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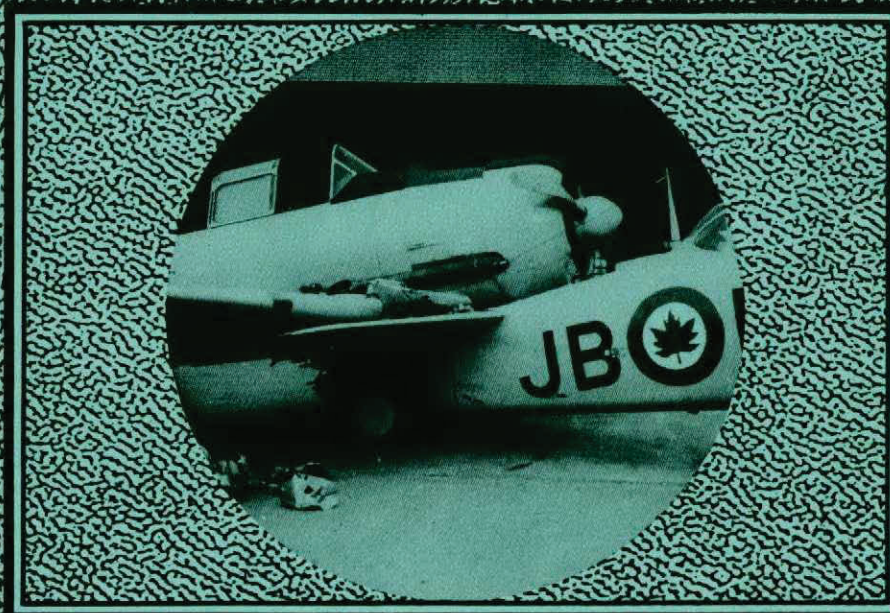
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CRASH COMMENT



APRIL - DECEMBER, 1952



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

FOREWORD

Due to circumstances beyond our control, it was not possible to publish on schedule the second and third 1952 quarterly issues of Crash Comment. It has been necessary, therefore, to select the highlights of the three quarters and publish them in this rather overgrown issue. The importance of the regular and timely appearance of Crash Comment is fully appreciated and accordingly remedial measures to overcome our difficulties are in hand.

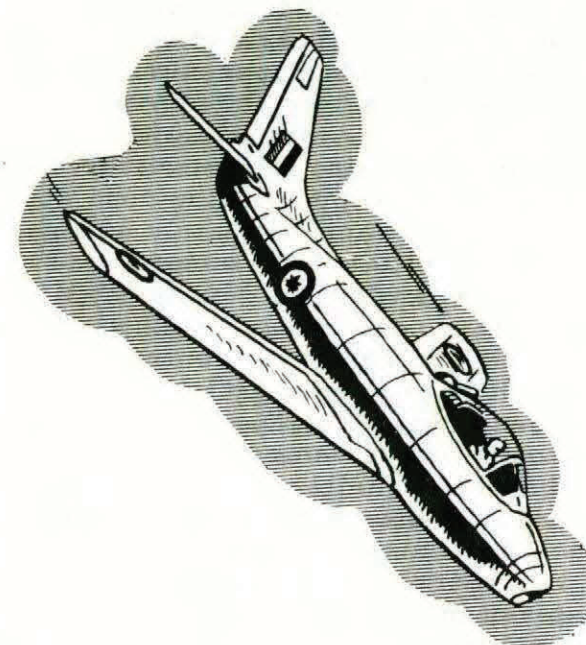


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Editorial

SPIN TRIALS - SABRE AIRCRAFT

As a result of a recent flying accident where a pilot experienced considerable difficulty in attempting to recover from a spin, CE and PE at Rockcliffe were requested to conduct spin trials on Sabre aircraft. From the following report, printed almost in its entirety, one learns that considerable time and effort was spent, both in the air and on the ground, by the test pilot whose job it was to bring back the answers.



The spin trials were carried out for the following configurations:

- (a) Clean, landing gear and flaps retracted.
- (b) Two external tanks fitted and empty, landing gear and flaps retracted.
- (c) Two external tanks fitted and full, landing gear and flaps retracted.

The object was to investigate the spin and spin recovery for undesirable characteristics.

Method of Investigation

All spins were commenced above 30,000 feet and full recovery was attained by 15,000 feet. Spins were attempted from the following conditions of flight:

(i)

- (a) From the straight stall, power off, dive brakes in and out;
- (b) From a climbing turn, power on, dive brakes in and out;
- (c) From a gliding turn, power off, dive brakes in and out;
- (d) From manoeuvring flight under "g" with power on and speed brakes in and out.

Configuration: Clean, Landing Gear and Flaps Up

Straight Stall, Power Off, Dive Brakes In. The aircraft was trimmed at 180K IAS, the power control closed and the airspeed reduced to just above the stall (110K). At this point full rudder was applied in the direction of the intended spin and the control column moved fully back. Approximately 10 pounds pull force was required at this speed to keep the control column fully back. The entry to the spin was very erratic in either direction. Approximately 1000 feet was lost in getting the aircraft into the spin. After the spin developed the aircraft spun with the nose approximately 30° below the horizon, turning at approximately 60°/sec and losing height at the rate of 500-700 feet per 360° turn. There was no tendency for the spin to wind up at any time. Normal spin recovery action of full opposite rudder and control column forward stopped the spin in approximately 1/4 to 1/2 turn. If the control column is moved too far forward, the attitude in the recovery is very steep and excessive loss of height is encountered. At no time did the aircraft fail to respond immediately to control movement. Aileron alone was not effective in recovery and holding aileron with or against the spin aggravated the spin. Normal aileron neutral is recommended for spin recovery.

Straight Stall, Power Off, Dive Brakes Out. The spin was entered in the same manner as with dive brakes in. The entry was very difficult but once the spin developed, it was very similar to the spin described in para 3 with the exception that the rate of spin was only approximately half that of an aircraft with the speed brakes closed. Recovery action was slower but just as effective if the brakes were left out. The recovery can be effected with less than 1000 feet loss of height. If a spin is encountered with the speed brakes out, and the brakes are closed during the spin, the recovery is faster but greater loss of height is encountered.

Climbing Turn, Power On, Dive Brakes In. The aircraft was trimmed at 180K, full power applied and a climbing turn commenced with the airspeed decreasing. The airspeed was allowed to drop to 90K at which time full rudder was applied in the direction of the turn. The aircraft rolled on its back at which time the power control was retarded and the aircraft went through several violent manoeuvres similar to pitching and yawing. After approximately 800-1000 feet

loss in height, the aircraft settled into a normal spin with the nose 30-40° below the horizon. The spin was fairly stable through 8 turns and recovered immediately when normal spin recovery action was taken. The loss in height during recovery was approximately 5000 feet without the use of dive brakes and with dive brakes opened immediately the spin was stopped, recovery within 1000 feet was possible.

Climbing Turn, Power On, Dive Brakes Out. The entry to the spin was the same as described in para 5. The dive brakes appeared to cause the aircraft to pitch violently at approximately 100K but even full rudder in the direction of the turn, the aircraft did not want to spin. It took approximately 70 pounds rudder push to hold the aircraft in the spin. The dive brakes made the rotation speed in the spin considerably less than with the brakes closed. Normal recovery action was effective within 1/2 turn and recovery was attained within 1000 feet. The airspeed built up to 200K with approximately 3 "g" applied. If the dive brakes are closed after the spin commences, the nose drops sharply and the recovery is normal except for the excessive loss in height.

Gliding Turn, Power Off, Dive Brakes In. The aircraft was trimmed at 180K, power off. A gliding turn was commenced with the airspeed reduced to approximately 110K. At this point the aircraft started to pitch violently and with coarse use of rudder and aileron no spin could be achieved. The gliding turn was tried again and at approximately 120K full rudder was applied in the direction of the turn. The aircraft pitched violently and half rolled. When on its back, the aircraft suddenly started a partial spin that required excessive rudder to maintain. The aircraft righted itself and settled into a normal spin with the nose 30-40° below the horizon. Spin recovery action stopped the spin 1/4 - 1/2 turn and the recovery was normal except for the very steep attitude of the aircraft after the spin stopped. Approximately 3000 feet were lost during recovery. On repeating the spin, dive brakes were opened immediately that the spin was stopped, and the recovery completed within 1000 feet. During recovery approximately 2 1/2 "g" was applied and the airspeed never went over 200K.

