

General Pilot Instruction Lesson Plan

Preventing Runway Incursions

Student: _____ Date: _____

Objectives:

Upon completion of this lesson, the student will:

- Know what constitutes a runway incursion.
- Be able to recognize and comply with the signs used to mark runways and taxiways.
- Know the FAA 10 Best Practices for preventing runway incursions.

Elements:

- Taxi instructions
- Airport signs and markings
- Taxi clearance readback

Schedule:

• Pre-lesson briefing	00:05
• Definition of runway incursion	00:05
• Airport signs and markings (classroom)	00:10
• FAA 10 Best Practices for preventing runway incursions	00:10
• Flight to controlled airport (if required)	00:15
• Airport signs and markings (taxi)	00:10
• Practice copying and reading back taxi instructions	00:10
• Return flight (if required)	00:15
• Post-lesson debriefing	00:10
Total:	01:30

Equipment:

- AIM and/or airport sign examples.
- Airport diagram for airport to be used in the exercise.
- FAA 10 Best Practices handout.

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Instructor Actions:

1. Pre-lesson briefing
 - Present lesson objective and outline of the lesson.
2. Instructor will explain the definition of a runway incursion:
 - The FAA defines a runway incursion as "Any occurrence at an airport involving an aircraft, vehicle, person, or object on the ground that creates a collision hazard or results in loss of separation with an aircraft taking off, intending to take off, landing, or intending to land.
 - FAA also only recognizes runway incursions as occurring at airports with operating control towers, however, the consequences can be just as severe at non-towered fields, for example, Quincy, IL; November 1996.
 - References:
 - List previous Runway Incursion accidents
3. Using the AIM or sample signs, the instructor will explain airport signs and markings.
 - Incursion Hot Spots on Airport Diagrams from IAPs
 - Directional signs; yellow with black lettering
 - Location signs; black with yellow lettering
 - Mandatory instruction signs; red with white lettering
 - Hold short signs and ground marking
 - ILS hold signs and ground marking
4. Instructor will review the FAA 10 Best Practices for preventing runway incursions:
 - Readback all runway crossing and/or hold short instructions
 - Review airport layouts as part of preflight planning, before landing and while taxiing.
 - Need to know airport signage.
 - Need to review NOTAMs regarding taxiway and/or runway closures.
 - Use progressive taxi instructions when unsure of a taxi route.
 - Need to check for traffic before crossing any runway or when entering a taxiway.
 - Use the airplane's beacon and strobes when taxiing (note: formerly the use of strobes on the ground was not recommended).
 - Clear the active runway as quickly as possible and wait for taxi instructions before further movement.
 - Need to use proper radio phraseology as described in the AIM.
 - Write down complex taxi instructions at unfamiliar airports.
5. Flight to controlled airport (if required).
 - If operating from a poorly marked non-towered airport, the instructor will take the student to a well marked towered airport.
 - Prior to departing the instructor will review the airport diagram with the student.
 - Prior to landing, the instructor will have the student review the airport diagram once again.

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6. Airport signs and markings and practice copying and reading back taxi instructions.
 - Upon arrival, the instructor will ask the tower and/or ground controller for some taxi practice around the field (note: the Allentown FSDO suggests it might be a good idea to pre-arrange this with the tower on the phone before departing and if necessary arrange to do it at a not so busy time).
 - The instructor will assist the student in copying and complying with taxi instructions.
7. Return flight (if required)
8. Post Lesson Debriefing
 - Review what was learned.
 - Answer student questions.
 - Ask student questions to evaluate what was learned.
 - Explain what will be covered in the next lesson and assign reading material.

Student Actions:

1. Pre-lesson briefing
 - Ask questions concerning previous lessons and/or this one.
2. Definition of a runway incursion.
 - Ask questions related to the definition of a runway incursion.
3. Airport signs and markings.
 - Ask questions related to airport signs and markings.
4. FAA 10 Best Practices for preventing runway incursions.
 - Ask questions related to the FAA 10 Best Practices.
5. Flight to controlled airport (if required).
 - Student will review the airport diagram for the airport to be used in the exercise.
 - Ask questions about the airport diagram.
 - Student will contact flight service to determine if there are any applicable NOTAMs for the airport to be used in the exercise.
6. Airport signs and markings and practice copying and reading back taxi instructions.
 - The student will receive various taxi instructions from the tower and/or ground controller.
 - The student will write down all taxi instructions.
 - The student will readback all runway crossing and hold instructions.
 - The student will comply with all taxi instructions and airport signs and markings,
 - The student will explain each sign and marking encountered to the instructor.
7. Post-flight debriefing.
 - Ask questions about the lesson.

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Completion Standards:

This lesson will be completed when the student:

- Knows what constitutes a runway incursion.
- Is able to recognize and comply with the signs used to mark runways and taxiways.
- Knows the FAA 10 Best Practices for preventing runway incursions.

Common Errors:

- Student misses parts of an instruction.
- Student fails to write down taxi instructions.
- Student fails to readback runway crossing and hold short instructions.
- Student fails to ask for clarification when parts of the taxi instruction are not completely understood.
- Student fails to ask for progressive taxi instructions when unsure of the route.

References:

- AIM
- Pilot's Handbook of Aeronautical Knowledge (FAA-H-8083-25); 12-14 – 12-15
- Advisory Circular (AC) 91-73

Possible Review Questions:

1. Runway incursions occur at _____ airports.
2. Runway incursions can be caused by _____, _____ or _____ .
3. If unsure of the taxiway layout at an airport, the pilot should never hesitate to ask for _____
_____ .
4. A red sign with white lettering is a _____ sign, and usually indicates that the aircraft should _____ .
5. A yellow sign with black lettering is a _____ sign.
6. A black sign with yellow lettering indicates what?