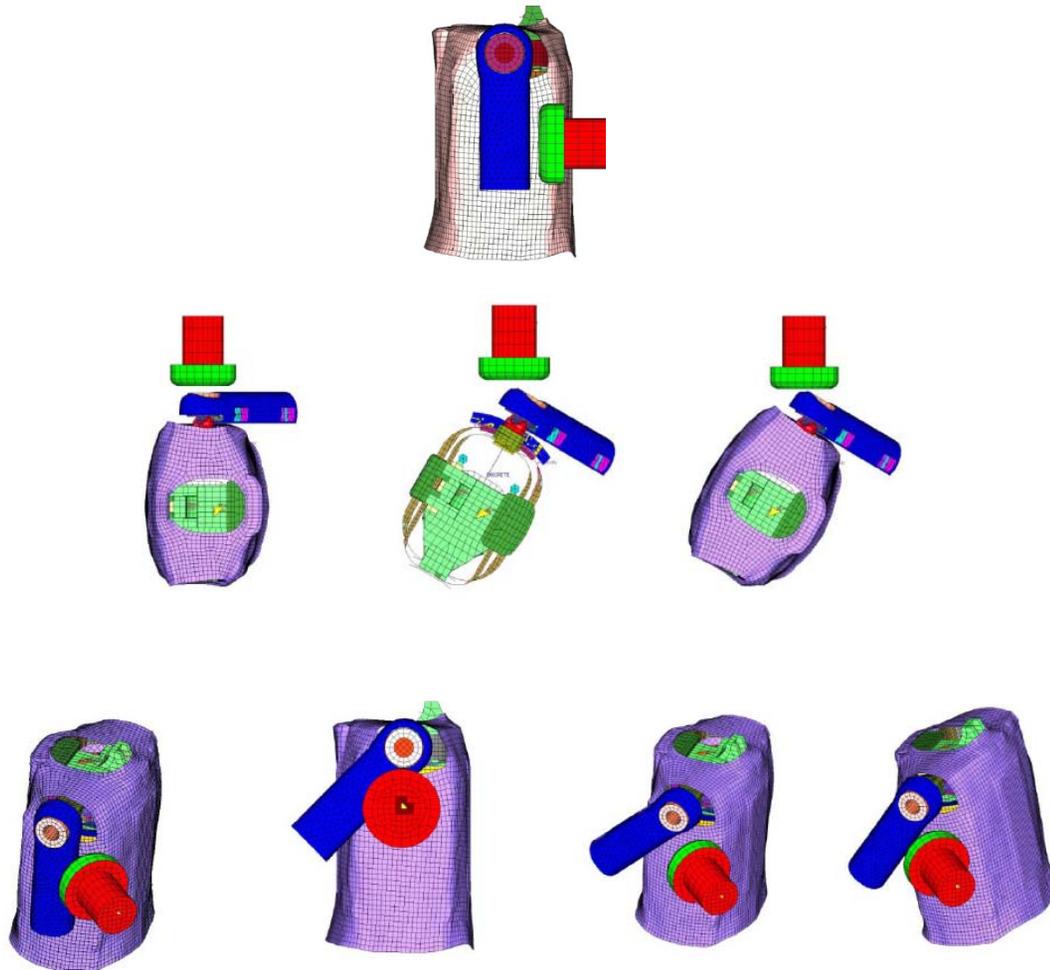


SID-IIs SBL C & SBL D v3.0

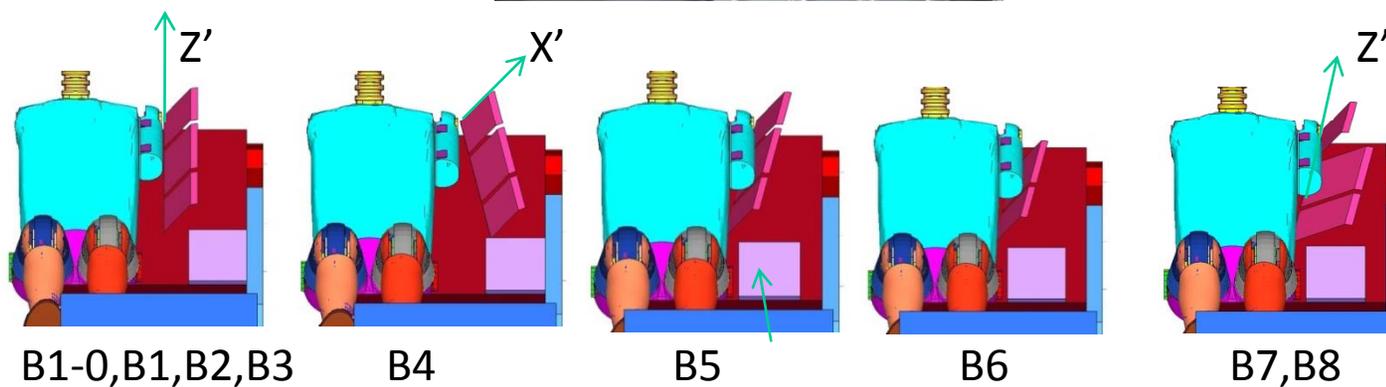
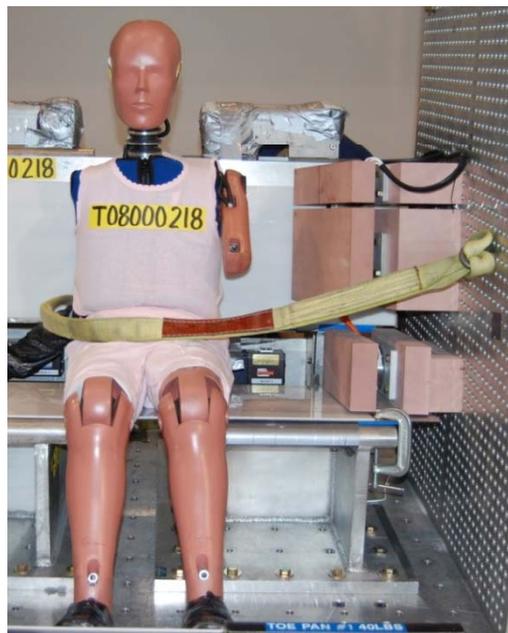


