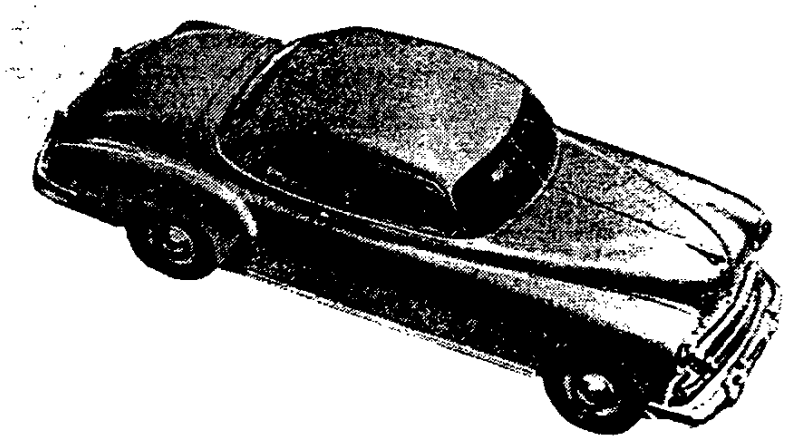
CHEVROLET



1949 Chevrolet, Styleline Special business coupe, 6-cyl

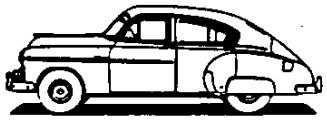
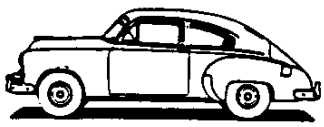
1949

ORIGINAL COPY

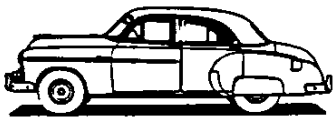
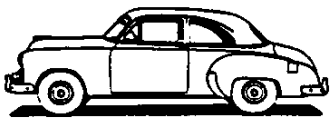
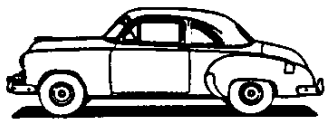
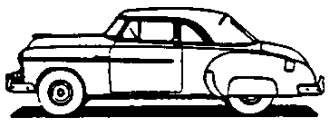
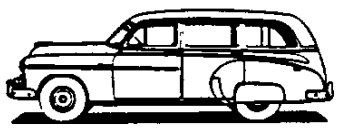
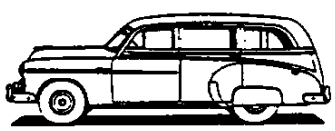
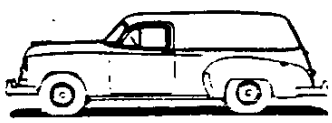
PASSENGER CARS

MODEL IDENTIFICATION

FLEETLINE

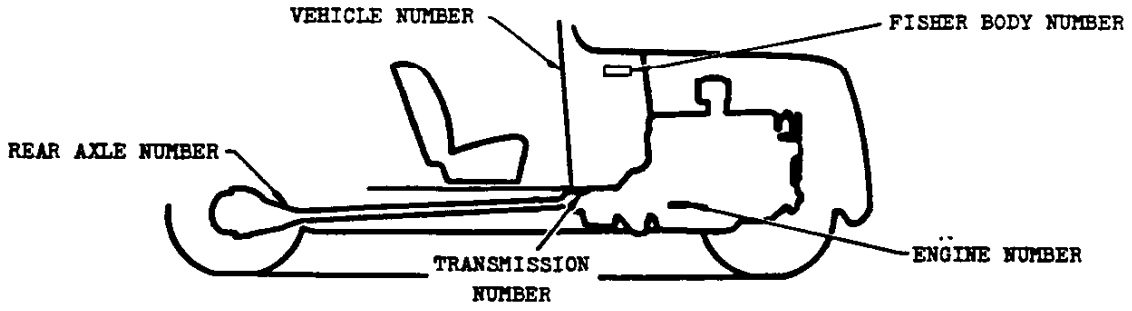
De Luxe - Series 2100		Name and	Special - Series 1500	
Vehicle Type	Model	Description	Model	Vehicle Type
	2153 49-1008 *	4-DOOR SEDAN 5-passenger, 5-window sedan with luggage compartment in rear.	1553 49-1208 *	
	2152 49-1007 *	2-DOOR SEDAN 5-passenger, 5-window sedan with luggage compartment in rear.	1552 49-1207 *	

STYLELINE

De Luxe - Series 2100		Name and	Special - Series 1500	
Vehicle Type	Model	Description	Model	Vehicle Type
	2103 49-1069 *	4-DOOR SEDAN 6-passenger, 5-window sedan with luggage compartment in rear.	1503 49-1269 *	
	2102 49-1011 *	2-DOOR SEDAN 6-passenger, 5-window sedan with luggage compartment in rear.	1502 49-1211 *	
	2124 49-1027 *	SPORT COUPE 6-passenger, 2-door, 5-window coupe with luggage compartment in rear.	1524 49-1227 *	
		BUSINESS COUPE 3-passenger, 2-door 5-window coupe with luggage compartments behind seat and in rear.	1504 49-1227B *	
	2134 49-1067X *	CONVERTIBLE COUPE 5-passenger, 2-door, 5-window coupe with luggage compartment in rear and folding top.		
	2119 49-1062 *	STEEL STATION WAGON 8-passenger, 4-door, 7-window, all-steel body with drop and lift gates in rear.		
	2109 49-1061 *	WOOD STATION WAGON 8-passenger, 4-door, 7-window, wood body with drop and lift gates in rear.		
		SEDAN DELIVERY 2-passenger, 3-door, 3-window, panel delivery.	1508 49-1271 *	

* - Fisher Body style number.

SERIAL NUMBER LOCATIONS
(See descriptions below.)



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

VEHICLE SERIAL NUMBER

Description ---------- Combines symbols for assembly plant, model year, model, and month of manufacture, in that order, followed by serial number for each vehicle. Example: 5 GK-A-2322

Assembly plant designation:

Flint, Mich.	1
Tarrytown, N.Y.	2
St. Louis, Mo.	3
Kansas City, Mo.	5
Oakland, Calif.	6
Atlanta, Ga.	8
Norwood, O.	9
Baltimore, Md.	14
Los Angeles, Calif.	20
Janesville, Wis.	21

Model year designation ---------- G

Model designation:

Special	J
De Luxe	K

Calender month designation:

January	A
February	B
March, etc.	C, etc.

Starting serial number ---------- 1001 and up, at each assembly plant and for each series.

Location ---------- Stamped on plate attached to left front body hinge pillar.

ENGINE SERIAL NUMBER

Description ---------- Combines symbols for each model year, passenger car engine, and manufacturing plant, in that order, followed by serial number for each engine. Example: GAA-6375

Model year designation ---------- G

Passenger car designation ---------- A

Plant designation:	Flint	Tonawanda
Regular engine	A	M
RPO 227 Heavy duty clutch	C	P

Starting serial number ---------- 1001 and up, at each engine plant.

Location ---------- Stamped on right hand side of cylinder block to rear of distributor.

TRANSMISSION SERIAL NUMBER

Description ---------- Combines symbols for model year, and type and plant, followed by the serial number for each transmission. Example: GB-1764

Model year designation ---------- G

Plant designation:	Saginaw	Muncie	Toledo
Regular with 4.11:1 axle	A	B	C
RPO 201 with 3.73:1 axle	D	E	F
RPO 316 heavy duty transmission and 4.11:1 axle	G	H	J
RPO 316 heavy duty transmission and RPO 201 3.73:1 axle	K	L	M

Starting serial number ---------- 1001 and up, at each transmission plant.

Location -- Stamped on case at front edge of cover.

REAR AXLE SERIAL NUMBER

Description ---------- Combines symbols for model year, and type and plant, followed by number of rear axle. Example: GB-507.

Model year designation ---------- G

Plant designation:	Gear & Axle	Buffalo
Regular (4.11:1 axle)	A	B
RPO 201 (3.73:1 axle) or RPO 330 (taxicab axle)	C	D

Serial number -- The first one or two digits represent the month; the last two, the day of month.

Location ---------- Stamped on front, right side of differential carrier.

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.

4-29-49

VEHICLE WEIGHTS

FLEETLINE

Vehicle Type	Shipping			Curb		
	Front	Rear	Total	Front	Rear	Total
De Luxe 2-Door Sedan	1725	1375	3100	1750	1480	3230
Special 2-Door Sedan	1710	1350	3060	1735	1455	3190
De Luxe 4-Door Sedan	1735	1400	3135	1760	1505	3265
Special 4-Door Sedan	1720	1375	3095	1745	1480	3225

STYLELINE

Vehicle Type	Shipping			Curb		
	Front	Rear	Total	Front	Rear	Total
De Luxe 2-Door Sedan	1725	1375	3100	1750	1480	3230
Special 2-Door Sedan	1710	1360	3070	1735	1465	3200
De Luxe 4-Door Sedan	1725	1400	3125	1750	1505	3255
Special 4-Door Sedan	1715	1375	3090	1740	1480	3220
De Luxe Sport Coupe	1725	1340	3065	1750	1445	3195
Special Sport Coupe	1705	1325	3030	1730	1430	3160
Special Business Coupe	1705	1310	3015	1730	1415	3145
De Luxe Convertible Coupe •	1850	1525	3375	1875	1630	3505
De Luxe Steel Station Wagon •	1685 Θ	1780 Θ	3465 Θ	1710 Θ	1885 Θ	3595 Θ
De Luxe Wood Station Wagon	1700 Θ	1785 Θ	3485 Θ	1725 Θ	1890 Θ	3615 Θ
Special Sedan Delivery	1675	1375	3050	1700	1480	3180

Θ - Equipped with 6.70-15 6-ply rating tires.

VEHICLE WEIGHT CONDITIONS

SHIPPING WEIGHT: This weight is established by the Traffic Department. It 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 or water.

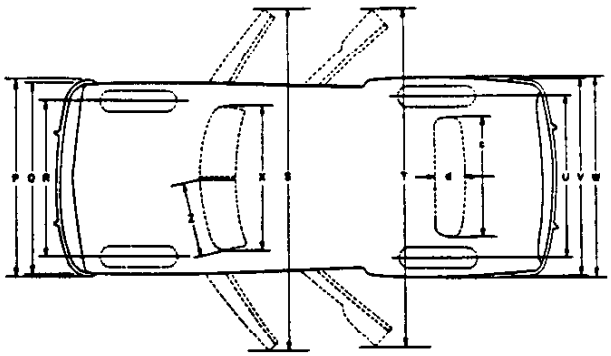
CURB WEIGHT: This is the weight of the empty vehicle ready to drive. It is the shipping weight plus the weights of gasoline (99 pounds) and water (31 pounds).

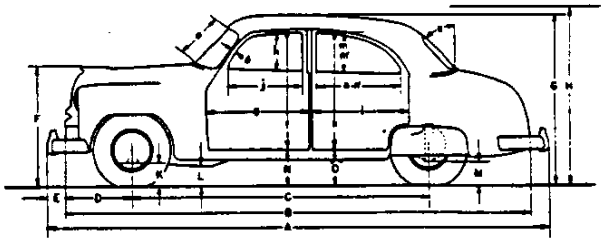
PERFORMANCE WEIGHT: This is the curb weight of the lowest priced 4-door sedan in each line with regular equipment plus 450 pounds for passengers. Representative vehicles are:

Fleetline De Luxe 4-Door Sedan ----- 3715 pounds
Fleetline Special 4-Door Sedan ----- 3675 pounds
Styleline De Luxe 4-Door Sedan ----- 3705 pounds
Styleline Special 4-Door Sedan ----- 3670 pounds

4-29-49. Revised: 8-1-49; 1-16-50, • - Weights Changed

EXTERIOR DIMENSIONS





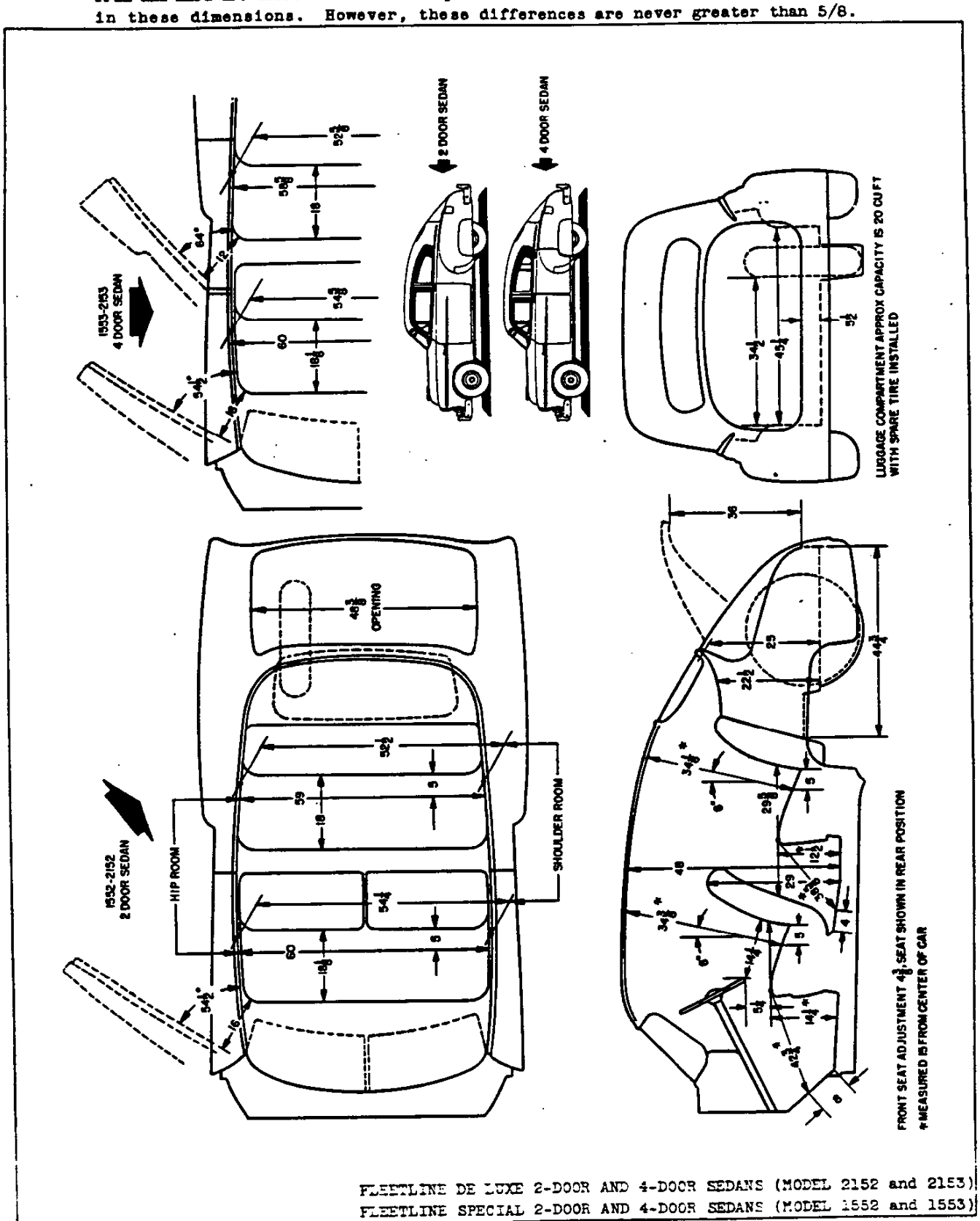
DESCRIPTION		KEY	PLEETLINE		STYLELINE						
			1552 2152	1553 2153	1502 2102	1503 2103	1504-24 2124	2134	2109	2119	1508
Vehicle length	Overall	A	196-15/16						197-15/16		196-15/16
	Grille to body rear ℄	B	182-9/16						184-7/8		182-9/16
	Wheelbase	C	115								
	Grille to frt whl ℄	D	27-9/16								
	Grille to bumper front	E	6-1/2								
Vehicle height	Over ornament, loaded	F*	45-3/4								
	Over roof, loaded	G*	62-3/4		63-5/8			61-15/16	66-13/16		64-3/4
	Over roof, no load	HΘ	64-7/8		65-3/4			64-1/16	70-1/8		67-5/8
Road clearance	Under frt spring seat	KΩ	7-13/16								
	Under exhaust pipe	LΩ	7-1/2								
	Under rr axle center	MΩ	8-1/16								
Door step height	Front door, no load	NΘ	16								
	Rear door, no load	OΘ		16-1/8		16-1/8			16-1/8		
Vehicle width	Over front bumper	P	71-5/8								
	Over front fenders	Q	70-1/2								
	Front wheel tread	R	57								
	Over front doors, open	S	148-1/2	131-3/4	147-1/4	134	145-1/2		139-1/2	141-1/2	134
	Over rear doors, open	T		133-1/4		132			132-1/2	133-1/2	
	Rear wheel tread	U	58-3/4								
	Over rear bumpers	V	73-3/16								
	Over body, maximum	W	73-15/16								
Windshield	Width between pillars	X	50-1/4								
	Width, each half	Z§	27								
	Height on 45° slope	a§	15-3/4		16-3/4			15	18-5/8		16-3/4
	Corner post on diagonal	b	2-15/16						3		2-15/16
Rear window	Width	c§	38-7/16		43-15/16		43-1/4	23-1/2	44-3/4	44-1/2	30-5/8
	Height on slope	d§	17		15		12-13/16	5-9/16	12	12-1/2	10-1/2
	Slope angle	e	62-1/2°		45°			47°	21-1/2°		27°
Front door	Opening height	f	41-1/4		42-1/4			41-3/4	44-3/8	43-1/2	42-1/4
	Opening width	g	43	36-1/8	43	36-1/8	43		36-1/8		36-1/8
	Window DLO height	h§	12-1/2		13-3/4			12-3/4	14	14-1/8	13-3/4
	Window DLO width	j§	35-3/4 •	27-1/8	36	29	36	35-3/4	27	27-7/8	29
Rear side door	Opening height	k		40-1/4		40-1/4			44-5/8	44	For rear door see page 17
	Opening width	l		32-11/16		32-7/8			32-11/16		
	Window DLO height	m§		12-1/8		13-5/8			14-3/8		
	Window DLO width	n§		33-1/2		29-1/8			30-3/16	31	
Rear quarter	Window DLO height	m'§	12		13-3/8		12		14-3/16		
	Window DLO width	n'§	28-1/8		28		16-1/2	17-3/4	31-1/4	32	

* - Under design load conditions: curb weight of model 2103, plus five passengers (150 lb ea.). The design height of frame from ground, thus established, is used for all other models. Θ - At curb weight height. Ω - Road clearance based on static conditions of tires and springs under design load (see *). § - DLO, measured on surface of glass.

