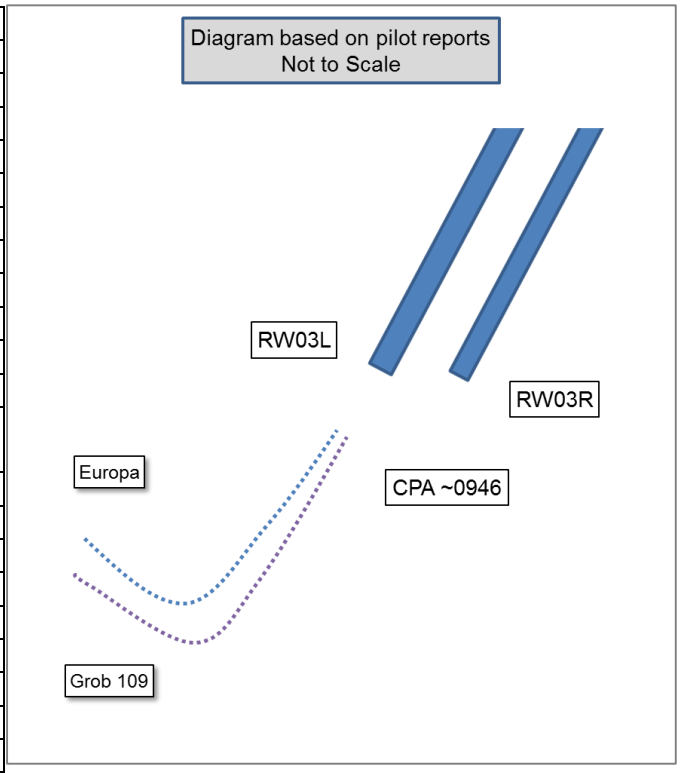
AIRPROX REPORT No 2015151

Date: 5 Sep 2015 Time: 0847Z Position: 5218N 00047W Location: Sywell Airfield

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Europa	Grob 109
Operator	Civ Pte	Civ Pte
Airspace	Sywell ATZ	Sywell ATZ
Class	G	G
Rules	VFR	VFR
Service	AFIS	AFIS
Provider	Sywell	Sywell
Altitude/FL	NK	NK
Transponder	A/C/S	A/C/S
Reported		
Colours	White	White
Lighting	Landing, strobes	Strobe (tail and under fuselage)
Conditions	VMC	VMC
Visibility	10km	10nm
Altitude/FL	100ft	650ft
Altimeter	QFE (1022hPa)	QFE
Heading	030°	030°
Speed	65kt	60kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	50ft V/NK H	Not seen
Recorded	NK	



THE EUROPA PILOT reports that he had an inbound slot to the LAA Rally at Sywell[1] (from the North) at 08:39. He listened out as required for some distance on approach to the area and entered the hold procedure over Pitsford. He joined final from the southern leg of the Pitsford Hold and made the requisite calls accordingly, giving his registration and type for final approach RW03L. He saw and heard another Europa call final for RW03R grass and he saw it land ahead of him. He heard no other final calls ahead or behind him, and saw no other aircraft except one having landed ahead and vacating the hard RW03L. He continued on final and, when he was at about 100ft, and well down the final approach leg, he realised that an aircraft was overtaking him about 50ft above clearly headed for RW03L. Because there would have been a conflict on the runway, or even before, he aborted his approach and called "*aborting*". He considered that to have continued straight ahead and called "*going round*" would have resulted in a collision since the conflicting aircraft was descending on to his flight path. From his position he had to make an immediate manoeuvre to the left and to climb out back to Pitsford. He did not hear the pilot aircraft call final or "*going round*" and did not see the aircraft further. On checking with Sywell he was told that his go round time was 08:47 and his landing time was 08:54. He had no previous sight of this aircraft in the Pitsford holding pattern.

He assessed the risk of collision as 'High'.

