



Technical Subject Area

How to Make Preflight Briefings from Lesson Plans

Power Hour 197

How to make preflight briefings

Course of Training

Group of classes/events that lead to an award

How to make preflight briefings

Syllabus

A roadmap for a class/event

How to make preflight briefings

Lesson Plan

An outline for an instructional period

How to make preflight briefings

Checkride Lesson Plan vs. Day to Day with a Student

Checkride lesson plans are too big

How to make preflight briefings

Steep Turns

CFI LESSON PLANS



Objective

To perform a 360-degree level turn using between 45 - 50 degrees bank while maintaining altitude, airspeed, and coordination.

Motivation

Develops smoothness, coordination, orientation, division of attention, and control techniques to control the increase in load factor and stall speed. This maneuver can be used to avoid an encounter with clouds, terrain, or other aircraft.

Presentation: 20 Minutes

1. Aerodynamics review of turning flight including increases in load factor and stall speed and accelerated stalls.
2. How load factor increases with bank angle - Note how after bank angles of greater than 45 degrees load factor increases substantially with even small increases in bank angle.
3. Determining maneuvering speed, including changes in weight.
4. Identification of reference points and heading.
5. Adverse yaw and how to use rudder to stop it.
6. Use of horizon to determine bank and the different sight pictures in left / right turns.
7. Maintaining altitude with elevator and airspeed with power.
8. Use of trim in a turn.
9. Overbanking tendency.
10. Left turning tendencies and the use of rudder in the turn.
11. Anticipating rolling out. ($1/2$ bank angle in degrees)

Key Points:

- Load factor and stall speed increase quickly over banks angles of 50 degrees.
- Adverse yaw happens anytime the ailerons are deflected.
- Elevator controls altitude and power controls airspeed.
- During the turn right rudder will be needed to stop the left-turning tendencies.

How to make preflight briefings

Checkride Lesson Plan vs. Day to Day with a Student

Assumes student hasn't taken ground school or online course

How to make preflight briefings

Checkride Lesson Plan vs. Day to Day with a Student

They are meant to show you can teach everything and you know everything

How to make preflight briefings

Example of the ASA Private Pilot Syllabus

Stage 1 / **Module 1**



Ground Training

Objective:

For the student to be introduced to the Private Pilot Certification program, and learn the flight school requirements, procedures, regulations, and grading criteria. Student shall also become familiar with stability, control, and the forces acting on an airplane.

Content:

- Review of course and objectives
- School requirements, procedures, regulations
- Grading criteria, expectations of student
- Review objective of Stage 1

The forces acting on an airplane

- Weight
- Lift
 - streamline/turbulent flow
 - Bernoulli's Principle
 - dynamic/static pressure
 - airspeed
 - airfoil shape
 - aerodynamic force
 - pressure distribution and CP movement
- Drag
 - total drag
 - parasite drag
 - skin-friction drag
 - form drag
 - interference drag

Stability and control

- Stability
 - static/dynamic stability
 - stability vs. maneuverability
 - airplane equilibrium
 - pitching moments
 - longitudinal/directional/lateral stability
- Control
 - elevator
 - ailerons
 - rudder
 - control effectiveness



Flight Training

Objective:

For the student to be introduced to and become familiarized with preflight inspections, checklist operations, starting and taxi procedures, and the function and use of the airplane controls.

Content:

- Preflight inspection and aircraft documents (certificates and documents, aircraft logbooks, airplane servicing)
- Starting procedures
- Taxi
- Control effects on ground and in flight
- Checklist introduction and use
- Normal takeoff
- Four Basics: straight and level, climbs, descents, turns
- Collision avoidance procedures
- Normal approach and landing
- Postflight procedures

Completion Standards:

This lesson is complete when the student can conduct the preflight with minimum assistance, properly use all checklists, start the airplane, taxi, and operate the controls.

Recommended Reading:

Flight School

How to make preflight briefings

Example of the ASA Private Pilot Syllabus

2.0 hours ground instruction

1.0 hours flight instruction

- propeller efficiency
- controllable-pitch propellers
- takeoff effects of propellers
- propeller torque effect
- gyroscopic effect
- P-factor

Completion Standards:

This lesson is complete when the student has successfully completed all review questions following the assigned reading.

Assignment:

Ground School, Chapters 1 and 2

Minimum 141 Requirements

- Dual 1.0 hour flight
- 2.0 hours ground instruction

Stage 1 / Module 1

Date of Completion: _____

Signature: _____

Time Flown: _____

How to make preflight briefings

Example of the ASA Private Pilot Syllabus

At least 3 hours ground – Including preflight briefings

At least 2.5 hours flight plus ground briefs and preflight

How to make preflight briefings

Example of the ASA Private Pilot Syllabus

0.5 - Meet and get the airplane dispatched

0.3 – Review of the weather and risk management

0.4 - Walk to and back from the airplane including tiedown

How to make preflight briefings

Example of the ASA Private Pilot Syllabus

- 0.7 – Preflight briefings on maneuvers to be done today
- 2.0 – Ground Instruction – AeroD/Airplane components
- 0.3 – Post Flight Briefing and Grading

How to make preflight briefings

Example of the ASA Private Pilot Syllabus

1.0 - Flight

5.2 hours with no breaks/getting fuel etc.

