

Microlight Training

Newsletter Spring 2015



Introduction

Welcome to the Spring edition of the BMAA Training Newsletter. This publication is aimed at Microlight Instructors and will provide useful information and insights to the ups and downs of microlight training. Remember that this is a two way channel and we welcome and encourage you to air your comments, ideas and thoughts via email, post or via the online instructor forum.

News

Progress

Your training committee has been working hard on revising the current sets of examination papers and already one set (Meteorology) is nearing completion. The Syllabus review is ongoing and more news of this will be given at the next BMAA instructor seminar.

Military Flight Instructors

It has been confirmed that dispensation for SEP or Military flight instructors taking the Microlight AFI course has been agreed with the CAA, and will be worked into CAP804 in due course. Once the amendment is added, the BMAA will arrange for a bulletin to be sent out.

Introductory Flights

by Geoff Weighell

The EASA type Introductory Flights cannot at present be flown in a microlight because the Permit does not allow aerial work that is not instruction and the EASA Introductory Flights are not instruction and do constitute aerial work. The BMAA is working with the CAA to try to find a resolution that will allow the use of Microlights for Introductory Flights flown by pilots who are not instructors.

Note that EASA Introductory Flights are not the same as the NPPL Exercise 3 Air Experience flights which are not affected by any change in legislation at this stage. The EASA definition of the Introductory Flight is:

"Introductory flight" means any flight against remuneration or other valuable consideration consisting of an air tour of short duration, offered by an approved training organisation or an organisation created with the aim of promoting aerial sport or leisure aviation, for the purpose of attracting new trainees or new members.

Further details of the EASA Introductory Flights can be found at <http://eur-lex.europa.eu/>

Changes to the 90 day rule

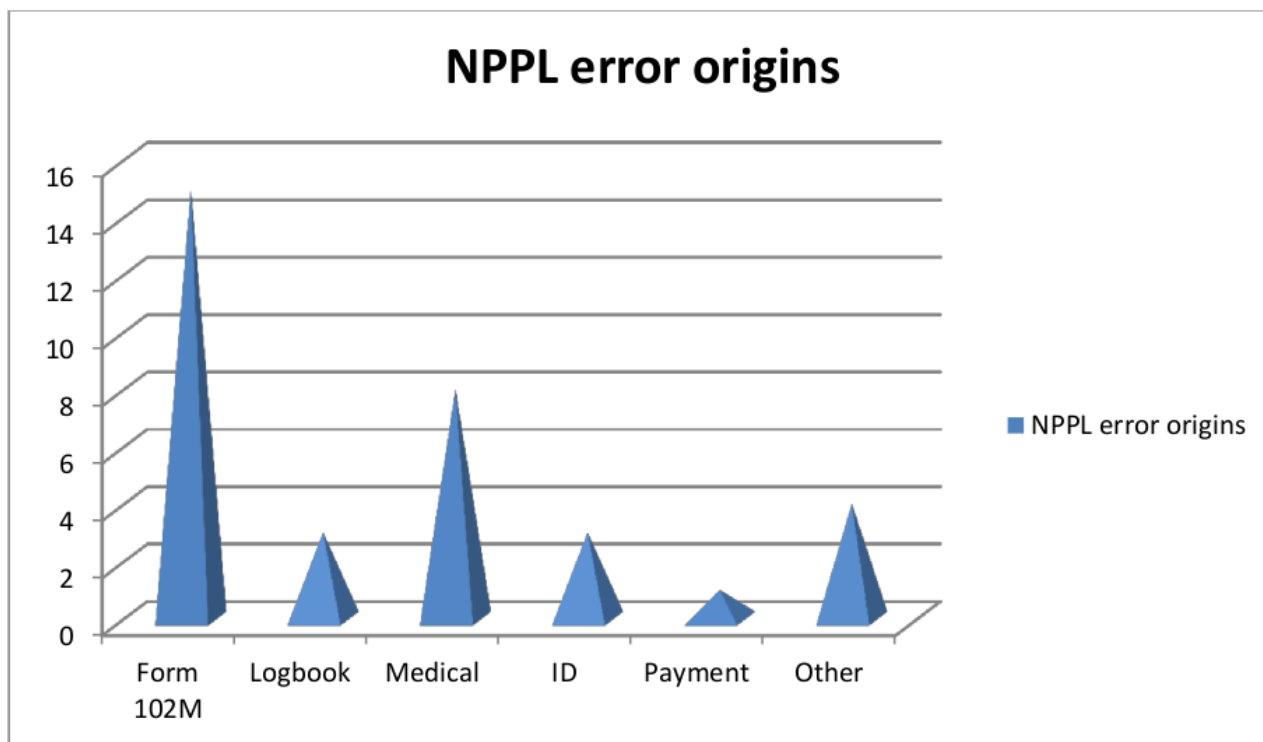
The CAA has changed the requirement for some private pilots to have completed three take offs and landings in the past 90 days before they can fly with a passenger. A new exemption means that private pilots with a NPPL can now fly as pilot in command with a single passenger, who is a suitably qualified pilot, without having completed three take offs and landings in the past 90 days.