THE GROB 109 PILOT reports that he flew to the Sywell area from the north and joined the published orbit over the lake at its NW corner at 1000ft. He then flew towards the southwest corner of the orbit and then turned towards the southeast corner. While on this leg, he saw a Piper Arrow fly across the middle of the orbit in a roughly southerly direction. He saw it fly some considerable distance away, to the extent that it appeared to be flying away from Sywell. He reached the southeast corner and, seeing no other aircraft between him and the airfield, he reported turning

[1] Appendix A states relevant Rally procedures.

southeast to join the final approach for RW03L. Once on final he called the Sywell frequency, giving aircraft type, callsign and selected RW03L. As he was positioning on final he saw another aircraft approaching from his left (this may or may not have been the Europa but was a relatively small aircraft). It was below him. He was slightly distracted as, at the same time he again saw the Piper Arrow now approaching slightly on his right, on a very long final. He heard a pilot call 'final' for RW03L and assumed it was the Arrow pilot. The Arrow was flying a lot faster than him, and it flew past at about 200-300ft below. He lost track of the aircraft that had approached from his left while he was positioning on final. This, combined with the fact that his chosen runway was now blocked by the Arrow, meant that he made the decision, on the grounds of safety, to go around. At the point of the go-around he saw no other aircraft ahead or to the side of him at, or close to, his level. He had the co-ordinates for the orbit plotted on two separate GPS/navaids and he was confident that he flew the correct course. Being a motor glider, having airbrakes extended tends to make the final approach steeper than many aircraft, and the other pilot may have assumed that he was too high for a final approach. Also, if a pilot flew under him he may well have gained the impression of being 'overtaken' when he elected to go around.

He assessed the risk of collision as 'None'.

Factual Background

The weather at Cranfield was recorded as follows:

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EGTC 050820Z 03012KT 9999 FEW009 SCT020 11/10/Q1020=
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Analysis and Investigation

UKAB Secretariat

The Europa and G109 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard[2]. An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation[3]. When making an approach to land SERA regulations state:

'*Landing.* An aircraft in flight, or operating on the ground or water, shall give way to aircraft landing or in the final stages of an approach to land.

(i) When two or more heavier-than-air aircraft are approaching an aerodrome or an operating site for the purpose of landing, aircraft at the higher level shall give way to aircraft at the lower level, but the latter shall not take advantage of this rule to cut in front of another which is in the final stages of an approach to land, or to overtake that aircraft.[4]'

Occurrence Investigation

The Airprox was not visible on radar due to the base of the radar coverage being 600ft; the Airprox was reported at about 100ft. The minimum horizontal distance observed on the radar recording prior to the aircraft disappearing from the display was 0.1nm.

Summary

An Airprox was reported when a Europa and a G109 flew into proximity on Saturday 5th September 2015 whilst they were on final approach to RW03L for the LAA rally at Sywell. Both pilots were operating under VFR in VMC and in receipt of an AFIS from Sywell. The Europa pilot reported the minimum vertical separation as 50ft; the G109 pilot reported that he did not see the Europa when he was on final approach.

[2] SERA.3205 Proximity.
[3] SERA.3225 Operation on and in the Vicinity of an Aerodrome.
[4] SERA 3210 Right of way.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from both pilots.

The Board first discussed the procedures for the LAA Rally. GA members reported that the airspace around Sywell during the event was very busy; there were upwards of 500-600 movements per day, with aircraft of varying performance landing from a procedural visual approach. The system relied on pilots complying with the procedure, which was well documented and published, and, importantly, their keeping a good look-out whilst monitoring radio calls which are deliberately kept to 'the absolute minimum' in order to allow others to make calls and to enable 'pilots to concentrate on flying and lookout'. No radio calls are made when joining or leaving the hold, and the only required transmission is 'Aircraft Type, Full Registration, final, Runway 03/21 Hard/Grass' when pilots judge that they are No1 on finals.

GA members opined that any pilot inbound to the Rally would be well aware of the amount of traffic to be expected and that, despite anecdotal unverified reports of similar incidents in previous years, this Airprox was the only one filed during the 2015 event. Members wondered whether the procedures were regularly reviewed or were simply rolled-out each year with pilots becoming habituated to the associated risks. Also, they noted that pilots are issued with 'arrival slot' times to prevent too many aircraft approaching at the same time, but it was not apparent from the written procedures whether this was an 'arrival slot' for the hold at Pitsford, or an 'arrival slot' for landing.

Since the UKAB meeting, the Sywell Senior AFISO/Airfield Manager was able to clarify these issues. He confirmed that the Rally procedures are reviewed annually, and are audited by the CAA. He stated that the 'arrival slot' times are landing times with 15 minutes grace either side. He added that the slot times issued for the 2015 meeting were for two aircraft a minute. The slot times for the 2016 Rally were going to be one aircraft a minute and this, he commented, should help to reduce the amount of aircraft arriving at the same time. He also stated that the Rally procedures were published in an AIC (Yellow 048/2015), on the Sywell Airfield website, and in the LAA magazine (three issues before the date of the event).

