

# Automobile Manufacturers Association

## Consolidated Specification Questionnaire

### 1950 MODEL

### Mechanical Details

Make of Car..... Oldsmobile..... Model ..... "98"  
 Oldsmobile Division  
 Name of Maker..... General Motors Corporation..... Address ..... Lansing, Michigan

Date... 11-28-49.....

**NOTE: (1) Subject to Correction: It is understood that the following data are subject to correction in the case of cars not in production at the time this compilation was requested.**

**(2) Only standard equipment included in Factory Delivered price should be included in this questionnaire.**

#### ENGINE

No. of cylinders ..... 8.....  
 Valve arrangement Valve-in-Head.....  
 Bore 3-3/4"..... Stroke 3-7/16"  
 Cylinder head, cast iron or aluminum Cast Iron.....  
 Cylinder sleeve, Yes..... No No.....  
 Piston displacement 303.73 Cu. in.....  
 Taxable horsepower 45.0.....  
 Horsepower rating—

To be based on actual performance corrected to 60°F. at sea level (barometric pressure 29.92 inches of mercury) with standard fuel. (Octane No. of fuel 86 Research.

—With Bare Engine—

Maximum brake hp. 135..... at 3600..... R.P.M.

—With Standard Accessories—\*

Maximum brake hp. 129..... at 3600..... R.P.M.

\*Those standard accessories needed for normal operation including fan, generator, starter, air cleaner, muffler, manifolds, fuel and water pumps.

Maximum torque—  
 With bare engine, lb. ft. 263..... at 1800..... R.P.M.  
 With standard accessories,\* lb. ft. 255..... at 1800..... R.P.M.

Compression Ratio—  
 Standard 7.25..... Optional.....

Standard compression pressure—pounds—  
 At cranking speed 136# at 150 R.P.M.....  
 At what R.P.M. 183# @ 1000 R. P. M.....

#### PISTONS and RINGS

Piston  
 Make Own.....  
 Material Aluminum Alloy.....  
 Features—split skirt, lower strut, oval, tin-plated, aluminum oxide finish, auto-thermic, V-Bridge, porous chrome plate, etc. Auto-thermic, Cam Grnd., Tin Plate Steel strut.....  
 Weight—ounces—without rings, pin or bushing 19.88 oz.....  
 Length 4".....  
 Clearance—  
 Top land 0.32"..... to 0.26"  
 Skirt, top 0.005"..... bottom 0.005"..... to 0.010"

#### PISTONS and RINGS (cont'd)

Piston ring groove depth—  
 Oil 1.93"..... Compression 2.00"  
 No. of oil rings used per piston One.....  
 Width of oil rings 3/16".....  
 Width of oil ring gap 0.008" to 0.016"  
 No. of compression rings used per piston Two.....  
 Width of compression rings 5/64".....  
 Width of compression ring gap 0.010 to 0.020  
 Maximum wall thickness of oil rings 150"  
 Maximum wall thickness of compression rings 187"  
 Are ring expanders used, Yes..... Yes..... No.....

#### RODS and PINS

Wristpin—  
 Material S. A. E. #1117 Steel.....  
 Length 3.016"..... Diameter 9.805"  
 Locked in rod, piston or floating Full Floating  
 Clearance in piston 0.000..... to 0.002  
 Clearance in rod 0.005"..... to 0.003"

Connecting rod—  
 Length—center to center 6.625"  
 Material GM X-1335 Steel.....  
 Weight—ounces 29.54 oz.....

Crankpin journal—  
 Diameter 2 1/4"..... Length 2"

Lower bearing— Durex 100-A with GM 4167-M  
 Material Babbitt Overlay.....  
 Clearance 0.009"..... to 0.0029"  
 End play 0.02"..... to 0.011"  
 Ship—solid, laminated or none None.....  
 Spun or separate Separate.....

Rods and pistons removed from above or below Above.....

#### CRANKSHAFT

Material S. A. E. 1145 Mod. Steel.....  
 Weight—stripped 60#.....  
 Vibration dampener used—yes or no No.....  
 Type.....

