



MIDWEST ACCIDENT
RECONSTRUCTION SERVICES

**** REFERENCE**
HVE Vehicle data base
Engineering Dynamics Corporation
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Beaverton, OR
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HANDLING CHARACTERISTICS AND STATISTICS FOR SOME SUV's**

vehicle number	Vehicle	unloaded c.g. height, inches	front track, inches	rear track, inches	wheelbase, inches	distance a, inches	distance b, inches	t/2h, inches	weight, lb	front tire load, lb	max. lb-sec ² /in	yaw inertia lb-sec ² in	initial v-dot/delta r, ft/sec ²	initial r-dot/delta t, rad/sec ²	individual front tire stiffness, UG, dsg/s	steering sensitivity, deg/g	roll gradient, deg/g	f/w weight distribution, d/less	tire size		
																				initial v-dot/delta r, ft/sec ²	initial r-dot/delta t, rad/sec ²
1	1981-1992 Chevrolet K-5 Blazer 2-dr.	27.68	66.00	64.00	106.49	51.65	54.84	1.174	4870.19	2483.80	12.60	3730.33	2.64	0.55	-199.84	0.26	41.38	3.97	0.51	L725/75-R15	
2	1992-1999 Chevrolet Suburban 1500	29.49	64.00	63.50	131.11	68.91	62.60	1.098	5593.83	2415.62	15.42	7002.19	2.30	0.42	-122.55	-0.60	35.02	3.43	0.51	L725/75-R16	
3	1981-1991 Chevrolet Suburban 2500	29.25	71.00	67.00	118.50	63.37	55.13	1.179	5127.53	2615.04	13.27	43046.48	2.54	0.59	-201.58	0.39	46.97	4.63	0.51	L725/85-R16	
4	1992-1999 Chevrolet Tahoe LS	29.07	64.10	63.54	111.50	68.67	62.83	1.098	5019.34	2740.44	12.99	5047.51	2.72	0.41	-211.99	1.11	54.79	3.04	0.54	L745/75-R16	
5	2002-2009 Chevrolet Trailblazer	29.89	63.12	62.06	113.00	50.73	62.27	1.047	4577.00	2425.81	11.85	44020.90	2.91	0.68	-206.86	0.91	64.38	3.03	0.53	P235/75-R16	
6	1998-2003 Dodge Durango S/LT	28.08	61.90	62.90	116.20	65.64	1.111	4689.60	2532.06	12.14	41420.20	2.80	0.50	-204.23	1.17	60.93	3.13	0.54	P245/70-R16		
7	1987-1989 Dodge Raider 2-dr	27.35	55.20	54.00	92.50	46.00	45.50	0.998	3218.71	1644.98	8.33	25588.64	3.67	0.66	-183.46	0.15	27.70	5.00	0.48	P225/75-R15	
8	1984-1988 Ford Bronco II	28.20	56.50	56.60	94.00	45.60	48.40	0.985	3593.91	1761.02	9.30	24892.88	2.48	0.51	-138.34	0.23	37.66	4.24	0.49	P205/75-R16	
9	2001-2011 Ford Escape	28.83	61.90	60.30	103.02	63.08	1.060	3469.72	2156.53	8.98	2510.12	4.25	0.73	-238.95	1.52	60.94	3.05	0.61	P235/70-R16		
10	2000-2005 Ford Excursion	33.63	68.40	68.10	137.10	69.54	67.56	1.015	7480.70	3665.54	19.36	79308.51	1.83	0.37	-213.10	0.19	43.29	3.66	0.49	L785/75-R16	
11	1997-2002 Ford Expedition	30.23	65.40	65.00	119.10	56.78	62.32	1.078	5610.53	2861.37	14.52	32728.25	2.67	0.50	-232.64	0.37	38.25	3.82	0.51	P265/70-R17	
12	1991-1994 Ford Explorer	27.29	58.30	58.20	111.99	53.01	58.98	1.076	4250.40	2167.70	11.08	3739.49	2.95	0.95	-194.68	0.30	64.24	5.26	0.51	P235/75-R15	
13	2002-2009 GMC Envoy	29.89	62.12	62.06	112.00	50.73	62.27	1.047	4577.00	2415.62	11.85	44020.90	2.91	0.46	-199.99	0.91	64.38	3.03	0.55	P235/75-R16	
14	1981-1991 GMC Jimmy	27.68	66.00	64.00	106.49	51.65	54.84	1.174	4870.19	2483.80	12.60	3730.33	2.64	0.55	-199.84	0.26	41.38	3.97	0.51	L725/75-R15	
15	1992-1999 GMC Yukon	29.07	64.10	63.54	111.50	68.67	62.83	1.098	5019.34	2740.44	12.99	5047.51	2.72	0.41	-211.99	1.11	54.79	3.04	0.54	L745/75-R16	
16	2000-2006 GMC Yukon SLE	29.31	65.00	66.00	116.00	52.57	63.43	1.117	5197.08	2734.45	13.45	50754.49	2.66	0.44	-214.33	0.81	51.41	3.22	0.53	L725/75-R16	
17	2003-2011 Honda Element EX	28.35	62.10	62.30	103.40	44.13	57.27	1.060	3598.14	1992.89	9.21	26185.92	3.48	0.65	-192.47	1.00	49.33	3.40	0.50	P215/70-R16	
