



**Civil Aviation Order 29.11
as amended**

made under subregulations 207 (1) and 208 (1) and regulations 209, 303A and 308 of the *Civil Aviation Regulations 1988*.

This compilation was prepared on 16 January 2015 taking into account amendments up to *Civil Aviation Order (Flight Crew Licensing) Civil Repeal and Amendment Instrument 2014 (No. 1)*.

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Section 29.11

Air service operations — helicopter winching and rappelling operations

1 Application

This section applies to the conduct of operations by helicopters engaged in winching and rappelling.

2 Definitions

In this section:

course of training means a course of training in the techniques, and normal and emergency procedures, associated with winching and/or rappelling operations mentioned in the operator’s operations manual covering the requirements:

- (a) for a winch and rappelling operations endorsement; or

- (b) for a winch and rappelling operations training endorsement; or
- (c) mentioned in Appendix III.

emergency service personnel means members of a police force, or fire, rescue or emergency service.

rappelling means any of the following:

- (a) lowering oneself from an airborne helicopter by going down a rope hanging from the helicopter;
- (b) lowering an object from an airborne helicopter by controlled release from the helicopter of a rope to which the object is tied;
- (c) lowering a person or object down a rope hanging from an airborne helicopter, with descent of the object or person controlled by a person on the ground;
- (d) coming down from, or going up to, an airborne helicopter by using a flexible ladder hanging from the helicopter.

winching means the pick-up or lowering of objects, a person or persons to or from the helicopter by means of a winch or hoist fitted to the helicopter.

winch or hoist means equipment which may be electrically, hydraulically or pneumatically driven which has been approved by CASA for the purpose of picking up or lowering persons or equipment to or from the ground, and into or from the helicopter.

3 Permissions and exemptions

- 3.1 For the purposes of regulation 151 and subregulation 250 (2) of the *Civil Aviation Regulations 1988*, CASA hereby permits helicopters to conduct winching and rappelling operations subject to the conditions specified in this section.
- 3.2 For the purposes of regulation 308 of the *Civil Aviation Regulations 1988*, CASA hereby exempts helicopters conducting winching and rappelling operations from compliance with the provisions of:
 - (a) paragraph 157 (1) (b); and
 - (b) paragraph 251 (1) (a); and
 - (c) paragraph 251 (1) (c);

of those Regulations subject to the conditions specified in this section.

Note Attention is directed to the fact that the exemptions granted by this section do not confer on an operator of a helicopter to which this section applies any rights as against the owner or occupier of any land on or over which the operations are conducted, or prejudice in any way the rights and remedies which a person may have at common law in respect of any injury to persons or damage to any property caused, directly or indirectly, by the helicopter.

4 Classification of operations

Winching and rappelling shall be classified as private, aerial work or charter operations as appropriate except that the rappelling of persons is limited to private or aerial work. In the case of aerial work or charter, an entry shall be made in the air operator's certificate authorising winching and/or rappelling as specific operations.

5 Operating areas

- 5.1 Subject to paragraphs 5.2 to 5.8, winching or rappelling operations (including training operations in winching or rappelling) are to be conducted over an operating area that satisfies the following requirements:
- (a) the area must have a diameter measuring at least 30 metres or twice the length of the helicopter used for the operations, whichever is longer;
 - (b) there must not be, within its limits, any obstruction higher than 3 metres;
 - (c) there must be, at its centre, a zone with a diameter of at least 5 metres that is clear of any obstruction or other hazard and is reserved for winching and/or rappelling only.
- 5.2 Paragraph 5.1 does not apply to winching or rappelling operations conducted in the course of a rescue or other emergency operation.
- 5.3 Paragraph 5.1 does not apply to advanced operational training operations in winching conducted for the purpose of a course of training leading to the issue of:
- (a) a winch and rappelling operations endorsement; or
 - (b) a winch and rappelling operations training endorsement; or
 - (c) a certificate of competence described in Appendix III;
- if:
- (d) the operations are conducted over an operating area that is clear of any obstruction that is likely to foul the winch cable; and
 - (e) only weights are winched during the training operations.
- 5.4 Paragraph 5.1 does not apply to advanced operational training operations in rappelling conducted for the purposes of a course of training leading to the issue of:
- (a) a winch and rappelling operations endorsement; or
 - (b) a winch and rappelling operations training endorsement; or
 - (c) a certificate of competence described in Appendix III;
- if the operations are conducted over an operating area that is clear of:
- (d) any obstruction that is likely to foul the rope or flexible ladder used during the operations; and
 - (e) any obstruction or other hazard that is likely to endanger any person on, or coming off, the rope or flexible ladder.
- 5.5 Paragraph 5.1 does not apply to advanced operational training operations in winching conducted on land for emergency service personnel if:
- (a) the operations are conducted over an operating area that is clear of:
 - (i) any obstruction that is likely to foul the winch cable; and
 - (ii) any obstruction or other hazard that is likely to endanger any person on, or coming off, the winch cable; and
 - (b) the only persons who are winched during the operations are who have received basic winching training.

