

TECHNICAL & SAFETY COMMITTEE

INTERNATIONAL PARACHUTING COMMISSION (FAI)



Technical & Safety Information Notice No.	<p>06/2011 Virgil AAD</p> <p>W.N. 41</p> <p>Note – This Information Notice supersedes IN 05/2011, W.N.40, issued 06 Oct. 2011.</p>
Date of Issue	<p>23 October 2011</p>
Subject Matter and Applicability	<p>VIGIL AAD CUTTERS EMERGENCY PRODUCT SERVICE BULLETIN # PSB-8 (Supersedes Product Service Bulletin PSB-7)</p> <p>SUBJECT: Vigil AAD, All Cutters produced in October 2007 Part Number: 9582006 Date of Manufacture: 10-07 (mm-yy) (see Photo 1)</p>
Background Information	<p>BACKGROUND: This SB-8 revises SB-7 to include additional serial numbers (see list B) and to add additional guidance for compliance requirements. The following incident occurred on the 14th September 2011 at the Saint-Jean Chrysostome (Canada) drop zone: A skydiver failed to deploy his main canopy and manually pulled his reserve handle with insufficient altitude to fully deploy the reserve canopy. During the investigation of the incident it was discovered that the loop was neither cut nor trapped by the cutter.</p>
Compliance	<p>In the preliminary report prepared by the Royal Military Academy, it was stated that the knife blade was missing. (See the separate Royal Military Academy report.) Vigil R&D has confirmed that the electronics worked correctly and fired the cutter, but because of the absence of the knife blade, the closing loop could not be cut. The manufacturer of the cutter assembly has confirmed that the failure to install the knife blade was caused by error during the cutter assembly process. This appears to be an isolated batch. We are not aware of any similar assembly failure in any other batch of cutters which the cutter assembly manufacturer has produced for any of their other customers, including NASA and the US Armed Forces. A group of 15 cutters from that batch have been activated by the Royal Military Academy for test purposes, and all worked to according to specifications. (See the separate Royal Military Academy report.) The cutter was part of a production batch of 299 pieces, produced in October 2007. (See Photo 1.) In the interest of safety, AAD has decided to recall all cutters from the October 2007 cutter batch and to replace all of those cutters free of charge. The removed cutter must be returned to AAD sa/nv or Vigil USA, LLC once the replacement cutter has been received. (Please contact AAD sa/nv or Vigil USA, LLC for return information and instructions.) This will enable us to personally examine and analyze as many cutters as possible from this batch in order to verify that this, in fact, has been an isolated incident.</p>

Photo 1



DOM : October 2007

Even though the production batch only included 299 pieces, Vigil has identified additional Vigil serial numbers (see list B), from those stated in PSB-7 (see list A), on which the affected cutters might have been installed and has included the additional Vigil serial numbers in this PSB-8. The list provided in this PSB-8 replaces the previous list and must be used for reference, however it is essential that any cutter with a Date of Manufacture ("DOM") of 10-07 be replaced, regardless of whether or not the Vigil serial number is on the list.

Magnet Test Procedure:

In the interest of additional safety, we have devised a field test, which can be performed on any Vigil cutter, using a magnet to confirm the presence or lack of a knife blade. It can be done using any magnet on any cutter. Either a small (see Photo 2A) or a larger (see Photo 2B) magnet may be used. You must ensure that the magnet is placed directly below the closing loop hole portion of the cutter, as shown in Photos 2A and 2B. If there is a knife blade present, the magnet will be attracted to the knife blade. If you require a magnet they are available on request from AAD sa/nv or Vigil USA, LLC.

Photo 2

Magnet Test



2A



2B

Note: All Cutters manufactured from June 2008 have been x-rayed as part of our quality control process, and we have confirmed that the knife blade is present, however for additional safety, we highly recommend that the magnet test be performed on each cutter manufactured prior to June 2008.

Once compliance with this bulletin has been met, and, if necessary, the 10-07 cutter has been replaced, or a cutter with a manufacture date prior to 06-08 has been tested with a magnet and it has been determined that a cutter is present, or it has been determined that the cutter DOM is 06-08 or later, the reserve parachute packing data card should be marked with "Vigil SB-8 - OK."Magnet Test Procedure

Compliance Date:

Because of the seriousness of this matter, this Emergency Product Service Bulletin must be complied with before the next jump on all Vigils with the following serial numbers (See List A and B below, which identifies the affected Vigils by the original gold Q.C. hologram numbers.) **Please note that this list is not exhaustive since some cutters may have been removed from the original Vigil for which they were provided and may have been used, without our knowledge, as replacements on other Vigils.** Some cutters may have a silver hologram because they were issued for stock or as replacements via our dealers.

Therefore, verification of the Date of Manufacture ("DOM") of the cutter must be performed at the time of the next reserve repack. **Every cutter found with a DOM of 10-07 (see Photo 1) must be replaced before the next jump, and the cutter which was removed must be returned to Vigil.** (Please contact AAD sa/nv or Vigil USA, LLC for return information and instructions).

