



U.S. Department  
of Transportation  
Federal Aviation  
Administration

# SAFO

Safety Alert for Operators

SAFO 06005  
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Flight Standards Service  
Washington, DC

**[http://www.faa.gov/other\\_visit/aviation\\_industry/airline\\_operators/airline\\_safety/safo](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.*

**Subject:** Bounced Landing Training for certificate holders operating under Title 14 of the Code of Federal Regulations (14 CFR) parts 121 and 135.

**Purpose:** The Air Transportation Division, AFS-200, issues this SAFO to emphasize the importance of operators ensuring they have procedures and training for bounced landing recovery.

**Background:** During visual meteorological conditions, an Avions de Transport Regional (ATR) 72-212, while attempting a landing, skipped once, bounced hard twice, and then crashed. The airplane came to a complete stop on a grassy area about 200 feet left of the runway centerline and about 4,300 feet beyond the runway threshold. The captain was seriously injured; the first officer, two flight attendants, and 16 of the 22 passengers received minor injuries; and the remaining six passengers were not injured.

**Discussion:** A poorly executed approach and touchdown can generate a shallow bounce (skip) or a high, hard bounce that can quickly develop into a hard landing accident. Additionally, various aircraft systems (such as spoilers) can complicate the recovery process.

**Recommended Action:** Every Director of Safety (14 CFR part 121), Director of Operations (part 135) and Fractional Ownership Program Manager (part 91, subpart K) should check for bounce landing recovery techniques and accomplish revision, if necessary, to the following components of their approved training programs:

- a. The manuals used by their pilots;
- b. The initial ground training for each of the airplane types that they fly; and
- c. Briefings and debriefings during initial and recurrent flight training and supervised operating experience

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Approved by: AFS-200

If bounced landing procedures are not explicitly addressed, each certificate holder should consult the applicable airplane flight manual and the flightcrew operating and training manuals offered by the manufacturer to determine the recovery techniques recommended for each airplane type that it flies.

Failing to find recommended recovery techniques in any of these sources, each certificate holder should contact the appropriate FAA Aircraft Evaluation Group (AEG) for specific techniques recommended by the manufacturer and acceptable to the FAA.

Bounced landing recovery procedures cannot be adequately replicated in a flight simulator and should not be deliberately performed in an airplane.