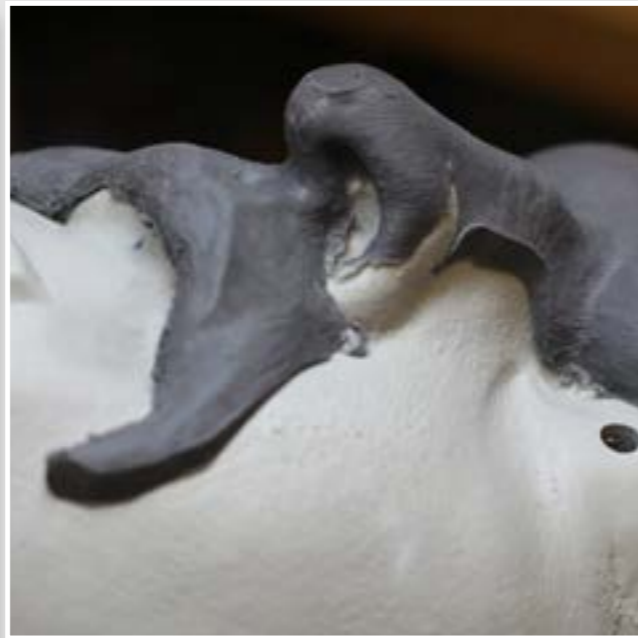


BREAKING A SCULPT DOWN INTO MULTIPLE PIECES



Stuart Bray



The first thing to make clear is that I'm recycling a lifecast from last year. Simply for time, it made sense to use cores and lifecast moulds which I already had.

I have a plaster head core, painted with grey acrylic paint and allowed to dry. On top of this I paint two coats of plaster release called 'Scopas Parting Agent' from a sculptors supplier called Tiranti. In the US, a release agent called Alcote is popular.

At a push, KY Jelly also works. Paint it on and allow it to dry thoroughly before sculpting begins.

The release sits there until the head is immersed in water, when it reactivates, becoming slimy and it allows the sculpt to be removed.

As usual, I block out the sculpt roughly using my favourite plastiline, grey grade 50 from J. Herbin.

The look I am going for is a stern, slightly malevolent character so I have built the forehead out and down, lengthened the nose and hooked it.

The chin is puffed out around the base of the lip and cheekbones and pinched up a little higher than usual.

The face is sculpted as one finished item in order to see how the final sculpt looks.

There is a danger that if the pieces were sculpted individually as separate items, we wouldn't know how the final thing looked until it was applied, and then it would be too late to make sculptural changes.

The thing is, the makeup covers the whole face, and a single full face appliance is tricky to stick on.

It's easier to break some makeups down into smaller pieces once the sculpt is all finalised. The skill is deciding where to cut, and how many pieces to make it into.



Slicing is done with a thin bladed sculpting tool. Typically, it makes sense to slice wherever there the sculpt is *A)* thinnest and *B)* in a logical place.

This usually means along an existing line or shift in form such as under a jawline or along a nasolabial fold, for example.

Usually you angle the cut to allow the pieces to overlap easily and any slicing which happens on a flat area, as on the side of the nose (above) are best done as a curve rather than a straight line.

There are few straight lines on a normal human face, so to slice on in at this stage can add another complication.

For this piece, I am making the forehead, nose and top lip as one piece,

The chin and two cheeks will be separate, making it a total of four different appliances.

I know what the overall look is as I have seen it as a complete sculpt. As long as I don't make any major changes, it should look the same when finally reassembled in the finished makeup.

When the cuts are all made, the whole head is immersed in water overnight. I have a small water tank in the workshop just for this task - often buckets are not big enough to fit a whole head and shoulders.

I have a plaster face ready and waiting to sit the pieces onto. Here you can see the one large piece, complete with angled slices clearly visible.

I sit the cheek and chin onto folded tissue paper to keep the shape while I check my face core that I want to use for the appliances.

I am reusing moulds and cores as much as possible, so I check out the fibreglass face core from my UMAe makeup last year and see what needs changing.



1 The nose has some gentle undercuts which, although not huge, will present a problem when trying to separate a hard mould from a hard core.

There is also the injection hole to fill, so I use polyester based car body filler to fill these. It sets in about ten minutes, allowing me to sand it smooth with wet and dry paper (120 grit).

