

AUTOMOBILE MANUFACTURERS ASSOCIATION CONSOLIDATED SPECIFICATION QUESTIONNAIRE

MAKE OF CAR:	DESOTO	MODEL NAME	SYMBOL
COMPANY:	DeSoto Division Chrysler Corporation Detroit 31, Michigan	Powermaster	S-20
		FireDome	S-19
MODEL YEAR:	1954	DATE	10-15-53

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- NOTES:**
1. The specifications set forth herein are those in effect at the date of compilation and are subject to change without notice.
 2. All specifications are standard for the models under which they are listed unless otherwise indicated.
 3. All dimensions are nominal engineering dimensions unless otherwise indicated.
 4. Unless otherwise indicated, specifications apply to 5 or 6 passenger, 4-door sedan or equivalent.

GENERAL SPECIFICATIONS

Model	S-20 Powermaster	S-19 FireDome
Wheelbase	125-1/2	
Tread	Front	56-5/16
	Rear	59-5/8
Maximum Overall Dimensions	Length (L-103)	214-1/2
	Width (W-103)	77-5/8
	Height (H-101)	62-1/2
Steering ratio—overall	23.0	25.8
Turning diameter (curb to curb) (x)	41'-9"	
Shipping weight* (x)	3590	3750
Transmission— (Specify standard, optional, not avail.)	Conventional	Standard
	Overdrive	Optional
	Automatic (x)	Optional
Axle ratio	Conventional	3.9:1
	Overdrive	4.3:1
	Automatic	3.73:1
Tire size	7.60 x 15	
Engine	Type	In-Line
	No. of cylinders	6
	Valve arrangement	"I" Head
	Bore and stroke	3-7/16 x 4-1/2
	Piston displacement, cu. in.	250.6
	Standard compression ratio	7.0:1
	Maximum bhp at engine rpm	116 at 3600
	Maximum torque at rpm	208 at 1600
	90° V	OHV - Laterally Inclined
	8	3-5/8 x 3-11/32
	276.1	7.5:1
	170 at 1400	255 at 2400

*Standard car weight, not including gas and water.

(x) Revised: 1-27-54

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ENGINE—GENERAL

Type	V, In-line, other		In-Line	V
	Angle of V		---	90°
No. of cylinders			6	8
Valve arrangement			"I." Head	OHV - Laterally Inclined
Bore and stroke			3-7/16 x 4-1/2	3-5/8 x 3-11/32
Piston displacement, cu. in.			250.6	276.1
Numbering system (front to rear)	L. Bank		---	1-3-5-7
	R. Bank		---	2-4-6-8
Firing order			1-5-3-6-2-4	1-8-4-3-6-5-7-2
Compression ratio	Standard Head		7.0 to 1	7.5 to 1
	Optional Head		---	---
Cylinders	Head Material	Standard	Cast Iron	
		Optional	---	
	Sleeve—Wet, dry, other, none			None
Number of mounting points	Front		One	Two
	Rear		Two	One
Taxable horsepower	(Dia. ² x No. Cyl.) 2.5		28.36	42.05
Advertised max. brake horsepower at engine RPM*	Standard head		116 at 3600	170 at 1400 (a)
	Optional head		---	
	With fuel (Octane and method)	Standard Head	75 (Motor)	
		Optional Head	---	
Max. torque (lb. ft. @ RPM)	Standard head		208 at 1600	255 at 2400
	Optional head		---	
Recommended idle speed (neutral)			450 to 500	

ENGINE—PISTONS

Material			Aluminum Alloy	
Description and finish			U-Slot, Cam Ground, Tin Plated	T-Slot, Cam Ground, Steel Band, Slipper Type, Tin Plated
Weight (piston only) oz.			18.5	18.3
Clearance	Top land		.0305	.0225
	Skirt	Top	3/4" from bottom - .0007 Top - .001 (Desired)	
		Bottom		
Ring groove depth	No. 1 ring		.178	.189
	No. 2 ring		.178	.189
	No. 3 ring		.178	.188
	No. 4 ring		.178	---

*Corrected as defined by SAE Engine Test Code, with the following standard power consuming accessories: Generator, Water Pump, Carburetor Air Cleaner, Manifolds, Fuel Pump, Manual Spark Advance, & Manifold Heat Off.

(a) Power consuming accessories include: Generator, Water Pump, Manifolds, Fuel Pump, Manual Spark Advance set for maximum power, and Manifold Heat Off.

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ENGINE—RINGS

Type (top to bottom)	No. 1 oil or comp.	Compression	
	No. 2 oil or comp.	Compression	
	No. 3 oil or comp.	Oil	
	No. 4 oil or comp.	Oil	---
No. rings-above piston pin	Four	Three	
Compression	Material	Piston Ring Iron	
	Coating	#1 - Chrome Plating	Tin
		#2 - Tin	
	Width	3/32	.078
	Gap	.015	.015
	Maximum wall thickness	.172	.181
Oil	Material	Piston Ring Iron	
	Coating	None	
	Width	5/32	.186
	Gap	.015	.015
	Maximum wall thickness	.155	.145
Location of expanders	None	Oil Ring	

ENGINE—PISTON PINS

Material		High Manganese Steel	
Length		2.870	3.065
Diameter		55/64	.922
Type	Locked in rod, in piston, floating, etc.	Floating	
	Bushing	In rod or piston	Rod
	Material	Steel Backed Lead-Bronze	
Clearance	In piston	.0000 to .0005	
	In rod	.0001 to .0004 (Selective)	
Direction offset in piston		None	Right - 1/16"

ENGINE—CONNECTING RODS

Material		High Manganese Forging Steel	
Weight (oz.)		32.4	22.8
Length (center to center)		7-7/8	6.0605
Bearing	Material	Thin Babbitt on Steel	
	Type (cast-in or removable)	Removable	
	Effective length	1.060	.8125
	Clearance	.0005 to .0015 (Desired)	
	End play	.006 to .011	.006 to .014 (2-Rods)

ENGINE—CRANKSHAFT

Material	Drop Forged Steel
Weight (lb.)	N/A

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ENGINE—CRANKSHAFT (cont.)

