Sport Pilot Instructor and Examiner

Pilots seeking a Sport Pilot Instructor or Sport Pilot Examiner Certificate should use the ASA *CFI Test Prep* to prepare for the FAA Knowledge Exams issued for these ratings. All the questions you will encounter on your test are included in this book and this Update.

Description of the Tests

All test questions are the objective, multiple-choice type, with three choices of answers. Each question can be answered by the selection of a single response. Each test question is independent of other questions, that is, a correct response to one does not depend upon or influence the correct response to another.

The General Sport Pilot test is found in the *Sport Pilot Test Prep* (ASA-TP-SPORT). Applicants seeking initial flight or ground instructor certification must successfully complete a Fundamentals of Instructing (FOI) test. However, a person holding a current teacher's certificate at the junior or senior high school level, an instructor at a college or university level, or an Ultralight Instructor who already took this test can receive credit for it.

Test Code	Test Name	Test Prep Study*	Number of Questions	Minimum Age	Allotted Time (hrs)	Passing Score
SPORT PILOT INSTRUCTOR						
FOI	Fundamentals of Instructing	FOI	50	16	1.5	70
SIA	Flight Instructor Sport Airplane	ALL, AIR	70	16	2.5	70
SIB	Flight Instructor Sport Balloon	ALL, LTA	70	16	2.5	70
SIG	Flight Instructor Sport Glider	ALL, GLI	70	16	2.5	70
SIL	Flight Instructor Sport Lighter-than-Air (Airship)	ALL, LTA	70	16	2.5	70
SIP	Flight Instructor Sport Powered Parachute	ALL, PPC	70	16	2.5	70
SIW	Flight Instructor Sport Weight-Shift Control	ALL, WSC	70	16	2.5	70
SIY	Flight Instructor Sport Gyroplane	ALL, RTC	70	16	2.5	70
SPORT PILOT EXAMINER						
SEA	Pilot Examiner Sport Airplane	ALL, AIR	50	21	2.0	80
SEB	Pilot Examiner Sport Balloon	ALL, LTA	50	21	2.0	80
SEG	Pilot Examiner Sport Glider	ALL, GLI	50	21	2.0	80
SEL	Pilot Examiner Sport Lighter-than-Air (Airship)	ALL, LTA	50	21	2.0	80
SEP	Pilot Examiner Sport Powered Parachute	ALL, PPC	50	21	2.0	80
SEW	Pilot Examiner Sport Weight-Shift Control	ALL, WSC	50	21	2.0	80
SEY	Pilot Examiner Sport Gyroplane	ALL, RTC	50	21	2.0	80

* The "Questions to Study" for Sport Pilot Instructor/Examiner are listed starting on Page 3 of this Update.

Note: Unlike Flight Instructor Certificates, Ground Instructor Certificates are not category-specific. Although the emphasis of the tests is "Airplane," applicants can be tested on all questions in all aircraft categories. Therefore, Ground Instructor applicants need to study all questions in Chapters 2 through 10.

Eligibility Requirements for Sport Pilot Instructors

Always check the current 14 CFR Part 61 for pilot certificate requirements. To be eligible for a Flight Instructor Certificate with a Sport Pilot Rating a person must:

1. Be at least 18 years old.
2. Be able to read, speak, write, and understand English or have a limitation placed on the certificate.
3. Hold at least a current and valid Sport Pilot Certificate with category and class ratings or privileges, as applicable, that are appropriate to the flight instructor privileges sought.
4. Score at least 70 percent on the required FAA Knowledge Test.
5. Pass a practical test on the subjects and maneuvers outlined in the *Sport Pilot Practical Test Standards* (ASA-8081-SPORT).
6. The following table explains the aeronautical experience you must have to apply for a Sport Pilot Certificate:

