

# VALIDATION TEST

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

<b>Objective</b>	<b>Expected Results</b>
Demonstrate that the simulator roll controller position vs. roll controller force characteristics conform to the class of aeroplanes	Wheel Position / Force -100% / -87 N -50% / -44 N 0% / 0N 50% / 44 N 100% / 88 N
<b>Reference</b>	<b>Evaluation Criteria</b>
Chapter 12 - Validation data - Handling Qualities - Test 2.a.ii.2	+/- 1.3 daN (3 Lbs) or +/- 10 % force

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

<b>Authority's approval (date, signature and comments)</b>	<b>Operator's approval (date, signature and comments)</b>

Title	Wheel position vs force during cruise		
Id	2 a ii 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

Autopilot mode	AUTO_HEADING
Automatic AUTO_HEADING mode : Heading is maintained constant through roll and yaw trim and Vertical Speed through pitch trim.	

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

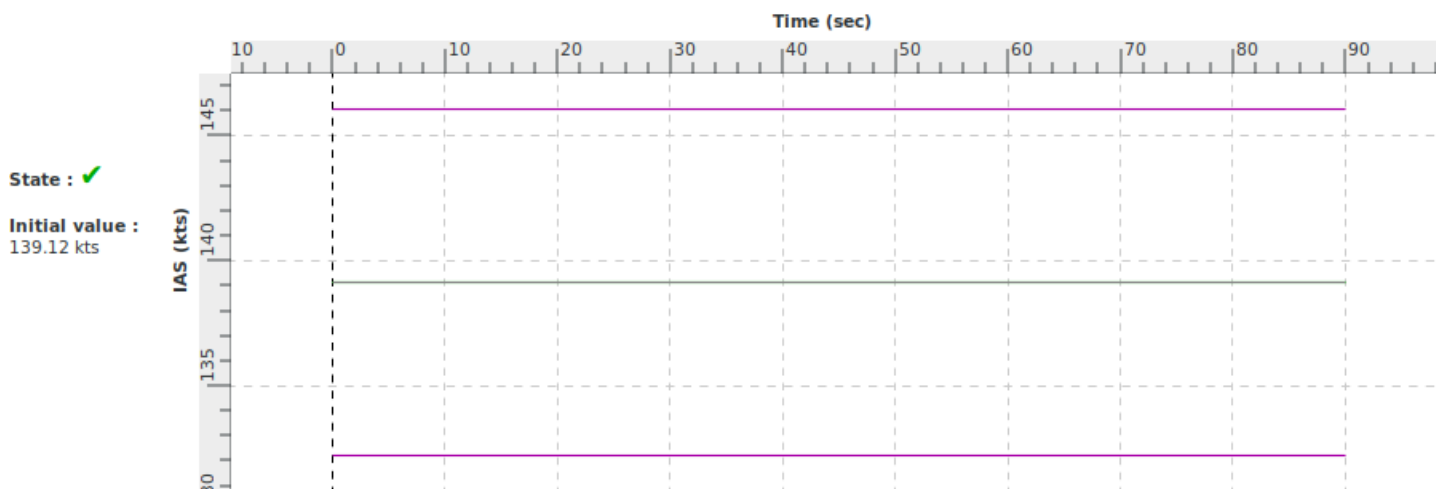
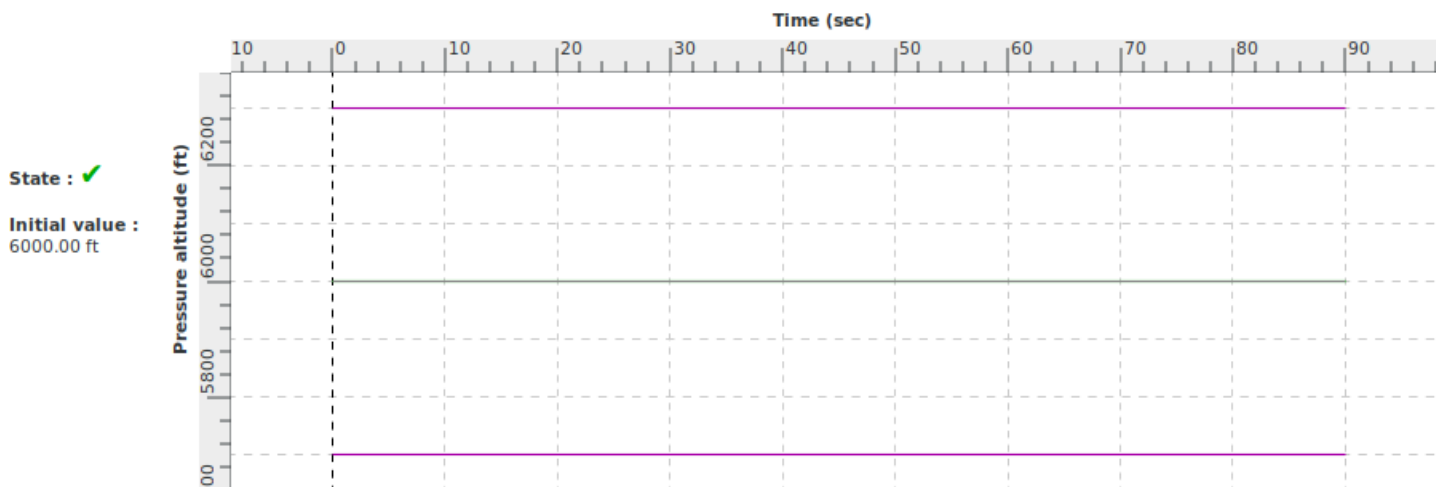
Commands			
Time	Name	Param	Explanations
0.0	Start_Test	0.0	Start the results recording
0.0	mode_stop	1.0	Set the aircraft to STOP or GO mode (0 means GO and 1 means STOP)
3.0	SetRollCmdPalier	103.0	Send a step in the roll govern
24.0	SetRollCmdPalier	-100.0	Send a step in the roll govern
64.3	SetRollCmdPalier	0.0	Send a step in the roll govern
90.0	Stop_Test	0.0	Stop the test procedure

