

## A Modeller's Toolkit

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### Introduction

I must admit to being a bit obsessive in general and more particularly I have a bit of a thing about tool boxes and tool kits. I'm not quite sure how this started, but through a combination of taking tools on business trips, and working between my garage, living, kitchen and dining rooms I have built up two small portable tool kits which contain the tools I really need to carry out the majority of my modelling activities. I have also been partly inspired by some articles on travelling tool kits printed in the 2mm Association journal. I am hoping that writing this article will help to get this out of my system, as it is I can't walk past a previously un-visited stationers' shop or tool outlet without checking for suitable boxes and tools! Needless to say I have a few more tools than might be considered absolutely essential for the modelling work I undertake.....

The article is in two parts, firstly my ideas on tool boxes and secondly a list of tools with notes on what to look for and what to avoid.

### The Tool Box

Historically I started out with a larger tool box of the typical 12" x 6" x 6" sort of size but more recently have experimented with smaller toolkits housed in a largish pencil case and a somewhat bigger box but still only about half the size of the original box. Finally I have settled on two toolkits, one housed in a regular sized tool box and the other in a large pencil case. Whilst using my old large toolbox I found that over the years I gradually added more and more tools and then had to keep having a 'purge' so I could get the lid closed. I constantly struggled to reduce the number of tools and eventually started to be much stricter about what was included, removing seldom or never used tools to drawers. My small toolkit lives in my dining room for occasional use and taken on trips and to exhibitions, and the large toolkit in the workshop, permanently open!

When I started travelling regularly both within the UK and internationally I took modelling equipment with me but of course my large toolbox was too big to pack so I just ended up taking a minimal set of tools in a plastic pouch. Whilst on one trip in USA (Albany NY) I saw some interesting pencil cases in (I think) Office Max and bought one thinking it might be useful for a travel toolkit. The pencil case in question is made from tough rigid translucent plastic and, crucially, has a lift-out tray. The overall size is about 8½" x 4½" x 2½" with integral hinges and catches. I had to cut away some of the internal compartments to fit the longer tools but at the end of my hacking I had a nice compact tool box suitable for packing in a suitcase and big enough to hold a basic toolkit with the exception of a few larger items like a soldering iron, piercing saw, vice and digital calipers. The pencil case cost a few dollars and I am now wishing I had bought 5 of them.... Thanks to an enthusiast in USA I now hope to be able to offer these for sale in UK for a modest fee!

For my larger toolkit I use an artists' clear storage box with cantilevered trays, this presents the tools well and being clear both provides good visibility of the tools therein and does not cast a shadow over my work area.

Both of my toolkits have the same basic set of tools, many of the tools being identical but some are the same type but of different manufacture. Most of the tools are widely available but for those which are more difficult obtain or where it is difficult to find good examples I have suggested various suppliers and/or manufacturers which I have found good. There is one final fringe benefit from having two toolkits; when you break a tool (and this does happen to the best of us) you always have a backup.

I recognise that the contents of a toolkit is to some extent a personal thing, so I hope you will take the following list in the spirit in which it is intended, which is to share the results of quite a bit of searching and browsing shops and save you some time in getting together or extending or just organizing your modelling tools. I have found putting toolkits together a rewarding pastime in itself and hope you can share this enjoyment.

Before the list here are some pictures of my small toolkit shown against an inches background.