If you are applying for a flight instructor certificate with a sport pilot rating for...	Then you must log at least...	Which must include at least...
(a) Airplane category and single-engine class privileges,	(1) 150 hours of flight time as a pilot,	(i) 100 hours of flight time as pilot in command in powered aircraft, (ii) 50 hours of flight time in a single-engine airplane, (iii) 25 hours of cross-country flight time, (iv) 10 hours of cross-country flight time in a single-engine airplane, and (v) 15 hours of flight time as pilot in command in a single-engine airplane that is a light-sport aircraft.
(b) Glider category privileges,	(1) 25 hours of flight time as pilot in command in a glider, 100 flights in a glider, and 15 flights as pilot in command in a glider that is a light-sport aircraft, or (2) 100 hours in heavier-than-air aircraft, 20 flights in a glider, and 15 flights as pilot in command in a glider that is a light-sport aircraft.	
(c) Rotorcraft category and gyroplane class privileges,	(1) 125 hours of flight time as a pilot,	(i) 100 hours of flight time as pilot in command in powered aircraft, (ii) 50 hours of flight time in a gyroplane, (iii) 10 hours of cross-country flight time, (iv) 3 hours of cross-country flight time in a gyroplane, and (v) 15 hours of flight time as pilot in command in a gyroplane that is a light-sport aircraft.
(d) Lighter-than-air category and airship class privileges,	(1) 100 hours of flight time as a pilot,	(i) 40 hours of flight time in an airship, (ii) 20 hours of pilot in command time in an airship, (iii) 10 hours of cross-country flight time, (iv) 5 hours of cross-country flight time in an airship, and (v) 15 hours of flight time as pilot in command in an airship that is a light-sport aircraft.
(e) Lighter-than-air category and balloon class privileges,	(1) 35 hours of flight time as pilot-in-command,	(i) 20 hours of flight time in a balloon, (ii) 10 flights in a balloon, and (iii) 5 flights as pilot in command in a balloon that is a light-sport aircraft.
(f) Weight-shift-control aircraft category privileges,	(1) 150 hours of flight time as a pilot,	(i) 100 hours of flight time as pilot in command in powered aircraft, (ii) 50 hours of flight time in a weight-shift-control aircraft, (iii) 25 hours of cross-country flight time, (iv) 10 hours of cross-country flight time in a weight-shift-control aircraft, and (v) 15 hours of flight time as pilot in command in a weight-shift-control aircraft that is a light-sport aircraft.
(g) Powered-parachute category privileges,	(1) 100 hours of flight time as a pilot,	(i) 75 hours of flight time as pilot in command in powered aircraft, (ii) 50 hours of flight time in a powered parachute, (iii) 15 hours of cross-country flight time, (iv) 5 hours of cross-country flight time in a powered parachute, and (v) 15 hours of flight time as pilot in command in a powered parachute that is a light-sport aircraft.

Eligibility Requirements for Sport Pilot Examiners

Always check the current Sport Pilot Examiner Handbook (8710.X). To be eligible for a Pilot Examiner Certificate with a Sport Pilot Rating a person must:

1. Hold all pertinent category and classes for each aircraft for which designation is sought.
2. Hold a valid third-class airman medical certificate or valid U. S. driver's license for initial designation. (A medical certificate or U.S. driver's license is **not** required for designations limited to examining in balloons and gliders.)
3. Be at least 21 years old.
4. Have a good record as a pilot and flight instructor with regard to accidents, incidents, and violations.
5. Have a reputation for integrity and dependability in the industry and the community.
6. Have a history of a harmonious relationship with the FAA.
7. Meet all eligibility and experience requirements for the specific designation sought in accordance with the following table and the appropriate FAA orders and handbooks:

Category of Light Sport Aircraft Applied For:	PIC Total	PIC in LSA Category	Total Flight Instruction Given	Total Flight Instruction Given in LSA Category	PIC Last 12 Months in LSA Category	Total Flight Instruction Given in Last 12 Months
Airplane	500	250	200	100	50	N/A
Powered Parachute	250	100	100	50	25	N/A
Weight-Shift Control	500	250	200	100	50	N/A
Gyroplane	500	250*	200	200*	50*	N/A
Glider	250	100*	100	50*	10 Hrs*, 10 Flts*	N/A
Airship	200	100*	N/A	100*	20*	N/A
Balloon	200	100*	N/A	50*	20 Hrs*, 10 Flts*	10

* Note: Not required to be in Light Sport Aircraft for this category.