To use the exemption the pilot must:

- be satisfied that the passenger is qualified to act as pilot in command on the intended flight but that they understand that they are onboard only as a passenger.
- In order for a pilot to use the flight to regain currency they must be the pilot in command for the flight. The pilot and passenger should be clear on this prior to the flight.
- inform the intended passenger that they do not have the recency which, without this exemption, would be required to fly with a passenger

Application Errors

by Aaron Bliss



Carelessness seemed to be the predominant cause of errors in NPPL applications in February, with photocopied medicals, licence details omitted and bad cheques cropping up more than once.

Strangely, a couple of applications for removal of operational limitations neglected to include their licence with the application, which I would have thought was self-explanatory. Average error rate came in at a disappointingly high 1.78.

Keeping up to date

By Fiona Luckhurst

Several instructors and examiners I have come across still seem unaware of the information available to them in the Instructor and Examiner section on the BMAA web site which details current and amended documents, downloads for the new C of Es and Ts templates for the PPL M and Training Committee newsletters and FAQs among other useful 'tools of the trade'. Just need to get online and click and it is all there.

Should Instructors, who are Examiners, examine their own students?

Recently the LIAC received an application for a NPPL M and the applicant's logbook did not show the exercises as required in the syllabus. A significant number, including advanced exercises, were missing.

The Instructor, who was also the examiner, had **certified** in section 4 on the application form that the instruction had been completed in accordance with the NPPL M syllabus. The Examiner should have made sure before starting a test that the candidate is eligible to undertake the test 'after completion ... of the exercises in the syllabus'.

If accurate records of the student's training syllabus had been kept and reviewed by the Instructor / Examiner this should not have happened. If the Examiner had not examined his own student this should have been prevented. Non-microlight Examiners cannot examine their own students, we still have this privilege – should we?

Log Book Entries – multiple flights as a single entry.

There is no provision in any current source reference that allows for multiple flights to be recorded as one entry in a pilot's logbook, regardless of duration of the flight and interval between flights. It is not considered appropriate to combine multiple flights into a single logbook entry. The Pooleys Logbook makes reference to this but it is not an 'approved' reference. It may be that in the past there was such a practice, but if so it no longer exists for us. Please could all make sure this information is distributed and the practice stopped.

Guidance for completing Logbook entries for Ex 18 and 16b

NPPL (A) M Ex 18

For a training flight to be a Navigational flight exercise (Ex 18) and the flying time allowed towards the Navigation requirements in the BMAA Syllabus it must be flown along a pre-determined route.

The Logbook Entries:

Ex 18 should be entered in the logbook remarks section together with details of the turning points and/or the destinations that were pre planned. In the case of a qualifying cross country (QXC) flight the total distance of the flight should be entered. All out landings must be logged correctly as separate flights. Therefore the QXC must be logged as at least two flights because there is a compulsory out landing. The logbook entries for Ex 18 apply to both Dual and Solo navigational training flights.