- 5.6 Paragraph 5.1 does not apply to advanced operational training operations in rappelling conducted on land for emergency service personnel if:
- (a) the operations are conducted over an operating area that is clear of:
 - (i) any obstruction that is likely to foul the rope or flexible ladder used during the operations; and
 - (ii) any obstruction or other hazard that is likely to endanger any person on, or coming off, the rope or flexible ladder; and
 - (b) the only persons who rappel or are rappelled during the operations are emergency service personnel who have received basic rappelling training.
- 5.7 Paragraph 5.1 does not apply to advanced operational training operations in winching conducted over a floating vessel for emergency service personnel if:
- (a) the operations are conducted over an operating area that is on the deck of the vessel and is clear of:
 - (i) any obstruction that is likely to foul the winch cable; and
 - (ii) any obstruction or other hazard that is likely to endanger any person on, or coming off, the winch cable; and
 - (b) when approaching or leaving the operating area, the helicopter used in the operations (the *helicopter* in use) flies only over areas of the vessel that are clear of any obstruction; and
 - (c) the only persons who are winched during the operations are emergency service personnel who have received advanced operational winching training on land; and
 - (d) the pilot in command of the helicopter in use has explained to each person who is to be winched any emergency procedures associated with the operations; and
 - (e) the pilot in command of the helicopter in use and the person acting as winch operator during the operations are proficient in the winching techniques for lowering and picking up objects and persons to and from vessels.
- 5.8 Paragraph 5.1 does not apply to advanced operational training operations in rappelling conducted over a floating vessel for emergency service personnel if:
- (a) the operations are conducted over an operating area that is on the deck of the vessel and is clear of:
 - (i) any obstruction that is likely to foul the rope or flexible ladder; and
 - (ii) any obstruction or other hazard that is likely to endanger any person on, or coming off, the rope or flexible ladder; and
 - (b) when approaching or leaving the operating area, the helicopter used in the operations (the *helicopter* in use) flies only over areas of the vessel that are clear of any obstruction; and
 - (c) the only persons who are rappelled during the operations are emergency service personnel who have received advanced operational rappelling training on land; and
 - (d) the pilot in command of the helicopter in use has explained to each person who is to be rappelled any emergency procedures associated with the operations; and

- (e) the pilot in command of the helicopter in use during the operations is proficient in the techniques for rappelling to vessels.

6 Helicopter and equipment requirements

- 6.1 Winching and/or rappelling operations shall only be conducted in or from helicopters for which supplements to the aircraft's flight manual, specifying the appropriate operating criteria, have been approved.
- 6.2 All winching equipment, rappelling equipment, fittings, lines, safety and rescue harnesses shall conform to the requirements of Part 21 of the *Civil Aviation Safety Regulations 1998*.
- 6.3 A helicopter shall not engage in winching and/or rappelling operations over the land at night unless it is equipped:
 - (a) as specified in Appendix VIII of section 20.18; and
 - (b) as specified in Appendix V of section 20.18 with the addition of:
 - (i) 2 white lights, controllable by the aircrewman/winch operator, shining downwards and of sufficient intensity to clearly illuminate the winch cable/rappelling lines and the area directly below the helicopter; and
Note A single light having 2 separate energized filaments, or a suitable hand-held torch may be approved as meeting the requirement for a second light.
 - (ii) 2 white lights operable by the pilot and trainable in azimuth and elevation without removing his/her hands from the flying controls; and
Note A single white light having 2 separately energized filaments may be approved as meeting this requirement provided that the selection of the alternative light can be accomplished by the pilot without removing his/her hands from the flying controls.
 - (c) with an approved inter-communication system which will permit continuous communication between the pilot(s) and aircrewman/winch operator.
- 6.4 When the flight attitude, height and position of the helicopter cannot be maintained by reference to external objects adequately illuminated by ground or celestial lighting, a helicopter shall not engage in winching operations over the surface of the sea or a body of water at night unless it is equipped:
 - (a) as specified in paragraph 4.2 and Appendix VII of section 20.18; and
 - (b) with the lights and inter-communication system specified in subparagraphs 6.3 (b) and (c).

