

APPENDIX C

Selected Representative Time History Plots for the 767 Elevator Dual Failure Phase I
Ground Tests
(Data Not Corrected for Column Force Instrumentation Bias)

Selected representative time history plots from the 767 Phase I ground test are included in Enclosure 3. The selected representative plots included Capt. P.D. Weston as either Pilot or First Officer. The test conditions are defined in the Ground Test TIP in Enclosure 2. The plots are described as follows:

For the below test conditions .001-.004 and .011- .014, the left PCA on the right elevator was disconnected. (data file VQ001.010_05.4494.esb)

- Figure 1** Condition .001: Base elevator feel pressure, Pilot column sweep
- Figure 2** Condition .002: Base elevator feel pressure, First Officer's (FO) column sweep
- Figure 3** Condition .011: Base elevator feel pressure, Pilot column sweep, FO control column is held in a stationary position
- Figure 4** Condition .012: Base elevator feel pressure, FO column sweep, Pilot's control column is held in a stationary position
- Figure 11** Condition .003: Elev feel pressure 770 psi, Pilot column sweep
- Figure 12** Condition .004: Elev feel pressure 770 psi, FO column sweep
- Figure 13** Condition .013: Elev feel pressure 770 psi, Pilot column sweep, FO column is held in a stationary position
- Figure 14** Condition .014: Elev feel pressure 770 psi, FO column sweep, Pilot's control column is held in a stationary position

For test conditions .005 - .008, .and 025 - .029, the left PCA and center PCA on the right elevator were disconnected. (data file VQ001.010_05.4630.esb)

- Figure 20** Condition .005: Base elevator feel pressure, Pilot column sweep
- Figure 21** Condition .006: Base elevator feel pressure, FO column sweep
- Figure 22** Condition .025: Base elevator feel pressure, Pilot column sweep, FO control column is held in a stationary position
- Figure 23** Condition .026: Base elevator feel pressure, FO column sweep, Pilot's control column is held in a stationary position
- Figure 32** Condition .007: Elev feel pressure 770 psi, Pilot column sweep
- Figure 33** Condition .008: Elev feel pressure 770 psi, FO column sweep
- Figure 34** Condition .017: Elev feel pressure 770 psi, Pilot column sweep, FO control column is held in a stationary position
- Figure 36** Condition .028: Elev feel pressure 770 psi, FO column sweep, Pilot's control column is held in a stationary position
- Figure 37** Condition .029: Elev feel pressure 770 psi, Autopilot Engaged, Pilot column sweep

For test conditions .031 - .034 and .041 - .044, all elevator PCAs were connected. (data file VQ001.010_05.4631.esb)

- Figure 41** Condition .033: Elev feel pressure 770 psi, Pilot column sweep
- Figure 42** Condition .034: Elev feel pressure 770 psi, FO column sweep

Figure 43 Condition .043: Elev feel pressure 770 psi, Pilot column sweep, FO control column is held in a stationary position

Figure 44 Condition .044: Elev feel pressure 770 psi, FO column sweep, Pilot's control column is held in a stationary position

Figure 45 Condition .031: Base elevator feel pressure, Pilot column sweep

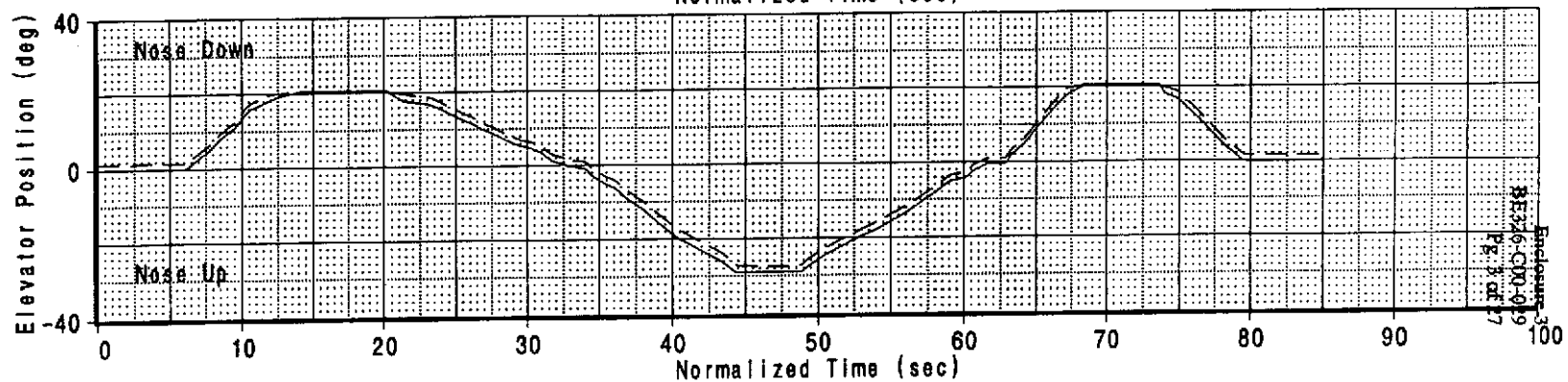
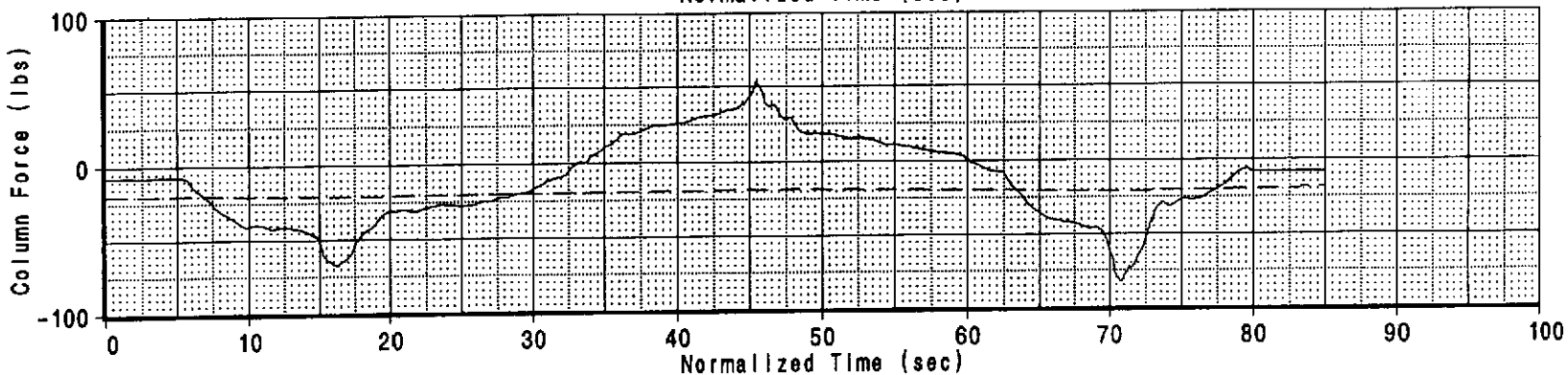
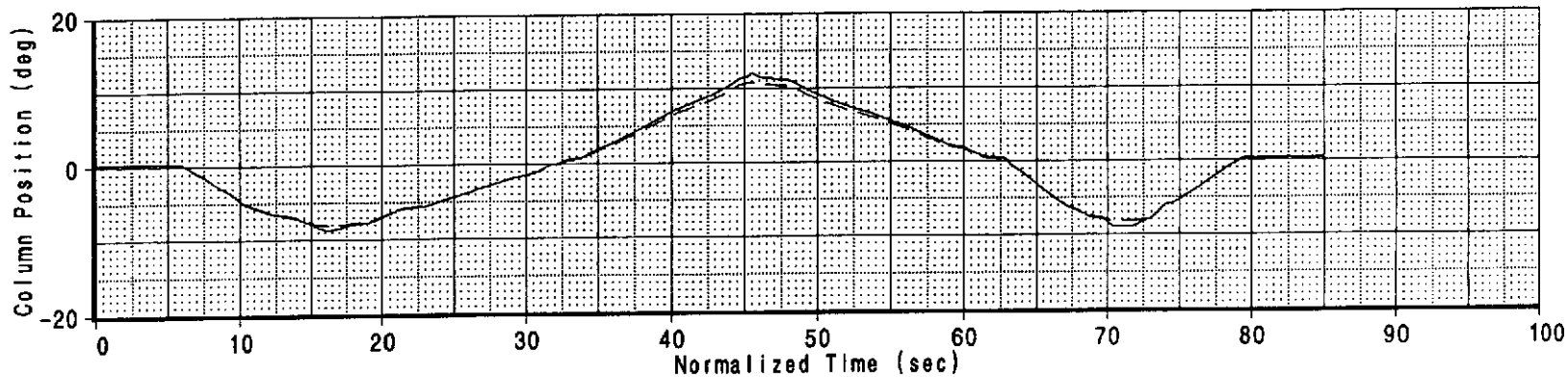
Figure 46 Condition .032: Base elevator feel pressure, FO column sweep

Figure 47 Condition .041: Base elevator feel pressure, Pilot column sweep, FO control column is held in a stationary position

Figure 48 Condition .042: Base elevator feel pressure, FO column sweep, Pilot's control column is held in a stationary position

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Pilot Bill Tafs Base Elevator Feel Pressure
 First Officer PD Weston Ground Test



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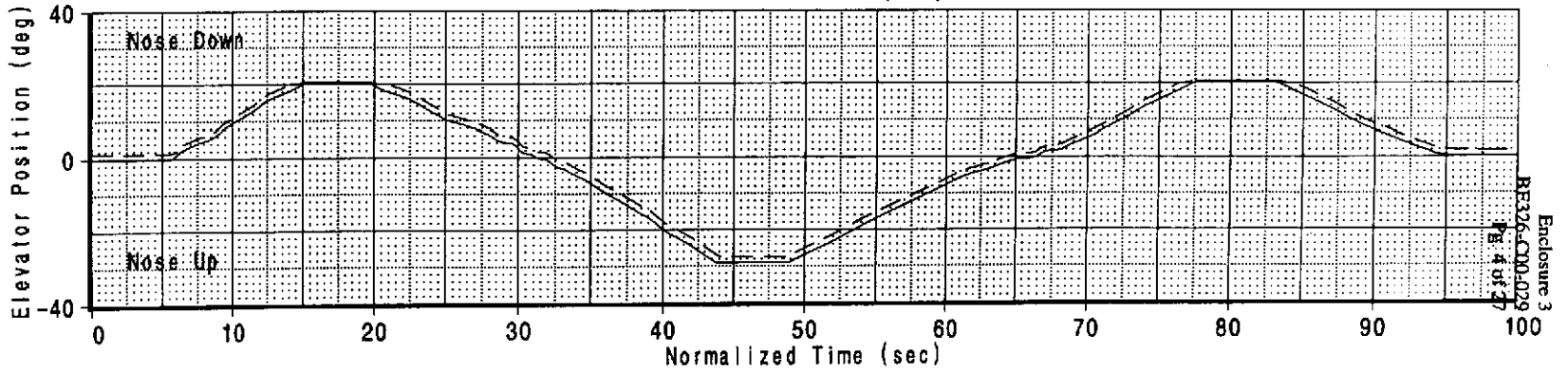
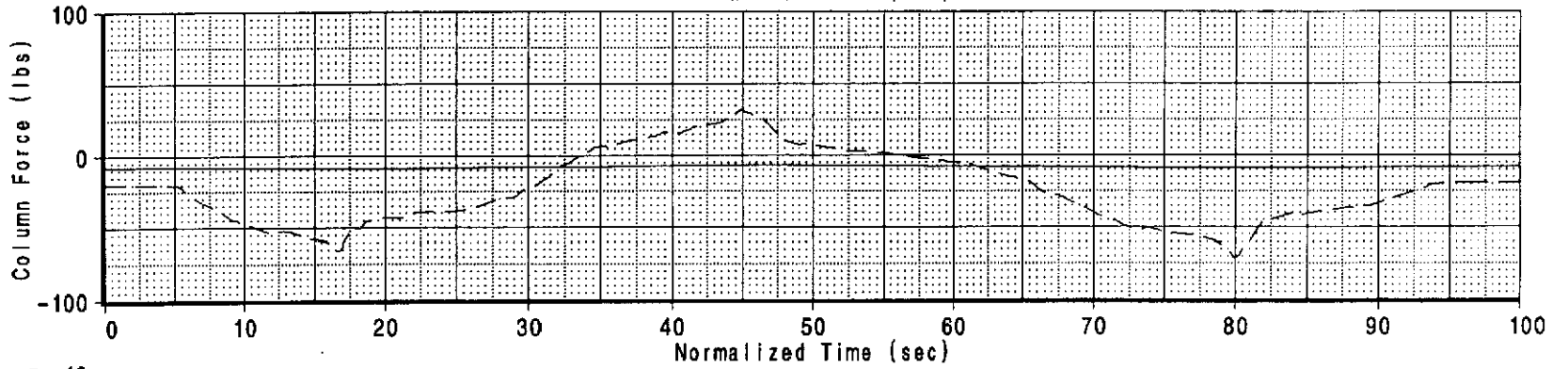
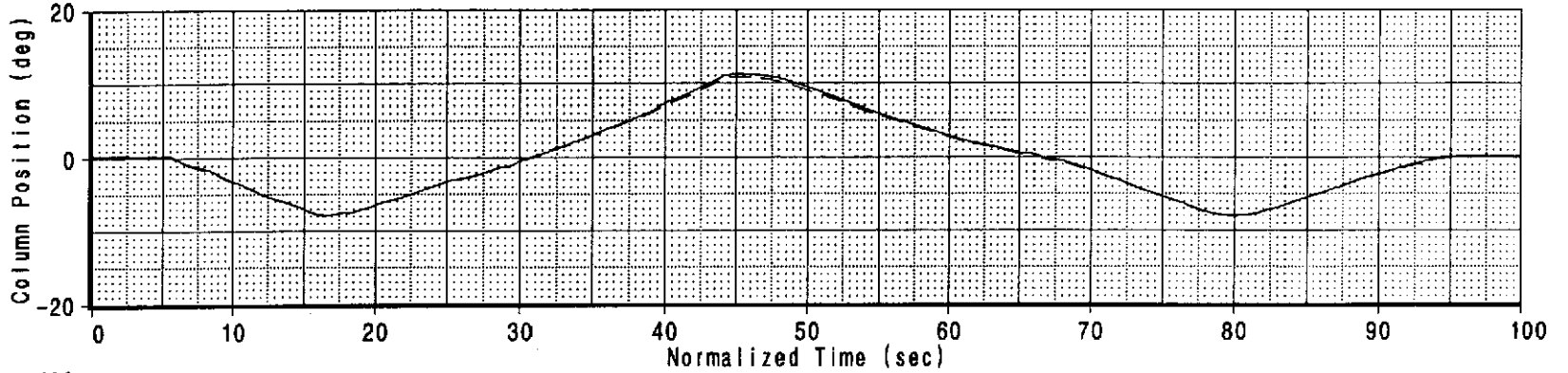
Egypt Air Investigation
 Pilot Sweeps
 Left PCU on Right Elevator Disconnected



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_____ Pilot Bill Tafs Base Elevator Feel Pressure
 - - - - - First Officer PD Weston Ground Test



