



**OPERATIONAL SAFETY INSTRUCTION**

Version F Issued 04/04/2024

**Aircraft Pushback Procedures**

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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**

This instruction sets out the procedures for aircraft pushbacks that are to be used at Bristol Airport. For the purposes of this instruction, the term ‘pushback’ refers to the movement of an aircraft with mechanical assistance, moving rearward from its’ parking position. A pushback may be completed with a conventional pushback tug and towbar, or with a towbarless tug (TBL).

Specific pushback manoeuvres for each aircraft parking stand are contained in a separate pushback guide, available from Airside Operations.

**2. HANDLING AGENT RESPONSIBILITIES**

**2.1. Company Procedures**

Detailed procedures relating to the pushback operation shall be written by handling agents, based on the content of this instruction.

**2.2. Training**

Handling agents are required to provide their teams with training in the operation of pushback tugs, aircraft towing, use of headsets and hand signals. Training and proficiency records must be retained and made available to Airside Operations on request.

**2.3. Use of Headsets**

All pushbacks must be performed with a serviceable headset; however, exceptions apply in the following circumstances in which case ICAO compliant hand signals may be used:

- Prevailing weather conditions (thunderstorms) which prevent the use of a headset
- Aircraft which are not equipped with a ground intercom facility
- Aircraft headset port unserviceability

- Agent under training from an instructor on the use of hand signals

It is the responsibility of the flight deck to notify ATC if two-way headset communication with the ground crew is lost prior to, or during a pushback. Following notification of headset unserviceability, the standard pushback procedure for that stand must be followed. Non-standard pushback requests will not be approved. ATC will not issue any conditional pushback clearances to aircraft. Pushbacks where two-way communication is not established will not take place in low visibility operations, and a serviceable headset or Airside Operations assistance must be sourced for the pushback to commence.

If either a standard, or non-standard pushback has already commenced, and two-way communication with the ground crew is lost, the pushback will continue as agreed with the ground crew using hand signals.

### 3. SAFETY PRECAUTIONS

The following safety precautions shall be adhered to whilst conducting pushback operations.

- Flight deck and ground crews must always remain in verbal or visual contact.
- Ground crews are responsible for ensuring that the area immediately behind an aircraft is clear of personnel, vehicles and equipment.
- Pushback tug drivers must ensure they are maintaining a listening watch on the ATC tower frequency before, during, and immediately after all pushbacks.
- The tug and towbar/shear-pin combination must be suitable for the operation.
- The tug must be in the appropriate drive mode prior to the commencement of the operation.
- Chocks must not be removed from the aircraft until the tug and towbar are fully secured to the nose-gear.
- The nose-gear bypass pin must be inserted prior to connecting the towbar.
- When connecting the towbar to the aircraft's nose-gear assembly, the towbar must be detached from the tug.
- When connecting the towbar to the tug, personnel must be facing the tug.
- The tug and towbar should be in-line with the centreline of the aircraft before the pushback commences.
- The tug must not be left unattended with the engine running.
- The wheels on the towbar must be fully retracted/off the ground before the pushback commences.
- Personnel must not step across the towbar whilst the pushback operation is in progress.
- In the event of any equipment malfunction during pushback, the headset operator shall instruct the flight deck to gently apply the aircraft brakes. No attempt must be made to move the aircraft until the reason for the malfunction has been determined and rectified.
- Wingwalkers shall be provided to safeguard the rearward movement of the aircraft and prevent collisions with other aircraft, vehicles or obstacles. This person will also act as the rear of stand wingwalker to stop vehicles on the rear of stand road system.

- All hand signals shall conform to ICAO or industry best practice (if not designated) and shall be clear and unambiguous.

#### 4. PERSON IN CHARGE OF PUSHBACK

The headset operator is the responsible person in charge of the pushback. This person will:

- a) Ensure that the towbar and tug or TBL are suitable for the aircraft type.
- b) Ensure that the nose gear steering bypass pin is inserted prior to towbar/TBL connection.
- c) Conduct briefings with all persons involved to confirm how the aircraft will be manoeuvred.
- d) Be in continuous communication with flight crew by via interphone or hand signals.
- e) Be responsible for authorising engine start at an appropriate stage of the pushback.
- f) Ensure a pre-departure walkaround has been completed.
- g) Signal to the tug driver that the brakes have been released and approval for pushback is given by the flight crew.
- h) Signal to the wingwalker(s) when the rear of stand road needs to be closed.
- i) Advise the flight crew if it is not safe to start an engine or stop the engine start procedure.
- j) Advise the flight crew to set brakes at the end of pushback.
- k) Where applicable with airline operating procedures, place a chock in front of the nose wheel when the disconnect of the towbar or TBL takes place. Give the 'brakes on' signal to the tug driver so that pushback equipment can be disconnected.
- l) Remove the nose gear steering bypass pin for taxiing.
- m) Ensure the towbar is disconnected from the tug before disconnecting from the aircraft.
- n) After disconnection, complete the headset communication. Disconnect the headset and close the access panel.
- o) Move clear of the aircraft and display the steering bypass pin to the flight crew.
- p) Give the 'all clear to taxi' signal and await acknowledgement from the flight crew.

