

FLAT-HATTING SENSE



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TRAINING DIVISION ★ BUREAU OF AERONAUTICS ★ U. S. NAVY

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FLAT-HATTING SENSE



Flat-Hatting is a form of flying that discourages longevity. Originally the term simply meant flying low needlessly. That definition has been expanded to include grandstanding, or showing off—flying foolishly and carelessly. The term itself is said to have arisen from an incident in which the wheel of a low-flying plane struck a pedestrian on the head and crushed a new top hat he was wearing. Besides being grounded for quite a stretch, the pilot had to buy the pedestrian a new hat, costing \$12.50, including tax. Hence, the name “Flat-Hatting”—which is probably as good a name as any.

THE THEME

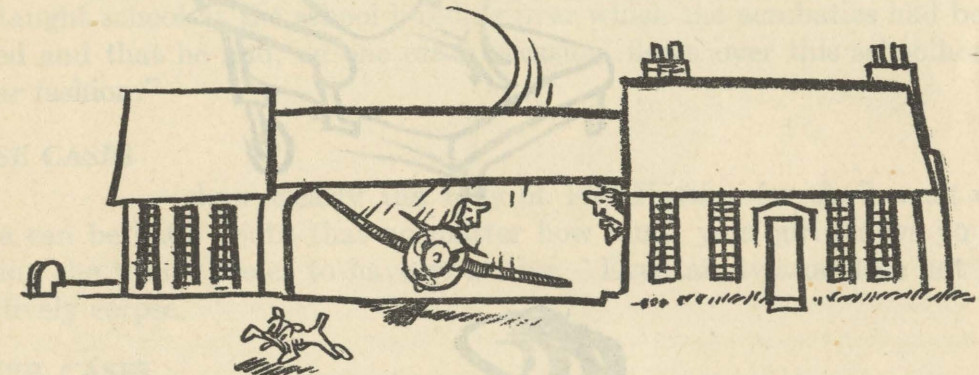
The line we are going to take in this manual is that Flat-Hatting is a no-good way to fly. In other words, don't do it. Not only will it get you nowhere, it will get you killed. There are many ways to Flat-Hat, all of them bad, and we shall attempt to deal here with the most poisonous ones.

This practice is the bane of all aviation and has long been the curse of private flying. There was never much excuse for foolish flying even in peacetime, but this sort of thing in wartime is nothing short of criminal. The loss of planes and men means serious delay in getting on with the fight. By the time the Navy has prepared you to fly with the Fleet it has invested approximately \$27,000 in you. This is not considered hay, even by the Navy, which, aside from its interest in you per-



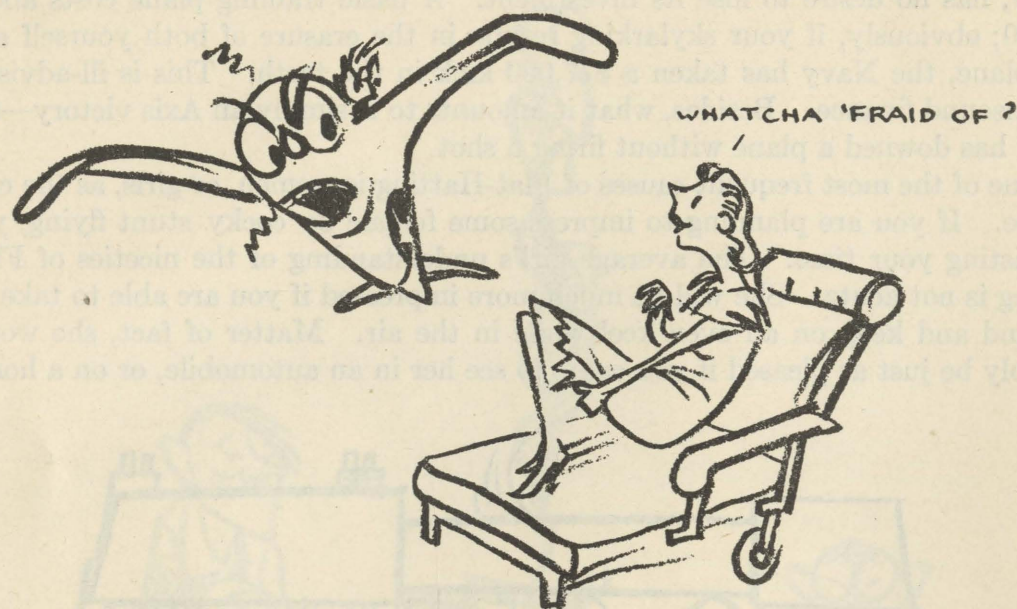
sonally, has no desire to lose its investment. A basic training plane costs about \$50,000; obviously, if your skylarking results in the erasure of both yourself and your plane, the Navy has taken a \$77,000 kick in the teeth. This is ill-advised. It is unsound finance. Besides, what it amounts to is simply an Axis victory—the enemy has downed a plane without firing a shot.

One of the most frequent causes of Flat-Hatting is women, or girls, as the case may be. If you are planning to impress some female by cocky stunt flying, you are wasting your time. The average girl's understanding of the niceties of Flat-Hatting is not acute. She will be much more impressed if you are able to take off and land and keep on an even keel while in the air. Matter of fact, she would probably be just as pleased if you came to see her in an automobile, or on a horse.



