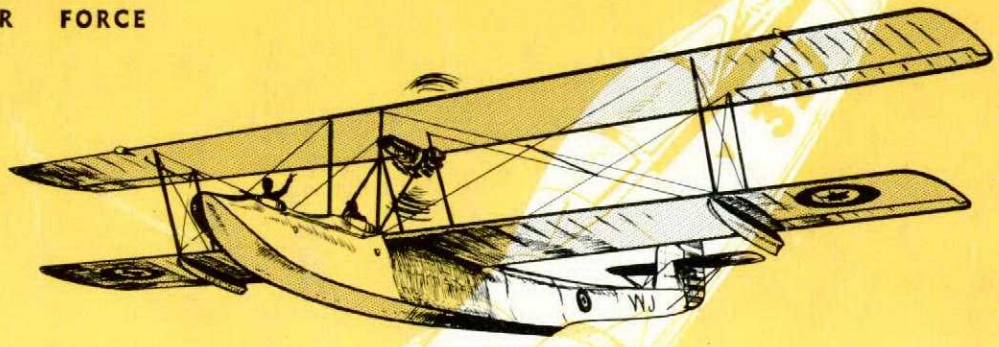


FLIGHT COMMENT

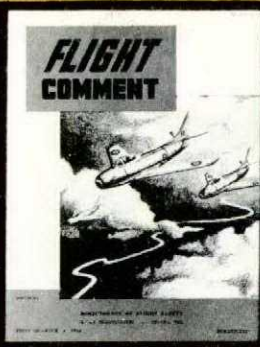
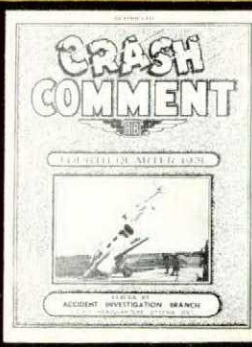
ROYAL CANADIAN AIR FORCE

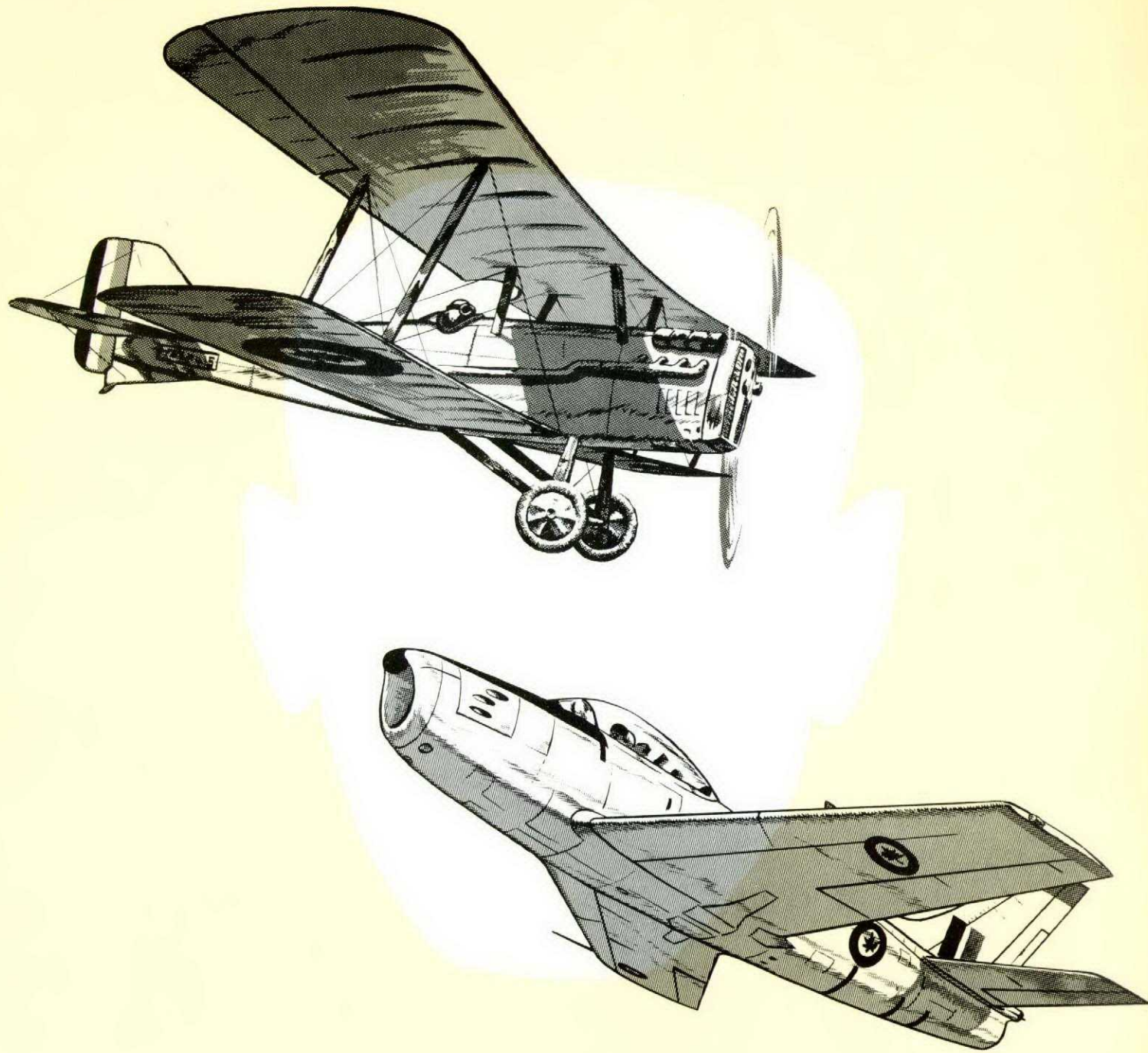
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50 yrs of Flight

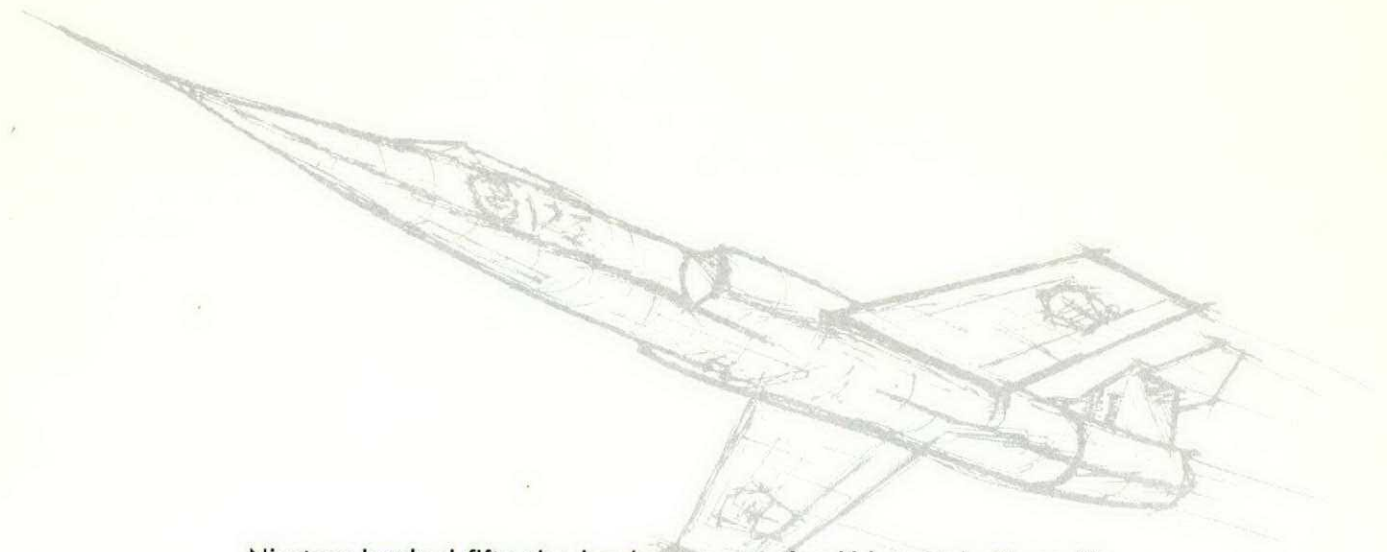
10 yrs of Flight
Comment





Creative thinking the key to progress.
Common sense the key to flight safety.

EDITORIAL



Nineteen hundred fifty nine has been a year in which organizations with an interest in aviation have paid tribute to the pioneers of powered flight. This issue of Flight Comment also recognizes the ingenuity and determination of these pioneers and, by contrasting "the old" with "the new", focuses attention on the skill with which air force personnel handle the complexities of modern flight.

To the pioneers of flight is given much of the glory and many of the honours. These too have come to the men who participated in the formation and growth of our air force. By comparison, today, when the air force counts its personnel by the thousands, the work of an individual member seems to be lost in the total effort. This is where flight safety comes in.

In essence, our flight safety program is directed towards each individual to make him aware of the importance of his work, to encourage him to think highly of his function, to emphasize that our capability is dependent on his effort.

Though some of the romance is gone, the challenge of modern flight still demands the same degree of courage and integrity that was demanded of the Wrights, the McCurdys and the Bishops. And each man must meet the challenge if we are to maintain progress.

A handwritten signature in cursive script, reading "J. J. Jordan". The signature is fluid and stylized, with the first letters of the first and last names being prominent.

