

## **SAFETY FIRST**

# **THE GRAY HAIR DEPARTMENT**

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SSA Safety and Flight Operations Committee

Robert A. Schnelker, of Torrance, California, lost his life on August 2, 1959, while flying his sailplane, the "Tiny Mite" on a cross-country flight.

The "Tiny Mite" was originally designed as a combination aerobatic and soaring ship. It was all wood, had a small bubble canopy, and for a 40 ft. span ship, had excellent performance. The only unusual design feature was that a drogue chute had been installed to supplement other drag producing devices for glide path control. The drogue chute was deployed and jettisoned by the same lever in the cockpit. The ailerons were about three feet long and were mounted with two piano hinges on the top surface, each 11½ inches long. The aileron-wing gap was sealed on top with tape. The bottom wing-aileron gap at full up-aileron deflection was only about one-half inch, thus making the aileron hinges very difficult to inspect.

The pilot was making the flight in an attempt to gain his Diamond C distance leg and had flown about 220 miles from Odessa, Texas, the starting point, when the crash occurred. On the first of four radio contacts with his crew, made shortly after take-off, the pilot reported aileron control difficulty and stated that he had to jam full right aileron to relieve the binding. No mention of the difficulty was made in the three subsequent reports.

Location of the accident was about 14 miles from Claude, Texas. Weather at the time was clear except for scattered cumulus with bases at about 10,000 ft. a.s.l. The wind at ground level was SSW at 15-20 knots; at cloud base the wind was SSW at 5-10 knots. Altitude of the crash site was 3000 ft. Based on an average speed and previous radio reports, the crash occurred about 4:05 PM. There were no witnesses and the wreckage was not found the next day. Bits and pieces were scattered over a two mile long area. However, the intact wings (except for ground contact damage) with the center section and nose of the fuselage still attached, the tail assembly and tail cone, canopy, and other major components were grouped within a quar-

ter mile long area.

It is important to note that in moving downwind from the start of the wreckage pattern, the pilot was found first, followed by the variometer bottle and tubing, the fuselage half of the canopy latch, the wing and forward fuselage grouping, then the relatively light canopy and hatch structure including the hinges torn from the fuselage. These were followed, last of all, by bits and pieces of the fuselage between the stabilizer. The drogue chute and attachment line and the barograph were not found.

The facts concerning the crash site and the evidence in the wreckage were gathered by Dr. Harner Selvidge, Harland Ross, Dick Schreder, Frank Kerns, Lloyd Licher, Ray Parker and others. The wreckage was thoroughly examined both at the site and after reassembly in a hangar.

a. The ship was a well proven design with over 400 hours on it prior to purchase by the pilot. It had been flown, during the 400 hours, under many conditions and at all speeds. At no time was there any tendency toward control flutter or other unusual characteristics.

b. It has been established beyond doubt that the inboard aileron hinge pin on the right hand aileron was missing. The pin was later found in the pilot's car.

c. There was no evidence of mid-air collision nor was there any evidence or record of unusual weather conditions at the time of the accident. The pilot's health was not known. However, he had reportedly been suffering severe headaches for a period of time and had been taking numerous aspirin tablets. Also, he had just driven 1200 miles, arriving at 2 AM, and had had very little rest prior to the flight.

d. It would appear to be beyond reasonable doubt that the ship broke up in midair. The two-mile-long pattern and the sequence of the wreckage indicate that the breakup occurred at an altitude of several thousand feet above the ground, or great enough for a successful parachute jump.

e. The evidence in the forward fuselage-wing wreckage, consisting of the caved-in instrument panel, and

the overall pattern of the parts in which the variometer bottle, normally mounted ahead of the panel, was found between the pilot and the forward fuselage-wing wreckage, indicate that the pilot was forcibly thrown forward and out of the cockpit. It is believed the forward fuselage top surface was split open as the pilot left the cockpit, thus freeing the variometer bottle.

f. The pilot's safety belt and parachute chest strap were found opened and without evidence of unusual strain. This indicates they had been opened by the pilot and were open at the time of the accident. It also indicates the pilot was either not expecting any trouble that might have led to possible use of the parachute or that he forgot his unfastened parachute chest strap and had opened the safety belt prior to a bailout.

g. Since the pilot's parachute ripcord ring was out of its pocket but the chute had not been opened (nor had the rip cord been pulled, the rigger's seal was still intact), it is highly probable the pilot was incapacitated by forcible ejection from the cockpit. The ripcord ring may have been dislodged from its pocket by contact of the pilot's body with the ground.

The exact sequence of breakup of the ship is not known. A number of theories may be developed but the factual evidence is not sufficient to support any one theory in favor of another.

### **Findings:**

1. There was a midair control system failure of the airframe in the right hand aileron followed by separation of the tail surfaces from the rest of the fuselage. Facts supporting this are (a) right hand inboard aileron hinge pin found in pilot's car, (b) a radio report of binding and jamming of the aileron system, (c) a duplication of the condition after the accident by removal of the left hand inboard aileron hinge pin.

2. The pilot was unprepared or unable to use his parachute. Facts supporting this are that the parachute was found on the pilot unopened (the rigger's seal not broken) and with the chest strap not buckled.

3. Primary cause of the accident - Pilot error. The pilot did not thoroughly check the aircraft prior to take-off. Further, the pilot continued the flight after experiencing a control system malfunction which occurred for reasons he was not aware of.

A contributing cause of the acci-