4-29-49. Revised: 9-1-49; 1-16-50, • - Dimension corrected

BODY INTERIOR DIMENSIONS

Trim and hardware differences between Special and De Luxe models are not considered in these dimensions. However, these differences are never greater than 5/8.

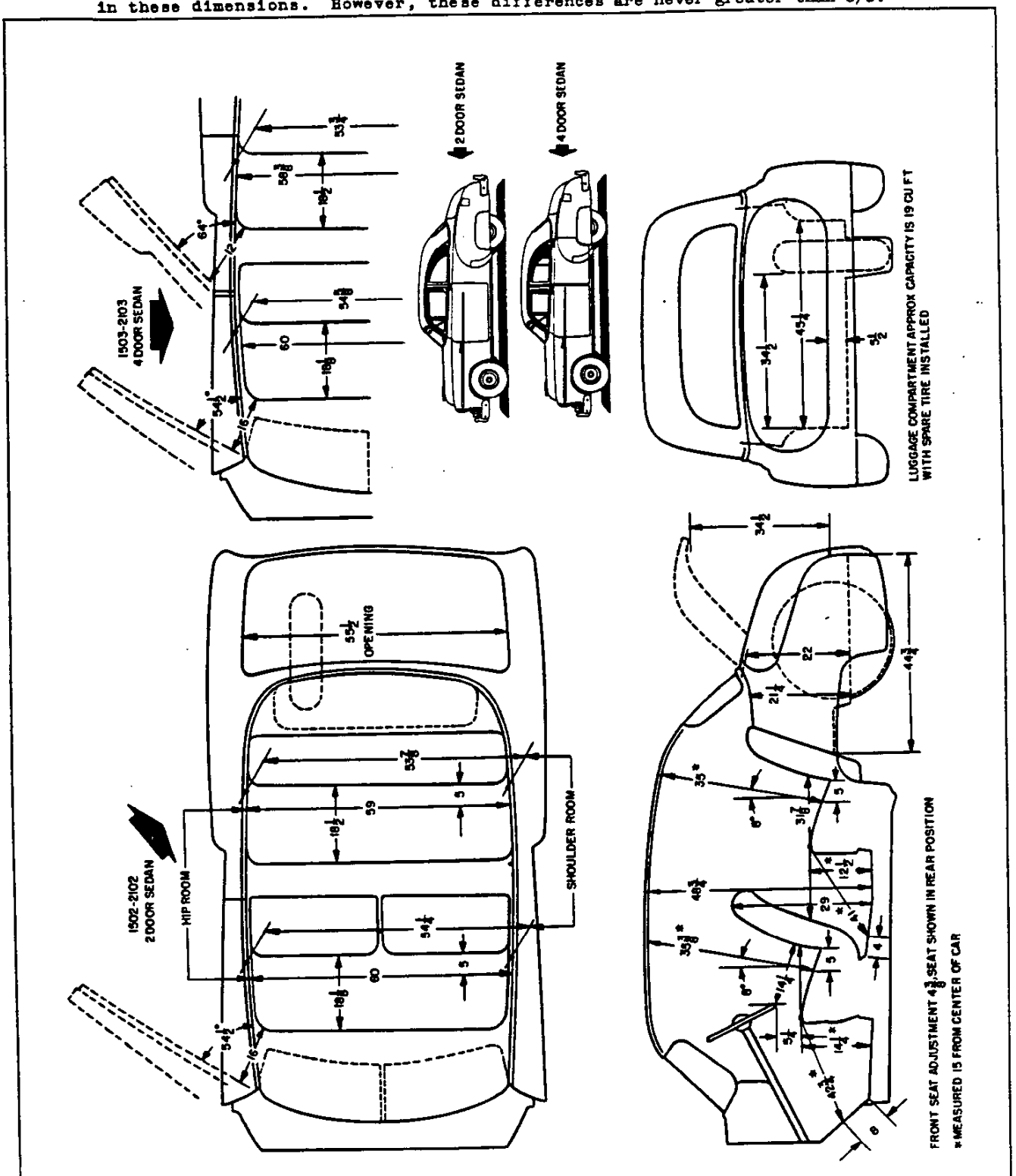


FLEETLINE DE LUXE 2-DOOR AND 4-DOOR SEDANS (MODEL 2152 and 2153)
FLEETLINE SPECIAL 2-DOOR AND 4-DOOR SEDANS (MODEL 1552 and 1553)

CONTINUED

BODY INTERIOR DIMENSIONS—Continued

Trim and hardware differences between Special and De Luxe models are not considered in these dimensions. However, these differences are never greater than 5/8.

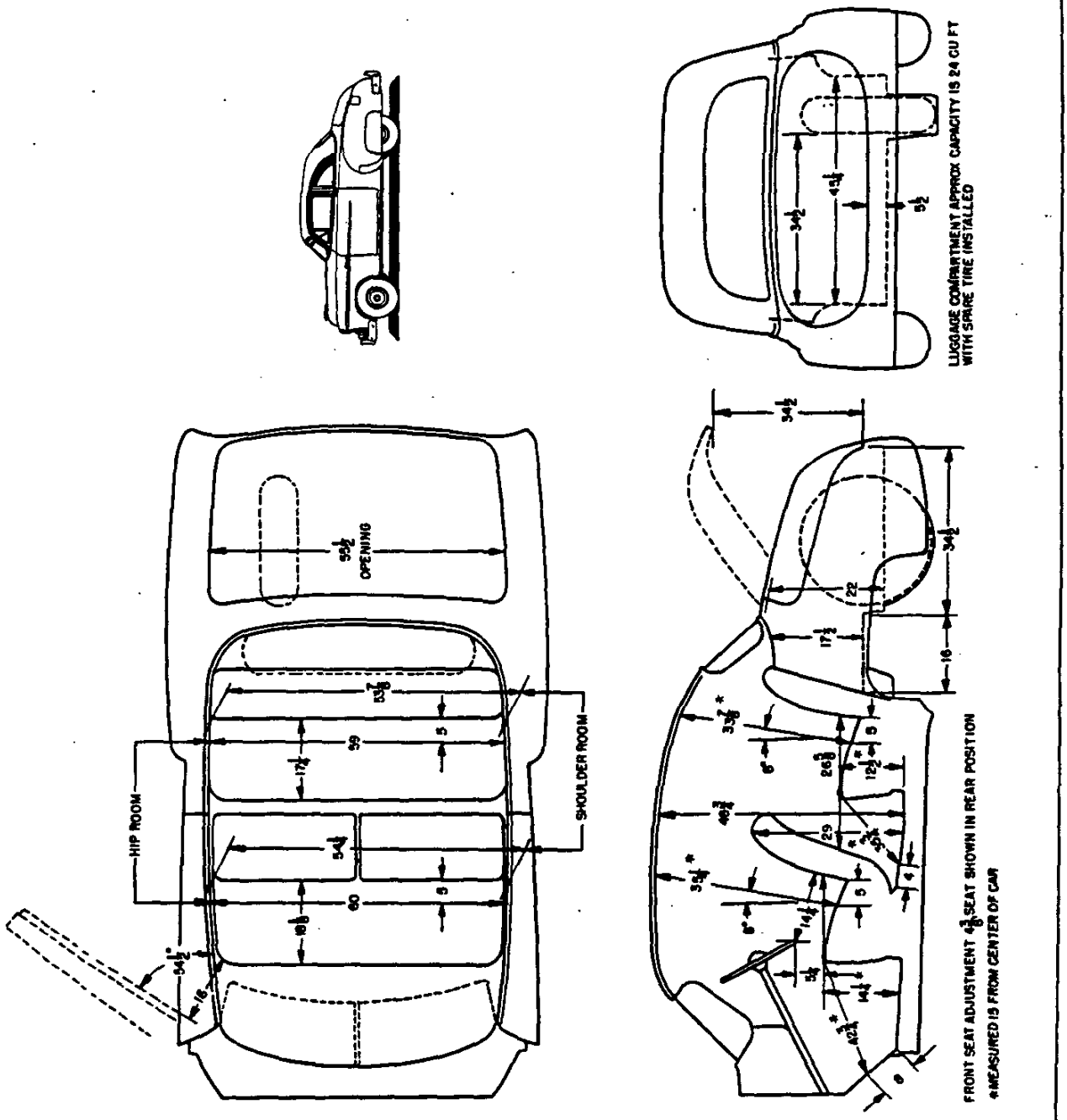


STYLELINE DE LUXE 2-DOOR AND 4-DOOR SEDANS (MODEL 2102 and 2103)
STYLELINE SPECIAL 2-DOOR AND 4-DOOR SEDANS (MODEL 1502 and 1503)

CONTINUED

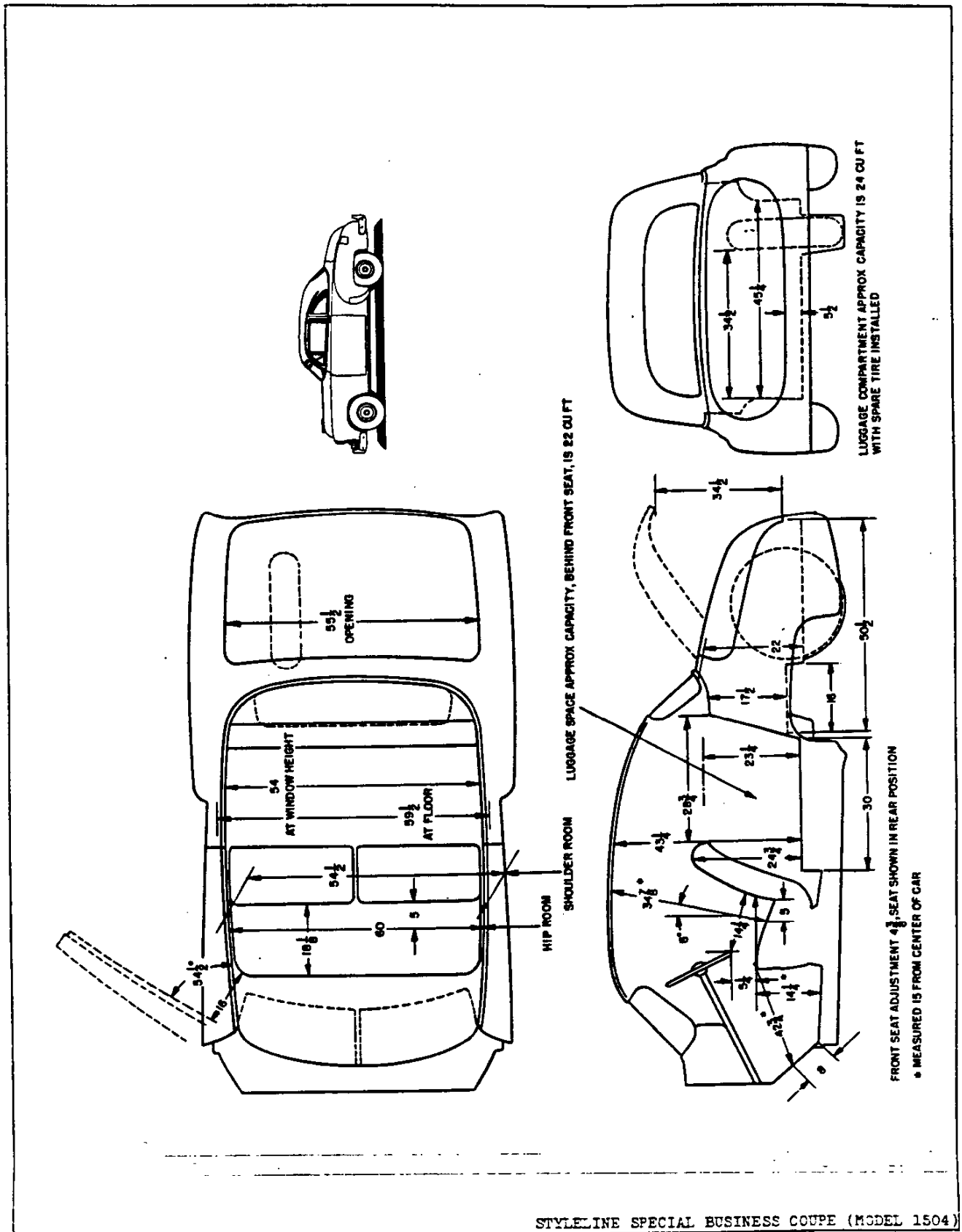
BODY INTERIOR DIMENSIONS—Continued

Trim and hardware differences between Special and De Luxe models are not considered in these dimensions. However, these differences are never greater than 5/8.



