VOL. 11 No. 19 OCTOBER 1, 1937

MECHANICAL SPECIFICATIONS AND ADJUSTMENTS

NAME	1600	1601-1602	1603-4-5	1607-1608
ENGINE				
Make	Packard	Packard	Packard	Packard
Type	L Head—Vertical En bloc	L Head—Vertical En bloc	L Head—Vertical En bloc	Modified L Head—V Type Block
A.M.A. Horsepower	29.4	33.8	32.5	56.7
Maximum Brake Horsepower	100	120	130	175
Revolutions per Minute	3600	3800	3200	3200
Suspension	Rubber Mounted	Rubber Mounted	Rubber Mounted	Rubber Mounted
Firing Order	1-5-3-6-2-4	1-6-2-5-8-3-7-4	1-6-2-5-8-3-7-4	1R-6L-5R-2L-3R-4L 6R-1L-2R-5L-4R-3L
Bore	3 1/2"	3 1/4"	3 3/16"	3 7/16"
Stroke	4 1/4"	4 1/4"	5"	4 1/4"
Piston Displacement	245.34 cu. in.	282.05 cu. in.	320 cu. in.	473 cu. in.
Cylinders	6 in line	8 in line	8 in line	12 two blocks at 67° angle
Compression Ratio—Standard	6.52 to 1	6.6 to 1	6.5 to 1	6 4 to 1
Compression Ratio—Optional	7.05 to 1	7.05 to 1	7.05 to 1	6.0 to 1
Compression Ratio—Optional	None	None	7.05 to 1	7.0 to 1
Weight with Clutch and Transmission	712 lbs.	765 lbs.	1010 lbs.	1346 lbs.
Cylinder Head Material	Cast Iron	Aluminum	Aluminum	Aluminum
Motor r.p.m. per Mile	3325	3066—1601 3305—1602	3178	2879
CRANKCASE				
Type	Integral with cylinders	Integral with cylinders	Separate casting	Integral with cylinders
Upper-half Material	Cast Iron	Cast Iron	Aluminum	Cast Iron
Lower-half Material	Steel Stamping	Steel Stamping	Aluminum	Aluminum
Oil Capacity	6 Qts.	6 Qts.	8 Qts.	10 Qts.
Main Bearing Diameter	2 3/4"	2 3/4"	2 5/8"	2 3/4"
Main Bearing Length No. 1	1 13/32"	1 1/2"	2"	2 1/4"
Main Bearing Length No. 2	1 1/2"	1 7/32"	61/64"	1 5/8"
Main Bearing Length No. 3	1 1/2"	1 13/32"	1 17/64"	1 5/8"
Main Bearing Length No. 4	2 5/16"	1 7/32"	61/64"	1 31/32"
Main Bearing Length No. 5	None	2 5/16"	1 45/64"	None
Main Bearing Length No. 6	None	None	61/64"	None
Main Bearing Length No. 7	None	None	1 3/8"	None
Main Bearing Length No. 8	None	None	61/64"	None
Main Bearing Length No. 9	None	None	2 21/64"	None
Crankcase Oil Gauge	Dip Stick, left side	Dip Stick, left side	Dip Stick, left side	Dip Stick, left side
Total Main Bearing Area	45.1 sq. in.	56.6 sq. in.	90.86 sq. in.	56.13 sq. in.
