



**CIVIL AVIATION SAFETY AUTHORITY OF PNG**

**PNG**

**Civil Aviation Rules**

**Part 137**

**Agricultural Aircraft Operations**

Effective 1 May 2016.

## DESCRIPTION

Part 137 prescribes the operating rules for agricultural aircraft operations that are additional to, or exceptions from, Part 91. This Part also contains the rules for the certification of commercial agricultural aircraft operations under Part 137 certifications.

- Agricultural Aircraft

The objective is to standardise the rules for agricultural aircraft operators by establishing rules applicable to-

- a person performing an agricultural aircraft operations
- a holder of an agricultural aircraft operator certificate conducting an agricultural operation
- a pilot performing an agricultural operation
- additional aircraft equipment, instrument, and certification requirements and specifications
- aircraft maintenance
- crew training and competency

## Bulletin

This Part first came into force on 1 January 2004 and now incorporates the following amendments:

<b>Amendment</b>	<b>Effective Date</b>
Amendment 1	1 January 2011
Amendment 2	1 May 2016.

### *Summary of amendments:*

#### Amendment 2:

(Docket 15/137/1)

Subpart A Rule 137.3(b) is inserted to exempt requirements for agricultural rating when performing training to obtain a rating under direct supervision, or other agricultural operations such as dropping farm supplies or materials in rural areas, agricultural, forest or water surveying, feeding or transferring livestock on farms in rural areas.

Subpart A Rule 137.9 is revoked.

Subpart B Rule 137.59 is amended to include a pilot being trained to perform agricultural aircraft operations.

Subpart C Rule 137.107 and 137.109 is amended to include a pilot being trained to perform agricultural operations.

Subpart D Rule 137.151 and Rule 137.157(a) has been amended to reflect current PNG application form.

Subpart F Rule 137.253(2) ((i) and Rule 137.259(4) is amended to correct the error in the Appendix lettering.

Subpart G Rule 137.301 is revoked and now reserved.

Appendix D is replaced with C and consequential amendments within the rule is carried accordingly.

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## Subpart A — General

### 137.1 Purpose

This Part prescribes—

- (1) rules additional to the general operating and flight rules in Part 91, for a pilot performing, or being trained to perform, an agricultural aircraft operation; and
- (2) exceptions from the general operating and flight rules in Part 91 for a pilot performing, or being trained to perform, an agricultural aircraft operation; and
- (3) rules governing the certification and operation of a person performing a commercial agricultural aircraft operation.

### 137.3 Requirement for ratings

(a) A pilot performing an agricultural aircraft operation must hold—

- (1) a current and applicable agricultural rating issued under Part 61 for the category of aircraft used; and
- (2) a current pilot chemical rating issued under Part 61, if dispensing an agricultural chemical.

(b) Paragraph (a)(1) does not apply to-

- (1) a pilot training for an agricultural rating under the direct supervision of a holder of a Category E flight instructor rating issued under Part 61; or
- (2) a pilot performing any of the following agricultural aircraft operations:
  - (i) dropping farm supplies on farms in rural areas or delivering farm materials to farms in rural areas;
  - (ii) agricultural, forest or water area surveying at a height of less than 500 feet above terrain;
  - (iii) feeding or transferring livestock on farms in rural areas

### 137.5 Requirement for certificate

No person may perform a commercial agricultural aircraft operation except under the authority of, and in accordance with the provisions of, an agricultural aircraft operator certificate issued in accordance with Subpart D.

### 137.7 Accidents and incidents

A person performing an agricultural aircraft operation who is involved in an accident or incident must notify the Director of the accident or incident in accordance with Part 12.

## Subpart B — Flight Rules

### 137.51 Purpose

This Subpart prescribes additional rules to, and exceptions from, the general operating and flight rules in Part 91, for a pilot performing, or being trained to perform, an agricultural aircraft operation.

### 137.53 Direction of turns at aerodromes

A pilot performing an agricultural aircraft operation may turn in a direction other than that prescribed in Part 91 or under Part 93, when approaching for a landing at, or after take-off from, an aerodrome if—

- (1) the aerodrome is used solely for agricultural aircraft operations; or
- (2) the aerodrome displays the ground signal prescribed in Part 91 indicating that an agricultural aircraft operation is being conducted from that aerodrome.

