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Innovative Solutions

Status of New Inverse Rig

Flex PLI TF-RUCC Meeting 4

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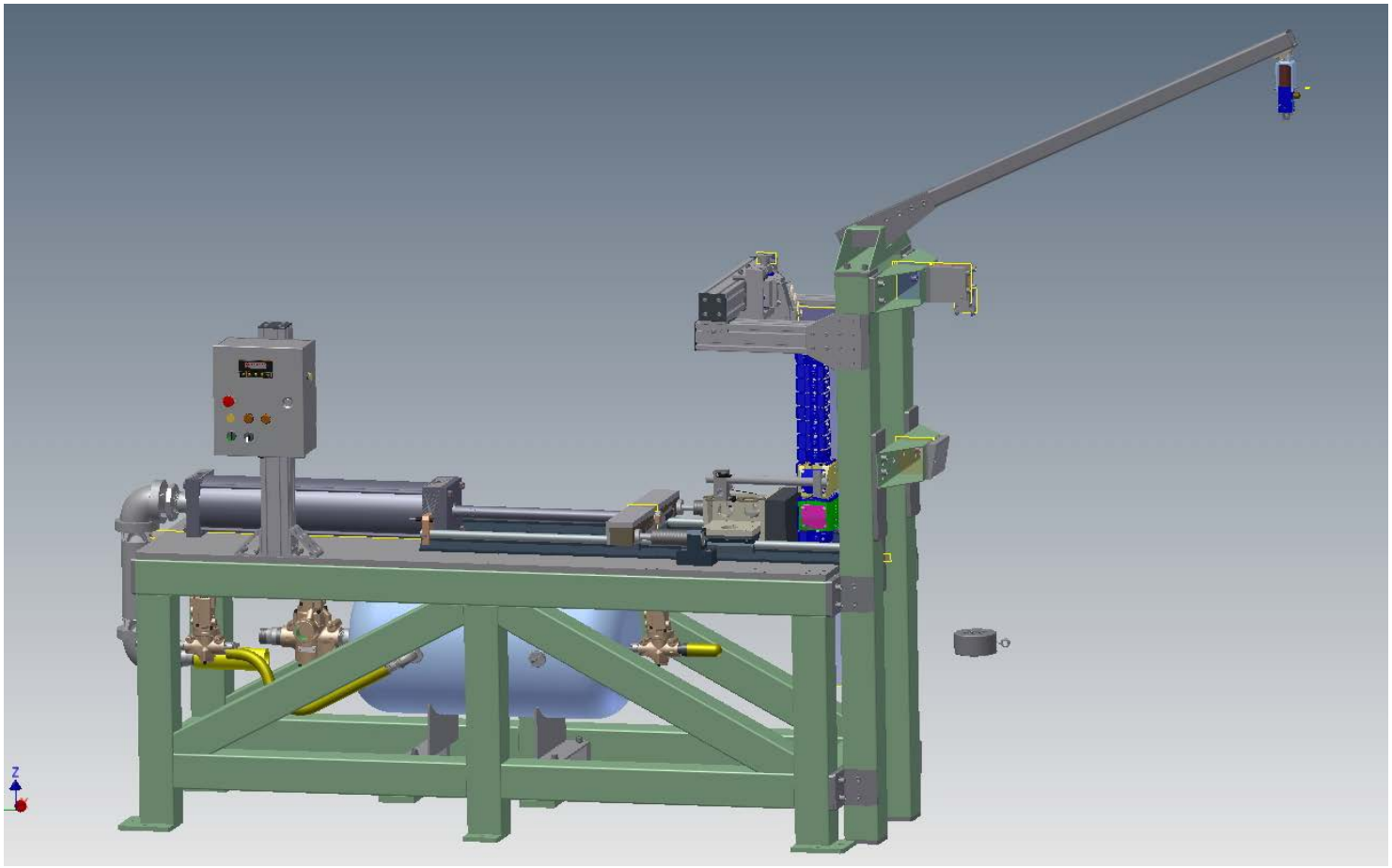
prepared by: Mark Burleigh, Bob Lipmyer

Rig Design and Initial leg Tested

- Much more rigid frame than previous design
- Integrated for pendulum test
- Ram stroke phases in line with BASt and JARI
- Impactor mass 8.1Kg without honeycomb as per BASt
- Hanging bracket tilted 15° towards impactor
- SN05 tested with same stiffness bones as RR legs but not same build method
- SN05 to be rebuilt and retested to agreed RR method
- Two RR legs to be tested soon

CAD Picture of New Inverse Rig



Initial Inverse Results SN05

	Velocity	Tibia 1	Tibia 2	Tibia 3	Tibia 4	ACL	MCL	Ram Accel	Tank PSI
Upper Corridor GTR	11.30	277.00	269.00	204.00	120.00	10.50	23.00		
Lower Corridor GTR	10.90	237.00	223.00	176.00	98.00	8.50	18.00		
Draft JARI Upper		270.96	256.18	193.21	112.17	9.8	21.81		
Draft JARI Lower		230.96	210.18	165.21	90.17	7.8	16.81		
Preliminary BASt Upper		272.0	252.0	192.0	108.0	10.0	6.0		
Preliminary BASt Lower		233.0	216.0	167.0	93.0	8.0	4.0		
Test No 572	**10.59**	250.28	231.32	179.69	101.69	8.99	18.79	123.79	55
573	11.19	259.53	236.68	182.48	103.19	9.44	20.05	144.29	59
574	11.25	254.21	231.3	176.81	**97.32**	8.66	19.56	148.01	59
575	11.03	254.88	234.38	177.89	**96.58**	8.84	19.27	148.92	59
576	11.08	256.54	233.27	177.18	98.42	8.95	19.38	147.53	59
577	11.25	254.17	232.99	176.59	**96.23**	8.88	19.36	148.43	59
579	**11.42**	255.01	234.11	178.32	**97.13**	8.91	32.74	148.57	60
580	11.22	256.29	235.12	176.96	**95.83**	8.74	13.66	151.93	59

Highlighted blue cells would have failed GTR, T3 very low in GTR corridor

Ram Stroke Phases

	Old Humanetics Fixture	New Humanetics Fixture	JARI	BASt
Accleration Distance	432	580	450	440
Free Travel to Impact	203	70	70	70
Impact to Hard Stop	152	200	220	190
Total Distance	787	850	740	700

Summary New Inverse Rig

- Initial testing shows results in line with RR JARI and BASt results
- Initial testing shows good repeatability
- Rigid frame design shows no perceptual movement in leg before impact

Thank You