Case Study K

Company Overview

Company: AGCO Power
Location: Linnavuori, Nokia, Finland
Product: Diesel engines and equipment
Type: OEM Remanufacturer
Maturity: Mature
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AGCO Corporation is an American agricultural equipment manufacturer. Agco Power is the Finnish subsidiary of AGCO Corporation. AGCO is a leading manufacturer and distributor of agricultural equipment and related replacement parts throughout the world. AGCO sell a full range of agricultural equipment, including tractors, combines, self-propelled sprayers, hay tools, forage equipment and implements. AGCO products are recognized in the agricultural equipment industry and are marketed under a number of brands, including: Challenger, Fendt, Massey Ferguson and Valtra.

Motivation for Remanufacturing

AGCO reman engines and components are engineered and remanufactured to provide maximum value and increase uptime in the field for all AGCO customer equipment needs. They are upgraded to the latest OEM engineering specifications, fully tested and ready to install. AGCO Reman parts eliminate uncertainty and prevent complications during rebuilds. AGCO Reman parts are superior to both "rebuilt" and aftermarket alternatives.

- Each part is completely disassembled, cleaned, and inspected
- Their individual components are brought up to the latest OEM specifications, if possible, or replaced with new components. All wear items are also replaced.
- Older cores are brought up to date with the latest engineering specifications, when possible. Doing so provides even better performance on older equipment.

Product Description

AGCO Power division produces diesel engines (Fig. 13), gears and generating sets. The diesel engines are manufactured for use in tractors, combines and sprayers, and are also sold to third parties. The engine division specializes in the manufacturing of off-road engines in the 50-500 horsepower range. The largest number of new engines was manufactured in 2013 (app. 40000 diesel engines). Annually about 1000 engines are remanufactured.

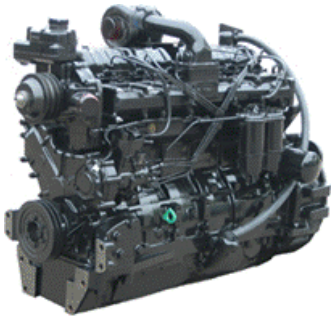

Fig. 13 AGCO diesel engine being remanufactured at Linnavuori Plant.

Design for Remanufacturing

Standardisation and modularisation are the most important factors in the design. In the past, ACGO has partnered with up to 16 engine providers which increased complexity, whereas today the number has decreased to seven. AGCO Power is the only internal engine provider. In the future the number will be decreased to three. The engine blocks are designed with extra working allowance, which allows for remanufacturing and machine-tooling of cylinders.

Environmental Benefits

The remanufacturing process[1] requires 80% less energy and material than manufacturing a new component. The AGCO Power engines division, which specializes in the manufacturing of off-road engines in the 50 to 500 horsepower range, currently complies with Tier II, Tier III and Tier 4i emissions requirements set by European and United States regulatory authorities.

Economic Benefits

- Reduced cost because ownership of equipment is expensive and remanufacturing helps by reducing parts and labour costs for equipment repairs
- Increase uptime through speedy repair time means more time in the field
- Remanufacturing ensures quality as it always brought up to the latest engineering specifications
- Extends service life of older machines
- Otherwise, obsolete parts are kept available
- Warranty and reliability, every remanufactured part with the same warranty as genuine AGCO original equipment parts

Business Models

AGCO Power uses a deposit system. When a customer buys a remanufactured engine he/she pays a deposit. When the used engine (core) is returned the deposit is refunded to the customer.

Future Challenges

In the future one challenge is to be able to respond to customers' increasing standards on delivery times. The remanufacturing process needs to be developed to meet customer service expectations. This will also be visible in sales and marketing, in order to make the decision-making easier for customers. Delivery times at the engine factory times need to be further shortened by two days. In addition, the technology development is difficult to foresee. What is the general business view in 10 years from now? Will the equipment usage behaviour change? Will there be more non-repairable products? If the customers' behaviour changes, then it will also influence AGCO Power.

[1] https://www.youtube.com/watch?v=tPomC4BPLmU