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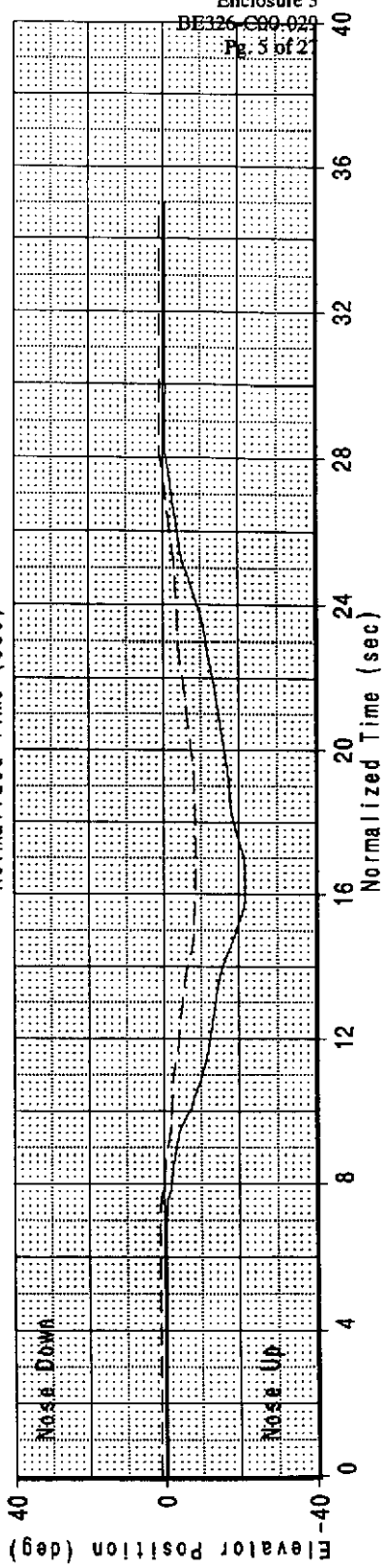
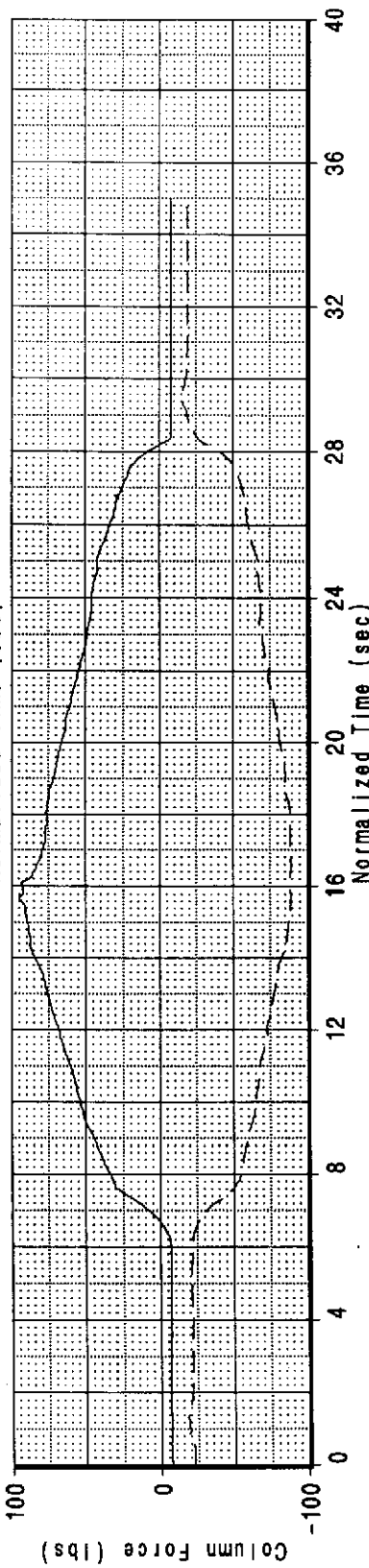
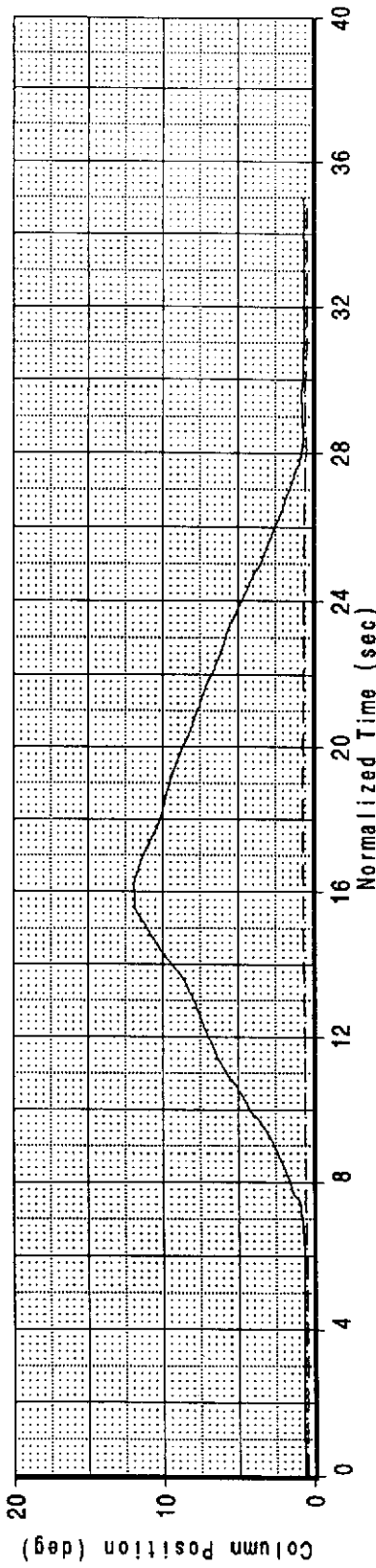
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Egypt Air Investigation First Officer Sweeps Left PCU on Right Elevator Disconnected				
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Pilot Bill Tafs Base Elevator Feel Pressure

First Officer PD Weston Ground Test



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Egypt Air Investigation
Pilot Sweeps - L PCU on R Elev Disconnected
Split Column (Pilot moves column, FO holds)

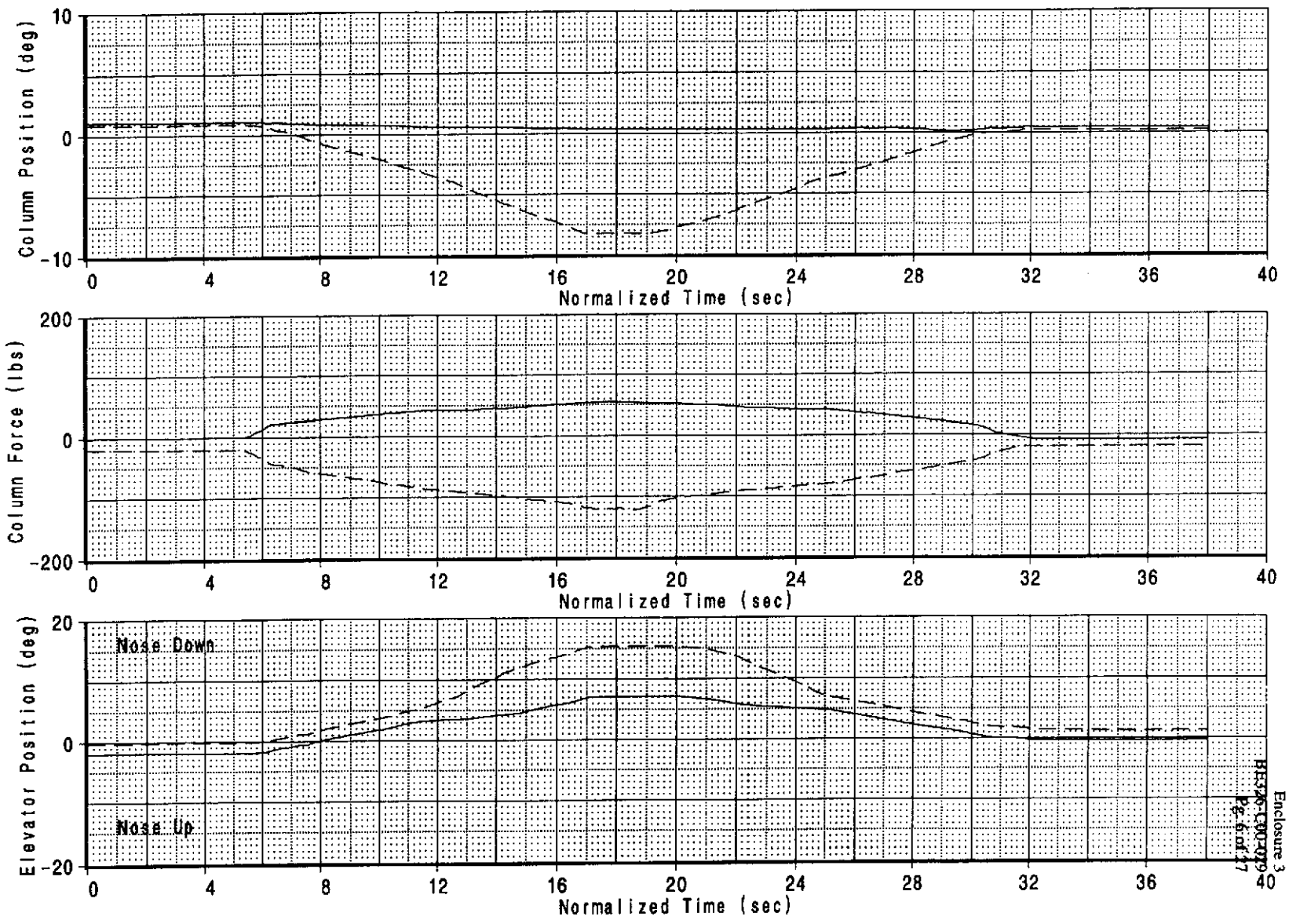
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Figure 3



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_____ Pilot Bill Tafs Base Elevator Feel Pressure
 - - - - - First Officer PD Weston Ground Test



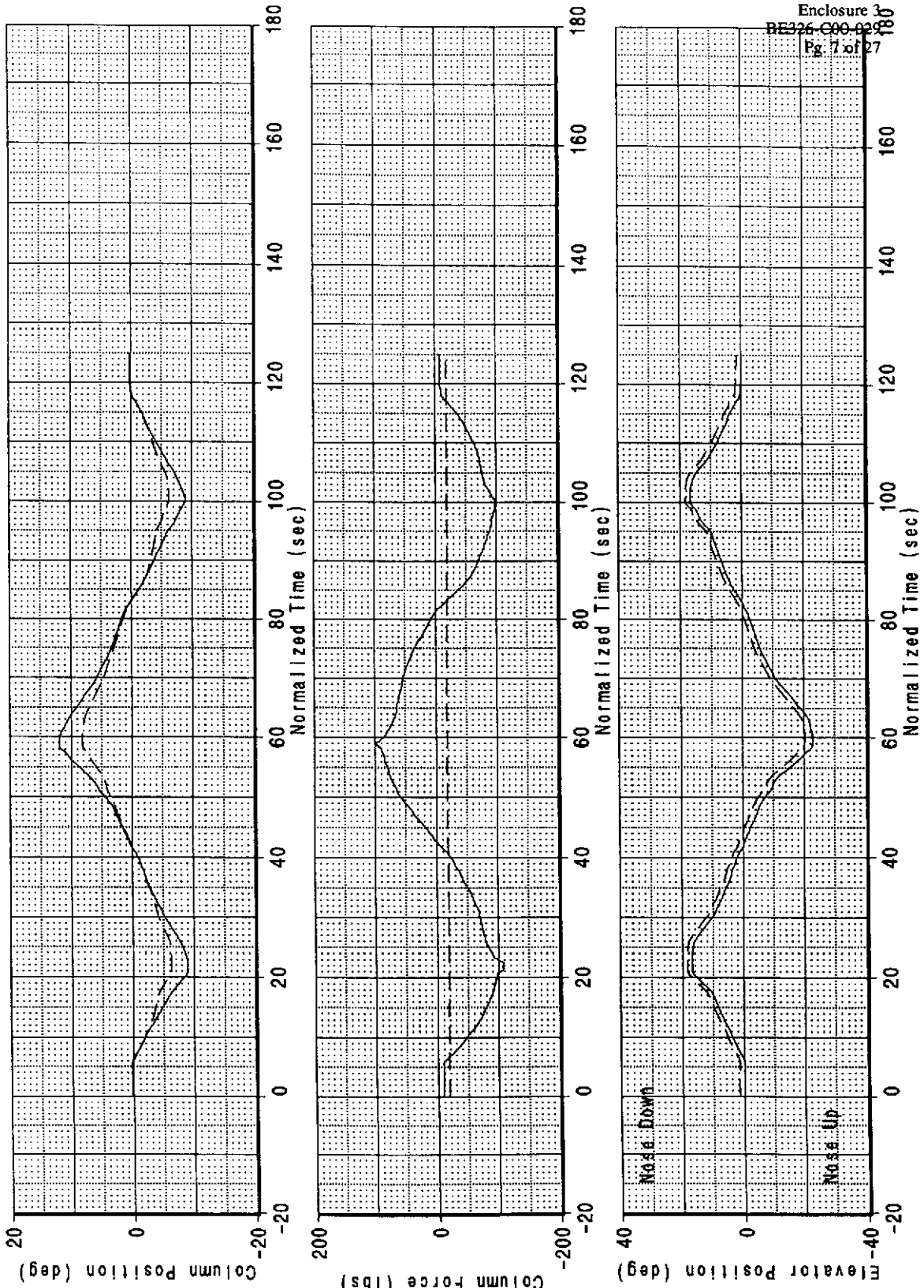
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Pilot PD Weston 770 psi Elevator Feel Pressure

First Officer Bill Tafs Ground Test



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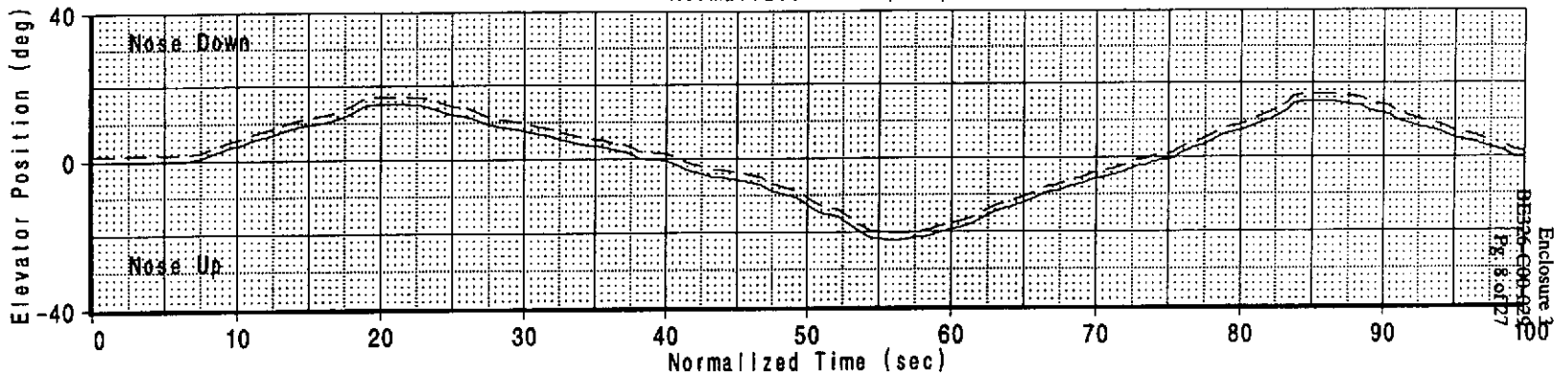
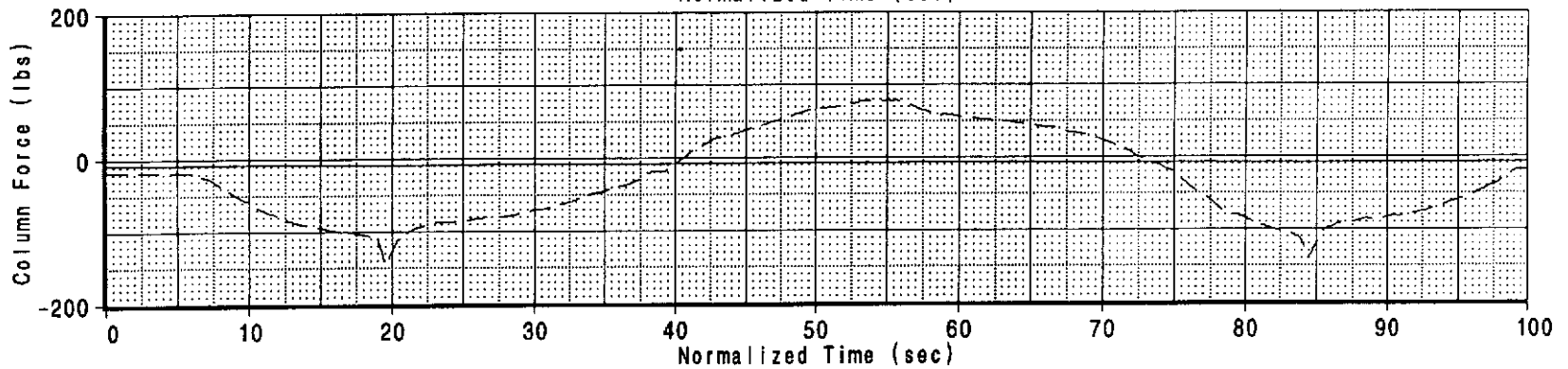
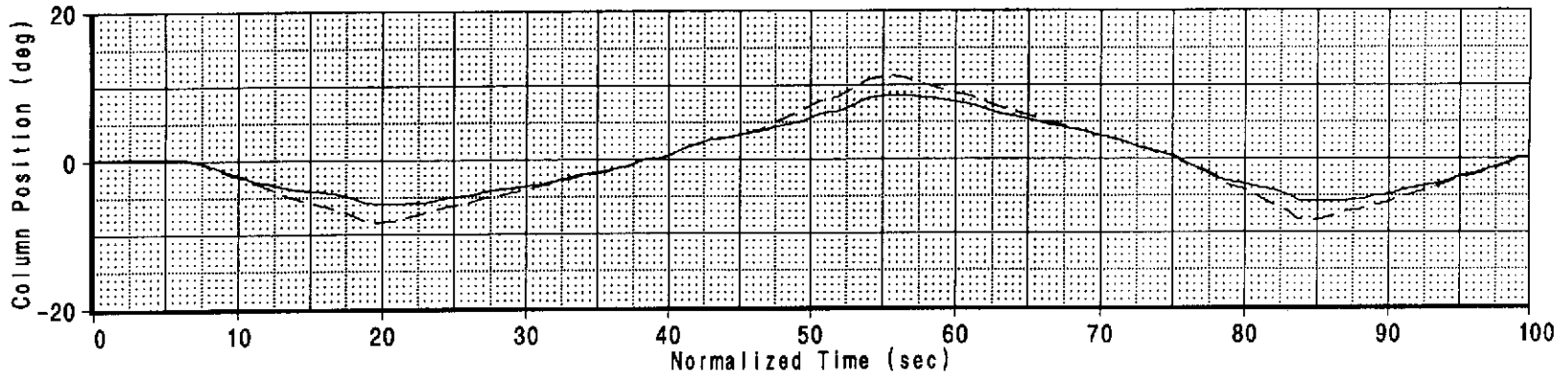
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Pilot PD Weston