Turning to the circumstances of the Airprox, the Board noted that both pilots had reported that they had followed the correct procedures for landing on RW03L. They commented that they had not seen each other over Pitsford and, apart from the possibility of the G109 pilot momentarily seeing the Europa whilst joining from Pitsford, neither pilot had seen each other as they had left the hold and positioned for final approach. Whether this was because they were positioned in such a way as to be unsighted to each other was not evident from the radar recording; however, it was clear that their lookout in the hold had not been effective in detecting each other. The Board then again noted that the inbound procedures require pilots to make only a single transmission when they judged they were No1 on final approach. Both pilots reported that they had made this call, but neither had heard the other pilot's transmission. Some members wondered whether the transmissions had been simultaneous and consequently had overlapped. Nevertheless, both pilots obviously believed that they had been No1 because they had not observed an aircraft ahead of them proceeding to the same runway. Some members wondered whether the LAA Rally safety procedures might benefit from an observer being placed between the hold and the final approach path such that if 2 aircraft did conduct the procedure simultaneously a warning could be transmitted before they arrived on finals.

In assessing the cause and risk, the G109 pilot reported that he had not observed the Europa on final approach, and the Europa pilot reported that he had only seen the G109 as it was overtaking about 50ft above. The Board therefore considered that a non-sighting and an effective non-sighting was the cause of the Airprox. The Board then addressed the risk. Although the radar recordings did not show the geometry at CPA, it was apparent from the comments made by the Europa pilot that the 2 aircraft had been in very close proximity at the time. The Board opined that despite the G109 pilot coincidentally going around because of an aircraft on the runway, and the Europa pilot turning away from his approach to avoid the G109 once he had seen it at about CPA, chance had played a major part in the incident and separation had been reduced to a minimum. Consequently, the Board agreed that the Airprox should be categorised as risk Category A.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A non-sighting by the Grob 109 pilot and effectively a non-sighting by the Europa pilot.

Degree of Risk: A.

ANNEX A

Relevant local procedures for the LAA Rally, Friday 4th-Sunday 6th September 2015.

1 Introduction

- These procedures should be followed during the times as listed in para 2.
- These procedures should be adhered to in order to create a safe and orderly flow of traffic.
- Radio transmissions are cut to an absolute minimum, enabling pilots to concentrate on flying and lookout.
- The pilot -in-command remains responsible at all times both in the air and on the ground.
- Pilots should read these procedures carefully and study in detail before departure from their home aerodrome. Pilots who have obviously not read these instructions will be refused landing permission in the interests of flight safety. Any breaches of these instructions will be subject to a Mandatory Occurrence Report (MOR) fully briefed is fully prepared.
- Sywell Aerodrome and its employees accept no liability whatsoever for any damage injury, incident or accident whilst following these procedures, nor for any legal action resulting from doing so.

2 Aerodrome Hours

- The AFISU will be manned providing a modified AFIS on 122.700 MHz as follows:
Saturday 5th Sep: 0700 to 1800 UTC (0800 to 1900 BST).

3 Aerodrome Flight Information Service (AFIS)

- An AFIS, callsign 'Sywell Information', will be in operation on 122.700 MHz using the procedures detailed in this document.

5 Runways

- Runways available will be 03L/21R Hard (LDA: 1000 m) and 03R/21L Grass (LDA: 671 m).
- They are parallel runways and are 104 m from centreline to centreline.
- For this unlicensed event they may be used as parallel runways for landing, with caution.

7 IFR/VFR

- All arrivals should be conducted under Visual Flight Rules.

8 Booking In

- Sywell Aerodrome is PPR.
- All aircraft attending this event MUST book an arrival slot, this is your PPR.
- Pilots are requested to try and adhere to their slots as closely as possible.
- Aircraft experiencing delays to a booked slot whilst in flight should proceed to Pitsford and join the pattern with caution and then follow the procedures below.

