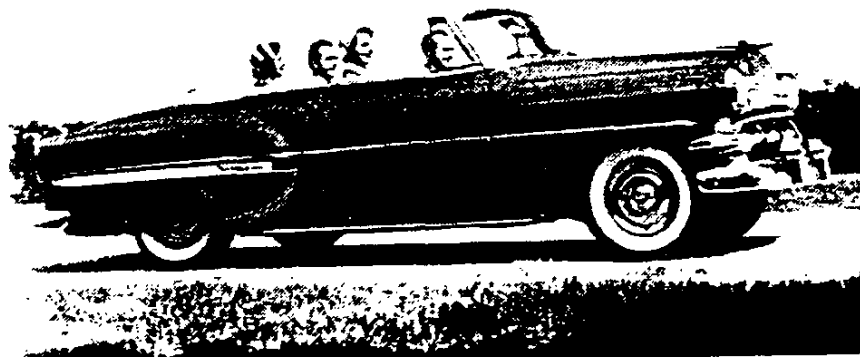


# CHEVROLET



1954 Chevrolet. Bel Air convertible, 6-cyl

**1954**



# **CHEVROLET 1954 SPECIFICATIONS**

**ISSUED TO**

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Prepared  
by  
**ENGINEERING DEPARTMENT—TECHNICAL DATA GROUP  
CHEVROLET—CENTRAL OFFICE  
DIVISION OF GENERAL MOTORS CORPORATION  
DETROIT 2, MICHIGAN**

Lithographed in U.S.A.



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## INTRODUCTION

### AUTOMOBILE SPECIFICATIONS...

In the automobile industry, a specification is defined as any item in a detailed description of a mechanism. Usually the description is composed of separate specifications in tabular question and answer form.

Specifications of this nature, however, are not required in the manufacture of an automobile. All the information necessary for this process is given by the Engineering Department to the manufacturing and assembling plants in the forms of drawings and parts lists. But drawings and parts lists usually are not made available to other people who require information of the vehicle, since these records must be interpreted. Moreover, they and other engineering records are much too numerous or voluminous for convenient reference. Therefore, a special interpretation is made by the Engineering Department in the form of a specifications list or book, the contents of which are determined by the nature of questions people ask the Engineering Department concerning the vehicle.

As has been the experience of most manufacturers, originally the questions asked were few in number and were answered individually at the time they were asked. Through the years, however, many questions were asked quite frequently and, for convenience, the answers were recorded in the form of specifications. Others, which arose because of heightened interest and because of advancements in design, were added from time to time. As the automobile grew into a necessary means of transportation --- as its component units were advanced in design and as new ones were added --- and as manufacturers were forced to make more detailed comparisons of their vehicles with those of their competitors to satisfy an increasingly technically minded public --- more and more questions concerning the various characteristics of vehicles were answered in the form of specifications.

### THE PURPOSE OF CHEVROLET SPECIFICATIONS...

The Chevrolet Engineering Department has always been willing to answer questions of a technical nature concerning Chevrolet products and for the past thirty years has endeavored to anticipate such questions by preparing a specifications book each new model year.

This current book has been prepared to answer all the questions concerning the Chevrolet 1954 products that we believe may be asked.

It is intended primarily as a convenient and authoritative source of information for all Chevrolet executives, engineers, sales and service representatives, plant managers, and other personnel who must be in a position to answer such questions, and also as a common source of those Chevrolet specifications that are needed in advertisements, vehicle comparisons, trade publications, license applications and in correspondence with governments, firms, educational institutions, and individuals throughout the world who require a wide variety of information about Chevrolet products for diverse purposes.

### VEHICLES AND EQUIPMENT SPECIFIED...

The specifications are those of all standard left drive passenger and delivery cars, trucks, and school bus chassis which have been designed to be manufactured for the domestic (U.S.A.) open market. Included also are the specifications of the RPO (Regular Production Option) units which are intended for use with these vehicles. All data are for vehicles with regular equipment, except where noted as RPO.

No information is furnished concerning right drive vehicles or equipment manufactured for export, nor any vehicles or equipment built on COPO's (Central Office Production Orders) or any other special orders. Accessories released through the Parts and Accessories Department, however, are listed although specifications are not included.

As in 1953, this book is in two parts -- one for passenger cars with a supplement for passenger vehicles equipped with automatic transmission and one for trucks.

Except where noted, all information was derived directly from official Chevrolet Engineering Department drawings, parts lists, and test reports, or was calculated from these records.

### ABBREVIATIONS...

The data are presented in a condensed tabular form which necessitates the use of abbreviations or symbols in some cases. These are shown on a separate page.

CONTINUED

## INTRODUCTION—Continued

### DIMENSIONS...

The dimensions shown are of three types:

Type #1. Those dimensions where very accurate fits are essential in the parts concerned, such as bearing surfaces and splines, and where dimensions usually are expressed on drawings in decimals with very close limits.

Type #2. Those dimensions where accuracy of fit is of less importance, as in structural members such as frame parts, I-beam axles, or in fuel tanks; also, dimensions for the purpose of identification, such as cylinder bore, or diameter of the wheel cylinder piston, where dimensions are expressed in fractions or integers with fractions and to which fairly large tolerances ( $\pm 1/64$ ,  $\pm 1/32$ ,  $\pm 1/16$ ) are applied.

Type #3. Those dimensions, such as wheelbases, ground clearances, body size dimensions, and turning diameters, which are subject to large manufacturing variations.

In this book, the dimensions of type #1 are quoted with limits exactly as on the drawings while the dimensions of types #2 and #3 are quoted without manufacturing tolerances.

Unless specified otherwise all dimensions are in inches.

### LOCATION OR POSITION OF PARTS...

When referring to the location or position of any engine part or vehicle unit, the practice throughout the automotive industry is that such reference is made from the driver seat position. Any views shown or references made, which are contrary to the above rule, are clearly labelled or explained in the text of the specifications.

### ORGANIZATION OF BOOK...

Every effort has been made to facilitate the finding of information. The sequence followed in presenting the information is that of the G. M. Uniform Parts Classification major groupings, modified to facilitate usage by the reading majority, who are unacquainted with this classification. The table of contents lists the subjects in the order in which they occur. The subject headings are reprinted at the bottom of each page beside the page number. The index lists the details covered by the subject headings.

To provide for reorganizing or incorporating additional information without disturbing the page number sequence, blocks of numbers are assigned to the ends of the passenger and truck sections.

### REVISIONS...

All revisions and the dates on which they are made will be indicated at the bottom of the page on which they occur. Where it is necessary to indicate a change in an individual specification, a symbol will be placed in the proximity of the revised specification. This symbol also will be repeated at the bottom of the page with a description of the revision. The following symbols have been established for this purpose: ●, x, †, †, \*, -. They may be used singly, in multiples or in combinations.

Subsequent revisions on a revised page will be made in the same manner as described above. However, to emphasize and clarify the later changes, all symbols and descriptions pertaining to previous revisions will be removed and a note added including the previous date of change preceded by the word "Revised".

ADDRESS ALL INQUIRIES TO  
Technical Data Department  
Room 106, Curtis Building  
Detroit 2, Michigan  
OR CALL  
TRinity 2-4600, Extension 8662



## ABBREVIATIONS AND SYMBOLS

AC ----- AC Spark Plug Division  
 act ----- acting  
 adj ----- adjustment  
 al ----- aluminum  
 amp ----- ampere  
 approx ----- approximately  
 assy (assys) ----- assembly  
 auto ----- automatic  
 aux ----- auxiliary  
 avg ----- average

bar ----- barometric  
 BC ----- bottom center  
 brg ----- bearing  
 BTC ----- before top center  
 bush ----- bushing

cap ----- capacity  
 COE ----- cab-over-engine  
 col ----- column  
 com ----- commercial  
 comp ----- compression  
 conn ----- connecting  
 conv ----- conventional  
 COPO ----- Central  
 ----- Office Production Order  
 cp ----- candle power  
 cu ----- copper  
 cu ft ----- cubic feet  
 cu. in. ----- cubic inches  
 cyl ----- cylinder

dbl ----- double  
 desig ----- designation  
 DLO ----- daylight opening  
 dia ----- diameter  
 dimen ----- dimension  
 displ ----- displacement  
 DR ----- double row  
 distr ----- distributor

ea ----- each  
 eff ----- effective  
 eng ----- engine  
 equip ----- equipment  
 ext ----- exterior

F ----- Fahrenheit  
 F (weights) ----- front  
 fig ----- figure  
 fr ----- front  
 ft ----- feet  
 ft lb ----- foot pounds  
 ft/mi ----- feet per mile

gal ----- gallon  
 gen ----- generator  
 GM ----- General Motors

GPM ----- gallons per minute  
 gov ----- governor  
 GVW ----- gross vehicle weight

HD ----- heavy duty  
 Hg ----- mercury  
 HP ----- horsepower  
 HR ----- hot rolled  
 hr ----- hour  
 Hy ----- Hyatt

ID ----- inside diameter  
 i. e. ----- that is  
 in. ----- inches  
 in<sup>3</sup> ----- inches cubed  
 in<sup>4</sup> ----- inches to fourth power  
 incl ----- included  
 instr ----- instrument

lb (lbs) ----- pounds  
 LH ----- left hand

matl ----- material  
 max ----- maximum  
 mbrs ----- members  
 mf ----- microfarads  
 mi ----- mile  
 min ----- minute & minimum  
 mod ----- modulus  
 MPH ----- miles per hour

ND ----- New Departure  
 neg ----- negative  
 No. (no.) ----- number

OD ----- outside diameter  
 oz ----- ounce

pass ----- passenger  
 pc ----- piece  
 PD ----- pitch diameter  
 pr ----- ply rating  
 press ----- pressure

proj ----- projected  
 prop ----- propeller  
 PSI ----- pounds per square inch  
 pt ----- pint

qt ----- quart

R ----- Roller  
 R (weights) ----- rear  
 rad ----- radiator  
 reg ----- regulator & regular  
 ret ----- retaining  
 rev ----- revolutions & reverse  
 rev/mile ----- revolutions per mile

RH ----- right hand  
 RPM ----- revolutions per minute  
 RPO ----- regular production option  
 rr ----- rear

SAE ----- Society  
 ----- of Automotive Engineers  
 Sag ----- Saginaw  
 SFE ----- Society of Fuse Engineers  
 sq ----- square  
 sq. in. ----- square inches  
 SR ----- single row  
 st ----- stainless  
 stl ----- steel  
 strg ----- steering

Tim ----- Timken  
 TC ----- top center  
 trans ----- transmission

U.S. ----- United States Rubber Co.

var ----- various










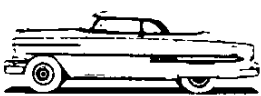




w ----- watt  
 w/s ----- windshield  
 wt ----- weight

## SYMBOLS

# ----- pounds, number  
 + ----- plus  
 - ----- minus  
 & ----- and  
 x ----- by, times  
 : ----- to (ratio)  
 ~ ----- to (range)  
 / ----- per  
 % ----- per cent  
 £ ----- centerline  
 ° ----- degrees  
 ' ----- minutes  
 " ----- seconds, inches  
 + ----- divided by  
 @ ----- at

# **PASSENGER CARS**

**MODEL IDENTIFICATION**

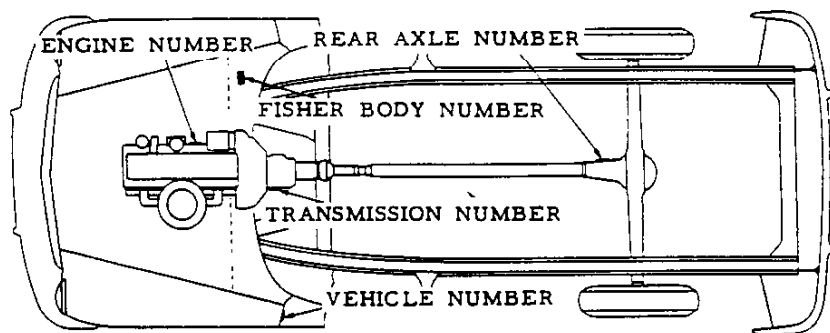
Name and Description	One-Fifty-Series 1500	Two-Ten-Series 2100	Bel Air-Series 2400
4-DOOR SEDAN 6-passenger, 5-window sedan with luggage compartment in rear			
MODEL	1503; 54-1269W*	2103; 54-1069W*	2403; 54-1069WD*
2-DOOR SEDAN 6-passenger, 5-window sedan with luggage compartment in rear			
MODEL	1502; 54-1211W*	2102; 54-1011W*	2402; 54-1011WD*
CLUB COUPE 6-passenger, 2-door, 5-window coupe with luggage compartment in rear			
MODEL		2124; 54-1011WA*	
UTILITY SEDAN 3-passenger, 5-window sedan with luggage compartment in rear			
MODEL	1512; 54-1211WB*		
SPORT COUPE 6-passenger, 2-door 5-window coupe with hard top; luggage compartment in rear			
MODEL			2454; 54-1037D*
CONVERTIBLE 5-passenger, 2-door, 5-window coupe with folding top; luggage compartment in rear			
MODEL			2434; 54-1067DTX*
STATION WAGON (HANDYMAN) 6-passenger, 4-door, 7-window, all-steel body with drop and lift gates in rear			
MODEL	1509; 54-1262F*	2109; 54-1062F*	
STATION WAGON (TOWNSMAN) 8-passenger, 4-door, 7-window, all-steel body with drop and lift gates in rear			
MODEL			2419; 54-1062D*
SEDAN DELIVERY 2-passenger, 3-door, 3-window panel delivery			
MODEL	1508; 54-1271*		

\*-Fisher body style number

## SERIAL NUMBERS

### SERIAL NUMBER LOCATIONS

(See descriptions below.)



Note: Serial numbers except body number were obtained from Standards Department.

#### VEHICLE SERIAL NUMBER

Example:

**A 54 T 001025**

Series                      Model Year                      Assembly Plant                      Unit Number

A "One-Fifty"	T Tarrytown
B "Two-Ten"	F Flint
C Bel Air	S St. Louis
D Sedan Delivery	K Kansas City
	O Oakland
	A Atlanta
	N Norwood
	B Baltimore
	L Los Angeles
	J Janesville

Starting unit number ----- 1001 and up, at each assembly plant regardless of series.  
 Location ----- Stamped on plate attached to left front body hinge pillar.

#### ENGINE SERIAL NUMBER

Example:

**0001001 F 54 Z**

Unit Number                      Plant Designation                      Model Year                      Type Designation

Plant ----- T-Tonawanda; F-Flint  
 Type ----- Z-Regular Engine  
                     ZC-RPO 227 or RPO 330  
                     Y-RPO 313

Starting unit number ----- 1001 and up, at each engine plant  
 Location ----- Stamped on right hand side of cylinder block to rear of distributor

#### TRANSMISSION SERIAL NUMBER

Example:

**M 11 26**

Plant & type desig.                      Month                      Day of Month

Prefix	Plant	Type
M	Muncie	3-speed
S	Saginaw	3-speed
C	Cleveland	Powerglide

Location ----- Conventional; stamped on left side of case at front edge of cover.  
 Powerglide; on rear face of case.

#### REAR AXLE SERIAL NUMBER

Example:

**M L 102**

Model Year                      Plant and Type Designation                      Unit Number

Plant	Type
Gear & Axle Buffalo	
L                      M	All models except RPO 313
S                      T	RPO 313

Unit number ----- The first one or two digits represent the month; the last two, the day of the month.  
 Location ----- Stamped on front, right side of differential carrier.

#### FISHER BODY NUMBER

Description ----- Consists of separate numbers and symbols for body style, body number, trim type, and paint combination. Controlled by body source.  
 Location ----- Stamped on plate on right hand shoulder of cowl, under the hood.

**VEHICLE WEIGHTS •**  
1500 SERIES

Vehicle Type		Shipping Weight			Curb Weight			Loaded Weight		
Model	Description	Total	Front	Rear	Total	Front	Rear	Total	Front	Rear
1502	2-Door Sedan	3150	1740	1410	3280	1765	1515	4180	2090	2090
1503	4-Door Sedan	3190	1750	1440	3320	1775	1545	4220	2100	2120
1512	Utility Sedan	3125	1735	1390	3255	1760	1495	3705	2010	1695
1508	Sedan Delivery	3145	1700	1445	3275	1725	1550	4000	1735	2265
1509	Station Wagon (Handyman)	3445	1735	1710	3575	1760	1815	4475	2085	2390

2100 SERIES

2102	2-Door Sedan	3165	1745	1420	3295	1770	1525	4195	2095	2100
2103	4-Door Sedan	3210	1760	1450	3340	1785	1555	4240	2110	2130
2109	Station Wagon (Handyman)	3470	1745	1725	3600	1770	1830	4500	2095	2405
2124	Club Coupe	3190	1755	1435	3320	1780	1540	4220	2105	2115

2400 SERIES

2402	2-Door Sedan	3195	1750	1445	3325	1775	1550	4225	2100	2125
2403	4-Door Sedan	3235	1765	1470	3365	1790	1575	4265	2115	2150
2419	Station Wagon (Townsmen)⊕	3585	1740	1845	3715	1765	1950	4915	2005	2910
2434	Convertible	3430	1865	1565	3560	1890	1670	4310	2190	2120
2454	Sport Coupe	3300	1800	1500	3430	1825	1605	4330	2150	2180

⊕-All models are equipped with 6.70-15-4pr tires except Townsman Station Wagon which is equipped with 6.70-15-6pr tires.

**SHIPPING WEIGHT:** This is the weight of the basic vehicle with all regular equipment and with grease and oil wherever required. It does not include the weight of gasoline and water.

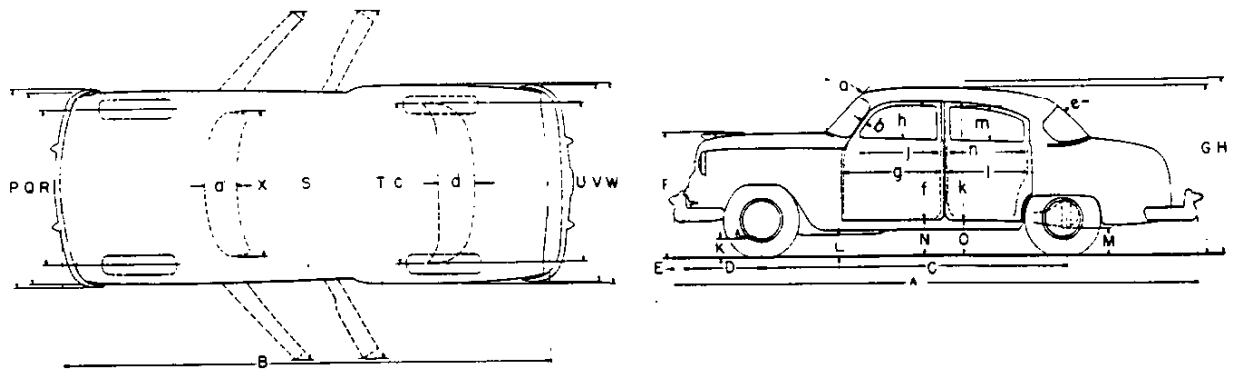
**CURB WEIGHT:** This is the weight of the empty vehicle ready to drive. It is the shipping weight plus the weights of gasoline (99 pounds) and water (31 pounds).

**LOADED WEIGHT:** This is the curb weight of the basic vehicle plus 150 pounds for each passenger.

**PERFORMANCE WEIGHT:** This is the curb weight of the lowest price 4-Door Sedan with regular equipment plus 600 pounds for passengers. A representative example is:  
Model 1503 ----- 3920

•-These are official production weights and replace weights shown on sheet dated 12-18-53, which were estimated weights but not designated as such.

## EXTERIOR DIMENSIONS



DESCRIPTION	KEY	1502	1503	1509	2419	2434	2454	1508
		1512	2103	2109				
		2102	2403					
		2124						
		2402						
Vehicle length	Overall	A	196.5	198.9	196.5	196.4		
	Grille to rear of body	B	183.7	185.8	183.7			
	Wheelbase	C		115				
	Grille to front wheel	D		28.7				
	Grille to bumper guard, front	E		4.3				
Vehicle height	Over ornament, loaded	F*		45.6				
	Over roof, loaded	G*	63.1	67.1	66.2	61.8Ø	65	
	Over roof, no load	HØ	64.8	68.8		63.5Ø	67.1	
Road clearance	Under stab, link bracket	K(I)		7.2				
	Under exhaust pipe	L(I)		7				
	Under rear axle center	M(I)		8				
Door step height	Front door, no load	NØ	15.8	16	15.8	15.5	15.8	
	Rear door, no load	OØ		16	16.8	16.2		
Vehicle width	Over front bumper	P			73.4			
	Over front fenders	Q			72.2			
	Front wheel tread	R			56.7			
	Over front doors, open	S	151	140		151	140	
	Over rear doors, open	T		129				
	Rear wheel thread	U			58.8			
	Over rear bumpers	V			73.8			
	Over body maximum	W			75			
Windshield	Width	X		50.6				
	Slope angle	a	43.5°	44.1°	43.5°			
	Height on slope	a	15.8	17.8	14.2	15.8		
	Corner post on diagonal	b		3.1	2.8	3.1		
Rear window	Width	c	55.5	44.5	44	58	30.1	
	Height on slope	d	15	12.5	14.5	14.2	10.4	
	Slope angle	e	45.5°	23.5°	49.4°	48.7°	27.5°	
Front door	Opening height	f	43.8	45.8	42	43.8		
	Opening width	g	44.4	36.8	44.4	36.8		
	Window DLO height	h	12.8	14	12	12.8		
	Window DLO width	j	35.4	28.6	27.8	35.5	28.6	
Rear side door	Opening height	k		42.8	46			
	Opening width	l		31	31.2			
	Window DLO height	m		12.2	14.5			
	Window DLO width	n		27.2	28.1			
Rear quarter	Window DLO height	m	12.1	13.6	11.6			
	Window DLO width	n	28.1	33.2	20.4	17.6		

\*-Under design load conditions

Ø-At curb weight

(I)-Road clearance based on static conditions of tires and springs under design load

