

# **Student Training Handbook**

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Caesar Creek Soaring Club

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## The Pre-solo Stage

**A historical perspective:** With over 200 members, the Caesar Creek Soaring Club is one of the largest and most established soaring clubs in the United States. It's roots go back over fifty years, known first as the Soaring Society of Dayton, and then the Caesar Creek Soaring Club. The current gliderport in Waynesville was established in the early seventies, when the Club purchased a working farm, and converted the property into a private gliderport. As a dedicated gliderport, we have the luxury of operating our facility without the traffic conflicts and issues that constrain other glider clubs operating at public use airports. On average, CCSC does almost 2000 tows per year, about one-half of those being instructional flights. CCSC is essentially a training club, although we cater to the cross-country and contest pilot as well. With this much training activity, CCSC has a long and successful legacy of training glider pilots. This handbook is designed to facilitate the training of the next generation of pilots, and hopefully will be useful in helping you achieve your own individual goals.

**Crew duty:** CCSC is an all volunteer operation. There is an established crew for each weekend day. A typical crew consists of a Crew Chief, an Assistant Crew Chief, at least two towpilots, two instructors and several ground crew members. The Crew Chief is the "point-man" and is responsible for the safe and efficient operation of the crew. On your first visit to the flight line, it would be advisable to seek out the Crew Chief, as that individual will assist you in scheduling your flight, filling out your flight card properly and introducing you to the instructor that you will fly with. Crews operate essentially on a "first-come first-served" basis in terms of scheduling member flights.

The first-Sunday crew is designated as the "training crew" and new members are strongly encouraged to attend this crew early on to learn how the Club conducts ground operations. You will receive crew credit for attending the training crew sessions, which under the current fee schedule, provides you with a \$20 per flight discount for flights taken that month. More detail on the crew operation and your responsibilities as a crew member is covered on page eight.

Hopefully, once you complete your ground crew training, you will continue on an assigned crew of your choice. As a volunteer organization, the Club depends on having warm, breathing bodies on each crew who will become engaged, reliable and productive in carrying out crew responsibilities. Crew duty should not be perceived as some detestable experience every month that you must endure to save a few bucks on your flying costs. Instead, it can be a very positive learning experience, and an opportunity to enjoy some comradery with your fellow members. Soaring is a social activity!

**Training gliders:** CCSC currently operates a fleet of seven gliders. One ship, the Grob G-102, is a single place glider that is available only to rated (private or commercial) glider pilots. The other six are two-place ships that are available for student training. The two-place fleet consists of three Schweizer 2-33 trainers, a Grob G-103 and two ASK-21 fiberglass ships. All of these are commonly used throughout the US and foreign glider communities as primary and advanced trainers. For many years, the 2-33 was the training workhorse of the CCSC fleet, but the Club also makes the higher performance machines available for student use. As you go up the performance and comfort scale, the flight costs to the member go up as well. The venerable 2-33 may be lacking in creature comfort, but it remains a suitable and cost-effective trainer for most students. On the other hand, a transition pilot (one who is power rated and seeking a glider category rating) may prefer the comfort and performance of

the Grob or ASK-21. For many folks, the choice of glider comes down to an economic issue, and what your flying budget can tolerate. Also, as a new glider student, keep in mind that you can complete your primary pre-solo training in the 2-33 and then transition to one of the spiffier gliders. The only stipulation is that you must have a minimum of six instructional flights in the more advanced glider of your choice, regardless of your competency and experience.

**The CCSC Training Record:** When you joined the Club, you should have received a copy of the CCSC Training Record. This is the booklet with the yellow jacket. Also, if you didn't already have one, you should have received a glider pilot logbook. Both are part of the new member packet. The training record and the logbook are used together by your instructor to document your flight training. The training record is a Club document, and should remain at the gliderport. In the equipment trailer that is used on the flightline, there is a small wood case for filing the training record at the end of the day. Your logbook is yours to keep, but be sure to bring it to the gliderport everytime you plan to fly. To understand how the training record is used, let's discuss the various sections of this document.

