

MCT ReMan “Repairing, Reusing, Remanufacturing”

Introduction

Remanufacturing goes beyond overhaul, repair or refurbishment. It is defined as “A series of manufacturing steps acting on an end-of-life part or product in order to return it to like-new or better performance, with warranty to match.” It is a long-established industry with a turnover of €30bn across Europe, and it employs 192,000 people.

Remanufacturing is particularly strong in the aerospace and automotive sectors, and can offer savings of 88% in materials and 53% in CO₂. While many OEMs engage directly in remanufacturing, much is carried out by third-party providers, like MCT ReMan. Their business model capitalises on their specialist expertise and builds on trusting relationships developed with Original Equipment Manufacturers (OEMs) over many years.

MCT ReMan Ltd, based in Weston-super-Mare, is a remanufacturer of automotive engines and gearboxes. Emerging from the manufacture of industrial fans in the 1960s, it moved into remanufacturing driven by its customer, Ford, in the mid-1970s. With a turnover of £7m and 68 employees, MCT is now focused on this key facet of the circular economy. It is also now part of a larger group that engages in other sectors (eg. rail) through Tecforce Ltd, and other activities through ASPIRE Engineering Ltd (eg. End of Vehicle Life strategies, design for remanufacture, contract assembly, supply chain management, engineering design and development).

The Knowledge Transfer Network has been working with partners to share knowledge, build a community of remanufacturing stakeholders in the UK, and exploit the strong potential for growth that exists. In Europe the European Remanufacturing Network is doing similar.

Opportunities and Drivers

MCT ReMan remanufactures a broad range of high-volume engines and gearboxes for a variety of OEMs. Drivers for these customers include:

- Enhanced brand value and Corporate Social Responsibility
- Compliance with ever-growing legislative requirement (such as the End of Life Vehicle Directive)
- Supporting warranty and aftermarket requirements in the most

Opportunity

- Remanufacturing: an established industry turning over €30bn in Europe, employing 192,000 people
- Ever-growing legislative requirements (such as the End-of-life Vehicle directive)
- Opportunities for OEMs and smaller specialists like MCT ReMan

Approach

- MCT ReMan (and others) have developed specialist skills in remanufacturing
- Focus (in automotive) is currently on units that have failed in-warranty
- Close, trusting partnerships with OEMs
- Business model is based on taking ownership of product & warranty before returning to the end user via the OEM and their dealer network

Expected Impact

- MCT ReMan remanufacture 14,000 engines and gearboxes per year

cost-effective manner.

Although the OEMs could (and do) carry out remanufacturing themselves, they often find it beneficial to outsource to smaller specialists – due in particular to the different processes involved (for instance, disassembly, cleaning, and the procurement of small volumes of components) and characteristics such as variability, risk, and (relatively) small throughput.

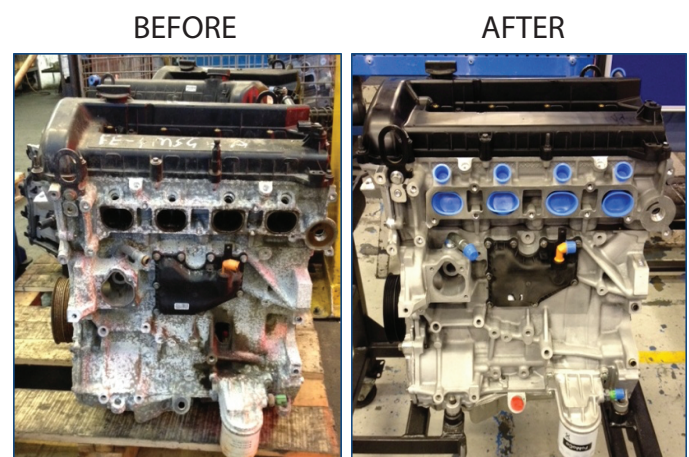


Fig 1: Engine remanufactured by MCT ReMan

Approach

MCT ReMan works closely in partnership with OEMs to understand their particular balance of needs and drivers. Its business model is based primarily on the remanufacture of engines and gearboxes that are still in warranty but have failed. At this point, the logistics of collection and return is straightforward, and the value returned (relating to what will still be a current specification engine) is clear.

