

Building Cosmo's Factory Photoetched Motorcycle Chains

I usually don't build 1:9 scale motorcycle models, but was given a Protoar MV Agusta kit and began to work on it. I wanted to add additional detail and thought a photoetch chain would do the trick. A Japanese company called Cosmo's Factory (<http://www.cosmos-factory.com>) sells an excellent photoetch chain for 1:9 scale motorcycles as well as photoetch sprockets of various sizes.

The chain comes on one photoetch fret consisting of the chain links and a number of circular washers and the website has two different tutorials on how to build the chain. The idea is that the washers are double stacked between the chain links and it is held together by inserting a 0.5 mm (0.020") diameter wire (not supplied) through two chain links, two washers and then two more chain links. There is no jig to hold pieces together while you are assembling things. I tried building the chain using a small jig that I built to hold things in alignment. This proved very frustrating as the pieces kept moving around from the slightest bump and the pieces are in danger of being attached to the jig using CA glue. In addition, I didn't like the look of the double washers used to represent the roller.

I then contacted Robert Bentley of R.B. Motion and commissioned him to machine 120 aluminum pieces of a combination pin and roller. I was then still faced with the task of building the chain while trying to keep everything aligned and thought of building a more sophisticated jig. One day I was looking at the photoetch fret and it suddenly dawned on me that all the chain links were in perfect alignment and distance apart to hold everything while being built. I quickly went to work building the chain. Below are the steps I finally came up with.

Step One – attach pin/roller pieces

Insert the pin/roller pieces from R.B. Motion into the chain links on the fret. If you don't have these pieces, you can use the supplied washer pieces and your own wire. I dipped one end of the pin/roller piece into a pool of thick CA glue and placed it in the chain link hole. I did enough pin/roller pieces to get the long straight section of the chain.

Step Two – build one side of chain links

Remove chain links from another part of the fret, clean up the attachment point and build up one side of the chain on top of the pin/roller pieces using thin CA glue. I tried to orient the chain links so that the fret attachment points were all facing in the same direction. These will be downward facing when mounted on the model.

Step Three – build other side of chain links

Turn the fret over and continue building the other side of the chain.

Step Four – remove chain section

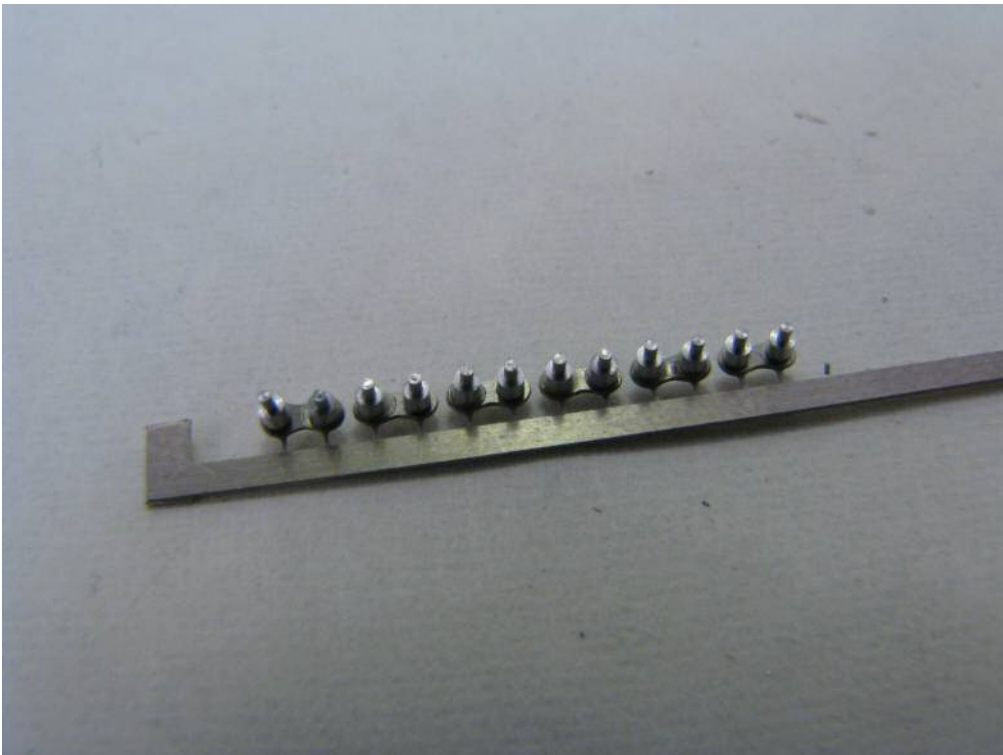
Remove the assembled chain section from the fret (I used special photoetch cutters) and then carefully clean up the attachment points with a small file. I found some of the joints let go as the CA glue had not penetrated the joint fully, but these were no big deal to put back together.

