

# AMA Specifications—Passenger Car

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MANUFACTURER <b>OLDSMOBILE</b>	CAR NAME <b>4-4-2</b>	
MAILING ADDRESS <b>Lansing, Michigan</b>	MODEL YEAR <b>1967</b>	ISSUED: REVISED (*)

**NOTES:**

1. The Specifications herein are those in effect at date of compilation and are subject to change without notice by the manufacturer.
2. UNLESS OTHERWISE INDICATED:
  - a. Specifications apply to standard models without optional equipment. Significant deviations are noted.
  - b. Nominal design dimensions are used throughout these specifications.

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### BODY—TYPES AND STYLE NAMES—

Body type, number of passenger & style names; use manufacturer's code for series & body style.

33807	Cutlass Supreme	Coupe
33817	Cutlass Supreme	Hardtop Coupe
33867	Cutlass Supreme	Convertible Coupe

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## GENERAL SPECIFICATIONS

(All dimensions in inches unless otherwise indicated)

MODEL		Additional Information Page No.:		
Wheelbase (L101)			4-4-2	
Track			115.0	
Track	Front (W101)		58.0	
	Rear (W102)		59.0	
Maximum Overall Dimensions	Length (L103)		204.2	
	Width (W103)		75.4	
	Height (H101)		54.5	
Transmission (Specify trade name - opt., not available)	Manual - 3 speed	15	Std.	
	Manual - 4 speed	15	Opt.	
	Overdrive	15	N.A.	
	Automatic	16	Opt.	
Axle ratio	Manual - 3 speed	17	3.23:1	
	Manual - 4 speed	17	3.42:1 (M20)	3.91:1 (M21)
	Overdrive	17	N.A.	
	Automatic	17	3.08:1	
Tire size		18	7.75x14	
Engine	Type, no. cyl., valve arr.	3	V-8 90° OHV	
	Fuel system (Carb., other)	10	Carburetor	
	Bore and stroke	3	4.000 x 3.975	
	Piston displ., cu. in.	3	400	
	Std. compression ratio	3	10.50:1	
	Max. bhp at engine rpm	3	350 @ 5000	
	Max. torque at rpm	3	440 @ 3600	

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**GENERAL SPECIFICATIONS—DIMENSIONS**(All dimensions in inches unless otherwise indicated)  
(Supplemental data available on request)

<b>MODEL</b>	SAE Ref. No.	4-4-2
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**FRONT COMPARTMENT**

33807-33817

33867

Shoulder room	W3	58.2	
Hip room	W5	59.7	
Max. eff. leg room - accelerator	L34	41.7	
Effective head room	H61	37.7	38.1
H Point to Heel point	H30	10.4	

**REAR COMPARTMENT**

Shoulder room	W4	56.7	46.6
Hip room	W6	52.9	48.5
Minimum effective leg room	L51	32.3	
Effective head room	H63	36.2	36.5

**LUGGAGE COMPARTMENT**

Usable luggage capacity	V1	20.1
Liftover height	H195	24.4
Position of spare tire storage		
Method of holding lid open		Counter Balance

**STATION WAGON—THIRD SEAT**

Hip room	W86	
Effective leg room	L86	Not Available
Effective head room	H86	Available
Seat facing direction		

**STATION WAGON—CARGO SPACE**

<b>MODEL</b>	SAE Ref. No.	
Minimum distance between wheel houses at floor level	W201	
Rear end opening width at belt	W204	Not Available
Floor length from back of front seat at floor level to inside of closed tail gate	L202	Available
Minimum horizontal distance from top rear of front seat back to inside of tail gate at belt	L204	
Maximum height - floor covering to headlining at centerline of rear axle	H201	
Maximum height of rear opening - tail and lift gates open	H202	
Cargo volume index (cu. ft.) $\frac{W4 \times L204 \times H201}{1728}$	V2	

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MODEL \_\_\_\_\_ 4-4-2

## ENGINE—GENERAL

Type, no. cyls., valve arr.	90° OHV V-8	
Bore and stroke (nominal)	4.000 x 3.975	
Piston displacement, cu. in.	400	
Bore spacing (C/L to C/L)	4.625	
No. system (front to rear)	L. Bank	1-3-5-7
	R. Bank	2-4-6-8
Firing order	1-8-4-3-5-6-7-2	
Compres. ratio (nominal)	10.5:1	
Cylinder Head Material	Cast Iron	
Cylinder Block Material	Cast Iron	
Cylinder Sleeve-Wet, dry, none	None	
Number of mounting points	Front	Two
	Rear	One
Engine installation angle	4°	
Taxable horsepower	$\frac{\text{Dia}^2 \times \text{No. Cyl.}}{2.5}$	51.20
Publishing max. bhp* @ eng. RPM	350 @ 5000	
Publishing max. torque* (lb. ft. @ RPM)	440 @ 3600	
Recommended fuel regular - premium	Premium	
Idle speed(spec. neutral or drive)	Manual	600 N
	Automatic	550 in Dr. or 600 in Dr. WA/C

