

Automobile Manufacturers Association Consolidated Specification Questionnaire For 1947 Models Mechanical Details

Make of Car Pontiac Model 1947-27

Name of Maker Pontiac Motor Division Address 196 Oakland Ave., Pontiac, Mich.

Date September 10th, 1946

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 C.I.
Cylinder sleeve, Yes No
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 fuel. (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 31-9/32

Clearance—

Top land .0165 to .0285

Skirt, top .002 bottom .002

PISTONS and RINGS (cont'd)

Piston ring groove depth—

Oil .189 Compression .169

No. of oil rings used per piston 1

Width of oil rings 3/16

Width of oil ring gap .006 - .013

No. of compression rings used per piston 2

Width of compression rings 3/32

Width of compression ring gap .008 - .015

Maximum wall thickness of oil rings .155

Maximum wall thickness of compression rings .150

Are ring expanders used, Yes No

RODS and PINS

Wristpin—

Material G.M. X 1315-A

Length 2-7/8 Diameter 15/16

Locked in rod, piston or floating piston

Clearance in piston press. fit to

Clearance in rod .0004 to .0006

Connecting rod—

Length—center to center 7-9/16

Material G.M. 1045

Weight—ounces 31.7

Crankpin journal—

Diameter 2 Length 1-1/16

Lower bearing—

Material BABBITT

Clearance .0001 to .0021

End play .007 to .012

Ship—solid, laminated or none none

Spun or separate separate

Rods and pistons removed from above or below

CRANKSHAFT

Material GM 1045

Weight—stripped 80.5

Vibration dampener used—yes or no yes

Type Harmonic

Make of Car **PONTIAC** Model **1947-27** Date **1947**

CRANKSHAFT (cont'd)

Crankshaft counterweights used, number of **8**
 Which main bearing takes thrust **#4**
 Crankshaft end play **.003 - .008**
 Main bearing—
 Type: Cast-in or **Slip-in** **X**
 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 **Chrome Nickel 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** ~~None~~ **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** " BDC " " inches
 Exhaust closes **5** " AUDC " " inches

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—

<u>10W</u>	<u>-10°</u>	<u>+95°</u>
<u>20W or 10</u>	<u>+10°</u>	<u>+110°</u>
<u>20W or 20</u>	<u>+32°</u>	<u>+110°</u>

 Normal oil pressure—lbs. at M.P.H. 35-40 @ 40 MPH
 Pressure at which relief valve opens
 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 WDO-548-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
 Tail pipe diameter

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 Length
 Upper radiator hose—
 Inside diameter Length
 Fan belt—
 Make Optional
 Angle of vee
 Length, outside Width, maximum
 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 25
 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 gap .020 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 1-6-2-5-3-7-4
 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 43 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 X
 2. Depress starter pedal X
 3. Depress accelerator pedal X
 4. Depress clutch pedal X
 5. Operate button on dash
 6. Pull out throttle
 Starting motor pinion meshes front or rear rear
 No. of teeth in flywheel
 Face width of flywheel teeth
 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 and 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 moulded
 Inside diameter 6
 Outside diameter 9-1/2
 Thickness 1/8
 No. required 2

TRANSMISSION

Transmission—
 Make OMN Model
 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
 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
 All Year **90 Pass. Car Duty Hypoid**
 Summer Winter
 Type of gearing—spiral bevel, worms, hypoid **Hypoid**
 Gear ratio—standard 5-passenger 4-door sedan **- 4.1**
 Optional gear ratios **3.9 & 4.55**
 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** to **.012**

TIRES and WHEELS

Tires—
 Make **Optional**
 Size **16 x 6.00** No. of plies **4**

TIRES and WHEELS (Cont'd)

Inflation pressure—Front **30 Cold** Rear **30 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 **No**
 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
 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.**

Make of Car..... **PONTIAC** Model **1947-27** Date **1947**

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 1/4"**
 Caster—degrees **- 1/2** to **- 1**
 Camber—degrees or **1/4** inches to **- 1/4**
 Toe-in—inches **0** to **1/16**
 Crosswise inclination of kingpin—degrees **4-3/8 - 4-7/8**
 Front axle—
 Make Model
 Section type—**I-beams, tubular or none**
 End type—**Elliott or reverse Elliott**
 Minimum road clearance—tires inflated **6-11/16**

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 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**
 Curb **3560**
 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 **20 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 typeNew Departure.....
 Size or number954210.....

Fan bearing—
 Make or type
 Size or number

Starting motor commutator end bearing—
 Make or typePlain.....
 Size or numberI.D.e. 9/16 Length 15/16.....