Vibration damper type		Damped Dynamic Torsional Vibration Absorber		
End thrust taken by bearing (No.)		Four (Rear)	Three (Center)	
Crankshaft end play		.003 to .007	.002 to .007	
Main bearing	Material	Lead Base Babbitt on Steel		
	Type (cast-in or removable)	Removable		
	Clearance	.0005 to .0015 (Desired)		
	Journal dia. and bearing effective length	No. 1	2.5 x 1.155	2.375 x .812
		No. 2	2.5 x 1.155	2.375 x .812
		No. 3	2.5 x 1.155	2.375 x .807
		No. 4	2.5 x 1.589	2.375 x .812
No. 5		---	2.375 x 1.532	
No. 6		---	---	
	No. 7	---	---	
Direction offset from cyl. bore		Right	None	
Connecting rod crankpin journal diameter		2.125	2.062	

ENGINE—CAMSHAFT

Material		Special Cast Iron		
Bearings	Material	Lead Base Babbitt on Steel (a)	Lead Base Babbitt on Steel	
	Number	Four	Five	
Type of drive	Gear or chain		Chain	
	Crankshaft gear or sprocket material		High Manganese Steel	
	Camshaft gear or sprocket material		Cast Iron	
	Timing chain	Make	---	
		No. of links	48	68
		Width	1	1.125
Pitch		.500	.375	

ENGINE—VALVE SYSTEM

Hydraulic lifters (yes, no)		No	Yes
Special provision for valve rotation (intake, exhaust)		No	
Rocker ratio		None	1.5 to 1
Operating tappet clearance (indicate hot or cold)	Intake	.008 Hot	0
	Exhaust	.010 Hot	0
Tappet clearance for timing	Intake	.011	Valve Train Solid
	Exhaust	.011	Valve Train Solid
Timing marks on fly-wheel, damper, other		Vibration Damper	

(a) Rear bearing (#4) is of cast iron.

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ENGINE—VALVE SYSTEM (cont.)

Timing	Intake	Opens (°BTC)	12 BTC	12 BTC	
		Closes (°ABC)	44 ABC	52 ABC	
	Exhaust	Opens (°BBC)	50 BBC	50 BBC	
		Closes (°ATC)	6 ATC	14 ATC	
Intake	Material		Silicon-Chromium Steel		
	Overall length		4-27/32	4-55/64	
	Actual overall head dia.		1.718	(1.75)	
	Angle of seat		45°		
	Seat insert material		None		
	Stem diameter		.341	.3725	
	Stem to guide clearance		.002		
	Lift		.365	.361	
	Outer spring press. and length	Valve closed (lb. @ in.)	42.5 at 1.75	40.5 at 1.6875	
		Valve open (lb. @ in.)	115 at 1.375	105 at 1.3125	
	Inner spring press. and length	Valve closed (lb. @ in.)	---	13 at 1.5625	
		Valve open (lb. @ in.)	---	37.5 at 1.1875	
	Exhaust	Material		Silicon-Chromium Steel	
		Overall length		4-27/32	4-13/16
		Actual overall head dia.		1.501	1.407
		Angle of seat		45°	
		Seat insert material		Alloy Cast Iron	
		Stem diameter		.340	.3715
Stem to guide clearance		.003			
Lift		.365	.361		
Outer spring press. and length		Valve closed (lb. @ in.)	42.5 at 1.75	40.5 at 1.6875	
		Valve open (lb. @ in.)	115 at 1.375	105 at 1.3125	
Inner spring press. and length		Valve closed (lb. @ in.)	---	13 at 1.5625	
		Valve open (lb. @ in.)	---	37.5 at 1.1875	

ENGINE—LUBRICATION SYSTEM

Type of lubrication (splash, pressure, nozzle)	Main bearings	Pressure
	Connecting rods	Pressure
	Piston pins	Splash
	Camshaft bearings	Pressure
	Tappets	Splash Metered Pressure
	Timing gear or chain	Metered Flow
	Cylinder walls	Metered Jet

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ENGINE—LUBRICATION SYSTEM (cont.)

Oil pump type	Rotary	
Normal oil pressure (lb. @ rpm)	50 at 1500	
Oil pressure gage type (electric or mechanical)	Mechanical	
Type oil intake (floating, stationary)	Floating	
Oil filter type (full flow, partial flow)	Partial Flow	Shunt Type Replaceable Element
Capacity of crankcase, less filter—refill (qt.)	5	
Oil grade recommended (SAE viscosity and temperature range)	Not Lower Than +32 F SAE 30 As Low As +10 F SAE 20W As Low As -10 F SAE 10W Below -10 F SAE 5W	
Oil type recommended		

ENGINE—FUEL SYSTEM

Recommended fuel	Standard head	Regular	
	Optional head	---	
Fuel Tank	Capacity (gals.)	17	
	Filler Location	Left Rear Below Trunk Lid	
Fuel Filter	Type	Oilite	
	Location	Fuel Tank	
	Type (elec. or mech.)	Mechanical	
Fuel pump	Location	Right Front of Engine	
	Pressure range	3.5 to 5	
	Vacuum booster (std., optl., none)	None	
	Make	Ball and Ball	
	Model number	E9C1	2129 S (a)
	Number used		
Carburetor	Type	Downdraft	
	Downdraft, side inlet, other		
	Single or dual	Single	Dual
	Intake manifold heat control (manual, auto., none)	Automatic	
	Automatic choke type (integral, other)	Integral	
	Air cleaner type	Oil Bath	
	Standard		
	Optional	---	

ENGINE—EXHAUST SYSTEM

Type (single, single with cross-over, dual, other)	Single	Single with Crossover
Muffler type (rev. flow, str. thru, sep.resonator)	Reverse Flow	
Exhaust pipe dia.	Branch	--
	Main	2
Tail pipe diameter	1-3/4	2

