

## APPENDIX A

767-400ER Elevator System Changes Relative to the 767-300ER

# Egypt Air Flight 990 Investigation - Split Elevator Ground Test

## **767-400 Elevator System Changes**

### Longer Body Cables:

- Added cable length due to increase in body length (approximately 20 ft)
- This results in slightly greater compliance due to cable stretch
- Forces at column to split elevators will be unaffected by this change
- Column travel as a function of elevator position will be slightly greater than 767-300 (less than 10%)

### Elevator Feel Limit Function:

- This new system was added to limit rotation stick forces during high speed take-offs
- The function will be disengaged for the duration of the ground tests
- The feel forces will be completely unaffected by this function during the ground tests

### Elevator Feel Unit Cam Change:

- The cam has been modified to increase feel forces at low airspeeds by a maximum of 5 lbs

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## Elevator Feel Shift Function:

- This new system was added to meet a new interpretation of a regulatory requirement for Stall identification
- This function only activates at angles of attack in excess of stick shaker
- The function is disabled on the ground
- The feel forces will be completely unaffected by this function during the ground tests
- Due to the addition of this function, the stick nuder has been removed from the 767-400

## Elevator Neutral Shift:

- This new function was added to provide more nose down longitudinal trim for light weight, aft cg flight conditions
- The function commands up to 2 degrees of nose down elevator as the stabilizer moves from 2 units to 0 units
- For the duration of the ground tests, the stabilizer will be in a position that will disengage this function
- The feel forces and elevator travel will be completely unaffected by this function during the ground tests

Conclusion: The test airplane is a valid test platform for the ground tests planned