

Federal Aviation Agency

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AC NO: 27.1581-1

AIRCRAFT

EFFECTIVE :

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SUBJECT : SEA ROTORCRAFT AUTOROTATIVE LANDING ON LAND

1. PURPOSE. This circular sets forth acceptable means, not the sole means, with which to provide suitable warning information to crews of float-equipped rotorcraft (pneumatic bag type) when a safe autorotative landing on land may not be possible.

2. REFERENCE REGULATIONS.

These acceptable means of compliance refer to certain provisions of the recodified Federal Aviation Regulations (FARs), Part 27. They may also be used in showing compliance with the corresponding provisions of the former Civil Air Regulations (CARs) in the case of aircraft to which those regulations are applicable. For convenience, the CAR reference is shown in parentheses, following the FAR reference, i.e., FAR 27.1581 General, Rotorcraft flight manual (CAR 6.740).

3. DISCUSSION.

- a. Information needed (because of unusual rotorcraft design, operating, or handling characteristics) for safe operation is made available to the crew by means of the Rotorcraft Flight Manual or by means of combinations of manuals, markings, and placards.
- b. Float-equipped rotorcraft may operate a high percentage of the time over land. An engine failure under these conditions exposes the rotorcraft to an increased probability of an accident.
- c. Many float-equipped rotorcraft may have extreme difficulty in making a safe autorotative landing on land during the

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takeoff or landing approach phase of flight (and from a cruise condition in some cases) without a turnover on contact. This is due to the relatively high center of gravity, the high friction between the low pressure float bags and the landing surface, and/or the probable inability to attain zero forward speed at touchdown.

4. ACCEPTABLE MEANS OF COMPLIANCE.

- a. In the case of rotorcraft with float gear installations that have not been demonstrated to make safe autorotative landings on land during takeoff, landing, or from a cruise condition, an acceptable means of compliance with FAR 27.1581 is to specify in the rotorcraft flight manual an appropriate warning, such as "Warning: This rotorcraft with float gear installation has not been demonstrated capable of making a safe autorotative landing on land." Where the helicopter has demonstrated safe autorotation landings on land from cruise flight but not during the landing or takeoff maneuver, the warning may be modified appropriately.
- b. Where the landings in paragraph (a) above have been successfully demonstrated, a description of the appropriate techniques and procedures to be used should be included in the rotorcraft flight manual.


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