

GROUP 6

CHASSIS SUSPENSION

SECTIONS IN GROUP 6

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6-1 CHASSIS SUSPENSION CHANGES

Except for minor changes in tread, springs, shock absorber calibrations, and caster angle the 1953 chassis suspension is identical with 1952 construction. For complete information and service procedures, refer to Group 6 in the 1952 Buick Shop Manual, using the following change information where applicable.

a. Tread

Series 50-70 front tread is increased one inch over 1952 tread. All 1953 treads are as follows:

| | Series 40 | Series 50-70 |
|-------|-----------|--------------|
| Front | 59.1" | 60.0" |
| Rear | 59.0" | 62.2" |

b. Spring Trim Dimension

Chassis springs have been changed to conform with changed car weights and to improve overall balance. The correct spring to use for each model is specified in the Master Parts List, and each spring is identified by the part number stamped on one end coil.

Optional equipment, undercoating, etc., changes the car weight and must be considered when checking spring trim dimensions. Because of the many possible variations in loading due to optional equipment it is not possible to give dimensions for all; therefore, the spring trim dimensions given below are for the standard car only, *without optional equipment or undercoating and with car at curb weight*. Curb weight includes gas, oil, water, and spare tire but no passengers.

Before measuring spring trim dimensions, bounce both ends of car up and down several times to make sure there is no bind in suspension members, and to let springs take a natural position. When car is at rest, measure the trim height at point "A", shown in figure 6-1 for front springs and figure 6-2 for rear springs.

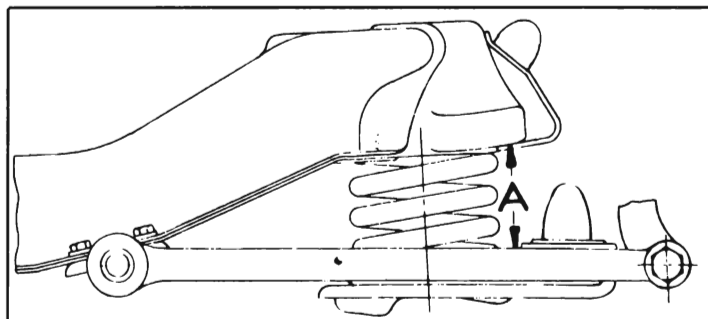


Figure 6-1—Front Spring Trim Dimension

(1) *Front Springs*. On a car having service miles the front spring trim dimension "A" should be within the following limits, *with car at curb weight*.

| Model | "A" |
|-----------------------------------|---|
| 41, 41D, 45R, 48, 48D, | |
| 52, 56R, 59 | 3 ³ / ₄ "-4 ¹ / ₄ " |
| 46C, 56C, 72R, 76R, 79R | 3 ¹ / ₂ "-4" |
| 76C | 3 ³ / ₈ "-3 ⁷ / ₈ " |
| 76X | 3 ¹ / ₄ "-3 ³ / ₄ " |

NOTE: *When checking NEW car add 1/4"*

When the trim dimension is found to be too low, correction may be made by installing special shims (Group 7.425), 1/8" thick, between upper end of spring and the frame. If more than three shims are required, replace the spring.

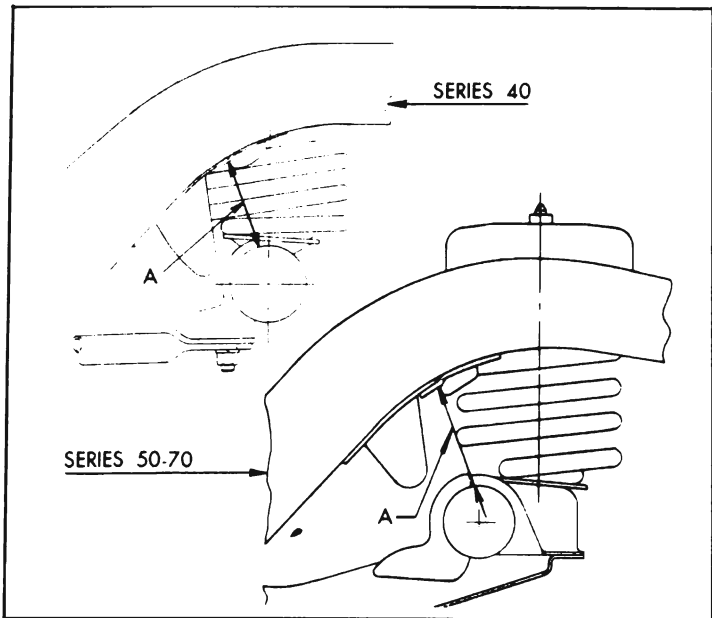


Figure 6-2—Rear Spring Trim Dimension

(2) *Rear Springs.* On a car having service miles the rear spring trim dimension "A" should be within the following limits, *with car at curb weight.*

| <i>Model</i> | <i>"A"</i> |
|---|--|
| 41, 41D, 45R, 48, 48D, 52, 56R, 72R, 76R | 5 ¹⁵ / ₁₆ "-6 ⁷ / ₁₆ " |
| 46C, 56C, 76C | 5 ⁵ / ₈ "-6 ¹ / ₈ " |
| 59, 79R | 5 ³ / ₄ "-6 ¹ / ₄ " |
| 76X | 5"-5 ¹ / ₂ " |