O-Convertible height, top down: 60-7/8 no load; 59-1/8 loaded

DLO-Daylight Opening

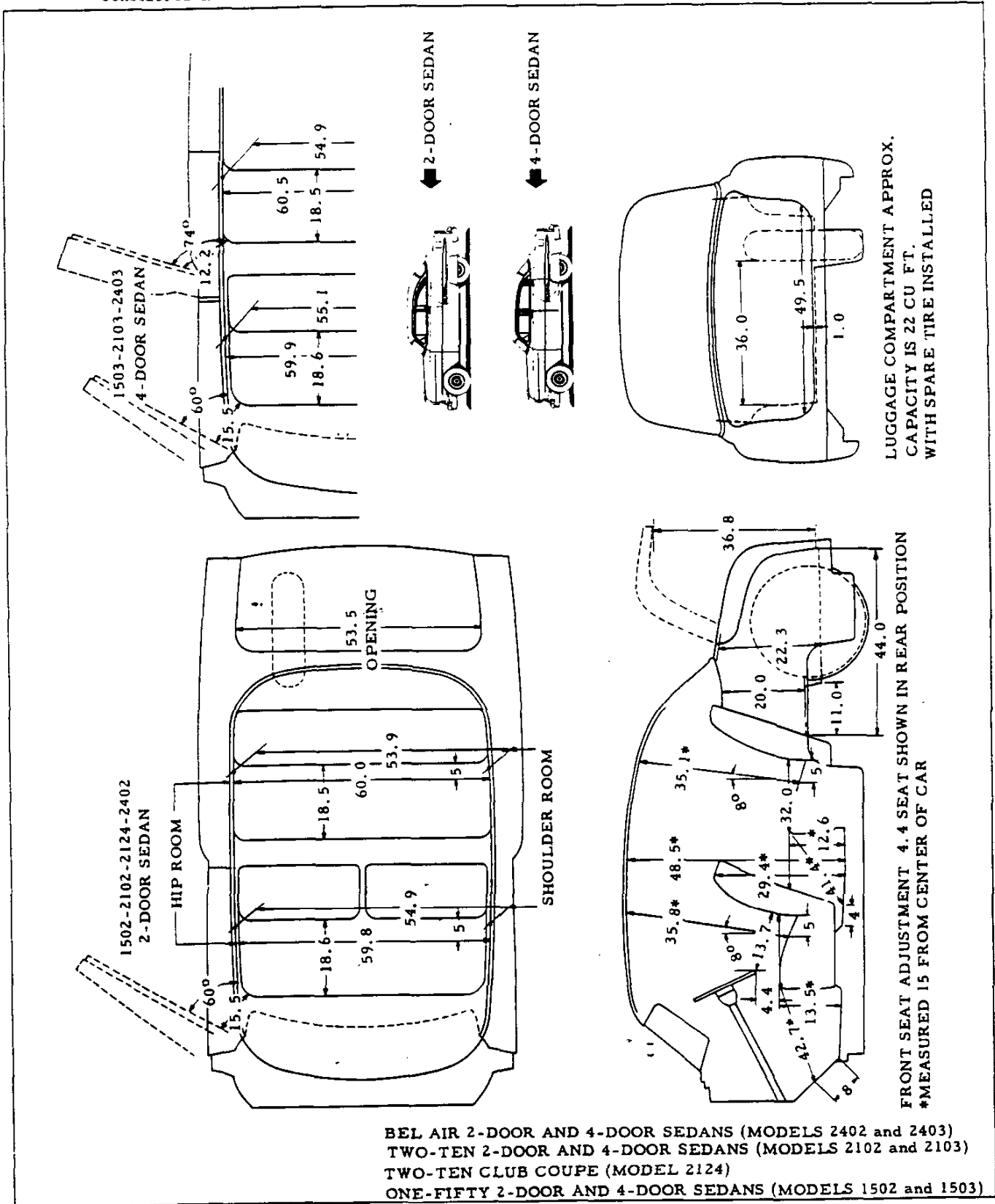
12-18-53

**CHEVROLET 1954 SPECIFICATIONS—PASSENGER**

**EXTERIOR DIMENSIONS - 11**

### BODY INTERIOR DIMENSIONS

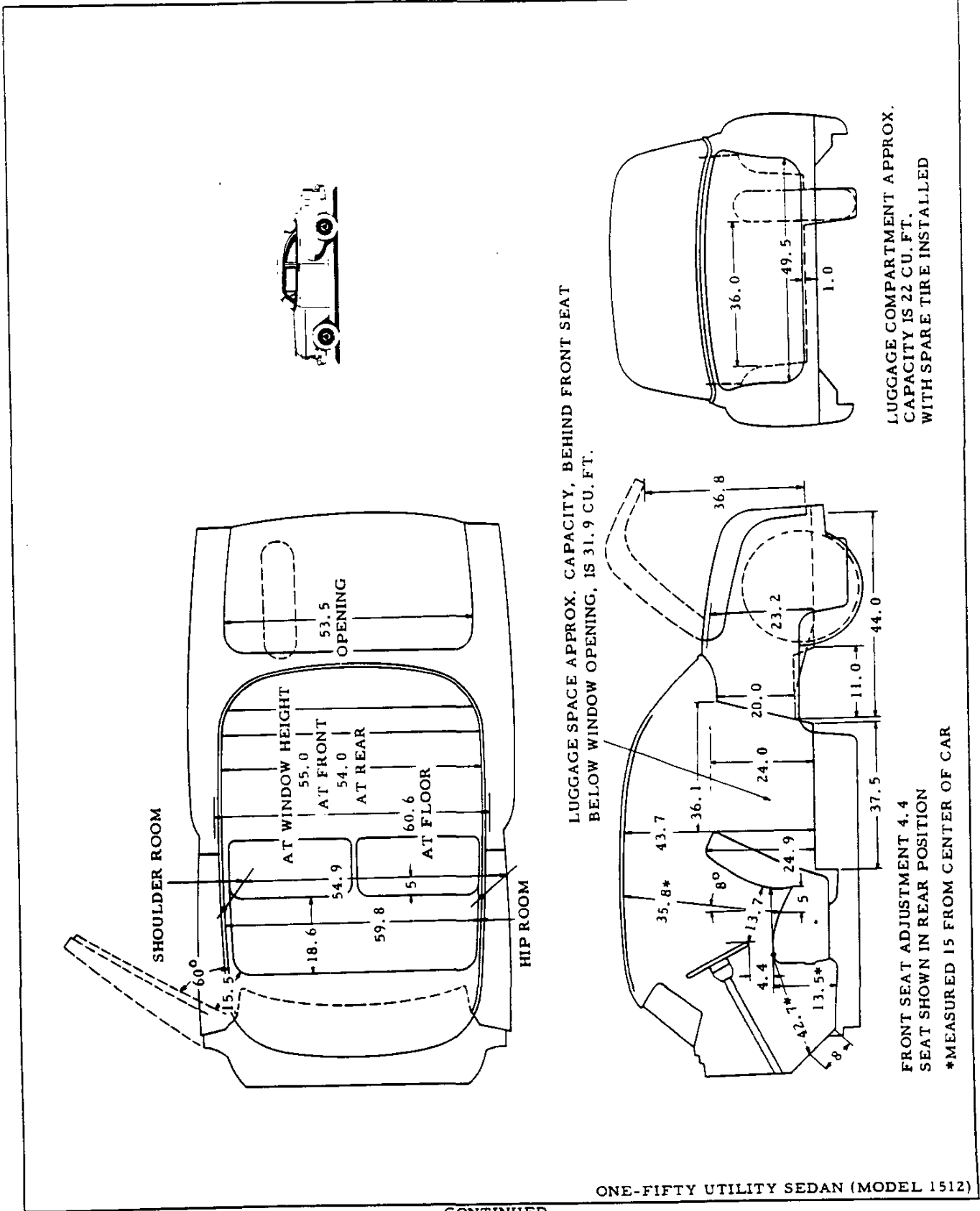
Trim and hardware differences between One-Fifty, Two-Ten and Bel Air models are not considered in these dimensions. However, these differences are never greater than 5/8.



BEL AIR 2-DOOR AND 4-DOOR SEDANS (MODELS 2402 and 2403)  
 TWO-TEN 2-DOOR AND 4-DOOR SEDANS (MODELS 2102 and 2103)  
 TWO-TEN CLUB COUPE (MODEL 2124)  
 ONE-FIFTY 2-DOOR AND 4-DOOR SEDANS (MODELS 1502 and 1503)

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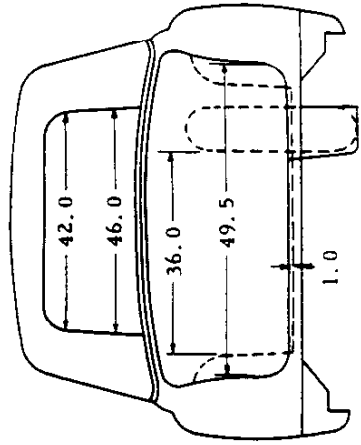
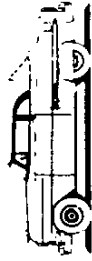
**BODY INTERIOR DIMENSIONS—Continued**



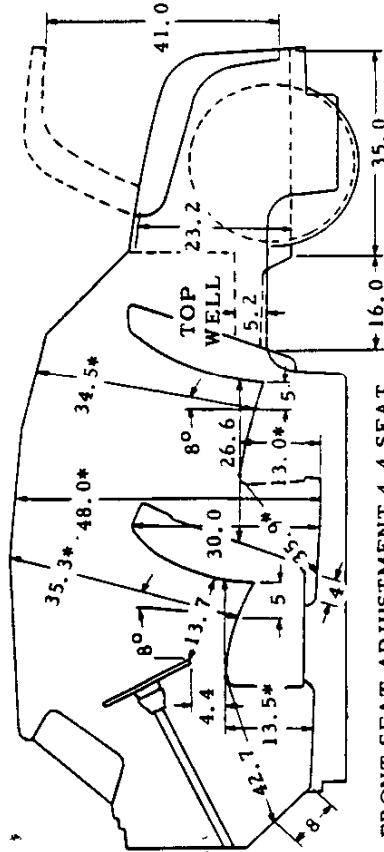
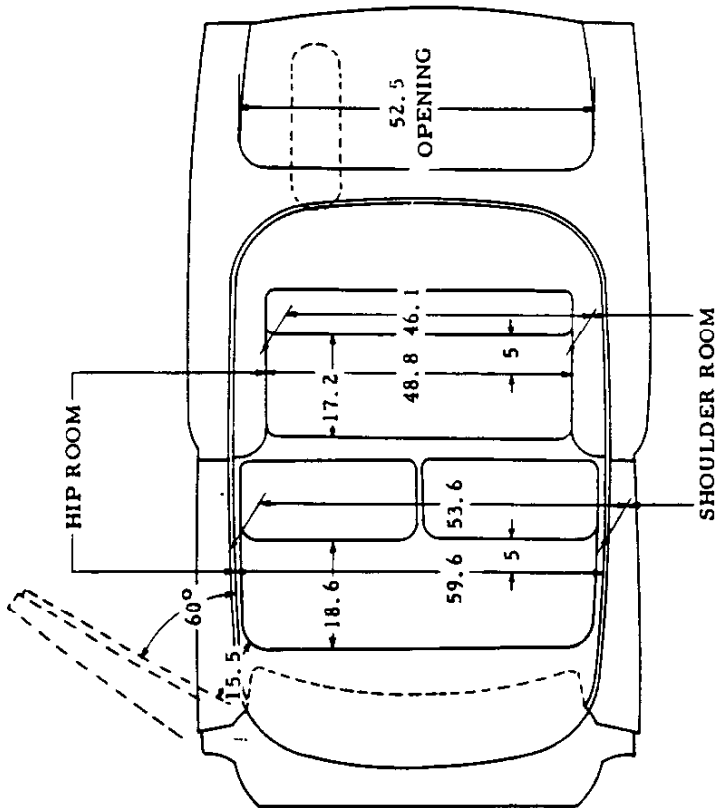
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BODY INTERIOR DIMENSIONS—Continued



LUGGAGE COMPARTMENT APPROX. CAPACITY IS 18 CU. FT. WITH SPARE TIRE INSTALLED

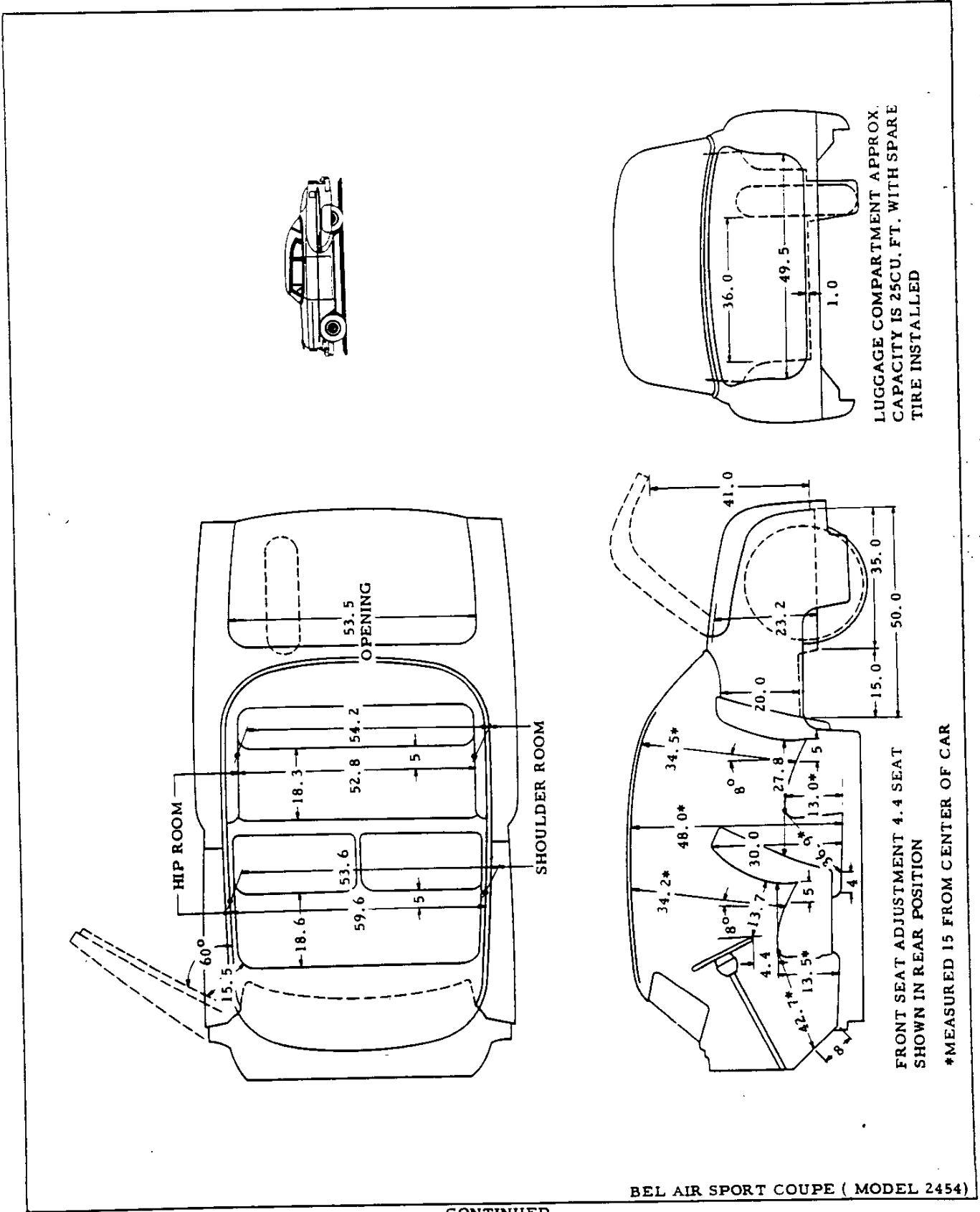


FRONT SEAT ADJUSTMENT 4.4 SEAT SHOWN IN REAR POSITION MEASURED 15 FROM CENTER OF CAR

BEL AIR CONVERTIBLE (MODEL 2434)

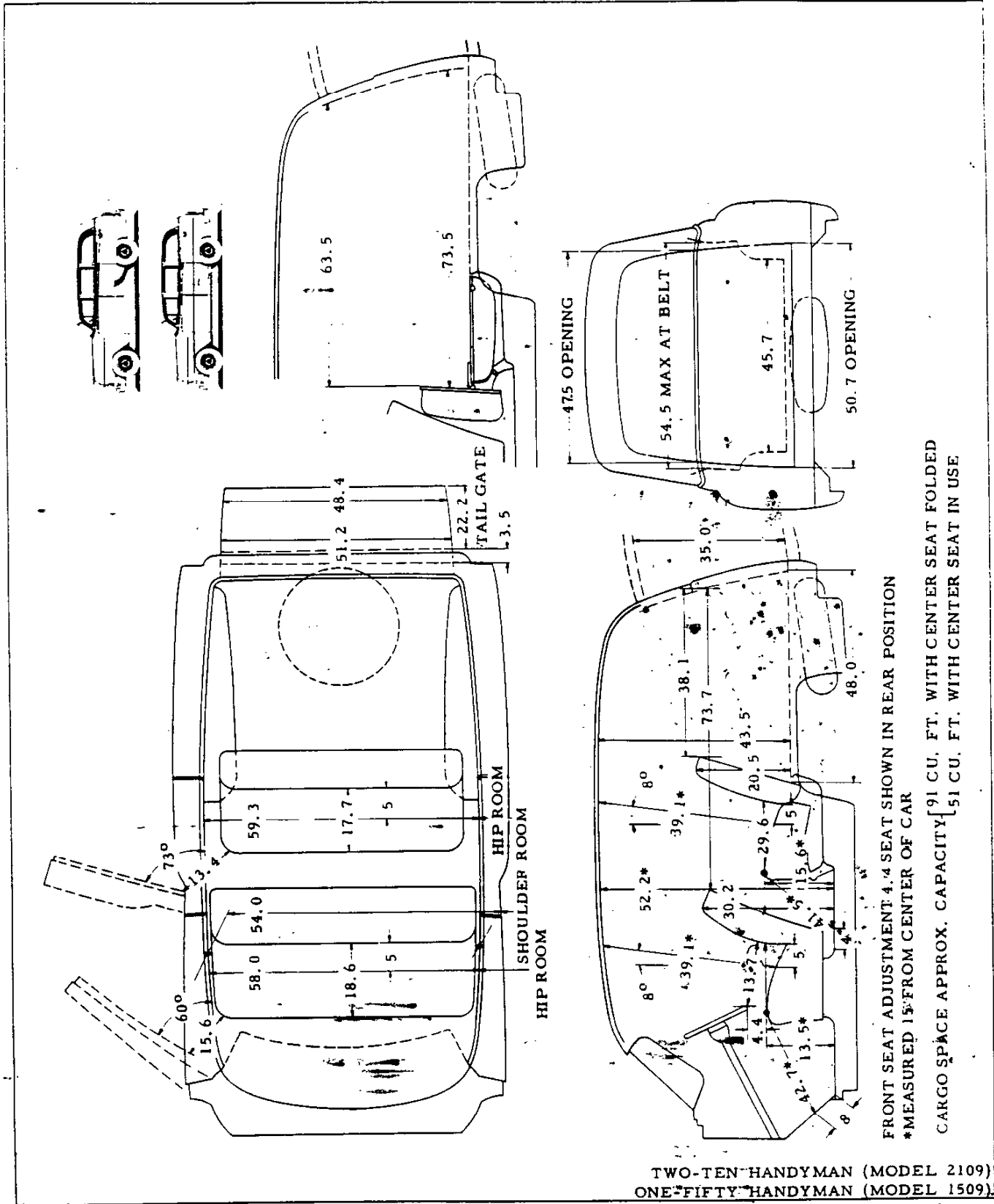
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**BODY INTERIOR DIMENSIONS—Continued**



**BODY INTERIOR DIMENSIONS—Continued**

Trim and hardware differences between One-Fifty and Two-Ten models are not considered in these dimensions. However, these differences are never greater than 5/8.

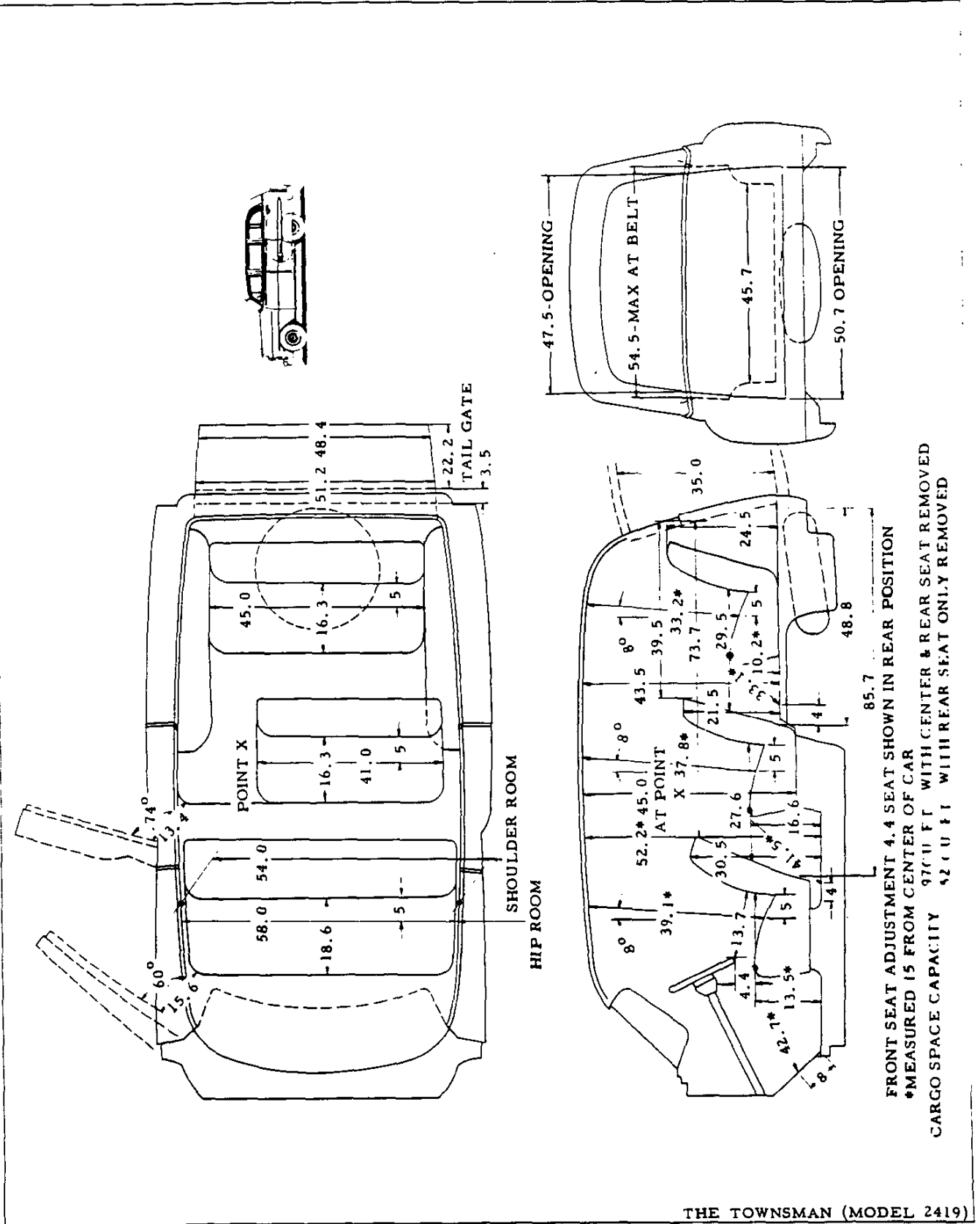


FRONT SEAT ADJUSTMENT 4.4 SEAT SHOWN IN REAR POSITION  
 \*MEASURED 15" FROM CENTER OF CAR  
 CARGO SPACE APPROX. CAPACITY [91 CU. FT. WITH CENTER SEAT FOLDED  
 51 CU. FT. WITH CENTER SEAT IN USE]

TWO-TEN HANDYMAN (MODEL 2109)  
 ONE-FIFTY HANDYMAN (MODEL 1509)

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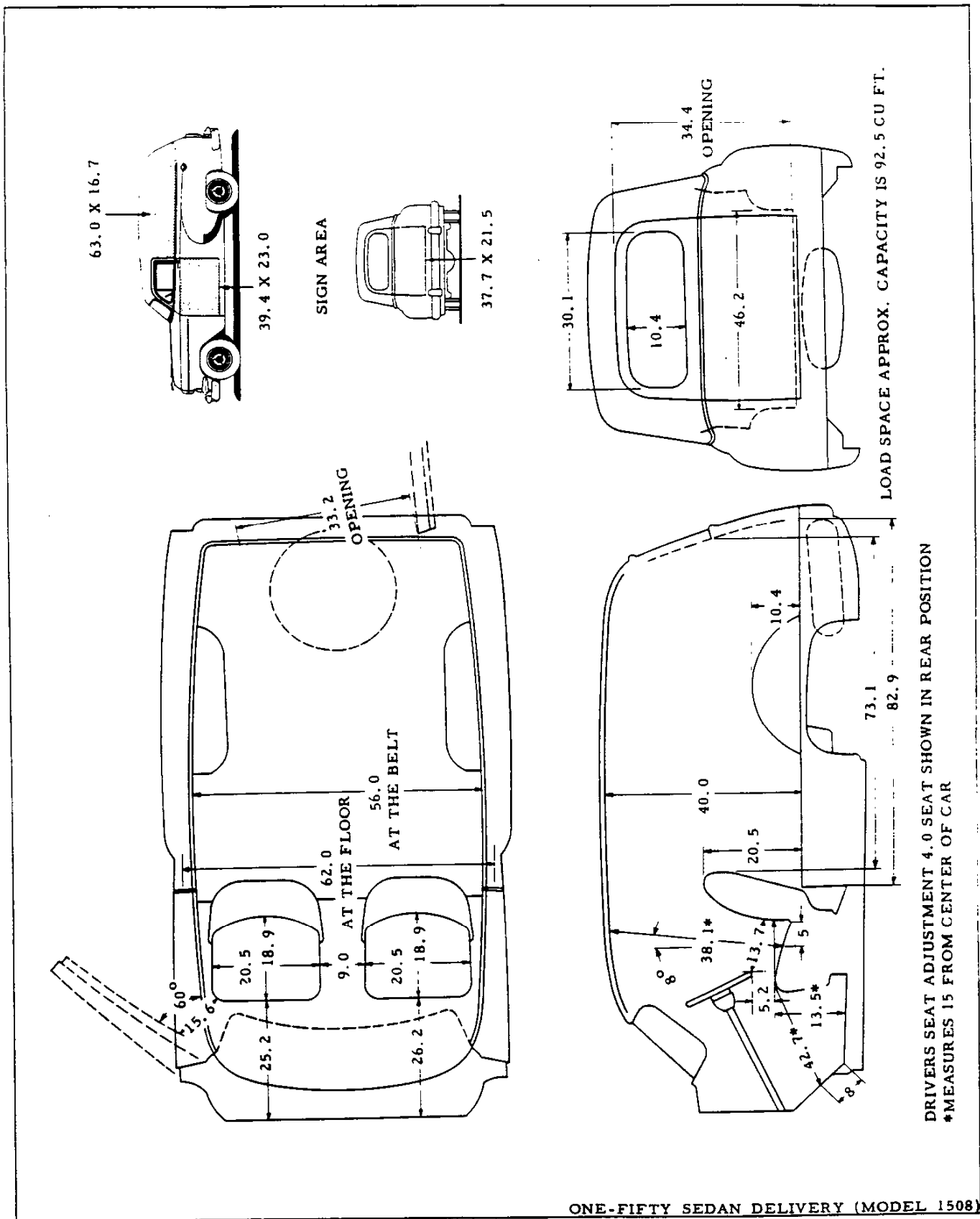
**BODY INTERIOR DIMENSIONS—Continued**