#### 5. STANDARD / NON-STANDARD PUSHBACKS

The majority of stands at Bristol will have a standard prescribed pushback, whereby an aircraft is cleared to push onto the taxiway or into a cul-de-sac, depending on the stand location. This is fully described for each stand in Appendix A.

On some occasions due to efficiency/performance enhancements or the ground traffic situation, a non-standard pushback is required. In these situations, an alternative non-standard pushback instruction will be issued to the flight deck by ATC. Non-standard pushback information shall be communicated from the flight deck to the headset operator in the pushback team and then on to the pushback driver. Pushback teams are not required to contact ATC, but may do so if clarification needs to be sought, to confirm non-standard pushback instructions issued by ATC.

## 6. PUSHBACK CLEARANCE AND INSTRUCTIONS

Pushbacks shall never be commenced without ATC permission. ATC will give push/start approval at the same time, with aircraft engines not exceeding idle power.

To avoid a pushback error and the potential for collision it is a Bristol Airport requirement that pushback tug drivers always listen to ATC pushback clearances and instructions.

It is mandatory that pushback drivers are equipped with a hand-held radio, or the pushback tug is fitted with a fixed radio capable of accessing Bristol Tower frequency 133.850. Pushback drivers must only commence a pushback when they are satisfied that there is no discrepancy between the instruction issued by Bristol Tower and that given by the headset operator.

If pushback drivers have not clearly heard/understood the instruction, or where the pushback would put them into conflict with another aircraft or vehicle they should, via the headset operator, contact the flight deck and request a reissuing of instruction by Bristol Tower. ***Pushback crews are encouraged to challenge any confusing or uncertain instructions.***

### 6.1. Use of 'Push Points' for Direct Push onto Taxiways

Some apron cul-de-sacs have push points installed (marked as 'PP' on the ground). Push points enable the pushback crew to push (rather than pull) the aircraft to the end of the cul-de-sac, without infringing on the taxiway. When authorised by ATC, the push can then continue onto the taxiway behind.

This option is another alternative to a standard pushback, for safety reasons, or to improve efficiency when there are multiple aircraft departing the same cul-de-sac in a short timeframe. For example, an aircraft could complete a non-standard push from stand 8 onto the taxiway, via a PP, whilst another aircraft could simultaneously complete a standard push from stand 7 and pull forward to the TRP in the cul-de-sac.

***Pushback crews are encouraged to request alternative pushbacks for safety or efficiency reasons.***

### 6.2. Pushback onto Vacant Stands

Pushback crews may be authorised to push an aircraft back onto an opposite or adjacent stand if the stand is vacant and clear of all ground equipment, and the pushback crew consider it to be the safer alternative than pushing into a cul-de-sac. Examples of where this may be utilised are stands 12 and 30, where there is limited space to push-back into the cul-de-sac without intercepting the apron road system. Any requests for this must be made to Airside Operations, who will liaise with the applicable stakeholders, to confirm that the proposed adjacent stand is available.

The wingwalker is responsible for ensuring the stand being pushed onto is clear of obstructions and informing any drivers or pedestrians of their intentions. No GHA communication with ATC is required.

*Pushback crews are encouraged to request alternative pushbacks for safety or efficiency reasons.*

### 6.3. Tug Release Points

Following pushback from cul-de-sac stands, the aircraft nose wheel should be stopped on the Tug Release Point (TRP) marking, which is a horizontal yellow bar on the cul-de-sac centreline (labelled as 'TRP').

Pushbacks directly onto the taxiway should push to line up with the centreline and then continue to push or pull forwards to achieve safe separation from other aircraft on the taxiway system, or aircraft simultaneously pushing. TRP markings are painted on taxiway Zulu for simultaneous pushbacks from stands 1 and 3 to achieve safe separation during engine start-up.

## 7. PUSHBACK AND PULL FORWARD

If an aircraft is to be pulled forward after pushback and the engines have started, care and special precautions shall be taken to reduce the risk of the aircraft's engine thrust causing damage to the nose gear and towbar when stopping the aircraft at completion of manoeuvre.

Pull forward after engine start should be avoided where possible. If the requirement of pull forward is known in advance, the headset operator should delay the starting the engines until the pull forward manoeuvre is complete.

Special precautions include gentle application of brake, engine at idle thrust, towing operation at lowest gear available.

## 8. SIMULTANEOUS PUSHBACKS

Simultaneous pushbacks may be available for some stands, subject to ATC clearance. Although Bristol Airport approves the use of simultaneous pushbacks, adequate ground handling controls need to be in place prior and ground crews are empowered to suspend any pushback movement that they consider to be unsafe due to jet blast, reduced separation, or other hazard. See Appendix B.

Ground crews are encouraged to request simultaneous pushbacks within the same cul-de-sac where there is an opportunity to do so. **Requests should be made to ATC via the flight deck. The handling agent should also phone ATC to give advance warning of the request where possible.** This will require one aircraft to push non-standards onto the taxiway, whilst another performs a standard push into the cul-de-sac and to the TRP.

Simultaneous pushbacks from stands 1 and 3 and stands 37-39 shall not be available when the airport is in low visibility operations.

## 9. NOSE GEAR PROTECTION AND STEERING LIMITS

Aircraft pushbacks must be completed in a way such that the nose gear steering limits for each individual aircraft type are not exceeded. There is a red line 'oversteer indicator' that must not be exceeded, otherwise there is an increased risk of shear pin failure or damage to the aircraft nose gear. Some stands will require a 'dog-leg' push, due to space constraints in the cul-de-sac. When a 'dog-leg' push is attempted, close attention must be paid to the steering limits.