List A: Serial numbers of Vigils with cutters manufactured in 10/07

Device#	QC n°	Device#	QC n°	Device#	QC n°	Device#	QC n°	Device#	QC n°	Device#	QC n°
6239	H320	9269	L062	9352	L144	9445	L201	9513	L296	11261	M664
7671	I855	9270	L063	9353	L145	9446	L202	9514	L297	11263	M665
9207	L000	9272	L064	9354	L146	9447	L203	9515	L298	11264	M666
9208	L001	9274	L066	9355	L147	9369*	L214	9516*	L299	11265*	M667
9209	L002	9275	L067	9363	L154	9393	L215	9517	L300	11267*	M668
9210	L003	9276	L068	9365	L155	9396	L216	9518	L301	11268	M669
9211	L004	9277	L069	9366	L156	9397	L217	9519	L302	11269	M670
9220	L010	9309	L099	9367	L157	9401*	L218	9520	L303	11271	M672
9221	L011	9310	L100	9370	L158	9402*	L219	9521	L304	11272	M673
9223	L012	9311*	L101	9371	L159	9403	L220	9522	L305	11273	M674
9224	L013	9312	L102	9373	L160	9404	L221	9523	L306	11274	M675
9226	L014	9313	L103	9374	L161	9405	L222	9524*	L307	11276	M676
9227	L015	9314*	L104	9375	L162	9406	L223	9525	L308	11277	M677
9229	L016	9316	L105	9376	L163	9410	L224	9526	L309	11278	M678
9230	L017	9317	L106	9377	L164	9411	L225	9527	L310	11280	M679
9231	L018	9318*	L107	9378	L165	9412	L226	9528	L311	11281	M680
9232	L019	9202	L108	9379	L166	9413	L227	9546	L329	11282	M681
9233	L020	9299	L109	9380	L167	9414	L228	9549	L332	11283	M682
9236	L021	9301	L110	9381	L168	9416	L230	9550*	L333	11285	M683
9238	L022	9315	L111	9382	L169	9478	L264	9551*	L334	11286	M684
9241	L023	9319	L112	9383	L170	9479	L265	9552	L335	12518	N725
9242	L024	9320	L113	9385	L171	9480	L266	9553	L336	12556	N750
9192	L025	9321	L114	9386	L172	9481	L267	9554	L337	22756	X201
9196	L026	9322	L115	9388*	L173	9482	L268	9555	L338	22765*	X210
9194	L027	9323	L116	9389	L174	9483	L269	9556	L339	22766	X211
9235	L036	9324	L117	9390	L175	9484	L270	9557	L340	22767	X212
9239	L037	9325	L118	9420	L176	9485	L271	9558	L341		
9240	L038	9326	L119	9421	L177	9487	L272	9559	L342		
9243	L039	9327	L120	9422	L178	9489	L273	9560	L343		
9244	L040	9328*	L121	9423	L179	9490	L274	9561	L344		
9245	L041	9330	L122	9424	L180	9491	L275	9563	L345		
9246	L042	9331	L123	9425	L181	9492	L276	9564	L346		
9247	L043	9332*	L124	9426	L182	9493	L277	9565	L347		
9248	L044	9333	L125	9427	L183	9494*	L278	9566	L348		
9249	L045	9334	L126	9428	L184	9495	L279	9567	L349		
9250	L046	9335*	L127	9429	L185	9496	L280	9568*	L350		
9251	L047	9336	L128	9430	L186	9497	L281	8186	L361		
9252	L048	9338*	L130	9431	L187	9498*	L282	9612	L362		
9254	L049	9339	L131	9432	L188	9499	L283	9633	L406		
9256	L050	9340	L132	9433	L189	9500	L284	10702	M240		
9257	L051	9341	L133	9434	L190	9502	L285	10703	M241		
9258	L052	9342	L134	9435	L191	9503*	L286	11249*	M654		
9259	L053	9343	L135	9436	L192	9504	L287	11250	M655		
926	L054	9344	L136	9437	L193	9505	L288	11251	M656		
9261	L055	9345	L137	9438	L194	9506	L289	11252	M657		
9262	L056	9346	L138	9439	L195	9507	L290	11253	M658		
9263	L057	9347	L139	9440	L196	9508	L291	11254	M659		
9264	L058	9348	L140	9441	L197	9509	L292	11257	M660		
9266	L059	9349	L141	9442	L198	9510	L293	11258*	M661		
9267	L060	9350	L142	9443	L199	9511	L294	11259	M662		
9268		L061	9351	L143	9444	L200	9512*	L295	11260	M663	

* and highlighted in yellow - Indicates that SB-8 has been complied with and that associated cutter for that device number has been returned.

