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AVIATION SAFETY BULLETIN

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INTERNATIONAL CIVIL AVIATION DAY (07th December 2012)

It was *7th **December 2012***, we celebrated International Civil Aviation Day. On this day 68 years ago, a group of visionaries met in Chicago and signed a document that would forever change our aviation world.

The Convention on International Civil Aviation of 7th December 1944 marked the creation of the International Civil Aviation Organization and International Civil Aviation Day, an official United Nations celebration, commemorating the establishment of the Organization.

The theme for this year's celebration was "***Aviation: Your reliable connection to the world***".

Over the years, the fundamental principles of assistance and cooperation have given rise to a remarkably safe and efficient global air transport system that supports economic, social and cultural development throughout our global society. This cooperation among the Member States of ICAO and with the air transport industry has led to the development of thousands of technical and operational standards, regulations and policies necessary for aviation safety, security, efficiency and regularity, as well as for aviation environmental protection.

As the global forum for all matters relating to international civil aviation, ICAO fosters the adherence to such basic principles as assistance and cooperation, so that air transport services can be developed in an orderly, efficient, economical, harmonious and sustainable manner.

In support of ICAO initiatives, Fiji has been participating in fulfilling its role and obligations to the Chicago Convention. In this regard, Fiji, through the Minister and the Ministry responsible for Civil Aviation has hosted a number of ICAO workshops and trainings to assist Island States in the region. Fiji had again hosted ICAO's Performance-Based Navigation Development workshop and the Tenth meeting of the Performance-Based Navigation Task Force at the Tanoa International Hotel in Nadi on the 10th to the 13th December 2012.

The global aviation community has been facing significant challenges. As demand for air transportation services increase, States are faced with finding solutions to safely increase capacity, efficiency, and access, e.g. to terrain challenged airports. These constraints are largely a result of reliance upon conventional ground-based navigation aids (e.g., VOR, NDB, ILS), which limit routes and procedures to the physical locations of these ground aids. These ground-based systems have served the aviation community well since inception; however, they do not permit the flexibility of point-to-point operations available with PBN to meet the challenges of today and the future. Therefore ICAO adopted PBN to address these challenges.

The PBN Workshop, as an ICAO Special Implementation Project, was organised to also assist Pacific Island States to develop a PBN plan. The PBN Task Force meeting will continue to promote PBN knowledge sharing, facilitate PBN implementation in the Asia/Pacific Region as well as to identify the PBN implementation gaps, particularly in State PBN Implementation plans and mitigate them accordingly.

PBN is helping the global aviation community reduce aviation congestion, conserve fuel, protect the environment, reduce the impact of aircraft noise and maintain reliable, all weather operations, even at the most challenging airports. It provides operators with greater flexibility and better operating returns while increasing the safety of regional and national airspace systems. ■

Inside this Issue:

PBN Workshop & PBN Task Force 10th Meeting

Fiji hosted another international conference, this time the two day PBN workshop was attended by 63 participants from 19 States including Fiji and 4 industry organization (ICAO, IATA, Air Pacific, General Electric).of 22 Asia Pacific countries who are members of the ICAO.

The Attorney-General and Minister for Civil Aviation, Aiyaz Sayed-Khaiyum opened the conference in Nadi at the Tanoa International. The PBN Task Force Workshop/meeting was held from 10th-13th December 2012. ICAO in response to Fiji's hosting acknowledged Fiji's contribution to civil aviation in general and in particular, the support Fiji gives to ICAO and the Pacific Island States.

Mr Sayed-Khaiyum said the rapid growth of the aviation industry in recent years had presented the industry with new challengers that needed to be addressed.

"Solutions have to be identified and developed now in a holistic manner if greater efficiency is to be achieved," he said.

"Everyone now acknowledges the need to solve the congestion of airways and aerodromes."

"Most of the pacific Island states continue to use conventional ground-based navigational aids as the primary means of navigation". The Minister said.