J. J. JORDAN, GROUP CAPTAIN
DIRECTOR OF FLIGHT SAFETY

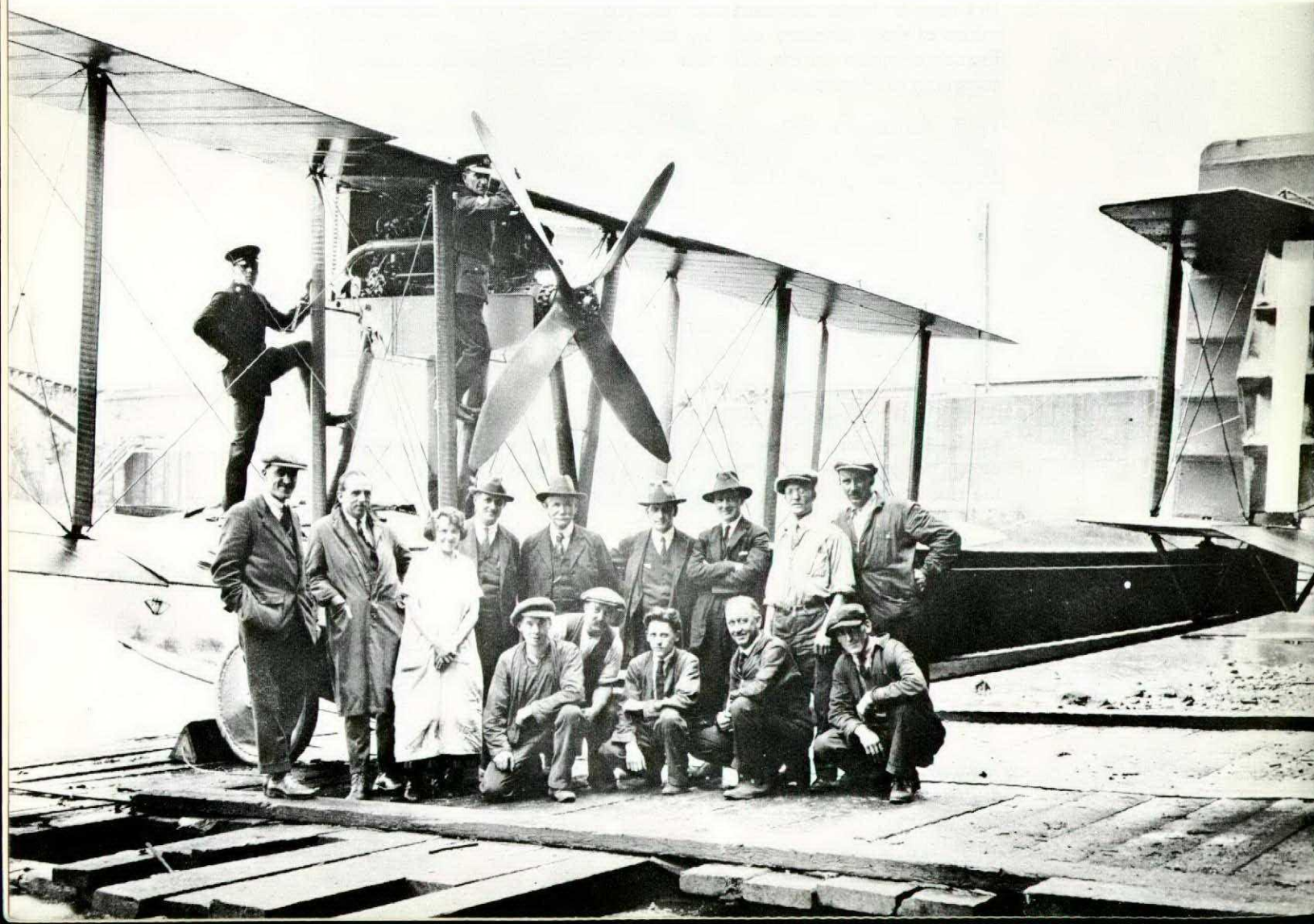
50 YEARS OF FLIGHT

When aviation was in the embryo stages, the fixing of a broken rudder or a warped wing, was pretty well up to the ingenuity of the crew. Many a strut was repaired with a piece of bailing wire. Those were the glorious days, when a flutter in the wing merely indicated that the aircraft was flying fast enough to prevent a stall. To-day the same flutter warns of the approach of the limit of the aircraft's capability, but is experienced only at very high rates of speed.

When we start talking about the old and the new, it is interesting to compare the methods, the machines, the skills and the technical know-how that built and flew the aeroplanes.

The pilots of the first aircraft were given limited instruction and flying time before being considered operational. Indeed as late as World War II many ferry pilots were handed a copy of the operating instructions and with no other training flew a new aircraft across the Atlantic.

The rapid advancement in aviation has changed all that. To-day aircrew are given hundreds of hours of training before they are considered operational. There is no doubt that this extra training is necessary, but when we compare the product that they are called



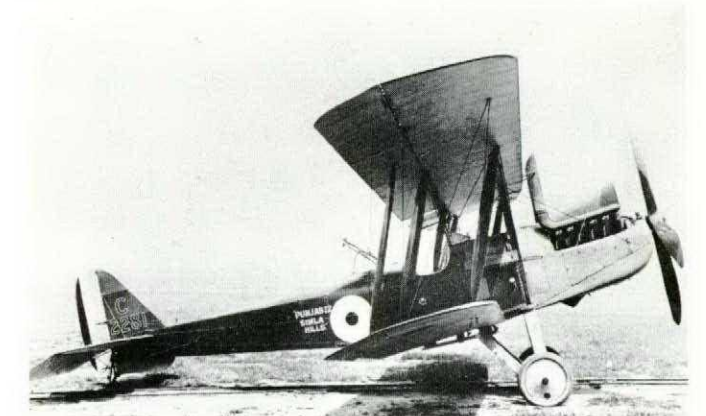
The craftsmen of yesterday have been replaced by the trade specialists of to-day.



SE-5



ARMSTRONG WHITWORTH FKW-8 (ACK EMMA)



RE-8 (HARRY TATE)



SOPWITH TRIPLANE

50 YEARS OF FLIGHT

upon to fly to-day with the old timer that received only a few hours and the machine he flew, is this extra training enough?

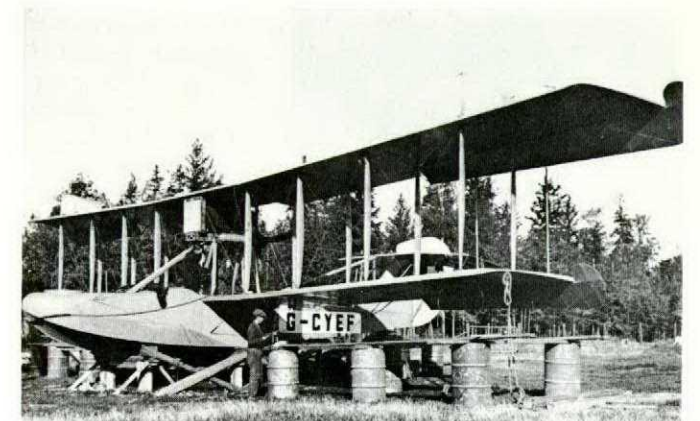
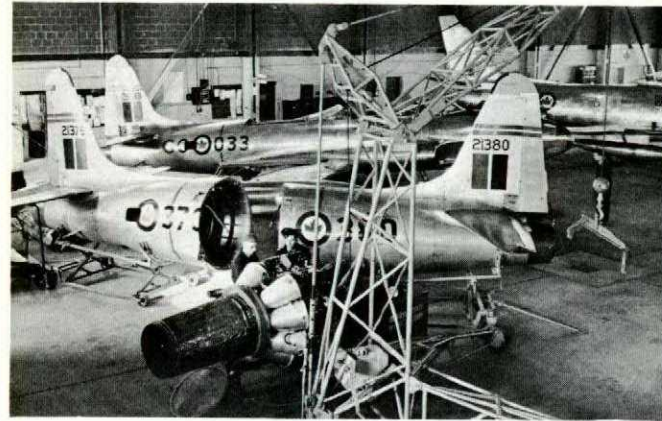
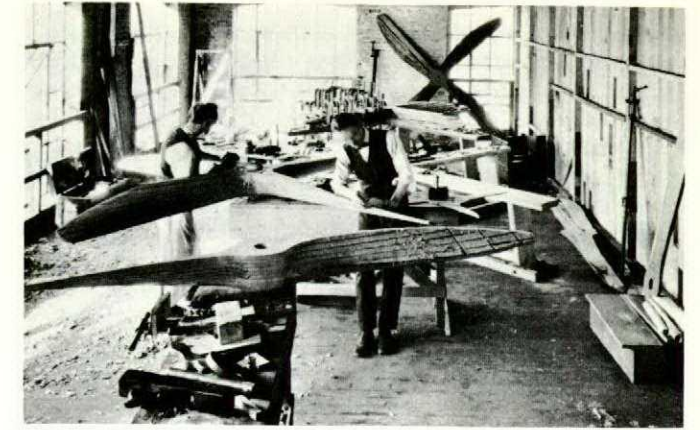
Looking at the maintenance side, the changes that have taken place are even greater. The days of the linen patch and the dope brush are fading into the past. The proof of this is the multitude of trade specialists that are needed to-day and every new system demands the same flutter warns of the approach new skills to maintain it. Who ever heard of hydraulic of the aircrafts capability, but is exper- systems in the days of the "Ack Emma"? Now thereat very high rates of speed. are complicated power controls in all modern aircraft. start talking about the old and the new, Think of the original electrical system that consisted to compare the methods, the machines, of a battery, a generator, sometimes operated by the the technical know-how that built and slipstream, and a couple of switches—compare this to planes. the bundles of wire that snake around every nook and s of the first aircraft were given limited cranny of the aircraft to-day. and flying time before being considered

The technician to-day—he is not a mechanic any more—is highly trained, but again is this extra train- Indeed as late as World War II many ing enough to meet the rapid technical progress? Is were handed a copy of the operating and with no other training flew a new this man trained to meet the requirements to-day, and ss the Atlantic. better than his counterpart in days gone by, when a advancement in aviation has changed all woodworker and a fabric worker was king in the serv- aircrew are given hundreds of hours of icing shack? re they are considered operational. There