DON'T GET LOW DOWN

To show off for a girl, of course, it is necessary to fly very low, so she can see who you are. This is the PRIME CAUSE of accidents of this sort. At low altitudes engine failure or another kind of failure will certainly have sad results. With proper altitude a recovery can be made, but close to the ground there is no time to correct your trouble. Girls and women, incidentally, have no conception of what constitutes dangerously low flying. A recent case involving an aviation cadet illustrates this somewhat irrelevant point. At the court martial it was brought out in evidence that the young man's girl and her mother were in a hotel room in a moderately large city when the suitor came to call, by airplane. The complaint of a large group of citizens was that the young man flew around the several wings of the hotel like a pigeon, disturbing practically everybody and scaring several into mild shock. When the court asked the girl's



mother if, in her opinion, the accused had been flying low, she replied heatedly, "Certainly *not!* That boy never once got below the fifth floor!"

The following similar case is quoted from the Civil Aeronautics Journal of May 14, 1942: "Shortly after take-off, the aircraft was noted flying at low altitude a few miles from the airport. Witnesses observed one complete loop being made and then another maneuver which appeared to be an Immelman turn; both maneuvers were completed at an altitude no greater than 400 feet. The aircraft made a 180° left turn over the local schoolhouse and then dived at a very steep angle, followed by an extremely sharp climb. At the peak of the climb the aircraft stalled and started a right-hand spin, falling through tension lines to the ground."

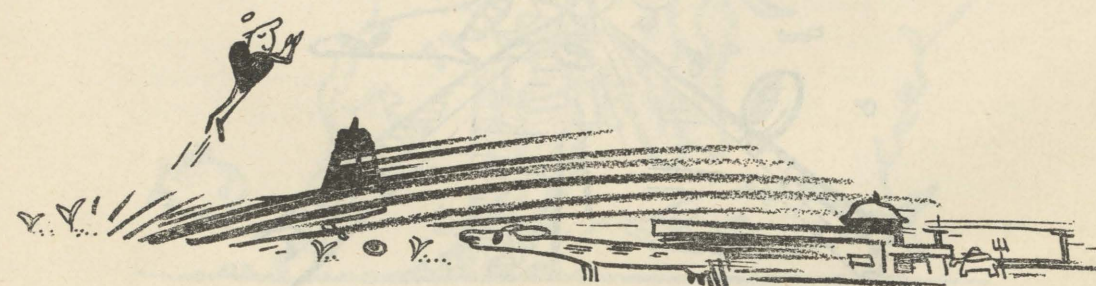
"The investigation disclosed that the pilot was acquainted with a young lady who taught school at the school building over which the acrobatics had been performed and that he had, on one other occasion, flown over this schoolhouse in a similar fashion."

THESE CASES

show clearly the folly of Flat-Hatting for the benefit of girls. There can be little doubt that no matter how much your girl enjoys your Flat-Hatting she would prefer to have you alive. Even an aviator does not make a very lively corpse.

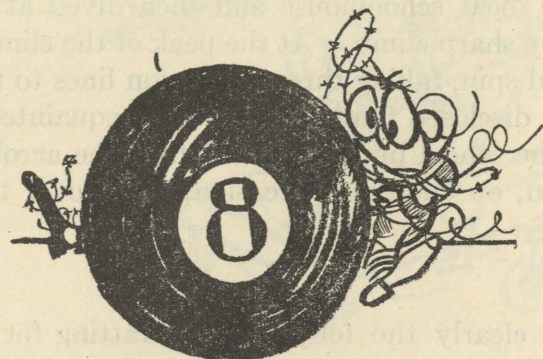
OTHER CASES

In spite of the fact that man designed the airplane to get off the earth, some flyers persist in sticking as close to the earth as possible. One of the chief reasons why it is fun to skim along the perimeter of the globe is that the sensation of speed is much greater at a close distance. Seeing barns, cows, farmers, roads, telephone poles, and privies fly by beneath you is very satisfying, but is also very dangerous. One minute you're feeling wonderful and the next



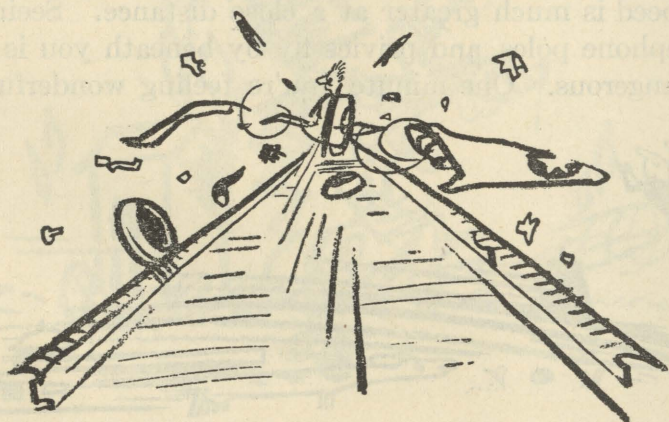
minute your mortal coil has come to rest in a cornfield while your spiritual self has begun to gain altitude rapidly. Your rate of climb in a case of this kind will amaze you, but unless you are rejected by St. Peter you won't be able to get back down.