### 137.55 Operations over congested areas

Notwithstanding Part 91, a pilot performing an agricultural aircraft operation over a congested area of a city, town, or settlement may, for the proper accomplishment of the operation, fly below the minimum height prescribed in Part 91 if—

- (1) the pilot performs the operation on behalf of a Government department or Crown entity; and
- (2) the pilot performs the operation in accordance with conditions and limitations prescribed by the Director; and
- (3) the pilot performs the operation under the authority of an agricultural aircraft operator certificate issued in accordance with this Part; and
- (4) the holder of the agricultural aircraft operator certificate has complied with 137.205.

### 137.57 Operations over non-congested areas

Notwithstanding Part 91, a pilot performing, or being trained to perform, an agricultural aircraft operation over any area other than a congested area of a city, town, or settlement, may fly at any altitude and at any distance from an obstruction if—

- (1) the operation is performed without creating a hazard to persons or property on the surface; and
- (2) the altitude and distance for all approaches, turnarounds, and departures are necessary for the operation.

### 137.59 Fuel reserves

Notwithstanding Part 91, a pilot performing, or being trained to perform, an agricultural aircraft operation must ensure that the aircraft has the following minimum fuel reserves:

- (1) for aeroplanes, 30 minutes flight time; or

- (2) for helicopters, 3 times the anticipated flight time or 20 minutes flight time, whichever is the lesser.

## Subpart C — Special Flight Rules

### 137.101 Purpose

This Subpart prescribes exceptions to the general operating and flight rules in Part 91 for a pilot performing an agricultural aircraft operation in an aeroplane issued with a restricted category airworthiness certificate under Part 21 Subpart H for the purpose of an agricultural aircraft operation.

### 137.103 Maximum take-off weight

(a) Notwithstanding Part 91 and subject to paragraph (b), a pilot performing an agricultural aircraft operation in an aeroplane must not take-off at a weight greater than the MCTOW prescribed in the aeroplane's flight manual unless—

- (1) the pilot complies with the procedures listed in Appendix B; and
- (2) the aeroplane is equipped with a jettison system that, in accordance with D.5, is capable of discharging not less than 80 percent of the aeroplane's maximum hopper load within five seconds of the pilot initiating the jettison action.

(b) Where there is a third party risk as defined in Appendix A, the pilot must determine the maximum take-off weight in accordance with 137.107 and 137.109.

### 137.105 Take-off distance and flight path — no third party risk

A pilot performing an agricultural aircraft operation in an aeroplane where there is no third party risk as defined in Appendix A is not required to comply with the following:

- (1) the take-off distance specified in the aeroplane flight manual;
- (2) the take-off flight path gradient specified in the aeroplane flight manual.

### 137.107 Take-off distance — third party risk

(a) Subject to paragraph (b), a pilot performing, or being trained to perform, an agricultural aircraft operation in an aeroplane, where there is a third party risk as defined in Appendix A, must ensure that the take-off distance available is greater than the take-off distance specified in the aeroplane flight manual multiplied by a factor of 1.2.

(b) When calculating the take-off distance, the pilot must take the following factors into account:

- (1) the weight of the aeroplane at the commencement of the take-off run;
- (2) the pressure altitude of the aerodrome;
- (3) the ambient temperature at the aerodrome;
- (4) the runway surface type and condition;
- (5) the runway slope in the direction of take-off;



- (6) not more than 50% of the headwind component or not less than 150% of the tailwind component.

### **137.109 Take-off flight path — third party risk**

(a) Subject to paragraph (b), a pilot performing, or being trained to perform, an agricultural aircraft operation in an aeroplane where there is a third party risk as defined in Appendix A must ensure that the take-off flight path clears all obstacles by—

- (1) a vertical distance of at least 50 feet plus  $0.025D$ ; or
- (2) a lateral distance of at least 30 metres plus  $0.1D$ —

where  $D$  is the horizontal distance travelled by the aircraft from the end of the take-off distance available.

(b) When calculating compliance with paragraph (a), the pilot must take the following factors into account:

- (1) the take-off flight path must begin at a height of 50 feet above the take-off surface at the end of the take-off distance required by rule 137.105 and end at a height of 500 feet above the take-off surface;
- (2) the aeroplane must not be banked at an angle exceeding 20 degrees;
- (3) obstacles which have a lateral distance greater than 150 metres from the planned flight path may be disregarded.

