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Technical Bulletin – AAD Cutter Placement

Date of Issue: 25th January 2022

Subject: Aerodyne ICON AAD Cutter placement

Bulletin: TB-250122

Status: Recommended

Background:

During a recent series of static ground testing with activation of an AAD, it has been determined that on certain sizes of the Aerodyne Research Icon container system, some abnormalities in the deployment of the reserve pilot chute have been recorded. Tests were performed with fully packed containers (main / reserve canopy in the container) to replicate non-pull situations by the jumper.

Although static ground tests do not fully replicate the function of the equipment in live conditions with surrounding airflow and movement of the jumper, we recognize the concern from such results.

The Icon container system has been in use since 2002 and has from that time thousands of reserve deployments and many AAD activations with subsequent saves of life. No incidents of the reserve system have been reported under use in live conditions.

The French Parachute Federation has already in 2008 on their own account determined a preferred AAD cutter location above the reserve pilot chute. At that time, Aerodyne Research tested and approved an alternative AAD cutter location upon request (reference to Service Bulletin SB210108). To our knowledge, the French Parachute Federation has had no other observations or experiences from real-life use of the Icons with this cutter placement compared to what is the regular position of the cutter on the remainder of the Icons in the rest of the world.

Reasoning:

Static ground test videos which highlight different equipment not functioning properly are becoming more commonly accessible and shared which can cause insecurity to the users. The scenario of hesitations or delays of reserve openings being tested on the ground are not uncommon or unknown throughout the skydiving industry.

To address this concern, and to introduce an improvement in the AAD integration, Aerodyne Research recommends the AAD cutter placement to be moved from the existing position on flap #1 (underneath the pilot chute) in the reserve container to flap #3 (above the reserve pilot chute) on Icon containers in the IX- series from sizes I-1 through I-5/S-5 which are fitted with an AAD.

Recommended action:

Move the AAD cutter placement from current placement on reserve flap #1 to reserve flap #3 at the owners' earliest convenience.

Since there are no practical changes in the construction of the reserve container referring to the AAD cutter placement since the French bulletin on request from 2008, the modification instructions in this bulletin, SB210108, still provide general direction to perform the modification and is included as part of this bulletin.

Products affected by the bulletin:

Icon containers in the IX- series from sizes I-1 through I-5/S-5 which are fitted with an AAD.

Personnel:

Master rigger or foreign equivalent.

Conclusion:

Skydiving equipment is rigorously tested to work in the conditions it is intended to be used for. After performing extensive testing in proper conditions, Aerodyne Research remains confident that the reserve activation of the AAD is safe and fully functional in its working environment.

When new knowledge becomes available this leads to further development and creates better equipment. When a change or an improvement is implemented, it does not necessarily imply that previous solutions suddenly become unsafe.

At this opportunity, Aerodyne Research would like to reiterate the need to always follow the manufacturer's instructions for proper packing and maintenance of all parts of any parachute system, such as reserve loop lengths and proper sizing of all components etc.

Authority:

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(sign)

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ICON CONTAINER ALTERNATE AAD CUTTER POSITION UPDATED TO SHOW IX SERIES CONTAINERS

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Status : Bulletin Upon Request

Identification: ICON Harness/Container IX-I1 to IX-S5/I5

Background: French Parachute Federation have certified it compulsory for all Harness/Containers used in France must have the AAD cutter fitted above the reserve spring loaded pilot chute.

The ICON Harness/Container was designed, tested and certified with the AAD cutter positioned below the reserve spring loaded pilot chute and positioned on reserve Flap #1. Aerodyne has also certified the AAD cutter to be positioned above the reserve spring loaded pilot chute. Both positions of the AAD are approved and effective. The Technical Bulletin is hence classified as optional.

Materials: Size E (T-69 T-70)
62mm of Type 12 Webbing
90mmx50mm 30D ZP Ripstop Nylon
40mm of 38mm (1.5 inch) Elastic
60+ mm of 22mm Type 3 Binding Tape



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Step 1. Preparation

**Cut a 62mm (+/- 2mm) length of Type 12 Webbing using a hot knife.
Cut the hole using #0 grommet punch (do not hot knife hole!)
and mark as shown in figures 1.1 and 1.2.**

