

## **AIRPROX REPORT No 2012158**

Date/Time: 10 Oct 2012 1359Z

Position: 5133N 00009W  
(North Weald Base Leg  
RW02 LH - elev 321ft)

Airspace: Lon FIR (Class: G)

Reporter: North Weald

1st Ac 2nd Ac

Type: Grob 115 Yak 50

Operator: Civ Pte Civ Pte

Alt/FL: 1200ft 800ft  
(QNH 1014hPa) (QFE 1005hPa)

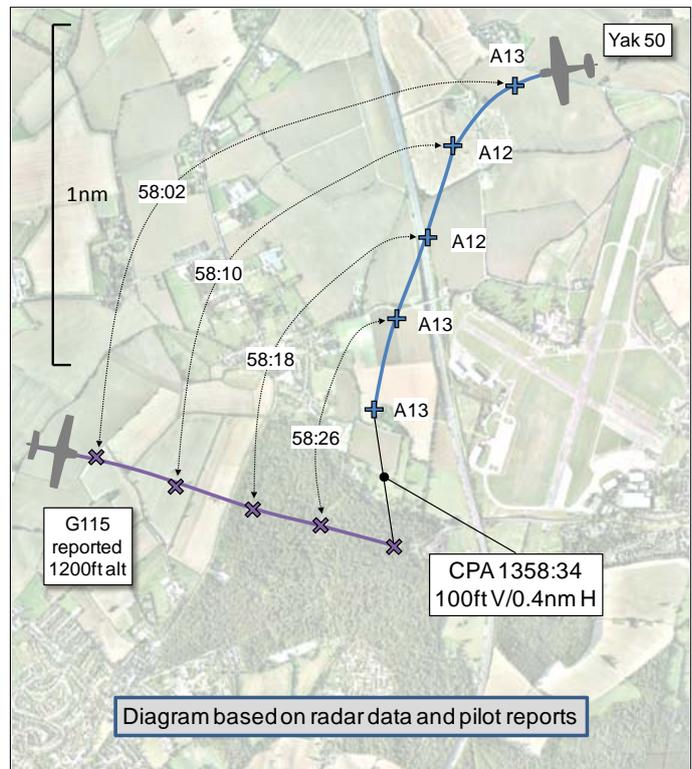
Weather: VMC CLBC VMC CLBC

Visibility: 20km >10km

Reported Separation:  
0ft V/ NR H 100-150ft V  
300m H

Recorded Separation:

NR V/0.4nm H



## **CONTROLLER REPORTED**

### **PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

**THE NORTH WEALD A/G OPERATOR** reports that a Yak 50 pilot radioed [‘North Weald Radio’ 123.525Mhz] with the intention of carrying out 3 ccts followed by a local flight out to the E. At 1400, when late downwind in the cct at height 800ft [QFE 1005hPa], the pilot reported seeing a Grob G115, transiting over the A/D from NW to SE, on base leg at height 700ft. The Grob pilot had not made RT contact at the time of the incident. The Yak pilot sounded alarmed by his ‘sighting of an Airprox’ and, in view of a potential confliction, cancelled his cct intentions and departed to the E for a local flight. The Yak pilot subsequently acquired the Grob ac registration, which he relayed to the controller, who telephoned Farnborough Radar to enquire as to whether they had been ‘working the Grob’. The Farnborough controller confirmed he had, informing him that the Grob pilot was routing to Thurrock and return to Panshanger. He requested that they relay a message to the pilot to contact ‘North Weald Radio’ on his return flight. The Grob pilot contacted ‘North Weald Radio’ as requested at about 1420 and was advised to establish RT contact whenever transiting O/H to avoid potential conflictions such as had occurred earlier. The Grob pilot stated words to the effect that ‘pilots operating in the North Weald circuit should keep a better visual lookout’.