NPPL (A) M Ex 16b

Where Ex 16b is incorporated into a Navigational Air Exercise, as part of the planned track or simulated diversion, the logging of Ex 16b and 18 together is appropriate and the total flight time of that flight may be allocated towards the Ex 18 requirements.

Instructor and Examiner Guide

The latest amendments can be found here http://bmaa.org/files/august_2014_updates.pdf

Safety First

Health and Safety

by Rob Grimwood

As the Chairman of the Training Committee I was recently passed a report from another BMAA member which highlighted some serious safety concerns. An aircraft was witnessed at an airfield apparently totally unattended with its engine running whilst no one was on board. The aircraft was positioned on an open piece of ground adjacent to an access road along which there is nothing to stop members of the public entering the site. The instructor later appeared and continued to fuel the aircraft, put on his and his student's flying suits and then carry out a pre flight inspection – all whilst the engine was still running! This shows a serious lack of regard to health and safety and poor practice setting a very bad example to the student pilot.

Runaway microlights have in the past caused serious injury and I once witnessed a trike plough through a campsite destroying several tents, one of which 30 seconds later would have had a family in it.

Unless essential to normal operation no aircraft should be started without the occupants securely strapped in and in no instance should an aircraft be left unattended engine running without the pilot being present.

Accidents

Pete Watson draws our attention that a summary of accident reports for microlights was available on the [BMAA accident summary webpage](#)

He suggested that the main points seemed to be that pilots unfamiliar with new types of aircraft were more prone to crashes, and the main point of crashing was on landing.

BMAA Safety Day on 30th May 2015

The next BMAA Safety Day is to be held at Fenland Airfield, Lincolnshire on Saturday 30th May 2015. Starting at 1000hrs and finishing at 1530hrs it will have interesting speakers on microlight related subjects from the RAF, Airprox board, CAA and the BMAA. The day is free to attend so why not come and join us and improve your flying skills? Those members who wish to attend either by flying or driving in please reserve your place by text 07557 140620 or email to pete@bmaa.org.

A Quick Bimble Before Sunset

by Mike Edwards

The weak, watery, wintery sun was doing its best to project a semblance of warmth onto the airfield as John arrived to get his aircraft out of the hangar. He'd checked the weather back at the office, great visibility, though a rising southerly wind was on the cards, but he'd be back down well before then. In any case, because of the late dash from the office, this would only be a short flight, to keep himself current. It couldn't be too long, as he didn't have time to pop any more fuel in the tank and he reckoned he had about enough for 40 minutes plus a little in reserve. He'd booked out with the Tower on his journey to the licensed airfield, thinking how lucky he was to operate from an place that boasted 3 hard runways and thus was usable in pretty much all winds and weathers.

John's flexwing was right near the front and he gave it a quick preflight just outside the apron – no time to lose as the afternoon was drawing on. He noticed his mate Bob on the other side, getting into his sport aircraft with the sleek bubble canopy, had a shouted conversation as both were intent on flying and got on with the job of getting toggled up and strapped in. John was quick but thorough with his preflight and the engine was soon started, warmed and checked. He was roaring into the clear blue sky intent on bimbuling to the south west before Bob had even called for taxi in his aircraft.

Bob had, to tell the truth, been a bit distracted as John shouted over to him. He'd just started on his own cockpit checks and he too was intent on getting away smartly. True to form, his engine fired up quickly and as it warmed he called Tower for taxi and got out to the departure point. He too was anxious to get away before darkness drew in, and skipped through his checks – a little too quickly possibly...

Ts and Ps all good, flap and trim set, pump on, and "Takeoff Your discretion, surface wind 170 12 knots" from the Tower as he lined up. Full power, away we go, getting that nose up for takeoff when- "bang!", followed by a lot of wind noise... Bob knew straight away as it happened, damn it, he'd left the cockpit latch unfastened! Reaching up to haul the canopy down, he lost control of the stick and the aircraft pitched up and down violently, mercifully ending his flight with ignominy rather than injury as the prop struck the runway and broke up... A forlorn Bob threw the switches and unfastened his lap strap as the fire truck raced out to him.