Gliding Turn, Power Off, Dive Brakes Out. The spin was entered in the same manner as described in para 7. Violent pitching was again encountered with moderate yawing. There was less tendency to roll at the time the rudder was applied and the resultant entry to the spin was less violent. When the aircraft was settled in the spin, the attitude varied from approximately 30° below the horizon to almost vertical. The speed of rotation varied during the pitching oscillation. Normal recovery action was effective in approximately 1/2 turn with a resultant loss in height of approximately 1500 feet with dive brakes out. If the dive brakes are retracted after the spin commences, the resultant loss in height is considerably greater, approximately 3000 feet.

Manoeuvring Flight, Power On, Dive Brakes In. The aircraft was trimmed for 180K and steep turns with approximately 4 "g" commenced. The aircraft was flown well into the stall region with moderate pitching and yawing. At no time did a proper spin develop even with coarse use of rudder and aileron, control column fully back. With rudder forces of approximately 100 pounds and stick force of approximately 40 pounds, the aircraft flicked into an incipient spin but as soon as the control pressures were released, the aircraft recovered in various degrees of a spiral dive. It would take excessive control forces and a great deal of persistence to enter a spin from this configuration.

Manoeuvring Flight, Power On, Dive Brakes Out. The aircraft was flown in the same manner as described in the above paragraph with an increase in yawing motion being the only real difference in the aircraft's behaviour. It was almost impossible to spin the aircraft with the power on. With the proper control closed, the aircraft finally settled into a flat spin and normal recovery action was effective.

Configuration: Clean, Landing Gear and Flaps Up, External Tanks Fitted

External tanks had little effect upon the spinning characteristics of this aircraft. In all tests conducted, the main effect of the tanks either full or empty was to make the spin more erratic than in the clean configuration. The greater the amount of fuel in the tanks, the more noticeable was this effect. At no time was the spin recovery action impaired by having the tanks on. The tanks showed no ill effect from the spinning even though acceleration forces of 1 1/2 to 4 "g" were encountered.

Configuration: Clean, Landing Gear and Flaps Up - With or Without External Tanks

An unusual manoeuvre has been encountered with the F86E on several occasions which could possibly be confused with a spin, particularly by inexperienced pilots. This manoeuvre may be encountered under any of the configurations mentioned in this report usually during flight when "g" is applied.

When for example, the aircraft is being pulled into a steep climbing turn and a high speed stall is encountered, one slat may jam at the outboard edge while the other opens normally. This causes the aircraft to flick out of control into a very erratic spiral dive. This manoeuvre is quite violent. It is most unpleasant for the pilot and should not be attempted intentionally.

The only method of recovery is to increase the speed by closing the dive brakes, keeping the nose down and opening the throttle. This causes the open slat to close and recovery is then normal. It is felt that if the throttle was left shut and the dive brakes were open recovery might be impossible.

Conclusions

Approximately 30 spins with various configurations were attempted. With the exception of a slat sticking during a manoeuvre, at no time did the aircraft show any tendency to spin out of control. Normal spin recovery action of full opposite rudder, ailerons neutral and control column forward was effective in every case. Dive brakes had no effect on the spinning characteristics other than to slow down the rate of rotation. Dive brakes were extremely effective in spin recovery with a minimum loss in height. Spinning with external tanks fitted, either full or empty, had no adverse effect. The pattern of rotation became erratic with tanks fitted and full, but normal recovery action was effective.

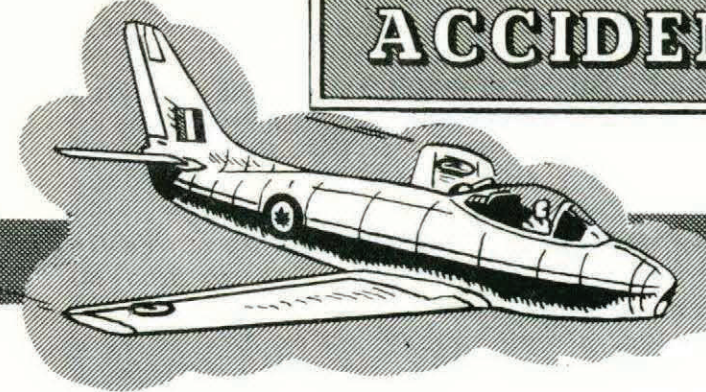
Recommendations

The following recommendations are made with regards to spinning the F86E aircraft:

- (a) Immediately a spin develops, retract landing gear and wing flaps, if extended, and close power control if power on.
- (b) Apply full opposite rudder and move control column slowly forward until spin stops. Maintain ailerons neutral until the spin stops, at which time they may be used to keep the aircraft level during recovery. Do not push the control column fully forward as this is not necessary and will only result in an excessively steep recovery attitude, possibly beyond the vertical.
- (c) Immediately the spin stops, ease out of the ensuing dive. Use aileron as necessary to keep the wing level during recovery. Caution must be exercised to ensure that a spiral dive does not develop during recovery as excessive loss in height will result in this manoeuvre.
- (d) Although dive brakes help considerably in reducing the loss in height during recovery, there is a danger that their misuse coupled with excessive "g" in the recovery may cause a new spin or flick to develop during recovery. Therefore, the use of dive brakes during recovery is not recommended.

- (e) No attempt should be made to jettison external fuel tanks unless one tank breaks loose or the aircraft definitely will not recover by the means described in sub-para (a) - (d) above. If tanks are jettisoned, normal spin recovery should be immediately effective.
- (f) If a spin is encountered below 8000 feet, immediate action to abandon the aircraft by means of the ejector seat should be contemplated if recovery action is not instantly effective.

ACCIDENT RESUME



SABRE

NO. 1 -- ANOXIA ?

Shortly after reaching altitude for a formation cross-country flight, it was noticed that this aircraft began to fly erratically, lag behind, then disappear. The pilot was killed instantly when the aircraft crashed into a hillside. Although the cause of the accident cannot be definitely established, the evidence of erratic flight at an altitude of 42,000 feet, substantiated by evidence of recovery attempts being made when close and in full view of the ground, strongly indicate that anoxia was the cause. A secondary assessment of "Maintenance" was coded when it was found that the oxygen regulator fitted had exceeded its normal life period.

NO. 2 -- ANOTHER UNDERSHOOT! !

While practising simulated forced landings on the airfield the pilot made his final approach "too low and slow". Contrary to all rules and regulations and the station procedures laid down for simulated forced landings which were given to him to read before the flight, the pilot decreased his power to idling, let his airspeed fall to 120K, and his height decrease to 200 feet before applying power. The pilot advanced throttle to full but it seems there was an "A" category crash impact before there was any thrust response. The engine was ground tested after removal from the aircraft and found serviceable. The cause of this accident - "Pilot Error".

NO. 3 -- A FATAL DECISION

Four jet pilots were authorized to do a low level cross-country exercise in the area of the rough terrain of central Quebec. They were ordered to fly not lower than 250 feet above all obstacles and they were to return to base if the weather was not suitable for the completion of the exercise. Three of the four pilots returned to base when they encountered adverse weather but notwithstanding their reports to base of duff weather, the pilot, with the blessings of his flight commander, took off and never returned. The weather encountered en route, according to pilot reports, placed the cloud base

at 300 - 400 feet above ground level. Forward visibility was less than one mile in snow showers. The pilot "pressed on" into deteriorating weather with low visibility and from this point no one knows.

The subsequent SAR operation consumed 15 days, employing station facilities and manpower, 352 hours flying and covered an area of 26,635 nautical square miles.

Rather Expensive Pride !!

NO. 4 -- USE OF RUNWAY



On take-off the number two pilot in a two-plane formation attempted to lift his aircraft off the runway when the leader did, but he was unable to do so. The pilot throttled back and applied full brake but he was unable to stop the aircraft before it ran off the end of the runway into the mud. The nose wheel collapsed resulting in extensive damage to the nose of the aircraft. Subsequent examination revealed all aircraft controls and systems to be fully serviceable. Through the erroneous decision of the section leader to take-off from

the intersection, the pilot was denied the use of the first 2,000 feet of an 8,000 foot runway. This accident has been assessed our old familiar enemy "Pilot Error". The pilot aborted his take-off 1,600 feet before the end of the runway after a take-off run of only 4,400 feet during nil wind conditions. (The pilot used less flap than the leader, therefore, necessitating a longer take-off run). A mitigating factor in the cause of this accident was revealed in the ensuing board of inquiry. The pilot had not flown a Sabre aircraft for approximately six weeks. The section leader, however, exercised poor judgement, particularly under the existing circumstances, when he failed to make full use of the runway available.