(a) Early Cars Used 2067 S

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ENGINE—COOLING SYSTEM

Type (pressure system, atmospheric, other)		Pressure-Vent		
Radiator cap relief valve press.		7 psi		
Circulation thermostat	Type (choke, bypass)	By-Pass		
	Starts to open at	.157° to 162°		
Water pump	Type (centrifugal, other)	Centrifugal		
	Number of pumps	One		
	Drive (V-belt, other)	V-Belt		
	Bearing type	Bushings		
By-pass recirculation type (internal, external)		External		
Radiator core type (cellular, tube and fin)		Cellular	Fin and Tube	
Cooling system capacity	With heater (qt.)	16	23	
	Without heater (qt.)	15	22	
Water jackets full length of cylinder (yes, no)		Yes		
Water all around cylinder (yes, no)		No	Yes	
Radiator hose	Lower	Number and type (molded, straight)	One, Molded	
		Inside diameter and length	1.5, Curved	1.75, Curved
	Upper	Number and type (molded, straight)	One, Molded	
		Inside diameter and length	1.75, Curved	
	By-pass	Number and type (molded, straight)	One, Straight	One, Molded
		Inside diameter and length	1 x 1.5	1.25, Curved
Drive belts	Fan	Number used	One (a)	Two
		Angle of V	36°	
		Outside length	49	38
		Width	3/8	
	Generator	Angle of V	Same as Fan Belt	
		Outside length	---	
		Width	---	
	Fan	Number of blades and spacing	Four - 76° & 104°	
		Diameter	17-3/4	18
Ratio—fan to crankshaft revolutions		1.06 to 1	.85 to 1	
Bearing type		See Water Pump		

(a) Two Used with Power Steering.

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ELECTRICAL—SUPPLY SYSTEM

Battery	Make and Model		Auto-Lite, 2H-120-B (a)	
	Voltage Rtg. & Plates/cell		6, 17	
	SAE Designation & Amp Hr. Rtg		2H, 120	
	Location		Under Hood, Left Side	
	Terminal grounded		Positive	
Generator	Make		Auto-Lite	
	Model		GCW-6001	
	Type		Shunt Wound	
	Ratio—Gen. to Cr/s rev.		1.89	
Regulator	Make		Auto-Lite	
	Model		VBE-6001-A	
	Type		Current and Voltage Control	
	Cutout relay	Closing voltage @ generator rpm	6.3 - 6.8 at 1000	
		Reverse current to open	4.1 - 4.8	
	Regu-lated	Voltage	7.1 - 7.4	
		Current	45-57 (b)	
	Min. Gen. rpm required		1000	
	Voltage test con-ditions	Temperature	70°	
Load		Run 15 min at 10 Amp		
Other		---		

ELECTRICAL—STARTING SYSTEM

Starting motor	Make		Auto-Lite		
	Model		MCL-6117	MCH-6113-A	
	Rotation (drive end view)		Clockwise		
	Engine cranking speed		35 to 110 rpm		
	Test conditions		SAE 5W at - 20F and SAE 30 with completely warmed engine		
	Lock test	Amps	410		335
		Volts		2.0	
		Torque (lb. ft.)	8.0		6.5
	No load test	Amps		65	
		Volts		5.0	
RPM (min.)		4900		4300	
Motor control	Switch (solenoid, manual)		Solenoid		
	Starting procedure		Turn Ignition Key Beyond "Ignition On" Position		

(a) Willard HW-2-120-C optional equipment.

(b) Higher value denotes initial temporary capacity rating. Bi-metal hinge reduces output to lower value after warm-up period.

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ELECTRICAL—STARTING SYSTEM (cont.)

Motor drive	Engagement type		Solenoid, Clutch
	Pinion meshes (front, rear)		Front
	Number of teeth	Pinion	9
		Flywheel	116
Flywheel tooth face width		3/8	

ELECTRICAL—IGNITION SYSTEM

Coil	Make		Auto-Lite	
	Model		CR-4001 CR-6015	
	Amps	Engine stopped	5	
Engine idling		2.25		
Distributor	Make		Auto-Lite	
	Model		IAT-4102 IAZ-4002-A	
	Spark advance data (at distributor shaft)	Centr. advance start (rpm)	0° at 250 - 450	0° at 300 - 500
		Centr. advance max. deg. @ rpm	9° - 11° at 1425	10° - 12° at 1920
		Vacuum advance start (in. Hg.)	1° at 5.5" - 6.5"	
		Vac. adv. (max. deg. @ in. Hg.)	8° - 10° at 15"	10.5° - 12.5° at 17"
	Breaker gap (in.)		.018 - .020	.015 - .018
	Cam angle (deg.)		39° ± 3°	32° - 36° (a)
	Breaker arm tension (oz.)		17 - 20	
	Timing	C/S deg. @ rpm		2° BTC at Idle 4° BTC at Idle
Mark location		Crankshaft Vibration Damper		
Cylinder numbering system (see page 2)		Left Bank - 1-3-5-7 Right Bank - 2-4-6-8		
Firing order (see page 2)		1-5-3-6-2-4 1-8-4-3-6-5-7-2		
Spark plug	Make and model		Auto-Lite Resistor 4S-140	
	Thread (mm)		14-mm	
	Tightening torque (lb. ft.)		30-32	
	Gap		.035	
Cable	Conductor type		Stranded Copper	
	Insulation type		Rubber, with Neoprene Jacket	
	Spark plug protector		Neoprene Cover	

ELECTRICAL—SUPPRESSION

Description	Spark Plug - 10,000 ohm resistor (Integral) Distributor - 10,000 ohm resistor (Integral)
--------------------	---

(a) Total, two breakers; 26° - 28° dwell for each breaker.