Meanwhile John was out enjoying himself, radio now off, blissfully unaware of the runway scenario behind him. A quick bumble out to the river, some graceful turns, and a little twirl around a solitary cloud that appeared at his level, and gosh, how time was flying, as indeed was the daylight. Well, 10 minutes and he'd be back at base again. Thank goodness he'd managed to get up, he'd not flown for two months. Anyway, the wind would be straight down runway 18...

On calling for rejoin, John's reverie was broken when the Tower informed him that the airfield was closed temporarily whilst a runway incident was cleared and that there was no fire cover. "G-JJ, request your intentions" came back at John. "Standby" mumbled John as he tried to figure out what to do next. Clearly the airfield didn't want him back, at least not just yet. How long would the runway remain blocked? A quick call confirmed his rising anxiety ... the aircraft on the runway had to stay there until AAIB gave permission to move it. "Runway 22 is also closed for repairs, but runway 27/09 is available, surface wind 180 14 knots, no fire cover available".

Grrrr. If ever Murphy had chosen a day for it, John had not experienced it yet. Hmmm, diversion maybe? John had a few problems now.. He'd not thought to have one in mind, this was only supposed to be a local bumble, out and back, keep it simple. The nearest into-wind runway was on a strip he'd never used, he wasn't quite sure of its exact location either and besides the strips were all boggy at this time of the year anyway. The nearest hard strip into-wind was... oh dear, 30 minutes away. John doubted that he'd have fuel or daylight to get there. It was going to have to be his home airfield and for once John was not relishing the challenge. He'd heard the lads in the bar talking about Swiss Cheese and all the holes lining up and here it was, happening to him.

In the circumstances, John ended up doing a pretty admirable job, though the extreme crosswind took its toll and he ended up in the grass, just off the runway, on his third attempt at landing. The lads in the clubhouse tried to cheer him up over a mug of tea and said that really, a bent nose wheel was pretty good in the circumstances but John was inconsolable. He resolved to spend more time with his club instructor on crosswind conditions once his machine was repaired, but also to bone up a little more on the preparation that he should have carried out before his next quick little local bumble...

Follow up to Spring is sprung (last newsletter's article)

by Mike Edwards

Name the contributing factors to this accident:-

- Long lay-off.
- Attempting a challenging strip after insufficient revision.
- Faulty ASI
 - slow to respond and over-reading
 - how could this have been diagnosed en-route?
- As a result, insufficient approach speed.
- Failure to recognise and correct insufficient control authority/stall onset.
- Failure to go around/forcing a landing/PIOs.

Legalities:-

- 90 day rule broken.

Other indicators that this pilot was ripe for an accident:-

- Lack of discipline in not getting an instructional session.
- Lax preflight:
 - may have picked up on moisture in the pitot tubes?
 - Could have had water in the fuel too.
- Focus on getting to an event/destination no matter what.

As this pilot's biennial instructor, what would you have done with Fred on his 1-hour instructional flight?

Technical

Crosswind Operation

by Rob Grimwood

Assessment

The key to successful operation in a crosswind is preparation. You need to understand your own limits and those of your aircraft.

The aircraft's recommended crosswind limit, or demonstrated limit, will be stated in your Pilot Operators Manual, POH. This figure is derived from the initial test flying of the aircraft where the test pilot tries to quantify the aircraft's capabilities. Typically for microlights this limit is in the order of 10-15 Knots.

Once you know the aircraft's crosswind limit you need to quantify the crosswind component in any given set of conditions. Without going into mathematics the simplest way of doing this is by use of the 'Clock Code'. Imagine the face of a clock where 15 mins can also be described as $\frac{1}{4}$ of an hour, 30 mins is $\frac{1}{2}$ and hour, 45 mins is $\frac{3}{4}$ of an hour and 60 mins is a full hour. Now apply this to your crosswind, for example if the wind is 30 degrees across the runway at 10 Knots then $\frac{1}{2}$ the total wind will be your crosswind component, 5 Knots. If the crosswind is 60 degrees or more across the runway then its full strength is assumed to be the crosswind component. Imagine the practical example below:

Wind 260/20 Knots and the only runway available is 31. Therefore the wind is 50 degrees across the runway so just over $\frac{3}{4}$ of its strength will be a crosswind - around 16-17 Knots. The most important factor in crosswind operation is your own ability. This will depend upon experience, currency, hours on type and knowledge of the specific airfield. Think carefully about this before setting off.

