



## Ground Operations

# Operational Safety Instruction

## Airfield Push Back Restrictions

28<sup>th</sup> April 2020

ASGrOps\_OSI\_072

v2.0

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 OSI is to inform operating companies of the locations of the push back restrictions as well as the procedures that must be followed.
- 1.2 The restrictions within this OSI are applicable to all types of push back tugs.
- 1.3 Operating companies must ensure that relevant staff within their organisation understand the content of this OSI.
- 1.4 It is the responsibility of tug drivers to maintain situational awareness to ensure the safety of the aircraft.
- 1.5 Any temporary changes to these instructions will be promulgated through the publication of an Operational Advice Notice (OAN).
- 1.6 ICAO Aircraft codes are published in Appendix A of this document.
- 1.7 ASGrOps\_OSI\_035 v1.0 is hereby cancelled.  
ASGrOps\_OSI\_072 v1.0 is hereby cancelled.

### 2. Definitions

| Abbreviation | Description                               |
|--------------|---|
| ATC          | Air Traffic Control                       |
| OAN          | Operational Advice Notice                 |
| TRP          | Tug Release Point                         |
| ICAO         | International Civil Aviation Organization |



### 3. Safety Procedure

#### 3.1 Terminal 2 Stands

| Stand/Apron                    | Procedure and/or Restriction   |
|--------------------------------|--|
| Stands on Taxiway KILO (South) | <ul style="list-style-type: none"> <li>• Live Code D, E, F aircraft must push back to TRP 2 only.</li> <li>• Aircraft up to Code C may push back to any TRP. It is permissible for all TRP's to be used by (up to) Code C aircraft at the same time (simultaneous push back).</li> <li>• Simultaneous push backs must not be conducted by Code D, E or F aircraft.</li> <li>• Live aircraft may not push back onto Taxiway BRAVO.</li> </ul> |
| 213, 213L/R                    | <ul style="list-style-type: none"> <li>• Live aircraft must be pushed onto Taxiway BRAVO to face East.</li> <li>• Towed movements will be instructed to push onto Taxiway BRAVO to face either East or West.</li> </ul>  |
| 233, 233L/R                    | <ul style="list-style-type: none"> <li>• Live aircraft pushing back from this stand must be pushed onto Taxiway BRAVO to face East.</li> <li>• Towed movements will be instructed to push onto Taxiway BRAVO to face either East or West.</li> </ul>   |

#### 3.2 Terminal 3 Stands

| Stand/Apron | Procedure and/or Restriction  |
|-------------|---|
| 313         | <ul style="list-style-type: none"> <li>• All Code E aircraft must push onto Taxiway BRAVO.</li> </ul>   |
| 326         | <ul style="list-style-type: none"> <li>• All aircraft must push back abeam stand 328 prior to engine start unless directed otherwise by ATC.</li> </ul>   |
| 335         | <ul style="list-style-type: none"> <li>• All Code E aircraft pushing back into the GOLF cul-de-sac must position abeam the centreline of Stand 331 before disconnecting, unless otherwise directed by ATC.</li> </ul> |
| 340         | <ul style="list-style-type: none"> <li>• All Code E and Code F aircraft must push to face South. Tug drivers should be cautious this push does not infringe Taxiway Bravo.</li> </ul>                                 |



| Stand/Apron | Procedure and/or Restriction  |
|-------------|---|
| 342         | <ul style="list-style-type: none"> <li>A380 aircraft must push to face South.</li> </ul>  |
| 351         | <ul style="list-style-type: none"> <li>All aircraft must push back abeam stand 328 prior to engine start unless directed otherwise by ATC.</li> </ul> |
| 365         | <ul style="list-style-type: none"> <li>All Code E aircraft must push to face South.</li> </ul>  |

**3.3 Terminal 4 Stands**

| Stand/Apron              | Procedure and/or Restriction  |
|--------------------------|---|
| 401<br>402<br>403        | <ul style="list-style-type: none"> <li>During the hours of 2330 and 0600 (local) aircraft must be towed abeam stand 461 on TANGO prior to starting engines.</li> </ul>  |
| 405                      | <p><u>A380 Aircraft Pushing onto WHISKEY</u></p> <ul style="list-style-type: none"> <li>A380 aircraft may push back to face North on Taxiway WHISKEY. Push back following the yellow dashed lines and arrows.</li> <li>Tug crews must not push the nose wheel South of the dashed yellow TRP painted perpendicular to WHISKEY centreline - This is to ensure that pushed aircraft do not infringe the Code E section of Taxiway TANGO.</li> </ul> <p><u>Aircraft Exiting via Link 42</u></p> <ul style="list-style-type: none"> <li>Aircraft must push back to one of the designated TRPs (dashed painted line perpendicular to Taxiway TANGO centreline) to provide sufficient run up distance to make the turn with minimum jet blast.</li> </ul> |
| 406                      | <p><u>Aircraft Exiting via Link 42</u></p> <ul style="list-style-type: none"> <li>Aircraft must push back to one of the designated TRPs (dashed painted line perpendicular to Taxiway TANGO centreline) to provide sufficient run up distance to make the turn with minimum jet blast.</li> </ul>   |
| 410<br>411               | <ul style="list-style-type: none"> <li>All aircraft wishing to exit via Link 44 must push back to the designated nose wheel stop marks painted across Taxiway TANGO centreline.</li> </ul>  |
| 429<br>430<br>431<br>432 | <ul style="list-style-type: none"> <li>During the hours of 2330 and 0600 (local) aircraft must be towed short of VICTOR on SIERRA before starting engines.</li> </ul>   |

