

vatsim uk



VATSIM-UK (South West RTS)  
Gloucestershire Airport vMATS

20 Feb. 14

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### **Distribution and Scope**

This manual outlines the recommended operational procedures for controllers within the VATSIM-UK Division for Gloucestershire Airport

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### **Amendment Record**

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## SECTION 1 UNIT GENERAL OPERATING INSTRUCTIONS

### Chapter 1 Altimeter Setting Procedures

#### 1.1.1 Locally Based Light Aircraft

QNH and QFE are broadcast on the ATIS. Some operators have different criteria for altimeter setting, controllers are to ensure that pilots have correctly received and accurately read back a pressure setting, which is appropriate to their flight. Aircraft departing IFR are to be given QNH. Circuit aircraft will use QFE.

#### 1.1.2 Transit Aircraft

ATZ operations are based on QFE. Aircraft transiting the ATZ will normally use this setting, however ATCO's are to ensure that levels co-ordinated for transits do not erode any planned vertical separation if an alternative pressure setting is used.

#### 1.1.3 QFE Threshold

This is calculated for Runway 09 by adding 1.0hPa and for runway 27 by adding 0.5hPa to Aerodrome QFE.

#### 1.1.4 Transition Altitude

Transition altitude is 3000 feet.

#### 1.1.5 Transition Levels

The table below sets out the transition levels appropriate to QNH.

Aerodrome QNH	Transition Level
1032 - 1050	F025
1031 - 1014	F030
1013 - 996	F035
995 - 978	F040
977 - 960	F045
959 - 943	F050

#### 1.1.6 Altimeter Setting Regions

The Airport is located within the Cotswold Altimeter Setting Region. The highest obstacle within the region is 2660' AMSL. The boundary with the Barnsley ASR is located 12NM north, orientated approximately east to West.

## Chapter 2 Light Aircraft and Helicopter Procedures

### 1.2.1 Responsibilities

ADC has overall responsibility for all operations within the ATZ. Subject to co-ordination on a tactical basis, APC or APR may retain control of certain flights within the ATZ, e.g. Power line inspections, Missed Approaches etc.

### 1.2.2 Entry/Exit Lanes

There are no specific entry/exit procedures except when Temporary Controlled Airspace is established.

### 1.2.3 Radio Failure Procedures

It may be assumed that aircraft experiencing radio failure will comply with standard radio failure procedures as detailed in the UK AIP. Aircraft experiencing radio failure when local flying should return to the overhead, complete a standard overhead join and land after receiving the appropriate visual signals from ATC. This may be simulated by use of private text, e.g. 'steady green light'.

### 1.2.4 Fanstop Procedures

Engine failure after take-off (EFATO) exercises are a mandatory element of the PPL syllabus. Due to the proximity of residential development around the Airport however, they are not permitted on Runway 18 or 22.

### 1.2.5 Rejoin Procedures

The default rejoin procedure for VFR traffic is the standard overhead join. Subject to co-ordination, joining clearance may be issued to any point within the circuit. Details of co-ordination are contained in the Aerodrome and Approach Control sections of this document.

### 1.2.6 Circuit Procedures

Fixed-wing circuit height 1000 ft QFE. Rotary circuit height not above 750 ft QFE. Runway 04, 09 and 18 LH circuit, Runway 22, 27 and 36 RH circuit. Direction may be varied by ATC.

## Chapter 3 Noise Abatement

### 1.3.1 Minimum Noise Routes

Medium density residential development is situated in close proximity to the Airport. In order to reduce the environmental impact of aircraft operations, the Code of Practice and UK AIP includes the following procedures for noise abatement: -

- (a) Jet departures Runway 09 - Climb straight ahead through 1400 ft QNH before turning.
- (b) Departures Runway 18 - All departing aircraft are to execute a 20° left turn when passing the upwind end of the runway. Tracking 160° MAG, climb through 700 ft QFE before turning right.
- (c) Departures Runway 22 - No left turns permitted until passing Chosen Hill (1.2 DME).
- (d) Departures Runway 27 - All departing aircraft are to execute a 10° right turn when passing the upwind end of the runway. Tracking 280 MAG, climb through 600ft QFE before turning left. Avoid overflight of the village and church on the right. Jet aircraft are to climb through 1400 ft QNH before executing any turn. Aircraft unable to comply with 10° turn after take off should advise ATC and climb straight ahead through 1400 ft QNH.
- (e) Departures Runway 04 - No left turns before Staverton Village (1.1 DME).

### 1.3.2 Preferential Runway

In calm wind conditions, runway 09 is to be used whenever operationally possible.

### 1.3.3 Runway 22 Circuit Variation

If traffic permits, ADC should vary the circuit direction of Runway 22 periodically.



## Chapter 4 Traffic Data Display (for reference only)

### 1.4.1 Flight Progress Strips

#### 1.4.1.1 FPS Marking – General

Where available, ICAO abbreviations shall be used for aircraft type, operator and location indicators. UK Location Indicators may be abbreviated to the last two letters. Wake turbulence category should only be added if the aircraft is in the Small or Medium category. RTF Callsign should be written below the ICAO tri-graph for unfamiliar operators. Upon completion of a flight, ATCO's must cross vertically through the 'Callsign' box. Errors on flight progress strips are to be crossed through with one horizontal line only. Overflight strips must be annotated with a **V** symbol. All helicopter strips are to have the Callsign box overwritten with a large 'H' using luminous marker pen. All Circuit flights are to have the Callsign box overwritten with a large 'C' using luminous marker pen.

The following abbreviations shall be used to indicate Instrument Training requirements:

Abbreviation	Requirement
H	Hold
F	NDB Locator approach
F <sub>D</sub>	NDB/DME approach
SRA	Surveillance Radar Approach
MAP	Missed Approach Procedure
BTC	Base Turn Complete
R/F <sub>D</sub>	Radar Vektored NDB/DME approach
I	Procedural ILS approach
R/I	Radar Vektored ILS approach
G	RNAV (GPS) Approach

The 'Level' box for Inbound and Local strips is for **ACTIVE** level information only. Flight Rules may be abbreviated to 'I' or 'V', however, planned cruising levels are not to be inserted. For flights within Controlled Airspace, the 'Release point' box should include the 'Leaving CAS' symbol together with the appropriate Reporting point, e.g.



