



NTSB MEMORANDUM FOR RECORD

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National Transportation Safety Board

Date: 5/5/2022
Person Contacted: GARY ANKNEY (FAA INSPECTOR)
NTSB Accident Number: ERA22LA215

Narrative:

The individual noted above provided the following information via a telephone call and email. The below contents are a summary of what was reported:

- The aircraft N46TA (CE-414, S/N 414-0466) was over the embankment (off of runway 5), approximately 200 ft from the top, resting in trees.
- The inspector walked off the skid marks of the aircraft, which were approximately 800 ft. The skid started approximately 400 ft from the end of the runway, and slid through the grass for another 400 ft before going over the embankment.
- The KX-155 avionics tray was found jammed in the elevator bell crank. This was the lowest avionics tray, within a stack of avionics. The left side stack. There was a Garmin 530 unit above the KX155 unit, and the trays were found sagging downward. They all moved downward when the face of the units were touched.
- Recent avionics work, performed by the pilot, involved "re-racking" the S-TEC autopilot.
- A crew earlier in the day reported an issue with the autopilot. It was hunting the navigation course. This autopilot that was re-racked was to the right of the avionics stack that found sagging.
- The elevator flight controls demonstrated virtually no movement when significant force was applied by hand. It felt similar to when a control lock would be installed (however, there was no control lock installed).
- The whole center avionics stack was sagging, and the avionics should have had metal "straps" (Metal Support Casings). The avionics were only secured to the front of the cockpit panel area. He reported that FAA AC 43.13 (2b) – mentions straps.
- There was 140 gallons of fuel onboard.
- The airplane was destroyed in his assessment. Substantial damage was sustained to the fuselage and wings.
- The passenger suffered a broken sternum.
- The pilot told this FAA inspector that he performed a flight control check prior to takeoff without issue.
- The inspector explained that one small strip of metal on the cockpit panel was holding all the left stack avionics/ trays. There was no back support (or straps) that are normally



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accompanied with large avionics. None of the avionics possessed straps connected to structural members.

- He observed scratches on the elevator bell crank.
- The Garmin 530 did not have rear or side straps securing the unit to a support structure in the airplane.
- The KX-155 avionics tray had one strap on its left side, but it was not connected to a structural member of the airframe. There was no strap on the right side of the lowest tray.
- The flight controls operated with a full range of motion once the KX-155 avionics tray had been moved away from the elevator bell crank.
- The operator had a sister Cessna 414 with similar avionics. The distance from the lower avionics tray to the elevator bell crank was measured to be one inch of clearance. The airplane's avionics possessed metal strapping connected to structural elements.

