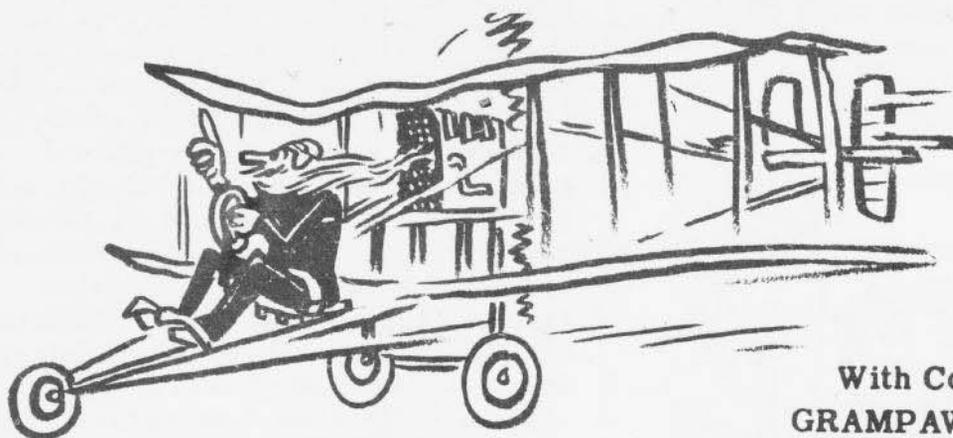


# FLIGHT STATISTICS



With Comments by  
**GRAMPAW PETTIBONE**

**FLIGHT TRAINING SAFETY RECORD:-** Flight statistics for the first quarter, fiscal year 1943, have just been compiled. Particularly noteworthy is the figure on the crashes per thousand hours of flight training; this is not only better than recent comparable rates, but is the lowest crash rate in the entire history of naval aviation.

The fact that this record was attained under the press of wartime acceleration and expansion makes it all the more heartening. (Suitable purple adjectives fail us.)

All concerned are to be commended.

*Grampaw Pettibone says:* Now don't get cocky! That's what goeth before a crash.

And don't start easing up; the records also show that 76% of the fatalities in flight training occurred as the result of pilot error and, therefore, were avoidable. Until we cut down on this pilot error there really isn't much to cheer about. So take another hitch in your belt and intensify the vigilance and pressure.

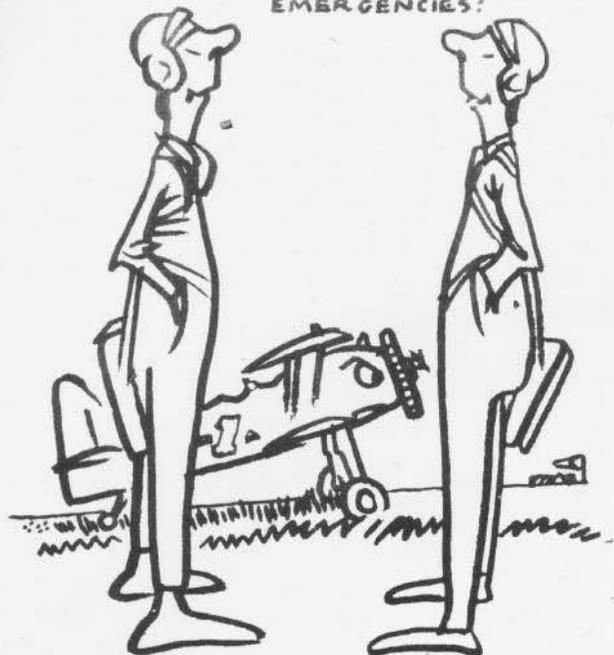
**CAUGHT SHORT!** -- While accompanying a nine-plane formation of student pilots on a practice navigation flight over water, an instructor allowed himself to be caught short. The leading student made an error in his navi-

gation problem and took the group too far out to sea. The instructor apparently just went along for the ride and did not work the problem, as he should have done. It was not until on the return leg that he realized there had been a serious mistake. Having insufficient fuel to return to base, he decided to land on the beach, where the airplane nosed up and suffered major damage. The students, flying planes with a longer range, were able to return to base - that is, all except one, who also made a crash landing.

