1997, Issue 6

VECTOR

Pointing to Safer Aviation

When to Decline an ATC Clearance or Instruction

A recent fatal accident highlighted the issue of Air Traffic Control (ATC) *clearances* or *instructions* and when to decline them. A recommendation from the Transport Accident Investigation Commission (TAIC) report into the accident was to remind pilots and "… flight training organisations that they should actively teach pilots to recognise when they should decline an ATC clearance or instruction, and how to request an alternative clearance." This article discusses a number of factors that can influence a pilot's decision to decline a clearance or instruction.

Clearances

An ATC *clearance* is defined in ICAO Annex 11 as "… an authorisation for an aircraft to proceed under conditions specified by ATC only in so far as controlled airspace and known air traffic is concerned."

A clearance is usually comprised of a series of directives issued by ATC in response to a request initiated by a pilot. They involve a series of steps that require the pilot to understand and read back the details before they are actioned. A clearance is generally associated with the manoeuvring area of a controlled aerodrome, with controlled airspace, or with enroute procedures.

Clearances, for example, apply to aircraft taking off, landing, or crossing a runway. Clearances must always be obtained before entering class C or D airspace (IFR or VFR). For Class E airspace, IFR aircraft always require a clearance, whereas VFR require it at night only.

The purpose of a clearance in controlled airspace is to provide IFR and VFR traffic with adequate separation and traffic information, so as to allow their safe and orderly operation.

Note that a clearance that requires a readback will not become effective until it is read back correctly – the controller concerned should ensure that you do read it back correctly.

It is the failure to obtain a clearance which results in most airspace infringements. The causes can be navigational inaccuracies from poor map-reading skills, straying off track, using out-of-date charts, or relying too heavily on GPS.

It should be pointed out that complying with a clearance does not allow you to break any rules or to compromise the safety of your flight. Civil Aviation Rule Part 91.241, "Compliance with ATC clearances and instructions", states that:

The pilot of an aircraft shall —

a) comply with any ATC clearance or instruction; and

b) when a deviation from an ATC clearance or instruction is required for the safe operation of the aircraft, notify ATC of that deviation as soon as practical.

c) A pilot of an aircraft shall not comply with an ATC clearance or instruction if such a compliance is a violation of any rule stated in this Part.

As a pilot you must decide if the clearance you are given complies with the Rules and is in the best interests of safety.

Further information on ATC clearances can also be found in Operations Section (OPS4) of the AIP *Planning Manual*. A listing of clearances and instructions that require readback is contained in the Operations Section (OPS7) of the *Planning Manual*.

Instructions

An *instruction* is a directive issued by ATC for the purposes of getting a pilot to carry out a manoeuvre that will facilitate the safe and orderly flow of aircraft. Unlike a *clearance*, the pilot does not request an *instruction*, but instead is being commanded by ATC to carry out a specific task. Ignoring or failing to follow an ATC instruction may result in an incident where safety is jeopardised. There are instances, however, where a pilot may question the validity of such an instruction.

ICAO defines an instruction as "…a directive issued by ATC for the purpose of requiring a pilot to take specific action". An example is, "Vacate next taxiway on your right after landing". You must take the next right as instructed, otherwise you may hear the aircraft following you making a go-around and then find yourself having to explain your actions. A similar

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CIVIL AVIATION AUTHORITY OF NEW ZEALAND

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VECTOR

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instruction could be to "descend immediately and maintain 1000 feet". This, again, is a direct instruction and will tend to be used only in cases where there is a possibility of conflicting traffic. Do not descend at your leisure, as the instruction said immediately, and you need to comply – that is, if you feel it is safe to do so.

Context and Situation

A point worth discussing is the subtle difference between receiving a *clearance* or an *instruction*. Both have similar meanings but are used in different contexts, depending on the situation. An ATC instruction generally needs to be complied with more quickly than a clearance.

Take avoiding a collision for example. If a controller sees a potential collision course between two aircraft in the aerodrome circuit where both pilots are unaware of the danger, the controller will require a very quick response on behalf of the pilots. This response will involve recognising the dynamics of the situation and taking action while reading back the instruction. Initiating a go-around, commencing a takeoff immediately, descending to avoid infringing airspace, and vacating the runway immediately are further examples. All of these instructions are time critical. A clue to the importance of an instruction may be in the tone of urgency expressed in the controller's voice!