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**CRANKSHAFT (cont'd)**

Crankshaft counterweights used, number of 6  
 Which main bearing takes thrust Rear  
 Crankshaft end play .004" to .008"

Main bearing—  
 Type: Cast-in or Slip-in Yes  
 If slip-in: Removable from below Yes  
 Necessary to align ream No

Material Durex 100-A with GM 4167 Babbitt Overlay  
 Clearance .0005" to .003" - Except Rear  
 Shim—solid, laminated or none None

Main bearing journal diameter x length—  
 No. 1 2-1/2" x 1-3/32"  
 No. 2 2-1/2" x 1-1/8"  
 No. 3 2-1/2" x 1-1/8"  
 No. 4 2-1/2" x 1-1/8"  
 No. 5 2-5/8" x 1.880"  
 No. 6  
 No. 7  
 No. 8  
 No. 9

Crankshaft gear or sprocket—  
 Make Link Belt - Morse Optional  
 Material S. A. E. 1141 Steel "Link Belt"  
 C-1117 or 1118 Steel "Morse"

**CAMSHAFT**

Camshaft gear or sprocket—  
 Make Link Belt - Morse Optional  
 Material 1X Cast Iron - Morse Cast Iron

Timing chain—  
 Make Link Belt - Morse Optional  
 Number of links 48 L. B. - 64 Morse  
 Width 27/32" Link Belt - 7/8" Morse  
 Pitch 500" Link Belt - 375" Morse

**VALVES**

**INTAKE VALVE—**

Make Various  
 Material S. A. E. 3140 Steel & N. E. 8645 Stl.  
 Overall length 4.917"  
 Actual overall diameter of head 1-3/4"  
 Minimum port diameter 1-7/16"  
 Angle of seat 45°  
 Is valve seat an insert? No  
 Stem diameter 3.425 - 3.417  
 Stem to guide clearance .0022" to .0040"  
 Lift 333  
 Spring pressure and length—  
 Outer—

**VALVES (cont'd)**

With valve closed—lb. 65# ins. 1.777  
 With valve open—lb. 141# ins. 1.447  
 Length out of engine—ins. 2-3/32" Approx.  
 Inner— None  
 With valve closed—lb. ins.  
 With valve open—lb. ins.  
 Length out of engine—ins.

**EXHAUST VALVE—**

Make Various XCR Head  
 Material Silchrome XCR Steel & NE-8645 Stl.  
 Overall length 4.941" Stem  
 Actual overall diameter of head 1 7/16  
 Minimum port diameter 1.241  
 Angle of seat 45°  
 Is valve seat an insert? No Material  
 Stem diameter 3.938 - 3.930  
 Stem to guide clearance .0027" to .0045"  
 Lift 333  
 Spring pressure and length—

Outer—  
 With valve closed—lb. 65# ins. 1.777  
 With valve open—lb. 141# ins. 1.447  
 Length out of engine—ins. 2-3/32" Approx.  
 Inner— None  
 With valve closed—lb. ins.  
 With valve open—lb. ins.  
 Length out of engine—ins.

Operating tappet clearance (hot or cold)—intake None  
 CAM LIFT for valve timing—intake Open .0029" Close  
 Operating tappet clearance (hot or cold)—exhaust None .0049"  
 CAM LIFT for valve timing—exhaust Open .0029" Close  
 Hydraulic valve lifters—yes or no Yes .0049"

Valve timing—  
 Intake opens 13 1/2 degrees BU DC piston travel 0.060 inches  
 Intake closes 50 1/2 " ALDC " " 2.947 inches  
 Exhaust opens 49 1/2 " BLDC " " 2.964 inches  
 Exhaust closes 14 1/2 " AU DC " " 0.068 inches  
 Valve Timing Marks—on Flywheel, Vibration Damper, None None

**LUBRICATION**

Lubricating system type—pressure or splash Pressure  
 Oil pressure to—  
 Main bearings—yes or no Yes  
 Connecting rods—yes or no Yes  
 Wristpins—yes or no No  
 Camshaft bearings—yes or no Yes  
 Tappets—yes or no Yes

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**LUBRICATION (cont'd)**

Timing gear or chain lubrication—*positive or splash* Positive ..  
 Oil pump type Gear ..  
 Oil grade recommended—*SAE viscosity and temperature range*—  
 ..... See Lubrication Chart ..  
 .....  
 Normal oil pressure—*lbs. at M.P.H.* 40# at 30 MPH ..  
 Pressure at which relief valve opens 40# ..  
 Capacity of oil reservoir—*quarts, dry* 5 *refill* 5 ..  
 Oil pressure gauge make A. C. ..  
 Oil reservoir level gauge type Dip Stick ..  
 Floating type oil intake—*yes or no* No ..  
 External oil filter make None ..  
 Other type of oil cleaner None ..  
 Oil cooler make None ..  
 Chassis lubrication—*Make* Various ..