In the event of exceeding the steering limit, or if any stress damage may have occurred to the nose gear, the aircraft shall be inspected by an engineer. The aircraft will need to return to the stand if it is blocking a taxiway. Incidents or near misses should be reported to Airside Operations.

## 10. PUSH AND HOLD OPERATIONS

Bristol Airport offer a push and hold operation to departing aircraft, when ATC have advised of an expected significant delay for take-off so as to allow their flights to record an on-time departure and/or to clear a stand for re-use. It involves an aircraft ground-positioning, either under its own power or under tow, to a designated remote (non-contact) parking stand. Here, the engines are shut down and aircraft services are maintained by the use of the APU until engine re-start is authorised by ATC, with start-up under the control of Airside Operations.

The full procedure can be found in BRS-OSI-GO-004 Aircraft Push and Hold Operations.

## 11. CONTINGENCY (CUL-DE-SAC) PARKING STANDS

Bristol Airport has a number of contingency parking stands available, for use during peak overnight operations. The following stands are currently classed as contingency stands: E1, E2, E3, W4, W5, W6, W7, W8. The pushback (where applicable) of these stands are summarised in Appendix A.

## 12. GENERAL ENQUIRIES

Any enquiries should be addressed to Airside Operations on **01275 473705** or **07712 792235**.

## APPENDIX A INDIVIDUAL STAND STANDARD / NON-STANDARD PUSHBACKS

Stand 1		Max aircraft size B737 MAX 10 / A321
Standard Pushback	Push straight back onto Taxiway Zulu, then face east or west according to the departure runway.	
Non-Standard Pushback	Not applicable.	
Simultaneous Pushback	Permitted with stand 3 (not in low visibility), but not with stand 2	
Remarks	<ul style="list-style-type: none"> <li>The aircraft pushes onto a live taxiway that may delay other inbound or outbound taxiing aircraft.</li> <li>Be aware of the potential for the aircraft to roll forward due to a combination of engine thrust and surface gradient. Consider not starting the engines until the pull forward manoeuvre is completed.</li> <li>When simultaneously pushing with stand 3, the aircraft must be pushed/pulled to the TRP, to ensure safe separation for jet blast.</li> </ul>	

Stand 2		Max aircraft size B737 MAX 10 / A321
Standard Pushback	Push straight back onto Taxiway Zulu, then face east or west according to the departure runway.	
Non-Standard Pushback	Not applicable	
Simultaneous Pushback	Not with stands 1 or 3	
Remarks	<ul style="list-style-type: none"> <li>The aircraft pushes onto a live taxiway that may delay other inbound or outbound taxiing aircraft.</li> </ul>	

Stand 3		Max aircraft size B737 MAX 10 / A321
Standard Pushback	Push straight back onto Taxiway Zulu, then face east or west according to the departure runway.	
Non-Standard Pushback	Not applicable	
Simultaneous Pushback	Permitted with stand 1 (not in low visibility), but not with stand 2	
Remarks	<ul style="list-style-type: none"> <li>The aircraft pushes onto a live taxiway that may delay other inbound or outbound taxiing aircraft.</li> <li>When simultaneously pushing with stand 1, the aircraft must be pushed/pulled to the TRP, to ensure safe separation for jet blast.</li> </ul>	

Stand 5		Max aircraft size B737 MAX 8 / A320
Standard Pushback	Push into cul-de-sac to face south, pull forward to TRP.	
Non-Standard Pushback	Push directly onto Taxiway Zulu to face east or west according to the departure runway.	
Simultaneous Pushback	Permitted with stands 6, 7, 8 and 9. One aircraft will perform a non-standard push onto the taxiway, with the other aircraft performing a standard push to the TRP immediately after.	
Remarks	<ul style="list-style-type: none"> <li>Flight crew must not be authorised by the headset operator to start engines until pulled forward to the TRP due to jet blast.</li> <li>Pushback should not commence if an aircraft is self-maneuvring from stand 9 or 10.</li> <li>Non-standard pushback will be required if stand 7N is occupied.</li> </ul>	

Stand 6		Max aircraft size B737 MAX 8 / A320
Standard Pushback	Push into cul-de-sac to face south, pull forward to TRP.	
Non-Standard Pushback	Push to the Push Point (PP) in the cul-de-sac, or direct onto Taxiway Zulu to face east or west according to the departure runway.	
Simultaneous Pushback	Permitted with stands 5, 7, 8 and 9. One aircraft will perform a non-standard push onto the taxiway, with the other aircraft performing a standard push to the TRP immediately after.	
Remarks	<ul style="list-style-type: none"> <li>Flight crew must not be authorised by the headset operator to start engines until pulled forward to the TRP due to jet blast.</li> <li>Pushback should not commence if an aircraft is self-maneuvring from stand 9 or 10.</li> <li>A non-standard pushback will be required if stand 7N is occupied.</li> </ul>	