**THE GROB 115 PILOT** reports conducting a training flight from Panshanger to Thurrock and return. He was operating under VFR in VMC with a BS from Farnborough LARS(N) [132.800MHz]. The white and grey ac had the strobe light selected on, along with the SSR transponder with Mode A selected. The ac was not fitted with an ACAS. Approximately 2nm WNW of the unlicensed A/D at North Weald he saw an ac turning LH crosswind for RW02. Visual contact was maintained and the ac was seen to climb, turn downwind and level off at circuit altitude. He crossed the downwind track for RW02 ‘abeam the 02 numbers’ on a heading of 120° at 90kt and altitude 1200ft [QNH 1014hPa as stated on RT recording], at approximately the same level as the other ac which, at that time, was established LH downwind for RW02, approximately abeam the ‘departure end’. He stated that ‘no

avoiding action was necessary as visual contact was maintained and the continuation of course provided sufficient separation'. He maintained RT contact with 'Farnborough LARS' throughout. Approximately 3min later, '4 miles' ESE of North Weald, he was surprised to see a YAK 50 suddenly in close formation in his 4 o'clock position. The formation lasted approximately 20sec from first noticing him before he broke away behind and below. Separation during this period was no more than 10-15m. He took the same route on the return leg from Thurrock; however, this time a frequency change was made from Farnborough to North Weald Radio before crossing over the A/D. The radio operator at North Weald then advised him of the dissatisfaction that the pilot flying the Yak had expressed 'with the earlier event'. He contacted the Yak pilot once on the ground at Panshanger. Both he and his student had felt intimidated by the interception of his ac. He did not feel that the original event warranted an Airprox report.

He assessed the risk of collision as 'None'.

**THE YAK 50 PILOT** reports completing the first of 3 ccts for glide approach and engine failure practice. He was operating under VFR in VMC with an A/G service from 'North Weald Radio'. The green/grey camouflaged ac had the SSR transponder selected on with Modes A, C and S and was not fitted with strobes or an ACAS. When late downwind for RW02 LH, heading 200-205° at 100kt and passing 'abeam the numbers', he dipped his L wing to start the L turn to final, with power at idle. He saw another ac in his L 10 o'clock position passing R to L (SE bound) below him and just on the S boundary of the A/D. He was very surprised to see an ac in this position. He estimated the other ac had passed underneath his track by approximately 150-200ft a few seconds before he made visual contact. He followed the ac to 'check it wasn't Stapleford traffic' and, once seen heading towards the Thurrock area, made a visual identification and relayed the details to North Weald Radio. After a short aerobatic practice he returned to North Weald and heard the Grob pilot call for a transit back through the A/D overhead. The Grob pilot tracked through the O/H again with a direct pass a few hundred feet above his ac mid downwind, whilst making an RT transmission to the effect that 'circuit traffic should keep an eye out for him'.

He considered this event very dangerous given:

1. The type of traffic at North Weald, ranging from ultralight through to fast jet, and the lack of RT call from the Grob 115 pilot to advise of his presence.
2. Without making RT contact the Grob pilot had no idea of the potential ac type(s) on approach. Tracking across finals a few hundred feet from any traffic was very poor airmanship. A Yak 52 with a steep approach would not be far off a direct conflict with this ac. He also noted that Helimed helicopters are based at North Weald.
3. The recent accident at Shoreham demonstrated that, even with 2 ac in RT contact, the dangers of a collision were still high in the cct.

He also questioned why Farnborough didn't suggest to the Grob pilot that he call North Weald Radio on his first transit.

He assessed the risk of collision as 'Medium'.

**ATSI** reports that the Airprox occurred at 1358:25 UTC, on the SW side of North Weald A/D, within Class G airspace, between a Yakovlev Yak 50 (Yak 50) and a Grob G115 (Grob 115).

North Weald A/D operates as an unlicensed A/D and provides an A/G service on 123.525MHz. North Weald A/D lies beneath the Class D Stansted CTA-2 (1500-2500ft) and is within the Stansted TMZ-2 (SFC to 1500ft).

The Grob 115 pilot was operating VFR on a training flight, routeing from Panshanger to Thurrock and return, and was in receipt of a BS from Farnborough LARS(N) [132.8MHz]. The Yak 50 pilot was operating on a local VFR flight in the visual cct at North Weald A/D and was in communication with North Weald Radio [132.800MHz].

