

Model-making with etched models for Scale N implies:

- True to scale
- Lots of detail
- Individuality

Etch model: KT085

Lathe, desk and floor drill machine

Level of difficulty: Level 3 from 5

Congratulations

to your new *etchIT*-Model!

With this assembling manual we want to provide you with important suggestions building your new model

KT085, Lathe, small and large drill machine

Follow these instructions and you will get your individually gem on your model railway!

If you are satisfied with this model – we guess you will – then visit our website from time to time

www.etchIT.de

the amount of available models is permanently growing.

Now we wish you a lot of success and a lot of fun while assembling this detailed model from *etchIT*.

General information

The basic material of this model kit is nickel silver sheet metal. This material is robust even in thin sheets and it is stainless. You can glue this metal or you can solder it. The soldering method adds extra stability and should be the preferred method to fit nickel silver parts together.

More information about soldering are to be found in this manual some pages downwards.

Please find all the actually available assembling manuals (most of them in german language) on the following web address (put as ONE line into the address line of your web browser):

<http://www.easy01.de/etchIT-store/assets/own/manuals.htm>

Folding edges

As mentioned, nickel silver is very tough and so all edges which to be fold are pre-etched on one side of the sheet metal. Most of the time this etched edge is the INNER edge.

There are commercial tools on the market that may help you while bending nickel silver or brass sheet metal. These tools are highly helpfull except for bending very long edges. And these tools are a bit expensive.

So the following paragraphs show you how you can build your own tool(s) for bending edges exactly.

Take...

- ...an old carbide metal saw blade
- ...chip a 5 to 7 cm long piece of that saw blade on both sides (you can't saw! It is too hard. A parting-off grinder maybe usable). **Please always watch your personal safety and use safety goggles and/or other safety material to protect your eyes, hands and body.**

- ... put the two pieces together with a rivet through the holes of the pieces or with a fitting screw and nut.

- ...and you have finally made your first bending tool

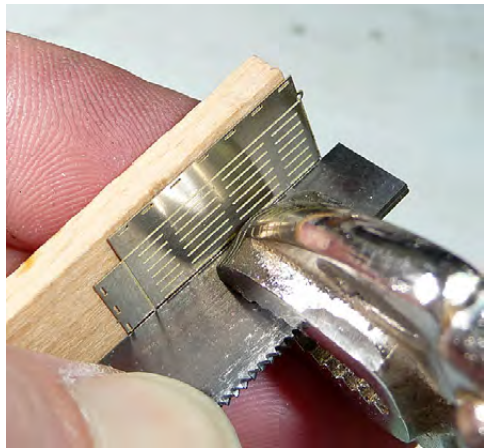
The folding is to be made on the straight side of the coupled sawblade pieces. The metal sheet which should be folded is right between the two saw blades and the pre-etched edge is visible in full width (see picture below).

To avoid that the two saw blade pieces will drift apart clamp the pieces with the inside sitting metal sheet into a machine vise or use gripping pliers as shown in

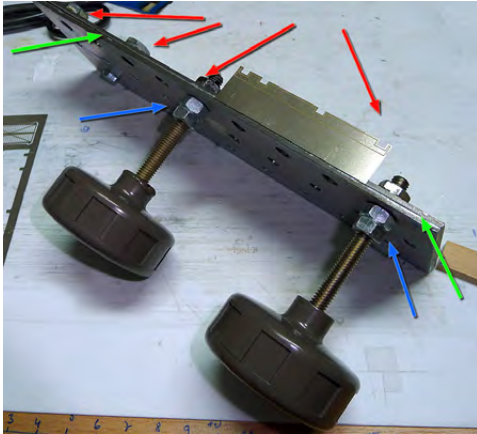
the picture below:



Now you bend the metal along the pre-etched edge with an appropriate piece of hardwood :



There is another bending tool we want to introduce to you. This one always is used when long edges have to be fold (until 170 mm!). Maybe its not a candidate for a design award but it is very useful:



Model kit KT085

The etched plate contains the necessary material for a centre lathe, a floor drill press as well as a bench drill.

These machine tools can be used well in a large scene of a workshop or an assembly workshop. Like all etchIT models, attention was paid very exactly to scale - a benediction for the viewer, but a challenge for the amateur model constructor, because accordingly the parts are naturally tiny. Parts are so tiny that meaningful photos can only be provided with trouble. For this reason the diagrams shown come from the design programme, as, with this, this Model construction set was sketched.

The Centre Lathe

Like each real screw-cutting lathe, this consists of a solid lower part, a bed, the mobile support, engine box with turning chuck and naturally the headstock. The following pictures show the assembly.

