

APPENDIX B

**Boeing Record of 767-400 Split Column Ground Test
December 1999**

FLIGHT TEST ORGANIZATION
PLAN OF TEST

TITLE: SPLIT ELEVATOR GROUND TEST

AIRPLANE MODEL

767-432

AIRPLANE CUSTOMER & TABULATION NO.

VQ002 /DAL/769

PLAN & TEST NO.

002-08

DATE CONDUCTED

12/08/99

THIS PLAN OF TEST INCLUDES THE FOLLOWING TEST ITEMS:

EWA NO.

T.I. NO.

TITLE

DEDICATED

V2251-003

✓ B1.39.1310

767 SPLIT ELEVATOR GROUND TEST

CONCURRENT

V2251-003

N9.02.0491

INSTRUMENTATION HEALTH MEASUREMENTS 767-400ER VQ
002

PREPARED BY (TEST ENGINEER)

CHECKED BY (PROJECT PILOT)

APPROVED BY (OPS GROUP ENGINEER)

APPROVED BY (DIR OF FLIGHT TEST)

.pdf file available

767 - 400 ER
VQ 002
D6T11767-0769P

002-08-A1

RED LABEL EQUIPMENT LIST

VQ002

The list of Red Label (RL) equipment installed on this airplane is extensive. As a cost-cutting effort (e.g., time, paper, ...), the customary RL list was not included in this PL&D.

The entire RL list is available on FTCS and can be accessed as follows:

From the FTCS MASTER MENU select

(8) AIRCRAFT CONFIGURATION

From the AIRCRAFT CONFIGURATION MENU select

(6) RED LABEL (RL) CONFIGURATION

From the RED LABEL (RL) CONFIGURATION MENU select

(3) SEARCH RL EQUIPMENT INSTALLATIONS

Once the SEARCH RL EQUIPMENT INSTALLATIONS screen is available, the entire RL list can be accessed by entering



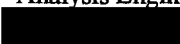
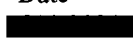
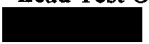




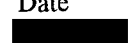
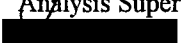
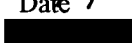
AIRPLANE NUMBER and DATE OF TEST or TEST NUMBER

Individual components can be searched by entering

AIRPLANE NUMBER, DATE OF TEST (or TEST NUMBER) and PART NUMBER (PN)

Model	767-432
Airplane	VQ002
Doc. No.	D6T11767-0769P
Page	002 - 08 - A2

767 SPLIT ELEVATORS GROUND TEST - FT

Prep		12/7/99	Conc		12-8-99
	Analysis Engineer	Date		Lead Test Operations Engineer	Date
					
App		12/02/99	App		12/7/99
	Lead Analysis Engineer	Date		Analysis Supervisor	Date
					

PURPOSE OF TEST

The purpose of this test is to demonstrate the forces required to split the elevators during simulated high speed conditions.

RISK ASSESSMENT

All Test Conditions in the TIP Sheet are considered to be LOW Risk.

REFERENCES

(a) Engineering Work Authorization (EWA) V2251-003, "767 Split Elevator Ground Test"

CONFIGURATION

The test aircraft is a Model 767-400 (Airplane VQ002).

Electric driven pumps are satisfactory for this testing.

All static ports set to same air pressure (atmospheric pressure OK if SAFT Van is not used).

SPECIAL TEST REQUIREMENTS

Configure SAFT van to provide Pitot and Static pressures to Captain's, First Officer's, Auxiliary 1, Auxiliary 2 systems, and Alternate Static Systems. Requires R-3110 shop support.

-OR-

Alternative means of varying pitot system pressure to control elevator feel pressure.

DATA REQUIRED

Data Tapes/FDR - ON and RECORDING prior to test start

Manual Data - Test Director: Record events and correlate with IRIG time.

Analysis: Record events and correlate with IRIG time, and monitor ADAMS for condition acceptability.