APC is to annotate a live ETA for all Local flights by adding EET to ATD.

Pressure settings passed to pilots should be annotated with the last two digits of the setting and ticked when read back.

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**1.4.1.2 Local Flights**

Live ETA	Dep	Join	Route	Type	ATD				POB, Endurance, EET, WX, Freq Change, Other info
	Active Level info only		CALLSIGN	TAS	ATA		EAT		
			SSR						

Beacon  
join/outbound time

**1.4.1.3 Departures**

	RFL	Type				Departure instructions	Joining Clearance	POB, Endurance, EET, WX, Freq Change
ETD	ATD	CALLSIGN	Route		Destination			
		SSR	TAS					

Set Course Time

**1.4.1.4 Arrivals**

Live ETA	GST	Join	Dep	Type	ETA	ATA		Headings
					EET	Release Point	EAT	
		Active Level info only	CALLSIGN	TAS				QNH App/Rwy POB WX
			SSR					

Beacon join/outbound time

**1.4.1.5 Over-flights**

	Active Level info only	Dep/Dest	Type					Type of Service QNH passed etc.
		CALLSIGN	TAS					
		SSR						

ETA/ATA for above  
position

**1.4.1.6 Board Management.**

The ADC board is divided into 6 bays, with removable bars, as shown below. ATCO's are to employ a system of board management, which is clear and unambiguous, particularly with regard to runway occupancy. Specific details of the system in use are to be explained during handover of watch.

LOCAL FLYING		
TAXI IN	RUNWAY IN USE	TAXI OUT

## Chapter 5 All Weather Operations

### 1.5.1 Runway Visual Range

The Human Observer method is employed to obtain RVR readings at Gloucestershire Airport. ATC are to initiate RVR observations when the Met. Visibility falls below 1500m.

#### 1.5.1.1 Maximum Values

The maximum reportable value of RVR for Runway 09 is 1100m and 1200m for Runway 27.

### 1.5.2 Low Visibility Procedures

Low Visibility Procedures will commence being implemented whenever the meteorological visibility is less than 1800 m and/or the cloud ceiling is less than 300 ft. Pilots will be advised if Low Visibility Procedures are not in place below these weather criteria.

- a) During Low Visibility Procedures, runway access/egress via A2 only. All other taxiways closed.
- b) Only one aircraft will be permitted to taxi at any one time.
- c) Aircraft shall not be permitted to taxi or enter the runway once an arriving aircraft is 8nm from touchdown or base turn complete.
- d) If unable to be observed visually, departing Aircraft will be instructed with take-off clearance to report airborne. Arriving Aircraft will be instructed to report when landed and runway vacated.

#### 1.5.2.1 ATC Separations

During LVP's an aircraft must not be issued with an Approach Clearance or EAT until the preceding aircraft has landed safely. Subsequent arrivals entering the hold are to be advised "delay not determined, (Number) aircraft holding for weather improvement."

### 1.5.3 Met. Information

The ATIS is provided on frequency 127.470 MHz.

Euroscope users should use the standard UniATIS URL and append the following items to the URL as required:

<b>&amp;lvp</b>	[LVPs in Force]
<b>&amp;lh / &amp;rh / &amp;vh</b>	[Left Hand Circuit] / [Right Hand Circuit] / [Variable Circuits]
<b>&amp;sww</b>	[Strong Wind Warning in Force]
<b>&amp;tsw</b>	[Thunderstorm Warning in Force]
<b>&amp;snw</b>	[Snow Warning in Force]
<b>&amp;noise</b>	[Noise abatement procedures apply]
<b>&amp;twrapp</b>	[Departing aircraft contact Tower 122.9, Arriving aircraft contact Approach 128.550]
<b>&amp;combined</b>	[Tower & Approach frequencies are combined 128.550]
<b>&amp;twr</b>	[Aerodrome service only available on frequency 128.550]
<b>&amp;windshear</b>	[windshear]
<b>&amp;ice</b>	[All taxiways & holding points slippery due ice]
<b>&amp;rwy0927clsd</b>	[Due work in progress][Runway 09/27 is closed]
<b>&amp;grass</b>	[Caution grass cutting in vicinity of runway & taxiways]

## Chapter 6 Co-ordination with Adjacent Aerodromes

### 1.6.1 Arrangements

The handling of IFR flights joining CAS on L9 is subject to a Memorandum of Understanding. Full clearance and co-ordination procedures are detailed in Section 4, abbreviated procedures are shown in the table below: -

Joining Clearances and Procedures			
Route	Squawk	Clearance	Co-ord
<b>BADIM (IR Training)</b>		Bristol Radar	
<b>BCN Southbound</b>	LON_W_CTR	Cardiff Radar	
<b>BCN Westbound</b>	LON_W_CTR	Cardiff Radar	
<b>DTY (Below F100)</b>		LON_C_CTR	Brize
<b>MALBY</b>		LON_W_CTR	Brize
<b>RADNO</b>		LON_W_CTR	
<b>SAM (See Note 1)</b>		LON_W_CTR	
<b>STAFA</b>		MAN_W_CTR	
<b>NITON/REXAM/WAL</b>		MAN_W_CTR	

**Note 1:** Aircraft wishing to join CAS at SAM **must** route below L9.

### 1.6.2 IFR Departures to FIR and transits

APC should endeavour to effect co-ordination along the route of any IFR departures remaining outside CAS or transit flights as shown in the table below. The task may be delegated to ADC.

Route	Unit
<b>ALVIN, BADIM, BRI, BCN</b>	Bristol
<b>MALBY, SAM</b>	Bristol
<b>CPT, DTY</b>	Brize Norton
<b>HON</b>	Birmingham

### 1.6.3 VFR Flights

When traffic permits, APC should endeavour to effect co-ordination for departing and transit VFR flights, particularly if it is known that a flight requires to transit CAS at adjacent airfields. The task may be delegated to ADC.

