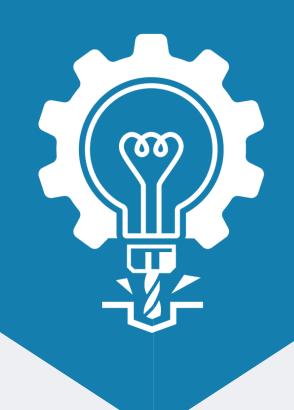


OMP405



ADAPTIVE DYNAMIC MACHINING

Despite the best predictive analysis, chatter vibration during machining can arise suddenly. Industry involved in machining need a system that can recognize chatter live in-the-cut and immediately adjust parameters to eliminate it from causing damage.

OMIC R&D developed real-time chatter detection procedure, and validated them with baseline data of traditional tap-testing and acoustic signature techniques. OMIC R&D conducted experimentation to show validation of improved performance.

This helps manufacturers achieve the required part surface finish & tolerance, avoid catastrophic tool or machine failure, and reduce total cost.

Weigh the Cutting Tool & Holder Assembly (Kg)

U (g mm) = G X 9549 X Kg
RPM

Use RPMs:

- Either use RPM at which the cutter runs
- OR use max RPM of the machine.

The 10% Rule when $F_u < 10\%$ of F_T Balancing is not required



Figure 1 - an example of Chip Curl.



Figure 2 - Cutting tool being balanced with a laser.

Research for this project was conducted by Dr. Burak Sencer of Oregon State University.

Industry participants include:
BOEING
VIGOR
SANDVIK CORMAT

