LORD Balancing Systems

For Turning Centers, High-Speed Grinders and Machining Centers

LORD Balancing Systems are comprised of sensors, a controller and one or more balancers that make balance corrections to reduce vibration while the machine is running, at any operating speed. The systems are able to compensate for variable balance conditions due to part variation, tooling, wheel wear and changing process conditions. Balance corrections are made automatically, minimizing vibration caused by unbalance in seconds.

LORD Balancing System

Features & Benefits

Cost Effective – balances machine while it is running. Increases tool life by eliminating vibration harmonics. Reduces cycle times and set-up time resulting in increased productivity.

Adaptable – operates in either automatic or manual modes. Interfaces easily to machine PLC control.

Customizable – retrofits onto existing machine. Balances to levels of G1.0 or below at operating speed.

Reliable – allows machines to effectively operate at speeds up to 40,000 rpm. Eliminates vibration caused by chatter with improved surface finish. Improves dimensional accuracy by eliminating vibration caused run-out.

How the Balancing System Works

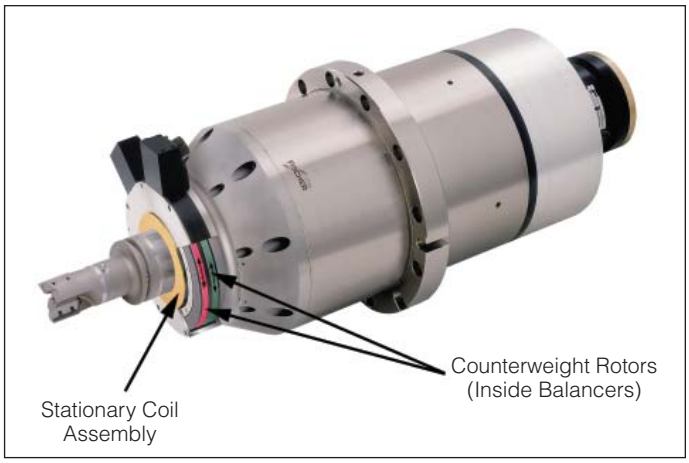
One or more balancers are permanently fixed on the rotating shaft, and each balancer is surrounded by a stationary coil used to transmit power into the balancer(s).

Sensors monitor vibration levels and transmit information to the controller. When vibration levels exceed a preset high-limit, the controller signals the coil(s) to pulse power to the balancer(s) to make a balance correction.

The correction is made by the repositioning of two counterweighted rotors relative to each other, located inside the rotating balancer(s).

Vibration levels are reduced as the rotors are moved until the controller senses that vibration levels have dropped below a preset low-limit.

The rotors are repositioned within seconds to complete the balance correction, while the machine is running at operating speed, eliminating manual balancing operations.



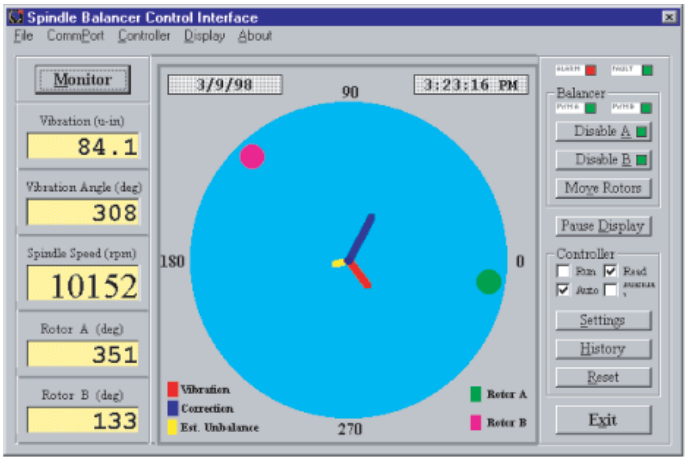
LORD
AskUsHow™

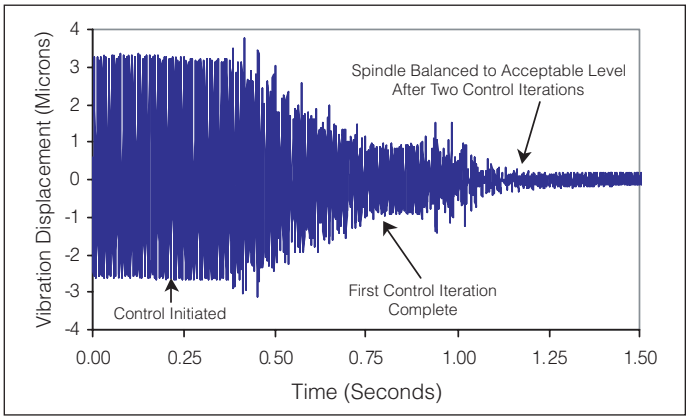
Windows Interface Software

Windows-based software provides a graphical, interactive user interface to the LORD Balancing System. The software is continuously updated to show current equipment vibration levels and has the ability to store balance influence coefficient data. The software has three display screens: a graphical interface (below), a vibration history chart and a streaming text display. In addition, the software measures and indicates the amount and location of correction capacity used.

High Speed Precision Balancing

The LORD Balancing System is capable of making trim balance corrections to reduce spindle vibration levels in as little as one second. Balance corrections are dependant on operating speed and the overall vibration level that needs to be corrected. One unique characteristic of the LORD Balancing System is that as a spindle's speed increases, the LORD Balancing System can process the data faster to determine what balance correction is needed.





LORD provides valuable expertise in adhesives and coatings, vibration and motion control, and magnetically responsive technologies. Our people work in collaboration with our customers to help them increase the value of their products. Innovative and responsive in an ever-changing marketplace, we are focused on providing solutions for our customers worldwide . . . Ask Us How.

LORD Corporation
World Headquarters
111 Lord Drive
Cary, NC 27511-7923
USA

Customer Support Center
+1 877 ASK LORD (275 5673)

www.lord.com

LORD Ask Us How™