S e r v i c e o r d r e – M a t e r i e l l

Materiellsjef F/NLF kommuniserer pålegg omkring forhold som ansees som vesentlige for å oppnå de målsettinger som er satt for materiellarbeidet via denne Service ordre. Målgruppen for Serviceordre er Materiellkontrollører, Hovedinstruktører og andre nøkkelpersoner i miljøet.

SERVICEORDRE – 2005-01

HENVISNING:	Mirage Systems Product Service Bulletin 12-04 (vedlagt).
FORMÅL:	Flytte kutter for nødåpner (Cypres og Astra) fra under reservepakksekks lukkeklaff 1 til under lukkeklaff 3.
STATUS:	**Obligatorisk ved neste reserveompakk.**
IDENTIFIKASJON::	Alle seletøy fra Mirage Systems produsert før desember 2004 forberedt for nødåpner hvor reservepakksekkens låseløkke går gjennom nødåpnerens kutter..
BAKGRUNN:	Ved ett tilfelle er det rapportert forsinket reserveskjermsaktivering etter at Cypres nødåpner kuttet reservepakksekkens låseløkke for to hoppere som deltok på samme hopp. Ved testing hos produsenten er det funnet at ved pakking av reserveskjerm med for lang låseløkke, vil den avkuttede enden av låseløkken, kunne forårsake forsinket åpning eller låsning av pakksekk. Etter nødåpneraktivering, vil en lang avkuttet låseløkke, den enden som går rundt reservehåndtakets pinne, møte betydelig motstand når den skal løpe ut av dekklaffenes maljer.
SERVICE:	Kutter skal flyttes fra under dekklaff 1, til under dekklaff 3. For detaljert utførelse se Mirage Systems Product Service Bulletin 12-04, Product Modification Procedure, 9 sider (vedlagt).
UTFØRELSE:	Utføres av MR. Etter utført service skal hovedkontrollkort merkes "**SO05-01"**, i rubrikk "UFØRTE MODIFIKASJONER/SERVICEORDRE". Utført modifikasjon kan identifiseres ved at sting for festing av kutter under lukkeklaff 3 kan sees ved å løfte opp reserveskjermens dekklaff. Noen av stingene vil være synlig på toppen av lukkeklaff 3, mens resterende vil være dekket av lukkeklaff 4 og 5 når reservepakksekk er lukket.

DISTRIBUSJON:

Klubber
Hovedinstruktører
Materiellkontrollører
SU
Sky Design
F/NLFs Internet sider
Hærens Jegerkommando
Luftfartstilsynet

Stavanger, 28. januar 2005

Rolf I. Sotberg
materiellsjef F/NLF

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.

AUTHORITY: Daniel Thompson, President, Mirage Systems

MIRAGE SYSTEMS, INC.

PRODUCT SERVICE BULLETIN 12-04

Product Modification Procedure

Authorized Repairman: FAA Master Parachute Rigger or Foreign Equivalent.

Tools required:

1. Snips or small pointy scissors. (Seam ripper optional)
2. Small crafts glue gun. (Optional)
3. A 3/4" x 1 5/8” squared plastic template, with a mark at 3/8”. (See step 1)
4. Tailors marking pencil.
5. Lighter and/ or hot knife.

Machine required:

1. Medium to heavy duty 301 Straight Stitch (5-9 spi.) Capable of sewing through .040 nylon plastic.)

Materials required:

1. 3 1/4” length of 3/4” type III nylon binding tape (cover for elastic keeper.)
2. Size E / 69 nylon thread. (Color black or matching)

Time required: 15-20 min.

Procedures:

Step 1.