770 psi Elevator Feel Pressure

First Officer Bill Tafs

Ground Test



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Egypt Air Investigation
First Officer Sweeps
Left PCU on Right Elevator Disconnected



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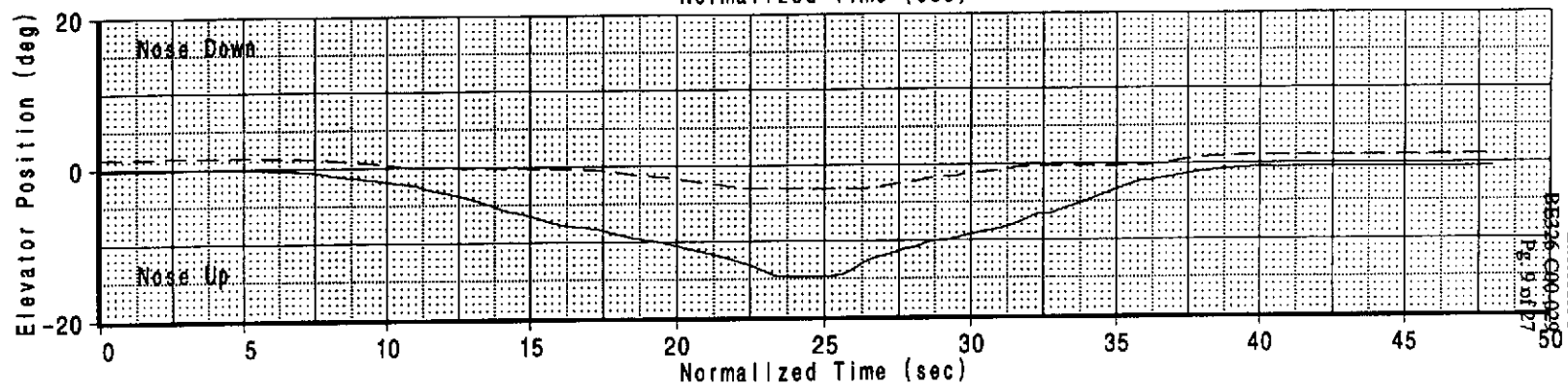
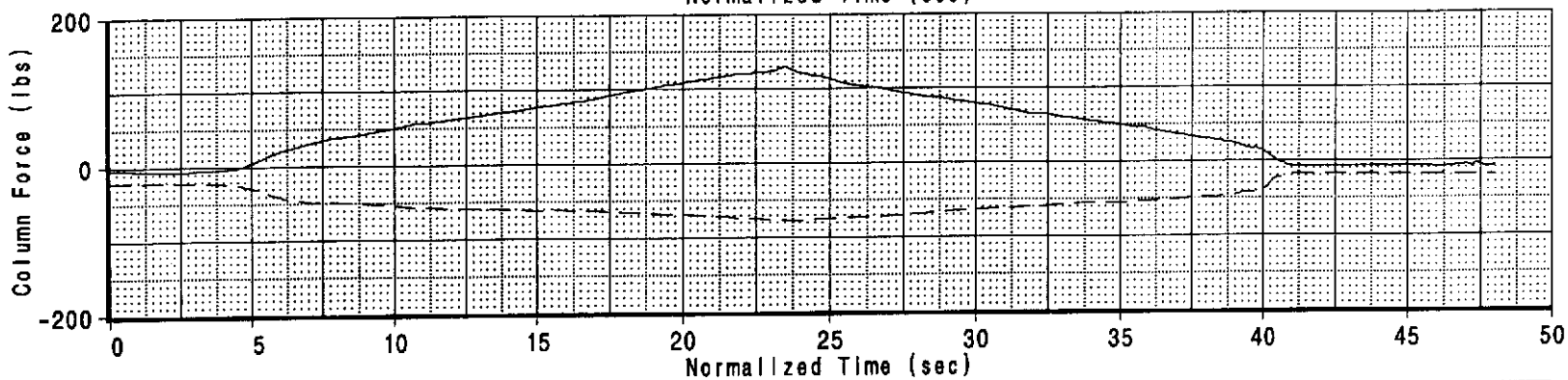
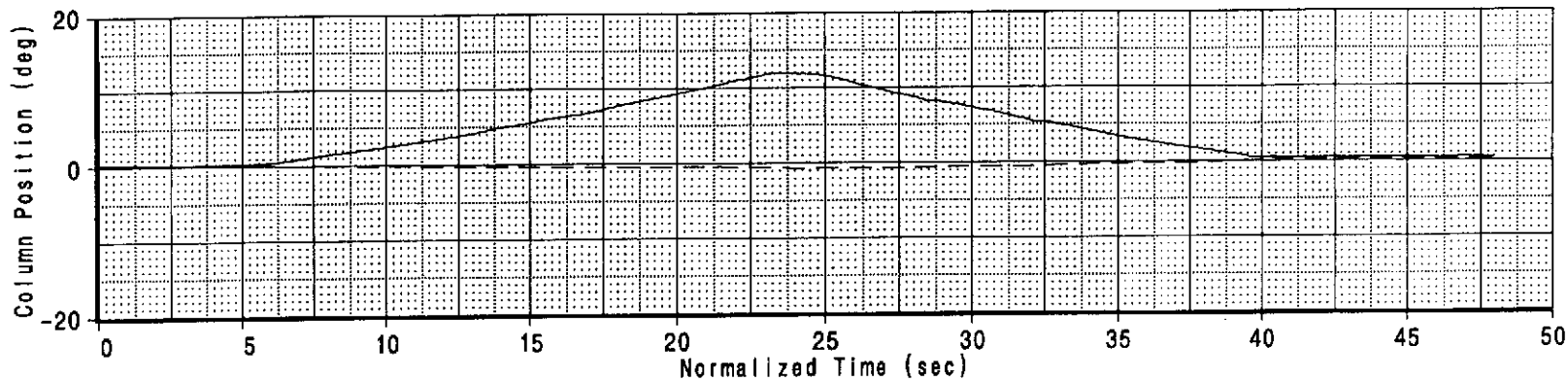
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Pilot PD Weston

770 psi Elevator Feel Pressure

First Officer Bill Tafs

Ground Test



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Egypt Air Investigation
 Pilot Sweeps - L PCU on R Elev Disconnected
 Split Column (Pilot moves column, FO holds)

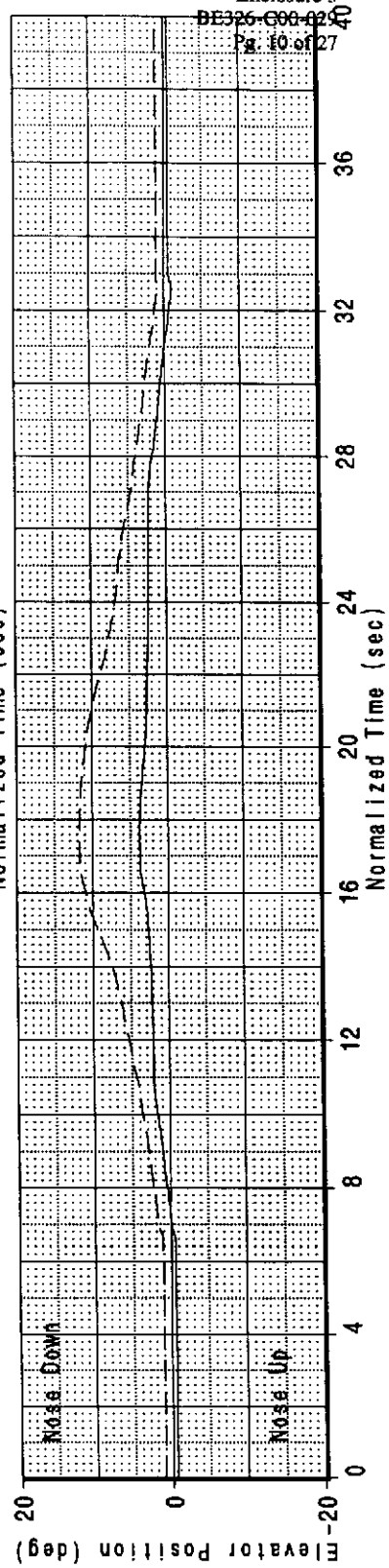
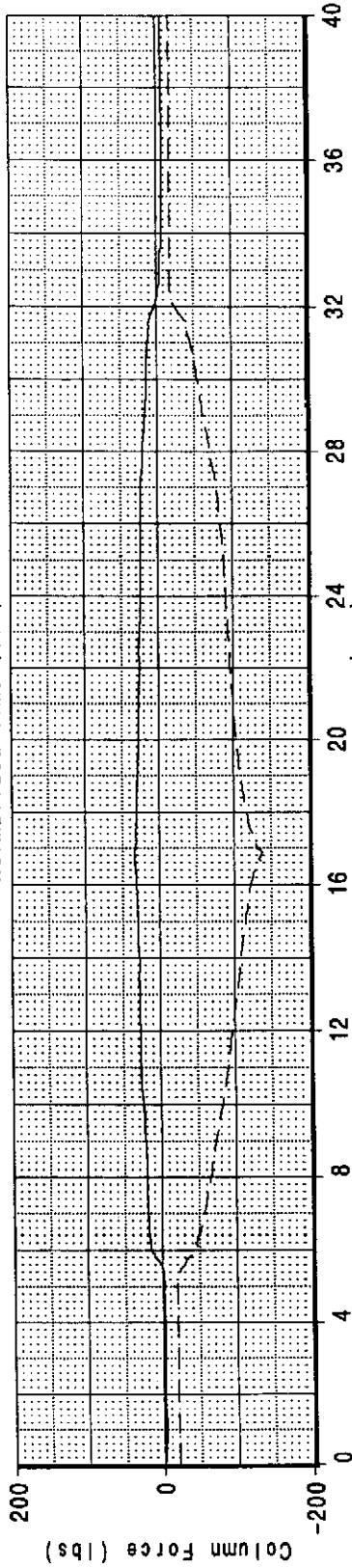
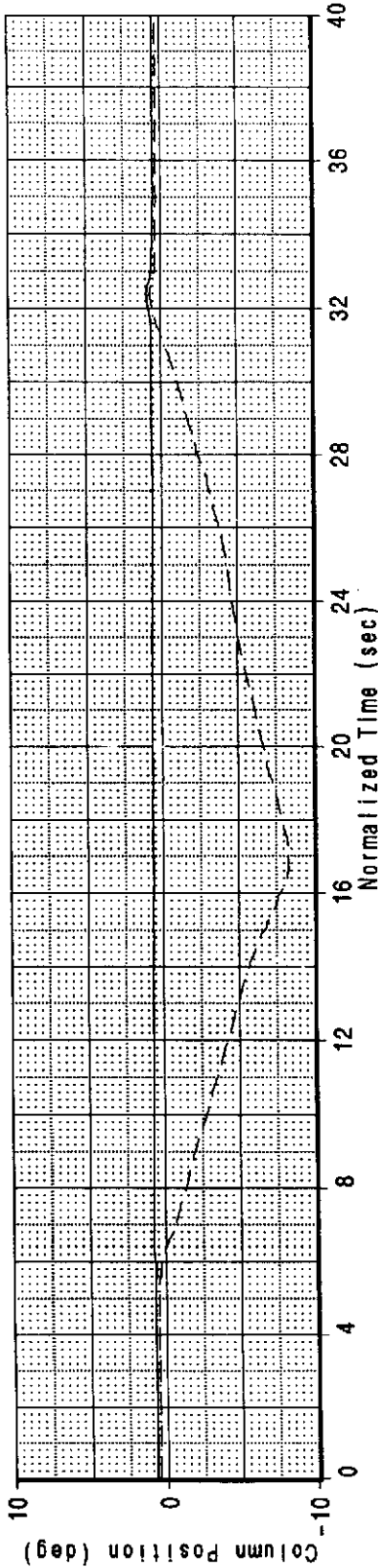
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Pilot PD Weston 770 psi Elevator Feel Pressure

First Officer Bill Tafs Ground Test



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Egypt Air Investigation
F O Sweeps - L PCU on R Elev Disconnected
Split Column (FO moves column, Pilot holds)

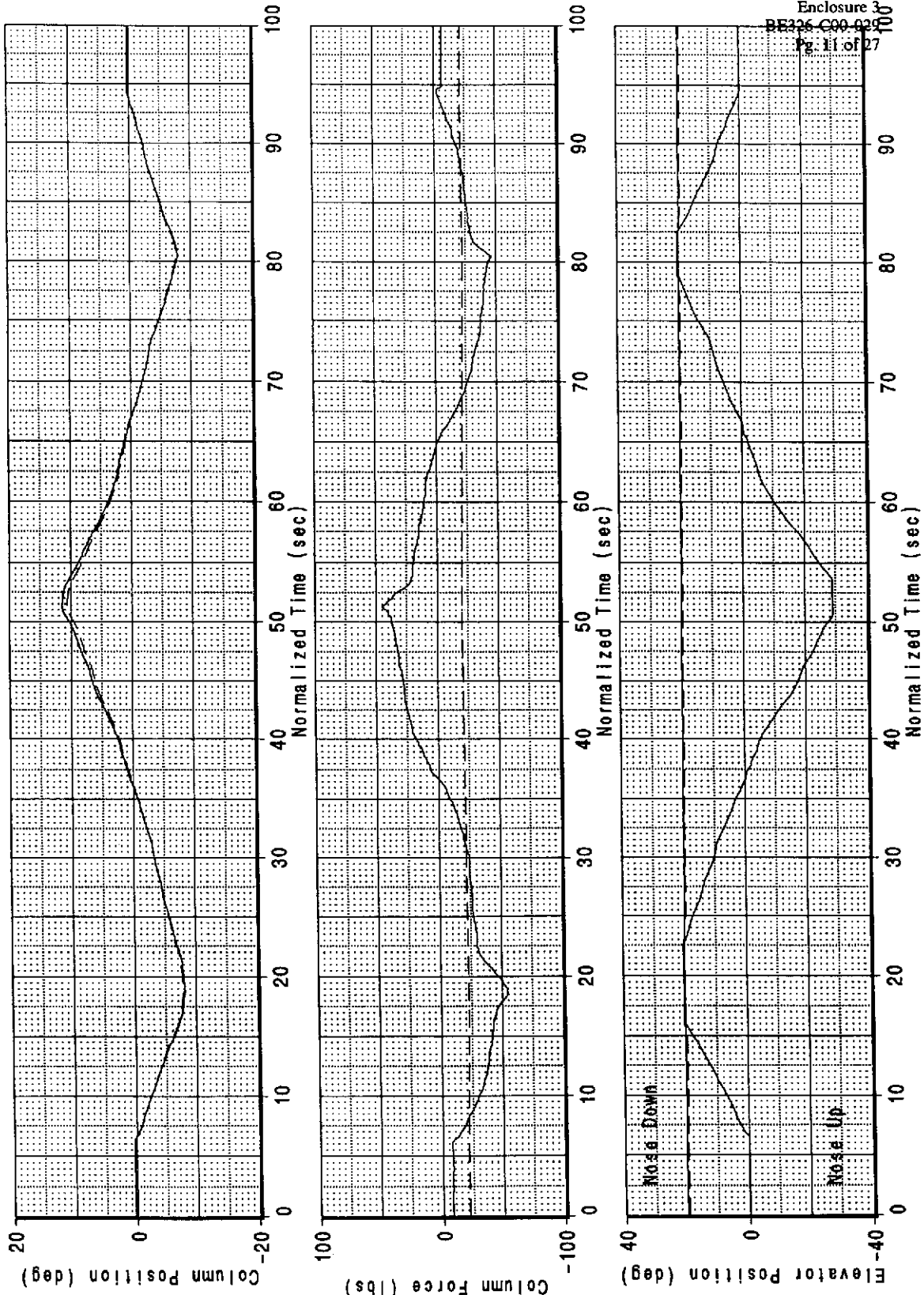
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Pilot Bill Tafs Base Elevator Feel Pressure