NO. 5 -- INEXCUSABLE

This pilot was detailed to act as number four in a four-plane formation exercise. The squadron's aircraft were parked wing-to-wing in two lines. After starting, the pilot taxied straight ahead to follow his leader. Alas, his flight was cut short by the crunching impact of his starboard wing with an energizer. The wing was damaged inboard of the drop tank and the starboard drop tank was damaged. The energizer was severely damaged. This taxi accident as always, was the result of gross negligence. The energizer was well in front of the aircraft and being painted bright yellow was easily visible. The repeated warnings and instructions regarding adequate lookout both on the ground and in the air are not issued without purpose. From basic flying training to the end of his flying career every pilot is aware of the need to maintain a constant look-around. Taxi accidents lead only to trouble -- why not evade it by such a simple remedy as turning your head with your eyes open?

A Word to the Wise: Use Both Your Eyes.

NO. 6 -- VISUAL SIGNALS ARE N.B.

Improper understanding and misunderstood signals between the pilot and groundcrew can easily be disastrous. Thorough briefings of signals and procedures to all persons concerned, will save aircraft, man-hours, money and tempers.

This pilot gave the signal to remove the energizer leads but he failed to check for the acknowledgement signal from the groundcrew. He also failed to check visually that the energizer leads were removed before he began taxiing. As the aircraft taxied out, the energizer leads came under such tension they could not be unplugged. The energizer was towed by the aircraft until the groundcrew succeeded in signalling the pilot to stop. When the aircraft stopped the energizer smashed into the starboard aileron and flap, damaging both. This accident could have been prevented by the use of chocks and by the pilot ensuring his aircraft was clear of all ground attachments before taxiing.

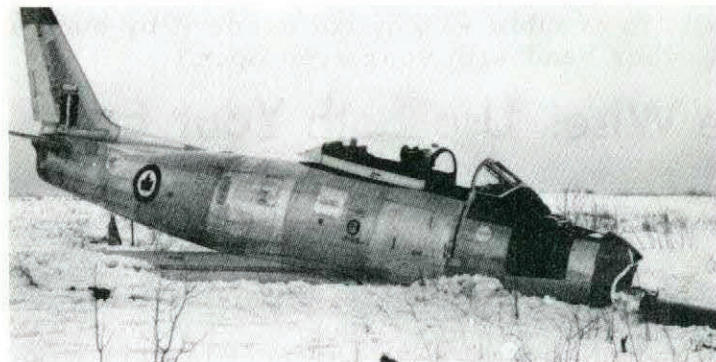
NO. 7 -- VISUAL CHECKS ARE BETTER THAN FEELING

This pilot was being bothered by the radar target lock-on light flashing on and off. He reached down and knocked the gun safety switch to the "off" position with the back of his hand. Shortly after his number two informed him he had lost his port drop tank. The pilot checked his armament panel switches and found the Bomb Release Selector Switch in the "Manual Release" position and the Bomb Single-All Selector Switch in the "Single" position. Soon after making his unchecked "off" selection on the gun safety switch this pilot

must have depressed the bomb-rocket release button on the control stick, thereby releasing the port drop tank. Had he inadvertently pressed the release button again, the starboard drop tank would also have floated down to destruction. The port drop tank was retrieved after its release and there was no evidence of mechanical failure. This accident was assessed the much over-worked "Pilot Error". The pilot was awarded a reproof for his carelessness.

A visual check after a manual selection takes only a second from a pilot's look-around.

NO. 8 -- BRAKES



During the take-off run, the pilot attempted to ease the control column back at an airspeed of 110 knots and found that it was necessary to apply pressure with both hands. As the aircraft had, at this time, used up most of the runway, it became apparent that he would not get airborne in time. The pilot cut the throttle and applied full brake.

The Sabre ran off the end of the runway into the overshoot area and was damaged considerably.

The accident was assessed as "Pilot Error" because during the take-off run, the pilot had inadvertently maintained partial brake, thus giving the impression that he was experiencing a loss of power.

NO. 9 -- WATCH THAT JET WASH

During a formation landing the pilot struck the "jet wash" of the preceding aircraft causing the starboard wing to drop and strike the tops of trees on the aerodrome boundary. Full power was applied immediately and a successful landing was carried out.

The accident has been assessed as "Pilot Error" as the pilot had approached too close behind the preceding aircraft.

This accident could have been serious!

Keep Clear of Jet Wash During Landings

NO. 10 -- FINGER!

On landing, the pilot neglected to lower flap and, as a result, the aircraft touched 3,000 feet down the runway from the button. In an effort to avoid an aircraft ahead, the pilot swung the aircraft off the runway. Severe damage resulted to the undercarriage and mainplanes.

Assessment of Cause -

Pilot Error - Poor pre-landing cockpit check.
The pilot was awarded a "reproof" by his CO.

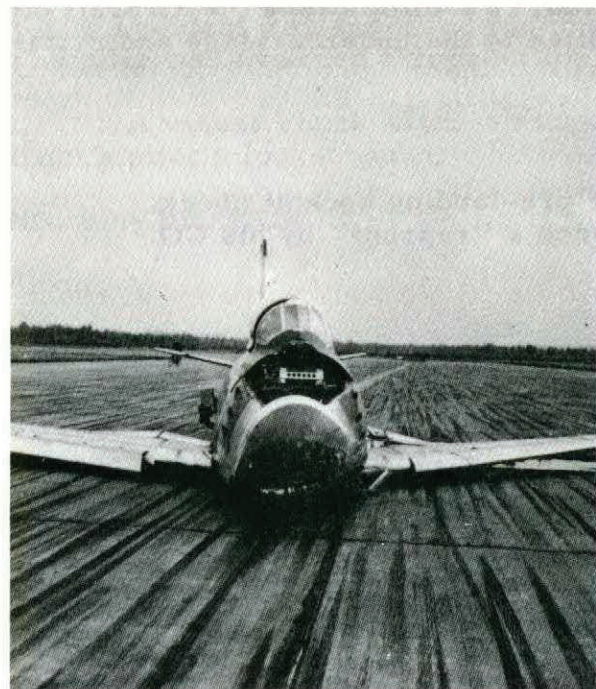
NO.11 -- NOT ALL ACCIDENTS ARE "PILOT ERROR"



This negligence on the part of a maintenance section could have caused a fatal accident with accompanying loss of an aircraft. A Sabre had been released after a P50 inspection and certified as serviceable. On the engine run up all gauges indicated proper functioning. On take-off, just after the nosewheel was lifted, the pilot felt severe vibrating in the aircraft accompanied by a loss of power. He closed the throttle and braked the aircraft to a stop on the runway. On inspection of the aircraft the tailpipe was protruding about two feet from the rear of the aircraft and badly buckled. Technical investigation revealed the tailpipe had not been properly installed nor fastened. Furthermore, the clamp bolts were not safety lock-wired permitting the tailpipe

to slip back out of place. Heavy maintenance work loads, shortage of supervisory personnel, and inexperienced technicians are all mitigating factors in such accidents but nevertheless such cases of laxity and negligence are inexcusable.

NO. 12 -- ANOTHER JET WASH CRASH



The number four of a four-plane section suffered a much too familiar landing accident. On the return to base after a formation exercise, a normal fighter break was made. The first three aircraft carried out successful landings but on the final approach number four was seen to lose considerable height plus falling way behind. Approximately 300 feet from the end of the runway the aircraft stalled when it hit number three's jet wash. The pilot applied corrective action with full throttle but it was far too late. The starboard wheel and drop tank struck an eight foot mound of earth and were torn off. The aircraft slid onto the runway shedding appendages and sections like a dog shakes off water. The aircraft was totally destroyed as a result of

the "A" category crash. Two construction men, who were working on the drainage ditch by the mound of earth, were injured. Despite Pilots Operating Instructions for the F86E, station Pilots Orders, and repeated warnings and instructions regarding low, slow jet approaches, the pilot failed to maintain sufficient power for overshoot, struck his leader's jet wash at low air speed and stalled in wiping out an expensive aircraft.

NO. 13 -- NIL PANICA

The leader of a section of two Sabres detailed for cine-camera exercise forgot the continual fight between time and fuel consumption. He permitted his section to become short of fuel by flying too far from base during the exercise. He received emergency homings to base but on arrival over base panic took control. He attempted a straight-in approach but had too much speed on descent from height. He pulled a tight low circuit reading 150 lbs fuel. Undercarriage and flaps were completely forgotten. The pilot noted his red "unsafe" light, noted the control tower's red flares, (he forgot to change from "D" channel to "B" channel so did not contact tower for landing instructions nor hear tower's orders to overshoot) yet he landed on the runway wheels-up believing he had insufficient fuel for an overshoot. For these series of blunders, this pilot received a reproof and was CT'd from his course.

NO. 14 -- TROUBLES?

