CHIRP General Aviation FEEDBACK

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As you will read below, our Chief Executive of the past five years, Ian Dugmore, is retiring in March 2019. Ian has, during that time, brought inspirational leadership, diligent dedication and a critical eye to efficiency in addressing the safety objectives of the CHIRP Programmes and their successful development. I believe the readership of this document would wish to endorse my sincere thanks to Ian for his contribution and to wish him good health and happiness in his retirement. Thank you Ian.

Capt. David Harrison, Chair of CHIRP Trustees

Editorial

A recent CHIRP report concerned the standards of instruction at a flying school. Students who had many lessons were found to be deficient in skills that should have been covered early in the syllabus and had no knowledge of some of the principles behind the practical exercises. A high turnover of instructors was reported to be one of the factors as well as airborne lessons with little in the way of preparatory briefings. There are undoubtedly some good flying schools but the practice of paying instructors by the flying hour does not encourage instructors to devote time to both the pre- and post-flight briefings that would improve student learning enormously. It is difficult for ab-initio students to know whether they are getting good tuition or how to measure their progress. However, launching on an air exercise without a thorough pre-flight brief is a strong indicator that the instructors are not valued sufficiently by the school and the students are not getting value for money.

In a change of subject, I must announce my retirement from CHIRP with effect from March. During my 5+ years here I have been impressed and grateful for the willingness of reporters to share their sometimes-embarrassing experiences in order to benefit their fellow pilots, controllers, engineers etc. The trust we all place in each other to discuss safety issues and our different perspectives openly and without rancour has made my job here one of the most satisfying in my career. Although I will miss CHIRP, I am delighted that I can handover to an excellent replacement who comes with a wealth of relevant experience. Ken Fairbank began his career in the RAF, and then flew as an airline Captain before joining the Air Accident Investigation Branch as an Inspector. It is hard to think of a better profile for the Chief Executive at CHIRP. Thank you again to everyone who has reported, commented and even disagreed with CHIRP over the last 5 years; the sharing of experience and opinions is good for safety. Please keep those reports coming!

Ian Dugmore – Chief Executive (for a little bit longer)

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Multiple Landing Fees May Reduce Safety – An Update

We are pleased to announce that the Airfield Operator's Group (AOG) has agreed that, as a matter of principle, landing fees should not be charged when pilots abandon an approach for safety reasons and go around. Flying clubs and schools may negotiate 'bulk buy' terms for training but for other airfield users it may be difficult in practice to determine whether a go-around has occurred for safety reasons. Clearly if the stated intention downwind is to go-around, the approach may be chargeable in accordance with the airfields charging scheme. However, if a pilot decides to go around or is sent around by ATC for safety reasons a charge is generally inappropriate, and we welcome the decision by the AOG.

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COMMENT NO.1 ON FEEDBACK EDITION 78 – RADIOS AND PERSONAL IMPROVEMENT

Report Text: Particularly informative issue - again, thank you. I kept it in my inbox to re-read.

I liked the self-critical new pilot's report. Now a hundred or so beyond 1000 hours I still believe every flight is a 'training flight' in the same way as CHIRP is a training document. I suspect I tend to think 'yes I knew that' but subconsciously it reinforces early learning and/or highlights things perhaps which have become buried a little too deep within it!

For years now as well as savouring a good days flying, we have reviewed what was done, good and not so. Here incidentally my colleague's Sky Demon snail trail [which he prints for me] has been useful. I've always thought I flew pretty straight and level.... but no! So, I concentrated on trim and flying to a landmark.

CHIRP identifies/promulgates errors. Maybe a note that all pilots can review all flights after and learn in the same way we should [re]view our plan before a flight.

After all learning in aviation is just as satisfying as the aviation itself.

Again, huge thanks for adding to our safety and pleasure.

***CHIRP* Comment:** Reviewing one's performance after a flight is good practice and many electronic aids facilitate recording and replay. We are also aware of pilots using 'action cameras' to record flights. Our only cautions are to ensure all recorders are safely secured and set up correctly for the forthcoming flight to prevent the devices becoming a distraction; also, pilots should avoid trying to provide a deliberate commentary of what they are doing. With those caveats observed, recording flights is good idea – and it can be revealing!

