



**Devon & Somerset
Flight Training**

"...At the Heart of Aviation"

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The Private Pilots Licence

Who Can Learn To Fly?

You can!

You must be at least fourteen years old before you can start logging hours towards your licence, sixteen years old before you can fly an aircraft solo and seventeen years old to obtain a Private Pilots Licence (PPL); there is no upper age limit!

Must I be Very Fit?

Few pilots are athletes and you do not even need a medical certificate to start the training. However you *will* require one before we can let you fly an aircraft solo.

Medicals can only be performed by a doctor approved by the Civil Aviation Authority (CAA); we can provide you with a list of local Aviation Medical Examiners.



Introduction

The aim of these notes is to explain to the student the School curriculum and the methods and procedures involved. In common with most other flying schools, the PPL course is based on the A.O.P.A syllabus. Training can be carried out on Piper PA28 or Cessna 152/172 aircraft as required. Additional information regarding the licence, including medical requirements and privileges etc, can be found in JAR-FCL 1 Flight Crew Licensing (Aeroplanes), a copy of which is available in the School.

Can Any Pilot Teach Me?

No, only a CAA-qualified Flying Instructor: All D & S flight training's instructors are qualified by the CAA, having undergone a comprehensive training programme to standards approved by the CAA. They are regularly tested by CAA examiners to ensure the quality of instruction.



Enrolment

Once a student has decided to learn to fly - usually after a preliminary/air experience flight - to comply with the requirements of Aviation Law the student must complete a registration form to become a member of the Flying School. If the student is under 18 years of age written parental consent is required the earliest age for Solo flight is 16



years of age. The next step is to make a booking for a flying lesson. Bookings can be made either by visit or telephone. Each period is for a nominal 1.5 hours. When booking, the student should state whether one period or two periods are required. Normally only one is required, but some stages of the course do

require more. If in doubt ask the Operations officer or instructor for advice. By the way, the student does not necessarily pay for each full 1.5 hour period - but just for the trip time if you fly, or for classroom time if you do formal training. No charge is made for pre- or post- flight briefings.

Checking the Weather

If you suspect that the weather is unsuitable for your flying lesson, do telephone the flying School and seek advice from the Operations Desk. If you watch the local TV weather forecasts, and try to make your own forecast from the information available, you will be making a start on your ground studies for Meteorology. If you have to cancel a flight for any reason, please telephone the School giving as much notice as possible. This will enable the School to use the booking slot for another student or pilot.



Commencement of Training

Now to the training itself. When you make a booking for a lesson, the flying instructor will invariably tell you what is to be covered. Then, on the day of your lesson, you will be fully briefed on the lesson content before you fly. Following the briefing, you will get airborne



and practice what you have learned on the ground. At this stage you will not require any special equipment or clothing except, possibly, an aircraft checklist. To begin with, the School can provide this and a headset. On return, you will be debriefed on the lesson and, indeed, be given the opportunity to ask any questions. You will also be advised as to the content of the next lesson and which particular lesson you should read up. If you wish, you can buy a textbook, which will supply you with the information on each exercise. In addition, you will need to buy a Pilot's Flying Log Book.

So you can see - ground and flying training go hand in hand. *Learn* on the ground: *Practice* in the air. If you can stick to that principle, and do a little homework, you will learn faster and most likely save yourself some money. The course is based on a minimum of 45 flying hours. The national average, however, is closer to 55 hours. Your instructor will maintain a set of training records on your behalf so that each flight is recorded - ground School training is also recorded - and a complete dossier is built up so that all the paperwork is complete by the time you finish your training and apply for your Private Pilots Licence (PPL).

In parallel, you will be keeping your pilot's log book up to date, recording all the flights. This log book will normally have to last for much of your flying life unless you go professional and fly thousands of hours. It is, of course, a legal requirement and will be submitted, on course completion, to the Civil Aviation Authority (CAA) for assessment. So it is in your interest to look after it, keep all entries clean and tidy and to use a pen, **not** a pencil, for entries. In a few years' time it will tell quite a story.

It is probably a good idea to keep a special briefcase or pilot's case to contain all your flying equipment and books. This will enable you to keep it all together and when you go flying all you have to do is to collect just the one case. As mentioned previously, no special clothing is required - basically you need the sort of clothing you wear when driving your car. Sensible flat heel shoes are a must! In the winter months you will need a warm outer garment for doing the walk round pre-flight inspections - this can be placed in the rear of the aircraft whilst you are flying.