Questions to Study

Use the ASA ***CFI Test Prep*** (ASA-TP-CFI-05) to prepare for your tests. The notes below will help you streamline your studying efforts to ensure you are focusing on the questions applicable to your test.

Fundamentals of Instructing: Study all of Chapter 1.

Sport Pilot Instructor and Examiner tests:

- Chapter 2, study questions applicable to your test in entire chapter; new questions for Powered Parachute and Weight-Shift Control instructors are included in this Update.
- Chapter 3, disregard these sections: Oxygen Systems, Cold Weather Operation, Critical Engine of a Multi-Engine Airplane, Constant-Speed Propellers.
- Chapter 4, disregard these sections: Multi-Engine Performance, Helicopter Performance, Weight to be Added or Removed, Weight to be Shifted, Helicopter Weight and Balance.
- Chapter 5, disregard these sections: Icing, High-Altitude Weather, Winds and Temperatures Aloft Forecast (FD), Constant Pressure Analysis Charts.

Continued

- Chapter 6, disregard these sections: Finding Time, Distance, Ground Speed; Finding Magnetic Heading and Ground Speed; Finding Fuel Required; Finding Range Available; Off-Course Correction; Automatic Direction Finder (ADF); Very High Frequency Omni-Directional Range (VOR); VORTAC; Radio Magnetic Indicator (RMI); Distance Measuring Equipment (DME).
- Chapter 7, disregard these sections: Notices to Airmen (NOTAM); Airport Lighting; Flight Plans.
- Chapter 8, disregard these sections: Medical Certificates, Recreational Pilot Certification, Private Pilot Certification, Commercial Pilot Certification, Recency of Experience, Change of Permanent Mailing Address, Glider Towing, Use of Seatbelts, Alcohol and Drugs, Parachutes, Safety Pilot Requirements, Fuel Reserve Requirements, Minimum Equipment Lists, Supplemental Oxygen, Formation Flights and Right-of-Way, Maximum Authorized Speeds, Flight Plan Airspeed, VFR Cruising Altitudes, Rotorcraft Regulations, Gyroplane Regulations, Balloon Regulations,
- Chapter 9, disregard these sections: Eights-on-Pylons, Chandelles, Lazy Eights, Helicopter Operation (Takeoffs and Hovering, Autorotation, Settling With Power, Slope Operation, Rapid Decelerations, Pinnacle Approaches, Running Landings).
- Chapter 10, study entire chapter.

The following questions will be added to Chapter 2 of the *CFI Test Prep*; they apply to Powered Parachute (PPC) and Weight-Shift Control (WSC) test applicants. The explanations for the answers given describe the concepts you need to understand for the test. Many of these questions are based on older weight shift and PPC designs and unique characteristics of specific designs. The answers given reflect the best of the choices provided.

PPC
7245. During flight, advancing thrust will

A—increase airspeed.
B—cause the aircraft to climb.
C—cause the aircraft to increase airspeed and climb.

Throttle controls vertical speed in a PPC. Advancing the throttle will produce decreased descent rates or increased climb rates. Speed in a PPC is controlled by the weight and not the throttle. (H01) — The Powered Parachute Bible, Chapter 1

Answers (A) and (C) are incorrect because throttle does not affect airspeed.

PPC
7246. The torque effect of an engine that rotates clockwise in a powered parachute is counteracted by

A—increasing the length of the right and decreasing the length of the left riser cables.
B—decreasing the length of the left riser cables.
C—decreasing the length of right riser cables.

A clockwise or right-turning propeller when viewed from the rear creates an opposite reaction to turn the undercarriage aircraft to the left. Therefore, a slight right-hand turn needs to be built into the aircraft to accommodate for this torque. Many designs are used by manufacturers to accomplish this. Decreasing the length of the right-hand riser will accomplish this by bringing the right side of the wing down. (H02) — The Powered Parachute Bible, Chapter 2

Answers (A) and (B) are incorrect because they would create a turn in the wrong direction.