According to Bureau of Aeronautics investigations, the way quite a few low flyers wind up behind the eight ball is colliding with wires of some sort. A recent report concerned a young man who was batting over, or through a railroad yard and

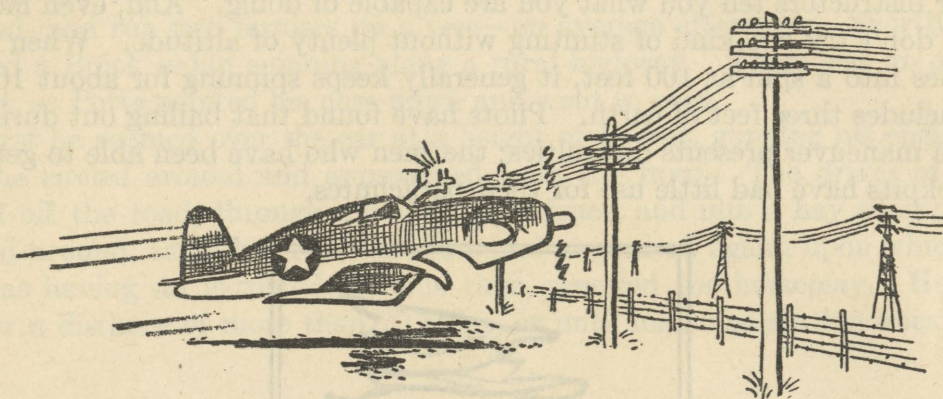


neglected to notice a high tension wire that cut across the area. He saw it a fraction of a second away and elected to go *under* it. In doing so he overcontrolled, hit a railroad track and scooted down it for some 200 yards, shedding aircraft parts as he went. By extreme good fortune, this flyer emerged relatively whole, having lost fewer parts than his plane. However, his days as an aviation cadet were over.

An admonition in the BuAer News Letter not long ago read: "All pilots are warned that only those high tension wires that are useful for navigational purposes



are indicated on charts." You can never tell, while hedge-hopping, when you are likely to run onto wires. Exploiting the many rather dubious uses of electricity, man by now has trussed up the world like a bale of hay, and he has done it promiscuously. There are, it is true, a few guides. In the neighborhood of any sizable



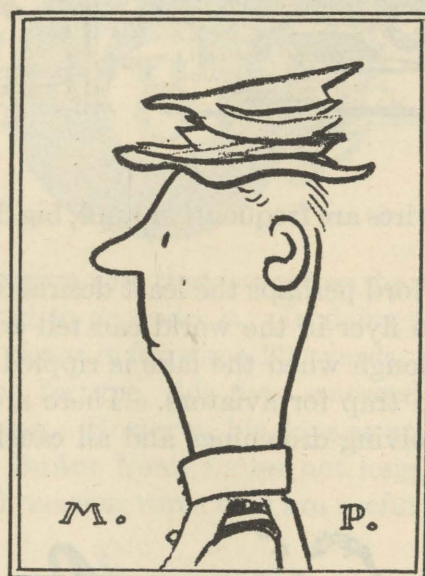
lake or river, high tension wires are frequently found; big dams are also nerve-centers for high wires.

Lakes, incidentally, afford perhaps the least desirable of all places to Flat-Hat. When the water is slick no flyer in the world can tell accurately how far he is off the surface. It is hard enough when the lake is rippled, but a smooth water surface is a well-known death trap for aviators. There are numerous such cases on record, many of them involving drownings and all causing lamentable damage to airplanes.



A GOOD STUNT IF YOU CAN DO IT

As far as stunting, or acrobatics, is concerned, the Navy encourages its pilots to become adept at this department of flying, but it does *not* encourage novices to try acrobatics before they are ready for them. Let your instructors tell you what you are capable of doing. And, even more important, don't try *any* kind of stunting without plenty of altitude. When an airplane goes into a spin at 100 feet, it generally keeps spinning for about 103 feet, which includes three feet of earth. Pilots have found that bailing out during this kind of a maneuver presents difficulties; the men who have been able to get out of their cockpits have had little use for their parachutes.

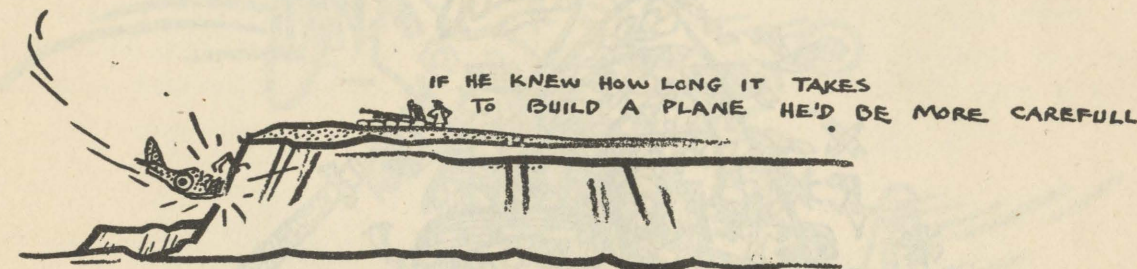


IT has been found that much of this low stunting has been done by cadets who want to impress their colleagues.

Among the lesser tragedies recently noted was the case of Mosely Potts, an incurable Flat-Hatter. This case was bizarre enough to warrant retelling in some detail here. Potts, a good looking young man, was an excellent flyer but he had a penchant for scaring people and animals. He took delight in diving on automobiles, men on horseback, mules, cows, pedestrians, sheep, goats, and the like. If he could make a horse bolt, a mule kick down a fence, an automobile drive into a ditch, or a cow swallow her cud he was much gratified. Whenever he could get

hold of a plane he whiled away a few hours roaming the countryside in search of stray fauna. In brief, Potts had terrorized the area so thoroughly that several of the nearby farmers were reportedly living in their storm cellars and tilling their fields at night. At 1:30 on September 23, Potts took off for an afternoon of Flat-Hatting. By 3:15 he had chased a herd of goats into a creek, driven a truck off the road, and run two farmers up a tree—an average afternoon. Shortly after 4 he spied a Buick sedan spinning along a rural highway. There was no other car in sight, so Potts pointed his nose down and went to work.

