



## PRODUCT SERVICE BULLETIN

ISSUE DATE: September 15<sup>th</sup>, 2021

Bulletin Number: FB 2021-01

SUBJECT: Firebird V1R1 EVO Harness container systems with adjustable Main Lift Web

STATUS: MANDATORY INSPECTION BEFORE NEXT JUMP

Affected HC: All Firebird Omega, V1R1 EVO and TD 400 HC with adjustable MLW

To: All Firebird Dealers and Customers, FAA, USPA, DFV et al.

### Background

On September 12<sup>th</sup>, 2021, a jumper experienced a non-fatal, non-injury incident involving a rental Firebird parachute harness container system with adjustable main lift web.

On opening, reported as non-hard by the jumper, the right side of the adjustable main lift web came undone from the adjustable Type 555-2 hip ring and the parachute started a spiraling descent. The jumper pulled the affected side down and was fortunately able to regain control and land safely under the main canopy.

The incident got initially reported to Firebird USA LLC by phone by Mr. Sandy Reid (FAA DPRE) on the morning of the following day, September 13<sup>th</sup>, 2021. FAA was informed an hour later.

An inspection of the affected parachute system was done in the presence of Mr. Sandy Reid (FAA DPRE), Mr. Tony Frost (FAA DPRE), Mr. Steve Curtis (R&D FB), Brian Hyatt (QC FB) and Mr. George Reuter (CEO FB) early morning of September 14<sup>th</sup>, 2021.

The inspection was also videotaped.



## Container

Container V1R1 EVO, Size XXL, SN 8611-172, DOM 02/19, Adjustable Main Lift Web, Hybrid type 7 & type 8, DJA 555-2 Ring, Sabre 3 230, 247 jumps with various large canopies.

## First assessment

**Right** Main lift web undone, sizing safety tab ripped off and stuck under a stretched but intact sizing tab retainer (1/2" type 1), 555-2 ring installed **correctly**, **missing** spring, **NO** damage to type 4 stopper.

**Left** Main lift web threaded **incorrectly** (double routing, wrong direction, see pics), sizing safety tab attached with only a few stitches (69tex/E thread) ripped, sizing tab retainer stretched but intact, 552-2 ring installed **correctly**, spring present, **NO** damage to type 4 stopper.

The incorrectly routed webbing on the **left** side strongly indicates that, the **right** side that came undone, most likely also had been routed incorrectly.

*Incorrectly routed webbing will result in a slippage towards the open end and in opposite direction of the engineered purpose as the friction lock will not properly engage and not properly block the webbing from slipping.*

*Additionally, a stopper is not primarily designed or intended to stop an **incorrectly routed** webbing from coming undone but a failsafe for a correctly routed webbing in case the friction lock would somehow fail.*

In this incident, it appears that, the only thing that kept the webbing from coming undone, was the engaged sizing safety tab in the type 1 sizing tab retainer and that it subsequently broke under the load of the opening as **zero** damage to any other component occurred.

Firebird subsequently performed multiple tests including pull tests up to 3000 lbs in different, correctly, and incorrectly, routed configurations.

Correctly routed webbing, **regardless** of the ring direction, showed **zero** slippage or damage.

Only the incorrectly routed webbing configurations did present slippage and damages to the sizing safety tab and/or the type 4 depending on the configuration.

The configuration of the incorrectly **double** routed configuration as present on the left side of the container, showed a torn off sizing safety tab **and** ripped type 4 stopper in **all** simulations at around 2000 lbs.

The configuration of an incorrectly **single** routed (only around bottom bar) showed only a torn off sizing safety tab and **NO** damage to the type 4 stopper in all simulations at around 600 lbs.



The right main lift web of the affected container that came undone does **not** show any damage on the type 4 stopper with only the sizing safety tab torn off and matches only the findings of at least one configuration of those simulations carried out by Firebird.

We must indicate that both grossly incorrectly routed configurations are extremely wrong and dangerous and can end in injuries and/or death.

## CONCLUSION

It is the common conclusion of the people present at the inspection that the **incorrectly** routed main lift web is **solely** responsible for this incident and precludes an engineering, mechanical or manufacturing error or production escape on the part of Firebird USA LLC and can **only** result from a human induced error.

All available rigging records show that no disassembly has been performed, so that we can most likely eliminate that it was taken apart for rigging purposes (washing, repair of MLW) and reinstalled incorrectly by a qualified Rigger.

As all internal QC paperwork shows that the routing of the adjustable main lift web was marked and signed off as correctly routed by one of our QCI (FAA Master Rigger), it is also our strong determination that it is highly unlikely that the system was delivered in a wrong configuration and gone unnoticed for 2 ½ years with multiple repacks by qualified riggers.