PPC
7247. The steering bars

A—are used during taxi operations with the parachute stowed.
B—control the outboard trailing edge of the parachute.
C—control the main landing gear brakes.

The steering bars are the main control to turning in flight. Pushing on the right-hand steering bar will pull the right control line, lower the trailing edge of the right wing, create more drag on the right side and turn the aircraft to the right. (H01) — The Powered Parachute Bible, Chapter 1

Answers (A) and (C) are incorrect because the steering bars control the wing and are not used for ground operations.

Answers
7245 [B] 7246 [C] 7247 [B]

PPC

7248. The formation of ice in a carburetor's throat is indicated by

A—rough engine operation, followed by a decrease in oil pressure.
B—a rapid increase in RPM, followed by rough engine operation.
C—a drop in RPM, followed by rough engine operation.

Carb ice restricts the airflow into the engine reducing its power and resultant RPM, and also results in rough engine operation. (H05) — The Powered Parachute Bible, Chapter 5

Answers (A) and (B) are incorrect because oil pressure is not significantly affected by carb ice, and carb ice will not increase RPM.

PPC

7249. The purpose of the fuel tank vent system is to

A—remove dangerous vapors from the aircraft and prevent an explosion.
B—allow air to enter the tank as fuel is consumed.
C—ensure a proper fuel to air ratio.

Fuel tanks are not normally sealed systems; they need air venting because the fuel level is falling and so no vacuum builds up in the fuel tank. (H01) — The Powered Parachute Bible, Chapter 1

Answer (A) is incorrect because fuel tanks are isolated and fuel vapors are prevalent within the fuel tank confined area. Answer (C) relates to 2-stroke engines only. It is incorrect because fuel and oil are mixed either before the mixture is poured into the fuel tank (pre-mix), or after when oil is injected into the air/fuel mixture oil before it goes into the combustion chamber.

PPC

7250. A standby source of fuel to an engine in a powered parachute is typically

A—from an electrically powered pump.
B—through gravity feed.
C—from a pressurized fuel tank.

Some engines use an electric boost pump similar to an airplane to supply a back up pump in case the engine-driven fuel pump fails when low to the ground. (H05) — The Powered Parachute Bible, Chapter 5

Answer (B) is incorrect because if a gravity feed system was used, then this would supply fuel and no standby pump would be needed. Answer (C) is incorrect because pressurized fuel tanks are not normally used for light-sport aircraft.

PPC

7251. The fuel vents on many powered parachutes and weight shift control aircraft are located

A—in the fuel cap.
B—adjacent to the crankcase breather.
C—in the fuel tank pressure relief valve.

The fuel vent in many but not all fuel tanks is in the fuel cap. (H01) — The Powered Parachute Bible, Chapter 1

Answer (B) is incorrect because the crankcase breather is used on a 4-stroke engine and has nothing to do with the fuel supply system on a 2-stroke engine. Answer (C) is incorrect because most PPCs do not have pressurized fuel tanks nor a fuel tank pressure relief valve.

PPC

7252. Combusted fuel is expelled from a 2-cycle engine through an

A—exhaust valve and exhaust port.
B—exhaust valve.
C—exhaust port.

All 2-stroke engines expel the exhaust through an exhaust passage called the exhaust port. (H04) — The Powered Parachute Bible, Chapter 4

Answers (A) and (B) are incorrect because only some higher power engines use an exhaust valve, while all have an exhaust port.

PPC

7253. Fuel enters a two-cycle engine through an

A—intake port and intake valve.
B—intake port and reed valve.
C—intake valve and reed valve.

The air/fuel/oil mixture enters the crankcase through an intake port that some types of valve systems use to close off the crankcase and pressurize the air/fuel/oil mixture, before it is ported up to the top of the piston. Many engines use the positioning of the piston as the intake valve system, others use a rotary valve, while still others use a one-way flow "reed" or "poppet" valve. (H05) — The Powered Parachute Bible, Chapter 5

Answer (B) is incorrect because not all two-stroke engines use a reed valve. Answer (C) is incorrect because you must have an intake port.

