

Plane Talking



The importance of good radio telephony (RTF) communication cannot be overstated – and there are some simple guidelines, which, if followed, can avoid misunderstanding, the need for repetition, and misinterpretation. In the worst case, these situations can lead to accidents, but in the main, they can cause a great deal of frustration, and not only for the parties directly involved.

Good radio use is definitely a hot topic for pilots and controllers alike, and this was reflected in a turnout of 2624 attendees over the 31 seminars, held throughout the country, from Invercargill to Kerikeri. Here's a summary for those who couldn't make one of the venues, and we also recommend you revise the Advisory Circular AC91-9 *Radiotelephony Manual* and read the GAP booklet *Plane Talking* (email info@caa.govt.nz).

Effective Communication

An effective radio call complies with the four Cs rule; that is, it must be:

- » **Clear.** Others must be able to hear clearly what you say. Speak into the microphone, don't gabble or mumble, and use standard phraseology and correct grammar. Remember there are a lot of trainee pilots out there, and for some, English is not their first language.
- » **Concise.** Say only what you need to say – and when you need to say it. Make sure you include all the necessary information, but don't

embellish it with what you think would be 'nice to know'.

- » **Consistent.** Be consistent, not only by using standard phraseology, but also the correct message order or structure. Adopt a standard pace, tone, and speech volume.
- » **Correct.** Be accurate. Others may be relying on your accuracy for their own situational awareness. The expressions 'abeam' or 'approaching' somewhere are of no help, and must be avoided.

Know Your Equipment

There is a wide range of radio equipment in use, but the critical thing is that you know how to work what's in front of you now. If you can't figure it out by yourself, seek help – **before** you go flying. If your aircraft has an audio selector panel, an intercom, or both, work out how these interact. You may be faced with three separate volume controls, for instance: one on the set, one on the intercom

panel, and one on the headset. Be careful not to confuse the transmit button with the intercom button.

The ideal pilot-radio interface is a headset with boom microphone, with the press-to-talk button on the control column, as this keeps the hands free. Adjust the mike so that your lips will just touch it when pursed, and when you use a hand-held mike, place it at the same distance when speaking into it.

Transmitting Technique

- » There are several things to consider when transmitting, to ensure that your message is received correctly.
- » Set the receiver volume and squelch level as required, and listen out before transmitting.
- » Have your message organised (writing it down can help) before transmitting.
- » Keep the mike at the same distance from your mouth – don't turn away while talking, and if using a headset, don't hold on to the boom.



- » Use a normal tone and even rate of speech; be aware that the recipient may be writing down your message. Don't 'umm' or 'aah' your way through it.
- » Press the transmit switch fully before speaking, and don't release it until you have finished. Sounds basic, but have a listen for clipped transmissions next time you fly.

Use of a headset will often give you 'sidetone', that is, you can hear your own voice as you transmit. This can be very useful for getting your speech volume and cadence right.

Radio Discipline

Sound professional – even if you aren't a professional pilot. If you are, however, you should be setting the example, by avoiding non-standard phraseology, jargon and wordy phrases such as "in receipt of" instead of "received".

Don't abbreviate your callsign – using the last two letters of the registration can be confusing. Gliders and helicopters generally have only the last two letters of G- and H-series registrations marked on

the aircraft, so use of the full callsign will be an indicator of aircraft category at least.

Listen out before transmitting to avoid butting in on someone else's transmission. And to help with effective listening, you can work out a system, such as holding up your hand to tell your passengers when the radio requires your full attention.

There are a couple of aids for message formatting. The first is the **four Ws**:

- » **Who** you are calling, eg, Christchurch Information, Napier Tower, Waimate Traffic.
- » **Who** you are – your callsign. Prefixing with your aircraft type can assist others with recognition and expected performance.
- » **Where** you are – accurate position report including time (where appropriate) and altitude.
- » **What** you want – a clearance, what your intentions are, or weather information for example.

The second is useful for your position reports, **PTA-ETA**. That is, Position – Time

– Altitude – ETA, and intentions if applicable.

Letters, Numbers and Standard Phrases

These are detailed in both AC91-9 *Radiotelephony Manual* and the GAP booklet *Plane Talking*. If you are not 100 per cent familiar with these standards, there's only one way to fix that!

Never be afraid to use SAY AGAIN, UNABLE, or STANDBY when necessary.

Writing it Down and Reading it Back

If you're having a bad day, sometimes a clearance might be delivered faster than you can assimilate it. Using clearance shorthand can help, and this can also be found in the AC and GAP.

Know what clearances and instructions must be read back – reading back unnecessary items wastes everyone's time, as does failing to read back essential items.



Air Traffic Services

There are several 'levels' of ATS, and the agency you will be communicating with depends on what airspace you happen to be in. Some control, some don't. The services most commonly used by GA pilots would be aerodrome control and area flight information. Spare a thought for the helpful officer on Christchurch Information, who monitors 14 frequencies simultaneously. You may hear the Flight Information Officer (FIO) talking, but not necessarily the other half of the conversation – it may be an aircraft at the other end of the country. If the FIO doesn't reply immediately to your initial call, wait a bit before trying again, as they might be copying a message on another frequency. With a bit of common sense, you will generally be able to tell when the FIO has finished a conversation, and time your initial call appropriately.