If you are a newcomer to aviation, you may be surprised at the use of the aircraft checklist. However, this document not only provides a means of learning but is also a safety aid when carrying out the many checks and procedures. After all, flying is a danger sport even though it is statistically safer than motoring and we all want to keep flying safe. Later in your training you will find that some of the checks will have to be memorised - but that won't be difficult because they are all logical in content. The first sequence of lessons is

basically what we call the 'pre-solo' stage. In the textbook notes these comprise Exercises 1 to 12 and 13 including 12e and 13e. They normally begin with Exercises 1, 1E, 2 and 4(i) & 4(ii) on the first flight lesson (Exercise 3 is normally covered on the air experience flight). Exercises 4(i) and 4(ii) cover the effects of controls after which you will learn to control the aircraft on the ground, Exercise 5, and then in the air, exercises up to 12e and 13e. The exercise numbers, by the way, are fairly standard throughout the U.K.

Whilst learning, the most important thing to do is to enjoy the flying - there is little point in flying if you do not enjoy it. It must be said, however, that the rate of learning will vary. So do not be surprised if one day the trip will go well and on another, not so well. This is usually due to differing weather conditions, in fact if you think about it, you will be learning something new every time you fly, so if you find the pace is too fast just ask your instructor to spend a lesson consolidating what you have learned. In any event, when you get to the circuit stage, you will have lots of time to consolidate. Although you will not need to take a ground examination yet on the subject of Aircraft General, i.e. the technical syllabus, it is sound practice at this relatively early stage to make a beginning on the understanding of the Principles of Flight. This means getting to grips with wing lift and drag, understanding various terms such as angle of attack, inherent stability, aileron drag, etc. and at the same time thinking about carburettor icing and engine handling. For one thing, it will save time later on and for another it will enable you to learn more quickly and make you a safer pilot - the beginning of what pilots call 'airmanship'. Towards the end of the pre-solo exercises, you will fly Exercise 10A, 10B and 11A. These are collectively known as Stall/Spin Awareness and Avoidance exercises. They are detailed in the textbook notes and will require separate entries in your Log Book. Your instructor will advise.

Flying Instructors

Clearly the School employs a number of flying instructors, all of whom are professionally qualified. Normally you will fly with the same instructor for much of your early training, but there will be times when you may have to fly with a different instructor. As you will soon appreciate this is invariably good for your training and will cause no hardship. On the other hand, if you think that your flying will improve or be more enjoyable with a particular instructor do not be afraid to say so when booking your next lesson.

Study For The Technical Examinations

In-depth study for the ground examinations begins with Airlaw and operational procedures. This examination like most of the examinations for the licence is fairly straightforward comprising a number of multi-choice questions and requires a pass mark of some 75%. Students must pass this examination before flying solo and it is sensible to start preparing for the exam when you start serious work on the circuit. Like all the examinations you can do most of the studying at home, or, if you wish, book a session with an instructor - most likely on a day when the weather is unsuitable for flying.

For this first examination you will need to obtain the Aviation Law textbook. The School can provide practice examination papers to help you with your studies. The remaining ground examinations will be taken as the course progresses. Please see Table 1.

Table 1: Sequence of Technical Examinations

Subject	Time Allowed	Comments
Air Law and Operational Procedures	1 Hour	Before 1 st Solo
Human Performance and Limitations	$\frac{1}{2}$ hour	Before 1 st Nav. Solo
Navigation	1 $\frac{1}{2}$ Hours	Before 1 st Nav. Solo
Meteorology	1 Hour	Before 1 st Nav. Solo
Flight Performance and Planning	1 Hour	Before Skill Test
Aircraft General	1 $\frac{1}{2}$ Hours	Before Skill test
Aircraft Type	A/R	Skill test Oral
Communications R/T	A/R	Preferably at Nav. Stage

In addition, at this stage, or possibly slightly earlier, you should read up the School's Flying Order Book and also undergo a medical examination with a CAA approved Medical Examiner. A list of approved doctors is available from the flying School. On successful completion of the medical, you will be issued with a certificate, which becomes your Student Pilot's Licence. You should now have completed the statutory requirements for flying solo



First Solo

This is the first real milestone on the road to becoming a pilot and, of course, there is only ever one first solo. So it will be a flight to remember. The first solo flight is quite straightforward; just one take-off, one circuit and one landing. Clearly, it will take place only when the weather is suitable.

During the pre-solo stage on the circuit you will see how all the previous exercises come together. You will learn how to use the radio and you will have to learn several safety drills. Overall, you will have to convince your instructor that you can fly and operate the aircraft totally unaided -including what to do if the approach or landing is not quite right. In other words you have to demonstrate that you are in charge: the pilot must fly the aeroplane - not the aeroplane fly the pilot! Do not forget, for the first solo, the flight is entered as P1 and not Pu/t. To be precise this flight is Exercise 14.