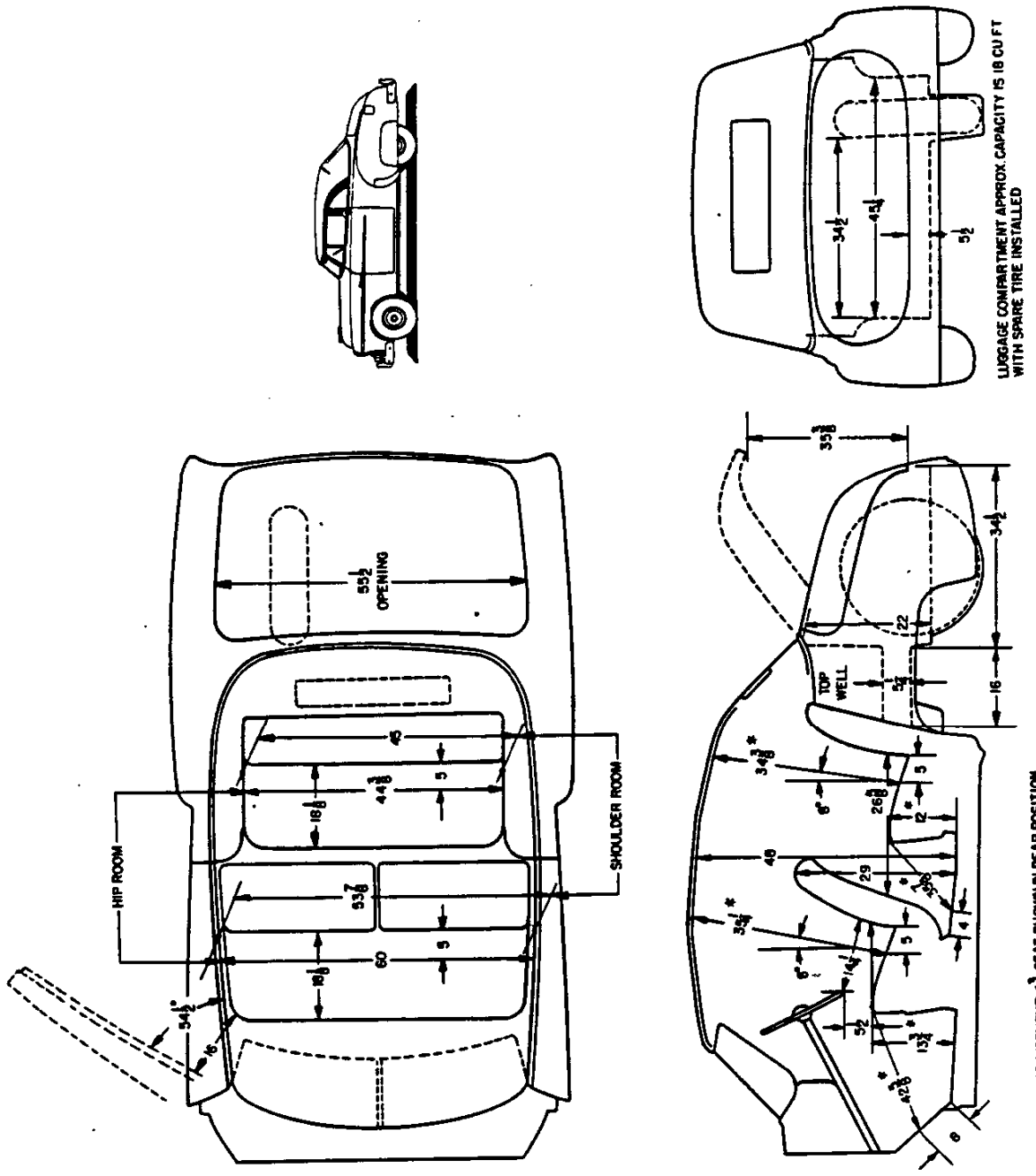
STYLELINE DE LUXE SPORT COUPE (MODEL 2124)
STYLELINE SPECIAL SPORT COUPE (MODEL 1524)

CONTINUED



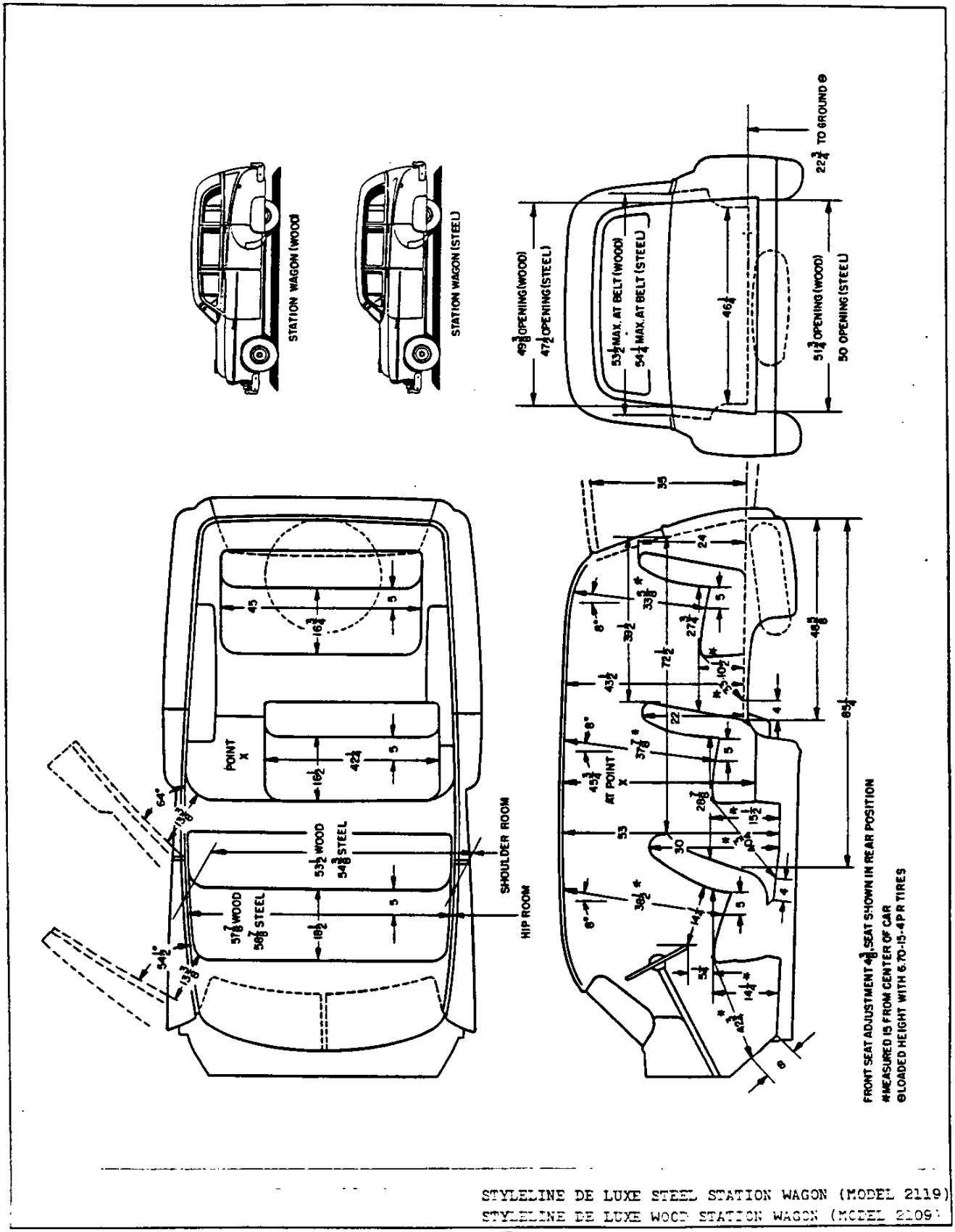
STYLELINE SPECIAL BUSINESS COUPE (MODEL 1504)

CONTINUED



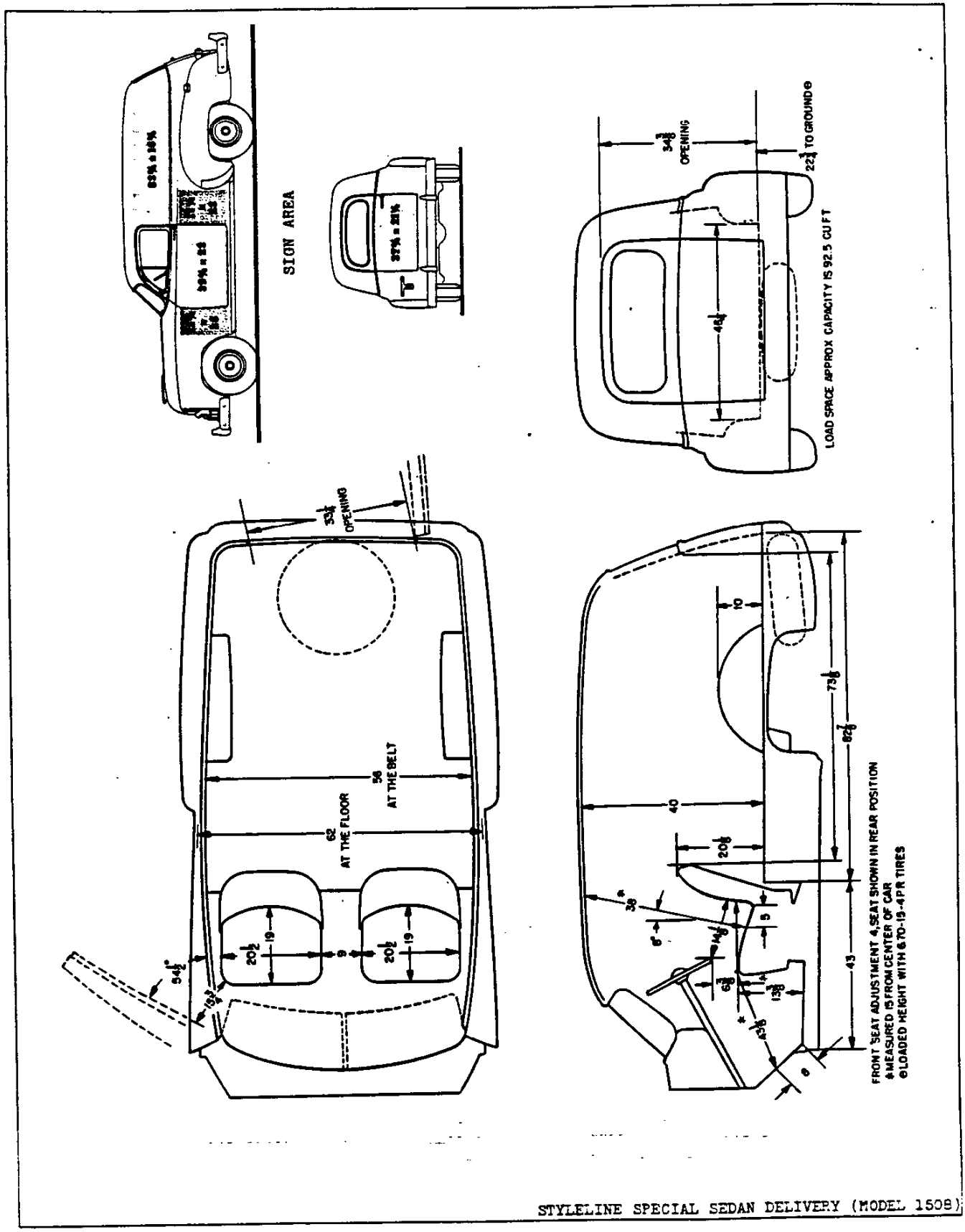
STYLELINE DE LUXE CONVERTIBLE COUPE (MODEL 2134)

CONTINUED



STYLELINE DE LUXE STEEL STATION WAGON (MODEL 2119)
STYLELINE DE LUXE WOOD STATION WAGON (MODEL 2109)

CONTINUED



STYLELINE SPECIAL SEDAN DELIVERY (MODEL 1508)

REGULAR EQUIPMENT

ITEM				MODELS
Exterior	Front and rear bumpers, dual bumper guards			All
	Front license guard			
	Hood ornament and emblem			
	Chrome plated headlight rims and doors			
	Dual windshield wipers			
	Dual horns			
	Outside key locks, both front doors			
	Front fender nameplates (De Luxe)			2100
	Gravel deflectors, front and rear			All
	Rear fender shields	Black rubber		1500
		Stainless steel		2100
	Rear wheel cover panels			
	Rear deck or tail gate emblem			All except 1508
	Dual tail and stop lamps			All except single on 1508, 2109-19
	Dual license lights			All except one in tail light on 1508, 2109-19
	Stainless steel moldings	Belt		All except none on 2109, and only short section on fr doors of 2119
		Sill		All
		Front fender and door		2100
		Rear fender crown		All
		Windshield divider		
		Reveals	Windshield	1508, 2100
			Side window	2100 except 2109-19-34
			Rear window	1508, 2100 except 2109-19-34
	Outside rear view mirror, left hand			1508, 2134
	Ventipane drip shields			All except 2134
	Bonderized body and sheet metal			All
Interior (Also see page 20, INTERIOR UPHOLSTERY & COLOR COMBINATIONS)	Instrument panel	Stainless steel trim molding		All
		Nameplate (Chevrolet)		
		Glove box lock and light		2100, lock only on 1500
		Clock, stem wind		2100, removable panel covers space on 1500
		Cigarette lighter		
		Ash tray		
		Stainless steel inserts in control knobs (light, choke, throttle, and wiper)		2100, plain plastic on 1500
		Plastic speedometer ring		2100, glass on 1500
		Radio grille, chrome plated		All
		3-position ignition switch		
		Accessory panels painted to match instrument panel		All except chrome plated on 2134
	Steering wheel	3-spoke with horn button		1500
		2-spoke with horn ring		2100
	Dual sunshades			2100, left hand only on 1500
	Inside rear view mirror			All except 1508, 2134
	Dome light			All
	Automatic dome light switches, both front doors			2100
	Two coat hooks			All except 1508, 2109-19-34
	Assist straps			2102-24-52
	Robe cord			1503-53, 2102-03-52-53
	Arm rests, both fr doors & rr doors or quarter panels			2100 except fr doors only on 2109-19
	Foam rubber seat cushion pads			2100 except front only on 2109-19
	Extra roof insulation			2100 except 2109-19-34
	Rear seat back molding			
	Rear seat ash tray	In front seat back		2103-53
		In quarter panel arm rests		2102-24-34-52

CONTINUED

REGULAR EQUIPMENT—CONTINUED

ITEM			MODELS
Interior, continued	Package shelf ahead of rear window		All except 1508, 2109-19-34
	Dual ventilators in dash		All
	Adjustable front seat		
	Movable ventipanes	Front doors	
		Rear doors	2103-53
	Movable quarter windows		1502-52, 2102-09-19-24-34
	Stainless steel inserts in window regulator knobs		2100 except 2109-19
	Etched aluminum step plates		2100, painted on 1500
	"Body by Fisher" on front door step plates		2100, emblem on fr seat on 1500
	Luggage compartment lighted by windows in each tail light		All except 1508, 2109-19

BODY GLASS

ITEM		1503-53	2103-53	1502-52 2102-24-52	1504-24	1508	2134	2109-19
Windshield		Laminated safety plate, curved, 2 panes						
Front door	Ventipanes	Laminated safety plate						
	Windows							
Rear door	Ventipanes	Safety solid plate						
	Windows							
Quarter windows				Laminated safety plate	Safety solid plate		Laminated safety plate	
Rear window		Safety solid plate, curved						Safety solid plate

EXTERIOR COLOR COMBINATIONS

ITEM		All except 2109-19				2134	2100 except 2109-19-34
Lower body panels, fenders, hood, and gravel deflectors		Mayland Black	Oxford Maroon Metallic	Satin Green	Grecian Gray	Texas Ivory	Ice Green Metallichrome
Upper body Panels							
Wheels		(Regular)	(RPO)	(RPO)	(RPO)	(RPO)	(RPO)
Wheel stripes		Argent Silver		French White	Mayland Black		Argent Silver
Convertible	Top fabric	Black	Tan		Black		
	Leather and leather fabric	Red		Green	Red or blue	Black	

ITEM	All except 2109-19-34			1502-03-04-08-24, 2102-03-24		2109-19	
Lower body panels, fenders, hood, and gravel deflectors	Liveoak Green Metallic	Monaco Blue Metallic	Vista Gray Metallic	Satin Green	Grecian Gray	Oxford Maroon Metallic*	Liveoak Green Metallic*
Upper body panels				Liveoak Green Metallic	Vista Gray Metallic		
Wheels	(RPO)	(RPO)	(RPO)	(RPO)	(RPO)	(Regular)	(RPO)
Wheel stripes	Argent Silver						

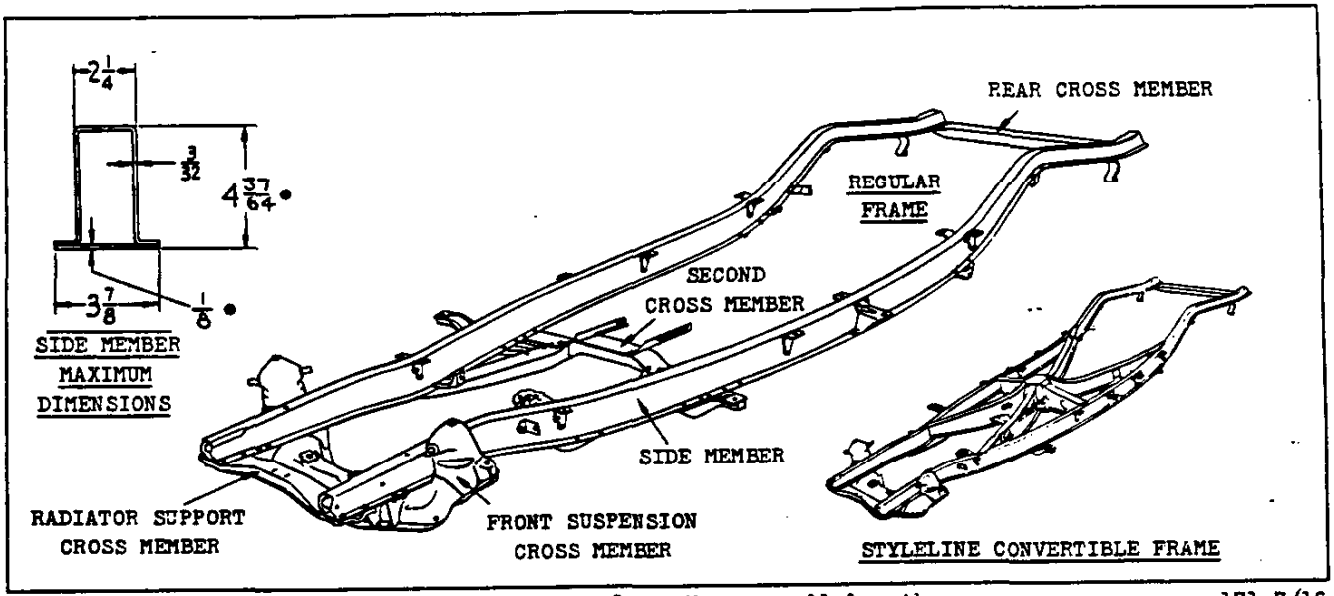
* - Station wagon wood finish: Model 2109, mahogany panels framed with natural wood. Model 2119, wood grain transfers, mahogany panels framed with light ash.

