

Automobile Manufacturers Association

Consolidated Specification Questionnaire

For 1949 Models

Mechanical Details

Make of Car..... **Buick** Model **Series 50 Super**
 Name of Maker..... **Buick Motor Division** Address **Flint, Michigan**

Date **October 25, 1948**

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 **In-head**
 Bore **3-3/32"** Stroke **4-1/8"**
 Cylinder head, cast iron or aluminum **Cast Iron**
 Cylinder sleeve, Yes No **X**
 Piston displacement **248.1 Cu. In.**
 Taxable horsepower **30.63**
 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 **80**)

—With Bare Engine— (See Note)

Maximum brake hp. **115** at **3600** R.P.M.

—With Standard Accessories—*

Maximum brake hp. **110** at **3500** 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. **212** at **2000** R.P.M.

With standard accessories,* lb. ft. **208** at **2000** R.P.M.

Compression Ratio—

Standard **6.6 to 1** Optional —

Standard compression pressure —pounds—

At cranking speed **114**

At what R.P.M. **140 at 1000 R.P.M.**

PISTONS and RINGS: **Sterling Aluminum Products**

Inc., Aluminum Alloys Corp., Aluminum Company of America, and Bohn Aluminum & Brass Corporation

Material **Aluminum Alloy**

Features—~~thin skirt; iron skirt; cast-in skirt, aluminum oxide finish, water aluminum bridge, porous chrome plate, etc.~~ **Cam ground turbulator top, trans. slot**

Weight—ounces—without rings, pin or bushing **13.776^{slot}**

Length **4-21/64"**

Clearance—

Top land **.023"** to **.030"**

Skirt, top **.0021"** bottom **.0015"**

PISTONS and RINGS (cont'd)

Piston ring groove depth—

Oil **.166** Compression **.166**

No. of oil rings used per piston **2**

Width of oil rings **Upper .1875" Lower .1860"**

* Width of oil ring gap **Upper .015" Lower .0015" (Segmental)**

No. of compression rings used per piston **2**

Width of compression rings **3/32"**

Width of compression ring gap **.015"**

Maximum wall thickness of oil rings **Upper .140" Lower .155"**

Maximum wall thickness of compression rings **Upper .160" Lower .140"**

Are ring expanders used, Yes No **X**

RODS and PINS

Wristpin—

Material **G.D.S. 1115**

Length **2-11/16"** Diameter **13/16"**

Locked in rod, piston or floating **Locked in Rod**

Clearance in piston **.0003"** to **.0004"**

Clearance in rod — to —

Connecting rod—

Length—center to center **7-5/8"**

Material **H.R.S. 1045**

Weight—ounces **28.464**

Crankpin journal—

Diameter **2"** Length **1-7/32"**

Lower bearing—

Material **Durex 100-A**

Clearance **.0005"** to **.0018"**

End play **.005"** to **.010"**

Shims—~~solid, laminated or none~~ **None**

Spun or separate **Separate**

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

CRANKSHAFT

Material **1045 H.R.S.**

Weight—stripped **87 lbs.**

Vibration dampener used—yes or no **Yes**

Type **Laminated steel flywheel supported on steel leaf springs.**

Note: Bare engine is without fan and muffler.

* Lower oil ring is a steel "U"-Flex ring.

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CRANKSHAFT (cont'd)

Crankshaft counterweights used, number of 8
 Which main bearing takes thrust Center
 Crankshaft end play .004" - .008"
 Main bearing—
 Type: Cast-in or Slip-in X
 if slip-in: Removable from below Yes
 Necessary to align ream No
 Material Steel Backed Durex - 100A
 Clearance .0005" - .0020"
 Shim—solid, laminated or none None
 Main bearing journal diameter x length—
 No. 1 2-5/16" x 1-17/64"
 No. 2 2-3/8" x 15/16"
 No. 3 2-7/16" x 1-5/8"
 No. 4 2-1/2" x 15/16"
 No. 5 2-9/16" x 1-25/32"
 No. 6
 No. 7
 No. 8
 No. 9
 Crankshaft gear or sprocket—
 Make Link Belt
 Material C.D.S. #1112

