

# Sample Flight Training Syllabus For Student Balloon Pilots

A formalized lesson plan should be used by the instructor in teaching various phases of hot air balloon flight. This lesson plan is divided into units, with provisions for evaluations by the instructor at the various stages of training. This model flight

training syllabus is extensive and covers virtually all phases of flight training. It should be used as a guide and modified to suit the needs of the individual student.

## UNIT ONE - INTRODUCTORY DUAL FLIGHT

The first lesson consists of Flight Planning, familiarization with the aircraft and its operating procedures, the sensations of lighter-than-air flight, local flight areas, and the use of hot

air balloon flight controls and instruments. Flight planning should be a routine "first section" to all training units to follow in this manual.

	1	2	3
A) FLIGHT PLANNING ..... Demonstration .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Weather Briefings .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plot Flight Path .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Select Launch Site (permission?) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Call Ground Crew, Passengers .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Observe Surface Winds .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ground Crew Briefing .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B) PROPER LANDOWNER RELATIONS ..... Ground Instruction .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C) AIRCRAFT FAMILIARIZATION ..... Ground Instruction .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pre-Flight Inspection .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aircraft Documents, Records .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aircraft Performance, Operations .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls, Instruments .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tanks, Valves, Hoses, Equipment .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety Equipment .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety Instructions, Emergency Procedures .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D) BALLOON LAYOUT; INFLATION ..... Demonstration .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Precautions and Procedures .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Basket Rigging .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Envelope Layout .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Burner Test .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Install, Adjust Instruments .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rip Panel .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E) COLD INFLATION ..... Demonstration .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F) HOT INFLATION ..... Demonstration .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G) PRE-TAKE-OFF CHECK, INSPECTION .... Demonstration with Student Participation ....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H) WEIGH-OFF PROCEDURES ..... Demonstration .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I) LAUNCH, ASCEND TO ALTITUDE, MAINTENANCE OF EQUILIBRIUM .. Demonstration ..	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J) POSITIVE CLIMBS AND DESCENTS AT PREDETERMINED RATES .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
K) USE OF WINDS AT VARIOUS ALTITUDES FOR DIRECTIONAL CHANGES .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L) NORMAL APPROACHES AND LANDINGS (Touch and Go) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
M) DEFLATION ..... Demonstration .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N) LANDOWNER RELATIONS ..... Demonstration .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O) REFUELING ..... Demonstration .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P) POST-FLIGHT DISCUSSION ..... Critique of Entire Lesson .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q) PREVIEW OF NEXT UNIT ..... Review Syllabus Of Unit Two .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ACCEPTABLE STANDARD: The student should be reasonably familiar with the training aircraft, its controls and basic operation and the local practice area.

KEY:                    1=No Assistance Required                    2=Requires Some Assistance;                    3=Needed Help!

STUDENT \_\_\_\_\_ CERT # \_\_\_\_\_ DATE \_\_\_\_\_  
 STUDENT INITIALS \_\_\_\_\_ HRS: GRND \_\_\_\_\_ AIR \_\_\_\_\_  
 INSTRUCTOR'S SIGNATURE \_\_\_\_\_ CERT # \_\_\_\_\_

NOTE: Since this first lesson is almost entirely demonstration, some people believe there could be no evaluation of the student's performance (the key below). However, it is importance to note attentiveness and understanding and the verbal participation in questions and answers. This might be the best place to get clues about future performance and the need for adjustments in the training plan. If the student doesn't grasp the extreme importance of landowner relations, for instance, then somebody needs help.

KEY: 1=No Assistance Required; 2=Requires Some Assistance; 3=Needed Help!

## UNIT TWO - DUAL FLIGHT - BASIC FLIGHT MANEUVERS

UNIT OBJECTIVE: During this lesson, the student should learn to perform the three basic flight maneuvers (maintenance of equilibrium; climbs and descents; and simple landing approaches) without assistance. The student should achieve the ability to interpret variometer and altimeter instrument indications and correct any deviations from desired indications. He should be able to operate and monitor all burner and fuel system controls and begin to anticipate the need for pilot control response.

NOTE: During this and all subsequent pre-solo lessons, the student shall perform a supervised flight planning operation as described in Unit One, and should perform a supervised pre-flight inspection of the aircraft. He shall be responsible for ground crew briefing (under supervision), equipment organization, and balloon layout with limited input from the instructor, generally during unusual, new and unfamiliar situations.