**3.4 Terminal 5 Stands**

| Stand/Apron | Procedure and/or Restriction |
|-------------|------------------------------|
|-------------|------------------------------|



|            |   |
|------------|---|
| 521        | <ul style="list-style-type: none"> <li>Aircraft may not push from stand whilst another aircraft is holding at HANLI, facing South.</li> </ul>   |
| 522        | <ul style="list-style-type: none"> <li>Aircraft may not push from stand whilst another aircraft is holding at HANLI, facing South.</li> <li>Aircraft pushing to face East must be pulled forward to abeam Stand 522 before starting engines.</li> </ul> |
| 523<br>524 | <ul style="list-style-type: none"> <li>Aircraft may not push from stand whilst another aircraft is holding at HANLI, facing South.</li> <li>Aircraft may not push onto Taxiway YANKEE, facing East.</li> </ul>  |
| 525        | <ul style="list-style-type: none"> <li>Aircraft may not push from stand whilst another aircraft is holding at HANLI, facing South.</li> <li>Aircraft pushing to face East must be pulled forward to abeam Stand 522 before starting engines.</li> </ul> |

### 3.5 Cargo Stands

| Stand/Apron                            | Procedure and/or Restriction   |
|--|--|
| 611<br>612<br>613<br>614<br>615<br>616 | <ul style="list-style-type: none"> <li>Any live outbound 747-400 must push onto Taxiway SIERRA.</li> </ul> |

### 3.6 Leased Areas

| Stand/Apron | Procedure and/or Restriction  |
|-------------|---|
| 131         | <ul style="list-style-type: none"> <li>Aircraft pushing back onto Link 28 must push to face either North or East.</li> <li>Aircraft pushing back onto ALPHA must push to face either North or South.</li> </ul> |
| 135         | <ul style="list-style-type: none"> <li>Aircraft must push back onto Taxiway ALPHA to face South.</li> </ul>   |

### 3.7 General Restrictions

#### 3.7.1 Simultaneous push backs are permitted providing that the following criteria is met:



**3.7.1.1** When the front aircraft is a B757-200 or larger – two intervening stands are required between the pushed aircraft.

**3.7.1.2** When the front aircraft is smaller than a B757-200 – one intervening stand is required between the pushed aircraft.

**3.7.2** Simultaneous push backs must not be conducted by Code D, E or F aircraft on Kilo South.

**3.7.3** (ASGrOps\_OSI\_023) Reference is made in the UK Aeronautical Information Publication (UK AIP, EGLL. AD2.20 Local Traffic Rules) on the need for pilots to use the minimum power necessary when manoeuvring on the taxiway system. This is of particular importance in areas where jet blast can affect adjacent stands.

#### 4. Enquiries

**4.1** Any queries on this Instruction should be addressed to Heathrow Aerodrome Safety Team:  
Email [airside\\_safety@heathrow.com](mailto:airside_safety@heathrow.com)



