

## EXERCISE 4(B)

# TAXIING - RUNWAY INCURSIONS

## Objective

To teach how to avoid Runway Incursions

## Motivation

Safety, Avoiding Enforcement Action, Good Pilotage Skills

## Essential Background Knowledge

All of Exercise # 4 Taxiing

## Advice To Instructors

- (1) Start to build a foundation for good airmanship.
- (2) Question students often on runway markings, signs etc.,

## Instructor and Student Practice (ground)

- (1) Use the definition and facts below to emphasize that Runway Incursions are preventable.
- (2) Question students and create scenarios on Runway Markings, Signs and Radio Phraseology.
- (3) Explain the term "SIRO" and what a pilot's options are (you do not have to accept a clearance from ATC that involves SIRO).

What is a "Runway Incursion"?

***"Any occurrence at an airport involving the unauthorized or unplanned presence of an aircraft, vehicle or person on the protected area of a surface designated for aircraft landings or departures"***

## Preventing Runway Incursions

### Facts:

- Weather is *NOT* a factor in 89% of runway incursions
- Pilots taxiing onto runways or taxiways without clearance accounted for 62% of cases
- Pilots landing or departing without clearance accounted for 23% of cases
- Pilots landing on wrong runway accounted for 10% of cases
- Pilot distractions accounted for 17% of cases
- Pilot disorientated or lost during 12% of cases
- Pilots not being familiar with ATC procedures or language accounted for 22% of cases
- Pilots not familiar with the airport accounted for 19% of cases
- GA aircraft are involved in 69% of all runway incursion cases
- Low time pilots (less than 100hrs) account for 32% of all runway incursions
- High time pilots (greater than 3000hrs) account for 10% of the cases
- The top 5 aircraft involved in runway incursions were all single engine GA airplanes

### Here are the 9 points of safe ground operations:

1. Review airport layouts as part of preflight planning, during cruise, before descent, and while taxiing. CFS
2. Know and understand airport signage Airport Markings, Signs, and Selected Surface Lighting
3. Read back all runway crossing and/or hold short instructions
4. Review Notices to Airmen (NOTAMS) for runway/taxiway closures and construction areas
5. Request progressive taxi instructions when unsure of the taxi route
6. Check for traffic before entering any runway or taxiway
7. Turn on aircraft lights while taxiing
8. Clear the active runway on rollout as quickly as possible, then wait for taxi instructions before further movement
9. Study and use proper phraseology found in the Aeronautical Information publication when responding to ground control instructions.

## Exercise 18(B) Recovery From Poor Landings

### Objective

To teach a safe method for pilots to handle landing abnormalities

### Motivation

To prevent accidents/ incidents during solo operations

### Essential Background Knowledge

- Stabilized approach
- Normal landings and proper landing attitude
- Go-around

### Instructor and Student Practice

### Suggested Recovery Techniques From Bad Landings

#### GROUND

The main body of the lesson should start with defining and giving examples of what the following are:

- Balloon
- Bounce
- Porpoise
- Wheelbarrow

Next comes a detailed explanation of the recoveries for each, this is difficult as no two bad landings are ever the same and therefore a different recovery technique may apply. To keep the choices as simple as possible until a pilot gains experience. Let's give the student only 2 choices when experiencing a poor landing with one common theme, power and attitude.

#### **CHOICE# 1**

#### **CHOICE# 2**

#### GO-AROUND

#### LAND

**Choice 1** - The go-around is generally the safest and most prudent option. No pilot should ever be hesitant to execute a go-around. If the pilot knows the correct go-around procedure from the POH there will likely be no accident or incident involved. All go-arounds will have the first actions being power and then attitude and then flaps, gear, etc.,

**Choice 2** – Land, there are occasions in a training environment where a landing will be a better choice than a go-around;

- If the speed and energy of the aircraft are such that a safe go-around is not possible.
- If in the opinion of the PIC the aircraft is unflyable.

Some examples of this are if the airspeed is low (under 20 kts) and the power is at idle the go-around may make the problem worse. Again keeping with the theme the power should stay at idle and the landing attitude should be assumed. What makes an A/C unflyable? Prop strike, structural damage, fire etc.,

In these scenarios it is important that all pilots are trained to recognize and react to situations and are fully briefed and trained in the air. If the pilot has been exposed to different variations of bad landings they will be more likely to react properly and save themselves and the aircraft. Go through various examples and test the student's Pilot decision making skills until you're satisfied they will know how to react.

## **INSTRUCTOR AND STUDENT PRACTICE -AIR**

Set the aircraft up in various attitude and power configurations that will simulate poor landings, demonstrate what to do and then set up the aircraft again giving control to the student at the critical moment and observe the reactions. Practice this you are satisfied with the student's skill and decision-making process. As the instructor you may choose to perform this exercise at altitude in the practice area or over the runway. Please read the note below.

**CAUTION – Practice of these maneuvers should be dual only, during ideal conditions and discussed with the CFI.**

## **Advice To Instructors**

This exercise is intended for the low time pilot with little or no PIC time. The accident rate among pilots with 2-5 hours of PIC time that lose control of aircraft during landing is very high. This exercise is designed to assist the instructor in developing a simple safe method of training students to deal with landing problems. As a student progresses it will become easier for them to correctly handle the situations presented. During the whole lesson (ground and air) emphasize that the main cause of the poor landing is an unstable approach, therefore a go-around enables them to stabilize the next approach and thus provide a platform for a better landing. A full understanding of what makes an approach stable will allow a student to identify problems early in the approach. The sooner they can recognize a problem, and without hesitation initiate a proper go-around, the better. If you have never practiced these maneuvers consult your CFI or the nearest Transport Canada office for more information.