

Graphic Display of Outputs of Accident Reconstruction SMAC Collision & Trajectory

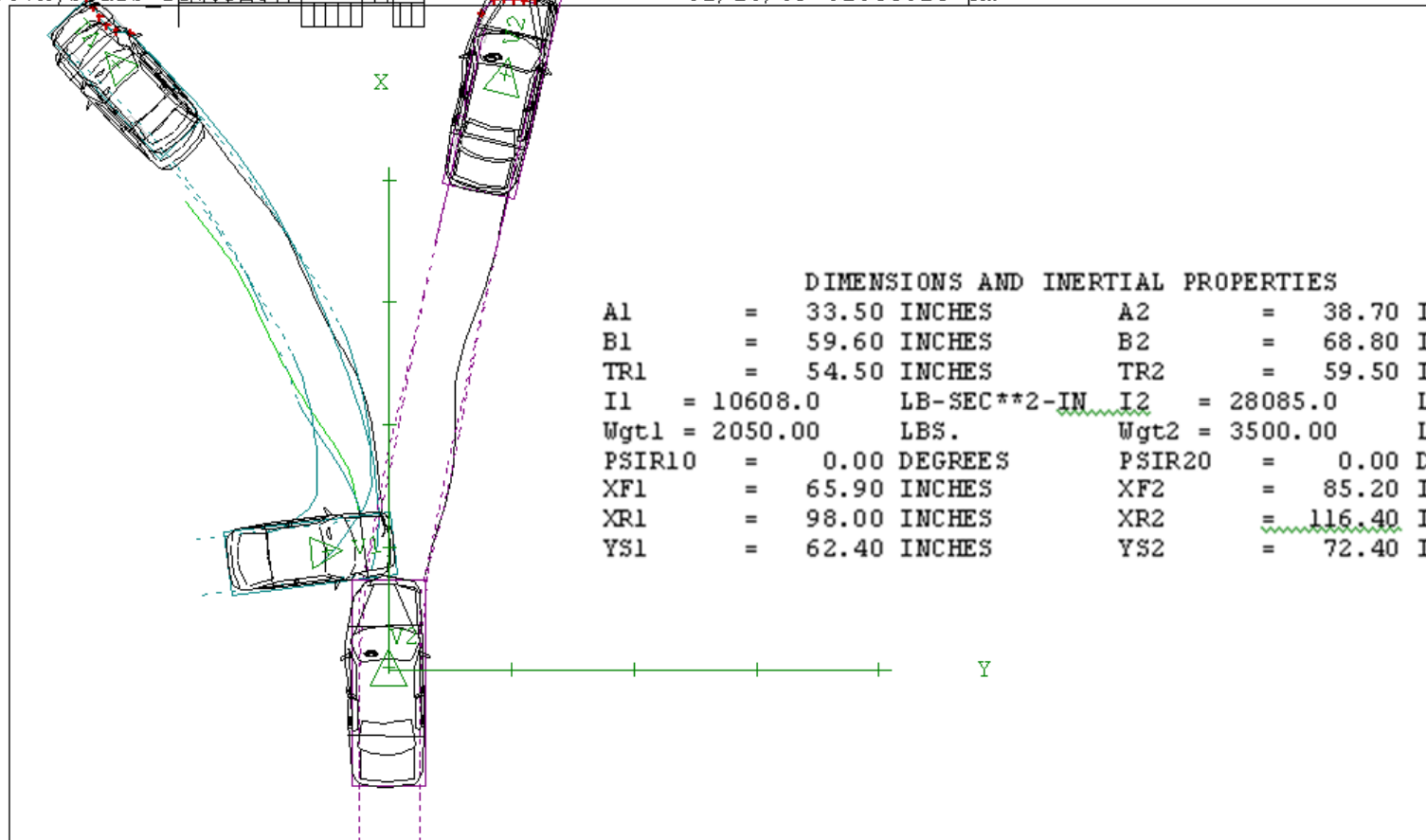
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Ser# MON99293