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ELECTRICAL—INSTRUMENTS AND SWITCHES

Speed-ometer	Make Trip odometer (yes, no)	Auto-Lite No
Charge indicator—type		Ammeter
Temperature indicator—type		Bourdon Tube
Oil pressure indicator—type		Bourdon Tube
Fuel indicator—type		Electric Magnetic
Ignition switch	Identify positions in order and circuits controlled	Center.....Off 1st Position Clockwise.....All Circuits On 2nd Position Clockwise.....Ignition and Starter Circuits Only 1st Position Counterclockwise....Accessory Circuit Only
	Provision for illumination	Yes
	Location	Right of Steering Column
	Theft protection type	None
Main lighting switch	Identify positions and lights controlled	Left Position.....Off 1st Position Clockwise.....Instruments, Tail, and Parking Lamps, Ignition Switch Light, License Lamp 2nd Position Clockwise.....Instruments, Tail, Head, and License Lamps
	Locations and lamps controlled	Combination Instrument and Map Light Switch: Rotary Variable, Clockwise, Clock and Instrument Lamps; 1st Position, Counterclockwise, Instrument, Clock and Map Lights. Automatic Front Door Switches, right and left, Control Map Light. (a)
Other switches	Locations and devices controlled	Windshield Wiper Switch, two speed, Right of Steering Column on Instrument Panel. Heater Motor Switch and Defroster Motor Switch, two speed, on Heater Control Panel. Stop Light Switch, in brake line. Directional Signal Switch, Lever on Steering Column below Steering Wheel
Windshield wiper	Make	Auto-Lite
	Type	Electric
	Vacuum booster provision	None
	Washer provision	None
Horn	Type	Vibrator, Sea Shell
	Number used	Two
	Amp draw (each)	15 Amp

(a) Automatic rear door switches and toggle switch at left "B" post control dome light. On S-19 only, automatic trunk lid switch for trunk light. Automatic glove box door switch for glove box light. Back-up light switch at transmission operates back-up light when transmission is shifted into reverse.

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ELECTRICAL—LAMP BULBS

Give quantity used and trade number, e.g., Headlamp 2-4030.
Indicate accessories which are not standard equipment by an asterisk following the numbers.

Headlamp		2-2422
Headlamp beam indicator		1-55
Parking light		2-1154
Tail light		2-1154
Stop light		2-1154
Direction indicator	Front	2-1154
	Rear	2-1154
	Tell-Tale	1-55
License plate light		1-63
Instrument light		2-55
Ignition lock light		1-51
Map light		1-88
Dome light		1-88 (Two used on 8-Passenger Sedan)
Clock light		1-55*
Radio dial light		2-114
Glove compartment light		1-51
Courtesy light		2-87 (Hard Top and Convertible Only)
Trunk compartment light	---	1-88
Other		2-55
		2-1129
		1-51*

ELECTRICAL—FUSE & CIRCUIT BREAKER DATA

Use trade number of fuse, e.g., SFE-10. Indicate circuit breaker by ampere capacity suffixed by letters "C.B.", e.g., 30 C.B. Where fuse or circuit breaker protects multiple circuits indicate first use by a letter and repeat the same letter for all units protected by the same fuse or circuit breaker, e.g., Parking light: SFE-10 (a), Direction indicator: same as (a).

Headlamp		30 CB (a)
Headlamp beam indicator		Same as (a)
Parking light		Same as (a)
Tail light		Same as (a)
Stop light		Same as (a)
Direction indicator		None
License plate light		Same as (a)
Instrument light		Same as (a)
Ignition light		Same as (a)
Map light		Same as (a)
Dome light		Same as (a)
Clock		Same as (a)
Clock light		Same as (a)
Radio		SFE 14
Glove compartment light		Same as (a)
Courtesy light		Same as (a)
Trunk compartment light		Same as (a)
Other		
Speedometer Light		Same as (a)
Back-Up Lamp		Same as (a)
Gearshift Indicator		Same as (a)

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DRIVE UNITS—CLUTCH (PEDAL OPERATED)

Make		Borg & Beck	
Type (dry or wet plate)		Dry	
In combination with fluid coupling (yes, no)		No	
Semi-centrifugal (yes, no)		No	
Type pressure plate springs		Coil	
Total plate pressure (lb.)		1113	1884
No. of clutch driven discs		One	
Material		Molded, Woven, Asbestos	
Inside diameter		7	6
Outside diameter		10	
Total eff. area (sq. in.)		80	100.5
Thickness		.125	
Number required		Two	
Engagement cushioning method		Springs, Flat Crimped	
Clutch facing	Release bearing	Ball	
	Method of lubrication	Sealed	
	Torsional damping	Coil Springs	
	Frict. mat.	---	

DRIVE UNITS—TRANSMISSIONS

Conventional (std. or opt.)	Standard
Conventional with overdrive (std. or opt.)	Optional
Automatic (std. or opt.)	Optional

DRIVE UNITS—CONVENTIONAL TRANSMISSION

Number of forward speeds		Three
Transmission ratios	In first	2.57
	In second	1.83
	In third	1.00
	In fourth	---
	In reverse	3.48
Constant mesh gears in 2nd (yes, no)		Yes
Spur gear used in (Indicate speeds)		None
Helical gears used in (Indicate speeds)		All Speeds
Synchronous meshing in 2nd and 3rd gears (yes, no)		Yes

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DRIVE UNITS—CONVENTIONAL TRANSMISSION (cont.)

Lubricant	Capacity (pt.)		2-3/4
	Type recommended		Engine Oil
	SAE viscosity number	Summer	10 W
		Winter	10 W
Extreme cold		10 W	

DRIVE UNITS—CONVENTIONAL TRANSMISSION WITH OVERDRIVE

For transmission data see conventional transmission section

Overdrive	Type (planetary or other)		Planetary	
	If planetary, No. of pinions		Three	
	Manual lockout (yes, no)		Yes	
	Downshift accelerator control (yes, no)		Yes	
	Minimum cut-in speed		28 mph	
	Gear ratio		0.7	
	Lubricant	Capacity (O.D. only)		3/4 pt
		Separate filter (yes, no)		No
		Type recommended		Engine Oil
		SAE viscosity number	Summer	10 W
Winter	10 W			
Ext. cold	10 W			

DRIVE UNITS—AUTOMATIC TRANSMISSION

Trade name	PowerFlite
Type (fluid coupling with gears, torque convertor with gears, other)	Torque Converter with Planetary Gears
Manual selector positions, left to right (show symbols and define, e.g., N- Neutral)	$\begin{array}{ccccc} & R & & & L \\ & & & & \\ & \text{Reverse} & \text{N} & \text{D} & \text{Low} \\ & & \text{Neutral} & & \text{Drive} \end{array}$
List gear ratios in each drive position (range)	R - 2.39 D - 1.72 and 1.00 L - 1.72
Shifting within drive position range by accelerator control and speed limiting governor (yes, no)	No
By governor—forced shift (yes, no)	Yes
Downshift of gears in high range possible up to (mph)	55

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DRIVE UNITS—AUTOMATIC TRANSMISSION (cont.)