## ENGINE—PISTONS

Material	Aluminum Alloy		
Description and finish	Autothermic, cam grind, tinplate, steel strut		
Weight (piston only) oz.			
Clearance (limits)	Top land	.0115-.022	
	Skirt	Top	.0005-.0020
		Bottom	.0005-.0010
Ring groove depth	No. 1 ring	.208-.218	
	No. 2 ring	.208-.218	
	No. 3 ring	.195-.205	
	No. 4 ring		

\* Max. bhp (brake horsepower) and max. torque corrected to 60° F and 29.92 in. Hg atmospheric pressure.

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## POWER TEAMS

(Indicate whether standard or optional)

MODEL AVAILABILITY	ENGINE					TRANSMISSION	AXLE RATIO (Std. first) (Indicate A/C ratio)
	Displ. cu. in.	Carburetor	Compr. Ratio	BHP @ RPM	Torque @ RPM		
33807 33817 33867	400	4 Bb1	10.50	350 @ 5000	440 @ 3600	3 Speed 4 Speed Wide Ratio 4 Speed Close Ratio  Turbo Hydra-Matic	3.23, 3.08, 3.42 3.55, 3.90 3.55, 3.23, 3.42  3.90, 3.42, 3.55, 3.91 (H.D.)  3.08, 3.23, 3.42 (H.D.), 3.44 (H.D.)

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Function (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.	None	
Compression	Description - material, coating, etc.	Cast Iron - Upper Ring - Chrome Plated O.D.:	
		Taper Face Gorphotox lower ring: Taper Face	
	Width	#1 - .0775-.0780	#2 - .0770-.0780
	Gap	.013-.023	
Oil	Description - material, coating, etc.	Two Rails - Spring steel chome plated spacers Cold roll spacer steel	
	Width	Rails: .0235-.0252	Spacer: .137-.134
	Gap	Rails: .015-.055	Spacer: Ends butt together
Expanders		None	

**ENGINE—PISTON PINS**

Material	SAE 1019 Steel		
Length	3.126		
Diameter	.9803-.9807		
Type	Locked in rod, in piston, floating, etc.	Pressed in Rod	
	Bushing	In rod or piston	None
		Material	None
Clearance	In piston	.0003-.0005	
	In rod	.0008-.0016 Press	
Direction & amount offset in piston	.060 to R.H. of Cylinder bore centerline		

**ENGINE—CONNECTING RODS**

Material	SAE 1140 Steel		
Weight (oz.)	31.08		
Length (center to center)	6.996-7.000		
Bearing	Material & Type	Moraine 400 (GM 3889 Aluminum) Steel Backed	
	Overall length	.821-.831	
	Clearance (limits)	.0005-.0026	
	End play	(.004-.009) Preferred .002-.013 2 Rods per Crankpin	

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## ENGINE—CRANKSHAFT

Material		A.I.S.I. #1049 Modified	
Vibration damper type		Tuned rubber	
End thrust taken by bearing (No.)		Three	
Crankshaft end play		.004-.008	
Main bearing	Material & type	Moraine 400 (GM 3889-M Aluminum) Steel Backed	
	Clearance	1-2-3 & 4-.005-.0021 #5-.0020-.0034	
	Journal dia. and bearing overall length	No. 1	3.00 x .975
		No. 2	3.00 x .975
		No. 3	3.00 x 1.194
		No. 4	3.00 x .975
		No. 5	3.00 x 1.624
No. 6		--	
Dir. & amt. cyl. offset		--	
Crankpin journal diameter		2.4988-2.5003	

## ENGINE—CAMSHAFT

Location		Center	
Material		GM 120M Alloy Cast Iron	
Bearings	Material	Steel Backed Babbit GM4195 or CGB#F-11	
	Number	5	
Type of Drive	Gear or chain	Chain	
	Crankshaft gear or sprocket material	GM 85M, Sintered Iron ASTMB-310-56T SAE 1118, 1140, 1141, 1146	
	Camshaft gear or sprocket material	Diecast Aluminum SAE #308-#101 Nylon Teeth Optional Cast Iron	
	Timing chain	No. of links	48
		Width	.875 Morse
Pitch		.500	

## ENGINE—VALVE SYSTEM

Hydraulic lifters (Std, opt, NA)		Standard
Valve rotator, type (intake, exhaust)		None
Rocker ratio		1.6:1
Operating tappet clearance (indicate hot or cold)	Intake	None
	Exhaust	None
Timing mark. on flywheel, damper, other		Camshaft Sprocket

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## ENGINE—VALVE SYSTEM (cont.)