INTERIOR UPHOLSTERY AND COLOR COMBINATIONS

ITEM		1500 except 1504-08	1504	1508	2100 except 2109-19-34	2109-19	2134
Seat and back cushions		Tan striped pattern pile fabric with rubber-sized back		Brown leather fabric	Regular, tan striped pattern broadcloth RPO, tan stripe pattern free-breathing pile fabric	Tan leather fabric	Tan Bedford cord with genuine leather bolsters, see exterior colors
Front seat back					Regular, plain tan cloth RPO, same as on 1500		Leather fab
Doors	Lower	Plain tan pile fabric with chevron self-pattern				Mahogany panels	Tan Bedford cord
	Upper				Regular, plain brown cloth RPO, br pile fab		Leather fabric
	Molding				Stainless steel		Stainless stl
Quarter panels	Lower	Same as doors	Br leather grain fiber board	Fiber board painted light gray	Same as doors		Leather fabric
	Upper						
	Molding				Stainless steel		
Scuff pads	Doors	Br leather fab, st stl bead			Brown leather Fabric with st stl bead	Seat back matl, st stl bead	
	Quarter panels						
Headlining		Plain gray cloth		Light gray leather fabric	Plain gray cloth	Steel bows & leather fab, wood grain finish	Top fabric
Sunshades		Headlining with brown leather fabric grip			Headlining with brown leather fabric grip	Tan leather fabric	Black or tan leather fab to match top
Arm rests	Front				Upper, brown leather fabric Lower, tan paint, st stl bead	Tan leather fab top, tan paint below, st stl bead	Upper, leather fab, lower tan paint, st stl bead
	Rear						Leather fab
Floor coverings	Front	Black rubber			Brown rubber with simulated carpet (rubber) inserts		Brown rubber with carpet inserts to match leather
	Rear	Carpet to harmonize with upholstery		Plywood Painted brown	Carpet to harmonize with upholstery	Brown rubber ahead of center seat, brown linoleum below and behind center seat	Carpet to match leather
	Rear deck				Brown rubber		Brown rubber
Inst panel	Lower	Brown metallichrome paint			Tan metallichrome paint		Body color
	Upper						
Garnish moldings	W/S						
	Rear window						
	Side door & quarter windows	Instrument panel color with Florida Gray stripe, except no stripe on 1504-24 quarter windows			Upper instrument panel color with st steel bead	Natural wood	Body color with stainless steel bead

4-29-49

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
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
Second cross member ---------- Box girder, with box section braces to the side members
Rear cross member ---------- Box girder

Max overall length ---------- 171-7/16
Max 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 modulus: ---------- 1.725 in.cu. per side x

STYLELINE CONVERTIBLE FRAME

Construction:
Same as regular frame, but second cross member is replaced by a heavier structure of I-beam members in a crossed-X arrangement.

FRONT SUSPENSION

Make ---------- Own
Type ---------- Independent
SLA (short and long arm wishbone type), assembled and aligned as a complete suspension unit
Rated capacity ---------- 2000 lb

WHEEL TRAVEL

Vertical ---------- 3-5/8 up, 4 down from loaded height position
Wheel to spring ratio ---- 1.65:1 (wheel travels 3-5/8 at a rate of 125 pounds per inch, spring travels 2-3/16 at a rate of 340 pounds per inch)
Wheel travel for steering ---------- 38° from neutral to stop

SPRINGS

Make ---------- Own
Type ---------- Right hand helical coil
Material ---------- Chrome alloy steel
Gauge ---------- .594-.598 diameter
Number of coils (approximate) ---------- 11-1/4 (9.45 coils active)

Outside diameter ---------- 4-3/8
Pitch diameter ---------- 3.802 (theoretical)
Free height ---------- 14
Capacity at ground ---------- 1060 lb
Working height ---------- 9-5/8 at 1400 lb
Height under curb weight (Stylaline De Luxe Four-Door Sedan) ---------- 10
Deflection rate: At spring ---------- 340 lb per in.
At wheel ---------- 125 lb per in.

SPRING BUMPERS

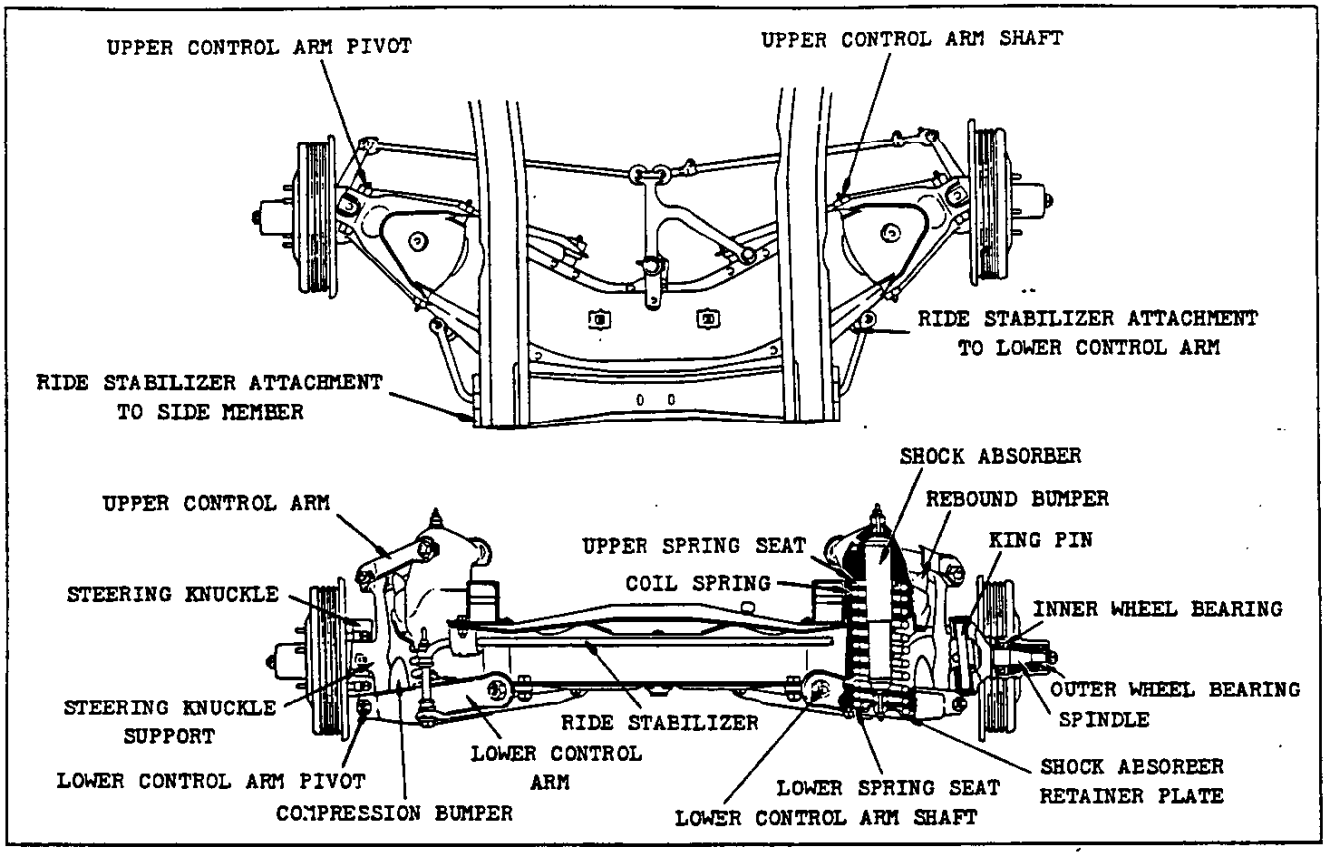
Type ---------- Rubber (2, compression and rebound)

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 ---------- 1075F
Valve code ---------- 308/D1
Piston dia and travel ---------- 1 x 5

CONTINUED

4-29-49. Revised: 5-16-49; 8-1-49; 1-16-50, • - Dimensions removed. x - Section modulus revised.



RIDE STABILIZER

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

FRONT WHEEL ALIGNMENT (Service Data)

Camber, caster - means of adjustment ---------- Upper pivot bolts
Camber ---------- 0°-1°
Caster ---------- 0°-1°
King pin inclination ---------- 3°30'-4°30'
Toe-in ---------- 0-1/8
Toe-out on turns:
  Outside wheel ---------- 20°
  Inside wheel ---------- 22°-26°

STEERING KNUCKLE

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

KING PIN

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

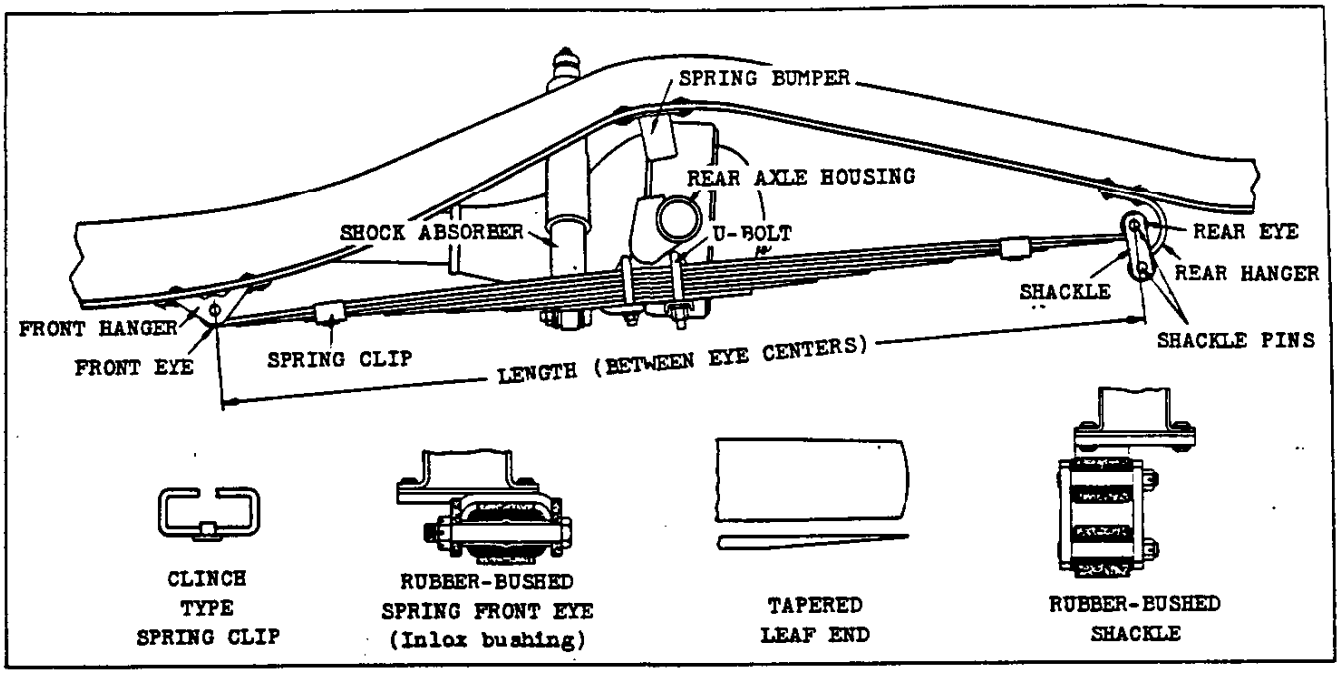
Wheel bearing lubricant ---------- High melting-point grease

Anti-friction bearings ---------- See page 101

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, special							
Thread major diameter	Front	.644-.662	.694 minimum	.774 minimum	.736-.740	.714-.732	.774 minimum	.889 minimum	x .852-.862
	Center					.724-.742			
	Rear	.644-.662				.736-.756			
Mounting		Clamp lock	● Self-locking threads						Bolted
Seal		Synthetic rubber, self-sealing							

4-29-49. Revised: 1-16-50, ● - Error corrected; x - Dimension changed; ◆ - Data added.

REAR SUSPENSION



SPRINGS

Make and type ---------- Own, semi-elliptic
Material ---------- Chrome carbon steel
Length x width ---------- 49 x 1-3/4
Spring clips ---------- 2, clinch type
Spring covers ---------- Metal with fabric liner

Item		All models except 1504-08, 2109-19	1504	1508 (RPO 254 on all others except 2109-2119)	2109 2119	RPO 254 on 1508 2109-2119
Number of leaves		7		8		
Thickness of leaves	#1-2-3-4	.237				
	#5-6-7	.214				.262
	#8					
Total thickness		1.590		1.804	1.896	1.996
Avg design load at camber height		825 lb	750 lb	920 lb	1250 lb	1365 lb
Camber height at design load		5/8 negative	1 neg	5/8 negative		1-1/4 neg
Avg rate of deflection (lb/in)		108		115	145	165
Leaf end type		Tapered			Flat	
Capacity at ground (lb)		1075	945	1180	1455	1600

SPRING MOUNTING

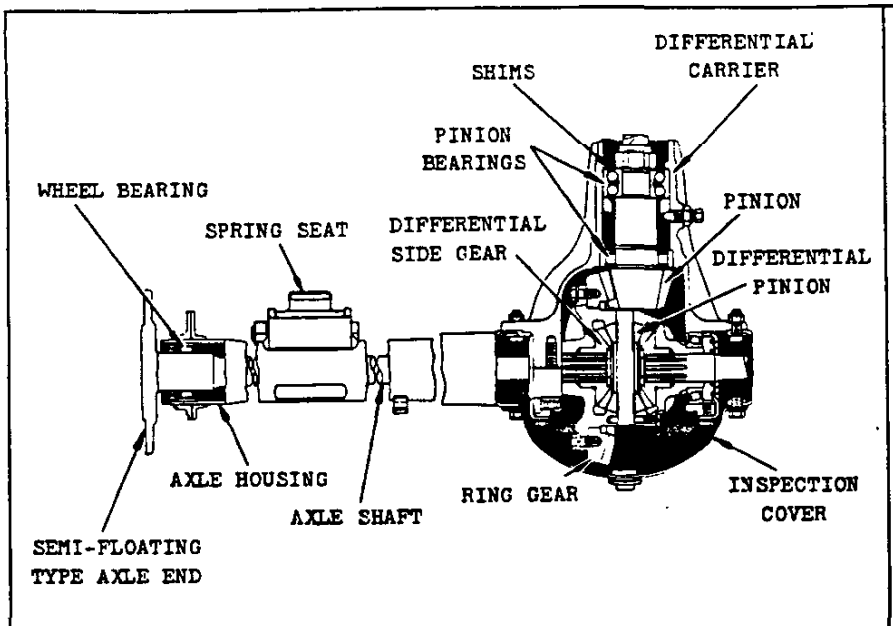
Type ---------- Parallel, 45-1/4 between centers
Front eye bolt diameter ---------- .500-.504
Front eye bolt bushing, type and size ---------- Rubber-bushed, .505 min I D x 2.400-2.410 long
Shackle mounting ---------- In tension from rear hanger
Shackle type ---------- Rubber-bushed
Shackle pin O D ----------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

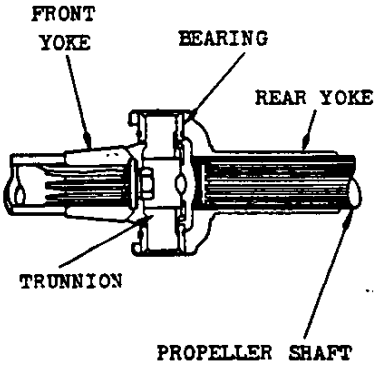
SHOCK ABSORBERS

Make and type ---------- Delco, hydraulic, direct double-acting
Model number ---------- 1085-V
Valve code ---------- 4E8/E1
Piston diameter and travel ---------- 1 x 6-1/2

4-29-49. Revised: 5-16-49; 8-1-49; 1-16-50, • - Assembled length corrected.

