

Example Simulation

VistaFx-Smac Simulation Report

Organization	Crashteam Inc.	Case	08
Created By	Mike Kennedy	Date Created	12/22/2008

Summary Information

Vehicle 1

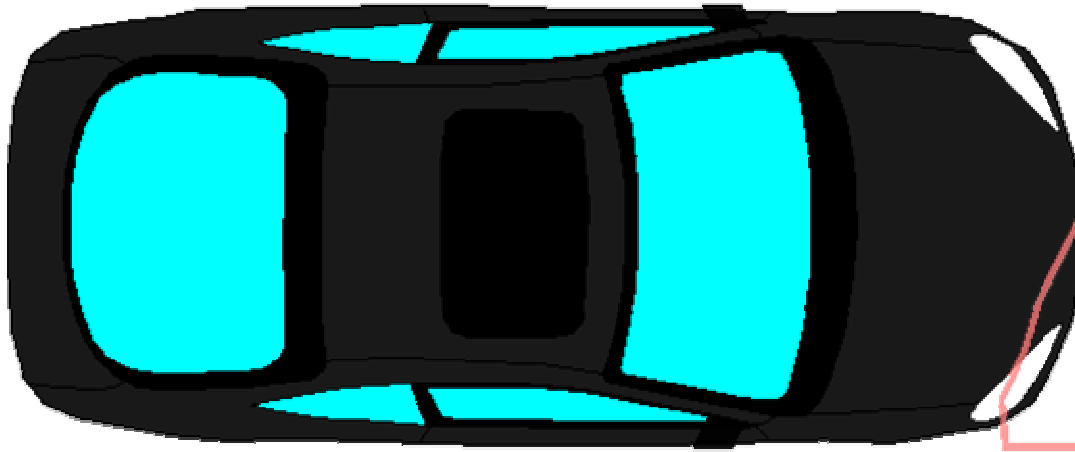
<i>Initial Conditions</i>		Steer Angles(deg)	Pre	Post	
X(feet)	-18.17	Left Front	0.00	0.00	
Y(feet)	1.65	Right Front	0.00	0.00	
Speed(MPH)	0	Left Rear	0.00	0.00	
Forward Velocity(MPH)	0	Right Rear	0.00	0.00	
Lateral Velocity(MPH)	0	Tire Drag(%)		Pre	Post
Angle	0.00	Left Front	-20.00	-20.00	
Delta Angle	0.00	Right Front	-20.00	-20.00	
Total Weight(lbs)	2500	Left Rear	-20.00	-20.00	
Stiffness Coef. (lbs/inch ²)	100	Right Rear	-20.00	-20.00	
<i>Primary Impact Summary</i>					
Time of Collision	0				
Impact Speed(MPH)	0				
Separation Speed(MPH)	11.61286				
Delta Speed(MPH)	11.69				
Collision Impulse Time (sec)	0.075				
Angle (degs)	-79.90				

Vehicle 2

<i>Initial Conditions</i>		Steer Angles(deg)	Pre	Post	
X(feet)	-4.28	Left Front	0.00	0.00	
Y(feet)	3.88	Right Front	0.00	0.00	
Speed (MPH)	35.002	Left Rear	0.00	0.00	
Forward Velocity (MPH)	35.002	Right Rear	0.00	0.00	
Lateral Velocity (MPH)	0	Tire Drag(%)		Pre	Post
Angle	221.80	Left Front	-20.00	-99.00	
Delta Angle	0.00	Right Front	-20.00	-100.00	
Total Weight (lbs)	2500	Left Rear	-20.00	-97.00	
Stiffness Coef. (lbs/inch ²)	100	Right Rear	-20.00	-100.00	
<i>Primary Impact Summary</i>					
Time of Collision	0				
Impact Speed (MPH)	35.002				
Separation Speed (MPH)	24.24566				
Delta Speed(MPH)	12.36				
Collision Impulse Time(sec)	0.075				
Angle(degs)	-114.53				

Vehicle 1 Simulated Crush Diagram

Damage Location	Front	Damage Width	3.225	Damage Offset	1.3725
Damage Area	0.1883333	Average Crush	0.6758333		



Crush Profiles (inches)

