

Automobile Manufacturers Association

Consolidated Specification Questionnaire

For 1948 Models

Mechanical Details

Make of Car..... PONTIAC Model 1948-27 Torpedo "8"
 Name of Maker..... Pontiac Motor Division Address 196 Oakland Ave., Pontiac, Mich.

Date September 29th, 1947

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 "L" Head
 Bore 3 1/4 Stroke 3-3/4
 Cylinder head, cast iron or aluminum Cast Iron
 Cylinder sleeve, Yes No No. X
 Piston displacement 248.9
 Taxable horsepower 33.8

Horsepower rating—

To be based on actual performance corrected to 60°F. at sea level (barometric pressure 29.92 inches of mercury) with standard oil. (Octane No. of fuel..... 76.....)

—With Bare Engine—

Maximum brake hp. 107 1/2 at 3700 R.P.M.

—With Standard Accessories—*

Maximum brake hp. 101 1/2 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. 192 at 2100 R.P.M.

With standard accessories,* lb. ft. 190 at 2000 R.P.M.

Compression Ratio—

Standard 6.5 Optional 7.5

Standard compression pressure —pounds—

At cranking speed 158

At what R.P.M. 1000

PISTONS and RINGS

Piston
 Make Own
 Material Chrome Nickel Alloy
 Features—*split skirt, invar strut, oval, tin-plated, aluminum oxide finish, auto-thermic, V-Bridge, porous chrome plate, etc.* Electroplated
 Weight—ounces—without rings, pin or bushing 24.7
 Length 3-19/32
 Clearance—
 Top land0165 to0285
 Skirt, top bottom
 Fit to give 10-20 pounds pull on
 1/2 x .0015 Feeler

PISTONS and RINGS (cont'd)

Piston ring groove depth—
 Oil189 Compression169
 No. of oil rings used per piston 1
 Width of oil rings 3/16
 Width of oil ring gap007 - .017
 No. of compression rings used per piston 2
 Width of compression rings 3/32
 Width of compression ring gap008 - .015
 Maximum wall thickness of oil rings150
 Maximum wall thickness of compression rings150
 Are ring expanders used, Yes No X

RODS and PINS

Wristpin—

Material SAE 1117 Fine Grain
 Length 2-7/8 Diameter 15/16
 Locked in rod, piston or floating piston
 Clearance in piston press fit to
 Clearance in rod0004 to0006

Connecting rod—

Length—center to center 7-9/16
 Material SAE #1035
 Weight—ounces 31.7

Crankpin journal—

Diameter 2 Length 1-1/16

Lower bearing—

Material Babbitt
 Clearance0001 to0021
 End play007 to012
 Ship—solid, laminated or none none
 Spun or separate separate

Rods and pistons removed from above or below Above

CRANKSHAFT

Material GM 1045
 Weight—stripped 80.5
 Vibration dampener used—yes or no yes
 Type Harmonic

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CRANKSHAFT (cont'd)

Crankshaft counterweights used, number of 8
 Which main bearing takes thrust Rear Center #4
 Crankshaft end play .003 - .008
 Main bearing—
 Type: Cast-in or Slip-in
 If slip-in: Removable from below Yes
 Necessary to align ream No
 Material Babbitt
 Clearance .0003 - .0023
 Shim—*solid, laminated or none*
 Main bearing journal diameter x length—
 No. 1 2-3/8 x 1-1/4
 No. 2 2-13/32 x 1-3/16
 No. 3 2-7/16 x 1-7/16
 No. 4 2-15/32 x 1-1/8
 No. 5 2-1/2 x 1-7/8
 No. 6
 No. 7
 No. 8
 No. 9