### 1.6.4 Radar Handover

When traffic permits and subject to agreement of the receiving unit, APR should effect a radar handover on aircraft in receipt of a Radar service.

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## SECTION 2 LOCAL SEPARATION STANDARDS

### Chapter 1 Special Separation Standards – IFR

#### 2.1.1 Holding Pattern

The Instrument Holding pattern at the GST NDB is a non-standard left-hand, one-minute, racetrack pattern commencing at the beacon. The holding axis is 092/272°M. The lowest holding altitude over the GST NDB is 2800' QNH. To facilitate departures, aircraft will normally be required to hold not lower than Transition Level plus 1000'.

#### 2.1.2 Deemed Separations

The Authority has approved the following reduced separation procedures. ATCO's must ensure that the performance or speeds of the subject aircraft will not erode the separations vertically, laterally or longitudinally.

##### 2.1.2.1 Runway 27

Aircraft departing from runway 27 and cleared to establish on tracks within sector 180° clockwise to 360°M are deemed separated from:

- a) aircraft established outbound on the ILS or NDB approach procedure for runway 27 until the commencement of the base turn at 8 DME (vertical separation must be established before the inbound aircraft commences the base turn);
- b) aircraft carrying out the Direct Arrival that are established on the 8 DME arc and flying on a heading towards the inbound track of 266° within the sector 045° clockwise to 135° until the aircraft reaches the FAF (vertical separation must be established before the inbound aircraft reaches the FAF);
- c) aircraft carrying out the RNAV approach that have passed LAPKU, NIRMO or REKLO until the aircraft reaches the FAF (vertical separation must be established before the inbound aircraft reaches the FAF);

provided that neither aircraft execute a turn which reduces this lateral separation.

##### 2.1.2.2 Runway 09

Aircraft departing from runway 09 and cleared to establish on tracks within sector 360° clockwise to 180°M are deemed separated from:

- a) aircraft established outbound on the NDB approach procedure for runway 09 until the commencement of the base turn at 8 DME (vertical separation must be established before the inbound aircraft commences the base turn);
- b) aircraft carrying out the Direct Arrival that are established on the 8 DME arc and flying on a heading towards the inbound track of 092° within the sector 225° clockwise to 315° until the aircraft reaches the FAF (vertical separation must be established before the inbound aircraft reaches the FAF);
- c) aircraft carrying out the RNAV approach that have passed UNVOP, KUPET or SOSAB until the aircraft reaches the FAF (vertical separation must be established before the inbound aircraft reaches the FAF);

provided that neither aircraft execute a turn which reduces this lateral separation.

##### 2.1.2.3 NDB Locator

Aircraft departing and cleared to establish on tracks within the sector 050° clockwise to 210° are deemed separated from aircraft established outbound in the NDB Locator procedure up to the commencement of the base turn provided that neither aircraft executes a turn which reduces this lateral separation. Vertical separation must be established before the inbound aircraft commences the base turn.

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### **2.1.3 Wake Turbulence Spacing**

ADC is to apply wake turbulence separations as specified in MATS Part 1, including parallel helicopter circuit operations.

### **2.1.4 Reduction of IFR separation in the vicinity of the aerodrome**

When an arriving IFR flight is executing a visual approach or an aircraft undertaking an Instrument Approach has reported 'field in sight' and is established on the final approach track, IFR departures may be released, provided ADC can provide adequate separation and can maintain visual contact with either aircraft.

## SECTION 3 AERODROME CONTROL

### Chapter 1 Aerodrome Control

#### 3.1.1 General Responsibilities

ADC is responsible for the provision of an Aerodrome Control Service to all aircraft flying with visual reference to the surface operating in, and in the vicinity of the ATZ and to those aircraft, personnel and vehicles operating on the manoeuvring area. The 'Air' and 'Ground Movement' functions of ADC are combined. In certain circumstances, ADC may be combined with APC.

#### 3.1.2 Selection of Runway in Use

ADC is responsible for selecting the runway in use. This will normally be that most closely aligned with the surface wind, however other factors such as position of sun, declared distances and crosswind factors may need to be considered. The multiplicity of aircraft types and pilot qualifications mean that it is not possible to determine any hard and fast criteria but for general guidance, a student pilot or taildragger aircraft could be expected to have a maximum crosswind capability of approximately 8-10kt. The maximum demonstrated crosswind for common aircraft types such as PA28 and C172 is 17kt, whilst a PA34 is 25kt. Reduced taxi times and distances may be of benefit to some operators while reducing overall delays to the traffic situation. The decision to accept or reject an alternative runway rests with the pilot.

#### 3.1.3 Preferential Runway

When traffic and wind conditions permit, ATCO's should select duty runway in order of preference from the list below:

- a. 09
- b. 04
- c. 36
- d. 18
- e. 27
- f. 22 Right hand
- g. 22 Left hand

##### 3.1.3.1 Runway 04/22 Circuit Variation

ATCO's should consider varying circuit direction on Runway 04/22, whenever traffic permits and particularly when prolonged circuit flying is taking place.

#### 3.1.4 Description of Airfield

Gloucestershire Airport is a Public Use Licensed Aerodrome, suitable for IFR and VFR flights. There are three licensed runways, oriented 04/22, 09/27 and 18/36. A continuous taxiway runs from west of the runway 18 threshold, clockwise to the threshold of runway 09. Declared Distances are available from the UK AIP.



### 3.1.5 Runway 04/22 Grass

A Code 1A Visual, Grass runway orientated 04/22 is located between Taxiway A and Runway 04/22, measuring 18m width. All declared distances are 300m. The runway is served by a 10m grass taxiway linking it to Taxiway A, 100m upwind of the 22 threshold. This facility is currently unlicensed. The surface is rough grass, intended for use by taildraggers and microlights only. Aircraft using the grass runway are to conform to the normal circuit pattern. Parallel or simultaneous hard/grass approaches and departures are not to be permitted, but when an aircraft has landed on either surface, the other may then be used for subsequent take-off or landings. Similarly, aircraft must not be held east of the 27 threshold or south of the 18/36 04/22 intersection, to avoid infringing the runway strip and obstacle surfaces. Helicopters are not to use Hold X or any grass area between Taxiway A and Runway 04/22 Hard whilst aircraft are approaching or departing from the grass surface. When the grass runway is in use, taxiing aircraft are to be held on Taxiway A abeam Hold H1 or at B2. Subject to these criteria, pilots may be 'Cleared' to land on the grass, but must be advised that 'the Runway is unlicensed', at a convenient stage prior to landing.