CAA ATSI had access to area radar recording together with written reports from both pilots and the A/G operator at North Weald. Farnborough were not aware of the Airprox and no controller report was received. No RTF recordings were available from Farnborough as the request from ATSI was made more than 30 days after the incident due to the late receipt of pilot reports. ATSI visited North Weald to listen to the RTF recording.

The Stansted Airport weather was reported as follows:

METAR EGSS 101350Z 13005KT 090V170 9999 SCT034 SCT039 13/06 Q1015=

#### Factual History

At 1351:48 the Grob 115 was first shown on radar, 11.1nm NW of North Weald in the vicinity of Panshanger, squawking 5031 without Mode C level reporting. With regard to access to Stansted TMZ, the London LTC Manual of Air Traffic Services Part 2 at paragraph 5.13.3.3, states:

‘Upon receiving a TMZ access request from a Mode A only equipped ac, Farnborough Radar will allocate a discrete squawk and authorise entry to the TMZ without reference to TC Stansted. Farnborough will emphasise the level restriction of such an authorisation i.e. not above altitude 1500ft ...’

And at paragraph 5.13.3.4 states:

‘Aircraft flying inbound to or flying in the circuit pattern of Wethersfield, Andrewsfield, Hunsdon or North Weald are encouraged to operate a transponder with code A7010 (and Mode C) if so equipped. If Farnborough LARS authorise a Mode A only equipped transit of the TMZ inbound to one of these airfields, Farnborough will instruct the aircraft to select A7010 approaching the boundary of TMZ exempt airspace. It is recognised that this transfer can take place within the TMZ as the pilot might need to change frequency in time to obtain circuit joining instructions.’

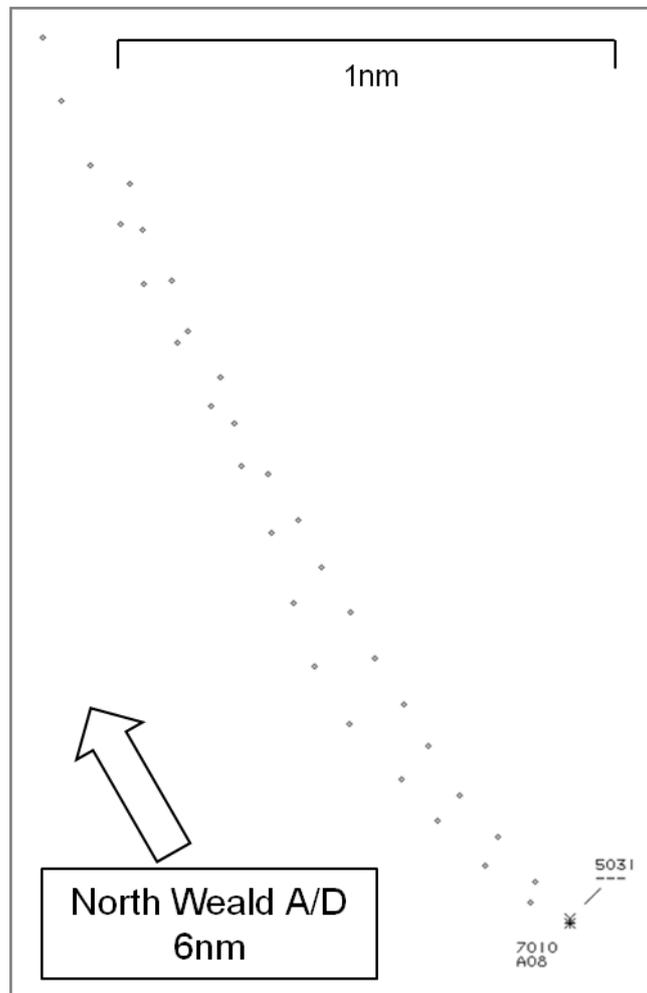
At 1354:30 the Grob 115 was shown 7nm NW of North Weald, crossing the lateral boundary of the Stansted TMZ. At 1357:48 the Grob 115 was 1.8nm WSW of North Weald, tracking SE across the S side of the A/D. The Yak 50 was shown 0.6nm N of North Weald, squawking 7010 and turning crosswind for the RW02 LH cct at an altitude of 1100ft.