Torque convertor	Number of elements		Four		
	Max. ratio at stall at engine rpm		Stalled Torque - 2.6 Stalled Speed - 1210	Stalled Torque - 2.6 Stalled Speed - 1325	
	Mechanical lockup	Provided (yes, no)	No		
		Speed range	----		
		Releases at (speed range, mph)	----		
	Type of cooling (forced air, oil cooler and type, other)		Air Cooled	Water Cooled Heat Exchanger	
Anti-creep device (yes, no)		----			
Lubricant	Capacity—refill (pt.)		2 1/2 (x)		
	Type recommended		Automatic - Transmission Fluid - Type A		
	Grade	Summer	----		
		Winter	----		
Extreme cold		----			

DRIVE UNITS—PROPELLER SHAFT

Number used		One	
Type (exposed, torque tube)		Exposed	
Outer diameter x length* x wall thickness	Conventional trans.	3 x 57-3/16 x .065	3-1/2 x 60-5/16 x .065
	Overdrive trans.	3 x 57-3/16 x .065	3-1/2 x 60-5/16 x .065
	Automatic trans.	3 x 57-3/16 x .065	3 x 59-1/16 x .065
Intermediate bearing	Type (plain, anti-friction)	----	
	Lubri. (fitting, prepack)	----	
Universal joints	Make		N/A
	Number used		Two
	Type (ball and trunion, cross, other)		Cross
	Bearing	Type (plain, anti-friction)	Anti-Friction
Lubric. (fitting, prepack)		Prepack	
Drive taken through (torque tube or arms, spring)		Rear Springs	
Torque taken through (torque tube or arms, springs)		Rear Springs	

*Centerline to centerline of joints or centerline of rear attachment point.

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DRIVE UNITS—REAR AXLE

Type (semi-floating, other)		Semi-Floating		
Gear type (hypoid, other)		Hypoid		
Gear ratio and No. of teeth	Conventional trans.	3.9 (39-10)	3.73 (41-11)	
	Overdrive trans.	4.3 (43-10)	4.1 (41-10)	
	Automatic trans.	3.73 (41-11)	3.54 (39-11)	
Pinion adjustment (shim, other)		Solid Shim		
Pinion bearing adj. (shim, other)		Shims		
Lubricant	Capacity (pt.)	3-1/4	3-1/2	
	Type recommended	Extreme Pressure Hypoid Gear Lubricant		
	SAE viscosity number	Summer	90	
		Winter	90	
Extreme cold		80		

DRIVE UNITS—WHEELS

Type (disc, other)		Disc
Rim (size and flange type)		15 x 5-1/2 K
Attachment	Type (bolt or stud)	Bolt
	Circle diameter	4-1/2
	Number and size	5, 1/2-20 Am Nat Thd

DRIVE UNITS—TIRES

Size and ply rating	Standard	7.60 x 15, 4
	Optional	7.60 x 15, 6
Rev/mile at 30 mph		722
Inflation press. (cold)	Front	24
	Rear	24

BRAKES—SERVICE

Type		Hydraulic, Internal Expanding Drum	
Booster type		Available at Extra Cost	
Effective area (sq. in.)		201	
Percent brake effectiveness—rear		40	
Drum	Diameter	Front	12
		Rear	12
	Type and material		Cast Iron

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BRAKES—SERVICE (cont.)

Brake lining	Bonded or riveted		Bonded		
	Primary	Material		Molded Asbestos	
		Size (length x width x thickness)	Front wheel	12.57 x 2 x 13/64	
			Rear wheel	12.57 x 2 x 13/64	
		Segments per shoe		One	
	Secondary	Material		Molded Asbestos	
		Size (length x width x thickness)	Front wheel	12.57 x 2 x 13/64	
			Rear wheel	12.57 x 2 x 13/64	
		Segments per shoe		One	
	Wheel cylinder bore	Front	1-1/8		
Rear		1-1/8			
Master cylinder bore		1			
Available pedal travel		7			
Line pressure at 100 lb. pedal load		918			
Shoe clearance adjustment		.006, Heel and Toe			

BRAKES—PARKING

Type of control		Mechanical, T-Handle, Multiple Pawl Ratchet	
Location of control		Left of Steering Column	
Operates on		Rear of Transmission	
If separate from service brakes	Type (internal or external)	External	(a)
	Drum diameter	6	(a)
	Lining size (length x width x thickness)	15-3/8 x 2 x 5/32	(a)

FRAME

Type and description	Welded, Double-Channel, Box Section Side Rails, Lateral Crossmembers
----------------------	--

FRONT SUSPENSION

Type and description	Independent, Lateral Control, with Coil Springs.
----------------------	--

(a) When equipped with PowerFlite, an internal type parking brake is used with a 7" diameter drum.

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FRONT SUSPENSION (cont.)