2 Once smoothed down, a quick wipe over with wax release agent should help fill any tiny holes and we are ready to go.



3 The back of the forehead/nose/top lip piece. Being kept in cold water helps harden the piece so handling with care is easy enough.

I haven't textured everything yet as I know handling will inevitably damage the piece a bit. No point in making it perfect only to have to fix it later. Ill texture later instead.

Here I have wiped the back of the piece with naphtha (lighter fluid, like the kind used in Zippo lighters). This makes the back a bit mushy so it sticks better to the core.

You can also wipe a little Vaseline onto the core too, just to help it stick. Make sure any water is mopped out as this can cause the piece to not bond well, and bubbles of water could appear later.



I'm a big fan of these 'ball-ended' sugar craft tools for thinning out edges. Be careful when you Google that - it finds some interesting results when asked to find 'Ball Tool'.

Anyhow, the idea is to smooth out the existing edge - you are not adding any more material so much as redistributing the existing edge so it tapers off nicely.

When you slice the plastiline, you inevitably leave a hard angled edge. Simply drag this smooth into the face and tool it smooth, so as a standalone piece, the edges are good - even if they weren't going to be covered by the overlapping cheek piece later.

Ta-dah. I like using tools to smooth out plastiline rather than solvents. It's lazy to just smother a surface in solvents and wipe it around hoping for the best.

Plus it takes a while to evaporate, and if you smother it in Vaseline hoping that wiping it over will somehow magically take care of the sculpting and decision making process for you - it really won't!

You'll just end up with a greasy mess which never dries out! So there!

OK, so the sculpt is all but finished on this piece. Now I need to make a quick mould of the cheek area with this sculpt in place. The idea is to make some cores which will allow the cheek pieces to sit correctly as the land on top of this piece.

I hold the face at an angle using a *Manfrotto 'Magic Arm'* (great bit of kit - if you get one, I suggest the 'variable friction' lock version).

I use alginate to make a quick mould, extending a little beyond the cheek area. Gravity helps the alginate spread way over, but it's important to make a mould of slightly more than you need, so you can cut the final piece back to a neat shape.



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The plaster bandage is applied to create a support for the alginate.

Then I repeat the process for the other cheek and fill both alginates with a soft plaster.

Soft, you say? Why so? Well, the plaster is only a stepping stone to the next phase, so it's easier to shave down edges if the plaster isn't like a diamond.

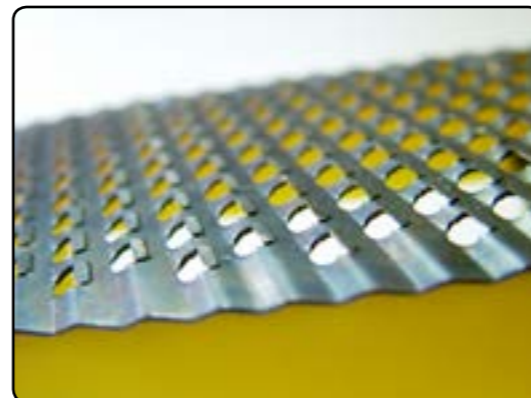


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The plasters came out fine, and you can see the forehead appliance shapes now in plaster. Whatever we sculpt on this shape should fit later during application.

Those spiky shaped edges are inevitable with casting, and knowing this would be the case, I shaved down the outside to make a neat smooth edge.

I use a surform or rasp, like a small hand-held cheese-grater type tool.



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To check where the edge of the core should finish, I place the plastiline in position and carefully mark the outline using a Sharpie.

That tells me where the piece finishes, and I mark a border about 25mm (1 inch) beyond this line. Now my core is marked as to be as big as it needs to be but no bigger. I can make the core using as little material as possible, and I know it is big enough to accommodate the cheek appliance.



The plaster core on the left is shaved down and smoothed. Any wobbly edges or imperfections can be filled with clay.

I repeat the process for the other side, and crack out the water clay. Soaking the plaster for a few minutes helps ensure that the water in the clay doesn't get absorbed into dry plaster!

It's handy that the keys are still there - I can use these so I won't shave them off too.

Using a flat pottery kidney, it's pretty easy work to make a skirt of clay which takes out undercuts and makes a nice smooth tapered edge all around the outside of the plaster core.

