

NTSB Report of Tsunami's Crash

September 25, 1991

HISTORY OF FLIGHT

On September 25, 1991, at 1330 central daylight time, a homebuilt Tsunami Airplane, NX29JR, collided with terrain, while on final approach to Pierre Municipal Airport, Pierre, South Dakota. The private pilot (John R. Sandberg) sustained fatal injuries. The airplane was destroyed. The aircraft was being operated as a personal flight by John Sandberg under 14 CFR Part 91 when the accident occurred. The flight originated in Casper, Wyoming at 1214. Visual meteorological conditions prevailed at the time. No Flight plan was filed.

The accident airplane was being ferried back to Minneapolis, Minnesota, after participating in air races at Reno, Nevada. Pierre was to be an intermediate stop on the flight. It was one of a flight of two aircraft along with a Mitsubishi MU2 chase plane.

En-route from Casper, WY, it was noted there was an approximate 25 knot difference between indicated airspeeds of the two aircraft, with the Tsunami indicator reading lower.

As the airplane approached the airport, it was observed by several witnesses to suddenly roll rapidly to the left, go inverted, and then pitch toward the ground. One witness also stated the plane "turned slightly to the right before diving into the hillside." Another witness stated, "it looked like he was able to roll the wings level but was unable to pull out of the dive. The wing flaps were observed by the witnesses to be in the down position during the approach.

PERSONNEL INFORMATION

Mr. Sandberg was a private pilot with approximately 20 hours in the aircraft.

AIRCRAFT INFORMATION

The Tsunami is an Unlimited Class Racing Plane, Experimental Category.

WRECKAGE & IMPACT INFORMATION

The aircraft impacted the terrain nose first then right wing. The fuselage came to rest on its right side. The left wing was thrown clear of the impact site. Examination of the wreckage revealed both hydraulic flap actuator rod ends had separated from the wing flaps. Both rod ends displayed identical bending failure marks.

MEDICAL & PATHOLOGICAL INFORMATION

The cause of the pilot's (John R. Sandberg) death, as determined by autopsy, is multiple trauma secondary to an aircraft crash.

RESEARCH

The Tsunami was originally built and flown without wing flaps. The wing flaps were a modification added by the owner.

The left and right flap actuators are each comprised of a hydraulic cylinder with an internal hydraulic piston and an attached flap actuator rod. When the piston and rod are extended by hydraulic pressure, the flaps are pushed to the maximum down position of 44 degrees. Located at the end of each actuator rod is a 5/16 inch diameter external threaded stem type rod-end bearing.

Examination of the flap mechanism showed the threaded portion of both stems of the rod-end assemblies were bent 80 degrees before they failed. Both stems separated from the self-centering bearing end of the assembly.

ADDITIONAL INFORMATION

The aircraft was released to Stephen Bjornstad, Mr. Sandberg's son-in-law on 09-26-91.