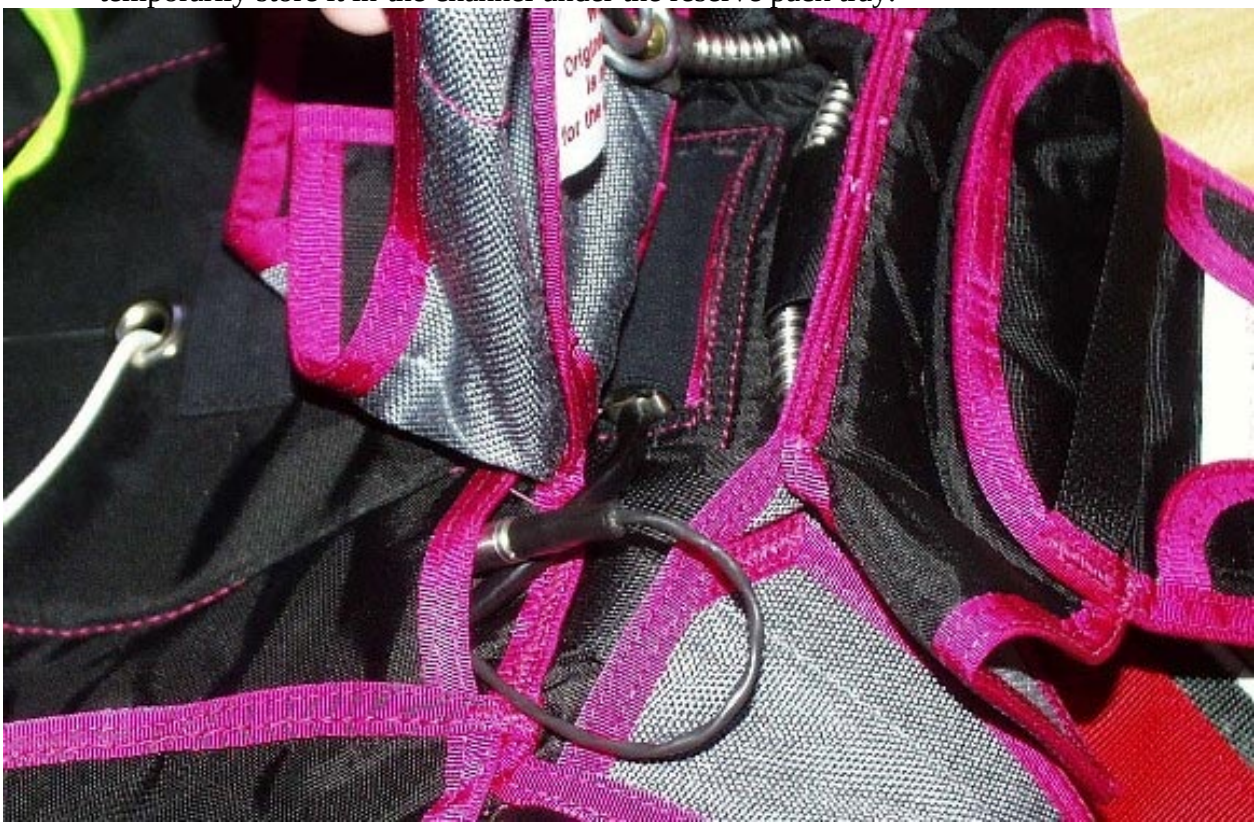
Cut a 3/4” X 1 5/8” (2 X 4 cm.) template using a piece of plastic template material or firm craft poster board. Mark at 3/8” (1cm) as shown.

Step 2.

With main canopy removed, open reserve container (if not already), remove free-bag, remove suspension lines from pocket and chain link. Bag the canopy in its free-bag with pilot chute and tie off with pull-up cord at the reserve risers.

Step 3.

Completely unthread the Cypres cutter from the underside of #1 kicker flap and temporarily store it in the channel under the reserve pack tray.



Step 4.

Carefully remove the elastic cutter keeper and rip-stop channel from the under side of the #1 kicker flap. Retain elastic keeper for repositioning to under side of #3 center flap.

Step 5.

Carefully remove the grommet guard from the back side of closing flap #3.

Step 6.

Lay the template against binding tape and grommet. Mark **three** locations as shown.