NOTE: *When checking NEW car add 3/8"*

If trim dimension is less than specified or additional height is required to prevent excessive "bottoming" in exceptional cases, install ad-

ditional spring insulators (group 7.545), divided between upper and lower ends of spring. If more than three additional shims are required replace the spring. Installation of new springs should not increase spring trim dimension "A" more than 1" over specified maximum limit.

c. Shock Absorber Calibrations

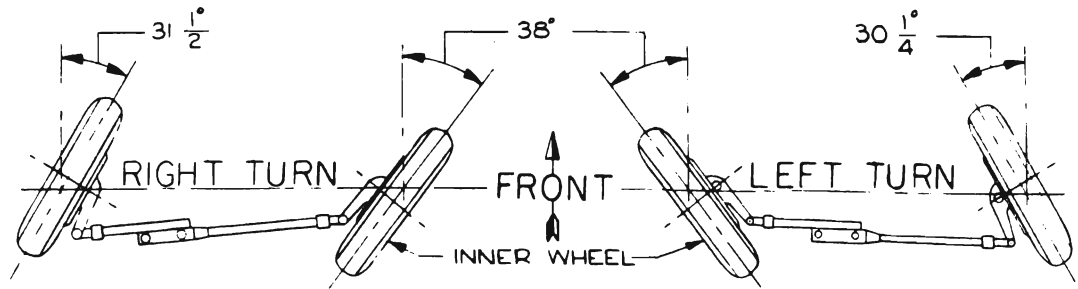
A number of shock absorber valves have different calibrations than in 1952. For 1953 the specifications are as follows:

| <i>Location</i> | <i>Series 40</i> | <i>Series 50-70</i> |
|---|------------------|---------------------|
| Front—Rebound Valve | 3.5D | 4.E |
| Compression Valve | 4.C | 4.C |
| Rear—Rebound Valve (Except M/59 and M/79R) | .7K | .7K |
| Models 59 and 79R | — | .7L |
| Compression Valve | 2-Cd.-5 | 2-Cd.-5 |

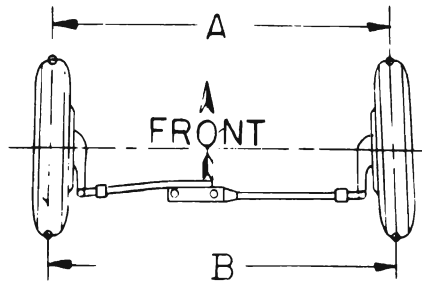
d. Front Wheel Alignment

A new steering knuckle support started in late 1952 production and continued in 1953 provides zero caster at curb weight. Zero caster reduces the tendency of the wheels to shimmy due to irregular tire wear, and provides a reduction in steering effort.

All front end alignment adjustments are to be made as described in paragraph 6-30 of the 1952 Buick Shop Manual, but using the alignment specifications in figure 6-3 of this 1953 manual.



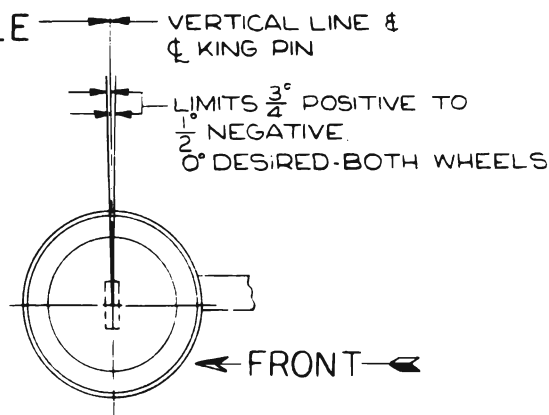
NOTE: WHEN OUTER WHEEL IS TURNED 20° THE INNER WHEEL TURNS 21 $\frac{1}{2}$ ± $\frac{3}{4}$



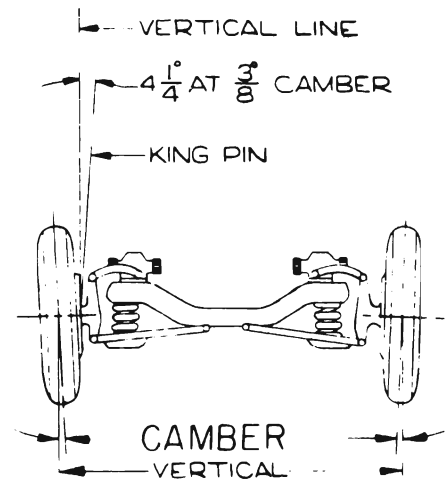
TOE IN $\frac{1}{16}$ TO $\frac{1}{8}$

MEASURING FROM A ϕ SCRIBED ON TIRE OR FROM OUTSIDE OF FRONT TIRE DISTANCE FROM ONE TO THE OTHER "A" SHOULD BE $\frac{1}{16}$ TO $\frac{1}{8}$ LESS THAN "B"