40 experiments

Test parameters:

- SBL C & D
- With and without jacket
- Different impact angles and locations
- Severity variation

SID-IIs SBL C & SBL D v3.0



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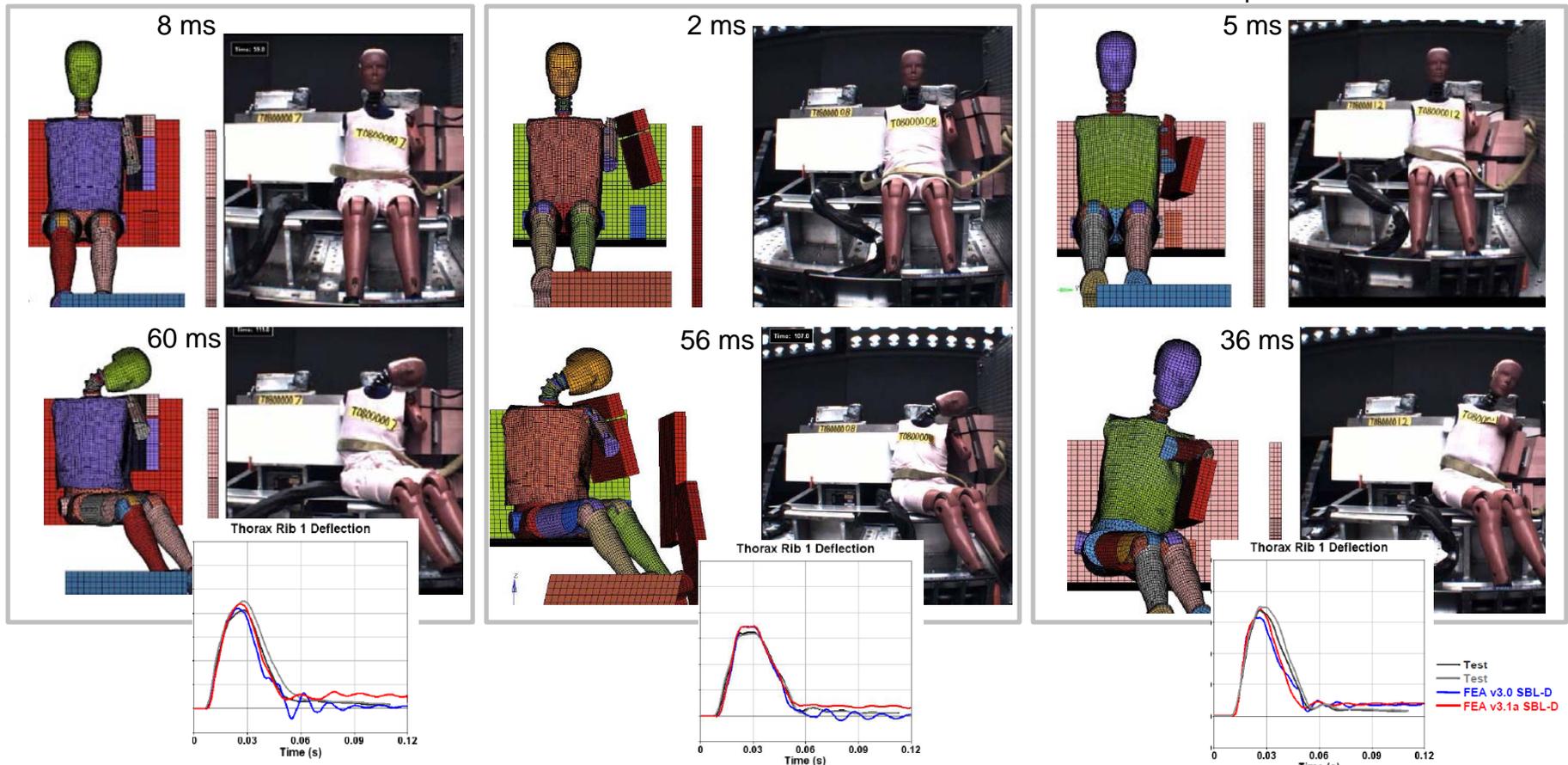
SID-IIs v3.1

Arm and rib validation at sled level

Impact plate configuration:
15 / 0 degr. (vertical/horizontal)

