

SCRATCH BUILDING FOR SUPER DETAILING

TOOLS AND MATERIALS

Scratch building an entire model is a very difficult and impressive modeling feat - and one that I have never attempted. But scratch building on a limited level, to enhance what's in the kit or to create something the kit doesn't supply, is another thing altogether. It can be challenging or relatively easy depending on what you are doing. Simple additions can often add effects that are out of all proportion to the effort involved. In coming months we will look at methods, but let's begin by surveying some materials and tools. This list is not exhaustive, but the following items have proven very useful to me.

Styrene Strip and Rod



The most common product in this category is the extensive line produced by Evergreen. Styrene strip is available in thickness from .010" to .250" with widths from .020" to .250". Rods are available from .020" to .125" diameter. Styrene sheets from .005" to .125" thick are also available. My only quibble is that some rod sizes in the Evergreen line are not always round but somewhat egg shaped. Just introduced by Evergreen are .010" thick transparent colored sheets in red, green, blue and yellow. I haven't examined these yet, but they may be just the ticket for colored light lenses.

Plastruct products are harder to find, but include strip down to .010" square and rod to .010" diameter. The rod is perfectly round in every size I have examined.



Styrene Special Shapes

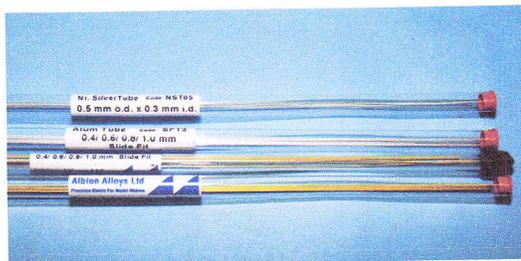
Evergreen is again the most easily found. The line includes tubes, angles, channels and other structural shapes. The tubing sizes are rather large for our scales, as are many of the shapes, but these larger sizes can be useful for adding strength or support. The smallest angle and channel sizes work great for things like ejection seat rails. Plastruct offers a similar line but includes something most useful - hexagon rod down to .030". Sliced to whatever thickness you need this is great for simulating nuts, bolt heads or tube fittings.



Brass Tube and Rod

The uses are obvious. Available down to sizes almost absurdly small and much stronger than plastic. Also harder to cut. Lion Roar and Griffen are foreign made and you may have to order from Lucky Model or another Asian distributor. Griffen offers smaller sizes than Lion Roar. Albion Alloys is available from Sprue Brothers.

Albion Alloys Aluminum and Brass Tubing



I love this stuff. Available down to .3mm inside diameter. Sold in tubes containing a single size or in sets of telescoping sizes. The telescoping sets are just the ticket for things like pitot tubes, hydraulic cylinders, landing gear parts, gun barrels and more. The aluminum tubes are easier to cut and they are already silver. Albion also offers PE connector pieces to piece together tubing into frames and structures. Available from Sprue Brothers.

Lead Wire and Solder Wire



Extremely malleable and with no 'memory' - it stays where you bend it with no springback. Solder wire is available from electronics dealers, but the range of useful sizes is limited. Lead wire is marketed primarily for anglers who tie their own flies, and can be bought from sporting goods dealers who cater to them. Available down to .010". I have seen lead wire at model shows packaged in short lengths for high prices. Don't fall for it. A spool of fly tying wire contains yards of wire for less than you'll pay for a foot or so from the model show vendors.

Beading Wire



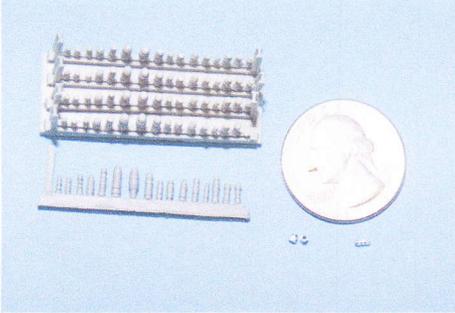
Basically just copper wire coated with a durable colored plastic finish in a bewildering array of colors. The basic colors are what you will need, and the smaller gauge sizes work great for scale models. If you're wondering about the powder blue wire pictured, it's just right for some hydraulic hoses. The most extensive line I've found is Artistic Wire, a supplier of beading materials. Go to www.artisticwire.com, or search for beading wire.

Model Car Wire and Hose



The car guys already know all about this stuff, but the rest of us can use it too. It's a little 'springier' than the beading wire, but also available in useful colors down to smaller sizes than I have found in the beading products. Also available, but not pictured, is simulated braided metal hose, which is often seen on military vehicles and aircraft as well as race cars. Detail Master is the brand most widely found in hobby shops, or go to www.detailmaster.com

Resin and Metal Pipe and Tube Fittings



Metal pipe fittings are again a model car item that can be used for other scale subjects. Some of the sizes are too big for armor or aircraft, but the smaller size fittings work well in 1/32 and even 1/48 scale. Not so much for 1/72, though. Available from Detail Master. The resin fittings pictured are a recent addition to Squadron's True Details line, available in 1/32 and 1/48 scales.



Scale Metal Nuts

Pricy, but can't be beat for realism. The smallest I've found have an inside diameter of .019", which is just hair over 1/64". Check them out at www.scalehardware.com. You will also find there lots of other miniature hardware that may be useful for your specific needs. Scale Hardware is not the only source, but it's the one I've used and I can vouch for their service and quality.

Punch and Die Sets



Absolutely essential. You will wonder how you ever got along without them. The Waldron sets are most familiar to modelers, and are now available through internet dealer Roll Models. You really need both the standard and miniature size sets. The other set pictured is from Micro Mark. I painted the punches red on one end so that I'd always know which end to put in the die. UMM-USA also has a variety of punch and die sets, including hex punches, but I have no experience with them. Judging from the quality of other UMM products I would not hesitate to buy them. They are expensive, but so are the Waldron sets.

The Chopper



Not essential, but darn nice to have. This is marketed primarily to model railroaders, but for any application requiring making a lot of parts the same length it's a real time saver. You set the guide to the length you want and chop away. Not for use with metal, but plastic and wood work fine. As seen in the picture, the guides can be positioned to make angled cuts as well as straight. Uses a single edge razor blade.