

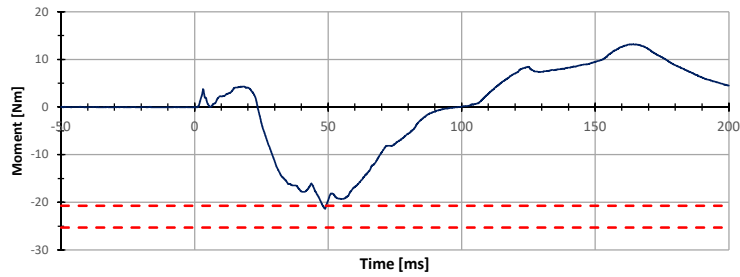
THOR 50th Neck Extension Test
 Test Date: 2020/07/13

Test Parameter	min	Max	Unit	Result	Pass/Fail
Temperature	20.6	22.2	°C	21.4	Pass
Humidity	10	70	%	69.0	Pass
Impact Velocity	4.95	5.05	m/s	5.00	Pass
Peak Upper Neck My	-25.3	-20.7	Nm	-21.3	Pass
Peak Upper Neck Fz	-3210	-2626	N	-3175	Pass
Peak Head Angular Velocity ω_y (relative to earth)	1855	2267	deg/s	2156	Pass
Peak Head Rotation (relative to pendulum)	58.5	71.5	deg	61.6	Pass

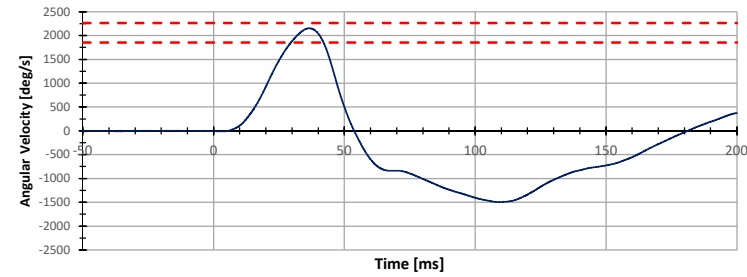
Test Parameter	min	Max	Unit	Result	Pass/Fail
Pendulum velocity at 10ms	1.74	2.12	m/s	2.05	Pass
Pendulum velocity at 20ms	3.30	4.04	m/s	3.81	Pass
Pendulum velocity at 30ms	4.53	5.54	m/s	5.03	Pass

(Monitor)					
Peak Upper Neck Fx	699	854	N	845	(Pass)

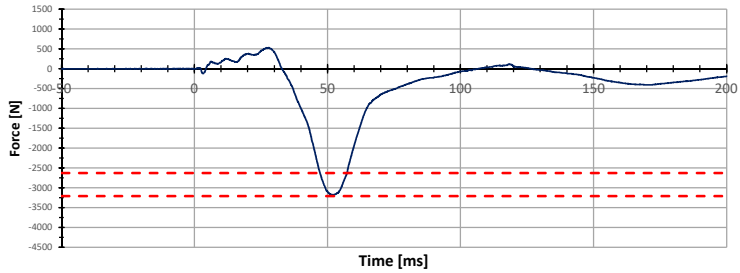
Upper Neck Moment Y-axis



Head Angular Velocity

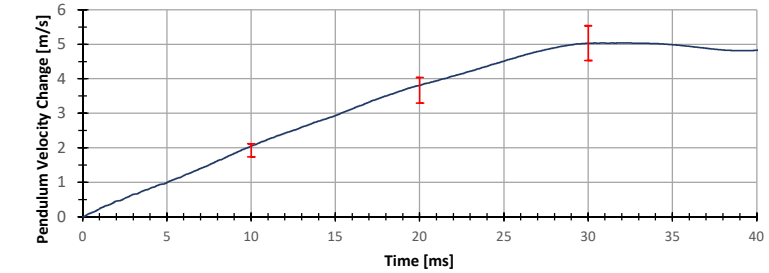


Upper Neck Force Z-axis



Pendulum Velocity Change

5.04



Head Rotation(relative to pendulum)