These ground based systems have served the aviation community well since their inception.

However, they do not permit the flexibility of point-to-point operations available through Performance Based Navigation which would meet the challengers of the future.

Facilitators from the ICAO Regional Office, CASA Australia and IATA briefed participants on the ICAO PBN roadmap and plan. States that have implemented their PBN plan shared their experiences and some new concepts were also presented of what may likely transpire in the future.

ICAO briefed States on the status of the PBN implementation plans and it was stressed that many States in the Pacific have yet to submit their PBN plan. The workshop provided the States with the template, Performance Based Elements (PBE's), to develop their PBN plan.

Fiji's plan which was submitted in February 2010 was reviewed by ICAO and was considered robust.

The workshop provided an opportunity to review Fiji's PBN plan according to the template provided.

The task force meeting continued on 12-13 December 2102 attended by the CNS/ATM and avionics experts in the region. The key outcomes were consolidated in a report that will be submitted to the next APANPIRG meeting in 2013.

Ministers Quote " A healthy civil aviation industry is crucial to Fiji's prosperity and development and has flow on benefits for the tourism industry" unquote. ■

HURRICANE CONSIDERATIONS

The passage of Hurricane Evan over the Northern and Western areas of Fiji on the afternoon of the 17 December 2012 is a reminder to us all of the fury and forces of nature when it becomes disturbed.

Although much devastation has occurred with its passage, we can all be thankful of modern technology and the personnel who operate it, for the timely warnings that enabled the public to take the necessary safety precautions before its arrival.

Of concern to aircraft operators is the safety of their infrastructure and aircraft but primarily, the aircraft and in this regard, there are some basic considerations that may assist in minimizing the exposure to damage.

These considerations include relocating aircraft to another airport where the likelihood of damage occurring is reduced, securing aircraft inside a hangar or, securing aircraft to the ground in an "open" environment.

- Relocating aircraft to another airport. This is probably one of the easier considerations when a timely hurricane warning has been issued by the Meteorological organization. The further the distance that aircraft can be removed from the "eye" of the hurricane then the safer they will be. Fiji, with its topographical features provides a number of havens that will offer a measure of safety. For example, airports to the East of Nadi should be considered if a hurricane is expected to pass Nadi from the North.

- Securing aircraft inside a hangar. This consideration has merit but operators should determine from a structural engineer what wind velocity their hangar(s) can withstand. Most modern hangars constructed with a frame of steel beams can withstand a wind velocity of 130 knots. The problem with this consideration is the strength of the hangar doors. Due to the wind velocity on the exterior surface of the hangar doors, they will bend inwards or "convex" with the result that they may detach from the hangar floor or upper railing and be blown into the hangar which will damage aircraft that have been placed inside. Thought should also be given to the wisdom of placing all the aircraft into a hangar. It may be prudent to place some aircraft in a hangar and some elsewhere thereby reducing the risk of loosing the fleet should the hangar collapse.

- Securing aircraft to the ground. If this consideration is implemented operators should first of all determine the expected wind direction for the arrival and passage of the hurricane to assist with the directional positioning of their aircraft and in this regard, Buys Ballot's Law maybe of some help. This Law states that in the Southern Hemisphere, if you stand with your back to the wind the associated low pressure area will be to your right hand side.

  Therefore, if a hurricane tracks to the West of Nadi from the North initially the wind will blow from the Southeast and moving anticlockwise to the North when the hurricane passes to the West.

Additional safety measures could include placing chokes around the wheels, applying the parking brake and placing objects on top of the wings to reduce the lift generated by the airflow.

Operators may also consider compiling a hurricane procedures manual which will provide ideas and assistance to staff on the necessary safety actions they can take to secure company aircraft following the issuing of a hurricane alert. This will also provide some historical information and lessons learnt from previous events which remain with the operator irrespective of staff changes that occur over time ■

(Article by Air safety Dept..)