Many microlight strips have approaches surrounded by trees and other obstacles which in a crosswind will create turbulence. Think about what turbulence you may get and where it will occur, you can then alter your approach and or touchdown point to try to miss the turbulence.

Practical Techniques

Described below are general techniques; however some aircraft have very specific techniques written in their POH, so please check first.

Takeoff

When lining up for takeoff start on the downwind side of the runway pointing slightly diagonally across the runway and thus getting you slightly more into-wind. Even on a narrow runway this can reduce your crosswind component. However, be careful not to point too diagonally across the runway so as to reduce the length of the runway.

The key is to keep the aircraft on the ground for longer than normal so as to take off with a higher Airspeed. This will ensure you leave the ground positively and with good control which may well be needed if conditions are gusty.

Flexwing

Start the takeoff with the bar neutral in pitch and the wings level in Roll (The into-wind wing can be held slightly down initially and then the wings brought level as the airspeed increases). As the aircraft accelerates keep the bar neutral in pitch so as to keep weight on the nose wheel to maintain positive steering and to reduce any tendency for the aircraft to yaw into-wind. Keep the wings level in roll, the into-wind wing will want to lift so this can actually require quite an effort. Once the airspeed has built to a higher level, 5-10 mph above normal takeoff speed depending upon the strength of the crosswind, the bar should be moved forwards positively to achieve a clean

break from the ground, be careful not to allow the nose overshoot that of a safe low level climbing attitude. Allow the aircraft to yaw into-wind and then use the roll control to set up the appropriate drift angle required to climb out on the runway centreline.

Fixed Wing

It is vitally important in a crosswind to understand which direction the aircraft would naturally want to steer if left to its own devices. It will want to yaw and steer into-wind. The popular misconception is that the aircraft will be blown downwind across the runway. Depending upon which side the crosswind is coming from, this could either add to the slipstream effect or help cancel it out. For example in a Eurostar the slipstream effect is initially quite high when full power is applied with the aircraft wanting to steer to the left and thus requiring right rudder. If you have a crosswind from the left this will add to the effect of the slipstream and require even more right rudder to keep the aircraft straight. Whereas if the wind is coming from the right the two effects will somewhat cancel each other out. Therefore in a strong 90 degree crosswind it is worth taking off with the wind from the side that helps to cancel the slipstream effect.

Check your POH for the recommended flap setting as it may recommend taking off flapless. If it does remember this will lengthen your takeoff run.

Start the takeoff with into-wind aileron. The amount will depend upon the strength of the crosswind but it is better to start with more aileron deflection than less. As the aircraft accelerates and the ailerons become more responsive the deflection will need to be reduced in order to keep the wings level. The rudder should be used to maintain direction during the takeoff. Increasing the power slightly more progressively on some aircraft may help to reduce the effect of the propellers slipstream which in turn will reduce the amount of rudder needed, however this will also reduce the rudder authority which on some aircraft might be a more important factor to avoid. On aircraft with castering nose wheels you may initially have to use the differential brakes along with the rudder to keep the aircraft straight until the rudder effectiveness increases. During the takeoff keep the stick further forward than normal in pitch, this will keep the nose wheel on the ground which will maintain positive nosewheel steering and help to prevent the aircraft yawing into-wind. Allow the airspeed to increase to a higher level, 5-10 mph above normal takeoff speed depending upon the strength of the crosswind, at which point positively rotate the aircraft. Once airborne the into-wind wing can be held down to prevent the aircraft drifting across the runway. The aircraft should then be smoothly put into balance which will naturally set up some drift angle, the drift angle can then be finessed by use of a balanced turn. The climb out should then be continued with the aircraft in balance tracking along the runway centreline.

