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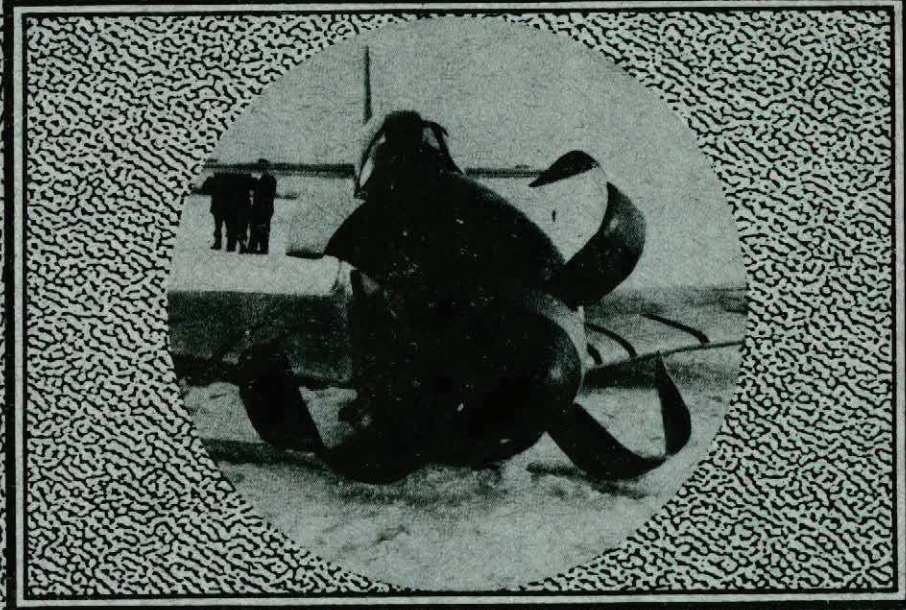
CRASH COMMENT

AIB

FIRST QUARTER 1952



ISSUED BY
ACCIDENT INVESTIGATION BRANCH
R.C.A.F. HEADQUARTERS OTTAWA ONT.

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UNSATISFACTORY CONDITION REPORT

An alarming condition is apparent to those of us who investigate flying accidents. Altogether too frequently we discover that the cause of a flying accident could have been corrected if someone had filed an Unsatisfactory Condition Report with the Chief Technical Officer.

Most of the accidents which can be traced to failure to file a UCR, were caused by some small condition which, to the man who discovered it first, seemed local and incidental but, when it was viewed with the broader scope of this Headquarters, it had far-sweeping consequences -

- That bolt which was installed backwards or upside down;
- that hatch or access panel which was continuously loosening up;
- that small part which had to be replaced because of slight deformation.

Anyone, regardless of rank, trade or branch of the Service can file a UCR on anything from buttons to major equipment.

It is your responsibility and duty towards yourself and to fellow members of the RCAF, to file an Unsatisfactory Condition Report in order that your CTechO and Air Materiel Command can judge the situation in its broadest scope, and take appropriate action.

File that UCR Now!

A survey of the accident rate for the fiscal year 1951, reveals that 57% of all Harvard accidents occurred during landing.

While we realize that landing accidents will always be with us, especially at training units, it is considered that the frequency of which they occur can be and should be reduced.

In order to assist the instructor and student alike, we are reproducing the following precis on "The Prevention of Harvard Landing Accidents" which was received from RCAF Station Gimli, Manitoba.

USE OF FLAP

Normally - In normal wind conditions, landings should be practised with varying degrees of flap (0-45). This includes three-point and wheel landings in crosswinds of steady but light to moderate speeds.

Strong Winds - The only real hazard is during strong and/or gusty wind conditions. With a strong gusty wind and a stalling speed further reduced by use of flap, during the landing run these two speeds may be so close that a gust or a sudden backward movement of the control column could easily cause the aircraft to become airborne momentarily. This could result in a wing drop and perhaps a ground-loop for the unwary pilot. With no flap the stalling speed is higher and the foregoing situation is less likely to happen. An indirect factor as far as safety is concerned in this regard is that flap has a considerable breaking effect during a landing run. Therefore lots of flap in a strong wind means short landing runs which result in unnecessary time in clearing the runway. In a busy circuit this will result in unnecessary overshoots.

Strong Crosswinds - On the landing run a strong crosswind will tend to lift the into-wind wing, while the opposite wing is partially shielded from this wind effect by the fuselage. Use of flap will increase this lifting effect often causing the "downwind" wing tip to come into contact with the ground. This can happen right down to the slowest speeds, even taxiing. Therefore a full flap three-point landing in a strong, gusty crosswind, means the pilot is unnecessarily running a risk of damaging his aircraft. If there is a strong crosswind, play it safe and don t use flap. The referenced lifting effect can be further overcome by raising the into-wind aileron, thus helping to spill the wind pressure from under the wing. Move your control column into the direction from which the crosswind is coming. This also applies when taxiing in a crosswind.