## **Subpart D — Commercial Operations - General**

### **137.151 Application for certificate**

An applicant for the grant of an agricultural aircraft operator certificate must complete form CAA 24137/01 and submit it to the Director with a payment of the appropriate application fee prescribed by regulations made under the Act.

### **137.153 Issue of certificate**

Subject to Section 9 of the Act an applicant is entitled to an agricultural aircraft operator certificate if the Director is satisfied that the applicant—

- (1) has engaged a senior person as the Chief Executive who has the authority to ensure that all activities can be financed and carried out in accordance with this Part; and
- (2) has engaged a senior person as the Chief Pilot who holds a current chemical rating if applicable and—
  - (i) has held or holds a current Grade 1 agricultural rating issued under Part 61; and
  - (ii) has practical experience, acceptable to the Director, appropriate for the type of operation being conducted; and

- (3) the applicant and the senior person or senior persons required under paragraphs (1) and (2) are fit and proper persons; and
- (4) the granting of the certificate is not contrary to the interests of aviation safety.

### **137.155 Duration of certificate**

- (a) An agricultural aircraft operator certificate may be granted or renewed for a period of up to 5 years.
- (b) An agricultural aircraft operator certificate remains in force until it expires or is suspended or revoked.
- (c) The holder of an agricultural aircraft operator certificate that expires or is revoked must immediately surrender the certificate to the Director.
- (d) The holder of an agricultural aircraft operator certificate that is suspended must immediately produce the certificate to the Director for appropriate endorsement.

### **137.157 Renewal of certificate**

- (a) An application for the renewal of an agricultural aircraft operator certificate must be made on form CAA 137/01.
- (b) The application must be submitted to the Director before the application renewal date specified on the certificate or if no such date is specified, not less than 60 days before the certificate expires.

## **Subpart E — Commercial Operations – Operating Requirements**

### **137.201 Records**

- (a) The holder of an agricultural aircraft operator certificate must maintain accurate records at the certificate holder's principal place of operation of the following:
  - (1) the name and address of each client;
  - (2) the date of each agricultural aircraft operation;
  - (3) the name and quantity of the material that is dispensed on each agricultural aircraft operation;
  - (4) the name, address, flight crew licence number, and rating details of each pilot performing an agricultural aircraft operation;
  - (5) the date each pilot was issued with their agricultural rating or the date of the last successful completion by each pilot of the annual competency check required in accordance with Part 61, whichever occurred later;
  - (6) where applicable, the date each pilot was issued with their chemical rating or the date of the last successful completion by each pilot of the refresher course required in accordance with Part 61, whichever occurred later.

(b) The records required under paragraph (a) must be retained for a period of not less than 2 years from the date of completion of the operation.

### **137.203 Remote base operations**

The holder of an agricultural aircraft operator certificate who performs a commercial agricultural aircraft operation for a period of 14 or more consecutive days from a base which is not the operator's principal place of operation must appoint a base pilot who—

- (1) holds a current agricultural rating and, if applicable, a current chemical rating; and
- (2) is responsible for the operations from that remote base; and
- (3) may be responsible for arranging work rosters and maintaining records.

### **137.205 Operations over congested areas**

(a) A holder of an agricultural aircraft operator certificate who intends to perform an agricultural aircraft operation over a congested area of a city, town, or settlement must—

- (1) in conjunction with, and for the briefing of every person and organisation involved in the operation, document a plan for the operation; and
- (2) ensure that every person and organisation involved in the operation is briefed on the plan that is required under paragraph (a)(1); and
- (3) give notice of the operation to the public by an effective means.

(b) The plan required under paragraph (a)(1) must contain—

- (1) information about any obstruction to flight; and
- (2) details of the emergency landing capability of the aircraft used; and
- (3) details of any co-ordination that may be necessary with the appropriate air traffic control service.

(c) A pilot-in-command of an aircraft performing an agricultural aircraft operation over a congested area of a city, town or settlement, must comply with the plan that is required under paragraph (a)(1).

(d) The holder of the agricultural aircraft operator certificate must retain the plan required under paragraph (a)(1) for a period of at least 2 years from the date that the operation is completed.

### **137.207 Personnel requirements**

The holder of an agricultural aircraft operator certificate must continue to employ, engage or contract the senior persons specified in 137.153(1) and (2).

### **137.209 Changes to operations**

The holder of an agricultural aircraft operator certificate must—

- (1) notify the Director in writing of any change that affects the currency of any information required by form CAA 137/01; and
- (2) obtain prior acceptance from the Director before changing the Chief Executive or Chief Pilot.

