

VATEIR CONTROLLER OPERATIONS MANUAL



Shannon Airport – EINN

Version 1.2

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Shannon Airport – Position Overview¹.

Ground (S1).

Shannon Ground (EINN_GND) shall be responsible for the following:

- Departing aircraft:
 - Checking the flight plan of all departing aircraft, and amending where required.
 - Issuing the appropriate clearance to departing aircraft.
 - Issuing push and start instructions.
 - Controlling the movement of all aircraft on the ground.
- Arriving Aircraft:
 - Co-Coordinating initial taxi instructions with Tower/Approach.
 - Issuing stands to arriving aircraft.

Tower (S2).

Shannon Tower (EINN_TWR) shall be responsible for the following:

- Operational considerations:
 - Selecting active runway.
 - Maintaining and updating the ATIS.²
- Departing aircraft:
 - Issuing Departure clearance.
 - Facilitating hand off to next position.
- Arriving Aircraft:
 - Issuing Landing clearance.
 - Providing initial taxi instructions.
- VFR:
 - Issuing zone entry/exit clearances.
 - Issuing joining/transit instructions.
 - Providing an information service.

Approach (S3).

Shannon Approach (EINN_APP) shall be responsible for the following:

- Departing aircraft:
 - Co-Ordinate non-Standard climb out instruction with Gnd/Twr.
 - Ensure separation with other arriving/departing aircraft
 - Coordinating further climb/routing with Shannon Control.
 - Facilitating hand off to next position.
- Arriving Aircraft:
 - Coordinating arrival instructions Shannon Control.
 - Issue arrival instructions for appropriate runway.
 - Provide latest information.
- VFR:
 - Provide a traffic service to aircraft in un-controlled airspace.

¹ See table 1 below for list of frequencies and call signs.

² This can be delegated to another position, however tower is still responsible for it currency/accuracy.

Shannon Ground – Procedures.

ATC Clearance.

Squawk Range:

The Squawk range for Shannon is 6630 to 6637. The standard VFR sqk of 7000 is to be issued to all VFR traffic.

Flight Plan Clearance:

Aircraft departing Shannon on an IFR flight plan should be routed on one of the Standard Departures [SID] listed in table 2 & 3

Aircraft unable to accept one of these departures should be given an omni-directional departure; the details for these are listed in table 4. Omni-directional departures need to be co-ordinated in advance with Shannon Tower and Shannon Approach.

ATC will confirm the read back and give the ATIS identifier and QNH, and ask the aircraft to report ready for push and start³. The clearance box⁴ should be ticked and the sts box should be set to push.

Example Transmission:

“EIN023, Cleared to Dublin, OSGAR2A departure rwy 06, initial climb 5000ft, sqk 6631.”

Push and Start

When requested by the pilot a push and start instruction will be issued. The current reported QNH should be passed and the direction of push if required. The sts box should be set to “Taxi”.

Example Transmission:

“EIN023, QNH 1013, Cleared to push and start, face West, call for taxi.”

Care should be given when issuing push and start instruction's that the apron taxiway is not blocked for other departing or arriving traffic. Any delay and reason for delay should be informed to the pilot. The sts box should be left at push.

³ In some cases only start is required – see table 5 for details on stand type.

⁴ See diagram A below.

Taxi Routings⁵.

Common taxi routing are outlined below.

Outbound Routings:

Rwy06 – Via the Apron to holding point on Alpha.

Rwy 24 – Via the Apron to Delta 1, Delta2, to holding point runway 24.

Rwy 24 – Via the Apron to Delta 1, Charlie, to holding point runway 24.

Ground will taxi the aircraft to the holding points of all runways, where they will be handed off to tower. This should be done by telling the aircraft to monitor towers frequency, and setting the status flag to “Dep” to let tower know the aircraft is on frequency. Aircraft should be handed off in sufficient time to allow for continuous manoeuvring. In the case of Rwy24, this can be any time after crossing rwy13/31.

Example Transmission:

“EIN023, Apron and ALPHA to holding point RWY06.”

Inbound Routings:

Rwy06 – Vacate onto either Charlie or Delta as appropriate.