At 1358:00 the Yak 50 pilot advised North Weald Radio of his intention to simulate an engine failure and to overfly the A/D without undercarriage. At 1358:25 the Yak 50 was shown midpoint downwind, indicating 1300ft, with the Grob 115 in the Yak 50 pilot’s 12 o’clock at a range of 0.5nm, crossing from R to L towards the RW02 threshold. The Yak 50 pilot reported traffic ‘just going crosswind’. The A/G operator replied that the other traffic had not identified itself to North Weald. The Grob 115 pilot’s written report indicated being visual with the Yak 50 at approximately the same level.

The CPA occurred at 1358:35, as the Yak 50 pilot continued downwind, with the Grob 115 in his half past 10 position at a range of 0.4nm.

At 1359:03, the Yak 50 pilot cancelled the simulated engine failure and reported heading E to ‘come back in a few minutes’. Radar recording showed the Yak 50 pilot turning towards the Grob 115 at a range of 0.9nm. The Yak 50 is shown to follow the Grob 115 on an E’ly track at 1000ft. The Yak 50 pilot continued to follow and manoeuvred behind the Grob 115. At 1401:48, the Yak 50 was shown 0.1nm NW of the Grob 115 at 900ft. The Yak 50 pilot continued to fly parallel to the Grob 115 and at 1402:00 was shown in the Grob 115 pilot’s 3 o’clock position at 0.1nm. The two ac continued converging and, at 1402:06, the distance between them reduced to less than 0.1nm. At 1402:14 the radar contacts merge with the Yak 50 indicating 800ft. The Grob 115 pilot’s written report indicated his being surprised to see the Yak 50 in close formation, within 10-15m of his ac for 20sec before breaking away behind and below.

[UKAB Note(1): The Stansted 10cm radar recording at 1402:14 is reproduced below:



The radar contact trail is at 4sec spacing]

At 1402:18, the two ac contacts started to diverge as the Yak 50 commenced a L turn to the NE. The Yak 50 pilot contacted North Weald Radio and advised the operator of the Grob 115 ac's registration.

At 1420:05, the Grob 115 pilot contacted North Weald Radio and reported returning to Panshanger via the North Weald O/H at 1200ft on QNH 1014. North Weald Radio advised that the cct was active with a Yak 50 in the O/H, with which the Grob 115 pilot reported visual. A short discussion occurred and North Weald Radio requested in future that the Grob 115 pilot establish RT contact when transiting ivo the A/D. The Grob 115 pilot responded, indicated that pilots should 'keep their eyes open' and also agreed to call North Weald Radio in the future.

#### Analysis

The Grob 115 pilot was in receipt of a BS and, given that his ac was not Mode C equipped, would have required Farnborough LARS(N) to approve the transit of the Stansted TMZ. The Grob 115 pilot remained in contact with Farnborough LARS(N).

Under a BS, the Farnborough LARS(N) controller was not required to monitor the flight. There was no indication on radar of activity in the vicinity of North Weald A/D until just prior to the incident. The Farnborough controller would not necessarily have transferred the Grob 115 pilot to North Weald Radio unless it was inbound to the A/D or had requested a change of frequency.

North Weald A/D is an unlicensed airfield and does not have an ATZ. As the Grob 115 pilot approached North Weald the Yak 50 became airborne and commenced a LH cct for RW02. This

resulted in the Grob 115 crossing the A/D 0.5nm ahead of the Yak 50 as it routed downwind. The Grob 115 pilot did not make any RT transmissions to North Weald Radio as he transited the A/D O/H. The RoA, Rule 12(1), states:

‘(1) ..., a flying machine, ...flying in the vicinity of what the commander of the aircraft knows, or ought reasonably to know, to be an aerodrome shall:

(a) conform to the pattern of traffic formed by other aircraft intending to land at that aerodrome or keep clear of the airspace in which the pattern is formed...’

CAP774, Chapter 1, Page1, Paragraph 2, states:

‘Within Class F and G airspace, regardless of the service being provided, pilots are ultimately responsible for collision avoidance and terrain clearance, and they should consider service provision to be constrained by the unpredictable nature of this environment.’

