GENERAL MOTORS (Cont.)

2) To adjust camber, loosen nuts and bolts attaching upper control arm to frame. To increase camber (positive), remove shims from both front and rear bolts. To decrease camber (negative), add an equal amount of shims to both front and rear bolts. Tighten control arm shaft nuts to 75 ft. lbs.

REAR WHEEL ALIGNMENT (ELDORADO & SEVILLE)

NOTE – *Buick Riviera and Oldsmobile Toronado use the same wheel alignment procedure as Eldorado and Seville.*

1) Place tape on floor from alignment wheel plate rearward for 20 feet. See *Fig. 16*. Back vehicle onto alignment machine as straight as possible, with rear wheels on wheel plates.

2) Place straightedge against a rib of the front tire and record the distance from straightedge to tape guide line. Then, move straightedge to the same rib of the tire for the rear wheel and measure to guide line.

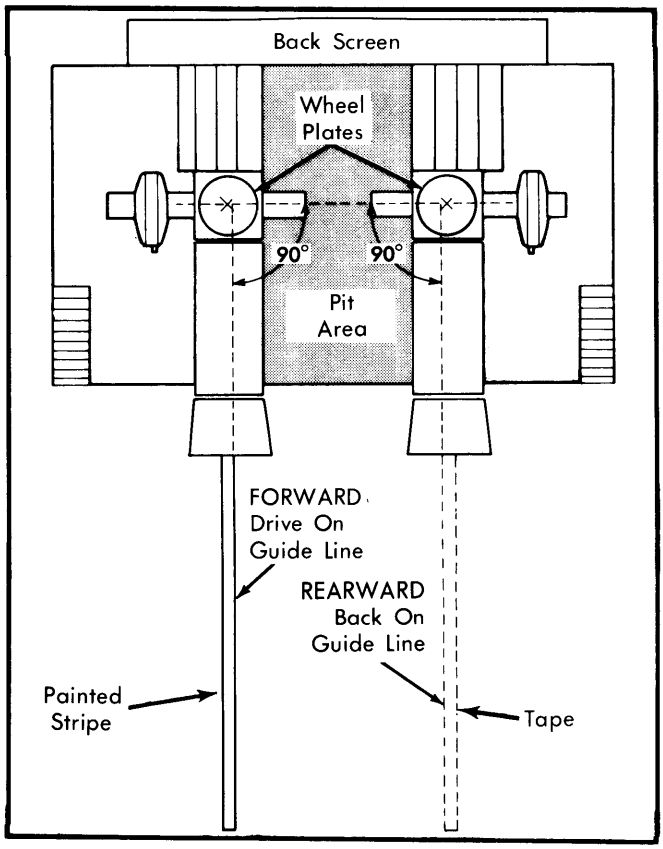


Fig. 16 Typical Alignment Machine Set Up For Eldorado & Seville Rear Wheel Alignment

3) The car will be square on the alignment machine if the rear dimension is the same as the front plus $\frac{5}{8}$" (suitable range of squareness $\frac{3}{8}$" to $\frac{7}{8}$" over front measurement).

NOTE – *With vehicle backed on alignment machine, toe-in will be read as toe-out.*

4) Toe adjustments are made at inner pivot bushings. Loosen nut and bolt at inner bushing. Use pry bar, if necessary. See *Fig. 17*. Move control arm rearward to increase toe-in and forward to increase toe-out. Tighten bushing nut to 75 ft. lbs. and recheck toe setting.