Crankshaft gear or sprocket—

Make Own
 Material Case hardened steel

CAMSHAFT

Camshaft gear or sprocket—

Make Own
 Material Alloy Iron

Timing chain—

Make Morse
 Number of links 56
 Width 3/4
 Pitch 3/8

VALVES

INTAKE VALVE—

Make Optional
 Material "
 Overall length 5-17/32
 Actual overall diameter of head 1-15/32
 Minimum port diameter 1-1/4
 Angle of seat 30°
 Is valve seat an insert? No - Taper Guide
 Stem diameter 5/16
 Stem to guide clearance Free to .0006
 Lift 19/64
 Spring pressure and length—
 Outer—

VALVES (cont'd)

With valve closed—lb. 59-1/2 ins. 1-29/32
 With valve open—lb. 101 ins. 1-19/32
 Length out of engine—ins.
 Inner—
 With valve closed—lb. ins.
 With valve open—lb. ins.
 Length out of engine—ins.

EXHAUST VALVE—

Make Optional
 Material "
 Overall length 5-17/32
 Actual overall diameter of head 1-11/32
 Minimum port diameter 1-3/16
 Angle of seat 45°
 Is valve seat an insert? No ~~WAFER~~ Taper Guide
 Stem diameter 5/16
 Stem to guide clearance Free to .0006
 Lift 19/64
 Spring pressure and length—
 Outer—
 With valve closed—lb. 59-1/2 ins. 1-29/32
 With valve open—lb. 101 ins. 1-19/32
 Length out of engine—ins.
 Inner—
 With valve closed—lb. ins.
 With valve open—lb. ins.
 Length out of engine—ins.

Operating tappet clearance (hot or cold)—intake .011 - .013
 Tappet clearance for valve timing—intake Same
 Operating tappet clearance (hot or cold)—exhaust .011 - .013
 Tappet clearance for valve timing—exhaust Same
 Hydraulic valve lifters—yes or no No

Valve timing—

Intake opens 5 degrees BUDC piston travel inches
 Intake closes 39 " ALDC " " inches
 Exhaust opens 45 " BLDC " " inches
 Exhaust closes 5 " AUDC " " inches

Valve Timing Marks—*on Flywheel, Vibration Damper, None*
Crankshaft & Camshaft Sprockets

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 yes
 Camshaft bearings—yes or no yes
 Tappets—yes or no no

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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*—
 10W -10° +95°
 20W or 10 +10° +110°
 20W or 20 +32° +110°
 Normal oil pressure—*lbs. at M.P.H.* 35-40 @ 40 MPH
 Pressure at which relief valve opens 38 Lbs.
 Capacity of oil reservoir—*quarts, dry* 6 *refill* 5
 Oil pressure gauge make AC
 Oil reservoir level gauge type Blade
 Floating type oil intake—*yes or no* no
 External oil filter make no
 Other type of oil cleaner Internal precipitation
 Oil cooler make none
 Chassis lubrication—*Make* Pressure gun

FUEL

Gasoline tank—*capacity* 17 Gal.
 Fuel feed—
 Type—*vacuum tank, electric pump, gravity vacuum pump or camshaft pump* Mechanical pump
 Make AC Model
 Carburetor—
 Make Carter Model WCD-630-S
 Number used One
 Size 1-1/4
 Type—
 Up or down draft down Single or dual dual
 Intake manifold heat control—*manual, automatic or none*
 Automatic choke, make Carter Model
 Air cleaner—*intake silencer make* AC
 Type—*dry felt; oil bath; oil coated fibre* coated fibre
 Heavy Duty type—*Make* AC Model
 Muffler make Optional straight through type
 Tail pipe diameter 1-3/4"

COOLING

Water pump—
 Type Centrifugal
 Drive 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 Cellular
 Make Harrison

COOLING (cont'd)

Cooling system—*capacity, quarts* 19-1/2
 Water jackets full length of cylinders—*yes or no* Yes
 Water all around cylinder—*yes or no* Yes
 Lower radiator hose—
 Inside diameter 1-1/2" Length 13-1/8"
 Upper radiator hose—
 Inside diameter 1-3/4" Length 8-1/2"
 Fan belt—
 Make Optional
 Angle of vee 28°
 Length, *inside* 45-5/16" Width, maximum 3/4"
 Fan—
 Make Own No. of Blades 4