First he zoomed over the car at a height of 10 feet, gunning his engine hard. Then he circled around and approached from the front. The driver of the car steered off the road, through a barbed wire fence, and into a hay stack; then he wheeled around, came back on the road, and started off again, upon which Potts, who was having an extremely joyous time, renewed the horseplay. He kept it up over a distance of more than 20 miles, or until his home station unexpectedly

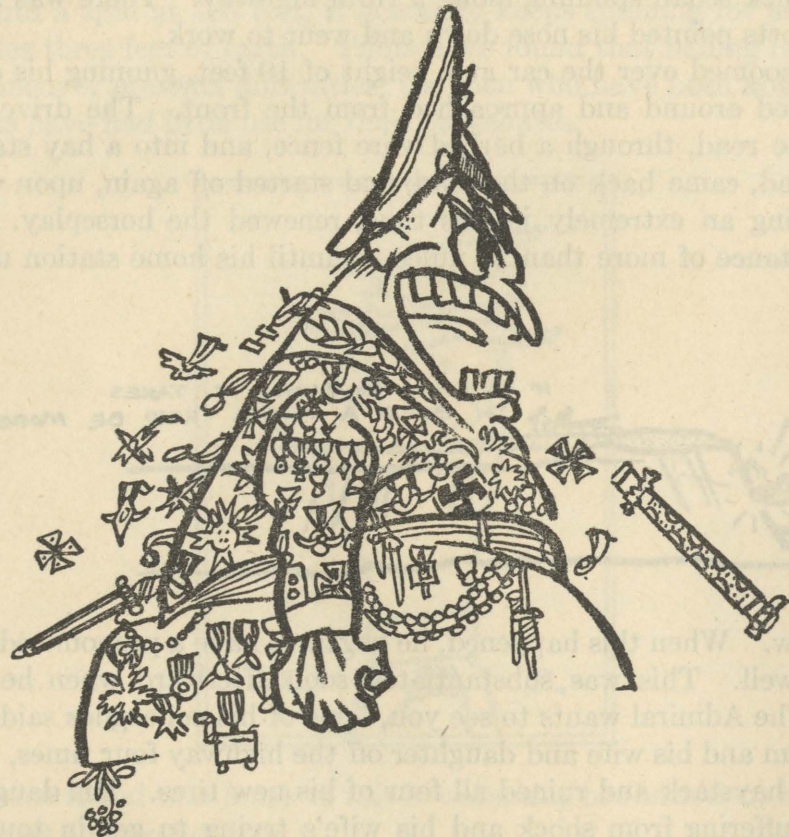


came into view. When this happened, he began to have a pronounced feeling that all was not well. This was substantiated soon afterward when he landed and came in. "The Admiral wants to see you," one of his colleagues said. "He says you chased him and his wife and daughter off the highway four times, through two fences, into a haystack and ruined all four of his new tires. His daughter's down at sick bay suffering from shock and his wife's trying to get in touch with her lawyers."

The greeting Potts received in the Admiral's office was warm, brief, and to the point. "Potts," said the Admiral, "you're going to look strange in the striped suit you're going to be fitted for!"

IT IS REGRETTABLE that a young man with such obviously fine points should be led astray by Flat-Hatting. Potts shucked off a promising career for a few afternoons of sport.

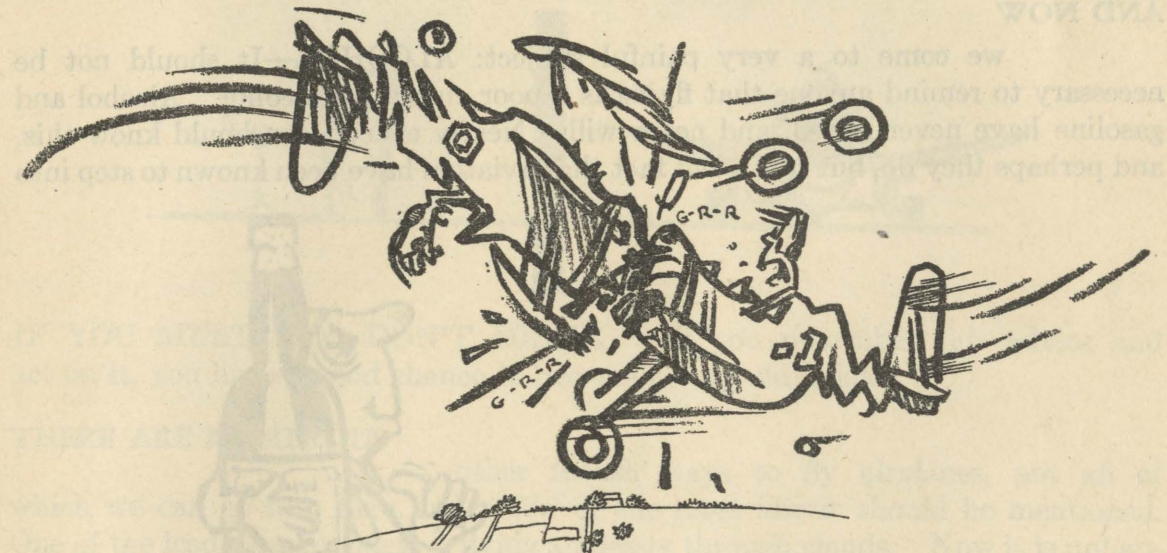
Nor is all this 2,000-horsepower stupidity confined to the American air forces. The Royal Air Force Journal for April 1943, devoted considerable space to the costly practice and included several examples together with the punishment handed out. There were court-martials, chiefly for offenses like low diving, skimming over houses, banging into automobiles, and similar forms of skylarking. In nearly all cases the culprits were dismissed from His Majesty's service.