CSI Test Case from Vol2, Issue 2

2007nystars rev. 1.5

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DIMENSIONS AND INERTIAL PROPERTIES					
A1	=	33.50 INCHES	A2	=	38.70 INCHES
B1	=	59.60 INCHES	B2	=	68.80 INCHES
TR1	=	54.50 INCHES	TR2	=	59.50 INCHES
I1	=	10608.0 LB-SEC**2-IN	I2	=	28085.0 LB-SEC**2-IN
Wgt1	=	2050.00 LBS.	Wgt2	=	3500.00 LBS.
PSIR10	=	0.00 DEGREES	PSIR20	=	0.00 DEGREES
XF1	=	65.90 INCHES	XF2	=	85.20 INCHES
XR1	=	98.00 INCHES	XR2	=	116.40 INCHES
YS1	=	62.40 INCHES	YS2	=	72.40 INCHES

AXIS INTERVALS ARE 10. FEET

RECONSTRUCTED POSITIONS AND VELOCITIES AT IMPACT							DISPLAYED FINAL POSITIONS				VEHICLE DAMAGE INDICES	ΔV MPH
Initial Contact T= 0.500	C.G. POSITION		HEADING			C.G. POSITION		HEADING	REMARKS			
	XC1	YC1	PSI1	FWD	LATERAL	ANGULAR	XC1F	YC1F		PSI1F		
	FT.	FT.	DEG.	MPH	MPH	DEG/SEC	FT.	FT.	DEG.			
VEHICLE#1	9.6	-5.1	83.0	8.0	0.0	0.0	49.5	-22.4	-42.5	VEHICLE AT REST	0 3 R Y E W 3 0 4 R B E E 2	20.4 3.3
VEHICLE#2	0.2	0.0	0.0	36.5	0.0	0.0	48.6	9.5	12.9	VEHICLE AT REST	1 2 F Y E W 3 0 9 L P E W 2	11.9 1.7

VEHICLE NO. 1												
TIME SEC.	C.G. POSITION		HEADING PSI1 DEG	VELOCITIES		ANGULAR VELOCITY		ACCELERATION			SIDESLIP ANGLE DEG	COURSE ANGLE DEG
	XC1' FT	YC1' FT		FWD MPH	LAT MPH	PSI1DOT DEG/SEC	AX1 G	AY1 G	ACC1 G			
0.4000	9.50	-6.24	83.00	8.00	0.00	0.00	0.000	0.000	0.000	0.000	0.00	83.00
0.4500	9.57	-5.66	83.00	8.00	0.00	0.00	0.000	0.000	0.000	0.000	0.00	83.00
0.5000	9.64	-5.08	83.00	8.00	0.00	0.00	-0.003	-0.015	0.016	0.00	83.00	
0.5500	9.95	-4.59	80.08	5.78	-10.17	-184.34	-3.728	-17.596	17.987	-60.40	19.69	
0.6000	11.24	-4.47	65.35	8.18	-17.82	-315.29	-0.539	-0.208	0.578	-65.34	0.01	
0.6500	12.67	-4.48	50.03	12.37	-14.95	-297.62	-0.181	0.142	0.230	-50.41	-0.38	
0.7000	14.08	-4.49	35.57	15.47	-11.28	-280.63	-0.216	0.116	0.245	-36.10	-0.52	
0.7500	15.47	-4.50	21.97	17.43	-7.24	-263.78	-0.236	0.089	0.252	-22.56	-0.59	
0.8000	16.85	-4.52	9.19	18.32	-3.16	-247.19	-0.252	0.060	0.259	-9.77	-0.58	
0.8500	18.20	-4.53	-2.73	18.29	0.59	-225.01	-0.254	-0.931	0.965	1.85	-0.88	
0.9000	19.53	-4.64	-10.95	18.57	0.25	-90.70	1.140	-3.091	3.294	0.76	-10.19	
0.9500	20.87	-4.92	-14.50	18.45	0.68	-64.84	-0.319	-0.350	0.474	2.12	-12.38	
1.0000	22.18	-5.22	-17.55	18.05	1.23	-57.20	-0.327	-0.416	0.530	3.89	-13.66	