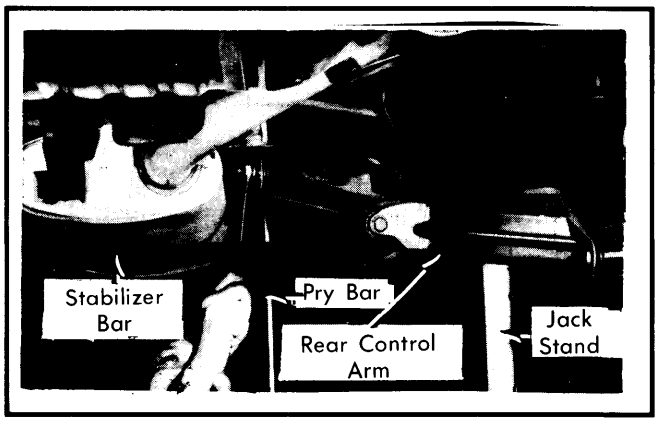


Fig. 17 Adjusting Rear Wheel Alignment (Eldorado & Seville)

5) Check camber. As camber cannot be adjusted, check for bent or damaged parts if outside of specifications.

CHEVROLET

TIRE INFLATION (COLD)

Inflate tires to manufacturer's specifications, found on tire inflation placard attached to left front door.

RIDING HEIGHT

With car on smooth level floor, lift car about 1½" at front bumper and allow vehicle to settle on its own. Repeat twice more, then measure the "Z" and "J" height in the settled position after third lift. Repeat procedure and average the readings for true measurement. When measuring "D" and "K" height, follow same procedure except lift and push on rear bumper. Measurements must be within specifications. See *RIDING HEIGHT SPECIFICATIONS and Figs. 18 through 24.*

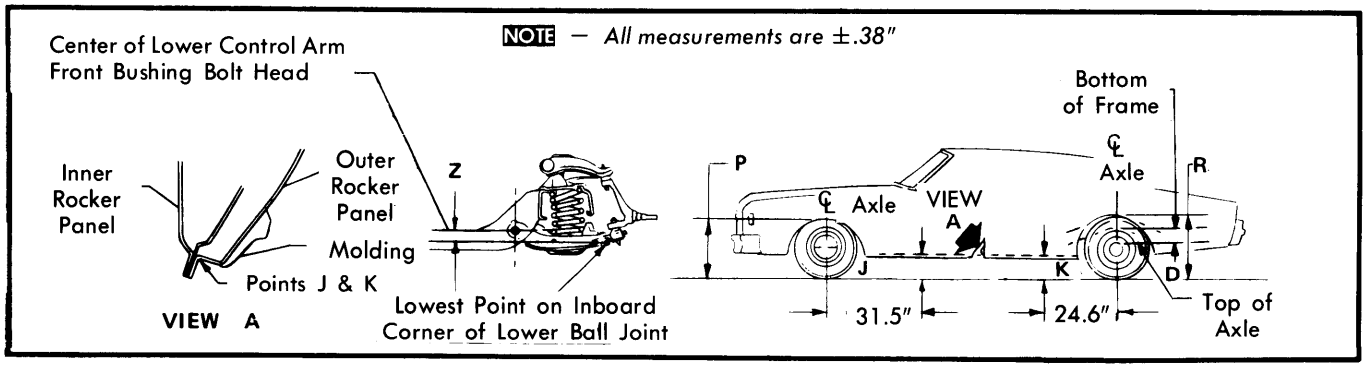


Fig. 18 Riding Height Measuring Points (Caprice & Impala)

GENERAL MOTORS (Cont.)

