GRAMPAW PETTIBONE

How Would You Do?

The pilot of a helicopter climbed out of the wreckage following a take-off accident at an isolated recreation center in Alaska to find that the rotor blades had amputated both legs on each of two spectators who were observing the take-off. The third observer was less seriously injured. The passenger who had gotten out ahead of the pilot was manning a fire extinguisher as the helicopter was commencing to burn near the exhaust. There were no other persons nearby and the nearest town was 12 miles away.

The pilot shouted to his passenger to drop the fire extinguisher and help him apply tourniquets to the injured men. This was accomplished using pieces of bailing rope and radio cord. The passenger and the less seriously injured spectator were then sent toward town for help, while the pilot tried to make the men whose legs had been amputated as comfortable as possible.

The pilot then crawled back in the inverted helicopter, discovered that the battery was still functioning, repaired a broken headset cord, and began to transmit "Mayday, Mayday, Afognak Recreation Camp, two men dying." The crew of a P2V taking off from nearby Naval Air Station, Kodiak, Alaska, heard this message, relayed it to the base, and flew over the scene of the accident. A Coast Guard PBY with a doctor and two corpsmen was dispatched at once and landed on a lake close to the crashed helicopter.

When the doctor arrived he found that the pilot had wrapped the men in blankets, given them water and cigarettes, and had done a very skillful job of applying the four tourniquets and some pressure bandages. The doctor states that from the amount of bleeding and the seriousness of the injuries he believes that neither man could have survived except for the fact that tourniquets were applied to all four extremities within four minutes.

The accident was due to a combination of circumstances. The helicopter was loaded at the forward limit of the center of gravity, and had a gross weight of 5236 pounds (allowable limit 5300). When the helicopter reached an altitude of about three feet after take-off, the nose dropped and it began to move forward and to the right despite corrective action. The pilot brought the stick all the way back against the stop and gave it full power, but crashed before he was able to regain control.

Grampaw Pettibone says:

Here's a chap who knew what to do in an emergency, kept his head, and saved two lives by prompt and effective first aid measures. Despite his own injuries and shock, he improvised and applied four tourniquets in just about the length of time that it has taken you to read this brief account.

Could you do as well in a similar emergency? If not, you'd better get your flight surgeon to schedule a few lectures on first aid.

ALTIMETER QUIZ

How much do you know about the way your altimeter reacts to changes in temperature and barometric pressure? Check yourself on the questions below. In flight play it safe. Get the latest altimeter setting for the area in which you are flying. You can request it from the nearest radio facility.

1. When flying into an area of higher barometric pressure, the actual altitude becomes higher than the indicated altitude. *TRUE or FALSE.*

2. When air temperature is above standard (15 degrees centigrade) the actual altitude is above the indicated altitude. *TRUE or FALSE.*

3. Orographic lifting induced by air flowing over mountains may cause errors so that the actual altitude is lower than the indicated altitude. *TRUE or FALSE.*

4. Before take-off you obtain and use the correct altimeter seting for the field from the tower. The hands of your altimeter will then read zero. *YES or NO?*

Answers on last page.

Winter Safety Hints

Grampaw Pettibone says:

Whether we like it or not winter is upon us again. With it come hazards to flight and ground operations not encountered in warmer months. You've seen these winter safety rules before, but it will pay you to read them again, and stay out of my accident file:

1. Demand all the available weather information before every flight. Plan your flight to *avoid altitudes where icing is prevalent.*

2. If you should encounter instrument weather while on a visual flight plan, DON'T PUSH THROUGH. This caused nearly one-third of all the fatalities last winter. *Land* at the nearest airport where *contact conditions prevail.*

3. If you are flying over water, know your emergency rescue procedure, and wear an exposure suit. You won't last long without an exposure suit in water of or near freezing temperature.

4. Just before any take-off, be sure to check all controls for free movement, and clear your engine thoroughly. Never take-off with snow or frost on the wings. A very small amount can destroy your lift.

5. Check the runway conditions with the tower before landing. Icy spots on runways caused many groundloops and nose-overs last winter.

6. By all means learn the correct way to operate every piece of de-icing equipment on your airplane *before* you get in the air.

7. Don't let ice in the pitot tube foul you up. Use the pitot cover when securing the aircraft. Use pitot heat in freezing or near freezing weather.

8. Brakes are of little help when taxiing on icy areas. Taxi SLOWLY and allow yourself a large stopping distance.

Accident Rates Improve

As we go to press a quick tabulation of the accident total for the year indicates that 1949 will show a considerable improvement over 1948, particularly as regards fatal accidents. The reports of flying time are not all in yet, so accident rates cannot be computed. However, in the first nine months of 1949 the Navy flew some 350,000 more hours than in the same 1948 period. In spite of this increase in operations there were 36 fewer fatalities in 1949 than in 1948.

Flight operations in the Naval Air Reserve Training program were at a new high and the week-end warriors contributed to the improved rates by cutting their fatal accident rate by nearly 50%.

Let's continue to improve in 1950.

Dear Grampaw Pettibone:

When I first joined the fleet (back in the days when a lieutenant ranked next to God) I never did get more than 100 feet in the air for days on end. Finally after something like 900 hours as prayer pilot and assistant coffee maker, they let me take a plane out alone.

Just to see what it was like, I took it up to a thousand feet. It sure was a grand feeling acting like the boss of creation. After awhile, however, the lack of oxygen got me and I went on down to normal altitude. Naturally, from many hours of this type of flying, I was indoctrinated into certain patterns of conduct, such as how to treat an engine as your best friend, when possible; to land softly; and things like that there.