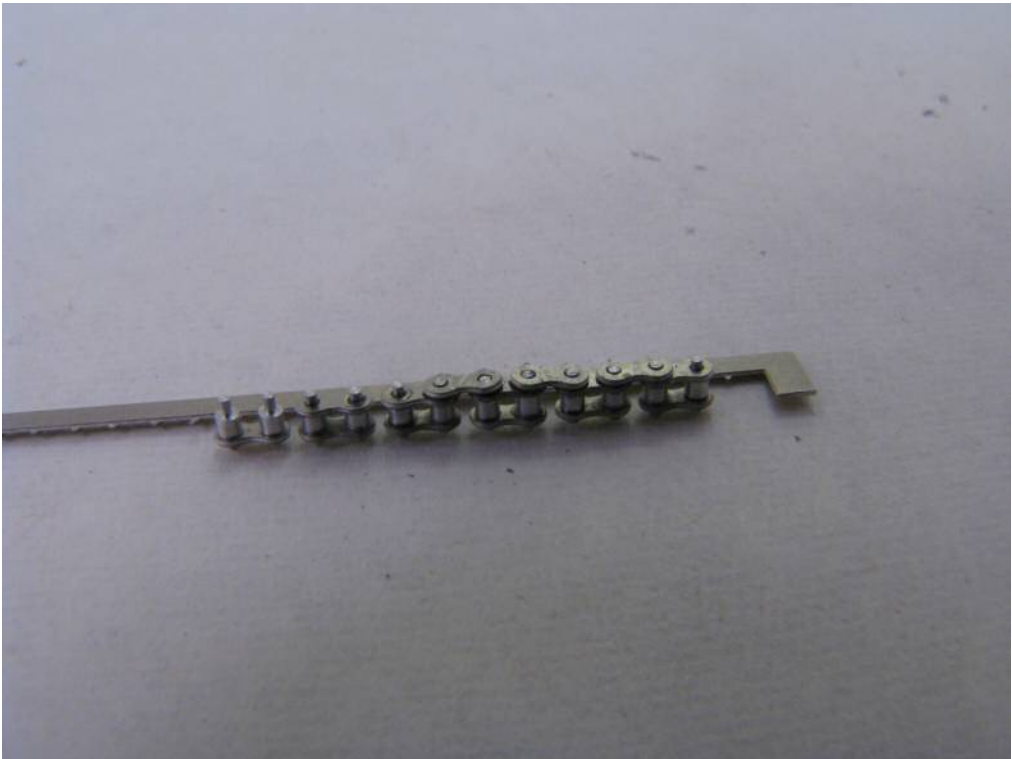
Step Five – repeat and then assemble

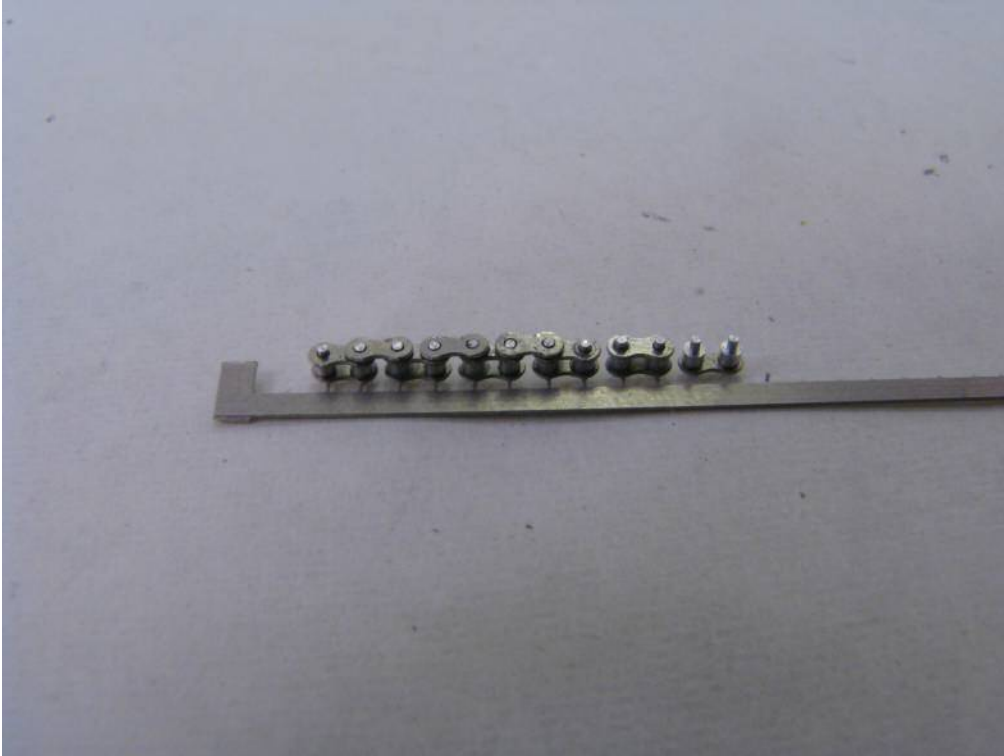
Repeat steps One to Four for the other straight section of chain. The chain needs to be assembled around the sprockets and then the straight sections added. This will depend on the bike you are building and whether you opted to purchase the sprockets from Cosmo's factory. For the MB Agusta, I did the following:

- thinned down the plastic around the sprocket that represented the chain