The first page, entitled Ground Operations, covers the tasks that you will be exposed to in the ground training provided by the first Sunday training crew. At the conclusion of your ground training, you will be "signed-off" for each task. Completion of this training is a prerequisite to going solo.

The second page, Pre-solo Training, covers the seven stage tests that are discussed later in this handbook. Also, there is a section devoted to pre-solo ground/flight training with fifteen checklist items. These are primarily oral items that your instructor will review with you and endorse each item upon completion. This is a good rainy day activity as these items involve mostly ground, not flight training. Again, completion is required prior to your initial solo flight.

The third page, Solo Requirements Checklist, is the really important stuff, since it represents the specific flight tasks the FAA requires in your pre-solo training. As you gain proficiency with each task, your instructor will endorse each item.

The fold-out insert provides a snapshot of your training progress as you accumulate flights. Each task practiced, on each flight, will be graded with a simple grading scale as follows:

- I = subject introduced
- = normal progress
- P = indicates a problem area
- S = indicates satisfactory performance

In your initial flights, you'll have mostly "I"s and dashes to indicate normal progress, but as you gain further experience, the Satisfactory grades should become more prevalent. On the flip side of this insert, there is a section for your instructor to note any problem areas that need to be addressed.

Instructors are often asked "When am I going to solo?" That can be a difficult question, because of so many variables. The current Federal Aviation Regulations do not prescribe any certain number of instructional flights or flight hours to solo a glider. In our Club, about 35 to 45 flights is a typical benchmark for the new student with no previous flight training. Some require more, but others have accomplished the solo task with fewer flights. A proficient power transition pilot may solo in ten flights or so. As with most learning activities, becoming a proficient student pilot depends on repetition and reinforcement. The student who flies several times a month is likely to progress much faster than the student who flies only on his or her monthly crew day. The importance of maintaining some level

of consistency simply cannot be overstated.

**The seven stage tests:** CCSC is currently using “Glider Basics” as our basic training manual, however, this publication is now out of print and has been replaced by an updated manual, the “Glider Flight Training Manual”. It is strongly suggested that you purchase a copy. The new manual is available in the display case in the clubhouse at a discounted price. In the manual are a series of seven written tests dealing with aerodynamics, flight maneuvers, landings, etc. In the back of the manual are the correct answers. As you go through the different sections of the book, you can take the practice tests, and then check your answers against those stated in the manual. The tests that your instructor will give you contain exactly the same questions. Completing the seven tests is a pre-solo requirement, except for power transition pilots. The important thing is to understand the concept behind each question. This is not an exercise in rote memorization! Also, these are not “pass/fail” tests, so if you miss several questions on any given test, you don’t flunk the test! Your instructor, however, will discuss the test with you and clarify any deficient areas. The idea here is to encourage you to do the homework prior to flying so you have a better understanding of what is going on. There’s an old adage in flying that goes something like this: “The cockpit is the worst possible classroom”. It is strongly suggested that you move through the seven tests early in your pre-solo training, so that you will be properly prepared for each flight lesson.

In addition to our primary training manual, there are a couple of very useful publications that you should consider buying. One is the “Glider Flying Handbook” which is a relatively new training manual issued by the FAA. It is very comprehensive and well illustrated. It also is available at the Club. Secondly, you should have a current FAR/AIM, which is the combined Federal Aviation Regulations/Aeronautical Information Manual. You can purchase a copy at Waynesville airport or most any airport. Don’t be intimidated by the FAR/AIM. It is very extensive, but only a few portions apply to glider operations. In the early stage of training, the relevant sections of the FARs would be Part 61, Subpart C, which deals with student pilot operations. Also, Part 91, Subparts A, B, C, & D are important. You should also review the Club’s Uniform Operating Procedures, commonly referred to as the UOPs. You should have received a copy in your membership packet.

