

# CHIRP GA FEEDBACK

Issue No: 67

1/2016

## CONTENTS

<a href="#">Editorial</a>	Page 1
<a href="#">The Infringement of a Class D Zone</a>	Page 1
<a href="#">Not responding to PAN-PAN</a>	Page 2
<a href="#">Joining Dilemma</a>	Page 2
<a href="#">Misinterpreting fuel gauges</a>	Page 2
<a href="#">Recent Navigation Incident</a>	Page 3
<a href="#">iPad, GPS and Compass Deviation</a>	Page 4
<a href="#">Runway Incursion</a>	Page 4
<a href="#">Altitude Deviation</a>	Page 5
<a href="#">AUTOMET Trial</a>	Page 6

## EDITORIAL

**FEEDBACK** The number of reports received from GA pilots in 2015 was much reduced compared with 2014. One of the reasons is likely to be that our distribution of FEEDBACK via e-mail is not as effective as it was with the paper version through the mail. This means that our profile is reduced to the point that pilots no longer think to report to us. A recent sample of GA pilots revealed that a surprisingly large number used to receive the paper version of FEEDBACK and would have liked to receive the free electronic version but – for a variety of reasons – we do not have their e-mail addresses. So please, ask your chums if they are receiving FEEDBACK and if the answer is ‘no’ ask them to send us an e-mail at [mail@chirp.co.uk](mailto:mail@chirp.co.uk) and we will do the rest.

**Navigation** We have had a number of reports and comments recently about compasses and DIs. There are 2 more in this edition. Neither are as sexy as GPS but both will work well if you look after them and take some basic precautions. Keep metallic and electronic devices away from compasses and check your DI is synchronised at frequent intervals in flight and always check it after sustained manoeuvres and aerobatics. That said, just about anything can fail at some stage and, as we all know, it will likely be at an inconvenient time and place. So prepare for the worst by practising for it at times and in places where you won't embarrass yourself.

Ian Dugmore – Chief Executive

---

### COMMENT ON EDITION 65 – THE INFRINGEMENT OF A CLASS D ZONE

The problem lay with reliance on the DI. Unless slaved to a magnetic compass, a DI will precess 15 degrees per hour and has to be reset at least every 15 minutes.

That being said, many years ago I set my DI (toppled after an aerobatic session) North on East. I grew increasingly puzzled (as did the controller) as bearings from the airfield were consistently wrong. After repeated nudging from the controller to reset my DI (which I did) it finally dawned on me that I was meticulously setting North on East and thus flying in a circle. Once corrected, I was home in 15 minutes.

**CHIRP Comment:** The reporter is correct about the importance of re-slaving a DI after aerobatic manoeuvres or sustained turns. The natural tendency of a DI to precess can be minimized by the correct adjustment of the drift nut to compensate for the aircraft's latitude. A drift nut can only be adjusted by an instrument fitter but it should be already set for our latitude unless the instrument was purchased overseas or adjusted for overseas use.

[Back to the Top](#)

### **COMMENT ON EDITION 65 – NOT RESPONDING TO PAN PAN**

I have long felt that the current version of the PAN call could be improved. The repetition of "PAN" six times (albeit in three couplets) is awkward to say, somewhat time consuming, and arguably unnecessary. I suggest that PAN - PAN - PAN would be more effective. However, it's now enshrined in aviation so the existing style will doubtless remain. I'm not sure where the present group of emergency calls came from although, like their predecessor and many other aviation terms, they are based on fractured French. In my day (again, many years ago!) we had three emergency calls: MAYDAY, PAN and Sécurité - each repeated 3 times. Sécurité was used for messages which were important and safety related but less urgent than PAN and much less so than MAYDAY. It would be used, for example, for an undercarriage hang-up where there is no great hurry, but the circuit needs to be kept clear so that the aircraft can do a nice, slow, low fly-past while ground staff check its status. It continues to be used at sea.