767 SPLIT ELEVATORS GROUND TEST - FT

TEST CONDITIONS

B1.39.1310 SPLIT ELEV - BASELINE FORCE EVAL

Initial Setup

- Stabilizer set to approximately 3 Units ❶
- Airspeed 420 knots ❶
- Instrumented resistance plug installed on both columns
- Hydraulic power L, C1, C2, R ACMPs ON

Notes

- ❶ Airspeed and/or trim to be adjusted to achieve the required feel pressure. Stabilizer not to go less than 2 units of trim.
- ❷ If individual column forces are not available via ADAMS, manual force measurements will be taken using hand held force meters (fish scales) at the elevator surface positions and feel pressures indicated.

B1.39.1310 SPLIT ELEV - BASELINE FORCE EVAL

Risk	Cond No	Elev Feel Press (psi)	Airspeed (KCAS)	Impact Press (psf)	Operation
✓ L	.001	770	420	~165	Sweep the column from neutral to full forward, to neutral and then full aft. Conduct sweep for each column

767 SPLIT ELEVATORS GROUND TEST - FT

B1.39.1310 SPLIT ELEV - SPLIT COLUMN

Risk	Cond No	Elev Feel Press (psi)	Airspeed (KCAS)	Impact Press (psf)	Operation
✓ L	.100	770	420	~165	Engage the elevator system overrides by pulling the Captain's control column full aft while simultaneously pushing the First Officer's control column full forward. Reverse direction of deflection for each column. Repeat as requested.
✓ L	.101 \ominus	770	420	~165	Engage the elevator system overrides by pulling the Captain's control column aft to achieve a left elevator surface position of -3° (TEU) and pushing the 1 st officer's control column forward to achieve a right elevator surface position $+1^\circ$ (TED). Repeat as requested.
✓ L	.102 \ominus	800	420	~175	Engage the elevator system overrides by pulling the Captain's control column aft to achieve a left elevator surface position of -1° (TEU) and pushing the 1 st officer's control column forward to achieve a right elevator surface position $+2^\circ$ (TED). Repeat as requested.
✓ L	.103 \ominus	820	420	~175	Engage the elevator system overrides by pulling the Captain's control column aft to achieve a left elevator surface position of -4° (TEU) and pushing the 1 st officer's control column forward to achieve a right elevator surface position $+3^\circ$ (TED). Repeat as requested.

RISK ALLEVIATION

None

TIMDIS * * * * AIRPLANE AND TEST ITEM TIME * * * *
AIRPLANE VQ002 TEST TITLE 767 SPLIT ELEVATOR GROUND TEST
TEST NO 002-08 TEST DATE 12/08/99
START TIME 0001 FLT TIME 00+00 NO OF FLTS 0 TOTAL FLTS 16
F/STOP LDGS 0 T/GO LDGS 0 ACCUM FLT TIME 70+03 ACCUM GND TIME 55+00
ENGR TESTS 00+00 SPRT TESTS 00+00 C TRNG 00+00 GND TEST 03+00