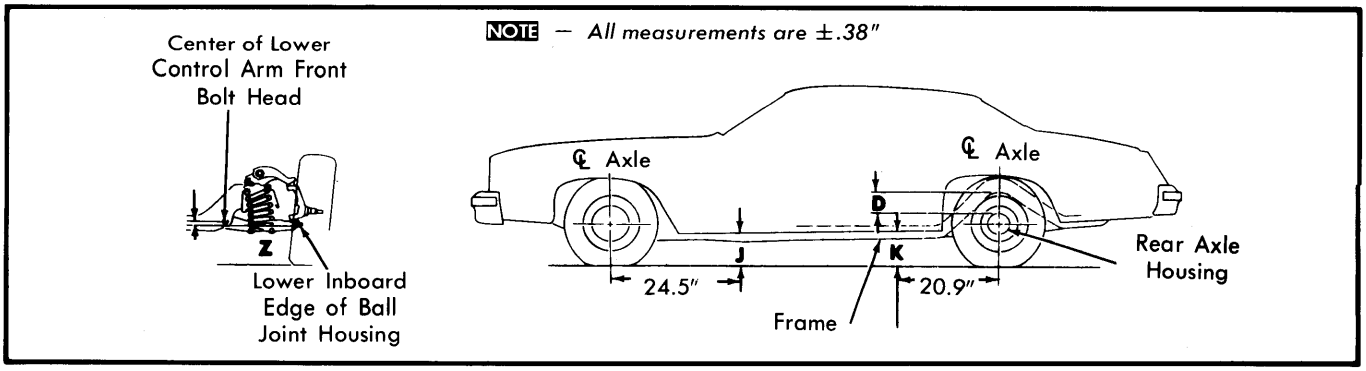


Fig. 19 Riding Height Measuring Points (Monte Carlo, Malibu, El Camino & Caballero)

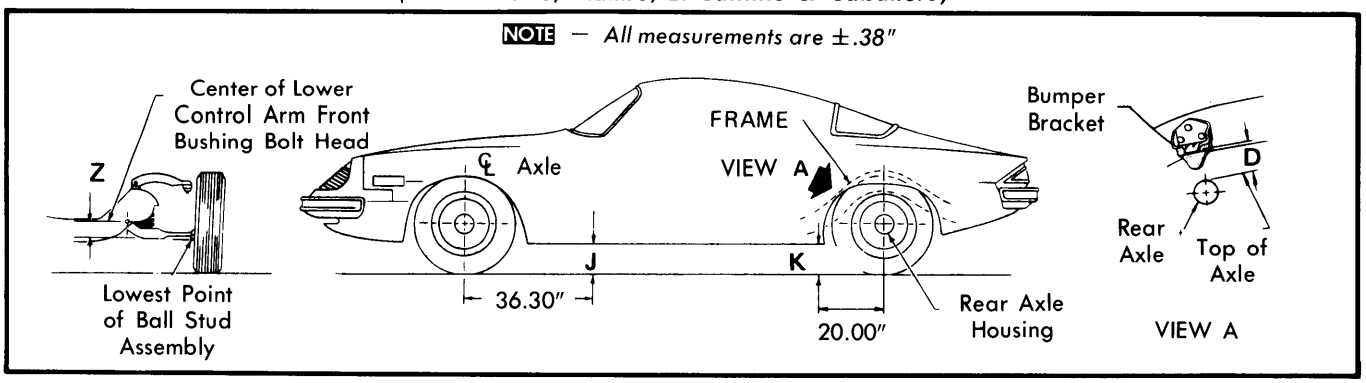


Fig. 20 Riding Height Measuring Points (Camaro)