THE TOWNSMAN (MODEL 2419)

CONTINUED

**BODY INTERIOR DIMENSIONS—Continued**



**REGULAR EQUIPMENT**

ITEM		MODELS		
Exterior	Bumpers and dual bumper guards, front and rear			
	Hood ornament and emblem			
	Chrome plated head light rims			
	Dual windshield wipers			
	Dual horns			
	Outside key locks, front doors			
	Bumper gravel deflectors, front and rear			
	Rear fender shields	Black rubber	1500	
		Bright metal	2100, 2400	
	Rear wheel cover panels			
	Rear deck lid emblem with finger grip			
	Locking T handle on lift gate, name plate on tail gate			
	Dual tail and stop lights			
	One license light in rear gravel deflector			
	License light in license guard			
	Bright metal moldings	Body belt	All	
		Body sill	All except 1500 models	
		Front and rear fenders and doors with the words "Bel Air" in script on rear fenders		
		Reveals	Windshield	1508, 2100, 2400
			Side window	2102-03-24, 2402-03
	Rear window		1508, 2102-03-24, 2402-03-54	
	Outside rear view mirror, left hand			
	Ventipane drip shields			
Bonderized body and sheet metal				
Interior	Instrument panel	Glove box lock and light	All. Lock only on 1500	
		Clock, stem wind	2100, 2400. A removable panel covers each space on 1500	
		Cigarette lighter	2100, 2400	
		Ash tray	2100, 2400	
		Plastic control knobs with bright metal finger grips and inserts	Plain plastic on 1500	
		Radio grille, bright metal	All	
		3-position ignition switch		
	Two-tone finish			
	Steering wheel	Two spoke with horn button	1500	
		Two spoke with full horn ring	2100, 2400	
	Dual sunshades			
	Inside rear view mirror			
	Passenger compartment light			
	Interior lighting automatic switches, two			
	Coat hooks			
	Assist straps			
	Robe cord			
	Foam rubber seat cushion pad, front and rear			
	Arm rests, front and rear doors or quarter panels			
	Extra roof insulation			
	Rear seat ash tray	In front seat back	2103, 2403	
		In quarter panel arm rests	2102-24, 2402-34-54	
	Package shelf ahead of rear window			
Dual ventilators in dash				
Adjustable front seat				
Moveable front door ventipanes				
Bright metal inserts in window regulator knobs				
Rolled embossed aluminum step plates				
"Body by Fisher" on front door step plates				
Seat springs	Continuous "S" shaped springs	All front seats except 1508. All rear seats except 1509, 2109, 2419		
		Front seats 1508		
	Coil springs	Folding seat 1509, 2109 Center and rear seat 2419		

**EXTERIOR-INTERIOR COLOR COMBINATIONS  
ONE - COLOR EXTERIORS**

Upper body	Lower body, sheet metal, wheels	Wheel stripe (no stripe on Series 2400)	Trim combination	Inst. panel upper, garnish moldings, lock buttons, steering wheel rim and cap	Inst. panel lower, steering column, steering wheel spokes, gearshift shaft and lever
Onyx Black	Onyx Black	Argent Silver	Gray	Onyx Black	India Ivory
			Gray and Red	Onyx Black	Romany Red
			Gray	Shadow Gray §	India Ivory
			Black and Ivory	Onyx Black	India Ivory
			Black	Onyx Black	India Ivory
Surf Green	Surf Green	Onyx Black	Gray	Onyx Black	India Ivory
			Gray and Red	Onyx Black	Romany Red
			Green	Bermuda Green	Surf Green
			Green and Ivory	Bermuda Green	India Ivory
Bermuda Green *	Bermuda Green	Argent Silver	Gray	Onyx Black	India Ivory
			Gray and Red	Onyx Black	Romany Red
			Green	Bermuda Green	Surf Green
			Green and Ivory	Bermuda Green	India Ivory
Horizon Blue *	Horizon Blue	Onyx Black	Gray	Onyx Black	India Ivory
			Gray and Red	Onyx Black	Romany Red
			Blue	Biscayne Blue	Horizon Blue
			Blue and Ivory	Biscayne Blue	India Ivory
Biscayne Blue	Biscayne Blue	Argent Silver	Gray	Onyx Black	India Ivory
			Gray and Red	Onyx Black	Romany Red
			Blue	Biscayne Blue	Horizon Blue
			Blue and Ivory	Biscayne Blue	India Ivory
Shoreline Beige	Shoreline Beige	Onyx Black	Gray	Onyx Black	India Ivory
			Maroon and Beige	Morocco Red	Shoreline Beige
			Brown	Saddle Brown	Shoreline Beige
			Beige	Saddle Brown	Shoreline Beige
			Green	Bermuda Green	Surf Green
Saddle Brown	Saddle Brown	Argent Silver	Gray	Onyx Black	India Ivory
			Brown	Saddle Brown	Shoreline Beige
			Beige	Saddle Brown	Shoreline Beige
India Ivory	India Ivory	Onyx Black	Gray	Onyx Black	India Ivory
			Gray and Red	Onyx Black	Romany Red
			Blue	Biscayne Blue	Horizon Blue
			Black and Ivory	Onyx Black	India Ivory
			Black	Onyx Black	India Ivory
Shadow Gray *	Shadow Gray	Argent Silver	Gray	Onyx Black	India Ivory
			Gray and Red	Onyx Black	Romany Red
			Gray	Shadow Gray §	India Ivory
Morocco Red	Morocco Red	Argent Silver	Gray	Onyx Black	India Ivory
			Maroon and Beige	Morocco Red	Shoreline Beige
			Gray	Morocco Red §	India Ivory
Romany Red *	Romany Red	Argent Silver	Gray and Red	Onyx Black	Romany Red
			Red	Romany Red	India Ivory
Turquoise	Turquoise		Turquoise	Turquoise	India Ivory
Fiesta Cream	Fiesta Cream		Green	Bermuda Green	Surf Green
Pueblo Tan	Pueblo Tan		Tan	Pueblo Tan	Shoreline Beige

\* - Available for 1508 on special order.

§ Onyx Black steering wheel and cap.

¶ - Wood grain finish on tail gate, lift gate, and upper areas of the body sides for 2419.

‡ - Series 1500 solid color steering wheels: 1502, -03, -12 are India Ivory; 1509, Shoreline Beige; 1508, Onyx Black. Model 1508 steering wheel spokes, steering column, gearshift shaft and lever: Onyx Black.

**EXTERIOR-INTERIOR COLOR COMBINATIONS  
ONE-COLOR EXTERIORS**

Series 1500			Series 2100			Series 2400				
1502 1503 1512	1508	1509	2102 2103	2124	2109	2402 2403	2454	2419	2434 Top color	Rear fender insert panel
•										
	•									
			•			•				India Ivory
				•				•	Black	India Ivory
•										
	•		•			•				India Ivory
•				•						
	•		•			•		•	Dark Green	Shoreline Beige
•				•						
	•		•			•		•	Dark Blue	Biscayne Blue
•				•						
	•		•			•				India Ivory
•				•						
		•	•			•		•		Bermuda Green Bermuda Green
•				•						
					•			•		Shoreline Beige
•				•		•				Biscayne Blue
	•			•				•	Black	Onyx Black
•				•		•				India Ivory
•				•		•				India Ivory
	•			•					Black	India Ivory
									Black	India Ivory
									Dark Green	Bermuda Green
									Tan	Shoreline Beige



**EXTERIOR-INTERIOR COLOR COMBINATIONS  
TWO-COLOR EXTERIORS**

‡ Upper body	¶ Lower body, sheet metal, wheels	Wheel stripe (no stripe on Series 2400)	Trim combinations	* Inst. panel upper, garnish moldings, lock buttons, steering wheel rim and cap	‡ Inst. panel lower, steering column, steering wheel spokes, gearshift shaft and lever
India Ivory	Turquoise		Turquoise	Turquoise	India Ivory
India Ivory	Surf Green	Onyx Black	Green	Bermuda Green	Surf Green
			Green and Ivory	Bermuda Green	India Ivory
India Ivory	Horizon Blue	Onyx Black	Blue	Biscayne Blue	Horizon Blue
			Blue and Ivory	Biscayne Blue	India Ivory
			Beige	Saddle Brown	Shoreline Beige
India Ivory	Biscayne Blue	Argent Silver	Gray	Onyx Black	India Ivory
			Blue	Biscayne Blue	Horizon Blue
			Blue and Ivory	Biscayne Blue	India Ivory
India Ivory	Onyx Black	Argent Silver	Gray	Onyx Black	India Ivory
			Gray	Shadow Gray †	India Ivory
			Black and Ivory	Onyx Black	India Ivory
			Black	Onyx Black	India Ivory
India Ivory	Romany Red	Argent Silver	Black and Ivory	Onyx Black	India Ivory
			Red	Romany Red	India Ivory
Shoreline Beige	Bermuda Green	Argent Silver	Gray	Onyx Black	India Ivory
			Green	Bermuda Green	Surf Green
Shoreline Beige	Saddle Brown	Argent Silver	Brown	Saddle Brown	Shoreline Beige
			Beige	Saddle Brown	Shoreline Beige
Shoreline Beige	Morocco Red	Argent Silver	Maroon and Beige	Morocco Red	Shoreline Beige
Shoreline Beige	Pueblo Tan		Tan	Pueblo Tan	Shoreline Beige
Bermuda Green	Shoreline Beige	Onyx Black	Gray	Onyx Black	India Ivory
			Green	Bermuda Green	Surf Green
Bermuda Green	Fiesta Cream	Onyx Black	Green and Ivory	Bermuda Green	India Ivory
			Green	Bermuda Green	Surf Green
Morocco Red	Shoreline Beige	Onyx Black	Maroon and Beige	Morocco Red	Shoreline Beige

‡ Onyx Black steering wheel and cap.

¶ Wood grain finish on tail gate, lift gate, and upper areas of the body sides for 2419.

\* Series 1500 solid color steering wheels: 1502, -03, -12 are India Ivory; 1509, Shoreline Beige; 1508, Onyx Black. Model 1508 steering wheel spokes, steering column, gearshift shaft and lever: Onyx Black.

**EXTERIOR-INTERIOR COLOR COMBINATIONS  
TWO-COLOR EXTERIORS**

Series 1500			Series 2100			Series 2400				Rear fender insert panel
1502 1503 1512	1508	1509	2102 2103	2124	2109	2402 2403	2454	2419	2434 Top color	
						●	●			India Ivory
			●			●				India Ivory
				●			●			India Ivory
			●	●						India Ivory
					●			●		India Ivory
●			●			●	●			India Ivory
				●						
●			●			●				India Ivory
				●						
				●						India Ivory
				●			●			India Ivory
●								●		India Ivory
			●		●	●	●	●		Shoreline Beige
			●							
					●			●		Shoreline Beige
		●								
						●	●			Shoreline Beige
●			●			●	●			Bermuda Green
				●						
						●	●			Bermuda Green
		●								

## INTERIOR UPHOLSTERY AND COLOR COMBINATIONS

### 1500 SERIES

#### SEDANS

Models 1502-03-12

Color: Gray and black

Seats: Two-tone gray pattern cloth with black elascofab back rest facing. Gray vinyl front seat back insert; black vinyl lower cross bar. Black vinyl front seat end panels and black painted metal molding.

Sidewalls: Black ribbed vinyl upper and lower panel; gray vinyl center panel; black embossed composition board quarter panels and rear partition in model 1512.

Horn button: Bright metal with black painted shield.

Headlining and sunshade: Gray napped cloth. Gray vinyl sunshade binding and grip.

Floor covering: Front and rear - textured black rubber; luggage compartment - ribbed black rubber.

Sidewalls: Ribbed maroon vinyl upper panel, scuff pad, and rear quarter panels; beige vinyl center panel.

Horn button: Bright metal with black painted shield.

Wheelhouse cover panels: Maroon paint

Headlining and sunshade: Beige vinyl

Floor covering and tail gate: Front and center - textured maroon rubber. Rear - ribbed maroon linoleum on load space floor and tail gate.

#### HANDYMAN

Model 1509

Color: Maroon and beige

Seats: Maroon vinyl cushions, back rest, front seat back insert. Beige vinyl back rest facing. Ribbed maroon linoleum on rear seat back and button. Beige vinyl upper front seat end panel; maroon vinyl lower front seat end panel; maroon painted molding.

#### SEDAN DELIVERY

Model 1508

Color: Gray and red

Seats (bucket type) and side doors. Gray checked vinyl cushions and back rest, upper panel and scuff pad on doors, and door pillar. Red vinyl seat back, facings, and center panel on doors.

Horn button: Bright metal with black painted shield

Headlining and sunshade: Gray vinyl

Load space sidewalls: Gray painted fiber board

Rear door inner panel: Gray painted steel.

Floor covering: Driver's compartment - textured black rubber. Load space - black painted ply wood.

### 2100 SERIES

#### SEDANS

Models 2102-03

Color: Two-tone blue, green, brown or gray

Seats: Light tone ribbed pattern cloth cushions and back rests. Dark tone gabardine flat cloth back rest upper panel. Light tone gabardine flat cloth cushion facing, back rest outer facing and front seat back insert. Dark tone vinyl lower cross bar and upper and lower front seat end panels. Bright metal front seat end panel molding.

Sidewalls: Embossed light tone vinyl upper panel and scuff pads; dark tone vinyl center panel.

Arm rests: Light tone vinyl upper; dark tone plastic base.

Headlining and sunshades: Light tone plain napped cloth. Dark tone vinyl binding and grip on sunshades.

Floor covering: Front - textured dark tone rubber. Rear - dark tone solid color - carpet.

seat upper end and lower end panel. Bright metal front seat end molding.

Sidewalls: Ivory vinyl upper panel, dark tone vinyl center panel. Bright metal scuff pad.

Arm rests: Dark tone vinyl, upper; dark tone plastic base.

Headlining and sunshades: Ivory vinyl.

Floor covering: Dark tone solid color carpet.

#### HANDYMAN

Model 2109

Color: Straw and beige or metallic green

Seats: Straw-pattern vinyl cushions, back rests, and front seat back insert. Beige or metallic green elascofab cushion and seat back bolster. Beige or metallic green vinyl front seat end panels, and lower cross bar. Bright metal, front seat end panel molding. Straw ribbed linoleum rear seat back and bottom.

Sidewalls: Ribbed beige on metallic green vinyl upper panel and rear quarter panels. Straw pattern vinyl center panel. Bright metal scuff pad.

Arm rests: Straw vinyl upper; straw plastic base.

Headlining and sunshades: Straw vinyl

Wheelhouse cover panels: Beige paint

Floor covering and tail gate: Front and center - straw textured rubber. Rear - straw ribbed linoleum on load space floor and tail gate.

#### CLUB COUPE

Model 2124

Color: Ivory with black, metallic green or metallic blue.

Seats: Dark tone elascofab cushions, back rests and back rest bolsters, back rest facing, and lower cross bar. Ivory elascofab front seat back insert and front

## INTERIOR UPHOLSTERY AND COLOR COMBINATIONS—Continued

### 2400 SERIES

#### SEDANS

Models 2402-2403

Color: Two-tone gray blue, or green; tan and beige; turquoise and ivory.

Seats: Dark tone pattern cloth cushions and back rests. Light tone elascofab back rest bolster, cushion facing, and back rest facings. Dark tone gabardine flat cloth front seat back insert. Light tone vinyl front seat back lower cross bar and upper and lower end panels. Bright metal front seat end panel molding.

Sidewalls: Dark tone gabardine flat cloth main panel. Light tone vinyl forward panel, and scuff pad.

Arm rests: Light tone elascofab built-in arm rests on doors. Light tone upper with dark tone plastic base rear compartment arm rests in model 2402.

Headlining and sunshades: Light tone plain napped cloth; light tone vinyl binding and grip on sunshades.

Floor covering: Dark tone solid color carpet.

#### SPORT COUPE

Model 2454

Color: Two-tone blue or green; tan and beige; ivory with red, turquoise, or black.

Seats: Dark tone pattern cloth cushions and back rests. Light tone elascofab back rest upper panel, cushion facing, and outer and upper back rest facing. Dark tone vinyl front seat back insert and lower cross bar. Light tone plastic upper and lower front seat end panels. Bright metal front seat end panel molding.

Sidewalls: Light tone vinyl main panel. Dark tone vinyl forward panel and scuff pad.

Arm rests: Dark tone elascofab built-in front arm rests. Dark tone vinyl rear arm rests.

Headlining and sunshades: Light tone vinyl.

Side window frames and exposed roof bows: Bright metal

Floor covering: Dark tone solid color carpet.

#### CONVERTIBLE

Model 2434

Color: Two-tone blue or green; tan and beige; ivory with red, turquoise, or black.

Seats: Dark tone elascofab cushions and back rests. Light tone elascofab back rest upper panel, cushion facing, cushion outer ends, and back rest facings. Dark tone vinyl front seat back insert and lower cross bar. Light tone plastic upper and lower front seat end panels. Bright metal front seat end panel molding.

Sidewalls: Light tone vinyl main panel. Dark tone vinyl forward panel and scuff pad.

Arm rests: Dark tone elascofab front compartment built-in arm rests. Dark tone vinyl rear compartment arm rests.

Sunshades: Dark tone vinyl.

Floor covering: Dark tone solid color carpet.

Top boot: Light tone elascofab.

#### TOWNSMAN

Model 2419

Color: Straw and beige or metallic green.

Seats: Straw-pattern vinyl cushions, back rests, and seat back inserts. Beige on metallic green elascofab cushion and seat back bolster. Beige or metallic green vinyl front seat end panels and lower cross bar. Bright metal front seat end panel molding.

Sidewalls: Ribbed beige or metallic green vinyl upper panel and rear quarter panels. Straw-pattern vinyl center panel. Bright metal scuff pad.

Arm rests: Straw vinyl upper; straw plastic lower.

Headlining and sunshades: Straw vinyl.

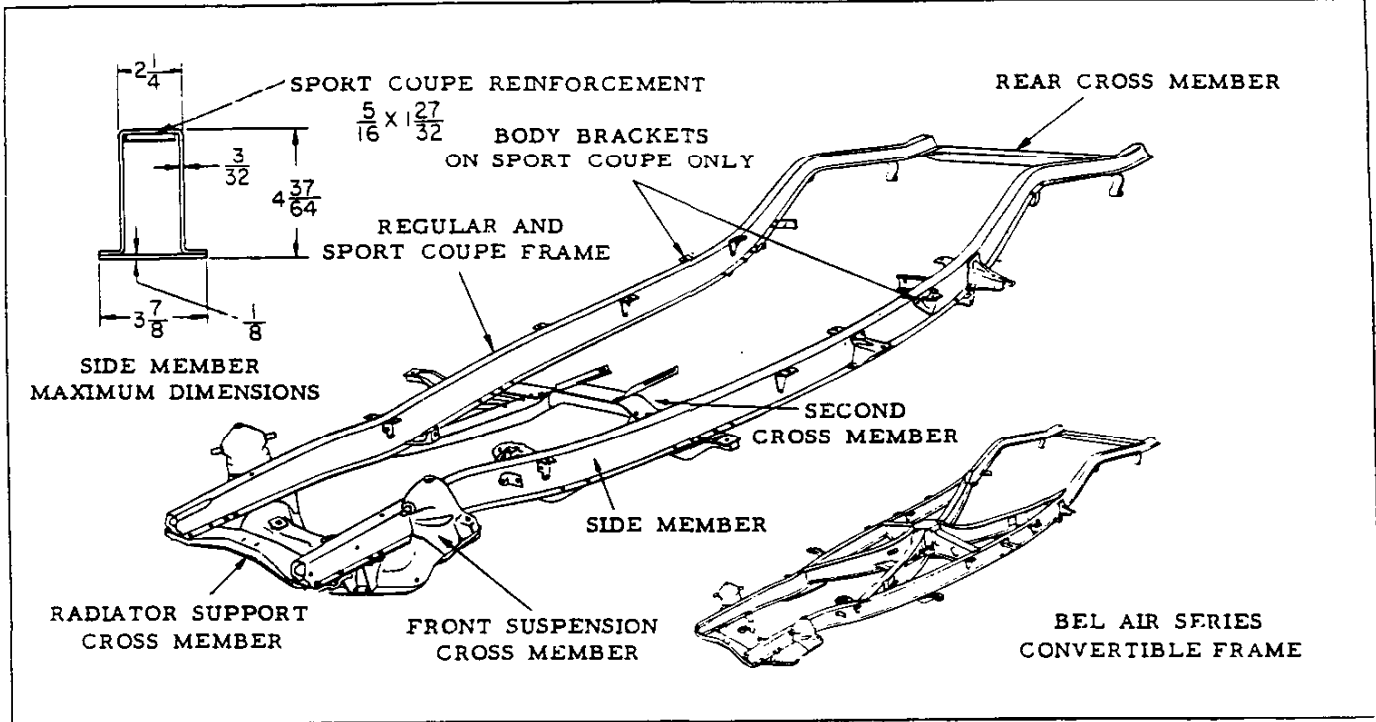
Wheelhouse cover panels: Beige paint.

Floor covering and tail gate: Front and center - straw textured rubber. Rear - straw ribbed linoleum on load space floor and tail gate.

### BODY GLASS

ITEM	1503	2103 2403	1504	1508	1502, 2102 2124, 2402	2454	2434	1509	2109	2419	
Windshield	Laminated safety plate, curved, one piece										
Front door	Laminated safety plate							Laminated safety sheet	Laminated safety plate		
Ventipanes Windows									Laminated safety plate		
Rear door windows								Laminated safety plate			
Rear quarter windows	Laminated safety plate							Laminated safety plate			
Movable section								Safety solid plate			
Fixed section											
Rear window	Safety solid plate, curved						Vinyl plastic				

## CHASSIS FRAME



Make----- Own  
 Type----- Box girder  
 Construction:

Side members-----Box girder, full length, deep flanged channel, with reinforcing plate across full width of channel flanges. Sport Coupes are reinforced with steel plates 5/16 x 1-27/32, full length, welded to inside top of box section.

Radiator support cross member-----  
 -----Flanged channel section

Front cross member-----  
 ----- Flanged semi-tubular type with a flat steel bottom plate across diametral width of the section. Also serves as front suspension cross member.

Second cross member-----Box girder, with box section braces to the side members.  
 Rear cross member----- Box girder  
 Maximum overall length----- 169-37/64  
 Maximum width (over side member flanges)----- 47  
 Material----- Hot rolled steel, pickled  
 Material yield point----- 33,000 lb per sq. in.  
 Material elongation----- 25% min in 2 inches  
 Side member section:                      Sport Coupes    All others  
     Modulus (in.<sup>3</sup>)                              3.245              1.725  
     Moment of inertia (in.<sup>4</sup>)                      7.775              4.90

### CONVERTIBLE COUPE FRAMES

The second cross member is replaced by a crossed X or VK structure of I-beam section members.