We often find that we have more time to comply with a clearance. Examples would include; takeoff and landing clearances, level changes, flight plan alterations, and a clearance to transit through a control zone. Many of these clearances are often associated with the separation standards that ATC have to apply to aircraft to maintain an orderly flow. While we will generally need to comply with a clearance without unnecessary delay, the nature of the situation dictates that we have a reasonable amount of time to consider if the clearance we are about to read back is a sensible one for us.

It is important to note that the two terms will be used differently (often simultaneously) depending on the urgency of the situation. It is therefore always worth considering what exactly a controller might be asking of you and how best to respond to the wide range of circumstances that you are likely to encounter. If you maintain situational awareness, that is, you have a mental picture of how your aircraft fits in with other traffic movement, you should be able to understand why you are given a particular instruction or clearance.

Inability to Comply

Inability to comply with an ATC clearance or instruction can spring from factors such as terrain, climb performance, turbulence, poor visibility, the presence of icing, or the need for oxygen.

The ability of an aircraft to maintain a satisfactory climbout path, particularly in the case of a multi-engine aircraft carrying out a Standard Instrument Departure where an engine may fail, is a good example and relates to some of these variables.

New Zealand's mountainous environment can present difficulties when endeavouring to comply with ATC requirements. Pilots finding themselves in a difficult departure scenario will need, before takeoff, to take into account rising terrain, climb performance, false horizons arising from terrain features, and downdraughts. Queenstown, Palmerston North, Wellington and Dunedin airports are examples with such hazards.

An important point to remember is that not all controllers are pilots, and, while they endeavour to always issue an acceptable clearance, they may not appreciate the performance capabilities of your aircraft. If you are cleared to use a runway where your takeoff distance exceeds the runway available, or your climbout path is compromised, do not accept the clearance. Request the use of an alternative runway that accommodates your needs. Simply because you have been cleared to use a particular runway does not mean that you must proceed.

Similarly, just because you have been assigned a cruising level by ATC, you do not need to stay at that level no matter what the conditions. If you find that you are picking up an unacceptable amount of ice at your assigned level, experiencing turbulence, or have been cleared above 10,000 feet (when your aircraft is unpressurised), then you can request another level that may alleviate the situation. **Remember**, you need to request an **alternative clearance** before a level change. If the situation is a serious one, let the controller know.

Maintaining a good standard of situational awareness, particularly in busy airspace, will help you to quickly identify any of the potential safety hazards around you. You can then make an informed decision (from a pilot's perspective) as to whether an ATC instruction might jeopardise your safety – or that of the traffic around you. Your controller may not see the variables that you can see from the air.

The confusion of light aircraft callsigns by ATC is an example when not to comply with an instruction – especially in the circuit of a busy international aerodrome. If aircraft (A) is on short finals for a simultaneous grass runway operation and aircraft (B) is in the downwind position, but is about to conflict with a third aircraft, and the controller calls aircraft (B) "orbit right hand immediately" but uses the aircraft (A) callsign, then the result could be dangerous.

If you have serious reason to question the safety of an instruction, then as pilot in command you must decide what action you will take to avoid a hazardous situation. Your priorities should be to fly the aircraft first and then to question the instruction when time permits. Controllers can be under considerable pressure and may occasionally make mistakes – they are human after all.

Breaching Rules

There are a number of rules that could be broken while trying to comply with an ATC clearance or instruction. Examples are, minimum height, safe conduct of the flight, airspace, VFR requirements and noise abatement. You should know what rules apply to your type of operation, and not assume that a clearance absolves you from compliance with them.

Requesting Alternatives

Let's have a look at some examples of when you should request an alternative clearance from ATC. This is by no means an exhaustive list, and your guiding principle should always be to maintain the safety of your flight. Do not just disregard a clearance, however, but rather advise ATC that you cannot comply, and wait until an alternative clearance is issued.

Controlled VFR

Controlled VFR (CVFR) is flight in VFR conditions that requires an ATC clearance for flight within controlled airspace, that is class C, D and (by night) E airspace. It can be used to the pilot's advantage to transit through controlled airspace, to avoid cloud and turbulence, to gain favourable wind conditions, to operate at increased altitude and therefore increased TAS, or to provide an extra safety margin when crossing large stretches of water.

You should file your flight plan as VFR, indicating your intention to request CVFR, or request it en route as conditions dictate. You will be advised to change to a specific frequency for your clearance – do not enter the airspace until you have received and read back your clearance. You may be issued with a transponder (squawk) code which, by itself, does not constitute a clearance to enter controlled airspace. The clearance may involve being identified on radar and having altitude and track limitations imposed upon you. You must adhere strictly to these limits. There may only be 500 feet between you and an IFR aircraft, and any height variations on your part will reduce this safety margin. While in controlled airspace you must maintain a continuous listening watch on the given frequency, as ATC may wish to change the conditions of your clearance.

