

Press Release

October 31, 2007

Mori Seiki and Lord Collaborate on Technical Development of the Adaptive Balancer

Reduces spindle vibration by 90% and cycle time by 50% during eccentric workpiece machining.

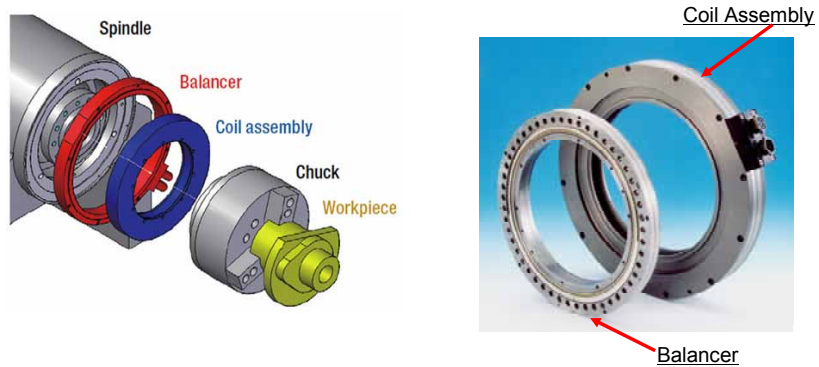
Mori Seiki Co., Ltd. has combined with the American company Lord Corporation to develop our Adaptive Balancer technology, which automatically adjusts for the vibration caused by the rotation of eccentric workpieces.

For lathes, which rotate the workpiece at high speed, vibration occurs in the spindle if the workpiece is unbalanced. In that case, it is normal to adjust the balance of the workpiece by adding weights (counter-balance) to the workpiece holding fixtures, but that takes a long time because it has to be done by hand. With the Adaptive Balancer, this balance adjustment can be commanded while the machining program is running, so manual adjustment is unnecessary, greatly reducing setup time.

From the technical point of view, the results demonstrate that applying the Adaptive Balancer allows a 90% reduction in spindle vibration, and since there is no need to limit the spindle speed, achieves much shorter cycle time. What's more, since there is less load on the tools, it also contributes significantly to longer tool life. This technology is extremely effective for machining unusual-shaped workpieces in the aircraft, automobile and energy industries.

Lord Corporation are experts in balancing technology for the high-speed spindles which are widely used in industrial machines and grinding machines in the cement, iron and steel and energy fields. Mori Seiki entered into joint development with Lord so that we could incorporate their outstanding technology into our lathes as well, and we have been able to apply it to almost all of our models.

The Adaptive Balancer has been displayed at the world's three biggest machine tool trade fairs, IMTS, JIMTOF and EMO, and has attracted a lot of interest from customers. We will conduct high-speed machining of eccentric workpieces on the NT4250 DCG/1000SZ at the Winter Productivity Show 2007 at Mori Seiki's Chiba Campus from November 14 (Weds.)~17 (Sat.). Please come and see the results for yourself.



Dia. 1 Structure and outline drawing

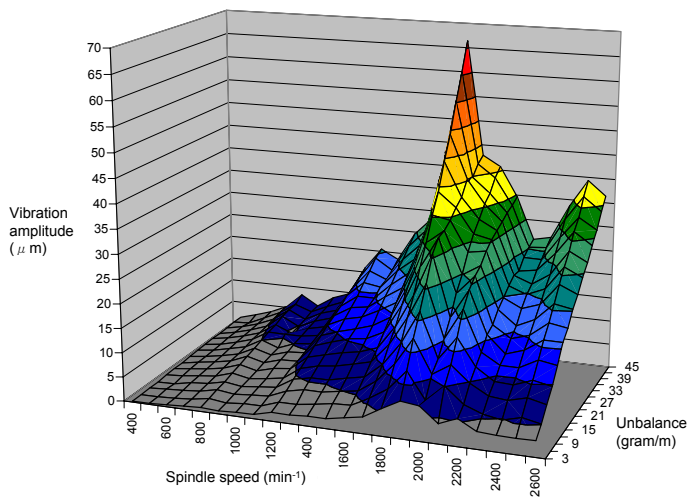


(1) Adaptive Balancer OFF

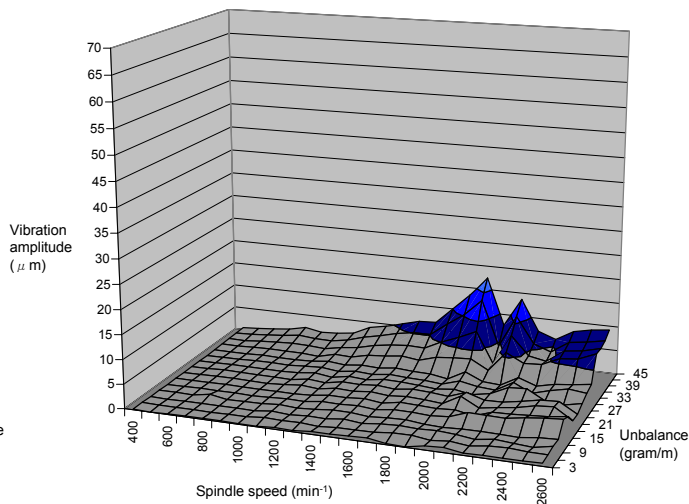


(2) Adaptive Balancer ON

Dia. 2 Controlling vibration using the Adaptive Balancer (conceptual diagram)



(1) Adaptive Balancer OFF



(2) Adaptive Balancer ON

Dia. 3 Controlling vibration using the Adaptive Balancer (actual measurements)

[About Lord Corporation]

Address: 111 Lord Drive, Cary, NC 27511, USA
President, CEO: Rick McNeel
Annual sales: US\$ 630 million
Number of employees: 2,400 (worldwide)
Foundation: 1924
Home page: <http://www.lord.com>

Lord Corporation was founded more than 80 years ago in Erie, Pennsylvania in the USA. Now it is a world leader in adhesives, coatings and vibration control, with annual sales of US\$ 630 million.

Their Head Office is in Cary, North Carolina, and they have 17 production bases in 9 countries and 90 sales/service offices.*

* From: <http://www.lord.com/tabid/2952/Default.aspx>