Crankcase Drain Plug	5/8"—18	5/8"—18	1 1/4"—18	1 1/4"—18
VALVES				
Valve Lift	Ex. .318 Int. .3175	Ex. .318 Int. .3175	.354	.3125
Valve Arrangement	L Head	L Head	L Head	Modified L Head
Valve Head Diameter—Inlet	1.575"	1 17/32"	1 21/32"	1 41/64"

NAME	1600	1601-1602	1603-4-5	1607-1608
VALVES—Continued				
Valve Head Diameter—Exhaust	1 13/32"	1 13/32"	1 11/32"	1 21/32"
Valve Stem Diameter—Inlet	.34025"	.34025"	.3405"	.3405"
Valve Stem Diameter—Exhaust	.34025"	.34025"	.3405"	.338"
Valve Stem Length	5 5/8"	5 5/8"	7 13/32"	6 23/64"
Valve Material—Inlet	Chrome Nickel	Chrome Nickel	Chrome Nickel	Chrome Nickel
Valve Material—Exhaust	Austenitic Steel	Austenitic Steel	Austenitic Steel	Austenitic Steel
Valve End (Type)	Slot and Key	Slot and Key	Slot and Key	Slot and Key
Valve Stem Clearance—Inlet	.002"	.002"	.003"	.0025"
Valve Stem Clearance—Exhaust	.004"	.004"	.0045"	.005"
Valve Tappet Clearance Inlet—Warm	.007"	.007"	.006"	Automatic Take-up
Valve Tappet Clearance Exhaust—Warm	.010"	.010"	.008"	Automatic Take-up
Inlet Valve Opens	1° BTDC	1° BTDC	30° BTDC	ATDC
Inlet Valve Closes	39° ALDC	39° ALDC	65° ALDC	45° ALDC
Exhaust Valve Closes	5° ATDC	5° ATDC	30° ATDC	10° ATDC
Exhaust Valve Opens	45° BLDC	45° BLDC	65° BLDC	35° BLDC
Valve Seat Angle—Inlet	30°	30°	45°	45°
Valve Seat Angle—Exhaust	45°	45°	45°	45°
Valve Spring	Single	Single	Packard Double	Single
Valve Spring Load Valve Closed	50 lbs. (1 5/8")	50 lbs. (1 5/8")	73 lbs. (3 1/16")	70 lbs. (2 7/32")
Valve Spring Load Valve Open	120 lbs.	120 lbs.	159 lbs.	145 lbs.
Exhaust Pipe Diameter	2"	2 1/4"	2 1/4"	2 3/4"
Muffler Size—Front	5 1/16" x 38 3/4"	5 5/16" x 38 3/4"	6 5/32" x 34"	8 5/8" x 24 1/2"
Muffler Size—Rear	None	None	6 5/32" x 12 1/8"	8 21/32" x 12 1/2"
FRONT END				
Gear Cover	Steel Stamping	Steel Stamping	Steel Stamping	Aluminum Casting
Camshaft Drive	Silent Chain	Silent Chain	Silent Chain	Silent Chain
Make of Chain	Morse 1866 RX	Morse 1866 RX	Morse No. 36825	Morse 1866-N
Length, Width and Pitch of Chain	58 links; 1 1/4"; .375"	58 links; 1 1/4"; .375"	70 links; 1 1/2"; .375"	56 links; 1 3/4"; .500"
No. of Camshaft Bearings	4	5	8	4
Clearance of Camshaft Bearings	.001"—.003"	.001"—.003"	.0015"—.0035"	No. 1 and 4 .001"-.0015"; No. 2 and 3 .002"-.0025"
Camshaft End Play	.002"—.004"	.002"—.004"	.001"—.004"	.002"—.006"
Camshaft Sprocket—Material and Size	Cast Iron—42 teeth	Cast Iron—42 teeth	Steel—54 teeth	Steel—42 teeth
Camshaft Chain Adjustment	None	None	None	None
PISTON				
Weight	19 1/2 oz.	16 7/8 oz.	17 3/4 oz.	20 oz.
