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Pro38 BULLETIN 1G Failures April 15, 2019

It has been brought to the attention of Cesaroni Technology Inc over the past week that there has been a high failure rate on Pro38-1G Blue (141G78-15A). We have been looking into this matter and have verified the anomaly which stems from an over-pressurization at ignition resulting in nozzle blowouts.

Upon investigation it appears the cause is primarily due to a significantly faster burning ignition pellet. Furthermore, CTI has discovered it stretches beyond just the 141G78-15A and this issue has implications throughout the entire Pro38-1Grain lineup.

These pellets have not been manufactured in-house at CTI for the over three years, and have since been outsourced to a 3rd party company. Unfortunately it appears the most recent lot/batch of Pro38 pellets we received in 2018 have a higher burn rate then nominal. Due to this, our recent Pro38 reloads have been experiencing an elevated pressure during the initial ignition transient as the grain is being ignited. Since the Pro38-1G motors use the smallest throat diameters within this lineup they are proportionately the most drastically affected by this increase.

It appears these first pellets may have been introduced into circulation as early as May 2018. We have been in contact with the manufacturer of the pellets and they have identified the issue. Going forward all new pellets will have this issue resolved so that any reloads manufactured by CTI from Apr 12, 2019 onward will be fine.

However to address all the affected reloads currently in circulation CTI has developed a small "in-field" modification to reduce this ignition pressure spike. This modification can be done easily by the end-user during preparation for launch and simply involves trimming the pellet to a smaller size. CTI has successful conducted an entire series of motor testing on all the Pro38-1G lineup with this modification applied. For verification CTI is in the process of formalizing this testing information/data and will be distributing it in the coming days.

A copy of the in-field modification instructions can be found on our website and will be distributed to the dealers for public distribution. We also hope that if any end-user of these affected reloads does not feel comfortable conducting this modification themselves they can seek the assistance of any ProX dealers at the launch site during preparation for flight.

CTI recommends that <u>ALL</u> Pro38-1G reloads within the affected date range have this modification done before flight.

As reassurance, we recommend adopting this in-field modification to any reloads purchased back to Apr 2017. Please note this is <u>NOT</u> the propellant manufacturing date, but the date when reloads where shipped from our facility. The "propellant date" stamped on the outside of the reload is independent of the pellet manufacturing date

(for which there is no identification). Additionally, please note that different pellets are used within the Pro24, Pro29, & Pro54, and therefore this issue is exclusive to the Pro38 lineup.

Furthermore although no failures have been reported to date regarding the Pro38-2G lineup, CTI is also recommending that these changes be applied to some of the Pro38-2Grain lineup for due-diligences. CTI has conducted several motor tests of various reloads all of which have been successful, but the data did show a heightened ignition pressure as well. Therefore this modification should be applied to the smaller nozzle size reload which include;

- Blue Streak (276H152-15A)
- Classic (266H125-12A)
- Red Lightning (261H120-14A)
- Skidmark (232H123-14A)
- White (269H110-14A)

Dealers Inventory

To address the dealers current inventory of motors (Pro38 1G & 2G) that are affected but not yet sold to the general public CTI is asking all dealers to place a label on the affected reload packaging identifying it as requiring the "in-field modification". CTI can supply any dealers with either an electronic copy of label details for immediate printing or CTI can ship the label direct for them to be applied (at our cost). Please inform your CTI representative of which method works best for your time/schedule.

In addition, all future Pro38-1G & Pro38-2G manufactured by CTI after Apr 12, 2019 will have an additional label placed on the packaging identifying it as not requiring the in-field modification. This will be done in an effort to reduce confusion between future reloads. We will keep this identification process in place for the next 3 years (or longer if deemed necessary).

We sincerely apologize for any inconvenience or hobby rockets that have been affected by this issue. For any hobby rocket failures in flight that occurred as a result of this forward closure issue please follow the regular warranty process by contacting your ProX dealer. The dealers will then provide all the details to CTI so we can ensure you receive the appropriate warranty.

Sincerely,

Cesaroni Technology Inc

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