	1	2	3
A) PRE-FLIGHT PLANNING, DISCUSSION..... Instruction and Review.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B) GROUND CREW BRIEFING ..... Directed Performance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C) BALLOON LAYOUT ..... Directed Performance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pre-Flight Inspection of All Equipment.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of Checklist (mental or written).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D) COLD INFLATION AND CHECKS..... Directed Performance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E) HOT INFLATION..... Demonstration with Student Participation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F) PRE-TAKE-OFF CHECK..... Supervised Performance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G) WEIGH OFF ..... Supervised Performance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H) LAUNCH ..... Supervised Performance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ascent to Specified Altitude.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maintenance of Equilibrium.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I) PRACTICE OF CLIMBS, DESCENTS AND MAINTENANCE OF ALTITUDE.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J) CROP AND FARM ANIMAL IDENTIFICATION.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
K) NORMAL APPROACH AND LANDINGS ..... Directed Performance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L) DEFLATION ..... Directed Performance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
M) LANDOWNER RELATIONS ..... Directed Performance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
N) REFUELING ..... Supervised Performance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O) POST-FLIGHT DISCUSSION ..... Critique of Entire Lesson.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P) PREVIEW OF NEXT UNIT ..... Review Syllabus Of Unit Three.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ACCEPTABLE STANDARD: The student should be able to perform the pre-flight inspection of the aircraft in accordance with a check-off system, whether a formal written checklist - or a mental "systems" approach. He should conduct a ground crew briefing in a knowledgeable manner consistent with his limited ground school and study, and inflate the balloon with a minimum of instructor assistance. All airwork shall be accomplished within 150 feet of the assigned altitude or assigned variometer rate. Burner control should be positive, consistent,

and with due regard to envelope temperature. The student should begin to anticipate the need for burner operation and be able to maintain a relatively constant altitude. It should be understood that, at this point, only the exceptional student will be able to maintain equilibrium with any degree of precision. The student should be grasping the importance of respect for a landowner's property.

KEY: 1=No Assistance Required; 2=Requires Some Assistance; 3=Needed Help!

STUDENT \_\_\_\_\_ CERT # \_\_\_\_\_ DATE \_\_\_\_\_  
 STUDENT INITIALS \_\_\_\_\_ HRS: GRND \_\_\_\_\_ AIR \_\_\_\_\_  
 INSTRUCTOR'S SIGNATURE \_\_\_\_\_ CERT # \_\_\_\_\_

## UNIT THREE - DUAL FLIGHT - PROFICIENCY IN MANEUVERS; VENTING

**UNIT OBJECTIVE:** To develop proficiency in all previously introduced ground and flight procedures. During this lesson, the student will be familiarized with maneuvering vent use (if aircraft is so equipped) in the normal realm of flight, and will be afforded an opportunity to practice normal approach and landing techniques. Discussion of temperature/load/red line charts will be part of every lesson's pre-flight discussion and

flight planning from here on.

**NOTE:** During this and all subsequent pre-solo lessons, the student shall be responsible for the inflation of the training aircraft. This does not preclude, of course, the overall primary responsibility of the flight instructor, nor his direct supervision of all operations.

	1	2	3
A) PRE-FLIGHT DISCUSSION..... Instruction and Review.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use Of Load Charts..... Demonstration.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temperature/Red Line..... Discussion and Review.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B) FLIGHT PLANNING..... Supervised Performance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C) BALLOON INFLATION.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D) PRACTICE MANEUVERS PREVIOUSLY INTRODUCED.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E) MANEUVERING VENT USE..... Supervised Performance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maneuvers Using Vent..... Supervised Performance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F) PRACTICE CROP IDENTIFICATION..... Instruction and Performance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G) PRACTICE APPROACHES AND LANDINGS..... Supervised Performance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H) DEFLATION..... Supervised Performance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I) LANDOWNER RELATIONS..... Supervised Performance.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J) POST-FLIGHT DISCUSSION..... Critique Of Entire Lesson.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
K) PREVIEW OF NEXT LESSON..... Review Syllabus of Unit Four.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**KEY:**                      1=No Assistance Required;                      2=Requires Some Assistance;                      3=Needed Help!

**ACCEPTABLE STANDARD:** In addition to developing an increased proficiency in all previously practiced maneuvers, the student should be able to demonstrate proper maneuver-

ing vent operation in normal modes of flight. Any deficiencies shall be noted, and future training concentrated in those areas deemed necessary by the flight instructor.