USE OF RUDDER

As the speed of the aircraft decreases on the landing run, the effectiveness of the rudder in directional control diminishes to the stage where use of full rudder will not give positive directional control if even a slight swing develops. However, if the tailwheel is on the ground its steerable feature (15 degrees either side of the fore and aft axis) affords a certain amount of directional control. By the same token, if the tailwheel touches the ground while rudder is being applied it will be turned and might initiate a swing. There is the further hazard, if full rudder is used, that the tailwheel will caster with a resultant sudden swing. Use rudder early (anticipate swings) and smartly. It should be apparent when half rudder is applied if this control will stop a swing. If it won't, use brake rather than full rudder. Remember - a touch of rudder - and if it doesn't produce the desired effect immediately, centralize the rudder, and use brake to keep straight. It is cheaper to replace brake linings than it is to replace oleo legs and wings.

USE OF BRAKES

The seemingly restricted use of rudder as discussed above is more than compensated for by the judicious use of brake. Brake is a quick, positive check on a swing after landing. Full brake can be applied safely to one wheel as soon as the main wheels touch the ground even with the tail in the air. It should be kept on until the swing has stopped and the aircraft is rolling straight. The only time the Harvard will go up on its nose is when both brakes are applied simultaneously, and held, at relatively low speeds (including taxiing speed).

Some pilots still feel that brake should not be applied until full rudder has failed to stop or correct a swing. This concept is completely wrong for two reasons and has been a factor in more than a few of our accidents. First of all, many pilots cannot apply enough brake with full rudder on because their legs are too short. Secondly, and more important, by the time full rudder has been applied the swing has too often developed to such an extent that even the use of full brake won't stop it, and a resultant ground-loop occurs.

Since the inauguration of our "use brake" campaign, there have been complaints from the flight line that pupil pilots are using brake too harshly. In this respect, the school has yet to report a ground-loop caused by the excessive use of brake. Furthermore, in the last seven weeks we have had only one ground-loop. In this case, the student involved used full rudder and partial brake. Harsh use of brake in the early stage of training can be changed gradually to smooth, early and wise use of rudder at the intermediate stage and will tend to greatly reduce our ground-loop rate.

USE OF POWER

Application of power after a swing has started generally tends to tighten and speed up the swing. Therefore it should not be used on single engine aircraft. On the other side of the ledger, putting on power and overshooting after a bounce or other abortive attempt at landing has prevented untold numbers of potential ground-loops. Pride also goeth before a ground-loop - don't be proud, overshoot and try again. It's no disgrace, on the contrary, you will be complimented for your good judgement.

USE OF CONTROL COLUMN

Three Point Landing - If the landing was of this type (it should normally be) the stick should be held well back to keep the tailwheel on the ground. This affords definite additional directional control from the steerable feature.

Wheel Landing - After a successful touchdown the control column should be held steady or moved very slightly forward to ensure the main wheels staying on the runway. As the speed decreases the tail will lower and the tailwheel will contact the runway. At this point the stick should be moved well back to keep the tailwheel on the ground. If the control column is moved back right after touchdown it may:

(a) cause the aircraft to become airborne momentarily with the danger of a stall and wing drop

or

(b) initiate a swing because of the slight gyroscopic effect.

A brisk forward movement could also initiate a "gyroscopic" swing as well as endangering the propeller tips.

Bounce - If the bounce is a slight one (they always seem worse than they really are) the stick should be held steady and a touch of power used to ease the next contact. If it is a bad bounce where you are tempted to move the stick forward or backward, apply power and overshoot. Trainee pilots and even trained ones, are usually half a movement behind the aircraft when they start moving the control column after a bounce - stick going forward when it should be going backward and vice versa. There is no stigma attached to a pilot who overshoots. Besides, its good accident prevention and good practice.

GENERAL

Light Wind - There is an increased danger of ground-loops in conditions of very light or no wind, especially by pupil pilots at or just after the first solo stage. This is because the ground speed is relatively higher, being equal or nearly equal to the airspeed. Because of the increased speed, swings will also develop faster.

Therefore extra care should be taken to take prompt corrective action when the windsock or control tower transmissions indicate such wind conditions.

Secondary Swing - More than one ground-loop has been caused after a pilot has already successfully stopped one bad swing. Once enough brake or rudder has been applied to stop a swing in one direction, pilots must be immediately aware of the possibility of continued use of such brake or rudder causing a swing in the opposite direction. The rule here is to correct, then centralize before it is necessary to correct in the opposite direction.