12 Intermediate Arrival Procedures - Fixed Wing, Microlight, & Autogyro

- All radio equipped inbound Aircraft, Microlights, and Autogyros proceed to the Assembly Area at Pitsford Reservoir N5219.4 W000 51.2 (4nm WNW of Sywell). Aircraft should approach Pitsford from the North, South, or West. Only non-radio aircraft or go-arounds should approach from the East. Other aircraft inbound from the East should route North or South of the Aerodrome to approach Pitsford from the North or South.
- NO RADIO CALLS ARE NECESSARY FOR JOINING.
- Prior to reaching Pitsford MONITOR 'Sywell Information' on 122.700 MHz on which regular

broadcasts will include the active runway and QFE.
- Fly an anticlockwise holding pattern at Pitsford between the four co-ordinates (see appendices C1 & D1) aprox headings 020/290/200/110 degrees not below 1000 ft QFE avoiding the villages of Holcot, Walgrave, Brixworth and Pitsford.
- Fly in a safe and sensible manner, do not baulk other aircraft by cutting up or overtaking
- DO NOT descend through cloud into the Hold!

13 Final Arrival Procedures - Fixed Wing, Microlight, & Autogyro

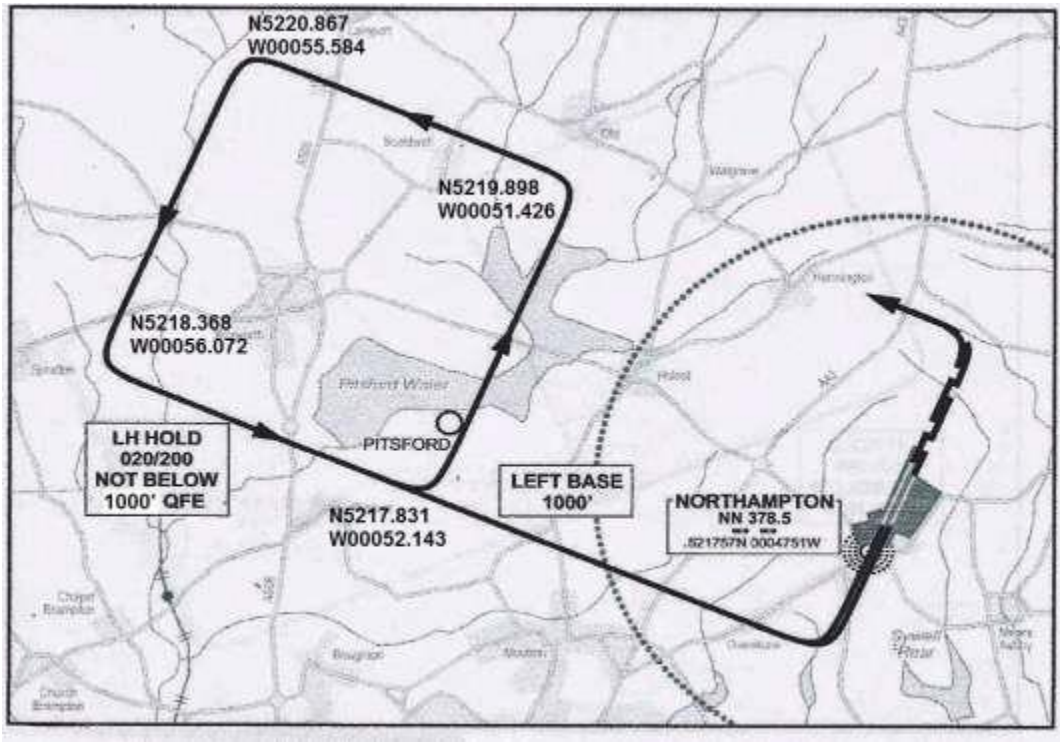
Runway 03 Inbound Profile (Appendix C1)
- When safe to do so, leave the assembly area off the southern leg of the hold and fly in line astern not below 1000' QFE on an approximate track of 120 degrees remaining north of Moulton. Cross the A43 towards Overstone Park and turn left for a 1.5-2nms final onto hard or grass runway.