First Officer PD Weston Ground Test



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Egypt Air Investigation
Pilot Sweeps
L & C PCU on Right Elevator Disconnected

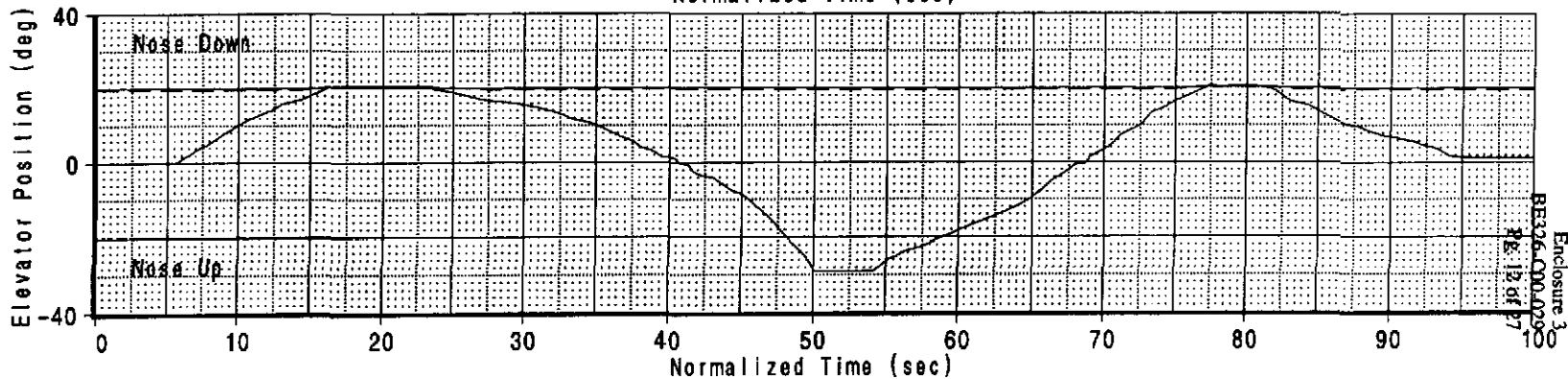
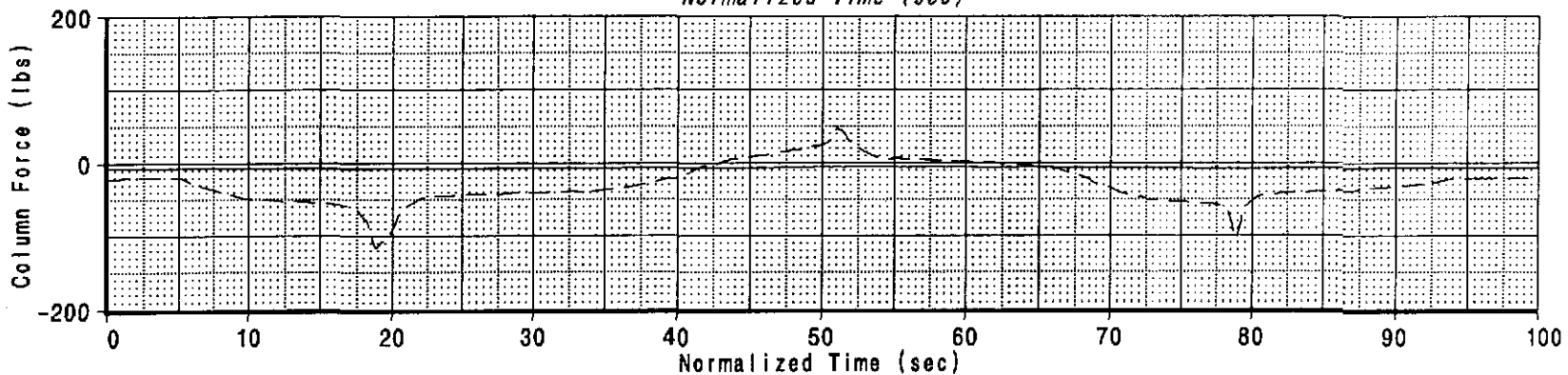
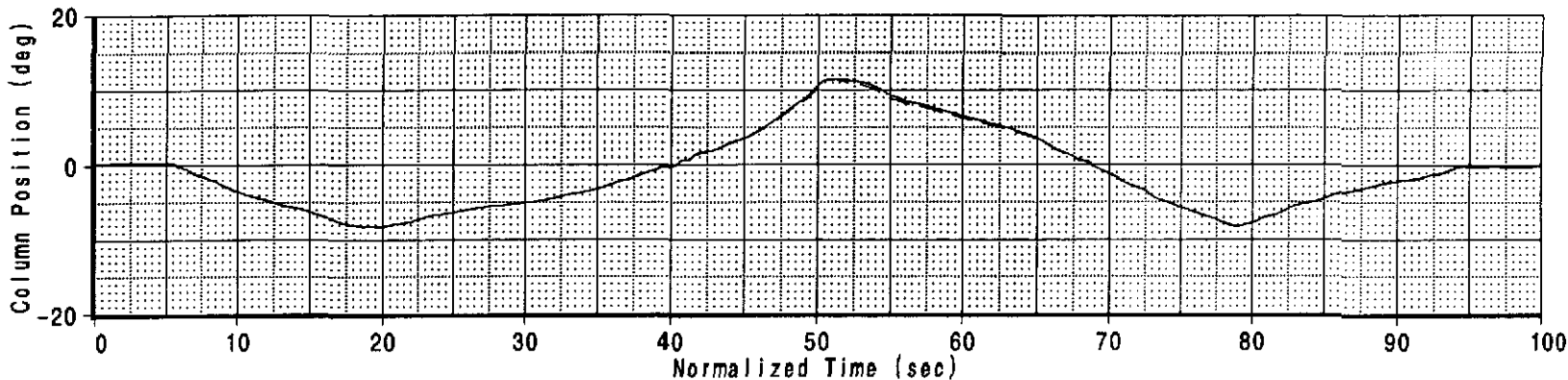
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_____ Pilot Bill Tafs Base Elevator Feel Pressure
 - - - - - First Officer PD Weston Ground Test



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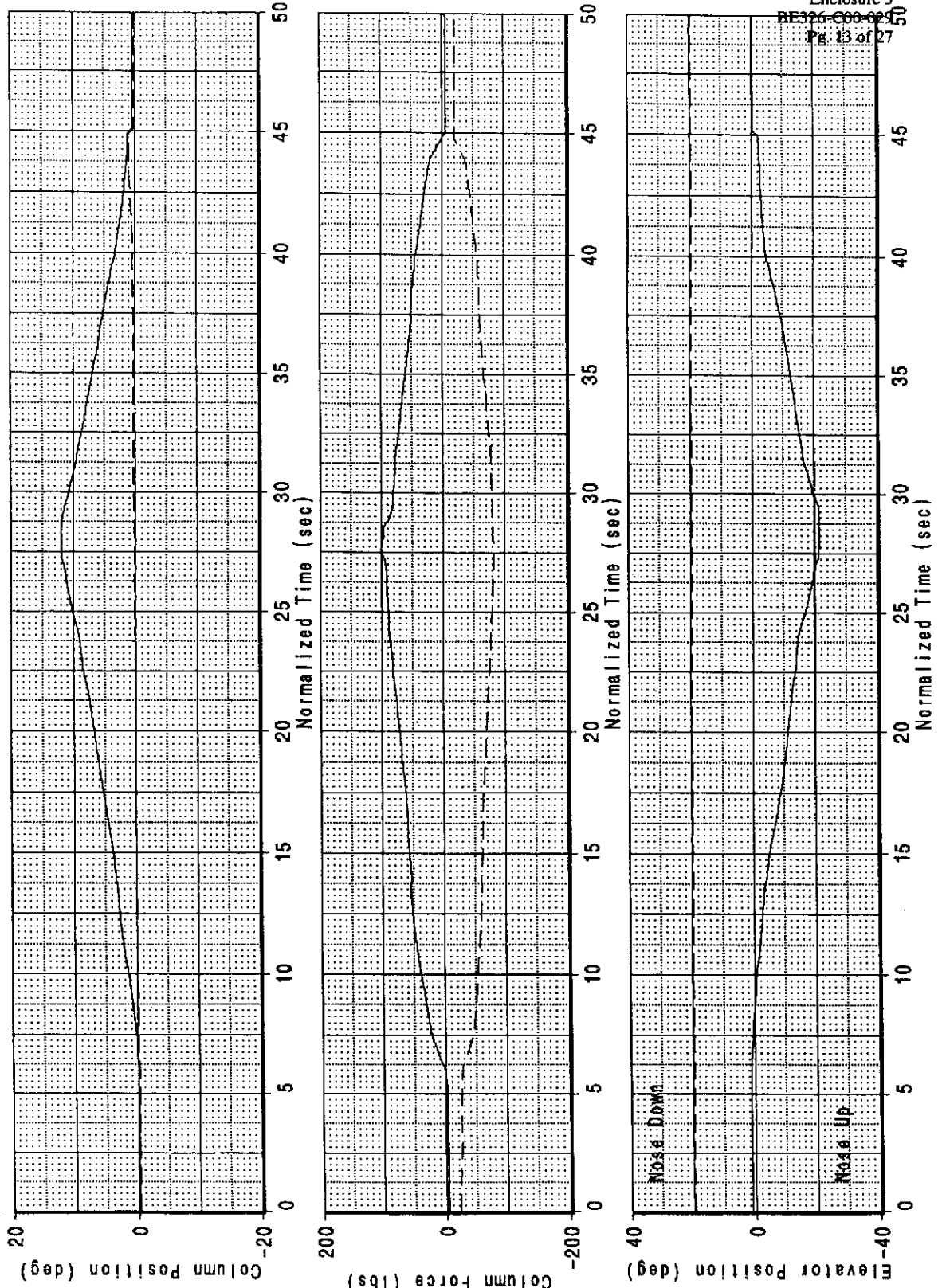
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Egyptian Air Investigation First Officer Sweeps L & C PCU on Right Elevator Disconnected				
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Pilot Bill Tafis Base Elevator Feel Pressure

First Officer PD Weston Ground Test



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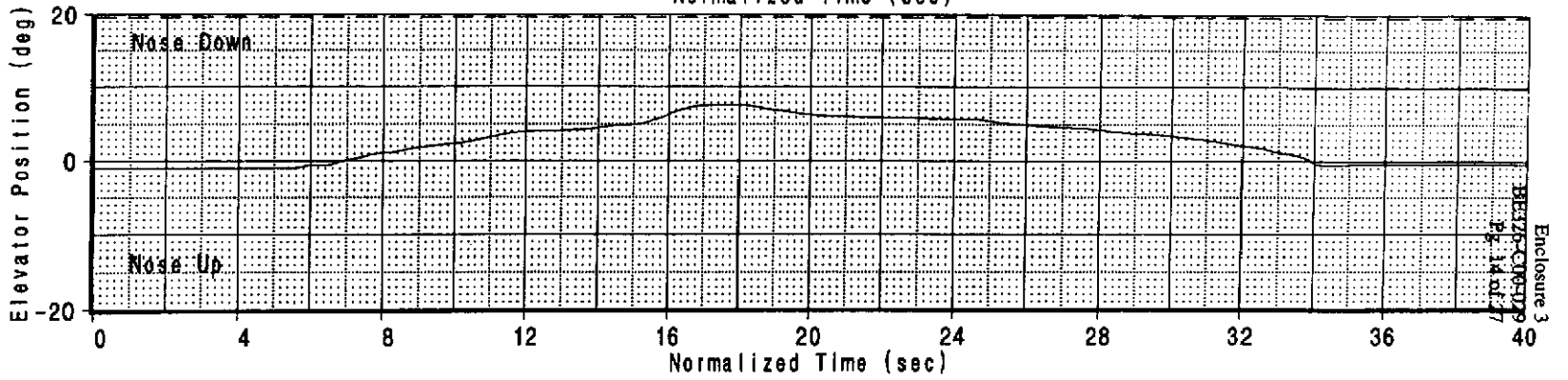
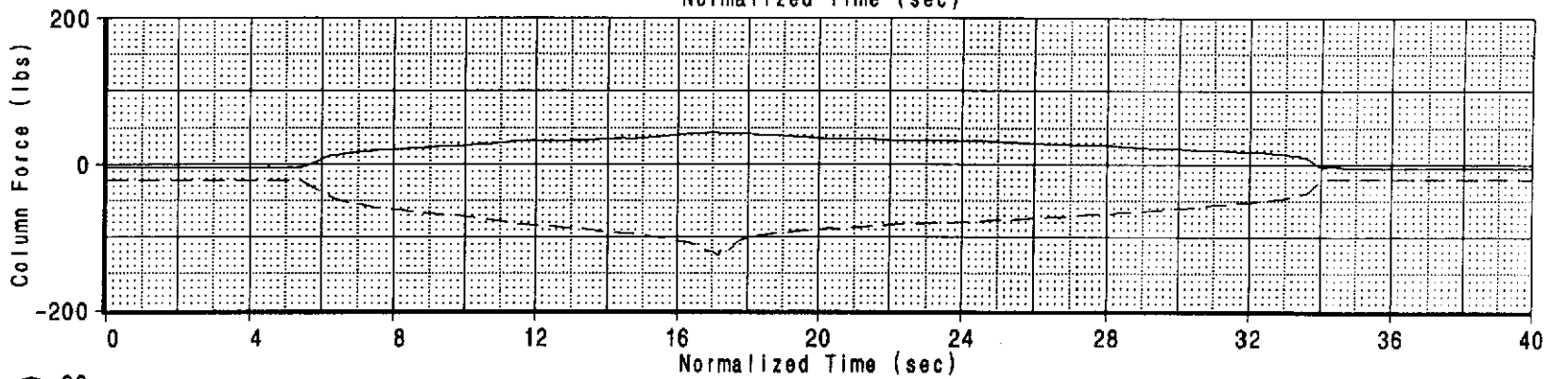
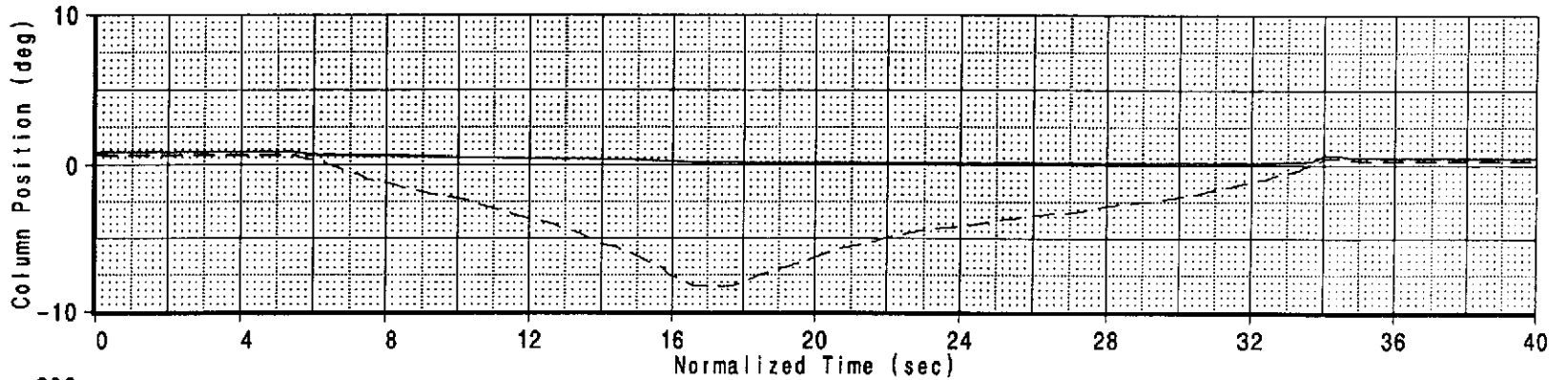
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_____ Pilot Bill Tafs Base Elevator Feel Pressure
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 Pilot PD Weston 770 psi Elevator Feel Pressure
 First Officer Bill Tals Ground Test