**CHIRP Comment:** It is agreed that 'Pan-Pan' times 3 is unwieldy compared with the more familiar Pan! Pan! Pan! but it is the international standard. [CAP413](#) Chapter 8 Paras 8.2 and 8.3 provide the reference:

#### **States of Emergency**

8.2 The states of emergency are classified as follows:

1. Distress. A condition of being threatened by serious and/or imminent danger and of requiring immediate assistance.
2. Urgency. A condition concerning the safety of an aircraft or other vehicle, or of some person on board or within sight, but does not require immediate assistance.

8.3 The pilot should start the emergency call with the appropriate international RTF prefix as follows:

1. Distress 'MAYDAY, MAYDAY, MAYDAY'
2. Urgency 'PAN PAN, PAN PAN, PAN PAN'

[Back to the Top](#)

---

### **COMMENT ON EDITION 66 – JOINING DILEMMA**

Just received the latest edition of CHIRP. I read the contribution about joining procedure problems at North Weald. A chart of the local area was included. Unfortunately, it's out of date. Panshanger ATZ is still depicted thereupon, but it no longer exists and has been gone for some time....

**CHIRP Comment:** Good spot! Thank you for pointing this out.

[Back to the Top](#)

---

### **MISINTERPRETING FUEL GAUGES**

**Report Text:** Flying a solo GH sortie, I took off with a low fuel load because I did not intend to stay airborne for long. During climb out I noticed a marked fuel imbalance between Port and Stbd tanks, though they had shown as even on take-off. I then selected the low tank, by mistake.

This [aircraft] has an electronic display which shows the 2 tank contents as horizontal green strips, one above the other, with Port/Left on top and Stbd/Right below. Contents increase from left to right.

On this occasion, the right tank contents were very low, which meant the bottom strip was well to the left and the top one much further to the right. I interpreted this - instinctively, but incorrectly - as showing more fuel in the right tank (i.e. where the green strip was pointing), and so I selected the fuel flow from BOTH to RIGHT.

I realised my error almost immediately, and no harm was done, but I believe this could catch out an inexperienced pilot.

Lessons Learned - The ideal would be to change the display so as to have vertical strips for fuel contents, with left on the left and right on the right. That is unlikely to happen.

The answer is, as ever, training. Publicise the possibility of this error, which is most likely to occur when a major imbalance is indicated, and always double check fuel switching.

**CHIRP Comment:** Interpreting a horizontal display with left and right one above the other is less intuitive than a display with left to the left and right to the right. Therefore it is important to remember to take time

to interpret the display carefully. It is also worth noting that a modern electronic display may be connected to an older generation of sensors and therefore be no more accurate than older displays. Dipping the tanks before flight will provide a genuinely accurate indication of the fuel state.

[Back to the Top](#)

---

### RECENT NAVIGATION INCIDENT

**Report Text:** The incident was caused whilst flying the last leg of a VFR flight to Barton airfield (EGCB). I requested a frequency change from Liverpool 119.85 to Barton 120.25 on reaching the VRP junction M6/M58 (J26). I was squawking 7000 mode Charlie once released by Liverpool.

The direct track (114 degrees) from (J26 M6) to Barton - 12 miles - clips the North east corner of the low level corridor (maximum altitude 1300ft) virtually overhead VRP Leigh Flash.

It has always been my practice not to fly direct to Barton from (J26 M6) but to remain at altitude 1800ft and to take up a more Easterly track to clear the Northern and Eastern boundaries of the low level corridor before turning South and joining overhead at Barton. I consider this practice to be a safer option than descending to altitude 1300ft for a short period of time and above a populated area before having to climb back to 1800ft for the Barton overhead. I am familiar with the area and would normally have no problem remaining clear of the corridor simply from visual ground references.