# Appendix A

| AIRCRAFT TYPE                     | WING SPAN (m) | LENGTH (m) | HEIGHT (m) | Fuselage Width (m) | WHEEL TRACK (m) | OMGWTS (m) | WHEEL BASE (m) | ENGINE LINE |  | MTOW (kg) | FIRE CAT | CODE |
|-----------------------------------|---------------|------------|------------|--------------------|-----------------|------------|----------------|-------------|--|-----------|----------|------|
|                                   |               |            |            |                    |                 |            |                | (m)         | center of fuselage- engine center line |           |          |      |
| ANTONOV AN148                     | 28.91         | 29.13      | 8.19       | n/a                | n/a             | 4.00       | n/a            | n/a         | n/a                                    | 43,700    | 6        | C    |
| Bombardier CRJ1000                | 26.18         | 39.13      | 7.50       | 2.70               | 4.11            | 4.99       | n/a            | n/a         | n/a                                    | 41,640    | 7        | C    |
| Bombardier CRJ900                 | 24.85         | 36.20      | 7.51       | 2.70               | 4.11            | 4.99       | 17.29          | n/a         | n/a                                    | 38,330    | 6        | C    |
| ATR 42                            | 24.57         | 22.67      | 7.66       | 2.87               | 4.10            | 5.00       | 8.78           | 4.05        | n/a                                    | 16,150    | 4        | C    |
| Embraer 170                       | 26.00         | 29.90      | 9.85       | 3.01               | 5.20            | 5.67       | 10.60          | n/a         | n/a                                    | 37,200    | 6        | C    |
| Bae 146-100/Avro RJ70/RJX70       | 26.34         | 26.16      | 8.61       | 3.56               | 4.72            | 5.85       | 10.09          | n/a         | n/a                                    | 38,102    | 5        | C    |
| Bae 146-200/Avro RJ85/RJX85       | 26.34         | 28.55      | 8.61       | 3.56               | 4.72            | 5.85       | 11.20          | n/a         | n/a                                    | 42,184    | 6        | C    |
| Bae 146-300/Avro RJ100/RJX100     | 26.34         | 30.99      | 8.59       | 3.56               | 4.72            | 5.85       | 12.52          | n/a         | n/a                                    | 44,225    | 6        | C    |
| Boeing 717-200                    | 28.40         | 37.80      | 9.00       | 3.40               | 4.9             | 5.90       | 17.60          | 3.30        | n/a                                    | 54,884    | 6        | C    |
| Boeing 737-300 (with wings)       | 31.22         | 33.40      | 11.13      | 3.76               | 5.23            | 6.41       | 12.45          | 4.83        | n/a                                    | 63,276    | 6        | C    |
| Boeing 737-500 (with wings)       | 31.12         | 31.01      | 11.15      | 3.76               | 5.23            | 6.41       | 11.07          | 4.83        | n/a                                    | 61,689    | 6        | C    |
| Boeing 737-300 (with wings)       | 28.88         | 33.40      | 11.15      | 3.76               | 5.23            | 6.41       | 12.45          | 4.83        | n/a                                    | 63,276    | 6        | C    |
| Boeing 737-400                    | 28.88         | 36.40      | 11.15      | 3.76               | 5.23            | 6.41       | 14.27          | 4.83        | n/a                                    | 68,039    | 6        | C    |
| Boeing 737-500                    | 28.88         | 31.01      | 11.15      | 3.76               | 5.23            | 6.41       | 11.07          | 4.83        | n/a                                    | 61,689    | 6        | C    |
| B737 MAX7                         | 35.92         | 33.63      | 12.50      | n/a                | 5.72            | 7.00       | 12.60          | n/a         | n/a                                    | 72,348    | 6        | C    |
| B737 MAX8                         | 35.92         | 39.47      | 12.42      | n/a                | 5.72            | 7.00       | 15.60          | n/a         | n/a                                    | 82,191    | 7        | C    |
| B737 MAX9                         | 35.92         | 42.11      | 12.40      | n/a                | 5.72            | 7.00       | 17.17          | n/a         | n/a                                    | 88,314    | 7        | C    |
| Boeing 737-600 (with wings)       | 35.79         | 31.24      | 12.57      | 3.76               | 5.72            | 7.00       | 11.23          | 4.83        | n/a                                    | 65,544    | 6        | C    |
| Boeing 737-700 (with wings)       | 35.79         | 33.63      | 12.57      | 3.76               | 5.72            | 7.00       | 12.60          | 4.83        | n/a                                    | 70,080    | 6        | C    |
| Boeing 737-800 (with wings)       | 35.79         | 39.47      | 12.55      | 3.76               | 5.72            | 7.00       | 15.60          | 4.83        | n/a                                    | 79,016    | 7        | C    |
| Boeing 737-900 (with wings)       | 35.79         | 42.11      | 12.55      | 3.76               | 5.72            | 7.00       | 17.17          | 4.83        | n/a                                    | 79,016    | 7        | C    |