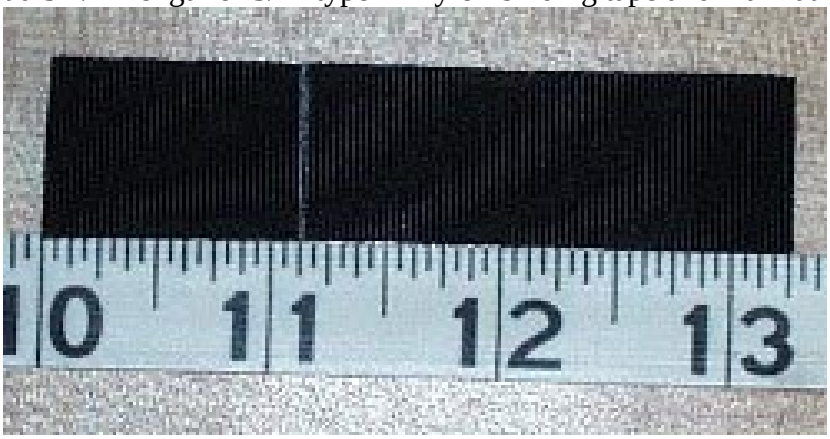
Step 7.

a. With snips or seam ripper, carefully cut the L shape that connect the dots through the Para pack layer only. Lightly sear the cut Para pack edge with a hot knife or lighter.

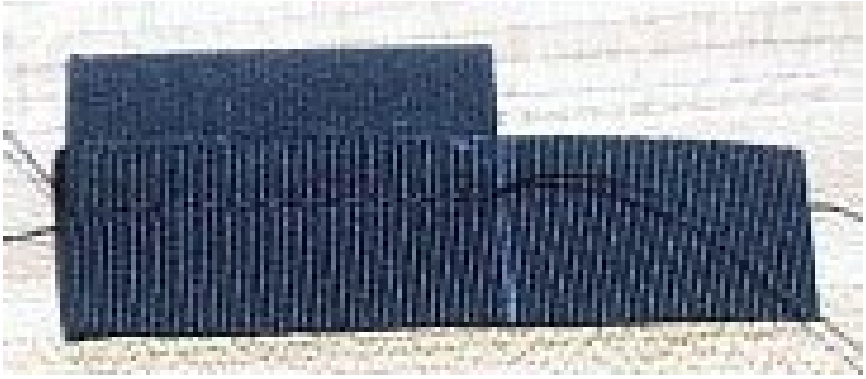
b. If the center flap has this row of stitching running below the grommet, a short section may need to be removed.

Step 8.

a. Hot cut a 3 1/4” length of 3/4” type III nylon binding tape and mark at 1 1/8”.



b. The elastic cutter keeper setup may be pre-sewn as shown here or glued as follows.

