

Aviation - Product Liability

Thomas Goudkamp, NSW

Plane, single engine aircraft crashes due to engine failure: Personal injuries and nervous shock; claims brought in US against engine and plane manufacturers; settled at mediation.

Plaintiff v. Teledyne Continental and Cessna. Mobile Circuit Court, Alabama, USA

Facts:

This report contains three combined cases which all arose out of the crash of a single engine Cessna aircraft near Sydney on 22 December 1990. The cases were filed together on 14 December 1992 in the Circuit Court of Mobile County, Alabama. The cases were consolidated for the purpose of discovery and were scheduled for trial on 3 April 1995.

The aircraft, manufactured by the defendants, was participating in a search and rescue operation for another small aircraft that had gone down the previous day near Lake Burragorang.

The search aircraft had two pilots and four observers on board. The engine failed in flight and the plane made a forced landing in heavily timbered terrain. The four people in the first two rows of seats were killed. The two passengers in the back survived, but with serious injuries.

The plaintiffs in the law suit were the two surviving passengers and the parents of a deceased passenger who occupied the left middle seat.

It was determined, post-accident, that a connecting rod bolt had broken causing the connecting rod to puncture the crank case. The ruptured crank case caused a complete loss of engine oil and the engine seized from oil starvation. The aircraft had provided shoulder harnesses for the front two pilot seats but did not have installed shoulder harnesses for the rear four seats.

The first defendant, Teledyne Continental, had manufactured the engine in 1982 and the other defendant, Cessna, had fitted the engine new to the airframe in 1982. The completed aircraft was

exported to Australia where it flew until the date of the accident. The aircraft had been flown for approximately 2,000 hours before the engine was overhauled in 1988 by an aviation repair shop located in Bundaberg, Queensland. The repair shop certified that it had overhauled the engine in accordance with Teledyne's manufacturer's published overhaul instructions. The aircraft was then operated for approximately another 700 hours after the overhaul until the accident on 22 December 1990.

Contentions:

The plaintiffs contended that the defendants had acted in wanton disregard of the safety of pilots and passengers by failing to inform aviation repair shops in 1987 that the recommended torque for the connecting rod bolts had been increased.

The plaintiffs contended that the engine had been overhauled in 1988 in conformance with the defendants' then published but deficient specifications; that the connecting rod bolt had failed because the applied torque was not adequate to prevent the connecting rod and cap from slipping and that, as a result, the connecting rod bolt was caused to break.

The plaintiffs also claimed that the defendants knew, or should have known, that the torque should have been maintained at a minimum of 550" pounds, a figure that had been used by Teledyne for several years in the 1960s. The plaintiffs contended that there had been many similar prior failures of connecting rod bolts in the IO-520 engines; that the defendants were aware that these failures resulted from the defendants' inadequate specification of torque for the connecting rod bolts; and that the defendants had failed to investigate the cause of many connecting rod bolt failures in IO-520 engines.

In addition, the plaintiffs contended that the defendants had routinely destroyed their records of failures and accidents and that, if shoulder harness had been installed in the rear seats, the serious injuries and deaths in those locations may have been avoided.

The defendants contended the overhaulers in Bundaberg were not qualified to perform the overhaul in 1988, that their work was sloppy, that

they had been cited for work which was far below the appropriate standards; further, that the torque applied by them was far below the recommended level. The defendants contended that the specified torque of 425" pounds provided a large safety margin and was more than adequate to prevent the connecting rod bolt from breaking; the increase in torque in 1987 was to adjust to the higher weight of certain new engine components; and that the accident engine had the older, lighter weight, engine components.

The defendants also contended that the rod bolts placed in the engine in the 1988 overhaul were made by another manufacturer. In addition, the defendants claimed that improper operation and maintenance had caused prior failures. The defendants also denied destruction of records and contended that their safety features in aircraft were at the forefront and in compliance with the FAA and CAA at all times; their shoulder harnesses would not have made any difference to the occupants of the accident aircraft and the outcome would have been the same.

Finally, the defendants contended that the pilot of the aircraft departed his assigned search area without prior authorisation; the pilot flew the plane over hostile terrain that was not suitable for a forced landing in the event of engine failure and it was the pilot's negligence that was the sole cause of the accident.

Injuries:

The surviving female passenger was a 22-year-old real estate salesperson and sustained a fracture and dislocation of L5/S1 resulting in lower level paraplegia. She was hospitalised for several months and underwent an exploratory laminectomy. Her cauda equina had been displaced from the spinal canal and the conus medullaris had avulsed requiring open reduction internal fixation. She also underwent an exploratory laparotomy, received physiotherapy, underwent psychotherapy and will require periodic treatment of urological specialists, as well as periodic hospitalisation to treat complications from her paraplegia.

The surviving male passenger was an 18-year-old highschool graduate who sustained low internal injuries, causing the loss of a substantial portion of his large and small intestines through abdominal

surgery, as well as facial fractures requiring multiple surgery. He was hospitalised for several weeks and underwent surgery to his lumbar spine including internal fixation of a steel rod. His future treatment was expected to include psychiatric counselling and pain control guidance.

The parents of a young female passenger who was killed in the accident, brought claims for nervous shock.

Damages:

The plaintiffs sought compensatory and punitive damages.

Settlement:

The claims were settled at a mediation held in Los Angeles in mid-January 1995, for a total of US\$5,420,000. (AUS\$8.5 million)

Jurisdiction:

Alabama is a *lex loci* state and would apply the law of New South Wales on all substantive issues of liability and damages; Alabama laws on procedures and remedies applied.

For information regarding the US attorneys used or the Australian experts, please phone Thomas Goudkamp, Stacks the Law Firm with Goudkamp Mahony who acted for the plaintiffs on (02) 223 6155.

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