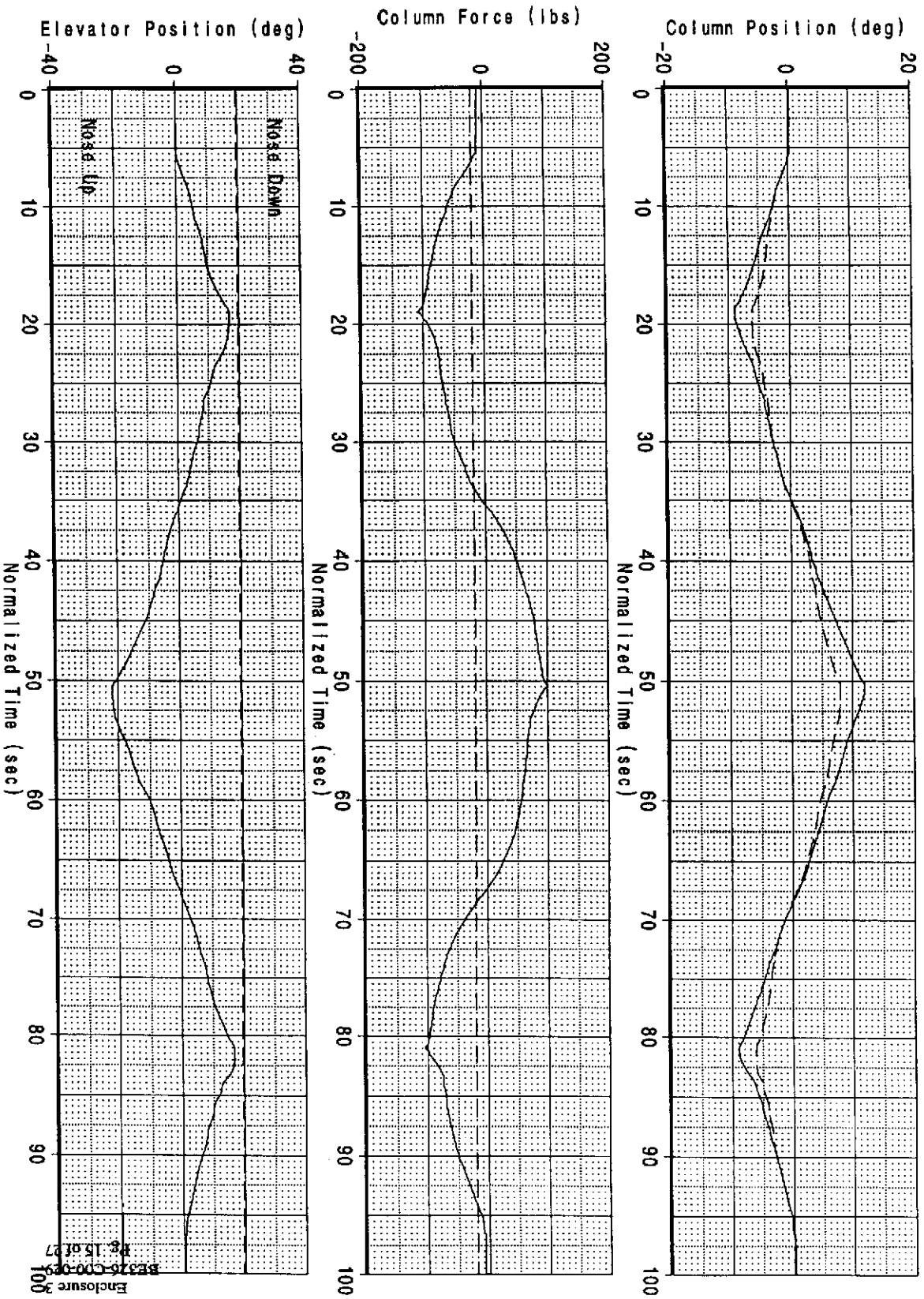
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Egypt Air Investigation
 Pilot Sweeps
 L & C PCU on Right Elevator Disconnected

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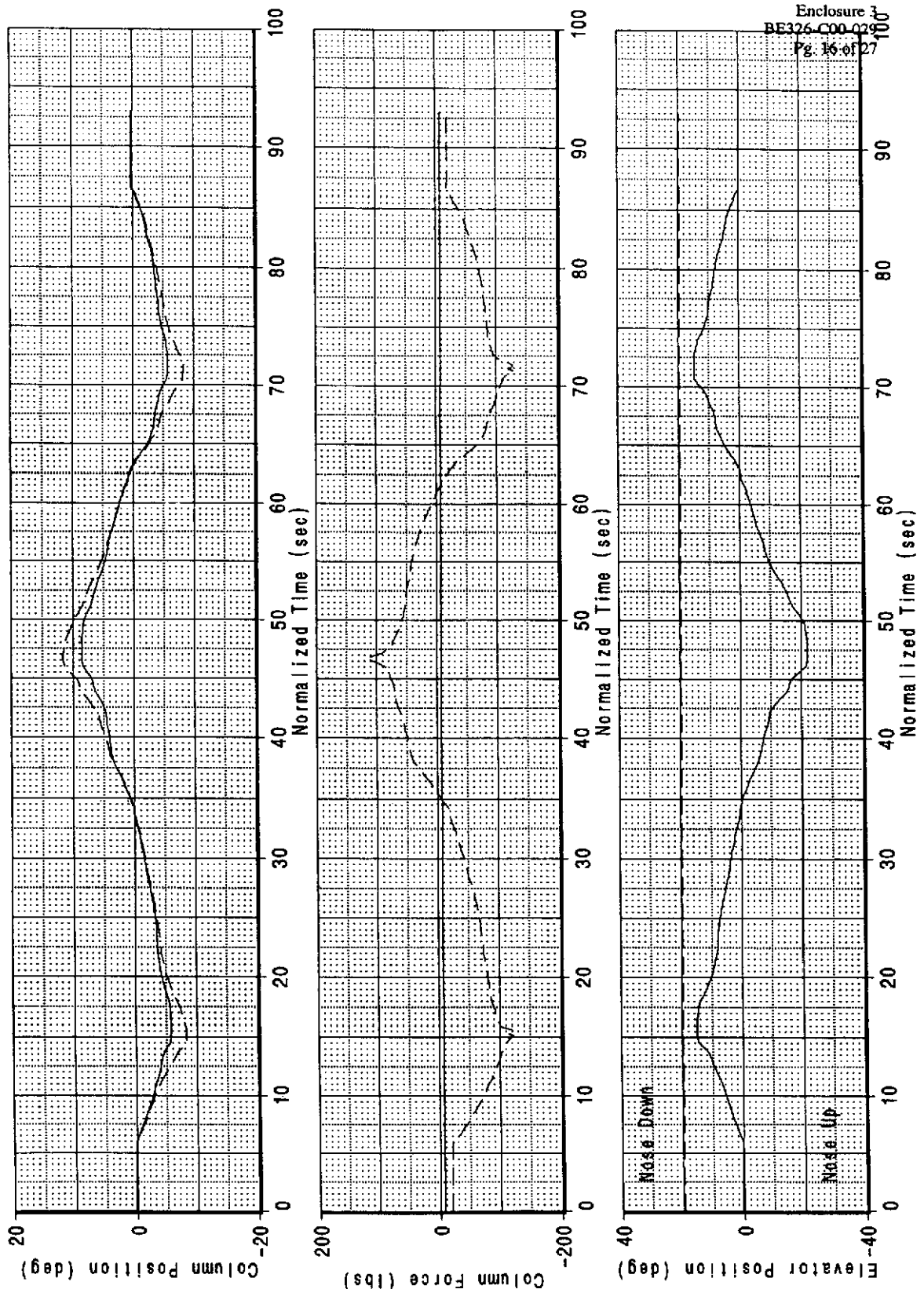
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Pilot PD Weston 770 psi Elevator Feel Pressure

First Officer Bill Tafs Ground Test



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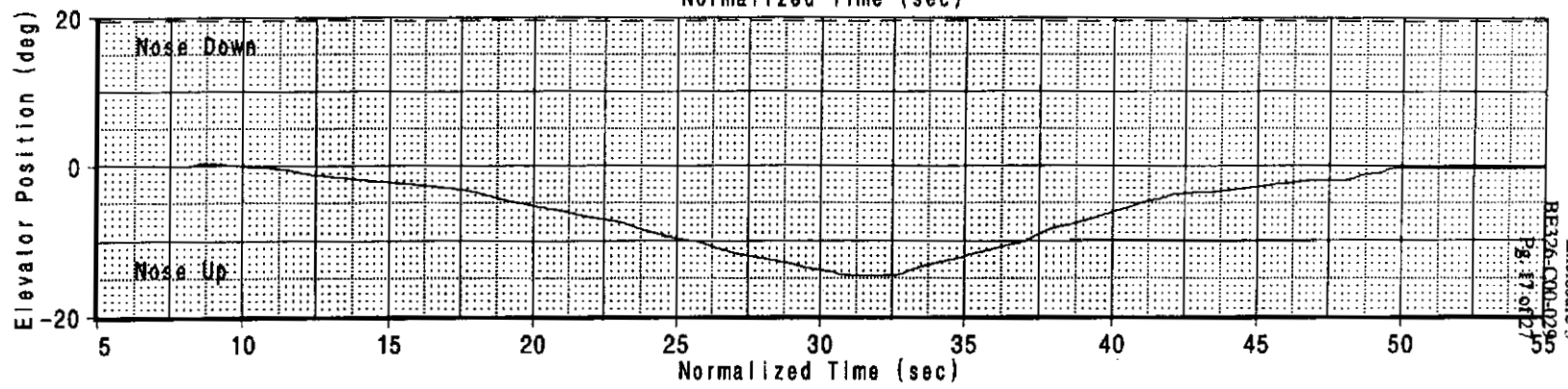
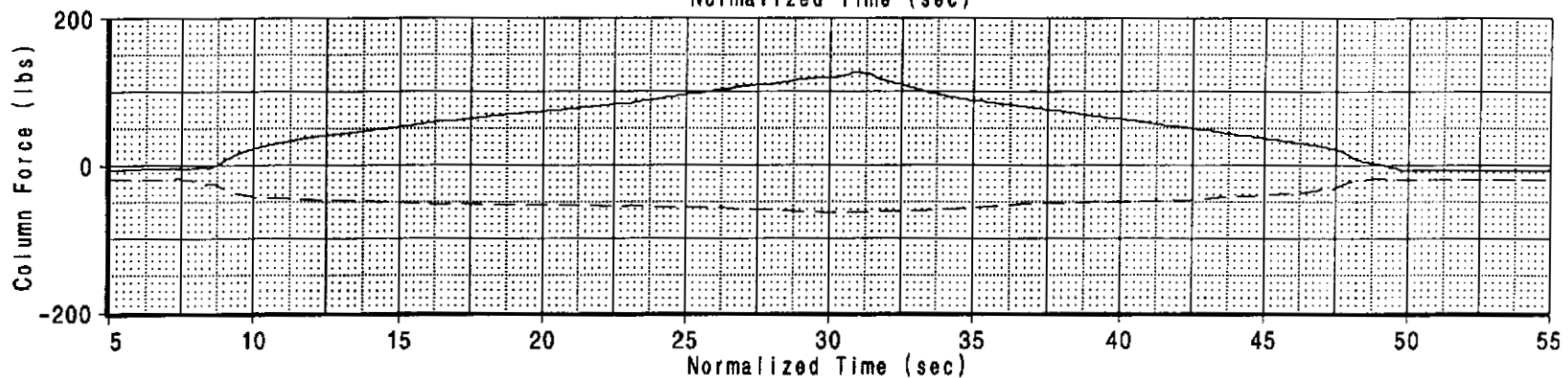
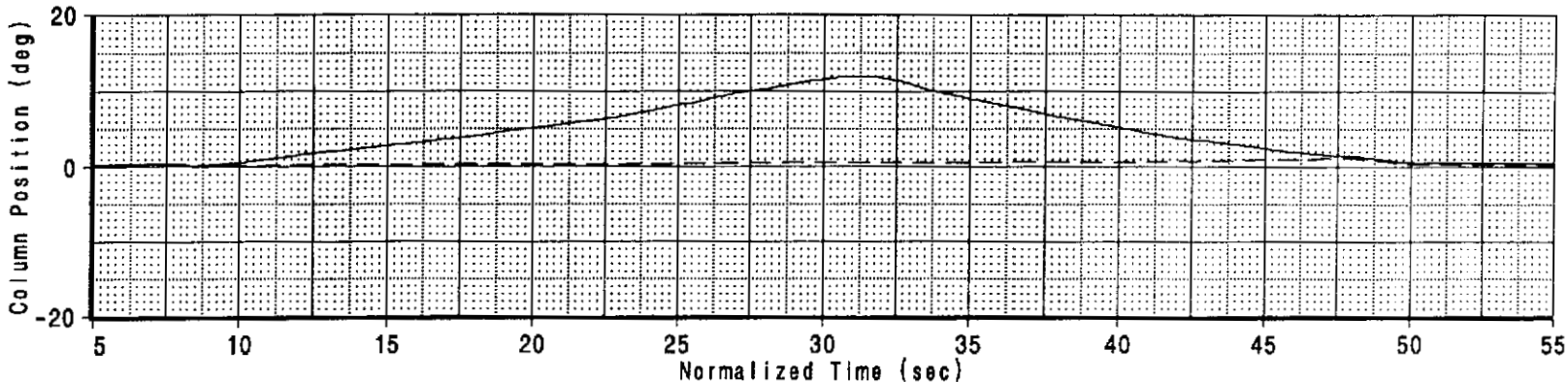
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Pilot PD Weston 770 psi Elevator Feel Pressure
 First Officer Bill Tafs Ground Test



