

# How to perform a basic Flitecell Inspection

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## 1 Introduction / General Information

The Flitecell needs to be checked before every ride and every charging cycle. A visual inspection of all connectors, the case and the all screws and nuts is important to ensure the Flitecell case and the connector aren't damaged and the seals aren't compromised.

This document shows the user what basic visual checks need to be completed on a regular basis.

Every 6 months a full check-up is required including the documentation of the results.

The outcome of this inspection needs to be logged and shared with Fliteboard.

## 2 Equipment and tools needed

This is a visual inspection, no tools needed.

## 3 Spare parts needed

This is a visual inspection, no spare parts needed.

## 4 Precautions for Disassembly and Assembly

Make sure the Flitecell is dry and clean before the inspection.

## 5 Work Instructions

This chapter explains which parts and components need to be inspected and how this is done correctly. The document also shows some good and bad examples, highlights issues and wear and tear marks which require further investigation.

### 5.1 Check all connectors

All three electrical connectors of the Flitecell get a lot of usage since they're mated and unmated before and after every ride. The connectors are therefore subject to wear and tear and need to be checked regularly.

#### 5.1.1 Power connectors

The positive and negative power connectors need to be checked for:

- Wear and tear
- Corrosion
- Straight centre pin
- The 4 screws per connector are tight
- Nothing is missing (4 screws per connector, white cap on the centre pin)
- The plastic housing of the connector isn't damaged

Image: Pass - Example of a good and functional positive power connector



Image: Failure - Example of a damaged positive power connector, the pin is no longer centered



Image : Failure - Damaged negative power connector, the white gap on the pin missing



## 5.1.2 Data connector

The data connector needs to be checked for:

- Wear and tear
- Corrosion
- The 6 pins are clean, and nothing is stuck in there
- Nothing is missing (custom Fliteboard nut)
- The plastic housing of the connector isn't damaged

Image: Example of a good data connector - Pass



Image: Example of a well-used but good data connector - Pass



Image: Example of a data connector failure – One pin is blocked, also needs contact cleaner applied to reduce corrosion



Image: Example of a data connector failure – Connector housing is damaged



## 5.2 View port

The view port needs to be checked for water ingress (drops), and if the water detection label has changed its colour.

Image: View port (Pass – no water visible and the label hasn't changed the colour)



Image: View port Failure – Water label has changed the colour to **RED** → This means it has been in contact with water. **IMPORTANT: Immediately move the battery to an outdoor open non-flammable area. Contact Fliteboard via the phone or email to [support@fliteboard.com](mailto:support@fliteboard.com)** )



## 5.2.1 Water detection label check

The label is located at the centre of the white frame inside the view port. The sticker is white and quite difficult to see. However, when it gets in contact with water, it'll turn **RED**.

**Pass:** Label is still white

**Failure:** Label has turned **RED**, **immediately move the battery to an outdoor open non-flammable area.**

## 5.2.2 Water ingress check

Place the battery on its back (all connectors facing up) for 1 minute. After that, roll the battery on its side (view port facing down, Gore valve facing up) and wait for another minute. If there is any water inside the battery, it'll flow along a channel towards the view port. Now inspect the view port to check if there is any water visible.

**Pass:** No water visible

**Failure:** Water visible inside the port, immediately move the battery to an outdoor open non-flammable area.

## 5.2.3 Fitment check

Check if the view port hasn't come loose and the top of the view port is slightly below the cut out of the case. No need to use a tool (18mm socket), use your fingers to see if there is any movement.

**Pass:** Firm fitment, no movement, View port is all the way in

**Failure:** View port is loose and sticks out of the case

## 5.3 Gore valve/ Breather valve

The gore valve is a pressure release valve in case

### 5.3.1 Fitment check

Check if the Gore valve hasn't come loose and the top of the valve is slightly below the cut out of the case. No need to use a tool (16mm thin walled socket), use your fingers to see if there is any movement.

**Pass:** Firm fitment, no movement, Gore valve is all the way in

**Failure:** Gore valve is loose and sticks out of the case

Image: Gore valve (Pass – Gore valve is all the way in, no movement)



## 5.4 Lids

The Flitecell is designed to withstand heavy impacts and a harsh marine environment. The case consists of the black frame and a top and bottom lid. The lids are held together with through bolts. The bolts and screws are locked in place and should never come undone. However, it's part of the regular Flitecell inspection to check this is the case.

### 5.4.1 Screw and bolt check

Check if all screw and bolts are in place and haven't come undone. No tools needed, just check if the screws and bolts and aren't sticking out and aren't moving.