### 3.1.6 Use of ATM

The VCR is equipped with an Aerodrome Traffic Monitor (ATM) which utilises the primary radar situated on the airfield.

#### 3.1.6.1 Information derived from the ATM may be used to: -

- a) Determine the landing order, spacing and distance from touchdown of arriving aircraft;
- b) Enable the controller to confirm that the initial track of a departing aircraft conforms with the clearance issued;
- c) Provide information to aircraft on the position of other aircraft in the circuit or carrying out an instrument approach.
- d) Monitor compliance with published instrument approach procedures

The ADC (or ADC/APC) ATCO must not use the ATM to provide approach radar services to aircraft.

## Chapter 2 Aerodrome Operations

### 3.2.1 Co-ordination between ADC and APC

ADC is to: -

- a) notify APC of any intended permanent or temporary change of runway in use and departures from any runway not currently in use.
- b) notify APC when multiple runways are in use
- c) notify APC when the fixed wing and/or heli circuit is active.
- d) mutually establish transfer of control points with APC for arrivals, having regard to traffic density and weather conditions.
- e) obtain departure clearance from APC for IFR departures.
- f) transfer all departures to APC as soon as possible, after any pertinent traffic information has been passed.
- g) not allocate any level above 1500' within the ATZ without co-ordination.
- h) advise APC of the number in sequence of aircraft making procedural instrument approaches, upon notification of 'Base Turn Complete'
- i) advise APC of ATD of all IFR departures, to facilitate radar identification on departure.

#### 3.2.1.1 Release of VFR departures

Unless otherwise instructed by APC and subject to the information requirements shown in para 3.2.1.2, ADC may release, without co-ordination, all VFR departures.

#### 3.2.1.2 Information to APC

ADC is to advise APC of:-

- a) any VFR flight whose initial turn after any noise abatement, does not conform to the direction of circuit currently in use.
- b) any VFR flight by a multi-engined, turbine or high performance aircraft.

Whenever practical, for all other VFR departures, ADC should advise APC of the aircraft type, callsign, direction of flight and cruising level, if known, prior to or immediately after departure. This information may be abbreviated or omitted when workload dictates.

#### 3.2.1.3 Co-ordination with Approach Radar

When 0.5NM SRA's are in use, ADC is to co-ordinate using the Landing Clearance Indicator. Upon receipt of a '10 mile' check ADC is to select the 'Continue Approach' amber light. On VATSIM this may be achieved by using private text messages between ADC and APR. ADC should arrange the circuit traffic to ensure that landing clearance can be issued before the SRA reaches 4NM final. Procedures for late landing clearances are shown at para 3.2.15.

### 3.2.2 Circuit Procedures – Fixed Wing

Standard circuit height is 1000' QFE or 1100'QNH. Threshold QFE shall be used when Runway 09 is in use. Jet and large turbine aircraft should fly circuits at 1500' QFE for noise abatement. Low Level/'Bad Weather' circuits may be permitted on any runway, however, for noise abatement reasons, they should be limited when Runway 04/22 is in use. ADC must advise fixed wing traffic flying low-level circuits when the helicopter circuit is active, and vice versa, providing sufficient information to enable both pilots to maintain adequate separation.

### 3.2.2.1 Circuit Joining

Aircraft may be permitted to join at any point in the circuit. ADC may elect to place a height restriction on joining traffic, normally 'not below 1500', until such time as required in order to minimise conflicts in the circuit. However, ATCO's are reminded of the overriding need for pilots of VFR flights to remain in VMC. To that end, height restrictions should only be imposed on VFR flights when absolutely necessary to maintain safety. All restrictions should be lifted as soon as possible.

### 3.2.2.2 Landing Order

ADC shall determine the landing order so as to accommodate the maximum number of arrivals with minimal delay consistent with a safe and orderly flow of air traffic. An aircraft shall be given its number in sequence, together with the position and type of the preceding aircraft. When multiple runways are in use, the runway to be used must also be clearly specified.

### 3.2.3 Helicopter Circuits

Helicopter circuits are flown parallel to and inside fixed-wing circuits, up to a maximum height of 750'QFE. When Runway 09 or 27 are in use, helicopters are to be given Threshold QFE as the circuit datum. The heli-circuit normally operates autonomously, maintaining a listening watch on the ADC frequency. The optimum number of helicopters undertaking circuit training is 3. This is not necessarily a maximum, but ADC may elect to reduce this number at night or if traffic or weather dictates.

### 3.2.4 Helicopter Training Areas

There are three HTA's delineated on the airfield, namely Heli Northwest, Northeast and Southwest. Heli NE and SW have 3 landing 'spots', in an 'L'-shaped arrangement. Heli NW has a single landing spot.

### 3.2.5 Heli Holding Points

In order to facilitate runway crossings, two Heli Holding points are established at 'X' and 'Y', approximately 95m south and north of the Runway 04/22 and 09/27 intersection respectively.

During circuit operations, helicopters should depart and approach to the first available upwind spot. The HTA's in use are as follows: -

- a) RWY 09/27 – Heli NW and Heli NE
- b) RWY 04/22 – Heli NW and Heli SW
- c) RWY 18/36 – Heli NE and 'X' or 'Y' if required

Precision flying and hovering will normally take place at or between HTA's but, following liaison between ADC and the pilot, may be permitted elsewhere on the airfield, outside the strips of any active Taxiway or Runway. The areas west of Taxiway C adjacent to the sewage works and north of Hold E1 in the undershoot of Runway 22 have been identified as suitable for sloping ground exercises. They are not, however, published or marked.