REAR AXLE AND DRIVE



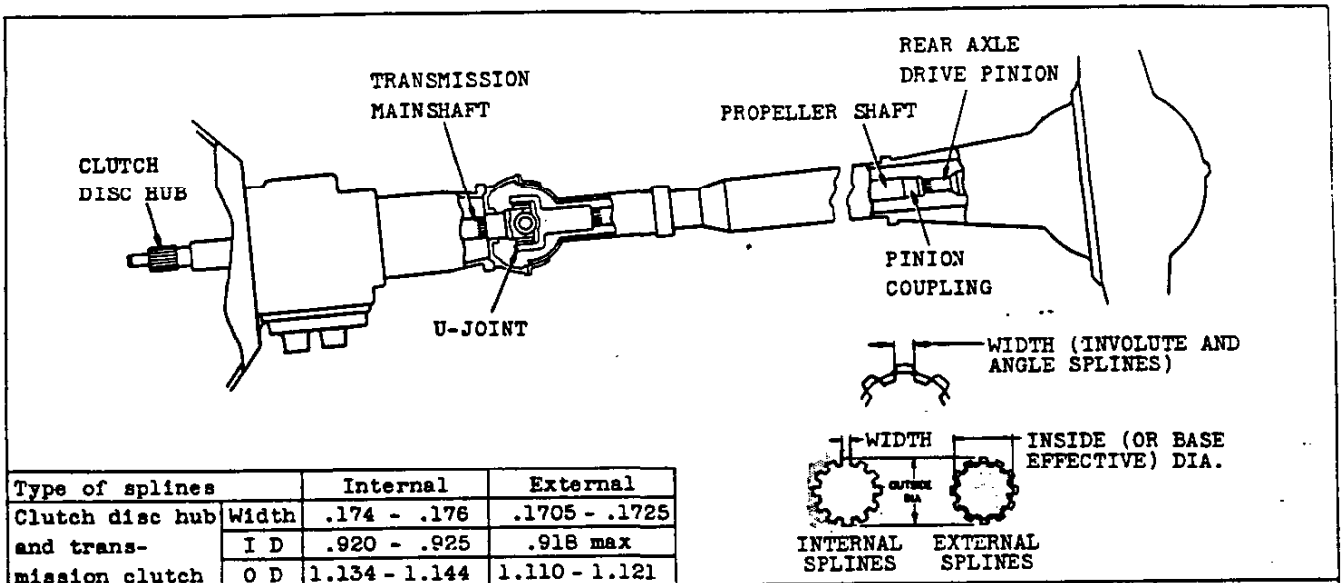


UNIVERSAL JOINT

ITEM			1500-2100	
Make and type			Own, semi-floating with torque tube drive through fully enclosed universal joint and propeller shaft	
Rating (pounds)			3000	
Housing type			Pressed steel banjo, 2-piece welded with pressed steel inspection cover	
Final drive gears	Regular or RPO		Regular	RPO
	Type		Spiral hypoid	
	Ratio		4.11:1	3.73:1
	Teeth		37 & 9	41 & 11
Gear backlash			.005-.008	
Pinion	Mounting		Overhung	
	Adjustment		Shims (average .033) in differential carrier forward of front bearing	
	Thrust		Against pinion front bearing	
Total gear reduction (axle ratio x transmission ratio)		1st	12.08	10.97
		2nd	6.90	6.27
		3rd	4.11	3.73
		rev	12.08	10.97
Axle shaft torque(ft lb= total gear red x engine max torque x factor .90 in 3rd, others .85)		1st	1726	1567
		2nd	985	895
		3rd	621	564
		rev	1726	1567
Axle shaft	Material & type		Forged steel with wheel drive flange forged integral with shaft	
	Min diameter		63/64	
Differential type			2-pinion, with malleable iron case and carrier	
Drive medium			Chassis rear springs	
Lubricant capacity			3-1/2 pints	
Lubricant recommended			SAE 90 Passenger Car Hypoid Lubricant or "Multi-Purpose" Lubricant	
Lock sleeve lock screw torque			26-30 ft lb	
Pinion fr brg ret nut torque			200-240 ft lb	
Diff bearing cap bolt torque			65-80 ft lb	
Universal joint	Make and type		Own, yoke and spider (trunnion)	
	Trunnion, mat. & size		Drop forged steel, hardened. Pin dia .6835-.6845	
	Bushing I D x length		.687-.688 x 17/32	
	Lubrication		From transmission	
Prop shaft: make, type, size			Own, tubular, 1.995-2.005 O D x .065-.067 wall thickness	
Anti-friction bearings			See page 101	

4-29-49. Revised: 1-16-50, ● - Drive method clarified.

DRIVE SYSTEM SPLINES



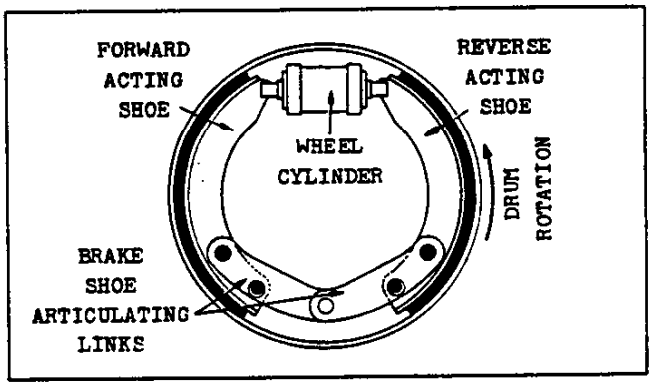
Type of splines		Internal	External
Clutch disc hub and transmission clutch gear shaft	Width	.174 - .176	.1705 - .1725
	I D	.920 - .925	.918 max
	O D	1.134 - 1.144	1.110 - 1.121
	No.	10 (straight side)	
Transmission mainshaft and universal joint front yoke	Width	.1473 - .1483	.1458 - .1473
	I D	.890 - .891	.853 - .863
	O D	1.003 - 1.017	.973 - .980
	No.	10 (involute)	
Propeller shaft front end and universal joint rear yoke	Width	.0951 - .0961	.0921 - .0941
	I D	.993 - .997	●.953 - .961
	O D	1.0835-1.0935	1.0642-1.0657
	No.	17 (involute)	

Type of splines		Internal	External
Prop. shaft rear end coupling and rear axle drive pinion shaft	Width	.0951 - .0961	● .0951-.0971
	I D	.985 - .989	● .962 - .972
	O D	1.0835-1.0935	1.068 - 1.074
	No.	17 (involute)	
Differential side gear and axle shaft	Width	.180 - .183	.178 - .180
	I D	1.037 - 1.042	1.004 - 1.014
	O D	1.186 - 1.193	1.1525-1.1575
	No.	10 (straight side)	

BRAKES

SERVICE BRAKES

Make ---------- Own
Type ---------- Hydraulic, four-wheel internal expanding, double-articulated shoe
Brake drum: Type --------- Composite (cast alloy iron rim and cooling ribs; pressed steel web)
Diameter ---------- 11 (both front and rear)
Braking pressure:
Front ---------- 57.7%
Rear ---------- 42.3%
Brake lining:
Material --- Full-molded asbestos composition
Width ---------- 1-3/4
Thickness ---------- .187-.194
Length per wheel (inside arc) -------- 20-5/8
Method of attachment to shoe --------- Bonded
Clearance ----------
--- Adjust to slight drag, back off 4 notches
Total effective lining area ------- 150 sq in
Main cylinder: Diameter ---------- 1
Piston travel ---------- 1-11/32 max
Wheel cylinder: Diameter-front ---------- 1-5/16
Diameter-rear ---------- 1-1/8
Piston travel ---------- .112
Braking ratio: Pedal ---------- 4.85:1, approx
Hydraulic ---------- 11.95:1, approx
Average overall ---------- 57.98:1, approx

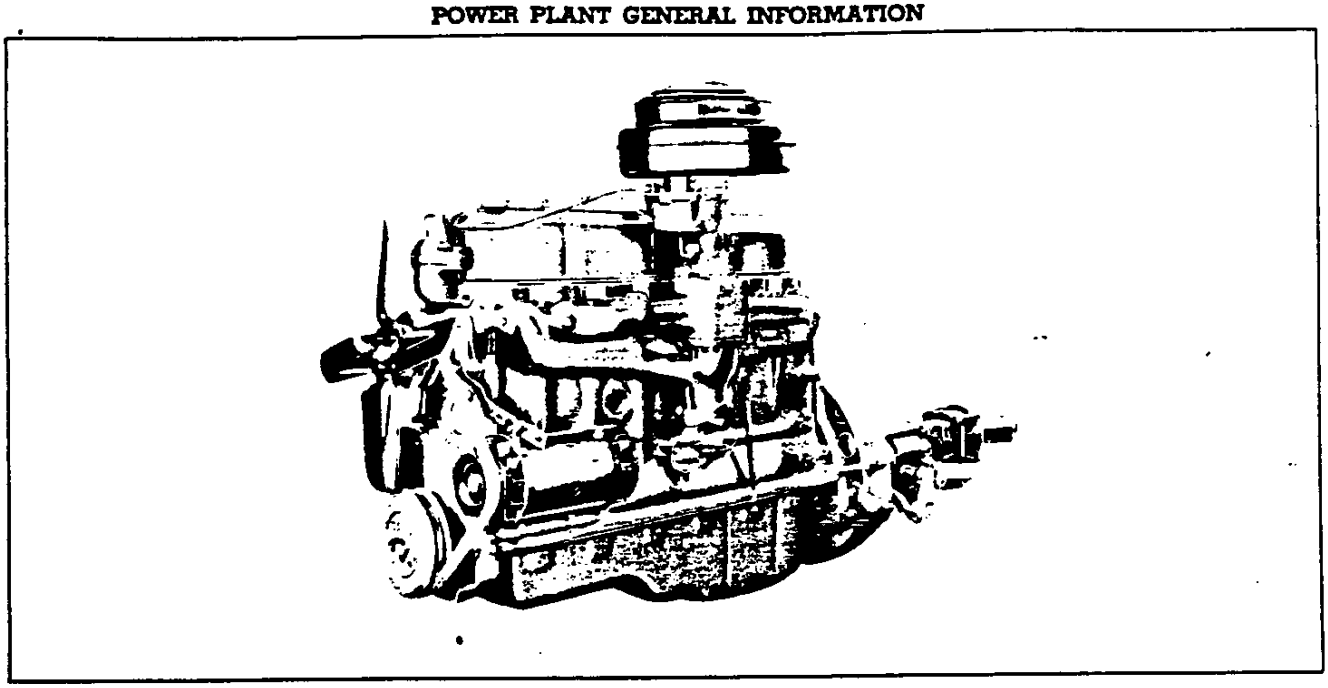


Foot pedal: Travel ---------- 6-17/32
Mounting -------- With main cylinder to frame
Pad cover material ---------- Rubber
Brake system fluid capacity ---- .68 pint approx
Brake fluid recommended --------- Delco Super #9
Vacuum booster ---------- None

PARKING BRAKE

Make and type ------ Own, mechanical. Pull rods and cables operate the two rear service brakes
Total effective lining area ---------- 75 sq in
Control -- L-handle on ratchet-rod (pull to apply, turn 90° clockwise to release), mounted below instrument panel at right of steering column

4-29-49. Revised: 1-16-50, ● - Tolerances changed.



"THRIFT MASTER " ENGINE BASIC DESIGN DATA

Type ---------- 6 cylinder, valve-in-head
Bore x stroke (nominal) ---------- 3-1/2 x 3-3/4
Piston displacement ---------- 216.5 cu in
Compression ratio ---------- 6.6:1 (no option)
Taxable (SAE) horsepower ---------- 29.4
Engine idling speed ---------- 450-500 RPM
Compression pressure at cranking speed ---------- 110 pounds at 210 to 220 RPM with engine hot

ADVERTISED MAXIMUM ENGINE PERFORMANCE

Gross brake horsepower ---------- 90 at 3300 RPM
Net brake horsepower ---------- 83 at 3200 RPM
Gross torque ----- 174 ft lb at 1200 to 2000 RPM
Net torque ---------- 168 ft lb at 1100 RPM

ADVERTISED CAR PERFORMANCE

These data are intended primarily for use in trade journal specification tables which require such information for the standard, lowest-priced, 4-door sedan in each line. The figures shown are based on the curb weight of the vehicle with regular equipment including a spare tire plus 450 pounds for three passengers:

	STYLE-LINE	FLEET-LINE	
Performance weight (pounds) ------	3670	3675	•
Car weight/adv gross h p ---------	40.78	40.83	•
Car weight/cu in piston displ ----	16.95	16.97	•
Adv horsepower/cu in displ -------	.42	.42	
Power displ (cu ft/car mile)* ----	192.6	192.6	
Displ factor (cu ft/ton mile)θ ---	105.0	104.9	•

* - $\frac{\text{Crankshaft rev/mi x piston displ} \div 2}{1725}$

θ - Power displ ÷ performance weight in tons.

ENGINE SPEED AND PISTON TRAVEL

With regular (4.11:1) or RPO 201 (3.73:1) rear axle, in combination with regular (6.70-15) tires

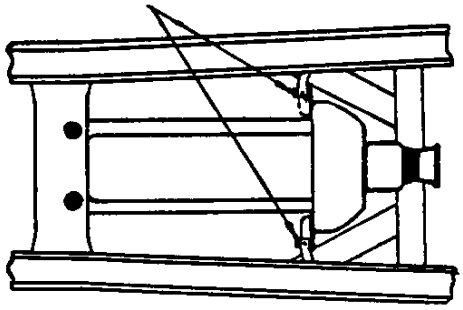
ITEM		4.11:1 Axle	3.73:1 Axle
Crankshaft rev per mile		3074	2790
Crankshaft rev at one mile per hour	1st	151	137
	2nd	86	78
	3rd	51	47
Piston travel (feet per mile)		1921	1744

WEIGHTS (dry)

Engine and clutch (complete) ---------- 576 lb
Engine, clutch, and transmission -------- 631 lb

POWER PLANT MOUNTING

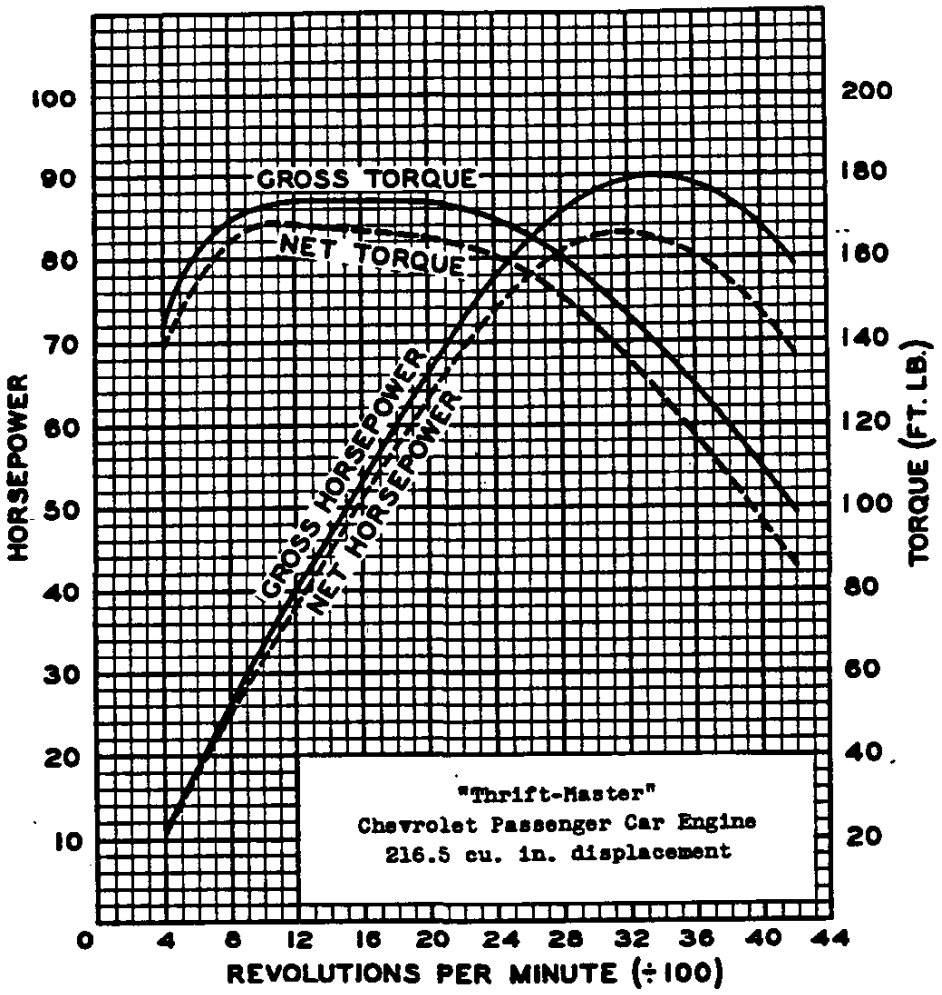
TORQUE REACTION DAMPENERS



TYPE: 3-POINT RUBBER (CUSHION-BALANCE)

4-29-49. Revised: 8-1-49, • - Data corrected to new performance weights.

