Environmental Management

Operational Safety Instruction

Ground Noise at Heathrow – Approval, Control Process and Safety of Engine Ground Running

05th November 2019

ASEnv_OSI_061

V3.1

It is the responsibility of all employers to ensure that relevant OSIs are brought to the attention of their staff. However, individuals remain responsible for their own actions and those who are in any doubt should consult their Supervisor or Manager.

1. Introduction

1.1 The purpose of this instruction is to efficently manage aircraft ground noise activites at Heathrow by reducing emissions generated by aircraft whilst static.

1.2 Please be aware that v3.1 is an update and replacement of v3.0

1.3 Red bars left of a paragraph indicate changes from v3.0 to v3.1

1.4 Please note that sections 3.6.5 and 3.7.2 marked by the red bar is the change reffered to in 1.3 above

1.5 Accountability for the control of ground noise and airfield safety procedures associated with engine ground running at Heathrow Airport rests with Heathrow. However, it is the responsibility of all aircraft and ground operators to minimise the ground noise produced and to ensure compliance with all safety procedures associated with engine ground running, including check starts.

1.6 Control of engine testing is necessary to minimise the potential for nuisance to neighbouring communities. Heathrow monitors, records and controls all engine testing at night and all engine ground running above ground idle during the day. This is to ensure that the environmental impact of aircraft related noise on the local community is kept to a minimum, and the provision of respite from noise maximised. Accordingly, Aircraft operators with maintenance commitments are expected to plan their schedule to avoid the need for ground running of engines at night (2300 – 0700), commensurate with the next day's operation.

1.7 This instruction sets out the rules, procedures and safety procedures to be followed when carrying out the activities listed below:

1.7.1 Engine Ground Running/Check Starts

1.7.2 Fixed Electrical Power and Operation of Ground Power Units
1.7.3 Aircraft Operations at Terminal 4 and Terminal 5
1.7.4 Constructions Works Airside

1.8 OSI/13/14 is hereby cancelled.

ASGrOps_OSI_020 has been subsumed and is now cancelled

2. Definitions

Abbreviation	Description
ASD	Airside Safety Department
AOU	Aircraft Operations Unit
APOC	Airport Operations Centre
APU	Auxiliary Power Unit
ATC	Air Traffic Control
ATIS	Automatic Terminal Information Service
'Check Start'	A short engine check at ground idle power, only expected to take no longer than five minutes.
EGR/s	Engine Ground Running/Runs
Engine Ground Run	Any propulsion engine start not associated with an immediate planned departure, the operation of which is for maintenance or test purposes.
GMC	Ground Movement Control
'High' engine power	Any setting above ground idle.
HPER	High Engine Power Run
IATA	International Air Transport Association
'Idle' engine power	Ground idle (as opposed to flight idle), something referred to as 'Low Power' runs where throttles are not advanced.
LPER	Low Power Engine Run
Night Period	2300 – 0700 hours
Night Quota Period	2330 – 0600 hours
STD	Standard Time of Departure
Wide Body Aircraft	An aircraft wide enough to accommodate twin aisles, with seven or more seats abreast

3. Safety Procedure

3.1 General Policy

3.1.1 This instruction covers all areas of Heathrow including leased areas.

3.1.2 All times referred to in this instruction are LOCAL. The night period is defined as 2300 to 0700 hours unless otherwise stated.

3.1.3 Heathrow Airport Operations have complete and final approval over the location, times, duration and type of engine running permitted.

3.1.4 All requests for data should be provided prior to the run and reconciled upon completion of the run, or, for reconciliation, within 24 hours where this may not be possible. Failure to comply with data provision and reconciliation may result in future refusals.

3.1.5 For the purpose of this instruction the body type of an aircraft can be categorised into one of three categories:

3.1.5.1 Narrow Body Aircraft
3.1.5.2 Wide Body Aircraft*

*Wide Body Aircraft refers to the following types – 747, 767, 777, 787, A300, A310, A330, A340, A350, A380

3.2 Limitations and Restrictions on Engine Ground Running

3.2.1 There are limitations and restrictions that apply to engine ground running by location, time, aircraft type and type of run. These are shown at Appendix C, D & E which cover the day time period from 0700 to 2300 hours, the night period from 2300 to 0700 hours and additional notes respectively.

