

Tool Wear and Breakage Monitoring System - Automotive Applications

Machining Pump Covers

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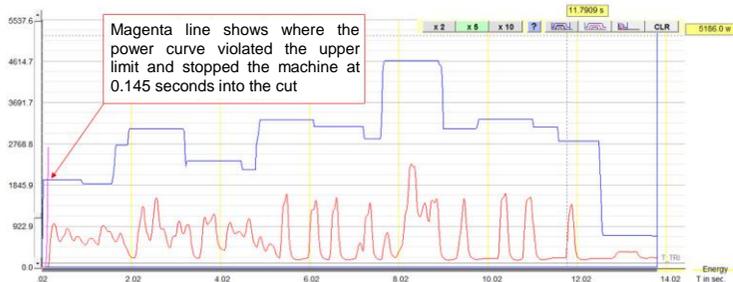
AN AUTO MANUFACTURER DID AN EXTENDED WATTPILOTE TRIAL BEFORE DECIDING TO RETROFIT A PUMP COVER LINE

This manufacturer was seeking a reliable tool breakage detection system that functioned on ALL the cutting tools used when machining pump covers. It also needed machine crash protection. WattPilot was the answer.

TOOL BREAKAGE DETECTION AND MACHINE CRASH PROTECTION

WattPilot was able to monitor the condition of ALL the tools used in this process – from the 45mm diameter mill to the 2.5mm diameter drill.

Also, WattPilot was able to react to crashes in a fraction of a second and reduce crash recovery time from the usual 6 hours to only 45 minutes! Crashes happen about 29 times per year.



ELIMINATION OF MAINTENANCE COSTS AND DOWNTIME DUE TO LASER-BASED TOOL BREAKAGE SENSOR FAILURES

Maintenance costs for the existing laser-based tool breakage sensors, along with the additional machine axes required, were in the top 5 for the plant. This line averaged 96 failures annually and the MTTR was 5 hours. That's 480 hours of machine downtime per year!

And even when the laser sensors were working, they could not be used on all the tools and they were not reliable because of the coolant and swarf present in the machining process.

TOTAL SAVINGS

Even if the maintenance materials cost reductions and tool breakage detection reliability improvements are ignored, machine downtime was reduced by 632 hours annually!

632 Hour Annual Reduction in Machine Downtime = 480 hours spent maintaining failed laser-based tool breakage sensors + [29 machine crashes x (6 hours – 0.75 hours) downtime].

AND WATTPILOTE OFFERS EVEN MORE CAPABILITY

WattPilot can also be used for tool wear detection, machining process optimization, comparative tooling studies, and documenting problems with the quality of incoming parts.



WattPilot

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