

Success Story

Industry: Automotive Production

Application: CNC Spindle

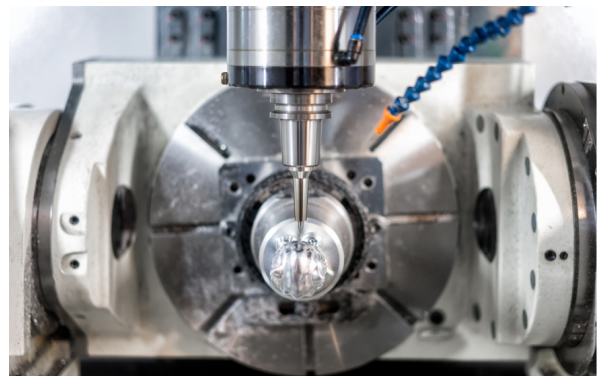
Cost Savings: € 32 880

Introduction

Within a big Automotive production plant the machine tool spindles often broke down due to spindle failures. The maintenance department of the production plant had to change the bearings every 2 weeks. The customer requested NSK to investigate the root cause of this bearing failure. After a survey of the complete application and the maintenance process the NSK engineers discovered that the main problem was incorrect handling of Super Precision Bearings during installation.

Key Facts

- Machine Tool Spindle
- Incorrect handling of the bearings during maintenance
- NSK Solution: Super Precision Bearing training - mounting & dismounting
- Significant cost savings due to increased lifetime of the bearings up to 6 months



↑ Automotive Production - CNC Spindle

Value Proposals

- An NSK expert checked the complete mounting and dismounting process of the maintenance department
- It has been recognised that the bearing failed due to incorrect handling during installation
- A complete training with the maintenance people including advise on grease refilling of bearings was done
- No further issues were detected on the bearings, after the installation process was clear

Product Features

- Optimum design - achieved by computer simulation of temperature rise resulting from ball skid
- Long life - Range of material specification including high quality ultra clean steel, extra pure and advanced material SHX patented by NSK
- High accuracy - Rolling elements with P2 series available in standard steel and ceramic material
- Low Noise - Quieter running high-speed spindle
- Cage material options, available in high speed design including - brass, engineered polymer and phenolic
- Optional seals available within the standard ISO envelope
- High rotational speed
- Minimum friction and heat generation
- Controlled rigidity



↑ Mounting training for Super Precision Bearings

Cost Saving Breakdown

| Before | Cost p.a. | NSK Solution | Cost p.a. |
|---|-----------------|--|----------------|
|  Bearing failure every 2 weeks | € 20.120 | 2 Bearing changes per year | € 160 |
|  Replacement of bearings | € 1.920 | Replacement cost for bearings per year | € 1.000 |
|  Machining downtime x 24 | € 12.000 | No downtime | € 0 |
| Total Costs | € 34 040 | | € 1 160 |