



# TRUCKEE-TAHOE SOARING ASSOCIATION

AT THE TRUCKEE TAHOE AIRPORT

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## AVIATION EDUCATION PROGRAM

### LINE CREW INTERNSHIP, GLIDER PILOT CURRICULUM 2020

The TTSA training program for new glider pilots is based on and adapted from Russell Holtz' training scheme using his books *Glider Pilot's Handbook of Aeronautical Knowledge* and *Flight Training Manual for Gliders*, with additional written quizzes that address Truckee's unique operating environment and with additional instructors' notes that benefit from our collective experience flying and teaching in this environment.

There are 15 lessons in the complete Private Glider Pilot course. Students will progress through these lessons at their own pace, and it may be that a given student may require two or more instructional sessions on a lesson before moving on to the next. This determination will be entirely up to the instructor, but all students will benefit from self-study before and after each session.

The more effort a student puts into study, the faster the student's progress will be and more prepared the student will be to meet the inevitable challenges that arise in all walks of aviation and life.

For every lesson, the instructor will schedule the flight instruction expecting the student to arrive at the glider port already having read the assigned sections of the books, answered the associated Review Questions in the back of the books, and/or accomplished the other listed directives. A student is to come to the glider port prepared, with the completed Review Questions in their books signed by his/her parent, and with any questions written down to easily remember and discuss with his/her instructor. Upon arrival, the student will be given an on-site Quiz. Having successfully passed that Quiz, the flight instruction already scheduled will commence.

Regardless of how much ground instruction or how many flights are needed for a student to master the topics in any one lesson, once completed the student will then be directed to the next lesson with the corresponding ground and flight instruction needed. TTSA is committed to giving flight instruction as often as possible to facilitate aviation education and the success of our Line Crew, even if scheduled on off-duty days.

TTSA's contribution to facilitate this Curriculum – ground instruction and flight instruction – is to be conducted in conjunction with regular Line Crew duties on-site. The contribution from Line Crew to facilitate the success of this Curriculum is to actively participate in conducting general daily glider port operations and be responsibly committed to do the book learning at home.

#### LESSON ZERO

Both the student and parent read the Ground Safety Handout to become introduced to the safety requirements of operating on an active airport before showing up at the glider port **for orientation**.

**Quiz Zero (taken at home):** Glider, Tow Plane, and Runway Safety

## OVERVIEW

Prior to the first day of training, the **student and parent must read the Introduction** (pg. i-vii) to the *Glider Pilot's Handbook of Aeronautical Knowledge*. This will provide an overview of the training to be received and the process of earning an FAA Airman Certificate. We very much want both the student and the parent to know what is involved in earning the right to fly.

### LESSON 1

#### Pilot's Handbook of Aeronautical Knowledge:

- 1.1 The Glide
- 1.2 Flight Manual
- 3.1 Nomenclature
- 5.1 The Atmosphere
- 5.2 Primary Instruments

#### Flight Training Manual for Gliders:

- 1.1 Primary Flight Control
- 1.2 Secondary Flight Controls
- 1.3 Using the Flight Instruments
- 4.1 Transferring Control of the Glider
- 4.2 Scanning for Traffic
- 4.3 Pitch/Speed Control
- 4.4 Using the Trim Control
- 4.5 Shallow/Medium Bank Turns

**Review Questions:** complete for each section studied in the books at home and bring to TTSA.

**On-Site Quiz 1:** Basic Glider Control

### LESSON 2

#### Pilot's Handbook of Aeronautical Knowledge:

- 3.2 Three Forces
- 3.3 Airspeed Limits
- 3.4 Turning Flight
- 3.5 Load Factor

#### Flight Training Manual for Gliders:

- 2.1 Takeoff Checklist
- 2.2 Takeoff Procedures and Signals
- 3.1 Introduction to Flying the Aerotow
- 3.2 Flying the Aerotow with Stick and Rudder
- 3.3 Release from Tow
- 4.6 Precision Turns
- 4.7 Airbrakes in Flight
- 5.1 Landing Checklist
- 5.2 Introduction to the Landing Pattern
- 6.1 Introduction to the Landing

