

Adjusting Caster, Camber and Toe-in

On conventional axles, caster, camber and toe-in are adjusted by bending the axle. This should be done without heat, as heat will destroy the heat treatment and thus weaken the axle. If caster requires only a small adjustment, it can be done by inserting tapered wedges or shims between the spring and the axle.

On cars with independently sprung front wheels (knee action) adjustments are provided for correcting misalignment in most cases. Where no adjustment is provided or where the misalignment cannot be corrected by adjustment, damaged parts should be renewed. Heat treated parts should not be heated or welded.

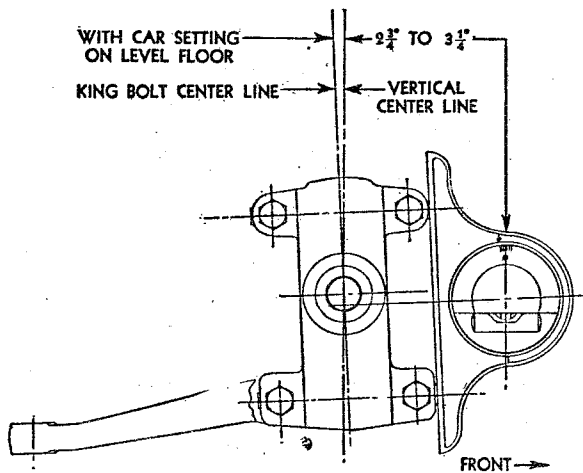


Fig. 6A

Adjusting Caster and Camber on Knee Action Cars

Refer to indicated illustrations for adjustment procedure on the following models:

BUICK

Series 50, 60 and 90, 1934, 35 see Figs. 7 and 7A.

Series 40 1934 to 1936 see Fig. 8

Series 60 1936 and 80 and 90 1936 to 1940 see Fig. 8

Series 40 and 60 1937 to 1940, see Fig. 13

CADILLAC

All 1935 models see Figs. 7 and 7A

Series 60 1936 to 1940 and all 1941 models see Figs. 10 and 12

Series 70, 75, 80, 85 and 90 1936 to 1938 see Figs. 7 and 7A

Series 75 and 90 1939 & 1940, see Figs. 7 and 7A

CHEVROLET

1935 to 1938 models see page 934

1939 to 1941 models see Fig. 10

CHRYSLER

All models 1934 to 1936 see Figs. 7 and 7A

All models 1937 to 1940 see Figs. 11 and 12

All models 1941 see Fig. 14

DE SOTO

All models 1937 to 1940 see Figs. 11 and 12

All models 1941 see Fig. 14

DODGE

All 1934 models see Figs. 7 and 7A

All 1939 & 1940 models see Figs. 11 and 12

All models 1941 see Fig. 14

HUDSON

All 1940 and 1941 models see Fig. 11

LA SALLE

All 1934, 35 models see Figs. 7 and 7A

All 1936 to 1940 models see Figs. 10 and 12

NASH

All 1940 models see Figs. 10 and 12

Series 4140, 1941 see Figs. 15

Series 4160 and 4180 see Fig. 16

OLDSMOBILE

All 1934, 35 models see Figs. 7 and 7A

All 1936 to 1941 models see Figs. 10 and 12

PACKARD

All models see Fig. 18

PLYMOUTH

All 1939 and 1940 models see Fig. 11

1941 models see Fig. 14

PONTIAC

All 1934 to 1936 models see Chevrolet and Pontiac front suspension

All 1937 to 1941 models see Figs. 10 and 12

STUDEBAKER

All models see Studebaker front suspension, Fig. 19

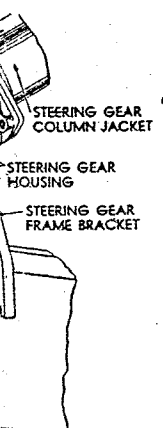
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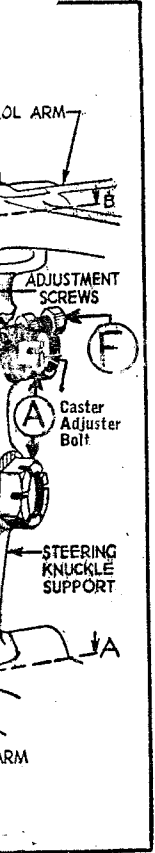
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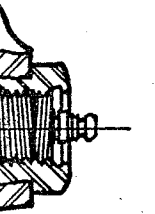
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ECCENTRIC BUSHING