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COMMENT NO.2 ON FEEDBACK EDITION 78 – 8.33 KHZ RADIOS

Report Text: It is worth pointing out that in some 8.33 radios at least – ours being one – the radio is in 25 kHz mode when first switched on, presumably to allow rapid frequency change and requires a push of the frequency knob to move to 8.33. It can easily be reverted to 25 kHz from 8.33 if the frequency knob is mishandled. Despite having absorbed the instructions it took us a while to realise this and a few inadvertent 25 kHz calls were made as a result.

***CHIRP* Comment:** Although the programme to move to 8.33 kHz channel separation is complete, legacy equipment is likely to trap the unwary and unlucky for years to come. Pilots need to be familiar with the operating modes of their equipment and ensure that their knowledge is passed on as 'top tips' when memories of 25 kHz operations begin to fade.

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FIXED TO THE MAGENTA LINE

Report Text: Called Clacton radio at 10nm (5 mins) out, to be told "runway 18 right hand". I am approaching from the west, but I cannot see the airfield. With the hot weather we have been having, everything is yellow or brown. I also cannot see any circuit traffic. Following the magenta line as the distance reduces to 2 miles then 1 mile and I still can't see the airfield. Suddenly I am over the airfield and would be on the dead side if they were operating overhead joins, which they weren't. After manoeuvring to get onto downwind, I am told there are three a/c in the circuit. I am at circuit height but cannot see any traffic. Turning on to base it becomes apparent I have cut in front of another a/c, which has to go around. Eventually after some more manoeuvring, I land and am reprimanded for my actions.

Lessons Learned - When approaching an airfield that does not operate overhead joins, I should have offset my track to parallel the downwind leg, slowed down and waited to see other traffic and the airfield. If you slavishly follow the magenta line you will end up over the airfield and still not see it because it is under the nose.

Airfield Operator Comment: Although Clacton airfield is small and can be hard to spot, there are many features near the airfield - the coast, the town, the pier, the windfarm, the estuaries; it should be reasonably straightforward to position on a downwind join for either runway direction. Offsetting the "magenta line" could make this easier. If any line is followed straight to the mid-point of an airfield it simply ignores any circuit altogether. A little more research and planning would help. Also, navigating at 1000' is MUCH more difficult than at 2000'!

The area on the "dead side" (east) is entirely built-up; pilots joining overhead would likely be far too low descending dead side over the built-up area and fail to be able to "glide clear" in the event of an emergency. It's solid houses, or the sea. For this reason we discourage overhead joins, as this has caused problems in the past. If a pilot is unsure of where the airfield is, there is nothing to stop an arrival overhead above 2000' in order to identify the runway and circuit traffic. Once this is done, leave the town/circuit area and descend (to south or north as appropriate) to position for a downwind join. If this had been done in this instance, the

pilot would have had time to look and listen for traffic in the circuit as well as identify where the circuit turning points are etc.

CHIRP **Comment:** Although the reporter has couched his report in terms of following a GPS track, there is little difference between slavishly following a GPS line and any other planned track on a chart. Perhaps the accuracy of GPS and the knowledge that the destination will be at the end of the track leads pilots to focus on the line for longer than they would when navigating using traditional methods. Either way, it was unwise to continue closer than 2-3 miles from the overhead at circuit altitude when the airfield had not been visually identified or the positions of aircraft in the circuit established. Although the airfield documentation prohibits overhead joins, the airspace above this airfield is clear up to 5500ft providing the option for overflight above the circuit traffic; this would enable the pilot to gain his bearings and descend clear of traffic and join downwind. At other airfields where overflight above the circuit traffic is not possible the reporter's suggestion of using a GPS offset is an option; alternatively, working from big-to-small landmarks or geographic features will allow the airfield to be identified.

Considering the use of GPS more generally, the accuracy of Sat Nav can create hazards on well used routes. For example, on any commonly flown route from a well-known A to a well-known B, the majority of aircraft flying A→B using GPS will follow a very similar track - and meet exactly head on aircraft using GPS to fly B→A. Therefore, offsetting the planned track slightly can be a good idea. Similarly, in most light aircraft the worst place to see is directly under the nose so deliberately offsetting or aiming off to one side can help visual acquisition of navigation features, points of interest or airfields. When aiming-off for an airfield join, it is necessary to consider the circuit direction; all other things being equal, for left hand circuits, aiming off to the right will work well.

Finally, the existence of a dead side is not dependent on overhead joins being permitted; unless stated otherwise in the airfield documentation, the dead side exists and is available for go-arounds maintaining clear of the climb out lane.