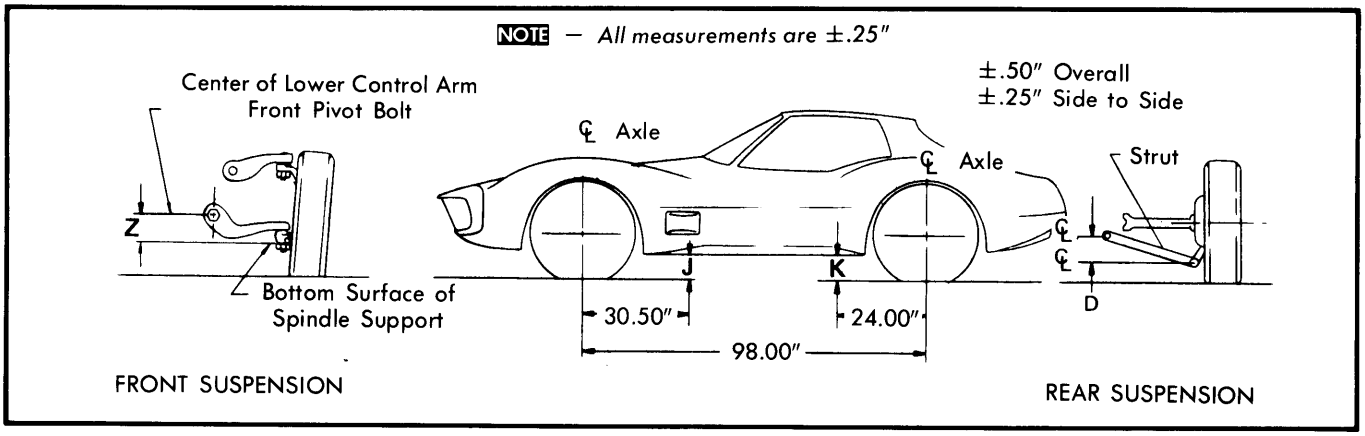


Fig. 21 Riding Height Measuring Points (Corvette)

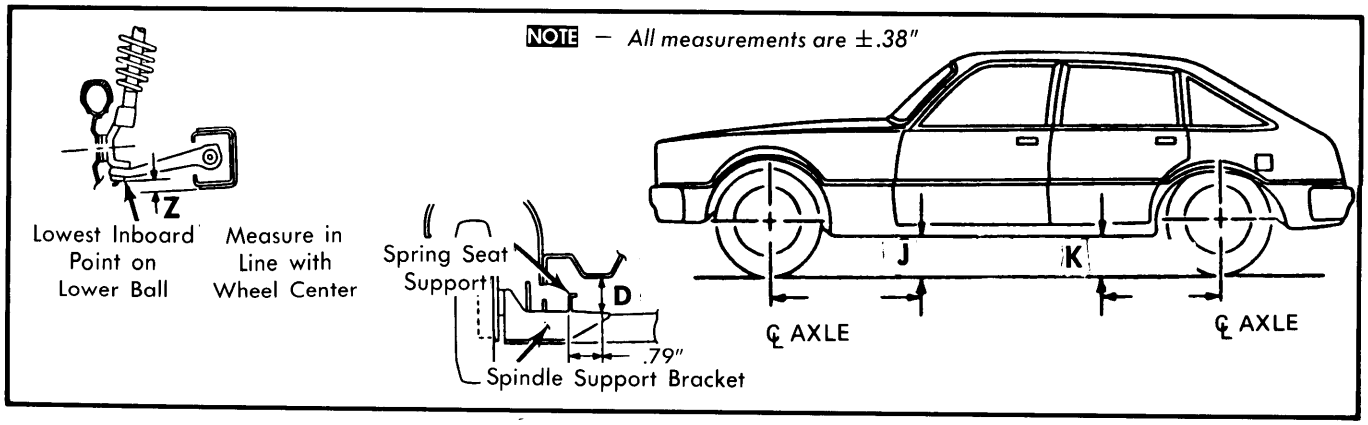


Fig. 22 Riding Height Measuring Points (Citation)

GENERAL MOTORS (Cont.)