CAMSHAFT

Camshaft gear or sprocket—
 Make Link Belt
 Material Cast Iron 13 M
 Timing chain—
 Make Link Belt
 Number of links 49
 Width 1"
 Pitch .500"

VALVES

INTAKE VALVE—

Make Thompson or Rich
 Material 3140
 Overall length 5-7/64"
 Actual overall diameter of head 1-17/32"
 Minimum port diameter 1-1/8"
 Angle of seat 45°
 Is valve seat an insert? No
 Stem diameter .3720
 Stem to guide clearance .0015" to .0035"
 Lift .348"
 Spring pressure and length—
 Outer—

VALVES (cont'd)

With valve closed—lb. 32 ins. 1-15/16
 With valve open—lb. 77 ins. 1-19/32
 Length out of engine—ins. 2-11/32
 Inner—
 With valve closed—lb. 20 ins. 1-21/32
 With valve open—lb. 51 ins. 1-5/16
 Length out of engine—ins. 1-29/32

EXHAUST VALVE—

Make Thompson, Eaton, or Rich
 Material A.B. or 2112
 Overall length 5-7/64"
 Actual overall diameter of head 1-11/32"
 Minimum port diameter 1-1/32"
 Angle of seat 45°
 Is valve seat an insert? No Material
 Stem diameter .3715
 Stem to guide clearance .0021" to .0039"
 Lift .342"
 Spring pressure and length—

Outer—
 With valve closed—lb. 32 ins. 1-15/16
 With valve open—lb. 77 ins. 1-19/32
 Length out of engine—ins. 2-11/32
 Inner—
 With valve closed—lb. 20 ins. 1-21/32
 With valve open—lb. 51 ins. 1-5/16
 Length out of engine—ins. 1-29/32

Operating tappet clearance (hot or cold)—intake Hot .015"
 Tappet clearance for valve timing—intake .015"
 Operating tappet clearance (hot or cold)—exhaust Hot .015"
 Tappet clearance for valve timing—exhaust .015"
 Hydraulic valve lifters—yes or no No
 Valve timing—

Intake opens 13 degrees BUDC piston travel inches
 Intake closes 68 " ALDC " " inches
 Exhaust opens 55 " BUDC " " inches
 Exhaust closes 22 " AUDC " " 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 No

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STARTING MOTOR

Make Delco Remy Model 1107078
 Normal engine cranking speed at 75°F. 110 approx.
 Brush spring tension 24 - 28 ounces
 Lock test—
 Amperage draw 525
 Volts 3.4
 Torque in pounds feet 12
 No load test—
 Amperage draw 65
 Volts 5.67 R.P.M. 5000
 Type of drive—Bendix or sliding gear with overrunning clutch
 Starting device—Solenoid, manually-act. Solenoid
 Starter operation—check items required to start engine
 1. Turn on ignition Yes
 2. Depress starter pedal
 3. Depress accelerator pedal Yes
 4. Depress clutch pedal
 5. Operate button on dash
 6. Pull out throttle
 Starting motor pinion meshes front or rear Front
 No. of teeth in flywheel 146
 Face width of flywheel teeth 35/64"
 Gear ratio between starter armature and flywheel 16.22 - 1

GENERATOR (Specifications for Service Only)

Make Delco Remy Model 1102709
 Type—third brush, shunt, etc. Shunt
 Brush spring tension 24 - 28
 Current regulator, voltage regulator or current and voltage control unit Current and voltage

** Maximum ~~entitled~~ charging rate uncontrolled
 Temperature Hot
 Amperes 40
 Voltage 8
 R.P.M. 2400 approx.

Cutout relay—
 Voltage at closing If not within 6.1-6.8 at 150°F
 Amperes to open, reverse current -1 to -6 Reset to 6.4
 Air gap .020"
 Voltage regulator—
 Point opening .020"
 Volts If not within 7.2-7.7 Reset to 7.4
 Temperature 150°F.
 Air gap .075"

Current regulator—
 * Amperes If not within 40-46 Reset to 42
 Temperature 150°F.
 Air gap .075"
 Car speed for maximum charging rate 25 M.P.H. approx.
 Ammeter or charge indicator make A. C.

* Voltage Regulator shorted out.
 ** Field coil grounded direct.

