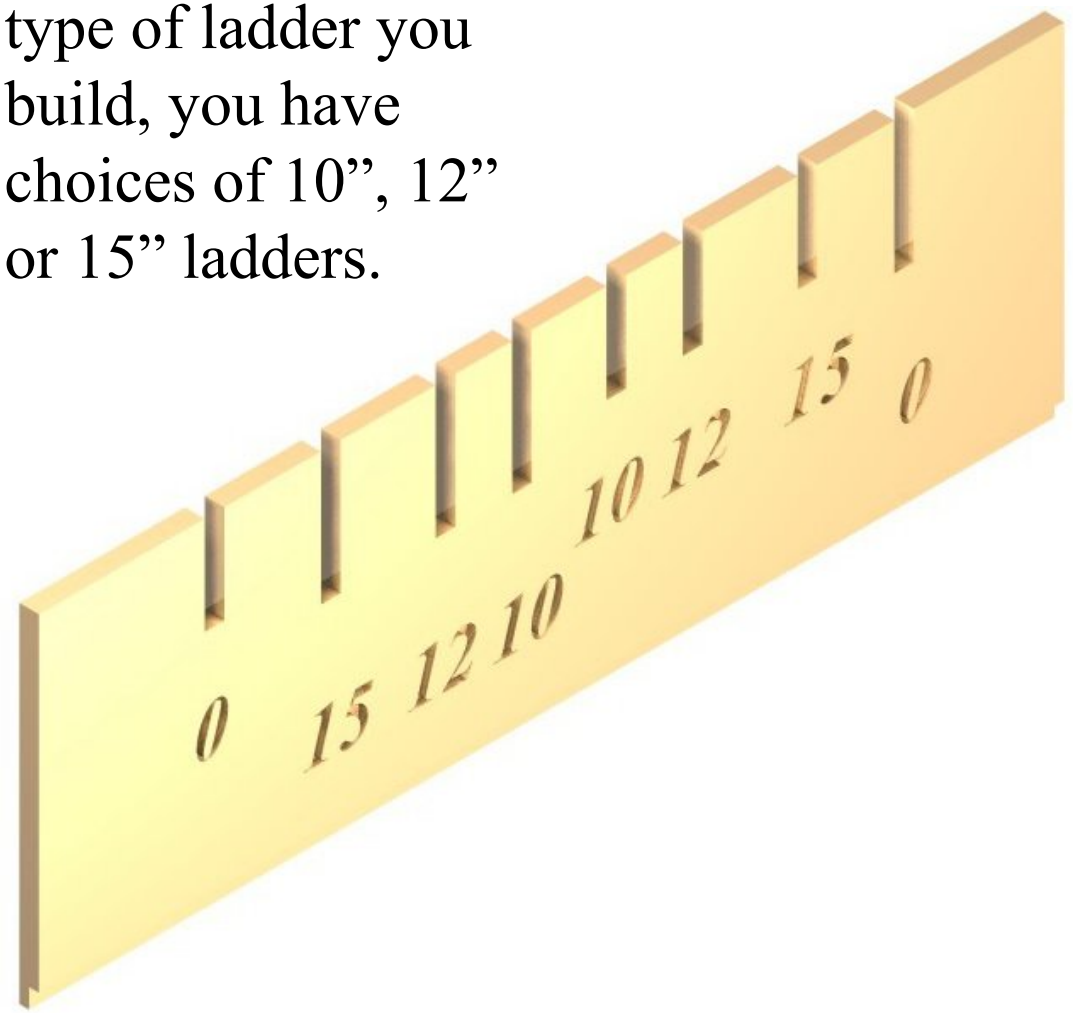
With all the sectors upright we can now start building the ladder. But first a little explanation about the capabilities of this jig

The dimensions

If you study the sector to the left, there are 8 slots which are all marked. The 4 deep slots are use to build ladders that are dimensioned to the centre of the ladder.

