Skydio X10 and X10D

OSB Number: SOSB-24-V09

Date: 17 September 2024

Safety Risk: In extremely rare cases, a motor may draw a disproportionate amount of current, resulting in motor failure and potential loss of vehicle control or crash.

Products affected: Skydio X10, Skydio X10D

Description, Identification, and Manifestation

In an extremely small number of cases, Skydio has identified charring on motor stator windings, which may occur when a motor draws excessive power. While this issue is extremely rare, we encourage pilots to inspect motors before flight as a precaution.

Increased current saturation may lead to sluggishness and potentially total motor failure during flight.

In a properly functioning propulsion motor stator, operating under nominal conditions, the copper wires should be free of cuts or other damage and evenly colored. However, if you observe any signs of charring or notice that the tooth of a stator appears black compared to the others, this could indicate an issue related to increased power draw. The enamel coating on the wire may also appear to warp or blister, which can be a precursor to charring. In such cases, please contact BSSHolland.

Healthy motor stator tooth

Damaged motor stator tooth

Mitigation and Resolution

Skydio Actions

In an upcoming software release, Skydio will implement a dismissible prompt that appears if excess current draw on a motor is detected. If this prompt appears, we strongly recommend landing and contacting BSSHolland.

We are currently verifying the cause of the issue.

Operator Actions

- Always conduct thorough preflight inspections
    - Inspect the wiring in the motor for signs of overheating, such as discoloration, a burnt odor, or blistering/warping of the wire enamel, which may indicate exposure to excessively high temperatures driven by current
- If any wiring appears abnormal do not launch
- BSSHolland for replacement

For detailed preflight checks, read the Skydio X10 Flight Checklist.