

AUTOMOBILE MANUFACTURERS ASSOCIATION CONSOLIDATED SPECIFICATION QUESTIONNAIRE

MAKE OF CAR:	DE SOTO	MODEL NAME	SYMBOL
COMPANY:	DeSoto Division Chrysler Corporation Detroit 31, Michigan	Powermaster	S-18
		FireDome	S-16
MODEL YEAR:	1953	DATE	10-21-52
		Revised:	12-15-52

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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-18	S-16
Wheelbase	125-1/2	
Tread	Front	56-5/16
	Rear	59-5/8
Maximum Overall Dimensions	Length (L-103)	213-3/8
	Width (W-103)	77-1/4
	Height (H-101)	62-1/2
Steering ratio—overall	23.0	25.8
Turning diameter (curb to curb)	N.A.	41' 7"
Shipping weight*		
Transmission— (Specify standard, optional, not avail.)	Conventional	Standard
	Overdrive	Optional
	Automatic	Optional (a)
Axle ratio	Conventional	3.9
	Overdrive	4.3
	Automatic	3.9
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 to 1
	Maximum bhp at engine rpm	116 at 3600
	Maximum torque at rpm	208 at 1600
		90° v
		8
		OHV, Laterally Inclined
		3-5/8 x 3-11/32
		276.1
		7.1 to 1
		160 at 4400
		250 at 2000

*Standard car weight, not including gas and water.

- (a) Tip-Toe Shift with Fluid Drive or Fluid-Torque Drive.
- (b) With Tip-Toe Shift with Fluid-Torque Drive the standard ratio is 3.54.

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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		L-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	7.1 to 1	
	Optional Head	---	---	
Cylinders	Head	Cast Iron		
	Material	---		
	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	160 at 4400	
	Optional head	---		
	With fuel (Octane and method)	Standard Head	75 (Motor)	
		Optional Head	---	
Max. torque (lb. ft. @ RPM)	Standard head	208 at 1600	250 at 2000	
	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
		Bottom	
Ring groove depth	No. 1 ring	.1765	.193
	No. 2 ring	.1765	.193
	No. 3 ring	.178	.192
	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.

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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 #2 - Tin	Tin
	Width	3/32	.078
	Gap	.011	.015
	Maximum wall thickness	.172	.176
Oil	Material	Piston Ring Iron	
	Coating	None	
	Width	5/32	.186
	Gap	.011	.015
	Maximum wall thickness	.155	.140
Location of expanders		None	Oil Ring

ENGINE—PISTON PINS

Material		High Manganese Steel	
Length		2.875	3.065
Diameter		55/64	.922
Type	Locked in rod, in piston, floating, etc.	Floating	
	Bushing	In rod or piston	Rod
Clearance	Material		Steel Backed Lead-Bronze
	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.)		Not Available	

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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 1.55	2.375 x .812
		No. 2	2.5 x 1.55	2.375 x .812
		No. 3	2.5 x 1.55	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	.014	Valve Train Solid
	Exhaust	.014	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	4-51/64	
	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	4-3/4
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. @ mph)	50 at 30	
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	No Recommendation	

ENGINE—FUEL SYSTEM

Recommended fuel	Standard head	Regular		
	Optional head	---		
Fuel tank, capacity (gal.)		17		
Fuel pump	Type (elec. or mech.)	Mechanical		
	Location	Right Front of Engine		
	Pressure range	3.5 to 5 lb		
	Vacuum booster (std., optl., none)	None		
Carburetor	Make	Ball and Ball		
	Model number	E9C1	BBD-909-S	
	Number used	One		
	Type	Downdraft, side inlet, other	Downdraft	
		Single or dual	Single	Dual
	Intake manifold heat control (manual, auto., none)		Automatic	
	Automatic choke type (integral, other)		Integral	
	Air cleaner type	Standard	Oil Bath	
Optional		---		

ENGINE—EXHAUST SYSTEM

Muffler type (reverse flow, straight through)	Reverse Flow	
Exhaust pipe diameter	2	Branch 1-7/8; Main 2-1/2
Tail pipe diameter	1-3/4	2

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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 (a)
		Angle of V	36°	
		Outside length	49	37.25
		Width	3/8	
	Generator	Angle of V	Same as Fan Belt	
		Outside length	---	
		Width	---	
			36°	
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		

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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		GGW-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	
	Regulated	Voltage	7.1 - 7.4	
		Current	45-57 (b)	
	Min. Gen. rpm required		1000	
	Voltage test conditions	Temperature	70°	
Load		Run 15 min at 10 Amp		
Other		---		