### FRONT SUSPENSION

Make----- Own  
 Type----- Independent, short and long arm wishbone type, assembled and aligned as a complete suspension unit.

Rated capacity----- 2300 lb  
                                     WHEEL TRAVEL

Vertical, loaded conditions----- 3-5/8 up, 4 down  
 Wheel to spring ratio----- 1.65:1  
 Wheel travel for steering-----  
 ----- 37° to 39°30' from neutral to stop

### SPRING BUMPERS

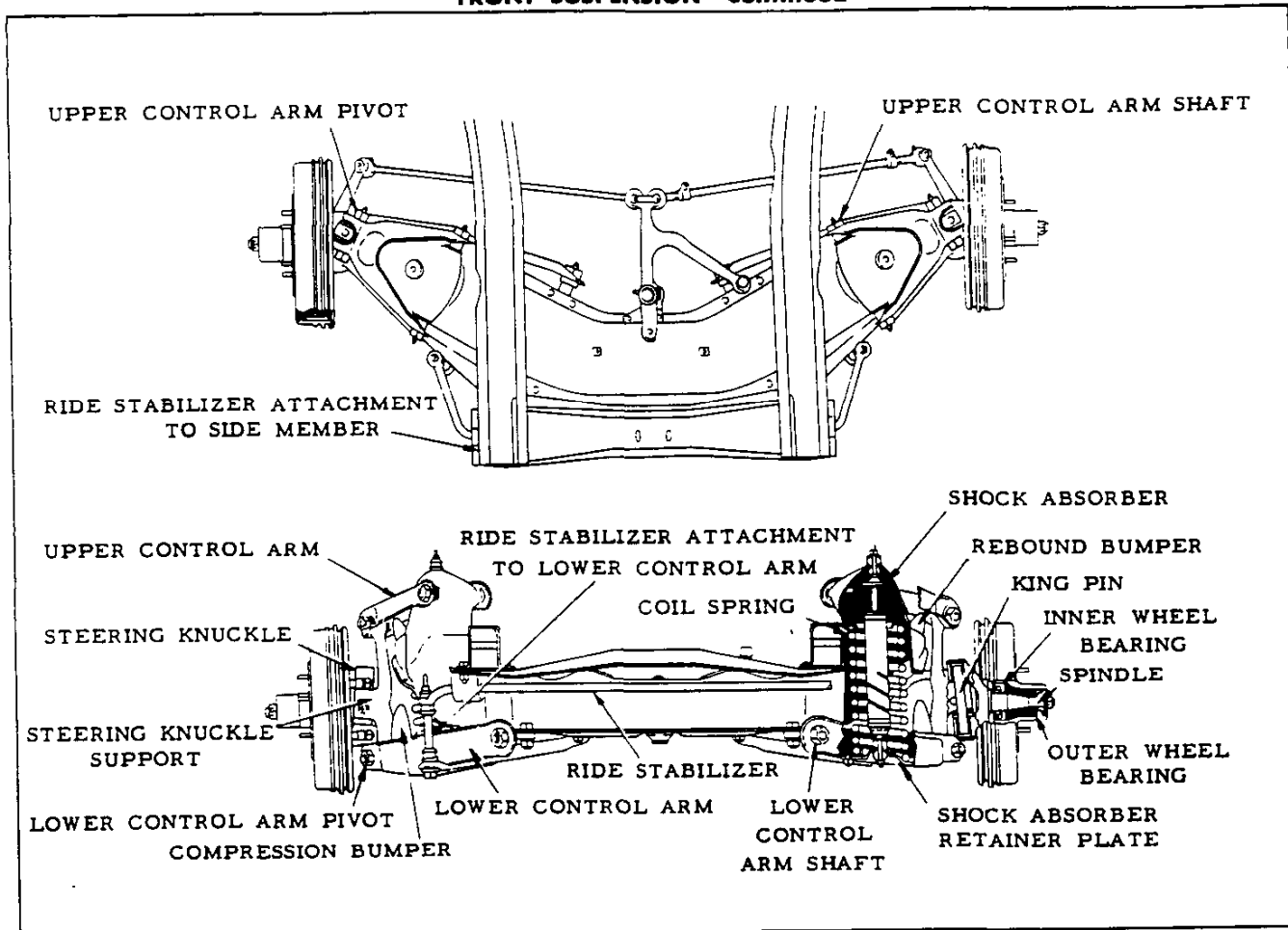
Type----- Rubber (2, compression and rebound)  
                                     SHOCK ABSORBERS

Make----- Delco  
 Type----- Direct, double-acting, hydraulic  
 Mounting----- Vertically, from lower control arm through coil spring to dome of spring housing.  
 Model number----- 538F  
 Valve Code----- 5C6/OXG/<sup>3</sup>/<sub>2</sub>  
 Piston diameter and travel----- 1 x 4-11/16

SPRINGS	2434, and RPO's 313 and 330	ALL OTHERS
Make and type	Own, right hand helical coil	
Material and gauge	Chrome alloy steel .584-.588	
Number of coils	Total 12.1 - Active 10.4	
Diameters	Outside 4.45 - Pitch 3.794	
Height	Free 15-1/8, Working 9.5 at 1640 lbs.	Free 14-3/4, Working 9.5 at 1555 lbs.
Height under curb weight	10-3/8	
Capacity at ground (lbs)	1100	1050
Deflection rate	At spring	300 pounds per inch
	At wheel	110 pounds per inch

CONTINUED

**FRONT SUSPENSION—Continued**



**STEERING KNUCKLE**

Type----- Reverse Elliott  
 Spindle diameters:  
 At inner bearing----- 1.2801-1.2806  
 At outer bearing----- .7490-.7495

**FRONT WHEEL ALIGNMENT (Service Data)**

Camber, caster adjustment ----- by upper pivot bolts  
 Camber----- $0^{\circ}$ - $1^{\circ}$   
 Caster----- $0^{\circ}$ - $10^{\circ}$   
 King pin inclination----- $3^{\circ}30'$ - $4^{\circ}30'$   
 Toe-in ----- $1/16$ - $3/16$   
 Toe-out on turns:  
 Outside wheel----- $20^{\circ}$   
 Inside wheel----- $22^{\circ}$ - $26^{\circ}$

**RIDE STABILIZER**

Type----- Torsion bar  
 Attachment----- Rubber-insulated,  
 attached with brackets to bottom plates of frame side  
 members and rubber-insulated link bolts to brackets  
 on front suspension lower control arms

**KING PIN**

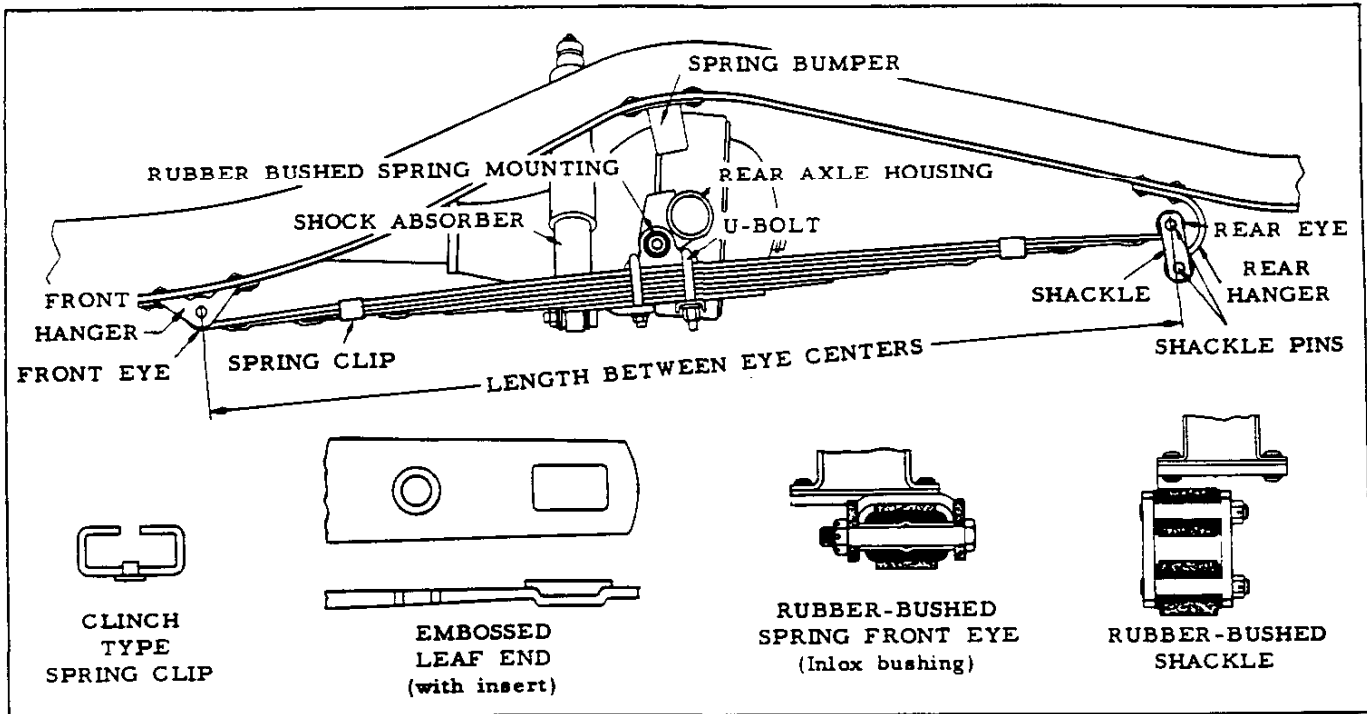
Diameter----- .8660-.8665  
 Bushings:  
 Inside diameter----- .867-.868  
 Length----- $1-5/16$

**BEARINGS**

Wheel bearing lubricant---High melting-point grease  
 Anti-friction bearings-----See page 161

FRICTION BEARINGS	UPPER CONTROL ARMS				LOWER CONTROL ARMS				
	Pivot Bolt	Bolt Bushings	Shaft Bushings	Shaft Ends	Pivot Bolt	Bolt Bushings	Shaft Bushings	Shaft Ends	
Type	Threaded steel bushings								
Type of thread	11-pitch								
Thread major diameter	Front	.644-.662	.694 minimum	.774 minimum	.736-.740	.714-.732	.774 minimum	.889 minimum	.852-.862
	Center					.724-.742			
	Rear	.644-.662				.738-.756			
Mounting	Clamp lock							Self-locking threads	Bolted
Seal	Synthetic rubber, self-sealing								

## REAR SUSPENSION



### SPRINGS

Make and type ----- Own, semi-elliptic  
 Material ----- Chrome alloy steel  
 Length x width ----- 49 x 1-3/4  
 Spring clips ----- 2, clinch type  
 Spring covers ----- None

ITEM	1502-03-12; 2102-03-24; 2402-03-34-54	1508 (RPO on 1502, 03-12; 2102-03-24; 2402-03-34-54)	1509 2109 2419	• RPO on 1508-09 2109; 2419
Number of leaves	7		8	
Thickness of leaves	#1-2		.237	
	#3-4			.262
	#5	.214		
	#6-7			
	#8			
Total thickness	1.544	1.804	1.896	2.021
Avg design load at camber height (lbs)	880	1000	1160	1265
Camber height at design load		518 neg		
Average rate of deflection (lb/in.)	100	115	140	170
Leaf end type	Tapered with leaves 2, 3 & 4 embossed for composition nylon inserts.			
Capacity at ground (lb)	1100	1200	1475	1500

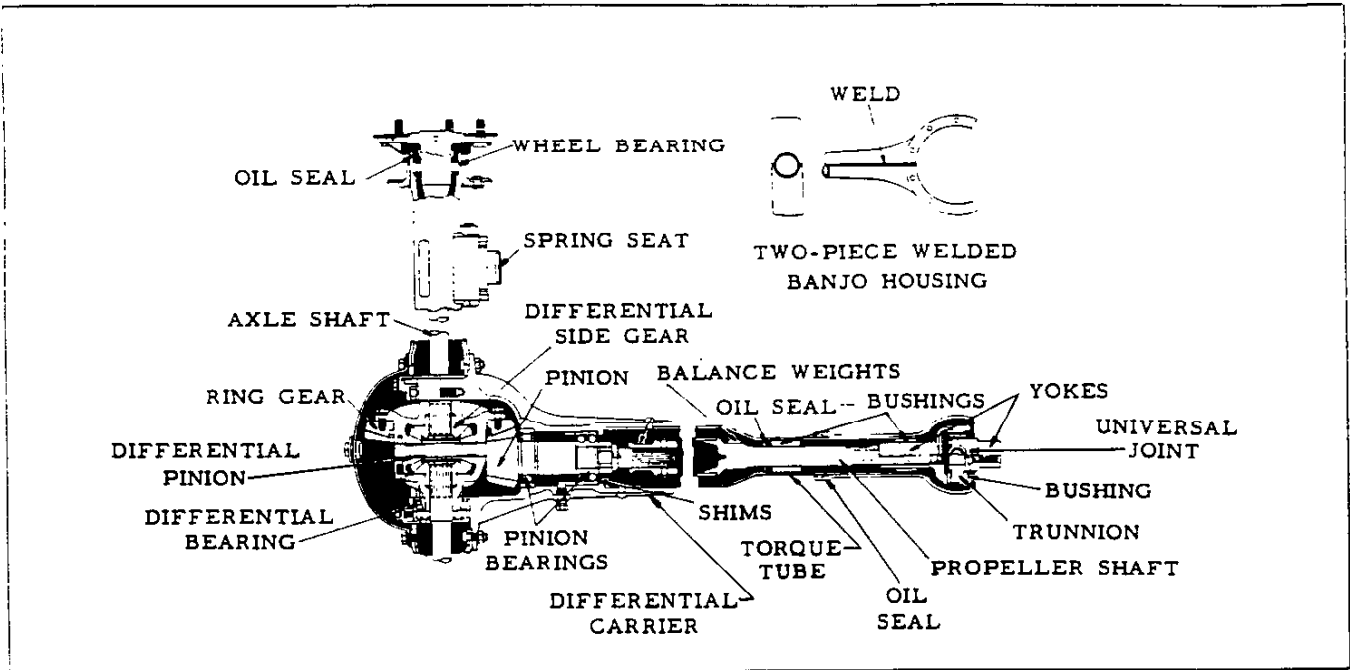
### SPRING MOUNTING

Type ----- Parallel, 45-1/4 between centers  
 Front eye bolt diameter ----- 500-.504  
 Front eye bolt bushing, type and size ----- Rubber bushed, .505 min ID x 2.400-2.410 long  
 Shackle mounting ----- In tension from rear hanger  
 Shackle type ----- Rubber-bushed  
 Shackle pin O D ----- .498-.502  
 Shackle bushing size ----- .850-.860 O D x 1.125-1.145; two per shackle pin; 2 in. long when assembled  
 Spring to axle attachment ----- 2 U-bolt (1/2 dia) to rubber bushed seat on rear axle housing

### SHOCK ABSORBERS

Make and type ----- Delco, hydraulic, direct double-acting  
 Model number ----- 561-V  
 Valve code ----- 4.5C6/OXG/J2  
 Piston diameter and travel ----- 1 x 8-3/16

## REAR AXLE AND DRIVE



REAR AXLE

AXLE SHAFT

Make ----- Own  
 Type ----- Semi-floating with torque tube fully enclosed universal joint and propeller shaft  
 Rating ----- 3000 pounds  
 Drive medium ----- Chassis rear springs  
 Torque taken by ----- Torque tube  
 Housing type ----- Pressed steel banjo, 2-piece welded with pressed steel inspection cover  
 Lubricant capacity ----- 3-1/2 pints  
 Lubricant recommended ----- SAE 90 passenger car hypoid lubricant or "Multi-Purpose" lubricant  
 Final drive gears:  
 Type ----- Spiral hypoid  
 Ratio ----- 3.70:1  
 Teeth, ring gear and pinion ----- 37 and 10  
 Gear backlash ----- .005-.008  
 Pinion gear:

Mounting ----- Overhung  
 Thrust taken by ----- Pinion front bearing  
 Adjustment ----- By .012 to .021 shims in differential carrier forward of the front bearing

ITEM	1st	2nd	3rd	Rev
Total gear reduction*	10.88	6.22	3.70	10.88
Axle shaft torque (ft lb)⊕	1803	1031	649	1803

Lock sleeve lock screw torque ----- 26-30 ft lb  
 Pinion fr brg ret nut torque ----- 200-240 ft lb  
 Bearings

Anti-friction bearings ----- See pages 165-166

\*-Axle ratio x transmission ratio

⊕-Gear reduction x maximum net engine torque x efficiency factor (.90 in direct drive, .85 all others).

Type and material ----- Forged steel with wheel drive flange forged integral with shaft  
 Minimum diameter ----- 63/64  
 Oil seal - Steel-encased spring-loaded synthetic rubber

### DIFFERENTIAL

Type -----  
 Two-pinion with malleable iron case and carrier  
 Bearing cap bolt torque ----- 65-80 ft lb

### UNIVERSAL JOINT

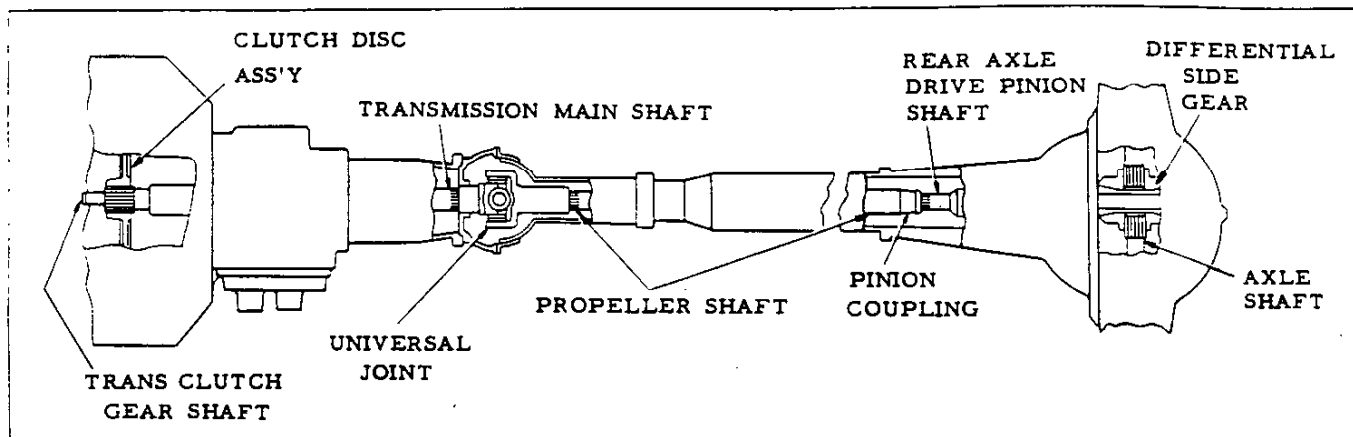
Make ----- Own  
 Type ----- Yoke and spider (trunnion)  
 Trunnion material ----- Drop-forged steel, hardened  
 Trunnion pin diameter ----- .6835-.6845  
 Bearing I D and length ----- .687-.688 x 17/32  
 Lubrication ----- From transmission

### PROPELLER SHAFT

Make and type ----- Own, tubular  
 Tube O D ----- 1.995-2.005  
 Tube wall thickness ----- .062-.068  
 Shaft O D at inner bearing ----- 1.0642-1.0657  
 Torque tube bushings:  
 Material ----- Hard rolled bronze in steel sleeve  
 Rear, I D x length ----- 1.0681-1.0691 x 1.430  
 Front, I D x length ----- 1.3471-1.3481 x 1.085  
 Oil seal Spring-loaded synthetic rubber, stl reinforced



## DRIVE SYSTEM SPLINES



### FUNCTION OF SPLINES

### NUMBER AND TYPE OF SPLINES

Clutch disc hub to transmission clutch gear shaft-----	10 straight side
Transmission main shaft to U-joint front yoke-----	10 involute
U-joint rear yoke to propeller shaft front end-----	17 involute
Propeller shaft rear end to rear axle drive pinion shaft-----	17 involute
Differential side gears to rear axle shafts-----	10 straight side

## BRAKES

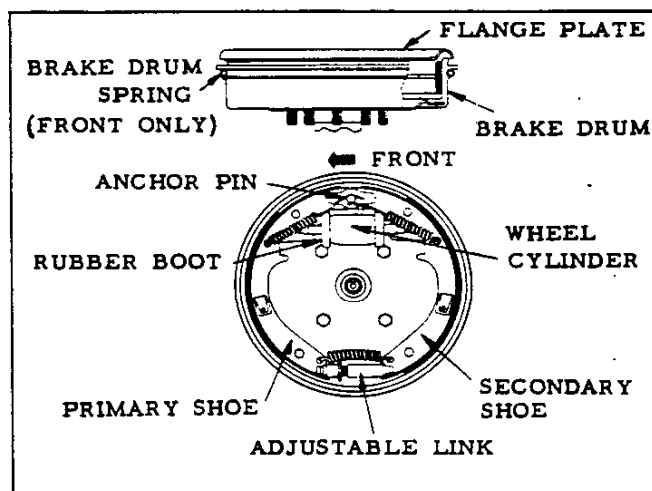
### SERVICE BRAKES

Make-----	Own
Type-----	Servo, four-wheel, hydraulic
Brake drum:	
Type-----	Composite
(Cast alloy iron rim and pressed steel web)	
Diameter, front and rear-----	11
Total effective area-----	259 sq. in. •
Distribution of breaking effort (theoretical)	
On front wheels-----	56%
On rear wheels-----	44%
Brake lining:	
Material-----	Full molded asbestos composition
Width, Front brakes-----	2
Rear brakes-----	1-3/4
Thickness (before grinding)-----	.202-.222
Length, per wheel-----	21
Length, primary shoe-----	9-5/16
Length, secondary shoe-----	11-11/16
Method of attachment to shoe-----	Bonded
Clearance:	
Adjust to a light drag and back off seven notches	
Total effective area-----	158 sq. in.
Main cylinder:	
Diameter-----	7/8
Piston travel-----	1.343
Wheel cylinder:	
Inside diameter, Front-----	1-1/8
Rear-----	1
Piston travel-----	.113
Braking ratio:	
Pedal-----	4.85 to 1
Hydraulic-----	11.84 to 1
Total overall-----	57.43 to 1

### POWER BRAKES •

Available only on models equipped with Powerglide Auto. Trans. (See Automatic transmission supplement)

12-18-53. Revised: 4-12-54, •-Data added.  
**30 - DRIVE SYSTEM SPLINES, BRAKES**



### Foot pedal:

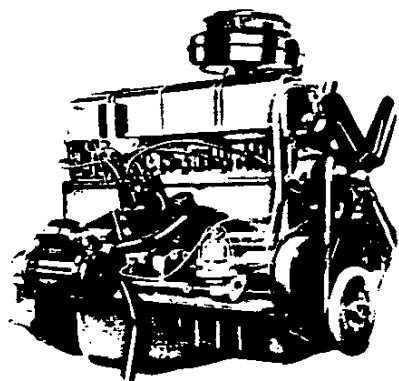
Travel-----	6-17/32
Mounting-----	With main cylinder to frame
Pad cover material-----	Rubber
Brake system fluid capacity-----	.70 pint approx.
Brake fluid recommended-----	Delco Super 11
Vacuum booster-----	None

### PARKING BRAKE

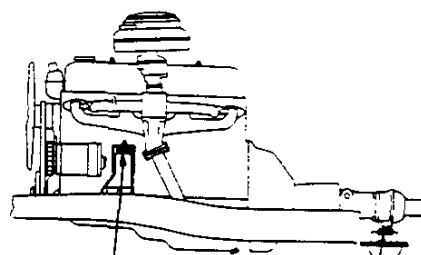
Make and type----- Own, mechanical. Pull rods and cables operate the two rear service brakes.  
 Total effective lining area-----74 sq. in.  
 Control----- T-handle on ratchet-rod (pull to apply, Turn 60° clockwise to release), mounted below instrument panel at right of steering column.