Timing	Intake	Opens (°BTC)	AMT-21°	SMT-30°
		Closes (°ABC)	AMT-77°	SMT-76°
		Duration-deg.	AMT-278°	SMT-286°
	Exhaust	Opens (°BBC)	AMT-71°	SMT-78°
		Closes (°ATC)	AMT-31°	SMT-28°
		Duration-deg.	AMT-282°	SMT-286°
	Valve opening overlap		AMT-52°	SMT-58°
Intake	Material		SAE #1041	SAE #1047 Steel
	Overall length		4.677	
	Actual overall head dia.		2.067-2.057	
	Angle of seat & face		30°	
	Seat insert material		None	
	Stem diameter		.3432-.3425	
	Stem to guide clearance		.0010-.0027	
	Lift (@ zero lash)		AMT-.430	SMT-.472
	Outer spring press. and length	Valve closed (lb. @ in.)	76-84 - 1.670	
		Valve open (lb. @ in.)	180-194 - 1.270	
	Inner spring press. and length	Valve closed (lb. @ in.)	Damper	
		Valve open (lb. @ in.)	--	
	Exhaust	Material		GM #N82152 Steel
Overall length		4.665		
Actual overall head dia.		1.629-1.619		
Angle of seat & face		46° and 45°		
Seat insert material		None		
Stem diameter		.3427-.3420		
Stem to guide clearance		.0015-.0032		
Lift (@ zero lash)		AMT-.432	SMT-.472	
Outer spring press. and length		Valve closed (lb. @ in.)	76-84 - 1.670	
		Valve open (lb. @ in.)	180-194 - 1.270	
Inner spring press. and length		Valve closed (lb. @ in.)	Damper	
		Valve open (lb. @ in.)	--	

## ENGINE—LUBRICATION SYSTEM

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

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## ENGINE—LUBRICATION SYSTEM (cont.)

Oil pump type	<b>Gear</b>
Normal oil pressure (lb. @ engine rpm)	<b>35-50 @ 1500 RPM</b>
Oil pressure sending unit (elect. or mech.)	<b>Electric</b>
Type oil intake (floating, stationary)	<b>Stationary</b>
Oil filter system (full flow, partial, other)	<b>Full Flow</b>
Filter replacement (element, complete)	<b>Complete</b>
Capacity of crankcase, less filter-refill (qt.)	<b>4</b>
Oil grade recommended (SAE viscosity and temperature range)	<b>Above 32°F - SAE 10W30, SAE 20W Below 32°F - SAE 10W30, SAE 10W Below 0°F - SAE 5W20, SAE 5W</b>
Engine Service Requirement (MM, MS, etc.)	

## ENGINE—EXHAUST SYSTEM

Type (single, single with cross-over, dual, other)	<b>Dual</b>
Muffler No. & type (reverse flow, straight thru, separate resonator)	<b>Two straight thru mufflers &amp; resonator</b>
Exhaust pipe dia. (O.D., wall thickness)	Branch <b>2.25 x .076</b> Main
Tail pipe diameter (O.D. & wall thickness)	<b>.048 x 2.00</b>

## ENGINE— CRANKCASE VENTILATION SYSTEM

Type (ventilates to atmos., induction system, other)	Standard <b>Positive crankcase ventilation</b> Optional <b>None</b>
Make and model	<b>AC Dual Valve</b>
Location	<b>Valve Cover</b>
Energy source (manifold vacuum, carburetor air stream, other)	<b>Manifold vacuum and carburetor air</b>
Control Unit	Control method (variable orifice, fixed orifice, other) <b>Fixed orifice</b>
Discharges (to intake manifold, carb. air intake, air cleaner intake, other)	<b>Intake Manifold and Air Cleaner</b>
Air inlet (breather cap, carburetor air cleaner, other)	<b>Breather Cap</b>
Flame arrestor (screen, check valve, other)	<b>Screen</b>

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## ENGINE—EXHAUST EMISSION CONTROL