**FUEL**

Gasoline tank—*capacity* 18 Gallons ..  
 Fuel feed—  
 Type—*vacuum tank, electric pump, gravity vacuum pump or camshaft pump* Camshaft Pump ..  
 Make A. C. Model ..  
 Carburetor—  
 Make Various Model Type CE ..  
 Number used 1 ..  
 Size 1-7/16" ..  
 Type—  
 Up or down draft Down .. Single or dual Dual ..  
 Intake manifold heat control—*manual, automatic or none* Automatic ..  
 Automatic choke, make Various Model ..  
 Air cleaner—intake silencer make A. C. ..  
 Type—*dry felt; oil bath; oil coated fibre Oil coated Metal* ..  
 Heavy Duty type—*Make* None Model ribbon ..  
 Muffler make Hayes & Walker ..  
 Tail pipe diameter 2" ..

**COOLING**

Water pump—  
 Type Sealed Centrifugal ..  
 Drive V-Belt ..  
 Is pump equipped with packing nut No ..  
 Water circulation thermostat make Harrison ..  
 Pressure relief valve—*yes or no* Yes ..  
 By-pass for recirculation—*yes or no* Yes ..  
 Radiator core—  
 Type Tubular Vee Cell ..  
 Make Harrison ..

**COOLING (cont'd)**

Cooling system—*capacity, quarts* 21-1/2 qts. ....  
 Water jackets full length of cylinders—*yes or no* Yes ..  
 Water all around cylinder—*yes or no* Yes ..  
 Lower radiator hose—  
 Inside diameter 1-3/4" Length 14 5/8" Approx. ..  
 Upper radiator hose—  
 Inside diameter 1-1/2" Length 11-1/8" ..  
 Fan belt—  
 Make Various ..  
 Angle of vee 36° ..  
 Length, outside 39" Width, maximum 3/8" ..  
 Fan—  
 Make Hayes No. of Blades 4 ..

**IGNITION**

Ignition units—  
 Make Delco Remy Model 1110817 ..  
 Manual or octane selector, *degrees advance* 15° *retard* 15° ..  
 Maximum centrifugal advance crankshaft, *degrees* 30° *at* 3700 *engine R.P.M.* ..  
 Inches of Mercury Necessary to operate Vacuum Advance (Plus or minus 1 inch) 6.5 to 8.5" ..  
 Maximum Vacuum advance crankshaft, *degrees* 20° ..  
 Breaker gap .0125-.0175 Breaker arm tension 19-23 oz. ..  
 Dwell *Cam angle* 22° *B.T.C.* ..  
 Timing—*Breaker points open* 2-1/2 *degrees crankshaft rotation* ..  
 or *inches piston travel (after or before) top center with octane selector in the Normal position* ..  
 Timing mark location—*flywheel, vibration dampener or none* Crankshaft ..  
 Firing order 1-8-7-3-6-5-4-2 Pulley ..  
 Amperage draw of ignition coil—  
 With engine stopped 4.5 Amp. ..  
 With engine idling 2.0 Amp. ..  
 Spark plug—  
 Thread—*10 m.m., 14 m.m. or 18 m.m.* 14 m. m. ..  
 Make A. C. Model 45 ..  
 Gap .030" ..  
 Ignition cable make G. M. ..

**BATTERY**

Make Delco Remy Model 17K4W ..  
 Capacity—*amperes hours* 115 A. H. @ 20 hour rate ..  
 Number of plates per cell 17 ..  
 Bench charging rate—  
 Start 12.5 .. Finish 5.25 ..  
 Which battery terminal is grounded Negative ..  
 Location of battery Under-Hood ..

