

VALIDATION TEST

Title	Column position vs force during cruise		
Id	2 a i 2	Aircraft	DA42-VI
Device	A42M2-12	Version	1.0
Qualification Level	FNPT2	Operator	AFTA
Result Date	04/04/24	Master Date	01/03/19
Result Load	2012.01	Master Load	1902

Objective	Expected Results
Demonstrate that the simulator column position vs. control column characteristics conform to the class of aeroplanes	Column Position / Force -100% / -78 N -50% / -46 N 0% / -7 N 50% / 38 N 100% / 75 N
Reference	Evaluation Criteria
Chapter 12 - Validation data - Handling Qualities - Test 2.a.i.2	+/- 2.2 daN (5 Lbs) or +/- 10 % Force

Demonstration procedure	At the given trimmed flight conditions, the control column is moved at slow rate over its full range. Control Force is plotted versus position and then compared to the aircraft reference data.
Manual test procedure	Airplane is trimmed at cruise conditions and put in freeze mode, then the pilot slowly moves column over its full travel in both directions, using a dynamometer (results to be determined using the Table Sheet AL42_DA42VI_Tables_QTG_VolIII.xls).
Automatic test procedure	2 a i 2

Authority's approval (date, signature and comments)	Operator's approval (date, signature and comments)

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Autopilot mode	AUTO_VZ
<p>Automatic IAS (airspeed) and power maintain mode : it changes the attitude through pitch trim value and the power levers to maintain power and IAS. Roll Trim is computed to maintain 0° bank angle.</p>	

Initial parameters	CRUISE
Gross weight (kg) : 1900 Balance (%) : 50 Altitude (ft) : 6000 Vertical speed (ft/min) : 0 (free) IAS (kt) : 139 Heading (°) : 0 (free) Bank (°) : 0 Attitude (°) : 0 Pedal Position (%) : 0 Column Position (%) : 9 Wheel Position (%) : 0	Flaps lever position : 0 Gear lever position : 0 Left Load (%) : 70 Right Load (%) : 70 Left RPM : 2060 Right RPM : 2060

