» "Getting that call in, you have to be active on the radio. You also need to know where to hold if you can't get that radio call in.

"Keep an active listening watch and know the visual reporting points."

Tim from the Hamilton Tower says it's critical pilots are aware they'll have to change frequencies.

"The initial call will be made on 122.9 MHz and that's a controller who will give them their clearance into the airspace.

"Then prior to entering the airspace, they change to 126.8 MHz and that's the controller who's actually controlling all the traffic within the control zone.

"They must make that frequency change, otherwise they won't receive any instructions as to what's going on."

Tim says the RT in Hamilton is extremely busy with clearance limits in each part of the procedure.

"We need people to be very aware of what those clearance limits are, and not to break them if they can't get in on the RT."

He says there are specific procedures if you can't get in on the RT.

"And that's to hold at certain points. So the key message is – if you can't make a call, make sure you know what you should be doing next.

"We often have occurrences where people who can't get a call in on the RT will just continue on flying and join the circuit – these are often pilots who come from uncontrolled aerodromes."

Tim says another thing they see quite often is itinerant pilots joining into the downwind and then turning onto a very short base leg without making a radio call.

"That's a dangerous position to put yourself in because the circuit's so busy that we've got traffic on both sides of the circuit pattern. And if they make a turn into the base leg without having made a radio call and having received a sequence from us, chances are they'll be turning directly towards traffic coming on the opposite base leg."

He says in that situation a pilot should keep extending downwind until they can make a call to the Tower or the controller can call them and give them instructions. \cong

AS IF YOU NEEDED IT, THERE'S ANOTHER REASON TO STAY OUT OF MILITARY AIRSPACE. DRONES.

The NZDF is increasingly concerned about near misses between its drones and manned aircraft.

General aviation aircraft shouldn't be in active military operating areas anyway. But sometimes they unwittingly or carelessly 'wander through the gate'. Now, aside from the risks posed by weapons firing, demolition exercises, and lowlevel aerobatic training, civil pilots also need to be aware of possible military drone activity.

The New Zealand Defence Force is increasingly testing and using drones – both commercial and military – and has more than 200 qualified drone operators.

"Drones are a proven lifesaving capability for NZDF," says Hayden Robinson, the army's experimentation manager.

"It's genuinely a game changer. Our personnel can conduct reconnaissance tasks and find adversaries without putting themselves in harm's way.

"Our work has also highlighted a range of additional tasks where UAS¹ can be valuable. They include security tasks at camps and bases, surveying, search and rescue, firefighting, and delivery of small logistic packages such as water or first aid kits."

Hayden says the NZDF has developed procedures for the safe and professional use of drones, with a certification process and many of its airworthiness rules and policies mirroring those of the CAA.

Squadron Leader Don Richardson from RNZAF Flight Safety says "All our UAS-trained personnel are taught the CAA rules, and also to be familiar with the idiosyncrasies of the Defence Force airworthiness system."

Drones are also referred to as remotely piloted aircraft systems, RPAS; unmanned aerial vehicles, UAVs; unmanned aerial systems, UAS; and UA, unmanned aircraft.



// A soldier from 16th Field Regiment, Royal New Zealand Artillery prepares the Puma UAS for flight during a training course at Makomako, near Pahiatua.

While that means the Defence Force has its safety ducks in a row, manned aircraft breaching military operating airspace can, in one itinerant meander, put 'people and property' at lethal risk.

"Typically our UAS operations are conducted within our military operating areas (MOA) such as the Waiouru military training area and various danger areas," says Don.

"In late 2018, MOA were also permanently established over Linton Military Camp in the Manawatu and Burnham Military Camp near Christchurch.

"These MOA enable us to conduct UAS operations at heights above 400 feet AGL, by day or night, and beyond visual line-of-sight.

"Sometimes we conduct exercises outside of our camps, bases and training areas. When that happens we operate under Part 101 rules.

"We will often promulgate temporary MOAs by way of AIP Supplement."

Despite the precautions, in the past 12 months, there've been five near-miss occurrences between manned aircraft and military-operated drones in MOAs, and in danger areas made active by NOTAM.

That worries the NZDF because it's planning to make more and more use of drones.

"We're buying many more of them," says Don, "from small, short-range, hand-launched systems to larger, long-range systems with sophisticated sensors. "Among other activities, we hope they will help us patrol the vast areas of our maritime domain."

Don says drones will continue to help the Defence Force be more effective and efficient.

"And it's our intent to continue to be responsible and professional airspace users, who operate safely.

"But we also need the help of the civil aviation community in respecting military operating area boundaries, and checking NOTAMs for, and remaining clear of, activated danger areas."



// The Puma UAS being launched by hand as part of a military training exercise.