AVIATION SECURITY - A PERSONAL VIEW

When we look at the aviation security 'industry' and 'professionals' involved in it, we can see many changes since 2001. The industry is struggling to become recognized as being 'professional' even with the strong support of agencies such as ICAO and IATA. Staff working in the industry are working extra hard to update themselves with the latest legal and technological developments.

If we were to stop and take a look at where we are heading and where we should be heading as professional industry, we may come to realize that nothing much has changed since the early 80's.

As an industry, we have the additional burden of dealing with high level issues and problems created through increasing regulations and requirements imposed on the industry by regulators, airports, international organizations and even our own employers in some instances. This 'burden' unfortunately is here to stay and I can only see this growing in the coming years. Are we really improving efficiency and increasing security standards by complying with these new regulations and requirements? This is a question that is highly debatable and fortunately is currently being actively discussed by many inside and outside the industry.

Are we really heading towards becoming a more professional and mature industry? In my opinion, we are doing a lot to try and become professional but pressing external factors such as staff management and increasing regulatory pressures, whilst assisting in a 'big picture' sense, is really proving to be a hindrance to making the industry more professional.

What does becoming professional really mean? As an industry some factors that would make us seem as a 'profession' would be streamlining of qualification required to work in the industry at differing levels, having more industry standards that relate to these qualifications and increasing staff qualifications at the lower levels of staffing (e.g. for screeners and security officers). The best comparison is with recently 'professionalised' industries such as nursing. In just less than 10 years, the nursing profession has 'matured'; today you need to professionally qualified before getting a nursing job at any level in most countries. Qualifications and standards are monitored by bodies external to organizations such as the Nursing Boards and staffs have to learn to become professional nurses. The standards are qualifications are usually portable from one country or jurisdiction to another.

Will our (aviation security) industry ever reach this level of sophistication? Not in the near future as we are still dominated by the highly experienced industry professionals who strongly believe that experience is more important than educational qualifications for staff working at lower levels of security. These professionals are also guided by small general and training budgets that mean that higher pay and increased training (and education) is not an option as bottom lines still dictate the industry. There are of course some exceptions to this and we all know of aviation security organizations and airlines that invest heavily in staff training (and education) and pay staff premium salaries at all levels. But these are rare exceptions.

'Maturity' we can achieve in the short-term, but becoming a 'profession' is something that is a distant goal.

'Professionalising' the industry has to be undertaken by senior staff and governments have to play an important role in ensuring that aviation security organisations become professional. If we do not act very quickly to work jointly towards this, we will have a workforce in 2020 that will be manned by lowly skilled, poorly paid workers who will be working in aviation security as 'last resort' jobs. Security managers may be better qualified by 2020 but the all important security officer who works at security gates and screening points may be doing this job as it is the only one he is able to secure.

This is already happening in some countries. We need to focus on having a skilled and professionalized workforce at all ranks and not just at management levels. Compare this with the 'terrorism industry' where the training camps are getting more sophisticated and their budgets healthier. Staff morale in security organizations may be plummeting but there is no evidence that the people we are at 'war' against have a plummeting morale!

Professor Nara Shrinivasan is the professor of Security & Risk at Edith Cowen University, Western Australia and Dean of Transguard Educational Academy based in Dubai. ■

Sourced from
(Article by Professor Nara Srinivasan) adapted from Aviation Security International.

CAAF's Standards section is keen to hear from you regarding our levels of service. If you believe you have constructive ideas on how we can improve our services, or would like to report instances where we have failed to meet your expectations, please send your feedback to CAAF, preferably using the QA 108 form that can be accessed from our website. This can be sent to CAAF by faxing it to Quality Assurance Manager on 6727429, dropping it in the feedback box in the foyer of CAAF HQ, or emailing to standards@caaf.org.fj.