Do not assume that you will always be granted CVFR, as traffic patterns may not allow it. Plan your flight to take this scenario into account.

Crossing Cook Strait is an example of where CVFR can be used to advantage. You can request CVFR to transit through the Wellington TMA primarily so as to gain a height safety advantage over the Strait.

Note: When flying CVFR you must still maintain the appropriate VFR distance from cloud and VFR visibility requirements. If at any stage you consider that you may compromise these requirements, contact ATC and request a level change clearance. Do this well in advance. It may facilitate your request if you supply ATC with a reason for the amendment. For example "Auckland Control Quebec Vector Vector, request descent to 3000 feet due cloud".

If traffic conditions permit you can request a block-level clearance, which allows you to operate at any VFR cruising level up to a specified altitude. This gives you the flexibility to maintain the VFR minima rather than repeatedly have to request level changes because of changeable weather. Be prepared for your request to be refused, as it is not always possible for ATC to accommodate a block clearance.

Finally, it is worth remembering that separation from IFR traffic is not always provided when you are CVFR – for example in class D airspace. You may be given traffic information, but it is still your responsibility to keep a good look out for other aircraft.

Wake Separation

There is a wide variety of mixed aircraft operations at aerodromes around New Zealand, from large jet aircraft to smaller training aircraft. With the wake separation standards provided by ATC, there is every likelihood that a light aircraft will be lined up and cleared to take off behind certain medium category aircraft. (See RAC9 of the AIP *Planning Manual* for details). If in this instance you feel that the separation already provided is insufficient (eg, conditions are calm and the takeoff path of the heavier aircraft coincides with your climbout path) and you want greater

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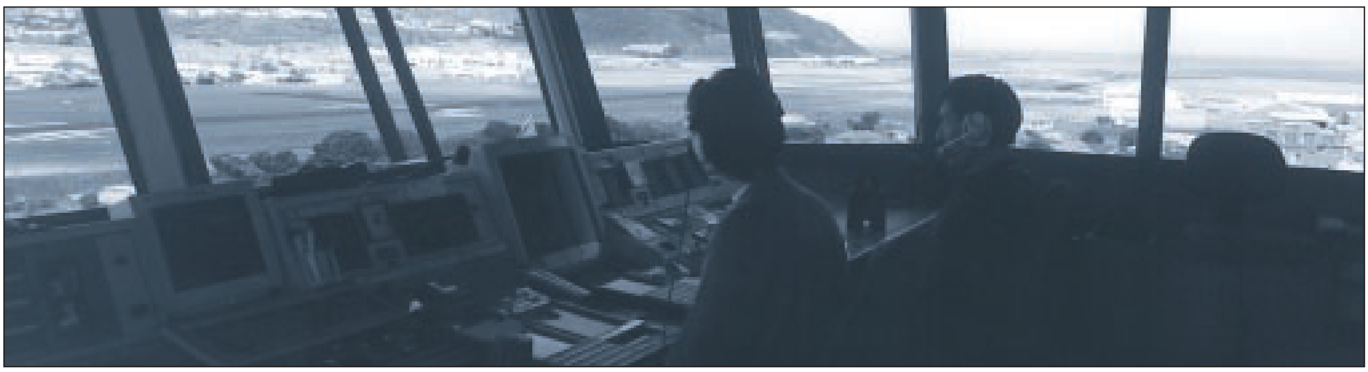

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separation from the preceding aircraft, request it **before you enter the active runway**. "Christchurch Tower Quebec VectorVector, request three minutes wake separation on preceding ATR-72". You will then be re-cleared to hold or to line up and hold, depending on the traffic. Remember that wake turbulence can be fatal; an extra minute's wait is only a small part of your journey. (Read "Wake Turbulence" in *Vector*, 1997, Issue 3, pg 4.)

Cleared for Takeoff

The same principle applies when cleared for takeoff. If you are not ready to initiate the takeoff roll as soon as you line up, do not accept an **immediate** takeoff clearance. Remember, however, to decline the clearance **prior to entering the active runway**. You will then be issued with a clearance to hold clear and line up in the next available slot. It is annoying for the pilot of another aircraft to have to go around because you are slow to roll.

If you are not "checks complete", don't accept an **immediate** takeoff clearance.

