

Student Guide

Pre-Solo

Reference Materials:

SFM – Soaring Flight Manual
GFH – Glider Flying Handbook
PHAK – Pilots Handbook of Aeronautical Knowledge
PTS – FAA Practical Test Standard

Lesson #1

Ground Instruction: 30 min.

Preflight: 15 min.

Explain Control Functions
Explain Instruments

Post Flight: 15 min.

Answer Questions
Sign Logbook

Flight Instruction: 15 min.

1 Flight

Demonstration Flight

Lesson #2

Reading Assignment: SFM Chapter 1, 3, 11, 12, & 14, GFH Chapter 2, 3-1 thru 3-14, 4, 7-22 thru 7-24, PHAK Chapter 15 & 16.

Ground Instruction: 60 min.

Preflight: 40 min.

Explain Effect of Controls
Explain 5 Side Effects of Turning
Look before you Turn
Cockpit Checklist A,B,B,C,C,C,D,D,E
Relative Wind and Angle of Attack
Show Map of Flying Area
Attitude Flying for Airspeed Control

Post Flight: 20 min.

Fill out Grading Card
Explain use of Card
Explain Condition Levels
Answer Questions
Oral Quiz on Use of Trim
Oral Quiz on Effect of Controls
Oral Quiz on Turns

Flight Instruction: 30 min.

2-4 Flights

Attitude Control for Airspeed
Straight & Level Flying
Turns-Left & Right
Orientation of Flying Area
Landing-Instructor Demo

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Lesson #3 Reading Assignment: Soaring Flight Manual 4, 14-4 thru 14-7, 15
GFH Chapter 6, 7-1 thru 7-11 (Aerotow), 7-26

Ground Instruction: 60 min.

Flight Instruction: 30 min.

Preflight: 40 min.

Preflight Inspection and Positive Control Check
Tow-Elevator only, Ailerons & Rudder only
Tow-Relative Motion, Not Position
Flying at Minimum Controllable Airspeeds
Review Turns-Emphasize Coordination

2-4 Flights

Tow-Elevator only, Ailerons &
Rudder only
Flying at Minimum Controllable
Airspeeds
Turns-Left & Right-Emphasize
Coordination
Landing Demo. Student Flies,
Instructor Talks

Post Flight: 20 min.

Grade Card & Answer Questions
Oral Quiz on Minimum Controllable Airspeeds

Lesson #4 Reading Assignment: Soaring Flight Manual 2, 5, 6-27 thru 6-37, Glider
Operating Manual, GFH Chapter 5, 7-26 thru 7-38

Ground Instruction: 50 min.

Flight Instruction: 30 min.

Preflight: 30 min.

Tow-All Controls
Normal Takeoff
Glider Performance
1. L/D Effects of Wind and Sink
2. Minimum Sink
Stalls Straight – Angle of Attack
Thermaling – Centering Techniques
Landing Checklist – Wind, Speed, Clear
Landing Speed Calculations
Pattern Effects of Wind – Crabs & Slips
T. L. A. R. Landings

2 Flights

Tow-All Controls
Normal Takeoff
Stalls Straight
Low 'G' Sensitivity – Test
Thermaling
Pattern – Crabs for x-wind correction
Turns – Left & Right to Headings
90°, 180°, 360° and Coordination
Landing – T. L. A. R.

Post Flight: 20 min.

Grade Card & Answer Questions
Quiz on Glider Performance
Quiz on Stalls

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Lesson #5 Reading Assignment: Soaring Flight Manual 14-8 thru 14-16,
Glider Operating Manual, GFH Chapter 10

Ground Instruction: 50 min.

Flight Instruction: 30 min.

Preflight: 30 min.

X – Wind Takeoff
Tow – Normal and Low Tow
Prop wash & Vortices
Turning Stalls (30° Bank)
Load Factor Increases & Stall Speed
Thermaling – Centering Techniques
Wind Shear & Wind Gradient Effects
Landings – Flair & Aiming Points, T. L. A. R.
Divebrakes for Altitude Control
Attitude for Airspeed Control

2 Flights

Tow – Low Tow
X – Wind Takeoff
Turns – Left & Right
Coordination
Thermaling
Landings – Flair & Aiming Points
T. L. A. R.

Post Flight: 20 min.

Grade Card & Answer Questions
Quiz on Turning Stalls
Quiz on Wind Shear & Wind Gradient

Lesson #6 Reading Assignment: Airspace Limitations, Field Rules, Soaring Flight
Manual 12-14 thru 12-16, Review FAR's Part 61 & 91 (see PTS guide)
GFH Chapter 7-25&26, 8, PHAK Chapter 8, 13

Ground Instruction: 50 min.

Flight Instruction: 30 min.

Preflight: 30 min.

Normal Tow
Steep Turns – Load Factor Increases
Spirals about an Area – Wind Effects
Emergencies on Tow
Tow Signals, Rope Break, Slack Line
Glider Weight & Balance
X – Wind Landings
Pattern - Effects of Lift (No Spoiler Approach)
Effects of Sink (Full Spoiler Approaches)

2 Flights

Normal Tow
Steep Turns
Thermaling
Turns – Left & Right Coordination
Landing
No Spoilers, Full Spoilers
X – Effects

Post Flight: 20 min.

Grade Card & Answer Questions
Quiz on Steep Turns
Quiz on Emergencies on Tow
Quiz on Weight & Balance

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Lesson #7 Reading Assignment: Soaring Flight Manual 12-17 thru 12-19, 14-8 thru 14-16, FAR's Part 43 & 830, Glider Operating Manual, GFH Chapter 9

Ground Instruction: 50 min.

Preflight: 30 min.

Box Wake on Tow
Stalls – Shallow Turn, X – Control
Stalls – Accelerated
FAR Part 61 & 91
Local Field Rules
Airspace Rules
Wind Condition Rules
Spot Landings
Forward Slips and Side Slips

Post Flight: 20 min.

Grade Card & Answer Questions
Quiz on Boxing Wake
Quiz on Stalling
Quiz on FAR's and Airspace
Quiz on Field Rules

Lesson #8 Reading Assignment: Review All Material

Ground Instruction: 50 min.

Preflight: 30 min.

Review Rope Break
Review Downwind Landings
Review Slack Line Recovery
Review Steep Turns
Review Flying at Minimum Controllable A/S
Discuss FAR's Part 43 & 830
Discuss Effects of High Winds on Pattern
Discuss Pattern Planning when too Low
Discuss Conflicts on Runway

Post Flight: 20 min.

Grade Card & Answer Questions
Fill out Airman's Application for Student License
Quiz on Pattern Planning
Quiz on FAR's Part 43 & 830

Flight Instruction: 30 min.

2 Flights

Tow – Box Wake
X – Control Stalls
Accelerated Stalls
Thermaling
Turns – Left & Right
Coordination
Spot Landing

Flight Instruction: 30 min.

2 Flights

Tow Rope Break Simulation 200'
Slack Line Recovery
Flying at Minimum Controllable A/S
Steep Turns – Coordination
Thermaling
Down Wind Landings
Forward Slips and Slips to Landings