

Service Letter: 446

Date: May 23, 2018

Title: Elevator Control Cables

Models: 7ECA, 7GCAA, 7KCAB, 7GCBC, 8KCAB and 8GCBC all serial numbers

Description: There have been several reports of elevator cable fraying at pulley locations. The service manual requires a visual inspection of all control cables at 100-hour and annual inspections. This service letter adds an inspection procedure for the elevator control cables and a 1000-hour elevator cable replacement interval.

The inspection procedures described herein are not intended to be a substitute for a properly performed 100 hour / annual inspection. Refer to Advisory Circular (AC) 43.13-1B: Acceptable Methods, Techniques, and Practices: Aircraft Inspection and Repair.

Inspection: Inspect elevator cables for wear, broken wire, and other damage at every 100-hour or annual inspection. Place emphasis on the cable at all pulley locations. The 2-1534 and 3-1072 elevator cables shall be replaced at 1000-hour intervals.

As part of the 100-hour/annual inspection:

1. Remove inspection covers from fuselage belly at stations 66, 72, 84, 114, 195 and 205 as measured from the firewall (6 covers); if equipped with a metal belly remove all belly panels.
2. Remove the inspection cover located on the left side of the fuselage located under the stabilizer (1 cover).
3. Remove the 3-456 elevator horn cover.
4. If not equipped with a metal belly remove rear baggage panel. Remove the battery, battery box and battery tray (if equipped with a rear mounted battery).
5. Inspect elevator cable at all five pulley locations. The cable must be inspected as the control is actuated over the full range of motion at each location. This inspection should be conducted both visually and using a soft cloth. Any single broken wire is indicative of other broken wires and the entire cable must be replaced. External wear should not exceed 40% of the individual wire; reference Advisory Circular 43.13-1B figure 7-17 to determine cable wear. If cable condition is suspect further inspection can be aided by relieving cable tension and/or removing the cable from the aircraft.
6. Inspect cable condition over the entire length for corrosion, broken strands and other damage. Place emphasis on the cable condition near the battery (if equipped with a rear mounted battery).
7. Inspect pulley condition at all five locations; reference Advisory Circular 43.13-1B figure 7-20 for pulley wear. Rotate the pulleys to provide a new bearing surface for the cable.
8. Inspect nicopress sleeve for condition and slippage (6 sleeves). Approximately 0.13 inch of cable should extend beyond the nicopress sleeve and the thimble ends should be in contact with the sleeve.

9. Inspect the shackle and thimble for condition, wear, elongation or other damage (6 location).
10. Inspect cable attachment fastener condition and security including the presence and condition of the AN 380-2-2 cotter pins (5 locations). Verify adequate clearance of attachment hardware with all adjacent parts.
11. Verify cable tension per the appropriate aircraft maintenance manual; adjust tension using turnbuckles as necessary.
12. Safety turnbuckles or verify turnbuckle safety.
13. Reinstall battery tray, battery box, battery and rear baggage panel.
14. Reinstall 3-456 elevator horn cover all removed inspection covers.

1000-hour cable replacement:

1. Remove 2-1534 and 3-1072 elevator cables and replace with new cables per the appropriate aircraft maintenance manual; install cables using new attachment hardware. Reference drawing 7-1486, Installation Flight Controls, rev. G, dated 1-30-07 or later approved revision for detailed instructions.
2. Rig elevator controls per the appropriate aircraft maintenance manual.
3. Record cable replacement in an aircraft logbook entry.

Sample Aircraft Logbook Entry:

- *Replaced 2-1534 and 3-1072 elevator cables with new per approved drawing 7-1486 Installation Flight Controls, rev. G, dated 1-30-07 or later approved revision. Rigged elevator per Service Manual SM-601, rev. B, dated 10-3-2017 or later approved revision (use appropriate manual number, revision and date). Next cable replacement due at _____ hours TT.*