IGNITION

Ignition units—
 Make Delco Remy Model 1110804
 Manual or octane selector, *degrees advance* 10 *retard* 10
 Maximum centrifugal advance crankshaft, *degrees* 28
 at 40 MPH engine R.P.M.
 Inches of Mercury Necessary to operate Vacuum Advance (Plus or minus 1 inch) 7-9
 Maximum Vacuum advance crankshaft, *degrees* 20
 Breaker gap015 Breaker arm tension 19-23 oz.
 Cam angle 31 deg.
 Timing—*Breaker points open* 2-6 *degrees crankshaft rotation*
 or *inches piston travel (after or before) top center with octane selector in the* 0 *position*
 Timing mark location—*flywheel, vibration dampener or none* Flywheel
 Firing order 1-6-2-5-8-3-7-4
 Amperage draw of ignition coil—
 With engine stopped
 With engine idling 1.8
 Spark plug—
 Thread—*10 m.m., 14 m.m. or 18 m.m.* 14
 Make AC Model 45
 Gap +.023 -.028
 Ignition cable make Packard

BATTERY

Make Delco Model 15E2-W
 Capacity—*ampere hours* 100 @ 20 hour rate
 Number of plates per cell 15
 Bench charging rate—
 Start 7 amp Finish 7 amp
 Which battery terminal is grounded negative
 Location of battery under hood

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STARTING MOTOR

Make Delco Remy Model 1107921
 Normal engine cranking speed 49 RPM
 Brush spring tension 24-28 oz.
 Lock test—
 Amperage draw 600
 Volts 3
 Torque in pounds feet 15
 No load test—
 Amperage draw 60
 Volts 5 R.P.M. 6000

Type of drive—Bendix or sliding gear with overrunning clutch Bendix
 Starting device—Solenoid, manual, etc. manual

Starter operation—check items required to start engine

1. Turn on ignition
2. Depress starter pedal
3. Depress accelerator pedal
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 140
 Face width of flywheel teeth 1/2"
 Gear ratio between starter armature and flywheel 15.55-1

GENERATOR

Make Delco Remy Model 1102665
 Type—third brush, shunt, etc. shunt
 Brush spring tension 22-26 oz.
 Current regulator, voltage regulator or current and voltage control unit current and voltage
 Maximum controlled charging rate
 Temperature hot
 Amperes 32-34
 Voltage 7.2 - 7.4
 R.P.M. 1140

Cutout relay—
 Voltage at closing 6.2 - 6.7
 Amperes to open, reverse current 0-4
 Air gap .020

Voltage regulator—
 Volts 7.2 - 7.4
 Temperature hot
 Air gap .070 - .075

Current regulator—
 Amperes 32-34
 Temperature hot
 Air gap .080 - .085

Car speed for maximum charging rate 25
 Ammeter or charge indicator make AC

LAMPS

Lighting switch make Delco Remy
 Are tail end dash lights in series no
 Headlights—
 Make Guide
 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 18-21

CLUTCH

Make Inland
 Drive type—
 Direct to flywheel face yes
 Through fluid flywheel
 Semi-centrifugal
 Power operated unit—make
 Vibration insulation or neutralizer—fabric, rubber blocks or springs springs
 No. of clutch driving discs NONE
 No. of clutch driven discs ONE
 Clutch facing—
 Material—woven or moulded asbestos, cork woven
 Inside diameter 6
 Outside diameter 9-1/2
 Thickness 1/8
 No. required 2