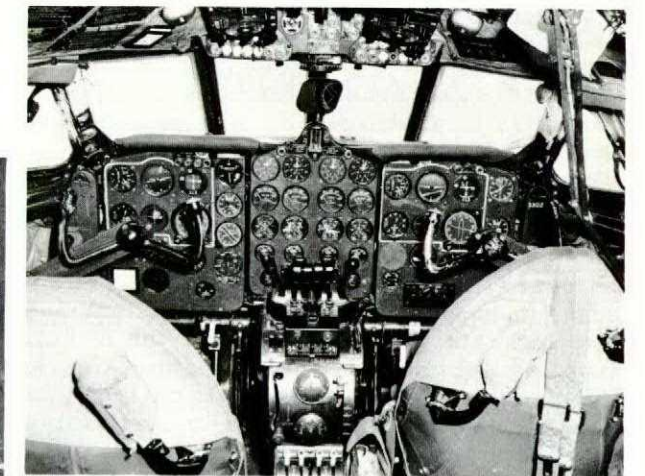
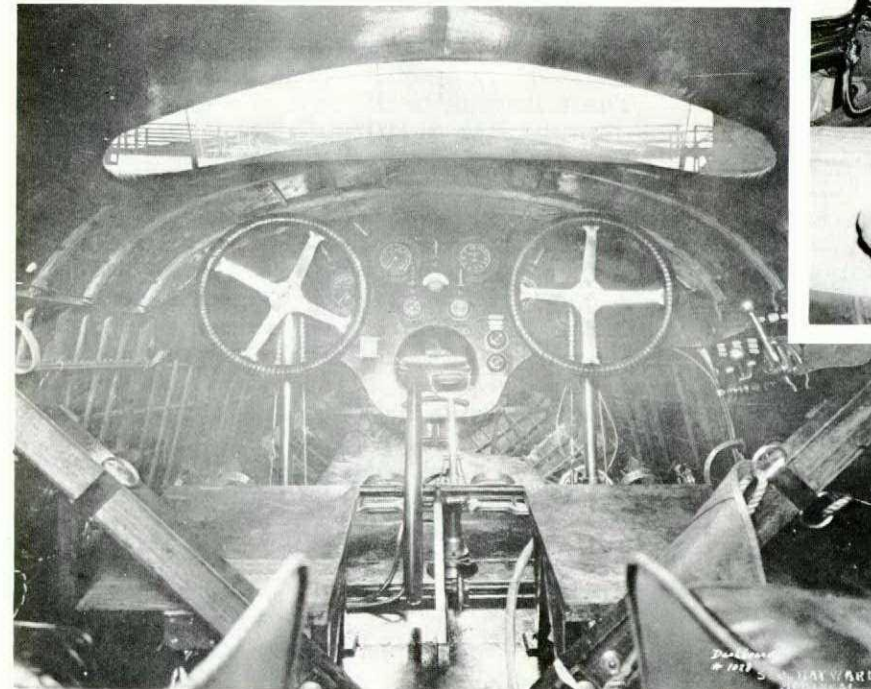
A good look at the old and the new, as presented on hat this extra training is necessary, but these pages, gives us cause to stop and think. mpare the product that they are called



The craftsmen of yesterday have been replaced by the trade specialists of to-day.



The increased knowledge and training required by to-day's air force personnel is exemplified by the comparison between the two instrument panels.





F/O R. A. AUMONIER

F/O Aumonier was engaged in local flying with Air Cadets as passengers. For his third flight he had nine Air Cadets and another pilot on board. Pre-takeoff check was completed without any indication of a malfunction. At approximately fifty feet, when the Dakota was levelled out to attain single engine safety speed, the starboard engine began to backfire violently. The engine was not feathered immediately as the pilot hoped that it might smooth out. The aircraft started to settle, however, so the port engine was boosted to 52 inches and, simultaneously, the starboard engine was feathered. The tower was informed of the emergency and a right-hand turn made to runway 19 (takeoff had been from runway 27) where a safe landing was made with a tailwind component of approximately 10 mph.

The engine failure is suspected to have been caused by the failure of the gear driving the rear cam ring. The port engine will have to be changed because it was over boosted. F/O Aumonier, however, receives a Good Show for his display of airmanship in a critical situation.

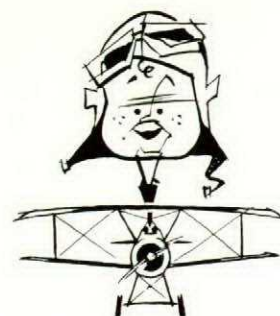


F/L D. G. SCOTT

The following is the text of a message from the Commander of Military Transport Service, USAF, concerning an RCAF exchange officer and his crew:

"Please extend a Well Done to F/L Douglas G. Scott and crew of the 55th Weather Reconnaissance Squadron, Detachment No. 3, McChord AFB, for their superior judgment and airmanship in handling an extreme in flight emergency on 29 June 1959. The loss of 17 inches of a propeller blade which entered the fuselage severing power cables, air lines, prop control to No. 1 engine, and bomb bay actuating rod produced a potentially disastrous situation. The crew's skill in flying the crippled WB-50 aircraft for five hours over rugged arctic terrain to a safe landing at Eielson Air Force Base is indeed commendable.

William H. Turner
Lieutenant General, USAF
Commander."



GROW OLD WITH ME



Recently I took what I am sure is my last flight as a pilot of a military aircraft. I was a member of an outfit which was eliminated in the defense expenditure cutback, and I have ranked and aged myself out of active reserve duty. I would be less than human if I did not at this time look back on my years of flying and try to evaluate the factors which operated to keep me alive, as well as those mistakes which might have killed me.

I felt a resurgence of the impulse to button-hole the boys and girls just beginning, whether in private or military flying, and say the magic words which will keep their bones intact, and send them home each evening, a joy to spouse and children.

I can say what I have to say without pride or arrogance, because I was a mediocre pilot. I learned slowly; I was not by any stretch of the imagination a "Natural". My awareness of my limitations, I am sure, is one important factor to which I owe my life. I did not have the skill to toy with chance and stretch my craftsmanship beyond its capabilities. I would not slow-roll at less than five thousand, because I scooped out at least half the time; nor would I practice spins unless I had so much altitude that the ground seemed as remote as the moon.

There are two kinds of pilots who get hurt: clever ones and poor ones. The clever ones gradually acquire a confidence which may mislead them, and tempt them to cross the safety margin once too often; the poor ones are merely incapable. But there is one common attribute which both types possess: they lack imagination. Their thinking is narrow; they fail to consider the possible consequences of a breach of flight discipline, or an overextension of their abilities.

They assume that all conditions at all times will be normal. They assume that the ground is flat without obstructions, that the old altimeter setting is good enough, that there is no other plane in the air, that the weather will hold, that the obsolete chart is reasonably accurate, that the fuel tank was topped, that the field is open, that the mags will clear in the air.

These are foolhardy assumptions, resulting from laziness and wishful thinking. If there is one thing we can be sure of in this journey through the cosmos on this thin-skinned pea of an earth, it is that change is constant, nothing is ever the same. It is apparent to me that the human race is invincible. You need only consider the fact that a man who knows he has only one life to live will offer it to eternity because he is too lazy, or too unimaginative, to take an extra minute to ask a mech how much oil was put in. Courage like that exceeds the tiger's.

I distilled a single rule from the pot-pourri of experience, a rule which contains just about all there is to flight safety. It is, however, a mere phrase, unless we extend it through every flight activity. It is simply "Never take

anything for granted."

There are plenty of things which we are forced to take for granted without adding to the list. We must accept the evidence of our eyes and nose that the liquid in the tank is aviation gas, that the length of the runway is 8000 if Enroute-Supplement says it is, and that the propeller is pitched at the proper angle to pull the plane forward. We lean heavily on properly trained authorities for vital information, and if they fail us we cannot help it.

But there are those factors which can be checked personally, which should never be taken for granted. I learned one lesson fairly early, and the nearness with which I came to killing, not myself, but another pilot, had an extremely sobering effect.

I was lined up on the runway's center-line with a student under the hood in the rear cockpit, preparing for an instrument takeoff. Another plane was lined up in front, for the same purpose. My student was on the brakes, ready for full throttle when I gave the order. While I could not see over the nose of my plane, I did observe the wings of the first plane recede and disappear as it started down the runway. After a decent interval I told the student to roll, and I stayed on interphone to advise and correct him. He did so, and a few seconds later my guardian angel stepped in.

"Now look, buttonhead," he said to me. "The first plane started rolling, and you figure that he is airborne at the end of the runway by now. But you don't see it. You're just taking it for granted."

I popped the hood, took over, hit the brakes and throttled back. My aircraft stopped twenty feet short of the number one plane, which had aborted, probably because the student was veering off heading. I would unquestionably have chewed through at least one cockpit if I had continued. I would have had a memory very uncomfortable to live with.

I owe to a certain vice of mine a good bit of credit for the fact that my wife was cheated out of ten thousand dollars of NSLI insurance: I am an experience thief. I steal the experience of others.

Your own experience is the worst possible teacher despite the famous dictum. It is much too expensive. I enjoy the nasty habit of appropriating that of other pilots. Every time I read or heard of an accident I would ask myself: "Do I fly in such a way that it could have happened to me?" If the answer was yes, I did my best to correct my habits. Like a parasite, I stayed alive on the flesh and blood of others, and I admit it without shame. I love the taste of hamburger with catsup and onions, and I love my wife's embrace in front of the fireplace on a fall evening. My imagination is a vivid one, and when I fail to see the other plane in the traffic pattern when tower informs me it is there, I panic.

No more hamburger? No more kisses?

The cold sweat breaks out, the right hand crooks convulsively for the rip-cord handle. No more baseball with my boys? The heart beats faster. The blood pressure rises. No more cans of beer on a hot afternoon? The breath comes short and hot.

Where in the hell is that other plane?

I turn right and left to seek it. I drop first the right wing, then the left.

Tower: "Nine zero four, are you having difficulty?"

Oh, no. How can the thought of a mid-air collision at a thousand feet suggest difficulty?

I make my voice calm. Nobody must know that I am afraid of a mid-air collision. After all, am I not a pilot?

"Tower from 904. I do not see the number one plane. What is his position?"

Tower: "He is over the end of the runway on final. You are number one to land."

"And how did it go today?" Cynthia says as the church key bites into the can of cold brew.

"Very nice," I answer. "Do you think it is chilly enough to light the fire?"

I know two pilots whose tragic exits I was able to predict. One was a clever man, with an enviable skill and a superb practical and theoretical knowledge of aerodynamics. The other was a wise guy.

I loved Casey, the first one, like a brother. He taught me much about flying, and he was for me St. Exupery and Jimmy Doolittle rolled into one. But he couldn't subtract. He didn't know when his units of safety were reduced to a dangerous minimum. His skill was his murderer.

He could roll at two hundred feet and never scoop out. His aircraft was as his own body. This is a fine thing, but there are possibilities over which your skill has no control. Engine failure is one of these, and engine failure when inverted at two hundred feet is a troublesome event. A parachute is useless and your choice of pasture is severely limited, even if you complete your roll. Casey did not complete his, and scattered gas, guts, and gaskets over five hundred feet of ripening corn.

