FORD MOTOR CO. (Cont.)

Granada, Monarch and Versailles – 1) Caster is controlled by front suspension strut. To obtain positive caster, loosen strut rear nut and tighten front nut against bushing. To obtain negative caster, loosen strut front nut and tighten rear nut.

2) Camber is controlled by eccentric cam located at lower arm attachment to side rail. Loosen camber adjustment bolt nut at rear of body bracket. Spread body bracket at adjustment bolt area just enough to permit lateral travel of arm when adjustment bolt is turned.

3) Rotate bolt and eccentric clockwise from high position to increase camber, or counterclockwise to decrease camber. After adjustment, tighten lower arm eccentric bolt nut and strut front nut.

NOTE – *When adjusting caster and camber of Ford and Mercury models, use the following procedure, but use alignment tools T79P-3000-A, tighten nut only* $1/6$ turn (one hex flat), and tighten attaching bolts to 100-140 ft. lbs.

All Other Models – 1) Install alignment tools (T69P-3000-A) into frame holes and tighten tools finger tight against upper arm inner shaft. Then, using a wrench, tighten an additional $2/3$ turn (4 hex flats). Loosen bolts attaching upper arm inner shaft to frame. Firmly tap bolt heads to loosen lower assemblies. See *Fig. 12.*

2) To obtain positive caster, tighten tool front hook nut or loosen rear hook nut. To decrease caster, tighten rear hook nut or loosen front hook nut. Check camber to see that it did not change. Tighten upper arm inner shaft attaching bolts to 120-140 ft. lbs.

3) To adjust camber angle, loosen inner shaft attaching bolts and tighten or loosen tool hook nuts to move inner shaft inboard or outboard as necessary. Using suitable tool (T-69P-3000-A), camber can be checked without tightening inner shaft attaching bolts.

4) Move shaft inboard equally at both bolts to change camber in negative direction. Move shaft outboard equally at both bolts to change camber in positive direction.

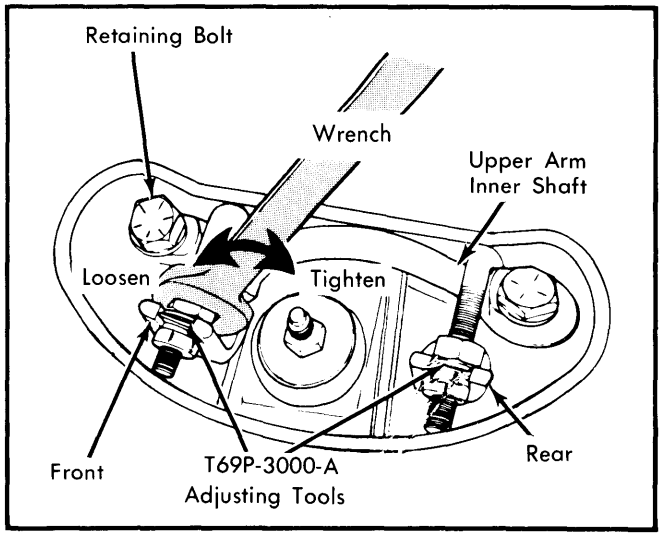

Fig. 12 Caster and Camber Adjustment (All Other Models)

GENERAL MOTORS

BUICK

TIRE INFLATION (COLD)

Before checking wheel alignment, ensure that tires are inflated to manufacturer's specifications, found on tire placard on inside of glove box or on driver's door jam.

RIDING HEIGHT

With car on smooth level floor, trunk empty and fuel tank full, bounce both front and rear of car several times and let car assume normal position. Measure the dimensions as shown in *Fig. 13.* If riding height is not within specified limits, install shims between upper end of spring and frame.

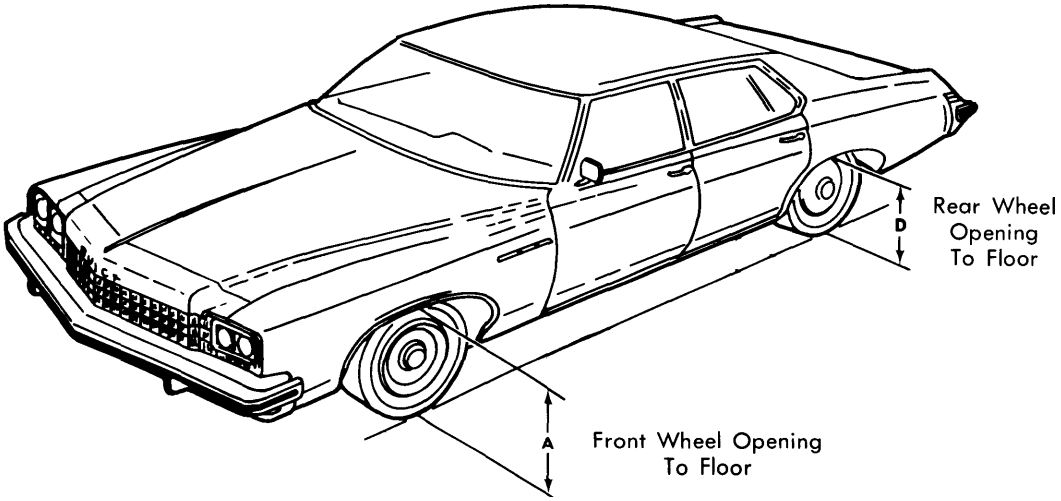

Fig. 13 Riding Height Measuring Points

GENERAL MOTORS (Cont.)