ENGINE PERFORMANCE



The engine performance curves shown on this sheet are true copies from Chevrolet engine test report 9616-44. They represent the full throttle performance of a "Thrift-Master" Chevrolet passenger car engine (216.5 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.

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.

NET POWER and TORQUE were obtained from a dynamometer test simulating actual operating conditions when the engine is in its venicle. It includes the use of the regular muffler and pipes, the fan in operation, the generator charging and automatic spark advance.

March 31, 1949

The data on this sheet are true as represented.
CHEVROLET - CENTRAL OFFICE - ENGINEERING DEPT.
DIVISION OF GENERAL MOTORS CORPORATION

C. W. Frederick
Truck Engineer

State of Michigan
County of Wayne

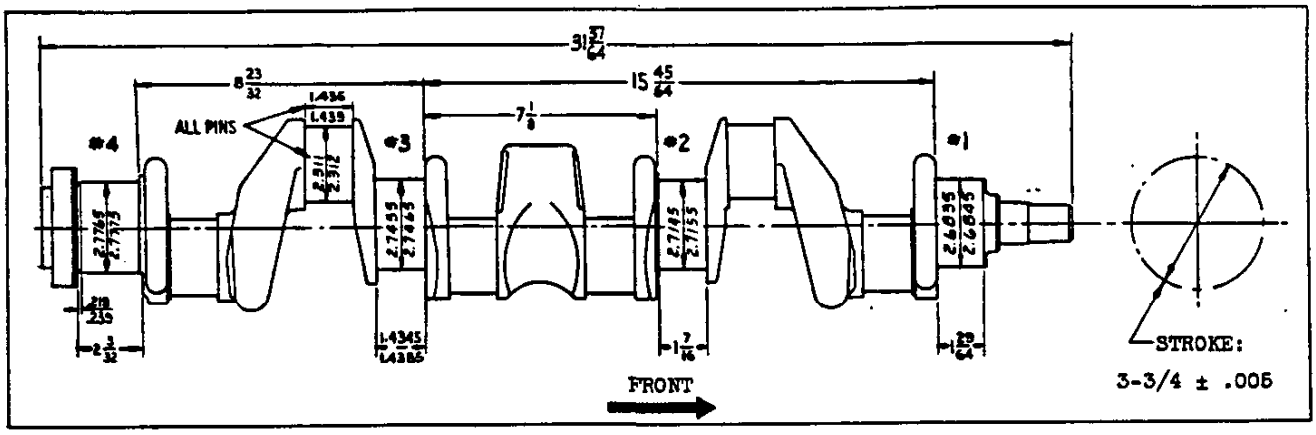
On this 31st day of March 1949 personally appeared before me, C. W. Frederick, known to me to be such, who makes oath that the data on this sheet are true as represented.

Byron N. Holmes
Notary Public, Wayne County
My commission expires July 27th, 1951

CYLINDER CASE AND HEAD

Material ---------- Cast alloy iron
Offset ---------- None
Bore diameter ---------- 3.4995-3.5015
Cyl. head bolt torque (service) ----- 70-80 ft.lb.

CRANKSHAFT AND BEARINGS



CRANKSHAFT

Material ---------- Drop-forged steel
Weight ---------- 70 lb.
End play ---------- .003-.009
Counterweights ---------- 7

HARMONIC BALANCER (Vibration Dampener)

Type ---------- Oscillating (Rubber-floated)
Fan drive pulley diameter ---------- 6-1/32

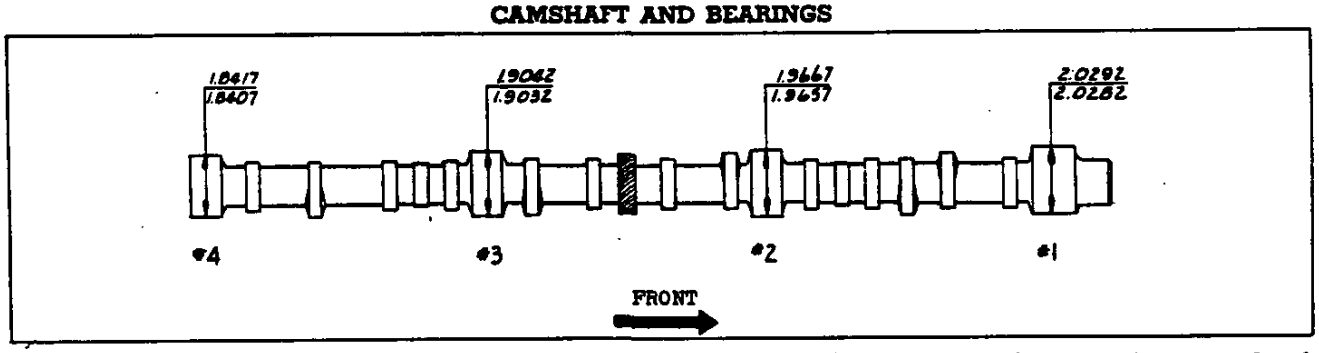
MAIN BEARINGS

Material ------ .003-.007 babbitt on steel shell
Type ---------- Precision interchangeable
Removable ---------- From below
Necessary to align ream? ---------- No
Clearance ----- .0007-.0024 fit with solid shims
End thrust against ---------- #3 bearing
Bearing cap bolt torque ---------- 100-110 ft.lb. with oiled threads

Brg.	Inside dia.	Length	Proj. Area*
#1	2.6850-2.6866	1-3/16	2.758 sq.in.
#2	2.7160-2.7176	1-1/8	2.595 sq.in.
#3	2.7470-2.7486	1.4295-1.4315	2.793 sq.in.
#4	2.7780-2.7796	1-5/8	4.071 sq.in.

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

CAMSHAFT AND BEARINGS



CAMSHAFT

Material ---------- Drop-forged steel
Minimum diameter ---------- 1-3/32
End play ---------- Free to .003 maximum
Ramp-inlet ---------- .0111
-exhaust ---------- .014

DRIVE

Make ---------- Own
Type ---------- Helical gear
Driven gear (on camshaft) material ----------
---- Bakelite and fabric composition with steel hub
Drive gear (on crankshaft) material ------ Steel

BEARINGS

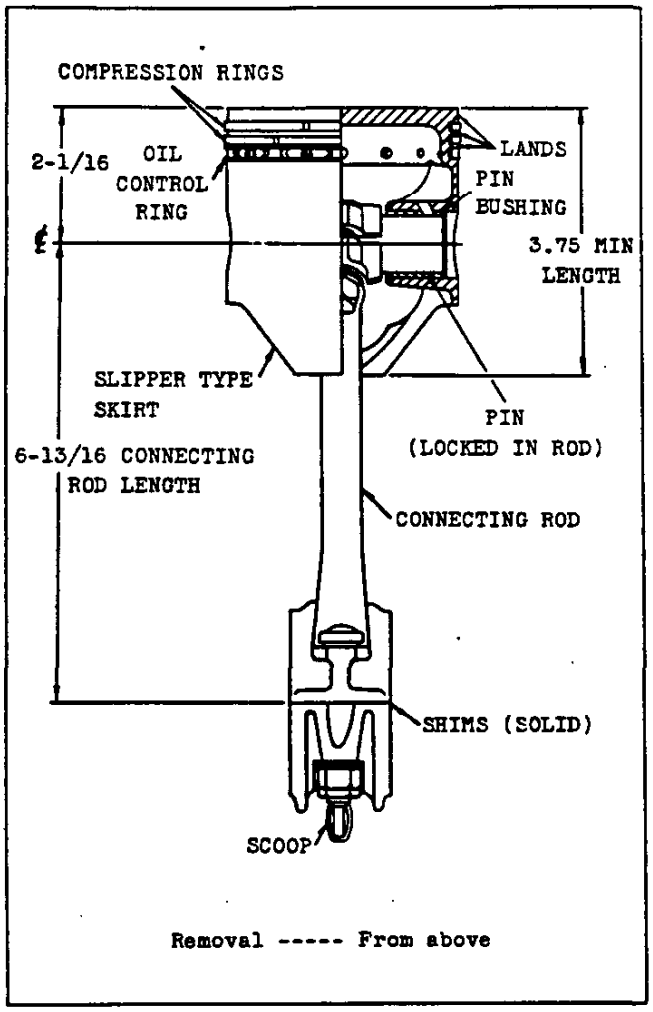
Material ---------- Steel-backed babbitt
Clearance on diameter ---------- .0015-.0035
Thrust taken at ---------- #1 bearing

Brg.	Inside Dia.	Length	Proj. Area θ
#1	2.0307-2.0317	1-1/8	2.285 sq.in.
#2	1.9682-1.9692	15/16	1.846 sq.in.
#3	1.9057-1.9067	15/16	1.787 sq.in.
#4	1.8432-1.8442	15/16	1.726 sq.in.

θ - Based on overall length shown above.

4-29-49

PISTON-PIN-RINGS



Skirt clearance in cylinder bore { Pass on .0015 / Hold on .003

Oil groove:
- Diameter ---------- 3.118-3.138
- Holes-number and size -------- 14, 5/32 drill

Head thickness at center ---------- .180-.190

Piston pin bushing:
- Type ---------- Pressed into piston
- Material ---------- Cast bronze
- Inside diameter ---------- Slip fit on pin
- Length (each) ---------- 15/16
- Finish ---------- Diamond bored

Weight of piston and bushing assy. --- 1.562 lb.

Weight of piston, bushing, rings, pin, and connecting rod upper end x 6 ---------- 16.46 lb.

PISTON PIN

Material ------- Chromium steel (file hard case)
Diameter ---------- .8645-.8650
Length ---------- 3.135-3.165
Taper limit in full length ---------- .0002
Weight ---------- .312 lb.
Clearance in bushing ---------- Slip fit

COMPRESSION RINGS

Material ---------- Cast alloy iron, surface-treated with a wear-resistant coating
Type ---------- Taper face
Number per piston ---------- Two
Width ---------- .1235-.1240
Wall thickness ---------- .155 max.
Gap clearance ---------- .005-.015
Ring clearance in groove ---------- .0015-.003
Weight (each) ---------- .05 lb.

PISTON

Make ---------- Own
Features -------- Flat head, oval, slipper skirt
Material ---------- Cast alloy iron, surface-treated with a wear-resistant coating
Diametral relief at lands ---------- .015-.023
Compression ring groove diameter ---- 3.155-3.160

OIL CONTROL RING

Material ---------- Cast alloy iron
Type ---------- Wide-slot
Width ---------- .1960-.1865
Wall thickness ---------- .155 max.
Gap clearance ---------- .005-.015
Ring clearance in groove ---------- .0020-.0035
Weight ---------- .05 lb.

CONNECTING RODS

Type ---------- Rod clamps piston pin
Material ---------- Drop-forged steel
Assembly center of gravity -- 5.325 from piston pin
Rod width at piston pin ---------- 1.125-1.127
Rod width at crankpin ---------- 1.4275-1.4315

Crankpin bearing:
- Type ---------- Spun (Centrifugally cast)
- Material ---------- High lead babbitt
- Diameter ---------- 2.3135-2.3140
- Effective length ---- (overall length less oil groove and chamfers) ---------- 1.076
- Clearance on diameter --------- Selective fit
- Projected area per rod --- (based on effective length) ---------- 2.490 sq.in.

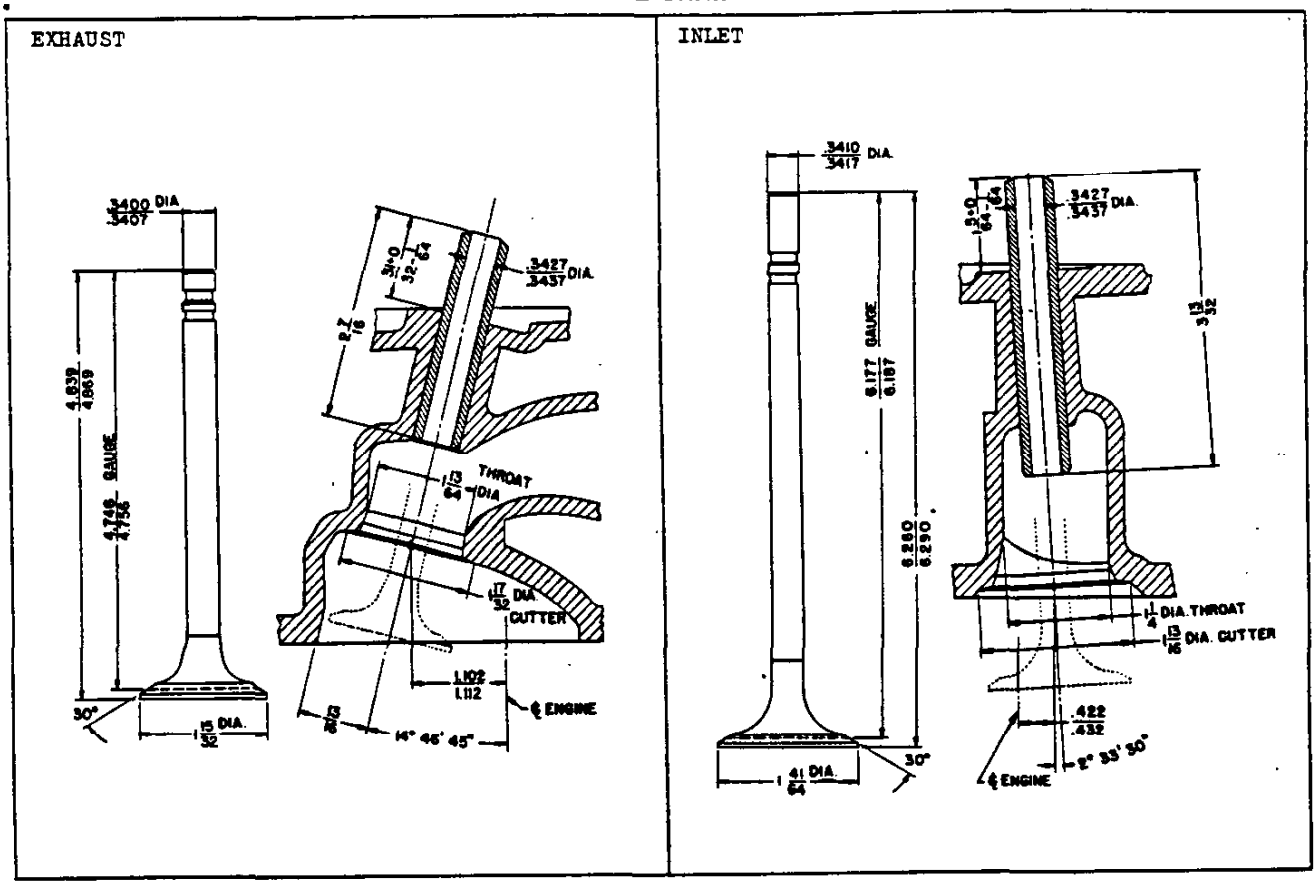
Assembly weight ---------- 1.92 lb.
- Upper end weight ---------- .42 lb.
- Lower end weight ---------- 1.50 lb.

Total rotating weight -- (weight of lower end x 6 connecting rods) ---------- 9.00 lb.

End play ---------- .004-.012

Recommended nut torque with oiled threads ------ ---------- 40-50 ft.lb.