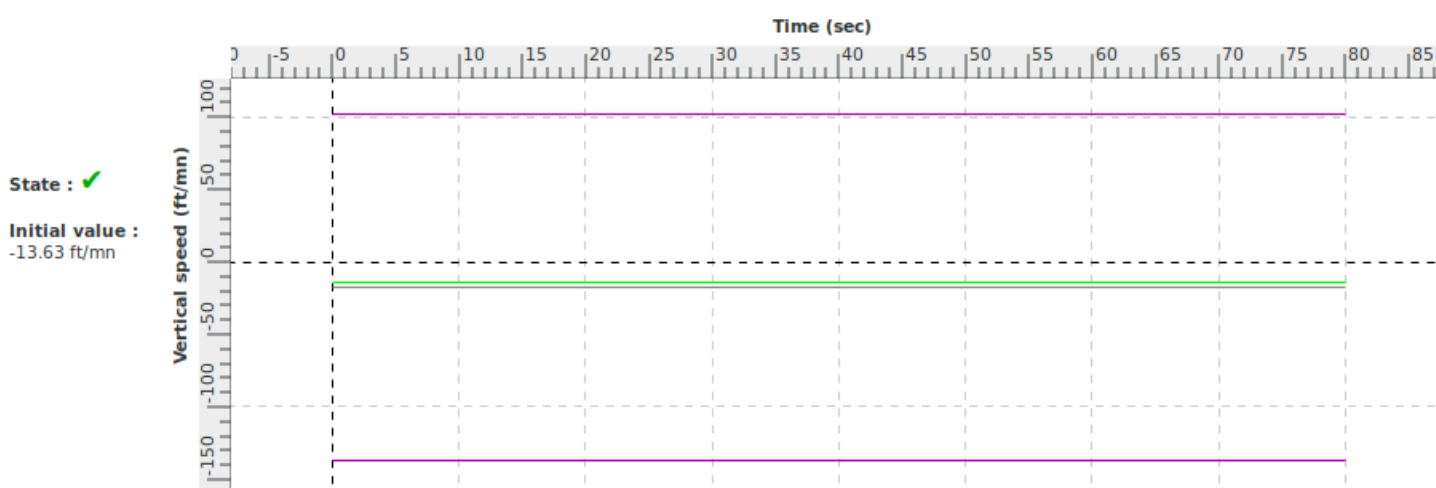
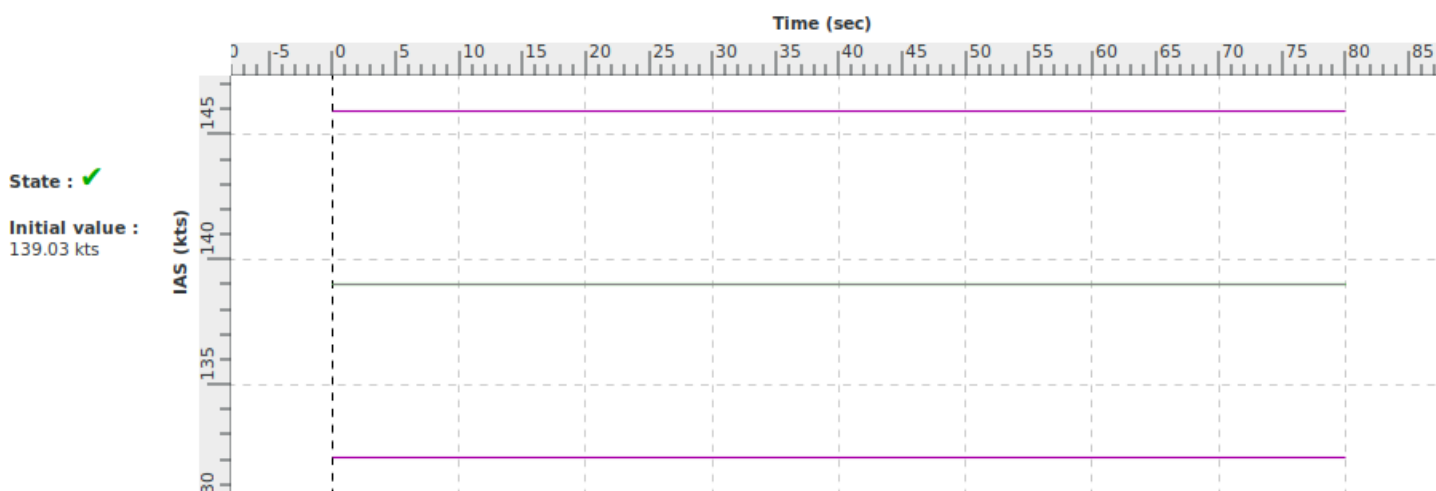
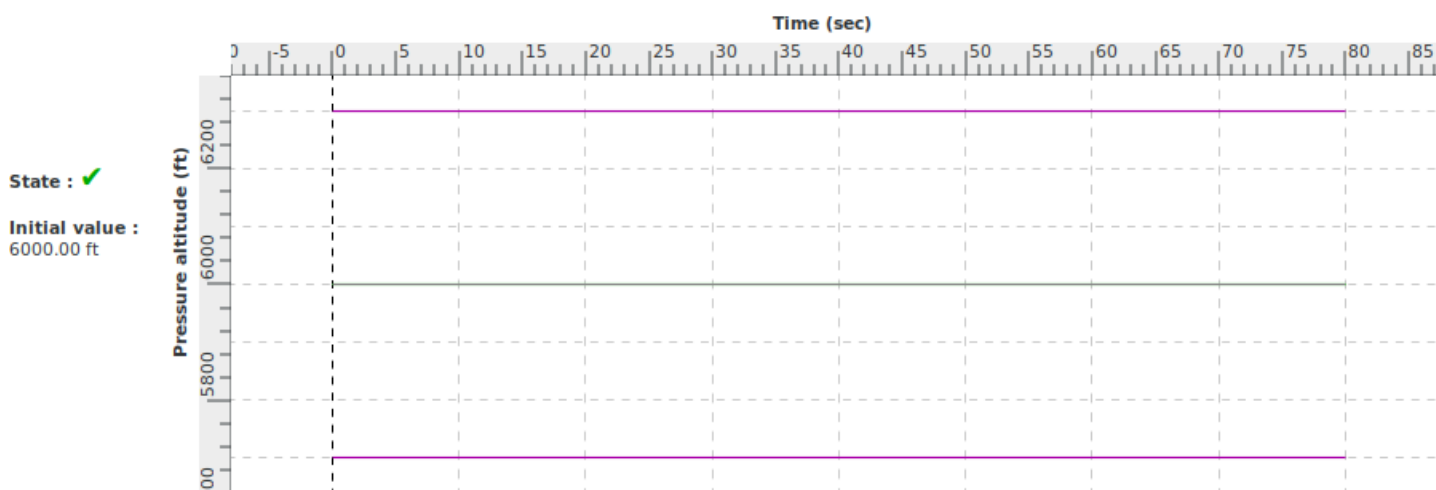
Commands			
Time	Name	Param	Explanations
0.0	Start_Test	0.0	Start the results recording
0.0	mode_stop	1.0	Set the aircraft to STOP or GO mode (0 means GO and 1 means STOP)
3.0	SetAttCmdPalier	107.0	Send a step in the attitude govern
25.0	SetAttCmdPalier	-100.0	Send a step in the attitude govern
65.0	SetAttCmdPalier	0.0	Send a step in the attitude govern
80.0	Stop_Test	0.0	Stop the test procedure