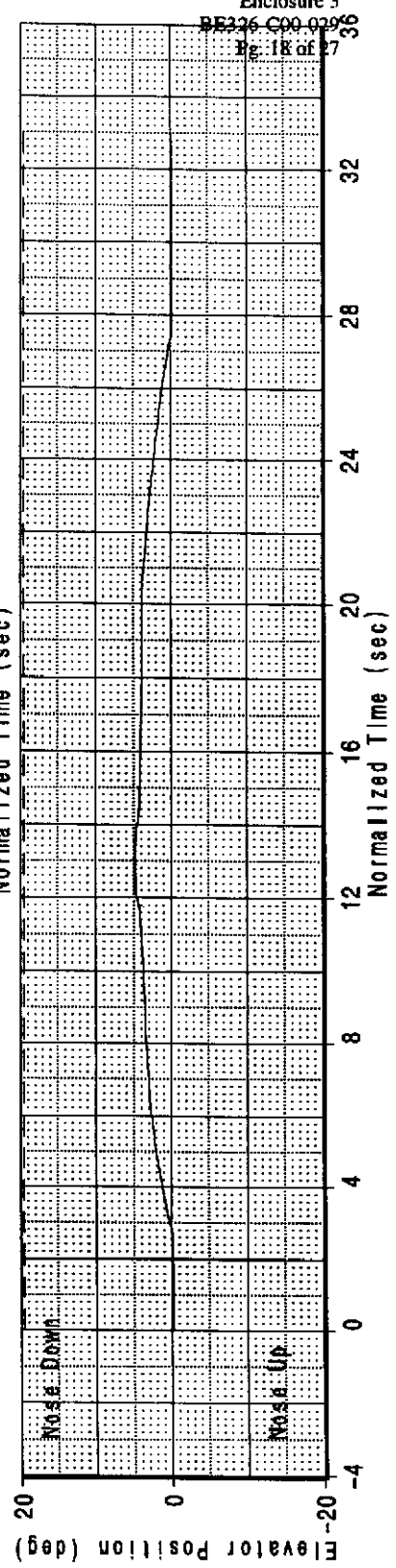
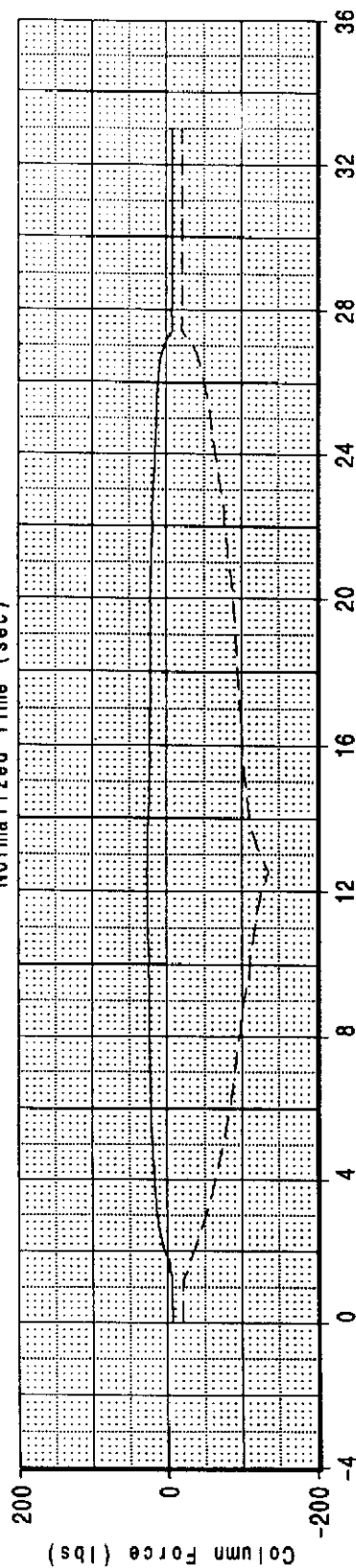
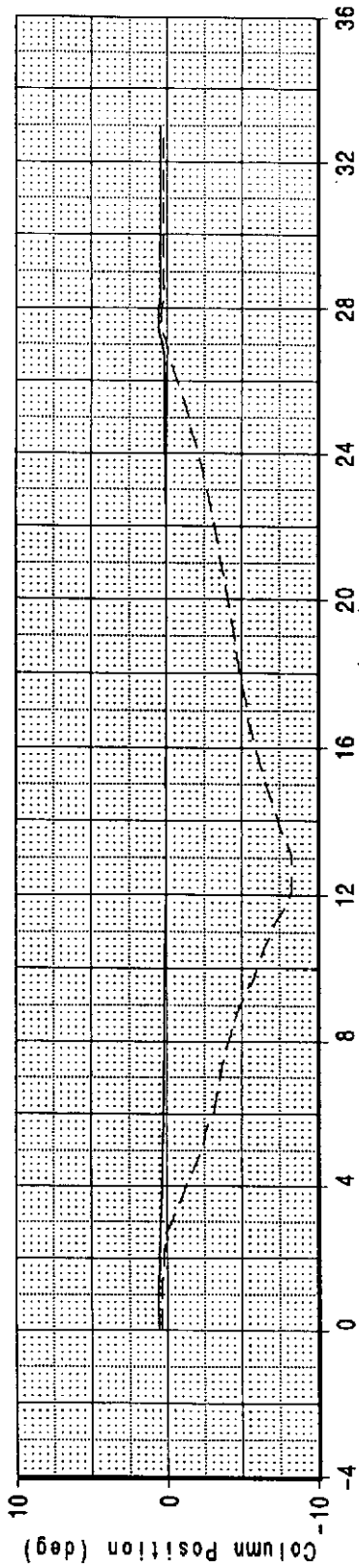
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Pilot PD Weston 770 psi Elevator Feel Pressure

First Officer Bill Tafs Ground Test



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[A]: /project/fltsys/control_sys/eye_int/767/sustain/multisys/egypt_air/GT_10_05/VQ001_010_05_4630.asb

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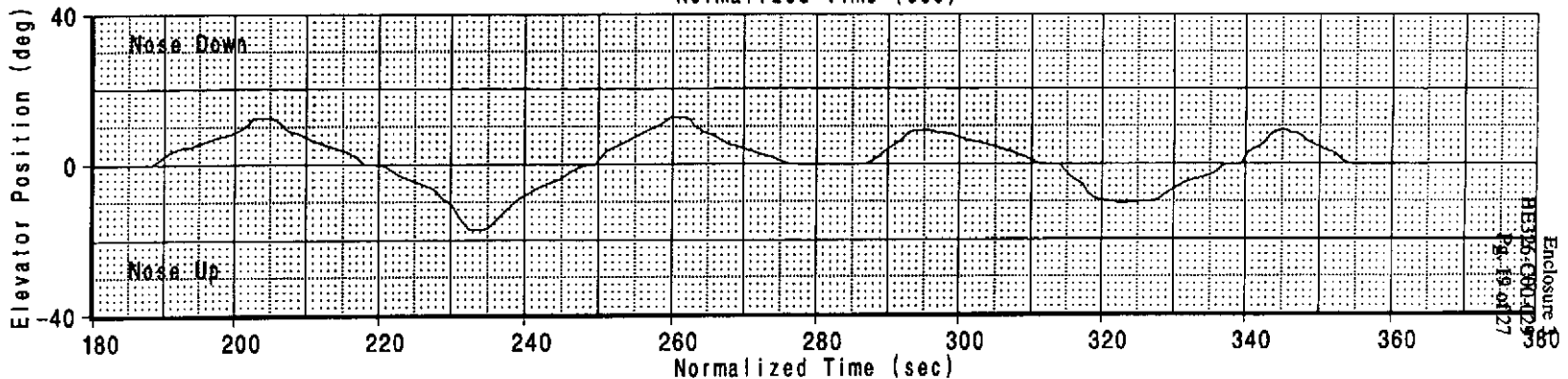
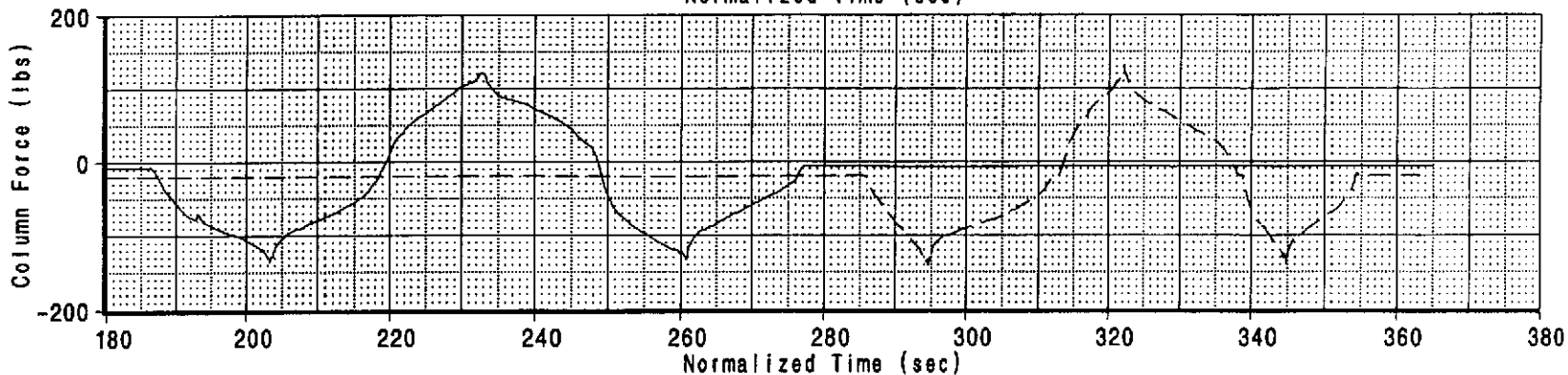
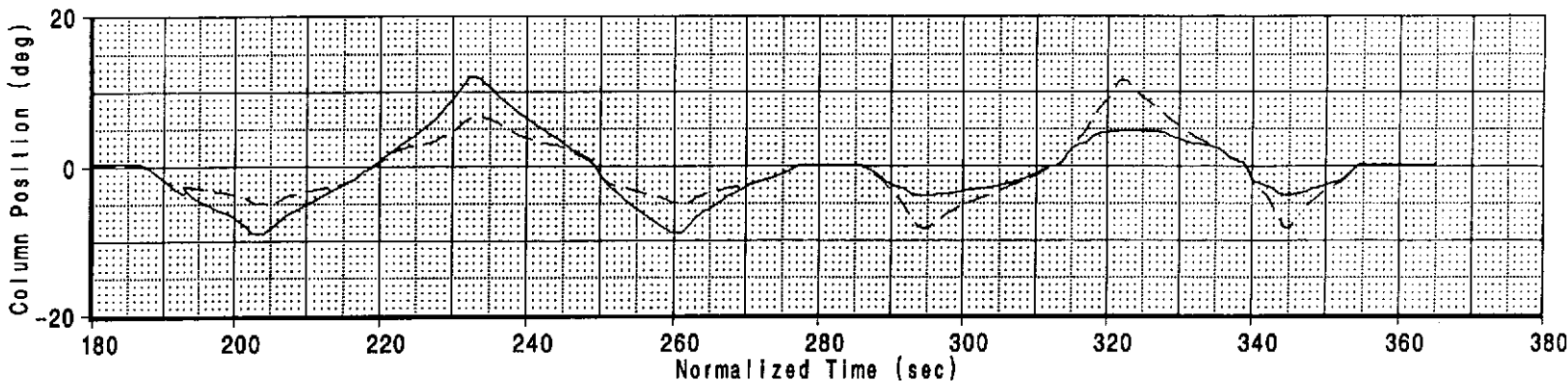
Egypt Air Investigation
F O Sweeps - L&C PCU on R Elev Disconnected
Split Column (FO moves column, Pilot holds)

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_____ Pilot PD Weston Autopilot Engaged, 770 psi Elevator Feel Pressure
 - - - - - First Officer Bill Tafs Ground Test



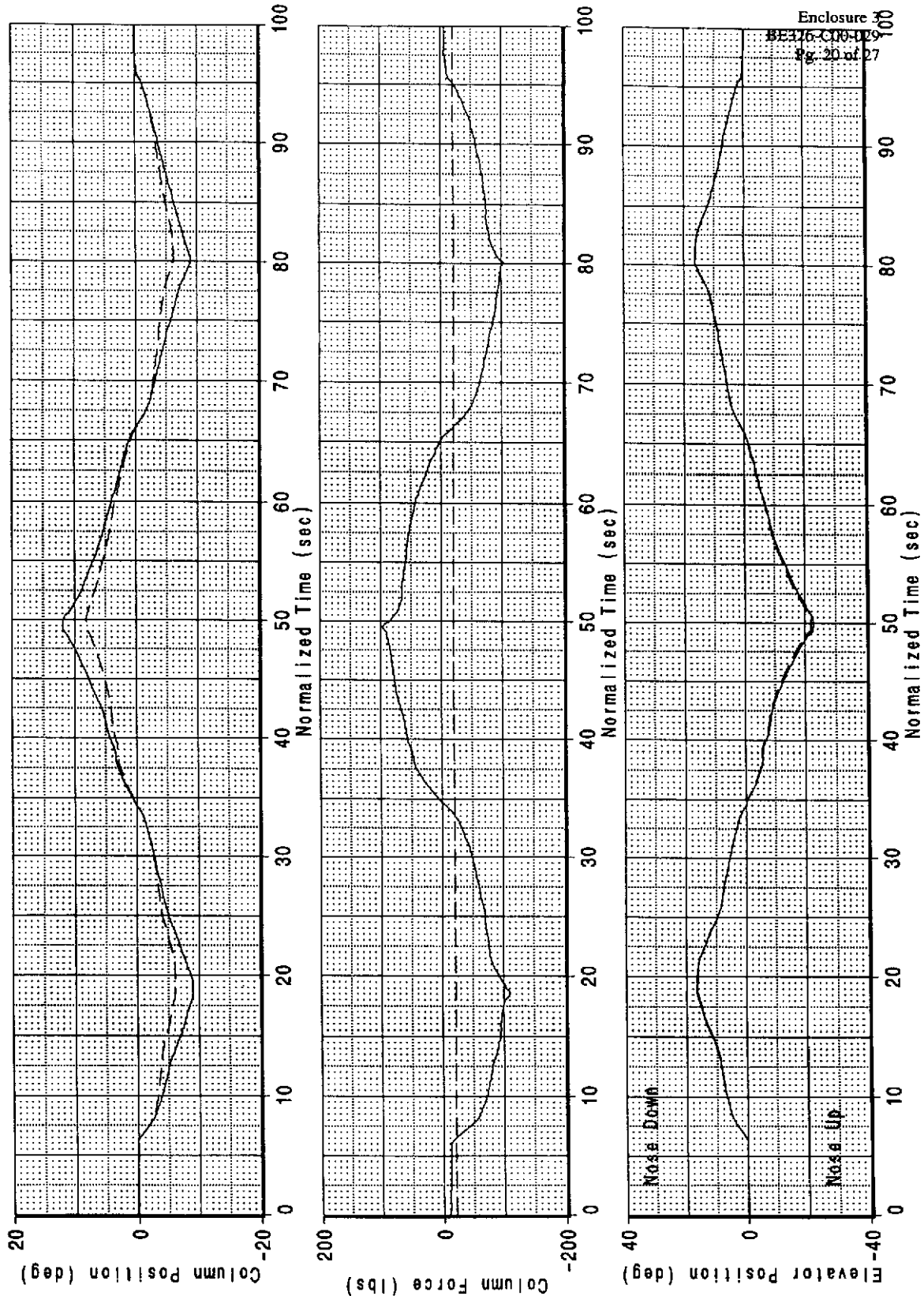
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Egypt Air Investigation Pilot and First Officer Sweeps L & C PCU on Right Elevator Disconnected 					
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03/29/00 12:56:10.0000-12:57:53.0000 VQ001 010-05 767-400 BUCKLEY, KIMBERL

Pilot PD Weston 770 psi Elevator Feel Pressure

First Officer Bill Tafs Ground Test



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[A]: /project/fltys/control_sys/sys_int/767/sustain/multisys/egypt_air/GT_10_05/VQ001_010_05_4631.esb