'Standard' Helicopter Departure/Arrival procedures. In order to reduce RT loading, abbreviated operating procedures have been drawn up for use by helicopters and published in the AIP. The following phraseology is to be used.

#### 3.2.5.1 Departures

***"Standard Helicopter Departure ... (direction) ... Runway in Use.... \*, QFE..... \*, surface wind..... \*, traffic info..."***

(\* may be omitted if previously received and acknowledged).

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Meaning: Take off into wind or as required, remaining clear of runway in use, turning to depart circuit at right angles to runway in use (i.e. beneath 'downwind' leg), not above 750' QFE, before departing ATZ on required track.

### 3.2.5.2 Arrivals

***"Standard Helicopter Arrival... (heli spot) ... Runway in Use..., QFE..., surface wind..., traffic info..."*** .

Meaning: Enter ATZ not above 750' QFE, track inbound below downwind leg, approaching as required to designated HTA or runway, remaining clear of fixed wing final approach and climb out.

ATCO's should note that light helicopters may require to join the relevant heli circuit, approach 'into wind' and transition to hover prior to landing.

### 3.2.5.3 Circuits

***"Standard Helicopter circuit, Runway in Use...\*, QFE...\*, surface wind...\*, traffic info..."*** (\* may be omitted if previously received and acknowledged).

Meaning: Circuits to/from most upwind available spot, not above 750'QFE, negative RT, maintaining a listening watch on ADC frequency.

The 'Standard' arrival/departure height restriction need not be applied when there is no conflict with fixed wing traffic.

### 3.2.5.4 Other rotary traffic

Large helicopters and those able to ground taxi, e.g. A109, S76, Puma are to use the hard runways, unless the commander requests otherwise. This traffic may be incorporated into the fixed wing circuit to land on the duty runway or joined via the heli circuit, 'not above 750'QFE' if required. Helicopters may also be instructed to depart from or approach to a runway threshold or undershoot, which is not in use. Pilots unfamiliar with the airfield may find it easier to locate and approach to a runway than a heli-spot. Although helicopters have much greater versatility and operational flexibility, ATCO's should bear in mind that the safest option for approach and take-off is always into wind.

### 3.2.5.5 Runway Occupancy Time

Helicopters conducting circuit training on runways may require additional runway occupancy time. The pilots of following aircraft should be advised accordingly.

### 3.2.5.6 Multiple runways

When multiple runways are in use, helicopters may be cleared to land on a crossing runway, provided that the landing area and any onward restriction is clearly specified, e.g. "...cleared to land runway 22 threshold, hold short of runway 27".

## 3.2.6 Information to Circuit aircraft

ADC must advise all arriving traffic and departures joining the circuit of the number of aircraft in and joining the fixed wing and heli circuits. Additional position information may be passed as required to assist pilots.

## 3.2.7 Non-standard circuits

ADC is to ensure that sufficient information is passed to both fixed wing and helicopter pilots, to enable them to position themselves intelligently when non-standard circuits, such as low level, EFATO, glide approaches and crosswind etc. are in use. It may be possible to alter the pattern of the heli circuit to accommodate certain

types of flight. E.g. When RWY 27 and 22 are in use, helis may be instructed to 'remain north' of both runways by flying an abbreviated circuit pattern.

### 3.2.8 Start-up clearances

ADC may issue start-up clearances for all VFR flights. ADC shall advise APC of all IFR flights starting. ADC shall advise APC when multiple IFR departures are expected. ADC must check whether an IFR flight is subject to flow control prior to issuing start-up clearance. If a pilot requests start-up substantially earlier than CTOT, they are to be advised to 'expect departure at time...'.

### 3.2.9 Departure Clearances

ADC is to issue a departure clearance for all VFR departures. The clearance limit is the ATZ boundary. Simple VFR clearances shall include direction of turn and flight rules. Additional items may be added as required, e.g. Noise abatement procedures, route etc. IFR Departure and complex VFR clearances, i.e. those requiring track restrictions or turns that do not conform to the normal circuit pattern, are to be issued separately from take-off clearance, preceded by the phrase 'After departure..' If an aircraft is lined up and a revised clearance is issued, it must be preceded with an instruction to hold position.

### 3.2.10 Land After Procedures

Land after procedures, a detailed in MATS Part 1, Section 2, Chapter 1, para 1.98 may be utilised on all runways. Additionally, aircraft may be permitted to land after the departing aircraft subject to the following conditions:-

- a) It is during the hours of daylight.
- b) The departing aircraft has commenced its take-off roll.
- c) The controller is satisfied that, at the time the landing aircraft crosses the beginning of the runway, sufficient distance will exist for the arriving aircraft to complete a normal landing if the preceding aircraft were to abandon take-off.
- d) The pilot of the landing aircraft is warned.
- e) The runway is not contaminated to such an extent to adversely affect braking action.
- f) The procedure is restricted to **landing** single-engined piston aircraft types in the UK 'Light' wake turbulence category, operating under VFR.
- g) The phraseology to be used is "... (aircraft type) departing runway..., land after, surface wind..."

### 3.2.11 Separation of circuit traffic from IFR approaches

ADC is to ensure that circuit traffic is passed sufficient information or instructions to avoid conflicting with aircraft undertaking instrument approaches. Particular attention must be paid to traffic descending deadside, which may conflict with aircraft executing missed approaches or go-arounds.

### 3.2.12 Glider operations on airfield

Although gliding does not routinely take place at Gloucestershire Airport, gliders en route to nearby sites may occasionally be compelled to land here. When it is reported or becomes apparent that a glider is committed to landing, a Local Standby is to be initiated. Gliders are to be afforded priority over normal and 'Z' category, powered traffic.

### 3.2.13 Turbulence/Wind shear warnings

Pilot reports of turbulence and wind shear are to be passed to subsequent flights until such time as reports indicate that the conditions no longer prevail. Such reports should be included on ATIS broadcasts.