Rising Terrain

Queenstown is an excellent example of rising terrain near an aerodrome. Takeoff directions can be into rising terrain, with some takeoff paths being worse than others. We will not attempt to reiterate the recent TAIC accident report in detail, but it concluded that this was a case of accepting the clearance given without question. A safer alternative would have been available if asked for.

If you are unsure about the degree of hazard associated with a takeoff direction, and there is an alternative that would make your takeoff a safer one, then request it.

Expedite Taxi

At any number of busy airfields you may be asked to expedite your taxiing. This is an instruction not a clearance, and you must comply if you feel the instruction is a sensible one.

Do not let this situation cause you unnecessary stress. An instruction like this from the Tower does not mean turn right or left immediately, but rather it means do not stop on the runway and make haste to vacate at the next available exit point. It is a good idea to check that you have your speed well under control before exiting, however, as loss of directional control may mean you closing the runway anyway!

In Summary

Ask and ye may receive. If the clearance you are given makes you question your ability to operate safely and within the rules, then **ask** for an alternative. **You** are ultimately responsible for the decisions that you make regarding ATC clearances and instructions when in controlled airspace. **You** are the pilot in command. **You** are responsible for the safe operation of your flight. ■

Compressor Care

The CAA has investigated a number of mechanical engine failures in Allison 250 Series gas turbine engines. A large percentage of these failures occurred during operation and were caused by the separation of one of the axial compressor blades, resulting in severe damage to the engine. The cost to the operator for the rectification of the damage can be as great as $100,000.

Further investigation revealed that, in at least two of the occurrences, the fractures resulted from a build-up of stresses at a corrosion pit on the rear face of the blade.

Some operators are now including a more detailed visual inspection of the compressor rotor and stator blades for pitting corrosion in their routine 300-hour inspection schedule. These components should be cleaned using a detergent based solution — there are several available on the market. They must be visually inspected using a very bright light (white halogen bulb) and a high-powered (times 10 or more) magnifying glass. The most significant area to inspect is at the root of the blade, where the largest stresses occur. Any defect will present itself in the form of a small pit, hardly visible to the naked eye. It is from this pit that a fatigue fracture can propagate.

The second and third stage compressor wheel assembly from an Allison 250-C20B turbine that recently failed on a New Zealand aircraft. Note how the blade has failed at its base and the resulting damage to the blades behind as it passed rearwards.

Corrosive Substances

The operation of the engine in the proximity of the following substances or conditions can accelerate such a corrosion process.

- Industrial pollutants and emissions.
- Moderate to high levels of smog.
- Saline laden atmospheres such as coastal environments — particularly humid areas.

Note: New Zealand has an extremely high percentage of aircraft movements originating from aerodromes near coastlines. We have a harsh marine environment, with strong on-shore winds that are salt laden. Such saline conditions can be experienced up to 75 to 100 miles inland, but depend on the local climate and geography. The Southern Alps for example, provide a shield from the prevailing westerly winds that bear high salt concentrations. The orographic effect of the Alps means that much of the moisture content from the westerly is deposited on the West Coast. Operations conducted from high elevations above sea-level will also have low salt concentrations.

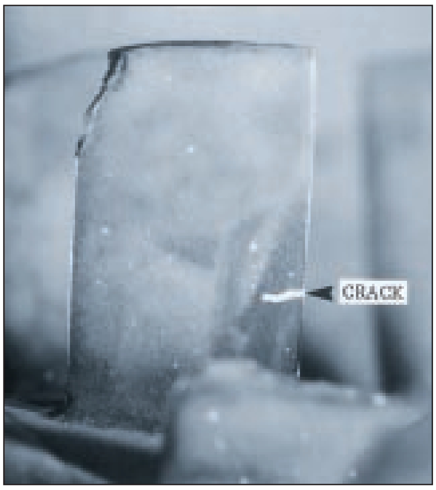
- Sulphur laden atmospheres, such as those associated with volcanoes and geothermal regions. Scenic operations around volcanoes are good examples.
- Excessive smoke from bush fires, etc.
- Pesticides, herbicides, and fertilisers associated with agricultural operations.

Note: Phosphates are especially bad, as they form phosphoric acid upon combining with water. Turbine engines may be exposed to phosphates during reloading or when passing through the drift trail left by aircraft. This will not be of great consequence during daily operations, but moisture may gather around the compressor area, particularly when the aircraft is parked overnight. This effect may also apply to the turbine blades, as phosphate particles will be combusted as the turbine is running, causing sulphurisation of the blades. Sulphurisation build-up will shorten the life of the turbine blades, and this will become apparent at engine overhaul.