Note At all times when the helicopter is being operated below the minimum I.M.C. airspeed the equipment associated with the automatic pilot and/or automatic stabilisation system shall provide the pilot(s) with an easily interpreted and accurate display of the height of the helicopter above the surface of the sea or water, ground speed forwards, backwards, to the left and right and vertical speed in the correct sense.

7 Winching

- 7.1 In the case of charter operations involving the carriage of passengers for hire or reward to or from any place on land and all operations involving winching over offshore platforms or vessels, multi-engine helicopters capable of hovering out of ground effect with 1 engine inoperative during the actual winching operation shall be used.

- 7.2 In determining hover out of ground effect performance, up to 50% of the forecast wind, or 80% of the wind measured at the ship or site may be used. The maximum figure so derived for hover performance calculations shall not exceed 20 knots. If a valid forecast is not available and an accurate wind measurement cannot be obtained, the hover performance calculations shall be predicted on nil wind.
- 7.3 In actual rescue operations or in emergency situations e.g. insertion of fire-fighters or emergency service personnel where there is a demonstrated urgent requirement for a winch-equipped helicopter, or where training or demonstrations for the purpose necessitates the actual lifting or lowering of persons, multi- or single engine helicopters may be used. If a multi-engine helicopter is used in operations of this kind, the helicopter need not be capable of hovering out of ground effect with 1 engine inoperative.

8 Rappelling

- 8.1 The following rappelling operations (*restricted rappelling operations*):
- (a) rappelling operations (other than training operations in rappelling) of the kind mentioned in paragraph (a) or (d) of the definition of *rappelling* in subsection 2;
 - (b) rappelling operations (other than training operations in rappelling) of the kind mentioned in paragraph (c) of the definition of *rappelling* in which persons are lowered from an helicopter;
- are to be conducted only if:
- (c) they are permitted under paragraph 8.2; or
 - (d) they are part of a rescue or other emergency operation conducted by emergency service personnel who have received advanced operational training in rappelling techniques.
- 8.2 CASA may, in writing, permit an operator to conduct restricted rappelling operations if:
- (a) the only persons who rappel or are rappelled during the operations are:
 - (i) emergency service personnel who have received advanced operational training in rappelling techniques; or
 - (ii) persons who have received advanced operational training in rappelling techniques and are employed by an organisation that hires out the services of persons who have received such training; and
 - (b) CASA is satisfied that the operations are not likely to endanger the life of any person.
- 8.3 The permission must identify the operations covered by the permission and specify:
- (a) the time and place at which, and the occasion (if any) in conjunction with which, the operations are to be conducted; and
 - (b) the conditions (if any) subject to which the permission is granted.

9 Pilot qualifications

A pilot must not act as part of the flight crew of a helicopter engaged in winching or rappelling operations unless the pilot is authorised under Part 61

of the *Civil Aviation Safety Regulations 1998* to conduct a winch or rappelling operation in a helicopter.

10 Aircrewman/winch operator qualifications

- 10.1 No person may act as an aircrewman or winch operator on a helicopter engaged in winching and/or rappelling operations unless he/she has satisfactorily completed a course of training for winching or rappelling operations, as appropriate, and has been certified by an approved person and his/her log book (Department of Transport and Communications publication 408, Revised 6/85) has been endorsed in accordance with the format specified at Appendix III.
- 10.2 For the purpose of this subsection an approved person shall be:
- (a) in the case of a company which has an approved check and training organisation — a company check and training pilot or an aircrewman who has demonstrated to an officer approved for the purposes of this paragraph his/her proficiency to impart the appropriate winching and/or rappelling operational training and has been approved in writing by CASA; or
 - (b) in the case of a company which does not have a check and training organisation — the chief pilot or another pilot or an aircrewman who has demonstrated his/her proficiency to impart the appropriate winching and/or rappelling operational training and has been approved in writing by CASA; or
 - (c) the holder of a winch and rappelling operations training endorsement; or
 - (d) an officer approved for the purposes of this paragraph.

11 Carriage of persons

The pilot in command of a helicopter engaged in winching or rappelling operations shall not permit any person to be carried in the helicopter except:

- (a) a flight crew member; or
- (b) a flight crew member under training; or
- (c) a person who performs an essential function in connection with the winching and/or rappelling operation; or
- (d) a person who is to be winched or rappelled.

