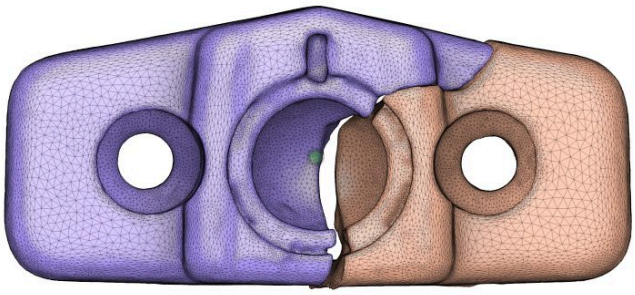
CASE STUDY

Bringing a 1970s Lotus part back to life

> From a broken, glued-together original to a precise, printable replacement for a part that hasn't been made for decades.

It's a small black plastic part that nobody notices until it fails. It holds the rear-view mirror inside a 1970s Lotus. This one had snapped in two, been glued back together, and given up again. New ones haven't been available for years, and decent used ones are almost impossible to find. Without it, the mirror simply doesn't stay put.



The two broken halves of the original part, captured with a 3D scanner. Old adhesive and a slightly bent repair meant they no longer lined up.

The challenge

Copying the shape wasn't enough. The replacement had to work with the car's original pieces:

- a clip-on trim cover that must slide over it and grip firmly;
- the mirror arm's ball joint, which has to snap in and hold its position;
- screw holes in exactly the right place to mount on the car.

The only references were the damaged halves, distorted by the earlier repair, and the original cover.

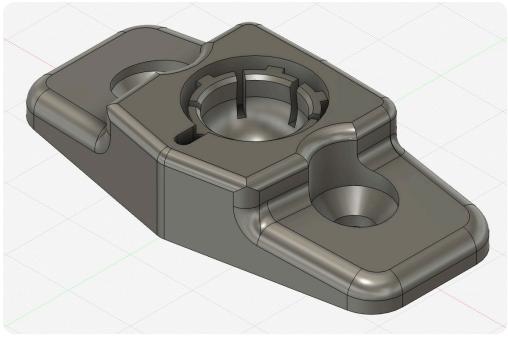
Our approach

01 **Scan and measure.** We 3D-scanned every piece, then digitally straightened and realigned the broken halves. The intact cover became our master reference for size, because it's what the new part has to fit.

02 **Rebuild it properly.** Rather than patching up a scan, we modelled a clean new part from scratch in professional CAD. Key sizes such as the ball diameter, socket grip and hole spacing are adjustable settings, so changes take seconds, not days.

03 **Design for modern manufacture.** The original was a hollow moulding. Ours has a solid base for strength. A carefully shaped flex groove and slots around the socket let the ball snap in, even in a stiffer modern plastic.

We use AI alongside our own engineering judgement to analyse scan data, check measurements and generate design options. It handles the slow number-crunching, so development time drops sharply and you get your part sooner.



The new digital model: true to the original's shape, with a redesigned ball socket and countersunk screw holes.

Test, learn, refine

Every obsolete part has its quirks, and this one was no exception. The first test print was a fraction of a millimetre too long for the cover. Measuring the scan data revealed why: the cover's walls lean slightly inwards towards the top, so it was wedging before it seated. We adjusted the model and checked it against the scans before each reprint, until the cover pressed fully home and the ball snapped firmly into place. That kind of detail is the difference between “close enough” and a part that clicks into place.



The finished part in tough, UV-resistant ASA: the original cover pressed fully home, with the mirror arm's ball snapped into the socket underneath.

The result

A durable replacement in modern engineering plastic that fits the car's original cover and mirror arm exactly as the factory part did, ready to go back on the car. Because the part now exists as a precise digital model, another can be produced on demand without starting again.

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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