

Success Story

Industry: Automotive Production

Application: Motor Spindle

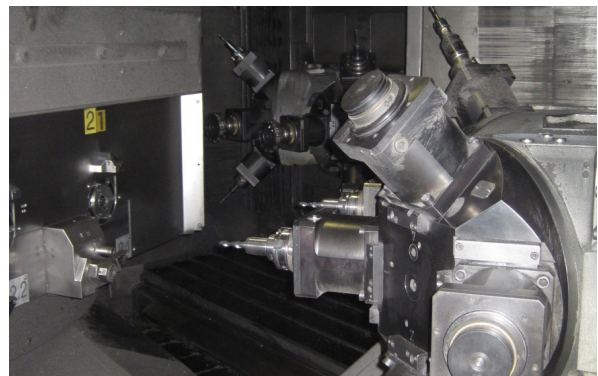
Cost Savings: € 50 406

Introduction

A German car manufacturer performed an annual audit on their machining centres. They found a high usage on their motor spindle bearings and contacted NSK to investigate this. NSK performed an application review and bearing examination which showed that the bearings were being subjected to external contamination which caused premature failure. To overcome this problem Sealed Super Precision Bearings were proposed. This had a dramatic effect on spindle performance with a large reduction in bearing failures and an increase in service lifetime from 12 to 36 months.

Key Facts

- Car Manufacturer
- Production of car rear axle components using a Machining Centre
- Service life time only 12 month
- Dusty environment causing standard bearings to fail prematurely
- Pressure to reduce manufacturing costs
- NSK Sealed Super Precision Bearings trialed
- Resultant performance increased to greater than 36 months



↑ Tool changer

Value Proposals

- NSK application review, following the customer's audit, showed that the spindle bearings were failing prematurely due to contamination ingress
- Recommendation to use Sealed Super Precision Bearings (V1V)
- Training and best practice guidance installation was provided for sample fitting
- Bearing performance and reliability improved
- Significant reduction in manufacturing costs documented resulting in a €50.406 cost saving

Product Features

- Non-contact seals
- Time saving: Bearing mounting time 4 × faster & contamination through poor handling was eliminated
- Non-contact seals provide valuable protection; reducing raceway and ball surface wear, noise and vibration, lubricant breakdown
- No speed reduction due to non-contact seals
- Improved spindle performance
- Operates between horizontal and vertical positions
- Sealed bearings prevent grease migration in vertical spindles, promote temperature stability and provide higher accuracy machining
- Longer grease life: extended by 50% with sealed bearings



↑ Sealed Super Precision Bearing

Cost Saving Breakdown

Before	Cost p.a.	NSK Solution	Cost p.a.
 Fitting, dismantling & spindle fitting auxiliaries - Spindle "1"	€38.088	Fitting, dismantling & spindle fitting auxiliaries - Spindle "1"	€0
 Fitting, dismantling & spindle fitting auxiliaries - Spindle "2"	€12.318	Fitting, dismantling & spindle fitting auxiliaries - Spindle "2"	€0
Total Costs	€ 50 406		€ 0