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ATCOs' RT CALLS

Report Text: This report is a general one, the time and date given is the most recent example where the subject of the report recently occurred (it was during my annual Licence Proficiency check, after an ILS approach, with an examiner on board).

I operate a two-pilot helicopter based at a large and often very busy civilian airport. We fly to "Class A" performance and aim to operate in accordance with the sterile cockpit principle, for well publicised reasons.

A "Clear Area" (runway) approach for the type we operate has a Landing Decision Point (LDP) of 80 feet agl and 25 kts IAS. Beyond that point on the approach, an engine malfunction would require a landing on the runway because there is likely to be insufficient power to achieve a hover or to climb away. 80 feet agl is therefore a point where the pilot needs to fully concentrate on either landing (or hopefully, achieving a stable hover from where either hover or ground taxying can be commenced to clear the runway).

Increasingly often, ATC transmit our subsequent taxying instructions on short finals, sometimes including a frequency change to "Ground". As instructions there is a requirement for these to be read back in full. This is an unacceptable distraction at a critical stage of flight.

The pilot flying calls "LDP" across the cockpit so that the other pilot is aware of what his immediate actions would be in the event of an engine failure. An untimely transmission from ATC completely disrupts this cross-cockpit communication. I have noticed that ATC certainly seem to totally understand the "sterile cockpit" environment of fixed wing aircraft but inexplicably, don't seem to consider this same factor for helicopters.

Lessons Learned - ATCOs should delay transmitting taxy instructions to helicopters after they have cleared the runway, or at least after landing, certainly not on short finals.

British Helicopter Association: This is a common one for helicopter operators. The solution is to go and have a liaison visit with the tower and tell them your concerns and how you operate. Because helicopters do not follow the normal instrument arrivals, ATC may not realise that crews need a 'sterile' period during the late stages of an approach. Very often we are turning onto the final approach heading, at a low height, having come from 90 degrees to the runway. Certainly, taxy instructions should not be given from the time the helicopter enters finals until it is in a stable hover. It makes no difference whether the aircraft is being flown multi or single pilot.

ATC Comment: This is a busy airport equipped with a single main taxiway running parallel to, and along the entire length of the runway. There are several aprons spanning the entire south side of the airport and entry/egress from these aprons is via a multitude of access points. As a consequence of this, aircraft are not generally allowed to choose the point at which they vacate as this may well bring them into conflict with aircraft taxiing the opposite direction for departure and there is an insufficient amount of safe space between

the runway exits and the main taxiway to safely hold aircraft. We also have some exit points towards the mid-point of the runway that are also used as holds for departure. As a consequence of this, if a specific exit is required, aircraft are usually given instructions on where to vacate prior to being given landing clearance to allow them to plan for the required braking action and also to allow for an uninterrupted approach and landing. However, due to the dynamic nature of the traffic and the small traffic gaps that a single runway operation requires, it is sometimes necessary to instruct pilots upon completion of their landing roll where they are required to vacate and controllers are trained to time this call accordingly.

In the case of helicopters, it is not always apparent when the landing manoeuvre has been completed and taxi manoeuvre commences as helicopters seldom come to rest either in a hover or on the runway and often transition from landing straight into taxiing off the runway. In this instance Controllers will make a judgement as to when it is likely to be safe and prudent to issue taxi instructions but this may sometime be prior to them vacating the runway if the traffic situation requires it.

It is not clear from the report at exactly what point the reporter experienced the taxi instructions but we would be surprised if this was 'late on the approach' and is far more likely to be when the aircraft is abeam the tower (approximately half way down the runway) which is where our ATCOs generally make the necessary call.

The report will be included in the next standards bulletin together with re-iteration of the importance of timely taxi instructions, in particular those relating to helicopter movements. Equally, pilots need to be aware that if they receive an instruction from ATC that is poorly timed or inappropriate, the use of "Stand By" is always available. Working with many different operators, experience has shown that there is very little standardisation in cockpit procedures and very often, a period that is regarded as 'sterile' by one operator may well be considered to be 'opportune' by another.

We appreciate this kind of feedback and it's always good to hear the other side of the story.