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**STARTING MOTOR**

Make Delco Remy ..... Model 1107956 .....  
 Normal engine cranking speed Summer 120 R. P. M. ....  
 Brush spring tension 24-28 oz. ....

**Lock test—**

Amperage draw 600 .....  
 Volts 3.0 .....  
 Torque in pounds feet 15 .....

**No load test—**

Amperage draw 80 .....  
 Volts 5.7 ..... R.P.M. 5500 .....

Type of drive—Bendix or sliding gear with overrunning clutch .....

Starting device—Solenoid, manual, etc. Solenoid .....

Starter operation—check items required to start engine

1. Turn on ignition ..... X .....
2. Depress starter pedal ..... .....
3. Depress accelerator pedal ..... X .....
4. Depress clutch pedal ..... .....
5. Operate button on dash ..... X .....
6. Pull out throttle ..... .....

Starting motor pinion meshes front or rear Front .....

No. of teeth in flywheel 145 .....

Face width of flywheel teeth 3/8" .....

Gear ratio between starter armature and flywheel 16. 11:1 .....

**GENERATOR**

Make Delco Remy ..... Model 1102704 .....  
 Type—bird brush, shunt, etc. Shunt .....  
 Brush spring tension 24 to 28 oz. ....

Current regulator, voltage regulator or current and voltage control unit Current & Voltage Control .....

Maximum controlled charging rate

Temperature 70° - 140° .....

Amperes 40 Amp. ....

Voltage 8 V. ....

R.P.M. 1880 at 70° to 2320 at 140° .....

Circuit relay—

Voltage at closing 6.5 .....

Amperes to open, reverse current 0 to -4 .....

Air gap .020" .....

Voltage regulator—

Volts 7.3 @ 9 Amp. ....

Temperature 150° .....

Air gap .075" .....

Current regulator—

Amperes 40 Amp. ....

Temperature 150° .....

Air gap .075" .....

Car speed for maximum charging rate 21 M. P. H. and up .....

Ammeter or charge indicator make A. C. ....

**LAMPS**

Lighting switch make Delco Remy .....

Are tail and dash lights in series No. ....

Headlights—

Make Guide Lamp .....

Location—in fender, in catwalk, or radiator shell Fender .....

Parking or fender light make Guide .....

Tail and stop light make Guide .....

Horn—

Type—vibrator or motor Vibrator No. used 2 .....

Make Delco Remy .....

Amperage draw of each High Note 18 Amp. ....

Low Note 20 Amp. ....

**CLUTCH**

Make Long Mfg. Div. ....

Drive type—

Direct to flywheel face Yes .....

Through fluid flywheel No .....

Semi-centrifugal Yes .....

Power operated unit—make None .....

Vibration insulation or neutralizer—fabric, rubber blocks or springs Spring-Friction Type .....

No. of clutch driving discs 1 .....

No. of clutch driven discs 1 .....

Clutch facing—

Material—woven or moulded asbestos, cork Woven Asbestos .....

Inside diameter 7" .....

Outside diameter 10.5" .....

Thickness .137 .....

No. required 2 .....

**TRANSMISSION**

Transmission—Synchro-Mesh .....

Make Own ..... Model .....

No. of forward speeds 3 .....

Manual shift—yes, no Yes .....

Automatic or auxiliary shifting mechanism—yes, no No .....

If yes, Make .....

Type—centrifugal, vacuum, electric or hydraulic .....

Automatic overdrive—No .....

Make .....

Oil capacity—pints .....

Oil grade recommended—S.A.E. viscosity

Summer ..... Winter .....

Gear ratio in high—standard 5-passenger

4-door sedan 1:1 .....

Transmission ratio—

In overdrive ..... In second 1.53:1 .....

In third 1:1 ..... In fourth .....

In low 2.39:1 ..... In reverse 2.39:1 .....

See auxiliary sheet 4A attached, for information on Oldsmobile's Hydra-Matic Drive. This unit is available for all "98" model cars, car prices being increased accordingly. The information listed herein, under clutch and transmission applies to the 1950 design synchro-mesh transmission, standard equipment for all "98" model cars.