TRANSMISSION

Transmission—
 Make OWN Model
 No. of forward speeds 3
 Manual shift—yes, no yes
 Automatic or auxiliary shifting mechanism—yes X no Special Equipment
 If yes, Make Hydramatic
 Type—centrifugal, vacuum, electric or hydraulic Hydraulic
 Automatic overdrive—
 Make
 Oil capacity—pints
 Oil grade recommended—S.A.E. viscosity
 Summer Winter
 Gear ratio in high—standard 5-passenger
4-door sedan 4.1
 Transmission ratio—
 In overdrive In second 1.66
 In third direct In fourth
 In low 2.67 In reverse 3.02

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TRANSMISSION (cont'd)

Constant mesh gears on second Yes
 Spur or helical gears—
 For second speed
 For first speed
 For reverse speed
 For all speeds Helical
 Synchronous meshing and third gears
 Transmission oil—
 Capacity—*pints* 1-3/4
 Grade recommended—*S.A.E. viscosity*
 Summer EP. 80. or. 90. Winter EP. 80. or. 90.
 Universal joints—
 Make Mechanics
 Number used 2
 Type—*metal with anti-friction x bearing or metal with plain bearing*
 Lubricated with Semi fluid viscous chassis
 Drive taken through springs, torque arm, torque tube or radius rods Springs
 Torque taken through springs, torque arm, torque tube or radius rods Springs

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* 8-1/8
 Rear axle oil—
 Capacity—*pints* 3-1/4
 Grade and type recommended—*S.A.E. viscosity*
 Summer All year 90 Pass. Car Winter Duty Hypoid
 Type of gearing—*spiral bevel, worm, hypoid* Hypoid
 Gear ratio—*standard 5-passenger 4-door sedan* 4.1
 Optional gear ratios .. 3.9, 4.55 & Hydramatic Drive
 Number of teeth—
 In ring gear 41 In pinion 10
 How is pinion adjusted—*screw or shims* Shims
 How is pinion bearing adjusted—*screw or shims* none
 Are pinion bearings carried in sleeve yes
 Backlash between pinion and ring gear .003 to012

TIRES and WHEELS

Tires—
 Make Optional
 Size 16 x 6:00 No. of plies 4

TIRES and WHEELS (Cont'd)

Inflation pressure—Front 28 Cold Rear 28 Cold
 Rim—Diameter 16 Width 5"

SPRINGS

FRONT SPRING—

Independent or conventional suspension ... Independent ...
 Type—*coil, semi-elliptic, transverse, torsion* ... Coil
 Make Own
 Material G.M. 9260.M
 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
 Length under curb weight

REAR SPRING—

Independent or conventional suspension ... Conventional ...
 Type—*coil, semi-elliptic, transverse, torsion* ... Semi-elliptic
 Make Own
 Material G.M. 9255
 Torsional stabilizer at rear ... No
 If leaf—
 Length 52 Width 2
 Number of leaves—*5-passenger, 4-door sedan* 8
 Spring leaves lubricated with Chassis lubricant
 Spring cover, Yes Yes No
 Spring shackles—
 Front—Type Make
 Rear—Type Threaded Make
 Spring bolts—
 Type Threaded
 If coil—
 Free length
 Length under curb weight
 Rate for above pounds per inch
 Shock absorbers—
 Make Delco Lovejoy
 Type, one way with lever, two way with lever, or direct acting
 Front 2 way
 Rear direct acting
 Fluid capacity (oz.)—front rear 6-3/4 oz.

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STEERING

Steering gear—
 Type..... Worm & Roller
 Make..... Saginaw Model.....
 Ratio..... 19:1
 Lubricant recommended..... All season steering gear.....
 Steering wheel diameter..... 18
 Drag link longitudinal or transverse..... Transverse.....
 Tie rod—one or two..... 2
 Is intermediate steering arm used..... Yes
 Number of turns of steering wheel for full left
 to right swing of wheels.....
 Car turning radius—feet—right, left or both..... - 19' 4"
 Caster—degrees = 1/2° to - 1°
 Camber—degrees or 0° inches to
 Toe-in—inches 0 to 1/16
 Crosswise inclination of kingpin—degrees..... 5°
 Front axle—
 Make..... Model.....
 Section type—I-beams, tubular or none.....
 End type—Elliott or reverse Elliott.....
 Minimum road clearance—tires inflated..... 8-11/16