### 3.2.14 Procedures for different runway operations

Different runways may be used simultaneously. The most common pairings are Runway 04 & 09 and Runway 22 & 27. When Runway 18 is in use, Runway 09 should be used for instrument approaches unless the surface wind significantly favours Runway 27. Circuit direction should be the same. Before commencing different runway operations, ADC is to ensure that:-

- a) APC is advised
- b) Sufficient information or restriction has been placed on helicopter traffic

Whilst different runway operations are in use, ADC is to ensure that: -

- a) all traffic is suitably advised and adequate traffic information is passed as necessary throughout dual runway operations
- b) if any doubt exists, the runway to be used is transmitted with take-off and landing clearance.
- c) the data display clearly shows that multiple runways are in use.
- d) Pilots are given their number in sequence, together with the intentions of the aircraft ahead.

#### 3.2.14.1 Priority

Although flights operating on the duty runway would normally take precedence in sequence, aircraft undertaking Instrument approaches or using 09/27 for performance reasons should be afforded priority where necessary.

### 3.2.15 Late landing clearance inside 2NM

When it becomes apparent that landing clearance cannot be issued to an aircraft undertaking an instrument approach by 2NM range, ADC should advise the aircraft to expect late landing clearance, together with the reason. ATCO's should note that asymmetric twin and some complex aircraft have a committal height at which they must initiate a go-around if clearance is not forthcoming. ADC should endeavour to issue landing clearance to SRA traffic before 4NM. If this cannot be achieved, ADC must advise APR, stating the range at which clearance can be expected.

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## SECTION 4 APPROACH CONTROL AND APPROACH RADAR

### Chapter 1 Approach Control

#### 4.1.1 Responsibilities

APC shall provide Procedural Service to aircraft from the time and place at which:

- a) arriving aircraft place themselves under the control of APC until control is transferred to ADC;
- b) departing aircraft are taken over from ADC until they no longer wish to receive a service or are 10 minutes flying time away from the aerodrome, whichever is sooner;
- c) overflying aircraft place themselves under the control of APC until they are clear of the approach pattern and either no longer wish to receive a service or are 10 minutes flying time away from the aerodrome, whichever is sooner.

#### 4.1.2 Limitations of service

Arriving and overflying aircraft may occasionally establish communications with APC outside of these 'time parameters'. ATCO's should, however, endeavour to provide ATS to all aircraft if traffic levels permit, particularly in areas or at times when no other appropriate agency is available. The terms 'RT Service' and 'listening watch' are occasionally used by pilots, however, they have no legal status or definition in the UK and are not to be used by ATC. During periods of high workload and/or 'bandboxed' operations, ATCO's may consider limiting the range at which services can be provided.

#### 4.1.3 Terminating service

APC should request that pilots report passing a defined geographical location, feature or DME range, to reduce the likelihood of loss of RT contact and associated search action. When terminating the provision of a service, ATCO's should suggest an alternative ATSU for pilots to contact, appropriate to their flight.

#### 4.1.4 Aircraft receiving services from other agencies

If any doubt exists, ATCO's should ascertain whether or not an aircraft is in receipt of an Air Traffic Service from another agency. ATCO's are not to issue any clearance until such time as the aircraft is 'released' to APC, unless co-ordination with the relevant agency has been effected.

#### 4.1.5 Combined Operations

APC may be combined with ADC or APR. ADC and APC are normally combined at the beginning and end of the Airport opening hours and during extensions of watch. APC and APR are normally combined, subject to the availability of suitably qualified staff.

#### 4.1.6 Liaison with Aerodrome Control

APC is responsible for maintaining a safe, orderly and expeditious flow of air traffic into the ATZ. APC is to: -

- a) Issue joining instructions for all VFR arrivals. The 'default' join is the Standard Overhead Join.
- b) Ensure that arrivals are spaced to allow not more than 3 aircraft to enter the overhead simultaneously.
- c) Advise ADC of the number of, and tracks of pending overhead joins.
- d) Co-ordinate 'Direct' joins, as appropriate, when requested by pilots or when direct integration may be operationally advantageous.
- e) Hold aircraft outside the ATZ when requested by ADC.
- f) Co-ordinate aircraft wishing to transit the ATZ.



#### **4.1.6.1 IFR flights**

APC is to: -

- a) Issue departure clearance for all IFR flights.
- b) Co-ordinate all aircraft undertaking instrument approaches.

#### **4.1.7 Transfer of Control**

The type, nature and volume of traffic at Gloucestershire Airport requires that close co-operation is maintained between ADC and APC. Transfer of control points need to be mutually agreeable, flexible and consistent with traffic levels and weather conditions. Effective transfer of control and/or communications can significantly reduce RT and traffic workload for both positions. The following conventions may be applied for VFR flights: -

- a) Overhead joins and Standard heli arrivals should be transferred to ADC when 'field in sight', prior to ATZ entry, but at not more than 3NM.
- b) Direct joins should be transferred to ADC when 'field in sight', prior to ATZ entry, but at not more than 5NM unless otherwise agreed.

Prior to transfer of control, APC is to ensure that appropriate traffic information has been passed on IFR and other VFR flights. Caution must be exercised when transferring flights 'early', as late inbound calls or unknown traffic operating close to the ATZ can potentially result in unexpected conflicts after transfer of control.

#### **4.1.7.1 IFR flights**

Transfer of control of IFR flights will normally be effected when these flights are operating with visual reference to the surface, however pilots undertaking instrument training may simulate IMC conditions until reaching the MDA(H) or Missed Approach Point. Such flights are to be transferred to ADC at the Final Approach Fix or as otherwise agreed. To reduce cockpit workload, particularly, in IMC conditions, APC may retain control of IFR arrivals, requesting landing clearance from ADC if required.

#### **4.1.8 Control of VFR flights**

In Class G airspace, APC has no mandate to exercise positive control over VFR flights. Allocation of specific levels can compromise safety and is to be avoided. However, to assist ATCO's in preventing collisions between known aircraft, monitoring flights and providing accurate traffic information pilots of VFR flights should be encouraged to 'Report any level change'.

APC may, if operationally necessary, suggest VFR flights avoid areas of known high traffic density and Instrument Approach areas, or make agreements with pilots to fly at a specific level but the overriding requirements for VFR flights to remain in VMC and maintain their own separation from obstacles and other traffic must be considered. ATCO's should also be aware that pilots of some VFR flights might not be sufficiently experienced to comply with routeing instructions, particularly radar headings, or to recover to their planned track.