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### Hydra-Matic Drive Specifications

TYPE	High efficiency fluid couplings combined with a fully automatic transmission.
LOCATION	Unit with engine
TYPE OF GEARING	Planetary
CONTROL LOCATION	Steering Column & Throttle
NUMBER OF FORWARD SPEEDS	4
TRANSMISSION RATIOS	
First	3.8195:1
Second	2.6341:1
Third	1.45 :1
Fourth	1:1
Reverse	4.3045:1
TRANSMISSION OIL CAPACITY	10.5 Qts. Hydra-Matic Fluid Refill
CLUTCH	None
AXLE RATIO - STANDARD	3.64:1
OPTIONAL	3.9 :1

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**TRANSMISSION (cont'd)**

Constant mesh gears on second .....  
 Spur or helical gears—  
 For second speed ..... Constant Mesh Helical  
 For first speed ..... Sliding Helical  
 For reverse speed ..... Sliding Helical  
 For all speeds .....  
 Synchronous meshing and third gears ..... Yes  
 Transmission oil—  
 Capacity—*pints* ..... 3 Pts.  
 Grade recommended—*S.A.E. viscosity*  
 Summer S. A. E. 90 Winter S. A. E. 90  
 Universal joints—  
 Make ..... Mechanics or Saginaw Strg. Gr. Div.  
 Number used ..... 2  
 Type—*metal with anti-friction bearing or metal with plain bearing* .....  
 Lubricated with ..... Permanently  
 Drive taken through springs, torque arm, torque tube or radius rods ..... Stabilizing Arms  
 Torque taken through springs, torque arm, torque tube or radius rods ..... Stabilizing Arms

**REAR AXLE**

Rear axle—  
 Make ..... OWN Model .....  
 Type—*Semi, full or three-quarter floating* ..... Semi-floating  
 Minimum road clearance under center of rear axle—*tires inflated* .....  
 Rear axle oil—  
 Capacity—*pints* ..... 3 3/4  
 Grade and type recommended—*S.A.E. viscosity*  
 Summer See Lub. Chart Winter .....  
 Type of gearing—*spiral bevel, worm, hypoid* ..... Hypoid  
 Gear ratio—*standard 5-passenger 4-door sedan* ..... 3.9:1  
 Optional gear ratios ..... None  
 Number of teeth—  
 In ring gear ..... 39 In pinion ..... 10  
 How is pinion adjusted—*screw or shims* ..... Shims  
 How is pinion bearing adjusted—*screw or shims* ..... Nut  
 Are pinion bearings carried in sleeve ..... No  
 Backlash between pinion and ring gear ..... 004" to 006"

**TIRES and WHEELS**

Tires—  
 Make ..... Various  
 Size ..... 7.60 x 15 No. of plies ..... 4

**TIRES and WHEELS (Cont'd)**

Inflation pressure—Front ..... 24# Rear ..... 24#  
 Rim—Diameter ..... 15" Width ..... 5.50F  
 ..... 5.50K  
 ..... (Optional)

**SPRINGS**

**FRONT SPRING—**

Independent or conventional suspension ..... Independent  
 Type—*coil, semi-elliptic, transverse, torsion* ..... Coil  
 Make ..... OWN  
 Material ..... GM 9260 M Spring Steel  
 Torsional stabilizer at front ..... Yes  
 If leaf—  
 Length ..... Width .....  
 Number of leaves—*5-passenger, 4-door sedan* .....  
 Are radius rods used on axle .....  
 If coil—  
 Free length ..... 15-15/32"  
 Length under curb weight ..... 10 1/8"

**REAR SPRING—**

Independent or conventional suspension ..... Conventional  
 Type—*coil, semi-elliptic, transverse, torsion* ..... Coil  
 Make ..... OWN  
 Material ..... GM 9260 M Spring Steel  
 Torsional stabilizer at rear ..... Yes  
 If leaf—  
 Length ..... Width .....  
 Number of leaves—*5-passenger, 4-door sedan* .....  
 Spring leaves lubricated with .....  
 Spring cover, Yes ..... No  
 Spring shackles—  
 Front—Type ..... Make .....  
 Rear—Type ..... Make .....  
 Spring bolts—  
 Type .....  
 If coil—  
 Free length ..... 19"  
 Length under curb weight ..... 12 3/16"  
 Rate for above ..... 100# ..... *pounds per inch*  
 Shock absorbers—  
 Make ..... Delco  
 Type, one way with lever, two way with lever, or direct acting  
 Front ..... Two-way with lever  
 Rear ..... Two-way with lever  
 Fluid capacity (oz.)—front 134-140cc rear 154-163 cc