Even the discipline-minded Germans, who are less inclined to be frolicsome than many, have their troubles with Flat-Hatting, or as they call it—*Flugenkerflatzmittendorfergesellschaftvereingang*. The Germans, however, do not give high marks for this kind of horseplay. Among recent German documents was a file describing numerous breaches of flying discipline. A communication signed by none other than Goering himself listed the cases under the following headings:

- (a) Arbitrary deviation from the prescribed mission for the purpose of so-called visits to acquaintances and relatives, involving departure from the prescribed flying height.
- (b) Arbitrary low level attacks.
- (c) Arbitrary acrobatics below 1,000 metres.
- (d) Arbitrary low flying.
- (e) Every other type of flying that endangers the aircraft or its occupants arbitrarily.

Reichsmarshal Goering went ahead to remind his flock that the severest punishment would accrue from Flat-Hatting and called attention to two or three specific cases. One, involving Lieutenant P——, was glaringly similar to the American variety. It had to do with an unauthorized visit to relatives and the inevitable fiancée. P—— flew off his course, landed near his bride-to-be's house, found her absent, and had a couple of beers with his prospective father-in-law. Then he



took off, rocked into a black cherry tree and killed a clerk he had taken along as a passenger. Goering himself refused leniency in the case, remarking after the trial, "*Flugenkerflatzmittendorfergesellschaftvereingang* must stop." (Lieutenant P—— was imprisoned and sentenced to serve eight years, the time to begin officially at the expiration of the war.

CADETS sometimes have a tendency to wander out of sight in training planes and practice dog-fighting. Frequently the cadets show great skill in these skirmishes, killing each other just as dead as if they were actually fighting. Such

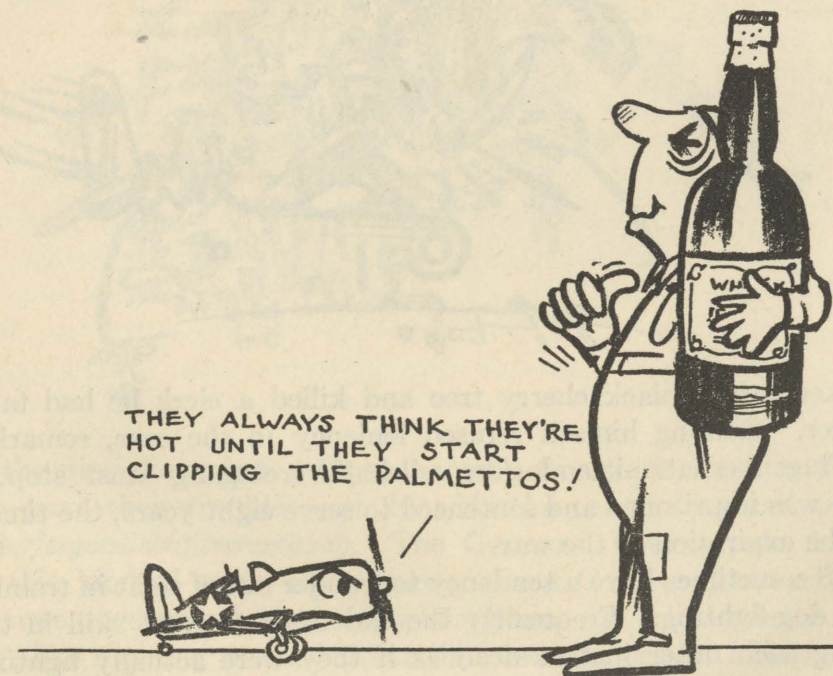
horseplay nearly always results in an accident. The Navy is eager for its flyers to become good dog-fighters but prefers that this sort of practice be done in the approved fashion—under instruction and with PLENTY of altitude.

AN EXCEPTION:

Some low flying is necessary. In the course of your training you may be taken on strafing, masthead bombing and other missions that require very low flying. In these cases, of course, an instructor will be along to show you the correct procedure. This sort of work has nothing to do with Flat-Hatting. It is the *unnecessary* low flying with which this manual is concerned. There is a lot of difference between making a torpedo run on a Jap carrier and making one on an automobile.

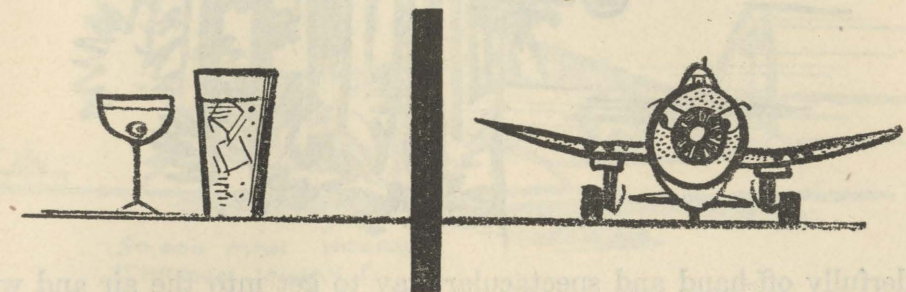
AND NOW

we come to a very painful subject: ALCOHOL—It should not be necessary to remind anyone that flying is a poor chaser for alcohol. Alcohol and gasoline have never mixed, and never will. Nearly everybody should know this, and perhaps they do, but it is a sad fact that aviators have been known to step into



a plane right after getting out of a bottle. There is no quicker way to be referred to as "the late" Mr. so-and-so. Without adopting a tiresome Older Boys Conference tone, we can say in all accuracy that alcohol, whether in beer, whiskey, martinis, grapa, or canned heat, actually *does* dull the brain, slow down the reflexes and induce a dangerous feeling of lassitude and well-being. Also, and this is most important, it destroys almost completely your sense of depth perception. When you are flying along comfortably paralyzed and see those two church steeples coming up, your impulse is no doubt to go between them, but as sure as you do you will wind up *INSIDE* the church, as the central figure of a beautiful but rather final ceremony.

