

# MIRAGE SYSTEMS, INC.

## PRODUCT SERVICE BULLETIN 12-04

December, 2004

**SUBJECT:** AAD CUTTER LOCATION CHANGE

**DESCRIPTION:** The location of the AAD cutter assembly must be changed from below the #1 flap (below the reserve PC) to below the #3 flap (above the reserve PC). This reduces the cut length of the reserve closing loop and isolates it from the effects of poor field rigging, such as misplaced bulk, under-compressed or worn pilot chutes and overly long and/ or unlubricated loops. By reducing and standardizing loop cut length, reserve pack opening functionality and reliability in the case of AAD activation are improved.

**Only the functionality of optional AAD equipment is addressed here.** Manually (ripcord) operated reserve pack opening functionality and reliability are NOT in question and are not affected by the cutter location change.

**BACKGROUND:** Mirage Systems has always used the #1 flap cutter location on Mirage and RTS sport containers. This location is also used by many other manufacturers and was approved by Airtec, GmbH, the manufacturer of the Cypres AAD. Following AAD activation, the free (cut) end of the closing loop is still held by the reserve ripcord and must weave its way through the separating top flaps as they are pushed up and apart by the deploying reserve pilot chute.

One incident has been reported overseas in which 2 Mirage containers failed to immediately deploy their reserves on the same jump after Cypres activations. Both jumpers deployed their mains and landed safely without further incident. Although details of the incident were vague, Mirage Systems was able to inspect the team gear involved and to review their typical packing procedures.

The results of that review, and of extensive in-house testing, were that although AAD activation was generally reliable when the Mirage is properly packed, and numerous saves have been reported, common rigging errors could possibly produce a situation where the loop cut length is too long to allow the loop to clear the closing flaps and the reserve container to open immediately.

Mirage engineers, working in cooperation with Airtec engineers, determined that moving the cutter above the reserve PC, to flap #3, essentially eliminated the identified risks with only a minimal aesthetic cost. It was felt that this solution was simpler and more reliably effective than any other combination of rigger education and container modifications.

**AFFECTED SYSTEMS:** All Mirage and RTS containers manufactured prior to December 2004 equipped with Cypres or other loop-cutting AADs. See Modification Procedure for instructions on identifying previously modified and/ or compliant systems.

**MODIFICATION PROCEDURE:** See attached.

**QUALIFIED PERSONNEL:** FAA Master Rigger or foreign equivalent.

**COMPLIANCE:** Since the reserve container must be opened and sewn, a repack is indicated. Affected containers must be modified no later than the next repack, or 120 days from the last repack, whichever is earlier. Affected containers showing signs of loose rigging, such as being able to "tip" the reserve pilot chute from side to side, are more likely to experience activation problems, and should be addressed accordingly.

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