GRAMPAW PETTIBONE

Fly-by-Night Ferry Pilot

A ferry pilot made a late afternoon take-off. When engine trouble developed, he was obliged to make a deferred forced landing one hour after sunset. Serious material damage resulted.

As the Trouble Board pointed out, this night landing would not have been necessary had the lead pilot complied with Aviation Circular Letter No. 35-43, which requires pilots to plan their flights so as to arrive at destination BEFORE sunset.

Watch Your Octane

The pilot of an FM-2 gave his plane a high power turn-up prior to take-off. Upon becoming airborne, the engine began to misfire with resultant loss of power. A forced landing was made off the end of the runway and the airplane came to a halt after striking a steel wire fence.

An immediate investigation into the cause of the power plant failure disclosed that the airplane had been fueled with 91-octane gas.

The Trouble Board assigned 100 percent power plant failure as the cause of this accident and stated that the aircraft should have had a red placard in a conspicuous place in the cockpit stating that it had been serviced with 91-octane fuel.

▶ *COMMENT*—**The service unit which originally fueled the airplane with 91-octane fuel is considered entirely responsible for this accident.**

This was a new airplane being ferried to an operating squadron. Technical Order 117-43 specifies that FM-1 type airplanes with Pratt and Whitney R-1830 engines installed shall be ferried with 91-octane fuel, but paragraph 8 of this same T.O. definitely states that FM-2 airplanes with Wright R-1820 engines must use at least 98-octane fuel.

The remarks of the Trouble Board concerning the red placard obviously referred to this same T.O. Since the FM-2 is not authorized to be ferried or operated on 91-octane fuel, however, such a placard would not have covered the error. Had the pilot known that 91-octane fuel had been used, he should have refused to accept the airplane for flight.

Units should check T.O. 117-43 carefully to insure they are using the proper grade fuel in all aircraft for ferrying. Pilots must be familiar with the requirements of the particular type airplanes they are flying.

Maintenance Checks

Case 1. While climbing to rendezvous after dive bombing practice, the engine of an SBD-5 lost power and the pilot made a forced landing on the beach. It was found, upon investigation, that the power loss was due to the throttle control rod becoming disconnected from the throttle lever. The nut on the clevis bolt which secures this connection had not been cotter keyed, and the bolt had worked out due to vibration.

Case 2. After recovering from a practice dive, the pilot of an SBD-5 advanced his throttle several times with no response from the engine. A forced landing was then made in shallow water. Investigation revealed that the lock screw had become sufficiently loosened to allow the throttle rod to unscrew from the barrel at the throttle quadrant. The rod had not dropped down far enough to enable the pilot to see what was wrong.

The initial 240-hour check had been completed on this airplane and upon return from this flight it was scheduled for a 30-hour check. It was the opinion of the Trouble Board that the lock screw could not have worked loose since the 240-hour check, but had been working loose over an extensive period of time.

▶ *COMMENT*—**Both of these accidents were due to improper maintenance inspections. During engine, auxiliary and flight control checks, it is not enough merely to move the cockpit controls to see that they are working freely. Each connection from the cockpit to the actual mechanism must be carefully inspected, especially for tightness of locknuts and rods and for security of all cotter pins.**

Wanted: Mental Precision

On a routine training flight, a pilot noticed at 7,000 feet that his propeller remained in high pitch with both automatic and manual controls apparently inoperative. He returned to the base field, only to find planes practicing carrier landings. He called the control tower and the field was cleared. His first approach was high and fast, so he elected to try again. On his second approach, he misinterpreted the signal officer's "high" as a "wave-off." This time, altitude could not be maintained and the pilot was forced to land in a swamp, resulting in strike damage.

The Trouble Board criticized the pilot for the following:

1. Failing to experiment, before descending, to determine amount of available power. Had he done so, he would have realized the necessity of landing on the first approach.
2. Not being able to land on initial try. This denoted poor judgment and bad technique.
3. Misinterpreting signal. Since pilot was qualified in carrier landings, he should have known that signal officer was not waving him off, but merely trying to help him land.

Pitot Tube Covers

Pilot's Statement:

"After taking off I discovered that the cover had not been removed from the pitot tube. When I went in to land to remove the cover, I forgot to lower my wheels."

One station has whipped this hazard by tying red flags to pitot tube covers.

"I Did Not Familiarize Myself"

While on a dive bombing flight, the pilot of an SB2C-1C noticed a loss of hydraulic pressure and requested permission to proceed to a nearby field. Prior to landing, he lowered the gear by closing his main system hydraulic valves and opening the No. 3 by-pass valves. He failed, however, to close the No. 3 valves, so that in landing he received brake pressure from the brake accumulator only. This was insufficient to maintain control and the plane groundlooped, but without doing any damage.

Upon discovering that there was insufficient repair facilities at the field, the pilot immediately took off again and proceeded to the base field. On landing the second time, the pilot didn't have enough brake pressure to keep the plane from swerving into a ditch, where it was damaged almost beyond repair.