**CHEVROLET 1954 SPECIFICATIONS—PASSENGER**

## ENGINE—GENERAL



235.5 cu. in. ENGINE



FRONT MOUNTINGS

TRANSMISSION MOUNTING

### BASIC ENGINE DATA

Piston displacement (cu in.)		235.5
Type		Valve-in-head
Number of cylinders		Six
Bore and stroke (nominal)		3-9/16 x 3-15/16
Compression ratio		7.5:1
Taxable (SAE) horsepower		30.4
Idling speed		475 RPM
Compression pressure at cranking speed, engine hot (PSI)		130 (or better)
Dry weights (pounds)	Engine and clutch	604
	Engine, clutch and transmission	660
Lubrication		Full pressure
Power plant mounting		Rubber-cushioned, three-point support, with high side front mountings.

### ADVERTISED MAXIMUM ENGINE PERFORMANCE

Brake horsepower	Gross	115 @ 3700 RPM
	Net	107 @ 3600 RPM
Torque (ft lb)	Gross	200 @ 2000 RPM
	Net	195 @ 2000 RPM

### ENGINE SPEED AND PISTON TRAVEL

Rear axle ratio		3.70:1
Tire size		6.70-15
Crankshaft revs/mile		2768
Crankshaft RPM at one mile per hour	Low and reverse	135.6
	Second	77.5
	Direct	46.1
Piston travel (ft/mile)		1816.5

The following information is based upon the lowest priced four door sedan in each line, with each vehicle at performance weight (curb weight, plus 600 pounds to represent four passengers):

MODELS	1503	2103	2403
Performance weight (pounds)	3940	3960	3985
Pounds/gross horsepower	34.26	34.43	34.65
Pounds/cu in. piston displ	16.73	16.81	16.92
Gross horsepower/cu in. displ	.488	.488	.488
Power displacement (cu ft/mile)*	188.60	188.60	188.60
Displacement factor (cu ft/ton mile) †	95.75	95.26	94.66

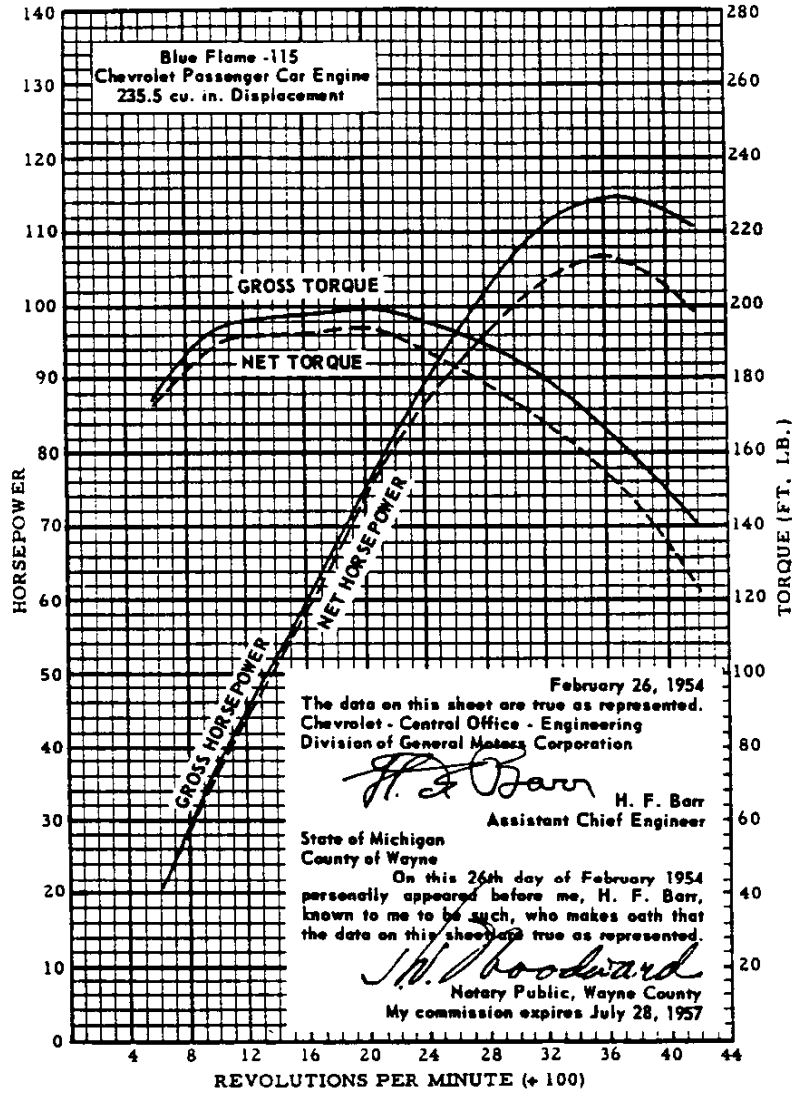
\*-Crankshaft rev/mile x piston displacement ÷ 2  
1728

†-Power displacement ÷ performance weight in tons  
12-18-53

**CHEVROLET 1954 SPECIFICATIONS—PASSENGER**

**ENGINE - 31**

ENGINE PERFORMANCE •



The engine performance curves shown on this sheet are taken from Chevrolet engine test report 16700-113. They represent the full throttle performance of a Chevrolet passenger car engine (235.5 cu. in. displacement) as obtained from dynamometer test data which were corrected to the standard barometric pressure of 29.92" Hg. and the standard temperature of 60°F.

ular dynamometer test with the dynamometer exhaust system, no fan, generator not charging, and optimum spark advance.

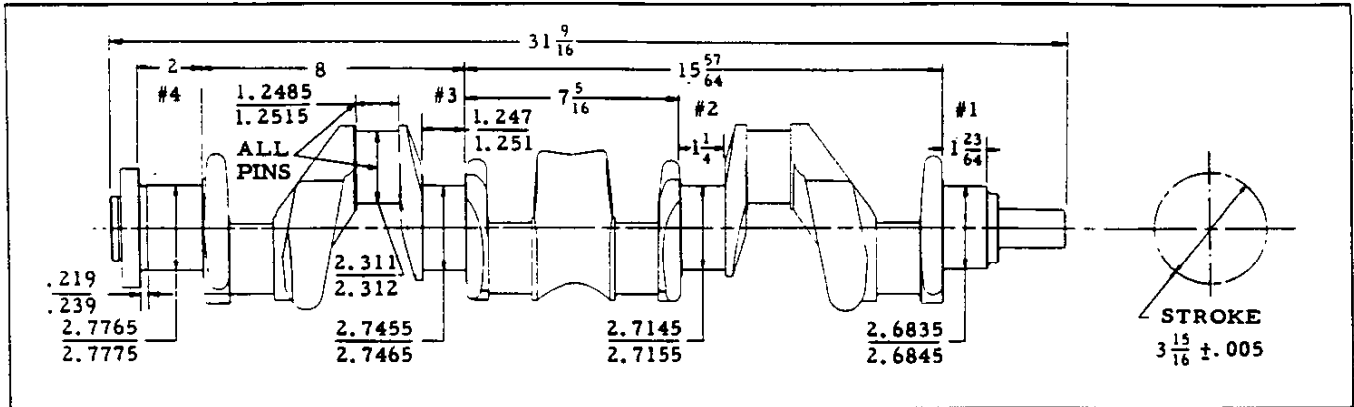
NET POWER and TORQUE were obtained from a dynamometer test simulating actual operating conditions when the engine is in its vehicle. It includes the use of the regular muffler and pipes, the fan in operation and automatic spark advance. The generator is not charging.

GROSS POWER and TORQUE were obtained in a reg-12-18-53. Revised: 4-12-54, •-Engine curve released.  
**CHEVROLET 1954 SPECIFICATIONS—PASSENGER**

### CYLINDER CASE AND HEAD

Material-----Cast alloy iron      Offset-----None  
 Cylinder head bolt torque-----Bore diameter:  
 -----90-95 ft lb      235.5 engine-----3.5620-3.5640

### CRANKSHAFT AND BEARINGS



**CRANKSHAFT**

**MAIN BEARINGS**

Material-----Drop-forged steel  
 Weight-----78.5 lb ♦  
 End play-----.0035-.0095  
 Counter weights-----7  
 Stroke-----3-15/16 ±.005

Type-----Precision interchangeable  
 Removable-----From below  
 Necessary to align ream-----No  
 Clearance-----.0002-.0028 fit with solid shims  
 End thrust against-----#3 bearing  
 Bearing cap bolt torque-----

-----100-110 ft lbs with oiled threads  
 Material-----.003-.006 babbitt on steel shell

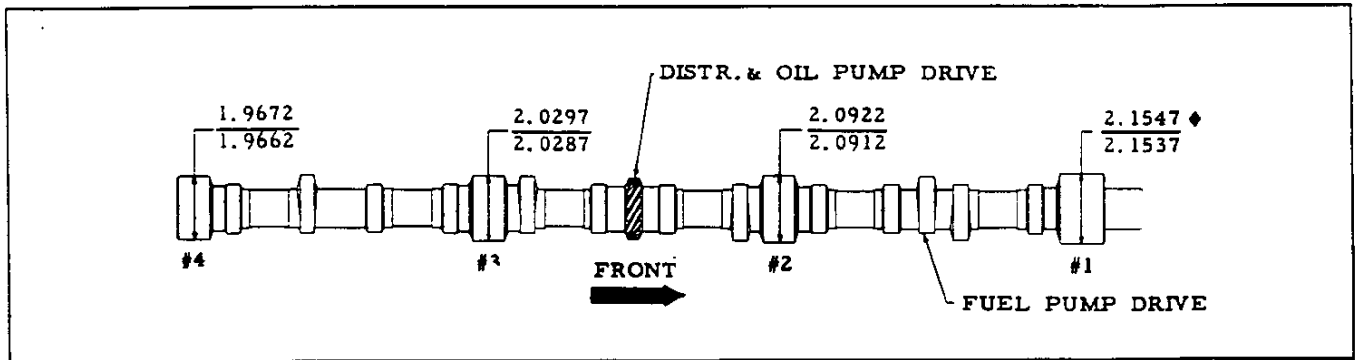
Brg	Inside dia	Length	Proj Area †
#1	2.6850-2.6866	1.093	2.345 sq. in.
#2	2.7160-2.7176	.936	2.019 sq. in.
#3	2.7470-2.7486	1.2415-1.2435	2.209 sq. in.
#4	2.7780-2.7796	1.219	2.776 sq. in.

† - Based on effective length, i.e. overall length shown above, less oil groove and chamfers.

### HARMONIC BALANCER (Vibration damper)

Type-----  
 -----Oscillating (Rubber-floated)  
 Fan drive pulley:  
 Pitch diameter-----5-7/8 •

### CAMSHAFT AND BEARINGS



**CAMSHAFT**

**BEARINGS**

Material-----Cast alloy iron x  
 Minimum diameter-----1-3/32  
 End play-----.003-.007 •  
 Ramp: Inlet-----.0111  
 Exhaust-----.0140

Material-----Steel-backed babbitt  
 Clearance on diameter-----.0010-.0030  
 Thrust taken by-----Thrust plate between driven timing gear and camshaft #1 journal front face

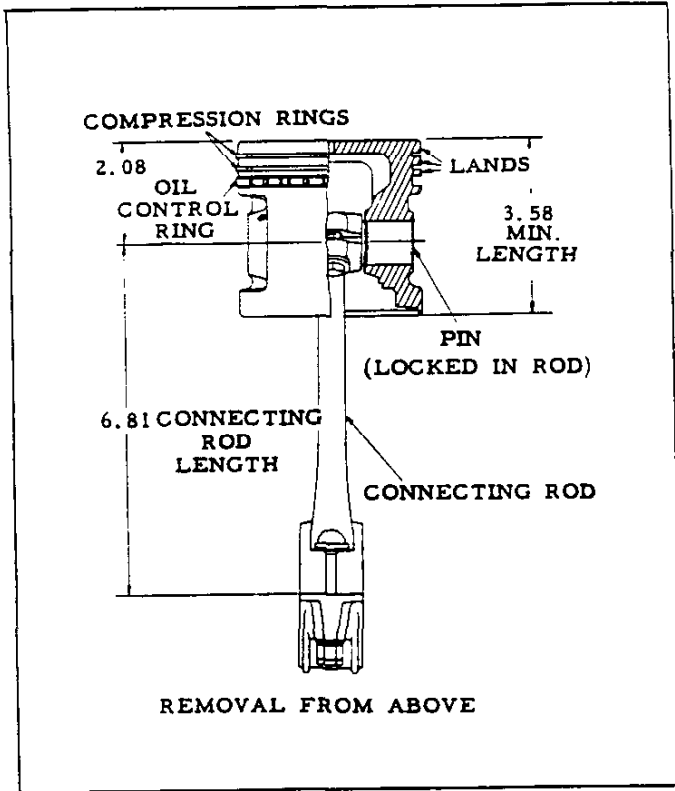
Brg	Inside dia	Length	Proj Area ©
#1	2.1557-2.1567	1.12	2.415 sq. in.
#2	2.0932-2.0942	.94	1.968 sq. in.
#3	2.0307-2.0319	.94	1.909 sq. in.
#4	1.9682-1.9692	.94	1.846 sq. in.

© - Based on overall length shown above.

**DRIVE**  
 Make and type-----Chevrolet, helical gear  
 Driven gear (on camshaft) material-----  
 -----Bakelite and fabric composition with steel hub  
 Drive gear (on crankshaft) material-----Steel

12-18-53. Revised: 4-12-54, •-Dimensions changed. x-Material changed. ♦-Data Corrected.

## PISTON-PIN-RINGS



Head thickness at center .....	235-.245
Piston pin bushings .....	None
Weight of piston .....	1.18
Weight of piston, rings, pin and connecting rod upper end x 6 (Units/engine) .....	12.50

### PISTON PIN

Material .....	Chromium steel (file hard case)
Diameter .....	.8660-.8665
Length .....	3.198-3.228
Taper limit in full length .....	.0002
Weight .....	.320
Clearance in piston .....	.00015-.00025 ●

### COMPRESSION RINGS

Material .....	Cast alloy iron, surface-treated with a wear-resistant coating
Type .....	Deep section, twist
Number per piston .....	Two
Width .....	.0930-.0935
Wall thickness .....	.168-.178
Gap clearance .....	.007-.017
Ring clearance in groove .....	.0020-.0035
Weight (each) .....	.042 lb

### PISTON

Make .....	Own
Features .....	Flat head, tin plated, oval with controlled thermo expansion
Material .....	Cast alloy aluminum with steel struts
Skirt clearance in cylinder bore .....	.0005-.0011 * ●
Land clearance in cylinder bore .....	.0115-.0155 **
Compression ring groove depth .....	.184-.192
Oil ring groove:	
Depth .....	.179-.187
Holes, number and size .....	8, 5/32 drill

### OIL CONTROL RING

Material .....	Cast alloy iron
Type .....	Wide-slot with expander
Width .....	.1860-.1865
Wall thickness .....	.134-.141
Gap clearance .....	.005-.015
Ring clearance in groove .....	.0015-.0030
Expander type .....	Eight crimp spring steel
Weight: Oil control ring .....	.040 lb
Expander .....	.005 lb

### CONNECTING RODS

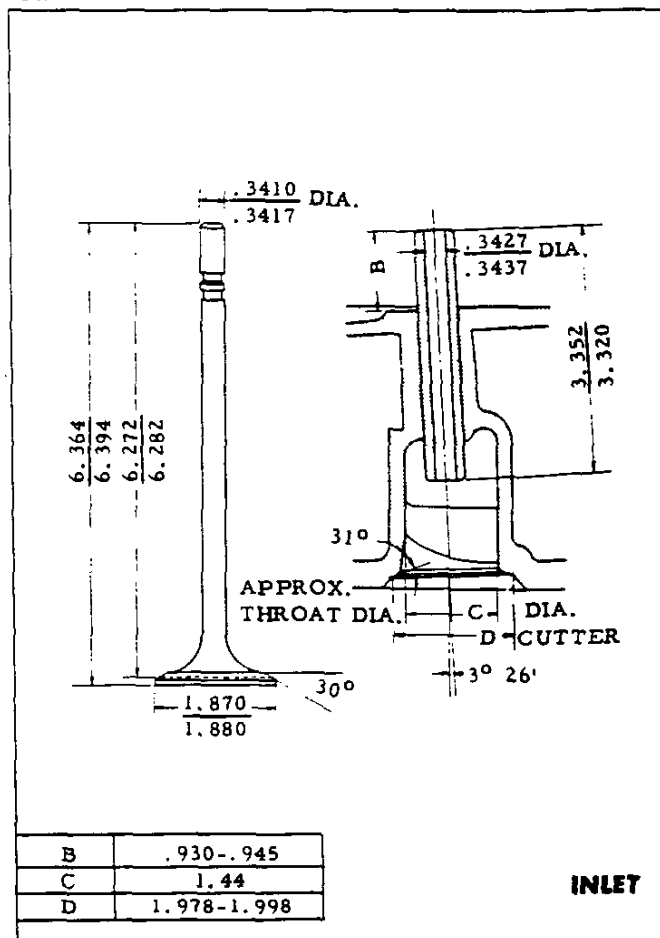
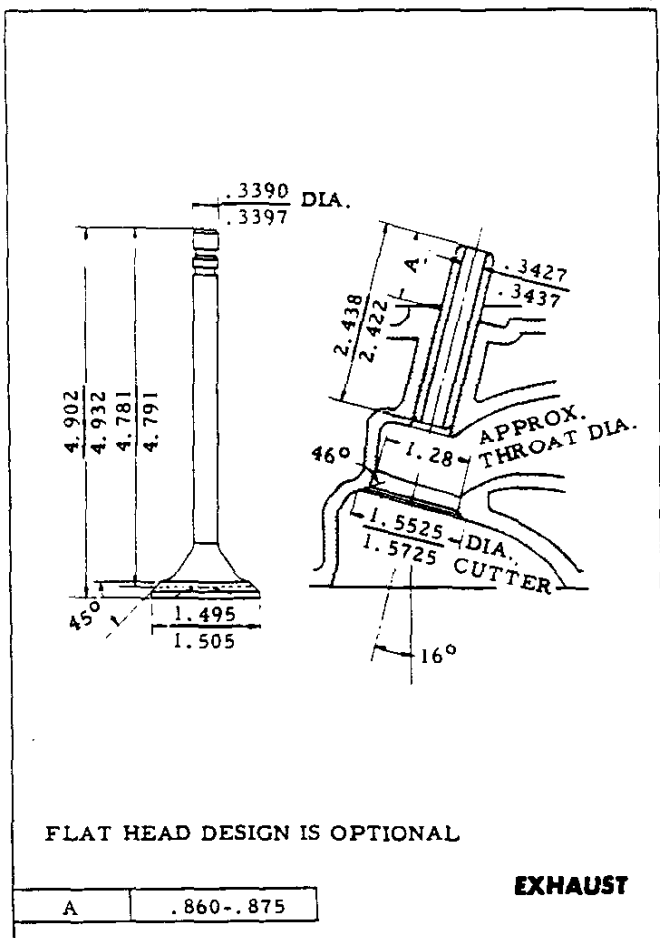
Type .....	Rod clamps piston pin
Material .....	Drop-forged steel
Rod width at piston pin .....	1.126-1.129
Rod width at crankpin .....	1.2415-1.2435
Crankpin bearing:	
Type .....	Precision interchangeable insert
Material .....	Steel backed, thin wall babbitt
Diameter .....	2.3127-2.3138
Effective length (overall length less chamfers) .....	1.008
Clearance on diameter .....	.0007-.0028

Projected area per rod (based on effective length) .....	2.332
Assembly weight .....	1.99 lb
Upper end weight .....	.454 lb
Lower end weight .....	1.53 lb
Total rotating weight of connecting rods (weight of lower end x 6) .....	9.19 lb
End play .....	.005-.010 ●
Recommended nut torque, with oiled threads .....	35-45 ft lb

\*-Skirt clearance shown above = Cylinder bore diameter minus piston diameter

\*\*-Land clearance shown above =(Cylinder bore diameter minus land diameter) ÷ 2

## VALVE TRAIN



### VALVES

Make ----- Own  
 Material: Exhaust valve ----- Silchrome steel  
 Inlet valve ----- Silchrome or Nickel-chrome steel  
 Stem end style ----- Grooved for keys and oil seal  
 Lift: Exhaust valve ----- 3118  
 Inlet valve ----- 2941  
 Face angle: Exhaust valve ----- 45°  
 Inlet valve ----- 30°  
 Distance between valve centers (measured along centerline of engine) ----- 1.547  
 Valve lash (engine normalized) \*  
 Exhaust ----- .016 ●  
 Inlet ----- .006 ●  
 \*-To normalize engine, run it at fast idle (approximately 600 RPM) until a constant oil temperature is maintained for a period of five minutes.

### VALVE STEM GUIDES

Type ----- Removable  
 Clearance with stem: Exhaust ----- .003-.0047  
 Inlet ----- .001-.0027

### VALVE ROCKER ARMS

Material ----- Cast malleable iron  
 Ratio (valve lift to cam lift) ----- 1.477:1  
 Torque of valve rocker shaft support bolts and nuts ----- 25-30 ft lb  
 12-18-53. Revised: 4-12-54, ●-Dimensions changed.  
**CHEVROLET 1954 SPECIFICATIONS—PASSENGER**

Bearing: Type ----- Machined in rocker arm  
 Inside diameter ----- .7925-.7935  
 Length ----- .9354

### VALVE SEATS

Material ----- Cast alloy iron (cylinder head)  
 Inserts ----- None  
 Angle: Exhaust seat (in head) ----- 46°  
 Inlet seat (in head) ----- 31°  
 Width in head:  
 Exhaust seat ----- .062-.095  
 Inlet seat ----- .035-.060

### TAPPETS

Type ----- Cylindrical  
 Material ----- Cast alloy iron  
 Outside diameter ----- .989-.990  
 Lift: Exhaust ----- .2111  
 Inlet ----- .1991  
 Clearance ----- Selective fit  
 Hydraulic valve lifters ----- None

### VALVE SPRINGS LENGTH AND PRESSURE

Valve closed ----- 1.821 @ 62-68 lb  
 Valve open ----- 1.505 @ 155-165 lb  
 Free (out of engine) length ----- 2.156

## ENGINE LUBRICATION SYSTEM

### METHOD OF LUBRICATION

Type ----- Full pressure  
 Main bearings ----- Direct pressure through drilled passages in the cylinder case to the bearings. Oil from main bearings flows through drilled passages in the crankshaft to the connecting rod bearings.  
 Cylinder walls and piston pins ----- Sprayed by oil metered through a hole in the connecting rod journal boss.  
 Camshaft bearings ----- Direct pressure through passages from main bearings.  
 Timing gears ----- Sprayed by a nozzle fed from the camshaft front bearings.  
 Valve mechanism ----- Oil flows under pressure from rear camshaft bearing through metering hole in pipe fitting; then is piped to rocker shafts and arms. Valve stems, springs, and push rod ends are gravity fed from rocker arms.

### OIL PAN

Capacity ----- 5-1/2 qt, dry; 5 qt, for refill  
 Drain ----- Drain plug in rear of pan  
 Torque, corner bolts ----- 12-1/2 to 15 ft lb  
 Torque, flange screws ----- 6 to 7-1/2 ft lb

## FUEL AND EXHAUST SYSTEMS

### FUEL TANK

Type ----- 2 stamped pans, seam-welded together  
 Capacity ----- 16 gallons  
 Mounting ----- Supported by two straps attached to under body below luggage compartment on sedans and coupes, and between rear axle and spare tire well on Sedan Delivery and Station Wagons  
 Filler:  
 Location & access ----- Through door in left rear fender, all models except Sedan Delivery and Station Wagons.  
 Fuel gauge, tank unit, make and type ----- AC, electric

### FUEL PUMP

Make, model ----- AC, model AF  
 Type ----- Mechanical (diaphragm) "high reserve"  
 Drive ----- From camshaft  
 Arm movement ----- 1/4 at camshaft  
 Air dome ----- Yes (inlet and outlet)  
 Filter ----- Yes (screen in dome)  
 Pressure at carburetor ----- 3-1/2 to 4-1/2 PSI

### FUEL AND VACUUM PUMP-RPO 340

Make, model ----- AC, model DB  
 Pressure at carburetor ----- 3-1/2 to 4-1/2 PSI  
 Other fuel pump specifications ----- See above  
 Vacuum pump booster type ----- Operates when manifold vacuum is insufficient for windshield wiper action.