STUDENT \_\_\_\_\_ CERT # \_\_\_\_\_ DATE \_\_\_\_\_

STUDENT INITIALS \_\_\_\_\_ HRS: GRND \_\_\_\_\_ AIR \_\_\_\_\_

INSTRUCTOR'S SIGNATURE \_\_\_\_\_ CERT # \_\_\_\_\_

# UNIT FOUR - PRE-SOLO - DUAL FLIGHT

## UNUSUAL FLIGHT AND TERRAIN CONDITIONS - HAZARD AWARENESS

**UNIT OBJECTIVE:** To enhance the student's ability to operate the aircraft under unusual flight and terrain conditions and to increase his awareness of the special hazards associated with the improper procedures for these maneuvers. It may be argued that there are too many tasks in this unit for adequate learning. This should be thoroughly discussed with the

student. This unit should be divided into sub-blocks for learning, or repeated, until the student and instructor are quite comfortable with his ability to meet the **ACCEPTABLE STANDARD** listed below. Simulated water landings are included because of the real problem of depth perception often discovered at this point.

	1	2	3
A) PRE-FLIGHT DISCUSSION ..... Instruction and Review .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Review Pre-flight and Planning Parts of Units 1, 2, and 3 .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B) PREVIOUS MANEUVERS ..... Directed Practice .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C) ROUGH TERRAIN LANDINGS (Low Speed) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D) SLOPE LANDINGS (Low Speed) ..... Demonstration and Practice .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E) APPROACHES OVER OBSTACLES (Low Speed) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F) CONFINED AREA APPROACH AND LANDINGS (Low Speed) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G) WATER LANDINGS (Low Speed) ..... Demonstration and Practice .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H) HIGH SPEED LANDING TECHNIQUES (at Low to Medium Speed) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I) OPERATION NEAR POWER LINES (Low Speed) ..... Demonstration and Practice .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J) ABORTED LANDINGS ..... Demonstration and Practice .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
K) POST-FLIGHT DISCUSSION ..... Critique of Entire Lesson .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L) PREVIEW OF NEXT LESSON ..... Review Syllabus Of Unit Five .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

KEY:                                      1=No Assistance Required;                                      2=Required Some Assistance;                                      3=Needed Help!

**ACCEPTABLE STANDARD:** The safe performance of these maneuvers requires the student to display a relatively high degree of understanding and proficiency in most aspects of hot air free balloon operations. His operations of all controls

should be positive and indicative of good judgment and planning. He should be able to explain and demonstrate the considerations, precautions, and techniques involved in each type of maneuver in order to insure its safe completion.

STUDENT \_\_\_\_\_ CERT # \_\_\_\_\_ DATE \_\_\_\_\_

STUDENT INITIALS \_\_\_\_\_ HRS: GRND \_\_\_\_\_ AIR \_\_\_\_\_ CERT # \_\_\_\_\_

INSTRUCTOR'S SIGNATURE \_\_\_\_\_

## UNIT FIVE - IN-FLIGHT EMERGENCY PROCEDURES

**UNIT OBJECTIVE:** To familiarize the student with in-flight emergency procedures and begin the development of automatic, relaxed pilot reactions that would result in a safe landing in an actual emergency. As in all lessons, time shall be

allocated to allow the student to practice previously introduced maneuvers, and perform all planning functions, in order to increase his proficiency and confidence. Student is responsible for crew briefings and inflation.

	1	2	3
A) PRE-FLIGHT DISCUSSION ..... Instruction and Review .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B) PRACTICE OF SELECTED MANEUVERS PREVIOUSLY INTRODUCED .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C) EMERGENCY PROCEDURES (SIMULATED) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fuel Exhaustion (use empty tank) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fuel System Malfunction (leak of hose or valve) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regulator Malfunction .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Burner System Failure (burners/pilots off) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Failure Of Maneuvering Vent To Close (if applicable) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Partial Opening Of Rip Panel In Flight .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parachute Top Valve Line Failure (if applicable) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fuel System Fire ("O" ring leak, etc.) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sudden Impending Powerlines, Tree, Or Other Hazard .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thermal Conditions And Responses Thereto .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use Of Emergency Equipment (Extinguisher, Drop-Line, Ballast) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
False Lift, Sudden Ground Winds .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Uses And Hazards Of Ground-Assistance, Crowds During Emergency .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unexpected Livestock Encounter .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pigs .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cattle Herd .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bull .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Problem .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D) POST-FLIGHT DISCUSSION ..... Critique Of Entire Lesson .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E) PREVIEW OF NEXT LESSON ..... Review Syllabus Of Unit Six .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**ACCEPTABLE STANDARD:** The student should be reasonably familiar with in-flight emergency procedures and the relative importance of the aircraft's altitude and flight path. **STUDENT DISPLAY OF COMMON SENSE AND GOOD JUDGMENT IS ABSOLUTELY ESSENTIAL TO THESE MANEUVERS.** Proficiency in performing normal flight ma-

neuvers should exceed the proficiency requirements of the previous lesson. However, the completion of this lesson shall not be predicated on his ability to perform to that level. Noted deficiencies, if any, shall provide the basis for remedial flight and ground training in the deficient areas as necessary.

