CASTING TECHNIQUES

PROBLEM	DESCRIPTION	CAUSES	FIX BY
POOR FINISH ON WAX CARVING **Applies to:** Carving wax	It is very hard to get into some areas.	Fiddly areas in the carving.	It is easier to perfect the finish at the wax-making stage than after casting, so persevere. Try using any little tools you have handy. You can also use small rubber burrs on a micromotor or pendant drill.
WAX HAS SNAPPED OR MISTAKE MADE **Applies to:** Carving wax	A section has broken off the wax.	Wax is quite brittle and it is easy to accidentally knock a bit off.	Use a hot soldering probe or pick to melt the two areas back together. Melt more wax over the break and file back. Allow the wax to recrystalize properly.
	Too much wax has been removed.	More wax has been carved off than was intended.	Melt the surface of the piece with a hot probe or pick, drip some melted wax on it and build up the area in this way.
WAX IS STRINGY **Applies to:** Carving wax	Mozzarella-like strands are being created.	The tool is not hot enough, so the wax is solidifying.	Heat the tool up more, but if wax starts smoking it is too hot.
PLASTER ON CAST **Applies to:** All metals, especially brass and gilding metal	Sometimes investment plaster remains lodged in recesses.	The plaster has bonded to the metal when being cast, and the pickle has not removed it all.	Put it in a strong hot pickle solution for an hour, then clean with a wire brush. Use a small burr to remove the plaster from small recesses. Alternatively, put the piece into an ultrasonic cleaner and scrub with a brass brush.
POROSITY HOLES IN CASTING **Applies to:** All metals	The wax was perfect, but the cast object has tiny pits on the surface.	Wax may not have properly burned out, the metal may have been too hot or there were impurities in the alloy.	If the problem is slight, fill the pit with hard solder and emery back. If there are lots of pits, return the piece to the casting company.
FINS DOWN SIDE OF CUTTLEFISH CAST **Applies to:** All metals	Metal has escaped from the mold.	Both halves of the mold are not meeting properly.	Re-sand both sides carefully to tighten the fit.
CUTTLEFISH CASTING UNEVEN **Applies to:** All metals	The top and bottom halves are out of alignment.	The mold has come out of registration; it might need to be remade.	Reinsert the master object, making sure that there is no movement between the halves. Re-mark the registration lines and insert registration rods, using new locations from any previous rods.
CUTTLEFISH CASTING INCOMPLETE **Applies to:** All metals	There is a part missing on the cast object.	Not enough metal has been used; it has solidified before reaching the end; or the vents for letting gas escape are inadequate.	Use more metal on the next casting.
			Make sure the pouring gate is wide enough at the bottom. Make sure the metal is hot enough when being poured.
CUTTLEFISH NOT THICK ENOUGH **Applies to:** Cuttlefish bones	If pressed into the bone, the piece would poke out of the top.	There is a limit to the height that can be cast. There must be enough material at the top and bottom of the mold.	Use two cuttlefish bones, flattening one half of each until there is enough space for the object and registration rods.

Source: *Troubleshooting for Jewelers*