

How to be a pilot

junior

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See the CAA website for civil aviation rules, advisory circulars, airworthiness directives, forms, and more safety publications. Visit aviation.govt.nz.

Every effort is made to ensure the information in this booklet is accurate and up-to-date at the time of publishing, but numerous changes can occur with time, especially in regard to airspace and legislation. Readers are reminded to obtain appropriate up-to-date information.



Glossary

The world of flying has many special words and phrases. Some of them are in this booklet, so to help you understand them, here is a list, and what they mean.

aero club	a club for pilots who fly for a hobby, not for a job
airline	Air New Zealand is an example of an airline
airliner	a big aeroplane, used by airlines like Air New Zealand
aviation	is another word for the world of flying
brief	'to brief someone' - to tell them what to expect in something they're about to do. The opposite is to 'debrief' them - to ask them questions about something that has happened to them.
cockpit	the part of the aeroplane where the pilot sits and all the instruments are
commercial	means 'for money'. If you have a commercial pilot licence, you can earn a wage flying; it's not just a hobby.
descend	reduce height in the air ('ascend' is the opposite and means to climb)
fatigue	tiredness
manoeuvre	a movement or series of moves that need skill and care
meteorology	anything to do with weather
microlight	this is a kind of very light aircraft
piloting	flying an aircraft
qualification	a special skill, or knowledge, or ability to do a certain job, or activity. Most times you have to pass an exam or test to show you have that skill, knowledge, or ability.
radio telephony	using a radio, rather than a phone, to talk to someone else
topdressing	flying over farmland dropping fertiliser (that's material that makes soil healthier)
visual	means you use your eyes to do something. You use 'visual navigation charts' to find your way from one place to another by looking at the charts, then looking out the window to see where you are.



Introduction

Did you know that you could fly right now? There are no rules about what age you have to be to begin to learn to fly, but you would have to be able to reach all the controls in the cockpit and be able to look out the cockpit windscreen!

Most people have their first taste of piloting a plane at their local aero club or at a flying school. There are about 100 aero clubs and flying schools in New Zealand.

You go up with a flight instructor but you sit in the pilot's seat (where the 'pilot-in-command' normally sits) and the instructor will give you your very first lesson. If that sounds scary, don't worry because the flight instructor will be able to use the

controls as much as you. They will show you how to turn the aircraft, and fly it 'straight and level'.

If you want to continue to learn after that first flight, it usually takes between 10 and 20 hours of flying, learning the basics with an instructor, before you can 'go solo' - that means your first flight on your own as the pilot-in-command. You have to be 16 years old to go solo.



When you start learning to fly, you'll take to the air with a flight instructor.



Photo courtesy of the New Zealand Air Ambulance Service and the Starship Foundation.

You might want to become an air ambulance pilot when you're older.

But flying solo does not mean you have a licence yet. After your first solo, there's more training, and most student pilots take another 50 or 60 hours before they're ready to take their flight test to get their private pilot licence. You have to be at least 17 years old to get your licence.

You don't have to own your own aircraft to learn to fly. Most people hire them from their club or flying school. Each lesson is about 40 minutes long and it's best if you can have a lesson every week or 10 days.

Before you start to learn to fly, it's a good idea to contact more than one flight training organisation so you can compare their prices, services, and facilities. Talk to current students if you can.

But don't choose just on cost. Think about why you want to learn to fly. Is it because you want to be an airline pilot? Or do topdressing? Or fly tourists around the mountains? Or pilot an air ambulance? Maybe you just want to fly for fun on sunny weekends. After learning the basics, your training will be slightly different depending on why you want to fly. So find a school that will train you best for your plans.

Flying lessons

When you start to learn to fly, you'll learn about how the aircraft works, the weather, the sky, how to use the radio, and the rules pilots follow to fly safely. You'll learn how to control the aircraft in straight and level flight. That's the easiest. Then you'll slowly learn how to do harder things, like landing the aircraft.

