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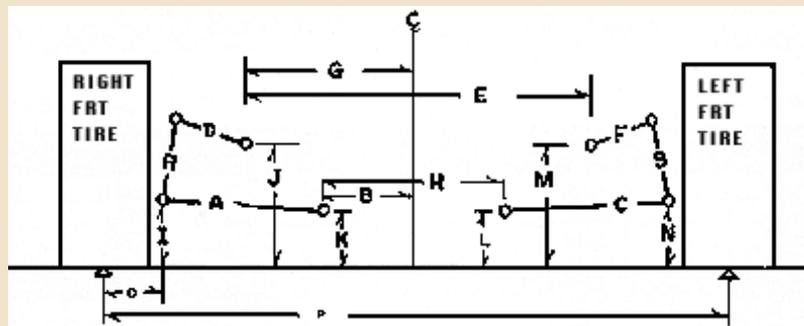
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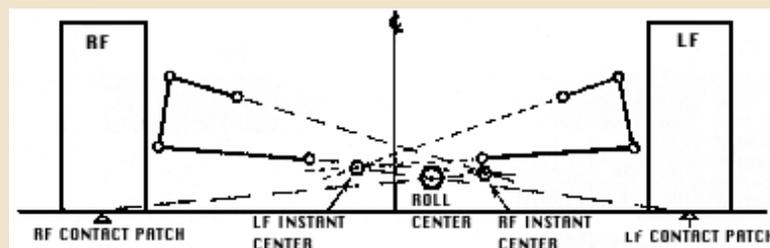
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LOCATING FRONT ROLL CENTERS

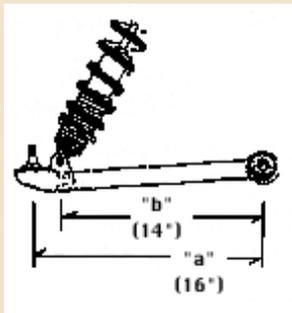
The measurements below are required to properly diagram and locate front roll center of any car. Utilizing a flat level surface, with the car at proper ride height, obtain a vertical centerline using a plumb. Measure as accurately as possible and insert measurements in the proper place as if you were standing in front of the car.



Utilizing the data and measurements you have gathered above, layout the measurements on graph paper. Always try to lay out your graph, full size if possible to avoid errors. The intersection of the lines drawn through the control arm pivot points are the instant centers. The intersection of lines drawn from the contact patches to the instant centers is the roll center. This locates the height of the roll center above the ground, and the location left or right from the center line of the car.



INDEPENDENT-MOTION RATIO



When selecting the correct spring for an independent suspension, use this simple formula for motion ratio at ball joint.: $(b/a)^2$

EXAMPLE:

- Measure the length of the lower control arm (dimension a).
- Measure the length between the lower coil-over mount and the lower control arm inner pivot point (dimension b).
- $(b/a)^2 = (14/16)^2 = (.875)^2 = .76$
- .76 is the motion ratio percentage at the ball joint .
- Divide the .76 into the desired ball joint rate to find the correct spring rate.
- Use the [Pro Socks Independent Motion Ratio Calculator](#)

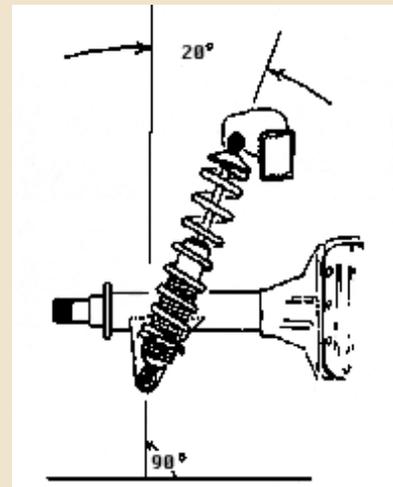
COIL-OVER MOUNTING ANGLE

When mounting coil overs, check the degree of angle and use this simple chart to correct the spring rate.

10	15	20	25	30	35	40	45
.96	.93	.88	.82	.75	.66	.59	.50

EXAMPLE:

- If desired, spring rate is 200 lbs /inch



- If degree of angle of coil-over mounting is 20 degrees.
- Then 20 of angle equals .88 effective rate (See chart).
- Divide the .88 (effective percentage of spring when mounted at 20 degrees) into the desired rate.
 $200 \div .88 = 227.3$
- The 227.3 represents the amount of spring needed at 20 of angle to equal the desired rate of 200 lbs. per inch.

- Use the [Pro Shocks Coil Over Mounting Angle Calculator](#)

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