## The Tool List

<b>In the top tray</b>	<b>Notes</b>
Large craft knife (No 2) straight blade (No 2)	There are many cheap craft knives available – just avoid the ones with plastic parts – all metals ones are not expensive
Small craft knife (No 1) straight blade (No 11)	
Scalpel small (No 3) straight blade (15A)	
Glass fibre brush	I prefer the retractable 'propelling' type.
150mm steel rule	mm and inches
Dental probe/scrapper (type 7)	Useful for all sorts of scraping and stirring jobs
Large paintbrush (say size 1 or 2)	To suit your needs, can be used for cleaning and applying liquid poly as well as for painting.
Small paintbrush (say size 00 or 000)	
Large tweezers (MM)	I use stainless steel tweezers
Small (fine) tweezers (SS)	
Pin chuck multi collet type	The type with two reversible collets
Pin chuck – small single collet type	I find it useful to have a separate small pin chuck so that I can have a couple of different drill sizes to hand without having to change bits all the time.
Selection of drill bits 0.3mm-2mm in 0.1mm steps, perhaps some 0.05mm steps	I keep my drill bits in a small clear plastic box
Cutting broach set 0.2mm-0.6mm (6 broaches)	To be used in opening out holes in sheet material to fit shafts.
4mm drill bit (for de-burring)	
Screwdriver small jewellers flat blade	Take four screwdrivers from a set of jeweller's screwdrivers.
Screwdriver larger jewellers flat blade	
Screwdriver small jewellers cross point	
Screwdriver larger jewellers cross point	
<b>Consumables</b>	
Syringe type oil dispenser	This is a hypodermic with a blunt needle (!)
Syringe type silicone grease dispenser	This is a hypodermic with a blunt needle (!)
Superglue	For general purpose build use
Blue tack (USA Silly Putty)	I use blue tack to hold small models during soldering
Standard solder	Small amounts in a travelling toolkit
Low melt solder	Small amounts in a travelling toolkit
Flux	I have a small amount in a thimble sized plastic pot originally supplied filled with acrylic paint as part of a cheap painting set.
<b>In the main part of the tool box (under tray)</b>	
Cutting broach set 0.6mm-2mm (6 broaches)	To be used in opening out holes in sheet material to fit shafts.
Needle file set 100mm	These small files are found less often than their larger 150mm cousins, but are more useful for work on small models. Expo tools sell these smaller files. Codes: 725-35 (standard) 725-06 (diamond). Diamond files can be used to cut hardened material.
Diamond needle file set 100mm	
Toolmaker's stone square section	Buy a good quality one, this is a very useful alternative to files.
Scissors	Can be used to cut sheet brass and nickel/silver, card etc
Set square 2"	
Brass or phosphor-bronze brush	Phosphor bronze brushes are sold for cleaning guns
Old tooth brush	
Very fine flat nosed pliers	Finding good but inexpensive ones is difficult. I recommend PL0100 Precision plier half round from Squires.
Fine flat nosed pliers	Finding good but inexpensive ones is difficult. I recommend 'Klein' brand sold by the Hobbycraft chain of craft superstores.
Long flat nosed pliers	Commonly found in cheap pliers sets
Fine round nosed pliers	Finding good but inexpensive ones is difficult. I recommend 'Klein' brand sold by the Hobbycraft chain of craft superstores.
Fine side cutters	Finding good but inexpensive ones is difficult. I have some made by Xcelite obtained from Fry's electronics in the USA and others which are 'own brand' from RS components in UK.
Xuron Photo Etch Scissors (UPC#90046)	These are special extra fine cutters which make the job of removing items from brass and nickel/silver etched frets that much easier.
Piercing saw blades 80 TPI	These are the finest (smallest teeth) blades available

<b>Probably too large to fit in the tool box</b>	
Piercing saw	Indispensable tool for all but the hardest materials
Temperature controlled soldering iron	Don't buy a cheap one, this is a crucial tool. The problems with cheap temperature controlled soldering irons are the quality of the tip which may be difficult to tin and the range of adjustment which may not go low enough. 130C is a useful minimum.
Mini vice	Try to get one with vee grooves for holding cylindrical items
Digital calipers	Watch out for bargains at your local discount shop – I obtained a set of 150mm digital calipers for £9.99 recently.
Cutting Mat (A4 or A5)	Useful in protecting the hotel's desk, I have an A3 one for home.
Hardboard or plywood cutting mat	Just any old A4-A5 sized piece of board to use as a hard cutting and soldering surface.