TIME SUFF TI CODE TEST ITEM TITLE
03+00 G B1.39.1310 767 SPLIT ELEVATOR GROUND TEST

P1 Press ENTER to continue ==>


767 - 400 ER
VQ 002
D6T11767-0769P

002-08-131

VQ002


GROUND TEST ATTENDANCE RECORD

#	Name	Function (Company)	Mail Stop (Address)	Phone
1	GARY GROSS	FTEO	14-KA	
2	Dennis Asheini	Flight Controls	02-JU	
3	BILLY RICHARDSON	FLT CONTROLS	02-KE	
4	Charles Nalley	Instrumentation	14-MC	
5	Rick Miller	INSTRUMENTATION	14-MC	
6	JEFF NICHOLS	INSTRUMENTATION	14-MC	
7	STAD ECKINS	INSTRUMENTATION	14-MC	
8	Nick Newhall	FTEA	14-KF	
9	Carey Binford	FTEO	14-KA	
10	SOUW STOESS	FA	17-89	
11	MARK WILSON	INSTRUMENTATION	14-MC	
12	PETE VAN LEYNSSEELE	FLT CONTROLS	02-KE	
13	John T. Swenson	Perfor FBI		
14	JOHN P. NEFF	FAA	64-01	
15	Paul A. Remington	FAA	64-01	
16	BILL TAFFS	BOEING	14-HA	
17	Luke SCHIADA	NTSB		
18	John Schade	NTSB		
19	JOHN O'CALLAGHAN	NTSB		
20	Steve Brown	Boeing INSTR.	14-MC	
21	ALAN C. BRANTLEY	FBI		
22	CAPT. M-ELMISSIRY	E.C.A.A.		MOB
23	EVAN BYRNE	NTSB HP		
24	Harold Simpson	NTSB/FAA		
25	MOHAMED HAMDY	EGYPTAIR		
26	PD Weston	NTSB		
27	THAMAN NOUR	ECAA		
28	MAHER I. MOHAMED	ECAA		

SHEET 1 OF 2	TITLE 767 Split Elevator GT	MODEL 767-432
		AIRPLANE VQ002
TEST NO. 002-08		DOC. NO. D6T11767-0769P
DATE 12 / 8 / 99		PAGE 002-08- B 2

VQ002 GROUND TEST ATTENDANCE RECORD

29	Rick Howes	BOEING ASI	67-PR	
30	Robert S. Nelson	BOEING AERO	67-65	
31	JOHN CASMAN	FLT CREW OPS	14-NA	
32	TIM MAZZITELLI	S & C	67-65	
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SHEET 2 OF 2	TITLE 767 Split Elevator GT	MODEL 767-432
TEST NO. 002-08		AIRPLANE VQ002
DATE 12 / 8 / 99		DOC. NO. D6T11767-0769P
		PAGE 002-08- B 3

AIRPLANE NO: VQ002
TEST DATE: 12/08/1999
TEST NO: 002-08

FLT HRS:	0+00	GND HRS:	0+00	FLT QTY:	0
CUM:	70+03	CUM:	52+00	CUM:	16

PREFLIGHT:

RELEASE:

TEST DESCRIPTION:

- .INSTRUMENTATION UPDATES
 - .AIRPLANE UPDATES
 - .MAINTENANCE
 - .ELEVATOR SPLIT INVESTIGATION G.T.-B
- .COMPLETED ELEVATOR SPLIT CONDITIONS WITH 8 DIFFERENT FLIGHT CREWS.

OMR01 VALID KEYS: ENTER(PROCESS), PF3/15(END), PF12/24(RETURN).

DOMRDIS PROD PAGE 01 OF 01

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VQ 002
D6T11767-0769P

002-08-B4

ABNORMAL EVENT SUMMARY

(include both planned and unplanned events)

AIRPLANE MODEL 767-432	TAB # VQ002	TEST NUMBER 002 - 08
TEST DIRECTOR Gary Gross	EVENT YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	DATE December 8, 1999

STRUCTURES TOL EXCEEDANCES(Analysis focal:)

	IRIG		IRIG
_____ Overweight Landing	_____	_____ High Alpha (>ss or ib)	_____
_____ Overweight Takeoff	_____	_____ Vmo/Mmo exceedance	_____
_____ Nz Exceedance	_____	_____ Vfc/Mfc exceedance	_____
_____ CALMS (>100%)	_____	_____ Vd/Md exceedance	_____
_____ Q β exceedance	_____	_____ Vfe exceedance	_____

OTHER EVENTS OF INTEREST TO STRUCTURES

	IRIG		IRIG
_____ Tail Strike	_____	_____ Lightning Strike	_____
_____ Unusual Vibration	_____	_____ Unusual Noise	_____
_____ High AVM	_____	_____ Turbulence > light	_____
_____ Hard Landing (>6fps)	_____	_____ RTO/Max Braking	_____
_____ High Derotation (>6 deg/s)	_____		_____

PROPULSION (Analysis focal:)