Stand 7		Max aircraft size A320
Standard Pushback	Push into cul-de-sac to face south, pull forward to TRP.	
Non-Standard Pushback	<ul style="list-style-type: none"> <li>Push to the Push Point (PP) in the cul-de-sac, or direct onto Taxiway Zulu to face east or west according to the departure runway.</li> <li>Pull forward through stand 12 into the adjacent cul-de-sac, if requested by the ground handling agent, stand 12 is vacant and all EPAs are clear.</li> </ul>	
Simultaneous Pushback	Permitted with stands 5, 6, 8 and 9. One aircraft will perform a non-standard push onto the taxiway, with the other aircraft performing a standard push to the TRP immediately after.	
Remarks	<ul style="list-style-type: none"> <li>Flight crew must not be authorised by the headset operator to start engines until forward to the TRP due to jet blast.</li> <li>Pushback should not commence if an aircraft is self-maneuvring from stand 9 or 10.</li> </ul>	



Stand 7N	Max aircraft size A321
Standard Pushback	Push initially to the Push-Point, and await further clearance to push on to taxiway Zulu, to face east or west according to the departure runway.
Non-Standard Pushback	Push into stand 8 and pull forward to the TRP (at ground handling agent's request).
Simultaneous Pushback	Not permitted
Remarks	<ul style="list-style-type: none"> <li>If this stand is occupied, stands 5, 6, 8 and 9 will require a non-standard push, or self-manoeuvre.</li> <li>This stand is only available for first wave departures and late arrivals, and not for turnarounds.</li> <li>ATC may instruct a two-stage pushback, initially to the TRP.</li> </ul>

Stand 8	Max aircraft size A320
Standard Pushback	Push into cul-de-sac to face south, pull forward to the TRP.
Non-Standard Pushback	<ul style="list-style-type: none"> <li>Push to the Push Point (PP) in the cul-de-sac, and then onwards to Taxiway Zulu to face east or west according to the departure runway.</li> </ul>
Simultaneous Pushback	Permitted with stands 5, 6, 7 and 9. One aircraft will perform a non-standard push onto the taxiway, with the other aircraft performing a standard push to the TRP immediately after.
Remarks	<ul style="list-style-type: none"> <li>Flight crew must not be authorised by the headset operator to start engines until forward to the TRP due to jet blast.</li> <li>Pushback should not commence if an aircraft is self-manoeuving from stand 9 or 10.</li> <li>This stand is available for self-manoeuving if all EPAs are clear and stand 11 is vacant.</li> <li>If stand 7N is occupied, push back into stand 6 or direct onto taxiway.</li> </ul>

Stand 9	Max aircraft size A320
Standard Pushback	Push into cul-de-sac to face south, pull forward to the TRP.
Non-Standard Pushback	Push directly onto Taxiway Zulu to face east or west according to the departure runway.
Simultaneous Pushback	Permitted with stands 5, 6, 7 and 9. One aircraft will perform a non-standard push onto the taxiway, with the other aircraft performing a standard push to the TRP immediately after.
Remarks	<ul style="list-style-type: none"> <li>Flight crew must not be authorised by the headset operator to start engines until forward to the TRP due to jet blast.</li> <li>Self-manoeuving is available if stand 7N and stand 10 are vacant. Engine start must not be authorised if an aircraft is at, or approaching, the TRP behind.</li> <li>B737-800 may use this stand for push and hold operations only.</li> <li>Stand 9W will be in use for night operations.</li> <li>A non-standard pushback, or self-manoeuvre (stand 9E only) will be required if stand 7N is occupied.</li> </ul>

Stand 10	Max aircraft size A320
Standard Pushback	Push into cul-de-sac to face south, pull forward to the TRP.
Non-Standard Pushback	Push directly onto Taxiway Zulu to face east or west according to the departure runway.
Simultaneous Pushback	Permitted with stands 11, 12, 13, 14 and 15. One aircraft will perform a non-standard push onto the taxiway, with the other aircraft performing a standard push to the TRP immediately after.
Remarks	<ul style="list-style-type: none"> <li>Flight crew must not be authorised by the headset operator to start engines until forward to the TRP due to jet blast.</li> <li>Self-manoeuving is available if stand 9 is vacant. Engine start must not be authorised if an aircraft is at, or approaching, the TRP behind.</li> <li>B737-800 may use this stand for push and hold operations only.</li> </ul>

Stand 11	Max aircraft size A320
Standard Pushback	Push into cul-de-sac to face south, pull forward to the TRP.
Non-Standard Pushback	<ul style="list-style-type: none"> <li>Push to the Push Point (PP) in the cul-de-sac, or direct onto Taxiway Zulu to face east or west according to the departure runway.</li> </ul>
Simultaneous Pushback	Permitted with stands 10, 12, 13, 14 and 15. One aircraft will perform a non-standard push onto the taxiway, with the other aircraft performing a standard push to the TRP immediately after.
Remarks	<ul style="list-style-type: none"> <li>Flight crew must not be authorised by the headset operator to start engines until forward to the TRP due to jet blast.</li> <li>This stand is available for self-manoeuving if all EPAs are clear and stand 8 and 7N are vacant.</li> <li>The pushback crew may push back into stand 14 and pull forward to the TRP, at their discretion.</li> </ul>

