

CAMPBELL HELICOPTERS AERIAL WORK AND EXTERNAL LOADS (CLASS B, C AND D) EXAM

Name: _____ Date: _____

References:

1. Aircraft Flight Manual
2. Aircraft Transition Manual
3. Canadian Air Regs CARs
4. Company Operations Manual

Reviewed & Corrected to 100%

By: _____

Signature: _____

Date: _____

This exam meets the requirements for initial and annual aerial work and external loads (Class B and C) procedures training in accordance with the COM Section 6 (6.17 and 6.18) and Class D Loads in accordance with the COM Section 6 (6.19):

Aerial Work Training

1. Training related to contents and requirements of flight manual supplements or airworthiness approvals
2. Pre-flight inspection requirements of aerial work equipment
3. Procedures for handling malfunctions and emergencies related to the aerial work equipment
4. Operational preparation procedures related to reconnaissance of aerial work areas before low level flight operations
5. Operational restrictions
6. Flight training and practice in required flight manoeuvres

External Loads Training (Class B and C Loads)

1. Restrictions related to external load operations over built-up areas
2. Preparation of loads, load rigging procedures and attaching of Class B and Class C loads as applicable
3. Steps to be taken before starting operations, including flight and ground crew briefings, and instructions, inspection of suspension cables and preflight checking of jettison system
4. Precautions related to aerodynamics of Class B and Class C external loads, including oscillation and carriage of un-weighted cables

External Loads Training (Class D Loads) in accordance with the COM. Section 6 (6.19):

1. Instruction on the applicable flight manual supplement or Airworthiness approvals, including weight and balance calculation procedures, method of loading, rigging and attaching the external load and pre-flight procedures
2. Instruction on operational requirements, including calculation of one engine inoperative performance as applicable, co-ordination and communications procedures, and operational restrictions
3. Steps to be taken before commencing Class D load operations, including flight and ground crew briefings and instructions and pre-flight inspection requirements
4. Flight training with representative Class D loads including, as applicable to the load attachment configuration
5. Precision hovering in and out of ground effect, including vertical reference maneuvering; Pick up, departure, approach and delivery of Class D loads
6. Simulated emergencies and malfunction procedures with representative Class D loads. Comprehensive classroom, on-the-helicopter training and simulated mission(s) as specified in Appendix 1 – Campbell Helicopters Ltd. Training Program, Helicopter Human External Load Operations (Canada), to this section.

COMPANY OPERATIONS MANUAL

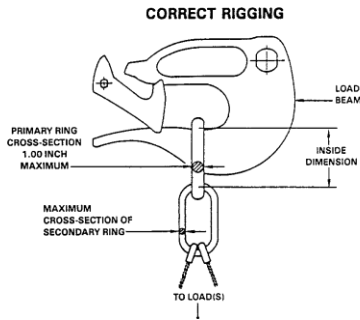
1. For aerial work operations, the PIC shall ensure that persons other than flight crew members, who are carried aboard the aircraft receive a safety briefing in accordance to Annex _____.
 - a) A
 - b) B
 - c) C
 - d) D
2. What meteorological conditions must exist prior to conducting aerial work?
 - a) Any
 - b) VFR
 - c) IFR
 - d) Marginal VFR
3. The carriage of passengers, (anyone who is not assigned to duty in the aircraft during flight time and essential to the operation) is _____.
 - a) Allowed
 - b) Prohibited
 - c) Only a Transport Inspector
4. Define Class A External load:
 - a) Means an external load that cannot move freely, cannot be jettisoned, and does not hang below the landing gear
 - b) Means an external load that can be jettisoned and that is not in contact with land, water, or any other surface
 - c) Means an external load that can be jettisoned and that remains in contact with the land, water, or any other surface
 - d) Means an external load with a person carried externally or any other load than a Class A, B,C external load
5. Define Class B External load:
 - a) Means an external load that cannot move freely, cannot be jettisoned, and does not hang below the landing gear
 - b) Means an external load that can be jettisoned and that remains in contact with the land, water, or any other surface
 - c) Means an external load that can be jettisoned and that is not in contact with land, water, or any other surface
 - d) Means an external load with a person carried externally or any other load than a Class A, B,C external load
6. Define Class C External load:
 - a) Means an external load that can be jettisoned and that is not in contact with land, water, or any other surface
 - b) Means an external load that can be jettisoned and that remains in contact with the land, water, or any other surface
 - c) Means an external load that cannot move freely, cannot be jettisoned, and does not hang below the landing gear
 - d) Means an external load with a person carried externally or any other load than a Class A, B,C external load