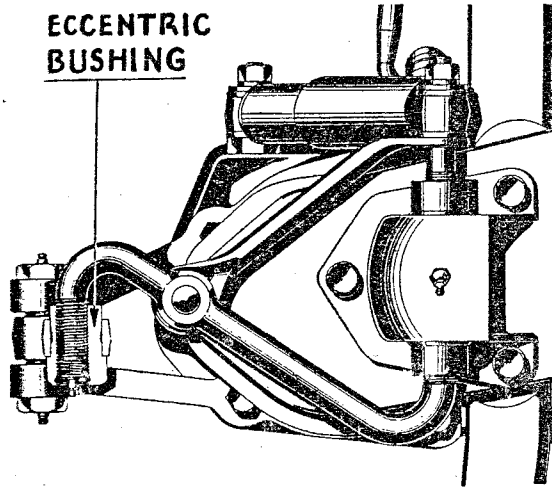


Fig. 11—Caster adjustment is made in full turns only. Camber adjustment is from zero to maximum in 1/2 turn of the eccentric bushing.

eccentric pin type, remove lubrication nipple and insert plug type wrench. If the design is of the eccentric bushing type use an end wrench on the hex head of the bushing. Turn pin or bushing one complete turn at a time until the correct caster reading is obtained. Then check camber and if it is incorrect, turn pin or bushing not to exceed 1/2 turn in the required direction. If it is impossible to obtain correct camber or caster it will be necessary to install new parts.

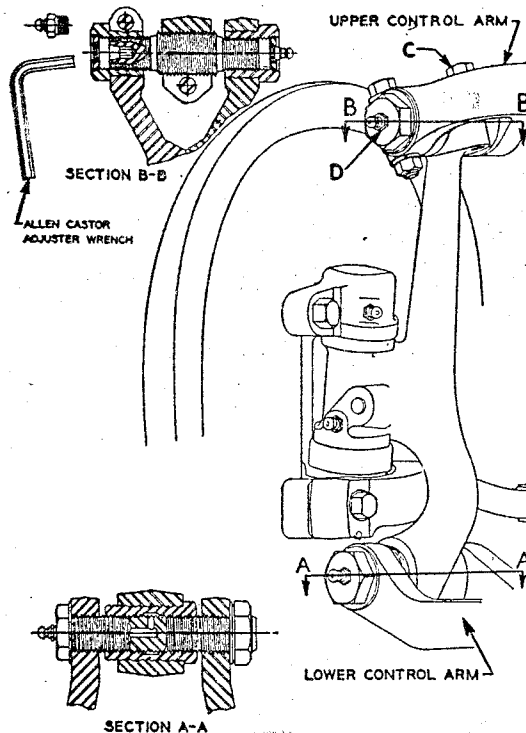


Fig. 13

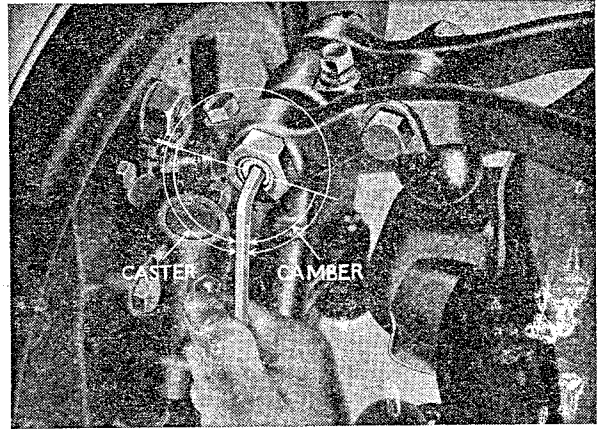


Fig. 12—Caster adjustment is made in full turns only. Camber adjustment is from zero to maximum in 1/2 turn. See text.

Be very careful when adjusting caster on cars having the construction as shown at Fig. 11. The bushing should not be rotated more than a turn or two from its original position. Some manufacturers of cars using this construction state that the caster is non-adjustable.