### CARBURETOR

Make, model ----- Rochester Products, 7005921

### OIL PUMP

Type and drive ----- Gear, from camshaft  
 Capacity (gallons per minute, hot oil) -----  
 ----- 4.30 @ 1170-1200 Engine RPM  
 Normal oil pressure ----- 45 PSI @ 1170-1200 Engine RPM  
 Width of gears ----- 1  
 Cleaner type ----- Basket, 20 mesh, .015 non-corrosive steel wire screen, with by-pass

### MISCELLANEOUS

Oil filler ----- Through valve rocker cover  
 Crankcase oil lever gauge type ----- Rod  
 Oil pressure gauge ----- In instrument cluster  
 Crankcase ventilator type ----- Road draft  
 Oil filter (RPO 237): Make ----- AC  
 Capacity (dry) ----- 1 qt  
 Flow ----- Approximately 39.5 gal/hr  
 Oil cooler ----- None

### LUBRICANT RECOMMENDED

Temperature	Grade
Not lower than 32°F	SAE 20W or SAE 20
As low as 10°F	SAE 20W
As low as minus 10°F	SAE 10W
Below minus 10°F	SAE 5W

Type ----- Single adjustment, balanced, downdraft  
 SAE Flange size ----- 1-1/2  
 Size (Main venturi throat I D) ----- 1-11/32  
 Choke ----- Automatic  
 Idle adjustment, number of turns ----- 1 to 2-1/2  
 Float lever, bottom of float to cover ----- 1/5/16

### INTAKE MANIFOLD

Manifold heat control ----- Automatic (thermostatic)

### OCTANE SELECTOR

Type ----- Manual, 20° Range, on distributor assy

### AIR CLEANER

Regular or RPO	Regular	216C	216F
Flame arrester	Yes		
Silencer	Yes		
Filter element	Cu or Al ribbon	Cactus fiber	
Type	Oil-wetted		Oil bath
Dirt capacity	1 pound		
Used with gov	No		Yes

### EXHAUST SYSTEM

Muffler: Make ----- Various  
 Type ----- Diffusion and resonance, reverse flow  
 Size (body outside) ----- Model 2434, 5-1/16x7-5/16 (oval)x16; -All others 4x7-3/4(oval)x30  
 Exhaust pipe: Type ----- Unitized, welded to muffler  
 Outside diameter ----- 2.0  
 Tail pipe inside diameter ----- 1-13/16  
 Mounting ----- Two point rubber suspension

## ENGINE COOLING SYSTEM

### METHOD OF COOLING

Cylinder cooling ----- Full stroke length water jacket around each cylinder  
 Cooling system capacity ----- 16 qt  
 Pressurized cooling system ----- Yes  
 By-pass for recirculation -----  
 ----- Internal at rear of water pump

### RADIATOR CORE

Make and type ----- Harrison, cellular  
 Material ----- All copper  
 Size ----- .250 x .560 x 2  
 Frontal area ----- 407 sq in.  
 Radiator pressure cap ----- 6-1/4 to 7-1/2 lb  
 Drain Cocks:

Number used and size ----- Two, 1/4  
 (one at bottom of radiator-right front side, and one at rear of cylinder block-left side)

### WATER PUMP

Type and drive ----- Centrifugal, driven by fan belt  
 Location ----- On front of cylinder and case  
 Capacity ----- 47 gal/minute at 4000 engine RPM  
 Impeller type ----- Vane  
 Water pump and fan, bearing and shaft assembly:  
 Lubrication ----- Permanently lubricated  
 Bearing, anti-friction ----- See pages 165-6  
 Seal ----- Synthetic rubber, sealed with rubber cement  
 Seal adjustment ----- Automatic, by spring tension

### WATER THERMOSTAT

Make ----- Harrison  
 Type ----- Bellows operated poppet valve  
 Location ----- In cylinder head water outlet  
 By-pass for recirculation ----- None  
 Thermostat action at 29" Hg barometric pressure:  
 Starts to open, ----- 142°-148° F  
 Fully open, ----- 168° F

### RADIATOR HOSE

Function	Inlet	Outlet
Location	Cyl head to rad ●	Rad to water pump
Quantity	1	1
Type	Molded elbow	Compound curve
I D	1-1/4	1-1/2
Length	6-3/4 (developed)	16-1/2 (developed)
Material	Fabric reinforced rubber	
Spring re-inforcement	None	Brass coil spring 12-5/8 long

### ENGINE FAN AND BELT

Make and type ----- Own, 4 staggered blades  
 Diameter ----- 15-3/4  
 Pulley size ----- 4.1875 Pitch dia, 36°V  
 Fan to engine speed ratio ----- 1.403:1  
 Fan belt: Material, size ----- 1-piece reinforced rubber, 3/8 width, 41-5/8 pitch length x  
 Angle of V -- 37°-44° wrapped molded or cut molded

## ENGINE ELECTRICAL SYSTEM

### GENERATOR

Make and model ----- Delco-Remy, 1100028 ♦  
 Type ----- 2-brush, shunt-wound  
 Rated voltage ----- 6-8  
 Ventilation ----- By fan in generator pulley  
 Driven by ----- Fan belt  
 Pulley size ----- 36°V x 3 dia  
 Speed ratio (generator to engine) ----- 2.05:1  
 Generator RPM/MPH ----- 94.30  
 Maximum output (controlled charging rate) hot:  
 Amperes ----- See current regulator  
 Volts ----- See voltage regulator  
 Generator RPM ----- 3000 and up ♦  
 Car MPH (high gear) ----- 32 and up ♦  
 Bearings: Commutator end Drive end  
 Number 812823  
 Type Bronze bushing Anti-friction  
 I D .562-.563 bearings  
 O D .778-.780 See pages  
 Length .792-.807 165-6  
 Brush spring tension ----- 24-32 oz  
 Rotation (drive end) ----- Clockwise

### VOLTAGE AND CURRENT REGULATOR

Make and model ----- Delco Remy, 1118843 ▼  
 Location ----- On wiring access door in dash  
 Type ----- Vibrator  
 Voltage regulator:  
 Volts ----- 7.4  
 Temperature ----- Operating  
 Average air gap ----- .075  
 Current regulator:  
 Amperes ----- 40 ▼  
 Temperature ----- Operating  
 Average air gap ----- .075  
 Cutout relay:  
 Point opening: Amperes ----- 0-4  
 Point closing: Volts ----- 6.4  
 Generator armature speed ----- 1050 RPM ▼  
 Car MPH (high gear) ----- 11.1 ▼  
 Average air gap and point gap ----- .020

### RPO 325 GENERATOR EQUIPMENT

Rating	Delco-Remy Model No.	
	Generator	Regulator
40 amp	1105009	1118831
45 amp	1102793	1118827
50 amp	1105008	1118835
55 amp	1106976	1118942

CONTINUED

### BATTERY

Make, model and SAE No. ----- Delco, 15AA6-W, 1M ●  
 Size ----- 9-1/32 long x 7 wide x 8-11/16 high  
 Voltage ----- 6  
 Capacity ----- 100 ampere hours at 20-hour rate  
 Bench normal charging rate ----- 7 amp  
 Cell arrangement ----- 3, side by side  
 Plates per cell ----- 15  
 Terminal grounded ----- Negative  
 Location ----- At right side under hood

12-18-53. Revised: 4-12-54, ●-Data corrected. x-Description of length changed. ♦-New generator.  
 ▼-New voltage & current regulator.



## ENGINE ELECTRICAL SYSTEM—Continued

### IGNITION SYSTEM

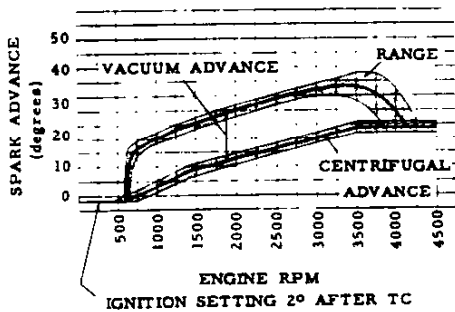
Type -----High intensity spark, engine ground, return system, separate units; Distributor with centrifugal and vacuum spark advance; oil-filled, hermetically sealed coil  
 Ignition lock: Make ----- Delco-Remy  
 Type -----  
 Three position: On, locked off, or unlocked off

### DISTRIBUTOR

Make and model-----Delco-Remy 1112396 x  
 Current source -----Generator or battery  
 Breaker contact opening and nominal cam angle:  
 With new breaker lever; ----- .016-.021, 38°  
 With worn breaker lever; ----- .0125-.0175, 42°  
 Breaker arm tension -----19-23 oz  
 Vacuum control part number ----- 1116076  
 Condenser:  
 Part number and capacity -----1869704, .2mf

### SPARK ADVANCE CURVE

Automatic spark advance	Advance begins	Full advance
Vacuum control	4" to 6" Hg	17° at 7.5" to 12.5" Hg
Centrifugal	450 to 750 RPM	24° to 28° at 3500 RPM and up x



### STARTING

Starting device -----Positive shift solenoid  
 Starting operation ---Turn ignition key to extreme right  
 Pinion meshes -----From front of flywheel  
 Pinion teeth-----9  
 Flywheel teeth-----139, 1/2 wide, 13.9PD  
 Flywheel bolt torque-----50-65 ft lb  
 Gear ratio (starter to flywheel)-----15.44:1

### STARTING MOTOR

Make and model-----Delco-Remy, 1107109  
 Number of field coils-----2  
 Rotation (front view)-----Counter-clockwise

Bushings	Commutator end	Drive end
Type	Rolled bronze with graphite-filled ball indentations on inside surface	
I D	.5625-.5635	.499-.501
O D	.6245-.6255	.5615-.5625
Length	.812	

Testing -----  
 Amperage draw -----Lock test 550 No load test 80  
 Volts -----3.4 -----5.6  
 Torque -----11 ft lb  
 RPM -----5500  
 Brush spring tension -----24-28 oz

### COIL

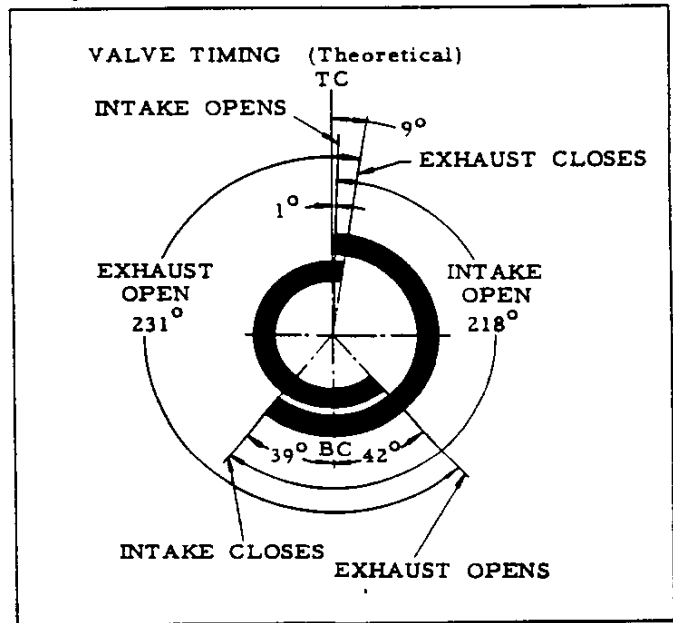
Make and model ----- Delco-Remy, 1115380  
 Location -----Engine right side  
 Amperes drawn ----- 4.5 engine stopped; 2.5, idling

### SPARK PLUGS

Make and model -----AC, 44-5  
 Thread size -----14 mm  
 Recommended gap -----.033-.038  
 Recommended torque -----15-25 ft lb

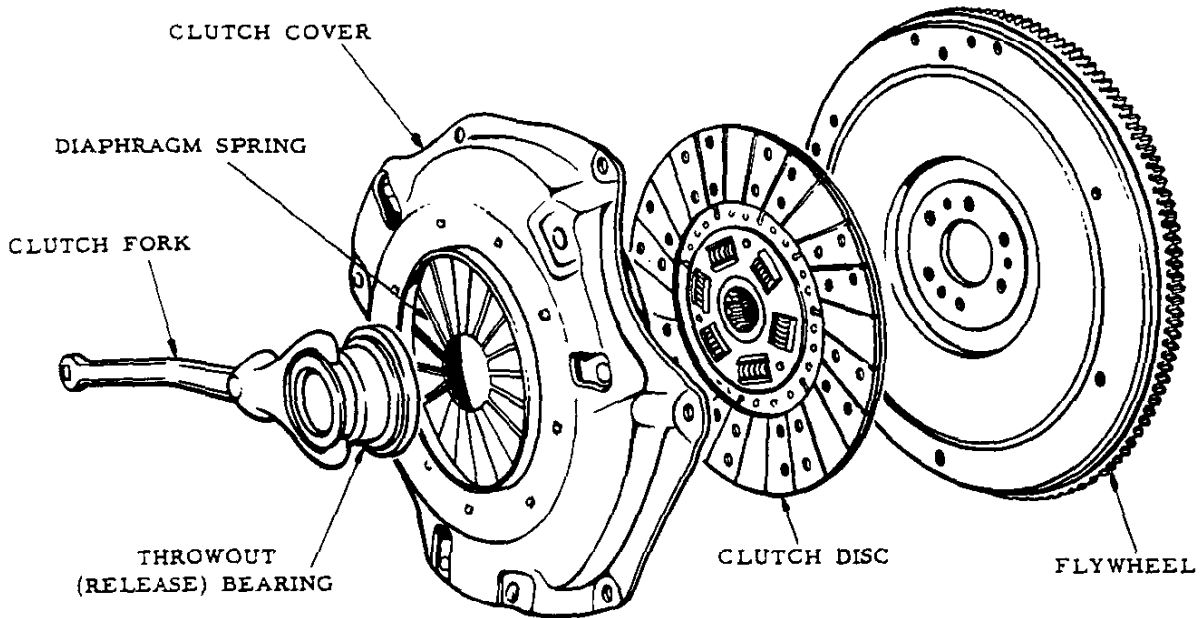
### ENGINE TIMING

Timing spark advance (initial setting) ----- 2° after TC  
 Timing marks location ----- On flywheel  
 Firing order -----1-5-3-6-2-4



## CLUTCH

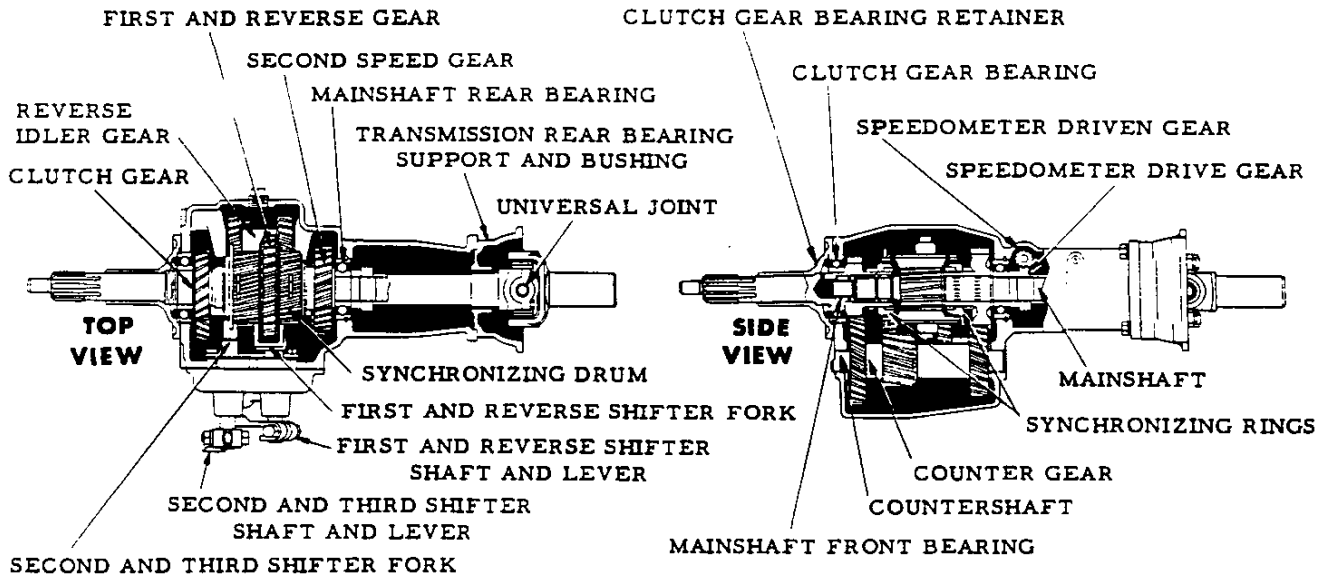
REGULAR CLUTCH ILLUSTRATED



ITEM		REGULAR CLUTCH	HEAVY-DUTY TRUCK TYPE RPO 227A & 330	
Type		Single dry plate		
Rated torque capacity		220 ft lb	238 ft lb	
Semi-centrifugal		No		
Vacuum control or fluid coupling		None		
Drive		Direct to flywheel face		
Ventilation		Vanesh cast in pressure plate		
Diaphragm Spring	Pressure in flat position	1325-1450		
	Material	Spring steel, heat treated		
	Pressure levers	18, integral with spring		
Driving members		Two (flywheel and pressure plate)		
Driven disc	Type	One, spring cushioned plate with two molded facings		
	Vibration insulation	Six cushion springs in hub		
	Facings	Material	Woven or molded asbestos composition	
		Outside diameter	9-1/8	10
		Inside diameter	6-1/8	6
		Area	71.86 sq in. (both facings)	100.53 sq in. (both facings)
Thickness	.132-.138			
Bearings	Throwout (Release)	Type, make, number	Anti-friction bearings; See pages 165, 166	
		Lubrication	Packed for life	
	Pilot (In rear end of crank-shaft)	Make and number	Chevrolet 412562	
		Type	Sintered graphite-bronze bushing. Oil-impregnated	
		I D	.5915-.5925	
		O D	1.0935-1.0945	
		Width	.740-.760	
Lubrication	Self			
Controls	Clutch fork type	Drop-forged (pivot mounted on ball)		
	Pedal mounting	On brake main cylinder		
Flywheel	Material	Cast alloy iron		
	Flywheel bolt torque	50-65 ft lb		
	Weight (with ring gear)	30-1/2 pounds		
	Ring gear type	Steel, shrunk on		
	Ring gear teeth - number and size	139; .480-.490 wide, 13.9 PD (9 teeth on starter pinion)		
Clutch attachment to flywheel		6 bolts		

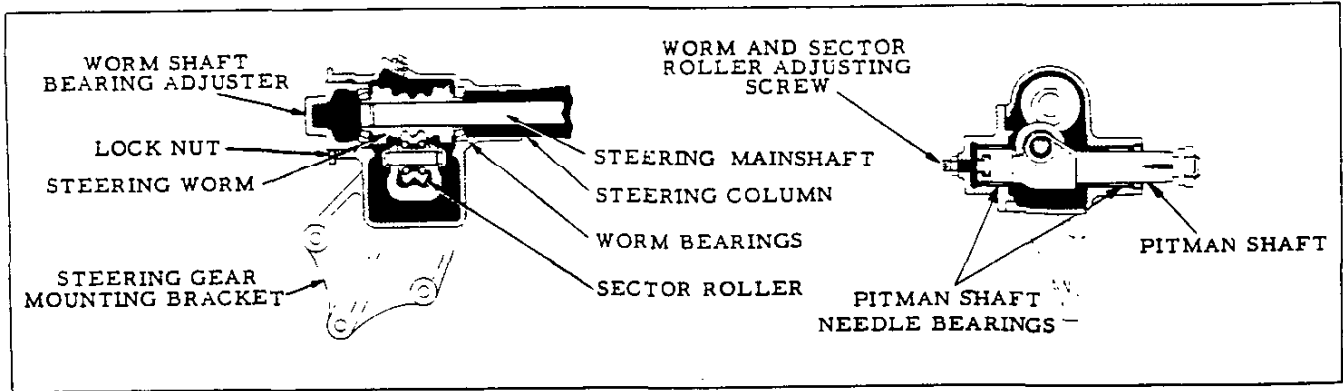
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## TRANSMISSION



ITEM		Regular Heavy Duty RPO 316 Taxicab RPO 330	
Make and type		Own, 3-Speed synchro-mesh, manual shift	
Gearshift control, type and location		Remote, lever mounted on steering column	
Input torque capacity		210 ft lb	
Gears	Type	All helical	
	Material	Forged steel, hardened	
	Synchronization	2nd and 3rd	
	Constant mesh speeds	2nd	
	Sliding gears	1st and reverse	
	Ratios	Forward 1st	2.94:1
		2nd	1.68:1
3rd		Direct	
Reverse		2.94:1	
Bushings	Reverse idler	Optional materials	Rolled sheet bronze, ball-indented Steel-backed bronze, ball-indented
		No. used and size	Two, .7515-.7525 ID x 3/4 long
	Transmission rear bearing support	Optional materials	Rolled sheet bronze, ball-indented Steel-backed bronze, ball-indented
		Size	1.439-1.440 ID x 7/8 long
Bearings	Counter shaft	Anti-friction bearings, See pages 165, 166	
	2nd Gear	Type	Gear ID honed, turns on mainshaft
		Size	1.062-1.063 ID x 1-49/64 long
Speedometer gears	Tooth pitch	18	
	Teeth driving and driven	4 and 11	
Lubricant	Type recommended	SAE 90 transmission or mineral oil lubricant	
	Capacity	1-1/2 pt	
Anti-friction bearings		See pages 165, 166	

## STEERING



Type-----Centerpoint

### STEERING GEAR

Make and type-----Saginaw, Semi-reversible,  
hour glass worm and ball bearing roller sector  
Ratio-----19.4:1  
Anti-friction bearings-----See pages 165, 166  
Steering mainshaft diameter-----3/4  
Steering column diameter-----1-3/4  
Lubricant recommended-----  
Steering gear or "Multi-Purpose" gear lubricant  
Worm and sector adjustment-----Fully adjustable  
Sector mounting type-----Straddle inounted  
Pitman shaft:  
Material-----Drop forged steel  
Mounting-----Straddle mounted

### STEERING LINKAGE

Steering idler and third arm:  
Material-----One piece, drop forged alloy steel  
Mounting-----Pivot  
bracket mounted to front suspension cross member  
Tie rods-----Left, adjustable; Right, fixed

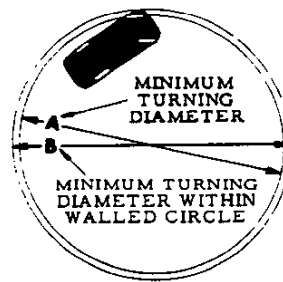
### POWER STEERING (RPO 324)

Make and type-----Saginaw, Hydraulic  
Gear ratio-----21.3:1  
Steering assistance provided-----Up to 80%  
Pump and reservoir mounting --- On left side of engine  
Pump drive-----V-belt from pulley on crankshaft

Pitman arm type and material-----  
-----One piece, drop forged steel  
Steering connecting rod (drag link)-----Yes

### STEERING WHEEL

Diameter-----18  
One-Fifty models-----Two spoke with horn button  
Two-Ten and Bel Air models-----  
-----Two spoke with horn blowing ring  
Number of turns of wheel for full right to left travel  
of front wheels-----4.53



### TURNING DIAMETERS

**A**  
Right turn 37 ft  
Left turn 38 ft

**B**  
Right turn 40 ft  
Left turn 41 ft

Nominal figures based  
on tests made at  
General Motors Proving  
Ground

## WHEELS AND TIRES

### WHEEL AND HUB CAP

Make and type	Own, short spoke disc	One-Fifty and Two-Ten Series		Bel Air Series
Attachment to hub	5 bolts, 7/16-20			
Bolt circle diameter	4-3/4			
Offset and rim size	9/16, 15 x 5K			
Paint and striping	See Exterior Colors and Finishes			
Hub cap (1500, 2100)	Stainless steel, 10-11/16 dia			
Wheel disc (2400)	Stainless steel, 15-1/8 dia			

### TIRES

Tire Size and Ply Rating	Regular or RPO Equipment	Tire and Rim Association Standards*				
		Loaded Roll- ing Radius	Loaded Rev Per Mile	Load Capacity each tire	Recommended Pressure	
					FRONT	REAR
6.70-15-4	Reg. except 2419	13.30	748	925	24	24
6.70-15-6	Reg. 2419 RPO all others	13.40	748	1055	30	30
7.10-15-4	RPO all	13.40	746	990	24	24

\* - U.S. Rubber Co. standards shown. Tires furnished are U.S., Goodrich, and Firestone.