After various tours of duty, mostly strapped to a desk, I arrived at my present station where a lot of flying of a lot of different types of planes is done. Quite a few of the boys are ex-NATS pilots and I am constantly embroiled in arguments with them over how to fly. Frankly, some of the things they do and advocate shake my childish faith in my old instructors. The other evening, over a small ginger beer, we agreed on what we disagreed on, and decided to appeal to you for enlightenment.

They claim: (1) Use full power on all take-offs, regardless of load. They quote as authority the P&W Company and various engineering decrees.

I say: (1) Use the lowest power consistent with safe take-off. You never know when that old P&W will have to give you everything it's got some dark night and they only build so many usable hours of horsepower into an engine. If you have 20 miles of good calm bay ahead of you, and a light load, why use all the power? Baby the engine a bit.

They claim: (2) Up your flaps as soon as you touch. This will break your lift, drop the tail and give you a little better air resistance for slowing down by increasing the angle of attack of the wing (Especially in an R4D).

I say: (2) Leave the damn flaps alone until you have turned off the runway. Not as a safety measure—which it is—but because you will slow down faster leaving them down than you will by trying to use the main plane as an air brake.

They claim: (3) Don't use your fluorescent lights in the cockpit when night flying. Use the white ones. If you use the fluorescent, you will destroy your depth perception and clobber up your landing.

I say: (3) It has never occurred to me to blame a lousy landing on the fluorescent lights. I usually say it was a crosswind or too much bounce built into the tires. And as for white lights in the cockpit, how can you see what is going on outside if you use them? Your visual acuity is just a little bit shot. Besides, somewhere along the line the medical department must have approved fluorescent lighting.

They say: (4) The best landing in an R4D is a full stall. Hit the tail wheel first. It may startle the passengers a bit, but it puts the plane on the ground more safely.

I say: (4) I don't know much about the R4D. I will admit it makes a nice full stall landing, but that airframe doesn't look as if it was built for that sort of strain. If you ever missed, and dropped in from about 10 feet, it seems to me as if that fuselage would develop a few wrinkles.

Now we come to a point that I believe and they don't.

I say: (5) If in your approach for a landing, you do not exceed a rate of descent of 250 feet a minute, the plane will not bounce when it lands. A plane touching down at 250 feet or less, is equivalent to dropping the whole plane vertically a distance of about one-half an inch, and the tires and oleos are designed to absorb that shock.

They say: (5) They don't say anything, they just laugh.

So, there is my problem, Mr. Pettibone. I would appreciate it if you would find time to answer and I could say to these ignoramuses, "I told you so." Of course, if I am wrong, which I couldn't possibly be, just send me a note to that effect marked "personal" and I will drop the whole subject.

Your truly,

LCDR, U. S. NAVY.

Grampaw Pettibone says:

I talked to a bunch of experts in an effort to get the ungarbled word on these questions which seem to pop up whenever a bull session gets under way, and here's the best information that I could get:

(1) You're all wet on the low power take-off idea. The engine manufacturers and the Bureau of Aeronatuics have been and are waging a campaign to eliminate the idea that you're "saving the engine" by using low power on take-off. They gave me some long descriptions of the tests to which new model engines and production models are subjected. For example, most engines are run at take-off power for 30 minutes (in six five-minute periods) on the five-hour Navy acceptance test. Now model engines are tested for hours at take-off power before being torn down for inspection. They say that you simply aren't hurting the engine if you use take-off power for less than five minutes, and you have the advantage of reaching safe single-engine speed more quickly and of getting to an altitude where you have a little room to maneuver in case of an emergency.

(2) The people I talked to on the R4D desk agree with you on the question of leaving the flaps alone until you have turned off the runway. Although there is little chance of confusing flaps and gear on the R4D, they say that the plane will slow down faster with the flaps down.

(3) A tremendous amount of experimentation is underway to develop better systems of cockpit lighting. Fluorescent lights are known to produce certain undesirable effects on the eye. If enough scattered ultra-violet radiation reaches the pilot's eye after reflection from the surface of the instrument panel, certain substances within the eyeball becomes fluorescent and cause the interior of the eyeball to glow. This gives the pilot the subjective sensation of being surrounded by a luminous haze, which is similar to the appearance obtained when sitting in a room filled with tobacco smoke. This fluorescence is annoying and it also interferes with the pilot's night vision when he looks outside the aircraft.

The medicos tell me the red floodlighting or indirect red lighting is the coming thing as far as cockpit illumination goes, but until you have an improved system installed in the plane you happen to be flying, you have to do the best you can with what you have. Certainly, as you point out, with the white lights on you can't see what's going on outside and you have impaired your dark adaptation. Personally, I think that well-shielded fluorescent lights are preferable to white lights, but whichever type of illumination you employ, it is worthwhile to keep the light level in the cockpit at the minimum which will enable you to see the instruments clearly.

(4) The lads on the R4D design desk tell me that the preferred landing is one where you grease it on the back side of the front wheels with the tail about a foot off the runway and that it *is* possible to wrinkle the fuselage by leveling out too high for a full stall landing.

(5) I think you're on the right track as regards eliminating bounces although I believe that you would also have to add the factor of correct airspeed. Some years ago I flew through South America in a PV-2 with a Lockheed test pilot who had over 14,000 hours of airline experience. This chap told me that he had to give up commercial transport flying because his eyes were shot and he had practically no depth perception.

However, in all the demonstration flights I noticed that he made excellent landings with nary a bounce. When I asked him how he managed to make such consistently good landings, in spite of his poor depth perception, he said, "That's easy. You really don't have to be able to know exactly how far down the runway is. I can see the instruments all right and I strive for precise airspeed control all the way around the landing pattern—try to stay within 1 or 2 knots of the desired speed during each part of the approach and landing. Then with a very slow rate of descent and correct speed, it touches on gently."