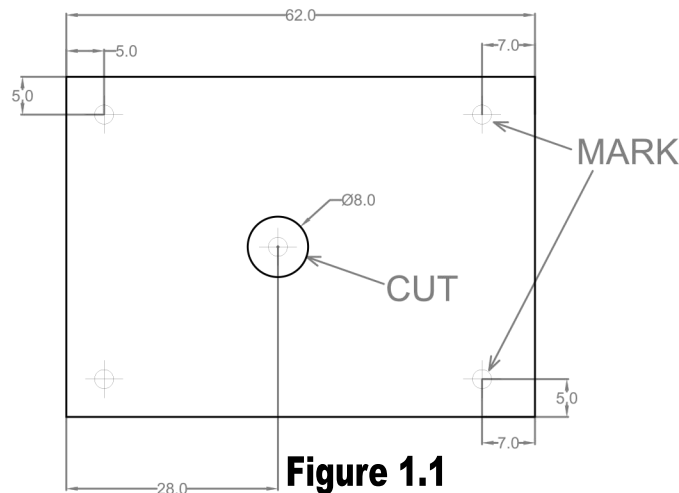


Figure 1.1

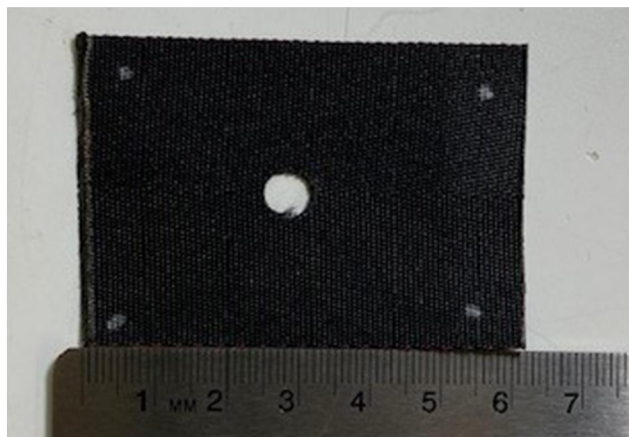


Figure 1.2



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ICON CONTAINER ALTERNATE AAD CUTTER POSITION UPDATED TO SHOW CURRENT CONFIGURATION

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Step 1. Preparation (continued)

Cut a rectangle of 30D ZP Nylon Ripstop to 90mm x 50mm as shown in Figures 1.3 and 1.4.

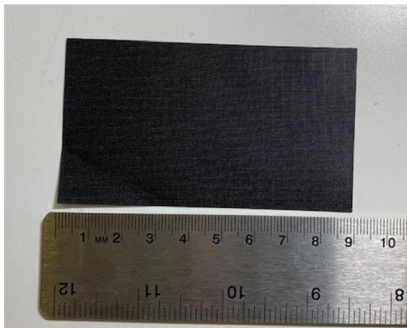


Figure 1.3



Figure 1.4

Cut a piece of 38mm wide (1.5 inch) Elastic to 40mm long as shown in Figure 1.5. Fold Elastic, raw edges together and bind them using 22mm Type 3 Tape as shown in Figures 1.6 and 1.7.

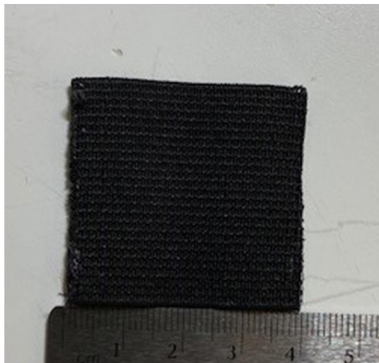


Figure 1.5

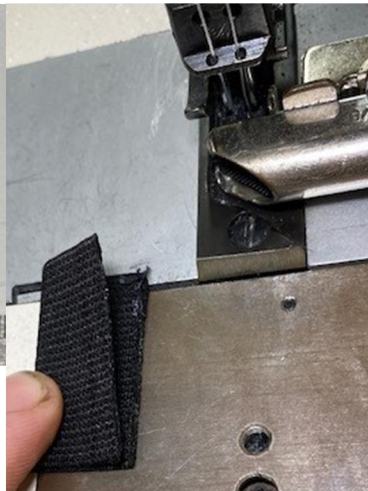


Figure 1.6



Figure 1.7



ICON CONTAINER ALTERNATE AAD CUTTER POSITION UPDATED TO SHOW IX SERIES CONTAINERS

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Step 1. Preparation (continued)

Using a Hot Knife, cut the binding tape flush with the edge of the elastic as shown in Figure 1.8 and 1.9.



Figure 1.8



Figure 1.9

Take the 30D ZP Ripstop rectangle and fold it as shown in figure 1.10, then sew the edges together with a straight stitch machine using E Thread as shown in Figure 1.11



Figure 1.10



Figure 1.11



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Step 2. Installation

Place the Type 12 Webbing on the underside of Flap 3, with the hole aligned with the grommet as shown in Figure 2.1. Sew the Type 12 Webbing with a triple pass using E thread as shown in Figure 2.1.



