



External cargo sling , LOGGING conversion from Level 2 to 3

Transport of external loads with helicopters "Level 3" 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 minimum of 500h ECS experience):

Name: First Name: CH Licence N°:

LOGGING GROUND INSTRUCTION

FOM

Flight and duty times	<input type="checkbox"/>	<input type="checkbox"/>
Max. cycles / day	<input type="checkbox"/>	<input type="checkbox"/>
Min. and max. fuel	<input type="checkbox"/>	<input type="checkbox"/>
Refueling procedures	<input type="checkbox"/>	<input type="checkbox"/>
Radio communications	<input type="checkbox"/>	<input type="checkbox"/>
Human factors / CRM / nutrition	<input type="checkbox"/>	<input type="checkbox"/>
Safety equipment / Operational Briefing	<input type="checkbox"/>	<input type="checkbox"/>
Pilot / marshaller responsibilities	<input type="checkbox"/>	<input type="checkbox"/>

Flight Manual

Limitations	<input type="checkbox"/>	<input type="checkbox"/>
Performance / HOGE	<input type="checkbox"/>	<input type="checkbox"/>
Cargo hook supplement	<input type="checkbox"/>	<input type="checkbox"/>

Flight Procedures

Airspeed selection with load	<input type="checkbox"/>	<input type="checkbox"/>
Descent & approach (power, ROD, IAS)	<input type="checkbox"/>	<input type="checkbox"/>
Load ground clearance	<input type="checkbox"/>	<input type="checkbox"/>
Flight path selection (3rd party)	<input type="checkbox"/>	<input type="checkbox"/>
Bank / load factor / load drag	<input type="checkbox"/>	<input type="checkbox"/>
Log uplift and drop off technics	<input type="checkbox"/>	<input type="checkbox"/>
Load stabilisation techniques / hover & in-flight	<input type="checkbox"/>	<input type="checkbox"/>
Downwash / Rotor clearance	<input type="checkbox"/>	<input type="checkbox"/>
Visual hover reference / vert, horiz	<input type="checkbox"/>	<input type="checkbox"/>
Marshaller Hand signals	<input type="checkbox"/>	<input type="checkbox"/>
Manual & Electrical load release	<input type="checkbox"/>	<input type="checkbox"/>
Decision / exposure time	<input type="checkbox"/>	<input type="checkbox"/>

Load & Person Preparation

Vertical loads	<input type="checkbox"/>	<input type="checkbox"/>
Horizontal loads	<input type="checkbox"/>	<input type="checkbox"/>

Minimum requirements before starting practical ECS 3 instruction:

- CPL(H) / ATPL(H)	<input type="checkbox"/>
- ECS Level 2 completed	<input type="checkbox"/>
- Min. 1000ECS cycles	<input type="checkbox"/>
- Type rating completed	<input type="checkbox"/>
- Min. 10 hours PIC on type of helicopter	<input type="checkbox"/>
- ECS 3 Ground instruction completed	<input type="checkbox"/>
- Marshaller syllabus reviewed / SUVA brochure	<input type="checkbox"/>
- Practical Marshaller training for logging	<input type="checkbox"/>

Single log (short stem, long stem)	<input type="checkbox"/>	<input type="checkbox"/>
Multiple chokers	<input type="checkbox"/>	<input type="checkbox"/>
Multiple logs	<input type="checkbox"/>	<input type="checkbox"/>
Combined loads	<input type="checkbox"/>	<input type="checkbox"/>

Special Equipment

Concrete bucket	<input type="checkbox"/>	<input type="checkbox"/>
Electrical remote hook / swivel hook / double hook	<input type="checkbox"/>	<input type="checkbox"/>
Chokers / steel cables / chains	<input type="checkbox"/>	<input type="checkbox"/>
Long lines	<input type="checkbox"/>	<input type="checkbox"/>
Load meter / printer	<input type="checkbox"/>	<input type="checkbox"/>
Mirrors	<input type="checkbox"/>	<input type="checkbox"/>
Bubble window / vertical references	<input type="checkbox"/>	<input type="checkbox"/>
Audio / vibration warning	<input type="checkbox"/>	<input type="checkbox"/>

Emergency / Limitations

Flight control stops	<input type="checkbox"/>	<input type="checkbox"/>
TR failure	<input type="checkbox"/>	<input type="checkbox"/>
Engine failure / OEI operation	<input type="checkbox"/>	<input type="checkbox"/>
Height velocity diagram / exposure time	<input type="checkbox"/>	<input type="checkbox"/>
Emergency procedures in logging ops	<input type="checkbox"/>	<input type="checkbox"/>
Review of logging accidents	<input type="checkbox"/>	<input type="checkbox"/>

Dangers

Flights in valleys / cables / wires	<input type="checkbox"/>	<input type="checkbox"/>
Logging over wires / roads / 3rd party	<input type="checkbox"/>	<input type="checkbox"/>
Airflow / up and downdrafts / settling with power / vortex	<input type="checkbox"/>	<input type="checkbox"/>
Sun / shadow / snow / rain / static electricity	<input type="checkbox"/>	<input type="checkbox"/>
Emergency load jettison	<input type="checkbox"/>	<input type="checkbox"/>

Remarks:

I herewith certify that the trainee has received the required ECS 3 ground instruction and is found competent to begin the practical ECS 3 instruction.

Date:

Name:

Signature:

ECSC3

FLIGHT INSTRUCTION

CH-Licence N°

External cargo sling, LOGGING conversion Level 2 to 3

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LEVEL 3 LOGGING CONVERSION

Conditions:

- 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.

Pilot (preferably Certified Flight Instructor) in charge of ECS practical training (must be qualified at minimum for ECS level 1 and 3 and must have a minimum experience of 500 hours ECS). **maximum 2 persons.**

Name: Licence Nr:

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Flight instruction DC/minimum 20 cycles: (every square is 1 cycle)

Mirror Vertical ref.

Type of loads (use code in squares)

- 1 Horizontal load
- 2 Vertical load
- 3 Logs with branches
- 4 Multiple logs
- 5 Combined multiple logs

Date training started:

Trainee may perform **solo ECS3 with on site supervision** Date: Signature / License N°:

Flight instruction solo with on site supervision / min. 25 cycles: (every square is 1 cycle)

Mirror Vertical ref.

Type of loads (use code in squares)

- 1 Horizontal load
- 2 Vertical load
- 3 Logs with branches
- 4 Multiple logs
- 5 Combined multiple logs

Trainee may perform **solo ECS3 under supervision** Date: Signature / License N°:

Flight instruction solo under supervision / min 10 missions: (every square is 1 mission)

Mirror Vertical ref.

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SUPERVISOR NOT REQUIRED ON SITE

Trainee is found properly qualified for LOGGING (ECS3) operations without supervision
The trainee's logbook has been endorsed for ECS Level 3

Date: Signature / License N°:

30m < SLING

Total Helicopter Flight experience:

>300h PIC 300h<HEL<700h 700h<HEL<1000h 1000h<HEL<2000h HEL>2000h

Remarks:

TOTAL TIME ECS 3:N° of cycles ECS3:.....