NOT to belabor the subject further, let us conclude this section on the evils of alcohol by the trite admonition: "IF YOU MUST DRINK, DON'T FLY:



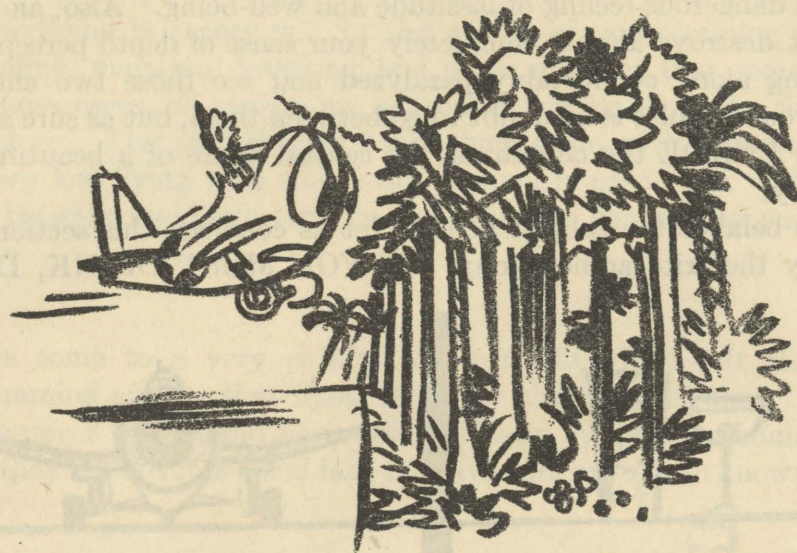
IF YOU MUST FLY, DON'T DRINK." If you remember this advice and act on it, you have a good chance to become a very old aviator.

THERE ARE NUMEROUS

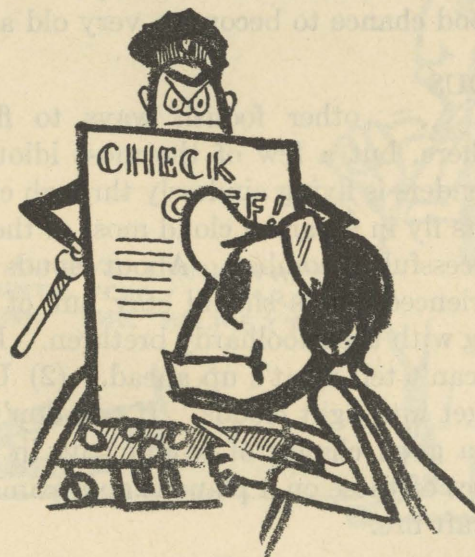
other foolish ways to fly airplanes, not all of which we can go into here, but a few of the most idiotic should be mentioned. One of the leading contenders is flying aimlessly through clouds. Now it is unhappily true that some pilots fly in a partial cloud most of the time, but oddly enough they never are very successful in combat. About clouds there are two main considerations: (1) Inexperienced pilots should stay out of clouds entirely, because of the danger of colliding with their foolhardy brethren. In a heavy cloudbank the best flyer in the world can't tell what's up ahead. (2) Unless you are an instrument flyer, don't even get into light clouds. If you don't know your instruments thoroughly, you stand a good chance of winding up in a tight spiral or a spin. At low altitude, the effect of these on a plane is approximately the same as that of being hit with anti-aircraft fire.

MISCELLANEOUS LUNACY:

Among the items left on our list, tricky take-offs and landings stand very high. It is highly recommended by aviators still alive that a pilot take advantage of ALL his runway. Starting from the halfway mark

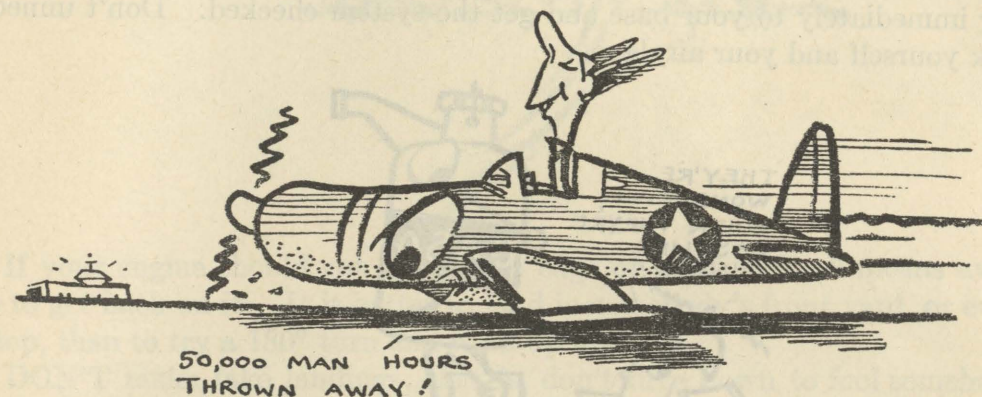


is a wonderfully off-hand and spectacular way to get into the air and will likely impress quite a few people, some of whom may even be interested enough to show



up at your funeral. But if your engine cuts out in the process of a short take-off you obviously are going to be lacking for room in which to come to a safe stop. The big commercial liners, you may observe, not only take advantage of every foot of runway but gun their engines with the brakes on before starting the takeoff.

