4N6XPRT StifCalcs™

Available Test Results

Rear Impact Test Summary

Report Filter Settings

Year Range : 1965 - 2005

Bodystyle : UTILITY VEHICLE

Impact Locations : REAR

Test Number	Vehicle Info	No Damage Speed (mph)	Average Crush (inch)	KE Speed (mph)	Vehicle Width Stiffness Values A	B	G	Crush Factor (Average Crush)
Test Type : **Rear**								
535	1982 TOYOTA LAND CRUISER UTILITY VEHICLE	5.0	3.8	20.1	1137	915.3	706.1	43.1
641	1983 CHEVROLET BLAZER UTILITY VEHICLE	5.0	9.6	20.8	402.8	132.5	612	18
642	1984 FORD BRONCO II UTILITY VEHICLE	5.0	6.2	21.3	630.8	334	595.7	29.5
557	1984 JEEP CHEROKEE UTILITY VEHICLE	5.0	12.2	21.4	293.5	79.3	543	15.1
875	1985 CHEVROLET BLAZER UTILITY VEHICLE	5.0	8.3	21.1	431.8	168	555.1	21.5
1434	1990 TOYOTA 4RUNNER UTILITY VEHICLE	5.0	10.5	20.5	379.2	112.6	638.5	16.1
1970	1993 CHEVROLET BLAZER UTILITY VEHICLE	5.0	10.1	20.6	377.1	116.5	610.6	16.8
1917	1993 ISUZU TROOPER II UTILITY VEHICLE	5.0	6	19.9	690.7	339.2	703.2	26.1
4858	2003 INFINITI QX4 UTILITY VEHICLE	5.0	15.3	19.8	269.8	52.1	698.9	10.2
		Rear Averages			512.5	249.9	525.5	21.8
		Rear Minimums			269.8	52.1	698.6	10.2
		Rear Maximums			1137	915.3	706.2	43.1
		Rear Standard Deviation			273.2	270	276.9	9.9

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Available Test Results

Rear Impact Test Summary

Report Filter Settings

Year Range : 1965 - 2005

Bodystyle : UTILITY VEHICLE

Impact Locations : REAR

Test Number	Vehicle Info	No Damage Speed (mph)	Max Crush (inch)	KE Speed (mph)	Vehicle Width Stiffness Values A	B	G	Crush Factor (Max Crush)
Test Type : **Rear**								
535	1982 TOYOTA LAND CRUISER UTILITY VEHICLE	5.0	4.8	20.1	890	560.9	706.1	33.8
641	1983 CHEVROLET BLAZER UTILITY VEHICLE	5.0	9.9	20.8	391.8	125.4	612	17.6
642	1984 FORD BRONCO II UTILITY VEHICLE	5.0	6.9	21.3	562.2	265.3	595.7	26.3
557	1984 JEEP CHEROKEE UTILITY VEHICLE	5.0	12.5	21.4	285.3	74.9	543	14.7
875	1985 CHEVROLET BLAZER UTILITY VEHICLE	5.0	9	21.1	397.1	142	555.1	19.8
1434	1990 TOYOTA 4RUNNER UTILITY VEHICLE	5.0	11.6	20.5	341.8	91.5	638.5	14.5
1970	1993 CHEVROLET BLAZER UTILITY VEHICLE	5.0	10.5	20.6	362	107.3	610.6	16.1
1917	1993 ISUZU TROOPER II UTILITY VEHICLE	5.0	10.7	19.9	390.2	108.3	703.2	14.7
4858	2003 INFINITI QX4 UTILITY VEHICLE	5.0	16.1	19.8	255.9	46.8	698.9	9.7
		Rear Averages			430.7	169.2	548.3	18.6
		Rear Minimums			255.9	46.8	699.6	9.7
		Rear Maximums			890	560.9	706.1	33.8
		Rear Standard Deviation			192.6	159.2	167.9	7.3

KE Equivalent Speed

The KE Equivalent Speed calculation is necessary for Rear and Side impact tests, since this value is not reported/measured as part of the test process.

This calculation is made to determine how much energy was expended in causing the permanent damage to the vehicle(s).

The KE Equivalent Speed determination has the following assumptions - A) The Impactor and Vehicle remain together after impact, and B) The Impactor and Vehicle have a common Post Impact Speed (PIS). The KE Equivalent Speed is calculated in the following manner based on these two assumptions:

$$\textit{KE Equivalent Speed} = \sqrt{\left[\frac{30 * (\textit{Energy Before Impact} - \textit{Energy After Impact})}{\textit{Vehicle Weight}}\right]}$$

Which is calculated as follows:

$$\textit{KE Eq Spd} = \sqrt{\left[\frac{30 * \frac{0.5}{32.2} * \left[IW * \left(IS * \frac{5280}{3600}\right)^2 - \left((IW+VW) * \left(PIS * \frac{5280}{3600}\right)^2\right)\right]}{VW}\right]}$$

Where:

IW=Impactor Weight *IS=Impact Speed* *VW=Vehicle Weight* *PIS=Post Impact Speed*

and

$$\textit{Post Impact Speed (PIS)} = \frac{\textit{Impact Speed} * \textit{Impactor Weight}}{\textit{Impactor Weight} + \textit{Vehicle Weight}}$$

Revised 5/7/2001