ELECTRICAL—STARTING SYSTEM

Starting motor	Make		Auto-Lite	
	Model		MCL-6117	MCH-6113
	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	610	500
		Volts	3.0	
		Torque (lb. ft.)	15	11
	No load test	Amps	50-65	
		Volts	5.5	
RPM (min.)		5300	4900	
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	146
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	
	Spark advance data (at distributor shaft)	Centr. advance start (rpm)	0° at 250 - 450		
		Centr. advance max. deg. @ rpm	9° - 11° at 1425	10.5° - 15.5° at 1900 ^(a)	
		Vacuum advance start (in. Hg.)	1° at 5.5" - 6"		
		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 AR-8	Auto-Lite Resistor 48-140	
	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	Auto-Lite
	Trip odometer (yes, no)	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.....Starter 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 2nd Position Clockwise.....Instruments, Tail Lamp, Head Lamp, and License Lamp
	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. Direction Signal Switch, Lever on Steering Column below Steering Wheel
Windshield wiper	Make	Auto-Lite or Redmond
	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-16 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		2-44
Glove compartment light		1-51
Courtesy light		2-87 (Hard Top and Convertible Only)
Trunk compartment light		--- 1-88
Other Speedometer Light		2-55
Back-Up Lamp		2-1129
Gearshift Indicator		1-51*

ELECTRICAL—FUSE & CIRCUIT BREAKER DATA

Use trade number of fuse, e.g., SFB-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: SFB-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	SFB 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.)		1413	1884	
No. of clutch driven discs		One		
Clutch facing	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		
	Release bearing	Type	Ball	
		Method of lubrication	Sealed	
	Torsional damping	Method (springs, other)	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	(a)	(b)
Type (fluid coupling with gears, torque convertor with gears, other)	Fluid Coupling with Countershaft Transmission (c)	
Manual selector positions, left to right (show symbols and define, e.g., N- Neutral)	R - Reverse Lo - Low Range Nu - Neutral Dr - High Range	
List gear ratios in each drive position (range)	Low Range - 1st - 3.57 - 2nd - 2.04 High Range - 3rd - 1.75 (d) - 4th - 1.00 Reverse --3.99	
Shifting within drive position range by accelerator control and speed limiting governor (yes, no)	Yes	
By governor—forced shift (yes, no)	No	
Downshift of gears in high range possible up to (mph)	40	55

(a) Tip-Toe Shift with Fluid Drive. (b) Tip-Toe Shift with Fluid Drive or Tip-Toe Shift with Fluid-Torque Drive. (c) Torque convertor with countershaft type transmission for Tip-Toe shift with Fluid-Torque Drive. (d) Transmission ratios for transmission in the Tip-Toe shift with Fluid-Torque Drive are: Low Range, first - 3.28, 2nd - 2.04; High Range - 3rd - 1.61, 4th 1.00; Reverse - 3.69.

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DRIVE UNITS—AUTOMATIC TRANSMISSION (cont.)

Torque convertor	Number of elements		---	Four
	Max. ratio at stall at engine rpm		---	Stalled Torque - 2.5 Stalled Speed - 1450
	Mechanical lockup	Provided (yes, no)	---	No
		Speed range	---	---
		Releases at (speed range, mph)	---	---
	Type of cooling (forced air, oil cooler and type, other)		---	Engine Oil Fed Air Cooled
Anti-creep device (yes, no)		---	No	
Lubricant	Capacity—refill (pt.)		---	3 (a)
	Type recommended		---	Engine Oil
	Grade	Summer	---	SAE 10W
		Winter	---	SAE 10W
		Extreme cold	---	SAE 5W

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	3-1/2 x 60-1/4 x .065 (b)	
Intermediate bearing	Type (plain, anti-friction)	---		
	Lubri. (fitting, prepack)	---		
Universal joints	Make		NA	
	Number used		Two	
	Type (ball and trunnion, cross, other)		Ball and Trunnion	
	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.

(a) This capacity is for the transmission only. Engine and torque converter have a combined oil system with the oil supplied to the convertor by the engine oil pump. Oil capacity for this system requires 12 qt with an additional quart if the oil filter is changed. See engine oil recommendations for grade of lubricant used.

(b) With Tip-Toe shift with Fluid Drive. For Tip-Toe shift with Fluid-Torque Drive the dimension is 2-3/4 x 56-7/8 x .065.

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MODEL S-18 S-16

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.	3.9 (39-10)	3.73 (41-11) (a)	
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

(a) These ratios are used with Tip-Toe Shift with Fluid Drive. For Tip-Toe Shift with Fluid-Torque Drive the rear axle ratios is 3.54 (39-11).

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MODEL S-18 S-16

BRAKES—SERVICE (cont.)