Impact plate configuration:
15 / 15 degr. (vertical/horizontal)

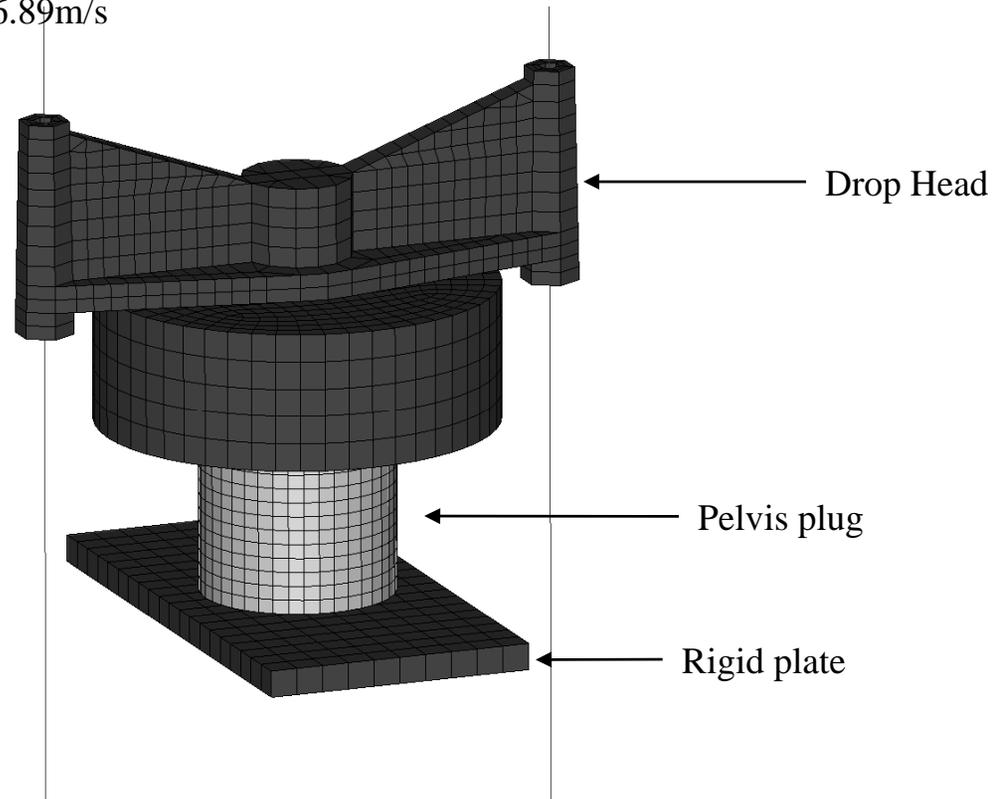
Impact plate configuration:
15 / -15 degr. (vertical/horizontal)
No shoulder plate



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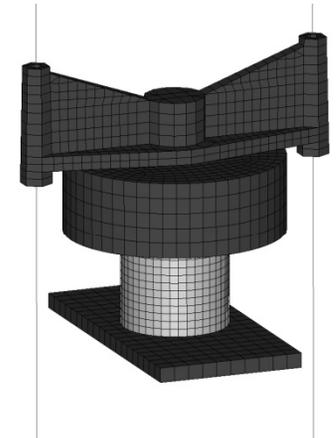
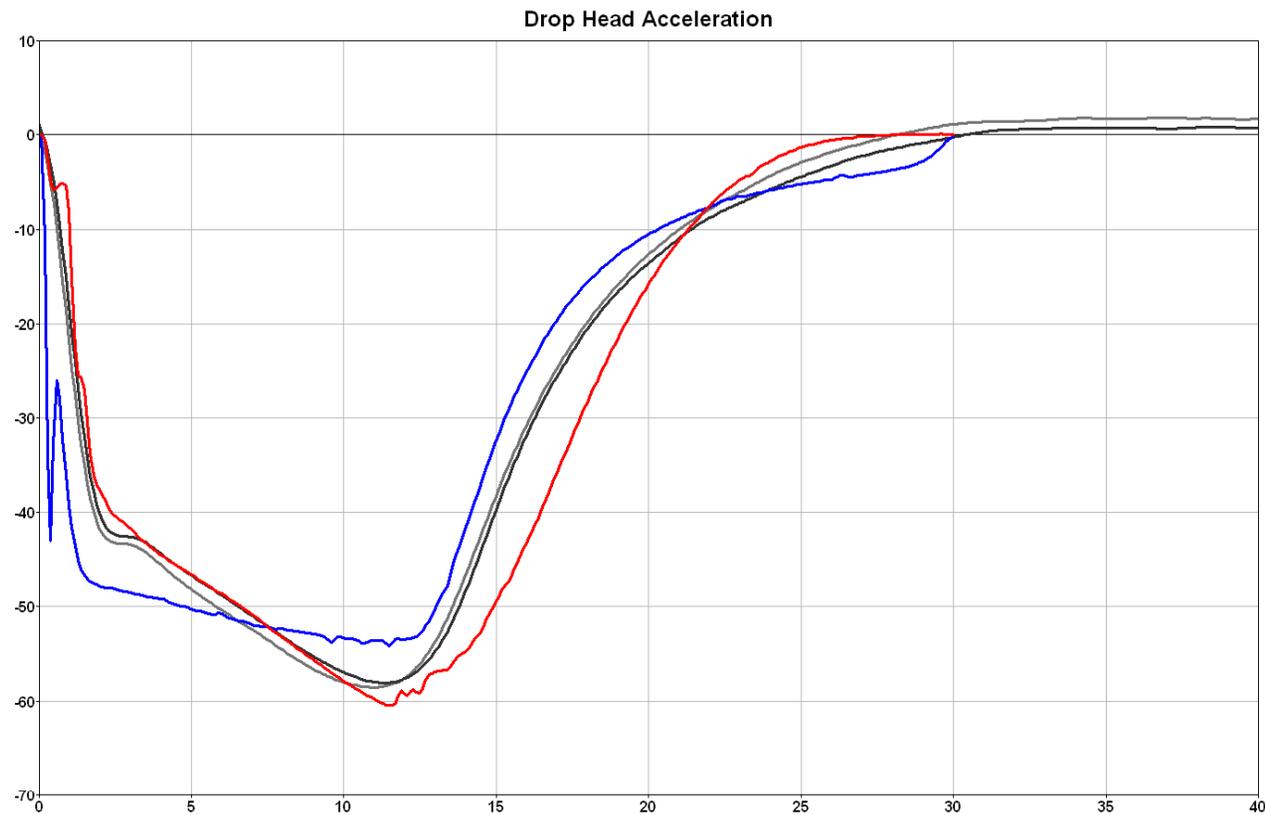
2.6 Pelvis Plug Drop Test