3.2.2 Specifically, during the day, all high-power runs must take place either in a ground run pen or approved by the Airport Authority to take place in an alternative area on the airfield. All high-power runs in the night period must be approved and can only take place in a ground run pen.

3.3 Approvals Required

3.3.1 All EGRs and Engine Check Starts on Stand require approval prior to taking place.

3.3.1.1 All ground idle runs, check starts and high-power runs must have approval prior to taking place.

3.3.1.2 All engine runs planned for the ground run pens require approval prior to taking place.

3.3.1.3 Engine starts prior to pushback on stand with one engine requires approval via ATC.

3.3.1.4 Engine starts prior to pushback involving more than one engine to be started requires approval from the Aerodrome Authority via ATC.

3.4 General Safety Procedures

3.4.1 During all ground running, other than in the maintenance areas, a listening watch must be maintained by the flight deck or ground crew on the relevant GMC frequency.

3.4.2 The airline or handling agent must nominate a safety person to be available to communicate immediately with the flight deck crew, throughout the engine ground run, to ensure that the engine/s are shut down should persons or vehicles move into danger areas of a live engine. The safety person must be positioned on the ground clear of all engine intakes/exhausts with a clear overall view of approaches to the aircraft looking or for any person or vehicle.

3.4.3 Aircraft must display anti-collision lights prior to and throughout the ground running of engines.

3.4.4 Any specific safety conditions or restrictions imposed on engine ground runs by the Aerodrome Authority at the time of approval must be complied with at all times. Airfield Operations will conduct routine and random checks for compliance purposes.

3.4.5 Airlines/Handlers must have the appropriate risk assessments and operating procedures in place. These may be subject to audit by the Heathrow Airside Ramp Assurance Team.

3.5 Engine Start on Stand Prior to Pushback – including aircraft departure in the night period

3.5.1 Engine starts on stand immediately prior to commencing pushback may be requested where there are genuine operational reasons e.g. failed APU.

3.5.1.1 Operators are to note where restrictions for engine start on stand exist within T4, T5 and Cargo areas during the night period contained within Appendices A-E to this OSI.

3.5.2 Due to the environmental impacts associated with these procedures, requests must be kept to a minimum.

3.5.3 Approval for aircraft departing under the conditions referred at 3.5.1.1 during the night period must be obtained from the AOU on 020 8745 6024 (Option 3).

3.5.4 Approval must be sought via ATC on the relevant GMC frequency for standard requests for pushback and start clearance. In the event that more than one engine is required to be started prior to push ATC will seek approval from the Aerodrome Authority on stand before providing start clearance from AOU.

3.5.5 During start on stand aircraft engines must not exceed ground idle power settings.

3.6 Engine Ground Running/Check Starts on Stand

3.6.1 Procedures – Idle Ground Runs (Low Power and Check Starts on Stand)

3.6.1.1 All ground idle runs and check starts in the day or night period must first have approval from the AOU on 020 8745 6024 (Option 3) prior to the run taking place. Records will be made of idle ground runs and check starts during the day and night period.

3.6.1.2 Idle ground engine runs may be subject to restrictions which should be checked at the relevant Appendices A – E to this OSI.

3.6.1.3 The following information must be provided with all requests for idle ground runs and check starts in the night period:

(a) Contact name and number

(b) Airline
(c) Reason/justification
(d) Aircraft type and registration
(e) Requested location for the run
(f) Planned start time
(g) Expected duration
(h) Number of engines to be run simultaneously
(i) Run or check start
(j) Level of power (confirm ground idle)
(k) Type of maintenance check

3.6.1.4 A Check Start should not be conducted above ground idle.

3.6.2 Safety Procedures for Idle Ground Runs (Low Power and Check Starts)

3.6.2.1 Once approval has been obtained for a ground idle engine run, permission for engine start must be requested from ATC by the flight crew, engineer or appropriate ground crew operator on the relevant GMC frequency, ensuring that "aerodrome authority approval is granted" is included in the transmission.