Stand 12	Max aircraft size A320*
Standard Pushback	Push into cul-de-sac to face south, pull forward to the TRP.
*Standard Pushback (A320)	See non-standard pushback instruction below. <b>ATC must be informed, via the flight deck, that the push will need to push onto Taxiway Zulu.</b>
Non-Standard Pushback	Push to the Push Point (PP) in the cul-de-sac, or direct onto Taxiway Zulu to face east or west according to the departure runway.
Simultaneous Pushback	Permitted with stands 10, 11, 13, 14 and 15. One aircraft will perform a non-standard push onto the taxiway, with the other aircraft performing a standard push to the TRP immediately after.
Remarks	<ul style="list-style-type: none"> <li>Flight crew must not be authorised by the headset operator to start engines until forward to the TRP due to jet blast.</li> <li>Pull forward through stand 7 if stand E2 is occupied.</li> </ul>

Stand 14	Max aircraft size A320
Standard Pushback	Push into cul-de-sac to face south, pull forward to the TRP.
Non-Standard Pushback	Push to the Push Point (PP) in the cul-de-sac, or direct onto Taxiway Zulu to face east or west according to the departure runway.
Simultaneous Pushback	Permitted with stands 10, 11, 12, 15 and 16. One aircraft will perform a non-standard push onto the taxiway, with the other aircraft performing a standard push to the TRP immediately after.
Remarks	<ul style="list-style-type: none"> <li>Flight crew must not be authorised by the headset operator to start engines until forward to the TRP due to jet blast.</li> <li>The pushback crew may push back into stand 12 and pull forward to the TRP, at their discretion.</li> </ul>

Stand 15	Max aircraft size A320
Standard Pushback	Push into cul-de-sac to face south, pull forward to the TRP.
Non-Standard Pushback	Push to the Push Point (PP) in the cul-de-sac, and then onwards to Taxiway Zulu to face east or west according to the departure runway.
Simultaneous Pushback	Permitted with stands 10, 11, 12, 14 and 16. One aircraft will perform a non-standard push onto the taxiway, with the other aircraft performing a standard push to the TRP immediately after.
Remarks	<ul style="list-style-type: none"> <li>Flight crew must not be authorised by the headset operator to start engines until forward to the TRP due to jet blast.</li> <li>The pushback crew may push back into stand 11 and pull forward to the TRP, at their discretion.</li> </ul>

Stand 16	Max aircraft size A320
Standard Pushback	Push into cul-de-sac to face south, pull forward to the TRP.
Non-Standard Pushback	Push directly onto Taxiway Zulu to face east or west according to the departure runway.
Simultaneous Pushback	Permitted with stands 10, 11, 12, 14 and 15. One aircraft will perform a non-standard push onto the taxiway, with the other aircraft performing a standard push to the TRP immediately after.
Remarks	<ul style="list-style-type: none"> <li>Flight crew must not be authorised by the headset operator to start engines until forward to the TRP due to jet blast.</li> </ul>

Stand 17	Max aircraft size B737 MAX 10 / A321
Standard Pushback	Push into taxiway Zulu to face west, pull forward to the TRP.
Non-Standard Pushback	Not applicable
Simultaneous Pushback	Not permitted
Remarks	

Stand 18	Max aircraft size B737 MAX 10 / A321
Standard Pushback	Push into taxiway Zulu to face west, pull forward to the TRP.
Non-Standard Pushback	Not applicable
Simultaneous Pushback	Not permitted
Remarks	

Stand 19	Max aircraft size B737 MAX 10 / A321
Standard Pushback	Push into taxiway Zulu to face west, pull forward to the TRP.
Non-Standard Pushback	Not applicable
Simultaneous Pushback	Not permitted
Remarks	

Stand 20	Max aircraft size B737 MAX 10 / A321
Standard Pushback	Push into taxiway Zulu to face west, pull forward to the TRP.
Non-Standard Pushback	Not applicable
Simultaneous Pushback	Not permitted
Remarks	

Stand 21	Max aircraft size E195
Standard Pushback	Push straight back onto Taxiway Zulu, then face east or west according to the departure runway.
Non-Standard Pushback	Into the cul-de-sac behind stand 22/23, facing east
Simultaneous Pushback	See pushback combinations matrix at end of guide
Remarks	<ul style="list-style-type: none"> <li>• Pushbacks for runway 09 in low visibility must avoid crossing Z2 intermediate holding point. The push should remain aligned with the stand centreline until the tug is abeam the fuel farm entrance, at this point a 'dog-leg' manoeuvre may be required.</li> <li>• If runway 09 is in use and an aircraft is holding at Z2, the push will be delayed until the aircraft at Z2 has taxied clear.</li> </ul>

Stand 22		Max aircraft size B737 MAX 8 / A320
Standard Pushback	Push into the cul-de-sac to face east	
Non-Standard Pushback	Push straight back onto Taxiway Zulu, then face east or west according to the departure runway.	
Simultaneous Pushback	See pushback combinations matrix at end of guide	
Remarks	<ul style="list-style-type: none"> <li>If an aircraft is parked on W7, aircraft on stand 22 must push onto Taxiway Zulu.</li> <li>If an aircraft is parked on W8, aircraft on stand 22 cannot push.</li> </ul>	