BRAKES

Foot brakes—
 Make..... Bendix Duo-servo.....
 Type of mechanism, hydraulic or mechanical..... hydraulic.....
 If vacuum booster is standard, state make.....
 Brake lining moulded, semi-moulded or woven—
 Primary shoe..... moulded.....
 Secondary shoe..... moulded.....
 Drum—
 Material Steel & Cast Iron
 Diameter..... 11".....
 Lining—
 Length per wheel..... 21-5/16.....

BRAKES (cont'd)

Width F = 2" R = 1-3/4" Thickness..... 3/16.....
 Clearance—see See brake chart.....
 Total foot braking area 159 sq. in.....
 Percent braking power on rear wheels..... 44.....
 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..... 6-1/8.....
 Thickness—maximum..... 7/64.....
 Flange width—maximum 2-1/2.....
 Wheelbase..... 119.....
 Tread—
 Front..... 58.....
 Rear..... 61-1/2.....
 Weight of standard 5-passenger, four-door sedan—
 Shipping..... 3418. Estimated.....
 Curb..... 3560. Estimated.....
 Price of standard 5-passenger, 4-door sedan.....
 First serial number, this series..... PBMA 1001.....
 Serial number location..... Left Front Side Dash.....
 Overall length of car—
 With bumpers and bumper guards..... 204 1/2.....
 Overall width of car..... 75-3/4.....
 Overall height, road to roof with no load..... 66.....

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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
 Size or number 954210

Fan bearing—
 Make or type
 Size or number

Starting motor commutator end bearing—
 Make or type Plain
 Size or number I.D. 9/16 Length 15/16...

Starting motor drive end bearing—
 Make or type
 Size or number

Starting motor outboard bearing—
 Make or type Bronze Bushing
 Size or number 1/2 x 9/16 x 25/32

Generator commutator end bearing—
 Make or type Bronze Bushing
 Size or number 9/16 x 25/32 x 53/64

Generator drive end bearing—
 Make or type New Departure
 Size or number 903203

Transmission main drive gear front pilot bearing—
 Make or type New Departure
 Size or number 907109

Clutch throwout bearing—
 Make or type New Departure
 Size or number 2140122

Transmission main drive gear rear bearing—
 Make or type New Departure
 Size or number 954144

Transmission main shaft front pilot bearing—
 Make or type Rollers
 Size or number 14-7/32 x 17/32

Transmission main shaft rear bearing—
 Make or type New Departure
 Size or number 907506

Transmission countershaft front bearing—
 Make or type Rollers
 Size or number 25-1/8 x 13/16

Transmission countershaft rear bearing—
 Make or type Rollers
 Size or number 25-1/8 x 13/16

Transmission reverse idler bearing—
 Make or type Plain Bronze Bushing

BEARINGS (cont'd)

Size or number 55/64 x 63/64 x 3/4

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 905306

Rear axle pinion shaft rear bearing—
 Make or type Hyatt
 Size or number 107391

Differential right bearing—
 Make or type Hyatt Taper Roller
 Size or number 179243

Differential left bearing—
 Make or type Same
 Size or number

Rear wheel inner bearing—
 Make or type New Departure
 Size or number 954172

Rear wheel outer bearing—
 Make or type
 Size or number

Front wheel inner bearing—
 Make or type New Departure
 Size or number 909052

Front wheel outer bearing—
 Make or type New Departure
 Size or number 909001

Kingpin upper bearing—
 Make or type Bronze Bushing
 Size or number 55/64 x 1-1/16 x 1-15/64