**Review Questions:** complete for each section studied in the books at home and bring to TTSA.

**On-Site Quiz 2:** Maneuvering the Glider

### LESSON 3

#### Pilot's Handbook of Aeronautical Knowledge:

- 3.6 Stability

#### Flight Training Manual for Gliders:

- 2.3 Takeoff
- 5.3 Glide Slope Control Using Airbrak

**Online Resources Handout:** go to the IACRA website to get your FTN (FAA Tracking Number).

**Review Questions:** complete for each section studied in the books at home and bring to TTSA.

**On-Site Quiz 3:** Stability and Control

#### LESSON 4

Pilot's Handbook of Aeronautical Knowledge:

13.1 Radio Technique

Flight Training Manual for Gliders:

5.4 Radio Use

**Review Questions:** complete for each section studied in the books at home and bring to TTSA.

**On-Site Quiz 4:** Radio Communications

#### LESSON 5

Pilot's Handbook of Aeronautical Knowledge:

1.3 Documentation

2.1 Operating Procedures

2.2 Airport Markings

2.3 Airport Lighting

2.4 Airport Traffic

2.5 Wake Turbulence

13.2 Who Are You Talking To?

13.3 When to Use the Radio

Flight Training Manual for Gliders:

2.4 Crosswind Takeoff

3.5 Shifting Through the Wake

3.6 Steering Turns

3.7 Aerotow Signals

4.8 Steep Turns

4.9 Circling Flight

4.10 Crabbing During Cruising Flight  
(allowing for drift)

**Review Questions:** complete for each section studied in the books at home and bring to TTSA.

**On-Site Quiz 5:** Airport Operations

#### LESSON 6

Pilot's Handbook of Aeronautical Knowledge:

4.1 Glide Ratio

4.2 Glider Polars

4.3 Effects of Wind

4.4 Effect of Lift and Sink

4.5 Effect of Wing Loading

5.3 Secondary Instruments

5.4 Other Flight Systems

Flight Training Manual for Gliders:

1.4 Ground Handling

1.5 Preflight Inspection

1.6 Positive Control Check

1.7 Tow Rope Inspection

3.8 Boxing the Wake

4.11 Stall Recognition and Recovery in Level  
Flight (*coordinated wings level flight*)

4.12 Stall Recognition and Recovery in a Turn

**Review Questions:** complete for each section studied in the books at home and bring to TTSA.

**On-Site Quiz 6:** Glider Performance

#### LESSON 7

Pilot's Handbook of Aeronautical Knowledge:

6.1 The Atmosphere

6.2 Dew Point

6.3 Atmospheric Stability

6.4 Clouds

6.5 Fog

6.6 Precipitation

6.7 Weather Systems

Flight Training Manual for Gliders:

6.8 Describing the Weather

6.9 Thermal Soaring Weather

6.10 Ridge Soaring Weather

6.11 Wave Soaring Weather

6.12 Convergence Lift

6.13 Predicting Soaring Weather

**Review Questions:** complete for each section studied in the books at home and bring to TTSA.

**On-Site Quiz 7:** Meteorology

## LESSON 8

### Pilot's Handbook of Aeronautical Knowledge:

- 14.1 Attire for Flying
- 14.2 Food and Water
- 14.3 Parachutes
- 14.4 Survival Gear
- 16.1 Situational Awareness
- 16.2 Judgment
- 16.3 Self-Discipline

### Flight Training Manual for Gliders:

- 5.6 Unusual Patterns
- 5.7 Forward Slip with Airbrakes
- 5.8 Turning Slips
- 5.9 Sideslips in the Pattern
- 8.3 Rock Off
- 8.4 Tow Plane Power Loss During Takeoff
- 8.5 Tow Plane Power Loss at Altitude
- 8.6 Simultaneous Release Failure
- 8.7 Spiral Dive Recovery

**Insurance:** About this time, you will need to look into applying for insurance for when you solo.

**Review Questions:** complete for each section studied in the books at home and bring to TTSA.

**On-Site Quiz 8:** Handling Emergencies

## LESSON 9

### Pilot's Handbook of Aeronautical Knowledge:

- 9.1 Definitions and Abbreviations
- 9.2 Maintenance Requirements
- 9.3 Certification of Pilots
- 9.4 General Operating Rules
- 11.1 Why Have Airspace?
- 11.2 Controlled Airspace
- 11.3 Uncontrolled Airspace

### Flight Training Manual for Gliders

Student reviews the relevant sections in preparation for the TTSA Pre-Solo Written Exam

**Review Questions:** complete for each section studied in the books at home and bring to TTSA.

**On-Site Quiz 9:** FAR 91 for Glider Pilots

## LESSON 10

**Review all material** covered so far in preparation for Pre-Solo Phase Check and approval for first solo. A copy of your **insurance** will be needed at this time for solo flight.