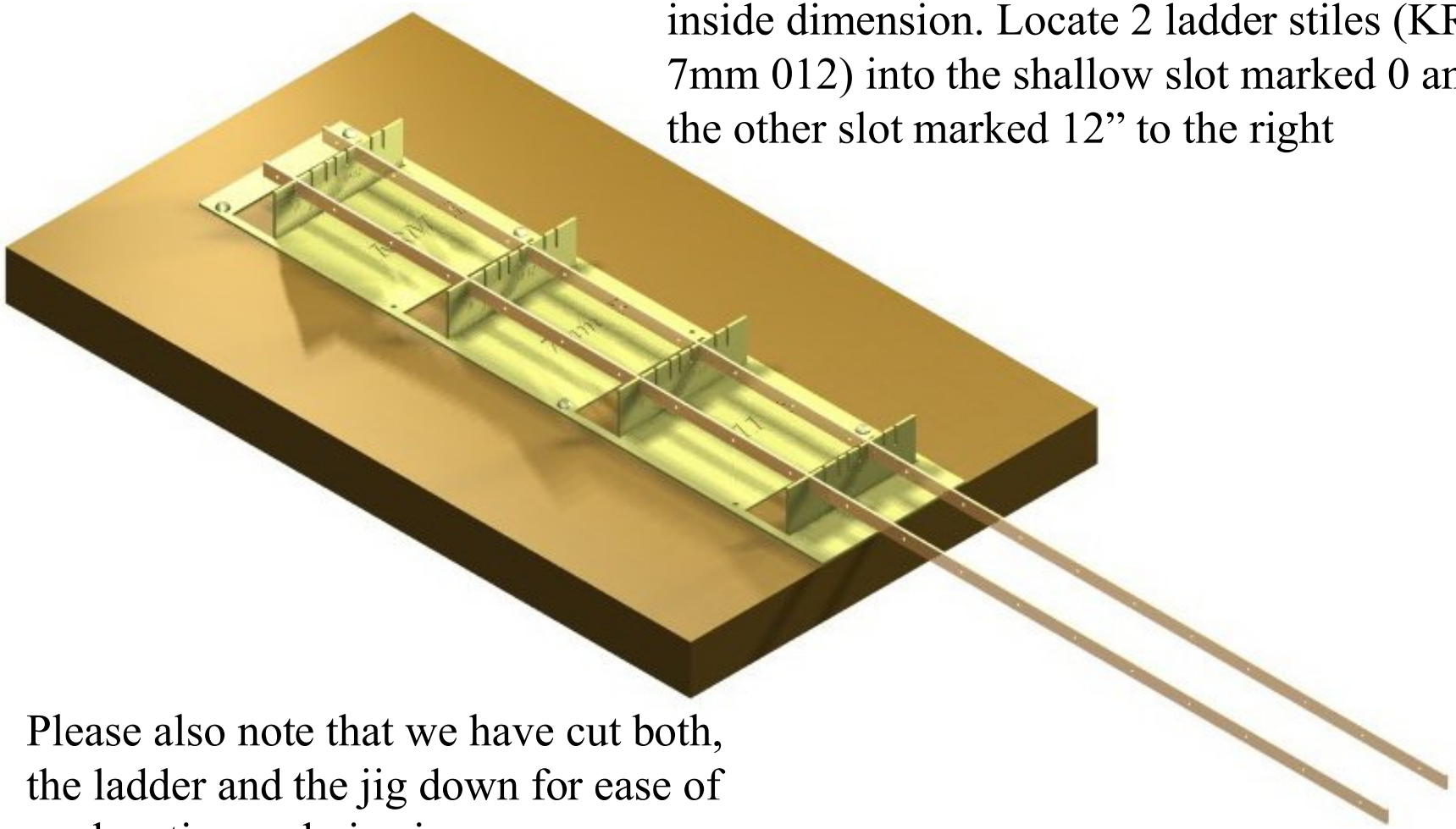
Whilst the 4 shallow slots are used to build ladders that are dimensioned to the inside of the ladder

No matter which type of ladder you build, you have choices of 10”, 12” or 15” ladders.