Stand 23		Max aircraft size B737-MAX 10 / A321
Standard Pushback	Push into the cul-de-sac to face east	
Non-Standard Pushback	Push straight back onto Taxiway Zulu, then face east or west according to the departure runway.	
Simultaneous Pushback	See pushback combinations matrix at end of guide	
Remarks	<ul style="list-style-type: none"> <li>If an aircraft is parked on W7, aircraft on stand 23 must push onto Taxiway Zulu.</li> <li>If an aircraft is parked on W8, aircraft on stand 23 cannot push.</li> </ul>	

Stand 24		Max aircraft size B737-MAX 10 / A321
Standard Pushback	Push into the cul-de-sac to face west	
Non-Standard Pushback	Push straight back onto Taxiway Zulu, then face east or west according to the departure runway.	
Simultaneous Pushback	See pushback combinations matrix at end of guide	
Remarks	<ul style="list-style-type: none"> <li>If an aircraft is parked on W8, aircraft on stand 24 must push onto Taxiway Zulu.</li> <li>If an aircraft is parked on W7, aircraft on stand 24 cannot push.</li> </ul>	

Stand 25		Max aircraft size B737-MAX 10 / A321
Standard Pushback	Push into the cul-de-sac to face west	
Non-Standard Pushback	Push straight back onto Taxiway Zulu, then face east or west according to the departure runway.	
Simultaneous Pushback	See pushback combinations matrix at end of guide	
Remarks	<ul style="list-style-type: none"> <li>If an aircraft is parked on W8, aircraft on stand 25 must push onto Taxiway Zulu.</li> <li>If an aircraft is parked on W7, aircraft on stand 25 cannot push.</li> </ul>	

Stand 26		Max aircraft size B787-9 / A330-300
Standard Pushback	Push straight back onto Taxiway Zulu, then face east or west according to the departure runway.	
Non-Standard Pushback	<ul style="list-style-type: none"> <li>Aircraft up to A321 may push into the cul-de-sac to face west.</li> <li>Aircraft up to A321 may push onto stand 28E if vacant for self-manoevre.</li> </ul>	
Simultaneous Pushback	See pushback combinations matrix at end of guide	
Remarks	<ul style="list-style-type: none"> <li>Pushback into the cul-de-sac is not available with an aircraft parked on W7 or W8.</li> </ul>	

Stand 28		Max aircraft size B737-MAX 10 / A321
Standard Pushback	Stand 28E – Self-manoevre (if stand 26 is unoccupied or the aircraft is no larger than an A321 AND there is no turnaround activity or servicing tasks). <b>The pushback crew must inform the flight crew if a non-standard pushback is required.</b> Stand 28W – Self-manoevre.	
Non-Standard Pushback	Stand 28E – Push back into the cul-de-sac behind stand 28 to face south, pull forward to the TRP. Stand 28W – Push back directly onto Taxiway Zulu, if W6 is occupied.	
Simultaneous Pushback	Permitted with stands 29, 30 and 32. One aircraft will perform a non-standard push onto the taxiway, with the other aircraft performing a standard push to the TRP immediately after.	
Remarks	<ul style="list-style-type: none"> <li>Flight crew must not be authorised by the headset operator to start engines until pulled forward to the TRP due to jet blast.</li> <li>Ground crew should contact Airside Operations if there is any doubt as to whether the aircraft size or ground activity on stand 26 will affect self-manoevre from stand 28E.</li> <li>Stand 28E must not self-manoevre if W6 is occupied.</li> </ul>	

Stand 29		Max aircraft size B737-MAX 10 / A321
Standard Pushback	Push back into the cul-de-sac to face south, pull forward to the TRP.	
Non-Standard Pushback	Push to the Push Point (PP) in the cul-de-sac, or direct onto Taxiway Zulu to face east or west according to the departure runway.	
Simultaneous Pushback	Permitted with stands 30 and 32. One aircraft will perform a non-standard push onto the taxiway, with the other aircraft performing a standard push to the TRP immediately after.	
Remarks	<ul style="list-style-type: none"> <li>Flight crew must not be authorised by the headset operator to start engines until pulled forward to the TRP due to jet blast.</li> <li>Ground crew should push and initially hold at the PP if an aircraft is self-manoevring from stand 33.</li> <li>A standard pushback should not commence if an aircraft has been authorised to start engines/self-manoevre from stand 31.</li> <li>Flight crew must not be authorised by the headset operator to start engines until pulled forward to the TRP, due to jet blast.</li> <li>The pushback crew may push back into stand 32 and pull forward to the TRP, at their discretion.</li> </ul>	

Stand 30		Max aircraft size B737-MAX 8 / A320
Standard Pushback	Push back into the cul-de-sac to face south, pull forward to the TRP.	
Non-Standard Pushback	<ul style="list-style-type: none"> <li>• Push to the Push Point (PP) in the cul-de-sac, and then onwards to Taxiway Zulu to face east or west according to the departure runway.</li> <li>• Push back into stand 31, aircraft can self-manoevrue from stand (at the request of the ground handling agent).</li> </ul>	
Simultaneous Pushback	Permitted with stands 28, 30 and 32. One aircraft will perform a non-standard push onto the taxiway, with the other aircraft performing a standard push to the TRP immediately after.	
Remarks	<ul style="list-style-type: none"> <li>• Flight crew must not be authorised by the headset operator to start engines until pulled forward to the TRP, due to jet blast.</li> <li>• Ground crew should push and initially hold at the PP if an aircraft is self-manoevring from stand 33.</li> <li>• Pushback should not commence if an aircraft has been authorised to start engines/self-manoevrue from stand 31, or if W5 is occupied.</li> <li>• A 'dog-leg' push may be required due to space constraints.</li> </ul>	