CONCLUSION

Two of the pre-requisites of a good landing are:

(a) a good approach;

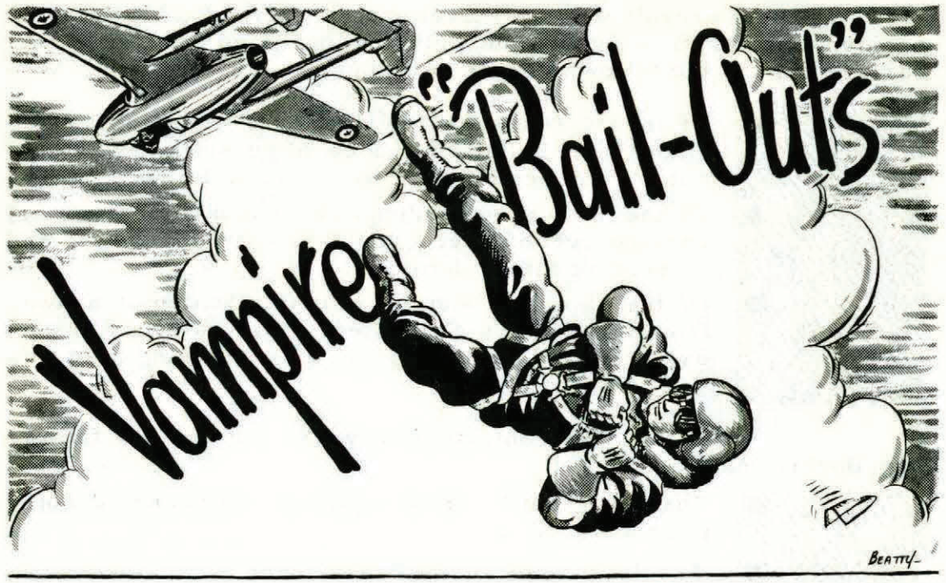
(b) the pilot's attention 100% on the task at hand.

Once on the ground, anticipate a swing and be ready with brake and rudder. Use full brake unhesitatingly if necessary. Be ready for that secondary swing. If the aircraft bounces don't try to imitate a kangaroo by pumping the control column - overshoot and try again. Be alert. You can't afford to relax on the landing run. Don't fiddle around with the coupe top, etc., after touchdown. Remember the landing has not been successfully completed until the aircraft comes to a safe stop".

We feel that a sound understanding of these factors, which are basically simple and straightforward, will do a great deal towards reducing the number of accidents of this nature.

Although the major cause of ground-loops may be attributed to the pilot, the following technical aspects of ground-loops should not be overlooked:-

- Uneven extension of the oleo legs.
- Unequal tire pressures.
- Tail oleo inflated too high.
- Incorrect spring tension on tailwheel castoring mechanism.



The following report on successful Vampire "bail-outs" in the RAF is published in an attempt to correct the apparent misconception amongst many pilots in the RCAF, that it is unsafe to attempt a "bail-out" from this type of aircraft:

"Air Ministry has reported 9 instances of abandoning Vampires during the period August 1950 to December 1951. In one case the pilot was killed because of insufficient time for the parachute to develop fully and the other eight were all successful. Reasons for abandoning were air collision, spin, struck by debris from mid-air collision, and lack of fuel. Aircraft were abandoned between speeds of 110k and 150k, usually with aircraft inverted and assisted in some cases by negative "g". Pilots report missing the tailplane by 3 feet to 5 feet. In some cases the pilot suffered slight injuries to a foot caused by striking the edge of cockpit on the way out".

As a result of this report an analysis of the RCAF Vampire accidents (other than on take-off, landing or during low flying) was carried out and the following facts revealed:

Of the 11 fatals having "bail-out" possibilities, 6 could have bailed out, 3 could possibly have bailed out and the remaining 2 were doubtful.

Of the 17 forced landings (with and without power) carried out on an aerodrome, 15 were undamaged and 2 received minor damage.

Of the 10 crash landings (non fatal) attempted away from aerodromes, 5 resulted in "A" category crashes, 4 were "B" category and the remaining case was "C" category.

From the above information we have drawn the following conclusions:

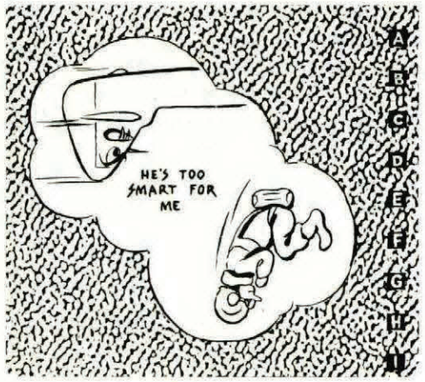
That "bail-out" from Vampire aircraft can be accomplished successfully.

That if a forced landing can be made at an aerodrome, the possibilities of serious damage are remote.

That it is uneconomical to attempt a forced landing away from an aerodrome because of the major damage to the aircraft which inevitably results.

Although the decision to "bail-out" must always be left to the discretion of the pilot, we feel that the possibility and advisability of doing so, should be given more consideration by pilots when difficulties are encountered during flight.

The following is the abandoning procedure for Vampire aircraft adopted by Air Defence Command:



Reduce airspeed to 150 knots I.A.S.

Trim nose heavy.

Pull down goggles.

Jettison the hood.