| Boeing 737-900ER (with wings)     | 35.79         | 42.11      | 12.55      | 3.76               | 5.72            | 7.00       | 17.17          | 4.83        | n/a                                    | 85,139    | 7        | C    |
| Boeing 737-900ER (w/out wings)    | 34.32         | 42.11      | 12.55      | 3.76               | 5.72            | 7.00       | 17.17          | 4.83        | n/a                                    | 85,139    | 7        | C    |
| ATR 72                            | 27.05         | 27.17      | 7.72       | 2.87               | 4.10            | 7.00       | 10.77          | 4.05        | n/a                                    | 22,500    | 5        | C    |
| Boeing 727-100                    | 32.92         | 40.59      | 10.44      | 3.76               | 5.72            | 7.01       | 16.23          | 2.82        | n/a                                    | 77,000    | 7        | C    |
| Boeing 727-200/200ADV             | 32.92         | 46.68      | 10.65      | 3.76               | 5.72            | 7.10       | 19.28          | 2.82        | n/a                                    | 95,100    | 7        | C    |
| Saab 340A/B*                      | 21.44         | 19.73      | 7.10       | 2.31               | 6.71            | 7.26       | 7.14           | n/a         | n/a                                    | 12,927    | 4        | C    |
| Embraer EMB 120 Brasilia*         | 19.78         | 20.00      | 6.53       | 2.28               | 6.58            | 7.29       | 6.98           | 3.29        | n/a                                    | 11,990    | 4        | C    |
| Fokker 50                         | 29.00         | 25.25      | 8.32       | 2.70               | n/a             | 7.90       | 9.70           | n/a         | n/a                                    | 20,820    | 5        | C    |
| Fokker 60 Utility                 | 29.00         | 26.87      | 8.34       | 2.70               | 7.20            | 7.90       | 10.72          | n/a         | n/a                                    | 22,950    | 5        | C    |
| Fokker F27 Friendship 200/400/600 | 29.00         | 23.56      | 8.76       | 2.69               | 7.20            | 8.00       | 8.74           | n/a         | n/a                                    | 20,412    | 4        | C    |
| Fokker F27 Friendship 500         | 29.00         | 25.06      | 8.90       | 2.69               | 7.20            | 8.00       | 9.74           | n/a         | n/a                                    | 20,412    | 5        | C    |
| DHC Dash 7                        | 28.35         | 24.54      | 7.98       | 2.79               | 7.16            | 8.00       | 8.38           | n/a         | n/a                                    | 21,340    | 5        | C    |
| Gulfstream I                      | 23.88         | 22.96      | 7.01       | 2.39               | 7.47            | 8.34       | 6.04           | n/a         | n/a                                    | 15,241    | 4        | C    |
| Bae 748-2B/Super 2                | 31.24         | 20.42      | 7.56       | 2.67               | 7.54            | 8.46       | 6.30           | n/a         | n/a                                    | 21,092    | 4        | C    |
| Bae 748-1/2/2A                    | 30.02         | 20.42      | 7.62       | 2.67               | 7.54            | 8.46       | 6.30           | n/a         | n/a                                    | 17,916    | 4        | C    |
| Douglas DC-6A/B                   | 35.81         | 32.18      | 8.92       | n/a                | n/a             | 8.63       | n/a            | n/a         | n/a                                    | 48,534    | 6        | C    |
| Convair 580                       | 32.18         | 24.84      | 8.89       | n/a                | n/a             | 8.66       | n/a            | n/a         | n/a                                    | 24,766    | 5        | C    |
| AIRBUS A318-100 SHARKLETS         | 35.80         | 31.45      | 12.89      | 3.95               | 7.59            | 8.95       | 10.25          | 5.75        | n/a                                    | 68,000    | 6        | C    |
| AIRBUS A319 NEO                   | 35.80         | 33.84      | 12.11      | 3.95               | 7.59            | 8.95       | 11.04          | 5.75        | n/a                                    | 75,500    | 6        | C    |
| AIRBUS A319-100 CEO SHARKLETS     | 35.80         | 33.84      | 12.11      | 3.95               | 7.59            | 8.95       | 11.04          | 5.75        | n/a                                    | 76,500    | 6        | C    |
| AIRBUS A320 NEO                   | 35.80         | 37.57      | 12.08      | 3.95               | 7.59            | 8.95       | 12.64          | 5.75        | n/a                                    | 79,000    | 6        | C    |
| AIRBUS A320-200 CEO SHARKLETS     | 35.80         | 37.57      | 12.08      | 3.95               | 7.59            | 8.95       | 12.64          | 5.75        | n/a                                    | 78,000    | 6        | C    |
| Airbus A318-100*                  | 34.10         | 31.45      | 12.89      | 3.95               | 7.59            | 8.95       | 10.25          | 5.75        | n/a                                    | 68,000    | 6        | C    |