Training after first solo concentrates on two main aspects - allowing you to build your solo time to approx. 3 hours whilst improving your skills and widening your knowledge of the

many different take-offs and landings; crosswind, glides, flapless and short field. You will also learn quite a lot about weather limitations.

Circuit Consolidation

Flights will be a mix of dual and solo depending on the weather and student ability. This means that sometimes you will book one training period - at other times you will need to book two periods. Your instructor will advise. You will learn rapidly during this period and, of course, will be preparing yourself for landing away at other aerodromes where conditions may be slightly different from those at Dunkeswell.



More Examinations

Once the above exercises are under way the student should begin studying for the next ground examinations; Human Performance and Limitations, Navigation, Meteorology, and Operational Procedures the procedure is as for the Air Law exam. You will need a textbook or two and eventually a dummy run on the practice papers. Pass mark is of the order of 75% and all are of multiple choice. Again, home study will take you much of the way, but for peace of mind it is sensible to take one or two ground sessions with an instructor. A start should also be made on the examination *Aeroplanes General*. The deadline for this technical exam is before taking the *General Flying Test* or *Skill Test* as it is now called. In any event, the first four examinations above must be passed as must completion of air Exercises 14 to 19 before a student pilot can be authorised for solo cross-country flight.

Some students make a point of taking most of the examinations early on in the course. Be advised that the examinations must be taken and passed within a period of 18 months and will then remain valid for licence issue for 24 months from the date of successful completion of the examinations. So taking them too soon may be a disadvantage. All theoretical knowledge examinations must have been completed before taking the final *Skill Test*.

Cross-country Training

This consists of a number of dual and solo flights culminating in the all-important *Qualifying Cross-country*. A typical sequence is shown in Table 2. It should be noted that although there are strict conditions as to when a student pilot may fly a solo cross-country, there is nothing to prevent a student from flying some of the dual cross-country flights before completion of the advanced flying exercises.

Cross-country flying is what flying is all about. So it is essential that you develop all the necessary skills in order to enjoy it. Here are some notes that should help.

Proper pre-flight planning is essential. Do arrive at the School at least one hour before flight departure time so as to prepare a tidy and accurate flight plan on the form provided by the School. No scribble -just tidy printing.

Develop weather awareness. Know your weather minima as a student pilot. It's all in the Flying Order Book.

Write out your main calls on the bottom of your flight plan before departure, if you wish. Ultimately, you will have to pass written and practical tests on Communications R/T procedures.

Do not forget you will have to pay the occasional landing fee at Perranporth, Plymouth etc.

In the air the cockpit is your office - have it well organised and keep it tidy.

Learn to fly the aircraft in a totally instinctive manner so as to maintain accurate headings and altitudes. This will enable you to concentrate on navigation, map reading, log- keeping and the radio. Fly on D.I. and compass.

Ask your instructor to teach you the short cuts in mental 'dead-reckoning' (D.R.). These are most helpful when making heading adjustments or diversions.

Towards the end of your navigation training you will be taught the basics of Radio Navigation Ex.18C.



Table 2: Cross-country Flights - Ex. 18 A & B (JAR-PPL)

<u>Flight</u>	<u>Route</u>	<u>Comments</u>
Dual No. 1 (JAR-PPL)	"Round the Blackdown Hills" Chard - Taunton - Wellington - Dunkeswell	R/T all on local Dunkeswell frequency
Dual No. 2 (JAR-PPL)	Either: MATZ penetration. Dunkeswell - Bridgwater - Yeovilton - Yeovil - Dunkeswell Or Dunkeswell - Crediton - Exmouth - Sidmouth - Dunkeswell	R/T change of frequency Obtaining Basic/Traffic/MATZ penetration Change of Transponder code Possible landing away Exeter or Yeovil
Solo No. 1 (JAR-PPL)	As Dual No. 1	
Dual No. 3 (JAR-PPL)	Dunkeswell - Plymouth Plymouth - Dunkeswell Land away	R/T change of frequency ATC clearance
Solo No. 2 (JAR-PPL)	As Dual No. 2	
Dual No. 4 (JAR-PPL)	Dunkeswell - Perranporth - Dunkeswell Land away <u>Note:</u> The basics of Radio Navigation will be taught later	R/T change of frequency ATC Clearances Practice Diversion & Operation at the lower levels
Solo No. 3 (JAR-PPL)	As Dual No. 3	
Solo Qualifying Cross Country (JAR-PPL)	Dunkeswell - Perranporth - Plymouth - Dunkeswell	Cross-country Certificate to be carried by student and certified by ATC

Note: A test of navigation skills is completed as part of the final Skill Test when application is made for the license at the end of the course.

