



**AFFECTED PRODUCTS:** Amateur built aircraft (Order of May 31, 1982, BOE of June 5) built from the "kit" ZENAIR Zodiac CH 601 XL and equipped with an emergency ballistic recovery parachute system (BRS Aerospace or other) installed in front of the cockpit.

**MANUFACTURER:** AVIAKIT and ZENAIR (Kit).

**ISSUE DATE:** April 16, 2021.

**REFERENCE:** Technical Safety Note 2020-1 "Wrong installation of emergency parachute on Zenair Zodiac CH-601", issued by Air Accident Investigation Unit (Belgium) on date February 28, 2020.

**EFFECTIVITY DATE:** On the issue date.

**DESCRIPTION:** Further to the safety investigation (AAIU reference 2019-06-22-01) of an accidented ultralight airplane model Zenair Zodiac CH-601-XL, an anomaly was found in the installation of the BRS Aerospace BRS-6 (Model 1050) ballistic recovery parachute system fitted between the cockpit dashboard and the engine firewall. During the accident, the parachute was activated by the crew seconds before impact. However, it was not able to deploy as intended, due to an incorrect installation. After analysis, the investigation concluded that such an incorrect installation could result in an inadequate deployment impairing the safety of the aircraft's occupants.

This Airworthiness Directive (AD) has been written with the aim to draw the attention of the Zenair Zodiac owners to the hazard of an incorrect parachute installation and to advise them to make the system verified by a specialized technician.

**COMPLIANCE:** The following actions are rendered mandatory from the date of coming into force of this Airworthiness Directive (AD):

1.- Before the next flight, check the routing of the rear harness into the front parachute compartment, and verify if the rear harness strap cover reaches the front corner of the parachute compartment blow out (egress) panel as shown in Figure 2 and Figure 3 (correct installation);

2.- If not (like observed in Figure 1) or if any doubt, contact either the airplane manufacturer\*, or the parachute system manufacturer or any specialist in emergency parachute system installation for a safe re-installation of the rear harness;

3.- Strictly comply with the instructions and documentation of the aircraft manufacturer or the manufacturer of the emergency parachute system concerning the installation, as well as any maintenance and servicing to be carried out on the emergency parachute equipment installed on board the aircraft.

\*Compliant plans for the installation of a ballistic recovery parachute kit in front of the cockpit are currently (at the date of publication of this AD) available for sale for Zodiac CH601XL model on the website of Zenair Canada.



## DIFFERENCE BETWEEN INCORRECT AND CORRECT INSTALLATION

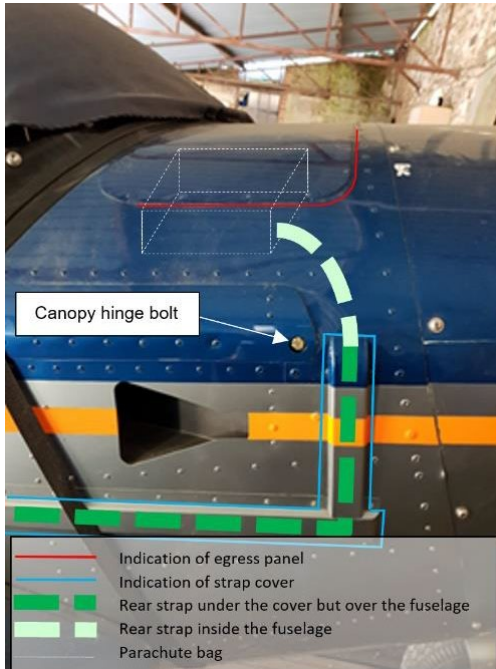


Fig. 1: Incorrect installation

Fig. 1 shows the abnormal rear harness routing inside the front parachute compartment. The rear harness comes into the parachute compartment through a hole cut in the riveted fuselage skin at the level of the canopy hinge bolt (an access hole at that location should only be made and used in the case that the parachute assembly is installed at the back and the strap is anchored at the front structure via that access hole). This installation holds the rear strap under the fuselage skin of the parachute compartment, leading to a strap partially captured in the front fuselage structure and thus not able to extend above the cockpit when the system is activated. This incorrect installation can easily be identified on a Zenair Zodiac ultralight airplane when the fuselage shows a strap cover that ends its installation at the level of the canopy hinge bolt without reaching the lower corner of the egress panel.

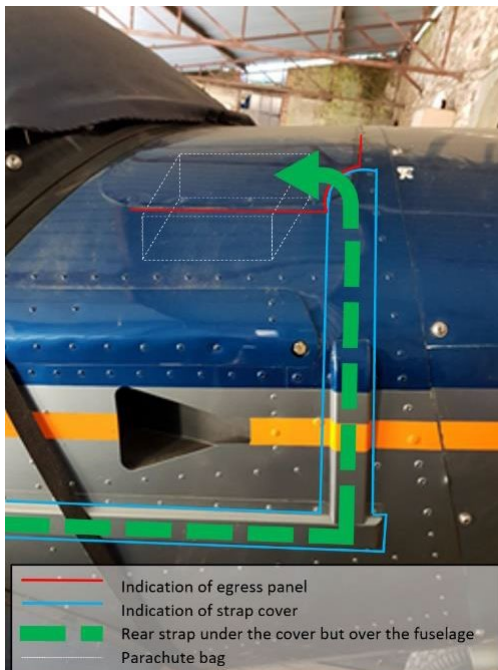


Fig. 2: showing how the correct installation should be like

Fig. 2 illustrates what should be the travel, on the external fuselage skin, of the rear strap into the parachute compartment. It should come inside the compartment through the cut of the blow out panel corner (indicated red on Figure 2, encircled yellow on Figure 3), the panel corner hole being covered and sealed by the end of the harness strap cover that must reach the edge of the blow out panel (indicated blue). This routing allows the rear harness to extend full and freely above the cockpit and, concurrently with the 2 front harnesses, to anchor the parachute around the center of gravity of the airplane, completely under tension.



Fig. 3: picture taken from an installation Inside showing the hole in the egress panel



Ministerio de Transportes, Movilidad y  
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AGENCIA ESTATAL DE SEGURIDAD AÉREA  
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