## **Subpart F — Instruments and Equipment**

### **137.251 Purpose**

This Subpart prescribes the instruments and equipment required in addition to the Part 91 requirements for aircraft to be used for an agricultural aircraft operation performed under this Part.

### **137.253 General**

No person may commence an agricultural aircraft operation unless—

- (1) the aircraft is equipped with the type and number of instruments and equipment required in accordance with Part 91 and this Subpart; and
- (2) the instruments and equipment installed in the aircraft comply with the relevant specifications and airworthiness design standards listed in—
  - (i) Appendix C to this Part; and
  - (ii) Appendix B to Part 21; and
  - (iii) Part 26; or
  - (iv) alternative specifications or standards acceptable to the Director; and
- (3) the instruments and equipment are installed in accordance with the aircraft manufacturer's instructions or other instructions acceptable to the Director; and
- (4) except as may be provided by a MEL approved under Part 91 for use for that aircraft, the instruments and equipment installed in the aircraft are in an operable condition.

### **137.255 Seating and restraints**

The operator of an agricultural aircraft must ensure that the aircraft is equipped with a shoulder harness for each crew seat.

### **137.257 Additional instruments**

The operator of an agricultural aircraft must ensure that the aircraft is equipped with a slip indicator.

### **137.259 Additional equipment**

The operator of an agricultural aircraft must ensure that the aircraft is equipped with—

- (1) approved hoppers or spray tanks as applicable; and
- (2) a means of indicating to the pilot the upper level of the hopper contents; and

- (3) a jettison system for aeroplanes equipped with internal hoppers or spray tanks; and
- (4) applicable placarding in accordance with Appendix C including—
  - (i) hopper or spray tank maximum structural load as specified in the aircraft flight manual; and
  - (ii) passenger locations; and
  - (iii) flight limitations; and
  - (iv) jettison capability.

## Subpart G — Reserved.

## Appendix A — Third Party Risk

A third party risk exists where there is a third party, or property of a third party, within the take-off area prescribed in Figure 1.

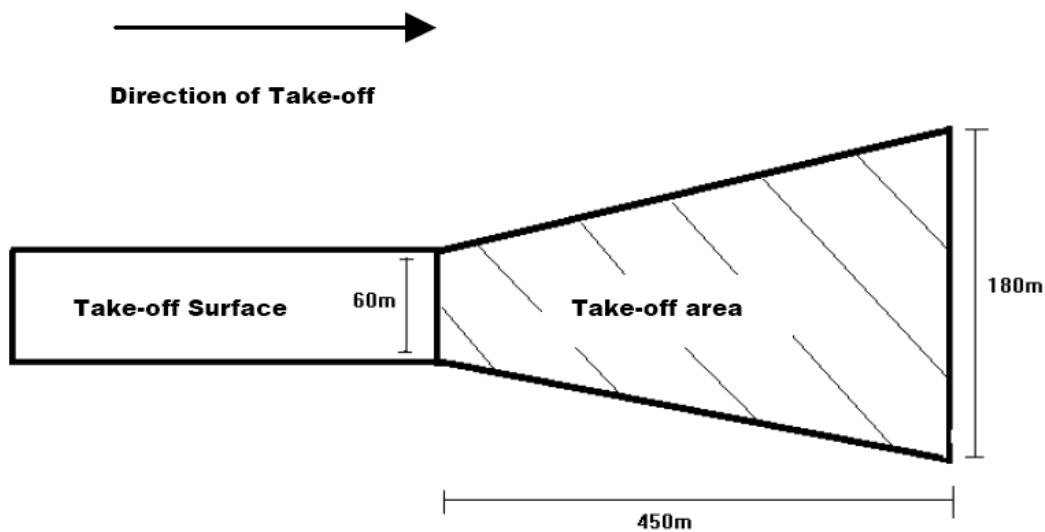


Figure 1.

## Appendix B — Overload Weight Determination

- (a) The pilot procedures required by 137.103(a) consist of—
  - (1) finding the MCTOW in the aeroplane flight manual and the original aeroplane limit load factor; and

- (2) locate the ‘original aeroplane limit load factor’ on the horizontal axis of figure 2, going vertically up to the reference line and then horizontally to the vertical axis to read the ‘maximum recommended percentage weight increase’; and
- (3) increasing the original category MCTOW by this percentage to find the new maximum take-off weight.

