

1922 Gardner

Specifications

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Main Technical Specifications

Car Name and Model	Price and Passenger Cap'ty	Engine Make and Model No.	Type of Engine	Number of Cylinders	Taxable H.P.	Av. Mls. per Gal.	Bore and Stroke Inches	Cylinders Cast	Front End Drive	No. Crankshaft Bearings	Cooling Syst'm Type	Capacity Cooling System Gallons	Oiling System Type	Engine Oil Cap'ty, Qts.	Mls. per Qt. Oil	Carbureter Make and Size	How Is Intake Heated		Cap'ty Gasoline Tank	Fuel Feed	Chassis Lubricator	Ignition Make
																	Heat Source	Feature				
Gardner.....	1095-5	Lyc-K	L	4	19.6	20	3½x5	Block	Hel	2	T-S	5	S-Circ	5½	250	Carter-1	Both	Stove	13	Vac	Yes	Wshse

NOTES & ABBREVIATIONS: ENGINE MAKE: H-Spil, Herschel-Spillman; Cont, Continental; Lyc, Lycoming; Rut, Rutenber; North, Northway; Weid, Weidely; R D, Rochester-Duesenberg; Walk, Walker; Wisc, Wisconsin. TYPE OF ENGINE: L, L-head; O, overhead-valve; Sire, Knight sleeve valve; H&S, Valves in side and head; T, T-head. † indicates overhead camshaft is used. AVERAGE MILEAGE PER GALLON: Figures supplied by car manufacturers. FRONT END DRIVE: Hel, helical gearing; Chain, silent chain. Where name appears make of chain is given. COOLING SYSTEM: * Indicates thermostat or radiator shutter used. T-S, thermo-siphon system. OILING SYSTEM, TYPE: F&S, force feed and splash; Spr, spray; S-Circ, circulating splash. CARBURETER, MAKE: Strom, Stromberg; Ray, Rayfield; Ball, Ball & Ball; John, Johnson; Stew, Stewart; Scheb, Schebler; Tillot, Tillotson; Hol, Holley; King, Kingston. HOW IS INTAKE HEATED: Direct or indirect by hot water, exhaust gas or both. Stove, Hot air connection to exhaust; Vac tnk, jac, heated vacuum tank; HS, hot spot; Enc, enclosed intake manifold; Heater jkt, exhaust jacketed intake. Distillator, Fuelizer, etc., are special manifold heating devices. Mfd in hd, intake manifold in head; Var with ld, exhaust heat varies with load. IGNITION: Wshse, Westinghouse; At-Kent, Atwater Kent; Kingste, Kingston; Scin, Sciattilla; Eise, Eisemann; Conn, Connecticut; Auto-L, Auto-Lite; Split, Splitdorf; N East, Northeast; Bij, Bijur.

of the 1922 Passenger Cars

Starting Lighting Make	Clutch Type and Size	Transmission Location Number Speeds	Number Universals	Rear Axle Type	Final Gear Ratio	Brakes Location	Brakes, Length and Width		Drive and Torque Through	Wheel base	Tires	Wheels Type	Rear Springs Type	Spring Lubri-cation	Steer-ing Type	Weight, Ready for Road	Car Name and Model
							Hand	Service									
Wshse	" Disc	UPP-3	2	¾-Flt	4.44	R W	35½x1¾	36 x1¾	Hotch	112	32x3½	Wood	Semi	Grease	W&W	2420Gardner