CASTER ANGLE

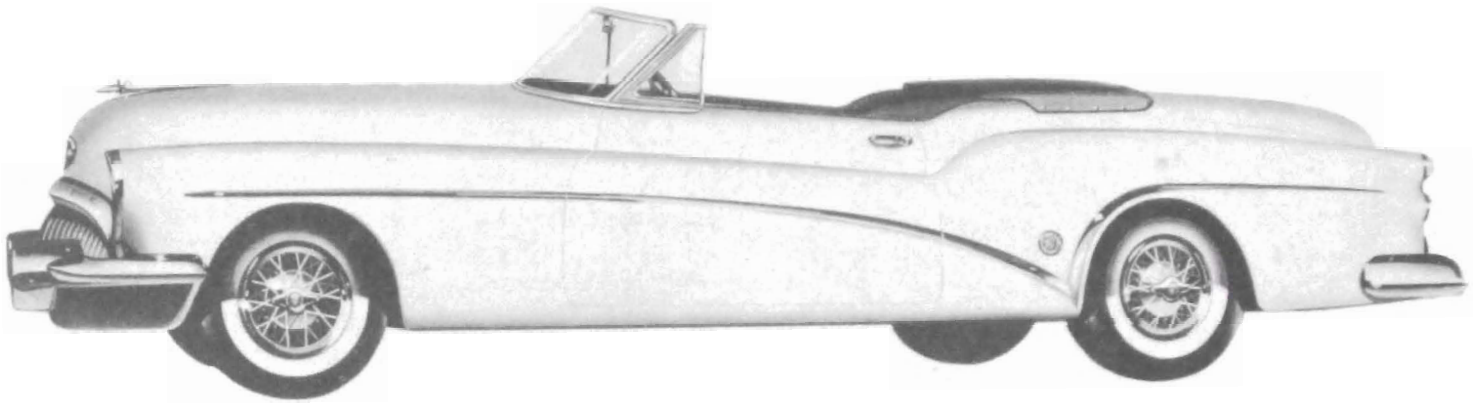


BOTH SIDES SHOULD BE WITHIN $\frac{1}{2}$ OF EACH OTHER.

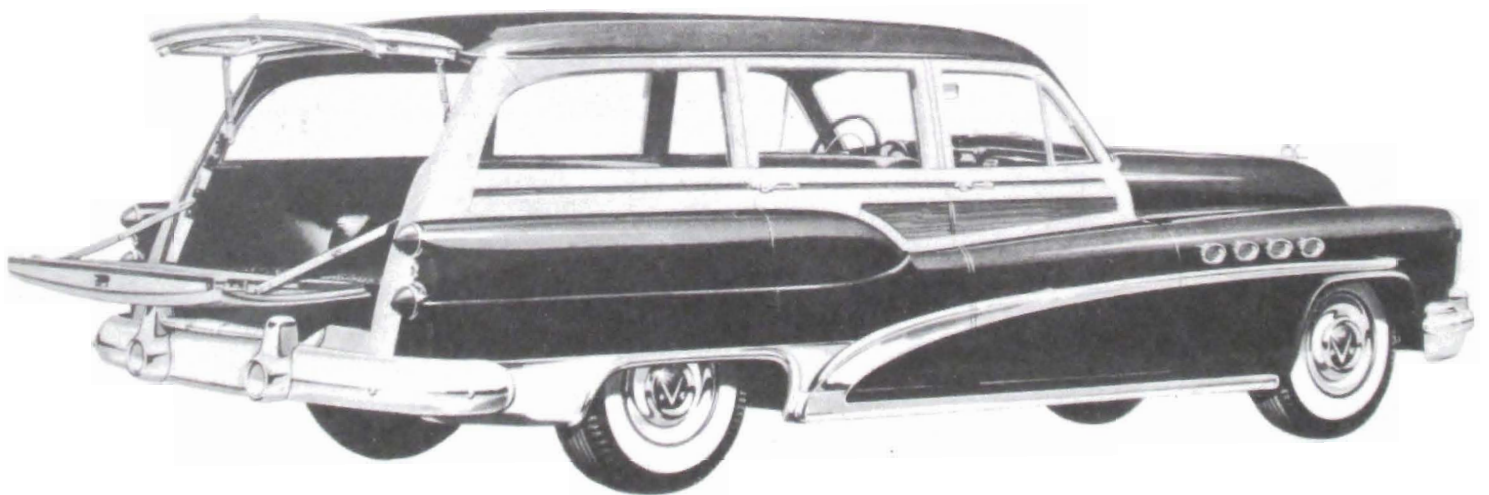


LIMITS $\frac{7}{8}$ ° POSITIVE TO $\frac{5}{8}$ ° NEGATIVE
 $\frac{3}{8}$ ° POSITIVE DESIRED BOTH WHEELS.
 CAMBER ON BOTH WHEELS SHOULD BE WITHIN $\frac{3}{4}$ OF EACH OTHER

Figure 6-3—Front Wheel Alignment Specifications—All Series



MODEL 76X



MODEL 79R