Your suggestions for improvements to this publication are also invited. CAAF also invites you to submit valuable information or articles that you would like to have published through this bulletin for the benefit of readers. Your name will be appropriately acknowledged. Please use the email address stated above.

GOOD AIRMANSHIP

INTRODUCTION

a. Although this information is mainly intended for private pilots and students of Flying Training Institutes, much of the advice will be relevant to all pilots as a reminder, whatever their experience or the type of aircraft they fly.

b. Any review of accidents shows that most should not have happened. They have been a result of a combination of the following:

- use of incorrect techniques;
- lack of preparation before flight;
- being out of practice;
- lack of appreciation of weather;
- overconfidence;
- flying illegally or outside licence privileges;
- failing to maintain control;
- a complacent attitude; and
- the 'it will be alright' syndrome.

C. Comprehensive Knowledge, careful Preparation and frequent flying Practice are key elements in developing 'Good Airmanship' which is the best insurance against appearing as an accident statistic.

KNOWLEDGE - REPORTING

a. "Learn from the mistakes of others; you might not live long enough to make all of them yourself."

b. Share your knowledge and experience with others, preferably by reporting to CAAF, your organisation, or the Fiji Confidential Aviation Incident Reporting Programme (FCAIR), anything from which you think others could learn. Your report could prevent someone else's accident. Photographs often help to illustrate a problem.

c. Improve your knowledge by reading CAAF's Aviation Safety Bulletins published monthly (www.caaf.org.fj) and other Safety Information available from other websites online.

d. More specific information is available in the Fiji Aeronautical Information Publication and Aeronautical Information Circular .

STATISTICS

A. The main fatal accident causes have been attributed to:

- continued flight into bad weather, including impact with high ground and loss of control in IMC;
- loss of control in visual met conditions, including stall/spin;
- low aerobatics and low flying;
- mid-air collisions (sometimes each pilot knew the other was there);
- runway too short for the aircraft's weight or performance; and
- colliding with obstacles, perhaps being too low on the approach.
- A high proportion of stall/spin fatal accident are a result of pilots who are not in good flying practice.

B. Loss of control in flight is the major cause of fatal accidents in gliding and micro lighting.

C. The main causes of twin-engined aircraft fatal accidents have been due to:

- pressing on into bad weather (often to aerodromes with limited navigational facilities) resulting in controlled flight into terrain or loss of control in IMC; and
- loss of control under VFR particularly following engine failure.

REFRESHER TRAINING

Revise your basic knowledge and skills by having a regular flight, at least every year, with an instructor which includes:

- steep turns and spiral recoveries; and
- slow flight and stalls (clean and with flap) so that you recognise buffet, pitch attitude, control loads etc.

Note: in a level 60° banked turn, the stall speed increases by about 42% - a 50 kt straight and level stall becomes 71 kt. Practise at a safe height.

- If the aircraft is aerobatic or cleared for spinning, practise full spins as well as incipient spin recovery from a safe height. Aim to recover by 3,000 feet above ground.
- Practise forced landing procedures.
- Instrument flying and cloud avoidance.
- Take-offs and landings, including normal, cross-wind, flapless and short.
- If you fly a twin, practise engine-out procedures and power-off stalls with an Instructor. Manufacturers quote a minimum safe speed for flight with one engine inoperative, V_{MCA}. Age and modifications may increase this for your aircraft.

LIMITATIONS

a. You must know the aircraft's limitations and HEED THEM. If it is placarded 'NO AEROBATICS', it means it!

b. Know your own limitations; if you do not have a valid Instrument Rating, then you must comply with VFR Met mini requirements. If not in practice, you are not as good as you were!

PREPARATION - DOCUMENTS

a. Make sure that your personal paperwork (licence/rating, Certificate of Test/Experience and medical) is up to date. Also check that the aircraft's documents, including Certificates of Airworthiness/Permit to Fly, Airworthiness Review and Insurance, are current.

b. Make sure that the Check List you use conforms to the Flight Manual of that aircraft.