On this occasion, and once in sight of Barton, I realised that I had not got the turn from the (J26 M6) correct since I was approaching Barton on a South Easterly heading and not Southerly which I was expecting, i.e. I was further West and therefore closer to the corridor than I should have been. The low level corridor and all surrounding airspace are clearly delineated on the 1/500,000 chart and associated altitudes are also clearly shown; there were no problems with VMC throughout the days flying.

I would like to make one mitigating comment, not an excuse but simply a possible contributing factor leading to my error. During the VFR flight, the direction indicator had become permanently caged (locked) and I completed the flight using the compass; I reported this problem on landing. It is generally accepted that flying on the much less damped compass is more difficult and requires more concentration than when using the DI. It may be that having to concentrate on the compass, which is positioned at a high level compared to the DI, distracted me a little from recognising the well-known landmarks of Wigan, Leigh and Leigh Flash; all of which I know well and observe in order to remain clear of the corridor once having made the turn from (J26 M6).

I do appreciate the importance of accurate navigation, including airspace altitude parameters, and I know that this becomes even more important when in close proximity to major international airports.

I really regret my error which led to the incident and I will take all the steps necessary to ensure no such problems occur in the future including;

Specific to this incident;

- A) Flying 090 degrees from (J26) for 11 miles before turning south for Barton.
- B) Not fly too close to the permitted altitude limits for the relevant airspace.
- C) To squawk 7366 which is the Manchester conspicuity code and to monitor 118.575 when close to Manchester controlled airspace.

Generally;

- A) Always squawk conspicuity codes whenever they are available and to monitor the relevant frequencies.
- B) To become more familiar with navigating using the compass as opposed to the DI.

**CHIRP Comment:** We are grateful for this honest report and the reporter's identification of the steps we would also recommend for preventing similar problems in the future. The suggestion about practising navigation with compass alone is definitely worth trying; however, plan it carefully and ideally have a colleague along to act as a safety navigator, perhaps with a GPS set to monitor.

[Back to the Top](#)

### **IPAD, GPS AND COMPASS DEVIATION**

**Report Text:** We were on a land away Navex. The student's NAV plan was working out well. Having obtained clearance to transit CTA, we were asked not to come any further east as xxx had a departure. To confirm my position with respect to xxx, I picked up the iPad mini from the back seat, checked our position and then placed it on the aircraft coaming. I then checked the compass and assumed that the student had drifted 25deg off the required heading. He then re-synchronised the DI and we continued on the wrong heading.

After a short while ATC queried our routing, and provided a suggested heading towards our chosen VRP. I realised what had happened. I had placed the iPad close to the compass, and had introduced a huge deviation. I removed the tablet to the back seat, and the compass returned to normal. We returned to xxx without further problem following the student's NAV plan.

Lessons Learned;

1. We know about treating GPS with respect due to satellite problems, and possible incorrect programming. But I hadn't considered the physical problem of the steel case. It will stay on the back seat unless I am using it.
2. Accept the compass could be indicating incorrectly, and the need to carry out the "lost procedure" earlier.
3. Be wary of placing any metal or electric object near the compass.

**CHIRP Comment:** We agree with the lessons learned. Any object containing or constructed from ferrous metal or magnetic material and any phone, tablet or other electronic device has the potential to affect magnetic instruments and should be kept as far away as possible. A couple of other things: tablets left on coamings can fail due to overheating and/or, as they are thin, it is possible for them to be out of sight and forgotten on a high coaming that slopes down towards the windscreen.

[Back to the Top](#)

---

### **RUNWAY INCURSION**

**Report Text:** As I approached the airport I was asked to do a standard overhead join and descend dead side. This I did and crossed over into the circuit on the crosswind end of the runway between 850ft and 1,000ft. As I approached the crosswind leg a twin engine aircraft was given take-off clearance and to advise my position I called that I was entering crosswind. There was no acknowledgement and the take-off aircraft continued its take-off passing below my aircraft. I called the tower to advise that I was entering downwind and the tower replied and asked my altitude which I reported as 850ft at the time. I was then told that I was number two to land on runway 27. As I turned base leg I called again and was told to follow the number one to land aircraft, which was a Cessna on final and I was asked to call final. As I turned final I called "turning final" and did not hear a response from the tower. On final approach I called "final contact one ahead" I did not hear a reply but I was concentrating on the Cessna which had landed and was accelerating for a touch and go. I was on short final as the Cessna lifted and I continued to land. As I rolled onto the runway I was asked to exit at C1 and after that I was given taxi instructions to the apron.