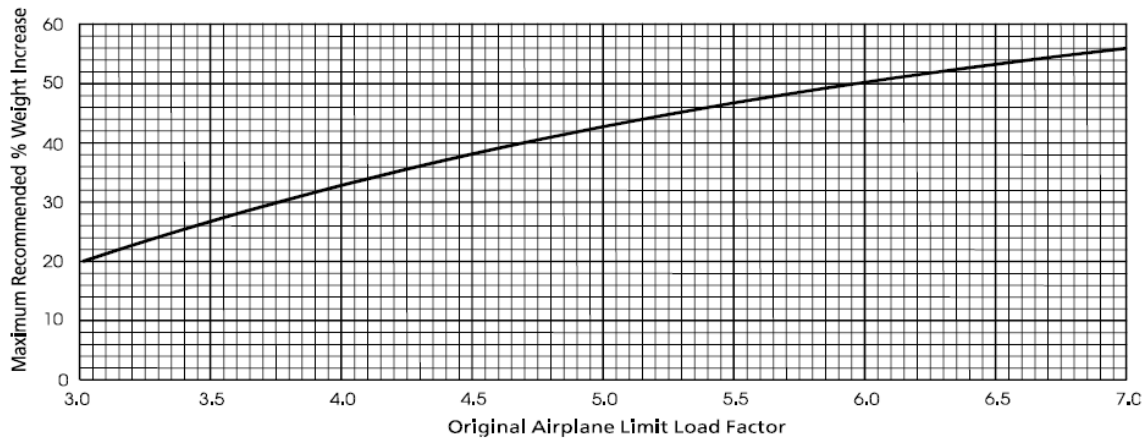


Figure 2.

- (b) When considering whether to operate up to this new maximum take-off weight, the pilot must take the following factors into account:
- (1) the pressure altitude of the aerodrome;
  - (2) the ambient temperature at the aerodrome;
  - (3) the runway surface type and condition;
  - (4) the runway slope in the direction of take-off;
  - (5) the headwind or tailwind component in the direction of the take-off;
  - (6) any other factors that may affect the performance of the operation.

## Appendix C — Instruments and Equipment Airworthiness Design Standards

Instruments and equipment required by Subpart F must meet the following specifications and requirements:

### C.1 Seating and restraints

Seats and shoulder harnesses must be designed using an ultimate forward and resulting inertia force of 12g.

## C.2 Hoppers and spray tanks

- (a) A hopper or spray tank and its support structure that is situated in such a position that it could injure an occupant if it came loose in a minor crash landing must be designed using an ultimate forward and resulting inertia force of 12g.
- (b) A hopper or spray tank and its support structure that is situated in front of the crew must be designed using ultimate inertia forces of—
- (1) 1.5g rearwards; and
  - (2) 1.0g sideways.
- (c) For the purposes of paragraph (a) and (b), the hopper or spray tank must be assumed to be filled to the maximum load specified in the aircraft flight manual.

## C.3 Hopper upper level contents

Hoppers must be provided with a means for the pilot to detect the upper level of the contents, by indication or observation, for all loads in excess of half the maximum hopper load specified in the aircraft flight manual, allowing for the likely range of agricultural material densities to be carried.

## C.4 Jettison system

- (a) A jettison system must be—
- (1) simple to operate; and
  - (2) designed so that once the control is selected by the pilot the load will fully discharge without requiring the pilot to continue holding the control.
- (b) The capability of the jettison system must be—
- (1) demonstrated by a flight test using—
    - (i) the maximum permitted load of Superphosphate specified in the flight manual; and
    - (ii) when specialised role equipment is fitted, the maximum permitted load of the agricultural material typically used when that role equipment is fitted; and
  - (2) specified in the aeroplane flight manual.

## C.5 Markings and placards

### C.5.1 General

- (a) Markings and placards must be displayed in a conspicuous place that may not be easily erased, disfigured, obscured, or removed.
- (b) Units used on markings and placards must be the same as those on the related instrument or in the related aircraft flight manual.

### C.5.2 Hopper or spray tank maximum loadings

A placard stating the maximum hopper or spray tank load must—

- (1) be located—
  - (i) adjacent to the hopper or tank filler; and
  - (ii) in full view of the normal loading positions; and
- (2) state a maximum load not exceeding the permitted maximum hopper load.