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**STEERING**

Steering gear--  
 Type..... Ball-Nut  
 Make..... Saginaw..... Model.....  
 Ratio..... 2.3  
 Lubricant recommended..... See Chart  
 Steering wheel diameter..... 18"  
 Drag link longitudinal or transverse..... Transverse  
 Tie rod—one or two..... 2  
 Is intermediate steering arm used..... No  
 Number of turns of steering wheel for full left  
 to right swing of wheels..... 4 3/4"  
 Car turning radius—feet—right, left or both..... 21.0'  
 Caster—degrees..... 0°..... to..... 3/4° Neg.  
 Camber—degrees or..... inches 1/4° Neg. or 3/4° Pos.  
 Toe-in—inches..... 1/16"..... to..... 1/8"  
 Crosswise inclination of kingpin—degrees..... 4° 29' 47"  
 Front axle—  
 Make..... None..... Model.....  
 Section type—I-beams, tubular or none..... None  
 End type—Elliott or reverse Elliott Reversed Elliott  
 Minimum road clearance—tires inflated..... 8-7/16"

**BRAKES**

Foot brakes--  
 Make..... Various  
 Type of mechanism, hydraulic or mechanical..... Hydraulic  
 If vacuum booster is standard, state make..... None  
 Brake lining moulded, semi-moulded or woven--  
 Primary shoe..... Moulded  
 Secondary shoe..... Moulded  
 Drum--  
 Material..... Cast Iron..... Diameter..... 11"  
 Lining--  
 Front..... Rear  
 Length per wheel..... 21.5/16..... 21.5/16

**BRAKES (cont'd)**

	Front	Rear		.221"
Width	2-1/2"	2"	Thickness	.231"
Clearance— <i>toe</i>	.015"		<i>heel</i>	.015"
Total foot braking area	191.7			
Percent braking power on rear wheels				42%

Hand lever operates on—transmission, separate rear brakes, rear service brakes or all four service brakes..... Rear Service  
 Hand brake, if separate from service brake--  
 Internal or external.....  
 Drum diameter.....  
 Lining--  
 Length per drum.....  
 Width..... Thickness.....  
 Clearance.....

**FRAME and OTHER GENERAL DATA**

Frame--  
 Depth—maximum..... 5 3/4"  
 Thickness—maximum..... 1.35"  
 Flange width—maximum..... 2 1/8" - 3 1/8"  
 Wheelbase..... 122"  
 Tread--  
 Front..... 59"  
 Rear..... 61-1/2"  
 Weight of standard 5-passenger, four-door sedan--  
 Shipping..... 3750  
 Curb..... 3907  
 Price of standard 5-passenger, 4-door sedan.....  
 First serial number, this series..... 509M1001  
 Serial number location..... On body left front  
 door pillar  
 Overall length of car--  
 With bumpers and bumper guards..... 209"  
 Overall width of car..... 80"  
 Overall height, road to roof with no load..... 62.5/16"  
 (5 Pass. load).

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**NOTE**—In giving bearing dimensions, kindly use the following order: inside diameter, outside diameter and width. Where cup and cone bearings are used, give both cup and cone numbers.

**BEARINGS**

Water pump bearing—  
 Make or type ..... New Departure D. R. Ball ..  
 Size or number ..... 954446 .....

Fan bearing—  
 Make or type ..... None .....

Starting motor commutator end bearing—  
 Make or type ..... Plain .....

Starting motor drive end bearing—  
 Make or type ..... None .....

Starting motor outboard bearing—  
 Make or type ..... Bronze Graphite .....

Generator commutator end bearing—  
 Make or type ..... Bronze .....

Generator drive end bearing—  
 Make or type ..... Ball Bearing .....