RIDING HEIGHT SPECIFICATIONS

Application	A	D
Century & Regal		
Sedan	26.7"	26.0"
Coupe	26.7"	26.0"
Wagon	26.8"	26.4"
LeSabre & Estate Wagon		
Sedan	28.9"	28.5"
Coupe	28.9"	28.5"
Wagon	28.9"	28.7"
Electra	28.9"	23.2"
Riviera	28.5"	28.0"
Skyhawk	25.7"	26.0"
Skylark	27.1"	25.3"

CASTER

NOTE – *Refer to Fig. 15 in CADILLAC section for caster and camber adjustment on all models except Skyhawk.*

All Models (Exc. Skyhawk) – 1) Loosen nuts and bolts attaching upper control arm to frame. To increase caster (positive), remove shims from front bolt and add them to rear bolt. To decrease caster (negative), add shims to front bolt and remove them from rear bolt.

2) Tighten control arm shaft nuts to 75 ft. lbs. on Skylark models. On all other models, tighten bolts to 125 ft. lbs. and nuts to 95 ft. lbs. Recheck caster adjustment.

Skyhawk – Loosen lower control arm rear pivot nut and rotate cam until specified caster setting is obtained. This moves the lower control arm forward or rearward. Hold cam bolt head while tightening pivot nut to 125 ft. lbs. Recheck camber setting and toe-in.

CAMBER

NOTE – *Refer to Fig. 15 in CADILLAC section for caster and camber adjustment on all models except Skyhawk.*

All Models (Exc. Skyhawk) – 1) Loosen nuts and bolts attaching upper control arm to frame. To increase camber (positive), remove equal amount of shims from front and rear bolts. To decrease camber (negative), add equal amount of shims to front and rear bolts.

2) Tighten upper control arm shaft nuts to 75 ft. lbs. on Skylark models. On all other models, tighten nuts to 95 ft. lbs.

Skyhawk – Set camber before setting caster or toe-in. Loosen lower control arm front pivot nut and rotate cam until specified camber setting is obtained. This moves control arm in and out. Hold cam bolt head and tighten nut to 125 ft. lbs.

REAR WHEEL ALIGNMENT (RIVIERA)

See CADILLAC, Rear Wheel Alignment (Eldorado).

CADILLAC

TIRE INFLATION (COLD)

Before checking wheel alignment, ensure that tires are inflated to manufacturer's specifications, found on tire placard in glove box.

RIDING HEIGHT

Before checking riding height, trunk must be empty (except for spare tire and jack), front seat all way to rear, and fuel tank full. Normalize springs by working bumper up and down, then release bumper and let car assume normal position. If car is equipped with Automatic Level Control, deflate system using service valve and disconnect air line from superlift port on control valve. Check riding height as follows:

Front (Eldorado) – Measure distance from lower edge of front shock absorber dust tube to centerline of lower attachment. Distance should be within specifications, and equal within 3/8" on each side. If not within specifications adjust at torsion bar adjusting bolt. Clockwise rotation of bolt increases front height while counterclockwise rotation decreases height.

Front (Except Eldorado) – Measure distance from center of lower control arm bushing bolt head to horizontal line from lowest point on inboard corner of lower ball joint. Distance should be within specifications, and equal from side to side within 3/8". If heights are not equal, replace spring on low side.

Rear (Eldorado) – Place weight in trunk and turn on ignition, energizing electronic level control compressor. Turn ignition switch off and remove weight. Wait 30 seconds and measure between bottom of rear control arm flange and frame. Distance should be within specifications and equal within 3/8" from side to side.

Rear (Except Eldorado) – Measure distance from top of axle housing straight up to lower underside of frame. Distance should be within specifications, and equal within 1/2" on each side. If not within specifications, replace spring on low side.

RIDING HEIGHT SPECIFICATIONS

Application	Front	Rear
Coupe DeVille	2.12-2.87"	①5.76-6.51"
Sedan DeVille	2.12-2.87"	①5.76-6.51"
Brougham	1.86-2.61"	5.38-6.13"
Fleetwood	1.84-2.59"	5.38-6.13"
Eldorado	10.62-11.37"	5.12-5.87"
Seville	2.5"	②3.87"

① – With ALC 5.38-6.13"
② – With ALC Disconnected, 3.50"

CAMBER & CASTER

Eldorado – 1) Loosen nuts on upper control arm front and rear cam bolts, note camber reading. Rotate front bolt to correct for half of incorrect reading. Rotate rear bolt to bring camber reading to 0°, then tighten front and rear cam bolts.

