GRAMPAW PETTIBONE

The Voice of Experience

An F4U pilot (475 hours), while on a routine training flight, noticed smoke coming into the cockpit from under the instrument panel. He immediately started his return to base and requested emergency clearance to land.

When the pilot changed propeller pitch at 500 feet on the downwind leg, the engine cut out completely. Realizing he could not make the field and thinking he didn't have time to retract his wheels, the pilot made a wheels-down landing in the best area available. The plane cartwheeled upon impact. Luckily, the pilot received only "B" injury. The plane was recommended for strike.

The accident board recommended that pilots be warned to maintain sufficient altitude to *insure* being able to make the runway at all times while circling a field for an emergency landing. They also pointed out that if there is insufficient time to raise wheels before landing in loose soil, wheels at least should be *unlocked.*

Grampaw Pettibone says:

Better read those two recommendations again. They contain good advice. There is also an important lesson for operating units in this accident. It occurred because the airplane was mistakenly scheduled to fly after it had been "grounded" following the last flight. Might I suggest you check to insure this couldn't happen in your outfit. A preventive check is always so much better than disciplinary action after the funeral.

Liberator Emergency Landing

A two-wheel emergency landing recently made in a PB4Y was so successful that the details are being disseminated for information.

The emergency arose during a pilot qualification flight. While making a power-on landing approach, the plane hit a strong down draft. Full power was applied immediately, but the aircraft struck a hedgerow and sheared off the left landing gear. The plane remained airborne.

Upon being notified of the accident, the squadron commander immediately proceeded to the tower and took charge of the flight. During the next two hours, the following precautionary measures were taken in preparation for the two-wheel landing:

a. The airplane proceeded over the English Channel, distance 12 miles, to jettison all pyrotechnics and ammunition.

b. High power settings were used on all engines to reduce fuel load. Approximately 400 gallons remained upon landing.

c. All loose gear was lashed down.

d. The pilots' escape hatch and waist hatches were removed and stowed in the bomb bays.

e. The hydraulic lines to the port brakes were broken and sealed off, to reduce the fire hazard.

f. The fuel sight gages were drained and sealed off, to reduce the fire hazard.

Note: Although not mentioned in this report, two other safety measures for reduction of fire hazard during forced landing are listed in the PB4Y-2 Pilot's Hand Book: *1.* Turn off wing compartment drain line, and *2.* Use auxiliary hydraulic booster pump to lower the landing gear and flaps and to charge the brake accumulators; then turn off before contact.

After precautionary measures had been completed, the crew took ditching stations and braced themselves. A normal landing approach was made. When within gliding range of the field, the number two and three engines were cut and the propellers feathered. Number one and four engines were cut and propellers feathered just before touching down and the crash bar was thrown off. The number two propeller was cut first because it was considered most dangerous to the crew. This was due to the fact that it was nearest to the fuselage on the no-wheel side; particularly dangerous in this case because port propellers, due to their direction of rotation, have a tendency to "walk" into the fuselage when damaged.

The airplane settled smoothly on the starboard main landing gear. The left wing was held up with the ailerons as the nose wheel settled to the runway and the plane was held straight by use of rudder and good right brake. The plane had rolled 2500 feet and was considerably slowed down before the left wing tip touched. The pilot reported he was still able at this time to maintain his heading with the right brake. Finally, the aircraft turned slowly left and came to rest 50 feet off the runway and 50 degrees from its original heading.

The damage to the aircraft caused by the landing was relatively light. The bottom of the fuselage was crushed from station 6.0 to 7.4, the port wing tip was sprung and the number one propeller tips were bent. There were no injuries to personnel.

▶ ***Comment*—Admittedly less damage will result to a *Liberator* in a successful two-wheel landing than in a belly landing. They are not recommended for all type planes, however, particularly not for smaller planes which are apt to swerve more sharply and turn over more readily.**

Better pilot technique is required for this type landing than for a belly landing. Also, a much longer runway is needed and a large clear area *must* be available on the no wheel side, the side to which the plane will swerve. Although this airplane came to rest only 50 feet off the runway, others not quite so successful have not stopped until many times that distance from the runway.

Glad to be Aboard, *crewmen from a ditched patrol plane scramble to reach the deck of a rescue submarine. Barefooted crewmen of the pigboat help haul Navy airmen out of their rubber life raft up the side of the submarine. In this rescue, and others like it, Navy submarines pick up downed airmen within sight of Jap coast.*

Face Saver

The pilot of an F6F was on an authorized familiarization flight, practicing touch and go landings. On the third approach he allowed the plane to settle in the groove, with the result that the left wing struck a dead tree which had escaped his notice. The plane struck the ground in a nose-down attitude. The pilot's head hit the starboard cockpit light and microphone holder, which are well forward in the cockpit, causing very serious head and face injuries.

Investigation revealed that the pilot did *not* have his shoulder straps *locked.*

▸ *Comment*—**Aside from the poor landing technique involved, this case illustrates a method of self-mutilation just about as senseless as hara-kiri.**

This is not an isolated case. During the past few months, there were 13 take-off and landing accidents reported in which pilots or crewmen *had their shoulder harnesses buckled but not locked.* These accidents resulted in one death, 10 serious injuries and two minor injuries.

Navy shoulder harnesses are designed to permit body movement necessary to operate all controls, and also for comfort. Know where the lock lever is located, use it for all forced landings and field or carrier take-offs and landings, and *leave* it locked until the landing or take-off is completed.