Figure 2.1



Figure 2.2

Using a pencil of similar thickness to the cutter, fold the Type 12 Webbing over the pencil and insert premade Elastic loop under the Type 12 as shown in Figure 2.3 and 2.4. Use hemostats to hold in place. Sew using a triple pass of E thread as shown in Figure 2.5 using the pattern shown. Check for proper clearance using the same pencil again after sewing as seen in Figure 2.5.



Figure 2.3



Figure 2.4



Figure 2.5



ICON CONTAINER ALTERNATE AAD CUTTER POSITION UPDATED TO SHOW IX SERIES CONTAINERS

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Step 2. Installation Continued

Take the pre-sewn ZP Ripstop channel and flip it inside out as shown in figure 2.6 and 2.7



Figure 2.6



Figure 2.7

Take the inside out ZP Ripstop channel and sew it in to the bottom side of Flap 3 with a single needle using E thread as shown in Figure 2.8 and Figure 2.9

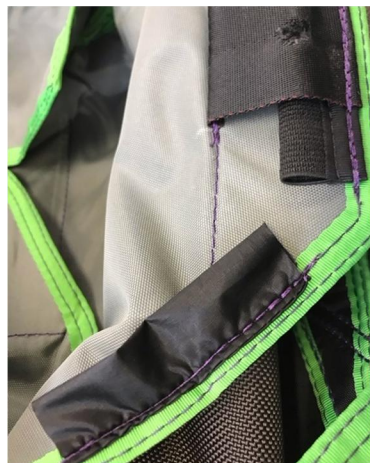


Figure 2.8

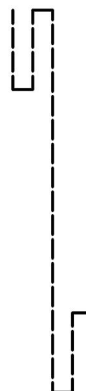


Figure 2.9



ICON CONTAINER ALTERNATE AAD CUTTER POSITION UPDATED TO SHOW IX SERIES CONTAINERS

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Step 2. Installation (continued)

Using a hot knife, cut a small slit, (1.5-2cm) in Flap 1 approximately 2cm from the edge to pass the cutter through towards the end of the channel that was just installed as shown in Figure 2.10.

Ensure to protect surrounding fabric from the hot knife!

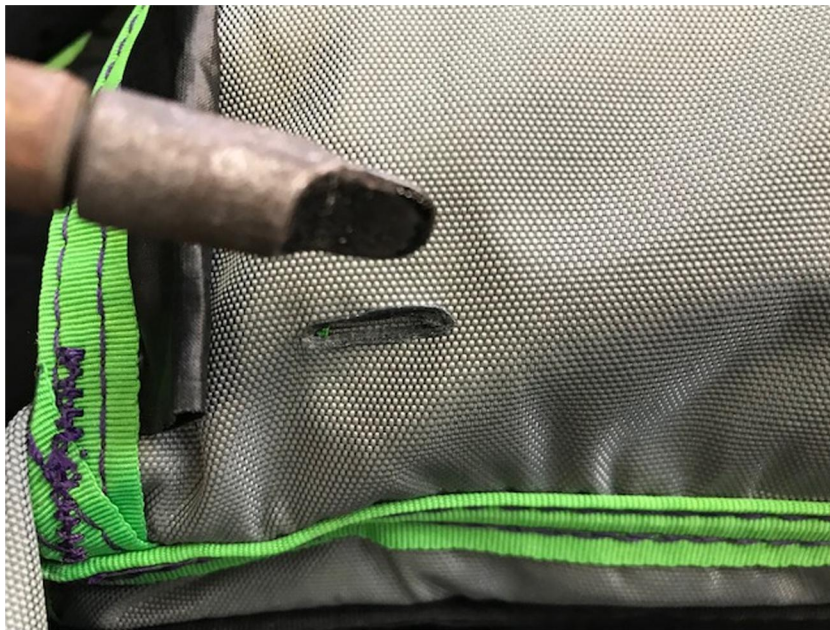


Figure 2.10



ICON CONTAINER ALTERNATE AAD CUTTER POSITION UPDATED TO SHOW IX SERIES CONTAINERS

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Step 3. Assembly

Feed the AAD Cutter through the slit made in the previous step, (Figure 2.10,) then through the cable cover, and finally into the elastic pocket ensuring the hole in the cutter lines up with the hole in the type 12 and grommet as shown in Figure 3.0.



Figure 3.0

Modification is complete and ready to pack.