



Ground Operations

7th March 2023

ASGrOps_OSI_026

Version 3.0

Operational Safety Instruction

Aircraft Towing Operations

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 This Operational Safety Instruction (OSI) sets out the rules and procedures for aircraft towing operations at Heathrow Airport.
- 1.2 For aircraft pushback procedures, reference should be made to ASGrOps_OSI_093 Aircraft Arrival, Turnround and Departure Procedures on Stand.
- 1.3 Specific instructions for remotely operated pushback vehicles as detailed in ASGrOps_OSI_073 Use of Remotely Operated Pushback Vehicles supersede the instructions within this OSI.
- 1.4 Red bars have been added to the left-hand side of this document to draw the reader's attention to where changes or clarifications have been incorporated.
- 1.5 ASGrOps_OSI_026 v2.0 Aircraft Tugs - Push Back and Towing and ASGrOps_OAN_059 Amended Follow-Me procedures for runway crossings are hereby cancelled.

2. Definitions

Abbreviation	Description
AIP	Aeronautical Information Publication
AOF	Airside Operations Facility
A-SMGCS	Advanced Surface Movement Guidance and Control System
ATC	Air Traffic Control
FEGP	Fixed Electrical Ground Power
FMC	Flight Management Computer
FOD	Foreign Object Debris
ID	Identification
'M' ADP	Manoeuvring Airside Driving Permit
PCA	Pre-Conditioned Air



- 4.2 The aircraft tug crew must always follow and comply with all ATC's instructions and provide clear and full readbacks throughout the towing operation. Extra attention should be taken when conditional clearance has been given. It is vital that the aircraft or vehicle specified in the conditional clearance is appropriately identified. If in doubt or an instruction cannot be executed, they must contact ATC for clarification immediately.
- 4.3 Aircraft tug crew must always use standard R/T phraseology whilst communicating with ATC. For details, please refer to CAP 413 - Radiotelephony Manual.
- 4.4 Prior to requesting pushback clearance from ATC, the transponder must be switched on according to the procedures as detailed in Section 6 of this OSI.
- 4.5 When pushback clearance is given by ATC and prior to pushback, the aircraft tug crew must ensure that all necessary aircraft lighting is switched on to warn other airport users of their movement, such as anti-collision lights and navigation lights.
- 4.6 All aircraft chocks must be returned to their designated storage areas after use.
- 4.7 Prior to and during pushback, the following must be performed by the aircraft tug crew as a minimum but not exhaustive:
- 4.7.1 Maintain communication with the brake rider to release the parking brake safely; and
 - 4.7.2 Maintain a visual check on possible obstructions in relation to the pushback, such as vehicles and aircraft traffic on the adjacent roadways and taxiways respectively.
- 4.8 Push-back manoeuvre should complete when the aircraft nose wheel is aligned with the designated position on the taxiway centreline as per ATC's instructions.
- 4.9 Throughout the aircraft towing process, the aircraft tug crew must maintain situational awareness and listening watch on the appropriate ATC frequency.
- 4.10 Aircraft tug crew should adopt 'sterile cockpit' conditions, minimising distractions and unnecessary conversation. Communication between the aircraft tug crew regarding the route and traffic information is encouraged to maximise situational awareness.
- 4.11 Aircraft tug crew without a valid 'R' ADP **MUST NOT** cross a runway unless under a leader escort from HAL's Airfield Operations Team.



4.12 Aircraft under tow must only enter the Bealine Base via the taxiway centreline (marked as a solid yellow line and lit during the hours of darkness). Aircraft under tow must not deviate from this centreline until inside the Bealine Base.

4.13 For Code F aircraft towing operations:

4.13.1 Some areas of the taxiway system are not suitable for Code F aircraft movements. All available routes for Code F operations are detailed in the airfield maps and AIP entry for Heathrow Airport. The updated Heathrow airfield map is available in the link below.