A four-plane section was practising battle formation at 30,000 feet when the number three man noticed his generator warning light come "on" and the voltage drop. His remedial action failed to rectify the trouble so he decided to make an immediate landing. His radio then became weak and finally, unserviceable. Loss of power was apparent during his descent to land and attempts to re-light were unsuccessful. When complete failure of the electrical system and freezing of the controls occurred while still above cloud, the pilot ejected from the aircraft. He parachuted successfully and was rescued from the sea, where he had landed, by a S&R aircraft.

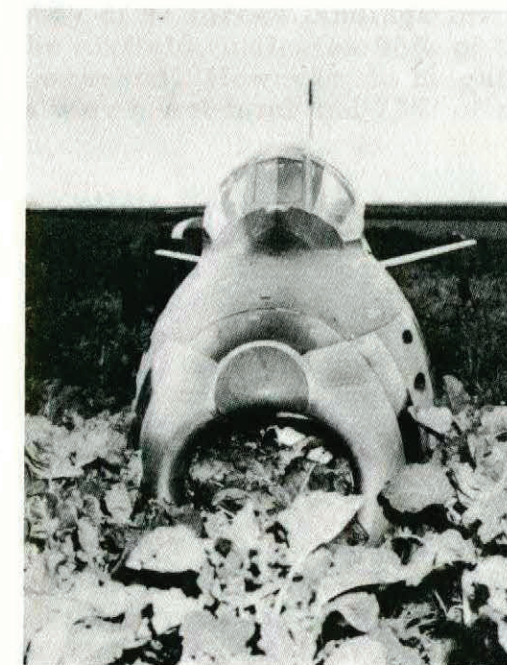
The engine was recovered at low tide but was so badly damaged that it was not possible to determine the reason for the flame-out

The cause of the accident, therefore, is "Obscure".

NO. 15 -- CAN YOU BEET IT?

This Sabre pilot was flying number two in a four aircraft section on a ferry operation. It was noticed en route that the engine had no oil pressure and the rpm read 0. The leader of the section diverted to an aerodrome. The engine power decreased progressively to a complete flame-out over the field. The findings of the court of inquiry can best describe the pilot's subsequent actions.

"This aircraft arrived over the field with sufficient height to enable a wheels-down forced landing on the aerodrome with complete safety to the pilot and airframe. The pilot dived at the aerodrome in excess of 200 knots. The aircraft first made contact with the runway 1,000 feet from the approach end by forcing the aircraft on the runway. The drop tanks were torn off at this point. Due to excessive airspeed the aircraft again became airborne, covered the remaining runway distance, and passed through two hedge rows before settling into a beet field one-half a mile from the runway's end".



The aircraft was an "A" category crash and there were heavy casualties among the beets.

Emergency Procedures are VITAL, Know Them!

IS YOU IS OR IS YOU AIN'T?

by

F/L I. Doodit

What goes up must come down. Are you prepared? Out of Control! Flame-Out! It can happen to you. To remain a walking and talking statistic, you must be capable of making some very important decisions fast.

Situations where aircraft get out of control can be many and varied. It would be most difficult to anticipate and discuss this problem in detail. Your best bet is to remember your stall and spin procedures etc., and apply the appropriate one. Just remember this though, 10,000 feet is the decision height, if you aren't happy, Bail Out!

Let's discuss forced landings resulting from power failure. The RCAF has had four Sabre forced landings away from an aerodrome. In all cases the aircraft suffered major damage, and in one case the pilot was killed. A USAF study of 97 forced landings involving jet fighters which didn't make the airfield, indicates 98% of the aircraft were substantially or totally wrecked. However, to brighten the picture 95% of the above crashes were not fatal and 75% of the pilots were not seriously injured.

The fact that practically all the pilots lived through landings that resulted in wrecked aircraft, can be attributed to the highly stressed cockpits of modern fighters combined with proper use of shoulder harness and protective helmets.

In this discussion of forced landings, let's assume that you are proficient in air starting procedures and, having no luck, you are faced with the decision of whether to bail out or attempt a dead-stick landing.

When the emergency occurs, head for the nearest airfield and set up the best glide angle as indicated in your Pilot's Notes. Jet aircraft will glide a long way. With no external load, the Sabre gliding at 185Kts indicated will go 100 statute miles from 40,000 feet. This gives you plenty of time (25 minutes) to attempt air starts and make necessary plans.

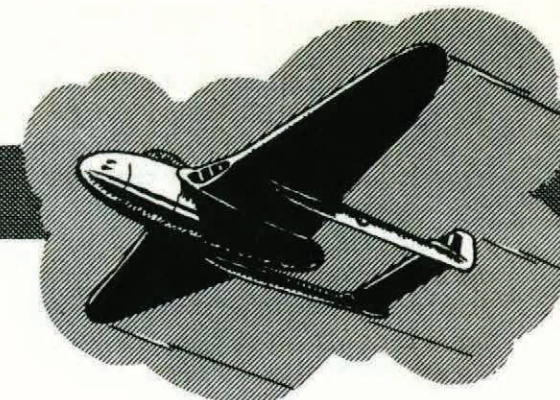
At 10,000 feet decide whether you are going to bail out or attempt a landing. Statistics show that aircraft landed away from airfields, in nearly all cases suffered major damage. Therefore, while the majority of pilots lived to tell the tale, most of the aircraft were lost. Pilots have found that fields which look good at altitudes, sud-

denly become full of rocks and ditches when they are ready to land. These obstacles can usually only be remedied by a BULL DOZER, a job for which the Sabre is not yet stressed. Therefore, if no airfield is available within your gliding distance, head for the friendliest looking terrain and at 10,000 feet if it doesn't look good, Bid Your Aircraft Adieu.

In the event an airfield is available, plan to arrive over it with maximum altitude possible and set up a pattern. Approaches are most important in order to stay in one piece. According to statistics rectangular patterns are best. Only experts and a few lucky ones land out of 360° overhead patterns. The biggest killer in forced landings is excessive airspeed. In spite of rumors, the Sabre will stall at the same airspeed with or without hydraulic pressure. Also it is not necessary to add bags of knots for fuel load. Five knots per 100 gallons is sufficient. With the low internal fuel capacity this should never be over 10 to 15 knots (naturally you should have salvaged external stores in the beginning). Set up downwind and base legs, being sure they are close enough to make the airfield from any point in the rectangular pattern. "S"ing and slipping should be used to take care of overshooting. Try your dive brakes to lose any additional airspeed and altitude necessary. They will normally have enough pressure to open, also landing flaps should be used as required. Open your canopy and lock your shoulder harness in the pattern in case the runway moves just before touchdown. If you are proficient in your planning, your biggest worry is a ride back to operations.

Remember in most cases the difference between panic and normal routine is a thorough and current knowledge of operating methods and procedures. The best safety device in the world is located just above and between your ears. To keep healthy learn now, and don't forget it.

VAMPIRE



NO. 16 -- HIGH-SPEED STALL

The pilot started a run onto the target during air-to-ground firing and on his final dive-in approach, made a turn to port then immediately rolled to starboard. After the roll, the aircraft flattened out momentarily then commenced another roll to starboard, at which time it struck the ground and was completely destroyed. The pilot was killed instantly.

The board of inquiry assessed the cause of the accident as follows:

"A high speed stall as a result of application of high stick forces in a turn".

NO. 17 -- CHECK THOSE BRAKES

A squadron was proceeding on an air firing exercise. The aircraft were parked wing to wing on the line. Number four pilot in the formation made his start, completed his cockpit and tarmac checks and taxied out straight ahead. After clearing the parked aircraft in the line he turned left to taxi to the take-off position. The pilot then applied starboard brake to straighten out the aircraft. The starboard brake failed. The aircraft swung further to the left into another parked Vampire on the line. Both aircraft received "C" category damage. The primary cause of this taxi accident was "Maintenance Error" because a new elbow on the starboard brake system had been installed without the inhibitor grease being removed. This shut off the air pressure to the starboard brake. The secondary cause of the accident has been assessed as "Pilot Error" for two reasons. Firstly, the pilot accepted the aircraft as serviceable for flight when the L.14 showed the work had not been inspected or certified by the N.C.O. in charge, and secondly, the pilot's misuse of his brakes. The pilot should have checked both brakes immediately after rolling forward from his parked position. He would then have discovered the unserviceable starboard brake and thereby eliminated this costly and needless accident.