The OEMs collect failed units (referred to as “cores”) via their dealer network, and transfer them to MCT ReMan. Ownership of the core transfers to MCT ReMan, although it is “free issued” (free of any payment either way). MCT ReMan carries out its remanufacturing processes and testing, and gets paid upon receipt of the remanufactured unit back at the OEM's warehouse. From there, the units are distributed and installed in the end user's vehicle via the OEM's main dealer network (see Fig. 2).

Liability relating to the warranty on the remanufactured unit is owned by MCT. The duration of this warranty is the same as for a brand new unit. However, the unit the end user receives is unlikely to be the very same unit that failed. Instead, MCT ReMan, working with the OEM, keeps an appropriate level of cores in stock, which reduces lead time and risks.

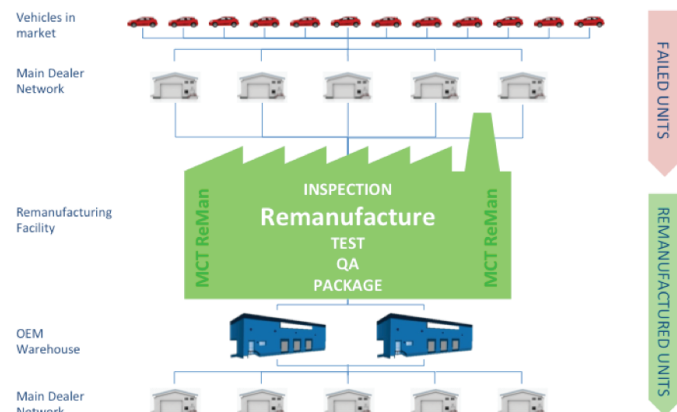


Fig 2: MCT ReMan's place in the value chain

Whilst MCT ReMan own all the paperwork (accreditations, processes, and management and ownership of risk) and sophisticated testing equipment that one would expect, remanufacturing by contract remanufacturers like MCT ReMan ultimately relies upon reputations and trusted relationships built over many years with OEM customers. This trust manifests itself in the additional services that MCT ReMan get asked to provide which includes problem solving and support for new product development.

MCT ReMan have also remanufactured other products such as compressors and hydraulic components, and are now working to explore remanufacturing of electric and hybrid vehicle components, and renewable energy technology. Together with sister company Tecforce, they are looking to further deploy their expertise for the benefit of the rail industry. MCT ReMan are exploring new technology (eg. data gathering/tracking, metrology, automation, additive manufacturing) as a further enabler of their work.

As progressive manufacturers and legislation drive towards extended producer responsibility and circular economy, remanufacturing is only likely to grow, building not least on the skills and success of specialists like MCT ReMan. A study by the European Remanufacturing Network recently suggested that the industry could triple by 2030.

Benefits and Impact

Recognising the quality and value of MCT ReMan's services, OEMs working with the company include Ford, Jaguar LandRover, Volvo, Mitsubishi, GM, Opel and the London Taxi Company. MCT ReMan remanufactures a total of approximately 14,000 units per year. MCT ReMan competes with other similar contract remanufacturers, but there is sufficient demand for several in the marketplace, which keeps costs and risks manageable.

Expected impact also includes:

- A variety of OEM customers
- Strong potential for growth in other products and sectors, and additional services
- Savings of around 90% in materials, and 50% in CO₂
- Remanufacturing industry in UK / Europe / Global could triple by 2030

“MCT ReMan have been remanufacturing for over 40 years. We have recently seen a growth of interest in the industry from external sources and new players, which is very positive. A major enabler of future growth will be increased collaboration with the manufacturers.”

Ian Briggs, MCT ReMan

Links

- European Circular Economy Package
- Remanufacturing Market Study, ERN, February 2016.
<http://www.remanufacturing.eu/european-remanufacturing-in-dustry-estimated-at-e30bn-with-potential-to-triple-by-2030/>
- <https://www.remanufacturing.eu/european-remanufacturing-indus-try-estimated-at-e30bn-with-potential-to-triple-by-2030/>
- www.remanufacturing.eu

Image sources: MCT ReMan website www.gearboxes.com

This resource efficient business model example is brought to you by the LIFE+ REBus Project.



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