Stand 31		Max aircraft size B737-MAX 10 / A321
Standard Pushback	Self-manoevrue, heading west	
Non-Standard Pushback	<ul style="list-style-type: none"> <li>• Push back into the cul-de-sac to the east, pull forward to the TRP.</li> <li>• Push to the Push Point (PP) in the cul-de-sac to the east, and then onwards to Taxiway Zulu to face east or west according to the departure runway.</li> </ul>	
Simultaneous Pushback	Not applicable	
Remarks	<ul style="list-style-type: none"> <li>• For non-standard pushbacks, flight crew must not be authorised by the headset operator to start engines until at the TRP, due to jet blast.</li> <li>• Ground crew must control the perimeter road system for self-manoevring departures.</li> <li>• The pushback crew may push back into stand 30 and pull forward to the TRP, at their discretion.</li> </ul>	

Stand 32		Max aircraft size B737-MAX 10 / A321
Standard Pushback	Push into cul-de-sac to face south, pull forward to the TRP.	
Non-Standard Pushback	<ul style="list-style-type: none"> <li>• Push to the Push Point (PP) in the cul-de-sac, and then onwards to Taxiway Zulu to face east or west according to the departure runway.</li> <li>• Push back into stand 29 and pull forward to TRP.</li> </ul>	
Simultaneous Pushback	Permitted with stands 28, 29 and 30. One aircraft will perform a non-standard push onto the taxiway, with the other aircraft performing a standard push to the TRP immediately after.	
Remarks	<ul style="list-style-type: none"> <li>• Flight crew must not be authorised by the headset operator to start engines until at the TRP, due to jet blast.</li> <li>• Ground crew should push and initially hold at the PP if an aircraft is self-manoevring from stand 33.</li> </ul>	

Stand 33		Max aircraft size B737-MAX 10 / A321
Standard Pushback	Self-manoevure, heading west	
Non-Standard Pushback	<ul style="list-style-type: none"> <li>• Push into cul-de-sac to face south, pull forward to the TRP.</li> <li>• Push or pull forward directly onto Taxiway Zulu to face east or west according to the departure runway.</li> </ul>	
Simultaneous Pushback	Not applicable	
Remarks	<ul style="list-style-type: none"> <li>• Headset operator should delay engine start if there are ground crew with an aircraft at the TRP behind.</li> </ul>	

Stand 34		Max aircraft size B737-MAX 10 / A321
Standard Pushback	Push into cul-de-sac to face south, pull forward to the TRP.	
Non-Standard Pushback	Push or pull forward directly onto Taxiway Zulu to face east or west according to the departure runway.	
Simultaneous Pushback	Permitted with stands 35 and 36. One aircraft will perform a non-standard push onto the taxiway, with the other aircraft performing a standard push to the TRP immediately after.	
Remarks	Pushback must not commence if an aircraft is self-manoevring from stands 31 or 33.	

Stand 35		Max aircraft size B737-MAX 8 / A320
Standard Pushback	Push into cul-de-sac to face south, pull forward to the TRP.	
Non-Standard Pushback	Push or pull forward directly onto Taxiway Zulu to face east or west according to the departure runway.	
Simultaneous Pushback	Permitted with stands 34 and 36. One aircraft will perform a non-standard push onto the taxiway, with the other aircraft performing a standard push to the TRP immediately after.	
Remarks	Not applicable	

Stand 36		Max aircraft size A320
Standard Pushback	Push into cul-de-sac to face south, pull forward to the TRP.	
Non-Standard Pushback	Push or pull forward directly onto Taxiway Zulu to face east or west according to the departure runway.	
Simultaneous Pushback	Permitted with stands 34 and 35. One aircraft will perform a non-standard push onto the taxiway, with the other aircraft performing a standard push to the TRP immediately after.	
Remarks	Wingwalkers must be used during a routine pushback to monitor and suspend road traffic at the end of the cul-de-sac.	



Stand 37		Max aircraft size B737-MAX 10 / A321
Standard Pushback	Push straight back onto Taxiway Zulu, then face east or west according to the departure runway.	
Non-Standard Pushback	Not applicable	
Simultaneous Pushback	Not with stand 38	
Remarks	<p>No engines / APU running on stand from 2300 – 0700</p> <p>All pre-start activity to be completed with FEGP only. APU operation only when operationally essential or for essential aircraft systems immediately prior to departure.</p>	

Stand 38		Max aircraft size B737-MAX 10 / A321
Standard Pushback	Push straight back onto Taxiway Zulu, then face east or west according to the departure runway.	
Non-Standard Pushback	Not applicable	
Simultaneous Pushback	Not permitted	
Remarks	<p>No engines / APU running on stand from 2300 – 0700</p> <p>All pre-start activity to be completed with FEGP only. APU operation only when operationally essential or for essential aircraft systems immediately prior to departure.</p> <p>No cross bleed or airstart permitted on stand.</p>	