	Bonded or riveted			Bonded		
	Brake lining	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 Tip-Toe Shift with Fluid Drive or Tip-Toe Shift with Fluid-Torque Drive is used, 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.)	415	480
	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	Wall to wall	N.A.		
	Curb to curb	N.A.	41' - 7"	
Outside wheel angle with inside wheel at 20°		18-1/4°		
Mechanical	Gear	Type	Worm and 3-Tooth Roller	
		Make	Gemmer	
		Ratios	Gear 18.2	20.4
		Overall 23.0	25.8	
	No. wheel turns (l. to r.) (l. to r.)	5 (c)		
Power	Type	Hydraulic - Mechanical		
	Make	Gemmer		
	Trade name	Hydraguide		
	Gear	Type	Worm and 2-Tooth Roller	
		Ratios	Gear 16.2 - 1	16.2 - 1
			Overall 16.2 - 1	16.2 - 1
	Pump driven by	Generator		
	Overall torque ratio	122 - 1		
	Number wheel turns (l. to r.)	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

(b) Model	Location	Load	Length
S-18	Opposite Drivers Side	1925	11.00
	Driver's Side	2000	11.00
S-16	Opposite Driver's Side	2095	11.00
	Driver's Side	2190	11.00

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STEERING (cont.)

Kingpin	Inclination at camber (deg.)		$5^{\circ} - 6.5^{\circ}$
	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.)		$-3/8^{\circ}$ to $+3/8^{\circ}$ (a)
	Toe-in (outside tread-inches)		0 to $1/16"$ $1/16"$ 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.)		Right - 840 Left - 880	
	Normal load (lb. at rated length)		Right - 840 Left - 880	
	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 $1/4^{\circ}$ to $1/2^{\circ}$ higher than right side within these limits.
 (b) 8 passenger and Station Wagon models use the parallel system.
 (c) Temporary substitution, Chromium - Carbon Steel.

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MAKE OF CAR DE SOTO MODEL YEAR 1953

BODY—GENERAL DEFINITIONS

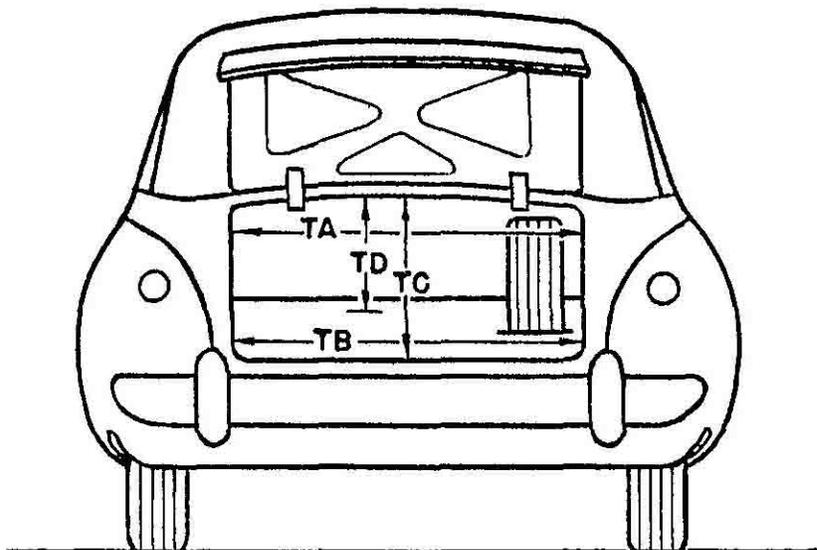
NOTE: Included in the dimension definitions listed on this and the following pages are those which have been proposed for adoption by the SAE. These are indicated by a number following the type of dimension, e.g., L 3. Additional dimensions have been added by the AMA Specifications Body Sub-Committee 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, tire 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)—is the supplement of the included ramp angle over which a car can pass without hanging up.

MODEL

S-18, S-16

BODY—TRUNK OPENING DIMENSIONS



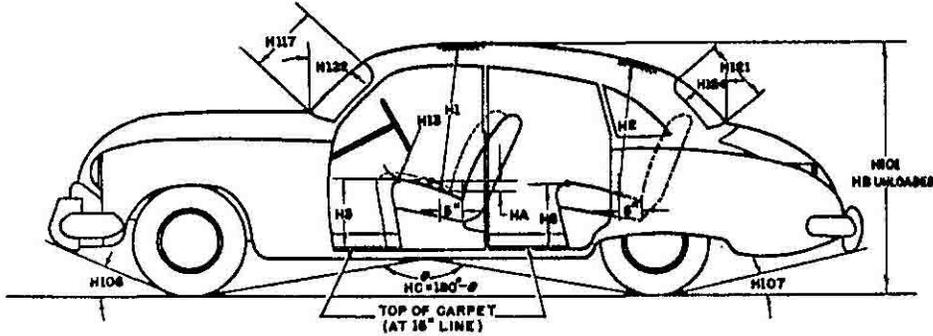
TA—Width across the top	59
TB—Width across the bottom	52-1/2
TC—Diagonal dimension at CL from top of opening to bottom	31-5/8
TD—Vertical height of opening (floor to top, inside edge of opening)	23-1/2
Position of spare tire stowage	Vertical, inclined, fore and aft, at right
Method of holding lid open	Spring Counterbalanced