Answers

7248	[C]	7249	[B]	7250	[A]	7251	[A]	7252	[C]	7253	[A]

PPC
7254. The first indication of carburetor ice in an aircraft with a four-cycle engine and fixed-pitch propeller is

A—an increase in RPM.
B—a decrease in RPM.
C—a decrease in oil pressure.

The first symptom of carb ice in a 4-stroke engine is a reduction in engine RPM. (H05) — The Powered Parachute Bible, Chapter 5

Answer (A) is incorrect because carb ice reduces RPM. Answer (C) is incorrect because carb ice has no noticeable effect on oil pressure.

PPC
7255. Air cooled engines dissipate heat

A—through cooling fins on the cylinder and head.
B—by air flowing through the radiator fins.
C—through the cylinder head temperature probe.

Air cooled engines use fins on the cylinder and head, with air being forced past them as the primary means to dissipate heat. (H05) — The Powered Parachute Bible, Chapter 5

Answer (B) is incorrect because air cooled engines do not have separate radiators; only water and oil coolers need a radiator. Answer (C) is incorrect because the probe is not used to dissipate heat.

PPC
7256. Coolant in a liquid cooled engine is normally circulated by

A—capillary attraction.
B—an electric pump.
C—an engine driven pump.

Most liquid-cooled systems are driven from some mechanical source/pump on the engine. (H05) — The Powered Parachute Bible, Chapter 5

Answer (A) is incorrect because capillary attraction is not normally used for engine cooling. Answer (B) is incorrect because electric pumps are usually used as coolant pumps.

PPC
7257. In order to improve engine efficiency, two-cycle engine exhaust systems are tuned to

A—close the exhaust valve to stop the fuel mixture from exiting the cylinder.
B—stop the fuel mixture from exiting the cylinder before combustion.
C—use a reed valve to stop the fuel mixture from exiting the cylinder.

If there is not an exhaust valve, tuned exhaust systems are designed to provide back pressure pulses at the exhaust port. The tuned exhaust bounces pressure back at the appropriate time, so the fuel mixture stays in the combustion chamber while both intake and exhaust ports are open. (H04) — The Powered Parachute Bible, Chapter 4

Answer (A) is incorrect because if the exhaust port has a valve, it is not as critical to have a tuned exhaust to provide back pressure at the exhaust port. There are not usually exhaust valves in a 2-stroke engine; however, some 2-stroke engines do have them. An example of this is the RAVE exhaust valve on the ROTAX 618. Answer (C) is incorrect because the reed valve is typically used for the intake air/fuel mixture.

PPC
7258. 2-cycle engine thrust and fuel efficiency can be greatly compromised when

A—exhaust systems are installed that are not specifically tuned for an engine.
B—carbon deposits build up on exhaust valves.
C—intake valve lifters fail to pressurize and provide adequate fuel to the combustion chamber.

The exhaust systems should be tuned to the engine for maximum efficiency. (H04) — The Powered Parachute Bible, Chapter 4

Answer (B) is incorrect because most 2-stroke engines do not have exhaust valves. Answer (C) is incorrect because not all 2-stroke engines have intake valve lifters.

PPC
7259. The purpose of a kill switch is to

A—shut off the fuel to the carburetor.
B—ground the lead wire to the ignition coil shutting down the powerplant.
C—ground the battery eliminating current for the ignition system.

The kill switch shuts down the engine. (H06) — The Powered Parachute Bible, Chapter 6

Answer (A) is incorrect because a fuel valve shuts off fuel. Answer (C) is incorrect because the battery should already be grounded.

Answers

7254	[B]	7255	[A]	7256	[C]	7257	[B]	7258	[A]	7259	[B]

PPC
7260. A typical two-cycle engine ignition coil is powered by

A—a battery.
B—a battery or an alternator.
C—a magneto.

The magneto is an engine-driven generator which powers the ignition system and also supplies extra power to aircraft electrical system. (H07) — The Powered Parachute Bible, Chapter 7

Answers (A) and (B) are incorrect because the battery is further down the line, and is also powered by the magneto.