If planning on entering controlled airspace, organise your thoughts well in advance, and don't leave requesting a clearance until you're right at the airspace boundary. Stick to the four-W format for

your request, as the controller will be noting the details, and a predictable order makes life easier for all concerned. Always have an alternative course of action, however, if a clearance is not available.

Uncontrolled Airspace and Unattended Aerodromes

Anywhere, at any time, you should know the appropriate frequency to be operating on – whether inside or outside controlled airspace. Even outside controlled airspace, there are mandatory broadcast zones (MBZ) and common frequency zones (CFZ) to consider. In an MBZ you **must** be on the designated frequency, and in the CFZ you **should** at least be listening out on the frequency.

Charging around everywhere with your radio set to 119.1 MHz just doesn't work anymore – it's no longer the 'universal' frequency. Unattended aerodromes within an MBZ or CFZ generally use that area frequency as the 'unattended'

New Product



Plane Talking

Now is a good time to review your RTF standards and make them even better, as new help is at hand. The CAA's latest Good Aviation Practice (GAP) booklet *Plane Talking*, is a handy guide to good radio operating practice, and covers the basics of good RTF, equipment, and techniques.

Some of the topics the booklet covers are: the international phonetic alphabet and standard phraseology, clearance shorthand, VFR flight plans, SARTIME, operating at unattended aerodromes, troubleshooting, and conditional clearance.

The booklet also has a chapter on the different levels of Air Traffic Control and the information they provide to pilots.

Plane Talking should be read in conjunction with Advisory Circular AC91-9 *Radiotelephony Manual* (available on the CAA web site, under Advisory Circulars).

Email: info@caa.govt.nz for a free copy of the GAP booklet.

Paraparaumu
Flight Service

Photo: Andrena Davis

frequency. All unattended aerodromes with charts published in *AIP New Zealand* have an assigned frequency; usually only those outside any designated airspace will use 119.1 MHz. Even then, make sure.

At an uncontrolled aerodrome (and that includes aerodromes with aerodrome flight information service), you are responsible for your own sequencing and collision avoidance. Lookout, 'listenout' and good RTF practices are crucial to safe operation. Make clear and accurate calls, which will assist other pilots with situational awareness. It is also good airmanship to repeat the name of the aerodrome in the transmission, as often the aerodrome name can be clipped and the call becomes meaningless. For example:

» "Waimate traffic XYZ downwind two two Waimate" instead of "(gibberish) traffic XYZ downwind"

Be aware also, that even though you don't hear any other traffic, that doesn't necessarily mean there is none. There could be NORDO aircraft in the area, as well as others on the wrong frequency, with comms failure, or some not even bothering to speak up. This highlights the importance of maintaining a good lookout at all times.

If you are operating at an unattended airfield used by IFR traffic, it pays to learn what calls to expect from the IFR aircraft, and what they mean. There are examples in the GAP booklet, and also the article *The Language Barrier* in the September/October 2011 issue of *Vector*.

For IFR pilots operating into these aerodromes, think about what your radio

calls mean to other pilots in the area. For a start, speak clearly and at a rate that can be understood by someone in a noisy cockpit, with an ancient radio. Your position calls should relate to the aerodrome, rather than "established on the arc", "beacon outbound" or other phrases that are meaningless to the VFR pilot. For example, a pilot on the Wanaka RNAV (GNSS) A approach, rather than reporting at JOLLY, would be more helpful reporting "seven south-east Wanaka, 3800 feet".

When it All Goes Wrong

There are handy checklists in the GAP booklet on how to deal with comms failure, whether in your aircraft equipment or at the ATS end. An advance working knowledge of these will help when the problem strikes. It could be simply 'finger trouble', such as turning down the receiver volume and forgetting to turn it up again, or something more serious such as a popped avionics circuit breaker.

If in difficulty or actual distress, do not be afraid to speak up early while you still have options. Use the keywords, PAN PAN or MAYDAY – whichever expression is appropriate should be spoken three times (once can be easily missed). There is a preferred format for a distress message, but if you can at least transmit MAYDAY three times, your callsign, problem, intentions and position, there will be a good chance that help will be forthcoming.

Use backups to the distress call, including setting your transponder to 7700, activating your ELT, and activating any tracking system you may be using. Again

– take these actions as early as you can while you are still in reception coverage. Remember that when you activate the ELT, it takes about 50 seconds before the first valid data burst is transmitted.

Aviate, Navigate, Communicate

Always in this order, although the communication element is still very important. Making your radio communications clear, intelligible and precise will help immensely when you already have your hands full with the other two. Forethought and practice will achieve this.

For further information, refer to the GAP booklet *Plane Talking*. ■



The availability of fresh resources, in the form of the GAP booklet, and the interactive course on CD, makes this an ideal time for Chief Pilots and Chief Flying Instructors to review the RTF standards of their teams. In an ideal world, there should be no variation in standards throughout the country, but at present there is much room for improvement – even in the professional pilot ranks. You can now buy copies of the Plane Talking Radio Course on CD for \$20 (incl GST) plus post and packing. See www.caa.govt.nz/safety.

Photo: Andrena Davis



Consider having a prearranged signal to let your passenger(s) know when the radio requires your full attention