On paying my landing fee I was asked to talk with the tower who informed me that they had not heard any of my calls on final and although they had told me to follow the Cessna and told me that I was number two to the Cessna I had not been given formal landing permission and so my landing was a runway incursion.

I could not understand why they had not heard my transmissions of finals since they heard me after I landed and gave me taxi instructions.

After I departed I subsequently had problems contacting London information and found that my com 1 radio was intermittently failing to transmit even though the tx indicator was showing. Shortly after that the intermittent radio fault became continuous and I had to use com 2 for the rest of the flight.

I realise now that I landed without formal permission and this was due to the intermittent radio fault though I accept that it was my fault because I was concentrating on the aircraft that was going around to ensure that it was climbing away before I touched down.

## **CHIRP – Confidential & Independent Reporting**

Lessons Learned – The lesson that I learned was not to be too distracted with watching other aircraft movements and thus not realise that I had not yet received formal landing clearance.

I also learned that I should not assume that the failure of ATC to respond was because they were busy but that they might not have heard my calls.

I also learned that even though the tx light of a com radio may indicate that it is transmitting it may not actually be transmitting. I was misled by this because the radio did not totally fail since it was still receiving and I could hear other aircraft on frequency which led me to believe the radio was working normally.

**CHIRP Comment:** A landing without clearance is technically a runway incursion and the subject of a Mandatory Occurrence Report:

**Runway Incursion** Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft.

That said, we have some sympathy with the reporter. Although he should have been suspicious when he did not receive an acknowledgement from ATC for the second time, he had already established 2-way contact before suffering this insidious RT failure at a critical point in the flight. The bottom line, as the reporter correctly identifies in his lessons learned, is that the only reliable way of knowing that a message has been successfully transmitted is when it provokes a response.

[Back to the Top](#)

---

### **ALTITUDE DEVIATION**

**Report Text:** It was a rainy day with very low pressure. The altimeter setting at the field was 987 hPa (29.16). We were assigned the [ ] departure off runway [ ]. After take-off we were switched to departure where we were told climb to 5000ft and fly heading 250. This took us off the departure and deleted the step climb from 4,000ft to 5,000ft.

After we levelled at 5,000ft we were given a climb to either FLO70 or FLO80 (I am not 100% sure which). Close to reaching our assigned Flight Level we were queried by ATC as to whether or not we had the proper standard altimeter setting of 1013 hPa set. We then realised we had passed the Transition Altitude of 6000ft without setting our altimeters to “STD” 1013 hPa. We promptly corrected our altimeter setting and altitude but overshot our assigned Flight Level by approximately 450ft.

The crew is experienced with operations in Europe, and the difference between “Transition Levels” and “Transition Altitudes”. Prior to the departure we briefed the “Transition Altitude” of 6,000ft as well as set the FMS default Transition Altitude to 6,000ft for a backup. Unfortunately we still forgot to make the correct setting at 6,000ft and deviated from our assigned altitude.

Lessons Learned - Things that can help us from making this same mistake in the future are:

1. Be more vigilant in basic flight deck procedures, especially when operating outside of our normal environment.
2. Listening more closely to ATC for the change in assigned altitudes from “FEET” to “Flight Levels”
3. Our checklist incorporates the altimeter setting in the “After Take-off” checklist. The addition of a “Transition” check that incorporates the altimeter setting could help prevent this error.
4. Being more familiar with the FMS. Entering a new Transition Altitude in the FMS Default page after the current flight plan is loaded will have no change on the current flight. It must be done prior to flight plan insertion.