BE SURE to go over your check-off list before getting into the air. Neglecting any one item may result in a bad crack-up. One of the most repulsive kinds of take-off known to modern aviation is the quick zoom, or modified helicopter, variety. Short round trips here are frequent—up a few feet and right back down.



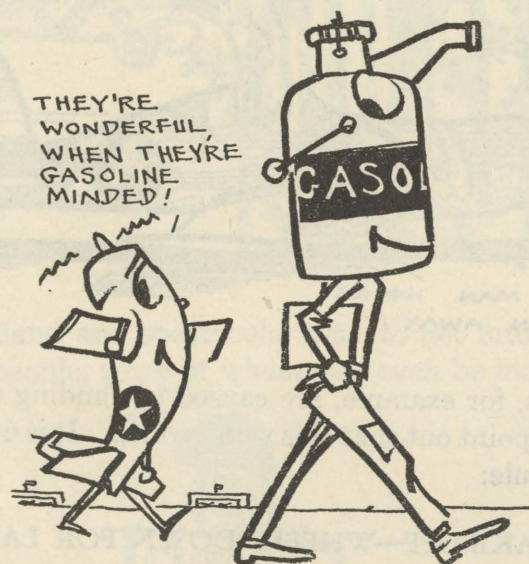
Numerous accidents, for example, are caused by landing with the wheels still up. There is no need to point out that this won't work. It is essential to remember at all times this simple rule:

WHEELS UP AFTER TAKE-OFF—WHEELS DOWN FOR LANDING

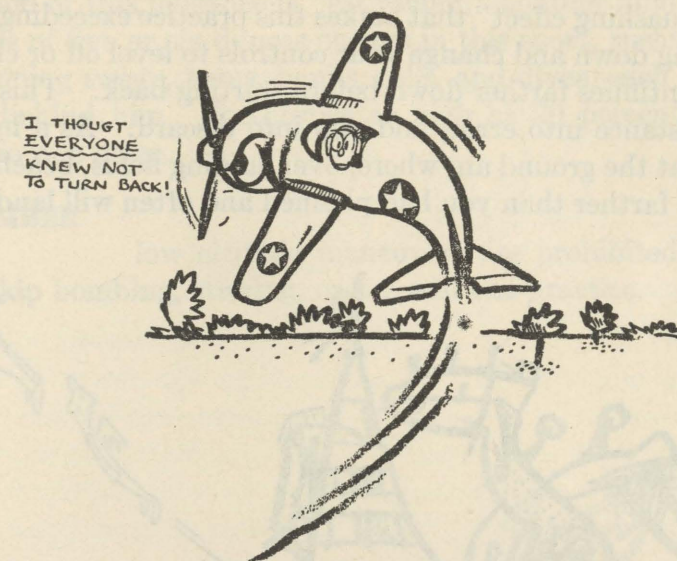
Another point, somewhat akin to the check-off list, is the correct procedure in shifting fuel tanks. Carelessness in this department has caused an astonishing number of accidents and fatalities. The following brief case is taken from the Bureau of Aeronautic News Letter: "This SNJ-3 was over an outlying field when the engine cut out. The pilot landed, restarted his engine and took off. Shortly thereafter his engine quit again and he made a belly landing on the beach. The condition of his airplane after this landing prevented him from taking off again. The trouble?—Oh, he had merely neglected to turn his gas selector switch from the left tank, which he had emptied, to the right one, which was full."

The large number of cases of this kind has led the Bureau to devise the following set of rules governing gas tank switching:

- (a) Never run a gas tank completely dry, unless absolutely necessary.
- (b) Never switch tanks at low altitude, if avoidable. If suction is lost, it sometimes requires a little time to regain suction on another tank; don't "short-change" yourself on altitude.
- (c) Do not use the emergency tank for low altitude flying, particularly practice landings.
- (d) If partial failure of fuel system occurs during flight, take the precaution of returning immediately to your base and get the system checked. Don't unnecessarily risk yourself and your airplane.



- (e) Get in the habit of checking your gas before descending to low altitude: This check should consist of a visual reference to the gauges and selector valve setting, and a swift mental calculation as to gas consumption and flight time.
- (f) When shifting tanks be careful to center selector so that the valve will be properly seated; this can be done by feeling the click.
- (g) When an engine sputters, check fuel pressure and selector valve immediately.
- (h) Know how much fuel there is in each tank before commencing a flight. Make a mental calculation of how long you can fly on each tank and keep a running check on your fuel gauges and gas consumption.



If your engine should cut out at the edge of a field, by all means avoid the urge to get back on it. It is better to land in somebody's front yard, or even in a treetop, than to try a 180° turn and wind up in a pile.

DON'T make fake landings; that is, don't dive down to fool somebody and



then zoom up. There is a curious and deadly physical phenomenon commonly referred to as "the squashing effect" that makes this practice exceedingly dangerous. When you are heading down and change your controls to level off or climb back up, your plane *always* continues farther down before starting back. This often throws your judgment of distance into error, and you into discard. As a matter of fact, don't play at diving at the ground anywhere, over landing fields, beaches, or houses. You will always dive farther than you had planned and often will land whether you wanted to or not.