12 Conduct of operations

- 12.1 The pilot in command of a helicopter engaged in winching or rappelling operations shall be responsible for ensuring that:
- (a) an appropriate qualified aircrewman/winch operator is carried in the helicopter; and
 - (b) all operating crew members are properly qualified to perform the duties to which they are assigned; and
 - (c) all personnel involved in the operation are properly briefed prior to commencement; and
 - (d) adequate precautions are taken to ensure the safety of all persons in the helicopter or on the ground or in any way involved in the operation.

- 12.2 Except in the case of actual rescue operations or emergency situations, winching and/or rappelling operations at a specific location in a city, town or populous area may only be conducted subject to the following conditions:
- (a) The guidelines in CAAP 92-2 shall be met.
 - (b) Persons not directly involved in the winching and/or rappelling operations shall be kept clear of the site over which the helicopter is authorised to manoeuvre during the course of the operations.
 - (c) During winching and/or rappelling operations on the roof of a building, floors shall be cleared of personnel down to a level where the local fire authorities can provide adequate rescue facilities. In all cases, except in an actual emergency operation, the 4 floors immediately below the roof shall be evacuated.
- 12.3 The company's operations manual shall include instructions to pilots, aircrewmen/winch operators and other personnel involved in the conduct of winching and/or rappelling operations, as appropriate, and shall cover, in detail:
- (a) equipment pre-flight and serviceability checks; and
 - (b) all normal and emergency operating drills and procedures; and
 - (c) operating crew duties; and
 - (d) intercom procedures and phraseology; and
 - (e) pilot qualifications, training and recency requirements; and
 - (f) aircrewman/winch operator qualifications, training and recency requirements.

Appendix III

Certificate of competency in winching/rappelling* operations for endorsement in a helicopter winch operator's/ aircrewman's* log book

I hereby certify that
..... has successfully completed a course of training in helicopter winching/rappelling operations covering:

1. Weight and balance considerations.
2. Pre-flight and serviceability checks of the helicopter's winching/rappelling* equipment including normal and emergency operating mechanisms.
3. Normal and emergency operating drills and procedures.
4. Standard hand signals in accordance with Appendix I of section 20.3 of the Civil Aviation Orders.

I consider the applicant competent to act as a helicopter winch operator/aircrewman* in helicopter winching/rappelling* operations.

Signed.....

Date

Notes to Civil Aviation Order 29.11

Note 1

The Civil Aviation Order (in force under the *Civil Aviation Regulations 1988*) as shown in this compilation comprises Civil Aviation Order 29.11 amended as indicated in the Tables below.

Table of Orders

Year and number	Date of notification in <i>Gazette</i> / registration on FRLI	Date of commencement	Application, saving or transitional provisions
CAO 2004 No. R29	8 December 2004 (F2005B00842)	8 December 2004 (s. 2)	
CAO 29.11 2006 No. 1	FRLI 5 April 2006 (F2006L01042)	6 April 2006 (s. 2)	
CAO (Flight Crew Licensing) Repeal and Amendment Instrument 2014 (No. 1)	FRLI 29 August 2014 (F2014L01177)	1 September 2014 (s. 2)	Sections 3 and 31 (Table A)

Table of Amendments

ad. = added or inserted am. = amended rep. = repealed rs. = repealed and substituted

Provision affected	How affected
s. 29.11	rs. CAO 2004 No. R29
subs. 2	am. CAO 29.11 2006 No. 1, F2014L01177
subs. 5	am. CAO 29.11 2006 No. 1, F2014L01177
subs. 6	am. F2014L01177
subs. 9	rs. F2014L01177
subs. 10	am. F2014L01177
Appendix I	rep. F2014L01177
Appendix II	rep. F2014L01177

Table A Application, saving or transitional provisions

Sections 3 and 31 of Civil Aviation Order (Flight Crew Licensing) Repeal and Amendment Instrument 2014 (No. 1) read as follows:

3 Definitions

- (1) In this instrument:

continued authorisation has the meaning given by regulation 202.261 of the *Civil Aviation Safety Regulations 1998 (CASR 1998)*.

new authorisation has the meaning given by regulation 202.261 of CASR 1998.

- (2) A reference in this instrument to a Civil Aviation Order identified by a specified number is taken to include a reference to the section of the Civil Aviation Orders with that number.

Note Some existing legislative instruments are referred to as a Civil Aviation Order followed by a number. Other instruments are referred to as a section of the Civil Aviation Orders. For consistency, in this instrument, all such instruments are referred to as a Civil Aviation Order

followed by a number. For example, a reference to Civil Aviation Order 40.2.2 is taken to include a reference to section 40.2.2 of the Civil Aviation Orders.

31 Transitional — application of Civil Aviation Orders

The Civil Aviation Orders apply to a continued authorisation as if it were the equivalent new authorisation.