## S Aerodrome Safety

# S Aerodrome Safety

| AIRCRAFT TYPE                           | WING SPAN (m) | LENGTH (m) | HEIGHT (m) | Fuselage width (m) | WHEEL TRACK (m) | OMGWs (m) | WHEEL BASE (m) | ENGINE LINE                |                                       | MTOW (kg) | FIRE CAT | CODE |
|---|---------------|------------|------------|--------------------|-----------------|-----------|----------------|----------------------------|---------------------------------------|-----------|----------|------|
|   |               |            |            |                    |                 |           |                | (m)                        | center of fuselage-engine center line |           |          |      |
| Airbus A319-100* CEO                    | 34.10         | 33.84      | 12.11      | 3.95               | 7.59            | 8.95      | 11.04          | 5.75                       | 76,500                                | 6         | C        |      |
| Airbus A320-200* CEO                    | 34.10         | 37.57      | 12.08      | 3.95               | 7.59            | 8.95      | 12.64          | 5.75                       | 78,000                                | 6         | C        |      |
| AIRBUS A321 NEO                         | 35.80         | 44.51      | 12.10      | 3.95               | 7.59            | 8.97      | 16.90          | 5.75                       | 93,500                                | 7         | C        |      |
| AIRBUS A321-200 CEO                     | 35.80         | 44.51      | 12.10      | 3.95               | 7.59            | 8.97      | 16.90          | 5.75                       | 93,500                                | 7         | C        |      |
| SHARKLETS                               |               |            |            |                    |                 |           |                |                            |                                       |           |          |      |
| Airbus A321-200* CEO                    | 34.15         | 44.51      | 12.10      | 3.95               | 7.59            | 8.97      | 16.90          | 5.75                       | 93,500                                | 7         | C        |      |
| DHC Dash 8-400                          | 28.42         | 32.81      | 8.34       | 2.69               | 7.90            | 9.50      | 12.57          | n/a                        | 29,260                                | 6         | C        |      |
| Yakovlev Yak 42                         | 34.88         | 36.38      | 9.83       | 3.80               | 5.63            | n/a       | 14.78          | n/a                        | 57,500                                | 6         | C        |      |
| Antonov An 72/74                        | 31.89         | 28.07      | 8.75       | n/a                | 4.15            | n/a       | n/a            | n/a                        | 36,500                                | 6         | C        |      |
| Gulfstream 650                          | 30.36         | 30.41      | 7.82       | n/a                | n/a             | n/a       | n/a            | n/a                        | 45,200                                | 6         | C        |      |
| Antonov An 24                           | 29.20         | 23.53      | 8.32       | n/a                | 7.90            | n/a       | 7.65           | n/a                        | 24,000                                | 4         | C        |      |
| Antonov An 26                           | 29.20         | 23.80      | 8.32       | n/a                | 7.90            | n/a       | 7.65           | n/a                        | 24,000                                | 4         | C        |      |
| Antonov An 32                           | 29.20         | 23.80      | 8.60       | n/a                | 7.90            | n/a       | 8.65           | n/a                        | 27,000                                | 4         | C        |      |
| mitsubishi MRJ-70 (STD/LR/ER)           | 29.20         | 33.40      | 10.50      | n/a                | 5.30            | n/a       | n/a            | n/a                        | 40,200                                | 6         | C        |      |
| mitsubishi MRJ-90 (STD/LR/ER)           | 29.20         | 35.80      | 10.50      | n/a                | 5.30            | n/a       | 14.00          | n/a                        | 42,800                                | 6         | C        |      |
| Embraer 190                             | 28.72         | 36.24      | 10.57      | 3.01               | 5.94            | n/a       | 13.83          | n/a                        | 51,800                                | 6         | C        |      |
| Embraer 195                             | 28.72         | 38.67      | 10.57      | 3.01               | 5.94            | n/a       | 14.64          | n/a                        | 52,290                                | 6         | C        |      |
| Alenia G222                             | 28.70         | 22.70      | 10.57      | n/a                | 3.67            | n/a       | n/a            | n/a                        | 30,000                                | 4         | C        |      |
| Bombardier Global Express               | 28.65         | 30.83      | 7.77       | 2.70               | 4.06            | n/a       | 12.93          | n/a                        | 42,412                                | 6         | C        |      |