## LIGHTS

### HEADLIGHTS

Make and type ----- Guide, sealed beam  
 Location ----- In front fender face  
 Sealed beam unit diameter ----- 7  
 Dimmed by ----- Foot switch (depresses beam)  
 Beam indicator location ----- In speedometer face

### PARKING LIGHTS

Location ----- Below headlights; encased in the outer ends of the center radiator grille horizontal bar.  
 Bulb replacement -----  
 ----- Remove chrome bezel and glass lens

### TAIL AND STOP LIGHTS

Make and type ----- Guide, tail and stop light combined in one unit with provision for backing lights and direction signal.  
 Are tail lights and instrument cluster lights wired in series? ----- No

### DIRECTION SIGNAL (Factory optional accessory)

Make ----- Guide Lamp  
 Type ----- Flasher, front and rear; self-cancelling  
 Front ----- Two filament bulb replaces single filament bulb in parking lamps  
 Rear ----- Uses stop lamp bulbs

### PASSENGER COMPARTMENT LIGHTS

Rear compartment lights ----- Two, in Sport Coupe only, one high on each rear side quarter panel.

Dome light ----- One, all models except Sport Coupe

### REAR LICENSE LIGHT

Station Wagons and Sedan Delivery -----  
 ----- Separate light is set in gravel deflector  
 All others -----  
 ----- Housed in rear license guard

### LIGHTING SWITCHES

Make ----- Delco-Remy  
 Main switch ----- Three position "pull" type switch mounted on instrument panel. Main switch has a rheostat operated by rotating the switch knob which controls the brightness of the instrument panel lights.  
 Stop light switch ----- Mechanical, on toe board  
 Dome light switches:  
 Manual ----- At left side of rear seat below arm rest in Sport Coupe and Convertible. At light in all other models.  
 Automatic ----- In both front door body hinge pillars on Two-Ten and Bel Air models; operated by opening door. None on One-Fifty models.  
 Glove compartment light switch ----- Operated by opening compartment door in Two-Ten and Bel Air models.

### CIRCUIT BREAKER

Type and location ----- Bi-metal thermal element, incorporated in main lighting switch  
 Capacity ----- 30 amperes

## BULBS

Used In		Quantity	Trade No.	Power
Head-lights	Upper beam	2	2400 CC*	45w
	Lower beam			35w
Parking lights			63	3cp
Instrument cluster		4	55	2cp
Beam indicator		1	51	1cp
Ignition lock			55	2cp
Glove compartment			63	3cp
Clock				
Dome light	Sport Coupe	2	82	6cp
	Convertible	1	210	15cp
	All others			

Used In			Quantity	Trade No	Power
License plate light			1	63	3cp
Tail and stop lights	All	Tail	2	1154*	
					Stop
Direction signal	FOA	Rear	Stop lamp used		21cp
		Front	2	1154*	
		Front parking			3cp
		Direction signal			55

\*-Double filament bulb

## HORNS

Make ----- Delco-Remy  
 Type ----- Vibrator  
 Number and location ----- 2, behind radiator grille  
 Relay in circuit ----- Yes  
 Current: High note ----- 17-19 amperes  
 Low note ----- 19-21 amperes

## TOOLS

Jack:  
 Capacity ----- 1200 lb  
 Raised height ----- Approximately 29  
 Lowered height ----- Approximately 6  
 Wheel wrench ----- Designed to serve also as jack handle and hub cap remover

## CHASSIS GENERAL INFORMATION

Chassis lubrication ----- High pressure gun

### ACCESSORIES

Definition: Items made available at extra cost through the Parts and Accessories Department and installed by the customer or his dealer.

ITEM		MODEL
Alarm	Parking brake	All
Antenna	Radio, fender, LH	
Arm rest	Door, front (or rear on 4-door sedans)	1500 except 1508
Ash tray	Instrument panel	1500
Block	Junction, wiring	
Cap	Battery filler	
	Gasoline tank filler, locking	All
Clock	Electric wind	
	Hand wind	1500
Compass	Illuminated	
Condenser	Radiator overflow	All
Cover	Accelerator pedal	
	Seat Plastic	All except 1508-09-12;2109;2419
	Nylon	
	Fiber	All except 1508-09-12;2109;2419-34
Cover panel	Rear wheel	1500-2100
Deflector	Rain Front and rear	1502-03;2102-03-24;2402-03
	Front only	1512
Dimmer	Headlamp, Autronic Eye	
Disk	Wire wheel	
Dispenser	Tissue	
Extension	Muffler tail pipe	
Filter	Gasoline	
	Cooling system	All
Frame	License plate	
Guard	Front fender and grille	
	Rear fender (on outer end of bumper)	
	Gasoline-tank filler door, fender	All except 1508-09, 2109, 2419
	Door edge	
Heater and defroster	Recirculating, with outside air provision	All
	Outside air type	
Hub cap	Full disk	1500-2100
Indicator	Illuminated transmission control	All
Lamp	Back-up (pair)	
	Courtesy	All except 1500
	Portable spot (plugs in cigarette lighter)	1500 (with cigarette lighter) 2100, 2400
	Under hood	All
	Glove compartment	1500
	Luggage compartment	All except 1508-09, 2109-2419
	Spot, LH, Guide, with bracket and mirror	All
Lighter	Cigarette, with lamp	1500, Replacement for 2100-2400
Marker	Front fender	
Mat	Floor (blue, red, green, black & brown)	All
Mirror	Rear view Door-front, clamp type	
	Door, remote control	All except 1509, 2109, 2419
	Door, rain deflector, clamp type	All
	Non-glare (prismatic), inside	All except 1508
	Visor vanity	All except 2419
Molding	Wheel, stainless steel	All except 2400
Radio	Delco (manual tuning), and antenna	All
	Delco (push-button tuning), and antenna	
	Speaker, auxiliary rear seat	All except 1508-09, 2109, 2419-34
Reflector	Reflex, 4 inch, red	All
Shaver	Electric	
Shield	Front fender, pair	2100, 2400
	Windshield, glare	All except 1509, 2109, 2419
	Door handle	
Signal	Direction, self-cancelling	All
Sunshade	Right hand	1500 except 1508
Sun visor	Outside type	All except 1508, 2434
Tool kit	Bag with tools	
Viewer	Traffic light	
Washer	Windshield	All
Wiper blade	De-icing windshield	

### REGULAR PRODUCTION OPTIONS

Definition: Items released by the Engineering Department for installation at the assembly plant at the customer's request in addition to or in place of regular equipment, and usually at extra cost.

Group	RPO	ITEM	MODEL
Exterior and Interior Color Combinations	231	Exterior colors	See pages 20, 21, 22, & 23
	235	Exterior colors	
	236	Exterior and interior color combinations	
	238	Exterior and interior color combinations	
	437	Exterior and interior color combinations	
	435	Body interior trim combinations	
Body glass	398	Body glass equipment, tinted (E-Z Eye glass)	All
Taxicab	330	Heavy-duty clutch 40% larger than standard clutch	1503, 2103
		Special service front springs	
		Special clutch and brake pedal shaft lubrication fittings	
		Special fast filling gasoline filler signal	
		RPO 330 A, C, G, H, Cloth trim	
		RPO 330 B, D, J, K Vinyl coated trim	
		Extra heavy black rubber floor mats with special water resistant floor covering front and rear. Special heavy-duty front and rear seat cushion and back springs. Arm rest door pull handles, rear doors. Special automatic dome light switch operated by right hand rear door.	
Suspension	254	Heavy rear springs	
Engine	237	Oil filter	All
	340	Vacuum booster fuel pump	
	216	Air cleaner, oil bath (one pound dirt capacity)	
	241	Governor (RPO 216 air cleaner mandatory with RPO 241)	
Clutch	227	Heavy-duty	All except RPO 313 & 330
Transmission	313	Automatic (Powerglide) See supplement, pages 45-52	All
	316	Heavy Duty	
Tires with regular wheels	288	6.70-15-6 ply (five)	All except 2419 and with RPO 313 and 2434
	290	6.70-15-4 ply (five), white and black sidewall	
	288	6.70-15-6 ply (five), white and black sidewall	1509, 2109, 2419
	283	7.10-15-4 ply (five)	All except 2419
	297	7.10-15-4 ply (five), white and black sidewall	
Steering	323	Steering gear equipment (color combinations)	2100, 2400 except RPO 324
	324	Hydraulic steering	All except 1508 and RPO 227 and 330
Generator	325	Generator equipment 40 amp	All except 2434-54
		45 amp (low cut-in)	All
		50 amp	All except 2434
		55 amp (low cut-in)	All except 2434 & RPO 324
Timing gear equipment	219	Aluminum camshaft gear	All except with RPO 227, 313, 324, 330
Seat and window controls	397	Electrical seat and window control equipment	2100, 2400

**AUTOMATIC TRANSMISSION OPTION—Supplement**

**POWERGLIDE  
AUTOMATIC TRANSMISSION  
SUPPLEMENT**

Regular Production Option #313

Supplementing the data given in the preceding "Passenger Car" section of this book, the following information shows those specifications that are peculiar to passenger car models equipped with Powerglide automatic transmission.



## AUTOMATIC TRANSMISSION OPTION—Supplement

### SERIAL NUMBERS

For vehicle and unit serial numbers, see page 9

### FRONT SUSPENSION

Front spring ----- All models, same as regular spring for model 2434. See page 25

### BODY

Floor mat, front ----- Clutch pedal hole omitted  
 Toe pan, clutch pedal hole -----  
 ----- Sealed with felt and cemented  
 Exterior identification -----  
 "POWERGLIDE" inscription on rear deck lid,  
 below the emblem.

### UNIVERSAL JOINT

Lubrication ----- Pressure, from transmission

### REAR AXLE AND DRIVE

Final drive gears:

Ratio -----3.55:1  
 Teeth ----- 11 and 39  
 Total torque multiplication (final drive gears, transmission, torque converter and planetary gears):  
 Drive -----3.55:1 to 7.46:1  
 Low ----- 6.46:1 to 13.57:1  
 Reverse ----- 6.46:1 to 13.57:1

### POWER BRAKES •

(Available as a Regular Production Option)

Location ----- Vacuum power brake main cylinder mounted on engine compartment side of dash panel.

Vacuum reserve tank mounted on splash pan behind left front wheel.

Distribution of braking effort:

Vacuum cylinder -----70% approximately

Manual ----- 30% approximately

These figures are approximate depending on the severity of stop.

Pedal pressure -----20 to 25 pounds

Stop light switch:

Type ----- Hydraulic

Mounting ----- On hydraulic unit of vacuum power brake cylinder

### SPEEDOMETER GEARS

Drive gear -----5 teeth, 22 pitch

Material ----- Steel

Driven gear -----13 teeth, 22 pitch

Material ----- Nylon

### VEHICLE WEIGHTS x

#### ONE-FIFTY †

Vehicle Type		Shipping Weight			Curb Weight			Loaded Weight		
Model	Description	Total	Front	Rear	Total	Front	Rear	Total	Front	Rear
1502P	2-Door Sedan	3270	1830	1440	3400	1855	1545	4300	2180	2120
1503P	4-Door Sedan	3310	1835	1475	3440	1860	1580	4340	2185	2155
1508P	Sedan Delivery	3280	1800	1480	3410	1825	1585	4000	1830	2170
1509P	Station Wagon	3555	1820	1735	3685	1845	1840	4585	2170	2415
1512P	Utility Sedan	3240	1825	1415	3370	1850	1520	3820	2100	1720

#### TWO-TEN

2102P	2-Door Sedan	3285	1830	1455	3415	1855	1560	4315	2180	2135
2103P	4-Door Sedan	3320	1840	1480	3450	1865	1585	4350	2190	2160
2109P	Station Wagon	3595	1835	1760	3725	1860	1865	4625	2185	2440
2124P	Club Coupe	3315	1840	1475	3445	1865	1580	4345	2190	2155

#### BEL AIR

2402P	2-Door Sedan	3315	1840	1475	3445	1865	1580	4345	2190	2155
2403P	4-Door Sedan	3355	1845	1510	3485	1870	1615	4385	2195	2190
2419P ∅	Station Wagon	3700	1830	1870	3830	1855	1975	5030	2095	2935
2434P †	Convertible	3560	1955	1605	3690	1980	1710	4440	2280	2160
2454P	Sport Coupe	3415	1885	1530	3545	1910	1635	4445	2235	2210

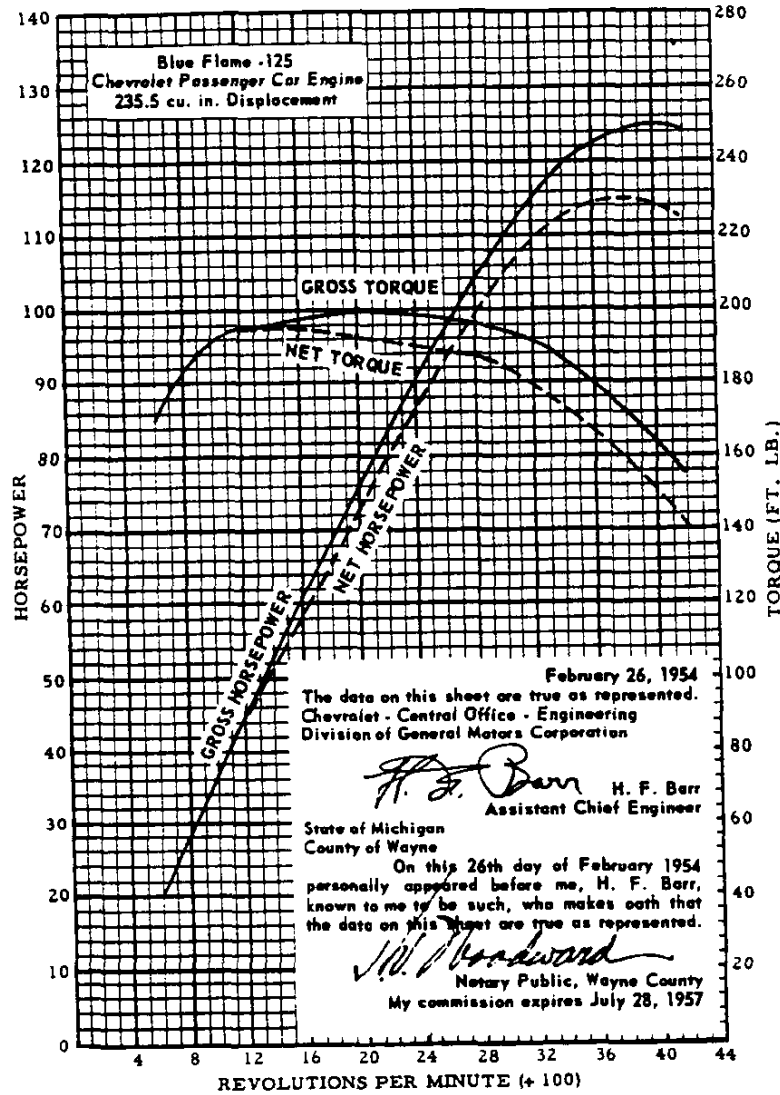
∅ -Equipped with 6.70-15-6pr tires as regular equipment.

† -Equipped with 7.10-15-4pr tires as mandatory RPO equipment.

‡ -For vehicle weight definitions see page 10.

x -These are official production weights and replace weights shown on sheet dated 12-18-53 which were estimated weights but not designated as such.

ENGINE PERFORMANCE •



The engine performance curves shown on this sheet are taken from Chevrolet engine test report 16700-102. They represent the full throttle performance of a Blue-Flame Chevrolet passenger car engine (235.5 cu. in. displacement) as obtained from dynamometer test data which were corrected to the standard barometric pressure 29.92" Hg. and the standard temperature of 60°F.

ular-dynamometer test with the dynamometer exhaust system, no fan, generator not charging, and optimum spark advance.

NET POWER and TORQUE were obtained from a dynamometer test simulating actual operating conditions when the engine is in its vehicle. It includes the use of the regular muffler and pipes, the fan in operation and automatic spark advance. The generator is not charging.

GROSS POWER and TORQUE were obtained in a regular-dynamometer test with the dynamometer exhaust system, no fan, generator not charging, and optimum spark advance.  
12-18-53. Revised: 4-12-54, •-Engine curve released.  
**CHEVROLET 1954 SPECIFICATIONS—PASSENGER**

## AUTOMATIC TRANSMISSION OPTION—Supplement

### ENGINE BASIC DESIGN DATA

Type ----- Valve-in-head  
 Number of cylinders ----- 6  
 Bore and stroke (nominal) ----- 3-9/16 x 3-15/16  
 Piston displacement (cu. in.) ----- 235.5  
 Compression ratio (no option) ----- 7.5:1  
 Taxable (SAE) horsepower ----- 30.4  
 Engine idling speed (RPM) ----- 425 in drive

### ENGINE PERFORMANCE

Gross brake horsepower ----- 125 @ 4000 RPM  
 Net brake horsepower ----- 115 @ 3800 RPM  
 Gross torque (ft. lb.) ----- 200 @ 2000 RPM  
 Net torque (ft. lb.) ----- 195 @ 1200 RPM

### ADVERTISED CAR PERFORMANCE

The following information is based on model 2103P, 4-Door Sedan, at performance weight (curb weight, plus 600 pounds to represent four passengers):

Performance weight (pounds) ----- 4085  
 Pounds/gross horsepower ----- 32.68  
 Pounds/cu. in. piston displacement ----- 17.35  
 Gross horsepower/cu. in. displacement ----- .53  
 Power displacement (cu. ft./mile)\*§ ----- 180.9  
 Displacement factor (cu. ft./ton mile)§§ ----- 88.56  
 \* -  $\frac{\text{Crankshaft rev/mile} \times \text{piston displacement}}{1728}$

§ - These data are computed assuming zero slippage in the torque converter.

§§ - Power displacement ÷ performance weight in tons

### ENGINE SPEED AND PISTON TRAVEL§

Rear axle ratio	3.55:1	
Tires	6.70-15 or 7.10-15	
Crankshaft revolutions per mile	2655	
Crankshaft RPM at one MPH	Low	80
	Drive	44
Piston travel (ft./mile)	1742	

### DRY WEIGHTS

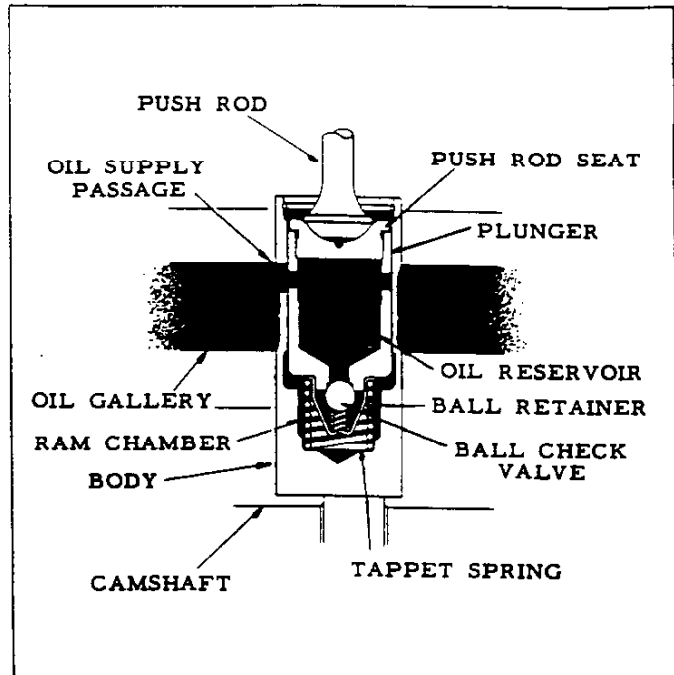
Engine ----- 553 lb  
 Engine and automatic transmission ----- 790 lb

### FLYWHEEL

Material ----- Steel stamping with reinforcement  
 Ring gear type ----- Steel, welded to flywheel  
 Weight (with ring gear and reinforcement) ----- 4.94 lb

### CAMSHAFT ●

Type ----- High-lift  
 Ramp, inlet and exhaust:  
 Opening ----- .00549, 15° long  
 Closing ----- .00705, 29° long



### HYDRAULIC VALVE LIFTERS

Make ----- GM Diesel  
 Material: Lifter body ----- Cast iron  
 Lifter plunger and push rod seat ----- Steel  
 Lift: Exhaust and inlet ----- .2711  
 Oil flow ----- Oil enters the valve lifter oil gallery through a drilled passage from the camshaft rear and front bearings, where it flows to the hydraulic lifters. Oil enters the valve lifters through holes in the side of the lifter body and plunger. Oil enters the ram chamber around the steel ball.

### VALVES

Material (exhaust only) ----- Silchrome XCR steel  
 Lift: Inlet and exhaust valve ----- .4004  
 Valve lash (hydraulic lifter):  
 At time of assembly ----- Basic adjustment  
 During operation ----- Self-adjusting

### VALVE SPRINGS x

Length and pressure  
 Valve closed ----- 1.858 @ 74-82 lb  
 Valve opened ----- 1.462 @ 196-208 lb  
 Free length (out of engine) ----- 2-9/32

### OIL CONTROL RING x

Material and type ---- Steel, three piece with expander  
 Upper and lower rails ----- Chrome plated steel  
 Spacer (between rails) ----- Crimped ribbon steel  
 Expander ----- Flat crimped spring steel with scalloped edges.  
 Gap clearance ----- .015-.035  
 Ring clearance in groove ----- .002-.009  
 Weight including expander ----- .049

12-18-53. Revised: 4-12-54. ● - Data revised. x - Data added.

## AUTOMATIC TRANSMISSION OPTION—Supplement

### CARBURETOR

Make and Model ----- Rochester Products, 7005922  
 Type ----- Single adjustment, downdraft  
 SAE Flange Size ----- 1-1/2  
 Size (main venturi throat ID) ----- 1-11/32

### RADIATOR HOSE

Item	Outlet	
Location	Rad. to oil cooler	Cooler to water pump
Quantity	1	
Type	Straight	
ID	1-1/2	
Length	4-15/16	2-5/8
Material	Fabric reinforced rubber	
Spring re-inforcement	None	

### RADIATOR CORE

Make and Model ----- Harrison 3132903  
 Cell Size ----- .222 x .56 x 2  
 Frontal Area ----- 408 sq. in.

### GENERATOR

Generator RPM/MPH ----- Variable  
 Maximum Output (controlled charging rate):  
 Car MPH ----- Variable

### VOLTAGE AND CURRENT REGULATOR

Cutout: Car MPH when points close ----- Variable

### STARTING MOTOR<sup>x</sup>

Make and Model ----- Delco Remy 1108035  
 Number of Field Coils ----- 4  
 Testing                      Lock test                      No load test  
 Amperage draw ----- 600 -----  
 Volts ----- 3.0 ----- 5.6  
 Torque ----- 15 ft lb -----  
 RPM ----- 5500  
 Brush spring tension ----- 24-28 oz

### Circuit:

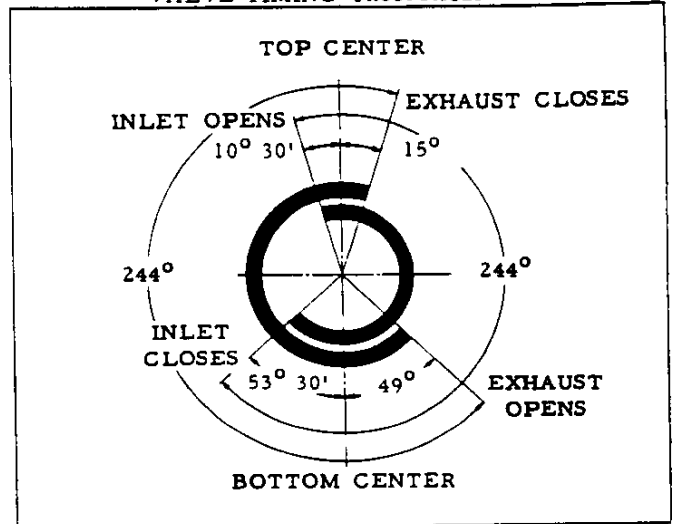
Ignition switch is wired in series with the neutral safety switch located on the lower end of the steering column control and permits operation of the starting motor with the transmission control in "Neutral" or "Park" positions only.

Starting operation -----  
 ----- With transmission control in "Neutral" or "Park" position, turn ignition key to extreme right.