Type (Air injection, engine modifications, other)		<b>Air injection</b>	
Air Injection Pump	Type	Vane	
	Displacement	19.3 cu. in.	
	Drive ratio	1.25:1	
	Drive type	Belt	
	Relief valve (type)	Spring loaded poppet	
Filter (describe)	Polyurethane		
Air Injection System	Air distribution (head, manifold, etc.)	Air Manifold	
	Point of entry	Cylinder head exhaust port	
	Injection tube I.D.	.257	
	Check valve type	Diaphragm	
Backfire protection (type)	Manifold air bleed valve		
Carburetor	Make		
	Model		
	Barrel size		
Idle speed	Drive		
	Neutral		
Distributor	Aux. Adv. Systems (type)		
	Make		
	Model		
	Cent'fgal adv. in crank degrees @ eng. rpm.	Start (rpm)	
		Intermed. points deg. @ rpm	
Vacuum adv. in. crank degrees @ eng. rpm	Start (in Hg)		
	Intermed. points deg. @ in. Hg Max. deg. @ in.		
Vacuum Source		Ported	
Timing - Crank degrees @ rpm			
Cooling System (describe changes)		Thermostat vacuum switch add to advance ignition timing at idle with high coolant temp.	
Exhaust System (describe changes)		None	

Carburetor - Distributor and timing same as standard car.

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## ENGINE—FUEL SYSTEM

(See supplemental page for Details of Fuel Injection, Supercharger, etc. if used)

Induction type: Carburetor, fuel injection, supercharger.			<b>Carburetor</b>	
Fuel Tank	Refill capacity (gals.)		20	
	Filler location		Behind license plate rear bumper	
Fuel Pump	Type (elec. or mech.)		Mechanical	
	Locations		Right front on block	
	Pressure range		7 3/4 - 9 PSI	
Vacuum booster (std., optional, none)			None	
Fuel Filter	Type		Sintered bronze and Saran type	
	Locations		Carburetor and fuel tank	
Carburetor	Choke type		Automatic	
	Intake manifold heat control (exhaust or water)		Exhaust	
	Air cleaner type	Standard		Paper
		Optional		None

## CARBURETOR SUPPLEMENTARY INFORMATION

Model Usage	Engine Displ.	Transmission	Carburetors		No. Used and Type	Barrel Size
			Make	Model		
4-4-2	400	Fully Synchro (3 Speed) (4 Speed) Turbo Hydra-Matic	Rochester	4 MV	1	Pri - 1 3/8 Sec - 2 1/4

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## ENGINE—COOLING SYSTEM

Type system (pressure, pressure vented, atmospheric, other)		<b>Pressure</b>	
Radiator cap relief valve pressure		<b>15 PSI</b>	
Circulation thermostat	Type (choke, bypass)	<b>Choke</b>	
	Starts to open at (°F)	<b>180°</b>	
Water pump	Type (centrifugal, other)	<b>Centrifugal</b>	
	GPM @ 1000 pump rpm	<b>22</b>	
	Number of pumps	<b>1</b>	
	Drive (V-belt, other)	<b>V-Belt</b>	
	Bearing type	<b>Ball</b>	
By-pass recirculation type (internal, external)		<b>External</b>	
Radiator core type (cellular, tube and fin, other)		<b>Tube and Center</b>	
Cooling system capacity	With heater (qt.)	<b>16.2</b>	
	Without heater (qt.)	<b>15.5</b>	
	Opt. equipment-specify (qt.)	<b>16.7</b>	
Water jackets full length of cylinder (yes, no)		<b>Yes</b>	
Water all around cylinder (yes, no)		<b>Yes</b>	
Radiator hose	Lower	Number and type (molded, straight)	<b>One Molded</b>
		Inside diameter	<b>1.75</b>
	Upper	Number and type (molded, straight)	<b>One Molded</b>
		Inside diameter	<b>1.50</b>
	By-pass	Number and type (molded, straight)	<b>One Molded</b>
		Inside diameter	<b>.7</b>
Fan	Number of blades & spacing		<b>4 @ 76°</b>
	Diameter		<b>18.00</b>
	Ratio-fan to crankshaft rev.		<b>.8486</b>
	Fan cutout type		<b>Clutch A/C only</b>
	Bearing type		<b>Ball</b>
*Drive belts (indicate belt used by letter)	Fan		<b>51.86 Std. (A)                      48.08 A/C (B)</b>
	Generator or alternator		<b>Same as Above</b>
	Water Pump		<b>Same as Above</b>
	Power Steering		<b>61.70 Std. (C)                      63.47 A/C (D)</b>
	Air Conditioning		<b>61.00 (E)</b>

* Drive Belt Dimensions	<b>ALL</b>	A	B	C	D	E	F	G	H	I	J	K
Angle of V	<b>36°</b>											
Nominal length (SAE)												
Width	<b>.380</b>											