**The Student Pilot’s license:** Once you have completed the various steps in your training, it’s time to get your student license. You’ll need the license to solo. One of our Club members, Bob Miller, is a FAA Designated Examiner and he, or any instructor, can issue your student license. It’s an easy process. The Club is using the FAA online program referred to as IACRA. At the appropriate time, you will be given instructions for accessing the FAA website, registering, and processing the information necessary to issue the license. You need to present a photo ID such as a driver’s license or passport. The student license is valid for an indefinite period, or until you earn your Private license.

**The pre-solo test:** The last step before your initial solo involves the pre-solo written. Current FAA regulations require that we administer a written knowledge test just prior to solo. We use a fifty-three question multiple choice test that covers regulations, glider operations and performance specifications for the 2-33. Like the stage tests, it is not a pass/fail test. Your instructor will review the completed test with you and correct any deficient areas. With the pre-solo test completed, your instructor will give you a solo endorsement on your student license, in your training record and in your logbook. A second instructor will take at least one flight with you, and if that instructor concurs that you are ready, you’re good to go! Your first solo flight is something you will remember for a lifetime!

## The Post-solo Stage

**Solo flight currency:** Now that you have achieved solo flight status, it's time to move on to some new and different challenges. Before we cover the badge program, glider check-outs and other items, we need to discuss some rules concerning your solo privileges.

The UOPs stipulate that a new solo student must have a daily check-out by a CCSC instructor until the student acquires ten solo flights. Once you complete this check flight on any given day, then you are cleared to take as many solo flights that day as conditions permit. After you complete ten solo flights, the daily check becomes optional, at the discretion of the duty instructor. This policy is covered in more detail in section 5.5 of the UOPs.

The current FARs require that student pilots receive a check flight, and a logbook endorsement, every ninety days following the initial solo flight. This regulation applies regardless of how many total solo flights the student has accomplished. Typically, this will involve a single instructional flight if the student has been flying recently, and the instructor is familiar with the student and his or her training history. This 90 day requirement remains in effect until the student passes the flight test for the Private glider rating. Power transition pilots are exempt from this rule. They receive a one-time solo endorsement, and do not need to accomplish the follow-up 90 day endorsement.

The Club's insurance policy requires that all student solo flights be supervised by an on-site instructor, regardless of the student's experience level. On the flight card, there is a section for the instructor to approve the solo flight. Prior to taking a solo flight, you must request an instructor to sign-off on your flight card. This doesn't have to be the duty instructor for that day. Any CCSC instructor that is present on the flight line can help you with this.

To the uninitiated, these rules and regulations may appear somewhat onerous. They exist for a reason. We all have to realize that there is some risk involved, and first and foremost, there is the issue of your personal safety, and also the possibility of an insurance or liability issue for the Club.

The post-solo stage of your training represents an opportunity for you to "spread your wings" and pursue some further challenges. When you joined CCSC, you automatically became a member of the Soaring Society of America (SSA). Your initiation fee and monthly dues pay for your membership. The SSA provides a badge program. It consists of the A,B & C badges, followed by the Bronze badge. The purpose of the badge program is to acknowledge your accomplishments as a solo student pilot, and to also prep you for basic cross-country flying. Badges are awarded by designated SSA instructors, and the Club has qualified instructors to mentor you and help you with this program.

Earlier in this handbook, we discussed checking out in the more advanced gliders. If your pre-solo training was accomplished in the 2-33, this is a good opportunity to transition to one of the higher performance ships. Keep in mind the Club policy which requires at least six instructional flights in the new glider of your choice.

Most importantly, the post-solo stage of your training should be focused on preparing for the practical

(flight) test for your pilot rating. The FAA publishes a performance standard which is referred to as the Practical Test Standards, or PTS. We'll discuss the PTS in more detail, but it is a document that you want to be very familiar with. On every solo flight that you take, it would be advisable to practice some of the maneuvers contained in the PTS, and to the standards specified by the PTS. For example, one of the tasks involves an accuracy landing whereby you must land and roll to a stop within 200 feet of a designated point on the runway, but not roll beyond that point. You can use spoilers, slips, wheel brake and other reasonable means to accomplish this level of accuracy. This is something you should practice on most landings so that when you take the practical test, this task should be a piece of cake!

