ACS HELICOPTER MANEUVER SERIES · 5 OF 24

Slope Operations

Area of Operation IV — Hovering Maneuvers

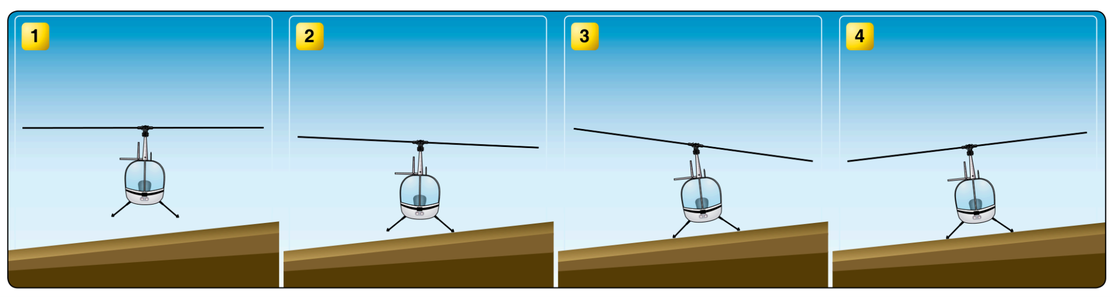
Private Pilot task PH.IV.E **Commercial Pilot task** CH.IV.E

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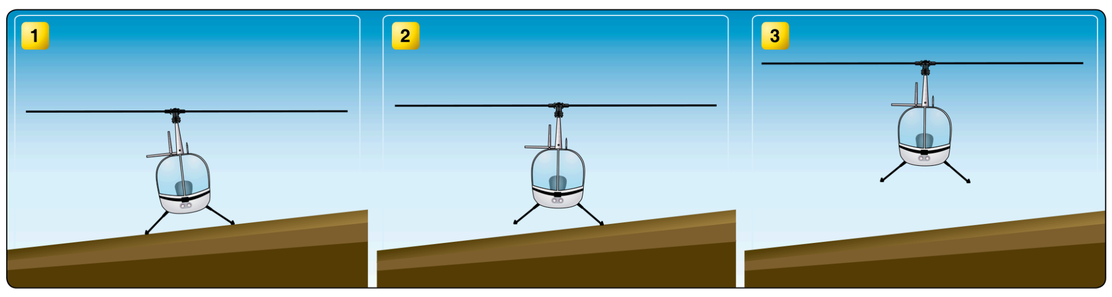
Objective. To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with slope operations.

HOW IT IS FLOWN

condensed from the FAA Helicopter Flying Handbook, Chapter 10 — Slope Landing, Slope Takeoff



HFH Figure 10-6. *Slope landing.*



HFH Figure 10-7. *Slope takeoff.*

1. Know dynamic rollover and mast bumping before any slope work. Land across the slope, headed into the wind, never tail upslope. Anticipate turbulence and downdrafts from the slope.
2. Landing (Figure 10-6): stabilized hover over the spot (1). Lower collective; as the upslope skid touches, hesitate level, then apply slight lateral cyclic toward the slope (2) and keep lowering the downslope skid with collective while moving the cyclic toward the slope to hold position (3).
3. Once the downslope skid is down: collective full down, cyclic and pedals neutral (4). Keep operating rpm until the full weight is on the skids; move the cyclic to confirm the helicopter is firmly on the ground before reducing rpm.
4. If cyclic reaches its limit, mast bumping or slope limits are felt before the helicopter is firmly down — return to a hover and pick a lesser slope. 5° is the recommended training maximum; see the POH/RFM.
5. Takeoff (Figure 10-7): rpm to normal, collective full down, cyclic toward the slope (1). Raise collective slowly — the downslope skid rises; move the cyclic to keep the rotor level with the horizon (2). Level with cyclic centered, pause, then raise collective gradually to lift off (3). Keep the tail away from the slope.

COMMON ERRORS — HFH LIST

- Ignoring wind during the approach and landing.
- Not holding rpm or heading (pivoting).
- Turning the tail into the slope.
- Lowering the downslope skid too rapidly.
- Excessive cyclic into the slope → mast bumping.
- Holding excessive cyclic into the slope as the downslope skid comes up.

SKILLS — THE STANDARD

the applicant exhibits the skill to:

	PRIVATE · ACS-15	COMMERCIAL · ACS-16
S1	Select a suitable slope.	
S2	Complete the appropriate checklist(s).	
S3	Properly approach the slope considering wind effect and obstacles.	
S4	Maintain powerplant and main rotor (Nr) speed within normal limits.	
S5	Maintain heading and ground position and prevent movement of aircraft on slope.	
S6	Make a smooth positive descent to touch the upslope skid or wheel(s) on the sloping surface.	
S7	Recognize if slope is too steep and abandon the operation prior to reaching cyclic control stops.	
S8	Maintain positive control while lowering the downslope skid or wheel to touchdown.	
S9	Neutralize controls after landing.	
S10	Make a smooth transition from the slope to a stabilized hover parallel to the slope.	
S11	Properly move away from the slope.	
S12	**Maintain a specified heading throughout the operation, ±10°.**	**Maintain a specified heading throughout the operation, ±5°.**

☐ Shaded rows are where the Commercial standard is tighter than Private. Unshaded rows apply to both certificates.

CHECKRIDE RULES — ACS APPENDIX 3

Demonstration of parallel slope operations must be conducted in accordance with the helicopter manufacturer's limitations, if published. If no slope limitations are published for the helicopter being used, parallel slope operations of approximately 5-10 degrees may be demonstrated. Landings with the helicopter facing downhill or uphill will not be tested during certification. A thorough review of the intended slope operations area must be conducted to ensure clearance from hazards.

KNOWLEDGE

PH.IV.E.K1–K5 · the applicant demonstrates understanding of:

- Elements related to slope operations.
- Factors used for selecting an appropriate slope.
- Effect of wind on slope operations.
- Dynamic rollover considerations during slope operations and preventive/recovery techniques.
- Helicopter slope limitations.

RISK MANAGEMENT

PH.IV.E.R1–R7 · identify, assess and mitigate risk associated with:

- Operations on a slope.
- Conditions leading to loss of tail rotor/antitorque effectiveness.
- Embarking or disembarking passengers and rotor blade hazards.
- Conditions leading to dynamic rollover.
- Surface conditions.
- Collision hazards.
- Exceeding the manufacturer's slope limitations.

Standards: FAA-S-ACS-15 Private Pilot Helicopter and FAA-S-ACS-16 Commercial Pilot Helicopter (text reproduced from the current ACS). **References:** FAA-H-8083-2, FAA-H-8083-21, FAA-H-8083-25; POH/RFM.
Figures and technique: FAA Helicopter Flying Handbook, FAA-H-8083-21B — figures reproduced unmodified.
Always confirm tolerances against the ACS in force on your checkride date and procedures against the R44 POH/RFM.

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