There are exams! There are multi-choice exams on the ground, and exams when you're flying (called 'flight tests'). There's also a basic medical examination at the doctors to make sure you're healthy enough to fly. All your exams and tests cost money

on top of the cost of your flight training so you might need an after-school job.

At the start of each lesson, your instructor will 'brief' you on the 'manoeuvre' the lesson is going to be about. At the end of each lesson, they will 'debrief' you on how you got on.

Make sure you record every flight. You'll have your very own pilot logbook to record the date of each flight and lesson, the aircraft type and registration (the letters on the back of the aircraft), the name of your instructor, the length of your flight, where you went and what you did.



Before you start to learn to fly, ask other flying students what they think of their training organisation.
Photo courtesy of Siobhan Mandich.



Photo: CAA

Before you fly, you'll need to carefully plan how much fuel you'll need for your trip.

What you learn

Some of the things you'll learn about, you'll learn on the ground. For instance, how to navigate your aircraft from where you take off to where you land. You'll learn how to calculate the distance of the flight you want to make, which direction is best to use, how long it should take you, and how much fuel you need. You'll also learn to use maps especially designed for aviation, called 'visual navigation charts'.

You'll learn about 'aerodynamics' (how the aircraft manages to get in the air and stay there, for example). You'll also learn about aircraft engines, electrical systems, cockpit instruments, and loading your aircraft. The weight you put in the plane, and where you put it is very important to know when you're a pilot.

You'll also be taught how to talk on a radio. This is called 'flight radiotelephony'. When you're flying, you'll be talking on the radio to other pilots - to let them know you're flying near them, for instance - and to air traffic controllers, who usually sit in the tower at an airport and make sure the planes safely avoid one another as they come in to land, or take off.

Have you ever heard the words people in aviation use to say a letter? If they want to tell air traffic control their aircraft registration, for example, they won't say 'PDB', they'll say 'Papa, Delta, Bravo'. That's so there's no confusion between 'p' and 'd' and 'b'. The police use it as well, or anybody else where it's really important to say something clearly. If you want to learn the other letters, it's called the International Phonetic Alphabet.

The weather has a major effect on your flying. Sometimes, your flights will be cancelled or delayed because of the weather. In aviation, things to do with the weather are called 'meteorology'. As a trainee pilot, you'll learn about New Zealand's weather patterns, cloud formations, and about how different weather conditions affect the way your aircraft behaves in the air. Understanding meteorology will help you make good decisions about when you can, and cannot, fly safely.

Human error is one of the most common causes of aircraft accidents. In aviation, it's called 'human factors'. These include anything that might affect a pilot and the way they fly. It could be stress, fatigue, poor health, a lack of time, or pressure to get somewhere.

During your training, you'll learn about the effect these have on a pilot's decisions about whether or not to fly, or to continue flying (when they really should land somewhere). You'll learn to recognise these in yourself and to make good decisions about going flying or leaving it to another day.

If you're going to fly, you have to know the rules for safe flying. For example, one of the rules is that you have to have a flight review every two years to be able to keep using your licence. This is part of what's called 'air law', and there's an exam on it that you have to pass, before you get your licence the first time.



