

AIRFRAME & POWERPLANT MECHANICS

GENERAL TEST GUIDE

Written, Oral, and Practical

ALIGNS WITH

FAA-H-8083-30B & FAA-H-8083-30B-ATB

Airframe & Powerplant Mechanics General Handbook

2024 EDITION



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SAFETY, GROUND OPERATIONS, AND SERVICING

QUESTIONS

1-29 AM.I.F.K1

When towing a large aircraft, when crossing of a taxiway or runway is required

- A. a person should be in the cockpit to watch for obstructions.
- B. persons should be stationed at the nose, each wingtip, and the empennage at all times.
- C. a person should be in the cockpit to operate the brakes.

1-32 AM.I.F.K4

When taxing or towing an aircraft, an alternating red and green light from the control tower means

- A. Move clear of the runway/taxiway immediately.
- B. OK to proceed but use extreme caution.
- C. Return to your starting point

1-30 AM.I.F.K4

When taxing (or towing) an aircraft, a flashing red light from the control tower means

- A. stop and wait for a green light.
- B. move clear of the runway/taxiway immediately.
- C. return to starting point.

1-33 AM.I.F.K3

When refueling an aircraft from a fuel truck, how many grounding wires are need to ensure protection from a static discharge?

- A. One
- B. Two
- C. Three

1-31 AM.I.F.K4

When taxing or towing an aircraft, a flashing white light from the control tower means

- A. move clear of the runway/taxiway immediately.
- B. OK to proceed but use extreme caution.
- C. return to your starting point.

1-34 AM.I.F.K5

Referring to Figure 1-3 below, identify the signal to engage the rotor on a rotorcraft.

- A. 1
- B. 2
- C. 3

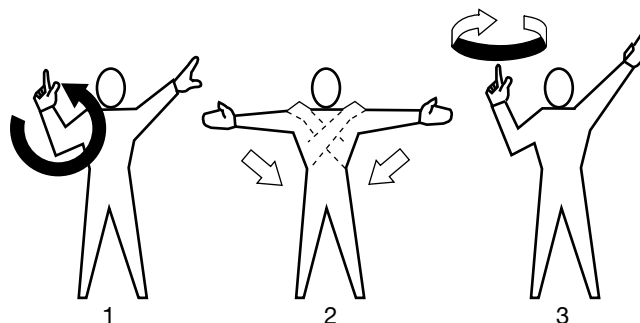


Figure 1-2. Marshalling signals.

SAFETY, GROUND OPERATIONS, AND SERVICING

ANSWERS

1-29 Answer C

The person in charge should assign team personnel as wing walkers. A wing walker should be stationed at each wingtip in such a position that he or she can ensure adequate clearance of any obstruction in the path of the aircraft. A tail (empennage) walker should be assigned when sharp turns are to be made, or when the aircraft is to be backed into position. A qualified person should occupy the pilot's seat of the towed aircraft to observe and operate the brakes as required. "A" appears to be true, the main task of the person in the pilot seat is to operate the brakes, the wing walkers are the main lookouts for obstructions. Although "B" could easily be considered correct, be cautious of statements that say "all" or "never". There are often times exceptions to almost every rule. In this case, when an aircraft is towed from the gate to a maintenance facility it may well cross active taxi and runways and wing walkers are not allowed on active taxi and runways. Therefore "C" is the most correct answer.

Ref: General Handbook H-8083-30B-ATB, Chapter 1 Page 20

1-30 Answer B

Refer to Figure 1-22 on page 1-21 of the General Handbook H-8083-30B-ATB to learn the light signals used by ATC to communicate with pilots when radio communication is not available. AMTs should know these signals as well in the event of taxiing an aircraft and radio communication with the tower is unavailable. In this question, a flashing red light means that you need to move clear of the runway or taxiway immediately. Light signals should be committed to memory, especially if authorized to taxi aircraft.

Ref: General Handbook H-8083-30B-ATB, Chapter 1 Page 20

1-31 Answer C

Refer to Figure 1-22 on page 1-21 of the General Handbook H-8083-30B-ATB to learn the light signals used by ATC to communicate with pilots when radio communication is not available. AMTs should know these signals as well in the event of taxiing an aircraft and radio communication with the tower is unavailable. In this question, a flashing white light means that you must return to your starting point. Light signals should be committed to memory, especially if authorized to taxi aircraft.

Ref: General Handbook H-8083-30B-ATB, Chapter 1 Page 20

1-32 Answer B

Refer to Figure 1-22 on page 1-21 of the General Handbook H-8083-30B-ATB to learn the light signals used by ATC to communicate with pilots when radio communication is not available. AMTs should know these signals as well in the event of taxiing an aircraft and radio communication with the tower is unavailable. In this question, an alternating red and green light means that you should proceed with extreme caution. Light signals should be committed to memory, especially if authorized to taxi aircraft.

Ref: General Handbook H-8083-30B-ATB, Chapter 1 Page 26, 28

1-33 Answer C

Three grounding connections are required to ensure safety from an electrical discharge.