How to make preflight briefings

Example of the ASA Private Pilot Syllabus

Using a checkride lesson plan for each maneuver would take way too long

How to make preflight briefings

What is needed instead

Air Force style briefings – What, How but not Why

How to make preflight briefings

What is needed instead

3 total versions of your current lesson plans

How to make preflight briefings

What is needed instead

Version one – Complete Lesson Plan (Checkride Version)

Up to 20 minutes

How to make preflight briefings

What is needed instead

Version two – 141 school style lesson plan – Air Force Style
5-10 minutes

How to make preflight briefings

PreFlight Briefings

Teach Brief - Fly
"A complete system to teach flying using either a Part 141 or 61 Syllabus."
Second Edition

CFI Bootcamp
Flight Instructor Training

Everything you need for a Ground or Flight Lesson in One Place.
This system works in both FAR Part 61 and 141 training environment no matter what syllabus you use.

Pre-flight Briefings

Lesson Plans

Teaching Private and Commercial Maneuvers

650-600-1021
429 Lenox Ave, Miami Beach
Florida 33139

[Teach Brief-Fly!](#)

How to make preflight briefings

Steep Turns

1. Clear the airspace and identify emergency landing areas.
2. Adjust the throttle to 2100 RPM - 90 KIAS.
3. Altitude no lower than 1500 feet AGL.
4. Identify a reference point in front of the aircraft and note the heading.
5. Roll into a 45 - 50 degree bank turn - Stop adverse yaw with rudder.
6. Maintain bank, altitude, and airspeed.
7. Elevator maintains altitude, throttle maintains airspeed, aileron - angle of bank.
8. Remain coordinated.
9. Begin the roll out 25 degrees before the 360 degree point - Stop adverse yaw.
10. Level the wings on the entry heading.
11. Reduce elevator to maintain altitude and decrease throttle for airspeed.
12. Roll into a 45 - 50 - degree bank turn in the opposite direction.
13. Repeat maneuver in the opposite direction.

Load Factor

2g

60

Angle of Bank

Teach Brief-Fly!

Slow Flight

1. Clear the area.
2. Reduce the throttle to 1500 RPM.
3. Maintain altitude with elevator back-pressure as the airspeed slows.
4. Lower the flaps to full in stages. 10 degrees below 110, the rest below V_{fe} .
5. Anticipate elevator pressure changes.
6. Slow to 50 KIAS, and apply throttle as necessary to maintain altitude.
7. Use elevator to maintain airspeed.
8. Apply rudder to keep the to maintain heading. Keep the wings level with ailerons.
9. Perform a level 90 degree turn to the left. Additional throttle will be required to maintain altitude.
10. Perform a level 90 degree turn to the right.
11. Return to straight and level flight at cruise speed by applying full power first.
12. As the airspeed increases, retract the flaps in stages while maintaining altitude.
13. When the airspeed is 90 KIAS reduce throttle to 2100 RPM and trim.

Drag

Airspeed

Induced Drag

Parasite Drag

Lift Equation

$$\text{Lift} = \frac{\rho V^2 S C_L}{2}$$

Angle of Attack

Variables we can control

$$\text{Lift} = V^2 \times \text{AOA}$$

Left Turning Tendencies

1. Torque
2. P-Factor
3. Slipstream
4. Gyroscopic Precession (depends)

How to make preflight briefings

What is needed instead

Version three – Flight Review or Stage Check – Outline of what will be done and standards

Quick discussion – A few minutes

How to make preflight briefings

Outline of the Flight

Stage 4 / **Module 5 and Stage Check**



Ground Training

Objective:

For the student to take and pass the FAA Private Pilot Knowledge Exam, and become proficient in all areas required for the private oral exam portion of the checkride.

Content:

- Review all private pilot subject matter from the Private Pilot Airman Certification Standards
- Suggested review material: *Private Pilot Oral Exam Guide*

Completion Standards:

Stage 4 Exam must be passed with a minimum passing score of 80%, and reconciled to 100%.

Assignment:

Suggested reading: review *Private Pilot Oral Exam Guide*
Stage 4 Exam
FAA Private Pilot Knowledge Exam



Flight Training

Objective:

For the student to become competent to pass the private pilot checkride. For the Stage Check, student should demonstrate skill in the following areas according to the completion standards. This module should be completed within 60 days of the practical test.

Content:

- Weather briefing—current, forecast, winds, go/no-go decision
- Weight and Balance
- Aircraft paperwork
- Cross-country planning
- Preflight
- Starting procedures
- Taxi
- Run-up
- Climb out at V_X and V_Y
- Cross-country flying
- Instrument work: four basics, Slow Flight, stalls, unusual attitudes
- Slow Flight
- Stalls (Power on/off)
- Spin awareness and avoidance
- Steep Turns
- Emergency situations/landings
- Turns Around a Point
- S-turns
- Rectangular Course
- Soft-field takeoffs and landings
- Short-field takeoffs and landings
- Crosswind takeoffs and landings
- Forward slips to landing
- Radio work—nav and com
- Postflight procedures

Completion Standards:

This module is complete when all the maneuvers and aeronautical knowledge are demonstrated according to the ACS.