GRAMPAW PETTIBONE

All for Want of a Safety Wire

A PBM-3 recently broke loose from its mooring and was subsequently so badly damaged that it had to be stricken.

The basic reason for this accident was that the mooring shackle had not been safety wired. The Trouble Board made the following recommendations:

a. Be sure flight personnel are thoroughly familiar with proper methods of securing to all types of standard moorings.

b. Conduct periodic inspection of all buoys. Special care should be taken to make sure all mooring fastenings are secure, all seaweed and barnacles are removed, and that buoy is either at atmospheric pressure (0 pounds) or has no more than 2 pounds' pressure.

c. Check that all shackles of mooring fastenings are safety wired.

Dilbert Runs Riot

Pilots come and go at Marine Base Defense Aircraft Group 42, but Dilbert seemingly isn't moving out to any war zone . . . he's too busy here.

His latest exploit might well be told after recitation of the old axiom: "Don't do as I do; do as I say."

Dilbert was the leader of a flight of 12 TBF's returning to the field after a night glide bombing mission. Everything began to happen—thanks to Dilbert—when the flight was on its last leg.

First, Dilbert noticed that he hadn't let his wheels down. He quickly called the tower to inform them that he was "going 'round again." Then, as an afterthought, he called to all the planes in his flight and suggested that they all be sure to put their wheels down before landing. Eleven planes, with wheels down, landed.

Meanwhile, Dilbert came around again and entered the base leg. Probably he said to himself, "Gee, I'm glad I told the fellows to be sure to put their wheels down; sure saved them a lot of trouble." So he started on in. Frantically, the tower called to him, the

landing officer fired the Very's pistol. But Dilbert, congratulating himself on a job well done, landed with his own wheels still up.

Earlier in the month Dilbert proved, once again, the value of "looking where you're going." Because he was in a hurry he decided to short cut while taxiing at night. He cut inside the plainly marked flare lighted runway and nosed up in a construction gully. Then, while taxiing for take-off, he carefully kept his eye on one wing. Imagine his surprise when the other wing hit a jeep!

Dangerous Cargo

Shortly after take-off in an R4D and upon reaching cruising altitude, strong acid fumes were noticed by the pilot. A quick check of the cargo list revealed that a drum of hydrofluoric acid was on board. After sending one of the crew to investigate, the pilot immediately turned around and headed back for the field. It was discovered that the acid container had cracked, allowing acid to leak out on the deck and corrosive action had already set in. Upon landing, the cargo was unloaded, deck removed and acid neutralized.

▶ *COMMENT*—**This emphasizes two essentials: *1.* Proper packing and marking of dangerous cargo and *2.* Proper handling of such dangerous cargo by all flight crews.**

Each of these points is equally important. Proper packing does little good if the cargo is tossed about by careless cargo-handling crews, or by men who have no way of knowing what the packages contain.

A Stitch in Time

The pilot of an OS2U landplane made a good landing on an extremely windy afternoon. In taxiing back to the line, the pilot had to turn his plane down wind. After turning his plane so that the wind was on his port quarter, the pilot suddenly found himself on his nose with the engine needing repairs.

Grampaw Pettibone says:

According to the Trouble Board, more experienced pilots than this one had had trouble taxiing in the high, gusty winds that afternoon. It seems to me that when this condition was known to exist, common sense should have indicated the need for helping less experienced pilots. Men should have been stationed at the end of the runway to lend a hand as each plane finished its landing run. As a matter of fact, the entire squadron could have walked this plane in with less man-hour expenditure than will be required for engine overhaul.

Calling Mr. Ripley

The following portion of an action report is quoted as of special interest to fatalists:

"It was later learned that the pilot, knowing his plane was hit and on fire,

pulled out of his dive and gave the other men in the plane instructions to bail out. Marine Technical Sergeant W saw the pilot bail out and, upon attempting to follow suit, he found that his parachute was badly burned.

"He tossed his parachute overboard and sat in the pilotless plane while it performed a series of violent maneuvers, diving, pulling up into a loop and falling out, and diving again.

"As the plane approached the water on the third dive it leveled out into a

normal flying attitude and settled down in a perfect water landing. Marine Sergeant W then disembarked with but minor injuries and was picked up by a surface craft afterwards."

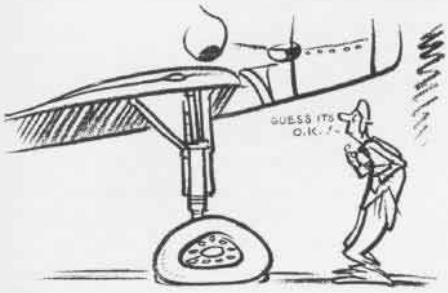
Tire Pressure

The pilot of an FM-1 took off on a cross-country hop, knowing that he had a slow leak in his port tire. Upon landing at his next stop he was unable to cope with the soft tire (down 30 lbs.), swerved, ran off the runway, nosed over.