18	1991-1997 Honda Passport	27.34	56.70	56.90	108.70	52.14	56.56	1.039	4030.15	2015.08	10.43	32883.07	3.44	0.68	-215.33	0.15	36.51	2.79	0.50	P225/75-R15	
19	1991-1997 Isuzu Rodeo	27.34	56.70	56.90	108.70	52.14	56.56	1.039	4030.15	2015.08	10.43	32883.07	3.05	0.61	-190.80	0.15	36.51	2.79	0.50	P225/75-R15	
20	1999-2001 Isuzu VehiCROSS	27.58	59.66	59.80	91.73	42.16	49.57	1.083	3835.99	2071.43	9.93	2373.72	3.98	0.84	-237.28	0.55	47.68	2.73	0.54	P245/60-R18	
21	1984-2001 Jeep Cherokee Sport	28.90	58.00	101.40	42.11	59.19	10.03	3481.46	1984.43	9.01	19535.54	3.52	0.82	-190.32	1.27	54.93	3.89	0.57	P225/75-R15		
22	2005-2010 Jeep Grand Cherokee Laredo	28.58	62.00	62.00	109.50	48.11	61.39	1.085	4412.69	2382.85	11.42	36902.62	3.71	0.68	-254.43	0.43	41.17	3.16	0.54	P235/65-R17	
23	2002-2007 Jeep Liberty	29.65	60.00	59.70	104.30	45.22	59.08	1.099	4084.25	2205.50	10.57	2314.86	3.85	0.68	-244.03	0.79	52.13	4.08	0.54	P235/65-R17	
24	1997-2006 Jeep Wrangler	25.17	58.00	62.40	42.13	46.27	1.052	3133.70	1556.85	8.11	1336.61	2.75	0.64	-133.61	-0.85	28.79	2.79	0.50	P205/75-R15		
25	1995-1998 Land Rover	28.36	58.50	58.50	100.00	49.67	50.33	1.031	4416.55	2208.12	11.43	23960.12	2.85	0.81	-195.47	0.06	40.41	5.09	0.50	P235/75-R16	
26	2002-2005 Lincoln Aviator	29.87	60.90	61.30	113.70	53.86	59.84	1.023	4605.89	2442.11	11.92	38416.96	3.45	0.69	-246.94	0.23	42.22	3.43	0.53	P235/70-R16	
27	2001-2011 Lincoln Navigator	31.70	66.90	67.10	120.60	57.79	61.21	1.058	5778.62	2845.64	14.44	49907.40	2.41	0.48	-208.49	0.31	46.45	3.40	0.51	P235/70-R17	
28	2001-2011 Mazda Tribute	28.83	61.30	60.90	103.10	40.02	63.08	1.060	3469.87	2116.62	8.98	2510.12	4.25	0.73	-228.95	1.52	60.94	3.05	0.61	P235/70-R16	
29	2001-2011 Mercury Mariner	28.83	61.30	60.90	103.10	40.02	63.08	1.060	3470.87	2117.23	8.98	2510.12	4.25	0.73	-228.99	1.52	60.94	3.05	0.61	P235/70-R17	
30	1996-2001 Mercury Mountaineer	28.28	58.26	58.50	112.00	51.84	60.16	1.032	4294.84	2233.12	11.26	36450.20	2.93	0.56	-195.76	0.49	46.11	3.77	0.52	P235/75-R15	
31	1984-1991 Mitsubishi Montero	27.35	62.50	62.50	106.00	46.00	46.00	1.098	3218.71	1644.98	8.33	25588.64	3.67	0.66	-183.46	-0.15	27.70	5.00	0.48	P225/75-R15	
32	2004-2011 Nissan Pathfinder SE	30.42	61.80	61.80	112.50	55.83	56.97	1.016	4737.26	2416.00	12.36	39555.84	2.85	0.59	-209.68	0.14	48.37	3.64	0.51	L785/70-R16	
33	2002-2004 Oldsmobile Bravada	29.89	63.12	62.06	113.00	50.73	62.27	1.047	4577.00	2415.62	11.85	44020.90	2.81	0.46	-199.99	0.91	64.38	3.03	0.55	P235/75-R16	
34	2009-2011 Subaru Forester	26.55	60.20	60.00	103.60	57.38	1.134	3280.44	2132.35	8.49	23162.23	5.76	1.16	-209.23	0.49	46.23	3.16	0.65	P235/75-R17		
35	2002-2006 Suzuki Grand Vitara X-7	28.74	59.10	59.10	110.20	48.73	61.47	1.027	3733.00	2517.35	11.85	27854.01	4.93	0.99	-284.12	0.42	53.61	2.99	0.66	P235/60-R16	
36	1995-2003 Suzuki Vitara	30.21	59.10	59.10	110.20	52.09	58.11	0.978	3702.99	1888.52	9.58	42211.69	4.27	0.61	-245.48	0.38	52.72	4.09	0.51	P235/60-R16	
37	1996-2002 Toyota 4Runner	30.65	58.90	59.20	105.29	46.39	58.90	1.094	3690.12	1955.76	9.55	30454.22	3.31	0.58	-189.87	0.71	56.04	3.55	0.53	P225/75-R15	
38	2001-2007 Toyota Highlander	27.19	62.00	61.22	106.89	44.85	62.04	1.133	3701.72	2147.00	9.58	27336.58	4.66	0.87	-288.04	0.91	48.45	4.43	0.58	P225/70-R16	
		AVERAGE	28.83	61.40	61.23	108.57	50.13	58.44	1.063	4330.44	2148.40	11.21	36770.01	3.28	0.62	-212.94	0.55	47.35	3.04	0.53	
		STANDARD DEVIATION	1.52	3.65	3.36	9.73	6.81	5.48	0.956	906.75	418.03	23.95	32903.81	0.82	0.17	32.33	0.51	10.49	1.17	0.05	