	IRIG		IRIG
_____ Engine Surge	_____	_____ Unplanned Shutdown	_____
_____ Engine Limit Exceedance	_____	_____ Unplanned EEC Mode Reversion	_____

FLIGHT CONTROLS/NAV COM (Analysis focal:)

	IRIG		IRIG
_____ Uplanned Control System Event	_____	_____ GPWC Warning	_____

OTHER EVENTS

	IRIG	
_____ Other	_____	Description of event

P = PLANNED EVENT	U = UNPLANNED EVENT
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VIDEO LOG SHEET

VQ002, 767-400

Test No: 002-08

Test Date: 12/8/99

Camera Definitions

Recorder #	Recorder Title	Comments
1	Upper EICAS (center)	
2	PFD (Pilot's Outbd)	
3	ND (Pilot's Inbd)	
4	Lower EICAS (center)	
5		
6		
7		
8		

Recorder #	Tape Set #	Start Time	Stop Time	Comments
1	1	17:26:20	19:21:00	
2	1	17:26:20	↓	
3	1	17:26:20	↓	
4	1	17:26:20	↓	
1	2	19:22:00	20:16:30	
2	2	↓	20:16:30	
3	2	↓	20:16:30	
4	2	↓	20:16:30	
1	3			
2	3			
3	3			
4	3			
1	4			
2	4			
3	4			
4	4			

767-400 ER
VQ 002
D6T11767-0769P
002-08-C2
 12/01/99

COND	W/S	10/00042/012	PAGE	1 OF 1	VQ002 PANELS LIST	STATION 4	12/08/99	10:04:29.0	UPPER-'F'	LOWER	SP COUNTS
QL	VQ2PA										
9800030					KNOTS VC				500.0		0.0
9800040					DIM MACH NUMBER				1.0000		0.0000
9853285					PSID L SYS DELTA FEEL PRESS				1500.		0.
9853286					PSID C SYS DELTA FEEL PRESS				1500.		0.
3060107					LBS STICK FORCE PILOTS				155.2		-155.2 PP
3064204					LBS ELEV STICK FORCE COPLTS				155.2		-155.2 PP
3060225					DEG CONT COL POSPILOT (PROD)				12.50		-6.80 PP
3060226					DEG CNTRL COLUMNPOS F/O PROD				10.22		-7.84 PP
2222969					GPM FUEL FLOW RATE E2				55.30		- .30 PP
950100					E3 LB GROSS WEIGHT FOR PANELS				2000.00		0.00
950201					PCT COMPUTED CG SELECT FM				100.00		0.00
46017					G NORMAL ACCEL CG 1.5 FILTR				3.005		-1.005 PP
2221964					GAL E1 FLMTR A FUEL TOTLZER				10114.		-114. PP
2222964					GAL E2 FLMTR A FUEL TOTLZER				10114.		-114. PP
2221701					PERCNT NIACTIND E1 GE80CFA1				256.0		-256.0
2222701					PERCNT NIACTIND E2 GE80CFA2				256.0		-256.0
2221702					PERCNT N2 ACTSELE1 GE80CFA1				256.0		-256.0
2222702					PERCNT N2 ACTSELE2 GE80CFA2				256.0		-256.0
7441008					PSI E1 OIL PRESSDPCLH7 317				0.		0.
7441007					PSI E2 OIL PRESSDPCLH7 317				0.		0.

UML POS#.'P#'.(DN).(UP).(INCR).(DECR), VQ2PA
 QL,

---MESSAGES---

MT: STARTING RECORDER #2... 9 L ELEV
 MT: STARTING RECORDER #1... 10 R ELEV
 MI: STARTING RECORDER #4...
 MI: STARTING RECORDER #3...
 MI: USING RECORDERS: #3 #4

CPU:FSA 84 APA 91 APM 73 43 100 100 DISK:FSA 80 VERSION:v3.32c
 \ W/S 86 APA 97 APM 87 100 86 100 W/S
 AIA 97 DPU 88 99 MNDB 95
 4 GC COMP *VQ2 204 MT VQ21,VQ22 1004 MI VQ21,VQ22 1004 QL VQ22A 0
 1 QL 600 1