Spring	Type	Coil	
	Material	Amola (a)	
	Size (length x width x No. leaves or coil I.D.)	4	
	Spring rate (lb. per in.)	480	550
	Rate at wheel (lb. per in.)	N/A	
	Normal load (lb. @ rated length)	(b)	
Shock absorbers	Manufacturer	Own	
	Type (direct or lever)	Direct	
	Piston diameter	1	
Stabilizer	Type (link, linkless, frameless)	Linkless	
	Material	Amola (a)	

STEERING

Type used (Standard or optional)	Mechanical	Standard	
	Power	Optional	
Wheel diameter		18	
Turning diameter	Outside front	Wall to wall (r. & l.)	44'-6" (x)
		Curb to curb (r. & l.)	41'-9" (x)
	Inside rear	Wall to wall (r. & l.)	N/A (x)
		Curb to curb (r. & l.)	N/A (x)
Inside wheel angle with outside wheel at 20°		18-3/4 (x)	

Mechanical	Gear	Type	Worm and Three-Tooth Roller	
		Make	Gemmer	
		Ratios	Gear	20.4 (x)
			Overall	25.8 (x)
No. wheel turns		5 (c)		

Power	Type		Hydraulic - Mechanical	
	Make		Gemmer	
	Trade name			
	Gear	Type	Worm and Two-Tooth Roller	
		Ratios	Gear	16.2 - 1
			Overall	16.2 - 1
	Pump driven by		Generator	
Overall torque ratio		122 - 1		
Number wheel turns		3		

Linkage	Type		Center, Equal Length Tie Rods	
	Location (front or rear of wheels)		Rear	
	Drag link (trans. or long)		Longitudinal	
Tie rods (one or two)		Two		

(a) Temporary substitution, Chromium Carbon Steel.

(c) Minimum

Model	Location	Load	Length
S-20	Opposite Driver's Side	2000	11.00
	Driver's Side	2095	11.00
S-19	Opposite Driver's Side	2210	11.00
	Driver's Side	2315	11.00

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STEERING (cont.)

Kingpin	Inclination at camber (deg.)	5-1/2° at 0° (x)		
	Diameter	.7953		
	Bearings (type)	Upper	Straight Roller Bearings	
		Lower	Lead-Bronze Bushings	
Thrust		Ball		
Wheel alignment (range and preferred)	Caster (deg.)	-1° to -3° 2° Preferred		
	Camber (deg.)	-3/8° to +3/8° (a)		
	Toe-in (outside tread-inches)	0 to 1/16" 0 Preferred		
Steering knuckle type		Reverse Elliott		
Wheel spindle	Diameter	Inner bearing	1.25	
		Outer bearing	.75	
	Thread size		3/4 - 16 Am Nat Thd	
	Bearing type		Tapered Roller	

REAR SUSPENSION

Type	Non-Parallel, Longitudinal Leaf (b)			
Drive and torq. taken through (see page 14)	Rear Springs			
Spring	Type	Semi-Elliptic		
	Material	Amola (c)		
	Size (length x width x No. leaves or coil I.D.)	53-5/8 x 2-1/2 x 5		
	Spring rate (lb. per in.)	95		
	Rate at wheel (lb. per in.)			
	Normal load (lb. at rated length)	Right - 800 Left - 840		
	Mounting insulation type	Rubber Bushing		
	If leaf	No. of leaves	5	
		Covers (yes, no)	Yes	
		Lubricated (yes, no)	Yes	
Inserts		Type and size	---	
	Material	---		
	Shackle (comp. or tens.)	Compression		
Shock absorbers	Manufacturer	Own		
	Type (direct or lever)	Direct		
	Piston diameter	1		
Stabilizer	Type (link, linkless, frameless)	Linkless		
	Material	Amola (c)		
Track bar type		None		

- (a) Left side to be 1/4° to 1/2° higher than right side within these limits.
 (b) 8-passenger and Station Wagon models use the parallel system.
 (c) Temporary substitutions, Chromium - Carbon Steel.
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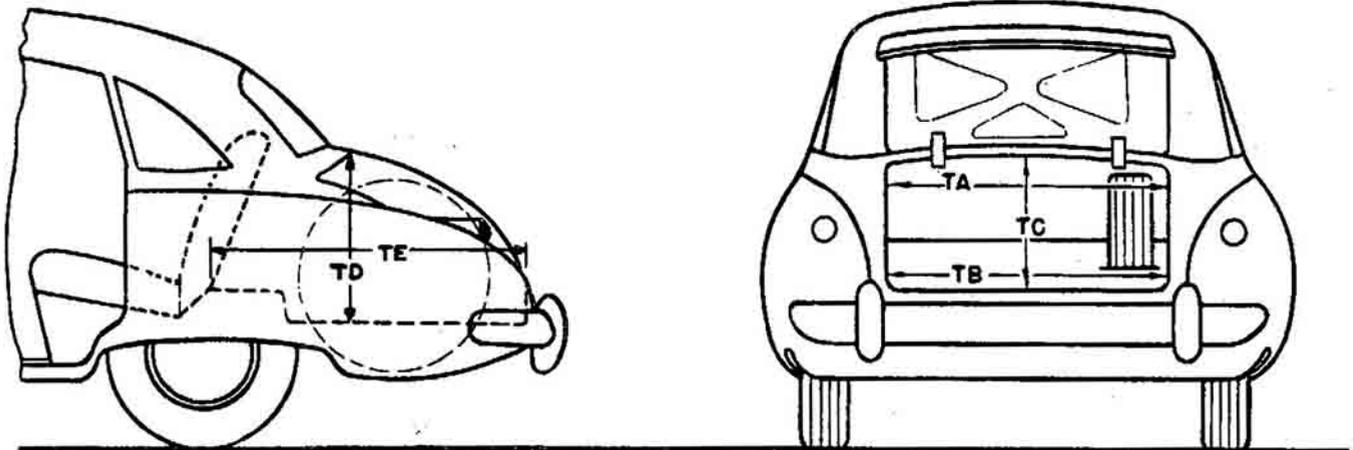
BODY—GENERAL DEFINITIONS

NOTE: Included in the dimension definitions listed on this and the following pages are those which have been proposed for adoption by the SAE. These are indicated by a number following the type of dimension, e.g., L 3. Additional dimensions have been added by the AMA Specifications Body Sub-Committee for inclusion in the Questionnaire. These are shown by an additional letter, e.g., HA. The dimensions are developed from the following basic points:

1. Front and rear seat "A" points are taken 5" forward of vertical tangent to seat back 15" from center of body.
2. Front seat is in the rear position.
3. Loaded position—5 passengers, front 300 lb., rear 450 lb., includes spare wheel, fire and tools, and full complement of gas, oil, water, etc. and tires to recommended pressure, etc.
4. C. L. (centerline).
5. D. L. O. (daylight opening, exposed glass dimension).
6. Ramp breakover angle (page 20-A) is the supplement of the included ramp angle (180° minus the included ramp angle) over which a car can pass without hanging up.