**Pass:** All screws in place, firm fitment, no movement

**Failure:** Screw or bolt missing, or sticking out

# Fliteboard Service Instructions



Image: Pass – All screws in place and tight



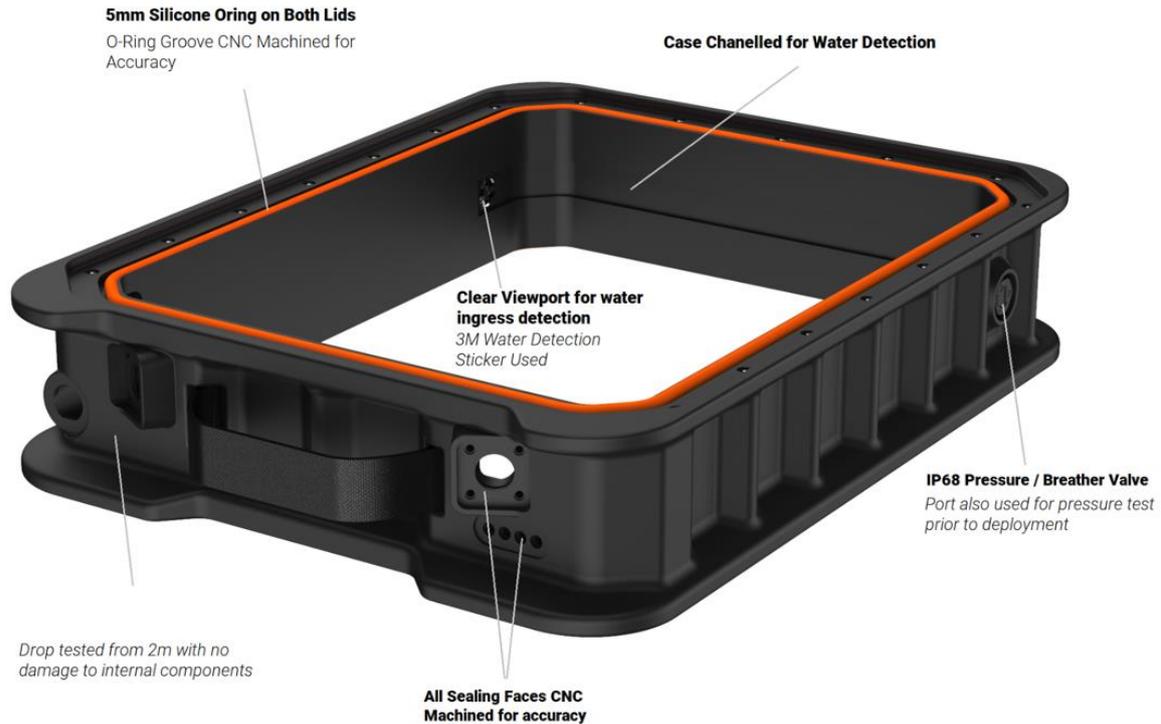
Image: Failure – One bolt sticks out and has come loose



Image: Overview of some feature of the Flitecell frame

## 5.5 Black case frame

The black frame of the Flitecell is the core of the battery housing. It has been stress tested and is able to withstand heavy impacts. However, it needs to be checked for wear and tear and other damage on a regular basis.



## 5.5.1 Case frame check

Check if there are any visible cracks, punctures and/or parts missing.

## 5.6 Charging and discharging

Check if the battery fully charges and discharges.

### 5.6.1 Charging check

After a full charge all indicator LEDs must be green when activating the battery. When the battery is connected to the Fliteboard, the state of charge on the Hand controller should be between 97% and 100%.

The voltage between the positive and negative power connectors should be greater 58V when fully charged (the voltage can be measured using a regular multimeter when the Flitecell is activated) – Please note, this check isn't mandatory.

### 5.6.2 Discharging check

The Flitecell should fully discharge down to 5% before the "limp home" mode gets activated. In this mode, the Flitecell can be drained down to 0%. Please note, due to a voltage sag under load, the state of charge might increase by a few percent when the Fliteboard motor stops. This does not mean the Flitecell can be used again without charging it.

## 6 Checklist

Make sure below check list is completed before filing the check up. If anything unusual is found, please inform Fliteboard immediately by sending a email to [support@fliteboard.com](mailto:support@fliteboard.com) with as much details as possible

- Positive (orange) power connector checked?
- Negative (black) power connector checked?
- Data connector checked for corrosion, wear and tear and a no movement?
- View port (water ingress/ firm fitment) checked?
- Gore valve (firm fitment) checked?
- All lids screws checked?
- Does the battery fully charge and discharge?

## 7 Maintenance and Service Logbook

The overview below highlights the minimum information required to complete the inspection and log the findings.

Inspection Date	Flitecell Serial number	Name (who completed the check?)	Estimated usage in hours and/or charging cycles	Comments/ Findings	Results shared with Fliteboard?

## 8 Other

Please share the Logbook with Fliteboard ([support@fliteboard.com](mailto:support@fliteboard.com) )