***CHIRP* Comment:** A sterile cockpit for critical phases of flight is a sound principle. In reality controllers frequently issue instructions or guidance when on final approach. These transmissions may be helpful, for example a wind check, the position of marshallers or the location of the exit taxi way, which, taking into account the great flexibility of a helicopter, may allow the final approach to be modified to minimise a possible long hover taxi. However, such calls should not be made during the critical final phase of the approach. Frequency changes in the late stage of flight or the hover can be a problem for single pilot helicopters that do not have a cyclic frequency select button – or who have not pre-programmed their radio to the ground frequency! The report provides a good reminder of the differences between fixed wing and helicopter operations. Also, that a bit of awareness can go a long way; if ATC procedures cause pilots a problem, and vice versa, it is a good idea to discuss them and find a solution that works for both parties.

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GA PPL TRAINING – WEIGHT AND BALANCE – ANYONE AWARE?

Report Text: I was tasked to instruct a PPL student I'd never met previously -weather was suitable and I'd been flying previously. Aircraft allocated was a PA38 Tomahawk.

When I was introduced to the student, the first impression I formed was he was 'heavy'. I politely asked him (discreetly) his weight - and he advised it was [a lot].

A quick calculation [Max Take-Off Weight (MTOW) minus Empty Weight = Useful Load minus Fuel Weight] revealed that even with half full tanks the student's weight plus my own would put the aircraft over its MTOW so we abandoned the sortie.

CONCLUSION: Students who are assessed as being 'heavy' ideally could be mentored and given a personal 'Weight/Balance' spreadsheet that indicates in one column their actual weight, second column fuel vs weight and third a total. The student could then - when booking his/her flight - be asked to flag up the need to ensure there is sufficient 'useful load' margin for the Instructor for that particular aircraft - type and exercise (Utility vs Normal).

I have directed both this student and another subsequently (he weighed 16 stone) to the PA28, which has a greater useful load.

All schools operating - all types - not just PA38 and C150s - could have a notice of raising awareness of demographics with regards to body weight of students today and the potential for exceeding MTOW - with the associated consequences.

***CHIRP* Comment:** This is a perennial problem and there are additional issues. Seat structures have maximum weight limits; heavy loads in excess of these limits could cause damage which might develop insidiously over time to the point where the seat back will just fail when the user presses their feet on the pedals to release the brakes. It is good practice to have accurate scales in the briefing area so that all pilots and passengers can be weighed before each flight together with their bags to ensure that the maximum weight is not exceeded. Also, flying schools could consider reducing the standard fuel load for routine

training flights. Another consideration for people with a large frame is the difficulty of vacating the aircraft rapidly in the event of an emergency.

Although microlight instructors and pilots routinely comply with aircraft weight limitations, which are applicable to each seat in some aircraft and to the cockpit as a whole in others, the relatively high engine power and aircraft performance in some microlights can lull pilots into being lax over weight limitations.

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CONTROLLER RT

Report Text: I was on a VFR flight from Blackbushe to Rochester routing OCK BIG DCT. I climbed to the downwind leg off RWY 25 and commenced a climb to 2100ft intending to speak to Farnborough. Weather was good visibility with few clouds well above my level. I picked up the 275 radial inbound to OCK and contacted Farnborough radar 125.25 approximately four miles east of Blackbushe as the controller on duty was insisting on readbacks of QNH etc even though the frequency appeared to be busy. I received a basic service and the controller said " In future call us before you enter our ATZ, you are right inside our ATZ on the final approach". This was on a very busy frequency.

I knew, as I was on the 275 radial to OCK, that this was false but chose not to get into an argument. I replied "roger, the frequency was busy". I then received further admonishment about ATC transit. I replied that I was unwilling to argue over the radio and would call upon landing.

The same controller then continued issuing admonishments to pilots particularly a solo student who became confused and repeatedly read back an incorrect QNH. The controller was clearly irritated and in my opinion contributed to the student's confusion.

I left the frequency to Biggin approach and the rest of the flight was uneventful. I did not call as after discussion with a fellow examiner it was agreed a CHIRP report would be a better course of action.

Lessons Learned - In my view the controller was under stress largely due to his own lengthy exchanges and apparent irritation with simple mistakes from pilots. The sky wasn't particularly busy but because of these long exchanges the frequency was blocked.

The controllers behaviour caused, in my view, confusion to several pilots including a student pilot and the lengthy exchanges blocked the frequency increasing the likelihood of late/incorrect calls. This could be avoided by correct RT.

