



GRAMPAW PETTIBONE

More About Flares

Dear Grampaw Pettibone—

I am an avid fan of your column; however, the September issue contains a letter with which I believe I can rightly take exception. I refer to the discussion of the Mk 13 day-night distress signal, in which the correspondent claims: "Actually the pilot's .38 caliber revolver loaded with tracer ammunition . . . is his best signaling device. The advantages of a .38 are: repeated operation, simple use (just a pull of the trigger), and a higher trajectory that can be seen many miles further than a life raft flare."

There can be little argument that the pistol has an advantage by virtue of its multiple loads. However, a man who is badly shaken up may get a sense of false security from this knowledge and foolishly expend his shots. Then, if it is difficult to fire the day-night signal, think how difficult it would be to reload a revolver.

A pistol is simple enough to fire, but only after the pistol is held properly in the hand. It will probably be carried in a shoulder holster, under the life jacket, and well secured to withstand the opening shock of parachuting. Getting the pistol in hand for firing with "sticky, wet" gloves on is not easy, particularly if the life jacket is inflated. If it were worn under an immersion suit, it would be virtually impossible.

The high trajectory of tracer ammunition is desirable, but the intensity of light (and therefore, visibility) is low—several hundred times less than the flare—and the duration, something less than five seconds, is only about one-fourth as long as the flare which burns about 18 seconds. A searcher will see the flare in his peripheral field of vision (eg. out of the corner of his eye) even at a distance, whereas it is unlikely that he will see tracer fire unless he is looking nearly directly at it. Even if he does spot it at an angle, it is gone so quickly that he has little chance of getting a bearing or estimating range.

Tracer bullets are virtually worthless under any conditions short of complete darkness. The signal flare is provided with orange smoke, which is very effective under daylight conditions. The high light intensity of the flare makes it visible even under twilight conditions.

I am all in favor of improving equipment at every opportunity. However, I



The end of the day, all crash reports read Gramp's tuckered out and ready for bed. But he thinks a thief might pry open a sash. So he plays it safe and sleeps with his cash.

do not believe that the derogatory remarks directed at the day-night distress signal are warranted, and I am certain that any transfer of confidence from this signal to .38 caliber tracer ammunition is a serious mistake. I am sure that a survivor who had difficulty operating the signal flare would have equal difficulty in getting his pistol out and firing it. I hope that the published letter will not result in a wholesale disregarding of the day-night distress signal, but rather that it may stimulate additional interest in learning how to use it properly under more adverse conditions.

It is also worthwhile to note that in the hypothetical situation presented in the letter, the pilot made no concerted effort to clear the cockpit *with* the parachute and seat pack—"The chute and seat pack is heavy and fit snugly. *Maybe* it's caught. Can't waste time—*must get out of the barns.*"") This would leave him without a life raft, a serious situation, particularly in cold water. Only as a *last resort* should a parachute and life raft be abandoned when ditching.

I want to thank you for much instructive and stimulating reading in the past, and look forward to many more interesting situations as you present and comment on them in the future.

Sincerely yours,
Lieutenant (MSC), USNR

Dear Gramps:

Mission accomplished on your article regarding the day-night Flare in your September issue. The "designers of this type of equipment" are "breaking out their drawing boards" as you suggest in order to do what we can to rectify a very justifiable complaint. These things were designed for surface use. We'll try to make them a little more airworthy.

There are some problems involved in trying to make something of this nature easy to operate. I would not like to see you write about them being *too* easy to operate and inadvertently give Dilbert a hot foot or worse.

Maybe this experience will point out the advisability of squadrons spending a few minutes refresher on how to use this signal. It takes a while to make changes and these things will be with us in their present form for some little time.

I am glad to see some advertising for use of the 38 for signaling and wonder how many pilots have realized this. Strangely enough, this is the reason for the tracers in the 38.

The Bureau of Ordnance welcomes constructive criticism and suggestions on its equipment. If anymore of your grandchildren are sitting off in the corner with gripes such as this, tell them to send them in. Thanks, Lieutenant.

Captain, USN
Research and Development Division
Bureau of Ordnance



Grampaw Pettibone Says:

I'm delighted to know that work is underway to develop a flare that is easier to operate. In the meantime, let's all make sure that we know how to operate the current type . . . whether you use the flare or the 38 or both, "the life you save will be your own".

Trim Tab or Cross Wind?

An Aviation Cadet with slightly over 40 hours of time in the TBM-3E was scheduled for an ASW tactics flight involving four aircraft. On takeoff he was assigned the number three position. A 28-32 knot wind was blowing from the southeast and the takeoff was made on a runway heading 170 degrees, creating a very strong, port, cross wind.

After turn-up the flight taxied onto the runway in order, with the flight instructor taking off first from the right side of the runway. The second aircraft took the left side and during takeoff

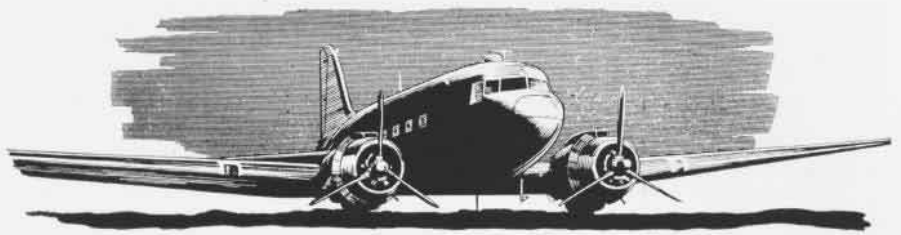
swerved and drifted to the right so as to become airborne from the right side of the runway.