## LESSON 11

### Pilot's Handbook of Aeronautical Knowledge:

- 8.1 Physiological Issues
- 8.2 Mental Issues
- 8.3 Chemicals

### Flight Training Manual for Gliders:

- 1.8 Securing the Glider
- 1.9 Area Familiarization
- 2.5 Takeoff Without a Wing Runner
- 2.6 Downwind Takeoff
- 2.7 High Density Altitude Take Off
- 4.19 Selecting a Cruise Airspeed
- 4.20 Deep Stall Recognition and Recovery
- 5.10 No-Altitude Pattern

**Review Questions:** complete for each section studied in the books at home and bring to TTSA.

**On-Site Quiz 11:** Flight Safety

## LESSON 12

### Pilot's Handbook of Aeronautical Knowledge:

- 9.5 Accident Reporting
- 10.1 FARs (*Federal Aviation Regulations*)
- 10.2 AIM (*Airman's Information Manual*)
- 10.3 NOTAMs (*Notices to Airmen*)
- 10.4 A/FD (*Chart Supplements, formerly Airport/Facilities Directory*)
- 10.5 ACs (*Advisory Circulars*)
- 11.4 Special Use Airspace
- 11.5 Other Airspace

### Flight Training Manual for Gliders:

- 4.21 Chandelle
- 4.22 Incipient Spin Recognition and Recovery
- 4.23 Spin Recognition and Recovery
- 5.11 No-Altitude/No Airspeed Pattern

**Review Questions:** complete for each section studied in the books at home and bring to TTSA.

**On-Site Quiz 12:** Preparing for Flight

## LESSON 13

### Pilot's Handbook of Aeronautical Knowledge:

- 12.1 Latitude and Longitude
- 12.2 VFR Aeronautical Charts
- 12.3 Reading Aeronautical Charts
- 12.4 Navigation
- 15.1 Glide Slope Management
- 15.2 Cross-Country Supplies
- 15.3 Speed to Fly Theory
- 15.4 Getting Started
- 15.5 Choosing a Route
- 15.6 Flying the Route
- 15.7 Off-Field Landing
- 15.8 Retrieve
- 15.9 Crew Duties

### Flight Training Manual for Gliders:

- 4.24 Rapid Speed Changes
- 4.25 High-Speed Flight
- 5.12 No-Airbrake Pattern
- 8.8 Unusual Attitude Recovery
- 8.9 Intercept Procedures

**Review Questions:** complete for each section studied in the books at home and bring to TTSA.

**On-Site Quiz 13:** Cross-Country Soaring

## LESSON 14

### Pilot's Handbook of Aeronautical Knowledge:

- 7.1 Sources of Weather Services
- 7.2 Weather Briefings
- 7.3 Observations
- 7.4 Forecasts
- 7.5 In-Flight Aviation Weather Advisories

### Flight Training Manual for Gliders:

- 5.13 Full Airbrake Pattern
- 6.4 Landing Over an Obstacle
- 6.5 Simulated Off-Field Landings
- 6.6 Downwind Landings
- 6.7 High Wind Landings
- 6.8 High Density Altitude Landings

**Schedule FAA written exam:** About this time, you will need to call in to schedule your exam time.

**Review Questions:** complete for each section studied in the books at home and bring to TTSA.

**On-Site Quiz 14:** Flying the Plan

**LESSON 15**

**Review all course material** both at home and with instructor in preparation for passing FAA Knowledge Test.

**Practice in flight all PTS maneuvers** both solo and with instructor in preparation for passing the Flight Check with a Designated Pilot Examiner.

**GO FLY!**

Any student completing the education and practical training needed to be issued a Private Glider Pilot Certificate from the FAA is to be congratulated! This certificate is the gateway to untold aeronautical adventures and accomplishments. Enjoy!

*Mark Montague*

Chief Flight Instructor, TTSA

Applicant Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Parent/Guardian Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Parent/Guardian Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**FOR OFFICE USE ONLY:**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Received: \_\_\_\_\_ General Manager Approval: \_\_\_\_\_ Date: \_\_\_\_\_