**KEY:**                      1=No Assistance Required;                      2=Required Some Assistance;                      3=Needed Help!

STUDENT \_\_\_\_\_ CERT # \_\_\_\_\_ DATE \_\_\_\_\_  
 STUDENT INITIALS \_\_\_\_\_ HRS: GRND \_\_\_\_\_ AIR \_\_\_\_\_  
 INSTRUCTOR'S SIGNATURE \_\_\_\_\_ CERT # \_\_\_\_\_

# UNIT SIX - PRE-SOLO - DUAL FLIGHT

## IN-FLIGHT EMERGENCY PROCEDURES - PART II

**UNIT OBJECTIVE:** [This lesson is very similar to Unit Five. It is re-presented here to emphasize its importance.] To enhance the student's understanding of the procedures and maneuvers involved with in-flight emergencies and aircraft system failures in free balloons in general, and in the training aircraft in

particular. He shall learn to fly the aircraft in such a manner as to avoid or minimize the potential dangers which might develop in certain flight situations. The student shall be afforded an opportunity to practice previously introduced maneuvers and procedures.

	1	2	3
A) PRE-FLIGHT DISCUSSION..... Instruction and Review.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B) PRACTICE OF SELECTED MANEUVERS PREVIOUSLY INTRODUCED .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C) EMERGENCY PROCEDURES (SIMULATED WHERE POSSIBLE) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fuel Exhaustion (use empty tank) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fuel System Malfunction (leak or hose or valve) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regulator Malfunction (if applicable) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Burner System Failure (burners/ pilots off) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Failure of Maneuvering Vent To Close (if applicable) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Partial Opening Of Rip Panel In Flight (if applicable) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parachute Top Valve Line Failure (if applicable) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fuel System Fire ("O" ring leak, etc.) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sudden Impending Powerlines, Tree or Other hazard .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thermals (e.g., strong updraft or downdraft) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of Emergency Equipment Extinguisher, Drop-Line, Ballast, etc.) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
False Lift, Sudden Ground Winds.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Uses and Hazards Of Ground Assistance, Crowds During Emergencies .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spooked Livestock .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D) POST-FLIGHT DISCUSSION..... Critique of Entire Lesson.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E) PREVIEW OF NEXT LESSON..... Review Syllabus of Unit Seven.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

KEY:                      1=No Assistance Required;                      2=Required Some Assistance;                      3=Needed Help!

**ACCEPTABLE STANDARD:** The student will be required to demonstrate a high degree of knowledge and proficiency in explaining and demonstrating emergency procedures. He shall observe proper procedures established for each situation, or maneuver, and avoid hurried, thoughtless action. He

should be able to display a high degree of skill in avoiding and/or extracting the aircraft from these situations. The student's knowledgeable awareness of these conditions, and how they develop and affect the aircraft, is of the utmost importance.

STUDENT \_\_\_\_\_ CERT # \_\_\_\_\_ DATE \_\_\_\_\_

STUDENT INITIALS \_\_\_\_\_ HRS: GRND \_\_\_\_\_ AIR \_\_\_\_\_ CERT # \_\_\_\_\_

INSTRUCTOR'S SIGNATURE \_\_\_\_\_

# UNIT SEVEN - PRE-SOLO - DUAL FLIGHT

## UNUSUAL FLIGHT AND TERRAIN CONDITIONS IN HIGH WINDS

**UNIT OBJECTIVE:** To enhance the student's ability to operate the aircraft under unusual flight and terrain conditions and to increase his awareness of the special hazards associated with the improper procedures for these maneuvers. This is essentially a repeat of Unit Four performed at higher wind speeds. This unit should be performed when appropriate wind and terrain conditions are available. It should be divided, or repeated, until the student and instructor are quite comfort-

able with his ability to meet the **ACCEPTABLE STANDARD** listed below. Some instructors feel training for water landings in high winds is absurd. Perhaps it can be simulated by high winds over grassy fields and by discussion while observing (on the ground) a large body of water during high winds. Most instructors who have experienced an emergency with high winds over water recommend such training.