- Non-Certification Test
- Straight Impact
- Speed - 4.33m/s, 5.80m/s, 6.89m/s



2.6 Pelvis Plug Drop Test

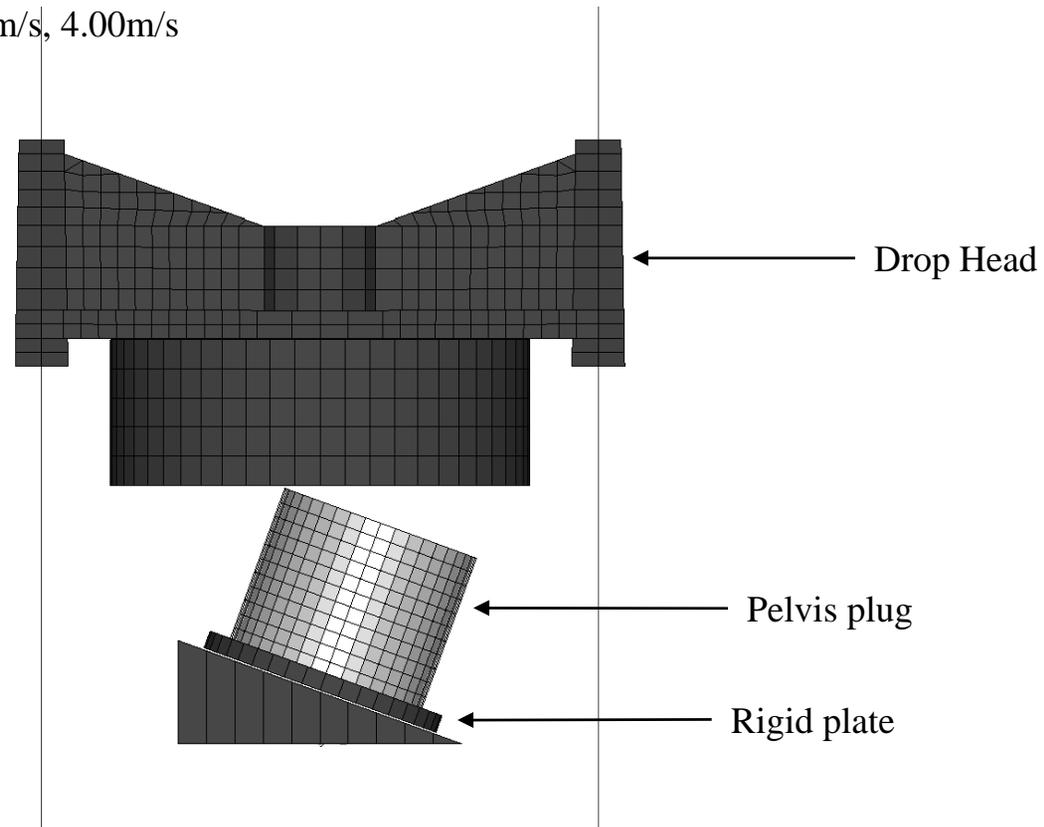
- Non-Certification Test, Straight Impact, $v = 5.80\text{m/s}$
- v3.2 Pelvis Plug was tuned for better whole dummy performance.