Additionally, we are very confident that it is also highly unlikely that the sizing safety tab would have resisted a total of 247 jumps carried out by mainly heavy jumpers and large canopies which underlines our findings.

From the stretch marks of the sizing tab retainer, we think that the misrouting happened not too long ago by a third party during the rental process and that it went unnoticed for an unknown period by anyone involved in the rental process and handling of the container.

We think that this was not done deliberately but most likely due to inexperience or incompetence by a non-authorized, properly trained or knowledgeable individual. Unfortunately, we think that it will be impossible to determine who exactly caused this incident unless that person would come forward.

We also think that it is paramount to regularly inspect all webbing routings for errors especially in a rental, demo or school setting as this misrouting could happen with any adjusters, not only on a 555-2 ring.

## MANDATORY

Therefore, we mandate a visually inspection before the next jump, to confirm the correct routing of the adjustable main lift web through a type 555-2 ring (DJA/CWH) especially if the container has been disassembled for repairs, maintenance, cleaning, or any other reason. All direct customers have been contacted by Firebird USA LLC.



## RECOMMENDATION

Always inspect the correct routing of the main lift web before use, especially if the harness-container is in a rental, demo or student setting or was recently in maintenance.

To make sure that in the future only qualified Riggers can disassemble the main lift web, we strongly recommend replacing the type 4 stopper with four layers of type 17 webbing and sew a BOX X pattern with at least 5-cord. Firebird USA LLC uses exclusively 6-cord.

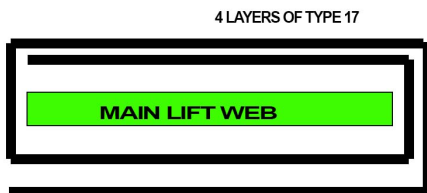
Firebird will also implement that change to all future adjustable harness type EVO containers.

We understand that it will be less "field rigging" friendly but we want to minimize any chance of incompetence induced incidents and it should also be a strong reminder to only have qualified personnel manipulate, repair, change or alter settings on any TSO'd parachute system components.

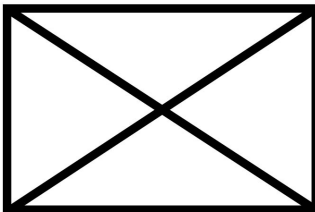
A handwritten signature in black ink, appearing to read "G. Reuter", with a long horizontal flourish extending to the right.

Georges Reuter  
CEO Firebird USA LLC

View of new recommended webbing layer construction of stopper



Stitch pattern (5-cord minimum)



USE 5 OR 6 CORD ONLY

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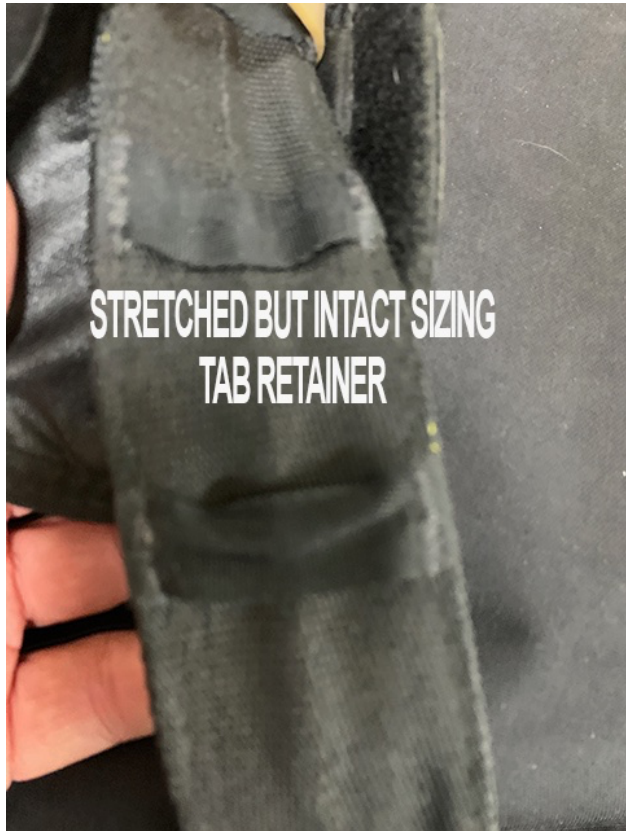
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## PICTURES

### DAMAGES

#### Stretched tab retainer



#### Torn off tab, damage free type 4







## **INCORRECT** ROUTING PRESENT ON EVO 8611-172

**Side view**



**Angled view**





**!!!! CORRECT ROUTING !!!!**

**Side view**



**Angled view**



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