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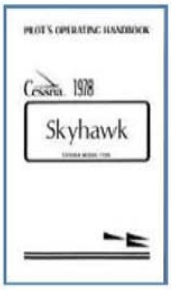
GOOD AIRMANSHIP cont.....

UNFAMILIAR AIRCRAFT

A. Before you fly a variant of the aircraft you are rated on, ensure any 'Differences Training' is completed.

B. Before you fly either a new aircraft type, one you have not flown for a while or one you do not fly often, study the Pilot's Operating Handbook/Flight Manual and be thoroughly



familiar with:

- airframe and engine limitations;
- normal and emergency procedures;
- operating, stall and best glide speeds;
- weight and balance calculation; and
- take-off, cruise and landing performance.

C. Familiarise yourself with the external and ground checks, cockpit layout and fuel system, e.g. don't confuse the carb heat control with the mixture control.

D. Even if not legally required, try to have one or more thorough check flights with an instructor. (In the case of a single-seat aircraft, make thoroughly pre-briefed exploratory flights.) Include the items in paragraph 4, Refresher Training.

E. If you have not flown the type in the last six months, treat it as 'new'. Many schools will require a check flight if you have not flown the type in the last 28 days.

WEATHER

A. Get an aviation weather forecast, heed what it says and make a carefully reasoned GO/NO–GO decision. Do not let 'Get-there/home-itis' affect your judgement and do not worry about 'disappointing' your passenger(s). Establish clearly in your mind the current en-route conditions, the forecast and the 'escape route' to good weather. Plan an alternative route if you intend to fly over high ground where cloud is likely to lower and thicken.

B. Don't forget to check on cross-wind at the destination.

C. The various methods of obtaining aviation weather (including codes) are described in the Aeronautical Information Publication, available free from Airports Fiji Limited. Aerodrome and area forecasts and reports are freely available on the met office website www.met.gov.fj.

D. Know the conditions that lead to the formation of carburettor or engine icing and stay alert for this hazard. Check carb hot air at top of climb and periodically use it in the cruise and with the first indication of a loss of power due to icing; once formed it may take more than 15 seconds of heat to melt the ice. Check carb heat during pre-landing checks and use it at low power settings as directed in the Pilot's Operating Handbook/ Flight Manual.

VFR NAVIGATION

A. Use appropriate current aeronautical charts. Enquire with Airports Fiji Limited on amendments to charts.

B. Check NOTAMs, Temporary Navigation Warnings, AIPs, AICs etc. for changes issued since your chart was printed or which are of a temporary nature, such as a closed runway, NAVAID or ATC frequency change.

C. Information on Temporary Restricted or Controlled Airspace, Emergency Restrictions is updated daily on NOTAMs.

D. Prepare your Route Plan thoroughly, with particular reference to minimum flying altitude and suitable diversions. Familiarise yourself with the geographical features, time points, airspace en-route and frequencies.

E. Note masts and other obstructions in planning your minimum flying altitude; note Maximum Elevation Figures printed on the charts.

F. Allow extra height over hilly terrain, particularly in windy conditions, to minimise turbulence and the effects of down draughts.

G. Plan to reach your destination at least one hour before sunset unless qualified and prepared for night flight. Note aerodrome operating hours.

H. In any aircraft, the minimum height over a congested (i.e. built-up) area is not less than 1,000 ft above the highest object within 600 metres. In any aircraft other than a helicopter, you must not fly over congested areas without sufficient height to safely alight clear of the area in the event of engine failure. This could be higher than 1,000 ft

I. Do not plan to fly below 1,000 ft AGL unless necessary. If your engine fails you may need time to select a safe landing field.

J. Know the procedure if you get lost.

K. If you use GPS to back up your visual navigation, load and check the route beforehand. Double-check any waypoints when working them out and entering them. Progress must be monitored by map reading and not by implicitly trusting the GPS.