I was such a mediocre pilot that I never had the courage to attempt such intrepid maneuvers. I mourned the death of Casey, but my grief didn't help him. He has been long gone; and I am here tonight, as I write, watching the scarlet leaves of the maple drift by my window in the moonlight. And yet his craftsmanship far exceeded mine.

Marvell said it three hundred years ago, "The grave's a fine and private place, But none, I think, do there embrace."

But I love to stunt. You should see my triple sequence: the split-S, loop, and Immelman, coming right out on the original heading. I start it at ten thousand feet. I'm very proud of it.

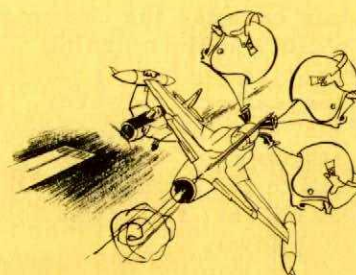
The other pilot I shall call Grant. He was a likeable youth, but he lacked humility. He wore his cap on the side of his head, and made sharp turns to a landing. He would argue aerodynamics



Like a parasite
I live on the flesh
and blood of others.



I love hamburger with catsup and onions.



Where in ?=!!!
is that other plane?

with pilots who had more hours of night flying than he had altogether. Can you imagine yourself advising Saint Ex on the best route to Dakar? Grant could have done it.

One day I said to him, after a particularly disheartening discussion (I think he was insisting that a plane in the air would weather-cock): "Grant, it matters not to me whether I win the argument, but if you fly like you talk you will kill yourself."

He snorted, re-tilted his cap to a more rakish angle, and stalked off whistling, "Off we go, ta-ta-ta-tum-tum-tum-tum."

I had no car, and he picked me up every morning to drive to the field. One Monday morning, two weeks after my melancholy prediction, he failed to show, and I had to hitch-hike. No bus.

The CO was on the phone when I loped in, an hour late. I was nervous and furious; we were flying a very tight schedule. I started blabbing when it was apparent that the CO was waiting for somebody at the other end.

"That damn Grant didn't pick me up this morning! It ain't my fault!" I pounded on the

desk.

The CO started talking on the phone, and being versatile like Caesar, wrote a note for me on the pad.

"Grant was killed yesterday."

I had the psychic feeling of inevitability you sometimes get in a poker game when the card you draw is exactly what you expected. Of course, I said to myself. What else could it be?

He had his brother, a visiting cadet, in the rear seat when he pulled the wings off the trainer over Biscayne Bay. The only two boys in the family. And what did his mother think, I wondered. And what did his father say?

It is the same as in driving a car, of course. In tonight's paper is a picture of a new car and a boy shattered against a tree on a sharp turn. The speedometer stopped at 110. My wife is a cautious driver; too cautious, I tell her. She misses golden opportunities to pass other vehicles while I fret and fume. You should estimate relative motion better than that, I tell her.

But who skidded off the road one evening and messed up our family wheels in a stump-filled ditch? You know who.

I said that Casey didn't know how to subtract. I referred to my formula for safety. According to my ingenious reckoning safe flight is maintained only when you stay above a certain number of what I call safety units.

When you have trouble in an airplane, there are at best a fairly large number of life-saving alternatives. As far as I am concerned, there are more of them in the air than on the highway, where an oncoming car on your side of the road, passing on a curve, may reduce your alternatives to almost zero. These units are your treasure, money in the bank, the buffers against chance, fate, bad weather, or even your own fallible judgment...

... When the hangar-flying drifts around to hairy stories, be proud that your narrative is too dull to relate. Let nothing happen to you worth telling about. Go thou and grow old and stodgy. Get your excitement emphatically by observing the curdling exploits of Jimmy Stewart and John Wayne on the magic silver screen. Titillate your wife by an impassioned account of how the manager of the airport grill threatened to arrest you when you tried to kick your dime back out of an empty candy dispenser.

Now I am a private pilot only. I look forward to dancing the skies on laughter-silvered wings, to winging to my destination in a safe, straight line, far above the twisting hazards of the increasingly expensive highways. There are no toll-roads up there in the blue, no bill-boards on the clouds, no speed traps, no traffic lights. There is only the challenge to my imagination, and to my good common sense.

I must finish now. The ashes are glowing in the fireplace. Cynthia has the coffee on, and I have marshmallows to toast.

USN: Approach



WET REFLECTION

The captain had landed at the Lakehead, en-route to Trenton, for the purpose of rechecking the weather and topping up the gas tanks because the Met officer at Winnipeg had forecast considerable CB activity in the vicinity of Lakehead and at Trenton. Prior to arrival at Lakehead very heavy rain showers were experienced and on landing at the Lakehead large thunderstorms could be seen developing to the East and moving in the direction of the Lakehead. On landing the captain parked the aircraft facing the terminal building beside two Air Force Expeditors, and shortly after landing another Dakota taxied in and parked to the left of the Dakota in question. On landing the wind speed at the Lakehead was 15 mph from the Northwest. However, in anticipation of winds normally associated with the CBs the captain had the crewman put on the rudder, aileron, and elevator locks.

After having refilled a flight plan and consumed a cup of coffee at the local snack bar the captain paused momentarily in the doorway of the terminus waiting for a heavy rain shower to subside before proceeding to the aircraft. To his amazement he observed the Dakota start to move of its own accord "weather cocking" through approximately 130 degrees into wind. The captain immediately signalled to the crewman and dashed to the aircraft where he observed upon entering the cockpit that there was no pressure and this had resulted in the brakes failing to hold the aircraft in position. As the winds were increasing in intensity and becoming more gusty the captain quickly started the engines to regain the hydraulic pressure and taxied the aircraft back into its original position. Although there were aircraft parked on either side of the Dakota during this incident no other aircraft was endangered. However, had an aircraft been taxiing into the ramp at the time it could have been embarrassing.

While sitting behind the controls, soaking wet, awaiting the arrival of his co-pilot and passengers the captain reflected upon the cause of this incident and one very pertinent exchange between himself and the crewman came to mind;

this occurred at Winnipeg. Prior to starting the engines in Winnipeg the crewman signalled the captain that he wished to pull the undercarriage safety pins. On checking the pressure on the gauges the captain advised him to leave the pins in until the engines were started because there was no pressure indicated, at which point the crewman observed "That's strange because I had over 500 pounds on the gauges when I ran it up this morning."

Since the takeoff from Winnipeg was approximately 1300 hours local, the time that the crewman ran up the engine did not appear too significant to the captain because the crewman had been on deck by 9 o'clock in the morning and would have under normal circumstances run the engine up shortly thereafter. However, it transpired that he had just shut the engines down prior to the captain starting up, therefore, it should have been obvious to the captain that the brake pressure was leaking very rapidly as soon as the engines were shut down.

This incident served to remind the captain of the importance of one of the basic rules of airmanship. Although the control surface blocks had been secured on the aircraft, because of faulty hydraulics, chocks also should have been used. In this regard the incident appeared to have a salutary effect on the other Air Force pilots whose aircraft were parked in front of the terminus. None of these aircraft had chocks in place and the wind force might have developed in strength to a point where the aircraft could have been moved by the wind, even though parking brakes were serviceable. As a result, considerable activity was observed among the other pilots who soon became engaged in ensuring the safety of their aircraft. They too, no doubt, had cause for a "Wet Reflection".

T-33 FUSELAGE TANK CAP CHECK

"I took off on a short test flight to check the feeding of a new set of tip tanks. While climbing through about 15,000 feet a turn was initiated. During the turn a shadow of fuel vapor was noticed outlined against the tip tank. By manoeuvring around I got into a position where

I could see the fuel was coming from the fuselage tank cap. I kept the airspeed high until the tips had gone dry and the fuselage tank drained down to 60 gallons. Main wing fuel was selected and fuselage tank by-passed. The by-pass system was unserviceable and the fuselage tank filled up again. I switched off the main wing tanks and allowed the fuselage tank to drop to 60 gallons again. The fuselage tank was kept between 50 and 60 gallons by topping up from main wing group. A pass by the tower was made to confirm that this procedure had stopped the venting. A normal circuit and landing was carried out. On inspection, the fuselage cap was found in the well but not installed. Approximately 20 gallons of fuel was lost."

FSO's Comment:

The fuselage tank cap was probably removed for maintenance purposes and not re-installed properly. An ADC aircrew order now exists which includes a visual check of the fuselage tank cap during pre-flight walk-around.

AIRBORNE

"Hurry—Hurry—Hurry. This is what raced through my mind. I was fill-in man for a formation trip so after finding my CF100 unserviceable I hurried to the stand-by and, after a hasty external check, climbed in. A proper internal check was not made. The aircraft was started up and taxied quickly to the takeoff point. During takeoff the nose wheel was raised at about 110 knots and immediately a nose wheel unsafe condition showed and the familiar clunk of the gear as it folded into the wheel well was heard. A quick check of the undercarriage lever

proved it was in the up position; the rear cockpit lever was also in the up position. I realized what I had not done and concentrated on keeping the main wheels from folding before becoming airborne. When the aircraft was lifted off the main wheels retracted automatically without damage."

This pilot says that never in the future will he forget to check the undercarriage lever.

The aircraft involved had not flown for seven days prior nor had any maintenance been carried out which required raising of the undercarriage. The only possibility is that a student, one of a new course had started the day previous, touched the lever while studying his cockpit check.