<https://www.heathrow.com/company/team-heathrow/airside/useful-publications/airfield-maps>

4.13.2 All aircraft tug drivers towing a Code F aircraft **MUST** ensure that when communicating with ATC, they append the word 'super' to the end of their call sign to identify themselves as a Code F aircraft movement e.g. 'Bealine Echo Alpha Super'.

4.13.3 Taxiway Mike is designed for aircraft sizes up to Code E operations, however, an operating protocol is in place between ATC and HAL that enables it to be used for Code F aircraft towing as long as the following uncontrolled crossings are closed prior to towing: -

4.13.3.1 Barrier 1 to AOF across Mike taxiway;

4.13.3.2 Barrier 2 to Eagle Road East across Mike taxiway; and

4.13.3.3 Barrier 3 to Eagle Road East across Alpha taxiway.

4.13.3.4 For illustrations of uncontrolled crossing closures, reference should be made to Appendix A of this OSI.

5. Aircraft Towing Operations across Runway

This section covers additional requirements for aircraft towing across the runway at Heathrow Airport. All personnel must also adhere to the requirements for aircraft towing operations on taxiways as detailed in Section 4 of this OSI.

5.1 Aircraft towing across or onto a runway must be performed by an aircraft tug driver holding a valid "R" ADP unless they are under escorted by a leader vehicle provided by HAL's Airfield Operations Team.

5.2 Whenever a leader vehicle escort across a runway is required, the aircraft tug crew should normally wait until the leader vehicle has arrived at the origin stand before a pushback request is made or in some circumstances, en-route escort would also be



available. The leader vehicle escort will normally end after the runway crossing, where the aircraft tug crew will take over radio telecommunications with ATC to continue their transit to the destination stand. However, the leader vehicle escort can be conducted all the way to the destination stand if necessary.

- 5.3** In addition to 5.2 above, the aircraft tug crew **MUST** monitor the correct ATC frequency throughout the leader vehicle escort. If the leader vehicle escort ends right after runway crossing, ATC will provide onward towing instructions to the aircraft tug crew. Upon hearing the readback from the aircraft tug crew, the leader vehicle escort will end, and the aircraft tug crew must proceed as instructed by ATC under positive control.
- 5.4** All runway entrances are indicated by runway designators, guard lights, runway stop bar markings and red illuminated stopbars. **Under any circumstance, an illuminated red stopbar means “STOP”.** The aircraft tug crew must not allow any part of the aircraft or the aircraft tug beyond the stopbar until it is extinguished, and ATC permission has been received.
- 5.5** Before crossing the runway with permission granted from ATC, the aircraft tug crew must have a lookout before crossing. This is to ensure that their positioning will not cause any conflict with other traffic. If in doubt, the aircraft tug crew should confirm with ATC.
- 5.6** While runway crossing is in progress, the aircraft tug crew should proceed across with caution while maintaining a good lookout at all times and must ensure they maintain sufficient speed to complete the crossing without delay.
- 5.7** After vacating the runway, i.e. all parts of the aircraft and aircraft tug have cleared of the runway stopbar marking, ATC must be advised in the first instance. The aircraft tug crew should then switch to the appropriate ATC frequency as per ATC’s instruction.

6. Use of Transponders

- 6.1** Prior to towing an aircraft, the transponder must be switched on with appropriate setting. This is to ensure that ATC can visually see the location of the towing aircraft on the A-SMGCS to avoid ground movement conflict.
- 6.2** Prior to requesting pushback/ towing, the transponder must be “ON” with code 2000 selected and the flight ID from the FMC cleared by towing aircraft to show its registration on A-SMGCS.
- 6.3** The incorrect use and setting of transponders during towing operations will pose a significant safety risk to aircraft ground movement. During reduced visibility, this risk



increases as the ATC may depend on the correct transponder setting on all aircraft to control aircraft ground movement safely and effectively.