**AVIATOR'S FLIGHT LOGS:-** Air Transport Squadron VR-3 has requested authority to use the column headed "Passengers" in subject logs to record aviator's instrument flight time and night flight time. Since these logs are maintained chiefly for the benefit of the pilots and squadrons concerned, there was no objection to this change and authority was granted. This information is published in case other squadrons may desire to maintain pilot flight time in a similar manner.

**"SIMULATED EMERGENCY" ACCIDENTS:-** Case 1. A simulated emergency was given in which the aircraft was allowed to descend to such a low altitude that when recovery was attempted the aircraft

TODAY, DILBERT, WE'LL  
HAVE SOME SIMULATED  
EMERGENCIES!



struck high tension wires at the end of the clearing.

From student's statement: "My instructor was instructing me on slips and proceeded to demonstrate same in a small clearing near the river. After slipping as low as safety would allow, he gave it throttle and started out. I did not see the post or wires until we hit and do not think the instructor did either."

Case 2. During simulated emergency procedure, the airplane was permitted to glide to a very low altitude over a plowed field. Apparently the throttle was applied too rapidly, causing the engine to choke up and allowing the airplane to touch the soft ground - - -X!

Case 3. From student's statement: "After attaining an altitude of approximately 500 feet in an N2S-3, we executed one simulated forced landing maneuver, regained altitude and began another. As the airplane lost altitude, I noticed wires straight ahead, but I did not warn my instructor, because I thought he saw them too. I do not know whether the engine refused to respond or whether there was a "down

wind", or just exactly why the airplane failed to climb away from the wires. That is the last I remember."

Bureau Comment:- Trees, wires and other obstructions continue to take their toll of aircraft which are carried below the prescribed minimum altitude during simulated emergencies. Engines which have been cooled off in the glide and fail to respond to throttles that are suddenly jammed wide open, are often involved in these accidents. Bu-Aer Manual, "Fundamentals of Primary Flight Maneuvers," page 39, requires that simulated emergencies given over terrain other than designated outlying fields shall not be carried below 150 feet, which means that the maneuver must be completed and airplane back in level flight at this altitude. (Regulations at certain stations specify even a higher minimum altitude.)

An erroneous opinion is apparently held by some instructors to the effect that students must be allowed to carry simulated emergencies to a point where the airplane is actually in the landing attitude. This is not the correct interpretation to be given to this maneuver, except when such emergencies are given near designated small fields where actual landings are made. Simulated emergencies over open terrain are for the purpose of testing the student's reaction in an emergency and to determine: (a) his judgment in selecting a landing place, (b) his judgment in selecting proper wind direction, (c) his technique in keeping the airplane at a safe gliding speed and attitude, and (d) his judgment in planning a good approach. The maneuver does not need to be carried lower than 150 feet for the instructor to learn these essential points about his student. To get the student's reaction to the actual landing, the simulated emergencies must be given over or near designated small fields where the landing may be actually completed, at the discretion of the instructor.

If the instructors cannot be depended

upon to set a good example by complying with flight regulations, there is little hope of expecting students to comply. These "regs" are formulated, in accordance with the general limitations of pilots and airplanes, to protect personnel and equipment.



**FATAL DIVE BOMBING ACCIDENT:-** A pilot was designated to conduct accelerometer tests in dive bombing runs in an OS2U-1 for research, in cooperation with a senior medical officer, who was to be his passenger during the test. Upon direction and encouragement of the passenger, the pilot knowingly attempted to exceed the stress limits of the airplane in a dive pullout with resulting failure of the starboard landing flap and starboard wing. The airplane fell out of control and crashed with the passenger, who was unable to escape.

Bureau Comment. The experimental nature of the flight, the relative seniority, and the technical and scientific background of the passenger obviously influenced this pilot in his actions; however, the responsibility for this crash cannot be shifted in any way to the passenger since the matter of command of aircraft is clearly defined in the Bureau of Aeronautics Manual, which reads in part:

"Article 13-110.- COMMAND OF AIRCRAFT.

(b) An aircraft taken into the air shall be commanded by a naval aviator, naval aviation pilot, or other person authorized in article 13-103, so desig-

nated by the commanding officer of the unit to which the aircraft is attached.

"(c) Other naval aviators or naval aviation pilots and personnel on board the aircraft, whether or not senior to the person designated as commanding officer, will be either in the status of the aircraft's crew or of passengers, and this status will be definitely understood prior to the flight.

