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FREEFLYSYSTEMS.COM

Alta X SB002 - Motor Start Failure

Date Released: Feb 17 2020

Subject: Alta X Motor Startup Failure

Effectivity: All Alta X

Require Action: Verify motors spinning prior to liftoff

INTRODUCTION

This service bulletin is being issued to alert all Alta X pilots of an intermittent failure of Motors to start spinning upon initial startup.

BACKGROUND

Freefly has received ~5 reports of Motor 1 not starting properly in the field. Freefly has completed the first stage of our investigation into the issues. We developed an automated test that power cycles the Alta X and initiates a startup command. Over the course of 8,396 test cycles we detected 19 instances in which a motor did not start properly. We have traced the condition back to the Motor Drive and have observed that occasionally the motor drive will falsely signal a 'phase error' failure. We do not understand the conditions for this error to occur and are working to understand the root cause.

DISCUSSION

Some key points to convey regarding this issue:

- **We have received no report of motor failure in flight, the failure mode appears to only exist upon startup. Once a motor is spinning there is no evidence that the issue can occur.**
- We observed various booms (1-4) exhibiting this behaviour.
- A reboot of the machine has cleared the issue so that normal operation can continue.
- Throttling up the Alta X without a motor starting can cause a tip over.

RECOMMENDATION

1. Always visually confirm all motors are spinning prior to liftoff
2. Always perform an attitude control flight check prior to takeoff ([demonstrated here](#))
3. In case of a motor failure to start, disconnect Alta X flight batteries and reboot machine
 - a. Please file a ticket with [customer support](#) so we can investigate and track this issue

Freefly will be issuing additional updates as our investigation continues

For Service Information Contact Freefly Customer Support:

Web: freeflysystems.com/support

Phone: +1 (425) 485-5500

Hours of Operation: M-F 8am-5pm PST