

FOURLINK - Version 4.0
Racing Systems Analysis - www.QUARTERjr.com

File: BaseCase.4LB

Note: sample case for FOURLINK

General Data

Estimated 60 ft Time - sec	1.12
Maximum Acceleration - g's	2.26

Tire Rollout - inches	102.0

Rear Suspension Data

Shock Mount Location - inches	-5.00
Rear Spring Rate - lbs/inch	85

Shock Units:	lbs per in/sec
Compression (Bump) Rate	66
Extension (Rebound) Rate	209

Wheelie Bar Length - inches	68.0

Four Link Geometry Data - Hole Code 2123

Link Bar	Axle End	Chassis End	Length	Angle	Forces and Components				
	x-in	y-in	x-in	y-in	inches	degrees	lbs	Horiz	Vertical
Upper	1.000	19.000	20.100	14.250	19.68	-14.0	-5160	-5041	1102
Lower	0.500	8.000	20.500	7.000	20.02	-2.9	9179	9177	-190
							Totals	4136	912

Dynamic Weight Transfer

Front Weight - lbs	171
Rear Weight - lbs	2009
Wheelie Bar Force - lbs	0
Shock Separation - inches	-0.5
Shock Damping Ratio	2.44

Static Weight Data - lbs %

Front Weight	1105	50.7
Rear Weight	1075	49.3

Total Weight	2180	100.0

Center of Gravity Data

Wheelbase - inches	105.0
Horizontal CG - inches	53.2

Vertical CG - inches	17.0
Front Strut Lift - inches	2.0
Front Tire Lift - inches	1.0

Weight of Rear Axle Assembly	350

Instant Center Parameters

Horizontal IC - inches	56.5
Vertical IC - inches	5.2

Percent Anti-Squat - %	91
Initial Rear Tire Hit - lbs	519

Dynamic Chassis Analysis - Hole Code 2123

Time	Separation	Forces - lbs	Rear	Front	Wheelie			
sec	in	in/sec	Spring	Shock	Mass	Tires	Tires	Bars
0.00	0.00	0.0	666	0	0	1075	1105	0
0.05	0.05	1.3	658	-530	28	1516	692	0
0.10	0.12	1.7	645	-697	20	1933	267	0
0.15	0.19	1.2	633	-504	-32	1899	249	0
0.20	0.24	0.6	626	-268	-39	1918	223	0
0.25	0.26	0.1	623	-31	-46	1943	191	0
0.30	0.23	-0.7	627	93	1	2010	171	0
0.35	0.20	-0.7	633	87	0	2009	171	0
0.40	0.16	-0.7	638	86	1	2010	171	0
0.45	0.13	-0.6	644	85	1	2010	171	0
0.50	0.10	-0.6	649	84	1	2010	171	0
0.55	0.07	-0.6	655	83	1	2010	171	0
0.60	0.04	-0.6	660	77	8	1997	191	0
0.65	0.01	-0.5	664	65	8	1957	231	0
0.70	-0.01	-0.4	668	55	8	1918	270	0
0.75	-0.03	-0.3	672	45	8	1878	310	0
0.80	-0.05	-0.3	674	34	8	1839	349	0

Average Rear Tire Force - lbs 1960

Rear Tire Force Variation - % 6.7

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Four Link Bar Geometry Data

Hole	Upper Link Bar				Lower Link Bar			
	Axle End	Chassis End	Axle End	Chassis End	x-in	y-in	x-in	y-in
x-in	y-in	x-in	y-in	x-in	y-in	x-in	y-in	
1	1.000	20.000	20.100	14.250	0.500	9.000	20.500	9.000
2	1.000	19.000	20.100	13.250	0.500	8.000	20.500	8.000
3	1.000	18.000	20.100	12.250	0.500	7.000	20.500	7.000
4	1.000	17.000	20.100	11.250	0.500	6.000	20.500	6.000
5	1.000	16.000	20.100	10.250	0.500	5.000	20.500	5.000

Adjust Geometry: Axle Height - in 0.000 Chassis Height - in 0.000
Pinion Angle - deg 0.00

Calculated Four Link Bar Details - Display Limits

Shock Separation - in	Instant Center Locations - in
min	x-min 10.0 y-min 1.0
max	x-max 60.0 y-max 20.0

Percent Anti-Squat - %	Lower Link Bar Angle - degs
min	min -5.0
max	max 2.0

Calculated Four Link Bar Details

Hole	Instant Center	Shock Sep.	%Anti-Squat	Tire Hit	
Code	x-in	y-in	Sep.	Squat	Hit
3355	44.2	5.0	0.5	109	627
3244	49.3	6.0	0.5	108	667
1234	43.9	4.8	0.5	108	612
2112	51.5	6.5	0.4	108	684
1345	40.4	4.0	0.4	108	562
5455	45.2	5.0	0.4	107	614
3445	40.6	4.0	0.4	107	558
5545	40.9	4.0	0.3	106	553
3334	44.9	4.8	0.3	106	595
1123	48.9	5.6	0.3	106	630
5344	51.9	6.0	0.2	104	636
3133	57.0	7.0	0.2	104	670
2255	47.5	5.0	0.2	103	588
5434	46.4	4.7	0.1	102	569
2144	53.3	6.0	0.1	102	621
3223	51.5	5.5	0.0	100	589
4355	49.3	5.0	0.0	100	569
4212	55.8	6.2	0.0	100	616
2345	43.9	3.8	0.0	99	503

Display Limits: On

Hole	Instant Center	Shock Sep.	%Anti-Squat	Tire Hit	
Code	x-in	y-in	Sep.	Squat	Hit
1155	50.8	5.0	-0.1	98	553
2234	48.9	4.6	-0.1	97	531
4445	44.9	3.8	-0.2	97	488
4244	57.0	6.0	-0.2	96	584
3255	53.3	5.0	-0.3	94	530
4334	51.5	4.5	-0.4	93	495
1245	47.2	3.7	-0.4	92	454
5323	55.8	5.2	-0.4	92	528
2123	56.5	5.2	-0.5	91	519
1134	52.9	4.4	-0.5	90	476
5355	57.0	5.0	-0.6	89	498
3345	48.9	3.6	-0.6	89	432
2155	57.3	5.0	-0.6	89	495
5445	51.5	3.5	-0.8	85	400
3234	56.5	4.2	-0.9	84	432
2245	52.9	3.4	-1.0	82	384
4345	56.5	3.2	-1.3	77	345
1145	56.9	3.2	-1.3	77	342