



Case Study

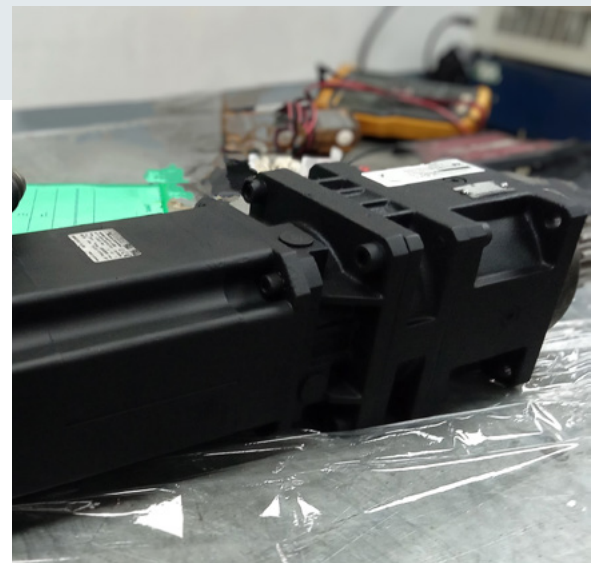
**Not all superheroes
wear capes
- some wear overalls**

How CPM reduced downtime from 16 weeks to 72 hours and saved our manufacturing client a fortune

When our (for the sake of client confidentiality) anonymous and somewhat distressed customer came to us with an unexpected servo motor and gearbox breakdown, they weren't just staring down a barrel. They were staring down three.

With their entire production line out of action, no backup unit or spare parts and an estimated 16-week 'emergency' replacement delivery, they were facing:

- £10k in lost production and wasted resources - every single hour.
- A staggering £2m penalty for failing to meet a client's strict 3-week delivery deadline
- A huge hit to their reputation that would severely jeopardise their future



In short - disaster.

Or not. Thanks to calm heads, a careful analysis of the situation and some creative CPM problem-solving.

Root Cause Failure Analysis (RCFA)

With costs racking up by the minute it was essential that we got to the bottom of the challenge as quickly as possible.

First things first - we organised an emergency pick-up.

With the damaged goods back at HQ our rapid Root Cause Failure Analysis (RCFA) process quickly gave us the information we needed.

Within 4 hours of our customer's initial call, not only were we able to tell them that the damage had been caused by a combination of a previous repair and operational issues at the clients site. We were able to report back on its exact nature.



The diagnosis:

- Gearbox shaft- snapped
- Attachment sprocket - damaged
- Gearbox bearings - worn
- Motor windings - contaminated
- Feedback signal amplitude - low
- Motor bearing - worn

Having understood the challenges, we could put a plan together to fix them with a single plan and single point of responsibility and customer contact.

Two engineering solutions - provided by us and a trusted CNC business partner.

Two in one

As CPM, we provided specialist repair skills and equipment to repair the Servo motor.

With the original gearbox shaft damaged beyond reliable repair, we brought in a specialist CNC manufacturing partner to build a replacement shaft.

While they were working on that, CPM engineers worked hard to repair the motor which included:

- Cleaning and changing bearings and seals
- Refurbishing feedback unit
- Aligning and setting up feedback to OEM specs
- Assembling the motor to OEM specs
- Setting up and testing the motor



The gearbox parts were also overhauled while we waited for the all-important new shaft.

A smart, simple, streamlined way to assure quality, save our customer the time-consuming hassle of having to approach two separate companies, and ultimately speed up the whole process.

Once we had the new shaft, we assembled the complete unit, tested it, and delivered it straight back to a very, very relieved customer.

All within 72 hours.



The Result

- ➔ **Bullet 1:** A £10k an hour cost in lost production and wasted resources - dodged.
- ➔ **Bullet 2:** A £2m penalty for failing to meet the 3-week delivery deadline - dodged.
- ➔ **Bullet 3:** A huge hit to their reputation that would have severely jeopardised their future - dodged.

By understanding the RCFA we were able to help our customer avoid potentially ruinous problems in the future too.

This included recommendations to overcome operational issues and stocking a spare shaft should a similarly dangerous situation ever arise in the future.

It's true, not all superheroes wear capes.

Some wear greasy overalls.