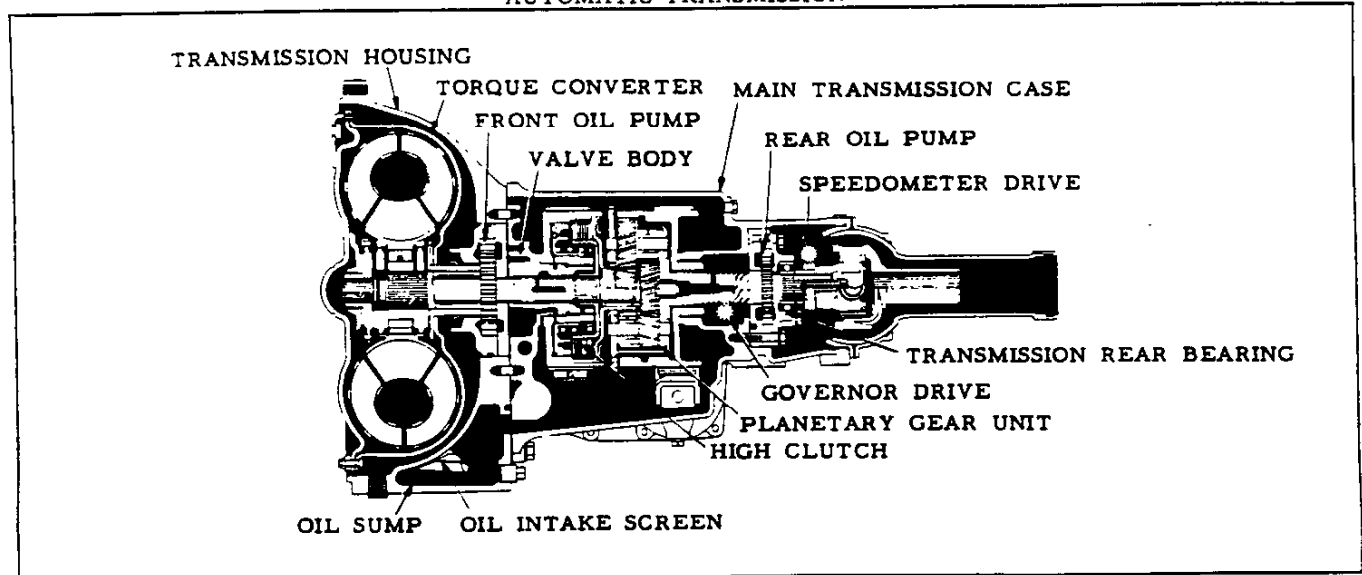
### DISTRIBUTOR

Make and Model ----- Delco-Remy 1112396

### VALVE TIMING-Theoretical



### AUTOMATIC TRANSMISSION



12-18-53. Revised: 4-12-54, e-New Radiator. x-New starting motor.  
**CHEVROLET 1954 SPECIFICATIONS—PASSENGER**

**AUTOMATIC TRANSMISSION - 49**

## AUTOMATIC TRANSMISSION OPTION—Supplement

### AUTOMATIC TRANSMISSION-GENERAL

Make and type-----  
 ----- Own, automatic hydraulic torque converter with planetary gear system for reverse and low

Rated torque capacity----- 204 ft lb (input)

Converter maximum torque ratio (at stall)----- 2.1:1

Total transmission torque multiplication (converter x planetary gear ratio):  
 Maximum overall transmission ratio----- 3.82:1  
 Low range (auto or manual)----- 3.82:1 to 1.82:1  
 Reverse range----- 3.82:1 to 1.82:1

Oil type----- Automatic transmission fluid, type A

Oil capacity ----- 11 quarts; refill, 5 quarts

Oil level gauge and filler tube:  
 Location----- On right side of transmission, accessible from engine compartment

Gauge type-----  
 Bayonet, mounted in breather type filler tube cap

Oil cooler make and location-----  
 ----- Harrison, located in engine cooling system between radiator outlet and water pump inlet

Selector lever:  
 Location----- On steering column  
 Operation-----  
 Actuates manual valve in hydraulic control system

Positions----- Five,  
 (left to right) Park-Neutral-Drive-Low-Reverse

Parking lock:  
 Type----- Pawl and gear  
 Operation-----  
 Applied by selector lever through positive linkage

Automatic shift:  
 Type----- Hydraulic spool  
 valve controlled by throttle valve and governor

Throttle valve:  
 Type----- Spool  
 Actuation----- Accelerator linkage  
 Location----- In automatic shift valve body  
 Operation----- Regulates main line oil pressure to automatic shift valve

Governor:  
 Type----- Centrifugal  
 Drive----- From transmission output shaft  
 Location-----  
 Accessible from rear of transmission, left side  
 Operation----- Regulates oil pressure from rear oil pump to automatic valve

Representative shift points:

Accelerator pedal pressure	Miles per hour	
	Upshift	Downshift
Low	10-1/2	9
High (at detent)	29	16-1/2
High (through detent)	47-1/2	37

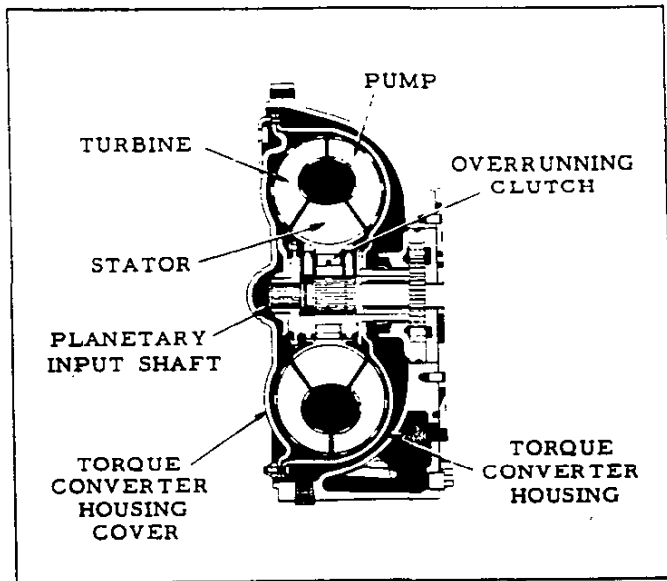
**HYDRAULIC TORQUE CONVERTER**

Type ----- Three element

Driving member (pump)----- Sheet metal, multi-vane type, spot welded to torque converter housing. The housing cover is bolted to the flywheel.

Driven member (turbine)-----  
 ----- Sheet metal, multi-vane type, supported by torque converter housing cover. Turns independently of housing. Splined to input shaft.

Reaction member (stator)----- Aluminum, air foil type, supported on a stationary sleeve by an overrunning clutch of cam and roller design.



**PLANETARY GEAR UNIT**

Type----- Compound planetary

Gear ratios:  
 Cruising range----- 1:1 (Direct drive)  
 Low range----- 1.82:1  
 Reverse----- 1.82:1

Input shaft:  
 Material----- Steel, heat treated

External splines:  
 Turbine----- 17 teeth  
 Clutch hub----- 19 teeth  
 Reverse sun gear----- 19 teeth

Output shaft:  
 Material----- Steel, heat treated  
 Splines----- External, 10 teeth

Low sun gear:  
 Material----- Steel, case hardened  
 Gear teeth----- 23, external  
 Splines----- External, 23 teeth

Reverse (input) sun gear:  
 Material----- Steel, case hardened  
 Gear teeth----- 28, external  
 Splines----- Internal, 19 teeth

Long pinions:  
 Number used per assembly----- Three  
 Material----- Steel, case hardened  
 Gear teeth----- 18, external

Short pinions:  
 Number used per assembly----- Three  
 Material----- Steel, case hardened  
 Gear teeth----- 28, external

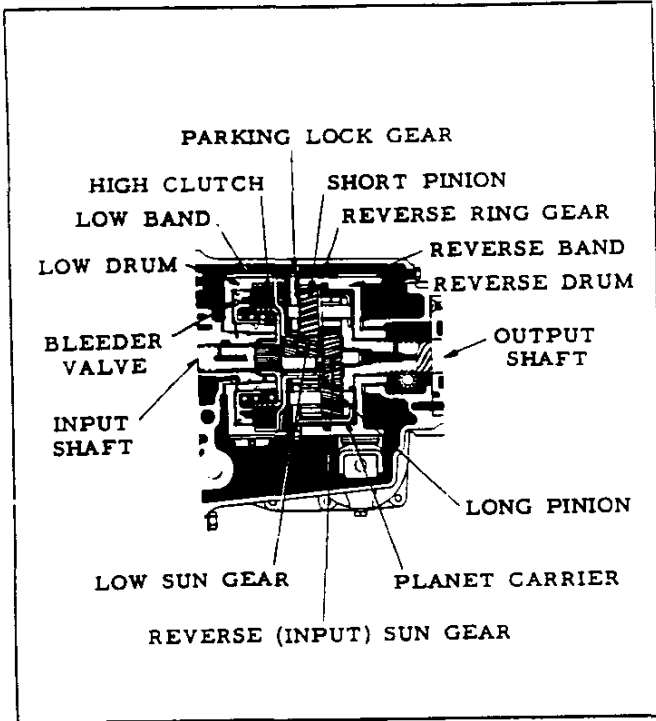
Parking lock gear:  
 Material----- Steel with induction hardened teeth  
 Gear teeth----- 61, external

Planet carrier:  
 Construction-----  
 ----- Steel stamping, riveted to output shaft

Reverse gear and drum:  
 Material----- Cast iron  
 Gear teeth----- 79, internal

Reverse brake band:  
 Material----- Malleable iron  
 Lining----- Molded metallic, bonded and grooved

## AUTOMATIC TRANSMISSION OPTION—Supplement



### HIGH CLUTCH

Type ----- Multiple-disc  
Discs:  
Driving; number and type -----  
Four, steel with cork and paper facings, bonded  
Driven, number and type ----- Five, steel  
Drum:  
Material ----- Cast iron  
O D ----- 5.867-5.872  
Pressure relief valve:  
Location ----- In front face of clutch piston  
Type ----- 3/16 ball  
Hub:  
Material ----- Stamped steel  
Splines ----- Internal, 19 teeth  
Flange:  
Material ----- Stamped steel  
Splines ----- Internal, 23 teeth  
Spring:  
Type and I D ----- Coil, 2.750-2.800  
Length and pressure ----- Approximately  
3-49/64 (free), 1-23/64 at 181 lb, 1-7/32 at 191 lb  
Piston type and material -----  
----- Annular, aluminum alloy die casting  
Size ----- 4.748-4.752 O D, 2.498-2.500 I D

Low brake band:

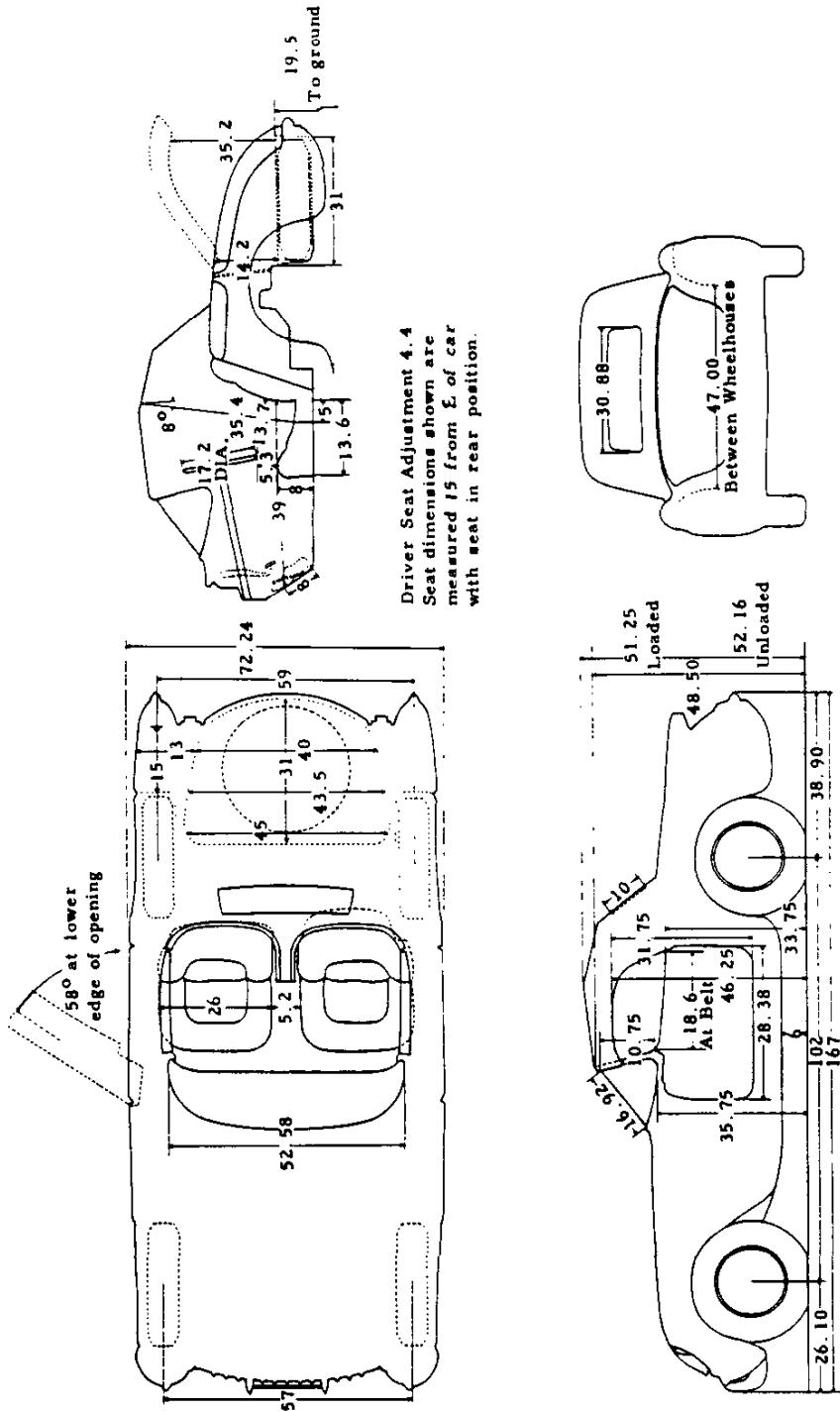
Material ----- High tensile spring steel  
Lining ----- Molded metallic, bonded and grooved

### HYDRAULIC CONTROLS

Oil intake screen: Type ----- Double  
screen; outer - 60 x 40 mesh, inner ----- 8 mesh  
Location ----- Transmission housing oil sump.  
Oil pumps: Type ----- Internal external gear  
Location:  
Front ----- In rear of transmission housing  
Rear ----- In rear of transmission case  
Number of teeth:  
Front ----- 31 internal, 25 external  
Rear ----- 25 internal, 20 external  
Transmission rear bearing:  
Make ----- New Departure  
Type ----- 3205, single row ball  
Main valve body:  
Material ----- Cast iron  
Location ----- Bolted to rear of transmission housing  
Manual valve:  
Material ----- Hardened steel  
Type ----- Spool  
Operated by ----- Selector lever through linkage  
Check valve:  
Material ----- Flat spring steel  
Type ----- Two passage check, hairpin shaped  
Pressure regulator valve:  
Type ----- Spool  
Pressure range:  
Automatic cruising ----- 50 to 165 PSI  
Automatic low ----- 50 to 165 PSI  
Manual low ----- 165 to 200 PSI  
Reverse ----- 165 to 200 PSI  
Neutral ----- 50 to 165 PSI  
Park ----- 0 PSI  
Modulator:  
Location ----- Servo cover, right side  
Type ----- Vacuum and hydraulic  
Low band servo:  
Type ----- Piston, one release spring  
Adjustment ----- Threaded anchor bolt  
Reverse band servo:  
Type ----- Piston  
with release spring and inner cushioning spring  
Adjustment ----- Threaded anchor bolt  
Thermostatic by-pass valve:  
Location ----- Servo cover  
By-pass closes ----- 210°-240° F

CORVETTE - Supplement

Tentative to the incorporation of Corvette specifications into the regular passenger car section of this book, we have in the following pages endeavored to list the pertinent data peculiar to the Corvette model.



**CORVETTE - Supplement**

**SERIAL NUMBERS**

**VEHICLE SERIAL NUMBER**

Same as standard production except series designation is "E" and assembly plant is "S" for St. Louis.  
Thus E 54S 001001 is the first unit.

**TRANSMISSION SERIAL NUMBER**

Same as Powerglide transmission as shown on page 9

**ENGINE SERIAL NUMBER**

Type designation is "YG"

**REAR AXLE SERIAL NUMBER**

Type designation is "W" and unit is built at Detroit Gear and Axle Plant.

**DIMENSIONS**

Wheelbase----- 102  
Tread, Front----- 57  
Rear----- 59

**VEHICLE WEIGHTS**

Shipping----- 2705  
Curb----- 2850  
Loaded----- 3150  
Heater (Not included in above weights)----- 20.50  
Radio (Not included in above weights)----- 18.36

**FRAME**

Make----- Own  
Type----- Box girder  
Maximum overall length----- 139.28  
Maximum overall width (over side members)----- 43.24  
Material----- Hot Rolled Steel  
Material yield point----- 33000 lb/sq. in  
Material elongation----- 25% min in 2 inches  
Side member section modulus (in<sup>3</sup>)----- 1.677  
Moment of inertia (in<sup>4</sup>)----- 4.930  
Construction:  
Side members----- Box Section, each composed of two full length channel sections welded together.  
Front Suspension Cross Member----- Formed, flanged, semi-tubular section with flat steel bottom plate welded to flanges across diametrical width of section.  
Shock Absorber Upper Mounting Cross Member----- Inverted Channel Section  
Rear Cross Member----- Box Section  
Composed of a flanged channel section and a welded-in bottom plate.  
Center "X" Member----- Composed of I-beam sections attached to side members at the end of each leg of the "X". Also attached to forward section of side members by long angular braces from the front legs of the "X".

**EXTERIOR-INTERIOR COLORS & EQUIPMENT**

**Exterior Color:**

Standard----- Polo White  
Optional----- Pennant Blue  
Top----- Beige  
Wheels----- Red

**Interior Finish:**

Upper Instrument Panel, Steering Column, Steering Wheel Hub and Spoke and Directional Signal Housing  
Standard----- Red  
Optional----- Pennant Blue  
Lower Instrument Panel and Door Trim Moulding  
Standard----- White  
Optional----- Pennant Blue  
Steering Wheel Rim  
Standard----- White  
Optional----- White

**Interior Trim:**

Seats and Door Panels and Cowl Kick Panels  
Standard----- Red with White stitching  
Optional----- Beige with White stitching  
Floor Covering  
Standard----- Red  
Optional----- Beige

**EQUIPMENT**

Arm Rest----- Both Doors  
Stowage Compartment----- Both Doors  
Top----- Folding, manually operated and stowed in top well at rear of driver and passenger seats.  
Door Windows----- In chrome frames including ventipanes. Window frame snaps into slots in top of doors. When not in use the side windows are stored in the luggage compartment.  
Luggage Compartment----- Rear Deck; Operated by key with counterbalanced lid. Spare tire stowed below floor.  
Hood----- Hinged at front with release inside of cockpit. Supported in open position by manually operated support arm.  
Headlights----- Recessed into front fenders behind mesh grille.

**FRONT SPRINGS**

Make and Type----- Own, coil  
Material and Gauge----- Chrome Alloy Steel; .547-.550  
Number of Coils----- Total, 9.75; Active, 7.94  
Diameters----- Outside 4.30; Pitch 3.752  
Height----- Free 13.45; Working 9.62 @ 1145 lb  
Height under Curb Weight----- 9.72  
Capacity at Ground----- 800 lb  
Deflection Rate:  
At Spring----- 300 lb/in.  
At Wheel----- 110 lb/in.

**REAR SPRINGS**

Make and Type----- Own, Semi-elliptic  
Material----- Chrome Carbon Steel  
Length and Width----- 51 x 2  
Spring Clips----- 4; 3 clinch type; 1 bolt type  
Spring Covers----- None  
Number of Leaves----- 4, embossed for full length liners  
Thickness of Leaves----- 1, 3 & 4, .282; 2, .313  
Average Design Load at Camber Height----- 545-605 lb  
Camber Height at Design Load----- 1.58 neg  
Average Rate of Deflection----- 115 lb/in.  
Spring Liners----- 3, Wax impregnated fibre board

**REAR AXLE**

Same as Powerglide except Hotchkiss Drive.



**CORVETTE - SUPPLEMENT**

**ENGINE**

The Corvette engine is basically the same as the Blue Flame-125 passenger car engine, with the following exceptions and characteristics.

- Tappets ----- Mechanical
- Timing Gear ----- Aluminum
- Carburetor ----- 3 Side draft Carburetors with manifolds and air ducts to suit design.
- Compression Ratio ----- 8.0:1

**ADVERTISED MAXIMUM ENGINE PERFORMANCE**

- Gross Horsepower ----- 150 @ 4200 RPM
- Net Horsepower ----- 140 @ 4200 RPM
- Gross Torque ----- 223 ft lb @ 2400 RPM
- Net Torque ----- 216 ft lb @ 2400 RPM

**ADVERTISED CAR PERFORMANCE**

- Based on curb weight plus 300 lbs for 2 passengers
- Performance weight ----- 3150
- Pounds/gross horsepower ----- 21
- Pounds/cu. in. displacement ----- 13.38
- Gross horsepower/cu. in. displacement ----- .64
- Power displacement (cu. ft/mile) ----- 180.9
- Displacement factor (cu ft/ton mile) ----- 114.86

**CARBURETOR**

- Number Used ----- Three
- Make and Type ----- Carter, side draft
- Main venturi size, throat ID ----- 1.312
- Choke ----- Manual

**AIR INLET**

- Number Used ----- Three (one for each carburetor)
- Type ----- Chrome plated metal housing with screen covered openings.

**ELECTRICAL EQUIPMENT**

- Generator ----- Delco-Remy 1102793
- Voltage and Current Regulator ----- Delco-Remy 1118827
- Distributor ----- 1112314
- Coil ----- 1115394
- Spark Plugs ----- AC 44-5 or 43-5 Commercial Shielding-Spark plugs, wires, distributor and coil are completely enclosed by a metal shield.

**TRANSMISSION**

Same as Powerglide except that the selector lever is mounted in floor at right side of driver.

**DRIVE LINE**

Hotchkiss drive with one propeller shaft with a U-Joint at both ends.

**FUEL SYSTEM**

- Fuel Tank ----- Two stamped pans, seam welded
- Capacity ----- 17.25 gals
- Mounting ----- Supported by two straps attached to under body behind seat.
- Filler ----- In body left side to rear of driver's entrance door.

**EXHAUST SYSTEM**

- Type ----- Dual
- Muffler ----- Two
- Type ----- Diffusion and resonance, reverse flow
- Size ----- 16 x 5-1/16 x 7-5/16 Oval
- Manifold ----- Split with each exhaust pipe serving three cylinders.
- Exhaust pipes ----- 2
- Tail pipes ----- 2
- Both exhaust and tail pipes are welded or seamless steel tubing whose diameters are 1.75 OD and 1.65 ID.

**COOLING SYSTEM**

- Capacity ----- 17-3/4 qts
- Radiator, Make and Type ----- Harrison, Cellular
- Material ----- Copper
- Size ----- .20 x .560 x 2
- Frontal Area ----- 393.48 sq. in.
- Pressure Cap ----- 4 pound, located in aux tank
- Auxiliary water supply tank ----- Located in engine compartment on right side at cylinder height.

**RADIATOR HOSES**

Function	Inlet	Outlet	Supply Tank
Material	Fabric reinforced rubber		
Location	Cyl head to Radiator	Radiator to water pump	Aux tank to Radiator
Quantity	1	2	1
Shape	Compound Curve	Elbow	Straight
I. D.	1-1/4	1-1/2	1-1/2
Length (Developed)	12-1/2 Approx	6-3/4 Each	10-1/2 Approx

**STEERING**

- Steering Gear Ratio ----- 16:1
- Steering Wheel Diameter ----- 17-1/4
- Turning Diameters:
- Right-Wall to Wall ----- 38.58
- Left-Wall to Wall ----- 38.99
- Right-Curb to Curb ----- 36.55
- Left-Curb to Curb ----- 36.93
- Toe In ----- 0-1/8