CIVIL AVIATION ACT 1988

CIVIL AVIATION REGULATIONS 1988

CIVIL AVIATION ORDERS

AMENDMENT OF SECTION 20.7.1B

AEROPLANE WEIGHT AND PERFORMANCE LIMITATIONS FOR SPECIFIED AEROPLANES ABOVE 5 700 KG

Legislative authority

Section 98 of the *Civil Aviation Act 1988* (the ***Act***) empowers the Governor-General to make regulations for the purposes of the Act and in the interests of the safety of air navigation.

Subregulation 235 (2) of the *Civil Aviation Regulations 1988* (***CAR 1988***) authorises CASA to issue directions setting out the manner of determining a maximum weight for an aeroplane that its gross weight must not exceed at take-off or landing.

Subregulation 5 (1) of CAR 1988 provides that where the regulations authorise CASA to issue any directions, it may do so in the form of Civil Aviation Orders (the ***CAOs***).

For aeroplanes with a maximum take-off weight exceeding 5 700 kg, CASA has issued such directions in section 20.7.1B of the CAOs. The Order modifies section 20.7.1B as follows.

Explanation of changes

Previously, section 20.7.1B applied to turbine and piston-engined aeroplanes having a maximum permissible all-up weight in excess of 5 700 kg except when engaged in agricultural operations. Thus formulated, the criteria for the application of section 20.7.1B did not refer to an aeroplane's certificate of airworthiness.

When provision was made in 1998 for experimental certificates, special flight permits, and certificates of airworthiness in the limited category and restricted category (Part 21 of the *Civil Aviation Safety Regulations 1998*), it was not intended that section 20.7.1B would apply to aeroplanes with such certificates. The Order, therefore, amends subsection 2 of section 20.7.1B so that the section will apply only to turbine and piston-engined aeroplanes above 5 700 kg with certificates of airworthiness in force in the transport, commuter or normal categories.

As a result of these amendments, there is no likelihood of section 20.7.1B applying to an aeroplane operated on water and references to such aeroplanes are deleted.

Definitions of some technical terms in relation to take-off and landing distances have been revised to align more accurately with similar definitions in the ICAO Airworthiness Manual. Some new definitions have been inserted concerning approved required navigation performance (RNP) operations in RNP-capable aeroplanes.

Paragraph 4.1 of section 20.7.1B has been amended to clarify the requirement for clearance of obstacles after take-off.

Subsection 6 and paragraph 12.1 have been amended to allow the use of a reduced V_1 speed to improve safety on wet or contaminated runways. Reduced V_1 speed on a wet or contaminated runway has safety benefits and is used in many countries. The practice has been accepted in Australia since 1972.

The Order will allow operators to take credit for 60 metres of clearway without having to take account of take-off run. Prior to the Order, account had to be taken of take-off run whenever credit was being taken for clearway. Many aeroplanes do not have information about take-off run in their flight manuals so credit could not be taken for clearway. Most runways in Australia have 60 metres of clearway.

Paragraph 7.2.1 specifies minimum permissible climb gradients that must be available in the take-off configuration when the landing gear is fully retracted. Prior to the Order, paragraph 7.2.1 specified that these climb gradients must be available during the period between retraction of the landing gear and the aeroplane reaching a height of 400 feet or higher. To be consistent with international standards, it is not necessary for these climb gradients to be available throughout the climb to 400 feet. It is only necessary that they be available at the aerodrome elevation. Paragraph 7.2.1 has, therefore, been amended to apply only to achievement of a prescribed minimum gross gradient of climb at the aerodrome elevation.

Paragraph 7.2.2 has been omitted because it is not consistent with paragraph 12.3 or international practices.

Paragraph 7.3 has been amended to clarify its application to obstacle clearance and the required gross gradient of climb with the critical engine inoperative.

Paragraph 7.4 has been amended to show more accurately that the climb gradient requirement must be achievable with the operating engines at maximum continuous power or thrust.

Paragraph 9.1 has been amended to more clearly express approach climb performance requirements.

Paragraph 11.1 has been amended to require either a landing distance safety factor of 1.92 or alternative data for jet engined aeroplanes in regular public transport operations when landing on wet runways. This is an international requirement. Since 1972, a safety factor of 1.92 has been required for a jet engined aeroplane landing on a wet runway in RPT operations but has not been specified in section 20.7.1B.

Paragraph 11.1.1 has been amended to more clearly and succinctly state the landing distances required for propeller-driven aeroplanes in RPT and charter operations.

Paragraph 11.1.2 has been amended to clarify that landing distance information for charter and regular public transport operations must be obtained from the aircraft flight manual.

Paragraph 12.1 has been amended to more clearly and succinctly define the critical point of a take-off and delete an ambiguous reference to “take-off run”.

New paragraph 12.1B relieves the operator of an unnecessary obligation to calculate the area beyond the point on the planned flight path where obstacle clearance has been achieved.

In paragraph 12.1.1, the threshold maximum take-off weight has been increased from 20 000 kg to 22 700 kg. A maximum weight of 22 700 kg was used in the past but was later reduced to 20 000 kg. This has caused unnecessary discrimination between similar propeller-driven aeroplanes and the original weight of 22 700 kg will be reinstated.

Paragraphs 12.1.1 and 12A.5 have also been amended to define when the lateral expansion of the take-off area may be discontinued for an approved RNP operation.

Paragraph 12.3 clarifies the use of an obstacle-clear take-off gradient published in the Aeronautical Information Publications.

Paragraph 14.1 refers to the data necessary to show compliance with the section. It contains a reference to Part 101 of the CAOs, the applicable section of which has previously been revoked. Information provided by the manufacturer of an aeroplane is adequate for the purpose of showing compliance with section 20.7.1B. Paragraph 14.1 has, therefore, been amended by deleting the existing text. Replacement text has been introduced to make it mandatory for the pilot in command to take account of information provided by the aeroplane manufacturer for use in an emergency, unusual operating conditions, or an abnormal configuration.

The opportunity has also been taken to replace the obsolete terms “maximum permissible all-up weight” and “maximum all-up-weight” with the current and more accurate expression “maximum take-off weight”, to renumber some provisions, add new Notes, change a heading (to subsection 12A) and to correct a number of editorial, grammatical and typographical errors.

Legislative Instruments Act

Under subsection 98 (5) of the Act, where the regulations provide for certain instruments to be issued in the form of CAOs, such CAOs are declared to be disallowable instruments. Under subparagraph 6 (d) (i) of the *Legislative Instruments Act 2003* (the ***LIA***), an instrument is a legislative instrument for section 5 of the LIA if it is declared to be a disallowable instrument under legislation in force before the commencement of the LIA. The Order is, therefore, a legislative instrument and it is subject to tabling and disallowance in the Parliament under sections 38 and 42 of the LIA.

Consultation under section 17 of the LIA has not been undertaken in this case because the Order only contains technical amendments and clarifications, and does not make major changes. As the Order is of a minor or machinery nature, the Office of Regulation Review does not require a Regulation Impact Statement.

The Order commences on day after it is registered on the Federal Register of Legislative Instruments.

The Order has been made by the Director of Aviation Safety, on behalf of CASA, in accordance with subsection 84A (2) of the Act.