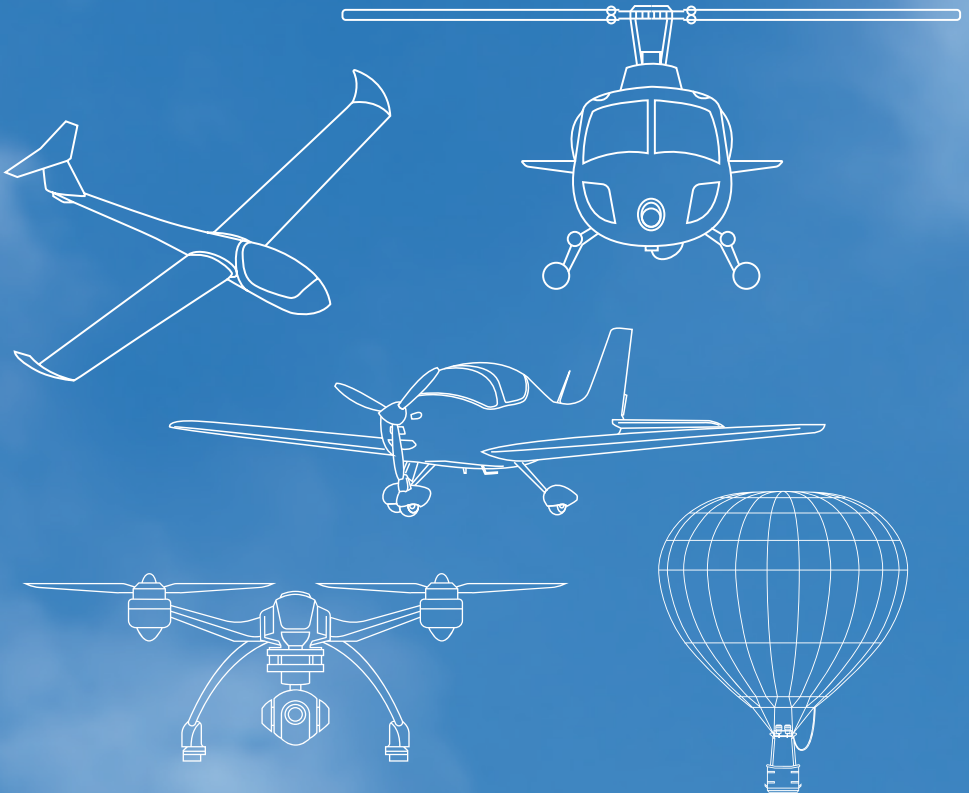
As a trainee pilot, you'll learn about New Zealand's weather patterns and cloud formations. This is an example of a lenticular cloud.

We're all responsible for safety

Everybody who flies in New Zealand skies is responsible for safety, from the captain of the biggest A380 to the 8-year-old flying a drone.

It's a privilege to be allowed to fly, and to get and keep that privilege, you have to always fly according to the safety standards set by the Minister of Transport. The Civil Aviation Authority (CAA) does its absolute best to make sure that everyone does that, and also that everyone is a good, sensible person who won't put anyone else in the sky or on the ground in any danger.

For instance, before you get a licence to fly, you have to pass what's called a 'fit and proper person' test. One of the things they look at is whether you've broken any laws in New Zealand. That's because the Director of Civil Aviation, who's the head of the CAA, has to be sure you'll obey the civil aviation rules.



Licences

There are heaps of different kinds of aircraft you can fly, including microlights, gliders, balloons, parachutes, hang gliders, paragliders, or helicopters.



And if you want to stay on the ground, you can operate a drone or model aircraft.

To fly different kinds of aircraft, you need different licences. If you want to fly a microlight, glider, parachute, hang glider, or paraglider, you need a pilot certificate or parachutist certificate.

If you want to fly other kinds of aircraft you can get a private pilot licence.

After that, if you want to fly for a job you have to get a commercial pilot licence, and if you want to fly a big airliner, you have to get an airline transport pilot licence.

Before you get a pilot licence, you have to pass what's called a 'fit and proper person' test. The Director of Civil Aviation has to be sure you'll obey the civil aviation rules.

If you want to fly a big airliner, you have to get an airline transport pilot licence.





Photo courtesy of Youth Glide New Zealand.

Perhaps you'd like to glide through the air! Gliding is a great way to get involved in aviation. Check out page 15 to find out more.

Drones and model aircraft can be flown without a licence, but there are rules about where and how you can fly them. It's good to get some training before flying your drone - there are even courses available online. It pays to remember that if you're operating a drone, you *are* a pilot!

If you want to fly a balloon on your own, you don't need to get a pilot certificate and you don't need a medical declaration from your doctor. But you still have to fly your balloon according to the civil aviation rules.

If you take passengers though and they're paying you for the balloon ride, you need to get a commercial pilot licence.

Ratings

Pilots are allowed to fly only the aircraft for which they have a 'type rating'.