3.6.2.2 The aircraft must be positioned correctly on the stand in such a way that the engine running will not harm any person or cause damage to buildings, aircraft, vehicles or equipment in the vicinity. Any apron equipment must be placed at a safe distance from the aircraft.

3.6.2.3 If an airbridge is attached to the aircraft, only the starboard engines may be run. Any port side engine run must have the airbridge retracted, or in the case of Wide Body aircraft and A380 aircraft positioned on door L1 only. In this case the airline/handler must have safety procedures in place to restrict access or egress to the airbridge from the emergency steps. The aircraft anti-collision lights must be switched on during the entire ground run period.

3.6.2.4 The engineer in charge of the engine ground run must ensure that the wheels are adequately chocked and the aircraft cannot move forward under any circumstances.

3.6.3 Procedures – High Power Ground Runs in Ground Run Pens

3.6.3.1 Approval from the AOU on 020 8745 6024 (Option 3), should be obtained for all high power runs to be conducted within a Ground Run Pen prior to the run taking place.

3.6.3.2 The following information must be provided with all requests:

(a) Contact name and number
(b) Airline
(c) Reason/justification
(d) Aircraft type and registration
(e) Requested location for the run
(f) Planned start time
(g) Expected duration
(h) Number of engines to be run simultaneously
(i) Run or check start
(j) Level of power (ground idle, high power or both)
(k) Type of maintenance check

3.6.3.3 Permissions will not be granted unless a contact name and number is provided.

3.6.3.4 Upon completion of high power engine runs, in the day or night period, the airline/company carrying out the engine run must notify AOU immediately on 020 8745 6024 (Option 3) confirming the duration of the run times at each setting (i.e. idle, advance to high, idle) with start/stop times.

3.6.4 Procedures – High Power Ground Runs on the Airfield

3.6.4.1 Requests for all high power runs to be conducted on the airfield must be made via the AOU on 020 8745 6024 (Option 3) with the provision of all relevant contact and ground run details. Approval will be subject to both operational (AOU) and safety (Airfield Operations) assessment and as such all requests will be forward internally to the ASD following initial operational assessment. Final Approval will be advised to the requesting airline/handler direct by ASD along with any additionally required instructions. Similarly, should further supporting information be required prior to approval the airline/handler will be contacted direct by the ASD. The ASD will confirm approval to AOU to enable creation of required tow strip to the permitted remote block.

3.6.4.2 A380 aircraft wishing to complete an engine run above idle may require considerable forward planning; therefore, requests should be made at the earliest opportunity.

3.6.4.3 The following information must be provided with all requests to the AOU:

(a) Contact name and number
(b) Airline
(c) Reason/justification
(d) Aircraft type and registration
(e) Requested location for the run (Remote location to be confirmed by ASD)
(f) Aircraft to be towed or taxied
(g) Planned start time
(h) Expected duration
(i) Number of engines to be run simultaneously
(j) Run or check start
(k) Level of power (ground idle, high power or both)
(l) Type of maintenance check

3.6.4.4 Approval will not be granted unless a contact name and number is provided.

3.6.4.5 Upon completion of high power engine runs, in the day or night period, the airline/company carrying out the engine run must notify the AOU immediately on 020 8745 6024 (Option 3) confirming the duration of the run times at each setting (i.e. idle, advance to high, idle) with start/stop times.

3.6.5 Safety Procedures for High Power Ground Runs

3.6.5.1 Any engine above ground idle can only be carried out in an engine run pen on approval by AOU, or on the taxiway system when approved via AOU by the ASD.

3.6.5.2 Engineers or tug crew that taxi aircraft into position for engine ground runs must contact ATC on the appropriate GMC frequency and follow subsequent taxi instructions.