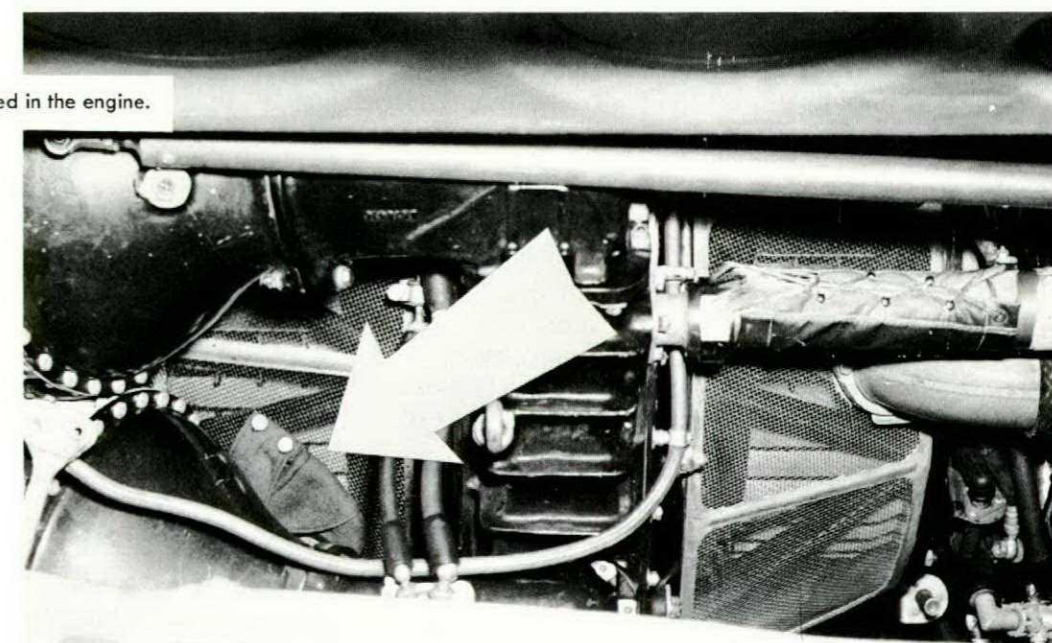
THE WEDGE CAP MYSTERY

Just in case you always blame groundcrew for foreign objects in aircraft, the accompanying picture shows an aircrew officer's cap wedged firmly between the aft screen and the burner of a T-33. It was found by an airman who did a thorough check through the starboard trunnion access panel. Fortunately, or unfortunately, the owner's initials were inscribed in the cap. The aircraft had flown 21:35 hours between the time the cap was reported lost and the time it was found.

FSO's Comment:

The pilot thought he had left his cap in a flight planning centre somewhere. When questioned, he stated that he never places anything in the intake nor does he suspect that his cap fell from his pocket when he checked the upper plenum chamber. How it became lodged in the engine must remain a mystery.

An aircrew officer's cap was lodged in the engine.



IT'S WEMBLEY!



There were three slightly pre-occupied Englishmen sharing a compartment on a train. When the train stopped at a station one said, "It's Wembley." Another replied, "No, it's Thursday." And the third man said, "So am I, let's get off and have a drink."

This story is a little shaggy but it is a fine example of mixed up communication. Two of the men had reacted to a half-heard pattern of sound in a manner that reflected their concern of the moment.

Could such confusion happen in the cockpit of an aircraft? Well, there is another story about a Hastings that was in the circuit for a night landing. On final the pilot decided the door between the cockpit and aft section should be

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The aircraft landed one mile short of the runway, the victim of faulty communication.

If this accident was an isolated case we could afford to laugh it off as just another good bar story. But it is not unique. Here are some from the records. An aircraft bounced on landing and the pilot called "Takeoff power". The engineer took off the power—and who could blame him. A North Star pilot called "Pull it off" just as the aircraft reached takeoff speed. The engineer pulled the power off. Before the pilot could yell "Not the throttles" and the engineer could open the throttles again it was too late; the aircraft crashed and burned. Can you blame the engineer? On takeoff his principle concern is power, not flying controls. An Argus was on a testflight when the pilot called "All the power you've got." The engineer gave him just that even though he knew he was over boosting the engines. Four or five minutes later two engines failed but the aircraft was landed without further incident. All these, and there's more, the result of poor communication.

The classic example of poor communication is the case of two pilots, with a passenger on board, flying an Expeditor over Toronto one night. A call was received from the centre and the captain motioned to the co-pilot to take over control while he spoke to the centre. After hanging up the microphone the captain looked at the sights through the side window. The co-pilot assumed that the captain had taken over again so he released the controls and gazed out at the sights too. The aircraft went into a gradual spiral descent, and the passenger went up front to see what was happening. He was rather astounded to see no one on the controls so, being a pilot himself, he reached in and took over. The captain and co-pilot still find it hard to believe that this had happened to them. But it did and similar things are happening much too frequently.

The amount of confusion that exists in the cockpit, on the line, in the control tower is amazing. The amount of non-standard R/T you hear, the hand signals you see, it's enough to give an FSO nightmares. How often have you heard the tower call another aircraft and the call sign sounded like your own? Have you formed a habit of using the last two numbers, or worse still, the last number of a call to acknowledge transmission? Be careful, even standard phraseology can trap a preoccupied hearer into an accident.

It is of little comfort to know that this problem of communication is the villain in every field

OF PILOT

rs are troubled by it. Psy-Traffic policemen use it to It even crosses up editors. are just three simple steps n; know your job, know and ized procedures, and keep ained for your job and this tandardized phrases and signals. On necessity these phrases and signals are changed from time to time; to be current CAP 100 and EO 00-50-19 must be reviewed constantly. And, above all, you must be right on the bit from the word go. It's the only way to be sure of getting a drink next Wembley or Thirsty.

FLIGHT SAFETY IDEAS

The problem of keeping equipment and obstructions lighted at night to prevent taxi accidents is still not completely solved. Many ideas have been submitted and some accepted but many others have never seen the light of day (or night).

Floodlights do a reasonable job on the apron. Yellow taxi markings guide the nosewheel except on dark rainy nights or when the tarmac is ice covered. Obstruction lights and Christmas trees are used. Care by aerodrome control people in keeping obstructions clear of taxi strips, or well marked if not removable, prevent many taxi accidents. But some still occur.

At a recent SOFS conference I Air Division passed along this idea. They use white reflective tape to advantage. It is purchased locally and liberally affixed to all servicing equipment which may be used in the vicinity of aircraft at night.

So if your unit has come up with a good safety idea share it. It could be the horseshoe nail that will win the battle against accidents.

The pre-flight runaround was completed by the student. (The L19 crashed.—ED) ---L14

Turbulence: Mild, the passengers are scared. Moderate, the stewardess is scared. Severe, the pilot is scared. ----

The pilot wrote, "Something loose in the tail". Next day he read, "Something loose in the tail tightened". Brevity is fine, but explicit elicit more efficient fix-it.

----Informer, 1 Jun 59

MBLEY!

HEADS-UP FLYING

EMERGENCY CIRCUITS

F/L Pocklington, flying a Sabre, entered the break from initial, made a normal left hand circuit break at 280 knots and 1500 feet, and maintained approximately 3G to the downwind position. Power was reduced to idle and speed brakes extended in the break. When speed fell off to 185 knots, the gear was selected, and partial flap applied. Power was increased to 59% and during the turn to final the throttle was retarded.

At this point the engine flamed out. The ignition switch was selected, but the light failed to illuminate, and no relight occurred. F/L Pocklington did not attempt a further relight by use of emergency fuel, because of the failure of the emergency light, but concentrated on affecting a safe landing. A safe landing was carried out and the aircraft was towed to the dispersal area.

An immediate investigation revealed a small amount of silicone fluid in the P1 line, which was drained. The engine checked serviceable on runup, so the reason for the flameout remained obscure. On ground test the emergency ignition system showed the toggle switch on the L.H. instrument panel to be inoperative. On dropping the panel it was found that the cannon plug on the panel was wired C & B for emergency ignition and A & D for drop tank jettison, and that the cannon plug on the aircraft was wired C & D for emergency ignition and A & B for drop jettison. As a result both the emergency ignition and the drop tank jettison system were inoperative.

While the error committed in the wiring of the two circuits did not have a bearing on the engine flameout, it did create a tense situation where the skill of the pilot averted what could have been a most serious accident.

It was assumed that the error was committed during the incorporation of a series of modifications, but it is interesting to note that the aircraft had flown 17 hours during the interim period, and looking back it is easy to imagine a number of situations that could have existed where the omission could have serious results. An error such as this is hard to explain to a bereaved family.

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OF PILOT ERROR

CRASH RESCUE

A T-33 swooped gracefully over the fence and rounded out for a touch-and-go landing. Everything appeared normal until the aircraft was touching down. At that point the starboard wing dropped and struck the runway, and the aircraft cartwheeled into the infield where a tip tank burst into flame.

The flying control officer who witnessed the crash from the tower sounded the alarm. Bells began clanging in the fire hall, the hospital and the station operations room. Operations alerted the CO, CTSO, CEO, SP, and the armament section. The stage was set.

Sirens were heard immediately. Faint at first, they grew louder and closer, combining with the sound of racing engines to announce the swift approach of the crash equipment. Fire trucks raced across the taxiway, onto the runway, and up to the scene of the crash, followed closely by the ambulance, a mobile equipment crane, and the flying control truck.

The crash crews, working as a smooth team, got to work while their trucks were still in motion. Not a moment was wasted as they got their equipment into action. The firefighters

worked like a well greased machine. Heavy foam was used to clear a path to the cockpit area for the asbestos-suited team. They opened the canopy, safetied the seats, and removed the injured aircrew. The latter were expertly handed over to the medical staff, and after a preliminary examination were whisked off to the hospital. The aircraft fire was extinguished.

As you may have guessed by now, this accident never occurred—but it could have.

Here is what really happened. The pilot of a T-33 requested a touch-and-go and was given a clearance by the tower. The aircraft did swoop gracefully over the fence and round out—but THE PILOT FORGOT TO LOWER THE UNDERCARRIAGE! A beautiful wheels-up landing was made, if you can call any wheels-up landing beautiful. There was little damage to the aircraft and the pilot was uninjured. But if the aircraft had cartwheeled and caught fire, the crash crews would have proved themselves equal to their responsibilities. Despite winter conditions—slippery roads, tarmacs and taxiways—the flying control truck was on the scene in thirty seconds, with the crash trucks

ASSEMBLY!

HEADS-UP

FLYING

craft involved are impounded. If the movement of traffic is likely to be affected, ATC centre is contacted and Notams sent out. All steps taken, including the R/T pattern before, during and after the crash, are recorded in the tower log. Normal traffic is resumed as soon as possible after the accident, and ATC again notified and Notams sent. If the wrecked aircraft is to remain where it is for further examination by accident investigators from the Directorate of Flight Safety, it must be posted as an obstruction. Finally, an accident report is prepared.

Emergency drill rehearsals will improve the efficiency of crash rescue teams, if only by exposing weaknesses. When the complications introduced by the variety of aircraft in operation—different escape systems, armament, fuel, etc.—are considered, the need for a continuing training program becomes obvious. The program should include airfield geography (We've heard of an ambulance that started out in the wrong direction) and instruction on how to control spectators and protect evidence at the crash scene.