- drilled holes at the proper location around the sprocket, using a chain link to get the spacing correct
- redrilled the holes the same diameter as the roller
- placed the pin/roller pieces in the holes
- glued on the chain links on these pins
- attached the straight sections of the chain that were built up previously.

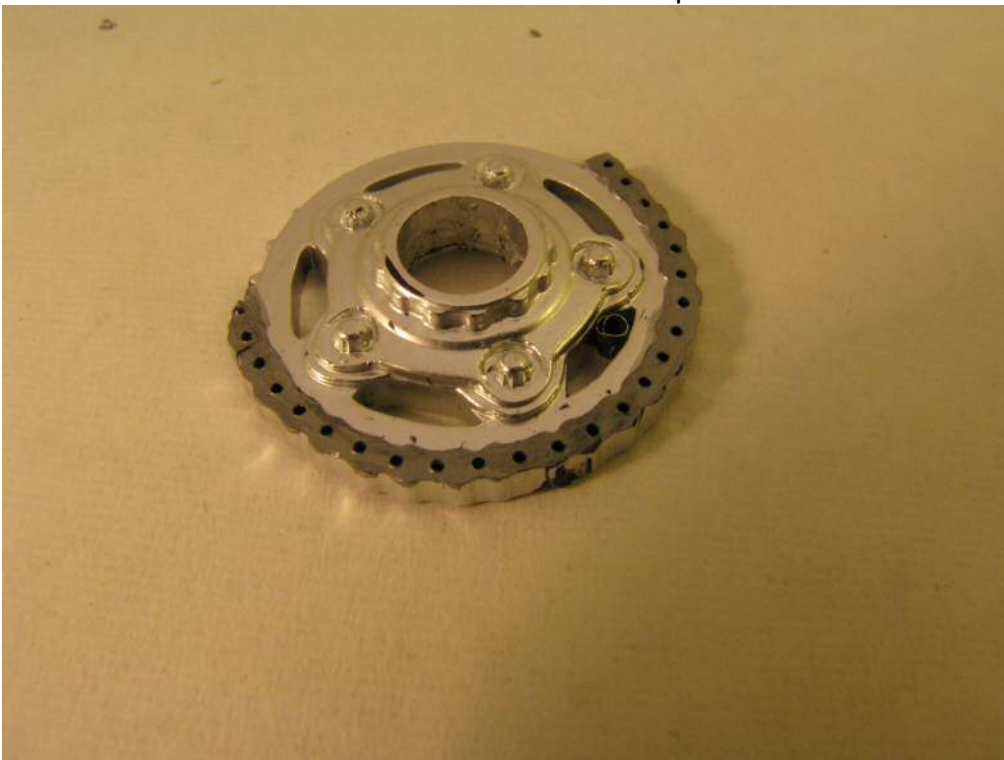
Photos below show the steps of chain building using a small section of links.