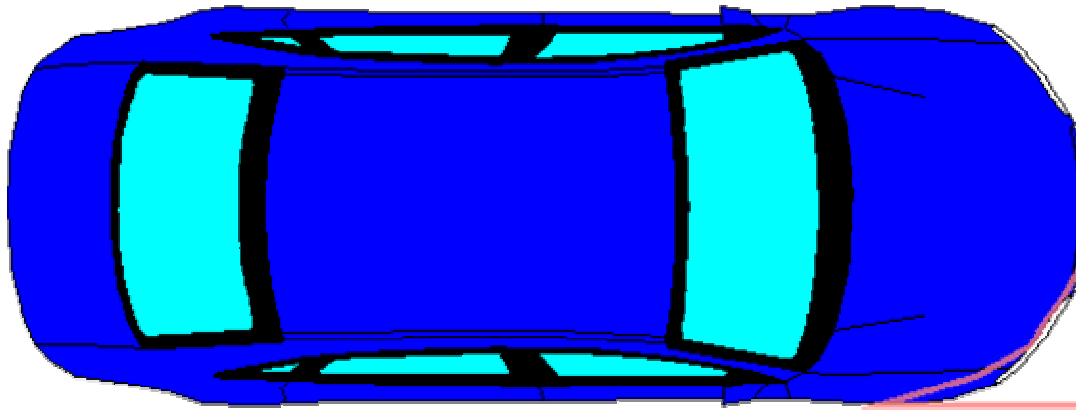
C1	0.08
C2	4.11
C3	7.81
C4	10.03
C5	13.70
C6	12.94

Vehicle 1 Specs

		(feet)		
Length	14.61		Yaw Inertia (lbs-sec ² -In)	17052.02
Width	6.00		CoG to Front Axle	-4.32
Front Overhang	2.50		CoG to Rear Axle	5.28
Rear Overhang	2.50		CoG to Front	6.82
Wheelbase	9.61		CoG to Rear	7.78
Front Track Width	4.80			
Rear Track Width	4.80			

Vehicle 2 Simulated Crush Diagram

Damage Location	Front	Damage Width	2.325	Damage Offset	1.994167
Damage Area	0.1983333	Average Crush	1.126667		



Crush Profiles (inches)

C1	0.00
C2	3.20
C3	7.17
C4	10.73
C5	20.52
C6	39.49

Vehicle 2 Specs

		(feet)		
Length	17.05		Yaw Inertia (lbs-sec ² -In)	17052.02
Width	6.31		CoG to Front Axle	-5.42
Front Overhang	2.50		CoG to Rear Axle	6.63
Rear Overhang	2.50		CoG to Front	7.92
Wheelbase	12.05		CoG to Rear	9.13
Front Track Width	5.05			
Rear Track Width	5.05			