Preventive Action

The onset of pitting corrosion can be reduced, if not prevented, by regular and routine compressor rinsing and turbine power-recovery washing. It is advisable that power-recovery washing be conducted during routine maintenance (every 150 to 300 hours depending on turbine type) using a detergent to clean away contaminant buildup. On the other hand, compressor rinsing should be carried out on a daily basis, and it is important in reducing the possibility of compressor failure. The manufacturers of the Allison turbine engine indicate, in their maintenance manual, that water rinses are to be "… accomplished with the best possible water available on a daily basis when operating in a corrosive atmosphere". Allison considers the whole of New Zealand to be a "corrosive environment that is of high severity".

Even taking this statement with a grain of salt (no pun intended), it is worth taking into account the possibility of a compressor blade failure caused by saline corrosion — especially when we include some of the other corrosive factors already discussed. The high number of agricultural helicopter and fixed-wing turbine operations in New Zealand that are exposed to these substances is cause for concern. It would seem prudent to be proactive in this area from a maintenance point of view.



An archive photo showing a blade from a different compressor failure. It reveals a crack indication in the number two blade, possibly caused by pitting corrosion.

Over time, contaminants will accumulate on the compressor and blades, reducing performance. The presence of even the smallest particle buildups can change the aerodynamic behaviour of the blades. They will no longer perform as a clean aerofoil. After many hours of operation, this will become evident through power losses, increased fuel burn and higher turbine temperatures. More importantly, salts and sulphurisation will shorten the life of compressor and turbine blades. This is where the real cost of neglecting to do compressor rinses and power-recovery washes becomes apparent. The number of blades that require replacement at overhaul is related to how the blade surfaces have been maintained. The more sulphate and contaminant free, the better the blade condition, and the lower the cost.

The outer case assembly of the compressor on the New Zealand aircraft, showing damage caused by the separation of one blade at takeoff power.

Both Pratt and Whitney and Allison indicate in their Service Bulletins that compressor rinses must be carried out on a daily basis after operation. Failure to comply with this recommendation may result in turbine malfunction and mean that any subsequent warranty claims become void, they say. Considering the high costs of turbine engines, the possibilities are numerous and could be very expensive indeed.

Allison have released a coating for the compressor wheels in an effort to combat corrosion. This is covered by Commercial Service Bulletin, CEB TP1264. It is recommended by the Manufacturer's Service Centres that operators incorporate this modification into their engines. All new wheels manufactured by Allison are now coated. Although this is a relatively new modification, early indications suggest that the coating is prolonging the serviceability of the wheels.

Extex, who manufacture components for the Allison engines, make their compressor wheel from Custom 450, a purer speciality stainless steel, which is more corrosion resistant than the generic material used by the original engine manufacturer. Ironically, coating the Extex wheels may reduce the corrosion resistance of this material.

Compressor Rinse Process

The compressor rinse is a relatively simple process that can be carried out at little cost in a short time (once set up as a routine). The following is general background information on what is involved and comes from Allison's Service Letter for the 250 series (CSL-1135 for the C20) "Contamination Removal Instructions". This procedure details the equipment, processes and materials to be used for compressor rinsing and solvent washing.

- Highest quality water is used, eg, distilled water or similar.
- Garden spray units can be converted to deliver the recommended flow rate and diffused spray pattern. All flow rates and spray patterns must be calibrated accurately beforehand; one litre in 9 – 11 seconds is a typical flow rate.
- Water must not be delivered into a hot turbine (ie, ensure safe-to-touch temperature on outer turbine case) or where there is a chance of freezing occurring (alcohol may be added to prevent this problem).
- The ignition system circuit breaker must be out, anti-ice valve off, the bleed valve on the PC (Pressure Air) line to the FCU (Fuel Control Unit) must be wedged closed to prevent any water reaching the FCU. Water in the PC line could result in engine failure where the FCU returns the turbine to flight-idle during normal operation. Attaching a

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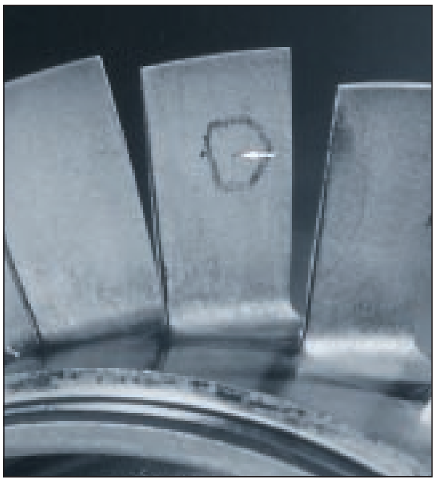
six-foot red streamer to the bleed wedge will minimise the chance of the wedge remaining in place before the next engine start. (Note that only the PC line will need to be disconnected — by an LAME — in order to conduct a routine power-recovery wash.)