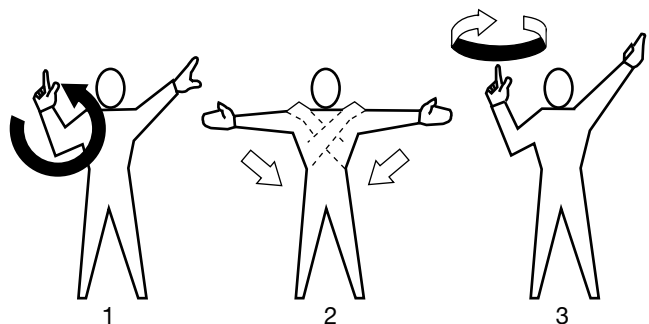
1. Connect the aircraft to ground.
2. Connect the truck to ground.
3. Connect the aircraft and the truck to each other.

Ref: General Handbook H-8083-30B-ATB, Chapter 1 Page 20, 22

11-34 Answer C

Refer to the Figure below for examples of the various standardized FAA hand taxi signals for helicopters. As with light signals, these should be committed to memory.

Ref: General Handbook H-8083-30B-ATB, Chapter 1 Page 20



Answer for Figure 1-2. Marshalling signals.

ORAL EXAM

- 1-1(O). For aircraft with a steerable nose gear, what should be done before towing the aircraft?
- 1-2(O). Where should team members be stationed when towing an aircraft?
- 1-3(O). How fast can an aircraft be towed?
- 1-4(O). Describe the brake usage rules when towing aircraft.
- 1-5(O). What should be done prior to towing an aircraft on or across an active runway?
- 1-6(O). Describe the safety precautions that should be observed while starting and running an engine.
- 1-7(O). Describe the safety precautions to be followed when hand cranking an engine.
- 1-8(O). Who is authorized to taxi aircraft?
- 1-9(O). If radio communication is unavailable, how does the AMT communicate with ATC when taxiing an aircraft?
- 1-10(O). Explain the term "hung start".
- 1-11(O). Explain the term "hot start".
- 1-12(O). Explain why an AMT should be familiar with standard light signals
- 1-13(O). Where can you find a listing of standard aircraft taxiing signals?
- 1-14(O). Describe the procedures for extinguishing an engine induction fire on a reciprocating engine.
- 1-15(O). List at least three possible hazards associated with the ground operations of aircraft.
- 1-16(O). Explain the possible results of mixing jet fuel with Avgas in a reciprocating engine.
- 1-17(O). Can Avgas be used in a turbine engine and explain why or why not.
- 1-18(O). List at least three precautions that should be observed when fueling an aircraft.
- 1-19(O). Describe the general safety practices and precautions that should be observed when servicing aircraft oxygen systems.
- 1-20(O). What do the numbers represent in Avgas grade classifications?
- 1-21(O). How can the various Avgas grades be identified?
- 1-22(O). What is JET A fuel made of?
- 1-23(O). Name three types of contamination that can be found in aviation fuel.
- 1-24(O). Describe how each of the three types of contamination can affect the fuel system.
- 1-25(O). How can the presence of water be determined in a fuel sample?

PRACTICAL EXAM

- 1-1(P). Given an aircraft or a landing gear mockup, service the tires per the maintenance manual.
- 1-2(P). Given an aircraft or a landing gear mockup, service the struts per the maintenance manual.
- 1-3(P). Given an aircraft or simulator, start, run-up, and shut down the aircraft or simulator.
NOTE: Always use the checklist. Aircraft used can be equipped with either a reciprocating or a turbine engine.
- 1-4(P). Demonstrate the proper hand signals used during aircraft ground operations.
NOTE: This can be accomplished in numerous ways. You may be asked to physically demonstrate various hand signals as called out by the examiner, the examiner may demonstrate them and you must explain what is meant, or you may be provided with pictures of the various hand and light signals and describe their meaning to the examiner.
- 1-5(P). Given the appropriate documentation, determine the approved engine oil(s) for a specific engine.
- 1-6(P). Given an aircraft, secure the aircraft for outside storage.
NOTE: Be prepared to tie-down various types of aircraft: tricycle, tail wheel, and/or helicopter.
- 1-7(P). Given an aircraft, fuel and/or defuel the aircraft, per the maintenance manual.
NOTE: This activity may be simulated.
- 1-8(P). Given an aircraft, sample the fuel, determining if the proper fuel is used, and whether contaminants have entered the fuel system.
- 1-9(P). Given an aircraft, set-up and connect an aircraft to a ground power unit.
- 1-10(P). Given an aircraft, connect a tow bar and prepare the aircraft for towing.
- 1-11(P). Given the approved hand signals, direct the movement of an aircraft.
- 1-12(P). Given an aircraft for engine mockup, locate and clear a liquid lock in the aircraft engine.
- 1-13(P). Given fire extinguishers or pictures of fire extinguishers, identify the types/classes of fires each fire extinguisher can be used for in a shop or on the flight line.