Subsequent to the Airprox, the Grob 115 pilot continued to the SE, followed by the Yak 50 pilot. The two ac are shown to converge until the radar contacts merge.

[UKAB Note(2): The RoA, Rule 8 (Avoiding aerial collisions) states:

‘(1) Notwithstanding that a flight is being made with air traffic control clearance it shall remain the duty of the commander of an aircraft to take all possible measures to ensure that his aircraft does not collide with any other aircraft.

(2) An aircraft shall not be flown in such proximity to other aircraft as to create a danger of collision.

(3) ..., aircraft shall not fly in formation unless the commanders of the aircraft have agreed to do so.’]

## Conclusions

The Airprox occurred when the Grob 115 pilot, in receipt of a BS from Farnborough LARS(N), transited in close proximity to North Weald A/D as the cct became active and crossed 0.5nm ahead of the Yak 50, which was downwind in the visual cct for RW02 LH.

The radar replay also showed that, after the reported Airprox, the Yak 50 pilot flew into close proximity with the Grob 115.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available included reports from the pilots of both ac, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air-ground controller involved and reports from the appropriate ATC and operating authorities.

The Board’s discussion of the Airprox event centred around interpretation of Rule 12 of the RoA. It seemed clear from his report that the G115 pilot was aware of the location of North Weald A/D and that it was his responsibility to conform to the pattern of traffic formed by other aircraft intending to land there or to keep clear of the airspace in which the pattern was formed. The Board noted that there is no definition for the lateral limits of ‘the pattern of traffic’ and that this would be variable and depend on a number of factors including ac type and RW length. It was also noted that some high-performance ac based at North Weald require a cct pattern much larger than that flown by the Yak 50 pilot. In the absence of RT contact by the G115 pilot with the North Weald A/G operator, which would also have alerted North Weald cct traffic, the G115 pilot was only able to assess whether he was conforming or not by visually acquiring all the traffic in the North Weald cct. In the event, there was only the Yak 50, which the G115 pilot acquired when he was some 2nm WNW of the A/D and with which he maintained visual contact throughout. Given that he was visual throughout, and

passed ahead of the Yak 50 with a minimum separation between the ac of 0.4nm, Members were persuaded that the G115 pilot had not contravened Rule 12. However, pilot Members unanimously opined that the G115 pilot had shown poor airmanship in flying so close to the North Weald A/D at cct altitude without RT contact; he would have been much better advised to contact the North Weald A/G Operator to obtain information on traffic in the vicinity of the cct and to state his intentions. This did not occur and the Yak 50 pilot was startled to see another ac 'in the cct pattern'. The radar replay showed the G115 pilot transited through the North Weald cct close to the base leg position, and that the crossing geometry and late sighting had most likely caused the Yak 50 pilot to underestimate the separation. He was, however, undoubtedly concerned by the proximity of the G115. The NATS Ltd Advisor also stated that ac transiting the Stansted TMZ with a service from Farnborough would not normally be handed over to A/Ds in the vicinity of their track. On a BS, the Farnborough controller may advise a pilot of the proximity of North Weald A/D; however, it is the responsibility of the pilot to request to transfer to the North Weald A/G Operator, or to communicate with North Weald on a second radio if available.

The Board also considered the Yak 50 pilot's subsequent decision to obtain the G115 registration details and the manner in which this was achieved. While it was undoubtedly a reaction undertaken in the heat of the moment, the way in which it was undertaken demonstrated poor airmanship and, given that the radar returns from the ac merged, was likely to have been in contravention of Rule 8 of the RoA. Members noted that the G115 registration details could equally well have been obtained by the Yak 50 pilot at a safe distance, by the A/G Operator during his telephone call with the Farnborough LARS(N) Controller or by subsequent radar tracing of the contact.

Members observed that the Airprox occurred in an area where flights are constrained by the proximity of A/Ds and CAS. In such congested airspace it behoves all pilots to give other ac the greatest possible consideration and, when necessary, to reassure fellow aviators that they have been seen by giving clear signals such as exaggerated wing rocking.

### **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: The Yak 50 pilot was concerned by the proximity of the Grob 115 in the vicinity of the North Weald circuit.

Degree of Risk: C.