

Rear Suspension Geometry Analysis

through full range of travel

CAR: 2000 MKI GAR 317C

Wheel/tyre 205-50-16"

Early diff bracket

Sachs shocks bumps centre 13.25"

3° DE camber inner shackles

Sachs shock droop centre 20.25"

Spring fr length 9.1"

Spring rate 800lb/in

<u>Notes</u>	<u>CL - stub axle to bottom arch lip</u>	<u>Spring length (minimum)</u>	<u>Camber degrees +/- 0.5</u>	<u>Shock mounting centres</u>
Tyre hits arch and arm hits body.....	7.375"	5.875"	5.5° - VE	13.5"
	8.125"	6.625"	5° - VE	14.125"
	8.625"	6.75"	4° - VE	14.75"
	9.125"	7.125"	3.5° - VE	15.25"
	9.625"	7.375"	2.5° - VE	15.75"
	10.125"	7.625"	1.25° - VE	16.125"
Ride height.....	10.625"	8"	0.5° - VE	16.625"
	11.125"	8.25"	0°	17.125"
	11.625"	8.625"	1° + VE	17.625"
	12.125"	8.875"	1.5° + VE	18.125"
Free length of fitted spring.....	12.625"	9.25"	2.5° + VE	18.625"
	13.125"	9.5"	3.5° + VE	19"
	13.625"	9.875"	4° + VE	19.5"
	14.125"	10.125"	4.5° + VE	20"
Full droop.....	14.625"	10.5"	5.5° + VE	20.5"

7.25" wheel travel = 4.625" spring travel, thus divide wheel travel by 1.567 for required spring length change

4.625 shock to spring = 7" shock travel ratio 1.51

1.51 shock to spring thus 0.250" shock = 0.165" spring

FRR 575 = 9.875" new spec 10"

CONCLUSIONS: 7.25" wheel travel = 10° camber change
 0.725" wheel travel = 1° camber change
 18.5" shock droop centres would compliment the spring.
 A longer more progressive bump stop, that starts to work at 14" shock centres would be beneficial.

(free length - fitted length) * rate = fitted load