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## ELECTRICAL—SUPPLY SYSTEM

Battery	Make and Model		1980036 Delco Remy
	Voltage Rtg. & Total Plates		12V-77 Plates
	SAE Designation & Amp Hr. Rtg.		25TA-70 Amp. Hr.
	Location		Engine Compartment - Front L.H. Side
	Terminal grounded		Negative
Generator or Alternator	Make		Delco Remy
	Model		1100767
	Type and rating		Diode Rectifying - 37AMP
	Output at engine idle (neutral)		9 Amps
	Ratio—Gen. to Cr/s rev.		2.33
Regulator	Make		Delco Remy
	Model		1119515
	Type		Vibrating Contact
	Cutout relay	Closing voltage @ generator rpm	None
		Reverse current to open	None
	Regu- lated	Voltage	13.5-14.4
		Current	Self-Regulating
	Voltage test conditions	Temperature	120°F
Load		Less than 10 Amps	
Other		Upper contacts	

## ELECTRICAL—STARTING SYSTEM

Starting motor	Make		Delco Remy
	Model		1107330
	Rotation (drive end view)		Clockwise
	Engine cranking speed		Not Specified
	Test conditions		80°F
	No load test	Amps	70-105
		Volts	10.6
RPM (min)		3800	
Motor control	Switch (solenoid, manual)		Solenoid
	Starting procedure		Turn ignition key against spring load to full clockwise position. Cars equipped with automatic transmissions must be in park or neutral to start.

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## ELECTRICAL—STARTING SYSTEM (cont.)

Motor Drive	Engagement type		Solenoid - Over running clutch		
	Pinion meshes (front, rear)		Front		
	Number of teeth	Pinion		9	
		Flywheel	Manual	166	
	Auto.		166		
	Flywheel tooth face width	Manual	.438		
Auto.		.438			

## ELECTRICAL—IGNITION SYSTEM

Coil	Transistorized - Std., Opt., N.A.		C.D. <b>Optional</b>		
	Make		Delco Remy		
	Model		1115216		
	Amps	Engine stopped		4.0	
Engine idling		2.0			
Distributor	Make		Delco Remy		
	Model		1111188		
	Cent'fgal adv. in crankshaft degrees @ engine rpm (nominal)	Start (rpm)		0°-2° @ 650 RPM	
		Intermediate points deg. @ rpm.		12°-16° @ 1800 RPM	
		Max. deg. @ rpm.		20°-24° @ 4000 RPM	
	Vacuum adv. in crankshaft degrees @ in. Hg. (nominal)	Start (in. Hg.)		0° @ 7 in. Hg.	
		Intermediate points, deg. @ in. Hg.		2.5°-8.2° @ 10 in.	
				9.4°-15.2° @ 13 in.	
				16.5°-20.0° @ 16.7 in.	
	Max. deg. in. Hg.		21.5° @ 22 in.		
Breaker gap (in.)		.016			
Cam angle (deg.)		28°-32°			
Breaker arm tension (oz.)		19-32			
Timing	Crankshaft deg. @ rpm.		7.5° @ 850 RPM		
	Mark location		Pulley hub		
Spark Plug	Make		AC		
	Model		AC 445		
	Thread (mm)		14 MM		
	Tightening torque (lb. ft.)		30		
	Gap		.030		
Cable	Conductor type		Resistance		
	Insulation type		Neoprene		
	Spark plug protector		Hypalon		

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## ELECTRICAL—SUPPRESSION

Locations & type	Resistance core spark plug leads and coil leads, bypass condensers at alternator, regulator and coil on radio equipped cars.
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## ELECTRICAL—INSTRUMENTS AND EQUIPMENT

Speed-ometer	Make	AC
	Trip odometer (yes, no)	No
Charge indicator—type		Indicator lamp
Temperature indicator—type		Indicator lamp
Oil pressure indicator—type		Indicator lamp
Fuel indicator—type		Gauge
Other		
Brake		Indicator lamp
Windshield wiper	Make	Delco
	Type—Standard	2 Speed Electric
	Type—Optional	None
	Vacuum booster provision	None
Washer provision		Standard
Horn	Type	Vibrating
	Number used	Two
	Amp draw (each)	5.2-5.7

## DRIVE UNITS—CLUTCH (Manual Transmission)

Make & type		Borg & Beck single plate
Type pressure plate springs		Belleville spring
Total spring load (lb.)		Net Plate Load 2450-2750# (Assembled)
No. of clutch driven discs		One
Clutch facing	Material	Woven asbestos
	Outside & inside dia.	11.0 x 6.5
	Total eff. area (sq. in.)	123.7
	Thickness	One .135 and one .150
Engagement cushioning method		Flat Springs
Release bearing	Type & method of lubrication	Ball permanent
Torsional damping	Methods: springs, friction material	Coil Spring - Steel friction

