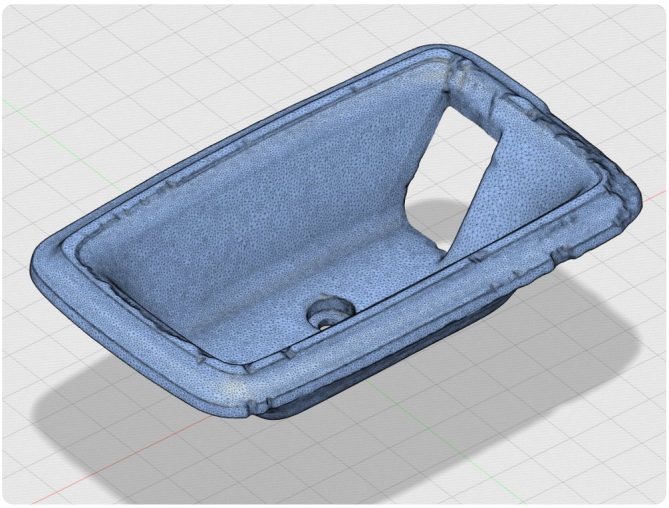
CASE STUDY

Rebuilding a damaged Dodge Dart door trim

> From a worn, damaged original to a clean, accurate design that can be printed or moulded.

It's the plastic surround that frames the interior door release on a Dodge Dart. This one had worn badly, and the raised rim around its top edge was damaged in places. New ones are no longer made, and good used ones are hard to find.



The original part, captured with a 3D scanner. The uneven patches along the rim are wear and damage.

The challenge

A 3D scan records the shape accurately, but it records the damage too. Printing the scan as it stands would only give you a new copy of an old problem. The replacement also had to match the original wherever it meets the car:

- the rim that sits against the door panel;
- the opening for the door release lever;
- the screw boss, locating peg and two locating bars that position it on the door.

Our approach

01 **Scan and measure.** We 3D-scanned the original and used the scan as a measuring reference. The rim profile was taken from the sections still in good condition.

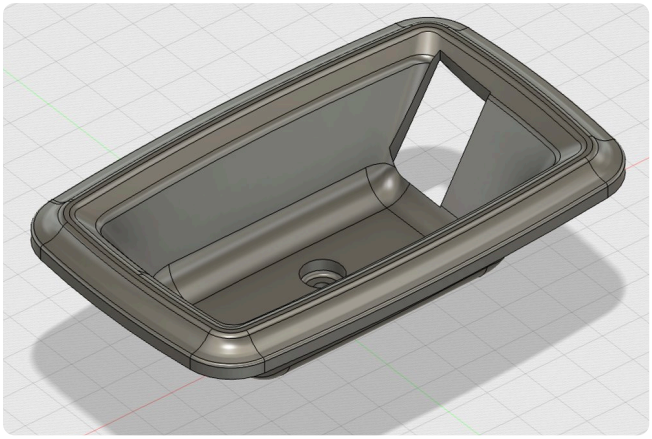
02 **Rebuild it properly.** Rather than patching the scan, we modelled a clean new part in professional CAD. The good rim profile runs all the way round, and the walls are an even 2 mm throughout.

03 **Check the fit.** We laid the new model over the original scan and compared the two surfaces before anything was made.

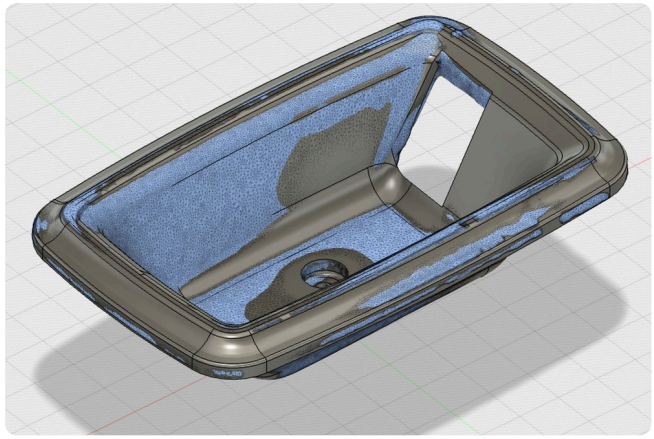
We use AI alongside our own engineering judgement to measure the scan, extract the rim profile and build the model. It handles the slow number-crunching, so design time drops from days to hours and you get your part sooner.

Checking the fit

Laid over the original scan, the new model follows it closely. Where blue and grey mix together, the two surfaces sit within a fraction of a millimetre of each other. Across most of the part the difference is under half a millimetre, and the damaged areas are replaced by the clean profile.



The new digital model: the original's size and fixing points, with the damage designed out.



The new model (grey) laid over the original scan (blue). The patchwork shows how closely they match.



The finished part in tough, UV-resistant carbon-fibre-filled ASA (ASA-CF), fitted flush to the door panel around the original chrome release handle.

The result

A durable replacement printed in ASA-CF that matches the original's size and fixing points, with the damage designed out. Because the part now exists as a precise digital model, we can print one on demand, make a small batch, or tool it for injection moulding if larger numbers are needed.

OBSOLETE ISN'T THE END.

Got a part that can't be replaced?

Broken trim, clips, brackets, knobs and other parts that are no longer made: if you still have the original, even in pieces, we can usually recreate it. We also offer scanning and printing services to garages and restorers.

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