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REPORT OF THE CIVIL AERONAUTICS BOARD
or the
Investigation of an Accident Involving Aircraft
During a Local Practice Flight

Michael Kanistras was fatally injured in an accident which occurred near Salona, Pennsylvania, about 7 20 p.m. on June 24, 1943. Kanistras held a student pilot certificate and had accumulated approximately 117 hours of flight time, all in the type of airplane involved. The aircraft, a Piper J5A, NC 41211, owned by the Piper Aircraft Corporation, was demolished.

Kanistras, flying solo from the front seat, took off on a local practice flight from the Cub Haven Airport, Lock Haven, Pennsylvania, about 7 00 p.m. Approximately 15 minutes later, in the vicinity of Salona, witnesses observed the plane nose down into a glide from an altitude of about 500 feet. The sound of power being applied at intervals was heard and the tail of the plane appeared to yaw from side to side during the descent. The glide was continued in a southeasterly direction, becoming progressively steeper until the plane disappeared from view behind a hill. A crash was heard almost instantly thereafter and the wreckage was found lying in a wheat field in an inverted position. Evidence indicated that impact had occurred at an angle of about 35° on the right side of the landing gear, lower portion of the engine and right wing tip simultaneously, following which the aircraft slid forward slightly and turned over.

An examination of the wreckage revealed that the fork of the turnbuckle assembly located at the up-elevator horn was broken near the end of the barrel. The appearance of the break indicated that a fatigue crack had existed for some time prior to the accident. The broken fork was attached to the elevator horn with a bolt which was installed so tightly as to restrict the necessary free motion between the turnbuckle assembly and the horn. The lack of free movement obviously resulted in repeated bending of the fork and accounts for the break. This unsatisfactory condition had apparently existed ever since the last major overhaul, as evidenced by the undisturbed paint and dope in the vicinity of the connection.

This aircraft had been flown 127 hours and 50 minutes since it was rebuilt and inspected at the Piper factory in May 1943. A 100-hour periodic inspection had been performed since that time but the records do not indicate that the pertinent turnbuckle connection to the horn was checked. Piper Aircraft Corporation Service Bulletin No. 67, issued on April 14, 1943, one month before the airplane was rebuilt by the manufacturer, gave specific instructions that all turnbuckle attaching bolts should be checked for the purpose of preventing too tight an installation.

The stabilizer was found set in a practically full "nose-down" position. Since the design of the stabilizer adjusting mechanism on this model airplane is such that impact of the plane with the ground would not alter the position of the stabilizer, it must be concluded that the surface was

set in the "nose-down" position by the pilot before the airplane crashed. With the elevator inoperative, the stabilizer adjustment and the application of power were probably the only means of controlling the airplane. Pilot Kanistras was employed by the Piper Aircraft Corporation as an inspector and all his flying experience was in the subject type aircraft. It is reasonable to assume that he knew how to operate the stabilizer correctly and it would appear, therefore, that he became confused and inadvertently adjusted the stabilizer to the extreme 'nose-down position.

Weather conditions were suitable for contact flying and had no bearing on the accident. The glide was made toward a field where a safe landing could have been effected. There was no evidence of failure of any part of the aircraft, other than the elevator turnbuckle, and the manner in which the propeller was broken indicated that some power was being developed at the time of impact. Kanistras was not wearing a parachute.

While the seriousness of this accident was augmented by the pilot's error in the application of the horizontal stabilizer, the probable cause was failure in the elevator control system.

BY THE BOARD

/s/ Ired A. Toombs
Secretary