"(d) The authority and responsibility of such commanding officer of an aircraft exists from the time he enters it preparatory to flight until he leaves it upon the completion of the flight, during which period the responsibility for the action of such aircraft and its crew and for any occurrence that results from the actions and the aircraft and its crew shall rest entirely upon him."

This accident again accentuates the absolute necessity of remaining within the prescribed operating limits of aircraft, as laid down in bureau Technical Orders. The allowable positive acceleration of this airplane, under the conditions of loading at the time of the accident was 5.5 g. The pilot was repeatedly subjecting the airplane to an acceleration of 7.5 g. Accelerometers should be used when aircraft are being operated near prescribed limits, particularly by inexperienced pilots.

## SQUADRONS CALLING

### Atlantic to Pacific

" We are now getting News Letter regularly and would like to read more about you in it."



THEY KNOW NOW:- Despite all warnings about the danger of faulty depth perception over glassy water, some pilots continue to make the mistake of trying to use the primary, cut-gun type of approach for all landings. Read the following stories of two pilots who cracked up in the month of January.

Case 1. "After completing an hour of familiarization in a J2F, I made a normal approach for my final landing without power. The sun shining on the slick water temporarily blinded me and I struck the water at 85 knots still in a nose-down attitude. The hull was smashed in and I water-looped to the right."

Case 2. "Upon returning from a tow flight I came in for a normal power-off landing. The water was very glassy and there was practically no wind. I made a normal approach but did not pull up the nose soon enough. As a result, the plane hit the water at about 70 knots with the nose slightly low, causing the main float to dig in. A slight turning effect to starboard caused the port wing float to dig in, throwing the plane on its back."

Grampaw Pettibone says: It's mighty discouraging the way some pilots never get the word. These two fellows must have heard before that it is absolutely dangerous to trust your "landing eye" when it comes to landing on glassy water, but maybe they thought all those warnings didn't apply to them.

I'll bet if you ask them now, though, they will tell you that you should always use a power approach, (same as for night landing on water), when making a landing on glassy water.

CRASH DURING ATTEMPTED INSTRUMENT LANDING APPROACH:- Upon returning from a patrol flight under conditions of increasing darkness and low visibility (haze and ground fog), the pilot of an OS2U realizing that he was low on fuel, elected to make an instrument approach for a landing on his home field. Torch pots were set out to mark the runway. While in the latter stages of his approach, after he had sighted the torch pots just below him, he noticed his altimeter reading to be zero. He evidently became excited at this time because he reduced power and pulled back on the stick as if in anticipation of contacting the runway. The aircraft stalled and fell twenty feet to the ground.

The Trouble Board which investigated this case recommends that pilots be reminded to:

1. Request barometric altimeter setting by radio before making an instrument landing.
2. Observe instruments on landings and take-offs when circumstance permits, particularly the gyro horizon, in order to gain confidence in the instruments.
3. Follow the prescribed procedure of cruising on main tank and of shifting to reserve when landing or flying at or below 500 feet.
4. Follow the prescribed procedure of dropping depth charges at sea when confronted with emergency landings and fuel shortages.



**DON'T GET CARELESS WITH SMALL PLANES:-** While the pilot of an NE-1 (Piper Cub) was waiting at the edge of the runway for landing aircraft to clear the take-off area, his engine stopped. This airplane was to the left and slightly aft of another Cub. When the engine stopped the pilot left the cockpit and turned the propeller over by hand. The engine caught and the plane commenced to move. The pilot tried to control the airplane by holding on to the right wing, but merely acted as a pivot point around which the airplane moved until its propeller chewed into the wing of the other airplane.

The Trouble Board was of the opinion that this accident was entirely due to carelessness on the part of the pilot (500 hours) in starting the engine of a plane not chocked or attended.

Bureau Comment: Not only carelessness, but also disobedience of orders. Art. 14-101(g), Bureau of Aeronautics Manual states, "Engines shall not be started under any circumstances without an operator in the pilot's seat."

**COCKPIT TROUBLE:** - Case 1. The pilot of an SB2U landed to disembark a passenger. He then taxied back to the take-off runway. Just as he started his take-off, the landing gear collapsed.

Statement of the Trouble Board: "After questioning the pilot, it is the opinion of the Board that the pilot inadvertently unlocked the landing gear, either while intending to adjust his flaps or lock his tail wheel."

