



U.S. Department
of Transportation
**Federal Aviation
Administration**

SAFO

Safety Alert for Operators

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Flight Standards Service
Washington, DC

http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo

A SAFO contains important safety information and may include recommended action. SAFO content should be especially valuable to air carriers in meeting their statutory duty to provide service with the highest possible degree of safety in the public interest. Besides the specific action recommended in a SAFO, an alternative action may be as effective in addressing the safety issue named in the SAFO.

Subject: 14 CFR part 135 flightcrew techniques and procedures to enhance taxi, pre-takeoff, and after landing safety to reduce the risk of runway incursions.

Purpose: This SAFO provides techniques, procedures, and items for consideration in training programs that emphasize safe operations in the taxi, pre-takeoff, and after landing phases of flight.

Background: In an effort to reduce the number of runway incursions occurring in Title 14 of the Code of Federal Regulations (14 CFR) part 135 operations, the FAA has developed several documents outlining procedures highlighting the importance of maintaining situational awareness and adherence to crew and flight deck resource management to assist pilots in mitigating outside influences that could lead to a runway incursion. It is important to note that many airports are involved in construction activities that result in changing environments. This heightens the importance of pilot vigilance.

There are many other factors that can distract a pilot and cause the loss of situational awareness. Even subtle distractions such as dealing with company procedures, revised air traffic control (ATC) instructions, late passengers, and even personal issues, could demand a share of the pilot's workload.

Surface incursions, including those that lead to wrong runway takeoff or landing events, can be mitigated in several ways, such as improved flight deck procedures, implementation of flight deck moving map displays, or cockpit runway alerting systems. These mitigations can provide the necessary redundancy to reduce the opportunity for human error during surface operations and, if an error were to occur, potentially stop it before it becomes catastrophic.

In addition to surface runway incursion training, part 135 certificate holders should consider implementing training that includes radio monitoring skills to allow the pilots an opportunity to practice and demonstrate runway incursion mitigation skills. By implementing these recommendations, pilots will receive training that would not only benefit in-flight operations but also airport surface operations.

It is imperative that flightcrews maintain the highest levels of airmanship discipline and crew resource management. This is especially significant during ground operations and all critical phases of flight. This SAFO provides the following reminders:

Reminders of Existing FAA Aircraft Ground Operation Guidance:

- As part of preflight and pre-landing planning, review airport layouts and know airport signage
- Review Notices to Airmen (NOTAMs) and ATIS transmissions for information on runway/taxiway closures and construction areas
- During all taxi operations, have a current airport diagram readily available for reference and check the assigned taxi route against the diagram, paying special attention to any unique or complex intersections
- Write down complex taxi instructions; when unsure of the taxi route request progressive taxi instructions from ATC
- If the flight has more than one flight crewmember, it is important that both fully understand taxi clearances and runway assignments prior to any ground operations
- During taxi operations, the flightcrew's primary focus must be placed upon maintaining situational awareness. The pilot taxiing should have his attention focused outside the aircraft at all times while the other pilot should monitor the taxi progress by reference with the airport diagram and give guidance to the taxiing pilot
- If operating an aircraft with only one pilot, the aircraft should come to a complete stop prior to conducting aircraft checklist items, referencing the checklist or manuals, or copying an ATC clearance
- Apply crew resource management procedures to:
 - Identify and resolve conflicting perceptions with ATC instructions
 - Confirm ATC instructions by using the challenge and response technique to ensure proper execution
 - Confirm departure instructions by using the challenge and response technique to ensure that the aircraft is actually positioned on the assigned runway by reference to the heading indicator
- Use all available resources to ensure the aircraft is positioned on the proper runway. One technique for airplanes that are flight management system (FMS)-equipped is to verbally announce that the proper runway and departure procedure are selected in the FMS and that the aircraft heading agrees with the assigned runway for takeoff. For aircraft without an FMS, verify the heading indicator and runway assignment are in agreement.

While some of the following guidance documents were initially developed for 14 CFR part 121 air carriers, the information contained in these documents can easily be adapted to part 135 operations. This SAFO is to remind you that the following references contain excellent information for aircraft ground operations:

- AC-120-74A, Parts 91, 121, 125, and 135 Flight Crew Procedures During Taxi Operations
- AC120-71A, Standard Operating Procedures for Flight Deck Crewmembers
- AC 120-51E, Crew Resource Management Training
- FAA Order 8430.17, Change 5, Paragraph 974, Crewmember Procedures and

Responsibilities During Ground Operations In All Weather Conditions

- FAA Takeoff Safety Training Aid, Pilot Guide to Takeoff Safety, available through the National Technical Information Service

Recommended action: Directors of Operations, Chief Pilots, Training Centers, Check Airmen, and pilots involved in the training, checking, or conduct of part 135 operations should be familiar with the contents of this SAFO. They should work together to ensure that the content of this SAFO is provided to pilots during ground training and evaluated in all flight training and checking events.

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