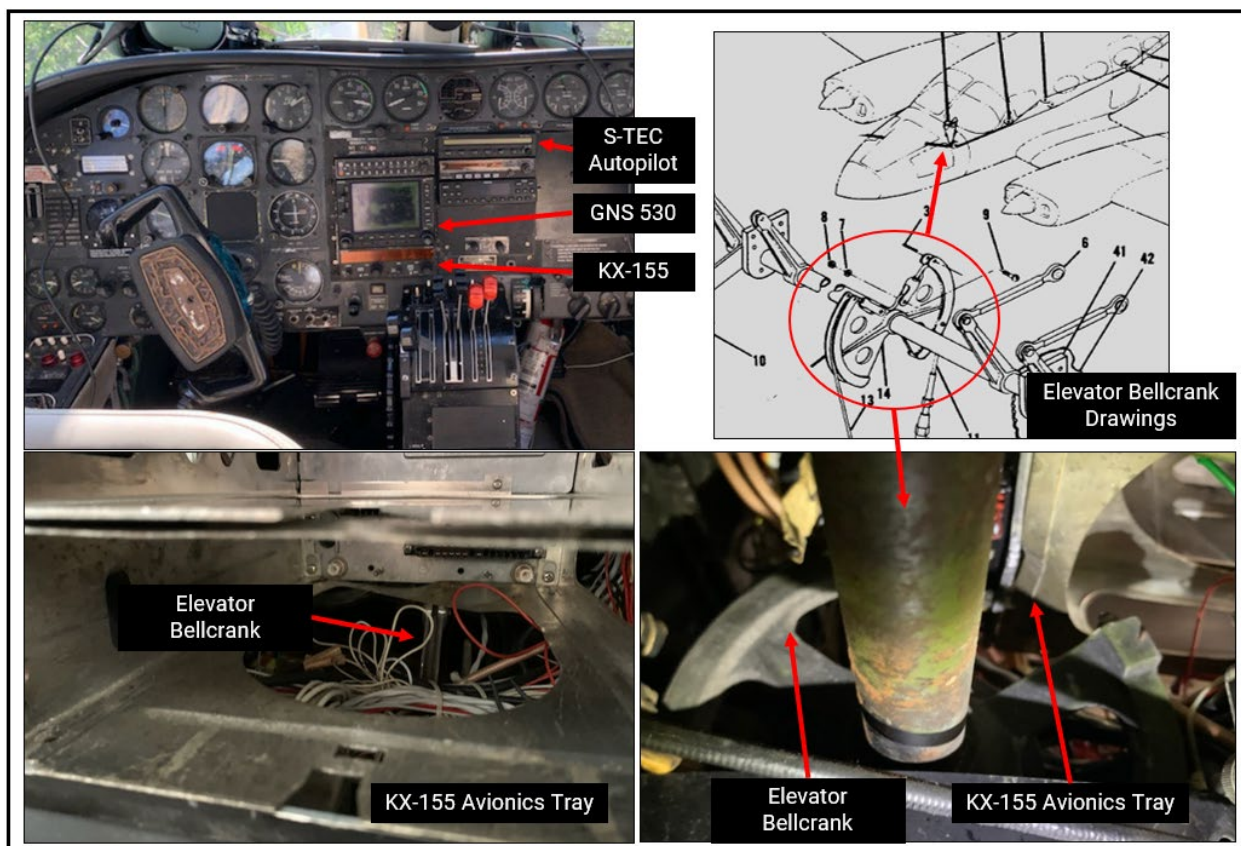
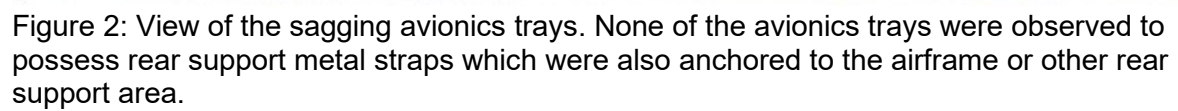


Figure 1: Annotated photographs of the avionics installed on the accident airplane and view of the elevator bell crank as found after the accident.





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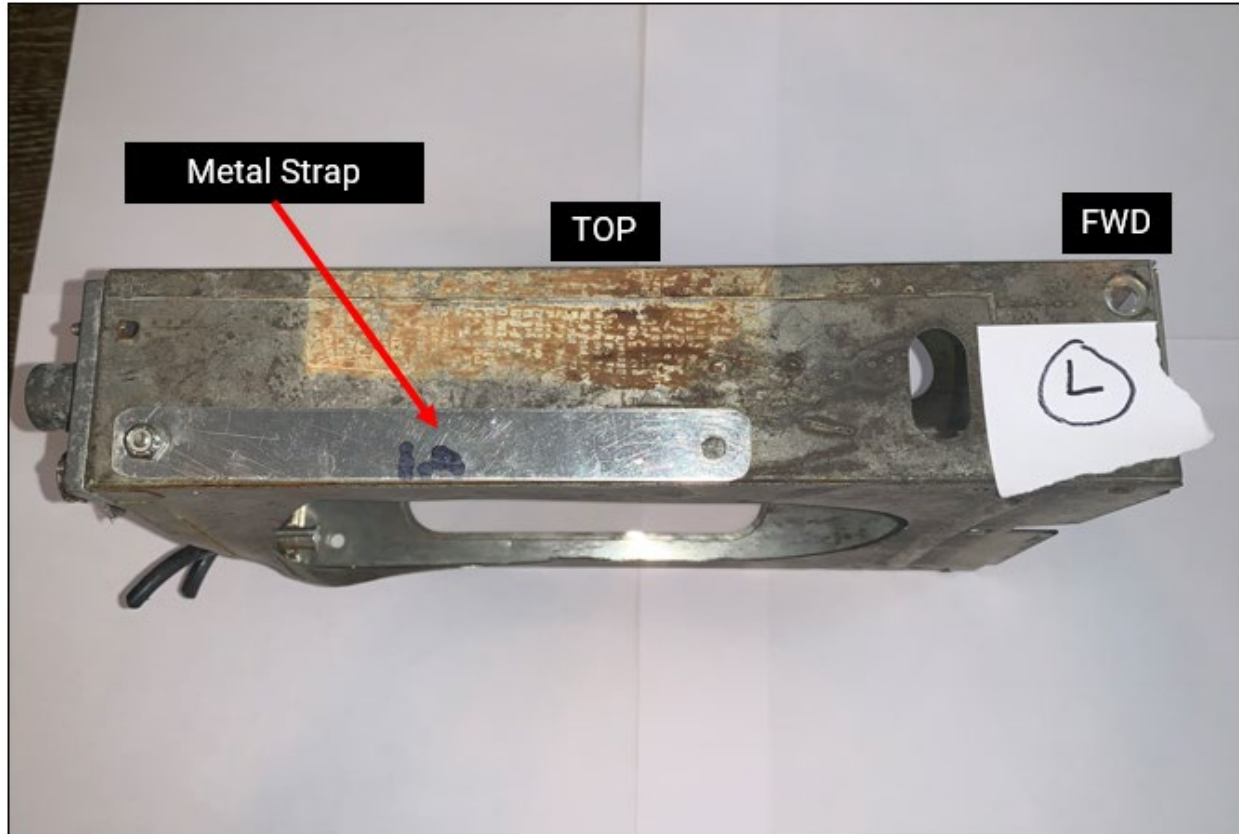