#### *C.5.3 Jettison capability*

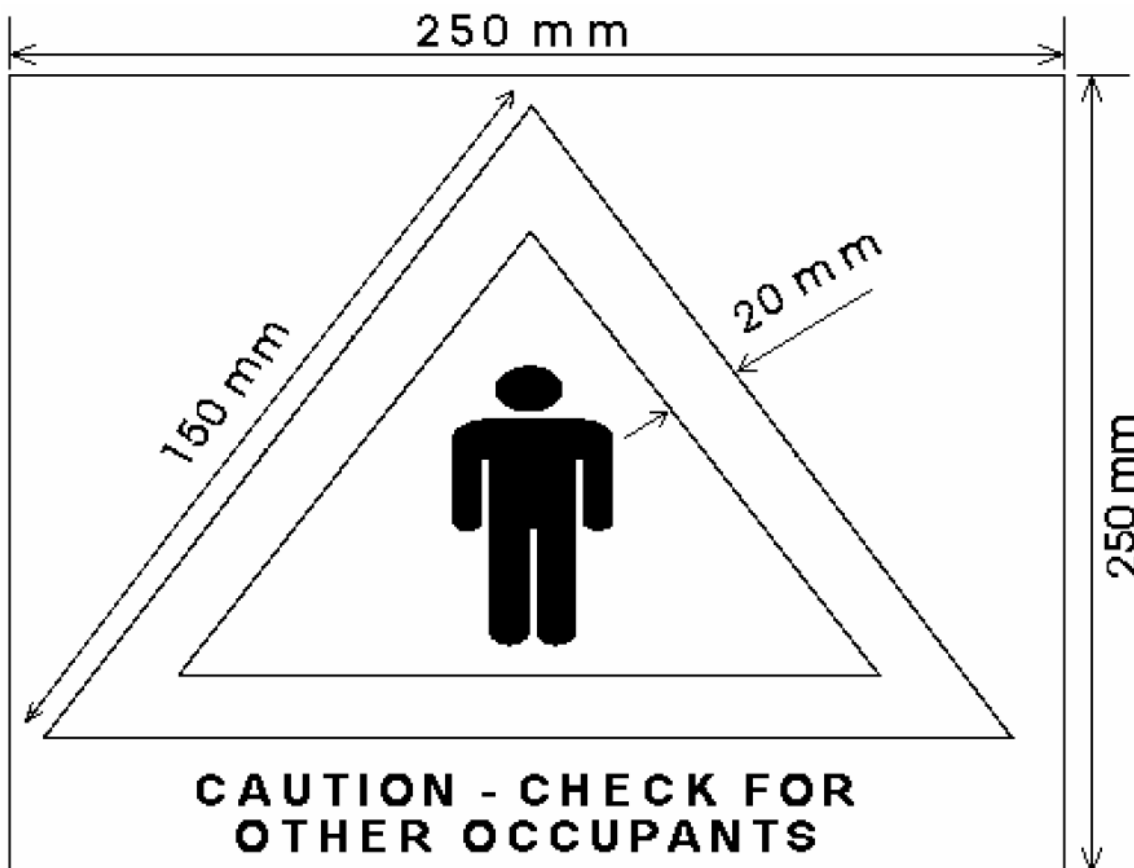
Agricultural aeroplanes equipped with a jettison system in accordance with 137.259(3) must have a placard with the following wording displayed in the cockpit and in view of the pilot:

#### **CAUTION**

**The jettison capability of this aeroplane may differ depending on the aeroplane configuration and the type and condition of the material to be dispensed.**

#### *C.5.4 Passenger locations*

For each passenger position not readily visible from the outside of an aircraft, the exterior must be marked on both sides of the fuselage adjacent to the passenger position with the following diagram:





A black figure within a red triangle on a white background.

***C.5.5 Aeroplane flight limitations***

(a) A placard or placards with the following wording must be displayed in the cockpit of an agricultural aeroplane and in view of the pilot:

**WARNING**

**Operation of this aeroplane above the MCTOW requires a minimum jettison capability of at least 80% of the maximum permitted load within 5 seconds for the configuration being used.**

**CAUTION**

**This is an agricultural aeroplane. All aerobatic manoeuvres, including spins, prohibited. Avoid severe flight manoeuvres.**

(a) A “Caution” placard that complies with the wording of 137 C.5.5 that was in force on 11 December 2003 may continue to be displayed for compliance with the CAUTION placard required under C.5.5(a)