| Antonov AN158                           | 28.56         | 30.83      | 8.20       | 3.15               | 4.00            | n/a       | n/a            | n/a                        | 43,700                                | 6         | C        |      |
| Gulfstream G550                         | 28.50         | 29.39      | 7.87       | 2.24               | 4.37            | n/a       | 13.72          | n/a                        | 41,300                                | 6         | C        |      |
| Gulfstream V                            | 28.50         | 29.39      | 7.87       | 2.24               | 4.37            | n/a       | 14.72          | n/a                        | 41,136                                | 6         | C        |      |
| Fokker 100                              | 28.08         | 35.53      | 8.51       | 3.30               | 5.04            | n/a       | 14.01          | n/a                        | 45,810                                | 6         | C        |      |
| Fokker 70                               | 28.08         | 30.91      | 8.51       | 3.30               | 5.04            | n/a       | 11.54          | n/a                        | 36,741                                | 6         | C        |      |
| SUKHOI SUPERJET 100-75                  | 27.80         | 26.44      | 10.28      | 3.35               | 5.74            | n/a       | 9.25           | n/a                        | 42,280                                | 5         | C        |      |
| SUKHOI SUPERJET 100-95                  | 27.80         | 29.94      | 10.28      | 3.35               | 5.74            | n/a       | 11.25          | n/a                        | 45,880                                | 6         | C        |      |
| Dassault Falcon 7X                      | 26.21         | 23.19      | 7.83       | 2.34               | 4.33            | n/a       | 9.73           | n/a                        | 31,751                                | 4         | C        |      |
| Embraer 175                             | 26.00         | 31.68      | 9.82       | 3.01               | 5.20            | n/a       | 11.40          | n/a                        | 38,790                                | 6         | C        |      |
| Casa CN-235                             | 25.81         | 21.40      | 8.18       | 2.90               | 3.90            | n/a       | 6.92           | n/a                        | 15,100                                | 4         | C        |      |
| Casa CN-295                             | 25.81         | 24.49      | 8.66       | 2.90               | n/a             | n/a       | n/a            | n/a                        | 23,200                                | 5         | C        |      |
| Yakovlev Yak 40                         | 25.00         | 20.36      | 6.50       | 2.40               | 4.52            | n/a       | 7.47           | n/a                        | 16,000                                | 4         | C        |      |
| Saab 2000                               | 24.76         | 27.28      | 7.73       | 2.31               | 8.23            | n/a       | 11.22          | n/a                        | 22,000                                | 5         | C        |      |
| Antonov An 140                          | 24.51         | 22.61      | 11.66      | n/a                | 3.18            | n/a       | 10.27          | n/a                        | 19,150                                | 4         | C        |      |
| Lockheed Hercules L100-30               | 40.41         | 34.37      | 11.66      | n/a                | 4.35            | 5.41      | 12.32          | n/a                        | 70,310                                | 6         | D        |      |
| Boeing 757-200 winglets                 | 41.10         | 47.32      | 13.74      | 3.76               | 7.32            | 8.60      | 18.29          | 6.48                       | 115,650                               | 7         | D        |      |
| Boeing 757-300 winglets                 | 41.10         | 54.43      | 13.64      | 3.76               | 7.32            | 8.60      | 22.35          | 6.50                       | 122,470                               | 8         | D        |      |
| Boeing 757-200/200F                     | 38.06         | 47.32      | 13.74      | 3.76               | 7.32            | 8.60      | 18.29          | 6.48                       | 115,650                               | 7         | D        |      |
| Boeing 757-300                          | 38.06         | 54.43      | 13.64      | 3.76               | 7.32            | 8.60      | 22.35          | 6.50                       | 122,470                               | 8         | D        |      |
| BAe ATP*                                | 30.63         | 26.01      | 7.59       | 2.67               | 8.46            | 9.41      | 9.70           | n/a                        | 22,930                                | 5         | D        |      |
| Lockheed L188 Electra*                  | 30.17         | 31.88      | 10.26      | 3.45               | 9.50            | 9.95      | 11.27          | n/a                        | 52,617                                | 6         | D        |      |
| McDonnell Douglas C-17A Globemaster III | 51.74         | 53.04      | 16.79      | 6.86               | n/a             | 10.26     | 20.06          | 7.57 (inner)/14.22 (Outer) | 265,352                               | 8         | D        |      |
| Tupolev Tu 134A/B*                      | 29.00         | 37.10      | 9.02       | 2.90               | 9.45            | 10.30     | 13.93          | n/a                        | 47,000                                | 6         | D        |      |