2) Check caster and if no adjustment is necessary, tighten cam nuts to 95 ft. lbs. If caster adjustment is necessary, loosen front

GENERAL MOTORS (Cont.)

and rear cam bolts and rotate front bolt so camber changes an amount equal to ¼ of desired caster change.

3) If adjusting for excessive negative caster, rotate front bolt to increase positive camber; if adjusting for excessive positive caster, rotate front bolt to increase negative camber.

4) Rotate rear cam bolt until camber setting returns to 0°. Tighten cam nuts to 95 ft. lbs. and recheck adjustments. See *Fig. 14*.

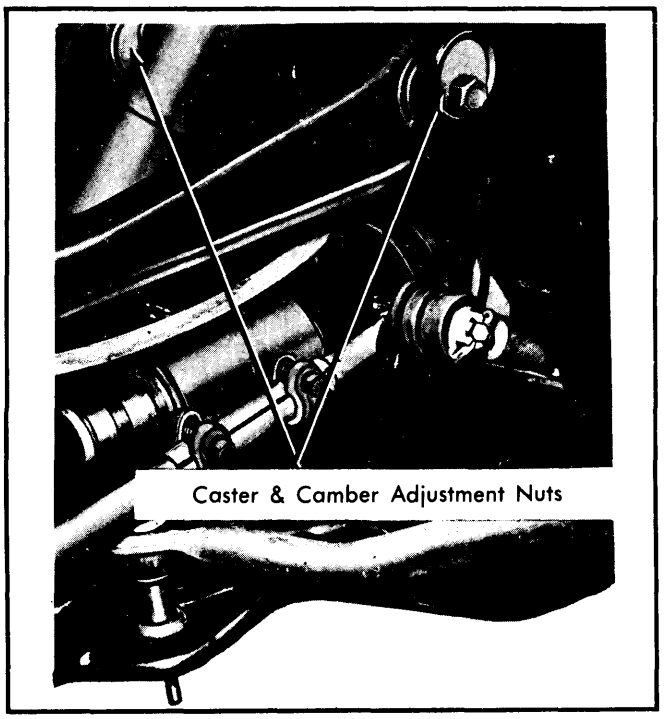

Fig. 14 Eldorado Caster & Camber Cam Locations

Seville – Should shim removal requirements exceed shim thickness, the special tapered prealignment shim may be removed to achieve proper alignment. See *Fig. 15*. Otherwise adjustment procedure is identical to other Cadillac models except Eldorado.

All Other Models – 1) To adjust caster, loosen nuts and bolts attaching upper control arm to frame. To increase caster (positive), remove shims from the front bolt and add them to the rear bolt. To decrease caster (negative), add shims to the front bolt and remove shims from the rear bolt. Tighten control arm shaft nuts to 75 ft. lbs.

NOTE – *Difference between front and rear shim packs must not exceed .40".*

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)

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

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.

3) The car will be square on the alignment machine if the rear dimension is the same as the front plus 5/8" (suitable range of squareness 3/8" to 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.

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

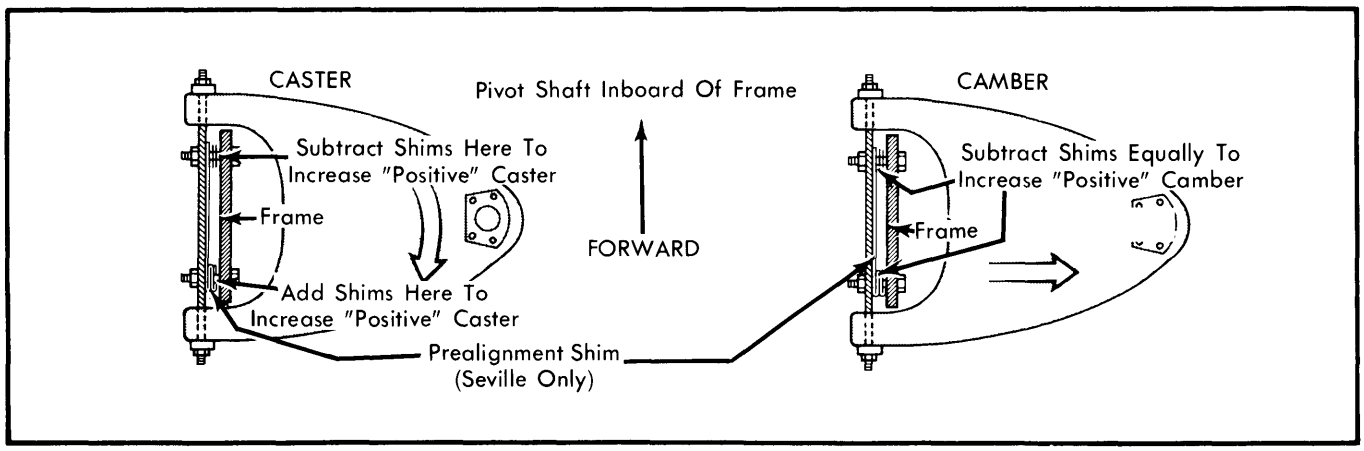

Fig. 15 Caster and Camber Adjustment (All Models Exc. Eldorado)