An efficient crash rescue program deserves high priority in a station's activities. Ground-crew can provide no more vital adjunct to the operation of RCAF aircrew than a well organized, highly trained crash rescue team. When the going gets rough, the knowledge that we have a first rate crash rescue program in the hands of a top notch group takes a lot of pressure off the men who fly our aircraft. The contribution of the crash rescue organization to flight safety is indispensable. It is a contribution of confidence. A contribution that is not measured in terms of fires put out, but in "guessimates" of accidents that did not happen.

WINTER CHECKLIST

winter checklist that will help take account of cold weather flying:

Check weather carefully. Ask the pilot what came through. Be frost and snow before takeoff. Check controls for restriction of move-

EMERGENCY Run-in in fog or rain, check wing pennage for ice in propeller blast

F/L Pockling take off in slush or wet snow if it break from initiation, possibly be avoided. circuit break at heater when flying in rain, snow maintained approach, as well as known icing zones. position. Power before when ice forms you will use brakes extended fuel to get to destination.

off to 185 knots, the airplane causes increased drag, partial flap and types of ice prevention measures (cabin heat and boots, for example) take away from the airplane energy that would normally go into its cruise range. Therefore, if icing conditions are anticipated, a more conservative cruise control must also be anticipated.

- If flying in wet snow or freezing rain, change altitude if possible.
- Glaze ice is common in cumulus clouds.
- Choose an altitude of least icing.
- Use propeller de-icers just before getting into ice.
- Use full carburetor heat to clear ice. (Use carburetor preheat for prevention. Don't wait to cure.) Watch your carburetor air temperature, especially between -5° and 10° C (23° and 50° F).
- Watch your airspeed (stalling speed increases with ice). Don't climb at a low airspeed.
- Check wing de-icers; use them properly.
- Do not land with de-icers on. They act as spoilers.
- If you have a load of ice, don't make steep turns.
- Don't try three-point landings if iced up. Fly in with power. Before starting the landing approach, move throttle back and forth slowly to make sure carburetor butterfly valve is free of ice.
- Carry carburetor heat during final approach and change to cold just before flareout.
- Before takeoff, check anti-icing and de-icing equipment. Be sure it is in good operating condition. You might need all your equipment.

USAF: Flying Safety

THE C

by S/L T. Waller

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for about 30 minutes after
I quarantined the aircraft
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We do not know if this pilot
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he didn't advise the tower,

OF PILOT ERROR

This is a sequel to the article printed in the November-December 1958 issue entitled "When We Assess It Pilot Error".

By the time you read these words the death knell of "Pilot Error" will have silenced, and the culprit will be securely planted in his grave never to rise again. Only his spirit will remain behind whom we will rename "Aircrew". We hope the new name will seem kinder to the many incensed people who have complained for years about "Pilot Error".

As we attempted to explain in the previous article, the "Pilot Error" assessment has been applied in the RCAF only when the pilot failed in his expected performance in a given situation, considering his training, workload, the design limitations of equipment, ground facilities, etc. If the initial circumstances which caused the accident were beyond the every day demands put upon the average RCAF pilot, other assessments such as "Materiel", "Ground", etc., have been used. However, in the eyes of many persons the term "Pilot Error" has not always been applied in a wholly discriminating manner, and hence it bears an unfortunate stigma.

The primary assessment "Aircrew" in the RCAF will be used with discrimination to designate a failure in the performance of our aircrew under reasonable circumstances, where the failure in performance was the cause of greatest magnitude in events that led to the accident or incident. It will be expanded slightly over the old term "Pilot Error" to include physiological

and psychological factors which are beyond the control of the aircrew. Such cases will carry the qualifying assessment of "Human Factors" as the underlying cause. Such things as disorientation and habit interference, which aircrew are trained to overcome, normally would not be primary cause factors under "Human Factors", but could be contributing factors. They are more likely to be recorded under the qualification of "Poor Technique", providing the pilot had no other problems to deal with simultaneously.

In changing the assessment "Pilot Error" it has also become necessary to do something with "Other Crew Error". Elimination of the irritating word "error" should in this case suffice. The assessment "Other Crew" is therefore basically unchanged, and it applies of course to personnel other than pilot and observer.

Notwithstanding the obituary of "Pilot Error" in the RCAF, and the heralding of the kinder assessment "Aircrew", we must not relax our vigilance. We must try to reduce accidents attributed to human shortcomings in this business of flying. Over 50% of all flying accidents can be avoided by the pilot alone! We must never forget this unpleasant fact, as we might well tend to do, by replacing "Pilot Error" with a more palatable term. Remember when you see "Aircrew" in the accident statistic summaries, except for a very small fraction of "Human Factors" that are beyond the control of the aircrew, and the very few flying accidents attributed to "Observers", it will continue to lay the causes of these accidents at the pilot's front door. The pilot must bear this burden of responsibility whether the occurrence is called "Pilot Error" or "Aircrew".

WINTER CHECK

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A REE-E-E-LY NEAR MISS

A T-33 crew on local IFR training flight was cleared from ground frequency to tower frequency and cleared to position on the active runway. There was a 3 minute delay before takeoff clearance was given. A normal takeoff procedure was commenced and as the aircraft attained a speed of approximately 80 knots a snowplow towing a large runway sweeper suddenly started to cross the active runway. The pilot requested the tower to clear the runway and at the same time commenced avoiding action by easing the aircraft towards the left. By utilizing a portion of the intersecting runway it was possible to gain enough speed to lift the aircraft off the ground at a low flying speed. The snowplow had also started avoiding action so a collision was averted.

No attempt was made to abort the takeoff since it was considered impossible to avoid an accident. Approximately 5 seconds elapsed between the time the snowplow was first sighted and the time the aircraft was airborne.

The specialist officer's comments on this Near Miss Report are: "The FSO was in the rear cockpit. It must be emphasized that time was not available to avoid an accident by aborting the takeoff. The DOT chief controller was contacted and strong action is being taken to ensure this does not happen again. It appears the vehicle was cleared to cross runway 07 - 25 on the parallel of 14 - 32. Instead he crossed runway 32 on the parallel of 07 - 25. The vehicle was ordered to 'hold' when spotted crossing the active runway. If he had continued an accident would have been inevitable."

DANGEROUS CLEARANCE

On climbing to altitude in a T-33, the pilot noted that the pressurization was not working properly. At 35,000 feet the cockpit pressure was 32,000. During the last part of the climb the pilot felt symptoms of anoxia, and selected 100% oxygen and pressed the "press to test" button. This rectified the anoxia condition momentarily but as the condition returned the pilot descended to 12,000 feet and returned to base. As he approached base he called for a clearance, and to quote from his statement: "I was cleared back to 25,000 for a letdown on

the beacon. At 25,000 just prior to arriving at the beacon, experienced slight anoxia again but "press to test" rectified until station passage. Normal letdown carried out; I had a very slight headache for about 30 minutes after landing. On landing I quarantined the aircraft and reported to the MO."

From the D14, we do not know if this pilot had advised the tower of his condition. If he did and the tower cleared him back up to 25,000 feet, the control people need some instruction on O₂ problems. If he didn't advise the tower, why oh why did he accept a clearance to climb back up to 25,000 feet?

This might very well have resulted in a hole in the ground and in all probability an "Obscure" cause factor.

JUST BURNIN' OFF FUEL

A T-33 was signed out for instrument flying practice. Everything appeared normal until the rear fire warning light came on while the aircraft was climbing through 19,000 with a power setting of 97.5 per cent. The light went out when the power was reduced to 90 per cent. The exercise was cancelled and the aircraft returned to the local area where fuel was burned off at cruising power. The landing was uneventful.

Investigation revealed that four of the nuts that hold the ring jet pipe coupling to the exhaust unit had sheared and that the other nuts were loose. The nuts that sheared were brass nuts, not steel nuts as specified in EOs! When this error was made, or by whom, could not be determined. The fact that it was assessed "Maintenance" is criticism enough for now.



The question we would like to ask about this is "How safe is a T-33 when the rear fire warning light goes out when power is reduced?" This is the third case of this kind reported in Flight Comment this year. Perhaps you recall "Pot Roast" from the Sep-Oct issue—the aircraft was flown for 45 minutes and, to quote, "There was evidence of over-heat in the back end adjacent to the rudder control cables".

Why the light comes on can only be answered by a ground inspection. The fact that the light goes out when power is reduced does not rectify the defect. Therefore the wisdom of burning off a large quantity of fuel before landing is open to question. From a safety point of view it would be better to drop the tip tanks and land immediately.

limit switch to contact switch simultaneously. ment slowly increased stop nut and the thread arm limit switch. Final where the shaft flap gear taper pin hole at the uni

Because it required maintenance error to incident, it is not possible. However, time and demanded a few gr extra work as payment.

HOW DOES IT FEEL?

How does it feel to be climbing through cloud, locked onto your lead, and have an unserviceable static pressure system? Here is one man's experience:

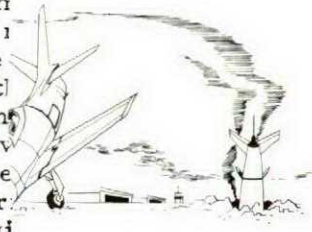
"Took off 45 seconds after the lead for a lock on climb to altitude, the mission being a mutual AI exercise. Acceleration to 350 knots seemed normal. The overcast was entered at 7000 feet and shortly thereafter the airframe and engine de-icers began to function. At 15,000 feet it was noticed that IAS was dropping off yet the gyro horizon and VSI did not indicate an abnormal climb attitude. As the nose was eased down the rate of climb reduced but the IAS and Mach meter also reduced. On radar, an overtake on lead was evident also the fact that he was becoming relatively high by comparison.