[Alternative lesson: My suggestion to avoid this happening again is to write the transition altitude on a note card and stick it on the yoke so it doesn't get forgotten about, especially when we don't fly in Europe on a regular basis.]

**CHIRP Comment:** The reporting crew did not adequately monitor each other or the progress of the climb and placed too much reliance on the FMS. Fortunately the controller was on the ball and no loss of separation occurred. The report highlights a problem that can be avoided by following the advice in [CAP789 Requirements and Guidance Material for Operators](#), Chapter 12 Flight Procedures:

## **CHIRP – Confidential & Independent Reporting**

5.1.3 When cleared to climb above transition altitude, a designated pilot (e.g. PF) should immediately command a change to the main altimeter subscale settings saying “Set Standard”, prompting a reply from the other pilot (i.e. PM) “Standard set, passing flight level three two for flight level eight zero”. (This might be repeated by the Flight Engineer/Systems Panel Operator (FE/SPO).) PF should confirm this, e.g. “Three two, cleared eight zero”. (Modified procedures may have to be specified for flights that take place in airspace that has a relatively high transition altitude, e.g. in the USA.)

5.1.4 Any change made to a standby or other altimeter subscale setting should be announced by a designated pilot (e.g. PF) when it takes place, e.g. “Standby to Standard”. Sometimes, this can be in response to another call or prompt, such as “Passing MFA”. In other circumstances, the standby altimeter subscale setting may be set to the lowest forecast QNH for the sector in which the aircraft will be flying, in which case this change should similarly be announced.

5.1.5 Before descent, the appropriate QNH should be obtained. Preferably, the standby altimeter should have its subscale set to this QNH before the descent begins or on passing a specified flight level. This change should be announced when it takes place.

5.1.6 When cleared to descend below the transition level, a designated pilot (e.g. PF) should command a change to the main altimeter subscale settings saying “Set QNH”, prompting a reply from the other pilot (i.e. PM), e.g. “One zero two four set, passing eight thousand for altitude four thousand”. (This might be repeated by the FE/SPO.) PF should confirm this, e.g. “Passing eight, cleared four thousand”.

Readers may be interested in participating in the [CAA’s consultation](#) on the proposal for a harmonised transition altitude of 18000ft. The consultation closes on 24 February 2016.

[Back to the Top](#)

---

## **AUTOMET TRIAL**

Following successful pilot trial at Cardiff and Glasgow, there is currently a further trial being held at Bristol, Edinburgh, Heathrow and Stansted airports into the use of automatic met observations. The details are promulgated in [AIC Y 069/2015](#).

The AIC contains useful information about the trial and the differences between manual and automated reports. It also contains an e-mail address for requesting further information about the trial. However, it does not contain the link for pilots to feedback any comments they may have about the automated service. The easiest way to submit feedback, which would be welcomed by NATS, is on line form at - <https://www.surveymonkey.com/r/Automet>

[Back to the Top](#)

**Reports received by CHIRP are accepted in good faith. While every effort is made to ensure the accuracy of editorials, analyses and comments published in FEEDBACK, please remember that CHIRP does not possess any executive authority.**

## **Contact Us**

Ian Dugmore - Chief Executive

Dave Tattersall - Deputy Director (Engineering)

Flight Crew, ATC & GA Reports

Maintenance & Engineer Reports

CHIRP, Centaur House, Ancells Business Park, Ancells Road, FLEET, GU51 2UJ

Freephone (UK only): 0800 772 3243 or Telephone: +44 (0) 1252 378947

E-mail: [mail@chirp.co.uk](mailto:mail@chirp.co.uk)

Registered in England No: 3253764

Registered Charity: 1058262

**FEEDBACK is published to promote aviation safety. If your interest is improving safety, you may reprint or reproduce the material contained in FEEDBACK provided you acknowledge the source.**



**[Follow us on Twitter at @CHIRP\\_Aviation](#)**