***CHIRP* Comment:** The airspace between the Farnborough ATZ and the London CTR is a pinch point where it is not possible to avoid Controlled Airspace (CAS) by a minimum of 2nm and 200ft as recommended in the GASCo “Take 2” initiative. More details at https://www.gasco.org.uk/flight-safety-information/take-two)

When routing to the east from Blackbushe pilots should call Farnborough as soon as possible to allow the controllers to identify the aircraft and treat them as known traffic for separation purposes. In this incident the reporter’s efforts to call Farnborough early were thwarted by other transmissions on the frequency. The correct read back of a QNH is a CAP413 requirement and if a pilot fails to read it back correctly, ATCOs must challenge it.

The OCK 275 draws a line that is close to the NE edge of the Farnborough ATZ in the vicinity of J4 of the M3 (VRP). There is no reason to doubt that the reporter was on the 275 radial and clear of the ATZ, but even a small deviation would put the aircraft inside the Zone. Doppler VORs are required to be accurate to ±1° before taking any aircraft system tolerances into account. Therefore, it is prudent to use ground features in addition to VOR bearings when ‘threading a needle’ between CAS.

A controller’s workload may not be evident to pilots and the reporter was wise not to argue over the RT. It would have been appropriate to call the controller after landing and contact CHIRP if the call did not resolve satisfactorily what had occurred.

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COPING WITH EQUIPMENT FAILURE

Report Text: This event occurred a couple of years ago but I thought it may be worth telling you about.

I took off from [ ] airfield in Kent on a sunny afternoon for a planned IFR flight back to [the Channel Islands] in a [ ]. The aircraft was equipped with a [ ] glass flight deck with 2 independent ADHRS units. As I headed towards the coast the cloud base lowered and I entered cloud. I had just received my airways joining instruction from London Control when I was alerted on screen that both GPS units had failed and the aircraft position on the GPS was by “dead reckoning” only. As with all IFR flight plans, it rarely survives first contact with ATC so I was already off my planned course with only an estimate for exactly where I was. I was concerned that I would be unable to comply with ATC instructions so cancelled my airways joining and, in order to stay far from controlled airspace, I maintained altitude below controlled airspace and headed south for the coast intending to descend to 1000’ and continue visually with the coast in sight. At 1000’ I was still in cloud and unable to see the surface. I continued in a westerly direction and was acutely aware that

Southampton airspace was coming up. Having worked out my approximate position from the VOR at Goodwood I then set a course to intercept the Southampton VOR radial that would take me to ORTAC [a way point north of the Channel Islands] without busting Southampton airspace. Only then did I call up Solent Radar and explained my predicament. They couldn't have been more helpful. They pointed out that the track I was on would not actually achieve my stated goal (simple schoolboy error of calculation) and gave me a heading for ORTAC. I was then pretty much home and dry (thankfully).

Lessons Learned: - Why did I cancel my airways joining instruction rather than following instructions and telling the controller what was wrong. This would almost certainly have been safer and I would have been less likely to bust airspace.

Expect the unexpected: I now always carry a backup (Skydemon on my phone) I have subsequently done a lot more practice at intercepting VOR radials, not just the mandatory one every six months.

***CHIRP* Comment:** The reporter's Lesson Learned is correct. In the event of navigation problems, tell ATC without delay and ask for assistance. You will rarely be disappointed with the help you receive.

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SUMMARY OF GROUND ERRORS

Report Text: After many years, I did not replace a fuel cap after refuelling a []. Fortunately, the flight was completed uneventfully. It was after landing at the destination airfield that it was noticed that the cap was missing.

There were I believe mitigating circumstances in that both I and P1 were carrying out the addition of fuel from a club hand pump. Neither noticed the cap was missing. I took it off and therefore consider myself responsible for its replacement.

Does your reporting database give any clue as to how many events fall into this category?

***CHIRP* Comment:** An easy mistake to make, particularly when sharing tasks in the absence of formally delegated responsibiliites. It is also prudent to refuel the aircraft, check the oil, load baggage etc AND THEN do the walk-around before boarding for the flight. In this way a normal check of the security of the aircraft, baggage doors closed and locked, gust locks removed, pitot cover removed fuel sufficient for the flight and caps secure would occur naturally.

CHIRP receives 1 or 2 reports each year about fuel filler caps being forgotten but 4-5 times as many reports about the lack of fuel awareness in general. It should also be noted that missing filler caps have a habit of turning up in places where they constitute a FOD hazard for other aircraft.

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