

**PNG**  
**Civil Aviation Rules**  
**Part 133**

**Helicopter External Load Operations**

Effective 1 January 2004.

## Schedule of Rules

<b>Subpart A — General</b>	<b>3</b>
133.1 Purpose .....	3
133.3 Definitions .....	3
133.5 Pilot licence requirements.....	3
<b>Subpart B — Operating Rules and Related Requirements</b>	<b>4</b>
133.51 Minimum safe height .....	4
133.53 Carriage of persons.....	4
133.55 Third party risk .....	4
133.57 Weight limitations.....	5
133.59 VFR .....	5
133.61 Night operations.....	5
133.63 Carriage of loads .....	5
133.65 Dangerous goods .....	5
133.67 Flight characteristics .....	6
133.69 Operations over congested areas .....	6
133.71 Helicopter winching and rappelling operations .....	6
133.73 Supplementary crew member.....	7
133.75 Crew member competency.....	8
<b>Subpart C — Reserved</b>	<b>9</b>
<b>Subpart D — Reserved</b>	<b>9</b>
<b>Subpart E — Reserved</b>	<b>9</b>
<b>Subpart F — Instruments and Equipment</b>	<b>9</b>
133.251 Purpose .....	9
133.253 General .....	9
133.255 External load equipment.....	9
133.257 Quick release devices.....	9
<b>Subpart G — Maintenance</b>	<b>11</b>
133.301 Purpose .....	11
133.303 Maintenance requirements.....	11
133.305 Persons certifying maintenance.....	11
133.307 External load equipment.....	11

## Subpart A — General

### 133.1 Purpose

This Part prescribes rules that are additions to, or exceptions from, the general operating and flight rules contained in Part 91, for persons performing a helicopter external load operation.

### 133.3 Definitions

**Helicopter external load operation** means—

- (1) a helicopter sling load operation; or
- (2) a helicopter winching operation; or
- (3) a helicopter rappelling operation:

**Helicopter sling load operation** means the external carriage, lowering, or picking up, of a load or cargo, by a helicopter by means of a bucket, net, harness or sling suspended beneath the helicopter:

**Helicopter winching operation** means the external carriage, lowering, or picking up, of a load, cargo or persons by a helicopter by means of a winch or hoist fitted to the helicopter:

**Helicopter rappelling operation** means—

- (1) the lowering of a load, cargo or persons from a helicopter by means of a static line attached to the helicopter; or
- (2) a person coming down from, or going up to, a helicopter by means of a flexible ladder attached to the helicopter:

**OGE** means out of ground effect.

### 133.5 Pilot licence requirements

- (a) A pilot-in-command performing a helicopter external load operation shall hold a current commercial pilot licence (helicopter) issued under Part 61.
- (b) Notwithstanding paragraph (a), the holder of a current private pilot licence (helicopter) may act as a pilot-in-command of a helicopter on a helicopter sling load operation if that pilot's licence authorises the holder to conduct helicopter sling load operations.

## Subpart B — Operating Rules and Related Requirements

### 133.51 Minimum safe height

- (a) Notwithstanding 91.311(c)(4), each pilot-in-command performing a helicopter external load operation may, if necessary for the proper accomplishment of the operation, conduct the operation, including approaches, departures, and load positioning manoeuvres necessary for the operation, closer than 500 feet to persons, vessels, vehicles, and structures, if the operation is conducted without creating a hazard to persons or property on the surface.
- (b) A pilot-in-command performing a helicopter external load operation shall ensure that the flight is conducted at an altitude, and on a route, that will allow a jettisonable external load to be released and the helicopter to be landed, in an emergency, without hazard to persons or property on the surface.

### 133.53 Carriage of persons

- (a) A pilot-in-command shall not carry a person inside the helicopter during an external load operation who is not performing a function essential to that helicopter external load operation.
- (b) Notwithstanding paragraph (a), a pilot-in-command may carry a person inside the helicopter on a helicopter sling load operation, who is not performing a function essential to the helicopter sling load operation, if the person to be carried inside the helicopter is necessary to accomplish the on site work activity directly associated with the sling load.

### 133.55 Third party risk

- (a) A pilot-in-command shall not carry a load suspended beneath a helicopter—
  - (1) in such a manner that causes danger to any person or to any person's property unless the consent of that person has been obtained; or
  - (2) over an open air assembly of people.
- (b) Except as provided in paragraph (c), a pilot-in-command of a helicopter engaged in an external load operation that is hovering shall ensure that no person is in the area in which the helicopter is hovering unless the person's presence is essential to the operation and they have been briefed, as appropriate, on—
  - (1) normal external load procedures; and
  - (2) the procedures to be followed by all personnel in the event of an emergency; and
  - (3) the nature of the load and any special handling requirements; and
  - (4) the lifting capability of the helicopter; and
  - (5) hand or radio signals appropriate to the operation.
- (c) Compliance with paragraph (b) is not required in the case where assistance is being delivered to injured persons on the ground.

**133.57 Weight limitations**

A pilot-in-command of a helicopter performing a helicopter external load operation shall ensure that the weight of the load to be carried does not exceed the weight limitations of the cargo hook or device required by 133.255(1).