NOTE – *All measurements are ±.38"*

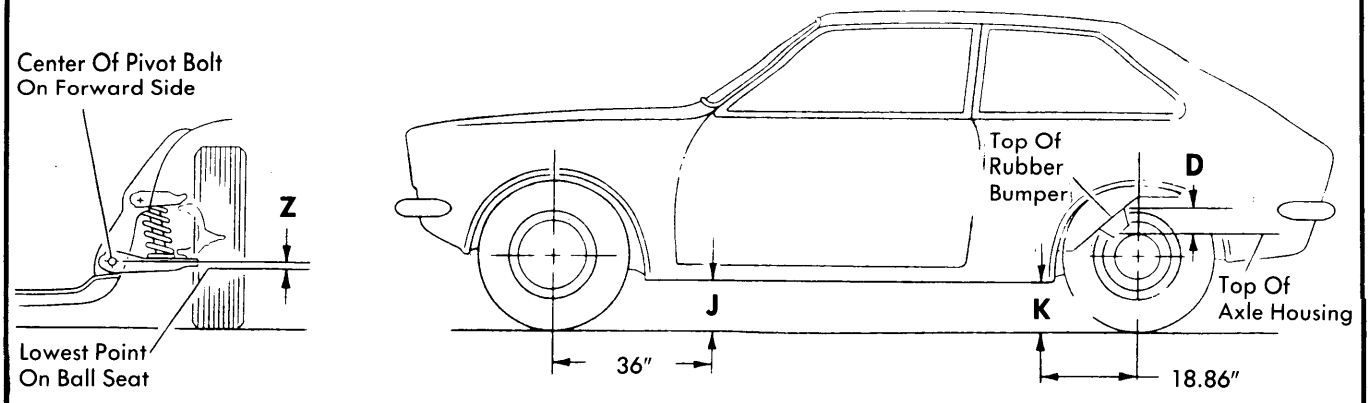


Fig. 23 Riding Height Measuring Points (Chevette)

RIDING HEIGHT SPECIFICATIONS

NOTE – *To obtain readings "Z" and "J", raise front bumper about 1 ½" and let loose. Repeat three times. Take measurements. Repeat procedure pushing bumper down 1 ½" three times and releasing. Take measurements. Average the two measurements. Follow a similar procedure to obtain measurements "D" and "K" only lift and lower rear bumper.*

Application	Tires	Z	J	K	D
Caprice & Impala	P205-75	2.55"	6.18"	10.51"	10.63"
	P225-70	2.44"	6.06"	10.51"	10.63"
	P215-75	2.36"	5.98"	10.51"	10.63"
	P225-75	2.00"	5.03"	10.55"	10.66"
Malibu					
Sedan & Coupe	P185-75R14	2.48"	5.63"	9.96"	10.28"
	P195-75R14	2.23"	5.40"	9.96"	10.28"
Wagon	P195-75R14	2.28"	5.40"	9.96"	10.28"
Monte Carlo	P185-75R14	2.08"	4.56"	9.72"	9.68"
	P195-75R14	2.08"	4.56"	9.72"	9.68"
	P205-70R14	2.36"	4.76"	9.72"	9.68"
El Camino & Caballero	P205-75R14	2.04"	4.99"	9.92"	10.31"
Camaro	P205-75R14	2.10"	4.77"	8.20"	7.85"
	P255-70R15	1.43"	4.08"	8.20"	7.85"
	P205-75R14	2.10"	4.77"	8.20"	7.85"
Corvette	P225-70R15	2.67"	2.91"	8.68"	8.57"
	P225-60R15	2.85"	3.08"	8.68"	8.57"
Chevette					
Coupe	P155-80R13	2.36"	5.43"	9.01"	8.85"
	P175-70R13	2.32"	5.74"	9.01"	8.85"
Sedan	P155-80R13	2.40"	5.47"	9.01"	8.85"
	P175-70R13	2.36"	5.47"	9.01"	8.85"
Citation	P185-80R13	.31"	9.17"	9.25"	7.40"
	P205-70R13	.51"	9.17"	9.25"	7.56"
	P215-60R13	.51"	9.17"	9.25"	7.59"

GENERAL MOTORS (Cont.)

CAMBER

All Models (Except Chevette and Citation) – Loosen nuts holding upper control arm pivot shaft to frame. Add equal number of shims at both front and rear bolts to decrease positive camber, or subtract shims to increase camber. Tighten nut on thinner shim pack first, then tighten remaining nut and recheck camber. Normal shim pack will leave at least 2 threads of bolt exposed beyond nut. If difference in thickness between front and rear shim packs exceeds .40", check for damaged control arms and related parts.