NO. 18 -- FOOD FOR THOUGHT

During a cross-country training flight both drop tanks fell off the aircraft. A wing change was required as the leading edges of both wings were damaged when the drop tanks tore loose. Very little "g" was imposed on the aircraft during this flight. The accident was assessed as "Pilot Error" against the pilot or pilots who during previous flights subjected this aircraft to "g" forces in excess of the maximum permissible. For your own SAFETY plus the SAFETY of pilots flying the aircraft after you report all cases of overstressing the aircraft in the L.14. "G" limitations are placed on aircraft for a very definite reason -- to guarantee you a FUTURE. Ensure this future by not tempting structural failure by pulling excessive "g".

NO. 19 -- POST-LANDING CHECK

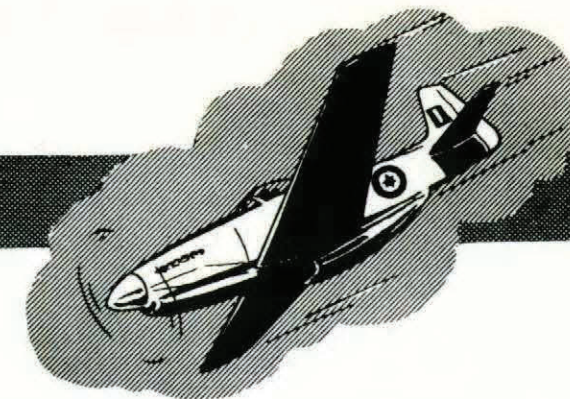
After a normal landing, and while still rolling, the pilot attempted to raise the flaps. He inadvertently moved the undercarriage lever with the result that the nosewheel collapsed.

"D" category damage was caused to the aircraft.

For his disregard of Command and Squadron Pilot Orders, the pilot was awarded a reproof and severely censored.

Cockpit checks and flight checks are not just the product of someone's dreams; they are valid proven practices which spell safety and a happy life for those who study and use them.

MUSTANG



NO. 20 -- TARGET FIXATION?

While undergoing summer training with his squadron, the pilot was carrying out an HE dive-bombing exercise. The aircraft was seen to enter the attacking dive from an altitude of approximately 7,500 feet. The two HE bombs were released at or above the safety release height of 1,500 feet and exploded on impact. However, the pilot failed to institute recovery action and the aircraft continued its dive to a point approximately 400 feet above the surface of a lake. As it levelled out, a wing failed and the aircraft which was rolling to port, crashed into the lake. The pilot was killed instantly.

NO. 21 -- OBSCURE



The pilot was taking off on an air test and had just become airborne when he felt that he was not getting enough power. He glanced at the manifold pressure gauge and noticed that the pressure had dropped off to 35 inches. The pilot cut the throttle and attempted to land straight ahead but harsh application of brake caused the aircraft to swing and leave the runway.

The port undercarriage collapsed and the wing tip dug in, causing a groundloop and subsequent damage to the propeller and fuselage.

The primary cause of this accident has been assessed as "Obscure" as a test run and strip inspection of the engine failed to reveal any reason for the loss of power.

The secondary cause was "Pilot Error" in that the pilot took off on a short runway (approximately 3,000 feet) when there was a longer runway (approximately 6,000 feet) available. We feel that the pilot should have used the long runway for take-off on an air test in order to allow himself sufficient room to get back on the ground in the event of engine failure. The wind at time of take-off was between the two runways in question and only 5 mph.

NO. 22 -- NO OIL

The Mustang was airborne on a test flight after installation of a new engine. The pilot observed that the engine was running slightly rough at full power settings and also detected an odour of burning paint. After flying for approximately 30 minutes the pilot returned to base where the engine failed as he approached to land. The pilot managed to reach the runway, however, and the landing was successful.

Upon examination, it was discovered that the super-charger's main bearings had failed because of oil starvation.

The fuel injection nozzle was not with the engine when it was received at the contractors for an engine strip but a gasket was found at this location on the super-charger elbow. There was evidence that masking tape had been between the gasket and the oil feed to the super-charger. (Masking tape is used to blank off the oil feed hose in the discharge nozzle when this part is being prepared for shipping by the contractors).

The cause of the oil starvation cannot be definitely established but instances have occurred where personnel have not removed the masking tape from the discharge nozzle before fitting it to the engine.

NO. 23 -- IT PAYS TO KNOW

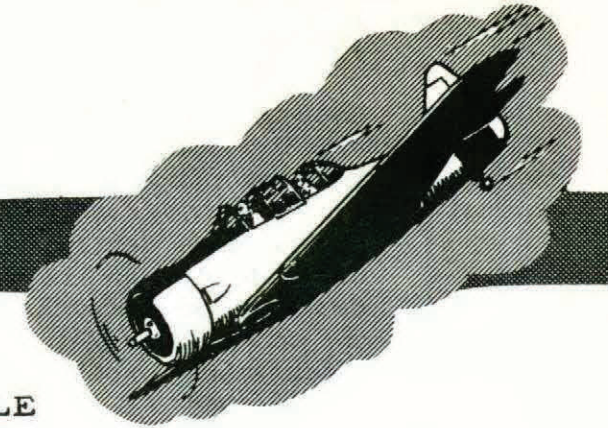


45 minutes after take-off, the pilot decided to practise forced landings. At a height of 1300 feet above the ground, he advanced the throttle to clear the engine, only to discover that no power was available. A quick cockpit check revealed no fuel pressure so he changed his tank selection. The engine did not respond so a crash landing was made in a farmer's field.

The inquiry into this accident revealed that the engine failed through fuel starvation.

Had this pilot managed his fuel system in accordance with EO 05-55C-1, Part 2, Para 4, undoubtedly his AOC would not have awarded him a "reprimand" for causing this accident.

HARVARD



NO. 24 -- THIS IS UNBELIEVABLE



The student pilot was carrying out a solo day cross-country exercise. On return to his airfield by ADF homing, the engine failed one mile from the field at a height of 5,700 feet. From this point on, the student seems to have suffered from mental blackout because he did practically everything wrong. He made no thorough checks, he misjudged his glide approach, he selected undercarriage down for flaps and made his exit from the scene leaving the aircraft in the depicted ignominious position.

The review of this pilot's errors can best be described by quoting the CFI's analysis.

"The consistency with which the student did almost everything wrong is amazing.

- (a) Failed to check fuel warning light on tarmac. This light incidentally was on "Dim" for day flying!!! and consequently did not show the lack of fuel pressure.
- (b) Knew he had insufficient fuel in his starboard tank at his second turning point to complete the trip, but did not change tanks.
- (c) Did not carry out a proper GMS check when engine failed.
- (d) Did not carry out a forced landing check while descending.

- (e) Did not plan his descent while he still had sufficient altitude to reach any runway on the field.
- (f) Showed poor judgement of his glide approach by undershooting considerably when he actually had sufficient altitude to make the runway.
- (g) Erred in his decision to select flaps down when obviously undershooting and in his haste inadvertently selected undercarriage down. Luckily he had insufficient height for the undercarriage to lock-down or a more serious accident would probably have resulted.
- (h) Failed to put his pitch lever in full course when undershooting which would have effectively increased his glide".

NEGLIGENCE IS AN EXCELLENT EXAMPLE OF HOW MONEY, MAN-HOURS, AND EQUIPMENT CAN BE DIVERTED INTO WASTE

NO. 25 -- TOO LOW !!

The instructor had warned his student repeatedly that he was approaching to land too low. However, the inevitable happened - the port mainplane struck a fence four feet in height which was 230 feet short of the runway.

The instructor took control, went around again and completed a landing.

It is felt that the instructor erred in not taking over when he first observed that the student was approaching too low.

NO. 26 -- MUCH TOO LOW !!!

While practising low flying, this aircraft was allowed to go below the minimum altitude stated in Pilots Orders. The starboard wing struck a tree during a turn to starboard, necessitating a starboard wing change. This disobedience of flying regulations resulted in both student and instructor being reprovved by their C.O.

NO. 27 -- YOU HAVE CONTROL

The second pilot relinquished control of the aircraft on a low-level navigation flight without acknowledgement from the captain who was map reading. The aircraft was allowed to descend and strike the top of a tree with the starboard wing before power was applied by the captain and a climb was finally effected. A landing was made safely at base where damage to the leading edge was discovered.

CAP 100, Section 13, Para 165(3) outlines the procedure to be used for handing over control.

"A pilot wishing to hand over control of an aircraft to a second pilot is to indicate this by saying "you have control". The second pilot when he has full control is to report "I have control". Then, and only then, is the first pilot to relinquish control of the aircraft."

Both pilots were reprovved by their CO for their carelessness.

NO. 28 -- NEVER NEVER NEVER

This student, on completion of a solo sequence practice, was notified by the tower of a strong gusty crosswind condition. Despite all instruction to the contrary, he still elected to land using FULL FLAP. The familiar swing developed after a gust of wind raised the starboard wing, resulting in the port wing striking the runway. The student's second glaring error was his failure to stop the swing by use of brake. The application of rudder alone to correct a Harvard swing has little or no effect, depending on the aircraft's speed, but used in conjunction with brake, will result in CFI's retaining their hair and eliminating ulcers.