The cadet in number three position took the right side of the runway, and noticed the effect of the cross wind on the number two aircraft. Here's his description of his own takeoff:

"I waited from 20 to 30 seconds after the number two plane was well in the air. I then applied throttle to 30", released my brakes and continued to add power up to 49". In a very short time my wheels left the deck and I observed a strong drift to the right. In an attempt to correct for this, I applied left aileron to keep the left wing from coming up. Shortly after becoming airborne, the nose of the aircraft came up abruptly, forcing the stick back in my lap. To get the nose down I added a small amount of forward elevator tab. As the nose came down, I raised the landing gear. When I felt I had reached a safe attitude to regain airspeed, I took the forward elevator tab out and returned it to approximately the neutral position.

"Almost immediately the nose again came up to a very steep attitude, and a stall occurred. The aircraft fell off on the right wing. Seeing that the aircraft had stalled and expecting contact with the ground, I chopped all the power and attempted to get my wings in a level attitude, by applying forward stick to get the nose down and left aileron to get the left wing down. I then struck the ground on the right wing, which then forced the aircraft down on the fuselage. I skidded across runway 8 and into the grass. Upon leaving the plane, I turned off the "Mag" switches and got clear."

The TBM suffered strike damage as a result of this crash, but there was enough left of it to determine all controls operated freely and to their prescribed limits. All stops were intact and functioning correctly. There was no evidence of any control failure during the brief flight. The weight and balance of the plane was checked and found to be well within acceptable limits. Witnesses verify the fact



that the Cadet waited long enough prior to takeoff to eliminate slipstream as a possible cause.



Grampaw Pettibone Says:

Well, what caused the accident? Actually there aren't so very many possibilities left. For one thing the cross wind of 30 knots probably caused the cadet to become concerned and then confused. Chances are that he had never attempted a takeoff with a cross wind quite that strong. The other possibility, and the one that the accident board believed to be most likely, was that he took off with full back elevator tab. When questioned on this, the pilot stated that he normally checked his tab settings on the line before starting the engine and that he did not go over this check-off list item immediately prior to takeoff. He also remembers that he was holding forward pressure during his takeoff roll and that he became airborne by releasing the forward pressure. He recovered from his initial, extreme, nose-high attitude only by use of some forward tab and stalled out of a steep climb when he added back-tab after picking up his wheels.

Except for proper use of shoulder harness and safety belt, I think he might well have qualified for this epitaph:

Here lie the bones of NAVCAD "Lew"

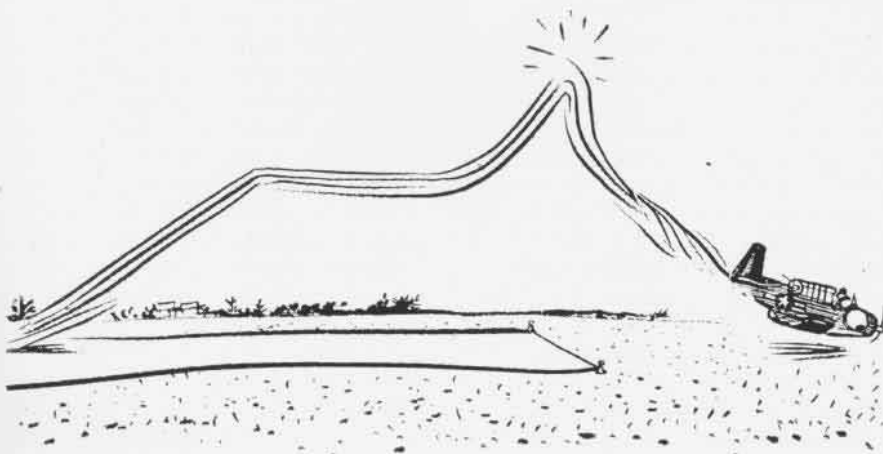
Moistened by the rain and dew.

Because he didn't check his tab

He's underneath this marble slab.

How Hot Can You Get?

About once every six months someone asks "Is military flying still as hazardous as it used to be?" When this occurs, we bring our statistics right up-to-date, count the casualties, and turn over the grim figures to the folks who are explaining why "flight pay" is still needed.



The last time this happened I had a talk with an Air Force Colonel who was compiling similar statistics relative to their accident rates. We didn't have any difficulty convincing ourselves that military flying is still a very dangerous occupation, but in the course of the conversation I picked up an accident tale which the Colonel swears is true. Later on he mailed me a picture to back up the story:

It seems that during a test flight on a C-47 (R4D to the Navy), an Air Force pilot with 6,600 flight hours discovered that he was only able to lower one gear. The tower was informed of the trouble and hurried consultations were made with maintenance and operations personnel. The pilot was advised to fly locally until he had burned up most of his gas and then to come in with both wheels up and to cut all switches before landing.

The pilot knew a lot about the particular plane that he was flying and realized that when the C-47 landing gear was fully retracted, the tires extended about six inches below the wheel wells and that the wheels would turn and that full braking action was available even with the wheels retracted.

He decided that there was a good possibility that the plane could be landed wheels-up without any damage.

The one thing that he expected trouble with was the propellers which extended beyond the margin of safety when rotating, or when straight down, and could cause a great deal of damage.

He planned his final approach with altitude to spare. As he came down the groove and saw that he was going to make the field, he feathered both propellers... then used the electric starter to position them so that they would not touch the runway. He cut all switches, held off, and made a nice three-point landing. The C-47 rolled down the runway on the retracted gear.

When the crash crews pulled alongside the plane, they found that there had really been no crash at all—just a dead stick, wheels-up landing with nary a scratch on the "goony-bird". The plane was lifted with jacks, and the pins were put in the landing gear and it was taxied to the hangar. Mighty sharp, eh?