

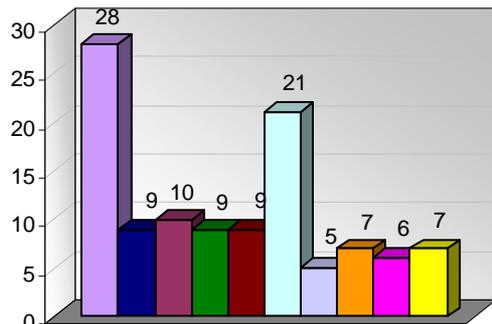
CHIRP FEEDBACK

Issue No: 42

Winter 2009

Most frequent GA Issues in CHIRP Reports 12 months to 31 October 2009

The chart shows the ten issues most frequently reported:



- Handling/Operation**
(Aircraft Handling by Crew - 23, Lack of Airmanship - 5)
- Communications - External**
(Between Pilots and ATC - 7, Comments re: CHIRP - 1, Regulator - 1)
- Situational Awareness**
(In the Air - 10)
- Aircraft Technical**
(Design - 3, Propulsion - 2, Cabin 2, Systems - 2)
- Air Traffic Management**
(Level of Service - 5, Procedures/Separation of Traffic - 4)
- Individual Error**
(Lack of Confidence/Experience - 8, Overload - 5, Inadequate Skills/Knowledge - 5, Complacency - 3.)
- Maintenance**
(Repairing Embodiment - 2, Servicing Error - 2, Installation Error - 1)
- Procedures**
(Use by Reporter - 3, Use by Others - 1, Inadequate - 1, Incorrect/Conflicting - 1, Knowledge Of - 1)
- Regulation/Law**
(Non - Compliance - 5, Knowledge Of - 1)
- Near Miss**
(Airprox - 5, Ground - 2)

ULTRALIGHT STALL SPEEDS & HANDLING

Report Text: The final approach at AAA passes close to a hangar and a large tree. I was crossing the boundary in my ultralight at a height of approximately 40 ft. My airspeed was approximately 55 mph with full flap and the throttle was half closed. A windsock at the opposite

end of the runway was showing a light crosswind of three or four miles per hour. Passing between the hangar and the tree, the aircraft rolled through 90° and failed to respond to full aileron. I then found myself passing low over a field adjoining the airfield with the wingtip perhaps a foot from the ground. I have no recollection of applying full power, but I know I did. Similarly, I have no recollection of applying opposite rudder, but I think that I did. Some seconds later, it seems like ten, the wings did level out, but not before the aircraft had turned through one hundred and eighty degrees parallel to the runway. The aircraft then flopped into ground effect, nose high at full power. From this point, I was able to accelerate in ground effect and climb away up a hill. After an interval, I landed successfully.

The briefing for the airfield warns about turbulence, but I believe the gentle cross-wind noted was unlikely to cause significant turbulence. The Pilot Operating Handbook for my aircraft recommends 68 mph for the approach; my approach was below that speed, as it has been on many occasions in the past without problems. The stall speed with full flap is 29 mph with power on, 36 mph without. The approach speed used was 90% above the power-on stall speed and 53% above the power-off stall speed. A line on the air speed indicator shows the stall speed.

I believe that the roll was caused by hot air rising from the hangar roof rather than a cross-wind since the windsock was showing so little deflection literally seconds before the incident. The ailerons were too small to overcome the roll. Presumably this is the reason for the manufacturer's recommendation for an approach speed so far above the stall speed. I was trained on Cessna 152s and consider a reasonable margin above the stall to be 15%. I now believe it to be dangerous to be anywhere near this speed in this aircraft. The line on the airspeed indicator is therefore quite misleading. Indeed, the stall speed of the aircraft is an irrelevance, all the various stall speeds of the aircraft being below the manufacturer's recommended approach speed. I believe I was lucky to survive this incident. I fear that someone else may not be quite so lucky.

Lessons Learned: Remain at or above the manufacturer's recommended speed of 68 mph until the flare.

Other aircraft with limited aileron authority may be vulnerable to similar effects.

CHIRP Comment: The certification requirements for Very Light Aircraft (VLA) include the ability to roll from

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A General Aviation Safety Newsletter

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30° to 30° in less than 5 secs in both directions at an airspeed equivalent to 1.3 x Vs (the power-off stalling speed). If not achievable at that speed, a higher speed may be used but this will result in an increased approach speed; this was probably the basis for the higher approach speed recommended in the POH for this type.