— Test
— Test
— FEA v3.1a SBL-C/D
— FEA v3.2 SBL-C/D

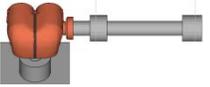
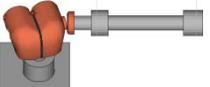
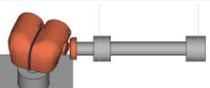
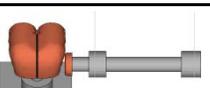
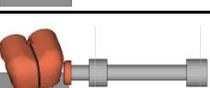
2.6 Pelvis Plug Drop Test

- Non-Certification Test
- Angular Impact
- Speed – 2.62m/s, 3.46m/s, 4.00m/s



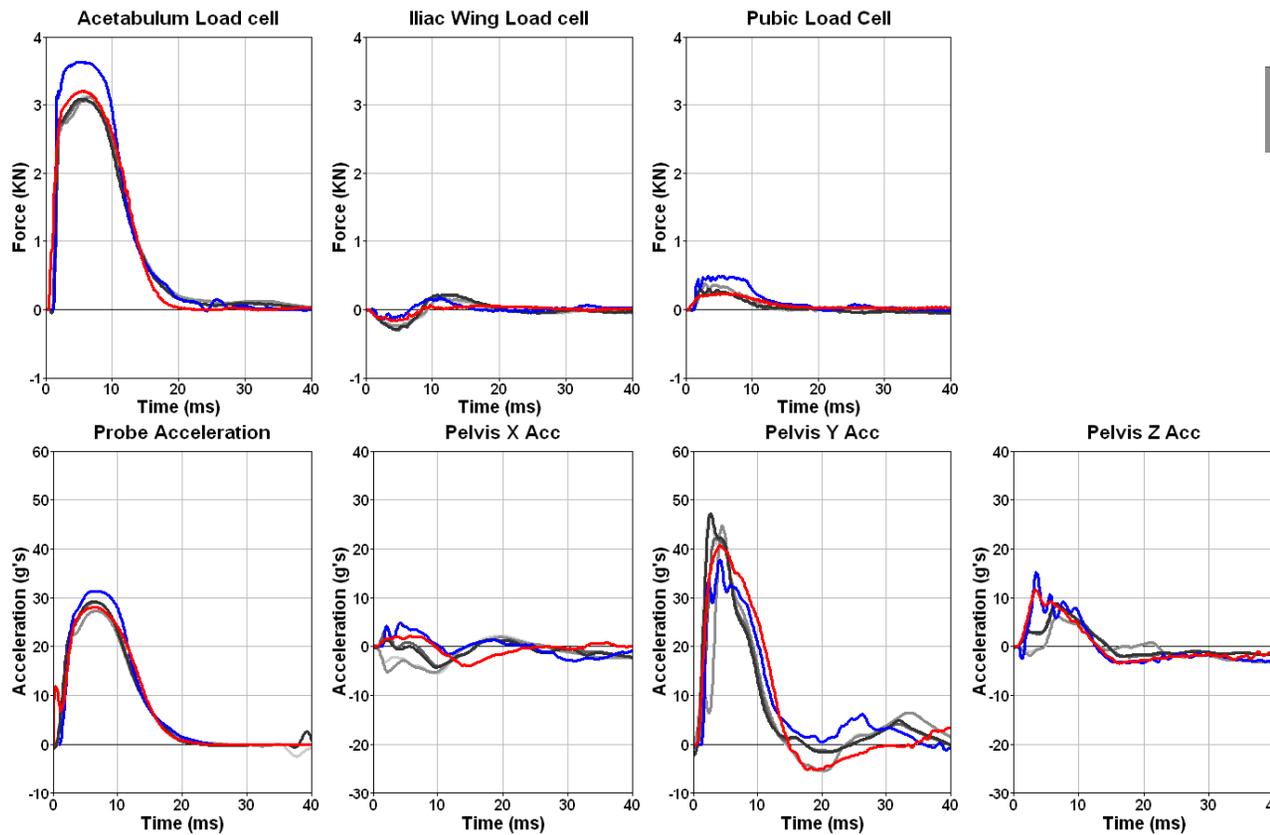
3.4 New Pelvis Pendulum Tests

Test Matrix

	Impact Speed (m/s)	Impact Location	Dummy	Repeat
	5.0 and 6.5	Center of Pelvis plug	SBL-D Pelvis	2
	5.0 and 6.5	Center of Pelvis plug	SBL-D Pelvis, rotated 15 degrees	2
	5.0 and 6.5	Center of Pelvis plug	SBL-D Pelvis, rotated -20 degrees	2
	2.5	Center of Iliac Wing Load Cell	SBL-D Pelvis	2
	2.5	Center of Iliac Wing Load Cell	SBL-D Pelvis, rotated 15 degrees	2
	2.5	Center of Iliac Wing Load Cell	SBL-D Pelvis, rotated -20 degrees	2