RADIO

A. Know what to do in the event of radio failure, including when flying Special VFR in controlled airspace. Know your way round your radio switches.

B. Note all useful radio frequencies, including destination and diversion aerodromes, VOLMET etc.

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GOOD AIRMANSHIP cont.....

C. Note the frequencies and more indent of radio NAVAIDs for back-up to the visual navigation.

D. Remind yourself about radio procedures, phraseology etc.

WEIGHT AND BALANCE

A. Use the actual empty weight and CG from the latest Weight and Balance Schedule of the specific aircraft you are flying. Aircraft get heavier due to extra equipment, coats of paint etc. Use people's actual weights, too.

B. Check that the aircraft maximum weight is complied with. If too heavy, you must reduce the weight by off- loading passengers, baggage or fuel.

C. Check that the CG is within limits for take-off and throughout the flight. If your calculations show that it will not stay within the approved range, including the restricted range for spinning or aerobatics, you must make some changes.

D. Never attempt to fly an aircraft which is outside the permitted weight/CG range and performance limitations. It is extremely dangerous (sudden loss of control likely), as well as illegal, invalidates the C of A and almost certainly your insurance.

PERFORMANCE

A. Make sure that the runways you are going to operate from are long enough for take-off and landing. Use the Pilot's Operating Handbook/ Flight Manual to calculate the distances that you need. Check for any Supplements that may downgrade the performance.

B. Any factors given for elevation, temperature, slope, grass, tailwind etc. are all cumulative and must be multiplied, e.g. 1.3 x 1.2 etc.

C. The performance figures given in the Handbook/Manual were obtained by a test pilot on a new aircraft so, in addition to the published factors, it is advisable to apply a safety factor of 1.33 for take-off and 1.43 for landing. These give acceptable safety margins, and will offset an out-of-practice pilot/tired engine. On a few aircraft these may have been included in the manufacturer's information as 'factored' data.

D. Short wet grass is slippery and may need a factor of up to 1.6!

FUEL PLANNING

A. Always plan to land by the time the tanks are down to the greater of ¼ tank or 45 minutes' cruise flight, but don't rely solely on gauge(s) which may be unreliable. Remember, head-winds may be stronger than forecast and frequent use of carb heat will reduce range.

B. Understand the operation and limitations of the fuel system, gauges, pumps, mixture control, unusable fuel etc. and remember to lean the mixture if it is permitted.

C. Don't assume you can achieve the Handbook/Manual fuel consumption. As a rule of thumb, due to service and wear, expect to use 20% more fuel than the 'book' figures.

DESTINATION

A. Check for any special procedures and activities at your destination such as gliding, parachuting, or microlighting. Update the Aeronautical Information Publication with NOTAMs.

B. If your destination is a strip, remember that the environment may be very different from the licensed aerodrome at which you learnt to fly, or from which you normally operate. There may be hard-to-see cables or other obstructions on the approach path, or hills, trees and buildings close to the strip giving wind shear and/or unusual air currents.

C. Before going to a strip, it is suggested that you are checked out by an instructor or someone who knows the strip well. If you can't arrange either, go by road and have a look at the potential problems for different wind/surface conditions. Assess the slope; it may be visually deceptive.

D. You must obtain permission by telephone (unless otherwise notified) if the destination requires prior permission. Even if permission is not required, always phone to find out the procedures.