Table 2: Cross-country Flights - Ex. 18 A & B (NPPL)

Flight	Route	Comments
Dual No. 1 (NPPL)	"Round the Blackdown Hills" Chard/Taunton - Wellington - Dunkeswell	R/T all on local Dunkeswell frequency
Dual No. 2 (NPPL)	Either: MATZ penetration. Dunkeswell - Bridgwater - Yeovilton - Yeovil - Dunkeswell Or Dunkeswell - Crediton - Exmouth - Sidmouth - Dunkeswell	R/T change of frequency Obtaining Basic/Traffic/MATZ penetration Change of Transponder code Possible landing away Exeter or Yeovil
Solo No. 1 (NPPL)	As Dual No. 1	
Dual No. 3 (NPPL)	Dunkeswell - Plymouth Plymouth - Dunkeswell Land away	R/T change of frequency ATC clearance
Solo No. 2 (NPPL)	As Dual No. 2	
Dual No. 4 (NPPL)	Dunkeswell - Yeovil Yeovil - Plymouth Plymouth - Dunkeswell	R/T change of frequency ATC Clearances Practice Diversion & Operation at the lower levels
Solo No. 3 (NPPL)	As Dual No. 3	
Navigation Flight Test (NPPL)	Route To Be Decided	
Solo Qualifying Cross Country (NPPL)	Dunkeswell - Yeovil Yeovil - Plymouth Plymouth - Dunkeswell	Cross-country Certificate to be carried by student and certified by ATC

During the Cross-country stage there will be times when the weather is unsuitable for cross-country work especially if it happens during the winter months, so the opportunity should be taken to finalise the work towards the written examination 'Aircraft General Knowledge' and towards the oral examination on the Specific Aircraft Type used on the Skill Test.

Final Flying Test for The Licence (JAR-PPL ONLY)

When all training is complete and this includes written examinations it is time to take the final Skill Test. On satisfactory completion of this test, which embraces both general handling and navigation, application can then be made to the Civil Aviation Authority (CAA) for the Private Pilot's Licence.

Before doing so, however, ask your instructor for two documents:-

1. Standards Document 19 'Notes for the guidance of applicants taking the Skill Test for the PPL'. Do read this document but don't be over-awed by it. The test is straight forward if you've learned what you have been taught.
2. A list of typical questions for the oral section of the Skill Test concerning the Specific Aircraft Type used for the test - which is the type you have been flying throughout the course.

In addition, make sure you are briefed on the procedures for calculating Mass and Balance and for ascertaining Aircraft Performance data. These aspects are included in the Skill Test.

In fact, prior to flight training revision, the instructor will review your training records to ensure that all aspects have been covered. So you should be well and truly prepared for the Test and pass with flying colours.

Navigation Skill Test (NPPL Only)

Before a student pilot is allowed to fly the solo qualifying cross-country he/she, must pass a Navigation Skill Test, which lasts about an hour.

You should not encounter any difficulty if you have learned all you have been taught. The test includes full flight planning, with self-briefing as to weather suitability followed by flying the planned flight. There are no landings away but the flight will include an unplanned diversion. Clearly the standards of navigation, log keeping and aircraft handling must be acceptable. Your instructor will brief you on the details.

During the navigation training part of the course there will be times when the weather is unsuitable for cross-country work especially if it happens during the winter months, so the opportunity should be taken to finalise the work towards the written examination 'Aircraft General Knowledge' and towards the oral examination on the Specific Aircraft Type used on the Skill Test.

General Skill Test - Final Test for the Licence (NPPL ONLY)

When all training is complete and this includes all written examinations and the R/T Practical Test, it will be time to take the final General Skill Test. On satisfactory completion of this test application can then be made to the Civil Aviation Authority for the licence.

At this stage you should discuss the matter with your instructor who will brief you accordingly, issuing you with the available School Notes giving advice on the Skill Test plus information on the technical aspects of the specific aircraft type used during the course. The latter will be in the form of typical questions the Examiner may ask. The instructors will also check your training records and carry out any last minute revision. The Test is straightforward. Rest assured if you have learned what you have been taught you should not encounter any difficulty and should pass with flying colours.

For your further information the format of the test is as follows:

Section 1 - All pre-take off aspects. Includes all briefings plus weight & balance and performance calculations.

Section 2 - Upper air work

Section 3 - All circuit work

Section 4 - Emergency procedures

Have no fear - you will have practised all of the above.

Go to it.

Happy Flying!