3.6.5.3 The aircraft's position will be directed by Heathrow Airfield Operations staff and wherever possible the aircraft will be positioned into wind taking

any blast effects into account. The area will be physically closed and safeguarded by ASD in accordance with ASD local operating procedures.

3.6.5.4 The aircraft anti-collision lights must be switched on during the entire ground run period.

3.6.5.5 The following safety procedures must be complied with prior to undertaking any HPER:

(a) Up to 2 symmetrical engines are allowed to be run at high power at a time.
(b) Aircraft transponder must be ON throughout the run.
(c) Aircraft chocks must be installed on all wheels of the main gear (as well as the central gear if applicable)
(d) A qualified flight deck crew member must be present and “in command” during both the engine run and taxiing phases. This may be separated into the two phases of the activity where:
  (i) During taxi the qualified flight deck crew member or qualified engineer in command and present on the flight deck must have taxi approval iaw the relevant airline standard operating procedures.
  (ii) During the engine run the crew member in command and present on the flight deck must either be a qualified flight deck crew member or authorised Licensed Engineer iaw with the relevant airlines standard operating procedures.
(e) The flight deck must be monitoring the appropriate ATC frequency.
(f) A safety person/ground engineer must be positioned on the ground to monitor the engine run and stop the run should anything unsafe happen (e.g. a vehicle enters the closed area).
(g) The ground engineer must be in communication with the flight deck (visually or via headset).
(h) All High Power Engine Run must be conducted with a Heathrow Airside Operations Officer in attendance. Their role will consist of:
(i) Physically closing the area (with barriers) and safeguarding it with ATC (and the Aircraft Allocation Unit as appropriate)
(j) Close adjacent airside roads as appropriate
(k) Provide a safety briefing to the ground engineer before the start of the run
(l) Monitor the safety and compliance of the run
(m) In particular monitor the run for any damage to infrastructure
(n) Stop the run should anything unsafe happen (via signals to the ground engineer)

3.6.6 Night Period Ground Running Time (Exposure) Restrictions

3.6.6.1 The maximum total ground running exposure time over the night period from 2300 to 0700 hours must not exceed 150 minutes. Within the total 150 minutes, the maximum amount of ground running at high power must not exceed 60 minutes in any one night or exceed a rolling 30-day average of 20 minutes.

3.6.6.2 Where runs must take place in the night period the airline/company concerned should aim to carry out the runs between the times of 2300 to 2330 hour and 0600 to 0700 hours rather than in the core of the night period. Where feasible, multiple aircraft runs or multiple engine runs should be simultaneous to minimise exposure time.

3.6.6.3 These night restrictions will be subject to continuous review with the aim of improvement in noise or emissions.

3.6.7 Non-Approvals/Refusals

3.6.7.1 A high-power run request will be refused if it exceeds the limits set in 3.6.6 or if the need to carry out a run (especially during the night period) cannot be demonstrated e.g. prevention of significant rotational delay within current operational day or for the start of the following operational day/standby requirement.

3.6.7.2 If a request for an engine run is not approved by AOU, or refused by ASD on safety grounds then the refusal can be confirmed, if required. The airline/company making the request can also obtain full details of the reason for refusal on request.

3.6.8 Recording of Noise and Emission Data

3.6.8.1 AOU will maintain a record of all relevant data for Regulatory, Environmental and Noise Strategy purposes on behalf of the Airport Authority. Airlines must comply with requests for relevant supporting data as detailed in this OSI. All requests/data should be reconciled upon completion of the run, or within 24 hours where this may not be possible. Failure to comply with data provision and reconciliation may result in future refusals.

3.6.8.2 Each airline/company must also maintain its own local records of all engine runs for the night period and all high-power runs during the day period. Where engine ground runs are carried out in the night period additional details should be kept indicating when the aircraft was required for operations (flight number, departure time or standby requirement). The airline/company will facilitate access to this data for Heathrow within 24 hours for audit purposes.

3.6.8.3 Airlines must send their engine testing records to AOU within 24 hours for cross-referencing and reconciliation with the logged requests and data. Regulatory requirements identify a need for airline and Heathrow records to be cross-referenced and made available for audit purposes. Airlines are advised to retain their records for audit purposes.