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

Starting motor outboard bearing—
 Make or typeBronze Bushing.....
 Size or number $\frac{1}{2}$ x 9/16 x 25/32.....

Generator commutator end bearing—
 Make or typeBronze Bushing.....
 Size or number9/16 x 25/32 x 53/64.....

Generator drive end bearing—
 Make or typeNew Departure.....
 Size or number903203.....

Transmission main drive gear front pilot bearing—
 Make or typeNew Departure.....
 Size or number907109.....

Clutch throwout bearing—
 Make or typeNew Departure.....
 Size or number2140122.....

Transmission main drive gear rear bearing—
 Make or typeNew Departure.....
 Size or number954114.....

Transmission main shaft front pilot bearing—
 Make or typeRollers.....
 Size or number11-7/32 x 17/32.....

Transmission main shaft rear bearing—
 Make or typeNew Departure.....
 Size or number907506.....

Transmission countershaft front bearing—
 Make or typeRollers.....
 Size or number25 - 1/8 x 13/16.....

Transmission countershaft rear bearing—
 Make or typeRollers.....
 Size or number25 1/8 x 13/16.....

Transmission reverse idler bearing—
 Make or typePlain Bronze Bushing.....

BEARINGS (cont'd)

Size or number55/64 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 typeNew Departure.....
 Size or number905306.....

Rear axle pinion shaft rear bearing—
 Make or typeHyatt.....
 Size or number107391.....

Differential right bearing—
 Make or typeHyatt Taper Roller.....
 Size or number179243.....

Differential left bearing—
 Make or typeSame.....
 Size or number

Rear wheel inner bearing—
 Make or typeNew Departure.....
 Size or number954172.....

Rear wheel outer bearing—
 Make or type
 Size or number

Front wheel inner bearing—
 Make or typeNew Departure.....
 Size or number909052.....

Front wheel outer bearing—
 Make or typeNew Departure.....
 Size or number909001.....

Kingpin upper bearing—
 Make or typeBronze Bushing.....
 Size or number55/64 x 1-1/16 x 1-15/64.....

Kingpin lower bearing—
 Make or typeSame.....
 Size or number

Kingpin thrust bearing—
 Make or typeBall.....
 Size or number230679.....

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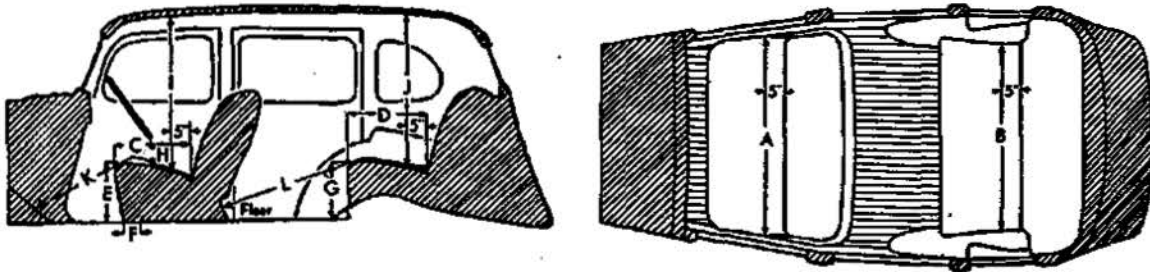
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NOTE: (1) List only that equipment which is included in the factory delivered price. Special equipment which is fitted, but not included in the factory delivered price should be listed with its additional price.
(2) Enter on top line your own model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

EQUIPMENT	Models		
	Standard	DeLuxe	Custom
Catalog Designation of Model	Torpedo		
Lacquer make	Duco		
Body finish, <i>lacquer or synthetic enamel</i>	Lacquer		
Fender finish, <i>lacquer or synthetic enamel</i>	Lacquer		
Hardware make	Tarnstedt		
Speedometer make	AC		
Gasoline gauge make	AC		
Thermometer make	AC		
Car lock make	Rochester		
Car lock operates <i>on ignition or ignition and steering</i>	Ignition		
Clock make <i>Jaeger mechanical or electrical electrical</i>			
Cigar lighter make <u>Casco</u>			
Safety glass make	LOF Plate		
Safety glass type, <i>laminated or tempered</i>	Laminated		
In windshield	Yes		
In side windows	Yes		
In rear window	Tempered		
Bumper make	General Spring & Bumper Co.		
Bumper guard make	Brown, Lipe, Chapin, Div.		
Car heater make <u>Own</u> Type <u>Underseat</u>			
Direction signal make <u>Guidelamp</u>			
Front— <i>yes or no</i>			
Rear— <i>yes or no</i>			
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			

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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 1/2
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)	1 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 1/2
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