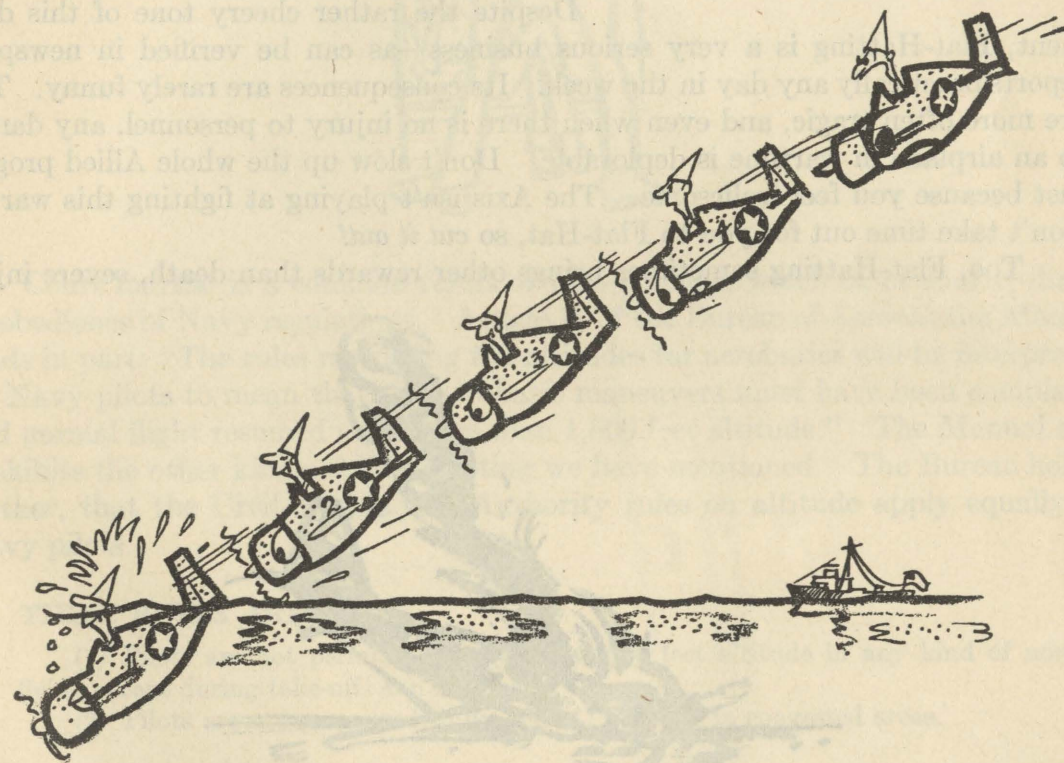
Never get near pylons around which pilots are practicing turns. There have been many accidents involving flyers who, wishing to use the pylons, made a couple of dives on one to show their colleague they were getting impatient. Wait your turn. It's a great deal better for two flyers to do figure eights around pylons consecutively than concurrently.

This brings up an especially pernicious practice known as "chasing tails." Started by some anonymous enemy of aviation, chasing tails has laid many a promising flyer to rest. The game, if anything so gruesome can be called a game, is simple. Two pilots chase each other around one or two pylons, the rear man seeing how close he can get to the chassee. To score 4.0 in this game, the rear man obviously must catch the leader, upon which the game is ended, together with the pilots.

A variation of this nuisance is "rat racing," another kind of follow the leader. Often upwards of five or six dunces engage in this sport, rushing pell-mell over the countryside, doing twists, turns, banks, rolls, and dives, each flyer trying to shake off the man behind him. Sometimes as high as 20 percent of the participants return home in one piece.

JUST REMEMBER

low altitude maneuvers are prohibited except when in the syllabus, as skip bombing, strafing, or torpedo run practice.



Again at the risk of being repetitious, act your age; lay off the damned foolishness. It is **ABSOLUTELY CERTAIN** to bring you to grief.

WHICH BRINGS US TO A GRIM NOTE



Despite the rather cheery tone of this document, Flat-Hatting is a very serious business—as can be verified in newspaper reports practically any day in the week. Its consequences are rarely funny. They are more often tragic, and even when there is no injury to personnel, any damage to an airplane in wartime is deplorable. Don't slow up the whole Allied program just because you feel frolicsome. The Axis isn't playing at fighting this war and won't take time out for you to Flat-Hat, so *cut it out!*

Too, Flat-Hatting sometimes brings other rewards than death, severe injury,



and wrecked planes. It was not long ago that two cadets dived down on a field where a farmer's wife was hoeing some plants. Wishing to frighten her into dropping to the ground, the pilot went so low that the plane struck her, decapitating her.

The State authorities prosecuted both cadets on criminal charges. They served terms in prison.



Court martial is a common result of Flat-Hatting, which is, of course, direct disobedience of Navy regulations. Article 15 of the Bureau of Aeronautics Manual reads in part: "The rules restricting the altitudes for acrobatics will be interpreted by Navy pilots to mean that the acrobatic maneuvers must have been completed and normal flight resumed at not less than 1,500 feet altitude." The Manual also prohibits the other kinds of Flat-Hatting we have mentioned. The Bureau holds, further, that the Civil Aeronautics Authority rules on altitude apply equally to Navy pilots.

THESE RULES ARE

- (1) Pilots are not permitted to fly below 500 feet altitude in any kind of normal flying except during take-offs and landings.
- (2) Pilots are not permitted to fly below 1,000 feet in congested areas.

IN CONCLUSION

If you like being whole and healthy, and want to see us win the war quickly as possible, fly your plane in an orderly and sane, manner. If, on the other hand, you don't care about these things, don't Flat-Hat anyhow. Keep an eye on the crack pilots, the boys who are coming back from the wars covered with ribbons. You'll find they don't have time for child's play. Flat-Hatting

is one of the big things your instructors bear in mind when they start separating the men from the boys.

SO: If you have to play, buy a Yo-Yo or an electric train. But when you climb into that plane get down to business.