Figure 3: View of the left side of the KX-155 avionics tray. The metal strap remains installed on the unit's left side. The strap was connected to the tray; however, it was found not connected to any other components on the accident airplane. The "FWD" refers to where the face of the avionics unit would be located in the cockpit.



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Figure 4: The metal strap on the KX-155 avionics tray measured about 5.5 inches in total length.



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Figure 5: View of the right side of the KX-155 avionics tray. The right side did not possess a metal strap.



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Figure 6: View of the KX-155 avionics tray and its bottom side. This side was the nearest surface to the elevator bell crank. Significant scrapping, metal polishing, and deformation of the tray was observed.



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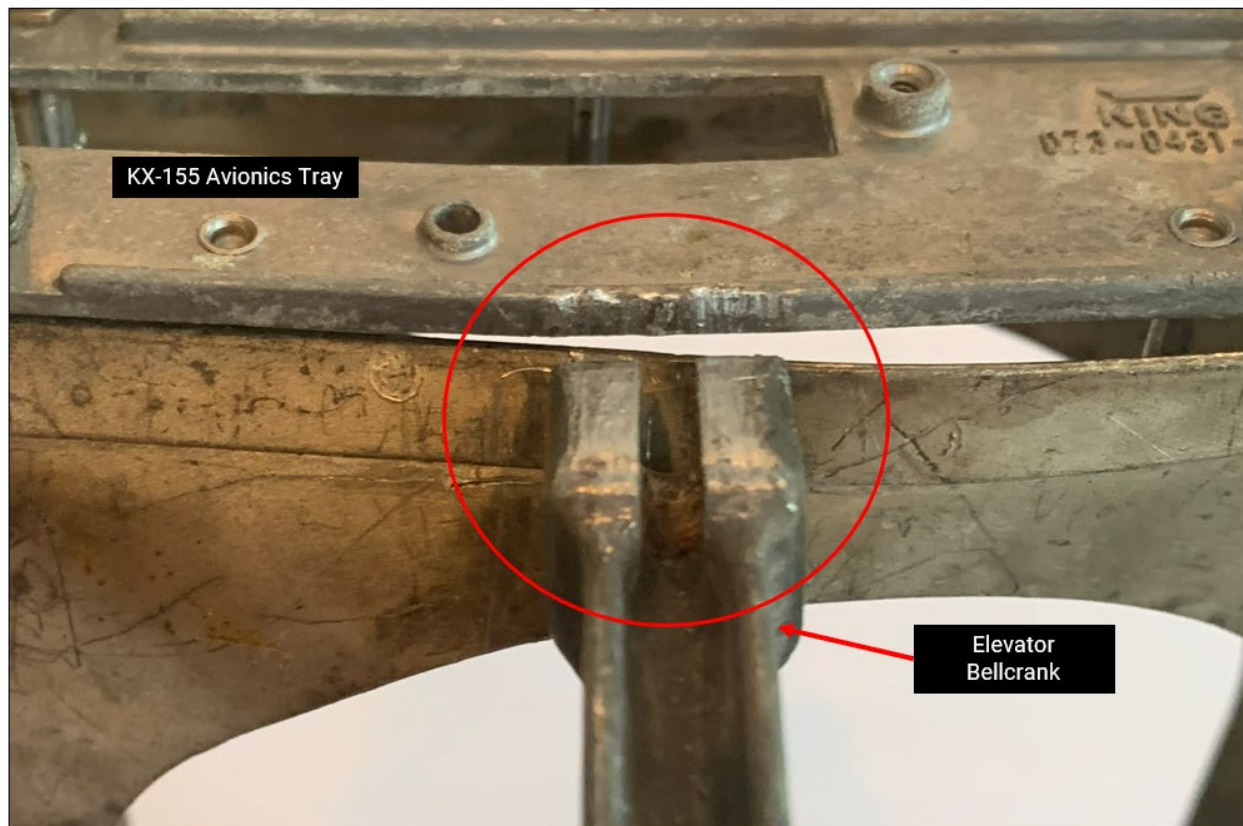