Photos below show how to build chain around sprocket.



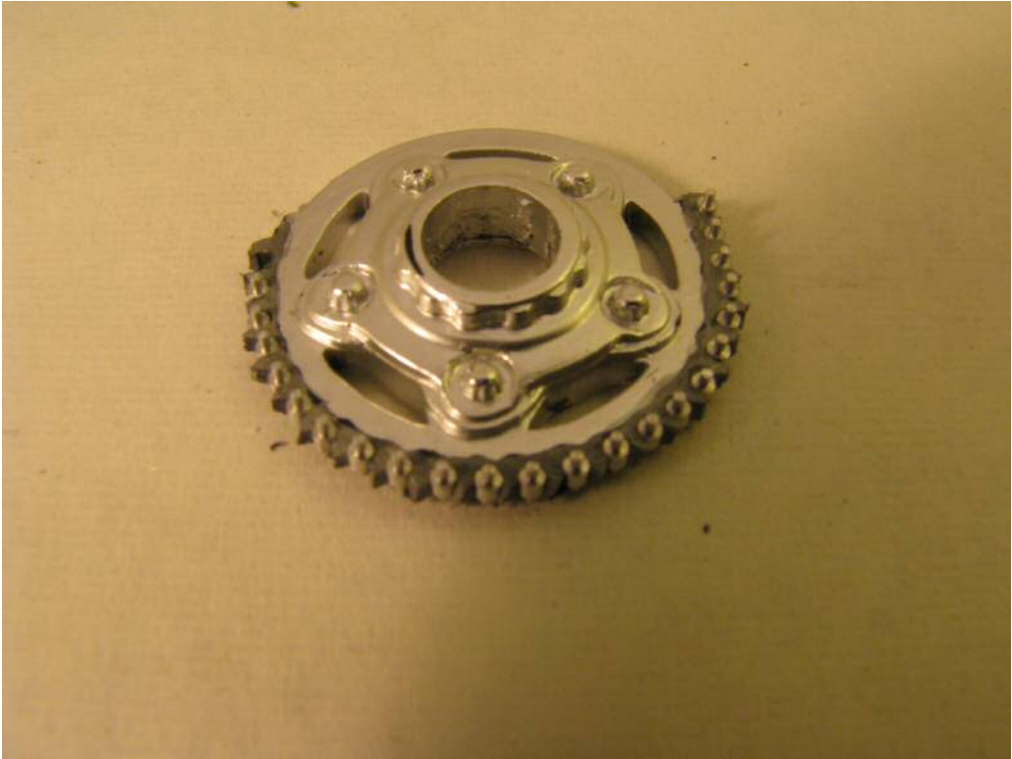


Photo of finished chain