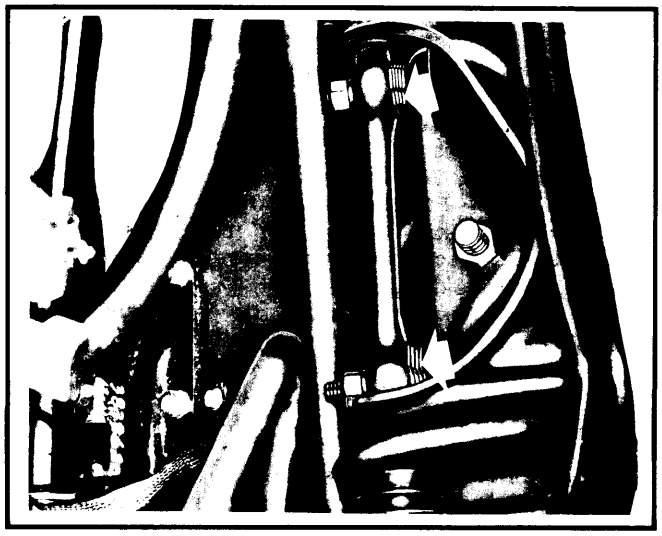


Fig. 24 Caster and Camber Adjusting Shims (Except Chevette and Citation)

Citation – To adjust camber, loosen nuts on cam and through bolts, then rotate cam bolt to move upper knuckle in or out. Cam must be seated between inner and outer guide surfaces. Check camber and tighten nuts to 140 ft. lbs.

NOTE – *Top bolt must be loose whenever camber is adjusted or damage to outer cam guide may occur.*

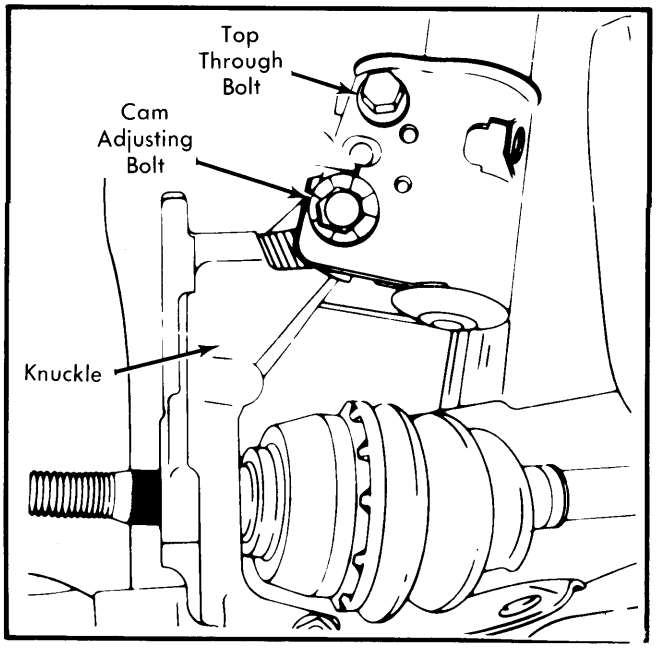


Fig. 25 Camber Adjustment (Citation)

Chevette – Remove upper ball joint, rotate one half turn and reinstall with flat surface of upper flange facing inboard side of the control arm. This will increase camber angle approximately 1°. See *Fig. 26*.

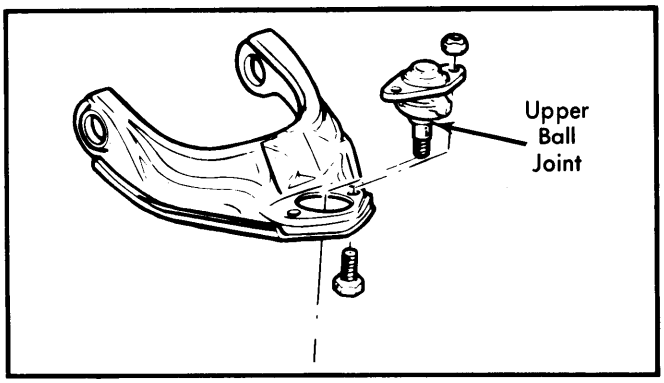


Fig. 26 Chevette Camber Adjustment

CASTER

NOTE – *Citation – Caster is set at the factory and cannot be adjusted.*

All Models (Except Chevette and Citation) – Loosen nuts holding upper control arm pivot shaft to frame. To decrease caster, add shims to front bolt and remove from rear bolt. To increase positive caster, remove shims from front bolt and add to rear. Difference between front and rear shim pack thickness must not exceed .40".