3.4 New Pelvis Pendulum Test – Acetabulum Impact at 0°

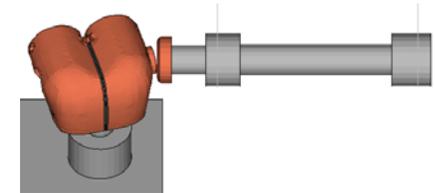
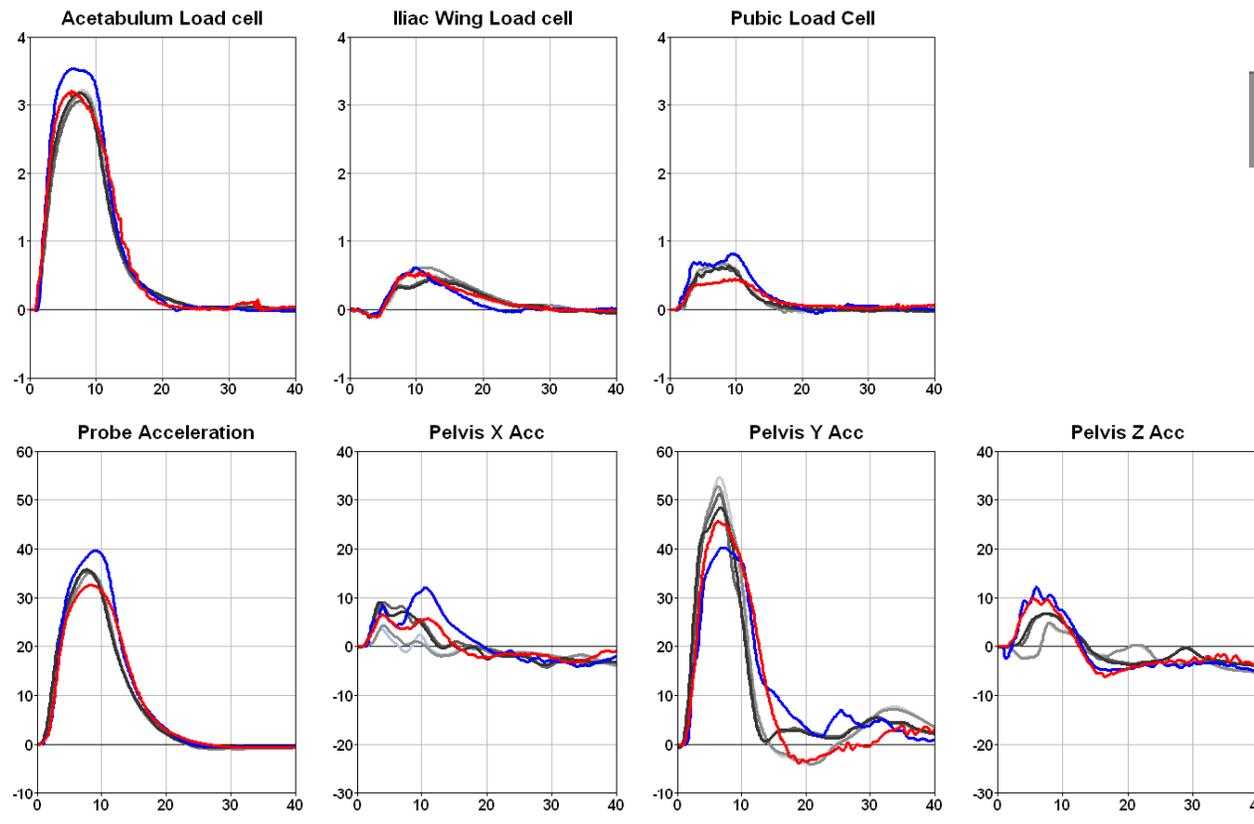
- Non-Certification Test
- Speed 5.0m/s



— Test
 — Test
 — Test
 — Test
 — FEA v3.1a SBL-D
 — FEA v3.2 SBL-D

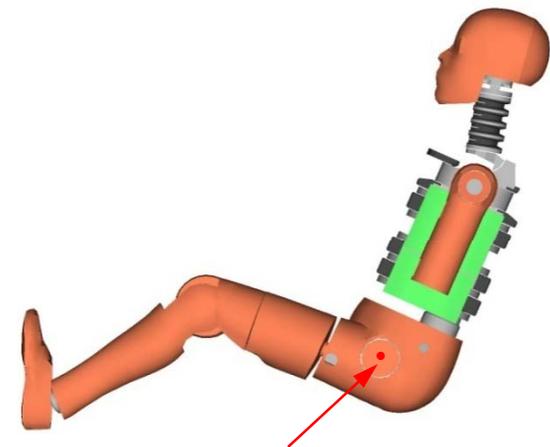
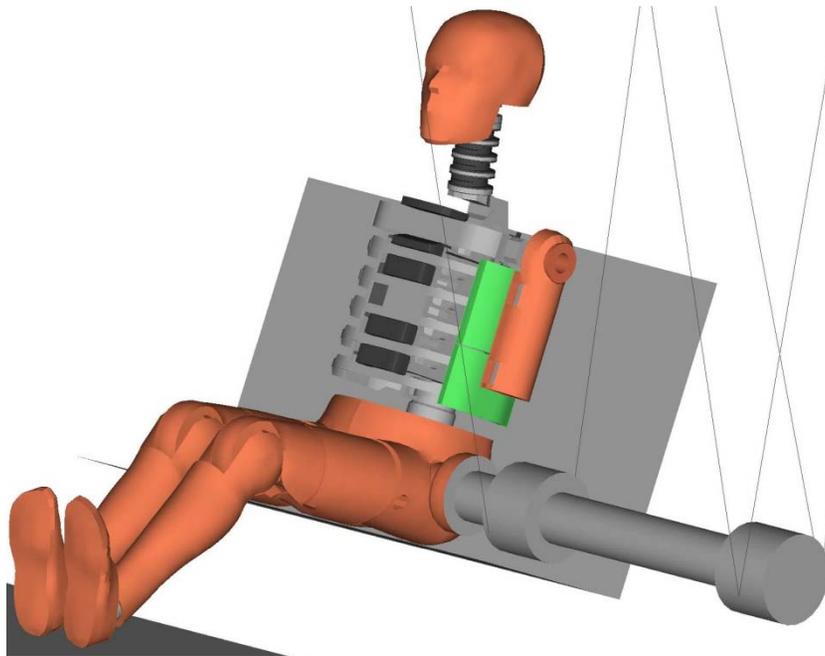
3.4 New Pelvis Pendulum Test – Acetabulum Impact at +15°