FT: Actual Mod: Inc

07

767-400 ER
 VQ 002
 D6T11767-0769P
 002-08-C3

EgyptAir 990 Simulation Demonstration Schedule
 at The Boeing Company, Seattle, WA, December 8, 1999
 (10:00 PST)

Simulator Group #1: (10:00 - 10:40)

<u>Name</u>	<u>Organization</u>	<u>Pilot #</u>
Capt. PD Weston	NTSB	5
Capt. Bill Tafs	Boeing	7
Capt. Mohsen El Missiry	ECAA	10
Capt. Othman Nour	ECAA	12

Simulator Group #2: (10:40 - 11:20)

<u>Name</u>	<u>Organization</u>	<u>Pilot #</u>
Capt. Harold Simpson	FAA	6
Capt. Paul Remington	FAA	11
Mohamed A. Hamid Hamdy	EgyptAir	3
Maher Ismaiel Mohomed	ECAA	4

Simulator Group #3: (11:20 - 12:00)

<u>Name</u>	<u>Organization</u>	<u>Pilot #</u>
John Neff	FAA	9
John Swanson	FBI	13
Alan Brantly	FBI	14
Luke Schiada	NTSB	8

JOHN O'CALLAGHAN	NTSB	1
EVAN BYRNE	NTSB	2

PAUL R. → STAB CTR

JOHN SEHARDE	NTSB	15
TIM MAZZITELLI	S+C	16

767 - 400 ER

VQ 002

D6T11767-0769P

~~Greg Phillips~~

002-08-C4

FLIGHT NOTES SHEET

Write clearly and assure good contrast for reproduction!

TIME	COND.							CAPT	F/O
1630xx		APU START							
3430		DATA TAPES ON							
172120		COLUMN PULL TO CHECK INSTR.						- F/O	
24xx		" PUSH							
25xx		COLUMN FORCE CHECKS						- CAPT	
27xx		A/P RELEASE							
2855		FLT DATA RECORDER - ON							
		SAFT - USING AMBIENT FOR ALL STATIC PARTS							
30xx	.001	FISH SCALE COMPARES TO PULL AT TOP OF CONTROL WHEEL							
		NOT AS ACCURATE AT BASE OF CONTROL WHEEL -							
		SCALES WEAR HIGHER THAN INSTR.							
		STAB 3 UNITS							
40xx		250K	AUX	190K		L FEEL	C FEEL	FEEL COMPT	
44xx		300K	"	260K		289	132	550	
5010		250K	334 IN	"	300K	404	187	585	
5745		400K	382 "	"	350K	512	253	629	
5345		420K	402 "	"	380K	603	283	655	
5400		STAB	2.9 UNITS						
5600		CAPT FULL SWEEP							
5630		F/O " "							
5720		SPLIT - F/O FWD / CAPT FULL							
5745		" - CAPT FWD / F/O PULL							
5900									
		DIFF FEEL = 770 PSI							
1910	.100	PULL / PUSH					5	7	
1925		NEUTRAL							
2059	.100A	PULL / PUSH							
2115		NEUTRAL							
2430	.101	PULL - 3 / PUSH + 1							
2445									
2544	.102	PULL - 1 / PUSH + 2							
2605									
2650	.103	PULL - 4 / PUSH + 3							
2715									
2804	.100B	PULL / PUSH							
2825									

C = Comment D = Delay E = Exceedance F = Flight Deck Effect P = Problem

Sheet	1	of	5	Title	767 Split Elevator GT	Model	767-432
Recorder	[REDACTED]					Airplane	VQ002
Test No.	002-08	Sta.	TD			Doc. No.	D6T11767-0769P
Date	December 8, 1999					Page	002 - 08 - C 5




FLIGHT NOTES SHEET

Write clearly and assure good contrast for reproduction!