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

Log of Revision		
Rev. Nbr	Date	Reason for revision

Notes

Title	Wheel position vs force during cruise		
Id	2 a ii 2	Aircraft	DA42-VI
Device	A42M2-12	Version	1.0
Result Date	04/04/24	Master Date	01/03/19
Result Load	2012.01	Master Load	1902



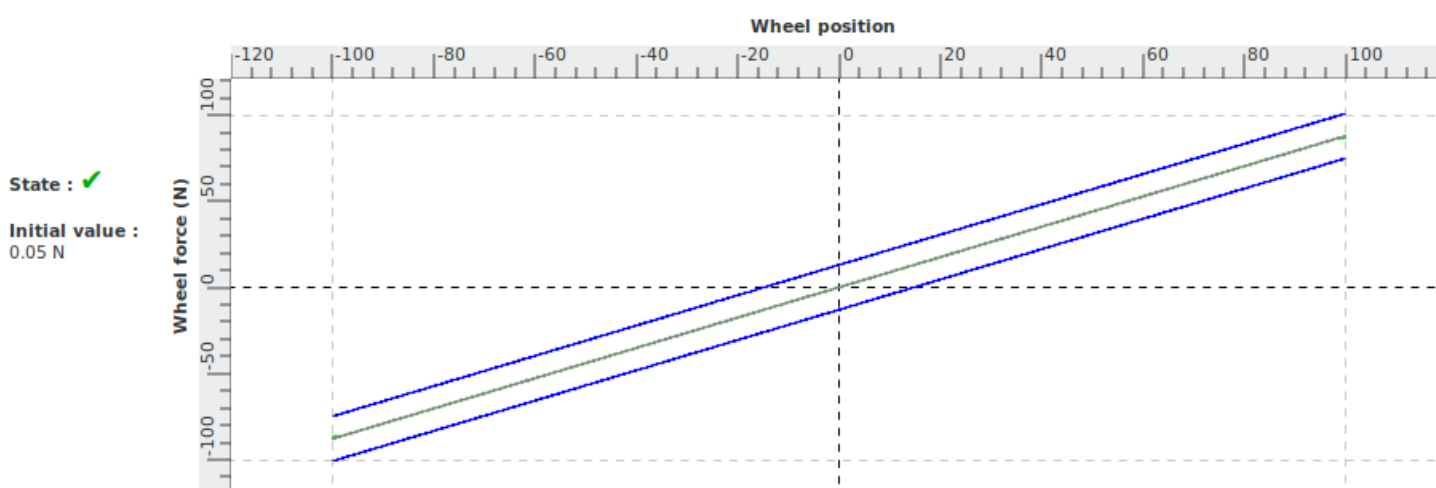
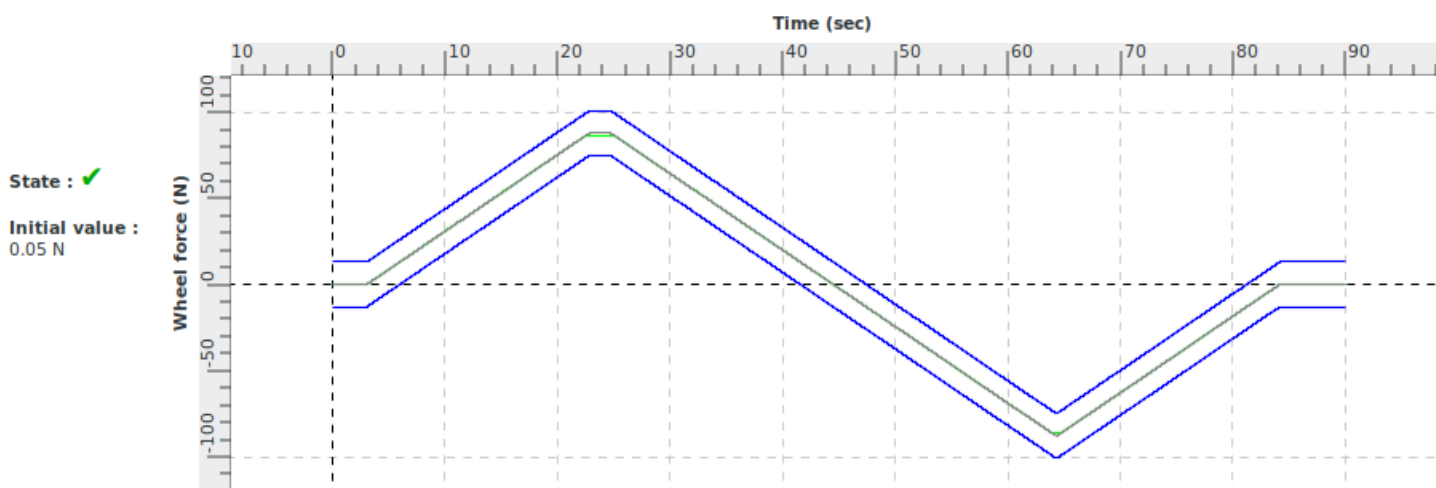
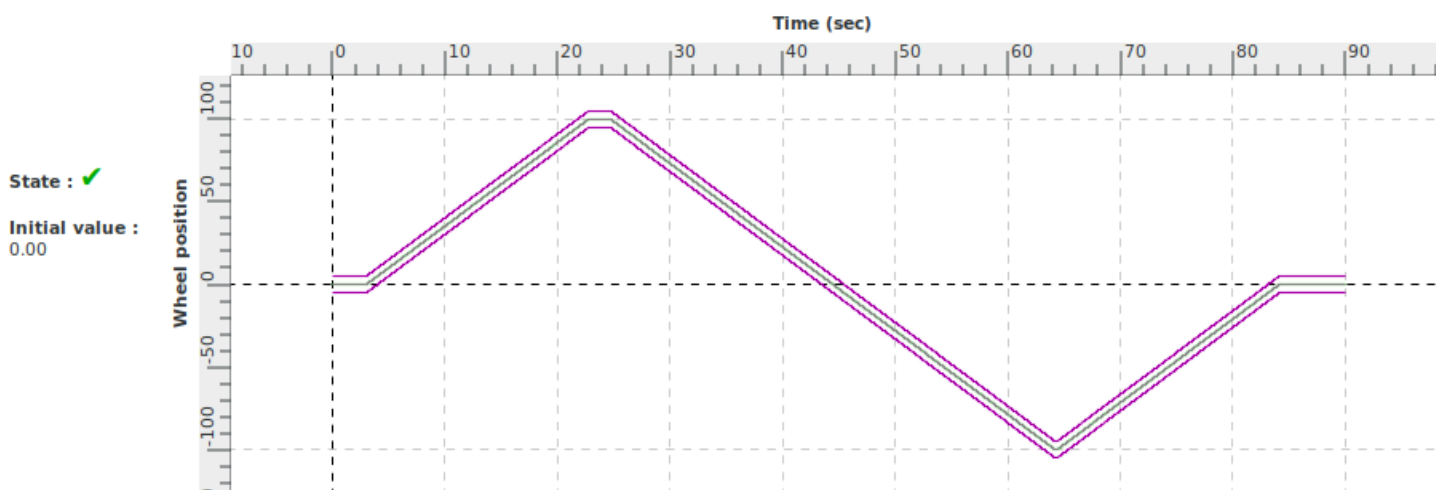
### Legend :

green : results within tolerances  
blue : tolerances

red : results out of tolerances  
violet : tolerances Alsिम

grey : master

Title	Wheel position vs force during cruise		
Id	2 a ii 2	Aircraft	DA42-VI
Device	A42M2-12	Version	1.0
Result Date	04/04/24	Master Date	01/03/19
Result Load	2012.01	Master Load	1902



### Legend :

green : results within tolerances  
blue : tolerances

red : results out of tolerances  
violet : tolerances Alsim

grey : master