**133.59 VFR**

A pilot-in-command of a helicopter performing a helicopter external load operation shall ensure that the operation is performed under VFR.

**133.61 Night operations**

A pilot-in-command shall not perform a helicopter external load operation at night when the flight attitude, height, and position of the helicopter cannot be maintained by reference to external objects adequately illuminated by the helicopter, ground, or celestial lighting.

**133.63 Carriage of loads**

A pilot-in-command performing a helicopter sling load operation shall ensure that the external load is carried on a hook or device required by 133.255(1).

**133.65 Dangerous goods**

- (a) A pilot-in-command may accept Class 1 dangerous goods for carriage as a helicopter sling load operation without complying with Part 92, if—
- (1) approval is obtained from the Director; and
  - (2) safety and emergency procedures are established for the carriage of the goods; and
  - (3) the goods are—
    - (i) in a proper condition for carriage by air; and
    - (ii) stowed and secured for safe carriage; and
  - (4) the operation is performed clear of any congested area of a city, town, or settlement.
- (b) A pilot-in-command may accept Class 2 to Class 9 dangerous goods for carriage as a helicopter sling load operation without complying with Part 92 if—
- (1) the carriage of the dangerous goods are not forbidden by the Technical Instructions; and
  - (2) safety and emergency procedures have been established for the carriage of the goods; and
  - (3) each item of dangerous goods is identified; and
  - (4) the pilot-in command is informed of the hazardous nature of the goods; and
  - (5) the dangerous goods are—
    - (i) in a proper condition for carriage by air; and
    - (ii) segregated if they are likely to react dangerously together; and
    - (iii) stowed, secured, and, if necessary, packed, to prevent leakage or damage in flight.

**133.67 Flight characteristics**

A pilot-in-command of a helicopter performing a helicopter external load operation shall—

- (1) ensure that the load is adequately rigged and settled before the helicopter leaves the loading zone; and
- (2) fly in conditions and in such a manner as to maintain adequate control of the helicopter and the load.

**133.69 Operations over congested areas**

A pilot-in-command of a helicopter performing a helicopter external load operation over or adjacent to a congested area of a city, town, or settlement shall—

- (1) prepare a plan of the operation, in conjunction with, and for the briefing of, all personnel and organisations involved in the operation, containing—
  - (i) a chart depicting flight routes and altitudes; and
  - (ii) a means of avoiding obstructions to flight; and
  - (iii) the emergency landing capabilities of the helicopter to be used; and
  - (iv) the measures taken to ensure no exposure to danger of persons or property on the ground at all times including when the load is intentionally released during emergencies and when the load is inadvertently released; and
  - (v) any co-ordination necessary with any air traffic control service; and
- (2) keep the plan, referred to in subparagraph (1), for a period of at least 6 months from the date the operation is performed; and
- (3) give prior written notification to the appropriate territorial authority; and
- (4) comply with any requirements made by the territorial authority; and
- (5) give prior public notice of the operation by an effective means.

**133.71 Helicopter winching and rappelling operations**

(a) Except as provided in paragraph (b), a pilot-in-command performing a helicopter winching or rappelling operation involving the suspension of a person beneath a helicopter shall ensure that—

- (1) the helicopter is certified as a Class A helicopter and is capable of hovering OGE with one engine inoperative predicated on—
  - (i) 50% of the forecast wind speed, or 80% of the actual measured wind speed, up to a maximum calculated percentage value of 20 knots; or
  - (ii) if a forecast or measured wind speed is not available, nil wind; and
- (2) the distance the person is suspended beneath the helicopter is the minimum distance necessary to achieve the objective of the operation; and
- (3) the helicopter is operated in a safe manoeuvring area that has—

- (i) a diameter of at least 30 meters or twice the overall length of the helicopter, whichever is longer; and
  - (ii) no obstructions higher than 3 meters; and
  - (iii) at its centre, a zone with a diameter of at least 5 meters free of any obstruction or other hazard.
- (b) Paragraph (a) shall not apply to a pilot-in-command if the helicopter winching or rappelling operation is—
  - (1) an emergency operation for the protection of life or property; or
  - (2) a training operation involving emergency personnel, police or Defence Force personnel; and
  - (3) conducted in an area that is clear of an obstruction—
    - (i) that is likely to foul the equipment being used; and
    - (ii) that is likely to endanger any person being suspended from the helicopter.
- (c) A pilot-in-command of a helicopter shall ensure that, where a person is raised or lowered by winch beneath the helicopter—
  - (1) the person to be lowered is attached to the cable before being released from the seat harness; and
  - (2) the person who has been raised is secured by means of a safety strap or seat belt before being released from the cable; and
  - (3) the person has been briefed, by a crew member of the helicopter, on normal and emergency procedures appropriate to the operation.
- (d) A pilot-in-command of a helicopter shall ensure that, when a helicopter rappelling operation is performed, the person to be rappelled—
  - (1) has successfully completed a course of training appropriate to the rappelling operation being conducted; and
  - (2) has been adequately briefed by a crew member on normal and emergency procedures appropriate to the operation; and
  - (3) is attached to the static line before being released from the seat harness.