List B: Serial numbers of Vigils with cutters manufactured in 10/07**Device # QC nr**

9237	L094
9271	L095
9273	L065
9279	L070
9280	L071
9282	L072
9283	L073
9284*	L074
9285	L075
9286	L076
9287	L077
9288	L078
9289	L079
9290	L080
9291	L081
9292	L096
9293	L082
9294	L083
9295	L084
9296	L085
9297	L097
9298	L086
9300	L087
9302	L088
9303	L089
9304	L090
9305	L091
9306	L092
9307	L093
9308	L098
9329	L208
9356	L209
9359	L152
9360	L210
9361*	L211
9362	L153
9364	L212
9368	L213
9415	L229
9449	L205
9450	L206
9451	L207
9634	L407
9635	L408
9636	L409

* and highlighted in yellow - Indicates that SB-8 has been complied with and that associated cutter for that device number has been returned.

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**Royal Military Academy
Department of Civil Engineering
and Materials**



**A.A. A.A.D. nv/sa
VIGIL Unit S/N 11258 – Jump 288
Preliminary Report**

3 October 2011

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Preliminary Statement

We received the complete VIGIL unit S/N 11258 on September 22, 2011 and handled the electronic unit the same day over to A.A.D. nv/sa for the infrared download and analysis of the data that could have been stored in the unit's permanent memory during jump 288.

For the investigation of the cutter we decided to make an X-ray photograph. In this manner the cutter has not to be damaged and stays in its original form as he was found after the jump (X-Ray = NDI: Non Destructive Investigation).

We received from A.A.D. nv/sa also X-ray photos of cutters taken by the manufacturer and supplier STRESAU. STRESAU has made X-ray photos of every produced cutter as additional quality control started from the production of the cutters in June 2008.

The cutter in the Vigil unit S/N 11258 was produced in October 2007 (only a lot of 299 cutters) and thus before the extra quality control with X-ray photos.

However, we can compare a cutters X-ray of November 2009 with the received cutter of unit S/N 11258 that we have photographed. There are no changes in the design between October 2007 and November 2009.

The two X-ray photos on **figure 1** show a comparison of the two cutters. On the left side of the figure we see an X-ray of a cutter produced in November 2009; in the middle of the figure the cutter of unit S/N 11258 after jump 288 that we have photographed. For the clearness we have added a normal photo of the cutter right on **figure 1**. On the bottom of **figure 1** we have added a second normal photo showing the DOM number (Date of Manufacturing): 10-07 or October 2007.

On the left X-ray photo we can clearly distinguish the different parts of the cutter:

- ☐ the anvil on the top for the energy absorption of the cutting knife;
- ☐ the loop hole;
- ☐ the cutter knife;
- ☐ the fuse (igniter) with the powder for the pressure generation;
- ☐ sealing-crimp
- ☐ Kevlar cable lock-pen

On the X-ray photo of the cutter of S/N 11258 we can see that the cutter knife is missing.

A.A.D. - VIGIL S/N 11258 – Jump 288
Preliminary Report

Anvil

Loop Hole

Cutter Knife

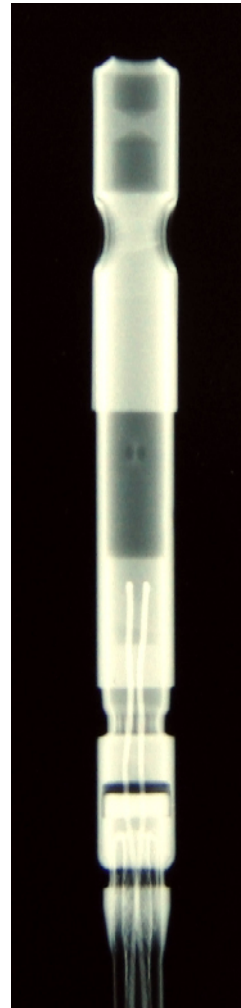
Fuse +
Powder

Sealing
Crimp

Kevlar Cable
Lock-pen



Cutter Nov 2009



Cutter of unit S/N 11258 after jump 288 (Part Number 9582006)



Date of Manufacturing (DOM): 10 - 07

Figure 1

A.A.D. - VIGIL S/N 11258 – Jump 288
Preliminary Report

Preliminary conclusions

A.A.D. nv/sa stated that this cutter is from the only batch of 299 cutters which were produced in October 2007.

The cutter from Vigil unit S/N 11258 is currently in the possession of the Royal Military Academy.

We have also performed a firing test on 15 cutters from that same production batch. All those cutters performed correctly to specifications and cut the loop without tension.

This investigation together with possible new elements will be covered in a final report.

In the meanwhile, it is absolute necessary that A.A.D. nv/sa performs a recall action of the 283 (299 – 16) cutters still in the field which were produced in October 2007.

A.A.D. - VIGIL S/N 11258 – Jump 288
Preliminary Report

Note

The text above is a verbatim copy of the text of the AAD sa/v EMERGENCY PRODUCT SERVICE BULLETIN # PSB-8, dated October 20 2011 and that of the Preliminary Report of Royal Military Academy, Department of Civil Engineering and Materials, Av. de la Resistance, 30, 1000 Brussels, Belgium, dated 3 October 2011

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**Liam McNulty, Technical & Safety Committee, International Parachuting Commission.
23 October 2011**