



To
Hanoch Kliger

Date 4th February 2015

1. Subject: 1124A, SIN 392, N793BG, NTSB Investigation ERA14FA300

Background: The fatal airplane accident involving the above referenced airplane that occurred on June 18, 2014, at Huntsville International Airport.

The NTSB investigator measured the trim actuators for roll, pitch, and yaw, and also measured all flap actuators.

The NTSB requested a formal response of the control surface positions of the above referenced a/c as detailed in his report ERA14FA300.

1. Flap position at the time of accident:

NTSB report: The amount of degrees of extension of the left flap. The inboard flap actuator measured 1.875 inches extended as measured from the end of the actuator housing to the center of the rod end attach bolt, while the outboard flap actuator measured 1.625 inches extended. The amount of degrees of extension of the right flap. The inboard flap actuator measured 1.9375 inches extended as measured from the end of the actuator housing to the center of the rod end attach bolt, while the outboard flap actuator that measured 1.625 inches extended as measured from the end of the actuator housing to the center of the rod end attach bolt.

Confirm that the difference in measurements of the inboard and outboard flap actuators are consistent with the system design

IAI answer:

The length difference, as measured by the NTSB is consistent with the flap system design. These actuators length fit the UP position of the flap for both left and right flaps.

In our opinion the flap position at the time of crash was at zero flap instead of 20° since the accident occurred immediately after take off.

2. Stabilizer position at the time of accident

NTSB report: The amount of degrees of extension and direction (airplane nose up or airplane nose down) of the horizontal stabilizer pitch trim. The actuator measured 11.187 inches extended as measured from the motor base to the center of the 'rod end attach bolt.

IAI answer:

The Hor.Stab surface has travel of 0.5° nose down and -4.7° nose up for the reported 1124A a/c. The measured actuator length reported by NTSB corresponds to Hor.Stab surface angle of -2.03°±0.10° (nose up).

3. Rudder trim position at the time of accident

NTSB report: The amount of degrees of extension and the direction the tab trailing edge is deflected (left or right) for the rudder trim. The actuator measured 2.000 inches extended as measured from the end of the actuator housing to the end of the piston of the actuator; the measurement did not include the rod end.



IAI answer:

IAI requested the dimension "C" the length of actuator from fixed end to the end of actuator housing (See the enclosed letter), the dimension "C" was given as 7.27" which is same for both upper and lower actuators. The nominal lower actuator length is 11.23", from the measured dimension as per NTSB report, precludes the lower actuator.

Since the upper actuator nominal length is 9.95" the dimension "B" and that "actuator measured 2.0" extended as measured from the end of the actuator housing to the end of the piston of the actuator; the measurement did not include the rod end" and the rod end length is 0.9".

Therefore we conclude that the upper actuator was fully extended at the time of accident. It means the tab trailing edge was 11.5 deg to the right.

4. Aileron trim tab position at the time of accident:

NTSB report: The amount of degrees of extension and the direction the tab trailing edge is deflected (up or down) for the aileron trim. The actuator measured 1.625 inches extended as measured from the actuator housing to the center of the rod end attach bolt.

IAI answer:

The trim tab actuator of the subject a/c has IAI p/n 793500-1 corresponding vendor p/n 4-044-000 (SHL) taken from 1124A IPC chapter 27-10-00 item 80. the aileron surface travel is $12.5^{\circ} \pm 1^{\circ}$ in either direction and trim tab travel is $13^{\circ} (+2, -1)^{\circ}$ tab surface up & $15^{\circ} \pm 2^{\circ}$ tab surface down. Aileron neutral position is $-2.5^{\circ} \pm 0.25^{\circ}$ trailing edge down.

From the reported data the tab actuator length corresponds to mid stroke position, therefore the trim actuator is at neutral position.

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c/c Shamay Moshe