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Log of Revision		
Rev. Nbr	Date	Reason for revision

Notes

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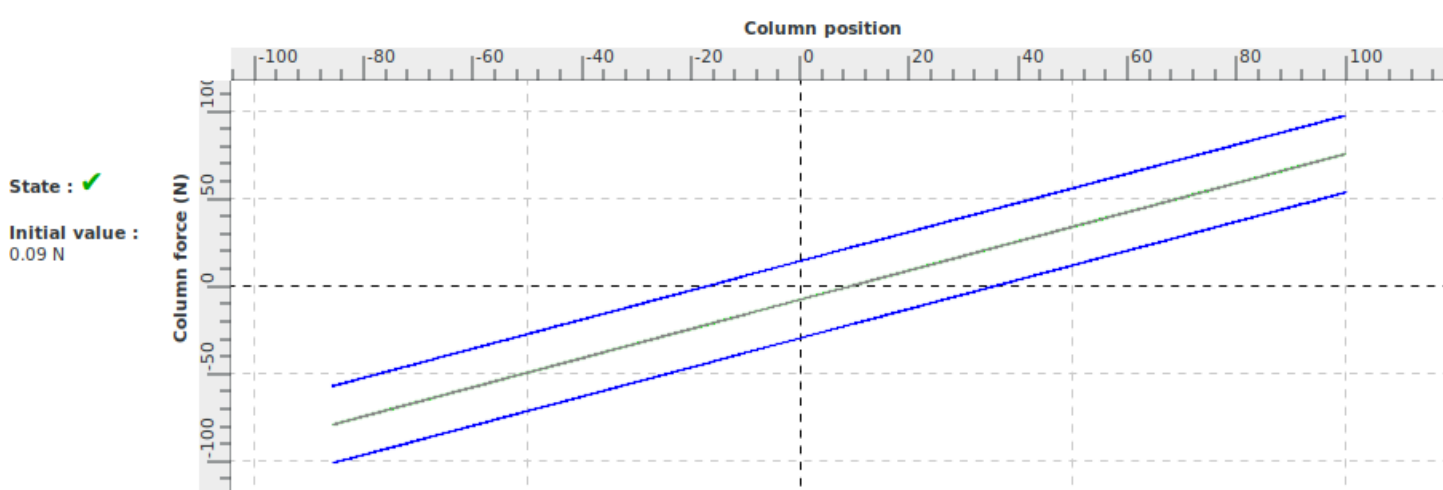
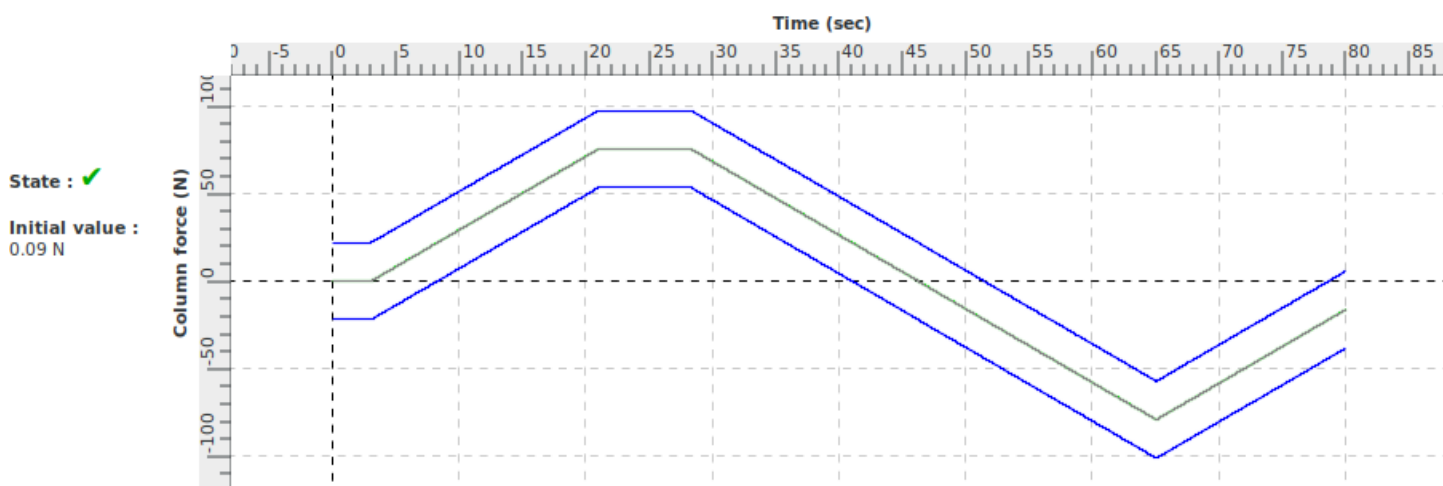
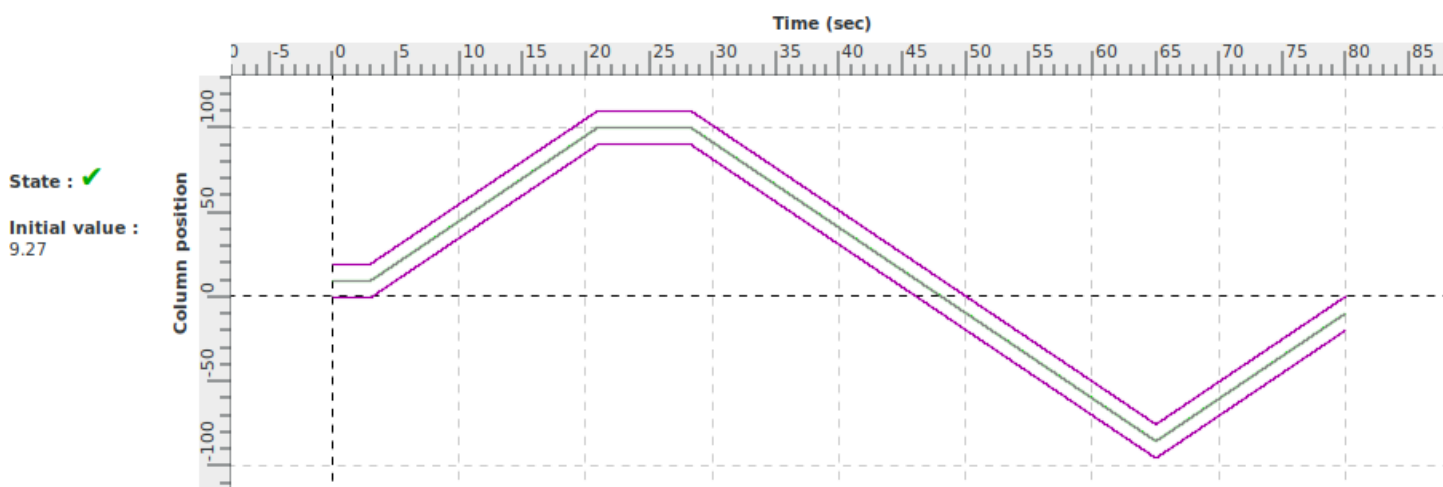
Legend :

green : results within tolerances
blue : tolerances

red : results out of tolerances
violet : tolerances Alsिम

grey : master

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