Building a Ladder – Step 1

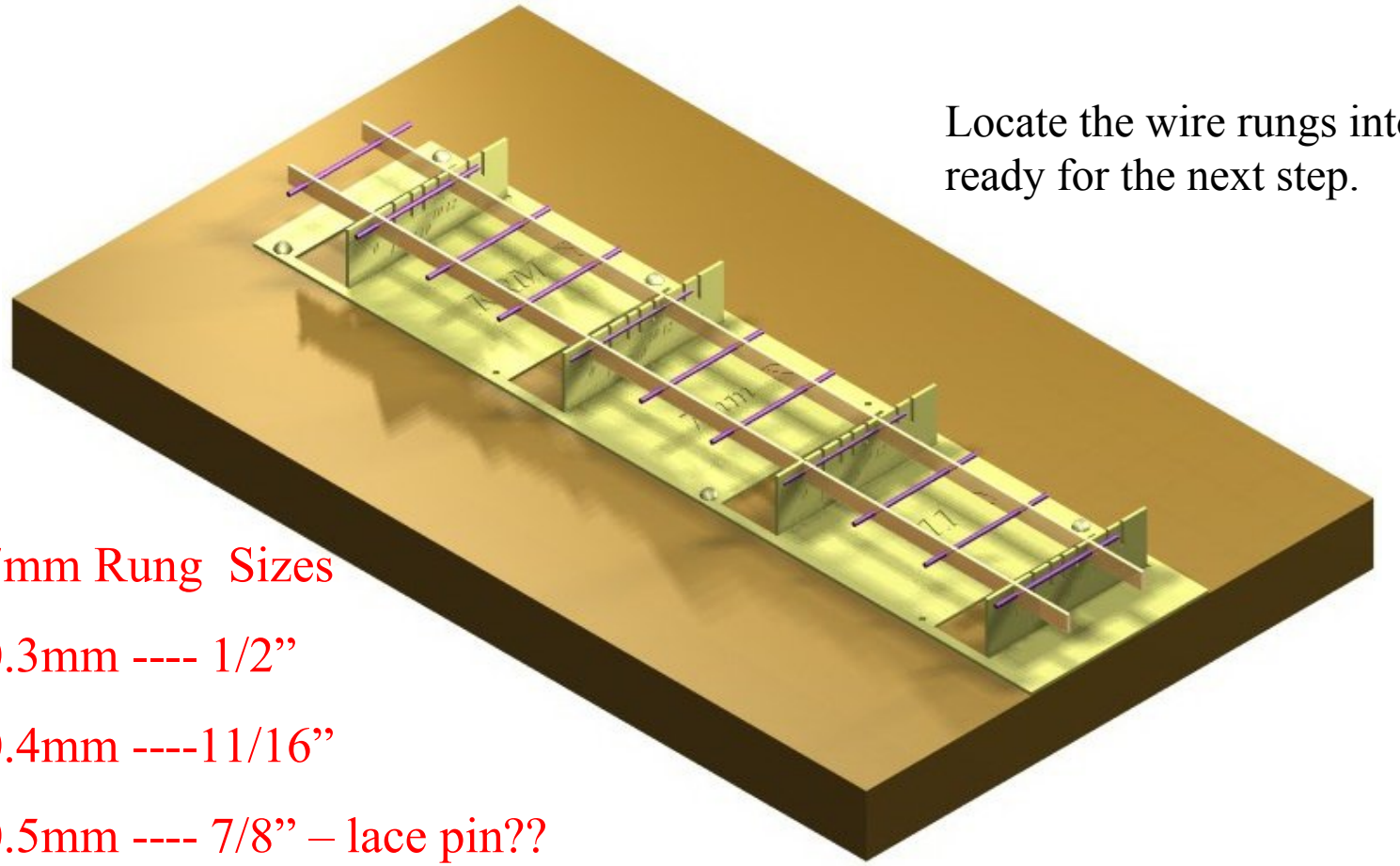
For the purpose of this exercise, we will be building a 20ft, 7mm ladder which has a 12” inside dimension. Locate 2 ladder stiles (KRM 7mm 012) into the shallow slot marked 0 and the other slot marked 12” to the right



Please also note that we have cut both, the ladder and the jig down for ease of explanation and viewing

Building a Ladder – Step 2

The stiles can be drilled out to suite, they are etched at approx 0.35mm. The ladder rung is very simply your choice. Ensure that when drilling the stiles, take care not to bend or warp them. You can also use small sections of masking tape to hold the ladders stiles in place whilst working on them.



Locate the wire rungs into the stiles ready for the next step.