Wed Apr 12 2000 14:08:03

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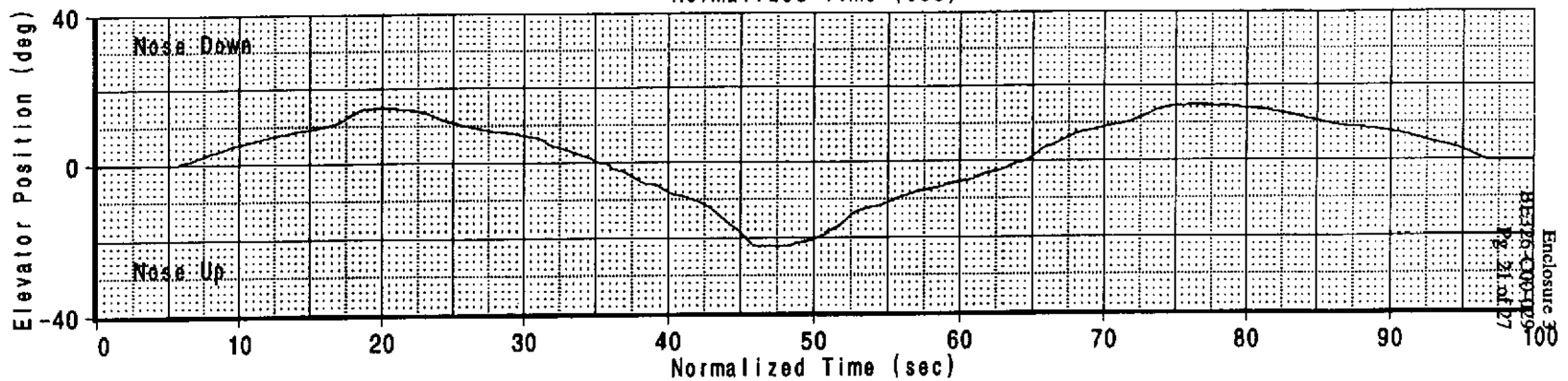
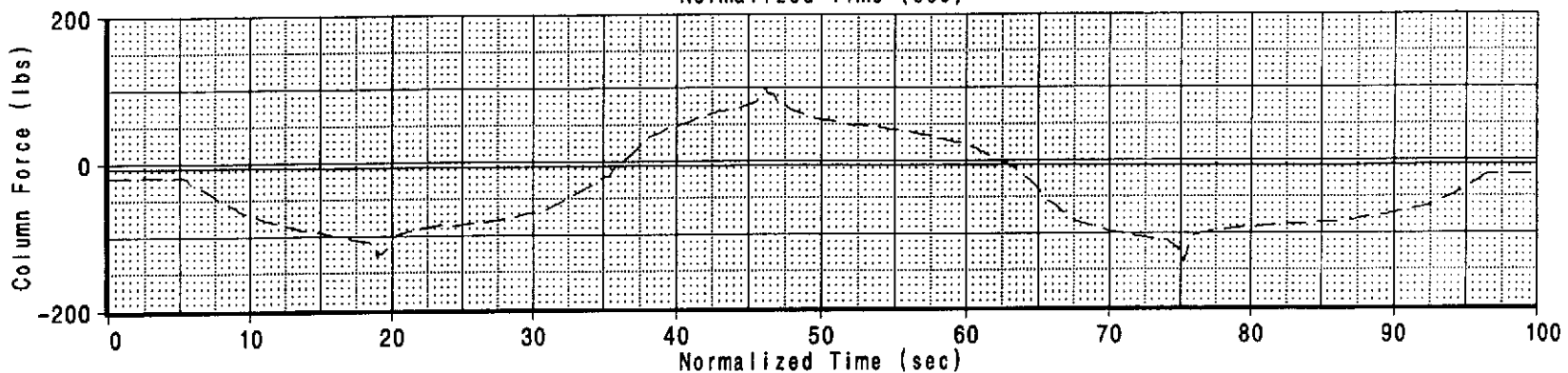
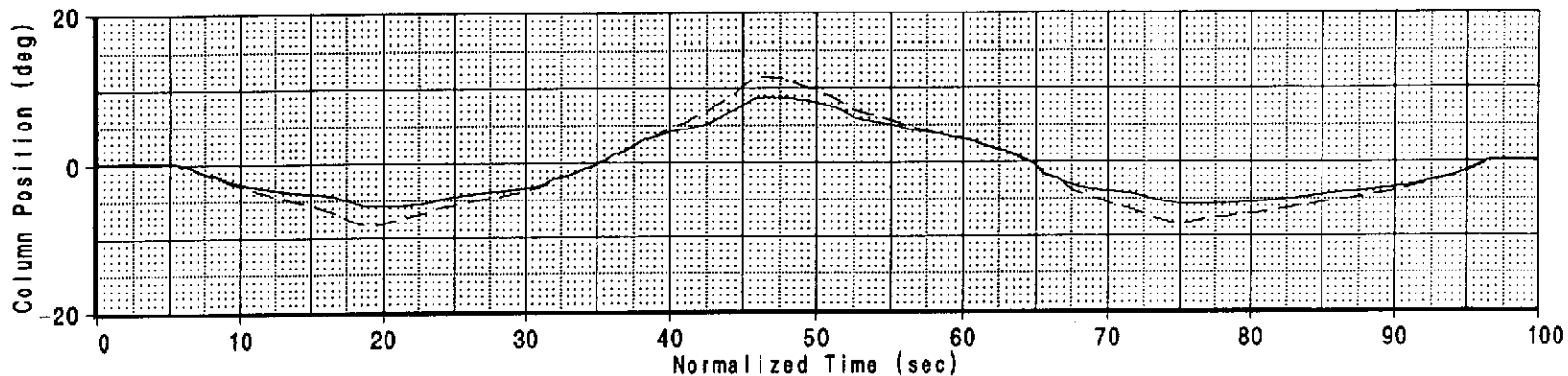
Egypt Air Investigation
Pilot Sweeps
All PCU's Connected



767-400ER VQ001
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03/29/00 12:57:55.0000-12:59:36.0000 VQ001 010-05 767-400 BUCKLEY, KIMBERL

_____ Pilot PD Weston 770 psi Elevator Feel Pressure
 - - - - - First Officer Bill Tafs Ground Test



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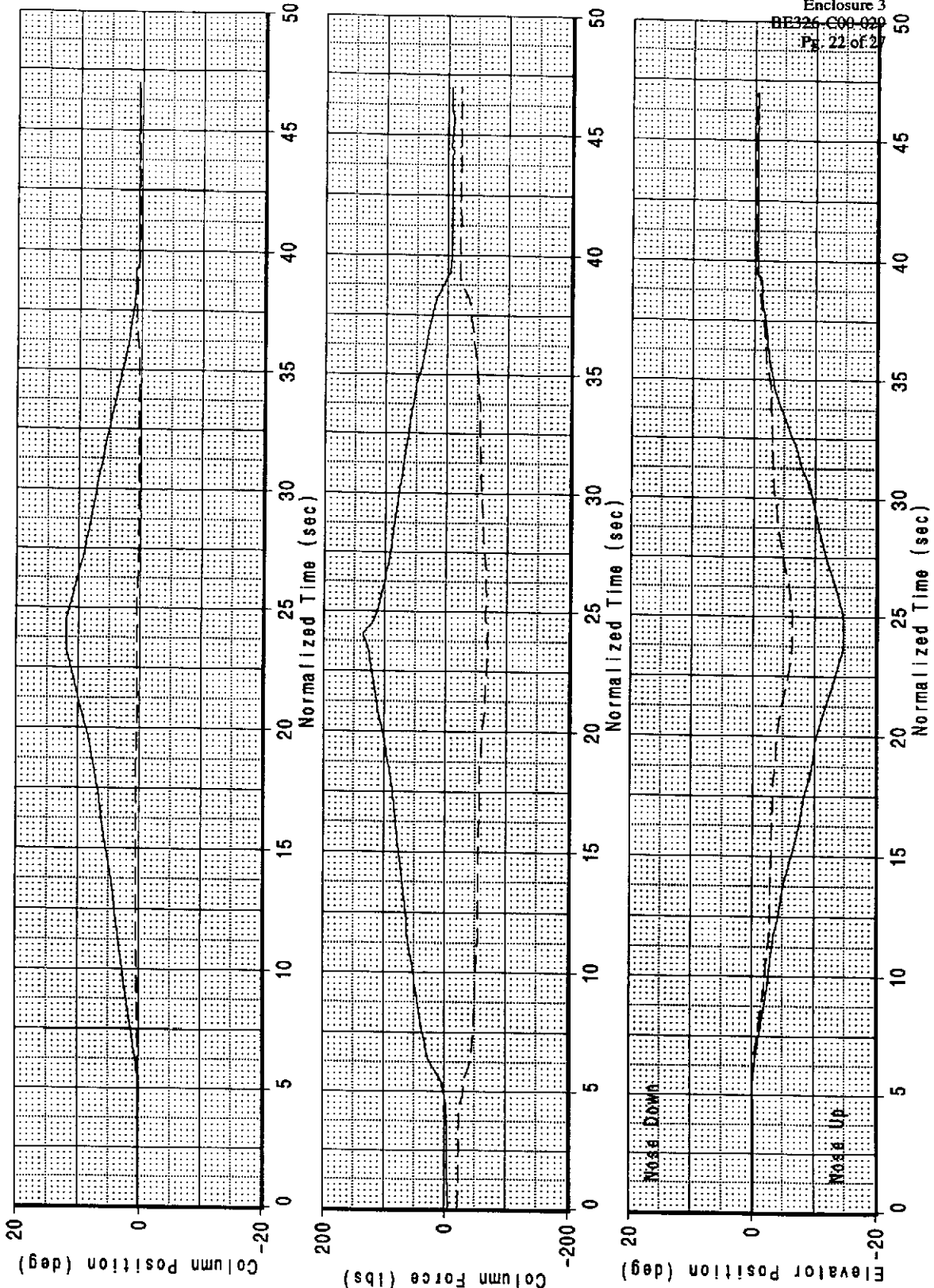
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Egypt Air Investigation First Officer Sweeps All PCU's Connected				
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				767-400ER VQ001
				BE326-000-029 Figure 42



03/29/00 13:03:40.0000-13:04:27.0000 VQ001 010-05 767-400 BUCKLEY, KIMBERL

Pilot PD Weston 770 psi Elevator Feel Pressure

First Officer Bill Tafs Ground Test



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Egypt Air Investigation
 Pilot Sweeps - All PCU's Connected
 Split Column (Pilot moves column, FO holds)

BOEING

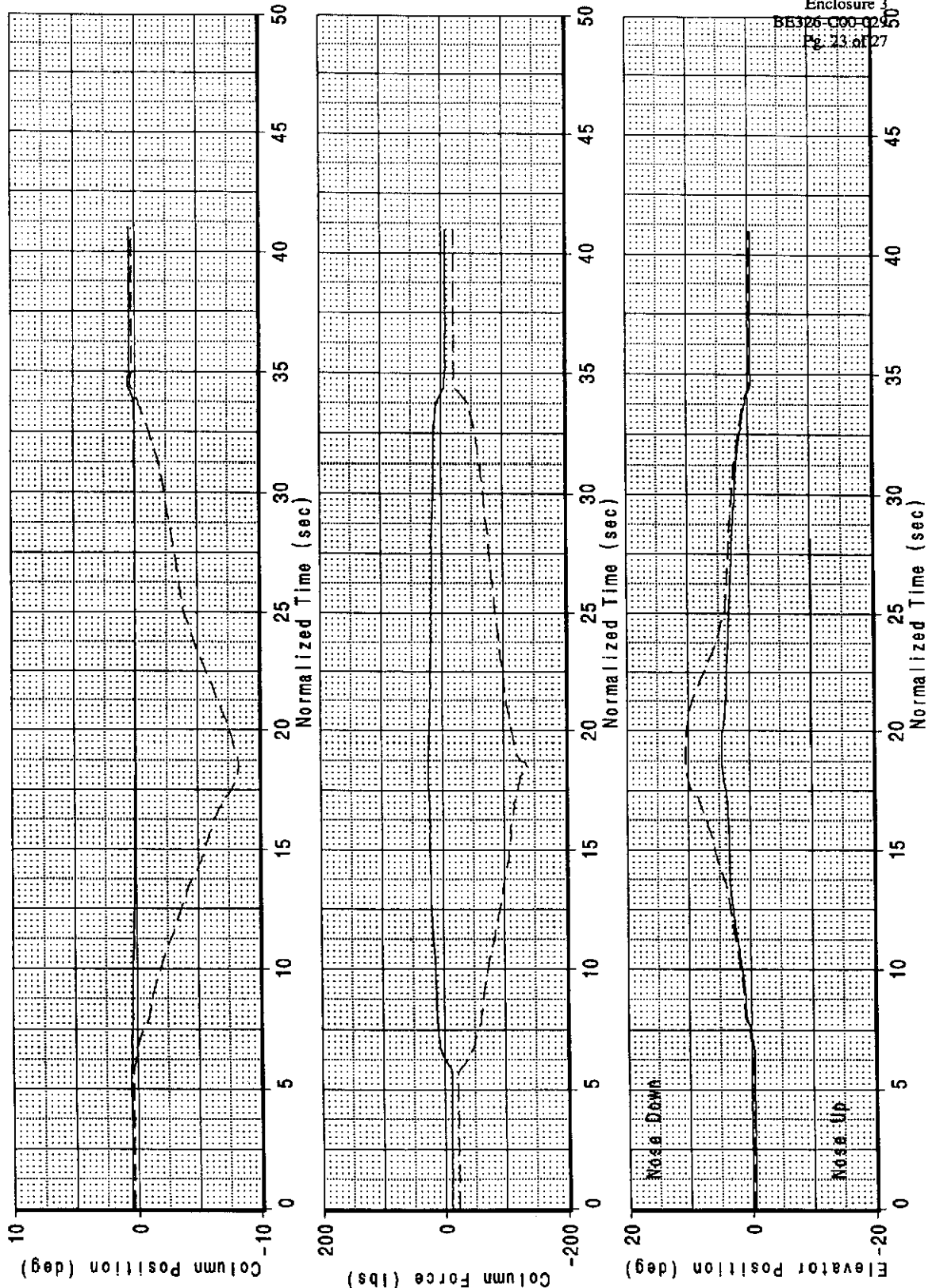
767-400ER
 VQ001
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03/29/00 13:04:30.0000-13:05:11.0000 VQ001 010-05 767-400 BUCKLEY, KIMBERL

Pilot PD Weston 770 psi Elevator Feel Pressure

First Officer Bill Tafs Ground Test



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[A]: /project/fltsys/control_sys_int/767/sustain/multisys/egypt_a/r/GT_10_05/VQ001_010_05_4631.esb

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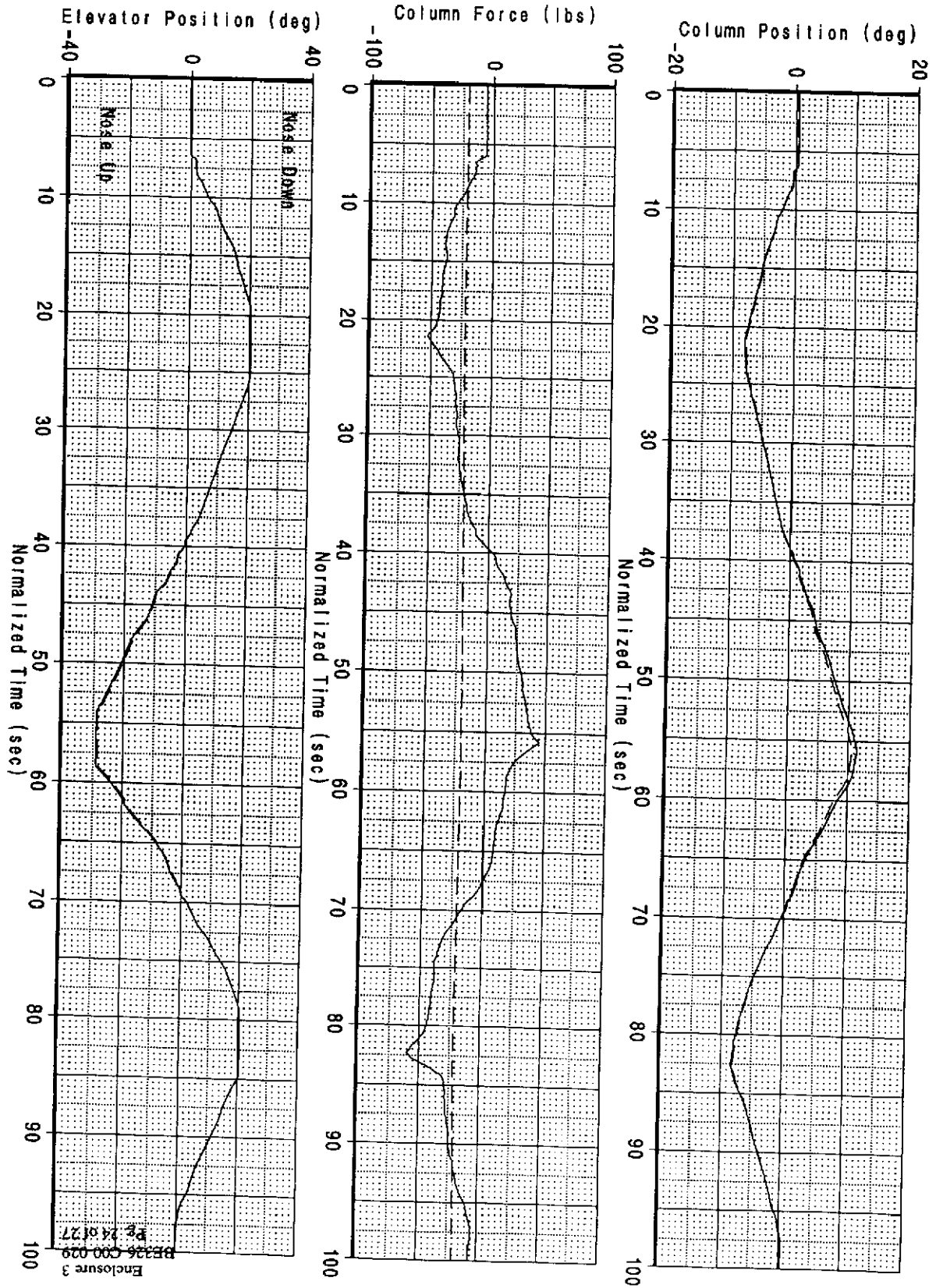
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03/29/00 13:07:10.0000-13:08:53.0000 VQ001 010-05 767-400 BUCKLEY, KIMBERL
 Pilot PD Weston Base Elevator Feel Pressure
 First Officer Bill Tafs Ground Test

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BOEING
 Egypt Air Investigation
 Pilot Sweeps
 All PCU's Connected