## Chapter 2 Procedures for IFR Traffic

### 4.2.1 Information to arriving aircraft

After an arriving aircraft has placed itself under the control of APC, the following information is to be passed as soon as practicable: -

- a) Runway in use;
- b) Current meteorological information\*;
- c) Current runway surface conditions when appropriate;
- d) Any changes in the status of approach or visual aids required for landing.

\* - This information may be abbreviated to surface wind, an appropriate altimeter setting and any relevant pilot reports (windshear, icing etc.) for aircraft flying in VMC below cloud and able to continue in VMC to the landing. It may be omitted if the pilot acknowledges receipt of the current ATIS information and has read back the appropriate altimeter setting.

### 4.2.2 Aerodrome Operating Minima

Controllers are not responsible for determining, passing or enforcing the mandatory aerodrome operating minima.

### 4.2.3 Allocation of Levels

When traffic permits, APC is to allocate initial inbound levels to aircraft in accordance with the quadrantal rule. Subsequent descent may be issued within 25NM, to 3000' QNH or in accordance with published MSA. To facilitate departures, training flights in the hold will normally be allocated the lowest Flight Level available 1000' above the Transition Level. The vertical profile of the NDB/DME procedures enables aircraft to successfully complete the approach from the lowest holding level. The vertical profile of the NDB Locator procedure, however, requires aircraft to descend in the intermediate 'teardrop' phase or reach the beacon at, or descending to the initial approach level.

### 4.2.4 Release Procedures

Whilst no formal release procedures are established for operations outside Controlled Airspace, adjacent Units will normally pre-note arrivals, pass an estimate and/or co-ordinate an acceptance level. When an adjacent unit requests an acceptance level, APC is to issue an EAT.

### 4.2.5 Expected Approach Times

EAT's are to be issued for all IFR arrivals. The approach interval for all procedures is 10 minutes. For training flights, EAT's should be based on the pilot's confirmed training requirement. For example, an entry procedure plus 2 holds, followed by an approach equates to 21 minutes. (3+4+4+10)

### 4.2.6 Holding and approach patterns

Approach procedures are published in the UK AIP.

### 4.2.7 Missed Approach procedures

Missed approach procedures are as published, however, training aircraft executing missed approaches in VMC may be instructed to vary the procedure to avoid conflict with circuit traffic. For example, an aircraft carrying out a missed approach may be instructed to climb straight ahead through circuit height before executing a turn.

#### 4.2.8 Clearance to enter Controlled Airspace

Procedures for entering CAS to the south are the subject of a Memorandum of Understanding, between LACC, Bristol, Cardiff, Exeter and Gloucester. The procedures for obtaining clearance are summarised below.

Cardiff is the controlling authority between ALVIN and AMMAN on L9 and from overhead EGTE to 5NM North of TALGA on N864 F165 and below. The airspace between ALVIN and 5NM west of MALBY below FL105 is delegated to Bristol. Obtain a clearance as follows: -

N864 Southbound                      L9 Westbound

LON\_W\_CTR

LON\_W\_CTR

When the aircraft requests start-up, telephone the appropriate LACC Sector, as shown above, stating "Gloster Tower/Approach etc., pending departure, callsign, type, destination, BCN join, CTOT (if applicable)". No other information will normally be required. LACC will issue a squawk only, which should be written under the callsign on the flight progress strip.

At 10 minutes before ETD, telephone Cardiff ATC, stating "Gloster Tower/Approach etc., request clearance, callsign, ETD, squawk." Cardiff will issue joining clearance. Upon receipt of a clearance or departure details, telephone Bristol, stating "Gloster Tower/Approach etc., Traffic information, BCN departure, flight level, ETD, squawk, aircraft type." Subject to traffic, Bristol may elect to take control of the flight.

#### 4.2.9 IFR Training and Examination Flights

Training flights departing to Bristol, Cardiff and Exeter will route BADIM L9 BCN. Pilots filing other routes are to be advised that a joining clearance may not be forthcoming. Obtain a clearance as follows: -

5 Minutes before ETD, telephone Bristol, stating "Gloster Tower/Approach etc., Request clearance, *callsign*." Bristol will issue a joining clearance at BADIM or alternative instructions.

Details of ALL clearances must be read back and clearly annotated on the FPS. Departure messages will not normally be required, but if the actual departure time varies by more than 10 minutes from the stated ETD, the unit issuing the clearance must be advised.

##### 4.2.9.1 L9 Eastbound

Eastbound traffic on L9 will continue to join Controlled Airspace at MALBY. These clearances are requested in the normal way from LON\_W\_CTR. A departure message must be passed. Traffic information is to be passed to Brize Norton on all MALBY departures. Due to complexity of airspace, LACC will not issue clearance to join CAS at CPT.

##### 4.2.9.2 Allocated levels at MALBY

Clearance to enter L9 in the vicinity of MALBY, is normally issued to 'enter CAS level at' a specified level. APC is to ensure that such a restriction is clearly understood by departing aircrews and monitor compliance wherever possible.

##### 4.2.9.3 RADNO joins

RADNO joins are requested from LON\_W\_CTR. Traffic information is to be passed to Bristol.

##### 4.2.9.4 DTY joins

DTY joins are requested from LON\_C\_CTR. Traffic information is passed to Brize Norton.

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#### **4.2.9.5 STAFA joins**

STAFA joins below F195 are requested from MAN\_W\_CTR (or LON\_N\_CTR in their absence).

#### **4.2.9.6 REXAM/WAL/NITON joins**

These joins are requested from MAN\_W\_CTR (or LON\_N\_CTR in their absence).

#### **4.2.10 Departure Clearances**

APC is to issue departure clearances for all IFR flights. Those flights not in receipt of airways joining clearance must be instructed to 'Remain outside Controlled Airspace'.

## Chapter 3 Co-ordination

### 4.3.1 With parent ACC

Details of co-ordination procedures with adjacent ACC's are detailed in Chapter 2 of this section.