Jack up front of car until front wheels clear floor. Loosen clamp bolt on upper end of knuckle support. Remove lubrication fitting from upper control arm pin. Insert Allen wrench in threaded pin and set caster by turning pin. There is no provision for camber adjustment. A special eccentric threaded pin is supplied for 1938, 1939 and 1940 Buicks, except 90 models. This eccentric pin is a special part and is not used in regular production.

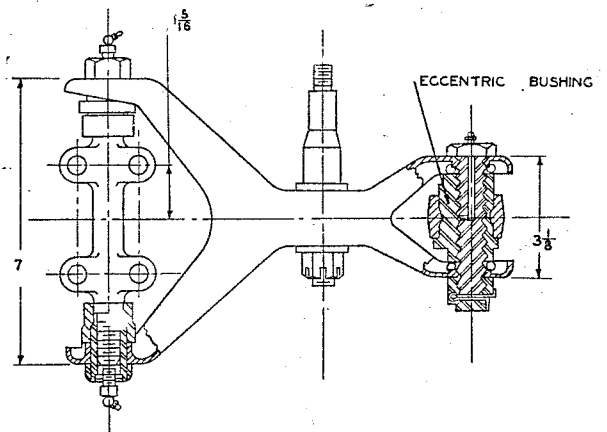


Fig. 14

Camber is adjusted by loosening clamp bolt at upper end of knuckle support and turning eccentric bushing until correct adjustment is secured. Manufacturers of cars using this construction state that caster is non-adjustable.