3.6.8.4 The engine run records must show the full run time inclusive of any warm-up and cool down periods and should indicate actual start time, duration of the run at high power and duration of the run at ground idle.

3.6.8.5 Records must be forward electronically to airside_environment@heathrow.com on a daily basis by AOU.

3.6.8.6 The AOU will monitor the progress of HPERs against the night period limits.

3.6.8.7 The AOU will maintain a central record of all requests which are refused, as confirmed by the AOU/ASD, together with the reason for that refusal.

3.7 Fixed Electrical Ground Power Availability and the Operation of Ground Power Units

3.7.1 Heathrow has defined an Aircraft Power Hierarchy to indicate in a simple format the order in which we require the various power sources to be utilised. Application of this hierarchy during aircraft ground operations will aid in the reduction of noise and emissions associated with this work.

3.7.2 The hierarchy is:

3.7.2.1 FEGP - to be used whenever supplied and serviceable.

3.7.2.2 GPU - only to be used when FEGP is not supplied or the unit is

unserviceable.

3.7.2.3 APU - only to be used when neither FEGP nor GPU is supplied or both units are unserviceable. Conditions for the use of APU can be found within OSI_078 Use of Aircrfat Auxillary Power Units .

3.7.2.4 In the event that an aircraft APU is INOP and positioned on stand where an underslung FEGP unit exists, the ground handler must use GPU rather than the underslung FEGP

3.7.3 Heathrow provides FEGP in order to reduce ground noise levels, minimise emissions and remove/reduce the need for GPU's.

3.7.4 Heathrow seeks to reduce the noise produced by GPU's requiring the use of newer, quieter models and ensuring that the time in use is kept to a minimum. To support this policy, all new or replacement GPU's must meet the requirements set down in the IATA Airport Handling Manual (Dec'17) of 85dB at 1m from the equipment.

3.7.5 Procedures

3.7.5.1 Where FEGP is provided and serviceable, GPU's are not to be used.

3.7.5.2 If a fault is found with a FEGP unit, it must be reported immediately to AOU on 020 8745 6033 or ext. 656033.

3.7.5.3 Where there is no alternative and a GPU is used:

(a) It must be shut down promptly when power is no longer required.
(b) If an aircraft is marshalled onto stand, every attempt should be made to start the GPU after the marshalling is complete.

3.7.5.4 GPU's used between the hours of 2330 and 0600 must meet the IATA noise criteria set for mobile ground servicing equipment stated in 3.7.4

3.7.6 Monitoring

3.7.6.1 ASD patrol all apron areas at night and monitor GPU and APU use. All observed GPU use, in contravention of this OSI, is recorded.

3.7.6.2 The airline/handling company concerned will be notified of the date, time, stand and aircraft registration number relating to the incident. They will be

asked to investigate the matter and provide a full explanation within 14 days for the non-compliance of this OSI. Unless the airline/company can show that the FEGP was unserviceable (by providing the Heathrow fault number) or can demonstrate very exceptional circumstances, a record of non-compliance shall be registered on their Ground Handling performance scorecard.

3.8 Aircraft Operations at Terminal 4

3.8.1 Restrictions regarding aircraft operations are related to the planning permission conditions (as amended) for Terminal 4 (see Appendix A).

3.9 Aircraft Operations at Terminal 5 Application Site

3.9.1 Restrictions regarding aircraft operations are related to the planning conditions for Terminal 5 Application Site (see Appendix B).

3.10 Construction Works Airside

3.10.1 Under the Control of Pollution Act 1974, the London Borough of Hillingdon can impose an abatement notice to stop local construction works which are considered to be a cause of excessive noise disturbance. These powers cover Heathrow Airport.

3.10.2 Heathrow will ensure that all companies are aware of these requirements and that all requirements under this Act are met.

