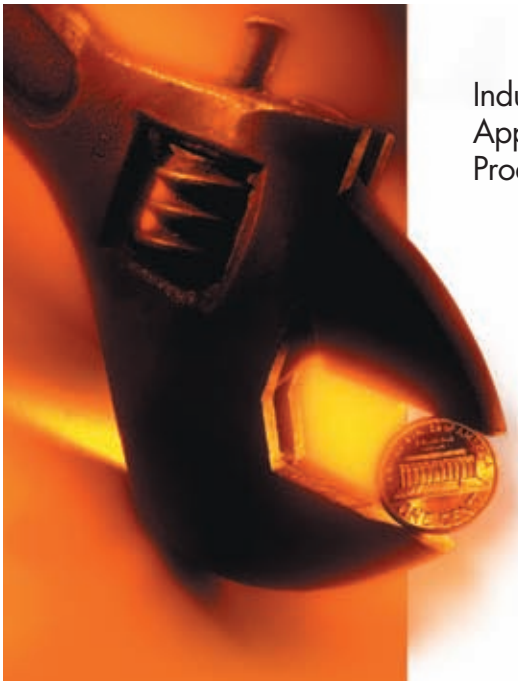

Industry: Automotive
Application: Reduced Downtime Savings in an Automotive Plant
Products: DODGE® SPLIT-SPHERE™ Bearings

DOCUMENTED SAVINGS
CASE STUDY NO. 7

The Challenge

When maintenance crews at an automotive assembly plant needed to replace an SAF pillow block bearing on a vertical drop lift, they had to remove several parts from the lift (including the coupling, motor, and reducer) before even getting to the bearing. This process took a long time and resulted in substantial associated downtime costs.

The Baldor Solution

We performed an analysis comparing the dollar value associated with the maintenance and installation of the customer's existing SAF bearings with the dollar value associated with our DODGE Split-Sphere bearings.* (With DODGE Split-Sphere bearings, only the coupling has to be removed and the bearing insert replaced—versus removing the entire vertical drop lift.)

* See back page for details of analysis.

The Savings

Although the initial purchase price of the DODGE Split-Sphere bearing was almost double the purchase price of the SAF bearing, the overall total cost of ownership for the SAF bearings allowed significant savings in downtime and maintenance. Almost $200,000 was documented in reduced annual maintenance costs and downtime savings.

The Conclusion

Considering the associated downtime cost of an SAF bearing was approximately $1,000 per minute, this automotive manufacturing plant found DODGE Split-Sphere bearings to be an effective alternative to the high cost of bearing failure.

The Step-by-Step Calculation

ANNUAL OPERATING COST

Existing Bearings

Baldor Solution Total Savings of: $193,320

Step 1 —

For each product that was analyzed, Baldor asked the following questions:

- What was the amount of time required to perform each of the following activities?
  - Lock out conveyor drive and belt
  - Remove the existing drive
  - Select and purchase new components
  - Install a new drive
- What was the number of employees required for each activity?
- What was the labor rate for each activity?
- What was the cost of parts for each activity?
- What was the replacement frequency of each component?
- What were the downtime costs ($ per hour)?

Step 2 —

We calculated the total operating costs for the existing and proposed solutions using the following formulas:

Installation Cost = [(Time Spent on Activity/60 Minutes) x (# of Employees for Each Activity) x (Labor Rate) x (Replacement Frequency)]

Downtime Cost = [Downtime Cost ($ per Hour) x (Time Spent on Activity) x (Replacement Frequency)]

Efficiency Cost per Unit = [(kW Spent*) x (# of Operating Hours) x ($kW per Hour) x (# of Years in Operation) x (# of Units)]

* kW Spent = Unit HP x 1/Unit Efficiency

RESULT:

Existing or Alternative Total Operating Cost	$ 302,269
Baldor Total Operating Cost	$ 107,674
SAVINGS	**$ 194,595**

Step 3 —

We compared the purchase price of the existing and proposed solutions to illustrate an accurate assessment of overall costs.

RESULT:

Existing or Alternative Purchase Price	$ 1,249
Baldor Downtime Cost	$ 2,524
SAVINGS	**$ (1,275)**

Step 4 —

Based on these calculations, we were able to discover and document a **TOTAL DOCUMENTED SAVINGS OF:** + **$ 193,320**

BALDOR
BALDOR • DODGE • RELIANCE

World Headquarters
P.O. Box 2400, Fort Smith, AR 72902-2400 U.S.A., Ph: (1) 479.646.4711, Fax (1) 479.648.5792, International Fax (1) 479.648.5895
www.baldor.com