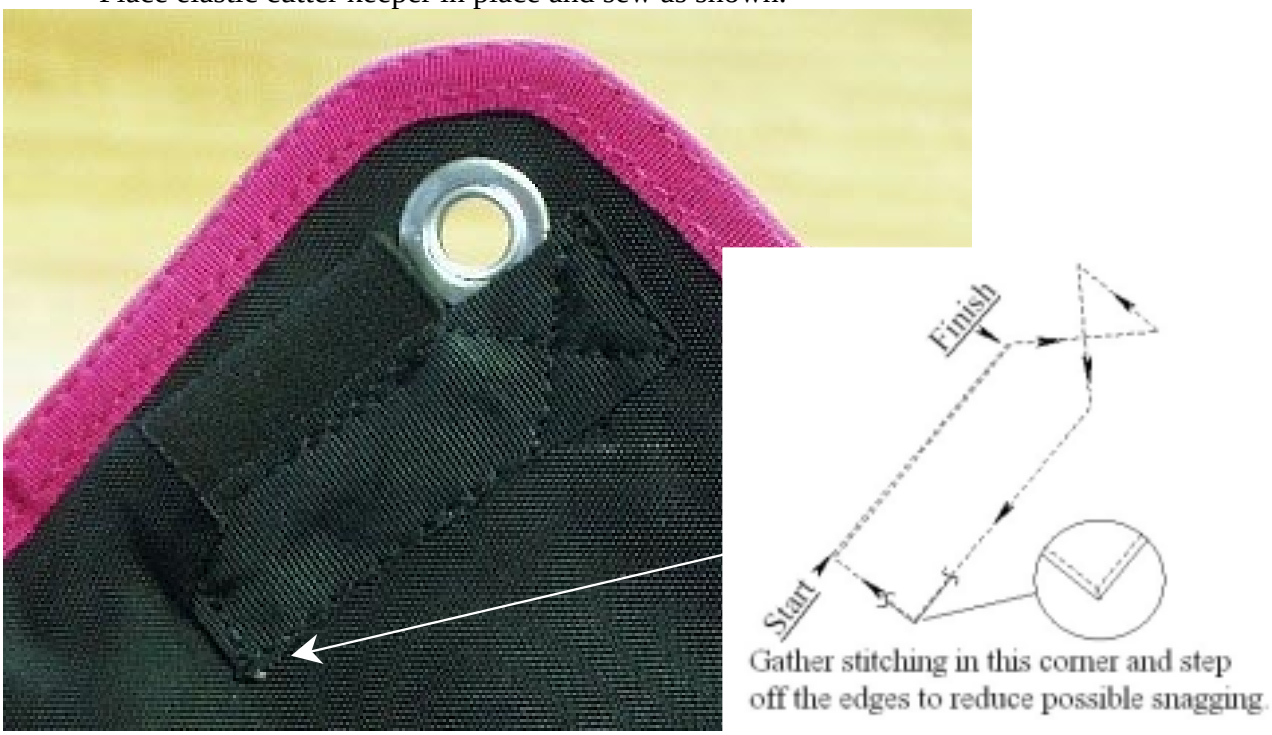


c. With a crafts hot glue gun, run a thin bead across the binding of the elastic keeper and firmly lay type III binding tape in place.

d. Fold short end over and lightly hot glue back side into place.

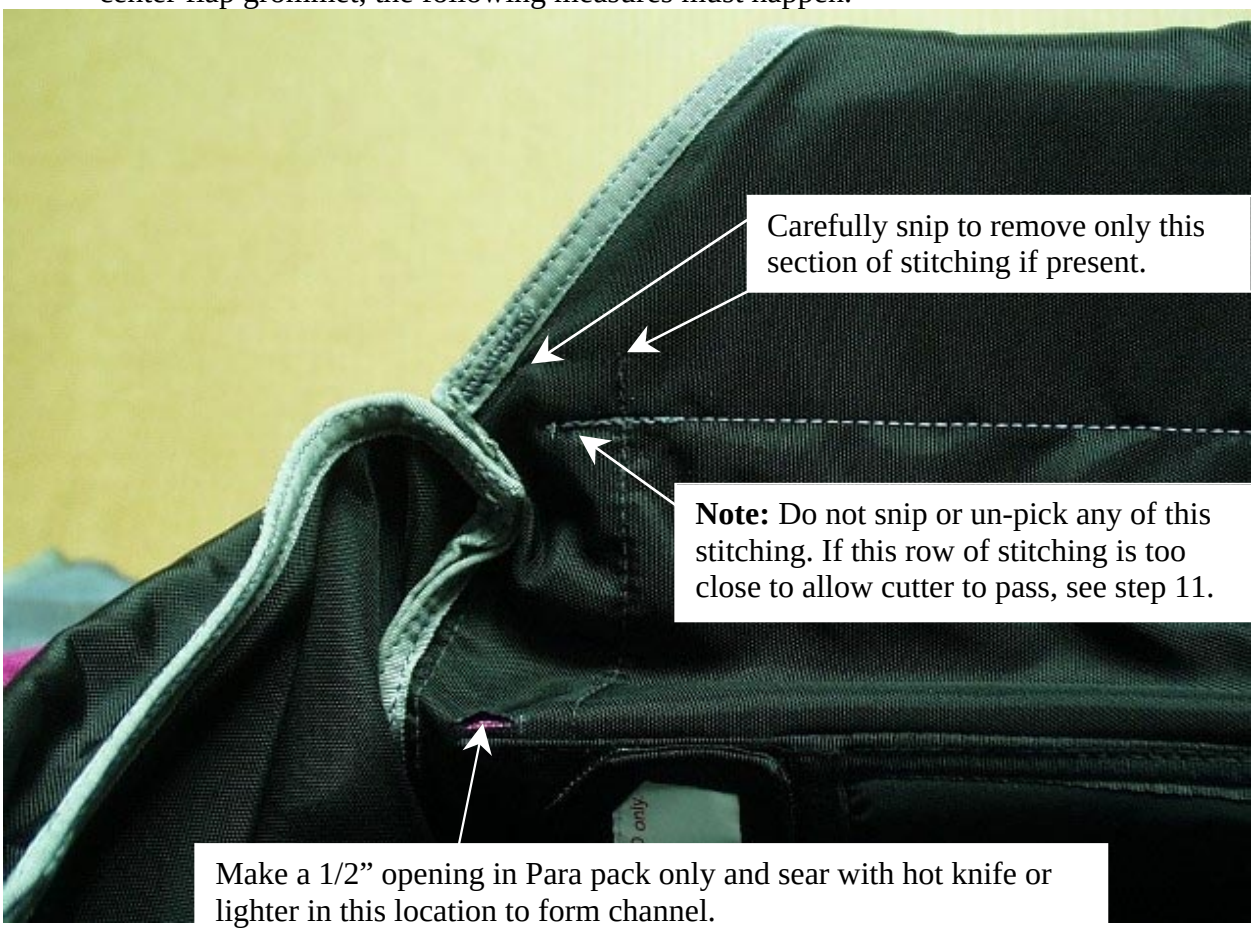
Step 9.