- 6.4 When the aircraft is parked on the stand, the transponder shall be set to either “OFF” or “STANDBY”.
- 6.5 If the appropriate transponder setting could not be done due to technical reasons before pushback or if there is a fault developed during towing, ATC must be notified in the first instance. Airfield Operations Team will then be notified to provide assistance.
- 6.6 If an aircraft tug is fitted with A-SMGCS compatible transmitters, they must be switched off when connecting to an aircraft to avoid the A-SMGCS receiving two overlapping signals.
- 6.7 Any non-compliance in relation to transponder operations will be addressed as soon as possible by HAL and/ or NATS which may lead to AOT issuance against the individual or the company involved as a result.

7. Aircraft Towing Training Requirements

- 7.1 Aircraft tug crew who operates under positive control from ATC must be appropriately trained and competent in Radiotelephony. Guidance can be found in the supplement to CAP 413 - Radiotelephony Manual. Standard R/T phraseology must be used for all verbal communication between ATC and the aircraft tug crew.
- 7.2 Appropriate in-house training should be provided by the company to ensure that the operator is familiar with the manoeuvring area layout at Heathrow Airport. Also, the requirements as stipulated in ASGrOps_041 Minimum Induction Training for Staff Operating Airside must be observed and adhered to.
- 7.3 All companies must ensure that their operators have received proper training on the type of aircraft tug that they are operating. HAL reserves the right to conduct an audit on the training records as well as training materials.
- 7.4 Operating an aircraft tug on the taxiway system and runway requires a corresponding ADP, i.e. “M” for operating on the manoeuvring area excluding runways and “R” for the manoeuvring area including runways. For details of ADP requirements, reference should be made to ASDRVE_OSI_006 Airside Driver Training and the Airside Driver Permit.
- 7.5 HAL reserves the right to review and audit all the training materials and records of individual company as included in this section.



8. Failure of Aircraft Lighting

- 8.1** If either navigation or anti-collision light is at fault before pushback, the towing operation should be cancelled until the fault is rectified. Alternatively, Airfield Operations Team will provide a leader escort if the stand needs to be cleared.
- 8.2** If either navigation or anti-collision light is at fault during towing, the aircraft tug crew must inform ATC immediately and wait for further instructions. During the hours of darkness, a leader escort will likely be provided by the Airfield Operations Team.

9. Emergency Procedures

- 9.1** In case of emergency during towing, the aircraft tug crew must inform ATC immediately while it is safe to do so to include the following information as a minimum:
- 9.1.1** Aircraft call sign;
 - 9.1.2** Aircraft location; and
 - 9.1.3** Nature of the problem.
- 9.2** All companies must have emergency handling procedures for aircraft towing in place and must ensure that such information is widely promulgated amongst their operators. HAL reserves the right to conduct audit and training records of aircraft towing emergency handling.
- 9.3** Whenever an incident occurs such as medical emergency or traffic accident, in addition to contacting the ATC, it must also be reported via 222 immediately.