1994 Ford Explorer VIN 1FMDU32X9RUD61746

vehicle number	Vehicle	unloaded c.g. height, inches	front track, inches	rear track, inches	wheelbase, inches	distance a, inches	distance b, inches	t/2h, inches	weight, lb	front tire load, lb	max. lb-sec ² /in	yaw inertia lb-sec ² in	initial v-dot/delta r, ft/sec ²	initial r-dot/delta t, rad/sec ²	individual front tire stiffness, UG, dsg/s	steering sensitivity, deg/g	roll gradient, deg/g	f/w weight distribution, d/less	tire size	
																				initial v-dot/delta r, ft/sec ²
1	5 passenger load, Goodyear Wrangler tires	27.12	58.35	58.45	111.90	56.90	55.00	1.077	4824.40	2368.78	12.49	31980.00	2.49	0.49	P225/70-R15					
2	5 passenger load, Nexen Rodian HT M+S tires	27.15	58.26	58.34	111.90	56.92	56.88	1.066	4830.50	2366.95	12.50	3366.00	2.49	0.49	P225/75-R15					
3	5 passenger load, Cooper Zeon XST A tires	27.15	57.85	57.90	111.90	56.88	56.88	1.066	4830.50	2366.95	12.50	3366.00	2.49	0.49	P225/75-R15					
4	4 passenger load, Cooper Zeon XST A tires	27.55	57.75	57.90	111.90	55.68	56.22	1.049	4773.90	2386.95	12.35	34400.00	2.50	0.50	P265/35-R22					
5	4 passenger load, Cooper XST A tires	27.55	57.73	57.89	111.90	54.74	54.77	1.059	4610.70	2259.24	11.93	33816.00	2.49	0.49	P265/35-R22					
		AVERAGE	27.43	57.96	58.09	111.98	56.88	1.058												
stock		1991-1994 Ford Explorer (from HVE database)	27.09	58.30																