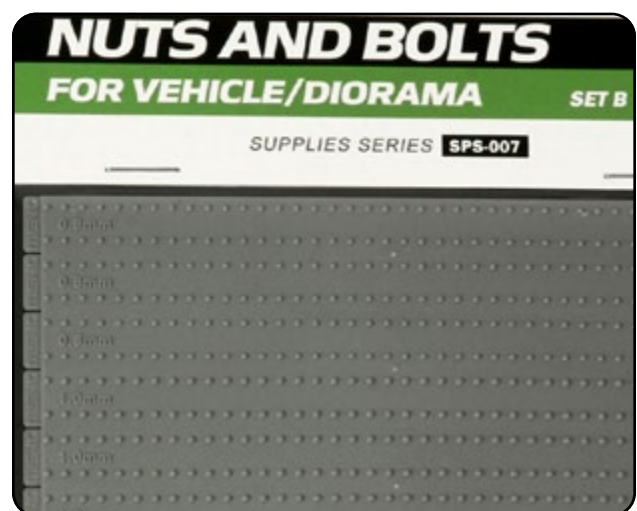
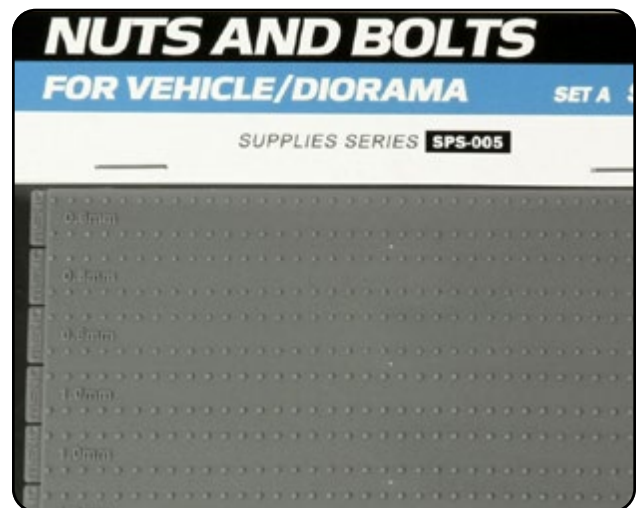


Last Month's Demonstration: Making Electrical and Hydraulic Lines

by Scott Bregi

If you have a project requiring electrical or hydraulic lines, this demonstration described some products and techniques you can use. Sources for the products are listed at the end of the article. Here are the notes from the demo:

- If you have a scale drawing template with electrical/hydraulic lines that you wish to replicate on your model, a good set of architect's dividers will be indispensable to transfer the dimensions accurately and save time.
- In general, the average size of a fitting in real life is about .5" so in 1:35 scale that's about .015" diameter. Brass wire is easy to source in that diameter, is easy to bend and will hold that bend.
- Scott likes to save wire that he's found on discarded electronic equipment. Transformers are especially good donors for very fine copper wire.
- Straighten out wire that has been coiled or kinked by rolling it on a flat surface. Hold another flat tool in your hand and roll the wire until it's straight. Optionally, you can use a flat sanding stick to roll lead wire and it imparts a texture that takes paint better.
- Lead wire is also very useful and is easy to find along with fishing tackle, especially with fly tying supplies. The smallest is usually .010" but larger sizes are also useful.
- The lead wire mentioned above is round, but flat lead wire is also available.
- Flexible spring tubing is perfect when a corrugated appearance is needed. Insert copper wire inside to make bends keep their shape.
- Albion Alloys have tiny brass and aluminum tubing that's perfect for rigid conduits. Couple the tubing with fittings or hex bolt heads and you've got proper looking connectors. Before you cut the tube, insert a piece of copper wire so that the tube is not crushed during the cutting.
- You can buy resin air/hydraulic/electrical connectors from various companies. These fittings are common in model car building so although the scale is a little off, you can still use them on your 1:35 projects. Some are pre-drilled but some have a stem. In that case, just cut that off and drill your own hole.
- If you require clamps or securing brackets for your conduits, HVAC metal tape is very handy. Just cut to size and wrap around the conduit. Tack it with CA glue and add a bolt head for a final touch.
- Meng make several nuts/bolts sets that are made of styrene and molded to a flat runner. Each set has a variety of sizes in the package. Cut them off using a new single-edge razor blade. When removed, the nuts simulate simple threaded connections at the termination point. Scott recommends drilling holes in these nuts while the nut is on the runner. He likes to use a cordless Dremel rotary tool at the lowest speed for this. Use a carbide bit for the best results. Scott uses a #79 (.0145") bit the most.



Continued on next page...

Product Links

Top Studio (connectors & fittings)
<http://www.topstudiohobby.com>

Studio 27 (connectors & fittings)
<http://www.studio27.co.jp>

Meng (nuts/bolts/washers)
<http://www.meng-model.com>

Gundam USA (spring wire)
<https://www.usagundamstore.com>

Blast Models (connectors & fittings)
<https://www.blast-models.eu>

Albion Alloys (metal tubing and rod)
<https://www.albionalloys.com/en/>

Fly-tying lead wire
<https://www.cabelas.com>

Foil HVAC tape
<https://www.mcmaster.com/foil-hvac-tape/>

UMM-USA (lead wire, both flat and round)
<https://umm-usa.com/>

Dremel
<https://us.dremel.com>



Below: An example of Scott's work using the products and techniques mentioned in this article.