VALVE TRAIN



VALVES

Make ---------- Own
Material-exhaust valve ------- High chrome steel
-inlet valve ---------- Silichrome steel
Stem end style --- Grooved for keys and oil seal
Lift-exhaust valve ---------- .3118
-inlet valve ---------- .2941
Distance between valve centers ----------
---- 1-21/32 (measured along centerline of engine).
Valve lash (engine normalized): *

	Inlet	Exhaust
Regular engine ----------	.006	.013

* - To normalize engine, run it at fast idle (approximately 600 RPM) until a constant oil temperature is maintained for a period of five minutes.

TAPPETS

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

VALVE STEM GUIDES

Type ---------- Removable
Clearance with stem-exhaust ---------- .002-.0037
-inlet ---------- .001-.0027

VALVE ROCKER ARMS

Material ---------- Cast malleable iron
Ratio (cam lift to valve lift) ---------- 1.477:1
Torque of valve rocker shaft support bolts and nuts ---------- 25-30 ft.lb.
Bearing-type ---------- Rocker arm I.D.
-inside diameter ---------- .7922-.7935
-length ---------- 15/16

VALVE SPRINGS
LENGTH AND PRESSURE

Valve closed ---------- 1.821 at 53-63 lb.
Valve open ---------- 1.505 at 124-140 lb.
Free (out of engine) length ---------- 2-1/8

VALVE SEATS

Material ------- Cast alloy iron (cylinder head)
Inserts ---------- None
Cooling ---------- Jets of water under pressure
Width in head-exhaust ---------- .062-.093
-inlet ---------- .035-.060

ENGINE LUBRICATION SYSTEM

METHOD OF LUBRICATION

Type ---------- Chevrolet "Specialized" (pressure, pressure stream and splash)
Main bearings -- Direct pressure through drilled passages in the cylinder case to the bearings
Camshaft bearings ---------- Direct pressure through passages from main bearings
Timing gears ---------- Sprayed by nozzle which is fed oil from the camshaft front bearing
Connecting rod bearings ---------- Pressure streams directed against connecting rod scoops
Cylinder bores and piston pins ---------- Splash
Valve mechanism ---------- Pressure
Oil is piped from oil distributor (high pressure side) past bleed hole (to regulate pressure) and through metering hole; then through water jacket (for temperature conditioning), and finally, to rocker shaft and arms. Valve stems, springs, and push rod ends are gravity fed from rocker arms.
Water pump bearing ---------- --- Permanently lubricated, sealed, ball bearing

OIL PUMP

Type and drive ---------- Gear, from camshaft
Capacity (gallons per minute, hot oil) ---------- 7.16 at 4000 engine RPM
Normal oil pressure ---------- 14 lb at 2000 engine RPM (equivalent to 39 MPH with regular equipment; 43 MPH with RPO 201, 3.73:1 rear axle).
Oil pressure relief valve opens at ------ 60 PSI
Cleaner type -- 20 mesh x .015 non-corrosive steel wire screen; by-pass in intake side of oil pump

MISCELLANEOUS

Oil filler ---------- Through valve rocker cover
Crankcase oil level gauge type ---------- Rod
Oil pressure gauge ------- In instrument cluster •
Crankcase ventilator type ---------- Suction
Oil filter (RPO 237):
  Make ---------- AC
  Capacity (dry) ---------- 1 qt x
  Flow ---------- Approximately 20 gal/hr
Oil cooler ---------- None

OIL PAN

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

LUBRICANT RECOMMENDED

Temperature	Grade
Not lower than 32°F ----------	20W or SAE 20
As low as 10°F. ----------	20W
As low as minus 10°F ----------	10W
Below minus 10°F --------	10W, plus 10% kerosene

FUEL AND EXHAUST SYSTEMS

FUEL TANK

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

FUEL PUMP

Make and model ---------- AC, model AP
Type ----- Mechanical (diaphragm) "high reserve"
Drive ---------- From camshaft
Arm movement ---------- 1/4 at camshaft
Air dome ---------- Yes (inlet and outlet)
Filter ---------- 120 mesh screen on dome
Pressure at carburetor ---------- 3 to 4 lb

FUEL AND VACUUM PUMP - RPO

Make and Model ---------- AC, model BW
Fuel pump specifications ---------- See above
Vacuum pump type --- Operates only when manifold vacuum is insufficient for windshield wiper action

CARBURETOR

Make and model ---------- Carter, W1-684S
Type ---- Single adjustment, balanced, down draft
Size (main venturi throat I D) ---------- 1-1/4
Choke ---------- Manual, with fast idle link
Idle adjustment, number of turns --- 1-1/4 - 2-1/4
Float level -- 1/2 below under side of bowl cover
Manifold heat control -- Automatic (thermostatic)
Octane selector ---------- Manual, 20° range

AIR CLEANER

Regular or RPO	Regular	216A	216C	216F
Flame arrester	Yes			
Silencer	Yes			
Filter element	Copper ribbon		Cactus fiber	
Heavy duty oil bath			1 lb dirt cap. x	
Available with gov		Yes		Yes

EXHAUST SYSTEM

Muffler:
  Make ---------- Various
  Type -- Diffusion and resonance, reverse flow
  Size (outside) 5-1/16 x 7-5/16 (oval) x 16 long
  Mounting ---------- Single point rubber
Exhaust pipe: Type --------- Unitized, welded to manifold bolting flange and to muffler inlet
  Outside diameter ---------- 1-7/8
Tail pipe inside diameter ---------- 1-11/16

4-29-49. Revised: 1-16-50, • - Notation changed; x - Capacities corrected.

ENGINE COOLING SYSTEM

METHOD OF COOLING

Cylinder cooling ---------- Full stroke length water jacket with water around each cylinder
Valve seat cooling ---------- "Nozzle jet" system directs water under pressure against seats
Cooling system capacity ---------- 15 qt •
Pressurized cooling system ---------- No

RADIATOR CORE

Make and type -------- Harrison, ribbed cellular
Material ---------- All copper
Size ---------- .222 x .560 x 2
Frontal area ---------- 408.08 sq in
Radiator pressure cap ---------- None
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)

RADIATOR HOSE

Item	Inlet	Outlet
Quantity	1	2, joined by steel tube
Location	Cyl head to core	Core to water pump
Size	1-1/4 I D	1-1/2 I D x 3-1/8
Material	Reinforced rubber	

WATER THERMOSTAT

Make ---------- Harrison
Type ---------- Bellows operated poppet valve
Location ---------- In cylinder head outlet
By-pass for circulation ---------- None
Action of thermostat valve at 29" Hg barometric pressure:
  Starts to open - °F ---------- 140-147
  Fully open - °F ---------- 170

ENGINE FAN

Make ---------- Own
Type ---------- 4 staggered blades
Diameter with regular equipment --------- 15-3/4
  with RPO 201 and 330, 3.73:1 axle ---- 16-1/4 x
Pulley size ---------- 28°V x 4-21/64 Dia
Fan to engine speed ratio ---------- 1.405:1
Fan belt material and size ------ 1-piece, reinforced rubber, 11/16 max width, 42-7/8 outside

WATER PUMP

Type ---------- Centrifugal
Drive ---------- 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
Seal --- Molded rubber sealed with rubber cement
Seal adjustment --- Automatic, by spring tension

ENGINE ELECTRICAL SYSTEM

GENERATOR

Make and model ---------- Delco-Remy, 1102710
Type ---------- 2-brush, shunt-wound
Rated voltage ---------- 6 - 8
Ventilation --------- By fan in generator pulley
Driven by ---------- Fan belt
Pulley size ---------- 28°V x 3-11/32 dia
Speed ratio (gen to engine) ---------- 1.83:1
Generator RPM/MPH -with regular equipment -------- 93.7
Generator RPM/MPH -with RPO 201, 3.73:1 axle ----- 85.1
Maximum output (controlled charging rate)---- Hot:
  Amperes ---------- See current regulator
  Volts ---------- See voltage regulator
  Generator RPM ---------- 2400 and up
  Car MPH -with regular equipment ---- 25.7 and up
  Car MPH -with RPO 201, 3.73:1 axle -- 28.2 and up

Bearings:	Commutator end	Drive end
Number	812823	Anti-friction bearing, see page 101
Type	Bronze bushing	
I D	.562-.563	
O D	.783-.784	
Width	51/64	

Generator speed at closing ---- See cutout relay
Car speed at closing ---------- See cutout relay
Brush spring tension ---------- 24 - 28 oz
Rotation (drive end) ---------- Clockwise

VOLTAGE AND CURRENT REGULATOR

Make and model ---------- Delco-Remy, 1118301
Location ---------- On L.H. fender skirt •
Type ---------- Vibrator
Voltage regulator:
  Volts ---------- 7.0-7.7 (preferred 7.4)
  Temperatures ---------- Operating
  Average air gap ---------- .075-.085
Current regulator:
  Amperes ---------- 32-40 (Preferred 36)
  Temperatures ---------- Operating
  Average air gap ---------- .075-.085
Cutout relay:
  Voltage at closing -- 5.9-6.8 (preferred 6.4)
  Generator armature speed ---------- 800 RPM
  Car MPH at Closing RPM -with regular equipment ---- 8.5
  Car MPH at Closing RPM -with RPO 201, 3.73:1 axle - 9.4
  Average air gap ---------- .020

CONTINUED

4-29-49. Revised: 9-8-49, • - Cooling system capacity corrected; x - RPO 330 added; • - Location added.

BATTERY

Make and model ---------- Delco, 15AA4-W
Size ---------- 9 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-to-side
Plates per cell ---------- 15
Terminal grounded ---------- Negative
Location ---------- At right side under hood

STARTING

Starting device ---------- Solenoid operated, positive shift (push-button on dash)
Starting operation ---------- - With ignition switch ON, depress push-button
Pinion meshes --------- From front of flywheel
Pinion teeth ---------- 9
Flywheel teeth -------- 139, 1/2 wide, 13.9 PD
Flywheel bolt torque (service) --- 50-65 ft lb
Gear ratio (starter to flywheel) ----- 15.44:1
Normal engine cranking RPM (60°F air) ---- 125

STARTING MOTOR

Make and model ---------- Delco-Remy, 1107075
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
Width	.812	.781

Testing:	Lock test	No load test
Amperage draw	525	65
Volts	3.4	5
Torque	12 ft lb	
RPM		5000

Brush spring tension ---------- 24-28 oz

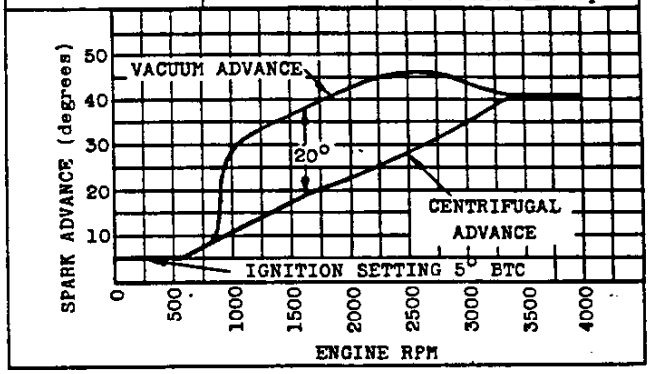
IGNITION SYSTEM

Type ---------- Separate units, high tension distributor ground return system with centrifugal and vacuum spark advance, high intensity spark, and water-proof ignition coil
Ignition lock: Make ---------- Delco-Remy
Type ---------- Three position: on, locked off, or unlocked off

DISTRIBUTOR

Make and model ---------- Delco-Remy, 1112353
Current source ---------- Generator or battery
Breaker contact opening and nominal contact angle:
With new breaker lever ------- .018-.024, 34°
With worn breaker lever ------ .015-.022, 39°
Breaker arm tension ---------- 17-21 oz
Vacuum control part number ---------- 1116043
Condenser: Part no. and cap. ---- 1869704, .2 mf •

Automatic spark advance	Advance begins	Full advance
Vacuum control	7" Hg min	20° at 12" Hg min
Centrifugal	600 RPM	32.5° to 39.5° at 3450 RPM and up



COIL

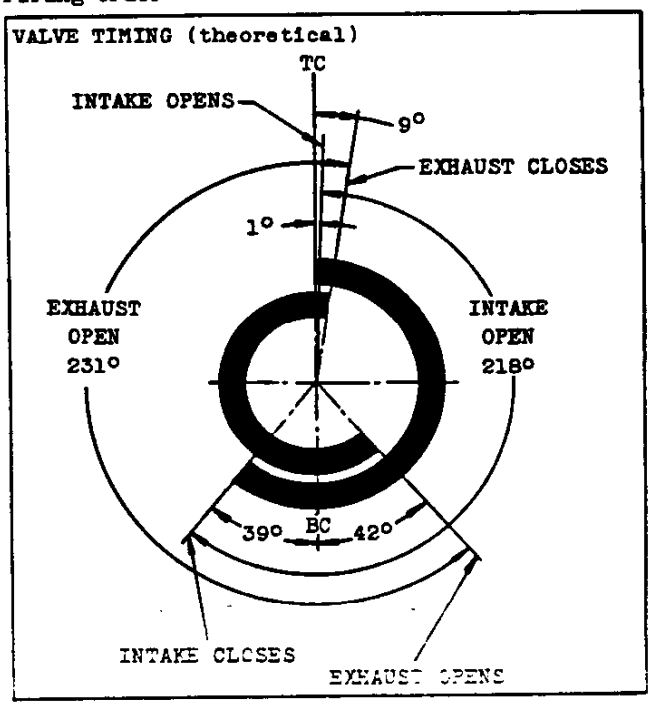
Make and model ---------- Delco-Remy, 1115380
Location ---------- Engine right side
Amperes drawn --- 4.5, engine stopped; 2.5, idling

SPARK PLUGS

Make and model ---------- AC, 46-5
Thread size ---------- 14 mm
Recommended gap ---------- .035
Recommended torque (service) ------- 20-25 ft lb x

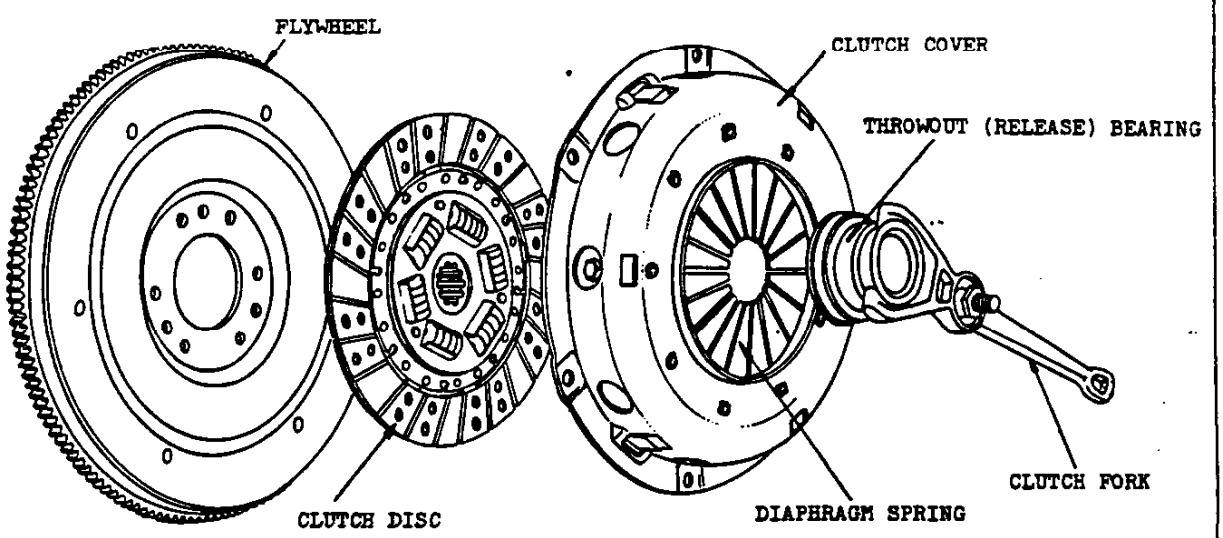
ENGINE TIMING

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

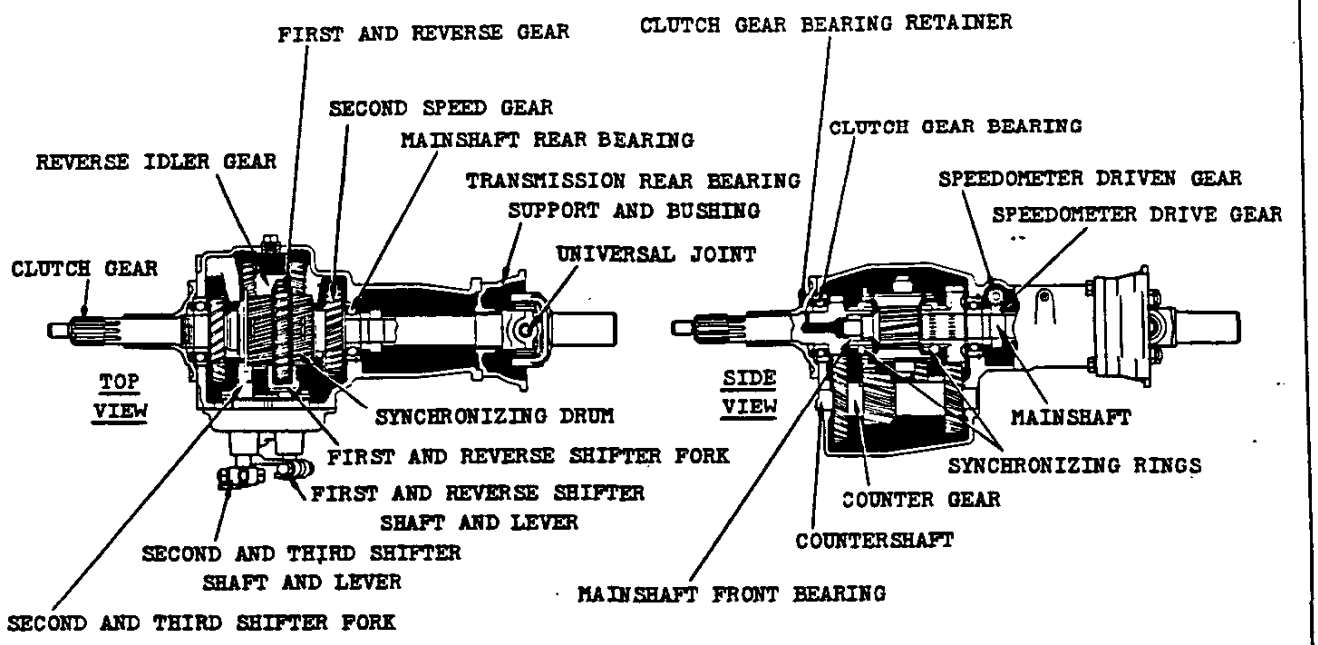


4-29-49. Revised: 1-16-50, • - Condenser capacity added; x - Torque reduced.

