

Screw Conveyor Shaft Wear Solution



The Application Problem

A customer was having problems with rubbing seals which were creating excessive wear and damage to screw conveyor shafts on an animal feed conveyor. This created high maintenance costs and limited operational use of the conveyor.

To cope with these problems, the customer had a regular bearing change-out and shaft rebuild during the annual maintenance period which incurred regular shaft rebuild costs in the region of £350. An additional bearing changeout was also required during production every year.



Above: Typical annual shaft damage prior to conversion.

Below: Wear collars shown in position before fitting of housing.



The Cooper Split Solution

To rectify the problem, Cooper recommended shaft wear collars to be fitted to either side of the OIE 90mm EX (Expansion) bearing installed in a special strap hanger application on the shaft of the screw conveyor.

The application required special modification to the cartridge and enabled the screw conveyor to operate continuously throughout the processing period without the need for any bearing or seal related stoppage. This has resulted in significant cost savings for the customer.

Prior to conversion the estimated maintenance costs for a full equipment change is estimated at:

Complete shaft and screw unit: _____	£8,000	(\$12,000)
Maintenance Cost: Minimum of 2 days: _____	£1,000	(\$1,500)
Crane Hire: _____	£1,000	(\$1,500)
Potential Cost Savings: _____	£10,000	(\$15,000)

The Cooper hallmark split to the the shaft feature permits inspection and maintenance to be carried out in the shortest possible time making a positive contribution to profitability.

The Cooper wear collar solution has enabled a continuous production period without a bearing change for the first time in fifteen years.

Below: Installation of cartridge in screw conveyor.



All information and figures correct at time of printing.

Photographs with permission of the customer.

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