

A homebrew plug

18 January 2009 Koos Bouwknecht

Most aircraft navigation instruments have a round multipin connector. Those from the fifties have a MIL-C-5015 Style Circular Connector. These are still available as 97 series or DS5015 series from Amphenol, or the DS3100 series from Amphenol-Socapex. However, they are quite expensive, so I tried to make them myself.



You need sockets, brass foil, 2mm copper wire, two-component resin, and Teflon spray.

First cut a strip of 0.1mm brass foil, to form a cylinder that just fits inside the chassis part. Solder a ring of copperware around one end to allow withdrawal (see later). I used sockets from FCI-Burndy but you may salvage them from other plugs as well.

Spray Teflon in the chassis part, and on the *outside* of the brass cylinder, and put a connector socket on every pin. Apply solder in each socket, otherwise the resin will fill the hole.

Then, using the cylinder and the chassis part as a mould, pour in epoxy resin to just below the soldering end of the sockets. Let it cure for a few days.

Then gently remove the new plug from the chassis part by putting a screw driver between the copper wire circle and the top of the chassis part. I had no problems with this, it went remarkably easy!



The front side of my connector looked like this. Not very official, but who cares.

Finally, I printed the pin numbers footprint from the Amphenol catalog, and glued it to the solder side of the plug. Remove all Teflon from the chassis part (a lot of work) and you are ready to connect the cable. For a strain relief I used the copper wire as well. The experience with the plug over the past 2 years is good. Easy to place or remove, no parts falling apart.