Once both sides are clayed up nice and smooth, I make a quick silicone mould. I drizzle and brush on a couple of layers with a fast catalyst (an hour between layers). Then I back this up with a thicker layer so the mould is about 8-10mm thick.

I also make keys and lay them around the edge. I usually use a metre length of 'U' shaped aluminium channel from a hardware store to make keys. I just pour up some silicone into it and when it cures, slice it up into short length and set them into the last layer of silicone.

They should all bond nicely if everything is kept clean and dust free.





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Once all the silicone is done, I make a low wall around the edge - this is so the plaster jacket I make to support this flexible silicone mould has a neat finish and stops nice and neatly around the outside of the keys.

A closeup of the keys set into the silicone. If you miss the window of opportunity to pop the keys on as the last layer sets then you can always mix up a small thickened batch and use it a 'glue' to get those keys on.

Once the keys are all set, then all the layers of silicone should bond and you essentially have a single piece of silicone.

Once the plaster and scrim (burlap fabric) jacket is made, I pen up the mould and clean it out.

Some of the clay stuck to the silicone but this is easily scraped off and wiped out. It is water based clay after all, a little water on a sponge will sort this out.



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These are the two cores I made from the silicone moulds. I used a fastcast urethane resin by Polytek called Easyflo 120.

When mixed, you have a couple of minutes working time before it sets as a hard, white resin. As I prefer a grey material to work on, I add a drop of black urethane pigment in order to ensure it sets as a grey colour.

As resin is expensive and **gets hot** when it sets, I prefer to swill a layer of plain resin (about 200g in each face) and once that sets, I mix more resin and bulk it out with vermiculite, a natural mineral based material often used as a lightweight filler in building plaster and as an insulation material. It's quite cheap!

Here is a closeup of the back of the core. You can see the gritty appearance, which is still reasonably flat as the mixture remains as a fluid, and settles to a flat finish.

If needed, it can be shaved smoother using the same surform tool used to smooth out the plaster.

This exothermic reaction is common in materials which start as fluid and set into a solid, like plaster and polyester resin.

It's possible that large amounts of resin will generate so much heat that they warp or even crack. This is why reducing the heat build up with inert fillers like ATH or Vermiculite or even fibres like Polyfibre which can turn it into a paste for building up thicknesses.

You can see how the core surface is smooth, swilled as it was with pure resin to catch the details.

Behind this thin layer sits the bulked out resin which bonds chemically to the previous layer, so long as it is applied reasonably soon.

The longer the time between layers, the less likely the layers are to stick, so if you do swill layers like this then try to get the next layer on within ten minutes.



Once the cores are cool enough (they still warm up with bulked out resin, but just much less than if they had been solid resin throughout.

The back of the plastiline is carefully dried and wiped with naphtha as before to help it stick.

Positioning the piece carefully, I blend out the thicker edges which are the result of slicing the pieces up.

As before, the idea is to blend out the existing edge without adding more material. By blending out the corresponding edges, you can be reasonably confident that the blended edges will overlap and recreate the original thickness of the sculpt before it was sliced and separated.

Now is the time to finish texturing, in this case using a loop tool I made using square section brass rod (1/32"), twisted in a drill to give it that finish.

I did a video on this technique of texturing which you can see here: https://www.youtube.com/watch?v=2hAEQlhuc_Y



Once all the texturing is done, the cutting edge and overflow is added. The keys are left uncovered to ensure the mould and the core locate precisely.

The only areas where the core and mould will touch are the exposed areas uncovered by plastiline - the keys and the thin line around the outside of the appliance edge.



I return to the face piece to finish it. The texture is completed using a guitar string loop tool which is then buffed back using my favourite thing ever, a reticulated sponge - commonly known as either a stipple sponge or a fish tank pump filter depending on which you met first.



Guitar string tools are easy to make and fun to use. I use them mainly for smoothing out sculpts, and they are great for blending out edges.

However, they also do a grand job of making coarse skin texture which can be buffed back to smooth it out using a stipple sponge.

Also working the surface back with a coarse brush and a little alcohol (usually I use 99%) I can soften the texture back further.

It's nice to knock out lots of texture quite quickly and then soften it back to a gentle level rather than trying to create each pore as a gentle, subtle shape.