7mm Rung Sizes

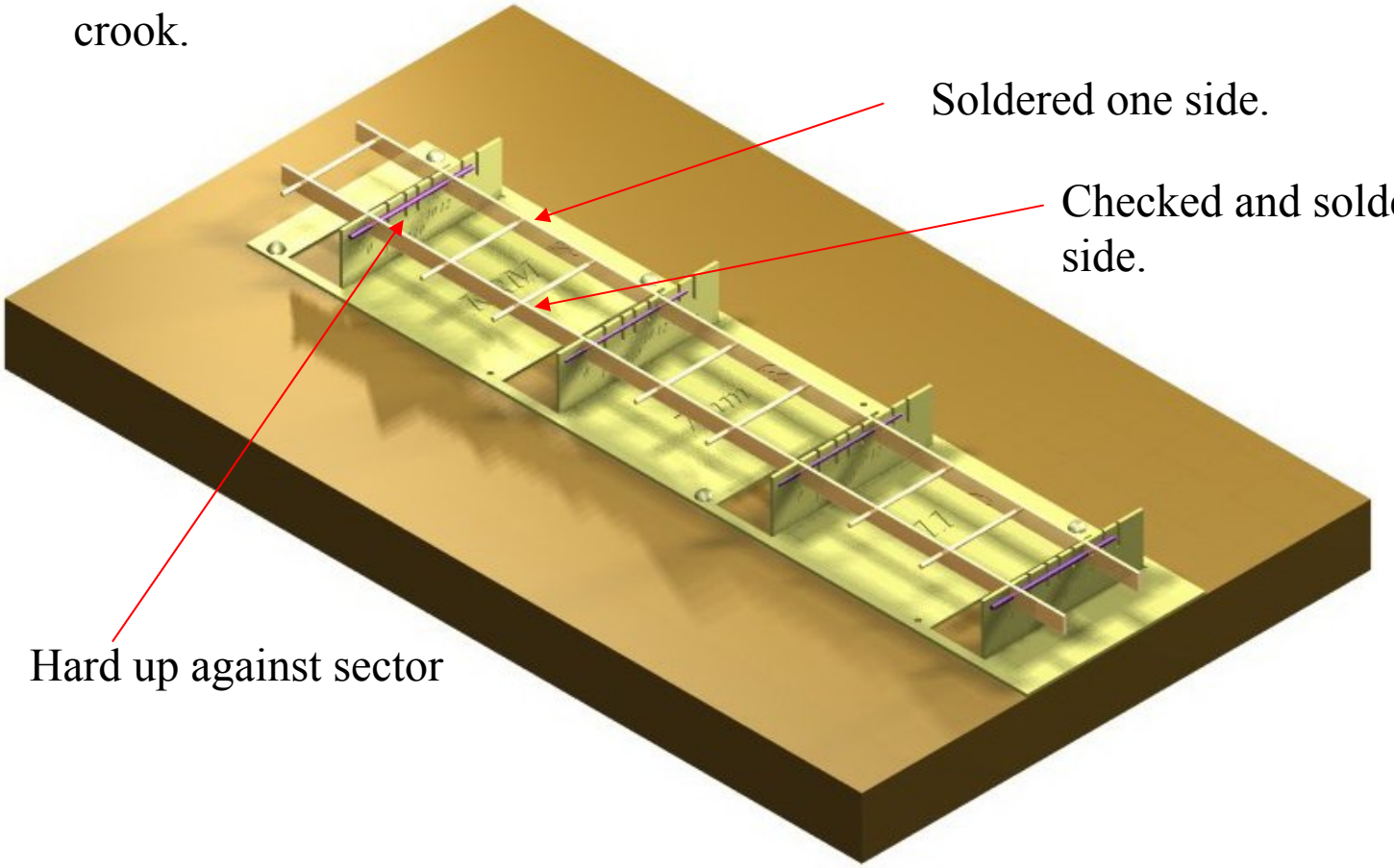
0.3mm ---- 1/2”

0.4mm ----11/16”

0.5mm ---- 7/8” – lace pin??