Landing

Think hard before you land in a strong crosswind. Is there another more into-wind runway available? Should you divert to another airfield? If you think the crosswind is too much land somewhere else!

Plan your circuit in advance and think what effect the wind will have on it, don't forget your drift angles and adjust your turn onto final so you end up on the runway centre line. In a strong crosswind, especially if it is turbulent, a powered approach will work best giving you plenty of adjustment. Fly the approach at a higher airspeed than normal to ensure good control and this will also reduce your drift angle. As a general rule your airspeed can be increased by half the strength of the wind. If you are approaching at a higher airspeed remember your landing distance will also be greater.

Flexwing

Continue the approach maintaining your drift angle with normal use of the bar. Generally speaking as you get lower the wind speed will reduce and so will your crosswind component so your drift angle will also need to be reduced. Round out slightly lower than usual and then start holding off. Try to allow the rear wheels to 'Run on' to the runway with the nose wheel in the air without fully holding off. The reason for not trying to hold off for too long is that the slower you get the drift angle

will increase and also you simply have less control. In an extreme crosswind where you are worried about touching down with too much of a drift angle you can help by using the steering bar to align the nose wheel along the runway centreline. This will ensure that once the nose wheel touches the aircraft will align itself with the centre line. Once on the ground the bar can be brought back slightly and the into-wind wing lowered.

Fixed Wing

Fixed wing aircraft can accomplish a crosswind landing by two different techniques, the 'crab' method or the 'wing down' method. Due to microlights having low inertia the crab method is less suitable because as soon as the rudder is used to align the aircraft with the runway drift quickly ensues requiring wing down to stop. For this reason the method described below is the wing down method.

Check you POH for recommended flap setting; in general drag flap should be avoided in a strong crosswind. Remember though that coming in with less flap and a higher approach speed will lengthen the landing distance.

Continue the approach maintaining your drift angle with normal use of the controls and the aircraft in balance. At some point, depending upon experience, but around 200 feet the aircraft should be kicked straight with the rudder and the into-wind wing lowered with the ailerons. I find the best way of doing this is leading with the rudder and then as I feel the aircraft starting to drift I then lower the wing to stop it. From now on it is best to think of the controls doing two separate jobs, the rudder is used to keep the nose pointing straight down the runway whilst the ailerons are used to stop the aircraft drifting laterally across the runway. Generally speaking as you get lower the wind speed will reduce and so will your crosswind component so the amount of wing down and rudder will have to also be reduced. Round out slightly lower than usual and then start holding off whilst still keeping the wing down as appropriate. Don't hold off for too long and allow the aircraft to touch down initially on the into-wind wheel before then letting the other wheel down. The reason for not trying to hold off for too long is that the slower you get the more the effect the crosswind will have on you and also you simply have less control. Once you have touched down increase the aileron deflection into-wind to make sure the into-wind wing does not lift and keep the aircraft straight with the rudder. In some aircraft use of the differential brakes may be needed with the rudder to keep it straight after touchdown.

Keep informed - Join the Instructor Forum

Final Matters

Next Issue

The next issue of 'Microlight Training' will be published in Summer 2015. If you have any questions, ideas or an article you would like publishing then please do not hesitate to contact me directly at editor@microlighttraining.co.uk

Heads up

We are looking at provisional dates for the next seminar and hope this will be either towards the end of October or beginning of November.

SMS opt-in

As you are reading this you know that from time to time the BMAA sends out information to microlight instructors by email. It has been suggested that we add text messaging as an additional way of communicating with you. Those who would like to receive text alerts should email aaron.bliss@bmaa.org with the following three pieces of information: first name, surname and mobile phone number.

Links:

BMAA Instructor eGroup	http://bit.ly/InstGroup
BMAA Knowledge Base	http://faq.microlighttraining.co.uk
Current Fees and Charges	http://www.bmaa.org/pwpcontrol.php?pwplD=11287
NPPL Application Checklists	http://www.bmaa.org/pwpcontrol.php?pwplD=10317
BMAA Accident Reports	http://bmaa.org/pwpcontrol.php?pwplD=3730