Grampaw Pettibone says:

And this pilot had the gall to mention a 10-degree cross wind as a contributory cause.

The question of tire pressure is very important. Here is another example: A certain training squadron was having an epidemic of groundloops. Investigation disclosed that tires were seldom checked on the line. Near flats were taken care of, but line personnel claimed they "didn't have any tire gauges" to make systematic tire checks. Tire gauges were provided and, with a little indoctrination, tires were kept



up to pressure. This was all it took to bring the groundloops in this squadron down to par.

If you are having groundloop trouble, look for under-inflated tires. Also, all pilots should get into the habit of making a visual tire check before each flight. Tires should be inflated at all times until the deflection markers just touch the ground. You can soon train yourself to detect tires which are only a few pounds off, just like on autos.

Progressive Stall in F6F

To avoid a collision, an F6F pilot, cruising at 140 knots at 2,000 feet, pulled up into a sharp, climbing turn which resulted in a progressive stall, flipping the airplane over on its back. An immediate attempt to recover resulted in another stall and the aircraft crashed into the water from a vertical dive.

An experienced pilot then took another F6F to safe altitude and simulated the same maneuver. His airplane also stalled and flipped over on its back, just as the crashed airplane had done. He then attempted a premature recovery which resulted in another stall and out of which the airplane entered a vertical dive. Recovery to level flight required approximately 2,200 feet. This test was made four times with identical results.

The recording accelerometer which had been carried throughout these tests showed that the initial stalls had occurred at an acceleration of approximately 4g. By applying the rule regarding the effect of acceleration on stalling speed, which is that normal stalling speed increases directly as the square root of acceleration, we find that in this maneuver the stalling speed (approx. 83 knots with flaps up) would be doubled, or 166 knots. Once this is fully understood, it readily explains why this F6F stalled and spun—it was only cruising at 140 knots when it was pulled up into a 4g climb (which even further reduced the speed).

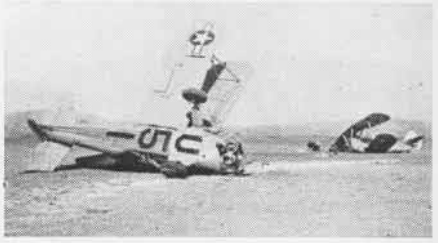
This characteristic of stalling at increasingly higher speeds as acceleration is increased is not an abnormal characteristic nor one peculiar to the F6F. It is a basic flight law, like Newton's law of the apple, and is equally applicable to every airplane. (A new technical order on *Progressive Stalls and Spins* will be issued shortly.)

The test pilot made one other check that is worthy of mention and that is, where it took him 2,200 feet to recover from an inverted position by pulling out in split **S** fashion, it took only a few hundred feet to half-roll back to normal flight. This point is a good one to remember. If you find yourself on your back at low altitude some day, remember to recover with a half-roll, instead of trying to pull out in a split **S**.

Experience Speaks

After a forced landing in the water, an F6F pilot abandoned ship without his parachute and consequently lost his rubber boat. He noticed the belly tank of his plane floating nearby and held on to it for approximately 15 minutes, until he realized that he was being burned by the gasoline leaking from the tank. He was in the water approximately eight hours before being picked up.

In his report, he made the following recommendation: "That pilots be warned to stay clear of belly tanks unless they are positive they are empty. It makes an excellent life buoy but the burns suffered from raw gasoline, aggravated by immersion in salt water, make it an extremely dangerous one when partially filled."



THE STUDENTS *of these two planes sideslipped into each other a few feet above the ground while shooting the circle.* REASON: *One carelessly misjudged the wind direction and both neglected to check carefully for other airplanes in the area.*

Procedure in Event of Propeller Control Failure

An SNB instructor was returning to the field at 1,000 feet with two cadets after a bounce drill, when the starboard propeller, which had been acting up during the period, went into full low pitch. The engine was functioning normally although the constant speed unit was leaking oil.

The instructor cut this engine immediately because it was not in synchronization. He was now operating on one engine at maximum continuous setting with some three miles to a field. The plane would not fly level at this setting so the pilot cut the other engine and made a wheels-up landing in a plowed field. There were no injuries to personnel, but some $10,000 damage to the airplane.

▶ *COMMENT*—It should have been possible to fly this airplane to the station field (three miles) in the condition described by using the following procedure:

▶ Reduce the throttle on the affected engine until rpm is within safe continuous operating limits. This will give a small positive thrust or at least greatly reduce the large drag induced by a propeller windmilling in low pitch. (If the failure had caused the propeller to shift into high pitch, throttle should be applied as necessary to maintain flight.)

▶ Reduce airspeed immediately to the speed for minimum power required for single-engine flight. The power on the good engine should be increased up to full take-off power if necessary. Directional flight can be maintained by adjusting rudder tab and flying with the good engine wing a little low. The airplane should be kept in a clean condition with wheels and flaps retracted. The airplane may be trimmed to fly "hands off" with either engine inoperative with a normal gross load.