

**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

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 Tire Rollout - inches 102.0

**Static Weight Data - lbs %**

Front Weight 1105 50.7  
 Rear Weight 1075 49.3

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 Total Weight 2180 100.0

**Rear Suspension Data**

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

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

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 Wheelie Bar Length - inches 68.0

**Center of Gravity Data**

Wheelbase - inches 105.0  
 Horizontal CG - inches 53.2

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

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 Weight of Rear Axle Assembly 350

**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

**Instant Center Parameters**

Horizontal IC - inches 56.5  
 Vertical IC - inches 5.2  
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 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

Upper Link Bar					Lower Link Bar				
Axle End		Chassis End			Axle End		Chassis End		
Hole	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 -3.0 | x-min 10.0 y-min 1.0  
max 3.0 | x-max 60.0 y-max 20.0

Percent Anti-Squat - % | Lower Link Bar Angle - degs  
min 60 | min -5.0  
max 110 | max 2.0

## Calculated Four Link Bar Details

## Display Limits: On

Hole	Instant	Center	Shock	%Anti-	Tire		Hole	Instant	Center	Shock	%Anti-	Tire
Code	x-in	y-in	Sep.	Squat	Hit		Code	x-in	y-in	Sep.	Squat	Hit
3355	44.2	5.0	0.5	109	627		1155	50.8	5.0	-0.1	98	553
3244	49.3	6.0	0.5	108	667		2234	48.9	4.6	-0.1	97	531
1234	43.9	4.8	0.5	108	612		4445	44.9	3.8	-0.2	97	488
2112	51.5	6.5	0.4	108	684		4244	57.0	6.0	-0.2	96	584
1345	40.4	4.0	0.4	108	562		3255	53.3	5.0	-0.3	94	530
5455	45.2	5.0	0.4	107	614		4334	51.5	4.5	-0.4	93	495
3445	40.6	4.0	0.4	107	558		1245	47.2	3.7	-0.4	92	454
5545	40.9	4.0	0.3	106	553		5323	55.8	5.2	-0.4	92	528
3334	44.9	4.8	0.3	106	595		2123	56.5	5.2	-0.5	91	519
1123	48.9	5.6	0.3	106	630		1134	52.9	4.4	-0.5	90	476
5344	51.9	6.0	0.2	104	636		5355	57.0	5.0	-0.6	89	498
3133	57.0	7.0	0.2	104	670		3345	48.9	3.6	-0.6	89	432
2255	47.5	5.0	0.2	103	588		2155	57.3	5.0	-0.6	89	495
5434	46.4	4.7	0.1	102	569		5445	51.5	3.5	-0.8	85	400
2144	53.3	6.0	0.1	102	621		3234	56.5	4.2	-0.9	84	432
3223	51.5	5.5	0.0	100	589		2245	52.9	3.4	-1.0	82	384
4355	49.3	5.0	0.0	100	569		4345	56.5	3.2	-1.3	77	345
4212	55.8	6.2	0.0	100	616		1145	56.9	3.2	-1.3	77	342
2345	43.9	3.8	0.0	99	503							