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**AIC for Malaysia**

**AIC**  
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## HELICOPTER EXTERNAL LOAD OPERATIONS (HELO)

### 1 INTRODUCTION

1.1 Investigation to the recent HELO accident revealed that the operator did not observe certain pertinent HELO regulatory requirements as outlined in the Malaysian Civil Aviation Regulation 1996 (MCAR). HELO operators attention is hereby drawn to the following MCAR requirements :

a. Regulation 62 (5) and 62 (6)	Towing, picking up and raising of person, animal or article
b. Regulation 63 (4)	Dropping of animal or article
c. Regulation 64 (8)	Dropping of person
d. Eleventh Schedule	Rules of the Air and Air Traffic Control - Part B General- low flying

In view of this, a forum was organised by the DCA in Kuching, Sarawak to discuss and outline certain procedures and safety measures peculiar to HELO especially, precision HELO.

### 2 DEFINITIONS - NORMAL AND PRECISION HELO

2.1 Normal HELO procedures have been established by most operators, whilst precision HELO is accorded with the same procedures which requires more thorough preparation and risk evaluation. This is due to the nature of precision HELO itself whereby they are very specialised tasks requiring a greater degree of accuracy, skill and experience. Examples ; to and from off shore installation, between and onto tall buildings and operation into tall forest, seismic survey or emergency works. Hence, the complexity of these operations require precise risk assessment as no two precision HELO could be the same. The purpose of this AIC is to guide HELO operators on the fundamental differences and procedures to be adopted for safe operation.

As a definition, precision HELO is an accurate or precise placement and displacement of an external load on to or from a designated receptacle, usually using long line of not less than 30 feet in length.

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### 3 RISK ASSESSMENT

3.1 It is acknowledged that the inherent risk undertaken by precision HELO is substantially high. All personnel involved should emphasis on proper planning and display total concerted effort in achieving their objective. As an assistance to the management of all operators wishing to undertake precision HELO operation, a risk assessment checklist is to be accomplished before the job is undertaken. The assessment checklist sample is in Annex A.

### 4 OPERATIONS MANUAL REQUIREMENTS - PRECISION HELO

4.1 Under the HELO section of the operations Manual, an additional section outlining the standard operating procedures for Precision HELO is to be included. The following headings are minimum requirements to be included :

- a. Pilot qualification and rating
- b. Training requirements and syllabus.
- c. Ground school and flying exercises
- d. Risk assessment requirements.
- e. Management and client responsibilities.
- f. Composition and responsibilities of ground crew.
- g. Flight time limitations - operations are to specify limitations and scheduling. CAP 371 should be utilised as a guide.

### 5 FLYING EXPERIENCE

5.1 It is recommended that aircrew flying such operations should have the following Minimum experience :

Total Rotary	1500 hours
Command Rotary	1000 hours
HELO	10 hours

### 6 TRAINING / CURRENCY

6.1 The proposed training scheme (precision HELO) for ground and flying training is attached in Annex B. Operators are to ensure that validity period for such training should not exceed the thirteen months Limitation. Should this lapse, a re-qualification training is necessary.

### 7 DOCUMENTATION

7.1 Documents to be prepared for submission to DCA are as follows :

- a. HELO / PRECISION notification - low flying permission
- b. Completed Job analysis or Risks assessment for the proposed task (not required for helicopter logging).

c. Clients/charterer or property owner request for the HELO and consent letter of approval for usage of property

## 8 ACCOUNTABILITY

8.1 The operator is responsible and able to the overall HELO. Hence, the request for clearance from DCA must be signed by one of the senior management appointees i.e. Chief Pilot, Flight Operations Manager, or the General Manager.

IR. KOK SOO CHON Director General Department of Civil Aviation Malaysia

### ANNEX A

#### PRECISION HELO GROUND AND FLYING TRAINING SCHEME

The course shall consist of a minimum of 3 days Ground School and 6 hours flying the topics to be covered are :

##### a. Ground School

###### i. Aircraft

Aircraft type technical refresher and normal drills.

Aircraft performance and Flight Manual considerations applicable to role and environment, eg. Seismic / Load lifting and hot and high or cold weather operations.

Aircraft emergencies and drills.

###### ii. Environment

Geographical location familiarisation.

Environment training, ie. jungle, mountain, offshore or desert.

Helipad area, selection and preparation.

First Aid and survival techniques.

Flight and fuel planning considerations.

Search and Rescue facilities.

###### iii. Task Training

Role Equipment - Use and maintenance tests.

Description and background to client and particular task.

Emphasis of Standard to be achieved, ie, the quality of the work in terms of precision and time savings.

Dangerous goods considerations and Radio Silence Procedures.

Passenger handling and briefing.

Load hook briefing procedures.

##### b. Flight Training - NOT less than 6 hours

###### i. Without External Load

Full Company Base Check in Normal and Emergency procedures for aircraft type with Company Type Rating Examiner.

Performance refresher training and limited power operations.

Confined area training to tree clearings of 20m - 30m including approach, clearing turns and departures at maximum permitted all up weight for aircraft type.

Sloping ground and rough terrain operations.

ii. **Short Sling Line Training (Less than 30m strop)**

Load preparation.

Load stability, balance and flight characteristics.

Precision flight in terms of height and distance.

Pick up and release loads.

Use of adjustable mirrors for directional control including descent and climb.

Ground crew marshalling procedures and Radio Telephony technique.

Emergency manoeuvres and drills.

iii. **Long Line Training (Greater than 30m to 70m strop)**

Load stability, balance and flight characteristics.

Review of short line techniques using long line.

Speed and course deviations.

Long line response delay appreciation.

Operation to confined areas with long line load.

Vortex ring with load.

Precision manoeuvres to tight clearing areas.

Final handling flying test. This test will be carried out by the Chief training Captain or his appointed Deputy.

Final ground school examination on technical and procedural subjects.

iv. **Line Training on Site**

After completing the Base training the pilots will receive additional 5 hours on line training on site or similar location with a qualified instructor on typical tasks.

## ANNEX B

## SAMPLE

## SAFE JOB ANALYSIS FORM

NO.	JOB OPERATION	UNWANTED OCCURENCE	CONSEQUENCE	PROBABILITY	RISK REDUCING MEASURES
1	Lifting load from padang in built-up area.	Large gathering of crowd near lifting site. Potential accident.	Large	Medium	Position security personnel to cordon off lifting area.
2	Transporting large rolled up telecom cable.	Excessive spinning movement of load in flight.	Medium	Small	Use of swivel to hook attachment.
3	Precision lowering of load on to top of tall building.	Loss of hover reference.	Large	Medium	Establish hover reference points including docking. Carry crewman and provide marshaller with walkie-talkie.
4	Sling loading large pieces of plywood.	Pendulum movement of load in flight and possibility of loose plywood falling from net.	Small	Small	Secure plywood in a bundle with use of straps.
5	Despatch of loads to high altitudes (mountain LPs)	Turbulence Up and Down Draughts.	Medium	Medium	Pick suitable time of day with minimum wind activity.

Explanation : Small (acceptable) - Medium - Large

Assessment Officer : I hereby certify the above risk assessment has been analysed and found safe to carry out the job.

Name : .....Signature : .....

Date : .....Appointment : MD / GM / OM

Date : .....