	1	2	3
A) PRE-FLIGHT DISCUSSION..... Instruction and Review.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B) PREVIOUS MANEUVERS..... Directed Practice.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C) ROUGH TERRAIN LANDINGS (High Wind).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D) SLOPE LANDINGS (High Wind)..... Demonstration and Practice.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E) APPROACHES OVER OBSTACLES (High Wind).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F) CONFINED AREA APPROACH AND LANDINGS (High Wind).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G) WATER LANDINGS (High Wind){or acceptable training alternative}.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H) HIGH SPEED LANDING TECHNIQUES (High Ground Winds).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I) OPERATION NEAR POWER LINES..... Demonstration and Practice.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
[Low Speed- DO NOT PRACTICE IN HIGH WINDS NEAR POWERLINES -- SIMULATE POWERLINES OR OTHER SUCH OBJECT CONDITIONS]			
J) ABORTED LANDINGS..... Demonstration and Practice.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
K) POST-FLIGHT DISCUSSION..... Critique Of Entire Lesson.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L) PREVIEW OF NEXT LESSON..... Review Syllabus Of Unit Eight.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

KEY:                      1=No Assistance Required;                      2=Required Some Assistance;                      3=Needed Help!

**ACCEPTABLE STANDARD:** The safe performance of these maneuvers requires the student to display a high degree of understanding and proficiency in all aspects of hot air free balloon operations. His operations of all controls should be

positive and indicative of good judgment and planning. He should be able to explain and demonstrate the considerations, precautions, and techniques involved in each of the maneuvers in order to insure its safe completion.

STUDENT \_\_\_\_\_ CERT # \_\_\_\_\_ DATE \_\_\_\_\_  
 STUDENT INITIALS \_\_\_\_\_ HRS: GRND \_\_\_\_\_ AIR \_\_\_\_\_  
 INSTRUCTOR'S SIGNATURE \_\_\_\_\_ CERT # \_\_\_\_\_

UNIT EIGHT - PRE-SOLO - PHASE CHECK - EVALUATION

UNIT OBJECTIVE: To evaluate the student's performance and knowledge in order to insure that all maneuvers and procedures in the pre-solo phase of training have been

adequately covered and that the student has developed the degree of understanding and proficiency necessary for safe solo flight.

	1	2	3
A) PRE-FLIGHT DISCUSSION ..... Explanation of Objective .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B) PRE-FLIGHT SHAKEDOWN ..... Instructor Evaluation .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flight Planning .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Weather Briefings .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plotting Flight Path .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Selecting Launch Site .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Permission For Site? .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contacting Crew, Passengers .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Observance Of Surface Winds .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Base Pre-Departure Check List .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ground Crew Briefing .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aircraft Documents, Records .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pre-Flight Inspection .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls, Instruments, Batteries .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Basket Rigging .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tanks, Valves, Hoses, Equipment .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ignition Equipment .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Envelope Layout .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Burner Test .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Install, Adjust, Check Instruments .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rip Panel .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C) COLD INFLATION ..... Instructor Evaluation .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crew Has Gloves On; Arms, Hair Covered .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safe Fan Operation .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crowd Control, Handling Lines Clear .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Basket Tied Down When Necessary .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D) HOT INFLATION ..... Instructor Evaluation .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crowd Control .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crown Line .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Demonstrate Patience .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Readied To Abort If Needed .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E) PRE-TAKE-OFF CHECK ..... Instructor Evaluation .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F) WEIGH-OFF ..... Instructor Evaluation .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ascent To Specified Altitude .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maintenance Of Equilibrium .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G) BASIC AIRWORK ..... Instructor Evaluation .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Climbs At Specified Rate .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Descends At Specified Rate .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Level Flight, Various Altitudes .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Direction Changes .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H) EMERGENCIES (Simulated —feigned— to the extent possible when demonstration with actual condition is inappropriate) ..... Instructor Evaluation .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fuel Exhaustion .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fuel System Malfunction .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regulator Malfunction .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Burner System Failure .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Failure of Maneuvering Vent To Close .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Partial Opening Of Rip Panel In Flight .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parachute Top Valve Line Failure .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fuel System Fire .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sudden Impending Powerlines, Trees, Or Other Hazard .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thermal Conditions And Response Thereto .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use Of Emergency Equipment (Extinguisher, Drop-Line, Shroud) .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sudden Ground Winds .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
False Lift .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ground Assistance, Crowds .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
What To Do If Caught In Powerlines .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I) APPROACH AND LANDING TECHNIQUES ..... Instructor Evaluation .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Normal .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Over Obstacles .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rough Terrain .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water, Crops, Livestock .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J) DEFLATION ..... Instructor Evaluation .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
K) POST-FLIGHT INSPECTION OF CRAFT ..... Instructor Evaluation .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
L) POST-FLIGHT DISCUSSION ..... Instructor Evaluation .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