TIME	COND.							CAPT	F/O
183150	.200	PULL/PUSH						10	12
3210	-								
3320	.201	PULL-3/PUSH+1							
3345	-								
3422	.202	PULL-1/PUSH+2							
3445	-								
3541	.203	PULL-4/PUSH+3							
3605	-								
3904	.300	PULL/PUSH						6	11
3917	-								
4018	.301	PULL-3/PUSH+1							
4055	-								
4135	.302	PULL-1/PUSH+2							
4156	-								
4252	.303	PULL-4/PUSH+3							
4319	-								
4430	.304	PUSH+3 (SITTING)							
4520	-	PULL-6 (STANDING)							
5000	.400	PULL/PUSH						4	3
5030	-								
5138	.401	PULL-3/PUSH+1							
5204	-								
5313	.402	PULL-1/PUSH+2							
5349	-								
5419	.403	PULL-4/PUSH+3							
5446	-								
5759	.500	PULL/PUSH						13	9
5817	-								
5927	.500A	CAPT NEUTRAL							
5930		F/O FWD							
5933		" NEUTRAL							
5936		" AFT							
5939		" NEUTRAL							
190117	.501	PULL-3/PUSH+1							
0140	-								

C = Comment D = Delay E = Exceedance F = Flight Deck Effect P = Problem

Sheet 2 of 5	Title 767 Split Elevator GT	Model 767-432
Recorder [REDACTED]		Airplane VQ002
Test No. 002-08 Sta. TD		Doc. No. D6T11767-0769P
Date December 8, 1999		Page 002-08-C6


FLIGHT NOTES SHEET

Write clearly and assure good contrast for reproduction!

TIME	COND.							CAPT	F/O
190206	.502	PULL	-1 /	PUSHA	+2				
0231	-								
0316	.503	PULL	-4 /	PUSHA	+3				
0400	-								
0500	.504	F/O		PUSHA	+4	(SITTING)			
0538	-	CAPT		PULL	-13	(STANDING)			
0609	-								
1010	.600	PULL	/	PULL	/	PUSHA		8	14
1035	-								
1142	.601	PULL	-3 /	PUSHA	+1				
1207	-								
1230	.602	PULL	-1 /	PUSHA	+2				
1320	-								
1345	.603	PULL	-4 /	PUSHA	+3				
1405	-								
1500	.600A	PUSHA	/	PULL	(FULL)				
1520	-								
1700	.604	CAPT		NEUT.					
1705		F/O		FWD					
1710				NEUT.					
1712		F/O		AFT					
1730	-								
1857	.604A	F/O		NEUTRAL					
1858		CAPT		FWD					
1909				AFT					
1915	-								
2235	.700	PULL	/	PUSHA				15	16
2250	-								
2330	.700A	PUSHA	/	PULL	(FULL)				
2350	-								
2424	.701	PULL	-3 /	PUSHA	+1				
2452	-								
2525	.702	PULL	-1 /	PUSHA	+2				
2550	-								
2622	.703	PULL	-4 /	PUSHA	+3				
2644	-								

C = Comment **D** = Delay **E** = Exceedance **F** = Flight Deck Effect **P** = Problem

Sheet	3	of	5	Title	767 Split Elevator GT	Model	767-432
Recorder	[REDACTED]					Airplane	VQ002
Test No.	002-08	Sta.	TD			Doc. No.	D6T11767-0769P
Date	December 8, 1999					Page	002-08-C7



FLIGHT NOTES SHEET

Write clearly and assure good contrast for reproduction!