Chevette – Adjust caster by realigning washers located between legs of upper control arm and locating tube. Always use 2 washers with a combined thickness of .472". If a .12" washer is installed at front and a .35" washer at rear, it will change caster +1°. If reversed with a .35" washer at front and a .12" washer at rear, caster will change −1°. See *Fig. 27*.

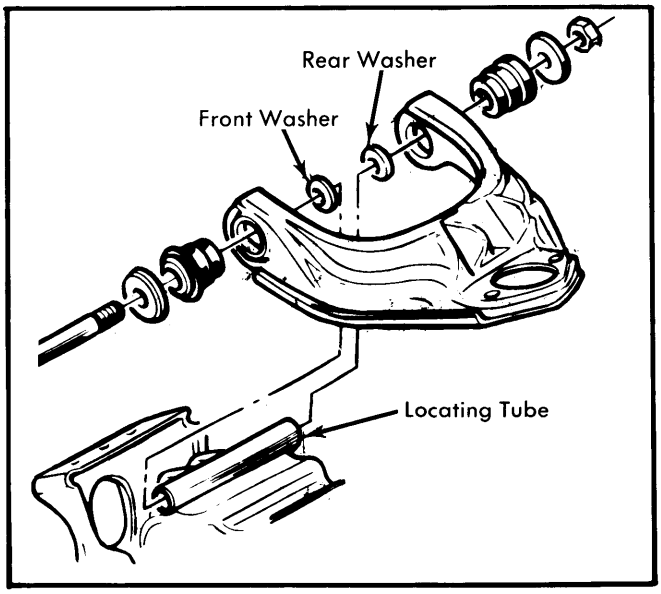


Fig. 27 Chevette Caster Adjustment

GENERAL MOTORS (Cont.)

REAR WHEEL ALIGNMENT (CORVETTE ONLY)

Camber – 1) Back vehicle onto alignment machine. See *CADILLAC (Eldorado), Fig. 16.* Camber adjustments are made by adjusting eccentric cam and bolt assembly located at inboard mounting of strut rod.

2) To change camber setting, loosen lock nut on cam bolt and rotate cam and bolt assembly until specified camber is obtained.

Toe-In – 1) To adjust rear wheel toe-in angle, add various thicknesses of shims inside the frame side member on both sides of torque control arm pivot bushing.

NOTE – *When vehicle is backed onto alignment machine, toe-in will be read as toe-out and toe-out will be read as toe-in.*

2) Shims are slotted to slide over bushing pivot bolt on either side. To adjust, loosen pivot bolt, remove cotter pin retaining shims, and remove shims. Position torque control arm to obtain specified toe-in. Shim the gap toward vehicle centerline between torque control arm bushing and frame side inner wall.

NOTE – *Do not use thicker shims than necessary. Do not use excessive force when shimming or toe-in setting may change.*

3) Shim outboard gap as necessary to obtain solid stack-up between control arm and inner wall of frame side member. Install cotter pin (loop outboard) through the shims and tighten pivot bolt to 50 ft. lbs. See *Fig. 28.*