7. Define Class D External load:
- a) Means an external load with a person carried externally or any other load than a Class A, B,C external load
 - b) Means an external load that cannot move freely, cannot be jettisoned, and does not hang below the landing gear
 - c) Means an external load that can be jettisoned and that is not in contact with land, water, or any other surface
 - d) Means an external load that can be jettisoned and that remains in contact with the land, water, or any other surface
8. Authorization from the _____ is required to fly a jettisonable external load over a built up area.
- a) Operations Manger
 - b) Client
 - c) Chief Pilot
 - d) Minister
 - e) No authorization required
 - f) Not allowed to fly loads over built up areas
9. You should always consider fuel payload with external loads when traveling any distance, because your airspeed is _____ than normal.
- a) Faster
 - b) Slower
10. What is the danger of flying an un-weight longline?
- a) There is no danger, ever
 - b) Can't see the longline
 - c) Longline can break
 - d) At higher speeds, the long line may contact the tail boom causing damage

BELL FLIGHT MANUAL

1. Who may be carried onboard the aircraft during external load operations?
- a) _____
 - b) _____
 - c) _____
2. How can a crewmember assigned to hooking up the load in a hover discharge static electricity?
- _____
- _____
3. Multiple rings can be connected directly to the cargo hook or to the primary load ring if required.
- TRUE / FALSE**
4. Cargo hook release checks; both electrical and manual should be done during the pre flight?
- a) Yes
 - b) No
 - c) Electrical release only

5. Complete the following:



a. With a 3.0 to 3.1 inch inside diameter of the primary ring, the maximum cross section diameter of the secondary ring is _____ inches.

- I. .625
- II. .815
- III. .550

b. With a 3.1 to 4.0 inch inside diameter of the primary ring, the maximum cross section diameter of the secondary ring is _____ inches.

- I. .815
- II. .750
- III. .783

c. The maximum primary ring cross section is _____ inch(es).

- I. 1.5
- II. 1.2
- III. 1.0

6. V_{ne} with an external load is _____ knots.

- a) 65 kts
- b) 80 kts
- c) 75 kts
- d) 100 kts

7. Forward speed may be limited by _____ due to the size, weight, and shape of the load.

- a) Pilot skill
- b) Weather
- c) Controllability
- d) Longline length

8. External load limit on the Bell 212 is _____ lbs

- a) 3000
- b) 4500
- c) 5000
- d) 5500

9. Use of an inappropriately sized load ring could result in:

- a) Inadvertent load release if ring is too big
- b) Inadvertent load hang up if ring is too small
- c) Cargo hook failure

BAMBI BUCKET & POWERFILL OPERATORS MANUAL

10. The overall length of the Bambi Bucket model 2732 is?

- a) 12 ft
- b) 18 ft
- c) 21 ft
- d) 23 ft

11. What are the two methods of varying the amount of water to fill the Bambi bucket?

- a) Cinch strap 70% - 100%
- b) Only dip the bucket half way in the water
- c) Slow/fast lift from water = min/max fill
- d) Tap the bucket release switch to dump some water out

12. Bambi Bucket model 3542 weighs _____ lbs empty, and has full weight of _____ lbs.
- a) 176 / 3568
 - b) 163 / 3629
 - c) 170 / 3589
 - d) 167 / 3667
13. What is the recommended max dump speed of the Bambi bucket?
- a) 50 kts
 - b) 55 kts
 - c) 60 kts
 - d) 80 kts
14. Should we store a wet bucket?
- a) Yes, this is ok because the Bambi bucket after all holds water
 - b) No
 - c) No, because there is a chance mildew will form
15. What should we do if foam has been used with the bucket?
- a) Pack it away
 - b) Make sure you rinse out the foam
 - c) Wash the bucket out prior to storing it
16. With the power snorkel installed, It may not be possible to fill from water sources less _____ deep.
- a) 8"
 - b) 12 "
 - c) 15"
 - d) 20"
17. Do not run the pump for the snorkel if it is submerged to a depth of _____ or more
- a) 5 ft
 - b) 8 ft
 - c) 10ft
 - d) 15 ft
18. Do not submerge the bucket to a depth of more than _____ when performing conventional dip fills (pump off) in deep water sources.
- a) 10 ft
 - b) 15 ft
 - c) 20 ft
 - d) 25 ft

END OF EXAM