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| <p align="center">CONSEIL SÉCURITÉ CIRCULAIRE DE SÉCURITÉ N° 183 ter</p> |
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Réf. : JMD/11/0976

Date : 20 Juillet 2011

Émetteur : F.F.P. – Conseil Sécurité.

Objet : Service Bulletins - Déclencheurs à bord de Sacs-Harnais de la marque MIRAGE SYSTEMS.

Matériels concernés : Déclencheurs **Argus** du fabricant **AVIACOM** à bord des **Sacs-Harnais** du fabricant : **MIRAGE SYSTEMS**,

Texte : Le constructeur des sacs harnais de la marque : **MIRAGE SYSTEMS**, a décidé de lever ses réserves sur les déclencheurs **Argus** du fabricant **AVIACOM**, à l'installation et l'utilisation sur leurs sacs-harnais.

Les Product Service Bulletins respectifs **PSB 6-11** et **PSB 6-11-2** sont en annexe de cette C.S.

Actions : Diffusion et application des SB.

Personnel qualifié : toute personne concernée pour la diffusion d'information et la suspension d'emploi, Plieurs qualifiés pour l'application technique de dépose des appareils.

Date d'application : immédiat.

AFFICHAGE OBLIGATOIRE

MIRAGE SYSTEMS, INC.

PRODUCT SERVICE BULLETIN No. 06-11

DATE: **24 JUNE 2011**

NO. OF PAGES: 2

SUBJECT: Rescission of Mirage Product Service Bulletin 03-11, dated 24 March, 2011 which suspended approval for the installation and use of an Aviacom SA/NV ARGUS® AAD in Mirage Systems, Inc. harness and container assemblies.

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

COMPLIANCE: **ADVISORY**

BACKGROUND: Mirage Systems, Inc. issued Product Service Bulletin 03-11 on 24 March, 2011 in response to a report from the field that an Argus® AAD manufactured by Aviacom, SA/NV had failed to completely cut through the reserve closing loop on a Mirage. Preliminary reports seemed to indicate that the Argus® AAD may have failed in such a way as to interfere with the manual operation of the reserve parachute.

Concerned for the safety of Mirage owners and users, Mirage Systems, Inc. took the action to suspend approval for the Argus® AAD to be installed in all Mirage and RTS models until Aviacom SA/NV, had time to determine the cause of this failure.

At the request of Aviacom SA/NV, a representative of Para Concepts of Ottawa, IL conducted an on-site investigation and composed a comprehensive report titled San Marcos Argus/Mirage Incident Preliminary Report, Revision 1, dated 30 March 2011. This report summarizes the details of the incident and the subsequent investigation, but makes no attempt to analyze the root cause of the failure.

Aviacom SA/NV then arranged for the failed cutter to be delivered to the firm of Skysupplieurope for examination and analysis. According to Skysupplieurope, the disassembled cutter was found to contain a foreign object which was reported to have been a small steel ball, similar to those sometimes used in parachute packing weights, or "shot bags".

In their report dated 07 April 2011, Skysupplieurope concluded that the small steel ball somehow found its way into the cutter assembly and caused damage to the circular cutter blade during operation. It is the conclusion of Skysupplieurope that "without the damage, there is no reason why the cutter should not have performed as designed." Furthermore, they state that "the combination of the damaged cutter edge and the foreign object may have obstructed the complete cutting of the loop,...".

Aviacom SA/NV is confident that this failure was caused by the presence of a foreign object in the cutter assembly and that further investigation is not warranted.

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: If an AAD is installed, carefully inspect the cutter assembly at each repack to verify that a foreign object is not present and that the cutter is not damaged. Before each jump, verify that the cutter has not fired.

SERVICE BULLETIN: Effective immediately, Mirage Systems, Inc. reinstates approval for the installation of the Aviacom SA/NV Argus® AAD in Mirage System, Inc. manufactured harness and container assemblies.

COMPLIANCE DATE: 24 JUNE 2011

AUTHORITY:

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DISTRIBUTION:

1. All Mirage Systems, Inc. dealers
2. National Aero Clubs, Parachuting Section
3. Parachute Industry Association Technical Committee
4. Parachute Industry Association Rigging Committee
5. All Parachuting publications
6. Military Parachute Organizations
7. FAA MIDO-Orlando
8. FAA Engineering Branch-Atlanta
9. Aviacom SA/NV

MIRAGE SYSTEMS, INC.

PRODUCT SERVICE BULLETIN No. 06-11-2

DATE: 24 JUNE 2011

NO. OF PAGES: 3

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

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