

Civil Aviation Amendment Order (No. R8) 2004

I, WILLIAM BRUCE BYRON, Director of Aviation Safety, on behalf of CASA, issue the following Civil Aviation Order under subregulation 235 (2) of the *Civil Aviation Regulations 1988*.

[Signed Bruce Byron]

Bruce Byron
Director of Aviation Safety and
Chief Executive Officer

2 December 2004

1 Name of Order

This Order is the Civil Aviation Amendment Order (No. R8) 2004.

2 Commencement

This Order commences on gazettal.

3 Replacement of section 20.7.2 of the Civil Aviation Orders

Section 20.7.2 of the Civil Aviation Orders is omitted and a new section substituted as set out in Schedule 1.

Schedule 1 Substitution of section 20.7.2 of the Civil Aviation Orders

SECTION 20.7.2

AEROPLANE WEIGHT AND PERFORMANCE LIMITATIONS — AEROPLANES NOT ABOVE 5700 KG — REGULAR PUBLIC TRANSPORT OPERATIONS

1 APPLICATION

Unless CASA otherwise directs, this section applies to all multi-engine aeroplanes having a maximum take-off weight not in excess of 5 700kg engaged in regular public transport operations.

2 DEFINITIONS

In this section, terms and abbreviations have the meanings defined in section 20.7.1B, and in Part 101 except that:

take-off distance available means the length of take-off run available plus, where clearway is provided, a maximum of 60 metres of clearway.

3 TAKE-OFF PERFORMANCE LIMITATIONS

- 3.1 No aeroplane shall take off at a weight in excess of the take-off weight specified in the aeroplane flight manual for the take-off distance available. In determining this weight, account shall be taken of the aerodrome pressure altitude, ambient temperature, runway surface and slope, and the wind velocity at the time of take-off.
- 3.2 No aeroplane shall take off at a weight such that, allowing for normal consumption of fuel in flight to the destination and alternate aerodromes, the weight on arrival would exceed the weight specified in the aeroplane flight manual with respect to baulked landing climb performance. In determining this weight, account shall be taken of the aerodrome pressure altitude and, for aeroplanes having a maximum take-off weight exceeding 3 500 kg the ambient temperature forecast for the estimated time of landing.

- 3.3 No aeroplane shall take off at a weight such that, allowing for normal consumption of fuel in flight to the destination and alternate aerodromes, the weight on arrival would require a landing distance, in accordance with the aeroplane flight manual, greater than the landing distance available:
- (a) on the most favourable runway under zero wind conditions, unless that runway would be unusable due to an excessive crosswind forecast for the estimated time of landing then;
 - (b) on the most suitable available runway, using wind components derived from the minimum wind velocity which would make the runway in (a) above unusable due to cross wind limitations;
- provided that if the weight derived from (b) above is greater than the weight derived from (a), the weight derived from (a) shall be the limiting weight. In determining these weights, account shall be taken of the aerodrome pressure altitude and forecast temperature for the time of landing.

4 TAKE-OFF OBSTACLE CLEARANCE LIMITATIONS

- 4.1 No aeroplane shall take off at a weight which exceeds any weight limitation in the aeroplane flight manual with respect to take-off climb with all engines operating. In determining this weight, account shall be taken of the aerodrome pressure altitude and the ambient temperature.
- 4.1.1 Additionally, no aeroplane having a maximum take-off weight exceeding 3 500 kg shall take off at a weight such that the take-off climb gradient with the critical engine inoperative is less than the obstacle-free gradient specified for the take-off distance available. Where the obstacle-free gradient specified for the take-off distance available is less than 1.9%, the take-off weight shall be determined on the basis of a 1.9% gradient. The gradient shall be established for a distance of 3 000 metres from the end of the take-off distance available. In determining this weight, account shall be taken of the aerodrome pressure altitude and ambient temperature.

5 EN-ROUTE LIMITATIONS

- 5.1 No aeroplane shall take off at a weight in excess of that which, in accordance with approved one engine inoperative en-route performance data permits the aeroplane to comply with the requirements of paragraphs 5.2 or 5.3 under the prevailing meteorological conditions.
- 5.2 An aeroplane shall be capable of climbing to, and maintaining, a flight altitude which provides at least 1 000 feet vertical clearance from all terrain and obstructions along the route within:
- (a) 5 nautical miles on either side of track, for V.F.R. procedures flights; and

- (b) such greater distances as required by the accuracy of the navigation aids used for I.F.R. procedures flights.

Note: Lowest Safe Altitudes (LSALT) published in the Aeronautical Information Publication satisfy the terrain and obstacle clearance requirements for I.F.R. procedure flights.

- 5.3 If compliance with paragraph 5.2 is not possible a “drift down” procedure may be planned such that with one engine inoperative:
 - (a) a return to the aerodrome of departure is possible clear of all terrain and obstructions if one engine fails before the aeroplane reaches the planned cruising altitude; and
 - (b) after reaching the planned cruising altitude, the resultant flight path will be such as to permit the aeroplane to continue flight to an aerodrome where a landing can be made and will provide at least 2000 feet vertical clearance from all terrain and obstructions within the distance specified in paragraph 5.2.

5.4 Conditions

In determining take-off weight required by paragraph 5.1 of this section:

- (a) engine failure shall be assumed to occur at the most critical point along the route; and
- (b) forecast atmospheric pressures and temperatures shall be used; and
- (c) the effect of forecast wind velocities shall be applied to the flight path; and
- (d) in meteorological conditions where the use of aeroplane icing protection systems is likely to be required, the effect of their use on the flight path shall be taken into account; and
- (e) fuel jettisoning shall be permitted in accordance with the aeroplane flight manual procedures, to the extent consistent with reaching the intended aerodrome of landing with the required fuel reserves; and
- (f) the aerodrome where the aeroplane is assumed to land after engine failure shall be specified in the flight plan and shall meet the requirements for an alternate aerodrome; and
- (g) consumption of fuel after engine failure shall be calculated to meet the consumptions required in following the planned flight path.

6 LANDING LIMITATIONS

Except in an emergency, an aeroplane shall not land at an aerodrome unless the landing distance available on the runway of intended landing is equal to, or greater than, the landing distance required in the aeroplane flight manual for the landing weight of the aeroplane. In deriving the landing distance required, account shall be taken of the aerodrome pressure altitude and ambient temperature, the runway slope and surface, and the wind velocity existing at the time of landing.

7 UNSERVICEABLE EQUIPMENT

- 7.1 When any item of equipment, which will invalidate any performance assumption on which the aeroplane flight manual data is established, is a permissible unserviceability, then the operations manual shall contain information to permit such adjustments to take-off weights, landing weights or distances required, as are necessary to maintain the intended level of safety of operations.
- 7.2 The information required by paragraph 7.1 shall be subject to approval by CASA before being used in operations.

8 COMPLIANCE

- 8.1 Procedures to show compliance with this section shall be determined by the operator to the satisfaction of CASA and shall be included in the operations manual.
- 8.2 A pilot in command shall be considered to have complied with this section if the aeroplane he commands is operated in accordance with the relevant procedures and at the weights permitted by an operations manual provided in pursuance of the *Civil Aviation Regulations 1988* for the particular operation.

Note: Documents which are required to be carried in an aircraft, such as the flight manual for the aircraft, may form part of an operations manual.