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**MODEL** \_\_\_\_\_ 4-4-2

## DRIVE UNITS—TRANSMISSIONS

Manual 3-speed (std. or opt.)		Standard
Manual 4-speed (std. or opt.)		Optional
Manual with overdrive (std. or opt.)		N.A.
Automatic (std. or opt.)		Optional

## DRIVE UNITS—MANUAL TRANSMISSION

			<i>Optional</i>	
Number of forward speeds		3	4	
Transmission ratios	In first	2.42:1	2.52:1	
	In second	1.61:1	1.88:1	
	In third	1.00:1	1.46:1	
	In fourth	--	1.00:1	
	In reverse	2.33:1	2.60:1	
Synchronous meshing, specify gears		1-2-3	1-2-3-4	
Shift lever location		Column	Floor	
Lubricant	Capacity (pt.)	4.90	2.25	
	Type recommended	MultiPurpose		
	SAE viscosity number	Summer	80 or 90	
		Winter	80 or 90	
		Extreme cold	80 or 90	

## DRIVE UNITS—MANUAL TRANSMISSION WITH OVERDRIVE

For transmission data see manual transmission section

Type (planetary or other)			
Manual lockout (yes, no)			
Downshift accelerator control (yes, no)		NOT	
Minimum cut-in speed		AVAILABLE	
Gear ratio			
Lubricant	Capacity (pt.) (Overdrive only)		
	Separate filler (yes, no)		
	Type recommended		
	SAE viscosity number	Summer	
		Winter	
Extreme cold			



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## DRIVE UNITS—AUTOMATIC TRANSMISSION

Trade name	Turbo Hydra-Matic					
Type describe	3 Speed Torque Converter					
Method of Selection (Lever, Push Button or other)	Lever					
Selector Pattern	P	R	N	D	S	L
	Park	Reverse	Neutral	Drive	Super	Low
List gear ratios Selector Pattern and indicate which are used in each selector position	1.	<u>Drive</u> 2.48	<u>Super</u> 2.48	<u>Low</u> 2.48	<u>Reverse</u> 2.08	
	2.	1.48	1.48	--	--	
	3.	Direct	--	--	--	
Max. upshift speeds—drive range	1-2 45-50 MPH			2-3 79-84 MPH		
Max. kickdown speeds—drive range	2-1 28-33			3-2 68-73 MPH		
Torque convertor	Number of elements	Three				
	Max. ratio at stall	1.9 High		2.5 Low		
	Type of cooling (air, liquid)	Liquid				
Lubricant	Capacity—refill (pt.)	23 Total			8 Refill	
	Type recommended	Type "A" Automatic Trans. Fluid Suffix A				
Special transmission features	Variable vane control to increase converter torque in 10-60 MPH range to provide added performance.					

## DRIVE UNITS—PROPELLER SHAFT

Number used	One	
Type (exposed, torque tube)	Exposed	
Outer diameter x length* x wall thickness	Manual 3-speed transmission	3.25 dia. x 60.00 x .065
	Manual 4-speed transmission	3.25 dia. x 60.00 x .065
	Overdrive transmission	N.A.
	Automatic transmission	3.25 dia. x 60.00 x .065

\* Center to center of universal joints, or to centerline of rear attachment.

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### DRIVE UNITS—PROPELLER SHAFT (cont.)

Inter- mediate bearing	Type (plain, anti-friction)		None
	Lubrication (fitting, prepack)		None
Universal joints	Make		Saginaw Steering Gear
	Number used		2
	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, springs)			Arms
Torque taken through (torque tube or arms, springs)			Arms

### DRIVE UNITS—REAR AXLE

Description			<b>Salisbury Live Hypoid - Semi-floating</b>		
Limited Slip differential, type			<b>Multiple Plate Clutch-"S" Shaped Pre-load Spring</b>		
Drive Pinion Offset			1.75		
No. of differential pinions			2		
Ring gear O.D. (std. ratio)			8.50		
Pinion adjustment (shim, other)			Shim		
Pinion bearing adj. (shim, other)			Coll. Spacer		
Wheel bearing type			Ball		
Lubricant	Capacity (pt.)		3.00 ("B" "P" Diff.)	3.69 ("O" Diff.)	
	Type recommended		MultiPurpose GM 4654 -M-Std.	GM 4744-M Limited Slip	
	SAE vis- cosity number	Summer	80-90		
		Winter	80-90		
Extreme cold		80-90			

### REAR AXLE RATIO TOOTH COMBINATIONS

(See page 4 for axle ratio usage)

Axle ratio		3.08	3.23	3.42	3.91
No. of teeth	Pinion	13	13	12	11
	Ring gear	40	42	41	43