NOTES & ABBREVIATIONS: STARTING-LIGHTING: G&D, Gray & Davis; Allis Ch, Allis Chalmers; Leece-N, Leece Neville. For others see under ignition. CLUTCH: Mul disc, multiple disc. Disc includes disc and plate types; R Cone, reverse cone; O, runs in oil. TRANSMISSION: All are selective except: Ford, planetary; Stevens-Duryea, progressive. Upp, Unit power plant construction; Ax, transmission in unit with rear axle; Sep, transmission mounted as separate unit; TT, mounted forward end of torque tube. NO. UNIVERSALS. This gives number between transmission and rear axle. REAR AXLE TYPE: Flt, floating; Semi, semi-floating. BRAKES, LOCATION: RV, rear wheels only; P & 4W, propeller shaft and four wheels; RWP, rear wheels and propeller shaft; RWT, rear wheels and transmission; 4W, four wheel brakes. BRAKES, LENGTH & WIDTH: Length is total required except where (2) appears which indicates two pieces of dimensions given. DRIVE AND TORQUE: Hotch, Hotchkiss drive in which rear springs transmit drive and take the torque; T-Arm, torque arm; T-Tube, torque tube; R, radius rods. WHEELS: Types offered as standard equipment on one or more models. REAR SPRINGS: Semi, semi-elliptic; Cant, cantilever; Ell, elliptic; Trans, transverse; C Cant, compound cantilever; D Cant, double cantilever; D Inv Tr, double inverted semi-elliptic transverse. SPRING LUBRICATION: For shackles and bolts. Oil refers to free oil feed; Wick, oil feed through wicks; Grease, through grease cup or Alomite system. STEERING GEAR: W&W, worm and wheel; S&N, screw and nut; Plan, planetary; Spur, spur gearing combination. WEIGHT: These figures supplied by manufacturers and give weight of car with gasoline, water and oil tanks filled.

Detail Dimensions and Equipment of

Car Name and Model	Number Cylinders	Bore and Stroke	Piston Displacement	B.H.P. and Curve Peak	Are Cyls. Cast with Crank Case?	Is Head Detachable?	Make of Cylinder Head Gasket	Cyl. Bore Finish	Lower Rod Bear'g		Bearing Shims	Valve Material		Valve Diam.	Piston Material	Piston Clearance		Are Oil Holes Used?	Piston Rings Make and No.	Piston Rings	Wrist Pin
									Length	Diam.		Head	Stem			Top	Bot-tom				
Gardner.....	4	3 1/2 x 5	192.4	35 at 2000	No	Yes	Victor	Grnd	2 1/8	2	Lam	CI	Steel	1 1/2	CI*	.018	.0025	Yes	Lyc-3	1 5/8 x 1 1/2	3/8 x 3 1/4

NOTES AND ABBREVIATIONS: MAKE OF CYLINDER HEAD GASKET: Fitz, Fitzgerald; Cont, Continental; Rain, Rainbesto; Lyc, Lycoming. **CYLINDER BORE FINISH:** Grnd, ground; Rmd, reamed. **BEARING SHIMS:** Lam, Laminated; H-S, Hershell-Spillman; Lyc, Lycoming; Det, Detroit; GSC, Gasket Supply Co.; Merd, McCord. **VALVE MATERIAL:** NS, Nickel-steel; Tn & Tung, Tungsten-steel; CI & GI, Cast iron; ChrS, Chrome-steel; CC, Cobalt-chrome; Vanad, vanadium; Chr N, Chrome-nickel; StS, Stainless steel. **PISTON MATERIAL:** CI, Cast iron; Alum, aluminum; Lyn, Lynite; Comb, combination aluminum and cast iron; Mag, magnalite; SS, semi-steel. * Indicates piston turned oval; o, skirt is slotted for expansion; b, extra long skirt; c, piston is oval and skirt is slotted. **PISTON RINGS:** Hmrd, American-Hammered; H-S, Hershell-Spillman; Cont, Continental; Penn, Pennsylvania; Step, simple step-joint type; Lyc, Lycoming; Univ, Universal; P-Proof, Pressureproof; Musk, Muskegon; Richd, Richmond; Ped, Pedrick; Vic, Victory; D-Seal, Double Seal.