Vehicle 1 Details

Time	X	Y	Speed	Forward Velocity	Lateral Velocity	Yaw	Delta Yaw
0.00	-18.17	1.65	0.00	0.00	0.00	0.00	0.00
0.03	-18.25	1.61	4.44	-4.03	1.88	-0.84	-66.78
0.07	-18.60	1.49	10.83	-10.22	3.60	-4.26	-129.81
0.10	-19.14	1.35	11.60	-10.66	4.56	-8.66	-128.89
0.13	-19.68	1.21	11.47	-10.20	5.24	-12.71	-116.54
0.17	-20.22	1.07	11.32	-9.73	5.79	-16.36	-104.90
0.20	-20.75	0.94	11.10	-9.27	6.11	-19.67	-96.54
0.23	-21.26	0.82	10.79	-8.82	6.21	-22.78	-92.25
0.26	-21.76	0.72	10.42	-8.38	6.21	-25.77	-89.56
0.30	-22.25	0.63	10.04	-7.95	6.14	-28.69	-87.50
0.33	-22.72	0.57	9.64	-7.53	6.03	-31.55	-85.71
0.36	-23.18	0.52	9.24	-7.12	5.89	-34.35	-84.01
0.40	-23.61	0.48	8.83	-6.73	5.73	-37.10	-82.27
0.43	-24.03	0.47	8.42	-6.35	5.54	-39.78	-80.40
0.46	-24.43	0.46	8.02	-5.98	5.34	-42.40	-78.34
0.50	-24.81	0.48	7.62	-5.63	5.13	-44.95	-76.01
0.53	-25.17	0.50	7.22	-5.30	4.90	-47.41	-73.40
0.56	-25.50	0.53	6.83	-4.99	4.67	-49.79	-70.48
0.59	-25.82	0.58	6.45	-4.69	4.42	-52.06	-67.26
0.63	-26.12	0.63	6.07	-4.41	4.17	-54.23	-63.78
0.66	-26.40	0.69	5.70	-4.15	3.91	-56.27	-60.04
0.69	-26.66	0.75	5.34	-3.91	3.64	-58.18	-56.08
0.73	-26.90	0.82	4.99	-3.68	3.36	-59.97	-51.92
0.76	-27.12	0.90	4.64	-3.48	3.07	-61.61	-47.59
0.79	-27.32	0.97	4.30	-3.28	2.78	-63.11	-43.09
0.83	-27.50	1.06	3.97	-3.11	2.48	-64.45	-38.44
0.86	-27.67	1.14	3.66	-2.94	2.17	-65.64	-33.66
0.89	-27.81	1.23	3.35	-2.79	1.86	-66.67	-28.77
0.92	-27.94	1.32	3.06	-2.65	1.54	-67.54	-23.76
0.96	-28.05	1.41	2.79	-2.52	1.21	-68.24	-18.65
0.99	-28.14	1.50	2.55	-2.39	0.88	-68.77	-13.46
1.02	-28.21	1.59	2.33	-2.27	0.54	-69.13	-8.18
1.06	-28.26	1.69	2.16	-2.15	0.20	-69.31	-2.85
1.09	-28.30	1.78	2.04	-2.04	0.02	-69.34	-0.15
1.12	-28.34	1.87	1.92	-1.92	0.00	-69.35	0.00
1.16	-28.37	1.96	1.80	-1.80	0.00	-69.35	0.00
1.19	-28.40	2.03	1.69	-1.69	0.00	-69.35	0.00
1.22	-28.43	2.11	1.57	-1.57	0.00	-69.35	0.00
1.25	-28.45	2.18	1.46	-1.46	0.00	-69.35	0.00
1.29	-28.48	2.24	1.34	-1.34	0.00	-69.35	0.00
1.32	-28.50	2.30	1.22	-1.22	0.00	-69.35	0.00
1.35	-28.52	2.35	1.11	-1.11	0.00	-69.35	0.00
1.39	-28.54	2.40	0.99	-0.99	0.00	-69.35	0.00
1.42	-28.55	2.44	0.88	-0.88	0.00	-69.35	0.00
1.45	-28.57	2.48	0.76	-0.76	0.00	-69.35	0.00
1.49	-28.58	2.51	0.64	-0.64	0.00	-69.35	0.00
1.52	-28.59	2.54	0.53	-0.53	0.00	-69.35	0.00
1.55	-28.60	2.56	0.41	-0.41	0.00	-69.35	0.00
1.58	-28.60	2.57	0.30	-0.30	0.00	-69.35	0.00
1.62	-28.61	2.58	0.18	-0.18	0.00	-69.35	0.00
1.65	-28.61	2.59	0.07	-0.07	0.00	-69.35	0.00
1.68	-28.61	2.59	0.03	-0.03	0.00	-69.35	0.00
1.72	-28.61	2.59	0.01	-0.01	0.00	-69.35	0.00
1.75	-28.61	2.59	0.00	0.00	0.00	-69.35	0.00
1.78	-28.61	2.59	0.00	0.00	0.00	-69.35	0.00
1.79	-28.61	2.59	0.00	0.00	0.00	-69.35	0.00