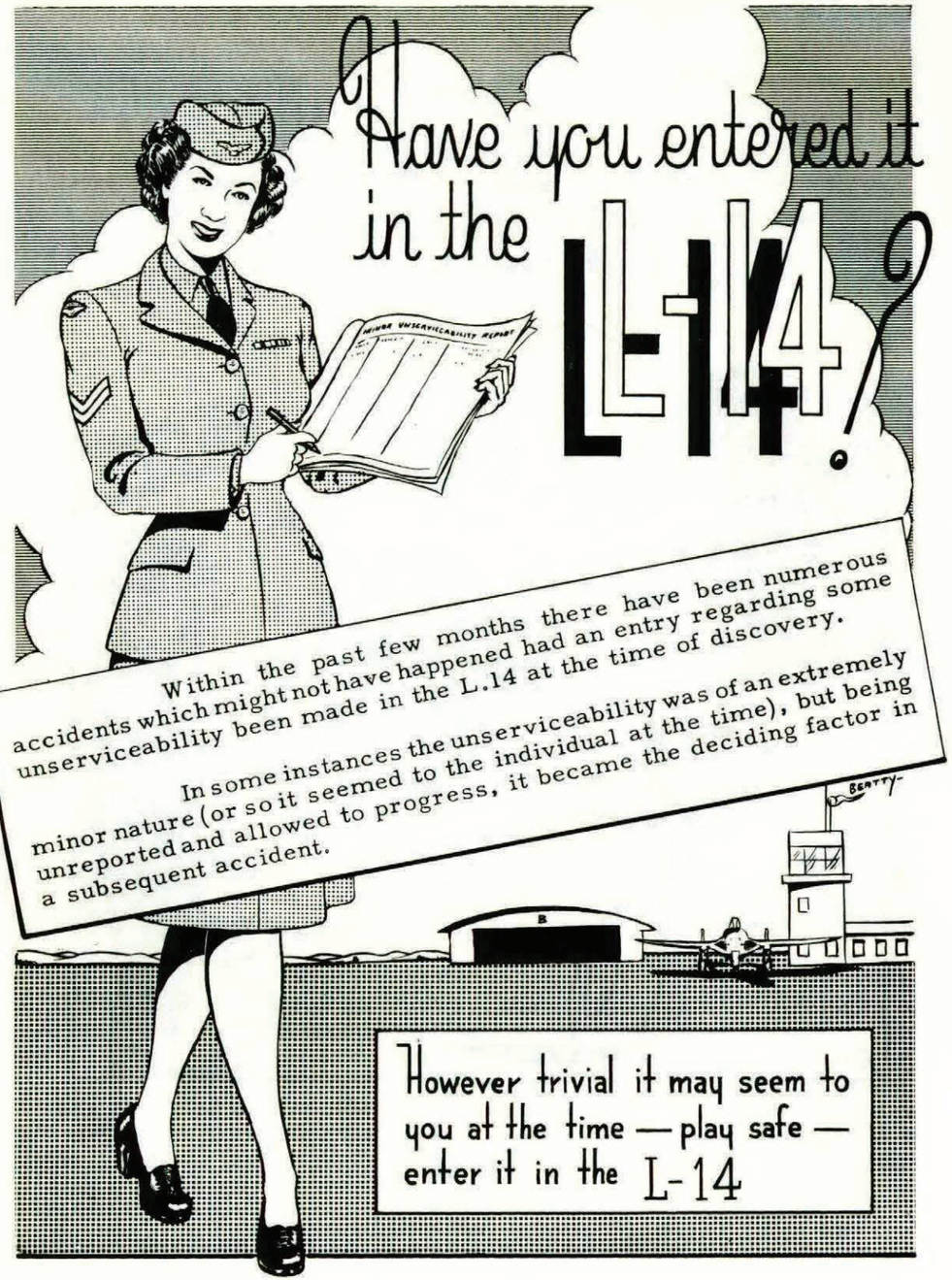
Give distress call.

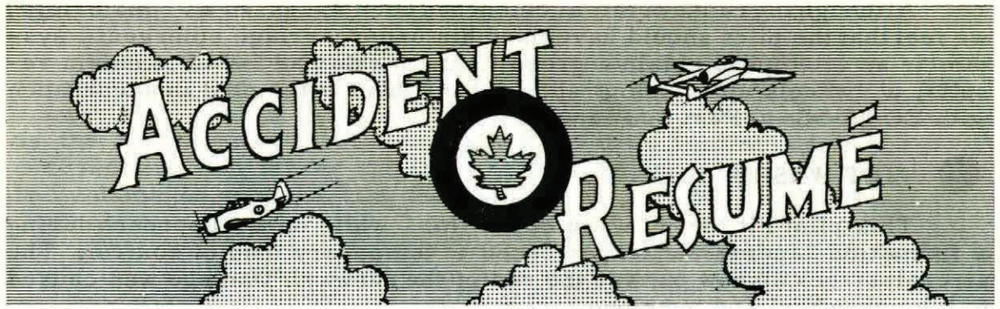
Disconnect oxygen and R/T plug.

Release harness.