Rwy 24 – Vacate onto Alpha, for the apron.

Tower will give initial taxi instruction as far as the apron, this is to prevent aircraft stopping just short of the runway and possibly prevent another aircraft vacating in a timely manner.

Shannon Aerospace:

Aircraft departing or arriving to the Shannon Aerospace facility shall be given to tower for runway crossing. For arriving aircraft the aircraft may not be handed back to ground given the relatively short taxi distance once clear of the runway.

For departures depending on the runway in use and the traffic situation the following should be used:

Rwy06 – if the traffic situation allows the aircraft can be allowed to backtrack 06 – else - Charlie, Delta2, Delta 1, Apron and Alpha.

Rwy24 – Backtrack 24. – This manoeuvre will be carried out under towers control.

⁵ See Table 6 for taxiway details.

Shannon Tower – Procedures.

Runway Selection:

Runway preference:

While Shannon has no preferential Runway⁶ as such, when the winds are calm or less than 5 knots rwy 06 should be used for departures, and Rwy 24 for arrivals. This allows for reduced taxi times.

Change of duty runway:

When a change of runway is anticipated Shannon Tower shall co-ordinate with both Shannon Ground and Shannon Approach. Shannon Tower will inform Shannon Approach of the last aircraft to depart prior to the runway change, and the first aircraft to depart after the change. Ground should also be informed, to allow for amended clearances to be issued.

Following the change of runway no aircraft shall be allowed depart until Shannon Approach has approved the first departure, after which normal departure procedures apply.

Departing Aircraft:

Shannon standard departures operate on a “free-flow” basis as far as EINN_APP, EISN_X_CTR are concerned. However, in periods of heavy traffic co-ordination with Shannon Approach/Shannon Control may require tower to request release to ensure adequate separation for the departing traffic. Non-standard departures also require release from Shannon Approach.

Example Transmission:

“EIN023, surface winds 090@15kts, cleared takeoff RWY06 ”

Outbound traffic should be handed to the next controller as soon as is practical after departure. This would usually be when passing 1500ft or about 2 miles from the end of the departure runway. This is to ensure that the aircraft is established in the climb, and to allow the pilot enough time to retract the wheels and start his climb out sequence.

Example Transmission:

“EIN23, Contact Shannon Approach on frequency 122.400, goodbye”

Departure Spacing:

The basic time separation to be applied by Shannon Tower to departures on the same departure routing is set out in Table 8 below. This is measured from the time the preceding aircraft is airborne.

If two aircraft are departing, and their departing routings diverge by more than 45°, then the time separation may be reduced to one minute.

When the following aircraft departs from an intersection (declared distances can be found in Table 9 below), and the preceding traffic departs full length, one (1) minute must be added to the separation for wake turbulence.

⁶ See Table 7 for runway details.

Arriving Aircraft:

Arriving traffic should call Shannon tower established on the approach.

Arrival Spacing:

With runway 24 in use aircraft unable to vacate onto ALPHA are required to backtrack to the runway end to turn. This should be taken into account if multiple aircraft are on the approach.

Aircraft on the approach should be passed all useful information, including number to land, if departures are expected, and the winds.

Missed Approach:

Standard missed approach is runway heading to 3000ft. However, if the reason for the go around is slow departing traffic a early climbing turn should be co-ordinated with Shannon Approach. Both aircraft should be handed off to Approach as soon as is practical.

Low Visibility Procedures:

Low Visibility procedures are in operation at Shannon Airport when the cloud ceiling is below 200ft and either the IRVR is less then 550M or the meteorological visibility is less than 800m.

Only RWY24 may be used for CATII operations. The CATII holding position on TXY Delta2 must be used. When these procedures are in operation, and RWY24 is in use the following standard taxi route system applies:

Departing aircraft shall use TWY Delta2; Arriving aircraft shall use TWY Alpha.

VFR:**Circuits:**

Standard circuit height is 1000ft. The direction of the circuit is at Tower's discretion, however, circuits to the west are preferred due to the general flow of inbound IFR traffic. VFR circuit traffic will have secondary priority to IFR traffic, and may need to be held abeam the field until they can make their approach.

