

On May 31, 2014, about 1015 central standard time, a Schweizer 269C, N902CP, sustained substantial damage when it experienced ground resonance at the Draughon-Miller Central Texas Regional Airport (TPL), Temple, Texas. The commercial pilot and one passenger were not injured. The helicopter was registered to and operated by the Kachemak Bay Flying Service Inc. under the provisions of the 14 Code of Federal Regulations as a Part 91 demonstration flight. Visual meteorological conditions prevailed and no flight plan was filed. The helicopter departed TPL at 1010 on a local flight.

The pilot reported that during initial taxi he noticed that the intercom voice operated relay (VOX) volume was set too high, so he landed the helicopter on the asphalt taxiway into the wind to adjust the VOX. With the helicopter at flat pitch operating rpm, just as the pilot reached to adjust the VOX, the helicopter entered ground resonance. Within 5 seconds of touchdown, the oscillating became severe. He ensured that the collective was at flat pitch and he rolled the throttle to flight idle. Within 15 seconds, the main rotor blades impacted the ground, tail boom, and other components. The pilot shut down the engine using the magneto switch, and evacuated the helicopter with the passenger.

The four main landing gear dampers were removed from the helicopter and sent to a facility to conduct a load stroke examination. The examination used a load cell to apply pressure and a computer to record the stroke versus the load required for compression. The computer program was the same as was used to verify proper assembly and operation of new production dampers. A visual examination of the dampers revealed that all four dampers exhibited varying amounts of dried hydraulic fluid on the piston, dust seal, and the inside of the boots. All four dampers failed the load stroke test.

The left forward damper was intact with minor bending to the upper bearing lug. The load stroke test showed that it was within tolerance on the compression stroke at the lower pressure test point, but was slightly high at 3,620 lbs (should be between 2,900 and 3,600 lbs). It was out of limits at the ultimate load range.

The right forward damper was intact. The load stroke test showed that it was within tolerance on the compression stroke at the lower pressure test point. It was out of limits low at 1,787 lbs, at the ultimate load range (should be between 2,900 and 3,600 lbs).

The left rear damper was intact. The load stroke test indicated an out of limits high. It exceeded the maximum load of 3,900 lbs at 3.12 inches of travel. The nominal travel is approximately 3.5/3.6 inches.

The right rear damper was intact. The load stroke test indicated an out of limits slightly high at 3,910 lbs at the ultimate load point (should be 3,200 to 3,900 lbs).

On April 15, 2014, Sikorsky issued 269C helicopter Alert Service Bulletin (ASB) B-304. The ASB concerned a one-time load/stroke inspection of the landing gear dampers to be performed at an overhaul or repair facility. The ASB was effective for all 269C models to ensure the landing gear dampers were serviced correctly. The ASB stated that compliance was essential and to be accomplished by January 9, 2015, on all landing gear dampers in service “that have been

previously overhauled, serviced, disassembled or otherwise had the charge or fluid level affected.” Concurrently, Sikorsky issued a revision to the Handbook of Maintenance Instructions (HMI) for the 269C that added a load stroke inspection procedure to the section of the HMI that pertains to the repair and charging of the landing gear dampers (Appendix C, Part VI).

The maintenance records indicated that the last annual maintenance inspection was conducted on April 21, 2014 with a total aircraft time of 5,204.5 hours. On April 29, 2014, the helicopter's main landing gear dampers were serviced by charging them with nitrogen~~inspected~~ in accordance with paragraph 5-4 of the HMI's Appendix C Part VI~~the helicopter's maintenance instructions appendix C Part VI paragraph 5—4~~. After the ~~servicing inspection~~, the helicopter was returned to service. The maintenance facility did not comply with the ASB B-304 or the load stroke inspection procedure in the concurrent HMI revision.

The company's maintenance manager reported that the company was not aware that ASB B-304 and the concurrent HMI revision ~~were~~was issued until after the accident occurred. Once the company became aware of the ASB, they immediately removed the dampers from two other Schweizer 269C helicopters that they operated and had the dampers inspected per the ASB. The inspection revealed that 5 of 8 dampers failed the load test and had to be overhauled. The dampers were returned to service and the helicopters have been in operation without incident.