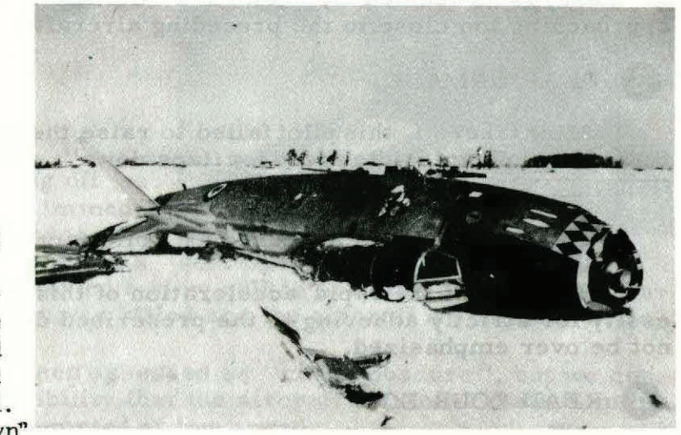
Tuck legs in.

Roll over and let stick go forward.





SABRE



1 EMERGENCY PROCEDURES

On joining the circuit for a landing, the pilot noticed that he did not have a green light for the starboard wheel. Numerous "up" and "down" selections of the undercarriage were carried out without results. Flying control was asked to make a visual check. They reported that all wheels appeared to be down.

The pilot, thinking that the trouble must be due to defective lights or undercarriage fairing doors, attempted a normal landing.

Upon touching down on the runway, the starboard undercarriage collapsed and the aircraft was completely written off. The pilot was uninjured.

The cause of this accident was found to be the jamming of the "down lock" pin, which prevented the locking of the starboard wheel in the down position. Further investigation revealed the downlock pin to be defective.

Although the cause of this accident has been assessed as "materiel", we feel that the pilot should have used his undercarriage emergency system in an attempt to obtain a green light. If this had failed to obtain results, a "wheels up" landing should have been attempted in accordance with EO 05-5C-1, Part 3, Para 39.

2 "JET WASH"

This pilot hit the jet wash of his No. 1 while on the approach during a formation landing and experienced a temporary loss of control. The aircraft struck a snow bank at the end of the runway. Damage was caused to the nosewheel and overload tank.

It is becoming increasingly evident that pilots do not fully appreciate the hazards presented by "jet wash" during formation landings and are approaching too close to the preceding aircraft.

3 FLAP DAMAGE

After take-off, this pilot failed to raise the flaps before reaching the "maximum permissible speed for flaps down", resulting in damage to the flaps.

This accident was assessed as "pilot error".

Because of the rapid acceleration of this type of aircraft, the necessity for strictly adhering to the prescribed drills and procedures cannot be over emphasized.

4 READ YOUR EOs

During flight, this pilot noticed that the undercarriage warning lights showed "unsafe". Upon selecting the undercarriage "up", the lights went out and the selector lever was then returned to the "combat" position. Later, during the same flight, this situation again presented itself and was remedied in the same manner.

After landing it was found that the undercarriage doors had been damaged by the slipstream due to the undercarriage lever being operated at too high a speed.

This accident has been assessed primarily as pilot error.

The correct procedure for operation of the undercarriage lever during flight is laid down in EO 05-5C-1, Page 52, Para 24. - Have you read it.

5 FIRST SOLO

On approaching to land on his first solo, this pilot "lined up" on the area between the runway in use and the taxi strip thinking this to be the runway. He did not realize his error until he was rounding out and as the aircraft had started to settle down for a landing, decided against overshooting and landed straight ahead. The nosewheel installation was badly damaged upon striking the deep snow.

This accident has been assessed as "pilot error" with having to land "into sun" on his first solo, as a contributing factor.

6 FATAL TAKE-OFF

This pilot was taking off as No. 3 in a formation. Immediately after becoming airborne, the aircraft commenced to climb in a steep nose-up attitude, started a slow roll to port and crashed in an inverted position. The pilot was killed and the aircraft a complete write-off.

This accident has been assessed as "cause obscure", but we consider that there is a possibility that the aircraft may have stalled due to a violent pull-up being attempted at low speed.

7 MATERIEL

While flying at a speed of approximately 400k, the pilot felt a sudden bump and a subsequent decrease in speed. Upon being informed by his wingman that the starboard undercarriage was down, he reduced speed and returned to base. The undercarriage warning lights indicated both main wheels down and locked, but the pilot was informed by the control tower that the starboard wheel only, was down. It was also noted that both flap and dive brakes were inoperative. The emergency lowering procedures were carried out with no effect and the pilot made a flapless landing with one wheel down. The aircraft swung off the runway and collided with a snow bank. The aircraft was damaged beyond repair.

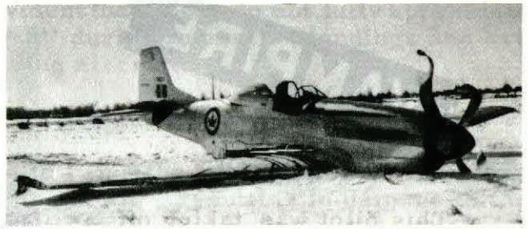
The cause of this accident has been assessed as "materiel" due to failure of a hydraulic line.

8 WATCH YOUR SPEED

During a formation landing this pilot lowered his dive brakes at 200 feet to reduce speed and immediately afterwards struck the slipstream of the lead aircraft causing his starboard wing to drop. He applied full power and levelled out, but the aircraft mushed into the snow 50 feet short of the runway. The aircraft was damaged extensively.