| Airbus A300-600                         | 44.84         | 54.08      | 16.66      | 5.64               | 9.60            | 10.96     | 18.60          | 7.94                       | 171,700                               | 8         | D        |      |
| Airbus A310-200/300                     | 43.90         | 46.66      | 15.95      | 5.64               | 9.60            | 10.96     | 15.21          | 7.69                       | 164,000                               | 7         | D        |      |
| Airbus A300-82/B4                       | 44.83         | 53.61      | 16.70      | 5.64               | 9.60            | 11.00     | 18.60          | 7.94                       | 165,000                               | 8         | D        |      |
| Boeing 767-400ER                        | 51.92         | 61.37      | 17.01      | 5.03               | 9.30            | 11.00     | 26.20          | 7.92                       | 204,116                               | 9         | D        |      |
| Boeing 767-300ER winglets               | 50.87         | 54.94      | 16.03      | 5.03               | 9.30            | 11.00     | 22.76          | 7.92                       | 186,880                               | 8         | D        |      |
| Boeing 767-200                          | 47.57         | 48.51      | 16.13      | 5.03               | 9.30            | 11.00     | 19.69          | 7.92                       | 142,882                               | 7         | D        |      |
| Boeing 767-200ER                        | 47.57         | 48.51      | 16.13      | 5.03               | 9.30            | 11.00     | 19.69          | 7.92                       | 179,169                               | 7         | D        |      |
| Boeing 767-300                          | 47.57         | 54.94      | 16.03      | 5.03               | 9.30            | 11.00     | 22.76          | 7.92                       | 158,758                               | 8         | D        |      |
| Boeing 767-300ER                        | 47.57         | 54.94      | 16.03      | 5.03               | 9.30            | 11.00     | 22.76          | 7.92                       | 186,880                               | 8         | D        |      |
| Tupolev Tu 154/154A/B/M                 | 37.55         | 47.93      | 11.40      | 3.80               | 11.5            | 12.40     | 18.92          | n/a                        | 104,000                               | 7         | D        |      |
| McDonnell Douglas MD11/11F              | 51.66         | 61.62      | 17.93      | 6.02               | 10.66           | 12.57     | 24.60          | 8.20                       | 286,000                               | 9         | D        |      |
| Ilyushin Il -76TD-90                    | 50.50         | 46.59      | 14.76      | 4.80               | 8.16            | n/a       | 14.17          | n/a                        | 195,000                               | 7         | D        |      |
| Airbus A300-600ST Beluga                | 44.85         | 56.16      | 17.24      | 7.31               | 7.59            | n/a       | 11.05          | 7.94                       | 155,000                               | 10        | D        |      |
| Antonov An 70                           | 44.06         | 40.73      | 16.38      | n/a                | 5.20            | n/a       | 18.15          | n/a                        | 145,000                               | 7         | D        |      |
| Tupolev Tu 204-100                      | 41.80         | 46.14      | 13.88      | 3.80               | 7.82            | n/a       | 17.00          | n/a                        | 105,000                               | 7         | D        |      |
| Tupolev Tu 204-300                      | 41.80         | 40.19      | 13.88      | 3.80               | 7.82            | n/a       | 17.00          | n/a                        | 107,000                               | 7         | D        |      |
| Transall C-160                          | 40.00         | 32.40      | 11.65      | n/a                | 5.10            | n/a       | n/a            | n/a                        | 51,000                                | 6         | D        |      |
| Boeing 787-10                           | 60.12         | 68.91      | 17.02      | 5.77               | 9.80            | 11.71     | 28.90          | n/a                        | 227,930                               | 9         | E        |      |
| Boeing 787-8                            | 60.12         | 56.72      | 16.92      | 5.77               | 9.80            | 11.71     | 22.78          | 9.73                       | 227,930                               | 8         | E        |      |
| Boeing 787-9                            | 60.12         | 62.81      | 17.02      | 5.77               | 9.80            | 11.71     | 25.83          | 9.91                       | 252,651                               | 9         | E        |      |
| Ilyushin Il 96-300                      | 60.11         | 55.35      | 17.55      | 6.08               | 10.40           | 12.31     | 20.07          | n/a                        | 250,000                               | 8         | E        |      |
| Ilyushin Il 96-400                      | 60.11         | 63.94      | 17.55      | 6.08               | 10.40           | 12.31     | 26.11          | n/a                        | 265,000                               | 9         | E        |      |