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MODEL S-18, S-16

BODY—HEIGHT DIMENSIONS



	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
Interior	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
	H13. Steering wheel clearance to seat cushion taken on arc.	5-3/4
	HA. Front seat vertical rise at "A" pt. (inches.)	1-1/8
	H101. Overall height.	62-1/2
	H106. Overall height—unloaded.	64-1/4
	H106. Angle of approach—from the tire rolling radius to lowest point on front bumper or guard.	19°
	H107. Angle of departure—from the tire rolling radius to lowest point on rear bumper or guard.	15°
	HC. Ramp breakover angle.*	165°
Exterior	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°
	HD. Min. road clearance (location and dimension).	7" - Frame, at rear kick-up
	HE. Min. road clearance at rear axle.	8-1/2

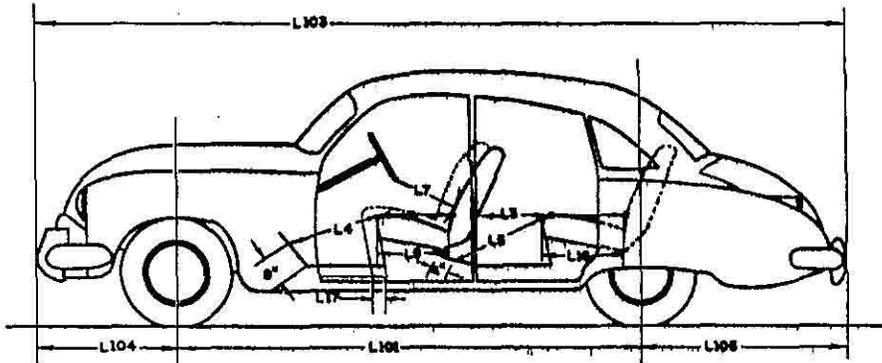
*See Notes, page 19.

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MODEL S-18, S-16

BODY—LENGTH DIMENSIONS



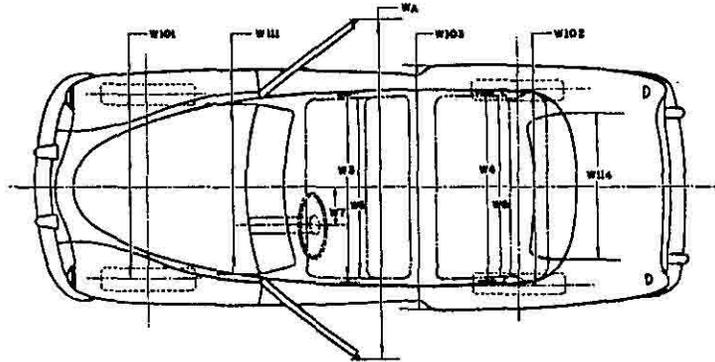
	L3. Rear compartment back of front seat back to rear seat back.	33-1/4
	L4. Leg room—front—diagonal—ball of foot to top of seat to front seat back—15° line.	44-1/4
	L5. Leg room—rear—diagonal—from ball of foot to top of rear seat cushion and to seat back.	41-7/8
Interior	L7. Steering wheel clearance to seat back taken on arc.	15-1/8
	L9. Front seat depth (front edge to vert. tan. to seat back on 15° line).	18-3/8
	L16. Depth of rear seat (front edge to seat back).	18
	L17. Total adjustment of front seat at floor.	5
	L101. Wheel base.	125-1/2
	L103. Overall length (bumper to bumper inc. guards).	213-3/8
Exterior	L104. Overhang—front including bumper guards.	36-3/4
	L105. Overhang—rear including bumper guards.	51-1/8

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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
	W101. Front tread at ground.	56-5/16
Exterior	W102. Rear tread at ground.	59-5/8
	W103. Max. overall width of car including bumpers or mouldings.	77-1/4
	WA. Max. overall width of car with doors open.	148
	W111. Windshield DLO, max. width.	57-1/2
	W114. Back window DLO, max. width.	56-5/8

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MAKE OF CAR DE SOTO **MODEL YEAR** 1953

MODEL S-18 S-16

BODY—TYPES

Body types and number of passengers. (Please use the letter code shown below followed by the number of passengers, e.g. A-6.)	G-6	G-6
	B-6	B-6
	J-6	J-6
	P-6	L-6
	H-8	P-6
		H-8

Body type code

- | | |
|--|---|
| 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 | 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 |
|--|---|

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
Windshield (one piece, two piece; curved, flat)		One-piece, Curved
Rear window type (one piece, two piece, three piece; curved, flat)		One-piece, Curved

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