The reporter had converted from a conventional C152 to a much lighter low inertia ultralight type; ultralight aircraft similar to the type in this report can suffer a much more pronounced loss of speed during the flare than heavier conventional GA types; this in turn can significantly reduce the roll response. Proper conversion training would have covered these points and probably avoided what was a very serious incident. The BMAA and the LAA strongly recommend familiarisation training.

One final point; the reporter's reference to the approach speed margin being 15% is not correct; the correct margin between the approach speed and the stalling speed is 30% (1.3Vs) unless further increased by another factor, as in this case.

CROSSING DANGER AREAS

Report Text: I had attempted to contact Plymouth MIL before departure but the telephone was busy. En route I picked up a Basic Service from Farnborough, Southampton, Bournemouth and London Information. My flight had a flight plan.

I asked Farnborough for the status of D036 and was advised that D026 was active, I requested again D036 and again was told that D026 (not D036) was active. Although I had the Plymouth MIL frequency on my PLOG, I blundered on through the VFR corridor that passes through D036 because I mistakenly assumed that:

1. It was not active (not realising its status is NOT NOTAMed).
2. Being in communication with ATC and having been allocated a squawk code gave me the false security that I was on a well planned VFR crossing.

The Plymouth controller with whom I subsequently spoke when on the ground was very polite and informed me that D036 status is not NOTAMed and that Plymouth MIL is the only ATC authorised to allow a crossing. i.e. assume D036 is always active! As I mainly fly on airways I do feel this blunder reflects on not flying low level VFR more frequently. However, in mitigation, it does seem odd that the main VFR corridor is through an always active (unless otherwise advised) Danger area.

Lessons Learned: Speak to a MIL controller before entering any Danger or Restricted area, and/or insist in ensuring ATC has correctly established whether the area is active if you are not able to contact MIL.

CHIRP Comment: The VFR routing in this report is one of the principal recommended routes between the UK and France and has been the subject of several similar reported incidents to that described above.

The promulgation of a published VFR route through an active Danger Area might not be considered to be good practice; however, in this particular case the conditions for use and the clearance procedure are both prominently displayed on current UK aeronautical

charts. This report highlights the importance of assuming all Danger Areas to be active unless positively confirmed otherwise by the appropriate controlling authority; it is also a reminder of the inherent dangers of entering an active Danger Area, which might include such activities as ground-to-air, air-to-air and air-to-ground firing of live ordnance.

PRIOR PERMISSION REQUIRED

From reports that we receive it is apparent that some pilots are unclear as to why Prior Permission is required to land at some airfields (PPR), and what might be the ramifications of not gaining PPR prior to departure.

(1)

Report Text: I was inbound to BBB Aerodrome at 3,000ft on a navigation exercise in a Cessna 152 on a perfect CAVOK day - my ETA for BBB was exactly 1400 local time. I then received an unexpected R/T message stating "Unless you are in and down by 1400hrs the field is closed, as an aerobatic display is scheduled"; if unable to comply, I was advised that I should hold for some 20+ minutes or go away.

This is an unacceptable practice; why should I be subjected to un-notified, aerobatic activity on a weekday afternoon at a busy licensed GA airfield, particularly as the activity was not NOTAMed on the web according to our field log on system/UK NOTAMs?

I told BBB with five miles to go and field in sight that I was unable to comply with the request and for a period of time considered my options. Obviously I had fuel and several fields to divert to if required - but it is not 'on' that I be forcibly made to go away by an AFISO.

Licensed fields and ATZs should be open for business during published hours. PPR is an annoying excuse, used by them, which I should have checked first. Obviously, if it was winter, marginal VFR, boggy field conditions etc. one would phone up but it's getting to a ridiculous state of affairs that you now have to phone up everywhere.

CHIRP Comment: The aerobatic activity referenced in the report is clearly stated in the UK AIP entry for the airfield concerned and also in current flight planning guides, as is the requirement to contact the airfield prior to departure in order to avoid a situation such as that reported.

Obtaining Prior Permission before departure ensures that you will be advised of the airfield status and any relevant information. This should be one of the essential pre-flight planning tasks, as this information, together with the suitability of the destination airfield weather, are two of the principal determinants to making a flight.

(2) UNPLANNED WEATHER DIVERSION

Report Text: After checking the Terminal Aerodrome Forecasts (TAFs) for Glasgow and Benbecula (the nearest available on the day to my destination, XXX) and receiving a favourable actual and a Prior Permission Required (PPR) clearance from my destination, I took off from my private strip with Oban as an alternative.

Over Aviemore listening out to Scottish Information, I became aware that poor weather was approaching my destination and some aircraft inbound were diverting to Oban. I telephoned the operator at XXX, got their latest actual weather and decided to divert to Inverness, XXX had said that was a sensible thing to do as the bad weather would soon be at Oban as well.