**The FAA Knowledge Test:** One of the last requirements for obtaining your Private Pilot certificate involves preparing for, and passing, the knowledge test. This process normally takes place during the post-solo training stage. The last section of this handbook covers this subject in more detail.

**The Practical Test Standards:** The FAA issues a variety of pilot and flight instructor certificates. There are several levels of certificates, such as Private and Commercial. Then there are the category ratings such as Airplane, Glider and Rotorcraft. In the power world, you also get into class ratings, such as single engine, multiengine, etc. For every type of certificate, there is a standard of performance and those standards are called the Practical Test Standard, or "PTS". Your membership packet includes the Private Pilot-Glider PTS. The current date of this particular PTS is April 1999, however, it is under revision at this time and a new revised and updated PTS should be issued in the near future. The PTS establishes the standards that the flight examiner must follow when giving a flight test to an applicant.

The PTS for the Private glider certificate is broken down into eleven phases, and each is referred to as an "area of operation". Within each area of operation are specific tasks that must be performed. There is an oral portion, followed by a flight portion. The PTS includes a list of references, to help you prepare for both the oral and the flight portion. Becoming familiar with the requirements of the PTS is an important step in your training as you prepare for the flight test.

**The Practical Test:** Regulations require that you take a minimum of three instructional flights with an instructor in preparation for the practical test, within a two month period of taking the test. After completing this training, if your instructor feels that you are prepared, he will endorse your logbook and your application. The application process is essentially the same as when you applied for your student license, using the IACRA website. On the last page of your training record there is a preparation checklist for taking the practical test, however, note that the IACRA process now replaces the paper application (Form 8710).

The final two sections of this handbook are devoted to the CCSC crewing system and further information regarding the knowledge tests that the FAA administers for pilot certificates. Hopefully, this handbook provides a basic "roadmap" of the training process at CCSC, and that it will guide you toward a successful conclusion. There's some work involved, but it's fair to say that almost anything worth doing in life requires some level of commitment and perseverance. Just be sure to have some fun along the way!

## Some Notes on Crewing and Crew Credit

As a new member of Caesar Creek Soaring Club (CCSC), it is important that you understand the crew system and how it works. Every new member is required to serve on a week-end crew, either on a Saturday or a Sunday, for one day each month, plus one extra day per year.

All members will be assigned temporarily to the 1st Sunday Crew, headed by Mike Karraker. The 1st Sunday Crew has been designated as the "training crew" for the purpose of orienting new members to CCSC ground operations. Upon completion of initial training, Mike will coordinate with the Operations Chief to assign the new member to a permanent crew, that hopefully fits in with the individual's schedule, for ongoing training, orientation, and operations support. Some additional notes concerning the crewing system at CCSC follow:

1. To receive your crew credit, you must be listed on the current crew list as posted in the club newsletter. Also, your Crew Chief must note your attendance on the crew report that is completed at the end of the day. It's your responsibility to make your presence known to the Crew Chief by supporting that day's operations.
2. If you were present for crew duty, but did not receive crew credit on your billing invoice for that month, contact your Crew Chief and have him submit a corrected crew report. Again, if you are a new member, it is particularly important that you introduce yourself to the Crew Chief and participate in the glider operations.
3. If you cannot make your assigned crew, it is your responsibility to find a substitute for that day. Your substitute will earn your crew credit for that day. Substitutes must advise the Crew Chief that they are filling in for another individual.
4. When you sign up as a crew member, you take on an obligation to your fellow club members that you will be present on your assigned day. It is the Crew Chief's prerogative and responsibility to remove you from his crew if you are chronically absent and do not arrange for a substitute, or if you are not productive. Normally, you will not be assigned to another crew unless that Crew Chief asks for you.

It's important to note that the Club's crew system has been in place for over 40 years, and has served the interests of the Club and its members very well over the years. It will continue to work as long as we all do our part.