This tool uses 2 perforated plates (timber connectors) from the Do-It-Yourself-center sized $200 \times 60 \times 2$ mm. Both plates are connected with two screws and nuts on one of the long sides of the plates. Please watch that the two plates diverge a bit — into this gap we will put the edge for bending .

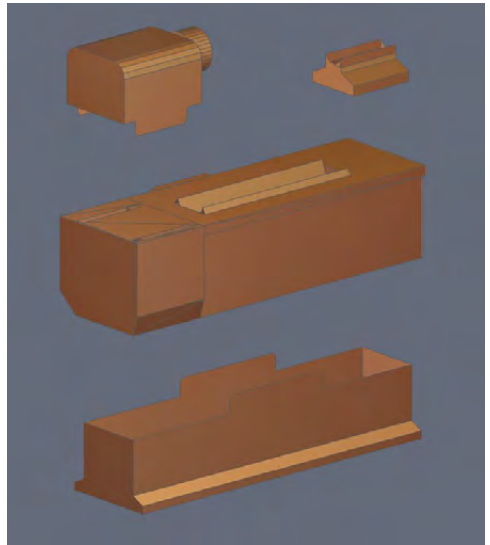
Now you solder on one side of a plate 4 pcs. of M6 nuts (fix them temporarily with M6-screws); shown in the picture at the red arrows.

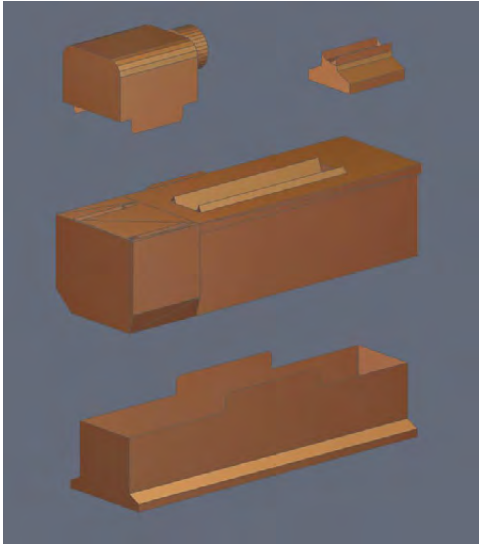
Two pcs. of threaded rods will get two additional hex nuts tightened together (blue arrows). On the ends of the rods toggles are mounted so you can press the two plates together onto the metal sheet in between.

Please press the plates together and watch the upper small sides of the plates. If they do not fit together exactly please grind this ledge until it is flat and plain.

In the following context of this assembly manual we assume that you are able to bend even small and long edges perfectly without deformate the metal sheet in any way — the perfect fit of a metal model is the appeal no plastic modelkit ever can accomplish.

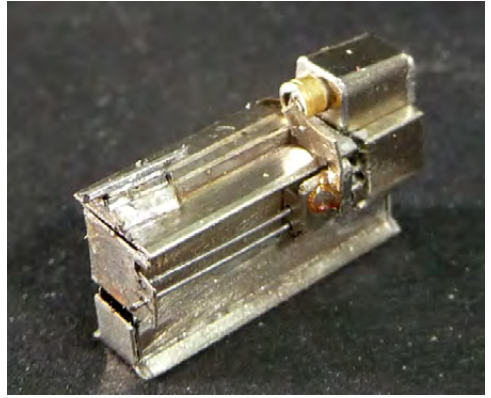
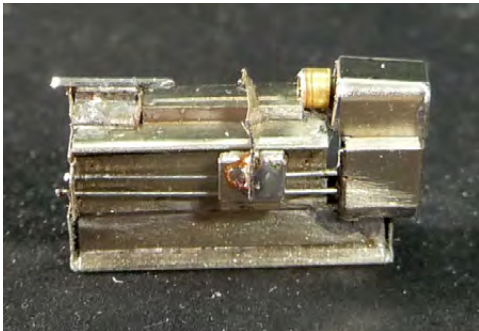
And now: Have fun and success while building your new modelkit from etchIT!





The two diagrams show the assembly of the individual building groups again.

When assembling normally, the tool carriage on "the lead screw" is naturally "adjustable"



The kit is without a scale tool holder, since this would have become too small. As to be seen above, a small bit sheet metal was simply soldered crosswise.