### 4.3.2 With adjacent airfields

Whilst no formal agreements exist, co-ordination is effected whenever possible between Gloucester and Brize Norton and Bristol. Bristol and Brize Norton are tasked to provide LARS, up to FLO95 and may, in certain circumstances, be able to assist in the resolution of procedural conflicts. London Military may be able to provide services to civilian aircraft operating outside Controlled Airspace up to FL245, e.g. pressurization checks, air tests etc. Requests for such services should be addressed in the first instance to London Mil West.

### 4.3.3 Passing of SSR codes for the benefit of another ATSU

When requested to pass an SSR code for an adjacent unit, the instruction to squawk is to be prefixed with the name of the ATSU concerned.

## Chapter 4 Approach Radar Control

### 4.4.1 Services and responsibilities

Gloucestershire Airport is equipped with a MARIS 900 Primary Surveillance Radar System. The system comprises the Plessey ACR430 Scanner with TES 3-25 Transmitters and MARIS VARP5 Displays. The system is Approved for the provision of Radar Services within 20NM of the ATZ, up to FL080. Suitably qualified ATCO's may provide : -

- a) Surveillance Radar Approaches;
- b) Radar vectoring/sequencing to ILS or NDB/DME Approach
- c) Monitoring of ILS or NDB/DME approaches
- d) Radar services to departing and transit aircraft.

With the exception of SRA's terminating at 0.5NM, the services listed above will normally be provided in combination with APC. When radar services are available, ATCO's should use the callsign 'Gloster Radar'. The radar suffix denotes the availability of the service only, it does not imply that an aircraft is in receipt of a radar service. However, where potential confusion or doubt exists, the type of service being provided must be stated and, in the case of Deconfliction or Traffic Service, read back.

ATCO's are to provide Deconfliction or Traffic Services as specified in MATS Part 1, Section 1, Chapter 12. ATCO's should endeavour to provide the service requested by the pilot, however if that is not possible, an alternative should be offered. The limitations of the system, detailed in para. 4.4.2 below, may mean that the provision of Deconfliction Service is impractical in certain circumstances.

### 4.4.2 Limitation of service

The relatively short range of the equipment means that ATCO's may often find themselves providing a service near the limits of solid radar cover, at the edge of the display, near permanent echoes, weather clutter or in areas of high traffic density. All of these criteria may require the service to be limited. Pilots must be made aware of the implication of any limit placed on the service.

### 4.4.3 Basic or Procedural Service

Occasionally, ATCO's may consider a risk of collision exists when an aircraft is being provided with Basic Service or Procedural Service, whether or not radar identity has been established. Whilst ATCO's may consider it appropriate to pass traffic information, it is essential that no doubt exists in the type of service being provided. In such circumstances, pilots are to be advised that they are 'not identified' or 'not under radar service' and that any information is 'believed to be...' If a pilot requests avoidance advice, this should be taken as a request for Deconfliction Service.

### 4.4.4 Radar Separation Minima

The minimum radar separation between identified traffic is 3NM. During the provision of Deconfliction Service or when using radar to monitor or provide separation, ATCO's are to give avoiding action instructions to resolve a confliction with non-participating traffic and, wherever possible, seek to achieve separation which is not less than 5NM. However, it is recognised that due to the sudden appearance of, or unpredictability of unknown traffic, it is not always possible to achieve these minima.

### 4.4.5 Terrain Clearance

ATCO's must not allocate levels or provide Deconfliction Service below the levels specified on the SMA chart, except in accordance with the published SRA procedures, or when departing aircraft are climbing to an assigned outbound level.

#### 4.4.6 Co-ordination with APC/ADC

During the provision of 0.5NM SRA's, APR (EGBJ\_R\_APP) shall only be responsible for the aircraft undertaking the approach. Responsibility for the provision of Approach Control remains with APC, and allocation of levels, release of departures etc. must be co-ordinated. APR shall advise ADC at not less than 10NM of a pending arrival.

#### 4.4.7 Co-ordination with adjacent units

When co-ordinating with adjacent units, ATCO's are to pass range/bearing information relative to the airfield only. Current video map data is for information purposes only and is not to be used for handover or transfer of identity purposes.

#### 4.4.8 Radar Vectoring Area

The RVA is depicted on the Surveillance Minimum Altitude Chart which is available from the UK AIP (AD 2-EGBJ-5-1).

##### 4.4.8.1 Vectoring for ILS or NDB/DME Approach

When requested, or for tactical or expedition reasons, ATCO's may vector aircraft to intercept the Final Approach Track of the ILS or NDB/DME Approaches as follows: -

**Runway 27** Aircraft are to be vectored to intercept the final approach track at, or before the intermediate fix at 8DME, descending to 2300' QNH in accordance with the SMA chart.

**Runway 09** Aircraft are to be vectored to intercept the final approach track at, or before the intermediate fix at 8DME, descending to 2200' QNH in accordance with the SMA chart. Pilots may also be offered the option to accept vectors to the Final Approach Fix at 5DME, descending to 1700' QNH when within 40° of the FAT.

In each instance above, pilots are to be advised of their track distance to the relevant fix at least once during the initial approach. Pilots should be given a closing heading and instructed to 'report established'. Once established, APR shall pass a range check and clear the aircraft for the approach.

#### 4.4.9 Radar Departures

The use of radar may facilitate departures, particularly when traffic is holding at the GST. However, ATCO's should ensure that departures are established on headings or tracks, which ensure adequate separation from the radar overhead, when vertical separation no longer exists.

#### 4.4.10 Radio and Radar failure procedures

In the event of communication failure during the initial approach phase, an aircraft will continue visually or by ILS or NDB/DME. If not possible, they should then proceed at 2800' QNH or last assigned level, if higher, to the GST. If failure occurs during the intermediate or final approach phases, pilots unable to continue visually or by NDB/DME will carry out the standard missed approach procedure. In the event of radar failure during the provision of a service, appropriate procedural separation is to be established as quickly as possible. Essential traffic information should be passed and pilots advised of the termination of radar services.

## Acknowledgements

### Authors

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