LAMPS

Lighting switch make Delco Remy
 Are tail and dash lights in series No - Parallel
 Headlights—
 Make Guide Lamp
 Location—in fender, in catwalk, or radiator shell In fender
 Parking or fender light make Guide Lamp
 Tail and stop light make Guide Lamp
 Horn—
 Type—vibrator or motor Vibrator No. used 2
 Make Delco Remy
 Amperage draw of each Left 17-19 Right 19-21

CLUTCH

Make Buick (Disc by Long or Borg & Beck)
 Drive type—
 Direct to flywheel face Yes
 Through fluid flywheel No
 Semi-centrifugal No
 Power operated unit—make None
 Vibration insulation or neutralizer—fabric, rubber blocks or springs Springs
 No. of clutch driving discs One and flywheel
 No. of clutch driven discs One
 Clutch facing—
 Material—woven or moulded asbestos, cork Woven
 Inside diameter 6"
 Outside diameter 10"
 Thickness 1.25"
 No. required 2

TRANSMISSION

Transmission—
 Make Own Model Series 50
 No. of forward speeds 3
 Manual shift—yes, no Yes
 Automatic or auxiliary shifting mechanism—yes no X
 If yes, Make
 Type—centrifugal, vacuum, electric or hydraulic
 Automatic overdrive—
 Make None
 Oil capacity—pints
 Oil grade recommended—S.A.E. viscosity
 Summer Winter
 Gear ratio in high—standard 5-passenger 4-door sedan Direct
 Transmission ratio—
 In overdrive — In second 1.66 - 1
 In third Direct In fourth —
 In low 2.67 - 1 In reverse 3.02 - 1

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TRANSMISSION (cont'd)

Constant mesh gears on second Yes
 Spur or helical gears—
 For second speed Helical
 For first speed "
 For reverse speed "
 For all speeds "
 Synchronous meshing ^{second} and third gears Yes
 Transmission oil—
 Capacity—pints 1-3/4
 Grade recommended—S.A.E. viscosity
 Summer * Winter *
 Universal joints—
 Make Saginaw or Spicer
 Number used One
 Type—metal with anti-friction bearing or metal with plain bearing Metal with plain bearing
 Lubricated with Transmission Lubricant
 Drive taken through springs, torque arm, torque tube or radius rods Torque Tube
 Torque taken through springs, torque arm, torque tube or radius rods Torque Tube

REAR AXLE

Rear axle—
 Make Own Model Series 50
 Type—Semi, full or three-quarter floating Semi-Floating
 Minimum road clearance under center of rear axle—Axles inflated 7-3/4"
 Rear axle oil—
 Capacity—pints 4
 Grade and type recommended—S.A.E. viscosity
 ** Summer S.A.E. 90 Hypoid Gear Lubricant Winter
 Type of gearing—spiral bevel, worms, hypoid Hypoid
 Gear ratio—standard 5-passenger 4-door sedan 4.454-1
 Optional gear ratios 4.2-1
 Number of teeth—
 In ring gear 49 Standard 11
 In pinion 41 Optional 10
 How is pinion adjusted—screw or shims Shims
 How is pinion bearing adjusted—screw or shims None
 Are pinion bearings carried in sleeve No
 Backlash between pinion and ring gear006" to010"

TIRES and WHEELS

Tires—
 Make U. S., Firestone & Goodrich
 Size 7.60-15" No. of plies 4

TIRES and WHEELS (Cont'd)

	Cold	Warm	Cold	Warm
*** Inflation pressure—Front	24	27	Rear 24	27
Rim—Diameter	15"		Width 6.50" W.	

SPRINGS

FRONT SPRING—

Independent or conventional suspension Independent
 Type—coil, semi-elliptic, transverse, torsion Coil
 Make Own
 Material Steel 9260
 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 14-3/4"
 Length under curb weight 9-1/2"

REAR SPRING—

Independent or conventional suspension Coil Spring Susp.
 Type—coil, semi-elliptic, transverse, torsion Coil
 Make Own
 Material Steel 9260
 Torsional stabilizer at rear No
 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 10"
 Rate for above 117 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 157 CC rear 157 CC

* "All Purpose" Gear Lubricant; SAE 90 for temperatures not lower than 10°F. and SAE 80 for temperatures lower than 10°F.