- The compressor is brought up to 10 percent rpm on the starter motor and spray is directed into the air intake for 10 seconds. Water spray continues until the turbine stops and then the excess water is allowed to drain.
- The compressor speed must be under 10 percent during the water spray process.
- The turbine must be run within 30 minutes of the washing process or a wet start may result. The first power check of the day, or equivalent, is a good opportunity to do this.
- The total rinsing process, from approaching the aircraft to walking away, can take as little as 15 minutes.

Under the current Rule (Part 43, Appendix A, "Pilot Maintenance") flight crew are not allowed to certify for release a compressor rinse as part of pilot maintenance. Instead, rinsing must be certified by an LAME or a person who has been authorised by a Part 145 organisation. The pilot (or any other member of company staff) may carry out a compressor rinse provided that they have received the appropriate training and authorisation from a Part 145 organisation. Compressor rinsing must be conducted in conjunction with a Part 145 organisation and not as part of company operations. In other words, you must be working for a Part 145 organisation to certify a compressor rinse. This has meant that, unless your aircraft is based on the same aerodrome as an LAME, or a staff member who holds the appropriate certification, you will have difficultly in finding a suitably qualified person to do the job.



A small depression (arrowed) in the pressure side of a fourth stage blade, indicating evidence of pitting corrosion, which can lead to blade failure.

In view of these practical restrictions, the pilot maintenance rules are currently under review and should change before the end of 1997. Part 43 on Pilot Maintenance will then allow pilots, who hold a current aircraft type rating, to carry out compressor rinsing provided that they have received the appropriate training from an LAME and this is signed off in their logbook.

Alternatively, a representative from your local aerodrome could be trained so that all operators can benefit from this and share the expenses. If you find that practical difficulties are preventing you from including daily compressor rinsing in your maintenance programme, it then becomes all the more important that it is carried out, at least, when every routine maintenance check occurs. Additional compressor rinsing should take place when it is known, or suspected, that your aircraft has been operating in conditions where it has ingested any of the potentially corrosive substances that have been mentioned above.

Summary

While *Vector* recognises the difficulty associated with finding suitably qualified people to carry out a compressor rinse, we still think it worthwhile to raise awareness of the potential dangers in this area. Allison and Pratt and Whitney stipulate, firmly, in their Commercial Service Bulletin that rinsing should occur daily when operating in areas where corrosive-type particles are present — they imply that you are on your own if you ignore these instructions. If you feel that your operation warrants it, then organise regular compressor rinses where practical. At the minimum, ensure that your engine receives a compressor rinse and a power-recovery wash at each routine maintenance check.

In essence there are two options regarding compressor rinses. Become proactive in looking after your turbine at some inconvenience — or risk crippling your operation with something like $100,000 for an engine rebuild, a possible accident through engine failure, large amounts of time out of the air, and the reputation of your company tarnished. ■

Microlight Experience

The following item from a Canadian aviation safety publication (TCA Ultralight, 1/97) may have relevance to the New Zealand microlight scene.

This is another account in the continuing saga of pilots attempting to fly without the appropriate experience or a type check on a particular aircraft. Recently, at a nearby airport, a licensed private pilot was involved in a mishap while attempting to fly a Challenger. The pilot had just purchased the ultralight and was familiarising himself with its flight characteristics. His intention was to take off and then land on the runway immediately after becoming airborne. The aircraft became airborne along the runway, with winds reported from the north at 10 to 15 knots. The aircraft drifted to the left side of the runway and the pilot was unable to re-align it.

Observers reported that the aircraft lifted approximately 50 to 100 feet into the air, went into a tight 360 degree circle with the wind, and landed in a semi-controlled condition with one wing and one wheel striking the grass hard near the runway, causing substantial damage to the ultralight. This practice is known in the ultralight community as 'crow-hopping'.