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## DRIVE UNITS—WHEELS

Type & material		
Rim (size and flange type)	Std.	14 x 6K
	Opt.	N.A.
Attachment	Type (bolt or stud)	
	Circle diameter	
	Number and size	

## DRIVE UNITS—TIRES

Standard (List option below)	Size & ply	F70 x 14
	Type - Nylon, etc.	Nylon
Rev/mile at 50 mph.		775
Inflation press. (cold)	Front	24
	Rear	24
Optional tires - size and ply		

## BRAKES—SERVICE

Type (duo-servo, disc, balanced, etc.)		Front Disc Rear Drum	Duo-Servo	
Self adjusting (std., opt., N.A.)		Self Adj. Std.	Self Adj. Std.	
Hydraulic system type (single, dual, etc.)		Dual	Dual	
Power brake make & type (remote, integral, etc.)		Delco-Moraine - Integral	Integral	
Effective area (sq. in.) *		40.6      56.1	172.8	
Gross lining area (sq. in.) **		44.8      69.4	173.6	
Swept drum area (sq. in.) ***		206.4      142	291.0	
Percent brake effectiveness—front		68		
Drum or Rotor	Diameter	Front	11.00	
		Rear	9.50	
	Type and material		Rotor: Cast Iron Drum: Composite	Centrif. Cast fit Comp: Rear
	Rotor (vented or solid)		Vented	--
No. pistons per caliper		2	--	
Wheel cyl- inder bore	Front	206	1 1/16	
	Rear	.81	1	
Master cylinder bore		1.125	1 in. (may change)	
Available pedal travel		4.15	6.81 manual 4.15 power	
Line pressure at 100 lb. pedal load		960	710 PSI man. 1180 PSI pwr.	
Shoe clearance adjustment		.000	.015/shoe	

\* Excludes rivet holes, grooves, chamfers, etc.

(Continued)

\*\* Includes rivet holes, grooves, chamfers, etc.

\*\*\* Total swept area for four brakes:

Widest lining contact width for each brake x its drum circumference.

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## BRAKES—SERVICE (cont.)

	Drum or Disc		Front Disc	Drum Rear	Drum
	Bonded or riveted		Riveted	Riveted	Riveted
Brake lining	Front Wheel	Material		Johns-Manville 2000B-44	
		Size (length x width x thickness)	Prim. or out-board	6 x 1.83 x .38	
			Second. or in-board	6 x 1.83 x .38	
		Segments per shoe		One	
	Rear Wheel	Material		Marshall Pri. H3144; Sec H3152F	
		Size (length x width x thickness)	Prim. or out-board	7.48 x 2.0 x .166	
			Second. or in-board	9.88 x 2.0 x .231	
		Segments per shoe		One	

## BRAKES—PARKING

Type of control	Suspended Pedal	
Location of control	Left Drivers Compartment	
Operates on	Rear Brakes	
If separate from service brakes	Type (internal or external)	Not Separate
	Drum diameter	Not Separate
	Lining size (length x width x thickness)	Not Separate

## FRAME

Type and description (Separate frame, unitized frame, partially - unitized frame)	Channel Section Side Rail 4 Cross Bar (Guard Beam frame)
---	---

## STEERING

Manual (std., opt., NA)		Standard	
Power (std., opt., NA)		Optional	
Adjustable steering wheel (tilt, swing, other)	Type and description	Tilt-a-way	
	(std., opt., NA)	Optional	
Wheel diameter	Manual	16 in.	
	Power	16 in.	
Turning diameter	Outside front	Wall to wall (l. & r.)	44.8
		Curb to curb (l. & r.)	41.7
	Inside rear	Wall to wall (l. & r.)	21.5
		Curb to curb (l. & r.)	25.8
Outside wheel angle with inside wheel at 20°		18-6°	
Manual	Gear	Type	Ball Nut
		Make	Saginaw Steering Gear
	Ratios	Gear	24:1
		Overall	28.3:1
No. wheel turns		5.56 total	

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## STEERING (cont.)