3.10.3 Heathrow will ensure that local instructions are adhered to.

3.11 Enquiries

3.11.1 All practical steps should be taken to avoid and minimise the risk of poor air quality by means of training, awareness of legislation, good maintenance of equipment and good working practices. Guidance is available from the Heathrow Airside Ramp Assurance Team at ramp_team@heathrow.com

3.11.2 Any general enquiries regarding this instruction should be addressed to the Aerodrome Safeguarding & Compliance Manager at airside_environment@heathrow.com

3.11.3 Queries concerning specific events should be referred to the AOU in the first instance on 020 8745 6024 (Option 3), or for immediate safety concerns operators should call direct to ASD.

4. References

IATA Airport Handling Manual

Control of Pollution Act 1974

ASEnv_OSI_078 Use of Aircraft Auxilliary Power Units

Appendix A
Terminal 4 Restrictions

Special conditions were attached to the planning permission to operate Terminal 4. This instruction explains the rules and procedures.

All operators should note that the Terminal 4 noise levels are monitored from outside the airport in accordance with a requirement associated with the granting of planning permission.

All times referred to in this Instruction are LOCAL.

Restrictions

A) Except in an emergency, no live aircraft movements or activities involving the running of aircraft engines shall be permitted to, from or onto stands 401-403 and 429-432 between the hours of 2330 and 0600.

B) Access or egress to/from the Terminal site by taxiing aircraft between 2330 and 0600 hours is prohibited via Link 41, except in an emergency or as a consequence of essential maintenance work on the alternative access routes. This restriction does not apply to those aircraft not taxiing to or from Terminal 4.

C) Other than the routine servicing of aircraft on turnaround, no aircraft maintenance work which involves the running of aircraft engines is permitted on the Terminal 4 site at any time.

Appendix B
Terminal 5 Controls

Any run on any stand within Terminal 5 at idle power will not exceed 10 minutes for any single engine.

Between 2300 and 0700 hours only check starts with a maximum of five minutes duration will be permitted on any stands 501 -576 within Terminal 5. See Appendix D for T5 restrictions on stands 581-583, 590-592 and 594-596, and Appendix E for further restrictions where applicable.

During the period 2330-0600, aircraft arriving at Terminal 5, and aircraft scheduled to depart from it in that period, will use the stands closest to the centre of the site (i.e. furthest away from Longford and Stanwell), in preference to the outer stands. This applies to both the main terminal building and all T5 satellite terminals.

During the period 2330-0600, and except in an emergency or for maintenance of the runway and taxiway system, taxiing operations to the north and south of Terminal 5 will be restricted to inner taxiways only. These operational constraints will be applied through Heathrow ATC to ensure compliance.

Aerodrome Safety

Appendix C
Engine Ground Running 0700 to 2300 Hours (Daytime Period)

Approval must be obtained from AIRCRAFT OPERATIONS UNIT (AOU) 020 8745 6024 (Option 3) for ALL engine check starts/engine ground runs prior to commencement

Area ---------- Engine Power	Central Terminal Area Stands	Terminal 4 Site and Stands 451-456	Stands 581-583 590-592 594-596	Terminal 5 Application Site-Stands 501-576	Cargo Area Stands 601-609 611-616	BA Maintenance Area	Outside British Airways & Virgin Atlantic Hangers Stands 701-702	Any other Apron or Manoeuvring Area
Check Starts/ Ground Idle **(Does not include flight idle)**	**Permitted.** Limited to a maximum of 10 minutes on one engine followed by immediate shutdown. * Subject to aircraft type and specific stand restrictions – See Notes i & ii in Appendix E	**Check Starts Only** (limited to 5 minutes followed by immediate shutdown)	**Permitted.** Limited to a maximum of 10 minutes on one engine followed by immediate shutdown.	**Permitted.** Limited to a maximum of 10 minutes on one engine	**Check Starts Only** (limited to 5 minutes followed by immediate shutdown)	**Permitted.**	**Permitted.** Aircraft outside the British Airways Hanger must be positioned with nose in a north easterly or south easterly direction	**APPROVAL REQUIRED CONTACT AOU.** If aircraft do not have access to a ground run pen then the Airport Authority may give approval to conduct a run elsewhere on the Movement Area. All Instructions issued by the Airport Authority must be followed. Not permitted in the 09L Holding Area
High Power **(Defined as any power setting above ground idle)**	**Not Permitted**	**Not Permitted**	**Not Permitted**	**Not Permitted**	**Not Permitted**	**Permitted** But **MUST** be carried out in a ground run pen	**Not Permitted**	**APPROVAL Required Contact AOU.** If aircraft do not have access to a ground run pen then the Airport Authority may give approval to conduct a run elsewhere on the Manoeuvring Area. All Instructions issued by the Airport Authority must be followed. Not permitted in the 09L Holding Area