When you first learn to fly, you might take lessons in the one type of aircraft. You'll get a type rating for that one aircraft. Some people fly more than one type of aircraft during training, and they get a rating for each one.

Once you have your pilot licence, you might want to fly other types of aircraft. Getting a rating in a new aircraft means, usually, a couple more lessons and a flight with an instructor to show you can fly skilfully and safely in that aircraft.

You have to be specially trained and get a 'rating' to fly seaplanes.

You can get a rating to do aerobatics like loops and rolls, a rating so you can tow a glider into the air, and an instrument rating so you can fly without looking outside to navigate, just by watching the instruments on your cockpit panel. That's good for flying through cloud.

You can also take specialist training in mountain flying, formation flying, competition flying, or night flying. You don't get a rating for those things, but they're usually recorded in your logbook.



Young Eagles

Young Eagles is a programme at many aero clubs for young people who want to learn to fly.

You can join some programmes when you are 12, and others when you are 14. There are heaps of Young Eagles who've learned to fly and are just waiting for their 16th birthday so they can go solo. But they have to show their instructors they are capable and ready for the responsibility - and privilege - of being given the aircraft to fly by themselves.

Many Young Eagles go on to be airline pilots, or engineers, or agricultural pilots, or they join the Royal New Zealand Air Force. Some continue to fly as a hobby.



Photo: CAA



Photo: CAA

The Young Eagles here are in a competition to see how many things they can find on the aircraft that are not working properly.



Photo: CAA

The Young Eagles here are being taught about the danger of items, like this screwdriver, being loose in the cockpit. Visit flyingnz.co.nz to find out more about the Young Eagles.

More ways to learn

Aside from heading to your local aero club, there are other ways you can get started in aviation - even while you're still at school!

Air Cadets

The Air Cadets (also known as the Air Training Corps) has units throughout New Zealand. Through the Cadets, young people aged from 13 to 18 can experience and learn different parts about aviation like flying, navigation, and supporting roles.

Air Cadets offers national gliding and power flying courses, navigation training, alongside other training including leadership development, outdoor and adventure training, firearms safety, and much more.

Visit cadetforces.org.nz/atc to find out more.

School programmes

Some schools offer 'Gateway' and 'STAR' courses in aviation, with flying usually available when you're in Year 11 to Year 13.

You can also get credits towards NCEA qualifications from your flying. You get credits for your first solo flight, flight test, and even for every theory exam you pass.

The Scouts

You might be able to attend the Walsh Memorial Scout Flying School at Matamata, even if you're not a scout.

Each January, the school runs a two-week programme, taking students from the absolute basics to their first solo.

Youth Glide

Youth Glide New Zealand (YGNZ) is a not-for-profit organisation that provides under 25s with gliding education, tuition, and training - from the very beginners through to instructor-level.

YGNZ runs a Youth Soaring Development Camp in Omarama every year, catering for all levels of young gliding pilots. They also run mini camps in other locations.

Careers and Gateway Advisors at your secondary school should be able to help find you a training organisation or enrol you in a school flying programme.

Students must be New Zealand citizens and should have no more than two hours flight experience, preferably from a local aero club or flying school.

Visit scouts.org.nz/walsh to find out more.

You might even be able to earn NCEA credits for the gliding qualifications you achieve. Many of the students that go through YGNZ move into careers in aviation once they've finished school.

Visit youthglide.org.nz to find out more, and to see where your nearest gliding club is.

To learn more

To find out more, search for your local flight training organisation online or look in an aviation magazine.

You can find lists of training organisations and aviation recreation organisations at aviation.govt.nz > licensing and certification > list of certificated organisations.

It's a good idea to talk to other young people who are training, and ones who are already pilots, about what they think of your plans to learn to fly.

For **free** posters and booklets to help you learn to fly, visit aviation.govt.nz/education. You can download digital copies or order printed copies using our online order form.



Good Aviation Practice



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aviation.govt.nz

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was revised in August 2023.