the Engines Used in the 1922 Cars

Material Camshaft Gear	No. Crankshaft Bearings	Bearing Sizes			Crankshaft drilled for oil?	Cooling Fan Make	Fan Belt			Water Hose Diam.		Ignition Make	Spark Plugs Make and Size	Oil Gauge or Indicator Make	Carbureter Make and Size	Vacuum Tank Make	Radiator Make	Car Name and Model
		Front	Inter.	Rear			Make	Type	Size	Up'r	Lw'r							
CI	2*	2 1/8 x 3 1/8	None	2 1/8 x 3 1/8	No	Oakes	Old Hic	Flat	31 1/2 x 1	2 1/4	2 1/4	Wsthse	Champ, 3/8 reg	Natl	Carter-1	Stewart	Fedders Gardner

NOTES AND ABBREVIATIONS: CAMSHAFT GEAR MATERIAL: CI, cast iron; Mtc, Mifarta; Fab, Fabroll; Huron, Huron metal and aluminum alloy; St, Steel; Alum, aluminum; Cond, Condensite. **NUMBER OF CRANKSHAFT BEARINGS:** * indicates shims are used. **BEARING SIZES:** Crankshafts with more than 3 bearings, intermediate sizes omitted if not identical. **FAN BELT, MAKE:** HLB, Hide, Leather Belting; Gil, Gimer; G&K, Graton & Knight; Old Hic, Old Hickory. **IGNITION:** Wsthse, Westinghouse; NE, North-East; Conn, Connecticut; Auto-L, Auto-Lite; Kingstn, Kingston; Eiseman, Eisenmann; At-Kent, Atwater Kent; Split, Splitdorf; Phil, Philbrh. **SPARK PLUGS:** Beth, Bethlehem; AC, made by Champion Ignition Co.; Flut, Mich.; Champ, made by Champion Spark Plug Co., Toledo, O.; Rny, Remy. **OIL GAUGE:** Roch, Rochester; LaCr, LaCrosse; Hanck, Hancock; War, Warner. **CARBURETER:** Strom, Stromberg; Ball, Ball & Ball; Ray, Rayfield; John, Johnson; Hol, Holley; Kk, Kingston; Yl, Yale; Tillot, Tillotson.

Tables of Parts and Equipment Used in the New Car Models

Important Units of Standard Equipment 1922 Cars

Car Name and Model	Make of Pressure Lubricator	Speedometer	Heater	Tire Pump	Clock	Top Material	Shock Absorbers	Tires	Rims	Brake Lining	Radiator Meter
Gardner.....	Alemite	Stewart	Perfn	Hand	None	Drednaut	None	Goodyear	Jaxon	Thermoid	Moto.....

NOTES AND ABBREVIATIONS: PRESSURE LUBRICATOR. Where none is supplied other form of lubrication used. **SPEEDOMETER:** Van Sick, Van Sicklen. **HEATER:** Perfn, Perfection. **TOP AND UPHOLSTERY MATERIAL:** Leather, leather; Im, imitation leather; Sp., Spanish leather. **TIRES:** Gdylr, Goodyear; Gorb, Goodrich; Fstn, Firestone. **BRAKE LINING:** Ray, Raybestos; Ther, Thermoid; Multi, Multibestos.

Makes of Chassis Units Employed in the 1922 Cars

Car Name and Model	Engine	Clutch	Transmission	Universals	Rear Axle	Differential	Front Axle	Springs	Steering Gear	Wheels	Gasoline Tank	Frame	Body
Gardner.....	Lyc	B & B	Mch	Mch	Flint	B-Lipe	Flint	Standard	Ditwiler	Hayes	Colbian	Hyd	C A B