General
- Maintain a safe distance from the aircraft in front with no overtaking or orbits permitted once off the assembly area. Overtaking messes up the spacing for others! Orbits are just dangerous!!
- Slower types, i.e. Microlights, Autogyros etc maintain as high a speed as is safely possible bearing in mind the potential for a variety of following aircraft types and speeds.
- Faster types slow down and fit in with slower types ahead where possible.
- If there are too many aircraft leaving the Assembly Area to form a safe well spaced stream, break -off, head back to Pitsford and try again.
- When number one on finals, make the only required transmission 'Aircraft Type, Full Registration, final Runway 03/21 Hard/Grass'.
- Regular surface wind checks will be transmitted by AFIS.
- NO orbiting or swapping runways when on final, if spacing is incorrect, a go-around must be initiated.
- Any go-arounds climb on runway heading to 2000 ft QFE (2500 ft QNH) before returning to Pitsford and then repeat the inbound procedure. Do not re-join downwind.
- If the Duty FISO deems a situation unsafe; he may suggest a go-around with the reason although ultimately it is the Pilot's responsibility under the terms of an AFIS.
- Pilots may land when the runway is clear of traffic or on receipt of a “Discretionary” landing clearance from AFIS.
- Sywell AFIS may also revert to standard radio calls if a situation is deemed unsafe or if there are mixed arrivals and departures.
- Aircraft landing on 03R/21L (Grass) vacate expeditiously to the east side, angled if possible. Try and avoid coming to a stop and exiting at 90 degrees.
- Aircraft landing on 03L (Hard) must vacate right at Taxiway Bravo, unless advised. Cross the upwind end of 03R (Grass) as expeditious as possible giving way to landing traffic on 03R.