Zone Entry:

Arriving aircraft on a VFR flight plan should contact Shannon Tower ten nm or five minutes before zone entry. The aircraft will then be cleared into the zone, given joining instructions, and passed any traffic information. VFR traffic should also be descended to below the level of IFR traffic (<3000ft) to help maintain separation. VFR traffic will have secondary priority to IFR traffic, and may need to be held abeam the field until they can make their approach.

Zone Exit:

Departing aircraft on a VFR flight plan should be routed in the most expeditious manner out of the Shannon zone. However, care should be taken to avoid VFR traffic crossing the extended centreline of the active runway. Approaching the zone boundary the traffic should be handed to Shannon Approach/Shannon Control for a flight information service.

Shannon Approach – Procedures.

Departing Aircraft:

Standard Departures:

Aircraft departing Shannon will be passed to Shannon Approach via silent transfer from Shannon Tower. This should happen around 1000-2000ft. Once identified the aircraft can be further required to FL090, and if traffic allows to the SID designator fix. Approaching FL070 the aircraft should be handed off to Shannon Control. The aircraft should not be passed on voice to Shannon until the handoff has been accepted.

Non-Standard Departures:

Non-Standard (Omni-Directional) should co-ordinated with Shannon Tower. As a general rule the departure will be as in Table 4, with a turn out dct the first file point, however, the traffic situation may not allow this. In this scenario Shannon Approach will inform Shannon Tower of the clearance. Approaching FL090 the aircraft should be handed off to Shannon Control. The aircraft should not be passed on voice to Shannon until the handoff has been accepted.

Onward Co-Ordination:

When traffic allows either Shannon Approach or Shannon Control can co-ordinate a direct routing to a point outside of Shannon Approach's airspace. A further climb can also be co-ordinated. Approaching FL070 the aircraft should be handed off to Shannon Control. The aircraft should not be passed on voice to Shannon until the handoff has been accepted.

Kerry/Shannon Airports:

Where traffic is routing to either Cork or Kerry Airport and the respective ATC unit is on line (Approach in the case of Cork, Tower in the case of Kerry) Shannon approach can hand the aircraft directly to that unit, bypassing Shannon Control.

Arriving Aircraft:

Standard arrivals:

Aircraft inbound to RWY 06/24 capable of flying STARs will be given an appropriate STAR⁷ based on runway in use. The aircraft will be descended to FL100 for the arrival FIX, and handed over to Shannon Approach descending through FL120. This is to allow for sufficient time for Shannon Approach to accept the aircraft, and issue any further instructions while the aircraft is in descent

Non-Standard arrivals:

Aircraft unable to fly a STAR will be co-ordinated between Shannon Control and Shannon Approach. These aircraft will be radar vectored to the approach. Aircraft will be handed off to Shannon Approach when before reaching the vertical boundary of Shannon Approach's airspace.

⁷ See Table 10 & 11.

Onward Co-Ordination:

When traffic allows either Shannon Approach or Shannon Control can co-ordinate an intermediate point to which an aircraft can be cleared. An initial descent level should also be co-ordinated. However, if it is not then descent should be to FL100 with handoff initiated approaching FL120 or approaching the vertical boundary of Shannon Approach's airspace.

Speed Control:

As a general rule the following speed controls should be used:

Below FL100 – MAX 250kts.

AT DERAG and ELPOM – Max 220kts.

Intermediate Segment – Max 210kts,

Recommended 160kts from FAF to 4nm,

ATC may use these speeds at their discretion, and should use speed control where necessary for accurate spacing.

VFR:**Zone Entry:**

Shannon Approach will provide a flight information service to flying VFR around Shannon airspace. This information should include current QNH, ATIS identifier, Runway in use and any known traffic. Approach shall co-ordinate any descents for traffic entering/transiting the Shannon control zone with Shannon Tower. They will also issue any descent instructions in sufficient time to allow the traffic to comply with these instructions. This traffic should be handed to tower via silent transfer ten nm or five minutes out.

