

Case Study

Rebuilding Mainline Pump Bearings for Oil Sands Pipeline Operations

Motion Repair & Services

Background: Supporting Pipeline Operations in the Oil Sands

A pipeline division responsible for transporting processed oil sands products relies on the dependable performance of mainline pumps to ensure uninterrupted product flow. These pumps are critical to operations, and any failure can lead to costly downtime.

The Challenge: Bearing Failure and Inventory Issues

The customer identified that their mainline pumps had broken down due to seal failures on the pump barrel and contamination of the CBA bearings, requiring a complete overhaul. While their maintenance team was prepared to perform the rebuild, they discovered that the matched bearing sets in their inventory had been mixed up. This made it impossible to determine the correct combinations of bearings and spacer plates.

The pump design required matched bearing sets with custom spacer rings to control axial thrust in both directions while maintaining specific bearing clearances.

The customer faced two options:

Ordering new matched sets:

- A 30-week lead time.

Sending the bearings to the factory for matching:

- A two- or three-week turnaround.

With the pumps critical to operations, the customer needed a faster alternative.

Our Solution: Re-Matching Bearings In-House

Recognizing that the customer already had all the necessary bearing components on hand, we collaborated with a trusted bearing manufacturer to develop a solution. The manufacturer provided detailed procedures and drawings, enabling us to attempt re-matching the original bearing sets.

Here's how we approached the challenge:

Precise Measurements and Matching:

- All eight bearings were sent to our facility, where our technicians took precise measurements following the manufacturer's procedure.
- We explored all possible combinations of bearings and spacer plates to derive four matched sets.

Backup Plan for New Plates:

- If the original plates could not be matched, we had arranged with a third-party shop to construct new, precise spacer plates.

Fast Turnaround:

- Our team successfully matched the bearings without requiring new plates, completing the process in approximately three business days from receipt to shipment.

Results: Fast Delivery and Customer Satisfaction

The customer was highly impressed and relieved that we could provide matched bearing sets and deliver them before the other parts needed for the pump rebuild even arrived.

Key Outcomes:

- **Reduced Downtime:** The matched sets were shipped in just three business days, avoiding the two- or three-week factory-matching delay or the 30-week lead time for new sets.
- **Cost Savings:** The customer avoided the expense of new bearings or custom spacer plates.
- **Improved Inventory Management:** We recommended that the customer submit a bearing purchase request with us to ensure they have critical matched sets on hand in the future, reducing the risk of downtime due to inventory issues.

This successful outcome led to positive follow-up engagement with the customer's pipeline team to explore additional services we could provide.

Partner With Us for Fast, Reliable Solutions

Our team's expertise and ability to collaborate with trusted partners allowed us to deliver a fast, cost-effective solution for the customer's critical pump rebuild.

For more information, visit MiRepairandServices.com or call 1-800-526-9328.