



SAFETY ALERT

No: SA 2021.03

Date: 23.12.2021

Subject: ELA 10-Eclipse leaking fuel tanks

Background

The following information is provided by the Australian ELA Distributor, Rotor-sport Australia.

- Model affected: ELA 10-Eclipse
- Year of manufacture: from approximately 2018 – this is the model with the **optical fuel sensor**, not the float type. Refer to the attached photograph.
- Symptoms: Opening the canopy you can smell fuel as if it has been leaking into the cabin. The optical fuel sensors are a tapered thread into a metal insert which is bonded to the fuel tank. The sensor is enclosed in a plastic threaded plug. It appears that only the optical sensor part is exposed to the fuel in the tank.
- Fuel is leaking between the outside of the metal insert and to the outside of the tank, which then allows it to “attack” the plastic surrounding the optical sensor. This causes the plastic around the sensor to deteriorate to the point where the sensor may stop working. Fuel will continue to leak slowly into the cabin – it may only be evident by smell, or as it worsens you may find fuel pooling in the bottom of the cabin and leaking onto the floor. There are four sensors in total and the most affected ones appear to be the 10l and 25l sensors under the rear seat, however the 45l and 65l sensors have also been affected.

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Corrective Actions

- Current resolution: if you attempt to unscrew the plastic plugs they will fall apart. Advice from ELA is they need to be drilled out carefully, without damaging the thread of the metal insert. Replace with either replacement fuel sensors (if ELA have sent them) or NPT 1/4" tapered brass plugs with Loctite 567. Note that fuel will still be leaking past the outside of the metal insert. The recommended next step to address this leaking area is to enlarge the hole in the fairing (where sensors are installed) to 40mm, sand the surface of the tank in the vicinity of the fitting with 60 grit sandpaper, mix Caswell Epoxy gas tank sealer with hydrophilic fumed silica to a thick homogenous mixture and apply to prepared area. Allow it to cure for 24 hours before refilling the tank and checking for further leaks. The tank should also be flushed to remove any debris which has fallen into it.

There are only 2 10-Eclipses in Australia affected by this issue however Eclipses in other countries have been subject to the same problem.



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