Example Transmission:

"EIGSE, QNH 1013, Landing rwy 24, no known traffic, descend to 2500ft before the Shannon control zone"

Zone Exit:

Departing aircraft on a VFR will be passed to Shannon Approach via silent transfer upon reaching the Shannon Control zone boundary. A traffic information service, as described in the Zone Entry section above will be provided. The aircraft should be passed to Shannon Control for further flight information services upon reaching the vertical limits of Shannon approach's airspace.

Example Transmission:

"EIGSE, QNH 1013, no known traffic, remain clear of controlled airspace."

Shannon Airport Information Table's

Table 1 - Frequency List.

Service Designator	Callsign	Range	Frequency
EINN_GND	Shannon Ground	10nm	121.800mhz
EINN_TWR	Shannon Tower	20nm	118.700mhz
EINN_APP	Shannon Approach	50nm	121.400mhz
EINN_ATIS	Shannon ATIS	N/A	130.950mhz

Table 2 - Standard Departures - RWY24.

Rwy Designator (NR)	Waypoint	Aircraft Type	Initial Climb	Designator
06	OSGAR	All	5000ft	OSGAR2A
06	PELIG	All	5000ft	PELIG2A
06	AGINI	All	5000ft	AGINI2A
06	MOMIN	All	5000ft	MOMIN2A
06	ERABI	All	5000ft	ERABI2A
06	UNBEG	All	5000ft	UNBEG2A
06	LUPOR	All	5000ft	LUPOR2A
06	BUNON	All	5000ft	BUNON2A
06	KURUM	All	5000ft	KURUM2A
06	LUNIG	All	5000ft	LUNIG2A
06	ABAGU	All	5000ft	ABAGU2A

Table 3 - Standard Departures - RWY24.

Rwy Designator (NR)	Waypoint	Aircraft Type	Initial Climb	Designator
24	OSGAR	All	5000ft	OSGAR2B
24	PELIG	All	5000ft	PELIG2B
24	AGINI	All	5000ft	AGINI2B
24	MOMIN	All	5000ft	MOMIN2B
24	ERABI	All	5000ft	ERABI2B
24	UNBEG	All	5000ft	UNBEG2B
24	LUPOR	All	5000ft	LUPOR2B
24	BUNON	All	5000ft	BUNON2B
24	KURUM	All	5000ft	KURUM2B
24	LUNIG	All	5000ft	LUNIG2B
24	ABAGU	All	5000ft	ABAGU2B

Table 4 - Omni-directional departures.

Rwy (NR)	Track	Aircraft Type	Initial Climb	Routing
06	057	A/B	5000ft	Climb straight ahead until passing 500ft QNH and then turn dct first field fix or as advised by ATC.
24	238	A/B	5000ft	Climb straight ahead until passing 500ft QNH and then turn dct first field fix or as advised by ATC.
06	057	C/D	5000ft	Climb straight ahead until passing 1800ft QNH and then turn dct first field fix or as advised by ATC.
24	238	C/D	5000ft	Climb straight ahead until passing 1800ft QNH and then turn dct first field fix or as advised by ATC.

Table 5 – Stand Details.

Std Designator (NR)	Wingspan (Max)	Aircraft Type ⁸ (MAX)	Std Type ⁹	Note
11A	73.30	All	T/P	Stand 11B must be vacant.
11B	73.30	All	P/T	Stand 11A must be vacant.
11C	73.30	All	P/T	Stands 11A and 11B must be vacant.
21	28.50	ATR72	S/M	
22	44.40	B757	S/M	Stand 21 must be vacant.
23	59.70	B767	T/P	
24	45.30	B757	T/P	Stands 24A and 24B must be vacant.
24A	36.50	B737	T/P	Stand 24 must be vacant.
24B	36.50	B737	T/P	Stand 24 must be vacant.
25	46.70	B757	T/P	Stands 25A and 25B must be vacant.
25A	36.50	B737	T/P	Stand 25 must be vacant.
25B	36.50	B737	T/P	Stand 25 must be vacant.
26A	36.50	B737	T/P	
26B	36.50	B737	T/P	
27	46.70	B757	T/P	
28	58.40	B767	T/P	
30	58.40	B767	T/P	
32	70.40	All	T/P	
34	70.40	All	T/P	
37	70.40	All	T/P	
39	70.40	All	T/P	
41	57.20	B767	T/P	Stand 42 must be vacant.
42	70.40	All	T/P	Stands 41 and 43 must be vacant.
43	29.00	ATR72	T/P	Stand 42 must be vacant.