- Non-Certification Test
- Speed 6.5m/s



4.6 Pelvis Certification Test - SBL D Model

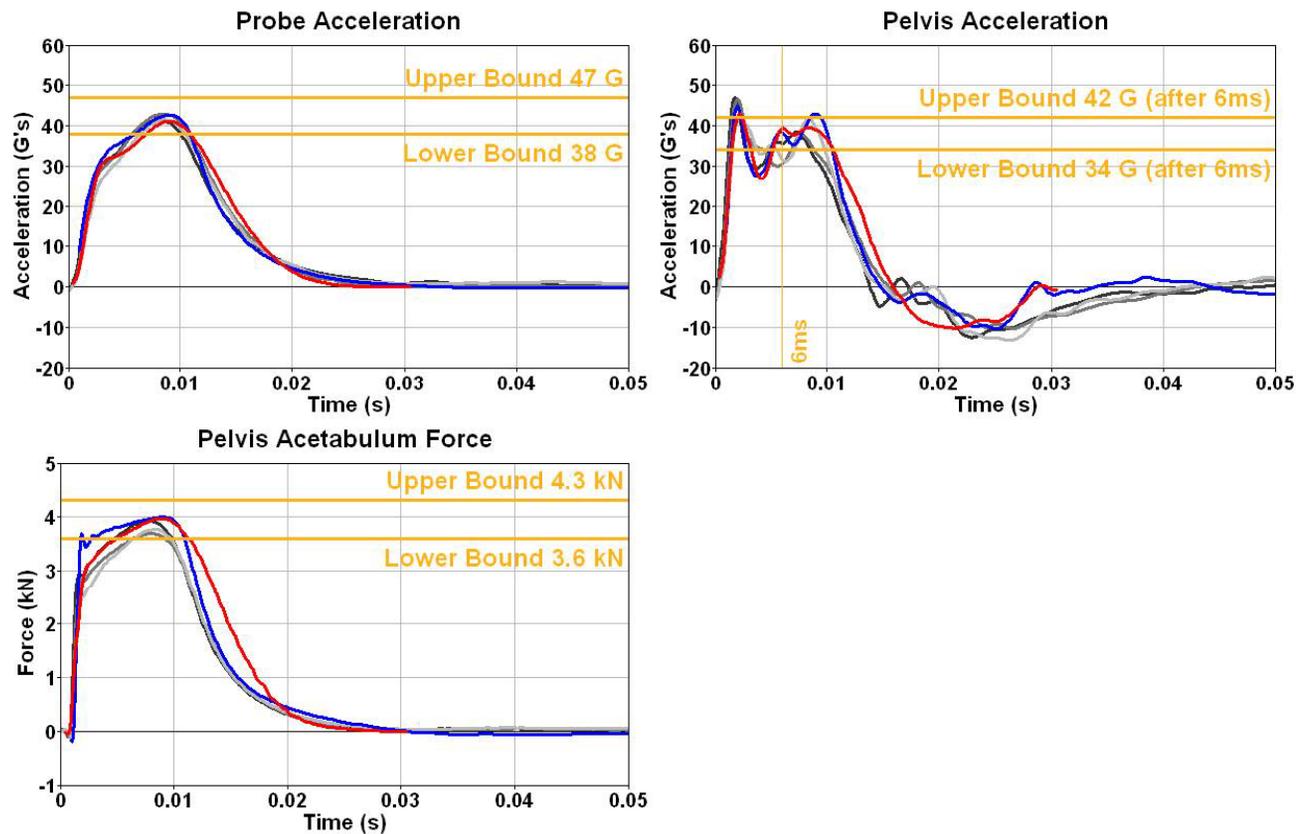
- Certification Test - Speed 6.70m/s



Impact along the centerline
of the pelvic plug

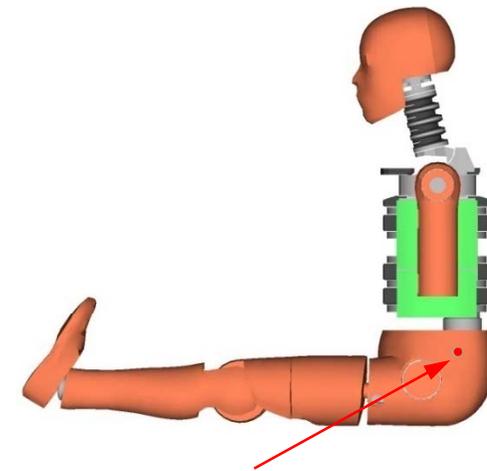
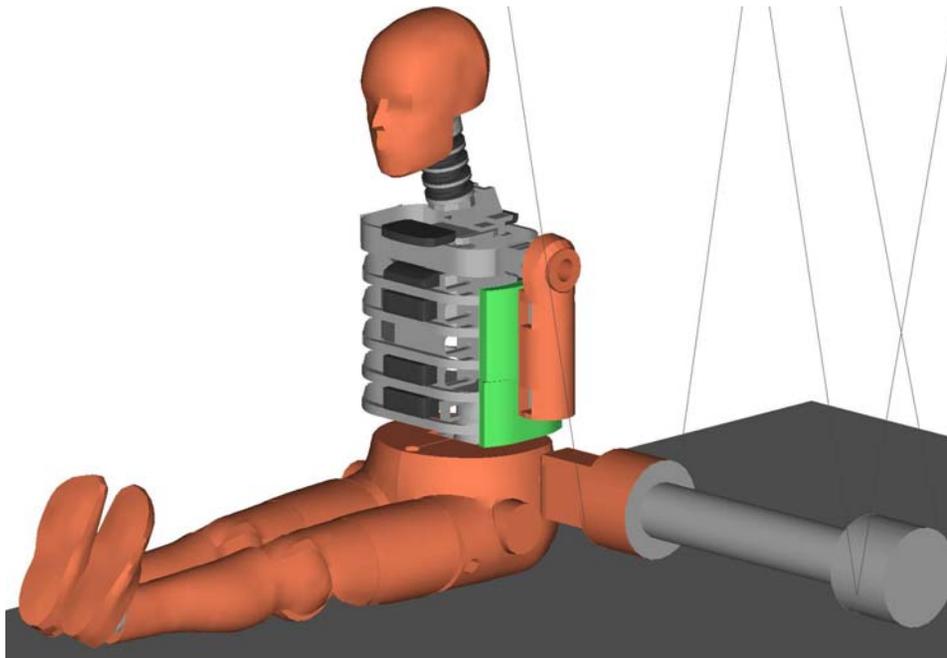
4.6 Pelvis Certification Test - SBL D Model

- Certification Test - Speed 6.70m/s



4.7 Iliac Certification Test - SBL D Model