Over Kingussie I tried to phone Inverness to get prior permission but my phone kept losing the signal. I then turned towards Inverness and managed to speak to them on the radio south of Tomatin. I reported, "Field in sight" and then reported downwind left hand for runway 23. I then asked them to confirm if Avgas was available. I never got an answer to that but was instructed to orbit right hand. I was then told I could not land unless I declared an emergency. I was not prepared to declare a false emergency in order to land, instead I returned to my strip.

In the past I have made three weather diversions to different aerodromes, not one of them required me to declare an emergency before landing. The traffic situation at Inverness would have been very light as I heard no other transmissions on the frequency.

I feel that there should be a standard way of knowing which aerodromes can accept a genuine weather diversion without the need for declaring an emergency.

CHIRP Comment: This report raises several points of interest. First, it is important to take due cognisance of the unpredictable nature of the weather in some parts of the UK such as the West Coast of Scotland when planning a flight; in cases where a weather deterioration might be anticipated, select an alternate airfield that is unlikely to be similarly affected.

The second point is that the use of a mobile telephone whilst airborne is not legal and might lead to telephone companies barring its use if detected; a more appropriate course of action would have been to have contacted Scottish Information.

The third point is that all airfields will accept a genuine weather diversion. Therefore, if you should encounter circumstances during normal operations which could lead to an emergency situation, you should make a 'PAN' call; this will give you priority over other normal operations. The reporter, having encountered unsuitable weather at his intended destination and alternate airfields, determined that he had sufficient fuel available to return safely to his point of departure and correctly elected to exercise this option.

WINTER LAY-UP - A REMINDER

Report Text: My aircraft had been grounded for 3½ months by weather/ground conditions and the over winter period. I noticed that the aircraft was difficult to get out of the hangar. I attributed this to soft ground, being out of practice and having a strained ligament in my elbow. I commented to a colleague that this felt more like a much heavier aircraft than my own. Basically, I thought the change in the aircraft was actually a reflection on me and the ground conditions - wrong!

After the long lay off over winter I flew on four occasions and on each occasion noticed that the take off was particularly less sprightly than I remembered;

particularly two-up, when the initial acceleration seemed poor.

After a particularly hard struggle to manhandle the aircraft out of the hangar, it occurred to me to check that the wheels were free. I discovered the port wheel brake binding very badly and the starboard brake not much better; the pistons had partially seized. After being stripped, lubricated and re-assembled both brakes are now OK and the aircraft can be moved around easily single handed.

In hindsight it seems absurd to have allowed this situation to develop. I could have drilled a hole in the hedge or tipped up on landing. Although having had a niggling question in the back of my mind, I had assumed the problem was me not the aircraft.

Lessons Learned:

1. Don't assume that everything that is working before a lay-up is still working three months later.
2. The brakes had been adjusted very finely with minimal play in the system; now adjusted to allow pistons to move a bit further before brakes applied.
3. Listen to the 'niggly voice' in future; it was obviously my subconscious picking up on a problem.

CHIRP Comment: Whenever an aircraft is prepared for flight after a winter lay-up or maintenance checks, it is important to make a particularly thorough pre-flight check and investigate all of the possible causes for anything that appears to be out of the ordinary. In this case, the reporter made an assumption as to the cause and failed to check other potential causes for the symptoms.

Remember, "If it doesn't feel right, it probably isn't!"

WHICH RUNWAY?

Report Text: Due to the wind direction, the shorter southerly runway was the 'runway in use'; however, the resident parachuting 'jump ship' was continuing to use the longer southwesterly runway for parachute lifts. The parachuting aircraft was on the ground as I landed on the southerly runway.

At this airfield it is the practice when the southwesterly runway is in use to use the southerly runway to taxi to the parking area and vice versa when the southerly runway is in use.

I called 'BBB Radio' as I completed my landing and announced my intention to taxi via the southwesterly runway to the parking area. Keeping to the left side of the southwesterly runway, I was surprised to see the parachuting aircraft line up and then commence his take off run and on the very runway I was taxiing along. I immediately vacated the runway onto the grass as the parachuting aircraft thundered past me. I consider that had I not vacated when I did, there was a high risk of collision.

I had not heard a radio call either from BBB Radio or the pilot of the parachuting aircraft that his departure was imminent.

Lessons Learned:

1. Don't assume that because someone flies for a living, that they are infallible.

2. Don't assume that because one runway is in use, the rest are not!
3. Keep a good look out on the ground, as well as in the air.