NO. 29 -- CAGED EYE-BALLS

This pilot decided it was much faster to taxi across the parking area rather than remain on the taxi strip. The inevitable result occurred. Improper lookout + impatient speed = destructive contact between propeller and fire extinguisher. Plain, ordinary common sense tells a pilot to beware taxiing across any parking area because of chocks, fire extinguishers, maintenance stands, etc.

NO. 30 -- FAULTY COCKPIT CHECK

On the approach to land, the engine stopped because of lack of fuel. A forced landing was carried out short of the runway.

Investigation, shortly after the accident, revealed that the left tank contained 12 gallons of fuel and that the student pilot had forgotten to switch to the reserve supply.

The \$50.00 fine imposed on him will undoubtedly ensure that he does a thorough pre-landing check in future.



The post night-landing check had been completed by the student so the instructor decided to taxi the aircraft and at the same time brief his pupil on the faulty landing which had just been completed. He stated that at no time did he see another aircraft ahead of him while taxiing. However, on preparing to turn at the intersection of two runways, his aircraft ran into another which was holding with unserviceable identification lights.

The amount of damage caused to both aircraft can be judged by reference to the above picture.

- Cause: 1. Carelessness - insufficient lookout.
2. Diverted attention of instructor and student by carrying out briefing while taxiing.

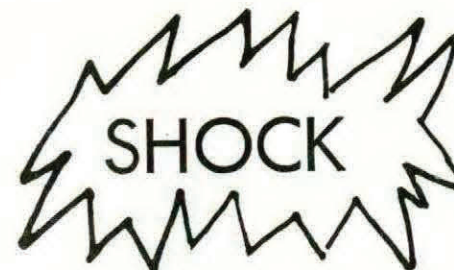
Although this accident has been charged against the pilot of the aircraft which did the damage, it is considered that the pilot of the rammed aircraft should have notified the tower of his identification light unserviceabilities.

NO. 32 -- FATAL LOW FLYING

The pilot was practising either forced landings or precautionary landings and lost control of his aircraft while doing evasive action to avoid a group of tall trees. The aircraft stalled, flicked to the right and the nose dropped in a steep diving attitude. The pilot was unable to pull out of the dive before striking the ground.

The pilot was killed and the aircraft was completely destroyed.

After a normal three point landing the "Yellow Peril" developed a swing to starboard. Left rudder was applied, to no avail; then more rudder and finally brake, but the swing was so far developed by this time it completed its orbit to starboard with the undercarriage damaged, port wing aileron and wing tip damaged. Cause of this accident - IMPROPER CORRECTIVE ACTION. Not until full left rudder was applied was any brake used. It is impossible to use brake effectively when full rudder is on. Brake is a quick positive check on a swing after landing. Rather than elaborate in this issue you are referred to "Crash Comment" First Quarter 1952 for a full discussion of the "The Prevention of Harvard Landing Accidents".



STATISTICS

There were 28 similar Harvard landing swing accidents in the RCAF during the last quarter of 1952.

NO. 34 -- CHECKS :

While carrying out night circuits and landings, the pilot failed to complete his downwind cockpit check by leaving the undercarriage in the "up" position. On throttling back for a landing, the pilot heard the undercarriage warning horn and attempted to overshoot but was unable to prevent the aircraft from landing "wheels-up" on the runway.

This accident has been assessed as "Pilot Error" for the following reasons:

- (a) Pilot failed to lower undercarriage.
- (b) Pilot failed to carry out the "downwind" check.
- (c) Pilot failed to carry out "landing" check of undercarriage.

NO. 35 -- WHEELS-UP

A student pilot, having limited night flying experience, became alarmed at the length of the exhaust flames coming from the engine. As he suspected engine trouble, the pilot contacted the control tower and received permission to carry out an emergency landing. Being more concerned with the exhaust flames than with his cockpit check he neglected to lower the undercarriage. When rounding out for a landing the pilot suddenly remembered this omission, opened the throttle and selected undercarriage down, but not in time to prevent the aircraft from landing on its belly.

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

NO. 36 -- WAS IT WORTH IT?

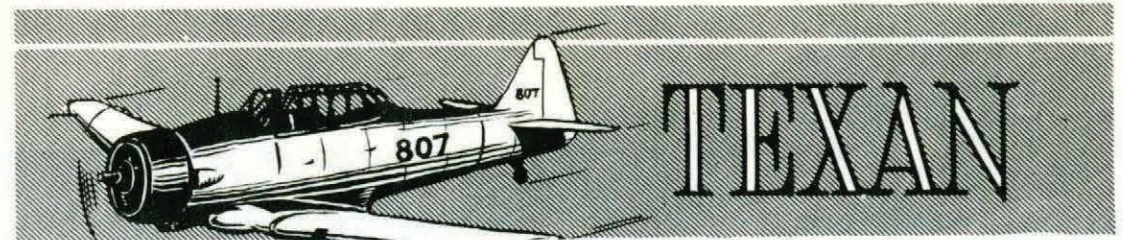
While presumably carrying out a navigation exercise at 4,000 feet, the pilot flew so close to the ground that he struck a high-tension power line. The propeller and port wing were damaged. This pilot was awarded a severe reprimand and was fined \$75.00.

NO. 37 -- HIGH-SPEED SPIRAL DIVE



This training flight, involving dual instruction on instrument flying, ended in the tragic death of both instructor and student. The training exercise included instrument recovery from unusual positions. Eye witnesses saw the aircraft descending in a high speed spiral dive, striking the ground, and completely disintegrating. This accident has been assessed "Pilot Error" because the instructor failed to take control of the aircraft from the student in time to fully recover from the manoeuvre. Every emphasis must be placed on the importance of recovering from unusual positions at a safe altitude while flying on instruments.

IF YOU LIKE TO FLY -- LIVE TO FLY
THROUGH FLYING SAFELY



NO. 38 -- POOR RECOVERY TECHNIQUE



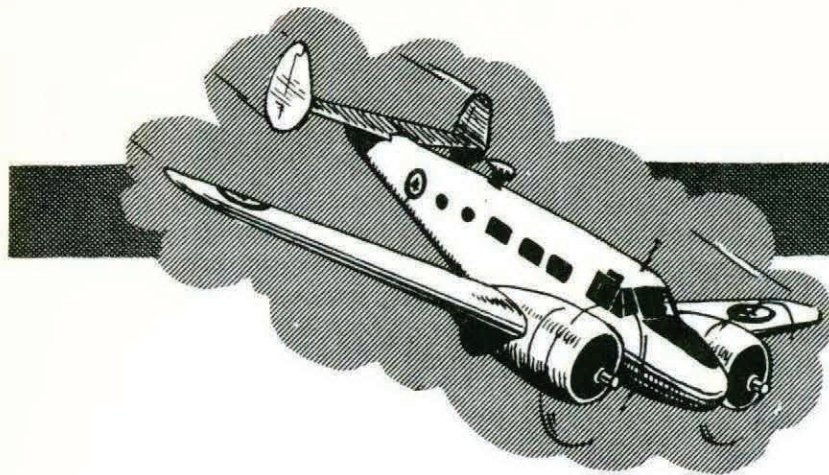
Witnesses first sighted the aircraft in a spin which continued until the pilot effected a recovery at approximately 400 feet above the ground. At this point, it was seen to assume a nose-up attitude and commenced a steep banked turn to port. During this turn, the nose dropped suddenly and the aircraft dove to the ground at an angle of 80 degrees. The aircraft was almost completely destroyed by impact and the ensuing fire. The pilot, who had been authorized to carry out an exercise consisting of climbing turns, stalls and spins, was killed instantly.

The direct cause of the accident is considered to be loss of control through over-controlling, after recovery from a spin at low altitude.

NO. 39 -- LUCKY BOYS

Two students were authorized to carry out a mutual instrument practice flight which included recovery from unusual positions under the hood. In the course of recovery from an unusual position, the pupil at the control apparently exceeded the "g" limitations. This action caused a buckling of the mainplane. Particularly poor judgement was displayed by both pilots for commencing to do aerobatic manoeuvres after discovering that the mainplanes had been wrinkled. On return to base the aircraft was landed without further incident.

The accident is attributed to poor judgement on the part of the safety pilot in permitting the pilot under the hood to take unnecessarily violent recovery action from an unusual position.