NOTES AND ABBREVIATIONS: Engine: H-Spill, Herschell-Spillman; Cont, Continental; Lyc, Lycoming; Ruten, Rutenber; Nthway, Northway; Rch-Dus, Rochester-Duesenberg. **CLUTCH:** B&B Borg & Beck; B-Lipe, Brown-Lipe; North, Northway; M&E, Merchant & Evans. **TRANSMISSION:** G-Lees, Grant Lees; B-Lipe, Brown-Lipe; Mch, Mechanics Machine. **UNIVERSALS:** T-H, Thermoid-Hardy fabric type; M&E, Merchant & Evans; Mch, Mechanics Machine; Det, Detroit. **REAR AXLE:** Salls Salisbury; Colbia, Columbia. **DIFFERENTIAL:** B-Lipe, Brown-Lipe; War, Warner. **FRONT AXLE:** See rear axle. **SPRINGS:** Maremt, Maremont; Per, Perfection; Shel, Sheldon; S, Perch, Spring Perch; I City, Iron City; AAP, American Auto Products. **WHEELS:** WWC, Mfg Wood Wheel Corp.; Hk, Houk; Fors, Forsythe; Schwz and Sch, Schwarz; H B & D, Hoopes Bros & Darlington; RW, Rudge-Whitworth; Dis, Disteel; Prud, Prudden; Motor, Motor Wheel Corp. **GASOLINE TANK:** AB&B, ABB Sheet Metal Works; Colbian, Columbian; MMC, Motors Metal Mfg. Co. **FRAME:** P&B, Parish & Bingham; Hyd, Hydraulic Pressed Steel; DPS, Detroit Pressed Steel. **BODY:** Glas, Glascock; Thomp, Thompson; Rac, Racine; Ben, Bender; Mol, Moline; Auto, Auto Body Co.; Buf, Buffalo; Col, Collins; Cen, Central; Gris, Griswold; Will, Willoughby; U C, Union City; Der, Derham; S B C, Sedan Body Co.; C A B, Commercial Auto Body Co.; Am, American.

Electrical Equipment of the Cars of 1922

Car Name and Model	Ignition Unit Make	Spark Plug Make and Size	Starting-Lighting Make	Headlamps Make	Headlamp Glass Fronts (Lenses)	Ammeter Make	Horn Make	Storage Battery Make	St'r'ge Batt'ry Volt'ge & Capacity	Head	Bulbs		D'm'er or Side
											Dash	Tail	
Gardner.....	Wsthse	Champ, 7/8 reg	Wsthse	Victor	Warner	Wsthse	Newtone	Willard	6-04	21-6	2-6	2-6	Res

NOTES AND ABBREVIATIONS: IGNITION: Conn, Connecticut; Wsthse, Westinghouse; N-East, North-East. SPARK PLUGS: AC, made by Champion Ignition Co., Flint, Mich.; Champ., made by Champion Spark Plug Co., Toledo, O.; Beth., Bethlehem; Splitt, Splittdorf. STARTING-LIGHTING: Wsthse, Westinghouse; G&D, Gray & Davis; Wag., Wagner; N-East, Northeast; L-N, Leece-Neville; Allis-Chal., Allis-Chalmers. HEADLAMPS: E & J, Edmunds & Jones; G & D, Gray & Davis. HEADLAMP GLASS FRONTS: Warner, Warner-Patterson; Corning, Corning-Conophore. AMMETER: Wsthse, Westinghouse; Splitt, Splittdorf. HORN: E. A., E. A. Laboratories. STORAGE BATTERY: Presto, Prest-O-Lite; Will, Willard; Ex, Exide. BULBS: Res, Resistance; SL, Side Lights.

Bearings in 1922 Chassis

Car Name and Model	Front Wheel	Differential	Axle Shaft or Rear Wheel	Pinion Shaft	Clutch	Transmission
Gardner.....	Timken	Hyatt	Hyatt	Timken	N D	N D

NOTES AND ABBREVIATIONS: Type of bearing given where make is not known. N.D., New Departure; H.B., Hess-Bright; Hy, Hyatt; Gur, Gurney; B, Brk Bound Brook; oilless; Faf, Fafnir.