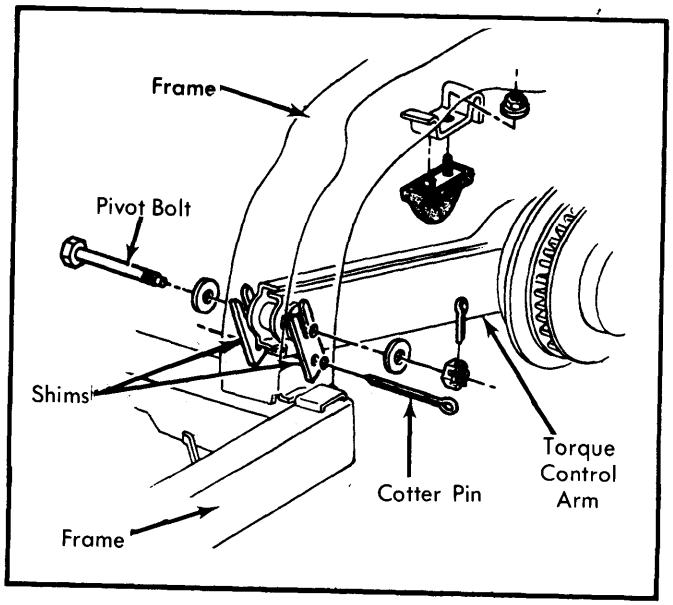


Fig. 28 Rear Suspension Toe-In Shims (Corvette)

OLDSMOBILE

TIRE INFLATION (COLD)

Inflate tires to recommended pressure listed on placard located on driver's door.

RIDING HEIGHT

Check riding height with full gas tank, front seat rearward, tire pressure as specified, doors closed and trunk empty. With vehicle on level floor, bounce several times and allow car to settle. Measure heights as shown in *Fig. 29.* Measured heights should not differ from specifications or side to side more than ±¾".

NOTE – *To adjust Toronado front riding height, torsion bar adjusting bolt may be turned clockwise to increase or counterclockwise to decrease riding height.*

Riding Height Specifications

Application	Front "A" (Inches)	Rear "B" (Inches)
Cutlass (Exc. Wagon)	9¾	9¾
Cutlass Wagon	9⅝	10
Omega	9¼	9⅜
Toronado	9½	9½
88 (Exc. Wagon)	10	10¼
88 Wagon	10⅛	10¼
98	10¼	10½

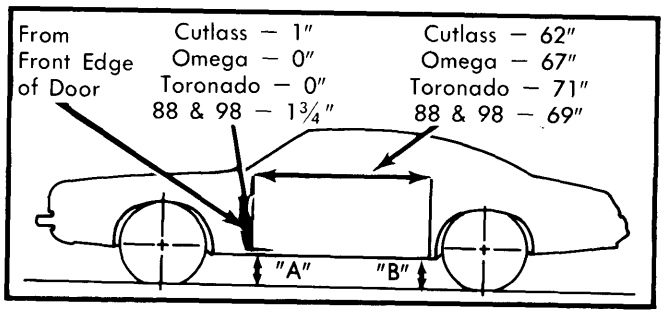
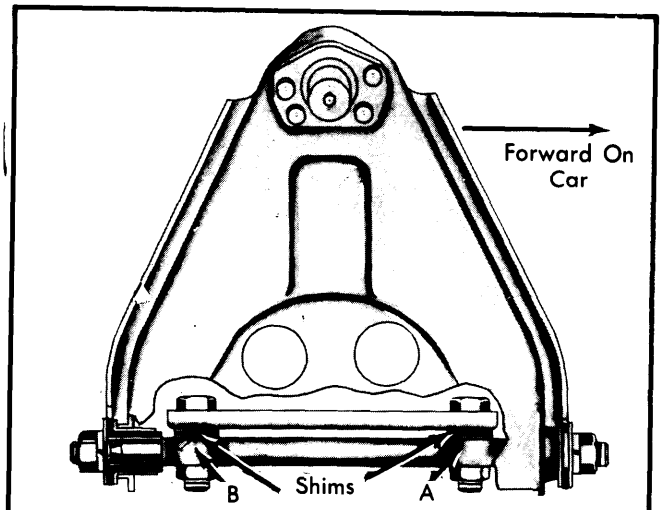


Fig. 29 Riding Height Measuring Points

CASTER

NOTE – *Caster is not adjustable on Omega models.*

All Models (Except Omega and Toronado) – 1) Loosen pivot shaft-to-frame nuts. See *Fig. 30.*



To Decrease Positive Caster: Add Shim At "A"
To Decrease Negative Caster: Remove Shim At "A"
To Increase Camber: Remove Shims At Both "A" And "B"
To Decrease Camber: Add Shims At Both "A" And "B"

Fig. 30 Adjusting Shims for Caster and Camber (All Models Except Omega and Toronado)