The climb was continued at a much reduced IAS with constant reference to the VSI and gyro horizon until reaching on top flight conditions at 24,000 feet indicated. (This was later confirmed to be about 28,000 feet.) The lead was holding over the base beacon while number 2 homed on the beacon on a heading of 270° M to effect a rendezvous. With 86% power the IAS was approximately 185 knots. The speed brakes were cycled to ensure that they were not out for some unknown reason and checked OK. Although the undercarriage indicator displayed an undercarriage up and locked condition the possibility of a hanging nose gear rear door was considered and it was decided to check this



ARRIVALS and DEPARTURES

aspect. Power was reduced to an IAS of 165 knots and the undercarriage was selected down. The aircraft immediately pitched violently into a nose up attitude and the IAS dropped off to 130 knots before a level flight attitude was regained and the undercarriage selected up. This time the nose gear did show an unlocked condition. The IAS was not allowed to exceed 175 knots. The hydraulic pressure remained normal and it was decided not to attempt further manipulation of the undercarriage. In the meantime a rendezvous over the beacon was not successful but a join-up was effected with the assistance of Yellowjack control, the lead locked onto number 2 at 3,000 yards. With an IAS of 175 knots the lead reported his IAS as close to 300 knots. The IAS was therefore reduced further to 160 in the altimeter reading established at this time TAS indicators in the cockpit closed that they were readings. Since weather as a 7000 foot ceiling beacon-GCA letdown at 3000 yards. A slow speed utilizing the gyro horizon references and GCA guidance. Below cloud the lead closed of his landing light that



at a slight angle and that the rear door was intact. Using the lead as a pace ship the airspeed was reduced to 180 knots and a normal undercarriage down selection was made at 5000 feet. The three green lights were a welcome sight and, still using the lead as a pace ship, a wide circuit culminated in a safe landing. As airspeed and altitude were reduced it was noted that the IAS and altimeter of number 2, although lower, was becoming closer to the IAS and altitude as read off by the lead. In retrospect this pilot deplores his poor airmanship in attempting to cycle the undercarriage at altitude before joining up with the lead to compare IAS readings and confirm whether the aircraft was clean."

Investigation revealed; a connection in the static pressure system cross threaded, lack of supervision, and maintenance procedures not entered in the LI4. There is also some doubt as to whether a pressure check was carried out on the system after components had been changed. Because this connection was in the pressurized cockpit area the error was not particularly noticeable at low altitude.

(Generally a CF100 pilot is too busy to act as a maintenance supervisor.—ED)

MORE CONTROL TROUBLES

The pilot of a CF100 commenced a normal descent from 35,000 feet. At 11,000 feet he tried to ease back on the control column but could not because it was jammed. Hydraulic pressure and ailerons were checked and found

normal. At this point the aircraft was descending at a rate of four to five thousand feet per minute with an indicated airspeed of 290 knots. The pilot applied strong rearward pressure on the control column and the restriction suddenly broke free. A check showed all control movements to be normal and the aircraft was landed without further incident.

On investigation a small screw was found in the "box" formed by mod EO 05-25E-6A/251—the modification that is supposed to keep foreign objects from jamming the controls. As there was no doubt about the cause of the trouble it was assessed "Maintenance".

This type of mod was introduced for the MKIV and MKV CF100 in March 1958. Since that time several reports of foreign objects jamming the controls of CF100s have been received. This would seem to indicate that sufficient care is not taken to keep foreign objects out of the cockpit area. Tool count, parts count, vacuum cleaning are fine ways to finish off a maintenance job, but, between times, it's the man with a hole in his pocket, or the one who does a BFI with one hand full of split-pins that is the "carrier" of the foreign object disease. He should be sought out and immunized with 350 ccs of caution.

HOW TO BE A GRANDFATHER

The pilot noticed stiffness of controls when in level flight at 8000 feet and with an IAS of 320 knots. Speed was reduced to 200 knots and the stiffness decreased. Control in turns, however, required more than normal effort so the CF100 was returned to base and placed unserviceable.

Investigation revealed that the outboard R.H. aileron quadrant, part number 5/R25044, was out of alignment and that the locking wire on the R.H. aileron hydro-booster was fouling on the under surface of the skin.

The pilot of this aircraft had done very little flying during the preceding thirty days and wondered if he might not have lost the "feel" of the controls. In spite of his doubts—or because of them—he did the wise thing and had the aircraft checked.

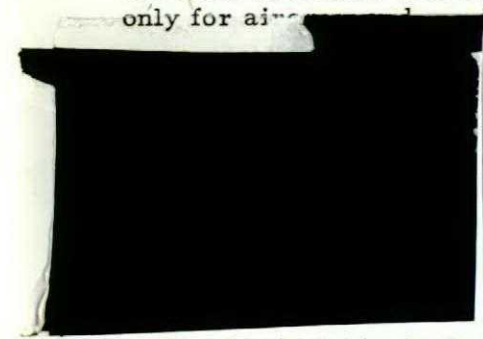
UIFO - ACCEPTABLE

The CF100 was climbing after a takeoff for a training mission. At approximately 5000 feet, with a power setting of 97% and an IAS of 335 to 340 knots, a loud bang was heard. The pilot returned to base without incident.

Following, in part, is the specialist officer's report: "It is apparent that some foreign object entered the port engine air intake striking the face of the intake guide vanes. The object caused considerable damage to the stator and rotor blades of the compressor. A large amount

of aluminization is information on the 30 KVA stage turbine blade-110A-7A but omitted the on the exhaust cone location. Units with more The aircraft hasperation of Neptunes con- with no evidence of the 30 KVA, however. The hardware that could be relatively inexperienced the air intake in flight, did not.

The engine was rned has taken UCR action, EO 10B-10AA-2 andould not be overlooked is caused by unidentifi mles away from the unit, that has been assess accident. And who is to say that many of our accidents do not start on the desk of a man who th only for air



LOOKIT MOM, NO THRUST

The flight was authorized to check out a pilot on an Expeditor. Takeoff was normal and, to simulate loss of starboard power, the captain retarded the starboard throttle. The pilot being checked committed the first error. He feathered an engine on a simulated low level low speed engine failure. The captain, when attempting to unfeather the engine, feathered the remaining engine. This was error number two as he was in a position to maintain or gain

oled to one side of the taxi "monster" was fired up the dropped in the grass six feet n the side opposite the pooled pilot made a 180° turn and taxi the propeller tips of the propeller struck the extinguisher.

The captain fe altitude before try engine. This is the thir than 18 months. treating feathering on the Expeditor with a little more respect.

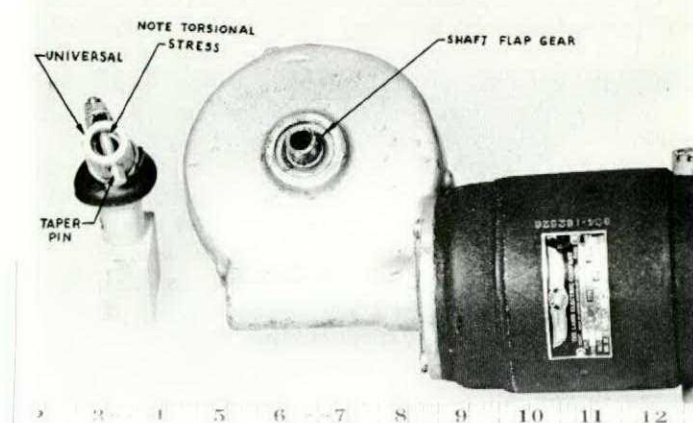
SPLIT FLAP

A pilot was receiving instruction on an Expeditor. On completing a landing he was told to overshoot and the instructor raised the flaps. As the aircraft left the ground the student appeared to have difficulty maintaining control. The instructor took control and found that the

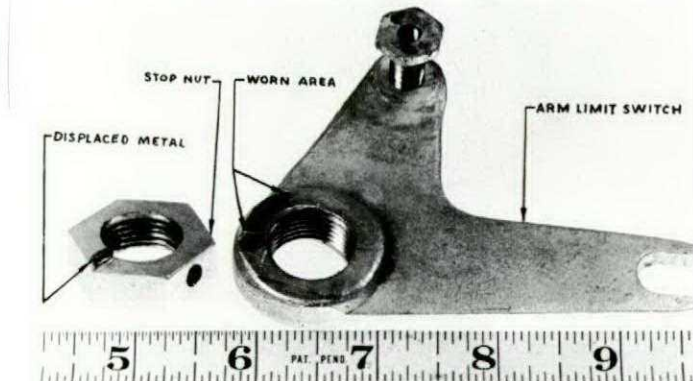
ourcraft had a vstruck the extinguisher. At this timhe engine was not damaged so a split flap condits all that was required. Cause waound. This vpoor marshalling - "Ground". ptain. om the editorial in the July- Au The down fla Flight Comment: "...and to enp would not ling of new equipment, a greater enlection so it e placed on supervision." This is p landing care old habits and new aircraft ar Technical inble. Supervisors please take noct, the first with the split flap condition. This could be possible in view of the students experience on type and the turbulent conditions.

Cause of the trouble was traced to an incorrect adjustment of the bolt flap limit switch on the up selection which allowed the arm flap limit switch to contact the stop nut and limit switch simultaneously. The error in the adjustment slowly increased due to wear on both the stop nut and the threaded portion of the flap arm limit switch. Finally a point was reached where the shaft flap gear sheared across the taper pin hole at the universal.

Because it required a long time for this maintenance error to grow into a serious incident, it is not possible to identify the miscreant. However, time has revealed his error and demanded a few grey hairs and a lot of extra work as payment.



Continued stress caused the shaft to shear. Wear caused by improper adjustment.



aspect. Power was reduced knots and the undercarriage was normal. The aircraft immediately pitched a nose up attitude and the IAS dropped to 130 knots before a level flight was regained and the undercarriage retracted. This time the nose gear did not retract. The IAS was not above 175 knots. The hydraulic pressure was normal and it was decided not to attempt manipulation of the undercarriage.

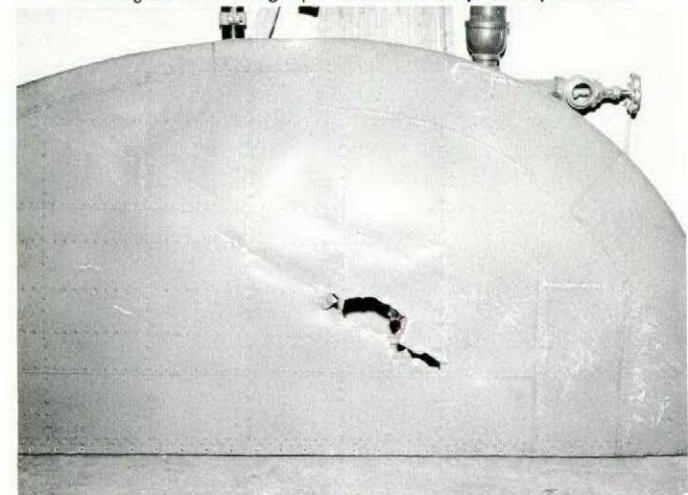
ORDERS ARE ORDERS

Here is the mule driver's story: "At approximately 0800 hours the NCO in charge of the line servicing crew ordered the crew to move all of the C119 aircraft from the hangar, except one aircraft. The reason for moving the aircraft was that it was raining and the Air Cadet Drill Teams needed the space to have their parade. We towed two aircraft out of the hangar. The brake man and I then came back into the hangar and left two men to close up the windows and doors on the aircraft that were parked outside. The brake man and I proceeded to get another aircraft ready to move.