Transmission main drive gear front pilot bearing—  
 Make or type ..... Durex .....

Clutch throwout bearing—  
 Make or type ..... Ball Thrust .....

Transmission main drive gear rear bearing—  
 Make or type ..... New Departure Ball .....

Transmission main shaft front pilot bearing—  
 Make or type ..... Roller .....

Transmission main shaft rear bearing—  
 Make or type ..... New Departure Ball .....

Transmission countershaft front bearing—  
 Make or type ..... Needle Roller .....

Transmission countershaft rear bearing—  
 Make or type ..... Needle Roller .....

Transmission reverse idler bearing—  
 Make or type ..... Babbitt Steel .....

Backed Bushing

**BEARINGS (cont'd)**

Size or number ..... 1433125 .....

Overdrive shaft rear bearing—  
 Make or type ..... None .....

Overdrive shaft pilot bearing—  
 Make or type ..... None .....

Main shaft extension bearing—  
 Make or type ..... Cleveland Graphite Bronze ..

Rear axle pinion shaft front bearing—  
 Make or type ..... Timken or Hyatt .....

Rear axle pinion shaft rear bearing—  
 Make or type ..... Timken or Hyatt .....

Differential right bearing—  
 Make or type ..... Hyatt or Bower .....

Differential left bearing—  
 Make or type ..... Hyatt or Bower .....

Rear wheel inner bearing—  
 Make or type ..... None .....

Rear wheel outer bearing—  
 Make or type ..... New Departure Ball .....

Front wheel inner bearing—  
 Make or type ..... New Departure Ball .....

Front wheel outer bearing—  
 Make or type ..... New Departure Ball .....

Kingpin upper bearing—  
 Make or type ..... Steel Backed 4035 M Bronze ..

Kingpin lower bearing—  
 Make or type ..... Steel Backed 4035 M Bronze ..

Kingpin thrust bearing—  
 Make or type ..... Hoover Ball .....



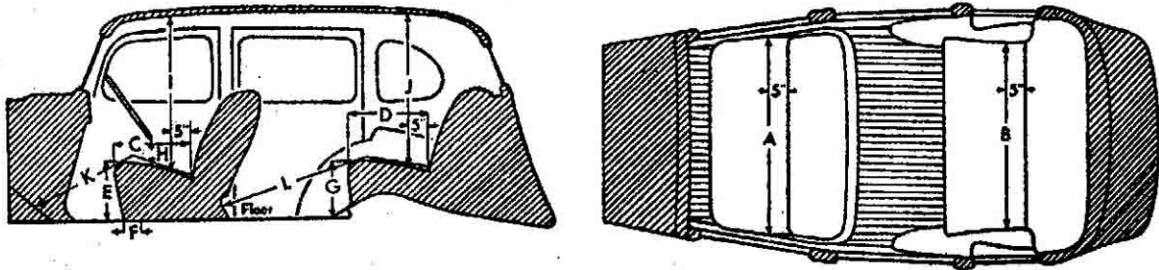
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NOTE: (1) List only that equipment which is included in the factory delivered price. Special equipment which is fitted, but not included in the factory delivered price should be listed with its additional price.  
 (2) Enter on top line your own model name, or series mark corresponding to Standard, DeLuxe or Custom.

EQUIPMENT	Models		
	Standard "98"	DeLuxe "98"	Custom
Catalog Designation of Model			
Lacquer make	Various	Various	
Body finish, lacquer or synthetic enamel	Lacquer	Lacquer	
Fender finish, lacquer or synthetic enamel	Lacquer	Lacquer	
Hardware make	Ternstedt	Ternstedt	
Speedometer make	A. C.	A. C.	
Gasoline gauge make	A. C.	A. C.	
Thermometer make	A. C.	A. C.	
Car lock make	Various	Various	
Car lock operates on ignition or ignition and steering	Ignition	Ignition	
Clock make <i>mechanical or electrical</i>	None	Electric	
Cigar lighter make	Various	Various	
Safety glass make	L. O. F.	L. O. F.	
Safety glass type, laminated or tempered			
In windshield	Laminated	Laminated	
In side windows	Laminated	Laminated	
In rear window	Tempered	Tempered	
Bumper make	Own	Own	
Bumper guard make <u>Brown-Lipe</u>	Chapin	Brown-Lipe	Chapin
Car heater make <u>Type</u>	None	None	
Direction signal make	None	None	
Front—yes or no <u>    Rear—yes or no</u>	None	None	
No. of tail lights included	2	2	
No. of visors included	2	2	
No. of horns included	2	2	
No. of windshield wipers included	2	2	
No. of spare tires included	1	1	