WTT Duty

Upon returning from a gunnery training flight, an F6F pilot (450 hours) was picked up by the taxi director on the edge of the parking apron. Shortly he was passed to the next signalman.

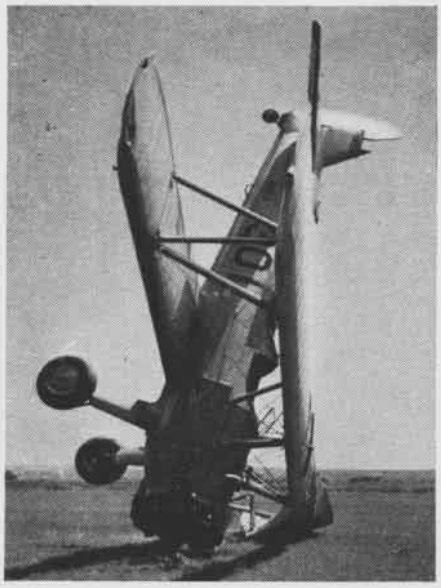
The pilot tells what happened next: "Due to the fact that there were quite a few men standing in the vicinity, I had some difficulty picking out the second signalman. When I did spot him, he was giving me a left rudder signal which I obeyed immediately. This turned my plane and enabled me to see a GH directly in my path.

"I was too close to the GH to miss it by simply continuing my turn or by easy application of brakes—so I pulled the stick back in my lap and gave hard brake on both wheels. I missed the GH, but my plane went up on its nose.

"This accident was caused through no fault of the signalman, but my negligence in not picking him up in time."

The Accident Board was in complete agreement with the pilot that the cause of the accident was entirely due to his negligence in *continuing* to taxi when the signalman could not be seen.

The Board was of the opinion that the disciplinary action taken in this case would give the pilot sufficient experience to qualify as a Safe Taxi Pilot. Punishment consisted of one week's WTT (Watch Them Taxi) Duty, to be stood at the edge of the taxi apron.



Watch That Airspeed

THIS *happened when a student got too slow while practicing slips during a landing approach.*

Altitude Tip

A visiting pilot (450 hours) made a good landing in an F6F at a field of 6000 feet elevation. After a run-out of normal length, he unlocked his tail wheel and started to turn off the runway. He still had so much speed on, however, that he started to groundloop and ended by nosing over.

The Investigating Board pointed out that faster landing speeds are experienced at altitude. They were of the opinion that pilot error in this case resulted from unfamiliarity with this fact and caused him to start his turn before having slowed down sufficiently.

▸ *Comment*—**All pilots should be familiar with the changes in operating characteristics of aircraft when using high altitude fields.**

Air decreases in density with altitude; therefore wings give progressively less lift as altitude increases. Aircraft will stall at progressively higher speeds as lift decreases; therefore increased speeds are required to maintain flight.

This is one place you get a lucky break, however, because you do not have to figure out how much extra speed is needed. Airspeed indicators do this automatically, the reason being that they are acuated by the same density of air as that which gives the plane lift. In other words, take-off and landing speed as registered on the airspeed indicator will be *the same,* no matter what the altitude of the field.

The thing you do have to know and make allowance for, however, is that your ground speed progressively increases with altitude. This necessitates a longer take-off run to build up to flying speed and also a longer run-out after landing. It also means you can not take-off as heavily loaded at altitude as at sea level. Tests have shown that approximately 3 percent longer take-off run is required for *each* 1000-foot increase above sea level.

Since density of air also is affected by temperature, a word of warning on this subject also is in order. The higher the temperature, the less dense the air, with the same effect on airspeed meter readings and operating characteristics as those described for higher altitudes. Approximately 3 percent longer take-off run is required for *each* 10°C rise in temperature above normal. Normal air temperature is 15°C.

For information, official flight characteristics of aircraft are always based on sea level and 15° C air temperatures.

GRAMPAW'S SAFETY QUIZ

ALL AVIATORS *should know the answers to these questions. In the air, the penalty for not knowing may prove fatal. If you miss an answer on the ground, penalize yourself by looking up the reference.*

1. **If your normal stalling speed is 92 knots, what would be your approximate stalling speed in a turn using 50° bank?**
2. **When you are wearing an anti-blackout suit, why is there more danger of overstressing your aircraft?**
3. **For planes equipped with any type constant speed propeller, what is the recommended manifold pressure during prolonged dives?**
4. **Minimum altitude for acrobatics over congested areas is 4,000 feet. True or false?**
5. **Why is it dangerous to bank during a dive pull-out?**

(Answers on page 40)

He Robbed Himself

An F4U-1 pilot experienced engine failure at 4000 feet during a routine ferry flight. He chose a nearby field and radioed that he was making a wheels-up landing. Upon impact the seat tore loose from its mounting allowing the pilot to be thrown forward, resulting in fatal injuries.

Subsequent investigation of the cockpit revealed that the locking pins holding the seat in place had not been properly secured. Further, it was determined by testimony that the pilot had been in the habit of removing these pins in order to stow his luggage behind the seat. Due to the inconvenience of replacing the pins securely, apparently he had been putting them in just far enough to hold the seat in place. When the airplane landed wheels-up on the soft ground, the deceleration was sufficient to cause these pins to give way and rob the pilot of the very support that would have saved his life.