ACCEPTABLE STANDARD: The student should have achieved reasonable proficiency in all the flight maneuvers on which he has received instruction. He must be able to demonstrate his ability to handle in-flight emergencies in such a manner that the safety of the pilot and aircraft is never in doubt at any point throughout the flight.

Common sense, good judgment, and strict adherence to safety rules and procedures shall be of primary importance in this evaluation of student ability. While the tolerances for each maneuver previously specified in this syllabus must be observed, final judgment of the student's ability to fly the aircraft in solo flight shall be made in light of the flight instructor's experience and knowledge.

KEY:

1=No Assistance Required;

2=Required Some Assistance;

3=Needed Help!

STUDENT \_\_\_\_\_ CERT # \_\_\_\_\_ DATE \_\_\_\_\_  
STUDENT INITIALS \_\_\_\_\_ HRS: GRND \_\_\_\_\_ AIR \_\_\_\_\_  
INSTRUCTOR'S SIGNATURE \_\_\_\_\_ CERT # \_\_\_\_\_

# UNIT NINE - DUAL/SOLO FLIGHT

## FIRST SUPERVISED SOLO

**UNIT OBJECTIVE:** To review and practice all previously covered maneuvers and procedures, with particular emphasis on emergency procedures, in preparation for the student's first supervised solo flight. The objective of the solo flight is to increase the student's confidence in his ability to control the aircraft in normal flight operations. No solo cold descents (terminal velocity descents) will be permitted during this solo

flight.

**NOTE:** PRIOR TO THIS UNIT, THE STUDENT MUST HAVE RECEIVED A PASSING GRADE ON THE FAA WRITTEN EXAM FOR HOT AIR BALLOONS! The solo portion of this lesson is to be completed only if calm climatic conditions permit.

	1	2	3
A) PRE-FLIGHT DISCUSSION . . . . . Including Review Of Safety Rules And Procedures . . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B) INFLATE, LAUNCH, WEIGH-OFF IN DUAL FLIGHT; PERFORM SELECTIVE PRACTICE OF PREVIOUSLY INTRODUCED MANEUVERS; LAND AND STABILIZE . . . . . Directed Performance . . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C) SOLO WEIGH-OFF . . . . . Supervised Solo . . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D) ASCENT TO ALTITUDE: MAINTENANCE OF LEVEL FLIGHT . . . . . Supervised Solo . . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E) INSTRUCTOR-SPECIFIED MANEUVERS . . . . . Supervised Solo . . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F) NORMAL APPROACH AND LANDING; CROP AND LIVESTOCK PRECAUTIONS . . . . . Supervised Solo . . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G) DEFLATION . . . . . Supervised Performance . . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H) LANDOWNER RELATIONS . . . . . Supervised Performance . . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I) POST-FLIGHT INSPECTION OF AIRCRAFT . . . . . Supervised Performance . . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J) POST-FLIGHT DISCUSSION . . . . . Critique of Entire Lesson . . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
K) PREVIEW OF NEXT LESSON . . . . . Review Syllabus Of Unit Ten . . . . .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**KEY:**                      1=No Assistance Required;                      2=Required Some Assistance;                      3=Needed Help!

**ACCEPTABLE STANDARD:** Prior to Solo Flight, the student must demonstrate to his instructor the ability to confidently perform the maneuvers of the pre-solo portion of this syllabus in a safe manner and within the tolerances specified in previous lessons. The flight instructor shall terminate the solo

portion by appropriate hand signals or radio communications if, in the instructor's opinion, the student's performance becomes erratic or careless and further solo flight is deemed inadvisable.

STUDENT \_\_\_\_\_ CERT # \_\_\_\_\_ DATE \_\_\_\_\_  
 STUDENT INITIALS \_\_\_\_\_ HRS: GRND \_\_\_\_\_ AIR \_\_\_\_\_  
 INSTRUCTOR'S SIGNATURE \_\_\_\_\_ CERT # \_\_\_\_\_