PPC
7261. Many 4-cycle engines utilize what type of lubrication system?

A—Forced.
B—Gravity.
C—Fuel/oil mixture.

Most 4-stroke engines have an oil pump which forces the oil through the system. (H05) — The Powered Parachute Bible, Chapter 5

Answer (B) is incorrect because gravity systems are not a typical oil supply system. Answer (C) is incorrect because a fuel/oil mixture system is on 2-stroke engines only.

PPC
7262. Adding more oil to the fuel than specified by the manufacturer of a 2-cycle engine will result in

A—increased engine performance.
B—increased carbon buildup and engine fouling.
C—increased engine lubrication and optimal performance.

Extra oil in the fuel would cause inefficient burning and more carbon as a result. (H05) — The Powered Parachute Bible, Chapter 5

Answers (A) and (C) are incorrect because oil does not increase performance.

PPC
7263. Pilots should refrain from revving an engine with a reduction drive because

A—the crankshaft counterbalances may be dislodged and cause extreme engine vibration.
B—the propeller blade tips may exceed their RPM limits.
C—the torque exerted on the gears during excessive acceleration and deceleration can cause the gear box to self-destruct.

Revving the engine causes more stress than not revving it; it is good practice to not rev it unnecessarily. (H05) — The Powered Parachute Bible, Chapter 5

Answer (A) is incorrect because not all engines have counterbalances. Answer (B) is incorrect because the propeller is designed to not exceed its maximum RPM at full power.

PPC
7264. The center of gravity tube is

A—lengthened for heavier pilots.
B—shortened for lighter pilots.
C—lengthened for lighter pilots.

The lighter the pilot, the more rearward the wing attachment should be for the hanging airframe to be balanced properly. Most modern designs have a number of hook-in points fore and aft on the airframe. For the tube CG adjustment system, lengthening the CG tube moves the wing hang point back to account for the lightweight person in the front. (H01) — The Powered Parachute Bible, Chapter 3

Answer (A) is incorrect because this would balance the airframe with the nose wheel too low. Answer (B) is incorrect because this would move the CG forward and the front wheel would be too high.

PPC
7265. The fan guard surrounds the propeller and

A—increases aerodynamic efficiency.
B—reduces "P" factor.
C—protects the parachute suspension lines from damage.

The purpose of the fan guard is to protect the parachute lines from hitting the prop. (H01) — The Powered Parachute Bible, Chapter 1

Answers (A) and (B) are incorrect because the fan guard reduces performance and has no effect on P factor.

Answers

7260	[C]	7261	[A]	7262	[B]	7263	[C]	7264	[C]	7265	[C]

PPC
7266. Cross ports in the parachute ribs aid in

A—weight reduction of the canopy.
B—the pressurization of the neighboring cells.
C—drying of the canopy.

Cross ports in the wing ribs allow air to flow sideways from cell to cell, called "cross flow" in the wing. This causes the cells next to each other to transfer pressure inside the wing and cells to pressurize neighboring cells. (H02) — The Powered Parachute Bible, Chapter 2

PPC
7267. Splicing severed suspension lines

A—is permissible if using the same size material as the original line.
B—is a very dangerous practice.
C—is an acceptable field repair

Splicing lines is dangerous because you can change the airfoil; the lines could come loose and go through the prop. (H02) — The Powered Parachute Bible, Chapter 2

Answers (A) and (C) are incorrect because it is a dangerous practice.

PPC
7268. Tying a severed suspension line

A—will change the shape of the wing and is not permissible.
B—is permissible if it is shortened no more than six inches.
C—is an acceptable field repair.

Tying a severed suspension line would shorten it and create a discontinuity in the wing shape and not acceptable. (H02) — The Powered Parachute Bible, Chapter 2

Answers (B) and (C) are incorrect because it is a dangerous practice.

PPC
7269. Swapping wings from one brand or type of powered parachute to another is

A—permissible as long as the basic shape of the parachutes are similar.
B—dangerous since every wing is designed for a specific aircraft.
C—permissible if the overall area of the parachutes is the same.