Table 6 – Taxiway Details.

Txy Designator (NR)	Width of Txy (M)	Aircraft Type	Note
A	23	All	
B	23	All	
C	23	All	
D1	23	All	
D2	23	All	
E1	23	Wingspan < 36M	Max B737 or similar
E2	14	All	
F	23	All	
G	23	All	

Table 7 – Runway Details.

Rwy Designator (NR)	Dimensions of RWY (M)	Approach Type (MAX)	Frequency (Ident)	Course
06	3199x45	ILS CAT I	109.50 (ISE)	058°
24	3199x45	ILS CAT II	110.95 (ISW)	238°

⁸ Aircraft Type – Denotes aircraft of generic size i.e. B737 also includes airbus A32X, MD80 etc

⁹ Stand Type S/M – Denotes Self Manoeuvring.

T/P – Denotes Taxi In/Push Out.

P/T – Denotes Push In/Taxi Out.

Table 8 – Departure Spacing.

Leading Aircraft	Following aircraft	Minimum Spacing
Heavy	Heavy	2 Minutes
Heavy	Medium	2 minutes
Heavy	Light	2 minutes
Medium	Heavy	1 Minute
Medium	Medium	1 Minute
Medium	Light	1 Minute
Light	Heavy	2 Minutes
Light	Medium	2 Minutes
Light	Light	1 minute

Table 9 – Declared Distances.

Rwy Designator (NR)	Intersection	TORA	TODA	ASDA
06	A	2067	2128	2067
24	C	2703	2764	2703
24	D2	3046	3107	3046

Table 10 – Standard Arrivals – RWY06.

Rwy Designator (NR)	Waypoint	Designator	Routing
06	DIGAN	DIGAN2E	DIGAN ULSIT TERDU ELPOM
06	RIKUL	RIKUL2E	RIKUL ULSIT TERDU ELPOM
06	AGINI	AGINI2E	AGINI ULSIT TERDU ELPOM
06	MOMIN	MOMIN2E	MOMIN TERDU ELPOM
06	ERABI	ERABI2E	ERABI TERDU ELPOM
06	UNBEG	UNBEG2E	UNBEG ELPOM
06	LUPOR	LUPOR2E	LUPOR ELPOM
06	BUNON	BUNON2E	BUNON ELPOM
06	KURUM	KURUM2E	KURUM RERKA ELPOM
06	TIPUR	TIPUR2E	TIPUR RERKA ELPOM

Table 11 – Standard Arrivals – RWY24.

Rwy Designator (NR)	Waypoint	Designator	Routing
24	BUNON	BUNON2D	BUNON ENS TOBRI DERAG
24	LUPOR	LUPOR2D	LUPOR ENS TOBRI DERAG
24	UNBEG	UNBEG2D	UNBEG ENS TOBRI DERAG
24	ERABI	ERABI2D	ERABI ENS TOBRI DERAG
24	MOMIN	MOMIN2D	MOMIN ENS TOBRI DERAG
24	AGINI	AGINI2D	AGININ OGONO DERAG
24	RIKUL	RIKUL2D	RIKUL OGONO DERAG
24	DIGAN	DIGAN2D	DIGAN OGONO DERAG
24	TIPUR	TIPUR2D	TIPUR GILOG DERAG
24	KURUM	KURUM2D	KURUM GILOG DERAG

Table 12 – Standard Holds.

Rwy Designator (NR)	Waypoint	Track Inbound	Turn	Min Level	Max Level	Max IAS
17	ROVAL	165°	Right Hand	3000ft	FL80	210
35	GOSDA	345°	Right Hand	3000ft	FL80	210

Table 13 – Revision Histroy.

Revision	Date	Author	Reason
1.0	16/07/2010	M Bergin	Original Draft
1.1	02/06/2011	M Bergin	Shannon Approach climb reduced to FL090 Initial Descent changed to FL100
1.2	25/07/2011	K Thornton	Revised Format