Kingpin lower bearing—
 Make or type Same
 Size or number

Kingpin thrust bearing—
 Make or type Ball
 Size or number 230679

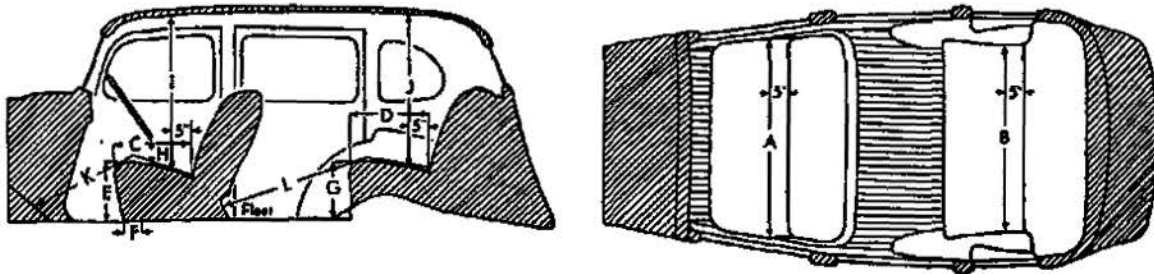
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NOTE: (1) List only that equipment which is included in the factory delivered price. Special equipment which is fitted, but not included in the factory delivered price should be listed with its additional price.
 (2) Enter on top line your own model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

EQUIPMENT	Models		
	Standard	DeLuxe	Custom
Catalog Designation of Model	Torpedo	Do	
Lacquer make	Duco	Do	
Body finish, <i>lacquer or synthetic enamel</i>	Lacquer	Do	
Fender finish, <i>lacquer or synthetic enamel</i>	Lacquer	Do	
Hardware make	Ternstedt	Do	
Speedometer make	AC	Do	
Gesolina gauge make	AC	Do	
Thermometer make	AC	Do	
Car lock make	Rochester	Do	
Car lock operates on ignition or ignition and steering	Ignition	Do	
Clock make <i>Jaeger mechanical or electrical</i> electrical No	Yes	Yes	
Cigar lighter make Casco	Yes	Do	
Safety glass make	LOF Plate	Do	
Safety glass type, <i>laminated or tempered</i>	Laminated	Do	
In windshield	Yes	Do	
In side windows	Yes	Do	
In rear window	Tempered	Do	
Bumper make	General Spring & Bumper Co.		
Bumper guard make	Brown, Lipe, Chapin, Div.		
Car heater make Own Type Underseat			
Direction signal make Guidelamp			
Front—yes or no Rear—yes or no			
No. of tail lights included	2	Do	
No. of visors included	2	Do	
No. of horns included	2	Do	
No. of windshield wipers included	2	Do	
No. of spare tires included	1	Do	
Deluxe Steering Wheel		Yes	
Chrome Moulding on Front Fender		Yes	
Stainless Steel Gravel Guards		Yes	
Chrome Wheel Discs		Yes	

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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)	57-1/2
Width of rear seat cushion, measured 5 inches from back (B)	49
Depth of front seat cushion (C)	18-1/4
Depth of rear seat cushion (D)	18-1/2
Height of front seat cushion measured 12 1/2 inches from center line of body (E)	14-1/2
Front seat horizontal adjustment, inches (F)	4-1/2
Front seat vertical adjustment, inches	3/4
Height of rear cushion measured 12 1/2 inches from center line of body (G)	13-1/4
Vertical distance steering wheel and seat cushion (H)	6-3/8
Head room at front seat, measured 5 inches from back (I)	36-3/4
Head room at rear seat, measured 5 inches from back (J)	36-3/4
Leg room in front seat, measured from 6 inches up on toe board, following contour of seat cushion (K)	42-1/2
Leg room in rear seat, measured from center of foot rest, following contour of seat cushion (L)	41-1/2
Trunk capacity, cubic feet	17-1/2
Width of left front pillar on diagonal with door closed	4-19/32

