
How to be a pilot

junior



Contents

| | | | |
|--|----|---|----|
| Glossary | 3 | Ratings | 12 |
| Introduction | 4 | Young Eagles | 13 |
| Flying lessons | 6 | Learning through school | 15 |
| What you learn | 7 | Learning through the Scouts | 15 |
| Hey! I'm speaking to YOU! | 9 | To learn more | 15 |
| Licences | 10 | Cover: istockphoto.com/pastorscott | |
| | | Below: istockphoto.com/Chalabala | |

This booklet won't give you all the information you need – you really must read the rules for that. In addition, advisory circulars provide explanatory information and examples of how to comply with the rules, visit www.caa.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 get 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 | move downwards (‘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 | ‘driving’ 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'.

>> After getting your pilot licence, you might decide to be a topdressing pilot. Photo: [istockphoto.com/Brian Brown](https://www.istockphoto.com/Brian-Brown)



To fly, you have to reach all the controls, and be able to look out the cockpit windscreen! Photo: [istockphoto.com/sierrarat](https://www.istockphoto.com/sierrarat)



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.

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, or recreational pilot licence. You have to be 17 years old to get either of those.

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.



You might decide to become an air ambulance pilot.
Photo courtesy of Helicopters Otago.

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 name of your instructor, the length of your flight, where you went and what you did.



When you start to learn to fly, you'll learn about the rules pilots follow to fly safely. Photo: [istockphoto.com/pastorscott](https://www.istockphoto.com/pastorscott).



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



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) and you'll 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 are 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.

Above: Beautiful but dangerous. The patterns made by ice on an aircraft left outside on a cold night. The ice must be removed before flying because it affects the way the plane works.

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 test 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.



Gumboot-shaped 'lenticular' cloud, Mt Ruapehu, 2012.
Photo courtesy of MetService/Spencer Clubb.

Hey! I'm speaking to YOU!

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.

This is Brian Dunn. When he retired as an Air New Zealand captain, he had flown more than 20,000 hours over 65 years, without a single accident.



Licences

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



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 Civil Aviation Rules. Photo: [istockphoto.com/Brostock](https://www.istockphoto.com/Brostock)

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, or a recreational 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.

Drones and model aircraft can be flown without a licence, but there are rules about



Cessna aircraft, like this one, are very popular in New Zealand. There are more than 100 different kinds of Cessna aeroplanes being flown in this country.



Tim Tarbotton bought his first glider at 21. The highest he has flown in a glider is 15,000 feet, and he needed extra oxygen to breathe. Photo courtesy of Tim Tarbotton. Photo courtesy of Tim Tarbotton.

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.



If you want to fly a big airliner, you have to get an airline transport pilot licence. Photo: [istockphoto.com/humonia](https://www.istockphoto.com/humonia)

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 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 are usually recorded in your logbook.

You have to be specially trained and get a 'rating' to do aerobatic flying.



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 to be 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.



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



The Young Eagles here are being taught about the danger of items, like this screwdriver, being loose in the cockpit.



To find out more about Young Eagles, visit www.flyingnz.co.nz.



When Angela Swann-Cronin was 14, she saw a TV ad for the Royal New Zealand Air Force. She'd never flown before but it sparked something in her. Here she is, training to be an air force pilot. When she graduated she was the first Māori woman pilot in the Royal New Zealand Air Force. Now she flies for Air New Zealand. Photo courtesy of Angela Swann-Cronin.

Learning through school

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. 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.

Learning through 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.

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



To learn more

Look for a local flight training organisation on the internet (www.caa.govt.nz, "Quick Links > Certificated Organisations" or www.flyingnz.co.nz) or in aviation magazines.

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:

- www.caa.govt.nz, "Aviation Info > Safety Info > Posters" and,
- www.caa.govt.nz, "Aviation Info > Safety Info > Publications".

Then email info@caa.govt.nz telling us what you want.



Good Aviation Practice



PO Box 3555
Wellington 6140

Tel: +64 4 560 9400
Fax: +64 4 569 2024

Email: info@caa.govt.nz

New Zealand Government

See the CAA website for Civil Aviation Rules,
advisory circulars, airworthiness directives,
forms, and more safety publications.

www.caa.govt.nz

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