E. Prepare a Flight Plan for filing on the day if you are going over a sparsely populated area or more than 10 NM from the coast. ■

Source: Compiled on 30 September 2011
Information sourced and adapted from CAAUK

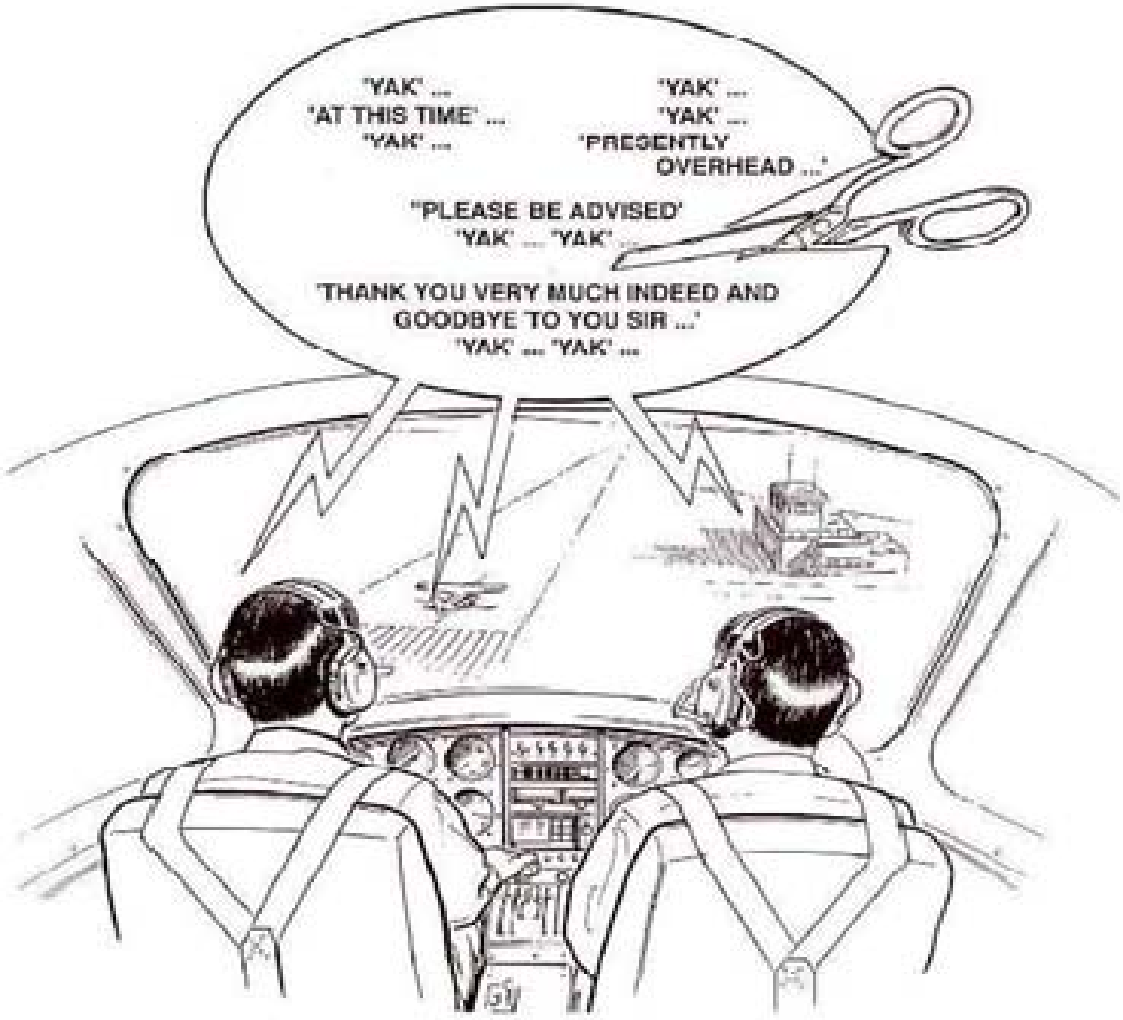
FCAIR

FIJI CONFIDENTIAL AVIATION INCIDENT REPORTING FORMS AVAILABLE ON WEBSITE

www.caaf.org.fj

OR FRONT DESK, CAAF HQ

CUT THE CHAT!



KEEP IT BRIEF

Civil Aviation Authority of Fiji

Promoting effective aviation safety in the Fiji Islands and the region