# MAKING INSERTS

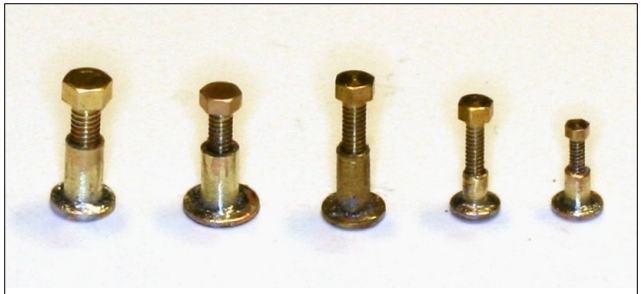
**Custom building requires a significant amount of test fitting to ensure everything fits together properly. When bolts are used and screwed into plastic it is easy to strip the threads, particularly if a tight assembly is required. In such circumstances it's helpful to use threaded brass inserts superglued into the plastic part.**

**Here's how to make inserts for 1.0 mm, 00-90, 0-80, 1-72 and 2-56 bolts.**

Some notes from experience:

- Small taps are hard and brittle. It is easy to break them.
- Lubricating the tap (oil or soap) helps reduce the stress on the tap.
- It is better to drill out the inside with a slightly bigger hole, and risk a loose fit, than force the tap.
- For very tight assemblies, adding a flange, by soldering a washer to the end of the insert, will reduce the possibility of pulling the insert out of the part.
- Pocher typically used 2 mm dia bolts and screws. A 2-56 insert will work with Pocher hardware.

**Typical Inserts**



2-56 1-72 0-80 00-90 1.0mm

**1.00 mm**

**Shaft Dia: 1.00 mm**

- **Brass Tube 1/16 OD 1.59 mm**
  **1/32 ID 0.79 mm**
- **Tap carefully**
- **Drill out 00-90 washer 1/16" for end plate**
- **Solder washer to end plate**

**00-90**

**Shaft Dia: 1.19 mm**

- **Brass Tube 1/16 OD 1.59 mm**
  **1/32 ID 0.79 mm**
- **Drill out #62 drill 0.96 mm**
- **Oil inside & tap carefully**
- **Solder 1-72 washer to tube as end plate**

**An alternative is to use 1.5mm thin wall tube. Simply tap and solder on a 1-72 washer as above.**

# MAKING INSERTS - 2

## 0-80, 1-72 and 2-56 bolts.

### 0-80

**Shaft Dia:** 1.52 mm

- Thin wall brass tube
  1/16 OD 1.59 mm
  3/64 ID 1.19 mm
  For greater strength, over-sleeve with
- Brass Tube 3/32 OD 2.38 mm
  1/16 ID 1.59 mm
- Solder tubes together
- Oil inside & tap carefully
- Drill out 2-56 washer 3/32” for end plate
- Solder end plate to tubes

### 0-80 Alternative

- Thin wall brass tube: OD 2.50 mm
  ID 2.05 mm
- Thin wall brass tube: OD 2.00 mm
  ID 1.55 mm
- Solder tubes together
- Drill out to 3/64” 1.19 mm

- Oil inside & tap carefully
- Drill out 1-72 washer 5/64” for end plate
- Solder end plate to tubes

### 1-72

**Shaft Dia:** 1.85 mm

- Brass Tube 3/32 OD 2.38 mm
  1/16 ID 1.59 mm
- Tap
- Drill out 2-56 washer 3/32” for end plate
- Solder end plate to tube

### 2-56

**Shaft Dia:** 2.13 mm

- Brass Tube 1/8 OD 3.18 mm
  3/32 ID 2.38 mm
- Then sleeve with brass tube
  3/32 OD 2.38 mm
  1/16 ID 1.59 mm
- Solder tubes together
- Drill out with #50 drill 1.79 mm
- Oil inside & tap