VEHICLE NO. 2												
TIME SEC.	C.G. POSITION		HEADING PSI2 DEG	VELOCITIES		ANGULAR VELOCITY		ACCELERATION			SIDESLIP ANGLE DEG	COURSE ANGLE DEG
	XC2' FT	YC2' FT		FWD MPH	LAT MPH	PSI2DOT DEG/SEC	AX2 G	AY2 G	ACC2 G			
0.4000	-5.14	0.00	0.00	36.50	0.00	0.00	0.000	0.000	0.000	0.000	0.00	0.00
0.4500	-2.46	0.00	0.00	36.50	0.00	0.00	0.000	0.000	0.000	0.000	0.00	0.00
0.5000	0.22	0.00	0.00	36.50	0.00	0.00	-0.009	0.003	0.009	0.00	0.00	
0.5500	2.75	0.05	0.47	30.43	1.97	30.76	-9.926	3.671	10.583	3.71	4.18	
0.6000	4.69	0.30	2.50	25.31	2.98	48.59	-0.217	-0.018	0.218	6.71	9.21	
0.6500	6.53	0.59	4.77	25.26	1.74	41.13	-0.123	-0.183	0.221	3.95	8.71	
0.7000	8.36	0.87	6.61	25.15	0.82	32.88	-0.150	-0.025	0.152	1.86	8.47	
0.7500	10.18	1.14	8.08	24.98	0.23	26.00	-0.191	0.115	0.223	0.52	8.60	
0.8000	11.98	1.42	9.24	24.75	-0.09	20.70	-0.232	0.211	0.314	-0.22	9.03	
0.8500	13.77	1.71	10.17	24.49	-0.16	15.84	-0.151	0.785	0.799	-0.38	9.79	
0.9000	15.52	2.07	10.53	24.34	1.47	-4.65	-0.445	1.626	1.686	3.45	13.98	
0.9500	17.24	2.51	10.20	23.94	1.53	-5.28	-0.338	-0.311	0.460	3.67	13.86	
1.0000	18.94	2.91	10.02	23.54	1.29	-2.11	-0.376	-0.266	0.461	3.14	13.15	

System Linear & Angular Momentum											
Time (sec)	Linear		Angular (lb-sec-in)	System CG Location			KE (ft-lbs)	Angular1 (lb-sec-in)	Angular2 (lb-sec-in)	KE1 (ft-lbs)	KE2 (ft-lbs)
	X (lb-sec)	Y (lb-sec)		X (ft)	Y (ft)	Angle (deg)					
0.400	5910.	741.	-74547.	0.3	-2.3	7.1	160127.	86435.	-160982.	4382.	155745.
0.450	5910.	741.	-74547.	2.0	-2.1	7.1	160127.	71416.	-145964.	4382.	155745.
0.500	5910.	741.	-74547.	3.7	-1.9	7.1	160127.	56398.	-130946.	4382.	155745.
0.550	5877.	722.	-73891.	5.4	-1.7	7.1	122996.	22049.	-95940.	13948.	109048.
0.600	5842.	651.	-72119.	7.1	-1.5	6.7	116512.	7798.	-79917.	39719.	76793.
0.650	5802.	600.	-72267.	8.8	-1.3	6.1	113251.	13884.	-86151.	37712.	75540.
0.700	5756.	575.	-73286.	10.5	-1.1	5.8	110139.	19832.	-93118.	35706.	74433.
0.750	5700.	577.	-74031.	12.1	-0.9	5.7	106960.	25709.	-99740.	33763.	73196.
0.800	5633.	601.	-74148.	13.8	-0.8	5.9	103661.	31595.	-105743.	31901.	71760.
0.850	5556.	638.	-73574.	15.4	-0.6	6.3	99949.	38182.	-111756.	29748.	70201.
0.900	5479.	632.	-70604.	17.0	-0.4	6.7	94227.	60678.	-131282.	24729.	69498.
0.950	5397.	547.	-67059.	18.6	-0.2	6.2	91193.	72546.	-139606.	23915.	67277.
1.000	5301.	457.	-64633.	20.1	-0.1	5.4	87832.	80727.	-145360.	22844.	64988.