Steering and Front Axle Repair Data

CAR MAKE AND MODEL		Total Caster (Degrees) E—Empty L—Loaded Lbs. Load	Slope Axle Spring Seat or Axle Caster (Degrees) N—Negative P—Positive	Sideway Inclination of Pivot Pin With Vertical (Degrees)	Wheel Camber (Inches)	Wheel Camber (Degrees)	Toe In (Inches)
AUBURN							
652X, 652Y, 850X, 850Y, 851	1934-35	1-2 E	0	7 1/2	1 1/2	1 1/2	1/8
653, 654	1935-36	3 1/2-4	0	7 1/2	1 1/2	1 1/2	1/8
852, SC852	1936	2-3	0	7 1/2	1 1/2	1 1/2	1/8
BANTAM							
60	1938	11	0	1 1/2	1 1/4	1 1/8	1/8
60	1939	11	0	1 1/2	1 1/4	1 1/8	1/8
65	1940-41	15	0	1 1/2	1 1/4	1 1/8	1/8
BUICK							
34-40, 35-40	1934-35	2 1/2-3 1/4 E	None	Note 1	0-1 1/4	0-3/4	0-1 1/8
34-50, 35-50	1934-35	1 3/4-2 1/4 E	None	Note 1	0-1 1/4	0-3/4	0-1 1/8
34-60, 35-60	1934-35	1-1 1/2 E	None	Note 1	0-1 1/4	0-3/4	0-1 1/8
34-90, 35-90	1934-35	1-1 1/4 E	None	Note 1	0-1 1/4	0-3/4	0-1 1/8
36-40	1936	3-3 1/2	0	4	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
36-60, 36-80	1936	1 3/4-2 1/4	0	5	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
36-90	1936	3/4-1 1/4	0	5	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
37-40, 37-60	1937	0 1/2-3/8	0	3 1/2-4 1/2	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
37-80, 37-90	1937	0 1/2-3/8	0	(a)	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
38-40, 38-60	1938	7/8 N 1/2-3/8	0	(a)	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
38-80, 38-90	1938	7/8 N 1/2-3/8	0	3 1/2-4 1/2	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
39-40, 39-60	1939	7/8 N 1/2-3/8	0	4 1/4-5 1/4	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
39-80	1939	7/8 N 1/2-3/8	0	4-5	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
39-90	1939	7/8 N 1/2-3/8	0	4-5	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
40-40, 40-50	1940	8/8 P 1/2-3/8	0	3 1/2-4 1/2	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
40-60, 40-70	1940	8/8 P 1/2-3/8	0	3 1/2-4 1/2	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
40-80, 40-90	1940	0 1/2-3/8	0	4-5	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
41-40, 50, 60, 70	1941	3/8 P 1/2-3/8	0	3 1/2	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
41-90	1941	3/8 P 1/2-3/8	0	4 3/4	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
40A, 40B, 50, 60, 70	1942	3/8 P 1/2-3/8	0	3 1/2-4 3/4	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
90	1942	3/8 P 1/2-3/8	0	4 3/4	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
CADILLAC							
355D, 370D, 452D	1934-35	1-2 E	None	3 1/2	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
60	1936	1 1/2-2	None	4 5/8	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
70, 75, 80, 85	1936	3/4-1 1/4	None	5 3/8	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
90	1936	1 1/2	None	4	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
37-60	1937	1 1/2	None	4 5/8	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
37-65	1937	1 1/2	None	5 3/8	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
37-70, 75, 85	1937	1 1/2	None	5 3/8	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
37-90	1937	0 1/2-3/4	None	4 1/2	1/8 N-1 1/2 P	1/8 N-3/4 P	1/8
CHEVROLET							
ED	1935	3	0	1 1/2	1/8	1 1/2	1/8
EA	1935	0	0	1 1/2	1/8	1 1/2	1/8
DC, EC	1934-35	1 1/2	0	1 1/2	1/8	1 1/2	1/8
FA	1936	2 1/2	0	1 1/2	1/8	1 1/2	1/8
FD	1936	3 1/2	0	1 1/2	1/8	1 1/2	1/8
FG	1936	1 1/2	0	1 1/2	1/8	1 1/2	1/8
FB	1937	2 1/2	0	1 1/2	1/8	1 1/2	1/8
GA	1937	0	0	1 1/2	1/8	1 1/2	1/8
GB	1937	0	0	1 1/2	1/8	1 1/2	1/8
HA	1938	1 1/2	0	1 1/2	1/8	1 1/2	1/8
JB-Master-85	1939	2 1/2	0	1 1/2	1/8	1 1/2	1/8
JA-Master De Luxe	1939	0 1/2	0	1 1/2	1/8	1 1/2	1/8
85-Master, KB	1940	2 1/2	0	1 1/2	1/8	1 1/2	1/8
Spec. Del.-KA, Mas. Del.-KH	1940	0 1/2	0	1 1/2	1/8	1 1/2	1/8
Spec. Del., Mas. Del.	1941-42	0 1/2	0	1 1/2	1/8	1 1/2	1/8
CHRYSLER							
CA, CB, C6, C7	1934-36	1 1/2	0	1 1/2	1/8	1 1/2	1/8
CZ, C8	1935	1 1/2	0	1 1/2	1/8	1 1/2	1/8
C6	1935	1 1/2	0	1 1/2	1/8	1 1/2	1/8
C2	1935	1 1/2	0	1 1/2	1/8	1 1/2	1/8
C1, C2, C3	1935	1 1/2	0	1 1/2	1/8	1 1/2	1/8
C6, C7	1936	1 1/2	0	1 1/2	1/8	1 1/2	1/8
C8	1936	1 1/2	0	1 1/2	1/8	1 1/2	1/8
C9, C10, C11	1936	1 1/2	0	1 1/2	1/8	1 1/2	1/8
C14, C16	1937	2	0	1 1/2	1/8	1 1/2	1/8
C15	1937	2	0	1 1/2	1/8	1 1/2	1/8
C17	1937	2	0	1 1/2	1/8	1 1/2	1/8
C18	1938	1 1/2	0	1 1/2	1/8	1 1/2	1/8
C19	1938	1 1/2	0	1 1/2	1/8	1 1/2	1/8
C20	1938	1 1/2	0	1 1/2	1/8	1 1/2	1/8
C22-Royal	1939	1 1/2	0	1 1/2	1/8	1 1/2	1/8
C23-Imperial	1939	1 1/2	0	1 1/2	1/8	1 1/2	1/8
C24-Cus. Imp.	1939	1 1/2	0	1 1/2	1/8	1 1/2	1/8
C25-Royal	1940	1 1/2	0	1 1/2	1/8	1 1/2	1/8
C26, C27	1940	1 1/2	0	1 1/2	1/8	1 1/2	1/8
C28, C34, Royal and Windsor	1941-42	1 1/2	0	1 1/2	1/8	1 1/2	1/8
C30N, C30K, C36, New Yorker	1941-42	1 1/2	0	1 1/2	1/8	1 1/2	1/8
C33, Crown Imp.	1941-42	1 1/2	0	1 1/2	1/8	1 1/2	1/8