Every wing is designed for a specific airframe configuration, engine torque and weight. (H02) — The Powered Parachute Bible, Chapter 2

Answers (A) and (C) are incorrect because there can be a different length in the lines between the right and left, which has nothing to do with the shape and area of the wing.

PPC
7270. Degradation of the parachute's protective polyurethane coating results in

A—increased takeoff distances, decreased maximum gross weight, and increased fuel consumption.
B—reduced takeoff distances, increased maximum gross weight, and reduced fuel consumption.
C—increased takeoff distances, increased maximum gross weight, and increased fuel consumption.

A degradation of the fabric results in air leaking through the fabric and a loss in performance since this creates more drag. (H02) — The Powered Parachute Bible, Chapter 2

Answers (B) and (C) are incorrect because there is no increased gross weight.

PPC
7271. During preflight, the fuel vent system should always be checked

A—to ensure the vent is closed.
B—to ensure the vent is open.
C—to ensure the vent system pressure is in the green range.

The fuel vent needs to be open for flight for the air to fill the fuel tank as the fuel is consumed. (H01) — The Powered Parachute Bible, Chapter 1

Answer (A) is incorrect because a closed fuel vent would cause a power loss in flight when air is unable to fill the tank as fuel is used. Answer (C) is incorrect because there is no pressure in the fuel tank since it is vented.

Answers

7266 [B]	7267 [B]	7268 [A]	7269 [B]	7270 [A]	7271 [B]

PPC
7272. Flaring allows the pilot to touchdown at a

A—higher rate of speed and a slower rate of descent.
B—lower rate of speed and a higher rate of descent.
C—lower rate of speed and a lower rate of descent.

Flaring slows you down and decreases your descent rate for a soft and slow landing. (H01) — The Powered Parachute Bible, Chapter 1

Answers (A) and (B) are incorrect because flaring does not produce a higher rate of speed or a higher rate of descent.

PPC
7280. Carburetor ice can form

A—only at temperatures near freezing and the humidity near the saturation point.
B—when the outside air temperature is as high as 100 degrees F and the humidity is as low as 50%.
C—at any temperature or humidity level.

Carburetor ice can form when the outside air temperature is as high as 100°F and the humidity is as low as 50%. This is not the optimum conditions for the ice to form, but it can form under these conditions. (H05) — The Powered Parachute Bible, Chapter 5

Answer (A) is incorrect because carb ice can form when it is as high at 100°F. Answer (C) is incorrect because some moisture is needed to form the ice.

PPC
7281. Flaring during a landing

A—decreases the powered parachute's speed due to increased drag.
B—increases the powered parachute's speed due to reduced drag.
C—decreases the powered parachute's drag due to increased speed.

Flaring or pulling down on the trailing edge creates more drag and slows the aircraft similar to a flap on an airplane. (H01) — The Powered Parachute Bible, Chapter 1

Answers (B) and (C) are incorrect because flaring does not increase the speed of a PPC.

WSC
7273. As a weight shift aircraft wing approaches a stall, the wing tips

A—decrease the wings angle of attack.
B—act in much the same way as ailerons on a three-axis aircraft.
C—increase the wings angle of attack.

As the angle of attack of the wing is increased, the nose is at a higher angle of attack and therefore stalls first while the tips keep flying. This drops the nose through which as a result, decreases the wings angle of attack. (H22) — Trikes, the Flex-Wing Flyers, Chapter 3

Answer (B) is incorrect because the wing tips act the same way ailerons do while flying normally and while approaching a stall. Answer (C) is incorrect because the tips only increase the wings angle of attack when the wing is at a low angle of attack, far from a stall.

WSC
7274. During a wing stall, the wing tips of a weight shift aircraft are

A—ineffective for stall recovery.
B—effective for stall recovery.
C—effective only when combined with maximum engine output.

Since the wing tips are at a lower angle of attack, they do not normally stall when the rest of the wing is stalled. They keep flying, creating an up-force in back of the CG—causing the nose to rotate down and decrease the angle of attack of the wing—therefore they are very effective for stall recovery. (H22) — Trikes, the Flex-Wing Flyers, Chapter 3

Answer (A) is incorrect because the tips are very effective for stall recovery allowing the nose to fall through. Answer (C) is incorrect because the tips have more effect for stall recovery than the engine power.

