

# Preventing Runway Incursions

Presented to: Civil Air Patrol Flight Clinic  
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Federal Aviation  
Administration



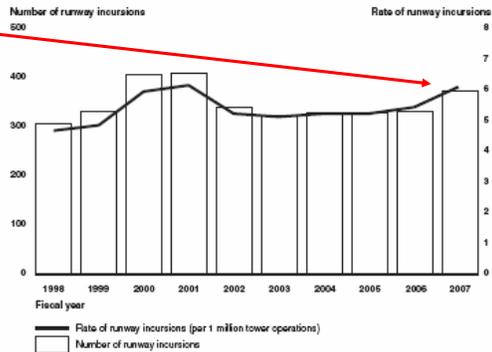
Discussion

Movie

# Discussion topics

- Why discuss runway incursions?
- Understanding runway signage
- Current airport diagram program

Figure 2: Number and Rate of Runway Incursions from Fiscal Year 1998 through Fiscal Year 2007



Source: FAA.  
Note: Fiscal year 2007 data are preliminary.

Nov 2007 GAO Report, Aviation Runway and Ramp Safety



*What is a “runway incursion”?*

*What can you do to prevent them?*

# Runway Incursions

- **Definition:**

- FAA and ICAO define an *incursion* as:
  - any occurrence at an airport involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing or take-off of aircraft.
- Categories
  - Category A: Separation decreases to the point that participants take extreme action to narrowly avoid a collision.
  - Category B: Separation decreases, and there is a significant potential for a collision.
  - Category C: Separation decreases, but there is ample time and distance to avoid a collision.
  - Category D: There is little or no chance of collision, but the definition of a runway incursion is met



Operational Error

Pilot Deviation

Vehicle or pedestrian

# Preventing Runway Incursions

- **What can you do?**

- What's available to you as the pilot?
  - Taxi Into Position and Hold (TIPH) guidance
  - Airport Diagrams
- Being prepared
  - Non-towered airport: listen on CTAF (especially during periods of calm winds, or airports with more than one runway)
    - Even then, not all aircraft are radio-equipped
  - Listen. Follow your actual instructions, vice your expectations
  - Note elapsed time since "TIPH" clearance – contact ATC
- Make yourself conspicuous
  - Rotating beacon for start; nav, position, anti-collision lights for taxi; landing lights when cleared for takeoff



FAA used two minutes or more elapsed time between time instruction was given and resulting event (e.g., landover or go-around)

## Runway Incursion Prevention (AC91-73)

- **Observe “sterile cockpit” while taxiing**
- **Use airport diagram**
- **Navigation lights on when airplane is in motion**
- **Monitor tower/CTAF frequency**
- **Read back all “hold short” clearances**
  - Do not merely say “Roger” or “Wilco”
- **When TIPH at night, offset centerline (3 ft)**
- **Do not accept last minute turnoff instructions...**
  - ...unless you understand and can comply



## Runway Incursion Information Evaluation Program (RIIEP) - excerpt

- Gathers information about factors or events that lead to Runway Incursions
- Not an "Immunity or Amnesty" program.
- Any pilot or mechanic taxiing an aircraft involved in an alleged runway incursion may expect to be contacted by an FAA inspector.
  - The inspector will inform the pilot or mechanic that participation in the RIIEP interview process is voluntary.
  - The FAA will conduct the RIIEP interviews in person or by telephone using a standard questionnaire.
- If pilots and mechanics participate in the RIIEP, the FAA has given notice that "if an airman cooperates in answering questions that will assist in identifying the cause of the runway incursion, the FAA ordinarily does not expect to take punitive legal enforcement action."
  - **The FAA *does not expect* to use information provided by airmen during interviews conducted by FAA inspectors under the RIIEP in any FAA punitive legal enforcement action**
- Pilots and Mechanics are enhancing SAFETY by providing valuable information to help mitigate future incursions caused by Human Error.



### RIIEP:

Why FAA collects information

Who it affects

When information is collected

Last year, 8 individuals participated and 2 reports were entered into the system.

# Airport Signage (handouts)

- **Runway markings**
- **Taxiway markings**
- **Taxiway edge markings**
- **Holding position markings**
- **Airport signs**
  - Mandatory instruction signs
  - Location signs
  - Direction signs
  - Destination signs
  - Information signs
  - Runway distance remaining signs



# Airport Diagram Program

- **Preflight planning often inadequate or ignored**
- **Utilize A/FD, current NOTAMS, ATIS, and current airport diagram**
  - Departure, destination, alternate airports
- **Airport diagrams available**
  - [www.naco.faa.gov](http://www.naco.faa.gov)



# On-board Technology

- **Pro:**
  - Increased situational awareness
  - Examples:
    - Moving map technology with own-ship position
    - Runway occupancy advisories
    - Graphic/text of taxi and clearance limits
- **Con:**
  - Do you know the survey accuracy?
  - Do you know the data base integrity?



Compelling nature of displays

## Summary

- **Runway incursions**
  - Use all tools (including radio communication, charts)
- **Airport signage**
  - Know what it means
  - Let airport know if unclear or difficult to read
- **Airport diagrams**
  - If in doubt, stop and ask (for progressive taxi) – but don't stop on the runway!
- **On-board technology**
  - Better SA, but need to know intended function
- **Use on-line resources (AOPA, ALPA, FAA)**



## Flying and training similarities

- You carefully plan your procedures.
- You have done this before.
- You have thought of the possibilities.
- You know what you are doing; after all, you have been trained!
- Nothing could possibly go wrong, right ?



## Think Again!



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Use your checklist!!

**Time permitting, sound/slide show**

**Thank you for your attention!**

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