

Success Story

Industry: Machine Tools

Application: Spindle of Grinding Machine

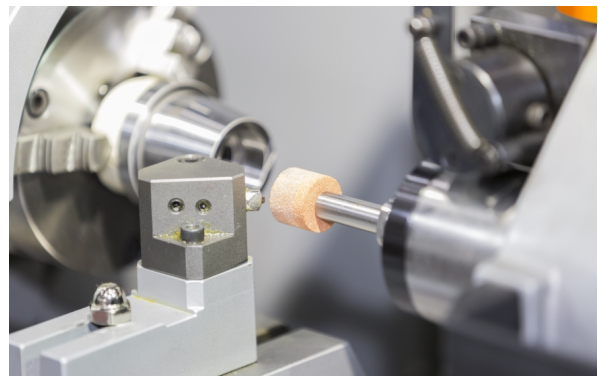
Cost Savings: 11,300 euros

Introduction

Within NSK's own precision plant, a grinding machine was experiencing raceway form errors. After numerous attempts to correct the form error, the fault remains unidentified. Initial readings were taken using NSK Condition Monitoring Service prior to replacing the bearing. Subsequent, readings were taken within the following weeks. Results showed a number of issues associated with the spindle lubrication. This helped to identify the root cause of the machine problem and save time and costs on unnecessary investigative maintenance and machine downtime.

Key Facts

- Spindle of Grinding Machine
- Grinding machine experiencing raceway form errors
- NSK Solution: Condition Monitoring Service (CMS) with analysis on the spindle and dresser
- Dresser: Gast air motor coupled to a belt drive delivering typical output speed of 8000 rpm
- Spindle: Electric motor coupled to a belt drive delivering typical output speed of 17341 rpm
- Root cause of the failures was identified
- Time and cost saving realised



↑ Spindle of Grinding Machine

Value Proposals

- NSK Condition Monitoring Service indicated there was a lubrication issue with the system subsequently leading to raised vibration levels from the rolling elements
- The auto lubrication system on the machine was overhauled and the vibration levels reduced significantly
- Three days to strip the spindle and investigate the potential bearing problem were avoided, along with the associated loss of production

Product Features

- Live assessment of a machines condition and health while machine is still in operation
- Predicted life of the critical components inside a machine allowing the customer to plan maintenance more accurately
- Early warning of problems occurring in machinery. Condition Monitoring is the most sensitive and long reaching method of detecting the signs of machine wear
- On-site support from NSK Engineers
- Assurance that NSK as a full range supplier can help with the provision of critical bearing and linear motion spares



↑ Condition Monitoring Service (CMS)

Cost Saving Breakdown

Before	Cost p.a.	NSK Solution	Cost p.a.
 Maintenance cost savings	€ 4.050		
 Lost production cost savings	€ 7.250		
Total Costs	Before		NSK Solution