Aerodrome Safety

Appendix D
Engine Ground Running 2300 to 0700 Hours (Night Period)

Approval must be obtained from AIRCRAFT OPERATIONS UNIT (AOU) 020 8745 6024 (Option 3) for ALL engine check starts/engine ground runs prior to commencement.

Area --- Engine Power	Central Terminal Area Stands	Terminal 4 Stands 401 – 403 429-432	Terminal 4 Stands 405-412 414 – 425 440,441,461	Terminal 5 Stands 581-583 590-592 594-596	Terminal 5 Application Site-Stands 501-576	Cargo Area Stands 601-609 611-616	Outside British Airways & Virgin Atlantic Hangers 701, 702	BA Maintenance Area	Any other Apron or Manoeuvring Area
Check Starts/ Ground Idle **(Does not include flight idle)**	**PERMITTED** Limited to a maximum of 10 minutes on one engine followed by immediate shutdown. *Subject to aircraft type and specific stand restrictions – See Notes i & ii in Appendix E	**CHECK STARTS ONLY** 2300- 2330 and after 0600 limited to 5 minutes followed by immediate shutdown	**CHECK STARTS ONLY** Limited to 5 minutes followed by immediate shutdown	**PERMITTED** Limited to a maximum of 10 minutes followed by immediate shutdown. *Subject to restrictions – See Notes iii in Appendix E	**CHECK STARTS ONLY** Limited to 5 minutes followed by immediate shutdown	**NOT PERMITTED**	**NOT PERMITTED**	**APPROVAL REQUIRED Contact AOU**	**APPROVAL REQUIRED Contact AOU** If aircraft do not have access to a ground run pen then the Airport Authority may give approval to conduct a run elsewhere on the Movement Area. All Instructions issued by the Airport Authority must be followed. Not permitted in the 09L Holding Area
High Power **(Defined as any power setting above ground idle)**	**NOT PERMITTED**	**NOT PERMITTED**	**NOT PERMITTED**	**NOT PERMITTED**	**NOT PERMITTED**	**NOT PERMITTED**	**NOT PERMITTED**	**APPROVAL REQUIRED** Run must be carried out in the ground run pens Engine run must not be of restricted type described in Note iii of Appendix E	**NOT PERMITTED**

Appendix E
Additional Restrictions on Engine Ground Running

Restrictions Applied to Certain Stands

Aircraft on the following stands are restricted to engine start-up checks only, to be followed by immediate shutdown;

313, 318 & 323.

Restrictions Applied to Certain Aircraft

In taxiway L and cul-de-sacs R, G, H and Kilo (N&S) the following aircraft are restricted to engine start checks on one engine only, limited to 5 minutes, followed by immediate shutdown;

A300, A310, A320, A330, A340, A380, B747, B757, B767, B777,

Restricted Engine Test Types

Engine ground runs that involve RPM settings resulting in changes between high and low power, for example, spike checks, must be avoided in the night period or so devised that significant alternations to power settings are kept to an absolute minimum. Approval should be obtained prior to conducting such tests from the AOU on 020 8745 6024 (Option 3). Additional safety considerations may be taken from the ASD should spike checks be requested and advised accordingly to the airline operator.

Stands 601 -609 and 611 - 616

See ASGrOps_OSI_033 Stands 601-609 (or its subsequent revision/amendment).