EXPEDITOR

NO. 40 -- DOUBLE TROUBLE

This pilot attempted to clear the runway after landing but he had difficulty turning the aircraft. This resulted in the aircraft running off the runway. The pilot was amazed on checking to find the tailwheel still "locked". The tailwheel was then unlocked and the aircraft taxied back onto the runway - over a large spruce runway marker. Despite damage to the port flap and port propeller blade the pilot was not aware he had clipped the runway marker until so informed by another aircraft on the runway. Someone must be manufacturing opaque sun-glasses these days.

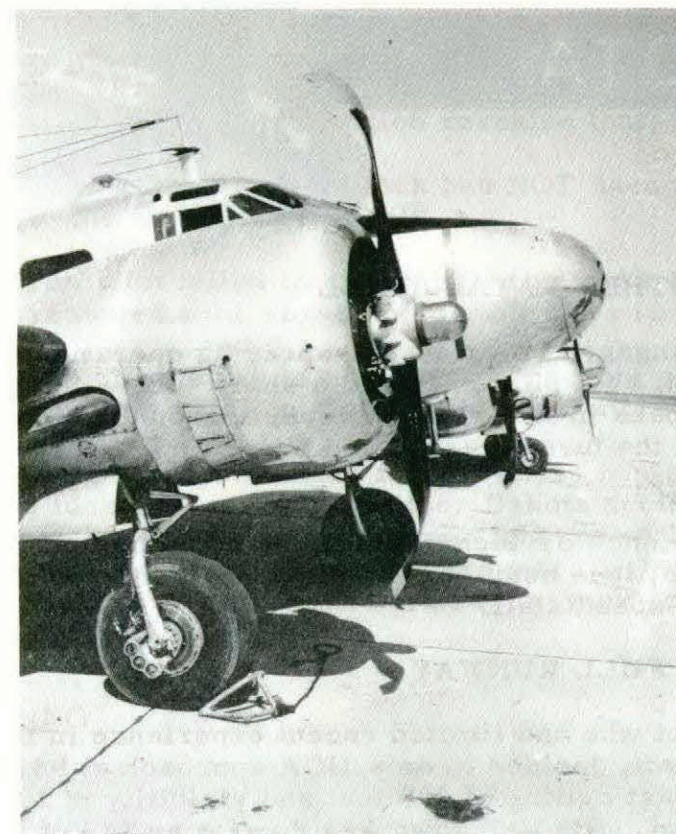
NO. 41 -- DANGER - GLASSY WATER

A low level cross-country exercise was being carried out when the pilot misjudged his height over a large lake and inadvertently allowed his aircraft to strike the water. Ditching was completed successfully, but after abandoning the aircraft, two of the three occupants were drowned.

NO. 42 -- POOR JUDGEMENT

While on a navigational training exercise at 8,000 feet the port engine began to vibrate. The pilot throttled back but did not feather the engine. Rather than risk the return to base over 200 miles of bad terrain on single engine, the pilot decided to land on the ice of a nearby lake. On the landing run the port wheel hit a concealed rock which caused the tire to burst. This caused the aircraft to nose up momentarily in a snow drift. A "D" category crash resulted, the cause of which has been assessed "Pilot Error". The pilot showed bad judgement and poor spirit in not trying to reach base or a suitable aerodrome. He should have carried out a complete single-engine procedure by feathering the doubtful engine which would have enabled him to proceed to a suitable aerodrome only 75 miles away.

NO. 43 -- THERE ARE OLD PILOTS AND BOLD PILOTS

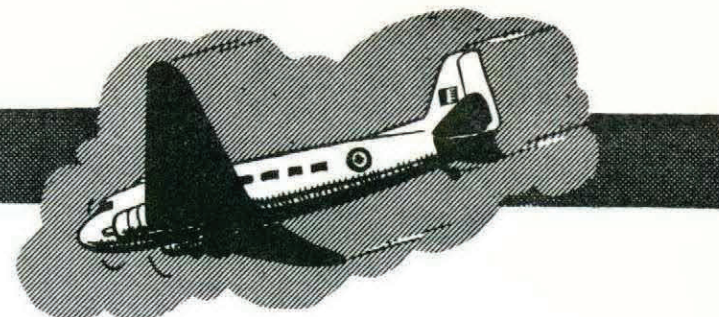


The two accidents listed below occurred during low level navigation exercises:

- * 1 The pilot flew so low that the aircraft struck a power line causing failure of the port rudder and damage to the starboard portion of the empennage. The pilot managed to land the aircraft at an aerodrome away from base.
- * 2 The pilot flew so low that both propellers struck the ground. The tips of all propeller blades were bent but the pilot was able to return to base.

In both of the above instances the pilots had been briefed to descend not lower than 250 feet above the ground.

DAKOTA



NO. 44 -- ANOTHER FATAL STALL

While engaged in an insect-spraying operation from an altitude of 100 feet, the pilot executed a sharp turn with approximately 80 degrees of bank in order to track over a ground marker. The aircraft stalled in the turn, crashed and burned. The three crew members were killed.

No evidence of technical failure could be found on investigation, therefore, it is assumed the pilot lost control of his aircraft through a high-speed stall.

NO. 45 -- USE FULL RUNWAY

The pilot who had limited recent experience in flying a heavily-laden aircraft, decided to do a GCA approach at his destination where an overcast ceiling of 300 feet and visibility of four miles had been reported. His let down was done at an IAS of 95 knots. He broke cloud between 200 and 300 feet and found the runway to be directly under the nose of the aircraft.

Power was reduced and the aircraft touched 1/3 the way down the 5,150 foot runway which has a declined gradient of 1/735. The wind condition at this time was calm.

The pilot stated that braking action did not slow the speed of the aircraft appreciably so that by the time he realized that he would not stop before overshooting the end of the runway, he was not able to open the throttles to go around again. He attempted to turn the aircraft to starboard to avoid going directly off the runway into a gully, and in doing so, the port wing came in contact with the first runway approach light standard.

"D" category damage was caused to the aircraft. The pilot received a reproof from his CO for his errors.

NO. 46 -- LOCKS - CHOCKS - PINS

Because of marginal weather moving over their destination, this crew were rushing their take-off. On take-off the aircraft commenced a swing to port. The pilot fortunately was unable to check the swing before the aircraft ran off the runway. The aircraft was stopped without damage. Investigation revealed that:

- (a) The external rudder lock had NOT been removed prior to the attempted take-off.
- (b) The pilot failed to ensure the control locks had been removed and stowed prior to entering the aircraft.
- (c) The pilot failed to check for freedom of movement of controls prior to starting the aircraft.

This pilot was reprimanded for his gross negligence. He and his crew were lucky. We recall another Dakota accident of a previous year in which the aircraft became airborne with control locks in place. Three crew and 18 passengers were killed in the subsequent crash. Dakota crews, remember in your pre-taxi check - LOCKS, CHOCKS, AND PINS.

NO. 47 -- SWING

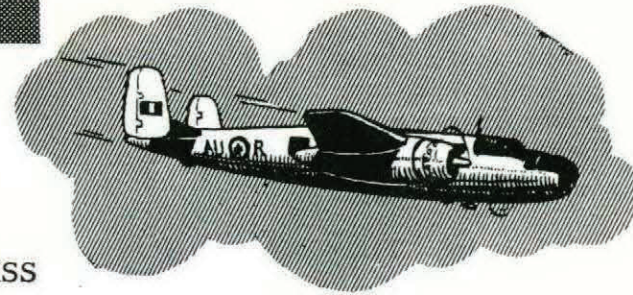


After landing, the aircraft commenced a swing to port which the pilot failed to check correctly. The result - another aircraft damaged extensively and categorized as "B".

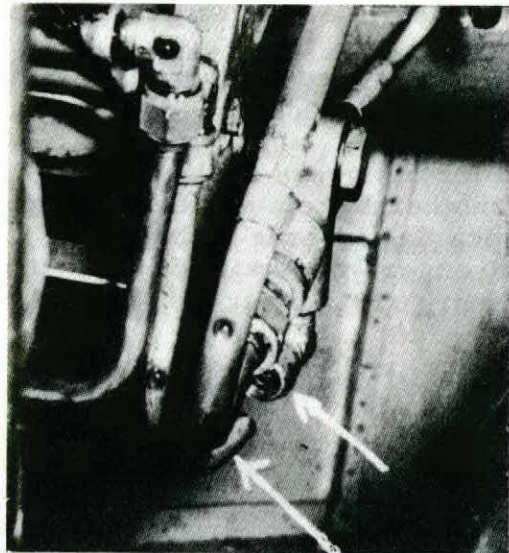
The board of inquiry found that the pilot landed with the tail-wheel "unlocked".

Assessment of Cause - "Pilot Error".