Place elastic cutter keeper in place and sew as shown.



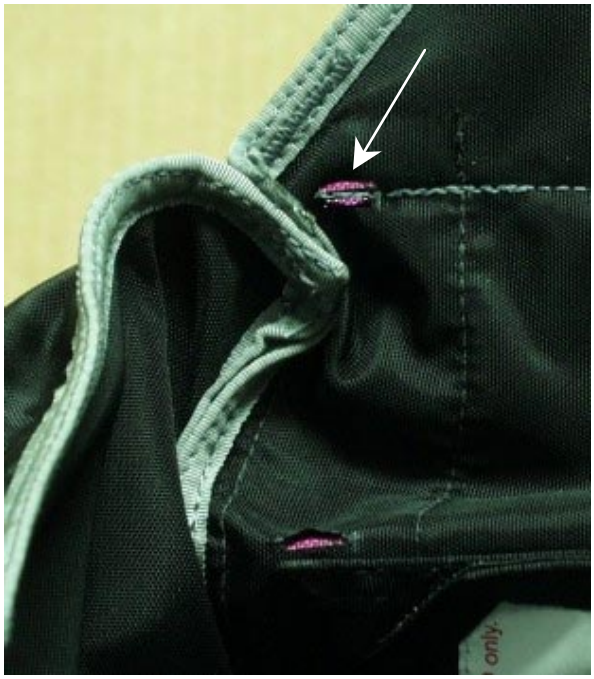
Step 10.

In order to open a channel for the cutter cable to pass from to processing unit to the #3 center flap grommet, the following measures must happen.



Step 11.

Only if the center flap row of stitching is too close to the corner to allow the cutter to pass, 2 additional 1/2” openings will need to be made around this stitch pattern and carefully seared with a hot knife or lighter. This will allow the cutter cable to bridge this stitch pattern.



Step 12

Use a bodkin or similar tool to draw a pull-up cord with cutter through the newly formed cutter channel as shown below.

Modification Confirmation:

Confirmation of this mod is easily made by identifying the stitching just under the reserve pin cover and side flap.

Note: When removing the cutter, push it back through with your thumb. Do not pull it out by its cable.