** Seasonal changes are not recommended.

*** For winter driving add 2 lbs. to above tire pressures.

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STEERING

Steering gear—
 Type Ball Bearing Worm and Nut
 Make Saginaw Model Series 50
 Ratio 19-8-1
 Lubricant recommended Steering Gear Lubricant
 Steering wheel diameter 18"
 Drag link longitudinal or transverse None
 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 4-1/2"
 Car turning radius—feet—right, left or both Rt. 21.5 Lt. 21.4
 Caster—degrees 1/4 Positive to 1-1/2 Positive
 Camber—degrees or 7/8 Pos. inches to 5/8 Neg.
 Toe-in—*inches* 1/16 to 1/8
 Crosswise inclination of kingpin—degrees 1-1/4 at 3/8
 Camber
 Front axle—
 Make Model
 Section type—I-beams, tubular or none
 End type—Elliott or reverse Elliott
 Minimum road clearance—tires inflated

BRAKES

Foot brakes—
 Make Bendix or Delco
 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 12"
 Lining—
 Length per wheel 23-1/16"

BRAKES (cont'd)

Width 1-3/4" Thickness 3/16"
 Clearance—*toe*015" *heel*015"
 Total foot braking area 161-1/2 Sq. In.
 Percent braking power on 7 rearwheels 47
 Parking brake
 Hand lever operates on—transmission, engine, rear axle, 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* 6-1/8"
 Thickness—*maximum* 7/64"
 Flange width—*maximum* 2-1/8"
 Wheelbase 121"
 Tread—
 Front 59-1/8"
 Rear 62-3/16"
 Weight of standard 5-passenger, four-door sedan—
 Shipping
 Curb
 Price of standard 5-passenger, 4-door sedan
 First serial number, this series See Note
 Serial number location Under hood — stamped on
 plate on upper right side of shroud
 Overall length of car—
 With bumpers and bumper guards 209-3/8"
 Overall width of car 78-1/2"
 Overall height, road to roof with no load 65-17/64"

Note:— Flint 1-5020984; Southgate 2-5030001; Linden 3-5036001; Kansas City 4-5043001
 Wilmington 5-5050001; Atlanta 6-5054001; Framingham 7-5057001

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

BEARINGS

and fan
 Water pump bearing—
 Make or type **New Departure 885156**
 Size or number **954208**
 Fan bearing—
 Make or type
 Size or number
 Starting motor commutator end bearing—
 Make or type **Cast Iron**
 Size or number **.563" x .31/32"**
 Starting motor drive end bearing—
 Make or type **Oilless Bushing**
 Size or number **.500" x .562" x .25/32"**
 Starting motor outboard bearing—
 Make or type
 Size or number
 Generator commutator end bearing—
 Make or type **Bushing**
 Size or number **.5625 x .7835 x .51/64"**
 Generator drive end bearing—
 Make or type **New Departure 3203**
 Size or number **903203**
 Transmission main drive gear front pilot bearing—
 Make or type **New Departure 7109**
 Size or number **907109**
 Clutch throwout bearing—
 Make or type **CTL - 48 BCA**
 Size or number **1308159**
 Transmission main drive gear rear bearing—
 Make or type **New Departure 47507 - X57**
 Size or number **954144**
 Transmission main shaft front pilot bearing—
 Make or type **Roller**
 Size or number **1294780**
 Transmission main shaft rear bearing—
 Make or type **New Departure 3206**
 Size or number **903206**
 Transmission countershaft front bearing—
 Make or type **Roller**
 Size or number **1302154**
 Transmission countershaft rear bearing—
 Make or type **Roller**
 Size or number **1302154**
 Transmission reverse idler bearing—
 Make or type **Bushing**

BEARINGS (cont'd)

