



APPLICATION STORIES

The Application:

A subcontractor to the automotive industry uses a silicon carbide stone to hone the ID of precision cam followers for automotive applications. The stone wears away during this process and the debris or dust from this wear flies into the hone's coolant system where the filter fails to catch the sub 5 micron contaminate (silicon carbide). This mixture of coolant and silicon carbide acts as a great lapping compound that polishes the linear guidance system to the point of failure.

A profiled rail system was originally



installed but survived less than two weeks in this application before failing catastrophically.

Cycle Information

Saddle Load: 5 lbs.

Saddle Length: Extended

Actuation: Cam running 500 RPM

Stroke: 1/2" inch

Cycle Time: 13 seconds

Contamination: silicon carbide slurry in an oil bath.

The Solution

A Dolphin Guide from Pacific Bearing was installed to replace the profiled rail system. Seals or waycovers were deemed unnecessary in this application. Nine months and 66 million inches later the Dolphin Guide began to show the first signs of wear.

The Dolphin Guide became the approved solution for this linear motion application. Inventory was added and the customer was able to move onto more pressing problems.



The Distributor's Perspective

Gary Roughton works for Motion Industries in Defiance, Ohio. Gary was called into his customer's facility to address a problem involving the premature failure of the linear guide system in a honing operation.

Roughton knew he was faced with a difficult situation because the THK profile rails currently being used were failing after only two weeks on the job. "THK makes a great profile rail", Roughton explains, "but it wasn't designed to tolerate the contamination found in this application". Roughton called in Pacific Bearing for a second opinion and Pacific's Territory Manager Jeff Mowers traveled with Roughton to visit the plant and check out the application firsthand. Together with the customer they specified a Dolphin Guide. It was determined that seals and waycovers wouldn't hold up to the contamination so none were used.

The results were dramatic. The two week life expectancy stretched to nine months. The sub 5 micron silicon carbide contaminate that acted like a lapping compound on the THK profile rail did not have the same effect on the ceramic coated 6000 grade aluminum guide rails of the Dolphin Guide. The self-lubricating Frelon Gold liner ran over 66 million inches before the first signs of wear.

The customer called both Mowers and Roughton back in after the first Dolphin Guide system began to show signs of wear. He was voicing his concern over the performance of the Pacific Bearing technology when Roughton interrupted. He reminded the engineer that the THK system lasted two weeks and the Dolphin Guide 9 months. The customer acknowledged the improved performance and purchased 6 more Dolphin Guide systems on the spot. Motion Industries is now stocking the Dolphin Guide and Gary Roughton has come to count on Jeff Mowers and Pacific Bearing as THE value in linear motion.

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Pacific-Bearing: THE Value in Linear Motion