MITCHELL



NO. 48 -- MODIFICATION MISS



When a down selection was made, the undercarriage failed to lower because of a fracture in the hydraulic line to the up-latch release. Thus, the hydraulic fluid was allowed to vent to the atmosphere. The emergency system was operated without results, so a wheels-up landing was carried out on the aerodrome.

Investigation into this accident disclosed that a modification, to replace the line which fractured with a high pressure line, had not been incorporated.

LANCASTER

NO. 49 -- A FATAL STALL

During landing, the aircraft bounced approximately 10 feet in the air after initial contact with the runway. The pilot opened the throttles to carry out an overshoot, then retracted the undercarriage. The aircraft climbed very steeply to a height of approximately 400 feet, then commenced a steeply banked, short radius turn to port, losing height very rapidly. After turning through 160°, the aircraft levelled out but still continued to descend, crash landed and burned.

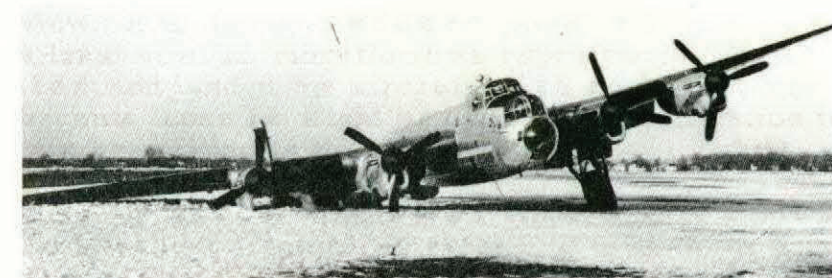
Of the 12 occupants, 4 were killed, 5 were seriously injured and the remaining 3 were slightly injured.

Investigation has revealed that:

- * The captain had failed to ensure that all crew members were thoroughly briefed on abandoning the aircraft, crash positions and ditching drill.
- * The captain neglected to inform the crew of the approach to land with the result that the majority of crew members were not braced or secured for landing.
- * There is no evidence to support engine or technical failure.
- * Due to 5 of the crew members being carried in the extreme rear of the fuselage, the C of G position was beyond the aft limit.

It is considered that during the overshoot, with an aft C of G, the opening of the throttles and retraction of the undercarriage caused the pilot to lose control or partial control, thus accounting for the very steep angle of climb and resultant stall.

NO. 50 -- THIRD TIME UNLUCKY



Prior to being detailed to ferry a Lancaster aircraft, the pilot had ten hours dual and one hour solo on type. On the final approach, upon completion of the ferry trip, the pilot used full flap, despite the fact that the wind velocity at the time was 25 mph with strong gusts. The pilot was late in rounding out, and upon touching down, the aircraft bounced. The throttles were opened in an attempt to ease the aircraft back on the runway but on touching down the second time the control column was held forward instead of fully back and the craft bounced again, even higher than the first time. After the third bounce, the starboard tire blew out and the starboard undercarriage collapsed. The aircraft groundlooped and ended up facing in the opposite direction. Result -

A "B" category crash.

COMMENDATIONS

TRIPLE COMMENDATION

Very seldom does "Crash Comment" have the thrilling opportunity to report a triple commendation in one quarter. Our congratulations and accolades are offered to

18115 F/L R.H. (Russ) JANZEN

whose exceptional flying capabilities are evident in the following resumes.

1 On 31 Oct 52 F/L Janzen was carrying out a de-misting and VHF check flight at 38,000 feet in a Venom aircraft. At height, while doing stall turns the detachable nose cowling came free. The cowling hooked on a wing nut holding the front removable armour plate, thereby partially covering the windscreen and restricting the pilot's forward view. F/L Janzen reduced power and speed to 155 knots where the least cowling vibration was experienced. He let down in 20 minutes and landed the aircraft with no further damage. The cowling became loose in flight because a modification to prevent such had not been fitted to this aircraft.

2 On 7 Nov 52 F/L Janzen was flight testing a Sea Hawk aircraft at the Lakehead airport. On returning to base for a landing the pilot discovered the failure of the main hydraulic system. F/L Janzen was forced to use both the emergency flap and undercarriage systems along with the knowledge he would have no brake pressure on landing. Emergency lowering of the undercarriage was carried out but the port wheel failed to lock in the "down" position. The pilot decided it would be possible to lock the wheel down by skipping the aircraft along the runway. F/L Janzen touched down very gently at a high landing speed. When the port wheel began to collapse, the pilot applied full throttle and snapped the aircraft into the air. The resultant "g" following the ground-touch locked the port gear down. The pilot had a minimum of brake pressure for the landing run but he skilfully slowed the aircraft and made a turn off the end of the runway. The subsequent technical investigation revealed the hydraulic system failure was caused by faulty materiel. F/L Janzen is certainly to be commended for his accurate assessment of the situation and his subsequent skilful action which prevented serious damage to the aircraft.

3 Although this accident occurred in the first quarter of 1953 we are rushing it into the last quarter 1952 issue to complete a sterling triple performance by F/L Janzen.

On 22 Jan 53 F/L Janzen was flight testing a Venom at 35,000 feet. At 28,000 feet on the climb to altitude the fire warning light came "on". The throttle was immediately closed, along with the high pressure fuel cock and fuel booster pump switch, when the pilot noticed fuel gushing out of the starboard venting duct and spreading over the wing. F/L Janzen waited until the jet pipe temperature registered zero and then pressed the fire extinguisher button. When the smell of smoke and fire persisted, the pilot opened the canopy slightly. The canopy promptly frosted over, cutting the pilot's view to practically nil. At 10,000 feet F/L Janzen decided to attempt a forced landing. Despite the flame-out, fire, smoke and frosted canopy, F/L Janzen made a successful wheels-down forced landing on the runway. He rolled the full length of the runway and turned onto the taxi strip to park before abandoning the aircraft. The fire engine crew extinguished the fire. Subsequent investigation revealed extensive fire damage especially on the starboard side, as it is believed the fire started as a result of a fuel leak in the pipe connection between one and two tanks in the starboard wing.

The above performances by F/L Janzen of CE&PE Detachment Namao reveal test flying at its best.

COMMENDATORY ENDORSEMENT

17822 F/L W.H. Bliss

4 F/L Bliss was a leader of a flight of seven Sabres en route to an overseas base. On completing his flight and preparing to land at RCAF Station Goose Bay, he experienced difficulty in reducing his airspeed. When he lowered the undercarriage and flaps for landing, the aircraft began diving at a very steep angle. He then found that he could not move the control column back past the neutral position to recover from the dive. At approximately 800 feet he selected undercarriage and flaps up and was then able to regain control of the aircraft.

After testing the aileron and trim controls, he decided to attempt a long, straight approach to land. He lowered the undercarriage, but not the flaps, and maintained a regulated rate of descent by use of the throttle, at an IAS of 185 knots. When he reached the end of the runway at a height of approximately 50 feet, he cut the throttle and touched down for a safe landing.

Examination of the aircraft revealed that a loose anchor nut was tightly jammed in the elevator boost control mechanism. Credit is due to this officer for skilful handling of his aircraft under difficult circumstances. His skill in landing the aircraft at such a high speed is particularly praiseworthy and it is entirely due to his flying ability that a very serious accident was prevented.

GOOD AIRMANSHIP

The following pilots have been commended for their display of outstanding ability by their respective Officers Commanding.

29569 F/L C.R. Simmons

5 On the morning of 21 Aug 52, F/L C.R. (Bob) Simmons of 441 (F) Squadron, took off on a routine GCI. Ten minutes after take-off at angels 33 he heard a loud rumbling noise in the aft section of his Sabre accompanied by severe vibration. F/L Simmons reduced power to the idle stop position and descended rapidly. The fuel flow indicator, fuel pressure, tailpipe temperature and oil pressure indicators began extreme fluctuations. He made a successful wheels-down forced landing at an RAF station. Subsequent technical examination showed the engine failure was due to complete loss of oil, followed by a failure of number three and four bearings giving engine seizure.

33634 F/O J.C. Richardson

6 On the afternoon of 21 Oct 52 F/O J.C. Richardson, 434 (F) Squadron, was flying a low-level navigation exercise at 250 feet above ground. Twenty miles from base on the return leg his engine flamed out. He immediately climbed to gain maximum height. F/O Richardson accomplished a relight only to have the engine again flame-out at 60% throttle. By quick thinking and faster action F/O Richardson attempted a second relight without success, all the while positioning himself for a forced landing in a ploughed field. He made a wheels-up crash landing without injury to himself. The aircraft suffered "A" category damage. The cause of the flame-out is obscure.

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