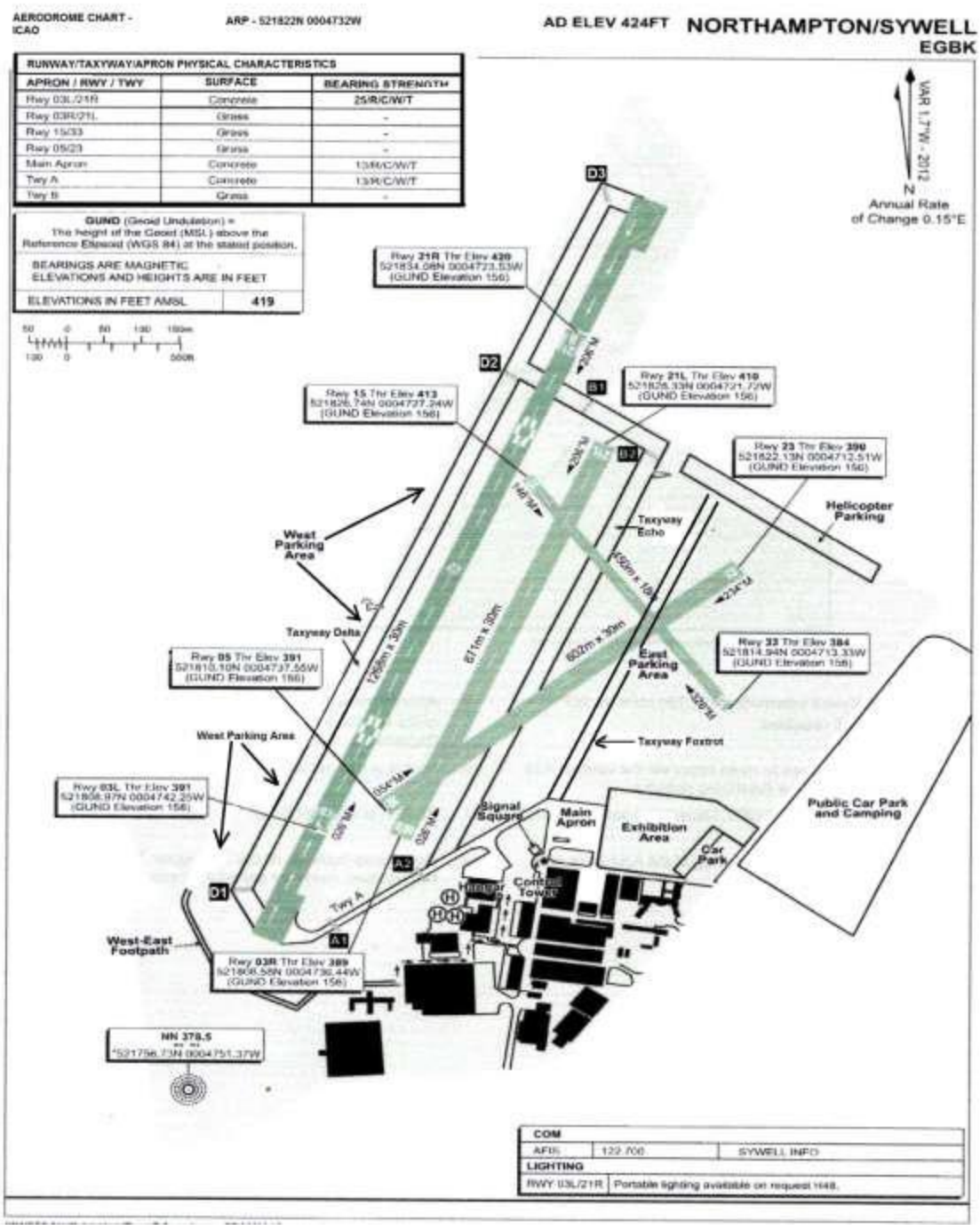
19 Go Around

- If for whatever reason a go-around is required, maintain runway heading, climb to 2000 ft QFE (2500 ft QNH) until clear of the circuit area and when safe to do so return to Pitsford VRP and repeat the arrivals procedure.

APPENDIX C1 – RUNWAY 03 ARRIVALS



All arrivals MONITOR 122.700 MHz for AD info. There is no need to make any radio calls inbound.
Fixed wing/Microlights/autogyros Avoid built up areas.
Route to PITSFORD and if necessary join the LH holding pattern not below 1000' QFE.
DO NOT DESCEND THROUGH CLOUD INTO THE HOLD! Maintain VFR at all times. Keep a good lookout, with up to two arrivals per minute it will be busy.
Stream off the southern leg of the hold, approx heading 120, remaining north of Moulton onto a left base for Runway 03 at 1000' QFE. NO orbits, NO overtaking, NO cutting others up
Turn onto final for either Runway 03L (Hard) or Runway 03R (Grass) NO Swapping Runways once established on Final
When NUMBER ONE on Final, i.e. no-one else between you and the Runway, make the one and only radio call; Aircraft Type, Registration, Final Runway 03L or 03R"
Land either when the Runway is clear or you receive a "Discretionary" landing clearance from AFIS.


AERODROME CHART - ICAO
ARP - 521822N 0004732W
AD ELEV 424FT
NORTHAMPTON/SYWELL
EGBK
RUNWAY/TAXYWAY\APRON PHYSICAL CHARACTERISTICS
APRON / RWY / TWY
SURFACE
BEARING STRENGTH
Rwy 03L/21R
Concrete
25/R/C/W/T
Rwy 03R/21L
Grass
-
Rwy 15/33
Grass
-
Rwy 05/23
Grass
-
Main Apron
Concrete
13/R/C/W/T
Twy A
Concrete
13/R/C/W/T
Twy B
Grass
-
GUND (Geoid Undulation) = The height of the Geoid (MSL) above the Reference Ellipsoid (WGS 84) at the stated position.
BEARINGS ARE MAGNETIC
ELEVATIONS AND HEIGHTS ARE IN FEET
ELEVATIONS IN FEET AMSL
419
VAR 1.7°W - 2012
N
Annual Rate of Change 0.15°E
Rwy 21R Thr Elev 420
521834.08N 0004723.53W
(GUND Elevation 156)
Rwy 21L Thr Elev 419
521826.33N 0004721.72W
(GUND Elevation 156)
Rwy 15 Thr Elev 413
521826.74N 0004727.24W
(GUND Elevation 156)
Rwy 23 Thr Elev 399
521822.13N 0004712.51W
(GUND Elevation 156)
Helicopter Parking
Taxyway Echo
West Parking Area
Taxyway Delta
Rwy 05 Thr Elev 391
521810.10N 0004737.55W
(GUND Elevation 156)
1268m x 30m
671m x 30m
602m x 30m
450m x 18m
East Parking Area
Rwy 33 Thr Elev 384
521814.94N 0004713.33W
(GUND Elevation 156)
Taxyway Foxtrot
West Parking Area
Rwy 03L Thr Elev 391
521808.97N 0004742.25W
(GUND Elevation 156)
Signal Square
Main Apron
Exhibition Area
Car Park
Public Car Park and Camping
Control Tower
Twy A
West-East Footpath
Rwy 03R Thr Elev 389
521808.58N 0004736.44W
(GUND Elevation 156)
NN 378.5
*521756.73N 0004751.37W
COM
AFIS
122.700
SYWELL INFO
LIGHTING
RWY 03L/21R
Portable lighting available on request H48.