Creating skin texture like pores can be numerous little dents, you will be quicker by being less subtle at first, stabbing at the surface like a sewing machine, and the softening the whole thing afterwards.



Once the texture is done, it's back with the cutting edge and overflow.

This piece will be moulded in fibreglass, and I will inject silicone into the mould once it is assembled and bolted together. As a result I am doing a thinner cutting edge/overflow strip around the edge.

The other pieces will be block or 'squish' moulds, filled and then 'squished' closed using clamps.



I'm quite fussy about neat cutting edges, and making it slavishly follow the edge of the sculpt.

I'm leaving about 3mm of distance between the sculpted piece and the cutting edge. This will be pure cap plastic later, so I usually want a thin edge here.



The final piece complete with cutting edge. You can see, as this was a core for a previous appliance, there are some existing bolt holes which are not needed.

I have filled these with plastiline (circled) so when I make the mould, they are not involved.



The chin is prepped by scratching up the back with a thin tool and brushing in naphtha.

The resulting soft back will stick nicely to this old chin core which is perfect for this piece too.

You can see the blue core (made with FC54 urethane resin) has had the top lip and nose removed so access to the bottom lip is easier.

The grey patch above the lip is some epoxy putty I used to plug any undercuts the removal left.

The chin was textured, here using a small loop tool. Why not the same tool in each case I hear you ask?

Well, to do so would rob me of the opportunity to show you how little the tool you use matters - far more important is the manner in which you work.

Starting to texture is unnerving, so persist and once you have covered a reasonable amount of surface, you should see it appear more convincing.

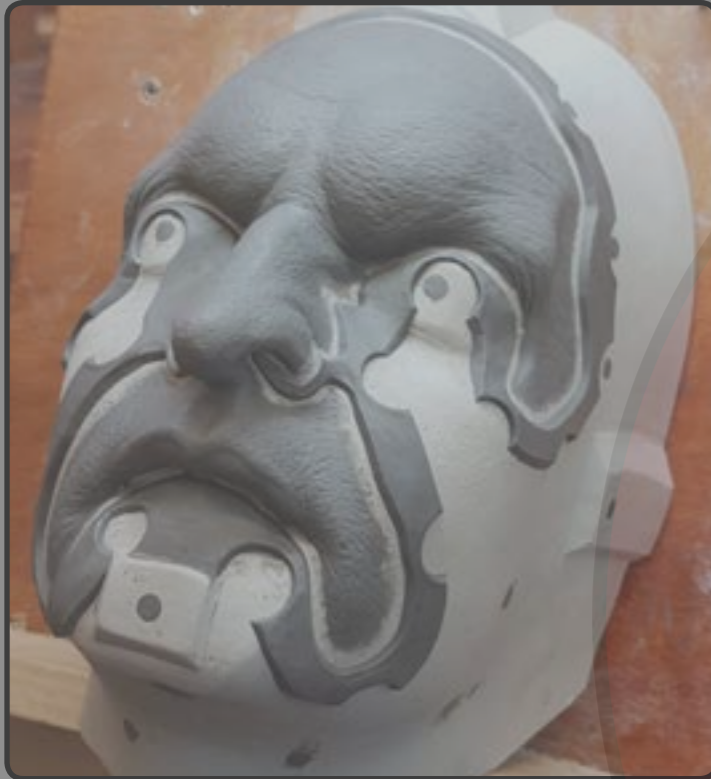
Texturing is kind of like those dreadful magic-eye pictures which contain hidden images once your eyes relax. Your brain can stop you from seeing the texture, as all you see are a series of tiny dents. However, in it's most primitive form, that's all texture is!

Chin complete and cutting edge/overflow added leaving keys exposed.

I go over the whole thing lightly with a stipple sponge pressed through cling-film to smooth and unify the textures. It's a great way of quickly softening the shapes and making it look less deliberate. Like it 'happened' rather than it was 'made'.

That's the magic of this stuff, is to hide in plain side, cover your tracks so to speak.

Good texturing should be texture that doesn't get noticed by people who are not usually drooling over sculptures!



So, that's the sculpts on the cores, complete and ready for moulding.

I will do the moulding and casting process as separate posts as the whole thing would be too long for one document.

Thank you for sticking with it this far - if you enjoyed this and think it;s useful then please do me a solid and SHARE it with people who you think would dig it.

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