

# MIRAGE SYSTEMS, INC.

## PRODUCT SERVICE BULLETIN No. 06-11-2

DATE: 24 JUNE 2011

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SUBJECT: Installation and Use of an Automatic Activation Device (AAD) in Mirage Harness and Container Assemblies, (Mirage G3, G4.1, RTS)

AFFECTED PRODUCTS: All Mirage harness and container models (G3, G4.1, RTS)

COMPLIANCE: ADVISORY

### Notice!

To the Owners, Users, and Riggers of Mirage Systems, Inc. products:

#### Install and Use an Automatic Activation Device (AAD) at Your Own Risk!

An Automatic Activation Device (AAD) is an optional mechanical device whose design, manufacture, testing, and operational reliability are not regulated by the Federal Aviation Administration. Likewise, there is no mandatory industry standard of testing or operational reliability established that all AAD designs must meet.

AADs have a proven record of saving lives, but they are man-made mechanical devices that can fail to operate as designed for a variety of reasons. Mirage Systems, Inc. cannot be held responsible for the operational reliability of an installed AAD. Mirage Systems, Inc. does not design, manufacture, test, or guarantee AADs, and has no control over their maintenance or use in the field. An AAD was not tested during the TSO approval process of any Mirage harness and container assembly. Mirage Systems, Inc. does not assume any responsibility for an AAD installed in our products. Installation and use of any AAD in a Mirage harness and container assembly is at the sole discretion of the owner.

In response to consumer demand, Mirage harness and container assemblies are adapted to accommodate common designs of AADs that use pyrotechnic loop cutters. **Mirage Systems, Inc. authorizes the installation of an AAD utilizing a pyrotechnic loop cutter based solely upon its operational *compatibility* with our products, and not the operational *reliability* of the AAD.**

Only AADs that have been evaluated by Mirage Systems, Inc. to determine their *operational compatibility* with our products may be installed. **Mirage Systems, Inc. determines the operational compatibility of an AAD with our harness and container assemblies based upon the following criteria:**

- The AAD will fit into the retaining pouch provided in the reserve container.
- The electrical cables are of sufficient length.
- The operating controls are accessible when installed.
- The closing loop cutter will fit into the elastic keeper provided.

Cutter location, above the pilot chute in a Mirage, is unrelated to cutter performance, in that loop tension is uniform throughout the loop. The Mirage cutter location minimizes loop resistance (friction) AFTER the loop is cut, providing the most positive release possible. It does not affect the cutter's ability to sever the closing loop. All Mirage reserve containers manufactured after 2004 have the AAD cutter located above the pilot chute. All Mirages manufactured prior are subject to Mirage PSB 12-04, mandating the cutter be moved above the pilot chute. This location is optimal, and is unchanged.

The release of the reserve pilot chute, whether by manually pulling the reserve ripcord, or by cutting the reserve closing loop with the pyrotechnic cutter of an AAD, is the critical first step in the deployment of the reserve parachute. Since the reserve closing loop must pass through the pyrotechnic cutter assembly of an installed AAD, the potential exists for the cutter to fail to cut the closing loop and to trap it within the cutter mechanism. While the likelihood for such a failure may be remote, if it were to occur, it could possibly interfere with the immediate release of the reserve pilot chute, even if the ripcord is manually pulled. In addition, there is also the remote possibility that a partially cut closing loop could fail later, causing a dangerous premature deployment of the reserve parachute. ***Mirage owners should note that current designs of pyrotechnic cutters used in AADs do not include a "fail-safe" mechanism to guarantee that a faulty cutter cannot interfere with the manual operation of the reserve parachute in any way.***

Federal Aviation Regulation Part 105.43(c) states, "*If installed*, the automatic activation device must be maintained in accordance with manufacturer instructions for that automatic activation device."

**RECOMMENDATION: Owners and users of Mirage Systems, Inc. products are encouraged to weigh the potential hazards of installing and using an AAD against the potential consequences of not having an AAD installed, and to make their own decision, based upon the information contained in this bulletin.**

**SERVICE BULLETIN: Advisory notice concerning the installation and use of an AAD in Mirage Systems, Inc. harness and container assemblies**

Page 2

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