This accident has been attributed to the pilot following too close behind the lead aircraft and the increase in stalling speed brought about by the use of dive brakes.

MUSTANG



9 MAINTENANCE ? ?

This pilot was carrying out an "air to ground" firing exercise when the engine began to backfire and a loss of power was experienced. Every possible attempt was made to clear the engine without results. The pilot then notified the control tower of his predicament and carried out a forced landing. The resultant damage to the aircraft constituted a "B" category crash but the pilot was uninjured.

Investigation of the engine revealed that the backfiring and loss of power was caused by a tappet locknut coming adrift. This caused excessive valve clearances which, in turn, resulted in failure of the valve insert because of abnormally high valve seating loads.

This case is still under consideration but there is a possibility that the tappet locknut could have been left loose during the last engine inspection.

10 FUEL TROUBLE

While flying at 1500 feet the pilot allowed his port fuel tank to run dry with the result that the engine cut out before another tank could be selected. Attempts to restart the engine were unsuccessful, so a forced landing was carried out on the ice (depicted on front cover). The pilot was uninjured but the aircraft was severely damaged.

Considering the low altitude at which this exercise was being carried out, we feel that the pilot should have selected his starboard tank while fuel still remained in the port tank.

LANCASTER

11 FUEL STARVATION?

Shortly after becoming airborne, the pilot noticed that the RPM on his No.3 engine were dropping off. The engine was feathered immediately and the power increased on the remaining three engines by opening the throttles through the gate. At this point the aircraft commenced a turn to starboard and could not be held straight by use of full rudder, aileron and rudder trim. The aircraft eventually stalled and crashed after having turned through 130°.

The flight engineer was killed, the captain and co-pilot seriously injured and the aircraft damaged beyond repair.

At the time of writing, this case has not been finalized but the following factors have been made known:

On the day previous to the accident, No. 3 engine had been run for approximately five minutes with a zero reading on the oil pressure gauge before being shut down. No entry was made in the L.14 of this unserviceability. The cause of the lack of oil pressure was located and rectified, however, and the aircraft ground tested and passed as serviceable.

Examination of No. 3 engine after the crash, revealed that it was severely damaged because of internal failure. In addition "bearing metal" was found in the scavenge filter.

Examination of the fuel system controls revealed that the "booster pump" for the tank in use on the starboard side was in the "off" position. (If an engine is stopped, air may be drawn into the fuel system through the carburettor of the stopped engine and cause the other engine on that side to fail. To prevent this, the master fuel cock for the stopped engine, must be turned "off" before feathering unless the booster pump for the tank in use is "on").

Considering the violent swing to starboard, it would appear that No. 4 engine also had failed. This could have been caused by fuel starvation if the master fuel cock for the failed engine was not switched "off" prior to feathering.

MITCHELL

12 NO BRAKES

While taxiing at night on an icy runway, the pilot suddenly experienced a complete loss of brake. A check of the hydraulic accumulator revealed the pressure to be zero. As another aircraft was parked a short distance in front of him, the pilot shut off the engines and managed to turn the aircraft into a snowbank by use of rudder. The resultant damage constituted a "C" category crash.

This accident has been assessed as "materiel" due to brake failure.

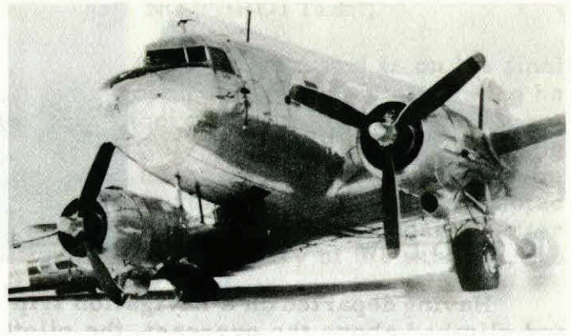
13 GOOD SHOW! !

While flying at night under IFR conditions, this aircraft was suddenly shaken by an explosion which occurred in the vicinity of the port engine. The throttle was "kicked" shut by the force of the explosion and, as a visual check showed the engine to be on fire, it was feathered immediately. The fire burned out before the extinguisher could be used, however, and a letdown and landing was then successfully carried out at a nearby aerodrome.

Investigation revealed the port engine to be severely damaged due to internal failure.

We feel that this pilot should be commended on the capable manner in which he met a difficult situation under conditions of flight and weather which were far from ideal.

DAKOTA



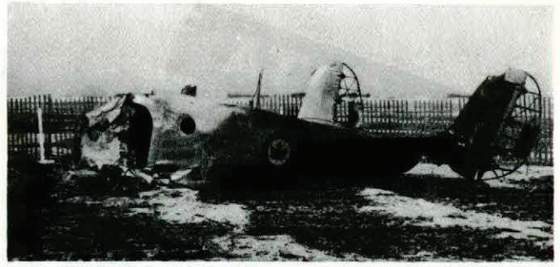
14 A FROSTY HAZARD

After a normal run-up, the pilot commenced his take-off run and lifted the aircraft off at approximately 100 kts. Immediately after becoming airborne, the port wing dropped and the aircraft commenced a turn to the left. When all attempts to level the aircraft had failed, the pilot cut the throttles and landed straight ahead.