Case 2. While checking out a pilot for night flying, the instructor made a normal landing from the co-pilot's seat and, as the airplane slowed down, turned the controls over to the student. The pilot then ordered flaps up and the student, in his confusion, placed the landing gear switch in the up position.

The Trouble Board states that all pilots in that squadron are now under-

going a blindfold cockpit checkout prior to night flying.

Grampaw Pettibone says:- These are only two of many accidents which occur



as the result of pilots being unfamiliar with cockpit controls. You got to be so intimate with your cockpit that you can instantly locate and operate any control in the dark. And you don't have time to fumble in an emergency!

Blindfold cockpit checkouts are one of the best ways of getting acquainted with the controls and of eliminating cockpit troubles. They should be one of the checks given to pilots before release for flight in unfamiliar model planes.

Yes, I know, planes didn't have so many instruments and gadgets when I started flying. But don't forget, most of these gadgets are put there for your benefit and safety. It shouldn't be a punishment to learn how to use them properly -- it's the best accident insurance I know of.

**FOUL RANGE! FOUL RANGE!-** Mid-air collisions continue to occur during high-side, fixed-gunnery training runs. The causes of these collisions are almost invariably pilot error. A particularly serious error is that wherein a pilot apparently starts his run and then changes his mind, delaying his actual approach until the pilot in the following plane, think-

ing he has completed his run, starts his run and collides with the preceding plane. It must be mandatory that there can be NO CHANGE OF MIND ONCE YOU ROCK YOUR WINGS AND START IN.

Basic responsibility for safety rests with the pilot making the run to insure that the range is clear before he starts. Once the run is commenced, however, it is that pilot's responsibility to complete the run promptly and, in the words of Grampaw Pettibone, "get the hell out of there," so as not to get hit from behind by the pilot making the next run.

A proper appreciation of the dangers involved and a display of normal intelligence thereafter in insuring a clear range prior to making a run, in executing the run without hesitation once it is begun, and in clearing the range promptly after completing the run, should completely eliminate these destructive accidents.

**CROSS-WIND LANDING ACCIDENT --** The pilot of a J2F-5 came in for a landing on the only runway, with a cross-wind of approximately 25 knots on his port beam. After rolling a short distance with its left wing down the airplane commenced a swerve to port. With the use of throttle and rudder the pilot managed to stop the swerve temporarily but as the airplane lost forward speed it again started to swerve into the wind. Right brake was not applied immediately and the airplane went into a violent ground loop to the left, causing considerable damage.

The Trouble Board commented as follows: "It is recommended that all pilots be cautioned again as to the inadvisability of landing an airplane with such a large side surface area in strong crosswinds when other fields are available with runways into the wind. Also, it is recommended that the attention of all pilots be again invited to the necessity of using brake before the groundloop has gone too far.

Bureau Comment: The pilot in this

case was assigned 50% error of judgment and 50% poor technique. Under the existing conditions and with other fields nearby, it is considered that the main error was one of judgment in electing to land where he did.

**KNOW YOUR EQUIPMENT:-** A pilot in an F4F was forced to make a water landing about 3 miles off shore. He was unable to get out the life raft before the plane sank, but he had on a life jacket and was seen to be swimming for over an hour after the accident occurred. He had received a fractured skull during the landing, however, and lost consciousness and drowned before the crash boat reached him.

When located, the pilot was floating face downward; he had pulled only the left valve on his life jacket which inflated only the sides and collar. Apparently no attempt had been made to pull the right valve as it was still secured with the rubber safety band and the container was found to be in proper working order when later tested. Due to the fact that the right valve would have inflated the front portion of the life jacket, it is possible that this pilot would have been saved from drowning had he pulled the right valve also. Upon losing consciousness he would have floated in an upright position thus keeping his head out of water.

Bureau Comment:- The exact reason why the right valve was not pulled cannot be determined. It is possible the pilot thought that either valve inflated the entire jacket and that the other valve was merely a standby. The fact that the pilot was seen to wave to a circling plane an hour after the accident had occurred indicates that the pilot was physically able to have pulled the valve. Possibly his cranial injuries affected his alertness.

Seemingly, too detailed instruction on the operation and proper use of equipment is impossible. Personnel are again urged to learn the exact operation and limitations of everything they use in flying.