## FAA Knowledge Tests

Current Federal Aviation regulations require that an applicant for a pilot certificate complete a “knowledge test” prior to taking the practical (flight) test. In the past, such tests were commonly referred to as “writtens” since a paper and pencil format was employed. However, all FAA knowledge tests are now computer based and are very “user friendly” for those individuals with limited computer skills. The following outline should provide some useful guidance on preparing for, and successfully completing, the required test for a glider rating.

Like all FAA knowledge tests, the glider versions are multiple choice tests. The Private-Glider version is a 60 question exam, and the applicant is allowed 2.5 hours for completion. The Commercial-Glider version contains 100 questions, with a 3.0 hour time limit. There are several hundred possible questions in the FAA test databank, and the computer randomly selects the questions. Each question has three possible answer choices. Minimum passing score is 70% and the test is computer-scored upon completion. A test report is provided to the applicant “on-the-spot”. Questions that were answered incorrectly are not specifically identified on the test report, but appear as a deficiency in a certain “learning statement” area. The applicant must receive additional instruction from an authorized instructor in any deficient subject areas, prior to taking the practical test. The instructor recommending the applicant for the flight test must certify that the additional instruction has been accomplished by endorsing the test report.

Questions for the Private and Commercial-Glider tests are derived from the following publications.

- Aviation Weather
- Aviation Weather Services
- Federal Aviation Regulations/Aeronautical Information Manual
- Pilot’s Handbook of Aeronautical Knowledge
- SSA Soaring Flight Manual
- Glider Flying Handbook

It should be noted that the “Glider Basics” book used in the CCSC training program is a flight training manual, and does not address the content areas in the FAA knowledge tests. Also, the FAA has been using the “Soaring Flight Manual” as the source reference for the glider tests, but this publication is out-of-print and no longer available. At some point, the newer and more comprehensive “Glider Flying Handbook” should become the source material for the tests.

For most applicants, a very effective study tool is the “Test Prep” published by ASA, and other vendors. It is available at Waynesville airport, or most any airport, at Sportys Pilot Shop or online from SSA or Amazon. It contains sample questions (and related answers) in the current FAA databank. It is normally updated every June, to reflect the latest changes. Questions are grouped into eleven general categories, such as aerodynamics, regulations, weather, navigation, etc. Each question is coded by category, so for example, a glider student can overlook questions applicable to only powered aircraft, rotorcraft, etc.

For those individuals who prefer an “online” or computer-based study approach, there are options to the textbook approach. ASA also has “Prepware” for each test, which is a CD that can be loaded into your PC or laptop. It simulates the actual testing format, however the CD is more expensive than the printed text. There are also some useful Internet resources, as follows.

[www.exams4pilots.org](http://www.exams4pilots.org)

[www.webexams.com](http://www.webexams.com)

[www.sportys.com/faatest](http://www.sportys.com/faatest)

Currently, there are two approved vendors for administering the FAA test, as follows.

Computer Assisted Testing Services (CATS)

1-800-947-4228

[www.catstest.com](http://www.catstest.com)

Lasergrade

1-800-211-2754

[www.lasergrade.com](http://www.lasergrade.com)

Both vendors offer essentially the same service and have testing sites in the local area.

FAR Part 61 covers details on the requirements for taking knowledge tests. It should be noted that power transition pilots seeking a glider add-on rating normally do not have to take the glider knowledge test, as long as the glider rating being sought is the same (or lower) level as the applicants power rating. For example, an applicant with a Private ASEL rating would not be required to take the Private-Glider knowledge test, but would have to take the appropriate test for a Commercial add-on rating. The regulations require an instructor’s endorsement for the applicant to take the test. Since CCSC does not conduct a formal ground school, a home study approach is commonly used, and preparedness for the test can be established by oral testing or taking an online simulated exam. In any case, the proctor at the testing location will want to verify that an endorsement has been provided. The completed test is good for 24 months. It typically is taken during the post-solo training period, but can be accomplished anytime the student is fully prepared and has been “signed-off” by an instructor.

Please feel free to contact me with any questions.

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