Crow-hopping, or performing a series of abbreviated touch-and-go landings, has resulted in numerous ultralight accidents. This is not an approved method of flight training, but it can be used during dual instruction only to improve the student's use of the rudder and judgement when flying near the ground. The practice can be extremely hazardous when performed solo by inexperienced pilots and is not suitable for a self-checkout by licensed pilots. The prudent private pilot will insist on having sufficient ultralight training to feel confident of his or her ability to handle the aircraft in an emergency before attempting solo flight or crow-hopping.

Micro-Kiwi Safety Seminars

Two Micro-Kiwi Safety Seminars are scheduled for late November and early December in Hamilton and Christchurch respectively. These seminars will occupy a full day.

The presenters of the morning session, which will cover decision-making principles, are experienced and respected microlight pilots from the New Zealand aviation industry who, with the support of CAA, are giving their time, expertise and wisdom to help make a difference to aviation safety. They will be able to give simple and practical advice derived from their many years of experience. The afternoon session will be presented by Rex Kenny of the CAA who will cover various aspects of Rules and other issues affecting microlight owners and pilots.

Sat, 29 November, Hamilton

Hamilton Airport at Waikato Aero Club. Programme: 9.30 am – 12.30 pm “Safe Decisions and Pressures on Pilots” presented by Bill Penman.

1.30 pm – 3.30 pm “Rules and Other Issues” presented by Rex Kenny, CAA. (Lunch facilities available.)

Sat, 6 December, Christchurch

Christchurch Airport, Antarctic Centre, Orchard Road. Programme: 9.30 am – 12.30 pm “Safe Decisions and Pressures on Pilots” presented by Rodger Ward;

1.30 pm – 3.30 pm “Rules and Other Issues” presented by Rex Kenny, CAA. (Lunch facilities available.)

CO Detector Tip

If your club or flight school doesn’t (or won’t?) install CO detectors for their aircraft, then there is nothing to stop you from purchasing your own. The cost is very small (about $10), and they will last up to a year. Stick one on to your flight-planning board, or on the front of your VFG, or on some other item you have with you each time you fly. Make sure that the detector is visible to you.

SARWATCH

SARWATCH is a term you may have heard used by Flight Information Service personnel in recent times. If, like the writer, you hadn’t come across it before, you probably wondered what it meant. You may have searched your publications for enlightenment — in vain.

SARWATCH is a service which has been offered for some time in the north of New Zealand, where it has been used extensively by helicopters on short-haul work. It has only recently been heard of in the south.

Information will be included in the AIP *Planning Manual* in due course. The legal requirements of the service will be formalised in an amendment to Part 91 due out in June 1998.

The advent of Part 91 has brought changes in the requirements for filing a VFR flight plan. This is now required only if proceeding more than 50 nautical miles from shore — or if you require an alerting service. An alerting service is still a desirable option for most pilots, and SARWATCH offers a simpler alternative to a flight plan in certain situations. Incidentally, there is now no such thing as an abbreviated flight plan — when departing a controlled aerodrome for another destination, only a clearance is required. Therefore, if you are making a local flight and returning to the same aerodrome, a SARWATCH would be appropriate.

So what is SARWATCH, and how does it differ from a flight plan? As it is available to VFR aircraft only, we will compare it with a VFR flight plan.

Flight Plan Service

A VFR flight plan contains 15 categories of information. When you file a VFR flight plan, you will be provided with a Flight Information Service, which includes provision of pertinent SIGMET information, weather conditions reported or forecast at aerodromes of departure, destination and alternate, and any available information concerning weather conditions along the route that are likely to make operation under VFR impracticable. Some traffic information may be provided to VFR flights, mainly in controlled airspace, and on request in Class G airspace.

An alerting service will be activated if there is any delay exceeding 30 minutes in terminating the flight plan on completion of the flight, or a 30-minute delay in arrival at an **attended** aerodrome en route. (Pilots should advise the nearest ATS unit or Flight Information when accumulated delays or time savings mean the flight plan varies by 30 minutes or more; this will ensure that alerting action will be taken at the proper time.)

Not all pilots understand exactly when the alerting service comes into play under the new Rules. If your flight has intermediate landings at one or more **unattended** aerodromes, and you happen to suffer a mishap at one of these aerodromes (or en route), no action will be taken to look for you until 30 minutes after your ETA at your **final** destination. You may have given position reports en route and before each landing, including an indication that you will call airborne again, but as such reports are no longer mandatory, no action will be taken if a 30-minute time period between reports is exceeded. On the other hand, if one of the intermediate aerodromes has an ATS unit, then action will be taken if you do not arrive within 30 minutes of your ETA at that aerodrome.