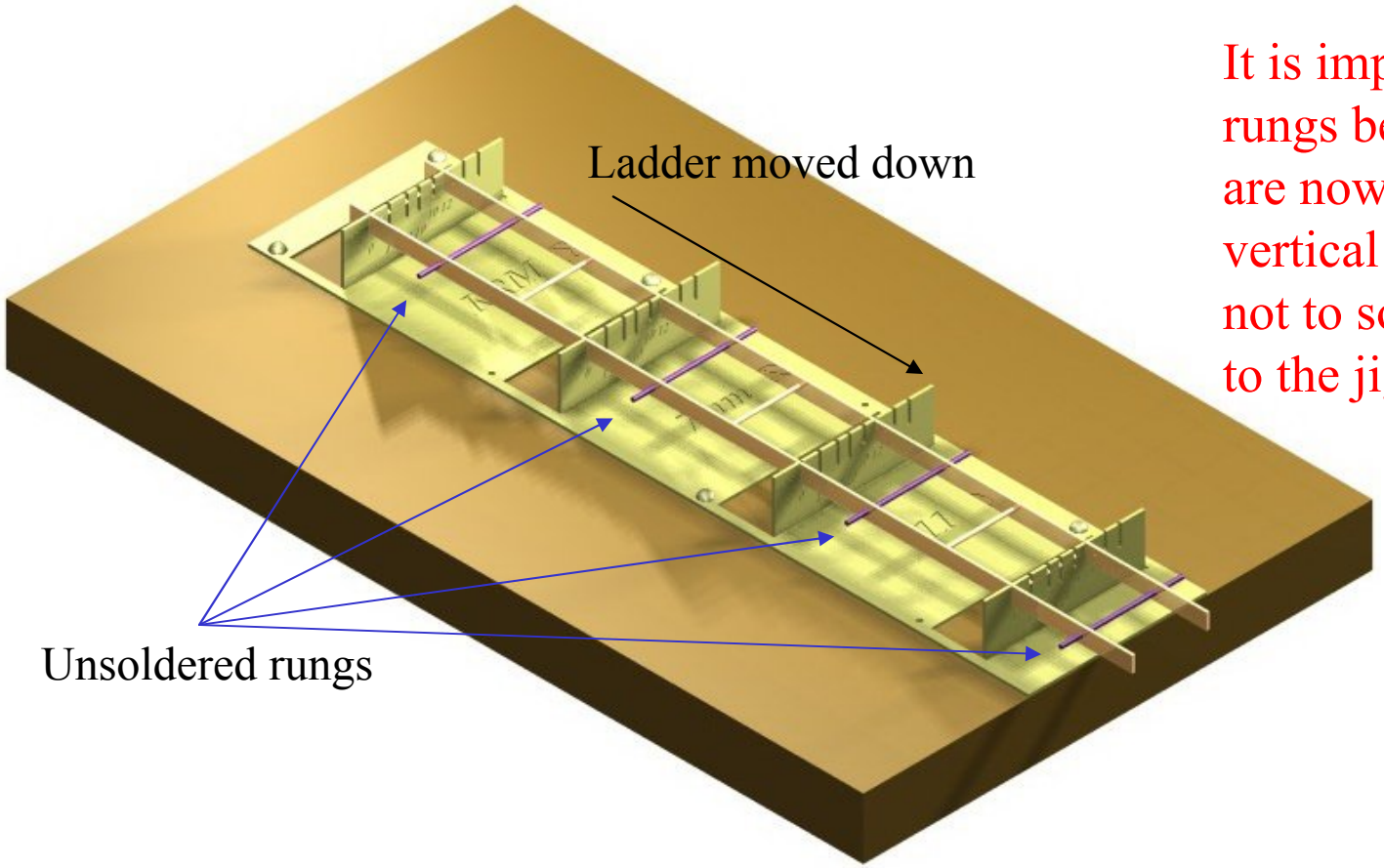
Building a Ladder – Step 3

To make the ladder stiles (the ladder) square, push the stiles and rungs hard up against one of the vertical sectors. You can now solder the rungs that are NOT near the sectors, on one side. Check the ladder for square again then solder the other side of the same rungs in place. Please use the solder sparingly as an excess build up of solder will look crook.



