



सत्यमेव जयते

GOVERNMENT OF INDIA

OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION
TECHNICAL CENTER, OPPOSITE SAFDARJUNG AIRPORT, NEW DELHI

**CIVIL AVIATION REQUIREMENT
SECTION 7- FLIGHT CREW STANDARDS
TRAINING AND LICENSING**

SERIES 'B' PART XIII

8th July, 2005

EFFECTIVE : 1st AUGUST 2005

**Subject: Requirements for External Load Operations for
helicopters**

1. INTRODUCTION

Helicopter is a very versatile machine and can be gainfully deployed in variety of roles. One of the tasks that it can perform is carriage of load externally. In this operation unwieldy load that cannot otherwise be accommodated in the cabin can be carried externally from one place to another. In this role the helicopter can be deployed in various operations such as Wire Stringing, Cable Laying, Pylon Fixing, High Tension Cable Washing, Cargo Sling, Hoist Mining Survey, Fire Fighting, Aerial Photography, Power Line Inspection, Crop Spraying, Pollution Control, Electronic News Gathering.

2. External load are classified as follows:

2.1.1 CLASS A. An external load that cannot be moved freely, cannot be jettisoned and does not extend below the under carriage. Ski-pods, TV camera, survey equipment, crop spraying equipment attached to helicopter will come under this category.

2.1.2 CLASS B. An external load that can be jettisoned and is not in contact with surface (land, water etc.) e.g. a normal sling load, mining, surveys, fire fighting equipment, anti pollution pads, a container, part of wrecked car or aircraft, military stores and vehicles.

2.1.3 **CLASS C.** An external load that can be jettisoned and that remains in contact with the land or water or any other surface eg. wire pulling, cable laying, power line maintenance.

2.1.4 **CLASS D.** Hoisting an external load or person will come under this category.

3 GENERAL REQUIREMENTS

3.1 A helicopter shall meet airworthiness and certification requirements for external load equipment.

3.2 Operations shall be conducted out of ground effect.

3.3 The pilot must be aware of reserve power requirements for operations with external load.

3.4 External load operation shall be conducted under VFR conditions only.

4. TRAINING REQUIREMENTS

4.1 Ground training

A pilot shall undergo ground training covering the following topics:

- a) Aerodynamic considerations.
- b) Knowledge of sling / hoist equipment, its operation and limitations given in the operation manual.
- c) Preparation of load-sheet, rigging or its attachments.
- d) Emergencies for the particular type of operations.
- e) Operation peculiarities of different terrains, e.g. mountain, off shore, jungle, desert, etc.

4.2 Flying Training

4.2.1 A Pilot shall have at least 500 hours PIC experience on type of helicopter. However this may be relaxed in case of a pilot with previous experience on external load operations.

4.2.2 Flying training shall be for specific type of operations.

4.2.3 Flying training shall include the following exercises:

- a) Briefing of Crew, Inspection of Load, sling equipment and jettisoning system.
- b) Hover, take off and landing with external load.

- c) Manoeuvring of helicopter in hover, transition and forward flight and delivering of load at predetermined point.
- d) Emergencies including engine failure, unstable flight condition due to undue oscillation of external load, loss of tail rotor effectiveness. These are to be covered on the ground.
- e) The pilot shall be checked by an Examiner before carrying out external load operations. A test Performa is attached as Appendix 'A'.

4.2.4 Initial training

- a) Class A type load. A pilot without previous experience in external load operations shall undergo a minimum of 1 hour or 5 practices of flight instructions in external load operations. A pilot having previous experience may be cleared for operations, after 0.5 hour or 3 practices. An entry in this regard shall be made in pilot's logbook by the examiner.
 - b) Class B & C type load. A pilot who has not conducted Class B and C type of operations earlier shall undergo dual flying instructions under supervision by a DGCA approved examiner for minimum of 2 hours or 10 practices of flight instructions in external load operations. A pilot who has conducted external load operations earlier shall undergo 1 hour or 5 practices of dual instructions. An entry in this regard shall be made in pilot's logbook by the examiner.
 - c) Class D type load. A pilot who has not conducted Class D operations (Hoisting) shall undergo flight training of at least 10 hoistings. A pilot who has conducted hoisting operations in the past may be cleared after 5 hoistings and if found fit, be released for independent operation. An entry in this regard shall be made in pilot's logbook by the examiner.
- 5. One time operation.** In case of emergency there may be requirement to carry out external load. In such a case the pilot should satisfy the following:
- a) Class A type load. A pilot having experience on external load operations and meeting the other training requirements is permitted to undertake the task.
 - b) Class B, C and D type load: A pilot having previous experience of external load operations and 500 hours PIC experience on type is permitted to undertake the task.

6. Recurrent training

- a) A pilot who has not conducted an external load operation in the last 12 months preceding the date of operations shall be checked by an examiner before permitting him for independent operations.
- b) A pilot who has not carried out external load operation in the last 24 months shall undergo full training as prescribed for initial training.
- c) A Pilot who is often called upon to undertake such mission shall carry out at least one flight of one-hour duration in a period of 12 months to maintain currency.

Note : The recurrent training shall be required for all types of operations except for one time emergent conditions

Sd/-
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Deputy Director General of Civil Aviation
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TEST PROFORMA - EXTERNAL LOAD OPERATIONS

Company _____	Date of check _____
Name of Pilot _____	Block time (D/N) _____
License No. _____	Location _____
Date of last check _____	Type of Helicopter _____
Examiner _____	Registration _____

	Pilot proficiency
A. Ground Checks	
1. Status on ground training	
2. Performance and limitations sling operation	
3. Preparation of load, rigging or its attachments	
4. Emergency procedures e.g. engine failure, control of flight during oscillation of external load, loss of tail rotor effectiveness	
B. Flight Preparation	
1. Weather situation	
a. Weather charts	
b. Forecasts	
c. Winds and temperatures	
2. Flight planning	
a. Fuel calculation	
b. Performance calculation	
c. Payload calculation with external load	
3. Pre-flight inspection including load, sling equipment and jettisoning system	
4. Use of checklist	
5. Engine starting procedures	
6. Cockpit check after starting	
7. Departure briefing	
8. Navigation systems set-up	
9. Hover, take off and landing with external load	