### **133.73 Supplementary crew member**

A pilot-in-command of a helicopter performing a helicopter external load operation shall ensure that a supplementary crew member—

- (1) is carried when the pilot-in-command is unable to—
  - (i) operate the winch; or
  - (ii) observe the load; or
  - (iii) release the load; or

- (iv) observe clearances; or
  - (v) emplane and deplane persons; and
- (2) has been fully briefed on the operation, and specific tasks to be carried out, prior to take-off; and
  - (3) is secured by a harness that can readily be released in the event of an emergency but that cannot be inadvertently released; and
  - (4) is provided with a system that enables two way communication with the pilot.

### **133.75 Crew member competency**

- (a) No operator shall permit any helicopter external load operation to be performed unless all crew members have successfully completed a check or flight review to demonstrate their technical knowledge, competence, and ability to execute normal and emergency manoeuvres appropriate to the operation and the aircraft and equipment concerned.
- (b) Every check or flight review referred to in paragraph (a) shall be carried out—
  - (1) by the holder of an—
    - (i) air operator certificate issued under Part 119 that authorises the holder to conduct the check or flight review; or
    - (ii) aviation training organisation certificate issued under Part 141 that authorises the holder to conduct the check or flight review; and
  - (2) in an aircraft, in which the member's ability to perform the required manoeuvres can be adequately assessed; and
  - (3) within the period of 24 months prior to the flight.
- (c) The check or flight review referred to in paragraph (a) shall include all normal and emergency situations that might arise in the operation and shall include—
  - (1) preparation for flight; and
  - (2) crew team management; and
  - (3) target identification and positioning; and
  - (4) communications failure; and
  - (5) procedures for assisting personnel in distress; and
  - (6) helicopter caution lights; and
  - (7) power loss; and
  - (8) electrical failure.
- (d) An operator performing a helicopter external load operation shall retain records of all checks and flight reviews for a period of at least 4 years.

- (e) A pilot-in-command performing a helicopter external load operation for the purpose of training, shall ensure that the operation is not performed over or adjacent to a city, town, or settlement.

## **Subpart C — Reserved**

## **Subpart D — Reserved**

## **Subpart E — Reserved**

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

### **133.251 Purpose**

This Subpart prescribes the instruments and equipment required, in addition to Part 91, for helicopters carrying an external load.

### **133.253 General**

An operator performing a helicopter external load operation shall ensure that a flight does not commence unless the instruments and equipment, required by this Subpart—

- (1) comply with the specifications and airworthiness design standards listed in—
  - (i) this Subpart; or
  - (ii) alternative specifications or standards approved by the Director for the operation; and
- (2) are installed in accordance with the requirements applicable to them, including operational and airworthiness requirements; and
- (3) are in operable condition and in the numbers required for the kind of operation being conducted.

### **133.255 External load equipment**

An operator performing a helicopter external load operation shall ensure that the helicopter is equipped with—

- (1) a cargo hook, winch or rappelling equipment or similar devices, that are approved by the helicopter manufacturer, a modification approval, or supplemental type certificate, for use on the helicopter; and
- (2) external load equipment that is appropriate and of a standard that will prevent breakage to it or damage to the helicopter.

### **133.257 Quick release devices**

- (a) An operator performing a helicopter sling load operation shall ensure the helicopter has—
- (1) an electrical quick release device; and
  - (2) a mechanical or independent electrical quick release device.

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- (b) The operator shall ensure that the quick release devices required by paragraph (a) functions properly with all external loads up to and including the helicopter's maximum external load.

- (c) The operator shall ensure that the quick release system has—
- (1) a primary control—
    - (i) installed on one of the pilot's primary flight controls; and
    - (ii) designed and located so that it may be operated by the pilot without limiting the pilot's ability to control the helicopter during an emergency situation; and
  - (2) a secondary control readily accessible to a crew member.

## **Subpart G — Maintenance**

### **133.301 Purpose**

This Subpart prescribes rules specifying the maintenance requirements for Papua New Guinea registered helicopters carrying an external load.

### **133.303 Maintenance requirements**

An operator shall ensure that the helicopter, including the cargo hook or other similar device required by 133.255(1), is maintained in accordance with Part 91 and this Part.

### **133.305 Persons certifying maintenance**

An operator shall ensure that each person certifying a release to service is properly trained and qualified to do so.

### **133.307 External load equipment**

- (a) An operator shall ensure that external load equipment is—
- (1) visually inspected, for signs of distress, prior to its use on the first operation of each day; and
  - (2) proof loaded within the preceding 12 months to—
    - (i) 1.25 times its rated strength; or
    - (ii) if the equipment has no recorded rated strength, 1.25 times the maximum lifting ability of the helicopter on which the equipment is used.
- (b) As an alternative to paragraph (a), an operator may maintain external load equipment in accordance with—
- (1) the mandatory replacement times, inspection intervals, and related procedures specified in the manufacturer's maintenance manual or instructions for continued airworthiness; or
  - (2) a maintenance programme approved under Part 91 or 119.