Size or number **1307898**
 Overdrive shaft rear bearing—
 Make or type
 Size or number
 Overdrive shaft pilot bearing—
 Make or type
 Size or number
 Main shaft extension bearing—
 Make or type
 Size or number
 Rear axle pinion shaft front bearing—
 Make or type **New Departure**
 Size or number **905607**
 Rear axle pinion shaft rear bearing—
 Make or type **Hyatt - Two Wed**
 Size or number **126047**
 Differential right bearing—
 Make or type **Bower or Hyatt**
 Size or number **1317716 or 187434**
 Differential left bearing—
 Make or type **Bower or Hyatt**
 Size or number **1317716 or 187434**
 Rear wheel inner bearing—
 Make or type **None**
 Size or number
 Rear wheel outer bearing—
 Make or type **Hyatt**
 Size or number **111121**
 Front wheel inner bearing—
 Make or type **New Departure**
 Size or number **909062**
 Front wheel outer bearing—
 Make or type **New Departure**
 Size or number **909025**
 Kingpin upper bearing—
 Make or type **Split Bushing**
 Size or number **1266949**
 Kingpin lower bearing—
 Make or type **Split Bushing**
 Size or number **1266949**
 Kingpin thrust bearing—
 Make or type **Hoover 3021 or Nise 4984**
 Size or number **#148393 or 134630**

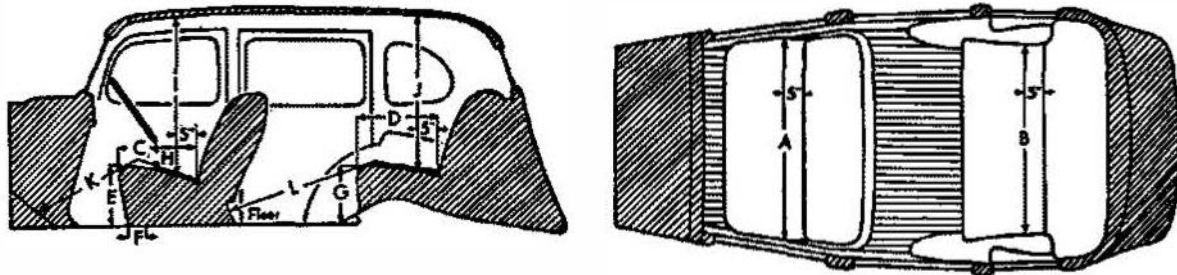
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NOTE: (1) List only that equipment which is included in the factory delivered price. Special equipment which is fitted, but not included in the factory delivered price should be listed with its additional price.
 (2) Enter on top line year own model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

EQUIPMENT	Models		
	Standard	Deluxe	Custom
Catalog Designation of Model	Series 50		
Lacquer make	Duco		
Body finish, lacquer or synthetic enamel	Lacquer		
Fender finish, lacquer or synthetic enamel	Lacquer		
Hardware make	Ternstedt		
Speedometer make	A. C.		
Gasoline gauge make	A. C.		
Thermometer make	A. C.		
Car lock make	Briggs & Stratton or Delco	Ray	
Car lock operates on ignition or ignition and steering	Ignition		
Clock make	Borg		
Cigar lighter make	Casco		
Safety glass make	LOF		
Safety glass type, laminated or tempered	Safety plate glass		
In windshield	Laminated		
In side windows	Laminated		
In rear window	Tempered		
Bumper make	Standard Steel Spg. Co. or	Gordon Mfg. Co.	
Bumper guard make	Guide Lamp		
Car heater make	Type		
Direction signal make	Guide Lamp		
Front—yes or no... YES... Rear—yes or no... YES... ..			
No. of tail lights included	2		
No. of visors included	2		
No. of horns included	2		
No. of windshield wipers included	2		
No. of spare tires included	1		

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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) (door to door).....	63-13/16..
Width of rear seat cushion, measured 5 inches from back (B)	52
Depth of front seat cushion (C)	18-3/16
Depth of rear seat cushion (D)	19-9/16
Height of front seat cushion measured 12 1/2 inches from center line of body (E)	12
Front seat horizontal adjustment, inches (F)	4-13/32
Front seat vertical adjustment, inches	1/4
Height of rear cushion measured 12 1/2 inches from center line of body (G)	13-1/4
Vertical distance steering wheel end seat cushion (H)	5-11/32
Head room at front seat, measured 5 inches from back (I)	35-1/2
Head room at rear seat, measured 5 inches from back (J)	35-3/8
Leg room in front seat, measured from 6 inches up on toe board, following contour of seat cushion (K)	41-1/2
Leg room in rear seat, measured from center of foot rest, following contour of seat cushion (L)	43-1/16
Trunk capacity, cubic feet
Width of left front pillar on diagonal with door closed	3-7/8