10. Enquiries

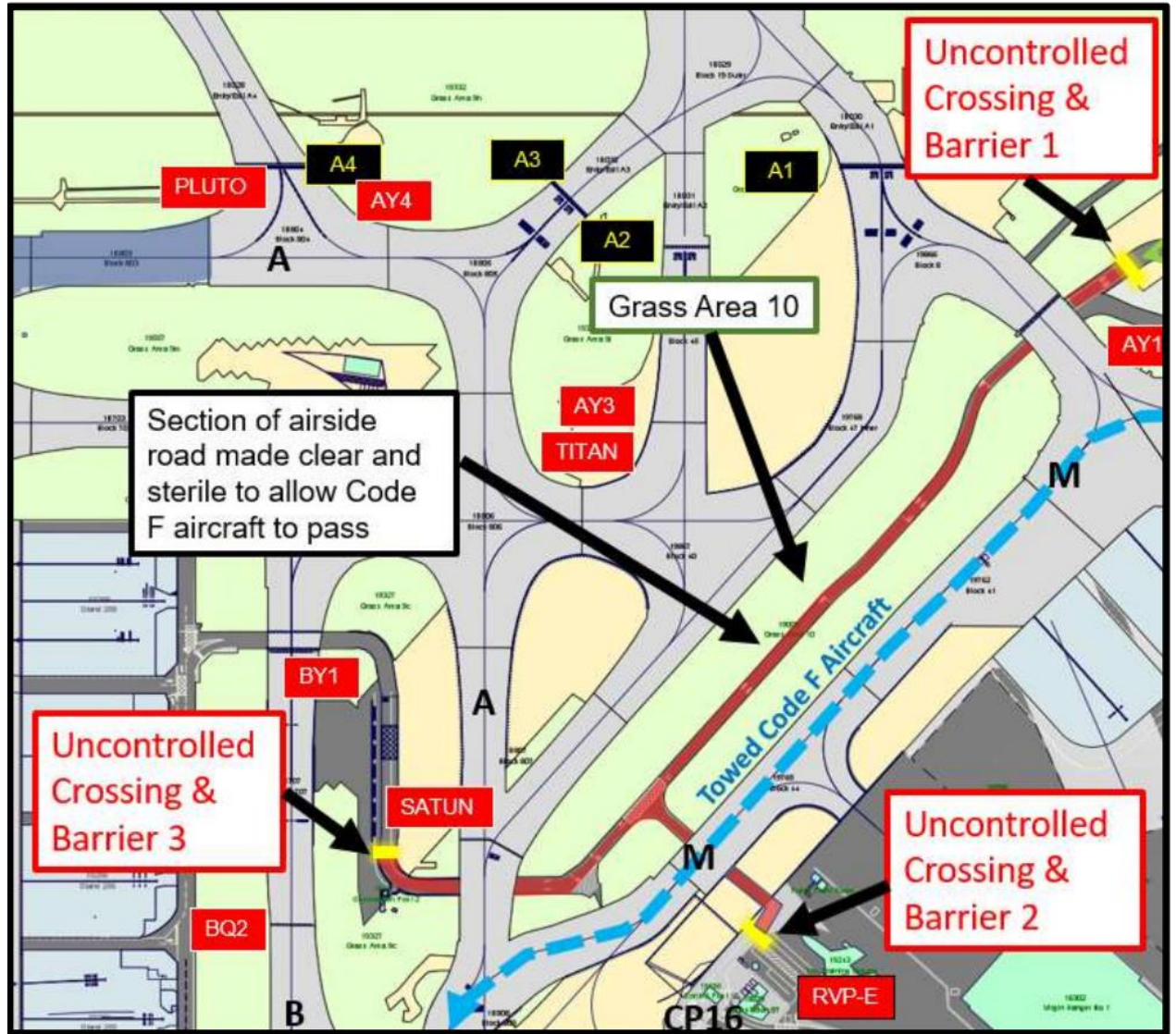
Any questions concerning this instruction should be addressed to the HAL Airfield Duty Manager (AfDM) by telephone at 020 8745 7373 or by email to airfield.duty.manager@heathrow.com.

11. References

- 11.1** ASDRVE_OSI_006 Airside Driver Training and the Airside Driver Permit
- 11.2** ASDRVE_OSI_010 ATC Radio Frequencies Control of Vehicles on the Manoeuvring Area;
- 11.3** ASGrOps_041 Minimum Induction Training for Staff Operating Airside
- 11.4** ASEnv_OSI_078 Use of Aircraft Auxiliary Power Units
- 11.5** ASGrOps_OSI_093 Aircraft Arrival, Turnround and Departure Procedures on Stand;
- 11.6** UK Aeronautical Information Publication (AIP); and
- 11.7** CAP 413 - Radiotelephony Manual.



Appendix A: Uncontrolled Crossing Closure during Code F Aircraft Movement on Taxiway M



Document Data

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Document History

Revision	Description of Change	Date
v1.0	Transferred to new template	30 th June 2017
v2.0	Updated to include access to Bealine Base and Code F aircraft on Mike taxiway	20 th April 2020
v3.0	Rename and full review of the document, updates of safety procedures, use of transponders and failure of aircraft lighting, add contents of before towing, towing across runways and emergency procedures	7 th March 2023