Vehicle 2 Details

Time	X	Y	Speed	Forward Velocity	Lateral Velocity	Yaw	Delta Yaw
0.00	-4.28	3.88	35.00	35.00	0.00	221.80	90.00
0.03	-5.46	2.79	30.48	30.45	-1.33	221.70	86.04
0.07	-6.35	1.81	24.95	24.56	-4.36	222.08	122.11
0.10	-7.05	0.87	23.78	23.43	-4.10	223.30	127.41
0.13	-7.74	-0.04	23.21	22.94	-3.49	224.52	126.36
0.17	-8.40	-0.92	22.63	22.44	-2.93	225.70	125.08
0.20	-9.05	-1.79	22.06	21.93	-2.42	226.83	123.25
0.23	-9.68	-2.63	21.49	21.40	-1.98	227.89	121.04
0.26	-10.30	-3.45	20.92	20.86	-1.59	228.87	118.71
0.30	-10.89	-4.25	20.35	20.31	-1.25	229.78	116.40
0.33	-11.47	-5.03	19.77	19.75	-0.95	230.62	114.16
0.36	-12.04	-5.79	19.20	19.19	-0.69	231.38	111.94
0.40	-12.58	-6.53	18.63	18.62	-0.46	232.07	109.76
0.43	-13.11	-7.24	18.06	18.05	-0.27	232.68	107.62
0.46	-13.62	-7.93	17.48	17.48	-0.11	233.23	105.52
0.50	-14.11	-8.60	16.91	16.91	0.03	233.71	103.47
0.53	-14.59	-9.25	16.33	16.33	0.14	234.12	101.47
0.56	-15.05	-9.87	15.76	15.76	0.22	234.46	99.53
0.59	-15.50	-10.48	15.19	15.18	0.28	234.75	97.70
0.63	-15.92	-11.06	14.61	14.61	0.32	234.97	96.09
0.66	-16.33	-11.62	14.04	14.03	0.33	235.15	94.78
0.69	-16.72	-12.16	13.46	13.46	0.32	235.29	93.74
0.73	-17.10	-12.67	12.89	12.88	0.29	235.40	92.87
0.76	-17.46	-13.17	12.31	12.31	0.26	235.48	92.13
0.79	-17.79	-13.64	11.74	11.74	0.23	235.54	91.49
0.83	-18.12	-14.09	11.16	11.16	0.19	235.58	90.97
0.86	-18.42	-14.52	10.59	10.59	0.15	235.61	90.56
0.89	-18.71	-14.93	10.01	10.01	0.12	235.62	90.27
0.92	-18.98	-15.31	9.44	9.44	0.09	235.63	90.08
0.96	-19.23	-15.68	8.87	8.87	0.06	235.63	89.97
0.99	-19.47	-16.02	8.29	8.29	0.04	235.63	89.93
1.02	-19.69	-16.34	7.72	7.72	0.03	235.62	89.91
1.06	-19.89	-16.63	7.14	7.14	0.02	235.62	89.92
1.09	-20.08	-16.91	6.57	6.57	0.01	235.62	89.93
1.12	-20.25	-17.16	5.99	5.99	0.01	235.62	89.94
1.16	-20.41	-17.38	5.42	5.42	0.00	235.61	89.94
1.19	-20.55	-17.59	4.85	4.85	0.00	235.61	89.95
1.22	-20.67	-17.77	4.27	4.27	0.00	235.61	89.95
1.25	-20.78	-17.93	3.70	3.70	0.00	235.61	89.96
1.29	-20.87	-18.07	3.12	3.12	0.00	235.61	89.97
1.32	-20.95	-18.18	2.55	2.55	0.00	235.61	89.97
1.35	-21.01	-18.27	1.98	1.98	0.00	235.61	89.98
1.39	-21.06	-18.34	1.40	1.40	0.00	235.61	89.99
1.42	-21.09	-18.38	0.83	0.83	0.00	235.61	89.99
1.45	-21.11	-18.40	0.25	0.25	0.00	235.61	90.00
1.49	-21.11	-18.41	0.00	0.00	0.00	235.60	89.99
1.52	-21.11	-18.41	0.00	0.00	0.00	235.60	90.00
1.55	-21.11	-18.41	0.00	0.00	0.00	235.60	90.00
1.58	-21.11	-18.41	0.00	0.00	0.00	235.60	90.00
1.62	-21.11	-18.41	0.00	0.00	0.00	235.60	90.00
1.65	-21.11	-18.41	0.00	0.00	0.00	235.60	90.00
1.68	-21.11	-18.41	0.00	0.00	0.00	235.60	90.00
1.72	-21.11	-18.41	0.00	0.00	0.00	235.60	90.00
1.75	-21.11	-18.41	0.00	0.00	0.00	235.60	90.00
1.78	-21.11	-18.41	0.00	0.00	0.00	235.60	90.00
1.79	-21.11	-18.41	0.00	0.00	0.00	235.60	90.00