Make of Car. Oldsmobile Model '98" Date 11-28-49

**BODY DIMENSIONS (Five-Passenger, Four-Door Sedan)**



**INTERIOR**

*All interior body dimensions taken with front seat in its rear position*

Width of front seat cushion, measured 5 inches from back (A) .....	64.24"
Width of rear seat cushion, measured 5 inches from back (B) .....	64.98"
Depth of front seat cushion (C) .....	18.24"
Depth of rear seat cushion (D) .....	17.74"
Height of front seat cushion measured 12½ inches from center line of body (E) .....	13.06"
Front seat horizontal adjustment, inches (F) .....	4.00"
Front seat vertical adjustment, inches .....	1/4"
Height of rear cushion measured 12½ inches from center line of body (G) .....	11.83"
Vertical distance steering wheel and seat cushion (H) .....	5.52"
Head room at front seat, measured 5 inches from back (I) .....	35.87"
Head room at rear seat, measured 5 inches from back (J) .....	35.68"
Leg room in front seat, measured from 6 inches up on toe board, following contour of seat cushion (K) .....	42.83"
Leg room in rear seat, measured from center of foot rest, following contour of seat cushion (L) .....	41.67"
Trunk capacity, cubic feet .....	11.65 N. B. - 9.58 P. B.
Width of left front pillar on diagonal with door closed .....	2.87"

Make of Car.....Oldsmobile.....Model.....'98".....Date.....11-28-49.....

## BODY DETAIL AND EQUIPMENT FORMS

### DIRECTIONS

Only standard equipment included in the Factory Delivered price shown in column 3 should be listed on this sheet. Please arrange body types in an ascending price scale with the lowest priced type at the top and the highest priced type at the bottom.

**IMPORTANT**—To save your time, where an item is common to several types, use arrows to indicate the fact as shown in diagrams.

Standard abbreviations may be used where space limitations make this necessary. Where sub-headings such as those shown in column for Body Make are identified with numerals, these numerals may be used in filling in form.

Make	Body Model	Body Make
Crescent 6-80	Roadster	Fisher
	Phaeton	
	Two-door sedan	
	Four-door sedan	
	Coupe	Murray
	Coupe with rumble	
	Cabriolet	
Crescent 8-80	Roadster	Fisher
	Phaeton	
	Two-door sedan	
	Four-door sedan	Sudd
	Coupe	
	Coupe with rumble	
	Cabriolet	
	Limousine	Fleetwood
	Landulet	LaBaron

MAKE AND MODEL	BODY TYPE List Types on Ascending Price Scale Beginning with the Lowest Price	Factory Delivered Price Including Federal Tax and Handling Charge	Number of Pass- engers	Wheel- base	Shipping Weight	Seating Arrange- ment Number	Body Make
						See Below	
'98"	Two-Door Club Sedan		5	122"	3685	3	Fisher
'98"	Town Sedan		5	122"	3735	4	Fisher
'98"	4-Door Sedan		5	122"	3750	4	Fisher
'98"	Convertible Coupe		5	122"	4120	3	Fisher
'98"	Holiday Coupe		5	122"	3831	3	Fisher

## SEATING ARRANGEMENT NUMBERS

- 1—Two-door car with no rear seat.
- 2—Two-door car with rumble seat.
- 3—Two-door car with conventional rear cushion.
- 4—Four-door car with cushions front and rear.
- 5—Four-door car with cushions front and rear plus two auxiliary seats folding into front seat back.
- 6—Two-door car with two opera seats folding into sides of body.
- 7—Two-door car with two opera seats folding into rear of body.
- 8—Two-door car with one opera seat folding into rear of body and other seat stationary.
- 9—Two-door car with rear stationary seat for one passenger.