

Title 14—AERONAUTICS AND SPACE

Chapter I—Federal Aviation Admin- istration, Department of Transpor- tation

[Docket No. 8424; Amdt. 105-3]

PART 105—PARACHUTE JUMPING

Assist Device for Static Line Parachute Jumps

The purpose of this amendment to Part 105 of the Federal Aviation Regulations is to require a parachute jumper to use an assist device, in static line parachute jumps, to aid the pilot chute in performing its function, or, if no pilot chute is used, to aid in the direct deployment of the main parachute canopy.

This amendment was proposed in Notice 67-41 and published in the FEDERAL REGISTER on September 28, 1967 (32 F.R. 13595). The public comments received on the notice were almost uniformly in favor of the proposal, but suggested a number of technical changes of merit, consistent with the proposal. With the changes indicated, this amendment is now issued for the reasons stated in Notice 67-41, to more positively assure deployment of the main parachute canopy in static line parachute jumps, and consequently assure a higher level of safety.

Some comments asserted that it is not practical to place responsibility on the pilot in command to assure that a "breakaway" device is installed in the required manner, since in most cases it would be necessary to unpack and repack the parachute pack in order to determine that the device has been attached. Accordingly, the requirement of pilot-in-command responsibility has been omitted from this amendment.

Some comments pointed out that the language of the rule as proposed would bar the use of more than one type of static line configuration, by confining its applicability to a configuration using static line pins inserted through the pack cones. Other static line configurations, commonly known as the "California" type, do not use static line pins. Accordingly, the language used in this amendment accommodates other configurations as well as those using pins. Comments also questioned the requirement that one end of the assist device (the term employed herein as technically more significant than the term "breakaway device" appearing in the notice) be attached to the pilot chute "bridle cord," if a pilot chute is used. Greater flexibility is needed, and this is served by providing that one end of the device must be attached to the pilot chute apex, bridle cord, or bridle loop (if a pilot chute is used), in accordance with the current practices

of some jumpers.

Comments also directed attention to the appropriate minimum and maximum breaking strengths of the assist device. In the first place, some persons apparently interpreted the strengths specified in the notice as cord- or tape-breaking strengths, and not as the total breaking strength of looped or multiple cords or tapes that separate as a unit. In both the notice and this amendment the strength referred to is that of the assist device, regardless of the number of loops or strands of material, and not the strength of a single piece of the material used. Second, the comments afforded additional information indicating that the use of break-strength limits of 40 to 80 pounds has been the common practice where pilot chutes are used, and that therefore the proposed minimum of 80 pounds appears to be undesirably high and not necessary. Many jump masters hold a bight of the static line so that they may pull the static line and open the pack as soon as they determine that the jumper is assuming a potentially hazardous body position after leaving the aircraft. A minimum 80-pound breaking strength appears too high for this practice. A breaking tensile strength of 40 pounds (before allowance for reduction caused by knots or functional variations in mated adhesive surfaces) has been found effective. This lower limit of 40 pounds is used in the amendment reduced by 30 percent to allow for the factors just mentioned, to an actual lower limit of 28 pounds as the minimum static load strength. Consistently, the amendment fixes a lower strength limit of 56 pounds (80 pounds less 30 percent allowance for the same factors mentioned above), if a pilot chute is not used. It also appears that a maximum 400-pound breaking strength is unrealistically high, if a pilot chute is used, and even more so if a pilot chute is not used. It is possible to simplify the amendment, as compared with the notice, by distinguishing only between parachutes that are equipped with pilot chutes and those that are not. A separate condition applicable to "deployment" sleeves (the name preferred to "safety" sleeves) appears unnecessary. Upon additional consideration, it has been determined to lower the maximum strength limit to 320 pounds (four times the single tensile strength of an 80-pound tape obtained by using two complete loops, a common practice) for parachutes that are not equipped with pilot chutes, and to 160 pounds for parachutes that are equipped with pilot chutes.

Finally, in response to comment urging that only qualified persons should be allowed to attach the assist device to the static line and parachute, this amendment incorporates a clarification by specifically providing that no person may attach the device unless he has a current parachute rigger certificate issued under

Part 65 or is the person who makes the jump with the parachute. This is consistent with the general prohibitions of § 65.111(b) on who may pack, maintain, or alter main parachutes used for intentional jumping in connection with civil aircraft of the United States, and the exception, in that provision, that a jumper may pack his own main parachute.

Interested persons have been afforded an opportunity to participate in the making of this amendment, and due consideration has been given to all matter presented.

In consideration of the foregoing, § 105.43 of the Federal Aviation Regulations is amended, effective August 7, 1968, by redesignating paragraph (b) as paragraph (d), and inserting new paragraphs (b) and (c) after paragraph (a) to read as follows:

§ 105.43 Parachute equipment and packing requirements.

(b) No person may make a parachute jump using a static line attached to the aircraft and the main parachute unless an assist device, described and attached as follows, is used to aid the pilot chute in performing its function, or, if no pilot chute is used, to aid in the direct deployment of the main parachute canopy.

(1) The assist device must be long enough to allow the container to open before a load is placed on the device.

(2) The assist device must have a static load strength of—

(i) At least 28 pounds but not more than 160 pounds, if it is used to aid the pilot chute in performing its function; or

(ii) At least 56 pounds but not more than 320 pounds, if it is used to aid in the direct deployment of the main parachute canopy.

(3) The assist device must be attached—

(i) At one end, to the static line above the static line pins, or, if static pins are not used, above the static line ties to the parachute cone; and

(ii) At the other end, to the pilot chute apex, bridle cord or bridle loop, or, if no pilot chute is used, to the main parachute canopy.

(c) No person may attach an assist device required by paragraph (b) of this section to any main parachute unless he has a current parachute rigger certificate issued under Part 65 of this chapter or is the person who makes the jump with that parachute.

(Secs. 307, 313(a), 601, Federal Aviation Act of 1958; 49 U.S.C. 1348, 1354(a), 1421)

Issued in Washington, D.C., on June 3, 1968.

WILLIAM F. MCKEE,
Administrator.

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