





Transport of external loads with helicopters "Level 1" required by RFP Art. 133 g After completion of training send this form to: Bundesamt für Zivilluftfahrt (BAZL), FA / Helikopter, Maulbeerstrasse 9, 3003 Bern

Name:	First Name:	Date of birth:
Tel Privat:	Tel Mobile:	Fax:
Change of address (indicate new address)	Oui / ja	E-Mail:
•	·	
Zip code / City:		Street:
Pilot in charge of theoretical instruction (must have a	a minimum of 500h ECS e	xperience):
Name:	First Name:	CH Licence N°:
EXTERNAL CARGO SLIN	IG GROUND	INSTRUCTION
FOM		Nets & bags
Flight and duty times		Chaniel Equipment
Max. cycles / day		Special Equipment
Min. and max. fuel		Concrete bucket
Refueling procedures		Remote hook / swivel hook / carousel
Radio communications		Spansets
Human factors / CRM / nutrition		Steel cables / chains
Safety equipment / operational briefing		Long lines
Pilot / marshaller responsibilities		Load meter / printer
		Mirrors
Flight Manual		Bubble window / vertical refernces
Limitations		Audio / vibration warning
Performance / HOGE		
Cargo hook supplement		Emergency / Limitations
		Flight control stops
Flight Procedures		TR failure
Airspeed selection with load		Engine failure / OEI operation
Flight path selection (3rd party)		Height velocity diagram / exposure time
Bank / load factor / load drag		Emergency procedures in sling ops
Load stabilisation techniques / hover & in-flight		Review of sling accidents
Downwash / load rotation		
Visual hover reference / vert, horiz		Dangers
Rotor clearance		Flights in valleys / cables / wires
Marshaller Hand signals		Flight over cities / roads / 3rd party
Environement / slope / forest, canyon		Airflow / up and downdrafts
Manual & electrical load release		Sun / shadow / snow / rain / static electricity
Decision / exposure time		Settling with power / vortex
Decision / exposure time		Emergency load jettison
Load & Person Preparation		
Vertical loads		Remarks:
Horizontal loads		
Light, bulky and combined loads		
Minimum requirements before starting prainstruction:	ectical ECS 1	I herewith certify that the trainee has received the required ECS 1 ground instruction and is found competent to begin the practical ECS 1 instruction.
- CPL(H) / ATPL(H)		
- Min 300 hours PIC Helicopter		Date:
- Min. 10 hours PIC on type of helicopter		
- Type rating completed ECS Ground instruction completed		Name:
- Marshaller syllabus reviewed		
•		Signature:

## ECS1

## **FLIGHT INSTRUCTION**

External cargo sling SHORT LINE

CH-Licence N°

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# LEVEL 1 SHORT LINE Sling length: ≤20 meters

#### Conditions:

- Maximum sling length 20 meters
- Maximum cargo weight 1'500 kg
- 1 marshaller (with radio) at pickup point
- 1 marshaller (with radio) at drop off point
- helicopter fitted with cargo mirror / bubble window\*
   \*if applicable

#### **VERTICAL REFERENCES**

The trainee must be able to perform a stabilized hover flight by means of vertical references without any external cargo attached to the helicopter prior to commencing training with external loads.

#### **DEFINITIONS**

#### Mission:

One mission is an ECS flight or series of ECS flights, conducted from site A to site B, for a particular customer, on a particular day.

### Cycle:

A cycle is a flight from site A to site B with an external load and subsequent return to site A

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Pilot (preferably Flight Instructor) in charge of ECS practical training (must be qualified at minimum for ECS level 1 and 2 and must have a minimum experience of 500 hours ECS ). <b>maximum 2 persons.</b>				
Name: Licence Nr:				
Name: Licence Nr:				
Flight instruction DC/minimum 5 hours: (every square is 1 hour)				
Date training started:				
Cycles DC/minimum 50 cycles: (every square is 1 cycle) should include load types 1 through 5  Type of loads (use code in squares)				
Cycles DC/minimum 50 cycles: (every square is 1 cycle) should include load types 1 through 5  Type of loads (use code in squares)  1 Concrete bucket 2 Vertical load 3 Horizontal load 4 Nets / bags 5 Light and bulky load				
Trainee may perform solo ECS1 limited to 10m sling length with on site supervision				
Date: Signature / Lic. N°:				
Cycles DC/minimum 30 cycles (10m < sling < 20m): (every square is 1 cycle) should include load types 1 through 5				
Cycles DC/minimum 30 cycles (10m < sling < 20m): (every square is 1 cycle) should include load types 1 through 5    Mirror   Vertical ref   must include 20 cycles   15m < sling < 20m   Trainee may perform solo ECS1 limited to 20m sling length with on site supervision				
Date: Signature / Lic. N°:				
Flight instruction solo with on site supervision / min. 10 missions: (every square is 1 mission)				
10m sling 20m sling				
Cycles solo/minimum 100 cycles: (every square is 1 cycle) should include load types 1 through 5  For ECS 1 20m qualification: mini. 20 cycles 15m < sling < 20m				
Trainee may perform solo ECS under supervision Date: Signature / Lic. N°:				
Flight instruction solo under supervision / min 30 missions: (every square is 1 mission)				
Trainee is found properly qualified for short line External Cargo Sling (ECS1) operations without supervision  The trainee's logbook has been endorsed for □ "ECS Level 1 (10 meter)" or □ "ECS Level 1 (20 meter)" as applicable.				
Date: Signature / License N°:				
Total Helicopter Flight experience: Remarks:				
>300h PIC HEL HEL<500h 500h <hel<1000h 1000h<hel<2000h="" hel="">2000h</hel<1000h>				