TIME	COND.							CAPT	F/O
193842	.305	F/O	PUSH					11	CASHMAN
3849		CAPT	PULL - ADJ. STAB TRIM - SWITCHES THEN					ALTN	
3900		F/O & CAPT	- PULL - ADJ						
3912	-								
4000	.306	L - APP	ON						
4010		CAPT	L/R WHEEL SWEEP						
4030		CAPT	FWD / AFT COLUMN						
4045		F/O	L/R WHEEL						'AUTOPILOT'
4120		FWD (FB)	- FULL						
4200	-								
		L FEEL	- 784	C FEEL	- 776				
4715	.008	40	(FISH SCALE)	36	(INST)			1	2
4725	-								
5127	.800	CAPT	FULL AFT						
		F/O	SWEEP (COLUMN)						
5143		CAPT	MID AFT						
		F/O	SWEEP						
5155		CAPT	NEUTRAL						
		F/O	SWEEP						
5201		CAPT	MID FWD						
		F/O	SWEEP						
5210		CAPT	FULL FWD						
		F/O	SWEEP						
5220	-								
5318	.800A	F/O	FULL AFT						
		CAPT	SWEEP						
5333		F/O	MID AFT						
		CAPT	SWEEP						
5345		F/O	NEUTRAL						
		CAPT	SWEEP						
5351		F/O	MID FWD						
		CAPT	SWEEP						
5405		F/O	FULL FWD						
		CAPT	SWEEP						
5430	-								
5600		ADJ	STAB FOR 820 FEEL						
		STAB	- 2.67						
		L	- 820	C	- 815				

C = Comment D = Delay E = Exceedance F = Flight Deck Effect P = Problem

Sheet	4	of	5	Title	767 Split Elevator GT	Model	767-432
Recorder	[REDACTED]					Airplane	VQ002
Test No.	002-08	Sta.	700			Doc. No.	D6T11767-0769P
Date	December 8, 1999					Page	002-08-C 8



FLIGHT NOTES SHEET

Write clearly and assure good contrast for reproduction!

TIME	COND.								
195808	.803	CAPT	FULL	AFT					
		F/O	SWEEP						
5821		CAPT	MID	AFT					
		F/O	SWEEP						
5834		CAPT	NEUTRAL						
		F/O	SWEEP						
5852		CAPT	MID	FWD					
		F/O	SWEEP						
5900		CAPT	FULL	FWD					
		F/O	SWEEP						
5911	—								
5944	.803A	F/O	PULL	AFT					
		CAPT	SWEEP						
200005		F/O	MID	AFT					
		CAPT	SWEEP						
0019		F/O	NEUTRAL						
		CAPT	SWEEP						
0040		F/O	MID	FWD					
		CAPT	SWEEP						
0056		F/O	FULL	FWD					
		CAPT	SWEEP						
0114	—								
0253	.803B	PULL	-4	PUSH +3					
0327	—								
0630	.804	CAPT	PULL	F/O PUSH					
0635		CAPT	-TRIM	ND					
0640		F/O	-TRIM	ND					
0649	—								
0837	.805	C =	A/P ON	Hdg SEL	Hdg HOLD				
0851			CHANGE	HEADING					
0914		C/W	L	'AUTOPILOT'					
0939		A/P	DISC						
1000		L/C/R	-A/P ON						
1013		C/W	-R	'AUTOPILOT'					
1030	—								
1100		A/P	SET	- DISENGAGE	W/ PULL BAR				
1200		TESTING	COMPLETE						
1500		SAPT	-	A/S 0					
1530		APU	OFF						

C = Comment D = Delay E = Exceedance F = Flight Deck Effect P = Problem

Sheet <u>5</u> of <u>5</u>	Title	767 Split Elevator GT	Model	767-432
Recorder			Airplane	VQ002
Test No. <u>002-08</u> Sta. <u>70</u>			Doc. No.	D6T11767-0769P
Date <u>December 8, 1999</u>			Page	002-08-C9



FLIGHT NOTES SHEET

Write clearly and assure good contrast for reproduction!