CHIRP Comment: The procedures that the reporter describes appear to be vulnerable when both runways are in use. In such a situation all pilots should be advised that both runways are active and it is most important that pilots of radio equipped aircraft state their position and intention clearly to allow other pilots to maintain situational awareness.

DISTRACTION & CONFIRMATION BIAS

Report Text: I am a low hours pilot with a share in a Cessna 172. I am in the process of moving and my opportunities to fly the plane are limited; with weather and other interventions, there have been long gaps between flights. On the occasion in question, I was planning to fly a cross country flight with my brother, with me as Captain. He is much more experienced (1,000 plus hours) and, as it turned out, possessed sufficient airmanship to get us out of a potentially dangerous situation.

The aircraft had just returned from its Annual Check and so he had warned me to be alert for anything strange which might develop. Having completed an 'A' check, I began going through my checklist prior to taxiing. At some point during the procedure I must have been distracted and failed to raise the flaps which had been lowered as part of the standard check. Taxiing, power checks etc. were normal and we obtained clearance for take-off. During the roll I was watching the speed and was surprised to find we took off at around 55kts, well below the normal 65kts. On climbing out my brother asked me to increase my rate of climb but my ASI still showed only 60kts. With full throttle and a very shallow angle of climb we could not increase speed.

At this point we both assumed some fault with the ASI, perhaps due to the Annual Check. He called the Tower and asked for a return, declaring a 'PAN' and we were able to return and land safely despite having a low airspeed (around 60kts throughout).

After our return we were trying to find out what was wrong when someone who had watched us take off explained that he had seen us take off with full flap. This explains the sluggish airspeed as well as the initial early lift off.

Lessons Learned: Clearly this was a dangerous error on my part and it has made very clear the importance of thoroughly checking all items on the checklist. I have modified my personal checklist now to include a tick box against each item and hope this will remove the possibility of inadvertently skipping an item because my attention was distracted. I also plan, on flights with another pilot, to engage them in cross-checking each item with me.

CHIRP Comment: The reporter is to be commended for sharing his error for the benefit of other pilots. As he notes, the principal cause of this incident was the failure to complete the pre-flight checklist correctly; perhaps as a result of an interruption. As noted on page 3, particular care is necessary with checklists/vital actions when conducting post-maintenance flights.

There is an additional point that merits a mention. When two pilots of different levels of experience fly together, there is a natural reaction, if something unexpected happens, for the less experienced pilot to accept the advice of his/her more experienced colleague without question. In this particular case, the assumption that the cause was an Indicated Airspeed problem led both pilots to conclude, incorrectly, that it was not necessary to diagnose the possible cause further. This condition is known as confirmation bias, in which evidence confirming the initial diagnosis is accepted, whereas information contrary to the diagnosis is rejected mentally. One way to minimise the effect of confirmation bias is to conduct a pre-take off briefing specifying who does what during the normal operation and how an emergency is to be handled; this might have led to the flap selection error being identified and corrected.

PILOT MENTORING - A HARD LESSON

Report Text: I was flying a cross country flight associated with my business. I was accompanied by a PPL qualified pilot with approximately 200 hours experience, who wished to obtain difference training (2hrs) on my aircraft. He requested to conduct the takeoff for the return flight to base and I agreed. He knew to apply lots of right rudder as he opened the throttle to prevent yaw. However, the rudder application was insufficient, then over-corrected; a Pilot-induced oscillation (PIO) around the runway centreline ensued.

As I assumed control, the aircraft lurched 20° port wing down, forcing a side-slipping touch of the port wheel back onto the runway. Gear indications were normal and retraction seemed uneventful. However, en route the red light (Stbd wheel) illuminated and subsequently I was unable to deploy the Stbd mainwheel or to lock the nosewheel.

I alerted my base to the situation and prepared a crash landing drill. Our eventual landing was as planned, the main damage was to the lower engine cowl and the stbd wing tip. The propeller was destroyed but the hub remained intact. There was no shock damage to the engine as it was shut down prior to landing.

Subsequent Inspection revealed that the stbd leg had been bent back (must have touched a runway light on departure); the hydraulics had forced the wheel up but the deformation led to a mechanical failure of a hydraulic actuator attachment and a loss of hydraulic power. The failure of the nosewheel to lock was due to a reduction in effectiveness of the gas spring.

CHIRP Comment: This unfortunate incident is a reminder of why the CAA requires an instructor qualification to be a prerequisite for conducting differences training. Differences training, properly given, should explore difficult areas of the flight envelope; the training that instructors receive should ensure that they are better placed to avoid potentially dangerous situations, such as that described, from developing.