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BODY—TRUNK OPENING DIMENSIONS



TA—Width across the top	59
TB—Width across the bottom	52-1/2
TC—Diagonal dimension at CL from top of opening to bottom	31-1/2
TD—Vertical height of opening (floor to top, inside edge of opening)	23-1/2
TE—Max. horizontal depth (forward from vertical projection of inside edge of opening)	46-1/4
Position of spare fire stowage	Vertically Inclined, Fore and Aft, At Right
Method of holding lid open	Spring Counterbalanced

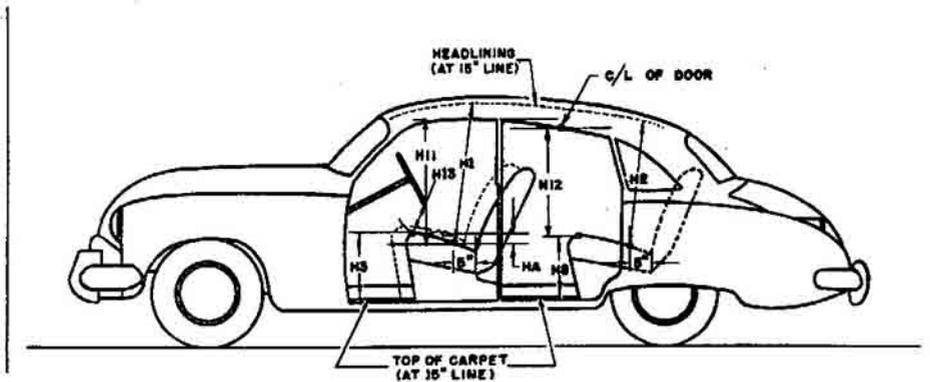
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MODEL S-20, S-19

BODY—HEIGHT DIMENSIONS—INTERIOR



H1. Front headroom—from "A" pt. to headlining at 8° back of vertical on 15" line. (For "A" pt. see note 1, page 19)	36-1/4
H2. Rear headroom—from "A" pt. to headlining at 8° back of vertical on 15" line.	35-1/4
H3. Front seat height to floor carpet on 15" line (front edge of cushion).	14-7/8
H8. Rear seat height to floor carpet on 15" line (front edge of cushion).	14-1/4
H11. Entrance—front—cushion "A" point to bottom windcord vertical.	30-1/4
H12. Entrance—rear—top of cushion to bottom windcord vertical at C/L of rear door.	28-3/8
H13. Steering wheel clearance to seat cushion taken on arc.	5-3/8
HA. Front seat vertical rise at "A" pt. (inches.)	1-1/8

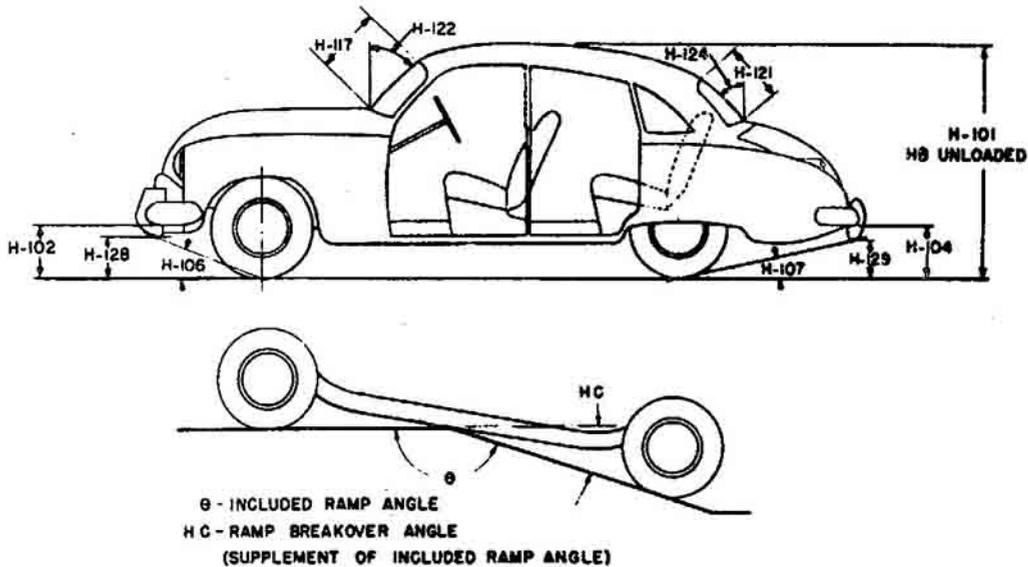
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MODEL S-20, S-19

BODY—HEIGHT DIMENSIONS—EXTERIOR



H101. Overall height.	62-1/2
HB. Overall height—unloaded.	64-1/4
H102. Front bumper bottom to ground at normal section.	12-1/4
H104. Rear bumper bottom to ground at normal section.	Same as H-102, Bottom of Bumper is Lowest Point
H106. Angle of approach—from the tire rolling radius to lowest point on front bumper or guard.	23°
H107. Angle of departure—from the tire rolling radius to lowest point on rear bumper or guard.	17°
HC. Ramp breakover angle.*	15°
H117. Windshield DLO—slant height.	16-1/4
H121. Backlight DLO*—Max., slant height.	15-7/8
H122. Windshield slope angle to vertical line on car axis.	43-1/2°
H124. Backlight slope angle to vertical line on car axis.	45°
H128. Ground to bottom of front bumper guard.	13-5/8
H129. Ground to bottom of rear bumper guard.	Same as H-128, Bottom of Bumper is Lowest Point
HD. Min. road clearance (location and dimension).	7" - Frame, at Rear Kick-Up
HE. Min. road clearance at rear axle.	8-1/2