Note that, even if not mandatory, regular position reports can narrow down the search area should you come to earth earlier than intended. How quickly you are found could be a matter of life or death.

With all of this in mind, you can realise how important a MAYDAY call and squawking the transponder emergency code can be in the event of any difficulty. Unfortunately, landing and takeoff accidents do not always offer that opportunity.

SARWATCH Service

SARWATCH is a service whereby limited flight details are provided by a pilot to an ATS unit or the Flight Information Service, for the purpose of providing an alerting service only. This alerting service will be activated if the nominated SARTIME is exceeded.

SARWATCH is available for use in two situations:

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- Local flights to and from a controlled (or Flight Service) aerodrome. SARWATCH stays with the same unit and is not transferable.
- Short flights in class G airspace, where the SARWATCH is filed and terminated with Flight Information Service

SARWATCH is not suitable for long flights — remember that weather information is not part of a SARWATCH service. The wise pilot will file a flight plan for longer flights, in order to receive the benefit of the additional services offered.

A request for SARWATCH requires only the following information:

- Aircraft identification
- Aircraft type
- Location or landing point where SARWATCH will be terminated
- Number of persons on board
- Nominated SARTIME

Other information can be included if believed necessary. Here's an example of a SARWATCH request:

> **Aircraft:** Christchurch Information, Quebec Vector Vector, request SARWATCH.
>
> **Flight Information:** Quebec Vector Vector, Christchurch Information, go ahead.
>
> **Aircraft:** Quebec Vector Vector, Cessna 172, destination Tinytown, POB 4, SARTIME 0130.

The nominated SARTIME can be any time that the pilot would wish for people to come looking, but to avoid unnecessary concern, obviously it should be a practical time by which — in normal circumstances — the pilot will have had a chance to report that all is well.

In normal circumstances, **SARWATCH should be terminated by the pilot prior to the SARTIME.**

If the SARWATCH is filed with an ATS unit, it must be terminated with that same unit. If the SARWATCH is filed with Flight Information, it must be terminated with Flight Information. Here's an example of a termination:

> **Aircraft:** Christchurch Information, Quebec Vector Vector, terminate SARWATCH
>
> **Flight Information:** Quebec Vector Vector, Christchurch Information, SARWATCH terminated 0125.

Next time you are planning a local flight you might like to think about requesting SARWATCH so that you can become more familiar with the procedure. ■

Where?

It's nice to hear that people take our advice.

John Norrie wrote, "The recent *Vector* article "Shroud Control" was interesting and prompted me to get myself a CO detector. One more piece of information was required in the article — where can one be obtained?"

Good point. We've also had similar enquiries about lifejackets.

This can put us on a bit of a spot.

We have to be careful not to say "Buy from A", when there will be companies B, C and D out there. But we can give a general lead.

Many aviation component suppliers market lifejackets, CO detectors, etc. What we see here in New Zealand depends both on the type of product and on what items companies choose to import. There is a very comprehensive listing of aviation component companies in the *NZ Wings Directory*. Suppliers also advertise through *Aviation News* and *NZ Wings*.

The Telecom *Yellow Pages* in at least the major centres also list companies providing aviation components, parts and servicing.

The bigger companies that supply many types of components nationally will courier them to you. Your maintenance organisation will also be able to assist, by purchasing on your behalf or putting you in touch directly.

We hope that helps.

We have also had a comment from an aircraft owner who had recently bought lifejackets from an approved supply organisation and, on reading the last issue of *Vector*, realised he had been sold jackets which do not comply with the current requirements. Let the buyer beware! We think that the final responsibility to ensure that items are approved rests with the buyer, but we feel that there is also an onus on the supplier to be knowledgable about the offered products and relevant requirements.

• the least experienced press on where
• the more experienced turn back to join
• the most experienced - who never left the ground in the first place

Publications

0800 800 359 — Publishing Solutions, *for CA Rules and ACs, Part 39 Airworthiness Directives, CAA (saleable) Forms, and CAA Logbooks. Limited stocks of still-current AIC-AIRs, and AIC-GENs are also available. Also, paid subscriptions to Vector and Civil Aircraft Register.*

0800 500 045 — Aviation Publishing, *for AIP documents, including Planning Manual, IFG, VFG, SPFG, VTCs, and other maps and charts.*

Accident Notification

24-hour 7-day toll-free telephone

0800 656 454

CAA Act requires notification "as soon as practicable".