From the pilot's statement: "It is my opinion that the whole accident can be laid to the fact that I did not familiarize myself enough with the SB2C hydraulic system and consequently did not close the No. 3 valves after using them."

The Trouble Board pointed out that the pilot had two good chances of preventing this accident: first, by knowing how to operate his hydraulic system, and second, by having sense enough to stay on the ground when he found, on the first landing, that his brakes were defective.

Grampaw Pettibone says:

This is a warning for all pilots. Anyone not completely familiar with his hydraulic system should rectify this serious deficiency immediately. Where hydraulic systems are complicated, a squadron lecture and demonstration would appear to be in order.

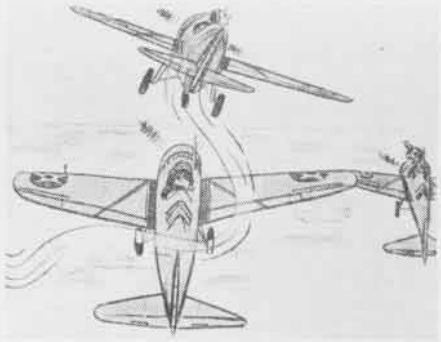
The lack of common sense, mentioned by the Board, is another matter and you can't pick that up from a lecture. Experience is the best substitute, but you even have to mix a little brains with that to produce good judgment. This pilot had plenty of experience (575 hours), but he certainly didn't use his bean when he took off the second time.

Join-Up Technique

In a recent accident analysis, mid-air collisions were found to be second only to spins in number of fatal accidents. The greatest number of collisions occurred during formation join-ups. The following cases are typical:

Case 1. A four-plane division of F4F's was joining up in right echelon at 7,000 feet. The division leader and the second section were already in position, with a space of approximately 100 feet left for the division leader's wingman. While attempting to join up from below and behind, the wingman flew into the underside of the second section leader.

Case 2. With the exception of the No. 2 man in the first section, all planes of a six-plane division were in position in right echelon. The No. 2 man overtook the formation in a turn, overshot



his position, and in attempting to skid back into place, pulled up into the leader of the second section.

Case 3. After completion of gunnery practice in F4U's, the flight leader signaled to join up and then began a gentle right turn. The No. 3 man joined up on the inside and then attempted a cross-under to left echelon. His maneuver was fast and poorly executed, with the result that he pulled up into the No. 2 man.

Grampaw Pettibone says:

These three collisions were entirely due to pilot error on the part of brash, young pilots (200-280 hours).

You can't just fly into a formation, put on the brakes and stop in position. An airplane requires time and space in which to decelerate and the heavier and faster it is, the more space and time it requires. The final join-up must be performed cautiously, using a very small speed differential. You just e-a-s-e into position.

One other point, never join a formation, or even a single plane, that doesn't know you are coming in. This warns the leader to avoid radical maneuvers and enables your wingmen to give you as much room as possible. That is why join-up doctrine requires you to fly parallel to the formation for a moment before you *ease* into position.

Don't try any fancy stuff! As a matter of fact, no pilot ever gets hot enough to join a formation in any way except this orthodox manner. The best pilots automatically do so—from common sense and experience. Commanding officers and flight leaders should force all others to comply.

Balance

A PBY-5 pilot (2,624 flying hours) commenced take-off, using 45" Hg. manifold pressure, and 2700 rpm's. The run was normal until the aircraft was about to become airborne, at which time the plane settled back into the water with the port float low. This caused a turn to the left, which resulted in the starboard float submerging in the swells and being damaged. The plane could not be kept afloat and had to be beached on some coral heads, which are not exactly soft.

The Trouble Board said: "Failure of the pilot to keep passengers well forward on take-off is considered a contributory cause of the accident. Four men instead of the standard two were in the blister compartment."

Grampaw Pettibone says:

Taking off across swells is tricky enough without letting the crew add spice to the maneuver by shifting around. Take-off and landing positions of the crew should be *fixed*, not only for the proper location of the C.G., but also for safety purposes in case of accident.

Glassy Water

Case 1. A fighter plane was flying a few feet above a calm sea. The aircraft nosed over slightly and crashed; apparently the pilot misjudged his altitude above the glassy surface.

Case 2. The patrol plane commander of a PBY made a contact approach while executing a night landing on smooth water in a sheltered bay. He failed to break his glide in time, and the plane hit the water with such force that structural damage to the hull's forward section resulted. The aircraft then nosed over in a violent crash.

Case 3. While investigating an obejct in the water, an OS2U pilot descended to a low altitude over the smooth sea. During a turn, his wing float contacted the water, causing the plane to crash. The pilot later stated that he did not realize he was so low.

▶*COMMENT*—Apparently pilots can not be warned too often against low flying over glassy water. With no nearby reference points, it is practically impossible to judge altitude under such conditions. Aviators who have not had seaplane training are apt to be deceived by this and even experienced pilots sometimes forget, as in *Case 2*.

Because of decreased visibility, this danger usually is increased at night. Use of plane landing lights will not improve depth perception over glassy water and often may impair it. Seaplane pilots are reminded always to play it safe by making standard power-stall landings at night and on glassy water.