

Boeing: The Fight for Fasteners

*For want of a nail the shoe was lost.
For want of a shoe the horse was lost.
For want of a horse the rider was lost.
For want of a rider the battle was lost.
And all for the want of a horseshoe nail.*

Old English proverb

The Boeing Company ended 2008 on rough footing. For the fourth quarter, the company reported a loss of \$85 million. Quarterly revenues of \$12.7 billion were off by 27% year-over-year, primarily due to the impact of a machinists strike, which reduced commercial deliveries by approximately 70 airplanes.¹ The company also announced a lower-than-expected earnings forecast for 2009. "The global economy continues to weaken and is adversely affecting air traffic growth and financing," said Jim McNerney, Boeing's chairman, president, and chief executive officer.²

Indeed, 2009 started off just as difficultly. By the beginning of February, 31 orders for the 787 Dreamliner aircraft had been cancelled by LCAL, a Dubai-based leasing company, and S7 Group, Russia's second-largest airline.³ More cancellations and deferrals were likely for the 787, which had been the fastest-selling aircraft in the history of commercial aviation. By the end of 2006, before Boeing had originally scheduled to test and deliver the 787, Boeing had firm orders for approximately 500 aircraft.

Boeing originally was scheduled to deliver the Dreamliner to airline customers in mid-2008. However, after five announced delays over two years, the company was forced to postpone the first test flight. As of August 2009, the exact flight test schedule was still pending. Deliveries to customers were expected to be delayed until at least the second quarter of 2010. A delay of this magnitude was unparalleled in the history of Boeing commercial airplane development.

One driver for the delay was an industry-wide shortage of aerospace fasteners, the hardware that held the aircraft together. Engineers at Boeing never could have imagined that fasteners, which comprise approximately 3% of the total cost of an aircraft, would become such an issue. "It's amazing what it comes down to at the end of the program," said Mike Bair, the Boeing vice president who was initially in charge of the 787 Dreamliner program (until October 2007). "We're getting down to the point that every part, even a bolt, is important."⁴

Published by WDI Publishing, a division of the William Davidson Institute (WDI) at the University of Michigan.

©2010 William Davidson Institute. Research Associate Moses Lee developed this case under the supervision of Professor Ravi Anupindi. They thank Adam Martin of The Boeing Company and an alumnus of the Tauber Institute of Global Operations at the University of Michigan for his assistance in developing this case.
