

Royal Military Academy
Department of Civil Engineering
and Materials



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

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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.

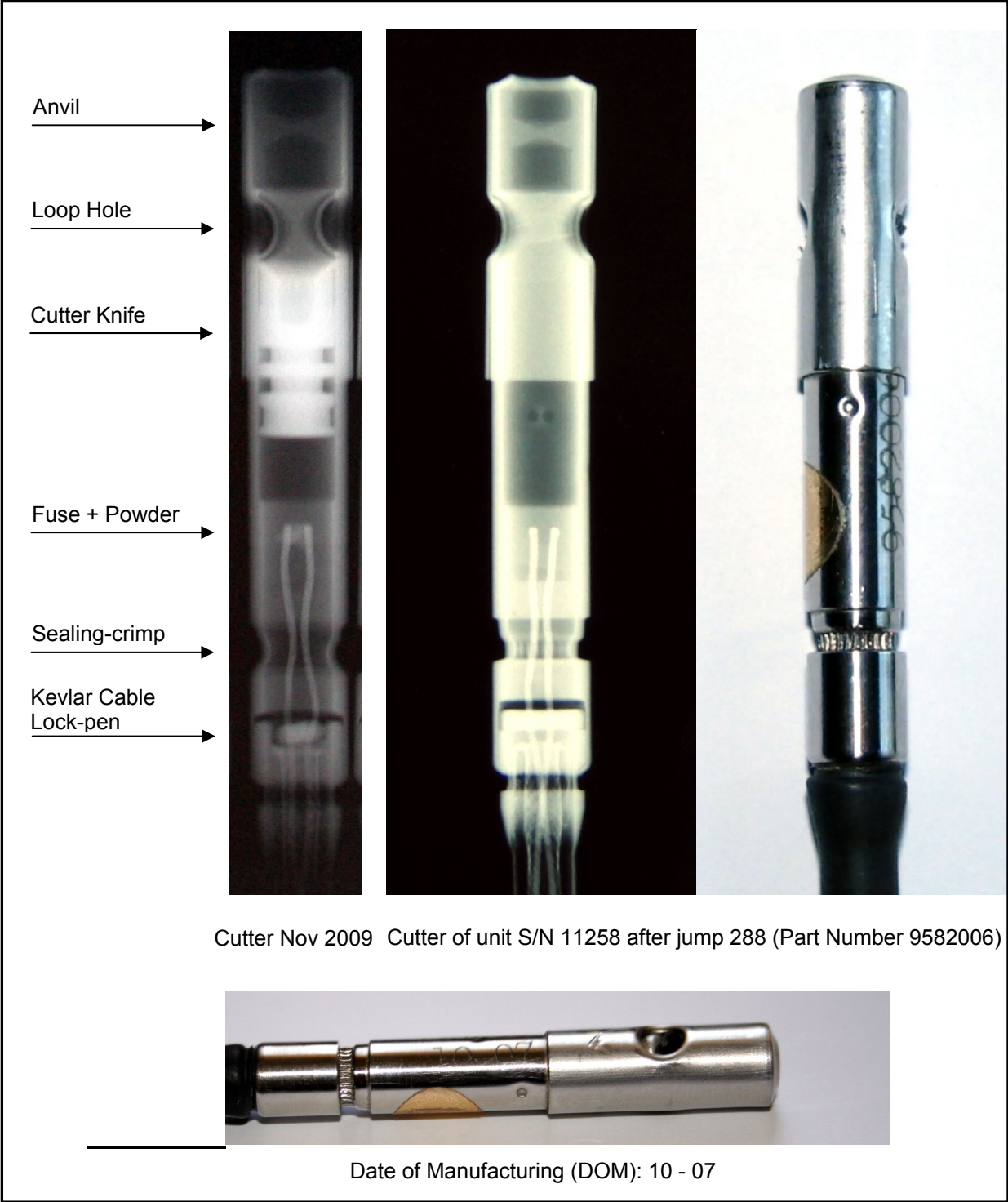


Figure 1

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.