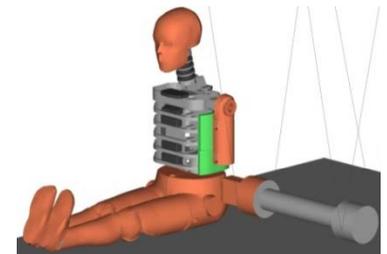
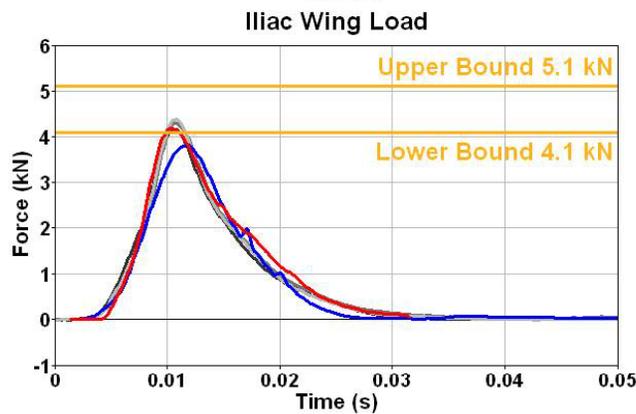
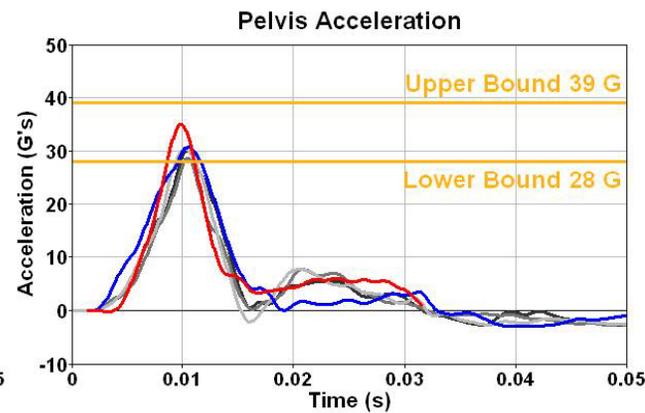
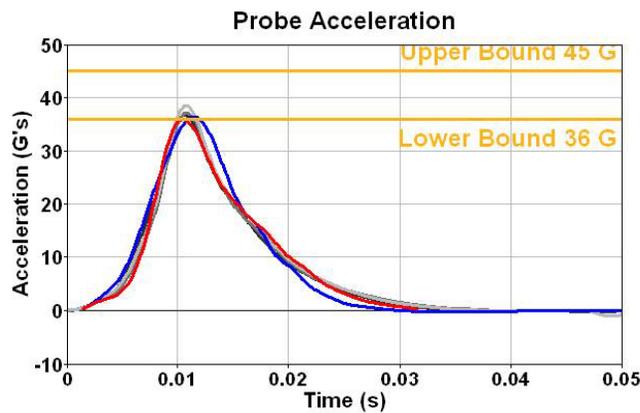
- Certification Test – Speed 4.30m/s, only for SBL-D Dummy



Impact along the centerline of the iliac load cell access hole

4.7 Iliac Certification Test - SBL D Model

- Certification Test – Speed 4.30m/s, only for SBL-D Dummy



— Test
— Test
— Test
— FEA v3.1a SBL-D
— FEA v3.2 SBL-D