Result	a "B" category crash.
Cause	loss of control through leaving the ground in a semi-stalled condition.
Contributing Factors	(1) Hoar frost on the lift surfaces. (2) Overloaded by 570 lbs - possible adverse C of G index.

DID YOU KNOW - A coating of hoar frost can increase the stalling speed of your aircraft by as much as 100%.

EXPEDITOR



15 TOO LOW

Having departed on a navigation trip in marginal weather conditions and climbed above the overcast, the pilot decided to return to base as he considered the weather to be unsuitable for the exercise. A letdown was being carried out on a radio broadcasting station when the aircraft struck a guy wire (supporting the radio tower), at the 375 foot level.

The aircraft crashed and burned, and the three occupants were killed.

This accident has been assessed as pilot error in that the pilot letdown below the safety height for the area in which he was flying.

KNOW — the safety heights for terrain over which you are flying - they are marked on your map!

16 WATCH THOSF BRAKES!!

This pilot had spaced himself too close behind another aircraft while approaching to land. The first aircraft landed short on the runway and commenced to turn off at the first intersection. After touching down, the pilot of the second aircraft applied brake to avoid a collision but due to icy runway conditions, the brakes had little or no effect. Upon reaching a bare spot on the runway, however, the aircraft nosed up momentarily as full brake was still being applied.

Result — Both propellers damaged when they struck the runway.

Primary cause — Pilot error. Secondary cause was attributed to flying control for allowing the second aircraft to land before the first had cleared the runway.

HADRIAN

17 NO THROTTLE!!

The pilot turned in on his final approach at 500 feet and thinking he was too close to the aerodrome, applied full "spoiler". Upon realizing that he was going to undershoot, he released the "spoiler" and attempted to stretch his glide so as to land within the aerodrome boundary. After the tail of the glider struck a fence on the boundary of the airfield, the aircraft stalled and came to rest in a snow bank.

Cause of this accident was assessed as error in judgement on the part of the pilot in undershooting and his decision to stretch his glide in an attempt to reach the airfield.

It is considered that the pilot could have executed a successful landing short of the aerodrome with little or no damage to the aircraft.

18 INSTRUMENT FLYING ?

These student pilots were authorized to carry out a mutual instrument flying exercise. The aircraft was seen, however, low flying and doing aerobatics. The last witness to see the aircraft stated that it was coming down in a gradual dive and doing slow rolls. The aircraft apparently did not recover from this manoeuvre but crashed and burned. Both occupants were killed.

An investigation of the wreckage revealed no structural failure prior to the crash, therefore, it can only be assumed that this accident was due to loss of control while carrying out unauthorized aerobatics.

19 THROTTLE TROUBLE

This pilot was approaching to land and upon touching down noticed that an aircraft which had landed in front of him was slowing up very rapidly. The pilot opened the throttle quickly to overshoot but the engine failed to respond. The throttle was closed and opened again slowly, whereupon, the engine picked up and the pilot made a gradual turn to starboard

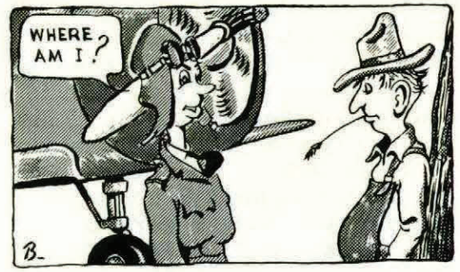
to avoid the aircraft on the runway. As the airspeed had dropped off considerably by this time, the main wheels touched the snow approximately 30 feet off to the side of the runway with the result that the aircraft nosed up.

This accident has been assessed primarily as "pilot error", caused by the throttle being opened too quickly and the secondary cause as Flying Control clearing this aircraft to land while the first aircraft was still on its landing run.

20 WEATHER OR NOT

During an aerobatic exercise this pilot became lost and while trying to orientate himself encountered adverse weather conditions. Being unable to establish his position either by radio or visually he carried out a forced landing approximately 100 miles from base.

This accident has been assessed primarily as "pilot error" in that the pilot failed to periodically ascertain his position while carrying out aerobatics. The secondary cause was given as unpredicted adverse weather conditions.



21 CONTRARY TO INSTRUCTIONS

This pilot took off on a solo aerobatic exercise during sub-zero temperatures. While carrying out the exercise he opened the oil cooler shutters contrary to instructions received at his pre-flight briefing. After flying for some time with the shutters open, the pilot noticed oil leaking onto the engine cowlings and windscreen. Although the oil temperature and pressure remained normal, he decided to return to base.

Upon investigation it was found that the oil cooler had "cored" and burst due to the shutters being open in sub-zero temperatures. As most of the oil had been lost from the engine, a subsequent engine change was required.

This accident was assessed as "pilot error" and the pilot received a reproof.

22 FIRST SOLO

On his first solo landing, this pilot allowed the aircraft to swing to starboard immediately after touching down. He applied hard port rudder and brake, but as this action failed to correct the swing, the pilot opened the throttle to full power. The aircraft continued to turn through 360° and damage was caused to the starboard undercarriage and wing.