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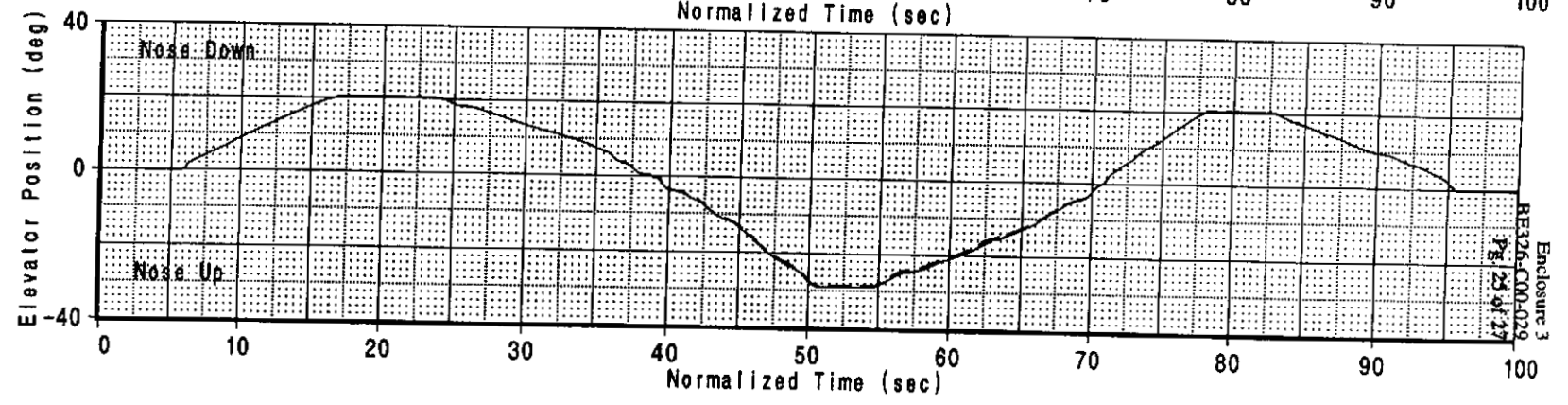
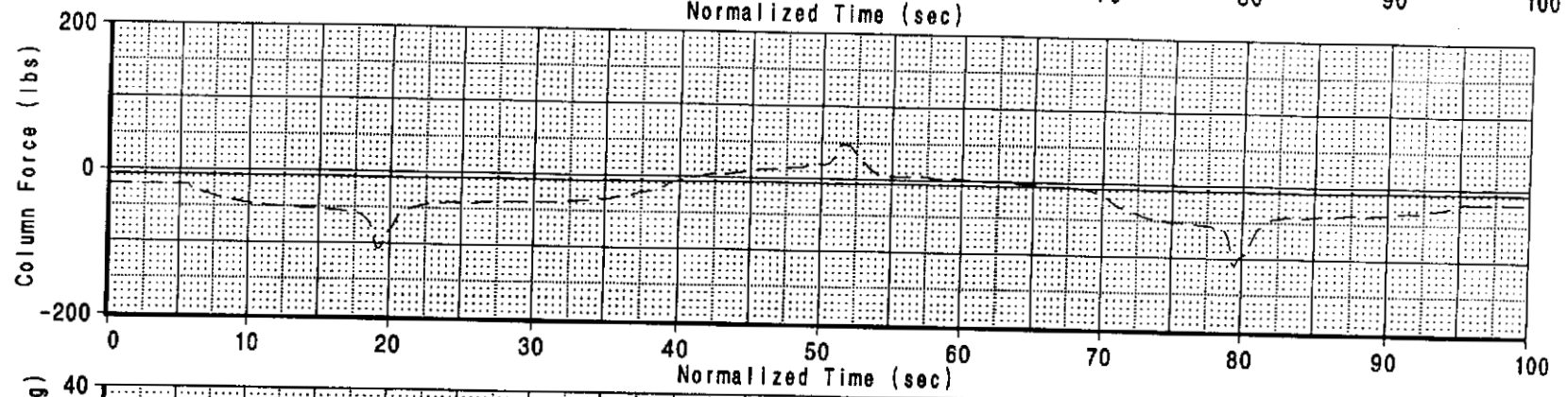
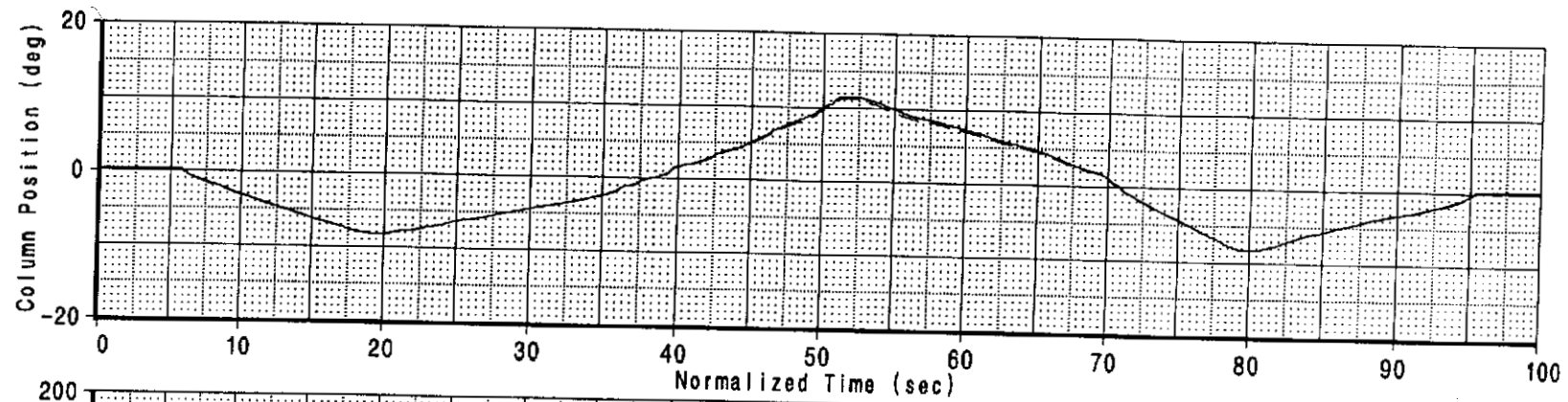
Enclosure 3
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_____ Pilot PD Weston Base Elevator Feel Pressure
 - - - - - First Officer Bill Tafs Ground Test



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Egypt Air Investigation
 First Officer Sweeps
 All PCU's Connected
BOEING

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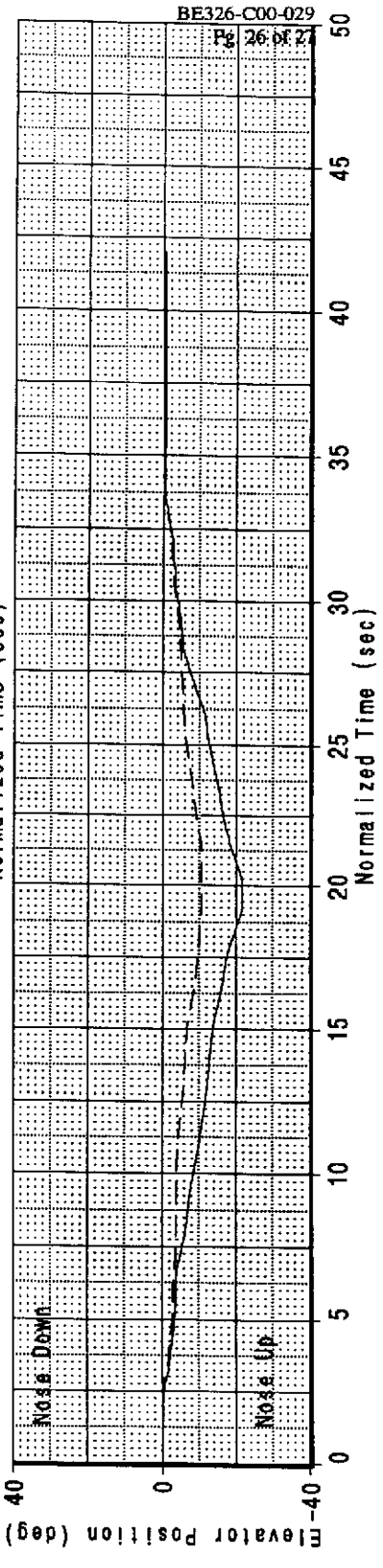
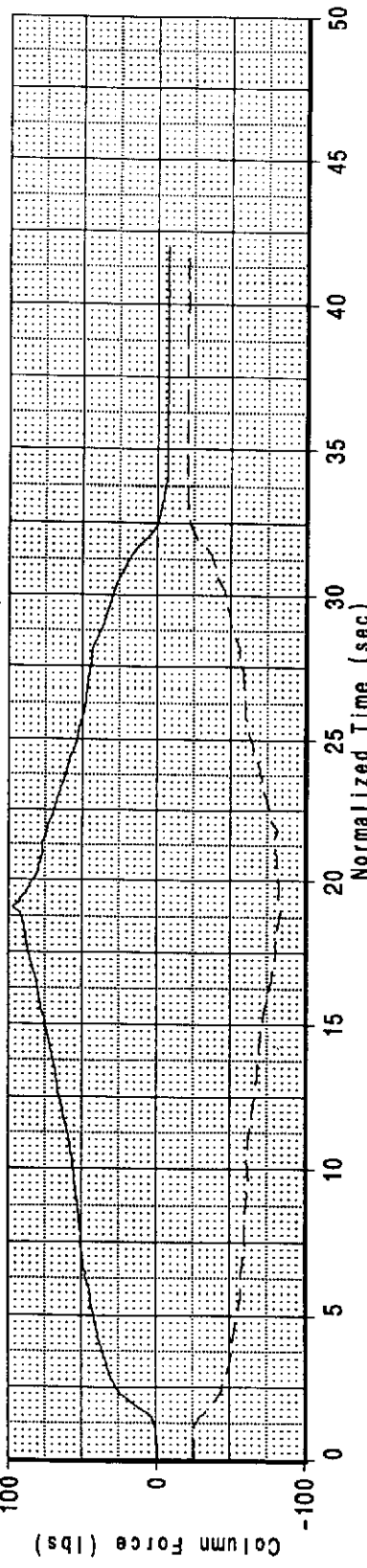
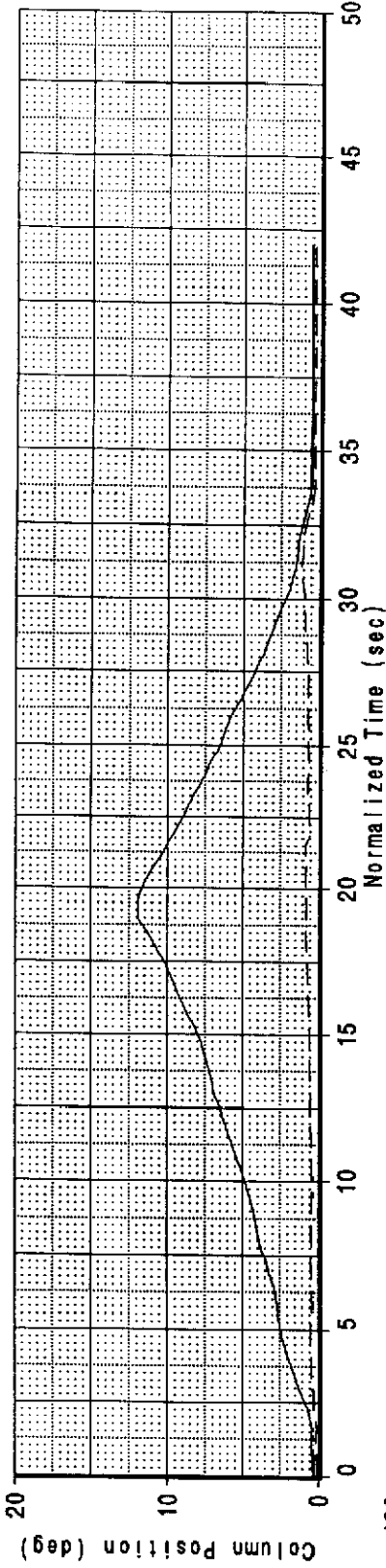
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03/29/00 13:10:45.0000-13:11:27.0000 VQ001 010-05 767-400 BUCKLEY, KIMBERL

Pilot PD Weston Base Elevator Feel Pressure

First Officer Bill Tafs Ground Test



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[A]: /project/llsys/control_sys/ys_int/767/sustain/multisys/egypt_alr/IGT_10_05/VQ001_010_05_4631.esb

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Egypt Air Investigation
Pilot Sweeps - All PCU's Connected
Split Column(Pilot moves column, FO holds)

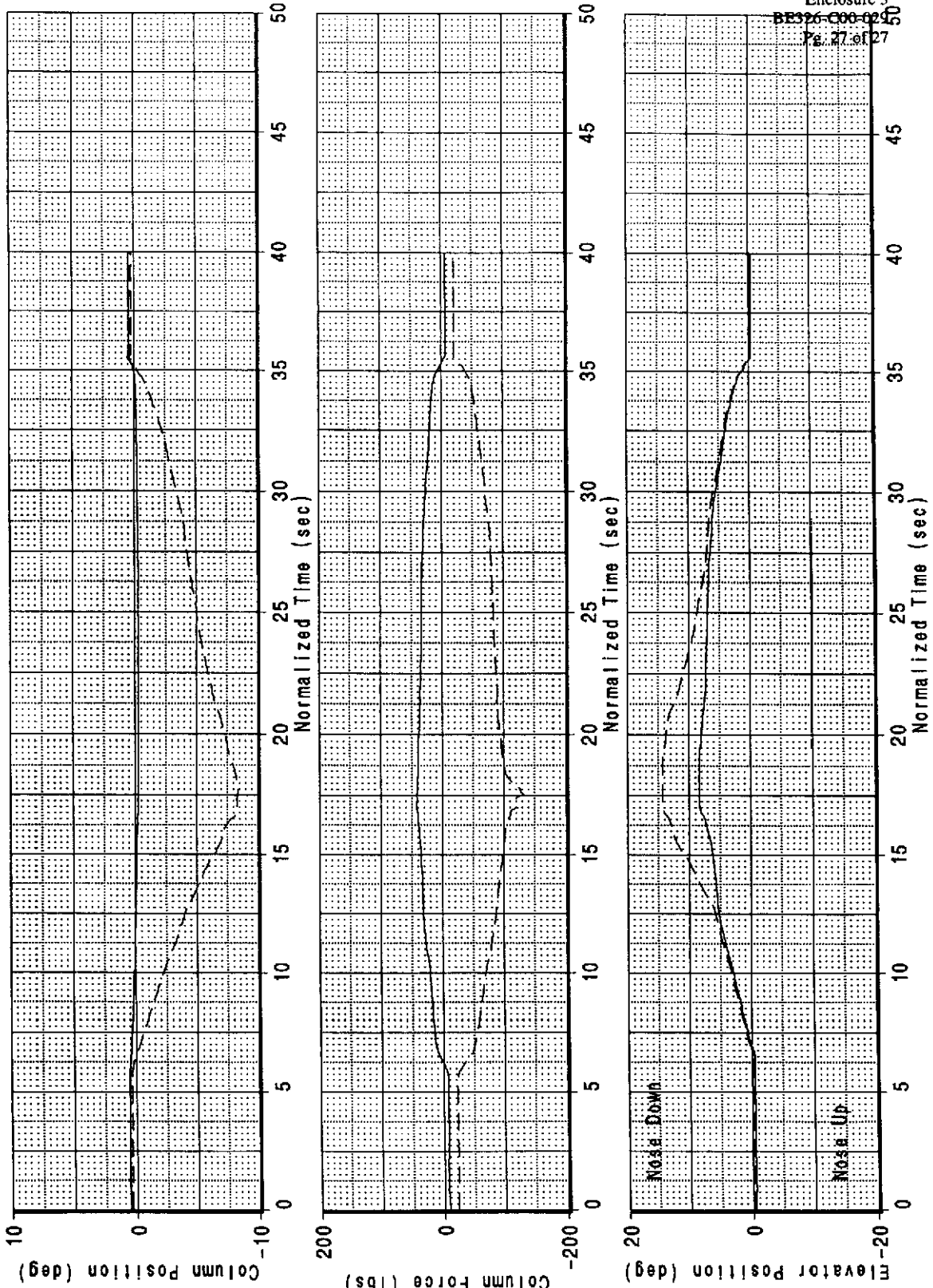


767-400R VQ001
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03/29/00 13:12:05.0000-13:12:45.0000 VQ001 010-05 767-400 BUCKLEY, KIMBERL

Pilot PD Weston Base Elevator Feel Pressure

First Officer Bill Tafs Ground Test



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CALC	Aerodynamics	12Apr00	REVISED	DATE	Egypt Air Investigation First Officer Sweeps - All PCU's Connected Split Column(FO moves column, Pilot holds)	767-400ER VQ001
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