Stand 39		Max aircraft size B737-MAX 10 / A321
Standard Pushback	Push straight back onto Taxiway Zulu, then face east or west according to the departure runway.	
Non-Standard Pushback	Not applicable	
Simultaneous Pushback	Not with stand 38	
Remarks	<p>No engines / APU running on stand from 2300 – 0700</p> <p>All pre-start activity to be completed with FEGP only. APU operation only when operationally essential or for essential aircraft systems immediately prior to departure.</p> <p>No cross bleed or airstart permitted on stand.</p>	

Contingency Stand E1		Max aircraft size B737 MAX 10 / A321
Standard Pushback	Not Applicable. Self-Manouvering Stand.	
Non-Standard Pushback	Not applicable.	
Simultaneous Pushback	Not applicable.	
Remarks	<ul style="list-style-type: none"> <li>The aircraft must taxi to E1 to face south, through stands 11 and 8 or 12 and 7.</li> </ul>	

	<ul style="list-style-type: none"> <li>Aircraft on this stand blocks in the following stands: 5, 6, 7N, 9W*, 8W*, 7.</li> <li>* Aircraft on these stands may be towed/pushed through 10/11 respectively, provided these are vacant.</li> </ul>
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Contingency Stand E2	Max aircraft size B737 MAX 10 / A321
Standard Pushback	Push straight back onto Taxiway Zulu, then face east or west according to the departure runway.
Non-Standard Pushback	Push back on to stand 10, provided that this stand is vacant.
Simultaneous Pushback	Not applicable.
Remarks	<ul style="list-style-type: none"> <li>Aircraft on this stand blocks in the following stands: 11*, 12*, 14, 15, 16**.</li> <li>* Aircraft on these stands may be pulled through 7/8 respectively, provided these and the EPA's are vacant.</li> <li>** Aircraft on stand 16 will need to be pushed onto taxiway Zulu when E2 is in use.</li> </ul>

Contingency Stand E3	Max aircraft size B737 MAX 10 / A321
Standard Pushback	Not Applicable. Self-Manouvering Stand.
Non-Standard Pushback	Not applicable.
Simultaneous Pushback	Not applicable.
Remarks	<ul style="list-style-type: none"> <li>The aircraft must taxi to E3 to face south, through stands 7 and 12 or stands 8 and 11.</li> <li>Aircraft on this stand blocks in the following stands: 10W*, 11*, 12*, 14, 15, 16.</li> <li>* Aircraft on these stands may be towed/pushed through 7/8/9 respectively, provided these and the EPA's are vacant.</li> </ul>

Contingency Stand W4	Max aircraft size B737 MAX 10 / A321
Standard Pushback	Not Applicable. Self-Manouvering Stand.
Non-Standard Pushback	Not applicable.
Simultaneous Pushback	Not applicable.
Remarks	<ul style="list-style-type: none"> <li>The aircraft must taxi to W4 to face south, through stand 31.</li> <li>Aircraft on this stand blocks in the following stands: 33, 34, 35, 36</li> </ul>

Contingency Stand W5		Max aircraft size B737 MAX 10 / A321
Standard Pushback	Push straight back onto Taxiway Zulu, then face east or west according to the departure runway.	
Non-Standard Pushback	Not applicable.	
Simultaneous Pushback	Not applicable.	
Remarks	<ul style="list-style-type: none"> <li>Aircraft on this stand blocks in the following stands: 29, 30, 32.</li> </ul>	

Contingency Stand W6		Max aircraft size B737 MAX 10 / A321
Standard Pushback	Not Applicable. Self-Manouvering Stand.	
Non-Standard Pushback	Not applicable.	
Simultaneous Pushback	Not applicable.	
Remarks	<ul style="list-style-type: none"> <li>The aircraft must taxi on to W6 to face south, through stand 31.</li> <li>Aircraft on this stand blocks in the following stands: 28, 29, 30, 31*, 32.</li> <li>* Aircraft on stand 31 may self manouevre into the western cul-de-sac.</li> </ul>	

**APPENDIX B SIMULTANEOUS PUSHBACK COMBINATIONS**

		Stand 21	Stand 22		Stand 23		Stand 24		Stand 25		Stand 26	Stand 26S
		Twy Zulu	Twy Zulu	Cul-de-sac (east)	On Twy Zulu	Cul-de-sac (east)	Twy Zulu	Cul-de-sac (west)	Twy Zulu	Cul-de-sac (west)	Twy Zulu	Cul-de-sac (west)
Stand 21	Twy Zulu		✗	✓	✗	✓	✓	✓	✓	✓	✓	✓
Stand 22	Twy Zulu	✗			✗	✓	✗	✓	✓	✓	✓	✗
	Cul-de-sac	✗			✗	✗	✗	✗	✗	✗	✓	✗
Stand 23	Twy Zulu	✗	✗	✓			✗	✓	✗	✓	✓	✗
	Cul-de-sac	✓	✗	✗			✗	✗	✗	✗	✓	✗
Stand 24	Twy Zulu	✓	✗	✓	✗	✓			✗	✓	✗	✗
	Cul-de-sac	✓	✗	✗	✗	✗			✗	✗	✓	✗
Stand 25	Twy Zulu	✓	✓	✓	✗	✓	✗	✓			✗	✗
	Cul-de-sac	✓	✗	✗	✗	✗	✗	✗			✓	✗
Stand 26	Twy Zulu	✓	✓	✓	✓	✓	✗	✓	✗	✓		✗
Stand 26S	Cul-de-sac (west)	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	