The brake man was in the cockpit on the brakes as we waited for the wing men. I saw the wing men coming into the hangar and proceeded to move the aircraft. I heard a crunch and immediately stopped the mule. I backed out and went to report the accident to the NCO in charge of line servicing."

The EOs are quite specific about who should direct the towing of aircraft and where each member of the towing team should be positioned. "Coming into the hangar" is not one of the positions. The NCO in charge of the line servicing crew was also at fault; when he did not choose to direct the towing personally he should have detailed one of the men to take charge. He did not do this and, as a result, we have four men trying to tow aircraft instead of a towing team doing it properly.

Damaged C119 wing tip—the result of poor supervision.



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normal. At this point the airspeed indicator was dropping at a rate of four to five knots per minute with an indicated airspeed of 130 knots. The pilot applied strong pressure to the control column and the aircraft pitched up and broke free. A check showed instruments to be normal and the aircraft returned to base without further incident.

On investigation a small hole was found in the "box" formed by modification of the modification that is supposed to prevent jamming the controls. As there was no other cause of the trouble it was determined that the modification was introduced for the purpose of preventing jamming of the controls.

RECIPE FOR AN

Conditions: wind speed 10 knots, visibility 10 miles, temperature 50 degrees F. Standard parking arrangement of foreign objects fore and aft, disengagement of CF100s have been observed. A Mitchell was used to indicate that feet ahead of an Expeditor taken to keep foreign objects fore and aft and did not check cockpit area. Tool count, set. The prop blast cleaning are fine ways to Expeditor backwards. The job, but, between times, collision with another plane in his pocket, or the \$1500.00 damage.

What else could you expect?

Blend two Expeditors with one Mitchell prop blast.



out of alignment and that the R.H. aileron hydro-boost was leaking under the surface of the skin.

The pilot of this aircraft had been flying during the preceding incident and wondered if he might not have lost control of the aircraft because of them—he did the check and the aircraft checked.

UIFO - ACCEPTABLE

SOMEBODY DROPPED THE BALL

Approximately ten minutes after takeoff the aircraft's generator forward bearing overheat light came on so the R.H. engine was feathered and the Neptune returned to base.

The trouble was caused by lack of lubrication due to inadequate instructions. Here is the story as we have it: Item PP61 of EO 05-110-7A requiring the 30 KVA to be lubricated was cancelled.

Additional information on the 30 KVA was put into EO 05-110A-7A but omitted the information on lubrication. Units with more experience in the operation of Neptunes continued to lubricate the 30 KVA, however. The unit concerned, being relatively inexperienced on Neptune maintenance, did not.

(The unit concerned has taken UCR action, but the point that should not be overlooked is that a "desk-man", miles away from the unit, actually caused this accident. And who is to say that many of our accidents do not start on the desk of a man who thinks flying safety is a matter of mechanics.—ED)

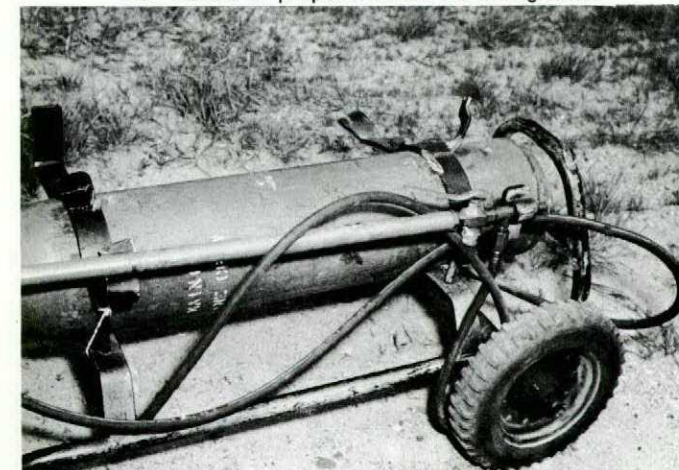


SUPERVISORS TAKE NOTE

A minute on an Argus accident file reads: "Dropping the extinguisher in the grass beside the tarmac is standard practise at many stations, but only a four engined monster would have a prop hanging over far enough to hit it." The accident that prompted this minute was staged on a dark moonless night.

On this night, to cutdown turn around time, a number of aircraft were being serviced and armed in a confined, unlighted area. The ground equipment was pooled to one side of the taxi strip. After the "monster" was fired up the extinguisher was dropped in the grass six feet from the tarmac on the side opposite the pooled equipment. The pilot made a 180° turn and when he started to taxi the propeller tips of the

The "monster's" propeller struck the extinguisher.



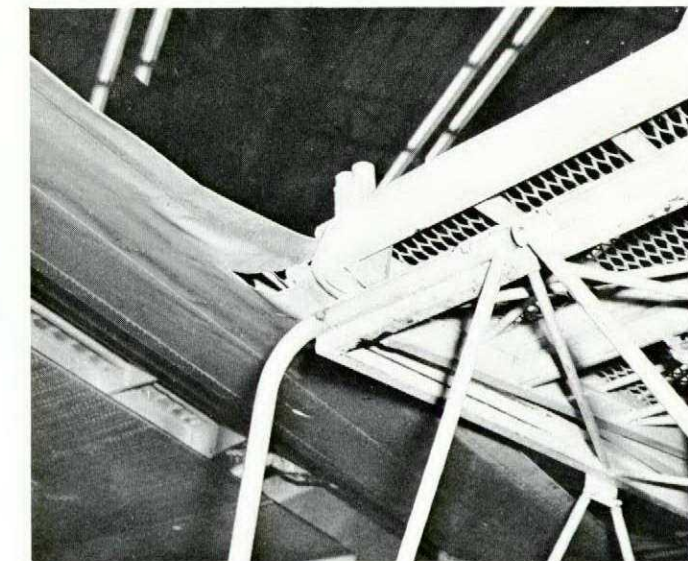
outboard engine struck the extinguisher. Fortunately the engine was not damaged so a prop change was all that was required. Cause was assessed as poor marshalling - "Ground". (To quote from the editorial in the July-August issue of Flight Comment: "...and to ensure safe handling of new equipment, a greater emphasis must be placed on supervision." This is a case where old habits and new aircraft are not compatible. Supervisors please take note.—ED)

ARGUS FLAP

When a new type of aircraft is introduced there are many details of handling that have to be ironed out. Sometimes this can be done without an accident; this time we were not so lucky.

An Argus had been hangared for defrosting, general cleaning, and to have a minor electrical defect corrected. When AC power was switched on at the flight engineer's panel by the electrical technician the flaps lowered onto a maintenance stand. The flaps had been in the full up position when AC power was applied. The cockpit was checked immediately after the accident and the flap selection lever was in the full down position.

The instruction for provision of ground power as detailed in EOs, though adequately covering the procedure for turning on power at the engineer's panel, does not adequately detail the



The flap lowered onto the stand.

checking of selector levers in the cockpit to ensure that they agree with the actual position of the components.

The unit has taken UCR action. It has also issued a Flight and Section Order to ensure that all panels and consoles are checked to ensure that controls are in the required position relative to the component which they operate; and to place the Argus out of bounds to personnel not specifically authorized to work on it.



LETTERS TO THE EDITOR

Altimeter Error

In the July-August 1959 issue of "Flight Comment" there appears an article entitled "Altimeter Error or Don't You Believe It!!" reprinted from a USN Safety Center publication. This is a very good "scare" article, but the conclusions drawn are false.

...The pilot is left to infer that although his altimeter will read 10,000 feet above MSL, he is in fact flying at 8,900 feet above MSL. This is not what the author has proven at all. He has shown that the aircraft will be 1,100 feet below an indicated altitude of 10,000 feet with the standard altimeter setting of 29.92 on the subscale instead of the current altimeter setting...

...The feasibility of his approach to the problem is very much open to question, particularly when elevations and true altitudes are referred to MSL. Maintaining a current altimeter setting is extremely important; let's not adopt an approach on this subject which might give aircrew the idea—"It doesn't really matter, so why bother!"

Your magazine printed an excellent article on the pressure altimeter by Mr. Maurice Hardman in the July-August 1957 issue....

A. Missio
SMetO
RCAF Station Rockcliffe

(Because altimeter setting does not appear to be a problem for our pilots, we have not published Mr. Missio's detailed criticism in toto.—ED)

Popped Circuit Breaker

Recent evidence reveals that some aircrew members are not aware that circuit breakers of the thermo-resetting type require time to cool before they can be successfully reset.

It is not possible, in this short squib, to state just how long the cooling period should be because the time to cool will naturally depend on the quantity of heat generated within the circuit breaker.

As a general rule, between one and two minutes should be allowed to elapse before attempts are made to reset.

FLIGHT COMMENT

ISSUED BY

DIRECTORATE OF FLIGHT SAFETY
R.C.A.F. HEADQUARTERS • OTTAWA • CANADA

November • December	nance".	
	was introduced for the	
) in March 1958. Since	
	orts of foreign objects	
Editorial	of CF100s have been	
	seem to indicate that	
50 Years of Flight	t taken to keep foreign	
10 Years of Flight Co	ckpit area. Tool count,	
	leaning are fine ways to	
Good Show	the job, but, between times,	
	le in his pocket, or the	
Near Miss	
	expect?	
It's Wembley!	ith one Mitchell prop blast.	
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STAFF

Editor-in-Chief—Squadron Leader George Sheahan

Editor—Mr. Garth Harvey

Circulation—Flight Lieutenant Peter Bremner

Artists—Mr. Jean A. Dubord
Mr. Harry K. Hames

Editorial Assistant—Mrs. Nancy L. Chenier

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