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8.27 LAUNCHING HANG GLIDERS AND LAUNCHING PARAGLIDERS BY USING A DEPLOYMENT BAG

8.27.1 GENERAL INFORMATION

This supplement shall be inserted in the Flight Manual, in Section 8: 'Supplements' with the revisions record sheet amended accordingly.

Information contained herein supplements, or in the case of conflict, supersedes that contained in the basic Flight Manual. For Limitations, Procedures, and Performance Data not contained in this supplement, consult the basic Hot Air Balloon Flight Manual.

Throughout this supplement the term "Cameron" refers to envelopes, burners and cylinders manufactured by Cameron, Lindstrand Hot Air Balloons Limited, Sky and Thunder & Colt.

Launching of hang gliders and paragliders is considered by EASA as "Balloon Specialised Operations" ref BOP.BAS.190

Issue 2 of this supplement has four pages.

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8.27.2 LIMITATIONS

8.27.2.18 PERSONAL PARACHUTES

1. The hang glider or paraglider must be equipped with a parachute.

8.27.3 EMERGENCY PROCEDURES

No change.

8.27.4 NORMAL PROCEDURES

8.27.4.16 LAUNCHING HANG GLIDERS

8.27.4.16.1 Suspension

The hang glider suspension line should be connected to a V-bridle connected to two adjacent corners of the burner frame. Forged tether rings must be used to attach the V-bridles to the balloon (see 4.8.2). Burner frame restraint lugs must not be used.

The hang glider suspension should be cord or tape made of nylon or polyester with a minimum breaking strength of 1800kg (4000 lbs). The suspension should be attached to a suitable strong point on the glider allowing it to be suspended in a level or slightly nose-down attitude.

The line should be long enough to allow the balloon to be inflated on the ground alongside the hang glider. Never use a second suspension line.

It is the responsibility of the hang glider pilot to establish the suitability of the hang glider for dropping, and for determining a suitable suspension point on the glider. This should be determined with reference to the hang glider manufacturer.

8.27.4.16.2 Release Mechanism

The simplest and most reliable release method is to cut the suspension tape or cord with a knife at the balloon basket. The occupants of the basket must stand back at the moment of release to avoid injury in case the taut line springs back.

A spare knife must be available in the basket.

If a mechanical release is used a knife must still be carried to allow the suspension line to be cut in the event of a release failure.

8.27.4.16.3 Take Off

To carry out a smooth take off the weather must be close to ideal from the balloonist's point of view. The load-carrying ability of the balloon for the ambient temperature should be checked on the loading chart.

Tether lines should be used to stabilise the balloon over the glider. Sufficient lift should be built up to lift the glider off the ground before the tether lines are released. Avoid damaging or snagging the glider with the tether lines.

It is the balloonist's responsibility to ensure a clean climb out as the glider is very vulnerable to any collision with obstacles.

8.27.4.16.4 Climb

During the climb the glider pilot cannot see the balloon, but can hear conversation in the basket. It is important to maintain clear communication during the climb.

Climb rate depends on the stability of the glider (rapid rates of climb can cause the glider to rotate or sway). A climb rate of 500 ft/min (2.5 m/sec) is usually satisfactory.

8.27.4.16.5 Release

It is important that the balloon slows its rate of climb and actually descends before releasing the weight of the glider, otherwise a dangerously fast rate of climb could occur. This is particularly important for Velcro rip balloons. A descent rate of 400 ft/min (2 m/

sec) should be used for a standard hang glider, and a rate of 700 ft/min (3.5 m/sec) should be used for a two-seater.

8.27.4.17 LAUNCHING PARAGLIDERS USING A DEPLOYMENT BAG (D-BAG)

8.27.4.17.1 Suspension

A D-bag is a bag similar to a parachute container into which the paraglider can be packed to ensure a controlled deployment. The bag is suspended from the balloon and the paraglider occupants suspended from a release attached to the bottom of the D-bag. On activating the release, the occupants fall away pulling the paraglider from the D-bag.

The paraglider occupants are suspended below the basket for the launch and climb.

The D-bag should be connected to two adjacent corners of the burner frame. Forged tether rings should be used for the attachment (see 4.8.2). Burner frame restraint lugs must not be used.

If the D-bag has only a single suspension point a V-bridle should be used to connect the D-bag to two corners of the burner frame.

The D-bag must be mounted with its opening below the bottom of the basket in order to prevent the paraglider from being damaged or snagged on the basket during deployment. Climbing slings or polyester cord (minimum strength 1500kg) may be used to link the fastening points of the D-bag to the burner frame.

It is the responsibility of the paraglider glider pilot to establish the suitability of the D-bag and paraglider combination for dropping. This should be determined with reference to the paraglider manufacturer.

8.27.4.17.2 Release Mechanism

The D-bag should include a release mechanism. A 3-ring mechanism is normally used. A safety lock or safety line must be included to prevent accidental operation of the release below a safe deployment height for the paraglider.

8.27.4.17.3 Take Off

To carry out a smooth take off the winds at launch must be light. The load-carrying ability of the balloon for the ambient temperature should be checked on the loading chart. The balloon should be held on a tether line (attached to a fixed point) and handling lines should be used to stabilise the balloon as it lifts and picks up the paraglider occupants. Sufficient lift should be built up to lift the paraglider occupants off the ground before the tether line is released. The pilot must take care to avoid hitting the paraglider occupants with the basket.

It is the balloonist’s responsibility to ensure a clean climb out as the paraglider occupants are very vulnerable to any collision with obstacles.

8.27.4.17.4 Climb

During the climb the pilot should maintain clear voice communication with the paraglider occupants.

8.27.4.17.5 Release

It is important that the balloon slows its rate of climb and actually descends before releasing the weight of the paraglider, otherwise a dangerously fast rate of climb could occur. This is particularly important for Velcro rip balloons.

A descent rate of 400 ft/min (2 m/sec) should be used for a solo paraglider, and a rate of 700 ft/min (3.5 m/sec) should be used for a tandem paraglider.

If more than one paraglider is to be released then sufficient time to should be allowed between each release to prevent entanglement of the paragliders and to allow the effect of the loss of mass on the balloon's equilibrium to be determined.

8.27.5 WEIGHT CALCULATIONS

No change.

8.27.6 BALLOON AND SYSTEMS DESCRIPTION

No change.

8.27.7 BALLOON MAINTENANCE, HANDLING AND CARE

No change.

8.27.9 EQUIPMENT LIST

No change.