



# Fact Sheet

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## Boeing 787 Battery Events Timeline

- Jan. 7 After landing and passengers and crew departing, a 787 experiences an APU battery failure; the National Transportation Safety Board (NTSB) launches an official investigation
- Jan. 7 Boeing sends team to participate in NTSB investigation of Boston event
- Jan. 8 Boeing assembles technical team in Everett to examine learnings from Boston event and analyze potential causes
- Jan. 11 FAA and Boeing announce joint review of recent issues and critical systems on the 787
- Jan. 15\* A 787 experiences a main battery failure in flight; the flight crew diverts to Takamatsu and conducts a safe landing; Japan Transport Safety Board (JTSB) launches an official investigation
- Jan. 16 Boeing sends team to Japan to participate as advisors to the NTSB in support of the JTSB investigation into the ANA event
- Jan. 16 Technical team in Everett augmented with additional Boeing experts and expands scope to include ANA event; more than 200 technical experts are focused on understanding the cause of the two battery events
- Jan. 16 FAA issues Airworthiness Directive suspending commercial operations of 787 fleet, global regulators follow suit
- Jan. 18 Development team launched to begin developing enhancements to the battery system to address causal factors identified by technical team

*\* For consistency all dates listed at Pacific Standard time, this event occurred on Jan. 16 in Japan*

- Jan. 19 Development team considers a variety of potential designs to improve the containment of the 787 batteries and selects one for additional development
- Jan. 24 Development team creates stereolithography mockup of new battery enclosure to enable spatial integration and “fit check” reviews
- Jan. 25 Boeing, Thales and GS Yuasa complete start-to-finish audit of 787 battery production processes to look for opportunities to make improvements
- Jan. 30 Boeing convenes non-advocate review of 787 battery design and build process with outside experts from a spectrum of lithium-ion experts
- Feb. 5 FAA approves ferry flight of 787 Line Number 43
- Feb. 5 Engineering drawings for long-lead items in the new battery enclosure are released
- Feb. 7 Boeing ferries 787 Line Number 43 from a paint facility in Texas to Everett, Wash.
- Feb. 7 FAA approves limited flight testing on ZA005, the fifth 787, to gather data about the performance of the battery in flight
- Feb. 9 ZA005 conducts a 2 hours and 19 minute flight test to monitor the performance of the battery in flight; new equipment installed for these tests samples battery readings at a rate of 500,000 samples per second
- Feb. 15 New acceptance test procedures (ATPs) are defined to provide more stringent criteria for cells and batteries
- Feb. 11 ZA005 conducts a 1 hour and 29 minute flight test for additional battery monitoring; no additional flight tests are scheduled
- Feb. 12 Boeing convenes meeting of a sub-team of the non-advocate review to review proposed changes to the battery and production processes

- Feb. 12 Laboratory tests validate that the new enclosure for the 787 battery can withstand a full battery venting resulting in no measurable amounts smoke, electrolyte or fumes leaving the housing; ultimate load test (1.5 times to highest pressure that could occur) passed
- Feb. 14 Boeing, Thales and GS Yuasa conduct critical design review of new battery design and production processes
- Feb. 17 Boeing submits to the FAA the certification plan for new battery design and enclosure; the plan outlines the proposed tests to be conducted to validate the battery and enclosure meet the requirements of the Jan. 16 Airworthiness Directive
- Feb. 20 Engineering tests of new enclosure conclude
- Feb. 22 First new wire bundles and thermal isolation insulation cutouts for the 787 battery arrive in Japan from Boeing
- Feb. 25 Boeing begins a round of extensive meetings with international regulators to discuss proposed set of solutions
- Feb. 26 Manufacture of first improved batteries begins at GS Yuasa in Japan
- March 1 Boeing hosts customer forum in Everett to discuss proposed comprehensive set of solutions to address battery issue
- March 1 Final engineering drawings for the new battery design and the enclosure are released
- March 5 First improved batteries delivered to Seattle for testing
- March 6 Initial certification testing begins with approval of the FAA
- March 12 FAA announces approval of Boeing certification plan for addressing 787 battery issue

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