Figure 7: View of the elevator bell crank and avionics tray scraping.



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Figure 8: View of metal scraping and polishing as found on the elevator bell crank.



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Figure 9: Additional view of metal scraping and polishing as found on the elevator bell crank.



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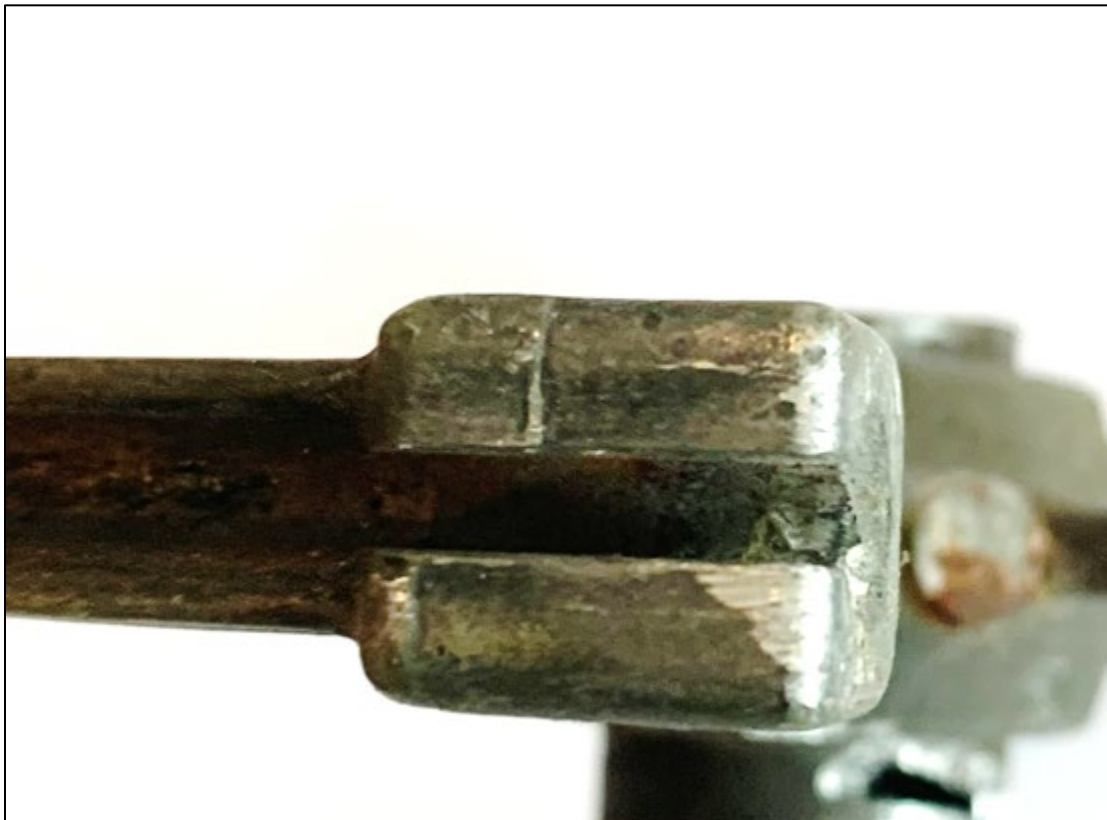


Figure 10: View of metal scraping and polishing as found on the other end of the elevator bell crank.



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Figure 11: Overview of the elevator bellcrank.

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