REGULAR CLUTCH ILLUSTRATED



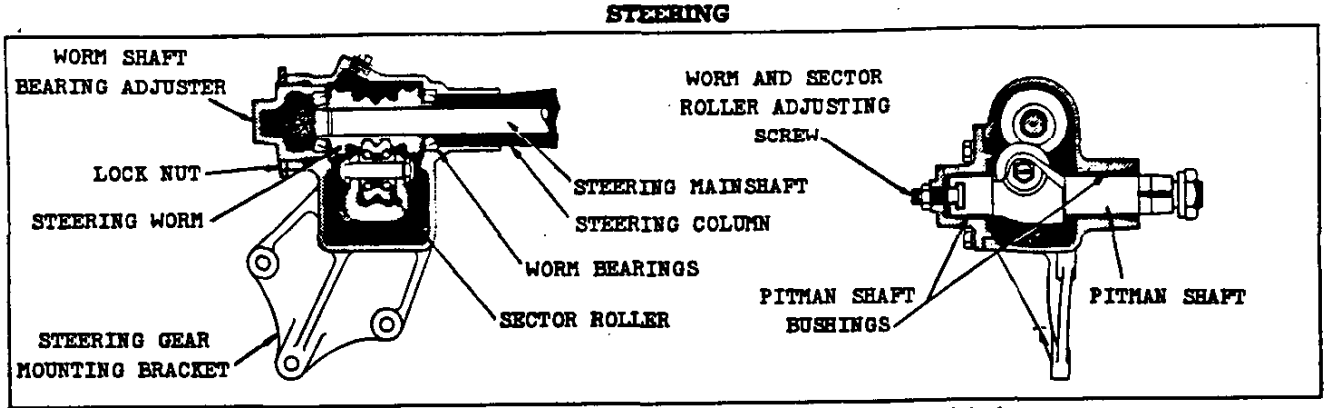
ITEM			REGULAR CLUTCH	HEAVY DUTY TRUCK TYPE, RPO 227A
Type			Single dry plate	
Rated torque capacity			200 foot pounds	
Semi-centrifugal?			No	
Vacuum control or fluid coupling			None	
Drive			Direct to flywheel face	
Ventilation			Vanes cast in pressure plate	
Diaphragm spring	Pressure in flat position		1100 to 1225 pounds	1175 to 1275 pounds
	Material		Spring steel, heat treated	
	Pressure levers		18, integral with spring	
Discs	Driving		Two (flywheel and pressure plate)	
	Driven		One	
	Vibration insulation		6 cushion springs at hub	
	Facing	Material	Molded asbestos composition	
		Outside diameter	9-1/8	10-3/4
		Inside diameter	6-1/8	7
		Area	71.86 square inches	104.6 square inches
		Thickness	.132-.138	.137-.143
Bearings	Throwout (Release)	Type, make, number	Anti-friction bearings, See page 101	
		Lubrication	Packed for life	
	Pilot (in rear end of crank-shaft)	Make and number	Chev. 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	
	Weight (with ring gear)		30 pounds	
	Ring gear type		Steel, shrunk on	
	Ring gear teeth		139, 1/2 wide, 13.9 P.D. (9 teeth on starter pinion)	
Clutch attachment to flywheel			6 bolts	9 bolts



ITEM			Regular	Heavy Duty RPO 316
Make and type			Own, 3-speed synchro-mesh, manual shift	
Gearshift control - type and location			Remote, mounted on steering column	
Input torque capacity			200 ft lb	
Gears	Type		All helical	
	Material		Forged steel, hardened	
	Synchronized speeds		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	2 - .7515-.7525 I D 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 I D x .865-.885 long	
	Countershaft	Optional materials	Rolled sheet bronze, ball-indented	Anti-friction bearings See page 101
			Steel backed bronze, ball-indented	
		I D	.8772-.8782	
		O D	Push fit in ring gauge 1.008 dia	
		Length	1-1/4	
2nd gear bearing		Type	Gear I D honed, turns on mainshaft	
		Size	1.062-1.063 I D x 1-3/4 long	
Speedometer gears	Regular or RPO axle		Regular (4.11:1)	RPO (3.73:1)
	Tooth pitch		18.629	21.00
	Teeth driving and driven		4 and 12	5 and 14
Lubricant recommended and capacity			SAE 90 transmission or mineral oil lubricant, 1-1/2 pt	
Anti-friction bearings			See page 101	

4-29-49

STEERING



Type ---------- Centerpoint

STEERING GEAR

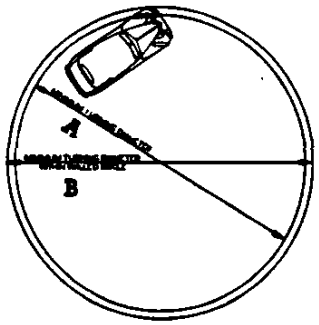
Make ---------- Saginaw
Type ---------- Semi-reversible, hour glass worm and ball bearing roller sector
Ratio ---------- 17.4:1
Anti-friction bearings ---------- See page 101e
Worm and sector adjustment ---- Fully adjustable
Sector mounting type ---------- Straddle mounted
Pitman shaft:
  Material ---------- Drop forged steel
  Mounting ---------- Straddle mounted
Pitman shaft bushing:
  Optional materials ----------
  ---------- Steel-backed bronze or cast bronze
  I D ---------- 1.1245-1.125
  O D ---------- 1.250-1.2505
  Width ---------- 1-3/8
Lubricant recommended:
  "Multi-Purpose" Gear or Chassis Lubrication

STEERING LINKAGE

Pitman arm type and material ----------
---------- One piece, drop forged steel
Steering connecting rod (drag link) -------- Yes
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
Steering mainshaft diameter ---------- 3/4
Steering column diameter ---------- 1-3/4

STEERING WHEEL

Diameter ---------- 17-1/4
Special models -- Three spoke "T" with horn button
De Luxe models -- Two spoke with horn blowing ring
Number of turns of wheel for full right to left travel of front wheels ---------- 4.11



TURNING DIAMETERS

A
Right turn 38-1/2 ft
Left turn 39-1/2 ft

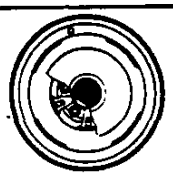
B
Right turn 40-1/2 ft
Left turn 42 ft

Nominal figures based on tests made at General Motors Proving Ground

WHEELS AND TIRES

WHEELS	
Make and type	Own, short spoke disc
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	Chrome plated with blue & red trim

WHEEL AND HUB CAP DESIGN (ALL MODELS)



TIRES *

TIRE SIZE AND PLY RATING	REGULAR EQUIPMENT OR RPO	TIRE AND RIM ASSOCIATION STANDARDS: LOADED ROLLING RADIUS	LOADED REV PER MILE	LOAD PER TIRE: FRONT	LOAD PER TIRE: REAR	RECOMMENDED PRESSURE: FRONT	RECOMMENDED PRESSURE: REAR	TUBE	VALVE
6.70-15-4 Ξ	Regular	13.48	748	920	920	24	24	6.70	15
6.70-15-6 Ξ	RPO				920 Ξ	24 θ	24 θ		

* - U.S. Rubber Co. standards shown. Tires furnished are U.S., Goodrich, and Firestone.
θ - Sedan Delivery and Station Wagon tires: 6.70-15-6 use 24 front and 30 rear.
Ξ - Available as RPO with one side wall white. Ξ - Load of 1050 at a recommended pressure of 30.

4-29-49. Revised: 8-1-49, e - Reference to page number corrected.

LIGHTS

HEADLIGHTS

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

PARKING LIGHTS

Location ---------- Enclosed by curved outer ends of radiator grille upper bar
Bulb replacement --------- Behind radiator grille

TAIL AND STOP LIGHTS

Make and type ---------- Guide, combined in one uhit with window in side for illumination of luggage compartment
Number and location:
Sedan Delivery ---------- One, on left rear quarter panel
Station Wagon (wood) ---------- One, on left side of tail gate (adjusts for up or down position of tail gate)
Station Wagon (steel) ---------- One, on center of tail gate (linkage automatically adjusts light for tail gate position)
All others -- Two, one in each deck side panel
RPO 249:
Sedan Delivery ---------- One additional, on right rear quarter panel
Station Wagon (wood) ---------- One additional, on right side of tail gate
Station Wagon (steel) ---------- Two additional, one on each rear quarter panel

REAR LICENSE LIGHTS

Number and location ---------- Two, one on each side of license plate bracket, on center of panel below deck lid
Note: ---- Station Wagon and Sedan Delivery rear license plates are illuminated by tail light

Dome light ---------- All models

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 in Convertible. At light in all other models
Automatic ---------- In both front door pillars in Deluxe models --- Operated by opening door ---- None on Special models
Glove compartment light switch ------- In Deluxe models ---- Operated by opening compartment door

CIRCUIT BREAKER

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

Are tail and instrument cluster lights wired in series ---------- No

BULBS

Used in		Quantity	Trade No	Power
Head-lights	Upper beam	1	2400 CC *	45 W
	Lower beam			35 W
Parking lights		1	63	3 CP
Instrument cluster		2	55	2 CP
Beam indicator		1	51	1 CP
Ignition lock		1	51	1 CP
Glove compartment		1	55	2 CP
Clock		1	55	2 CP
Dome light	Convertible Coupe	1	55	2 CP
	All others	1	88	15 CP

Used in			Quantity	Trade No	Power
License plate lights			2 (1 ea)	63	3 CP
Tail and Stop lights	Sed Del and St Wagons	Tail	1	63	3 CP
		Stop	1	1129	21 CP
	RPO Sed Del, St Wagon (Wd)	Tail	1	63	3 CP
		Stop	1	1129	21 CP
	RPO Station Wagon (Steel)	Tail	2 (1 each)	1154*	3 CP
		Stop			21 CP
	All others	Tail	2 (1 each)	1154*	3 CP
		Stop			21 CP

* - Single bulb, double filament.

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

TOOL KIT

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

CHASSIS GENERAL INFORMATION

Chassis lubrication ---------- High pressure gun

4-29-49

ACCESSORIES

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

ITEM			MODELS
Alarm	Parking Brake		All
Antenna	Fender, L.H.		
Arm rest	Door, front or rear		1500 except 1508
Ash tray	Instrument panel		1500
Cap	Gas tank filler, locking		All
Clock	Electric		
	Hand wind, Westclock		1500
	Handwind, Lux		
Condenser	Radiator overflow		All
Cover	Accelerator pedal		
	Steering wheel		
	Rear wheel panel		1500
	Seat	Nylon	All except 1504-08, 2109-19-34
		Rayon	
		Plain Fiber	
		Plaid Fiber	
Deflector	Rain	Front and rear	1502-03-52-53, 2102-03-52-53
		Front only	1504-24, 2124
	Door window, draft		1502-24-52, 2102-24-52
Disc, wheel	Stainless steel		All
Dispenser	Tissue		
Filter	Gasoline		
Frame	License plate		
Guard	Radiator grille		
	Trunk		All except 1508, 2109-19
Heater	With defroster (dash recirculating type)		All
	With defroster (air type)		
Injector	Static eliminator		
	Powder for injector		
Jack	Bumper		
	Hydraulic		
Lamp	Back-up		All except 1508, 2109-19
	Cigarette lighter		All
	Fog, dual		1500
	Glove compartment		All except 1508, 2109-19
	Luggage compartment		1508
	Load compartment		All
	Spot, Guide, with bracket, L.H.		All except 2109-19
	Spot, Guide, with bracket, R.H.		
	Spot, Unity, with bracket, L.H.		
	Trouble, magnetic		All
	Underhood		
Lighter	Cigarette		1500
Mats	Tire traction, set of two		All
Mirror	Clamp on		All except 1508, 2109-19-34
	Non-glare		All except 1508
	Rain deflector		All except 2134
	Visor, vanity		
Molding	Wheel, stainless steel		All
Ornament	Hood		
Plug, magnetic drain	Rear axle		
	Oil pan		
	Transmission		
Pocket	Utility		

CONTINUED

ITEM		MODELS
Radio	Colonial	All
	Delco	
	Auxiliary speaker	All except 1504-08-24, 2109-19-24-34
Gutter	Rain, door window ventilator	All
Reflector	Reflex, (4 inch) red	
Ring, trim	Wheel, white plastic	
Scraper	Windshield	
Screen	Door ventilator	
	Radiator	
Seat pad	Ventilated	
Shaver	Electric	
Shield	Window glass set, frost	
	Front fender, pair	
	Windshield glare	All except 1508, 2109-19-34
Signal	Direction	All (Use with RPO 249 on 1508, 2109-19)
Sunshade	Rear window	1502-03-52-53, 2102-03-52-53
	Right hand	1500
Sun visor	Outside type	All except 2109-19-34
Tool kit	Bag and tools	All
Washer	Windshield	
Wheel	Steering, ornamental	

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			MODELS
Ext colors	235	(Colors and exterior finishes. See page 19) ●			All
Body equipment	355	Upholstery	Tan Pile Fabric		2102-03-24-52-53
	377		Top and seat trim color combinations		2134 (See page 19)
	331		Taxicab cloth trim		1503 (Use with RPO 330)
	332		Taxicab imitation leather trim		
	229	Screen partition, and rear door window screen, or plus parcel rack and partition board			1508
Suspension	254	Heavy rear springs			All
Engine	241	Governor	With air cleaners 216		
	237	Oil filter			
	216	Air cleaners	Truck type		All (with governor)
			Oil bath	2 lb dirt capacity	All (with or without governor)
	340	Fuel and vacuum pump			All
Clutch	227	Heavy duty			
Transmission	316	Heavy duty with 4.11 axle			
		Heavy duty with 3.73 axle			
Rear axle	201	3.73:1 ratio			
Lights	249*	Tail and stop	Single R.H.		1508
					2109
			Dual		2119
Taxicab equipment	330	4.11 axle and reg front springs			1503 ● (Use with RPO 331 or 332)
		3.73 axle and reg front springs			
		4.11 axle and heavy duty front springs			
		3.73 axle and heavy duty front springs			
Tires with reg wheels	288	6.70-15-6 ply (five)			All
	289	6.70-15-4 ply (five - White wall on one side			

* - Dual tail and stop lamp equipment. ● - Also includes changes in fan blade assembly, clutch, H.D. clutch pedal return spring, transmission, and gasoline tank overflow signal.

4-29-49. Revised: 8-1-49, ● - Reference to page number corrected.