This accident has been assessed as "pilot error".

We wonder if the pilot was aware that the application of throttle during a swing, in a single engine aircraft, would tend to tighten the swing.

23 PILOT ERRORS

The pilot of this aircraft departed on a VFR flight after receiving a favourable Met forecast. Approximately half-way to his destination, the pilot encountered adverse weather conditions (ceiling 500 feet with visibility ½ to 1 mile in snow) but, believing this to be a local condition, he decided to press on. Shortly after this, he suspected his radio compass to be giving false readings. In order to ensure that he would not come too close to high ground which was to starboard of his track, he altered course 20° to port. This heading was flown for approximately 15 minutes during which time he was unable to obtain a "pinpoint". Having realized that he was lost, the pilot commenced a square search in an attempt to orientate himself. After searching for over an hour without results, he made a forced landing in a field as his fuel supply was almost exhausted.

Result - a "D" category crash.

This accident was assessed as pilot error for the following reasons:

- The pilot obtained Met briefing by telephone rather than visit the Met section personally.
- The pilot failed to navigate his aircraft so as to maintain an accurate fix on his position.
- The pilot, upon encountering weather conditions below VFR minimums, attempted to reach his destination rather than return to his point of departure.
- Although he had been making good his track up to time of encountering the adverse weather conditions, the pilot decided against trusting his compass for the remainder of the trip and altered course to port and subsequently became lost.

We consider that after the pilot had made the decision to carry on, he might still have been successful in reaching his destination had he continued on course and trusted his compass.

This pilot received a reproof.

24 TOO MUCH FLAP

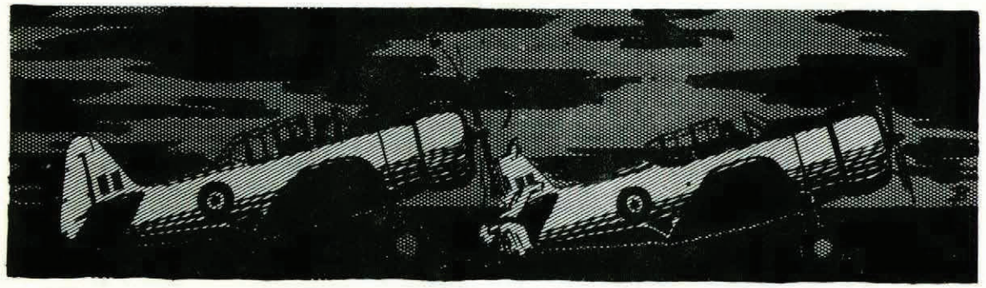
During a landing this aircraft bounced then settled down on the runway satisfactorily. After running a short distance, the starboard wing lifted, caused the port wing to skid on the runway, and damaged the wing tip and aileron.

This accident has been assessed as "pilot error" on the part of the instructor with the following contributing factors:

- Inexperienced instructor.
- Instructor not taking over control soon enough.
- The use of full flap during gusty wind conditions.

25 A DARK NIGHT?

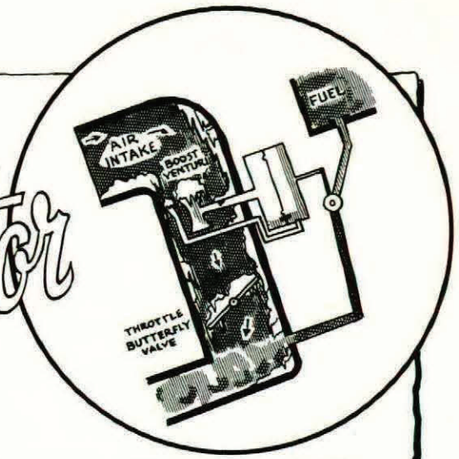
During a night solo exercise this pilot taxied out to the button for take-off and failed to notice that there was another aircraft ahead of him. Upon receiving clearance to "line up and hold", he released his brakes and taxied forward into the tail of the preceding aircraft.



This accident was assessed primarily as "pilot error" with the secondary cause being charged to flying control for not clearing the aircraft in the order that they were lined up for take-off.

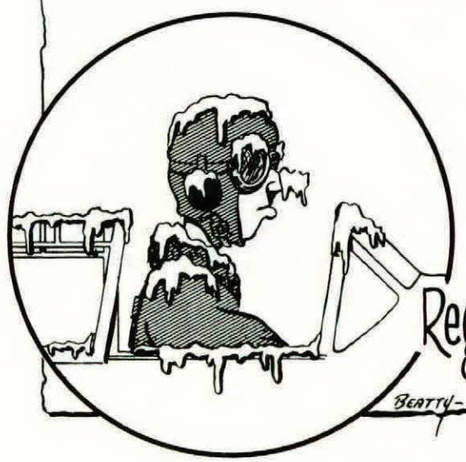
The pilot was awarded an administrative deduction.

Carburetor



ICING

KNOWS NO SEASON!



ICE CAN FORM
with HUMIDITY
60% OR MORE
Regardless of Temperature

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