Building a Ladder – Step 4

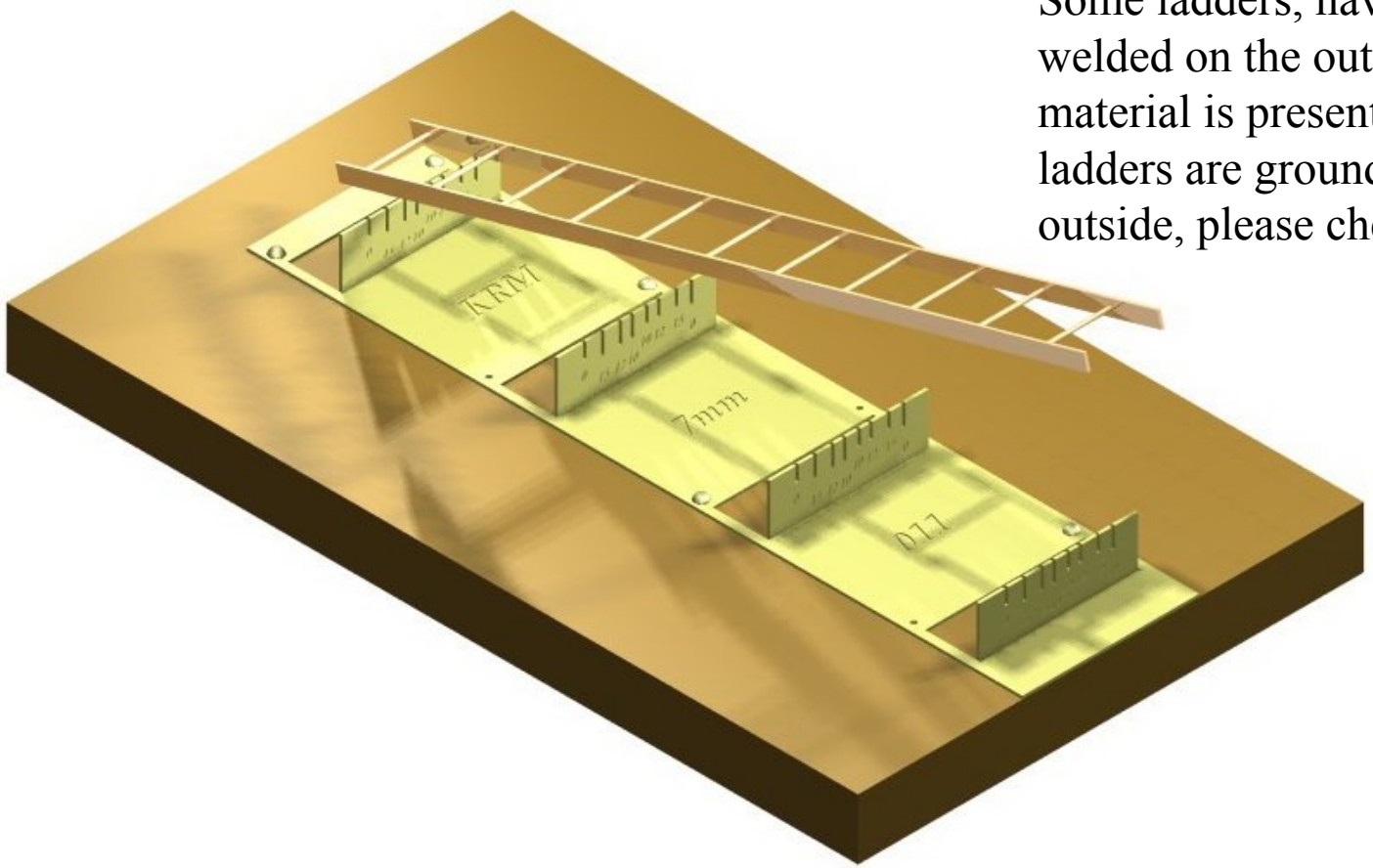
Move the ladder in the jig so that the unsoldered rungs can now be soldered in place.



It is important that the rungs being soldered are nowhere near the vertical sectors, so as not to solder the ladder to the jig.

Building a Ladder – Step 5

Remove the newly formed ladder from the jig. Trim the excess rung material on the outer side of the stiles with a sharp pair of cutters.



Some ladders, have the rungs welded on the outer side, and some material is present, whilst other ladders are ground clean on the outside, please check using photos

Use fine wet and dry to clean up the edges of the ladder as well as the outer surface.

Wash both the jig and the ladder in warm soapy water.

Conclusion

The main reason that you will end up with a good result, using this jig, will be due to patients and skill. So take you time and practice on a small section of ladder.

Like anything that we do in life the more you do it the better that you become at the job, so just practice at ladder building.

I hope that you enjoy using the KRM 7mm 011 7mm Ladder Forming Jig, and if you have any feedback, be it positive or negative, or if you have any ideas that would improve this jig, the feedback is always welcome at Keiran Ryan Models. I can be contracted on any of the media methods below.

Email - krmodels@gmail.com
Telephone - 02 46772462
Mobil Phone – 0409952874

I hope you enjoy the jig, and continue to have fun with Model Railways