Power	Type (coaxial, linkage, etc.)		Gear Integral
	Make		Saginaw Steering Gear
	Gear	Type	Gear Integral
		Ratios	17.5:1
		Gear Overall	20.7:1
	Pump driven by		Shaft from crank
Number wheel turns		4.06 (max)	
Linkage	Type		Forged
	Location (front or rear of wheels, other)		Front
	Drag link (trans. or longit.)		Transverse
	Tie rods (one or two)		Two
Steering Axis	Inclination at camber (deg.)		8° at +1° Camber
	Bearings (type)	Upper	Ball Joint
		Lower	Ball Joint
		Thrust	Ball Joint
Wheel Alignment (range at curb weight and preferred)	Caster (deg.)		Range -1/2° to -2°
	Camber (deg.)		Range -1/4° to +1/2°
	Toe-in (outside track inches)		.12 to .18
Steering spindle & joint type		Ball Joint	
Wheel spindle	Diameter	Inner bearing	1.0497-1.0497
		Outer bearing	.7496-.7496
	Thread size		3/4 - 20
	Bearing type		Tapered Roller

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## SUSPENSION—GENERAL

(See Supplemental page for details on Air Suspension)\*

Provision for car leveling	None	
Provision for brake dip control	Counter dive design of suspension	
Provision for acc. squat control	Rear Suspension Upper Control Arms	
Special provisions for car jacking	None	
Shock absorber front & rear	Type	Direct Acting
	Make	Delco
	Piston dia.	1 in.
Other special features	Rear Stabilizer Bar	

## SUSPENSION—FRONT

Type and description	Independent Coil Spring	
Spring	Type	Coil
	Material	SAE 9260
	Size (coil design height & I.D.; bar length x dia.)	11.4" design height 3.60 I.D. 121.5 long .650 dia.
	Spring rate (lb. per in.)	425
	Rate at wheel (lb. per in.)	124
Stabilizer	Type (link, linkless, frameless)	Link
	Material & bar diameter	SAE 1070 .937 dia.

## SUSPENSION—REAR

Type and description	4 link coil spring		
Drive and torque taken through	Arms		
Spring	Type	Coil	
	Material	SAE 9260	
	Size (length x width, coil design height & I.D.; bar length & dia.)	8.52 design height 5.50 I.D. .560 dia.	
	Spring rate (lb. per in.)	144	
	Rate at wheel (lb. per in.)	130	
	Mounting insulation type	Rubber	
	If leaf	No. of leaves	--
		Shackle (comp. or tens)	--
Stabilizer	Type (link, linkless, frameless)	Linkless	
	Material	SAE 1070	
Track bar type	--		

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## BODY—MISCELLANEOUS INFORMATION

Drs. hinged (front, rear)	Front doors	Front
	Rear doors	Front
Type of finish (lacquer, enamel, other)		Lacquer
Hood counterbalanced (yes, no)		Yes
Hood release control (internal, external)		External
Vehicle Ident. No. location		Left Front Pillar Post
Engine No. location		None
Theft protection - type		Key Type Starting
Vent window control method (crank, friction pivot)	Front	Friction Pivot
	Rear	None
Seat cushion type	Front	Zig Zag
	Rear	Zig Zag
	3rd seat	None
Seat back type	Front	Zig Zag
	Rear	Zig Zag
	3rd seat	None
Windshield glass type (i.e., single curved - laminated plate)		Compound Curve
Side glass type (i.e., curved - tempered plate)		Curved
Backlight glass type (i.e., compound curved - tempered plate, three piece)		Compound Curve
Windshield glass exposed surface area		1107.1
Side glass exposed surface area		1435.6
Backlight glass exposed surface area		1123.8
Total glass exposed surface area		3724.1

## LAMP HEIGHT AND SPACING

Height above ground to center of bulb	Headlamp	Highest *	25.34
		Lowest	25.26
	Tail	Highest	
		Lowest	
Distance fr. C/L of car center of bulb	Headlamp	Inside	16.20
		Outside *	28.45
	Tail	Inside	
		Outside	
	Directional	Front	
		Rear	

\* If single headlamps are used enter here.

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## CONVENIENCE EQUIPMENT

(Indicate whether standard, optional or NA on each series)

Power windows	Side Windows	Optional
	Vent Windows	N.A.
	Backlight or tailgate	Optional
Power seats (specify type as well as availability)		4 Way Electric Bucket-L.H. only-Optional
Reclining front seat back		Optional (Pass. only)
Front seat headrest		Optional (non strato) Optional (strato type)
Radios (specify type as well as availability)		AM-FM Radio Deluxe Radio Optional
Rear seat speaker		Optional
Power Antenna		Optional
Clock		Optional
Air Conditioner (specify type and availability)		Optional
Speed warning device		Optional
Speed control device		Optional
Ignition lock lamp		N.A.
Back up lamp		Standard
Dome lamp		Standard
Glove compartment lamp		Optional
Prkg. brake signal lamp		Standard
Luggage compartment lamp		Optional
Underhood lamp		N.A.
Courtesy lamp		Optional (Std. on 33867)
Map lamp		N.A.
Auto. trans. quad. lamp		N.A.
Emergency flasher lamp		Standard
Cornering light lamp		N.A.
<b>Dual Brake Warning</b>		<b>Standard</b>





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