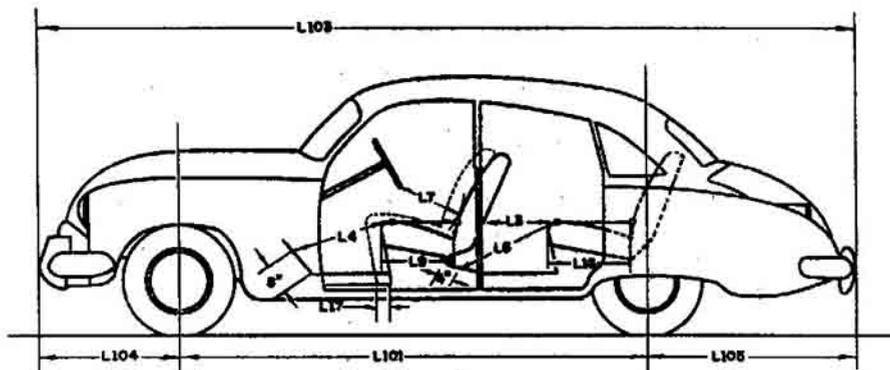
*See Notes, page 19.

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MODEL S-20, S-19

BODY—LENGTH DIMENSIONS



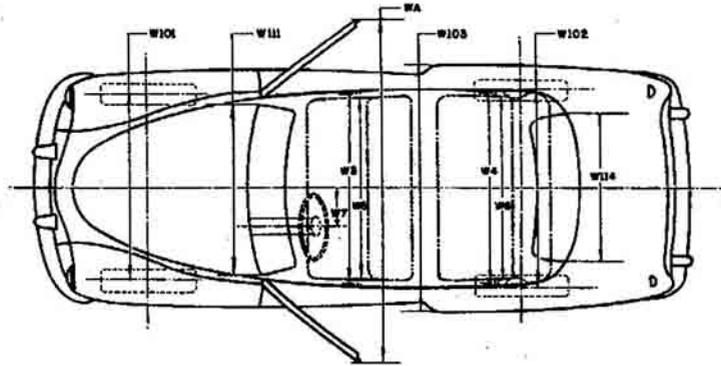
	L3. Rear compartment back of front seat back to rear seat back.	33-1/4
	L4. Leg room—front—diagonal—ball of foot to top of seat to front seat back—15° line.	44
	L5. Leg room—rear—diagonal—from ball of foot to top of rear seat cushion and to seat back.	41-7/8
Interior	L7. Steering wheel clearance to seat back taken on arc.	15-1/8
	L9. Front seat depth (front edge to vert. tan. to seat back on 15° line).	18-1/4
	L16. Depth of rear seat (front edge to seat back).	17-7/8
	L17. Total adjustment of front seat at floor.	5
	L101. Wheel base.	125-1/2
	L103. Overall length (bumper to bumper inc. guards).	214-1/2
Exterior	L104. Overhang—front including bumper guards.	37
	L105. Overhang—rear including bumper guards.	52

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MODEL S-20, S-19

BODY—WIDTH DIMENSIONS



	W3. Front shoulder room, at garnish moulding height or nearest interference 5" forward of seat back.	57
Interior	W4. Rear shoulder room, at garnish moulding height or nearest interference 5" forward of seat back.	54-1/2
	W5. Front hip room, at top of seat 5" forward of vert. tan. to seat back.	61-1/2
	W6. Rear hip room, at top of seat 5" forward of vert. tan. to seat back.	60-1/8
	W7. Steering wheel center to center of body.	15-1/2
Exterior	W101. Front tread at ground.	56-5/16
	W102. Rear tread at ground.	59-5/8
	W103. Max. overall width of car including bumpers or mouldings.	77-5/8
	WA. Max. overall width of car with doors open.	148
	W111. Windshield DLO, max. width.	55-1/4
	W114. Back window DLO, max. width.	56-5/8

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MODEL S-20 Powermaster Six S-19 FireDome Eight

BODY—MISCELLANEOUS INFORMATION

Doors hinged (front, rear)	Front	Front
	Rear	Front
Type of finish (lacquer, enamel)		Synthetic Enamel
Hood opening (front, side, semi-full, full, half)		Front, Full
Hood counterbalanced (yes, no)		Yes
Hood release control (internal, external)		External
Vent window control method (crank, friction, pivot).		Pivot
Windshield (one piece, two piece, curved, flat)		One Piece, Curved
Rear window type (one piece, two piece, three piece, curved, flat)		One Piece, Curved
Windshield glass area		909 sq in.
Backlight glass area		900 sq in. (x)
Total glass area		3093 sq in. (x)

BODY—TYPES AND STYLE NAMES

Body type, number of passengers, and style names (use letter code shown below followed by passenger capacity and style name e.g., N-6 Ranchwagon)	G-6 4-Door Sedan	G-6 4-Door Sedan
	B-6 Club Coupe	B-6 Club Coupe
	N-6 All Steel Station Wagon	J-6 Sportsman
	H-8 8-Passenger Sedan	L-6 Convertible Coupe
	H-8 8-Passenger Sedan (Taxi)	P-6 All Steel Station Wagon (x)
		H-8 8-Passenger Sedan

- A—Coupe—2 door flatback
- B—Coupe—2 door notchback
- C—Sedan—2 door flatback
- D—Sedan—2 door notchback
- E—Sedan—4 door flatback (4 windows)
- F—Sedan—4 door flatback (6 windows)
- G—Sedan—4 door notchback (4 windows)
- H—Sedan—4 door notchback (6 windows)
- J—Hardtop—2 door
- K—Hardtop—4 door

Body type code

- L—Convertible—2 door
- M—Convertible—4 door
- N—Station wagon—2 door
- P—Station wagon—4 door
- Q—Combined passenger and utility—2 door
- R—Combined passenger and utility—4 door
- S—Sedan delivery
- T—Limousine

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