WSC
7275. The crosstube is positioned by

A—a quick release pin.
B—self-locking bolts.
C—restraining cables attached to the rear of the keel.

The cross bar is pulled back to tension the airframe into the sail with the crossbar cables. These are attached to a connection point on the rear of the keel. (H22) — Trikes, the Flex-Wing Flyers, Chapter 3

Answers (A) and (B) are incorrect because these are fasteners and would only make smaller variations in the cross bar position if these fasteners were adjusted to different settings.

Answers

7272	[C]	7280	[B]	7281	[A]	7273	[A]	7274	[B]	7275	[C]

WSC

7276. On some trikes, the hang point is part of

A—a variable trim arrangement that allows the pilot to adjust the aircraft center of gravity during flight to obtain the most favorable aircraft performance.
B—an adjustable trim arrangement that allows the pilot to adjust the aircraft center of gravity during flight to obtain the most favorable aircraft performance.
C—an adjustable trim arrangement that allows the center of gravity to shift fore and aft along the wing's keel.

Most trikes have an adjustment to move the position on the keel fore and aft on the ground. This is a common way to adjust the trim speed and bar position of the wing. (H22) — Trikes, the Flex-Wing Flyers, Chapter 3

Answers (A) and (B) are incorrect because although this is a viable design concept that has been and may be used for trikes, not many incorporate the complexity of a variable CG during flight.

WSC

7277. The keel pocket's purpose is to

A—act as a longitudinal stabilizer, keeping the wing from wandering left and right.
B—act as a roll stabilizer, keeping the wing from wandering left and right.
C—act as a yaw stabilizer, keeping the wing from wandering left and right.

The most significant effect a keel pocket could have on stability would be for yaw. This was an early design concept used in the development of the flex wing. Today, the wing sweep, washout, and airfoil shape are designed to optimize the tracking (yaw) for the vertical axis. Keel pockets today are a fabric channel the keel is inserted in the sail material to hold the keel in place at the root of the wing. (H22) — Trikes, the Flex-Wing Flyers, Chapter 3

Answers (A) and (B) are incorrect because the keel pocket does not supply this stability.

WSC

7278. How does the wing design feature "washout" affect the production of lift?

A—The wing tips continue producing lift when the main body of the wing is not producing lift.
B—The main body of the wing continues to produce lift when the wing tips are not producing lift.
C—The center of lift moves from the trailing edge of the wing, to the leading edge of the wing, as the wing begins to stall.

The washout/twist in the wing, starts with a high angle of attack at the root/nose, and decreases the angle of attack as the you approach each tip. This washout/twist, sweep, and airfoil shape is designed into the wing to make the nose lose lift first while the tips keep flying at high angles of attack. (H22) — Trikes, the Flex-Wing Flyers, Chapter 3

Answer (B) is incorrect because this happens only when the wing is at very low angles of attack where the wing is not near the critical angle of attack to stall. Answer (C) is incorrect because this is not the design of any trike wing and would produce a wing that would be unstable near the stall.

WSC

7279. The wing of a weight shift aircraft twists so that the angle of attack

A—from the center of the wing to the wing tip is variable and can be adjusted by the pilot in flight to optimize performance.
B—changes from a low angle of attack at the center of the wing, to a high angle of attack at the tips.
C—changes from a high angle of attack at the center of the wing, to a low angle of attack at the tips.

The fundamental design of the flex wing is for the wing to twist from a high angle of attack at the nose, to a lower angle of attack at the tips. (H22) — Trikes, the Flex-Wing Flyers, Chapter 3

Answer (A) is incorrect because this would provide a wing that would be unstable and dangerous. Flex wings are not designed this way. Answer (B) is incorrect because this only applies for some wing designs but not all. Varying the twist in the wing is common to most high performance hang gliders in flight and used as one method to trim weight shift wings as well.

Answers

7276	[C]	7277	[C]	7278	[A]	7279	[C]