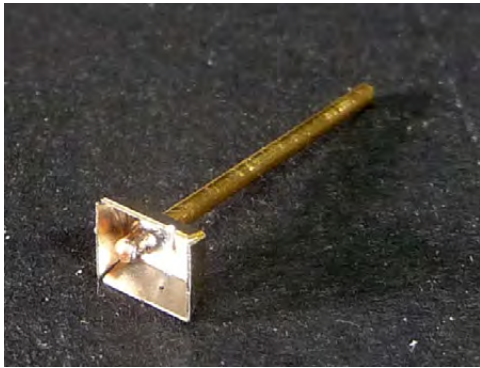
Bits of the enclosed round material form the Turning knobs and the tailstock. Another handwheel from the kit KT084 was used with the finished model shown here.



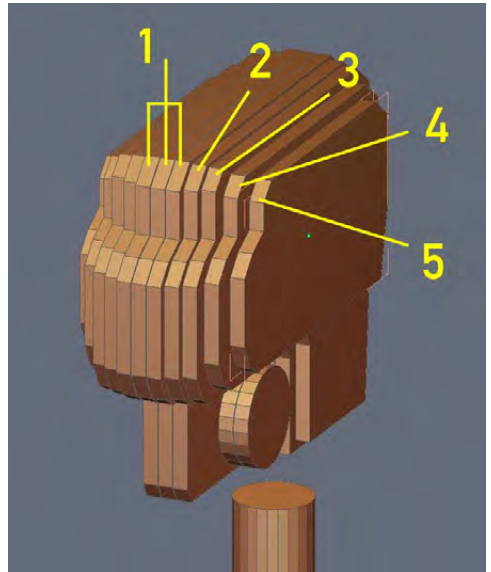
The drill presses

Despite the small size, representing the typical form of a standing and/or bench drill, became possible with the built-up assembly of this kit.

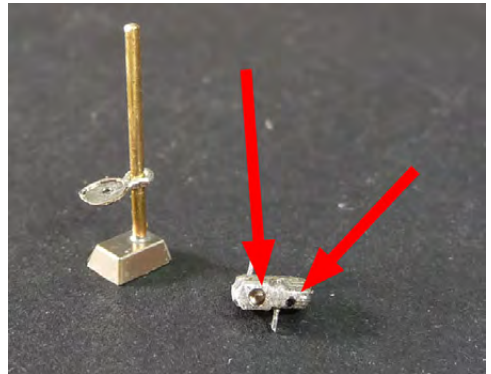
The assembly of the foot explains itself - simply fold up, add the round bar to the desired height with an addition of approx. 1-2 mm for the mounting hole in the lower surface of the Crankshaft housing of the drill press.



The actual drill press housing is assembled through laying the layers, one on top of the other with the numbers 1 until 5 as is shown in the following pictures. To allow those Layers to match properly one above the other, all layers have suitable holes. Put three steel wires into a piece a firm foam rubber or of soft wood through one of the internal layers and then stack one above the other all sheet metals in the correct order.

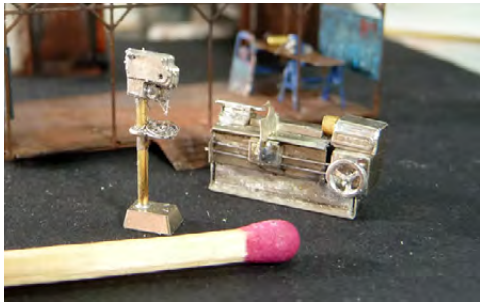


The layers are then moistened at the edges with soldering flux, which flows into the gaps. Hold the bundle of laminations together with Tweezers and apply solder in a suitable place.



Into the soldered housing drill an 0,8mm hole, 1 - 2 mm deep, into which you insert the column. In addition can, anyone who wants to make it completely authentic, can use bits of wire to make things like drill chucks and leavers. A wire loop is soldered to the column, before the crankshaft housing is put on. The smaller bench drill is assembled in the same way. Here are both machines after complete assembly:





We wish you a lot of success and enjoyment in the following hours of model making fun and once again:

Congratulations for your detailed etchIT model!

Color Design

By no means you should color stairs, grids and other filigree parts with a paint brush. Whether your color is runny or it is viscous — the paint brush occludes filigree perforations and reduces details dramatically. The realistic charme of your precious model is blown away...

The best way is to use an airbrush and fine grained acrylic airbrush colors. But — to use such an airbrush in the right way is not easy and needs a lot of experience and training.

Another method is the use of color in spray cans especially made for model making purposes (e. g. Tamiya spray colors for plastic model making).

First of all use a primer on the degreased metal surface (with Aceton for example) and let the primer dry overnight. Then you color your model in thin layers of spray laquer.

Always pay attention to the safety notes on all products you use!