**S** Aerodrome Safety

| AIRCRAFT TYPE          | WING SPAN (m) | LENGTH (m) | HEIGHT (m) | Fuselage Width (m) | WHEEL TRACK (m)                | OMGWS (m) | WHEEL BASE (m) | ENGINE LINE (m)                        |  | MTOW (kg) | FIRE CAT | CODE    |
|------------------------|---------------|------------|------------|--------------------|--------------------------------|-----------|----------------|--|--|-----------|----------|---------|
|                        |               |            |            |                    |                                |           |                | center of fuselage- engine center line | center of fuselage- engine center line |           |          |         |
| Ilyushin Il 96M        | 60.11         | 64.70      | 17.55      | 6.08               | 10.40                          | 12.31     | 20.07          | n/a                                    | n/a                                    | 270,000   | 9        | E       |
| Boeing 747 SP          | 59.64         | 56.31      | 20.06      | 6.50               | 3.84 (inner)/<br>11.00 (Outer) | 12.40     | 20.52          | 11.94 (inner)/<br>21.18 (Outer)        | 11.94 (inner)/<br>21.18 (Outer)        | 315,600   | 8        | E       |
| Boeing 747-400/400F    | 64.92         | 70.67      | 19.59      | 6.50               | 3.84 (inner)/<br>11.00 (Outer) | 12.61     | 25.60          | 11.68 (inner)/<br>19.27 (Outer)        | 11.68 (inner)/<br>19.27 (Outer)        | 396,894   | 9        | E       |
| Airbus A340-500        | 63.45         | 67.93      | 17.53      | 5.64               | 10.68 (Outer)                  | 12.61     | 27.58          | 9.37 (inner)/<br>19.27 (Outer)         | 9.37 (inner)/<br>19.27 (Outer)         | 380,000   | 9        | E       |
| Airbus A340-600        | 63.45         | 75.36      | 17.93      | 5.64               | 10.68                          | 12.61     | 32.88          | 9.37 (inner)/<br>19.27 (Outer)         | 9.37 (inner)/<br>19.27 (Outer)         | 380,000   | 9        | E       |
| Airbus A330-200 ceo    | 60.30         | 58.82      | 18.23      | 5.64               | 10.68                          | 12.61     | 22.18          | 9.37                                   | 9.37                                   | 242,000   | 8        | E       |
| Airbus A330-200F       | 60.30         | 58.82      | 17.41      | 5.64               | 10.68                          | 12.61     | 22.18          | 9.73                                   | 9.73                                   | 233,000   | 8        | E       |
| Airbus A330-300 ceo    | 60.30         | 63.70      | 17.18      | 5.64               | 10.68                          | 12.61     | 25.38          | 9.37                                   | 9.37                                   | 242,000   | 9        | E       |
| Airbus A340-200        | 60.30         | 59.42      | 17.03      | 5.64               | 10.68                          | 12.61     | 23.24          | 9.37 (inner)/<br>19.60 (Outer)         | 9.37 (inner)/<br>19.60 (Outer)         | 275,000   | 8        | E       |
| Airbus A340-300        | 60.30         | 63.69      | 16.99      | 5.64               | 10.68                          | 12.61     | 25.38          | 9.37 (inner)/<br>19.27 (Outer)         | 9.37 (inner)/<br>19.27 (Outer)         | 276,500   | 9        | E       |
| Airbus A350XWB-1000    | 64.75         | 73.79      | 17.08      | 5.96               | 10.73                          | 12.87     | 32.48          | 10.50                                  | 10.50                                  | 308,000   | 9        | E       |
| Airbus A350XWB-900     | 64.75         | 66.80      | 17.05      | 5.96               | 10.60                          | 12.87     | 28.66          | 10.50                                  | 10.50                                  | 268,000   | 9        | E       |
| Boeing 777-200LR       | 64.80         | 63.73      | 18.75      | 6.20               | 10.97                          | 12.90     | 25.89          | 9.61                                   | 9.61                                   | 347,452   | 9        | E       |
| Boeing 777-300ER       | 64.80         | 73.86      | 18.85      | 6.20               | 10.97                          | 12.90     | 31.22          | 9.61                                   | 9.61                                   | 351,535   | 9        | E       |
| Boeing 777-200         | 60.93         | 63.73      | 18.50      | 6.20               | 10.97                          | 12.90     | 25.88          | 9.61                                   | 9.61                                   | 247,200   | 9        | E       |
| Boeing 777-200 ER      | 60.93         | 63.73      | 18.50      | 6.20               | 10.97                          | 12.90     | 25.88          | 9.61                                   | 9.61                                   | 297,550   | 9        | E       |
| Boeing 777-300         | 60.93         | 73.86      | 18.50      | 6.20               | 10.97                          | 12.90     | 31.22          | 9.61                                   | 9.61                                   | 299,370   | 9        | E       |
| Antonov An 22          | 64.40         | 57.80      | 12.53      | n/a                | n/a                            | n/a       | n/a            | n/a                                    | n/a                                    | 250,000   | 8        | E       |
| Airbus A330-800 neo    | 64.00         | 58.82      | n/a        | n/a                | 10.68                          | n/a       | n/a            | n/a                                    | n/a                                    | 242,000   | 8        | E       |
| Airbus A330-900 neo    | 64.00         | 63.69      | n/a        | n/a                | 10.68                          | n/a       | n/a            | n/a                                    | n/a                                    | 242,000   | 9        | E       |
| Boeing 747-8           | 68.40         | 76.25      | 19.56      | 6.50               | 3.84 (inner)/<br>11.00 (Outer) | 12.73     | 29.67          | 11.84 (inner)/<br>21.03 (Outer)        | 11.84 (inner)/<br>21.03 (Outer)        | 447,696   | 10       | F       |
| Intercont/Freighter    |               |            |            |                    |                                |           |                |  |  |           |          |         |
| Airbus A380-800        | 79.75         | 72.73      | 24.45      | 7.14               | 5.26 (inner)/<br>12.46 (Outer) | 14.34     | 31.88          | 14.8 (inner)/<br>25.7 (Outer)          | 14.8 (inner)/<br>25.7 (Outer)          | 569,000   | 10       | F       |
| Antonov An 124         | 73.30         | 69.10      | 21.10      | 8.00               | 8.84 (Outer)                   | n/a       | 22.90          | n/a                                    | n/a                                    | 392,000   | 10       | F       |
| Lockheed C-5A/B Galaxy | 67.91         | 75.53      | 19.84      | n/a                | 11.42                          | n/a       | 22.22          | n/a                                    | n/a                                    | 379,657   | 9        | F       |
| Antonov An 225         | 88.40         | 84.00      | 18.10      | 8.00               | 8.84                           | n/a       | 29.10          | n/a                                    | n/a                                    | 600,000   | 10       | No Code |