

CASE STUDY

Industry: Steel Industry
Customer: Steel Plant in Germany

▶ Handling a complex powertrain is not a problem for Off-Highway Powertrain Services

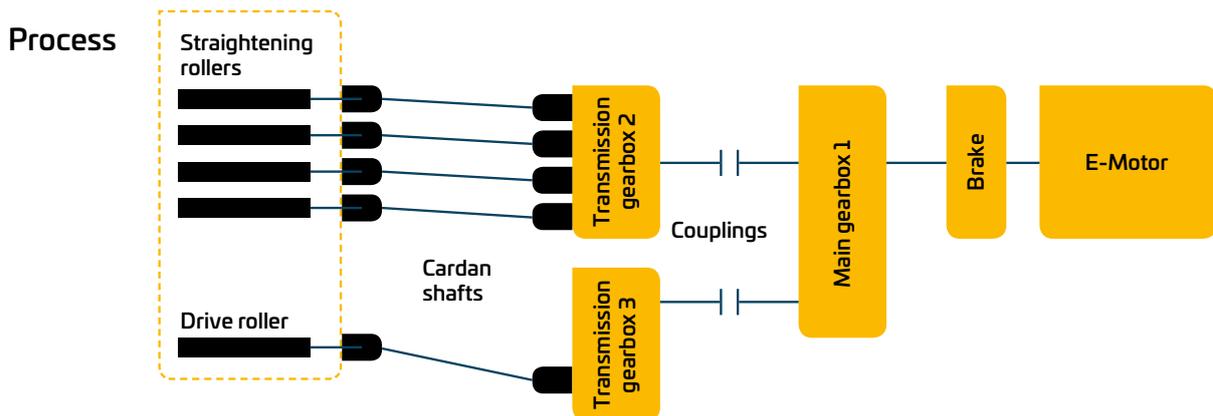
▶ Case Description

A steel mill customer had a problem with heavy oil leakage from a powertrain gearbox. The customer suspected that the cardan shafts had been incorrectly installed, which could result in powertrain breakdown or cardan shaft failure. Off-Highway Powertrain Services (OHP Services) performed an alignment check to establish if the customer's suspicions were correct.

In fact OHP Services found that the cardan shafts were properly aligned and installed and were not damaged. Instead, a significant mis-alignment was identified in the couplings between the main gearbox and a transmission gearbox (see figure below). OHP Services, as a complete solution provider, reacted immediately on the findings to perform a corrective

alignment procedure on this complex powertrain the very next day. This was a technically difficult alignment since the main gearbox is a fixed, immovable installation. Therefore, the transmission gearbox needed to be adjusted, whilst at the same time it was essential to maintain the cardan shafts in alignment. The customer was also informed that the effect of the thermal growth in the powertrain must be considered to prevent possible misalignment when the powertrain is in normal operation.

One of our specialists monitored the production process during a work shift to check for thermal growth in the powertrain and was able to adjust for this factor during the alignment process.



▶ Technology Snapshot

Alignment Check & Correction

Even components of the highest quality will not perform as designed if they are not installed and adjusted correctly. Our specialists use modern technologies such as laser alignment and thermal growth methods to ensure that systems are

properly set up for the particular machine and its operating conditions. A detailed "before and after" alignment status report is included.

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► Challenge:

- Identify the real root cause of the problem
- Document that cardan shafts are correctly installed and aligned
- Avoid unplanned breakdowns by correcting the issues found

► Solution:

- Laser alignment checks on the complete powertrain to locate the mis-aligned components
- Perform alignment of the powertrain taking the thermal growth effect into consideration
- Monitor the production process for thermal growth after re-alignment

► Customer Value:

- Reduced maintenance costs due to reduced inspections on cardan shafts
- Operation costs reduced by avoiding expensive oil leakage
- Reduced risk of unplanned shutdowns caused by the gearbox and possible subsequent damage to the powertrain (an unplanned shutdown would cost more than € 50,000 per shift)

► What's special?

- Although we were initially approached only for suspected problems on cardan shafts we analysed the complete powertrain to identify the true root cause and to provide an immediate solution. The complex design of the powertrain required high skill and expertise in identifying and correcting the problem.

OFF-HIGHWAY
POWERTRAIN SERVICES

WORLDWIDE

Off-Highway Powertrain Services collaborates with manufacturers and logistics partners worldwide: benefit from our extensive network. By means of our Service Parts Availability Module, you can define which parts are to be available, and how quickly they can be delivered to your location – regardless of manufacturers. We also offer customized spare parts to our clients on stock.

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This case study is exemplary only. Any and all information, data, values, products, procedures etc. which are mentioned in this case study vary from case to case and can be different. For calculation pertaining to your business, please refer to a Off-Highway Powertrain Services employee.