TIME	COND.								
172857	FDR	ON							
4037	250 kts	cond	532	LS	yst				
	300 kts		548	psi	L	566	psi	L	
	350 kts		584	psi	L	599	599	C	
	420 kts		654	psi	L	666	psi	L	
	470 kts	stab @ 2.8 units				775	psi		
5551	001	pilot	column	first		Cashman			(Dry run checkout)
5717	split								
5817	—								Stab @ 2.8 units
181910	100	5 left	7 right	←	participants				for all cond
1957	—								
2057	100A								
2127	—								
2429	101	5 left	7 right						
2450	—								
2542	102	5 left	7 right						
2607	—								
2647	103	5 left	7 right						
2716	—								
2807	100B	5 left	7 right						
2828	—								
	200				Participants	10 & 12			
3145	200	10 left	12 right						
3213	—								
3316	201	10 left	12 right						
3347	—	↓							
3419	202								
3445	—								
3540	203	↓							
3608	—								
					Participants	6 & 11			
3900	300	6 left	11 right						
3919	—	↓							
4015	301								
4057	—								
4133	302								
4158	—								
4250	303	↓							
4321	—								

Done @ 770 feet
for X02 & X03

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Sheet 1 of 4	Title Egypt Air Split Elev. Invest	Model 767-400ER
Recorder [redacted]		Airplane VQ002
Test No. 002-08	Sta.	Doc. No. DBT1767-0769P
Date 12/8/99		Page 002-08-C10



FLIGHT NOTES SHEET

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TIME	COND.							
4430	304	Capt standing pulling			F/O pushing seated			
4520	—	F/O pushing first						
		Participant	3+4					
4958	400	4 left	3 right					
5032	—	↓	↓					
5136	401							
5205	—							
5310	402							
5349	—							
5416	403							
5448	—	↓	↓					
		Participant	9+13					
5757	500	13 left	9 right					
5818	—							
190024	500A	captain hold @ neutral rig F/O Forw → neutral → Aft → next						
0042	—	looking for brewhout						
0114	501							
0142	—							
0204	502							
0233	—							
0335	503							
0407	—							
0517	504	Capt standing pulling			F/O pushing seated			
0539	—	captain pulling						
0612	—							
		Participants	8+14					
1008	600	8 left	14 right					
1036	—							
1140	601							
1209	—							
1228	602							
1323	—							
1342	603							
1408	—							
1458	600A	Capt push	F/O pull					
1523	—							

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Sheet 2 of 4	Title Egyptair Split Elev. Invest	Model 767-400ER
Recorder [redacted]		Airplane VQ002
Test No. 002-08	Sta.	Doc. No. DBT11767-0769P
Date 12/8/99		Page 002-08-C-11



FLIGHT NOTES SHEET

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TIME	COND.								
141658	604	Capt hold neutral	F/O push to breakout	→ neutral	→ aft				
1730	—								
1848	604A	Reverse controls	F/O hold neutral						
1919	—	Capt push to breakout	→ neutral	→ aft					
			Participants 14 15 + 16						
2232	700		15 left	16 right					
2256	—		1						
2328	700A	opposite direction							
2353	—								
2423	701								
2455	—								
2523	702								
2556	—								
2620	703								
2646	—								
			Participants 14, 2						
3858	305	P. Remington left	J. Cashman right						
		Pilot trimming stab in direction of column (pull)							
		F/O push	Pilot pull adjust stab	F/O will then					
3913	39 —								pull and adjust
4015	306	C A/P ON	Captain left whl						
4046			F/O left whl then right whl						
4128		full forward	F/O						
4208	—		F/O whl pos. not instrumented						
			Participants 1 + 2						
4630	300 008	1	left	2	right				
4715	—		capt check force w/scale						
4733									
5124	800	Captain 5 stages	full aft, mid aft neutral, mid fwd, full fwd						
5224	—		F/O just the opposite cycling						
5315	800A	repeat switching direction	capt. cycling						
5433	—								
5808	803	Stab 2.67 units	820psi fuel pressure						
5914	—	repeating 800 sweeps							
5939	803A	repeating 800A sweeps							
200118	—								

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Sheet 3 of 4	Title Egypt Air Split Elev Invest	Model 767-400ER
Recorder [redacted]		Airplane VQ002
Test No. 002-08	Sta.	Doc. No. D6T11767-0769P
Date 12/08/99	BOEING	Page 002-08-112