Weight with Rings and Pin Overall Height	26 oz. 3 7/8"	22 3/4 oz. 3 7/8"	24 oz. 4 1/4"	26 3/4 oz. 4.318"
Height Centerline of Pin to Top	2 1/8"	2 1/8"	2 1/2"	2.693"
Type and Material	Autothermic Aluminum alloy with strut	Autothermic Aluminum alloy with strut	Autothermic Aluminum alloy with strut	Autothermic Aluminum alloy with strut
Skirt Clearance	.0015"	.0015"	.0015"	.0015"
Piston Pin—Size	3 1/64" x 7/8"	2 31/64" x 7/8"	2 47/64" x 7/8"	2 63/64" x 7/8"
Type	Floating	Floating	Floating	Floating
Lubrication of Pin	Pressure	Pressure	Pressure	Pressure
Piston Pin Hole—Ream	.87515"—.87485"	.87515"—.87485"	.87515"—.87485"	.87515"—.87485"
Piston Pin Fit in Piston	Finger Push at 160°	Finger Push at 160°	Finger Push at 160°	Finger Push at 160°
Piston Pin Fit in Rod	Size to Size	Size to Size	Size to Size	Size to Size
Piston Pin Oversizes	.003"—.006"	.003"—.006"	.003"—.006"	.003"—.006"
No. of Rings per Piston	3	3	4	4
No. of Oil Rings per Piston	1	1	2	1
Depth of Piston Ring Grooves No. 1	.161"	.1562"	.15325"	.1652"
Depth of Piston Ring Grooves No. 2	.1835"	.1787"	.1732"	.1652"
Depth of Piston Ring Grooves No. 3	.1835"	.1787"	.1732"	.1652"
Depth of Piston Ring Grooves No. 4	—	—	.1545"	.1852"
Type of Compression Rings	2 Perfect Circle No. 70	2 Perfect Circle No. 70	1 Perfect Circle No. 200 1 Perfect Circle No. 70	1 Perfect Circle No. 200 2 Perfect Circle No. 70
Type of Oil Rings	1 Per. Circ. No. X90-85	1 Per. Circ. No. X90-85	1 Perfect Circle No. 85 1 Per. Circ. No. X90-85	1 Per. Circ. No. X90-85
Width of Compression Rings	.1240"—.1235"	.1240"—.1235"	.1225"—.1230"	.1225"—.1230"

NAME	1600	1601-1602	1603-4-5	1607-1608
PISTON—Continued				
Width of Oil Rings	.1865″—.186″	.1865″—.186″	.155″ —.1545″	.155″ —.1545″
Piston Ring Wall Thickness No. 1	.140″—.150″	.135″—.145″	.135″—.145″	.145″—.155″
Piston Ring Wall Thickness No. 2	.140″—.150″	.135″—.145″	.130″—.140″	.140″—.150″
Piston Ring Wall Thickness No. 3	.122″—.130″	.121″—.129″	.140″ Max.	.140″—.150″
Piston Ring Wall Thickness No. 4	—	—	.114″—.122″	.124″—.132″
Piston Ring Gap—Compression	.007″—.015″	.007″—.015″	.007″—.015″	.007″—.015″
Piston Ring Gap—Oil	.007″—.015″	.007″—.015″	.007″—.015″	.007″—.015″
Location of Rings	Above pin	Above pin	Above pin	Above pin
Piston Oil Drain Holes	12 5/32″	12 5/32″	20 1/8″	12 5/32″
Piston Oversizes	.005″-.010″-.020″-.030″-.040″	.005″-.010″-.020″-.030″-.040″	.003″-.005″-.010″-.015″-.020″-.025″-.030″-.035″-.045″	.003″-.005″-.010″-.015″-.020″-.030″-.045″
CONNECTING ROD				
Weight	1 lb., 15.6 oz.	1 lb., 15.6 oz.	2 lbs., 8.3 oz.	2 lbs., 4 oz.
Material	Steel Forging	Steel Forging	Steel Forging	Steel Forging
Bearing Type	Detachable Shell	Detachable Shell	Detachable Shell	Detachable Shell
Center to Center Length	7 11/16″	7 11/16″	10 7/8″	9″
Diameter of Crankpin Bearing	2 3/32″	2 3/32″	2 3/16″	2 1/2″
Length of Crankpin Bearing	1 1/4″	1 1/4″	1 3/32″	1 1/8″
Clearance Bearing to Crankpin	.0005″—.0015″	.0005″—.0015″	.001″—.0015″	.001″—.0015″
End Play on Crankshaft	.004″—.010″	.004″—.010″	.003″—.005″	.008″—.010″
Oil Lead to Piston Pin	Rifle Drilled	Rifle Drilled	Rifle Drilled	Rifle Drilled
Bearing Material	Babbitt	Babbitt	Copper-Lead Alloy	Copper-Lead Alloy
Assembled in Motor	Oil Hole Toward Camshaft	Oil Hole Toward Camshaft	Oil Hole Toward Camshaft	Oil Hole on Starter Motor Side
Cap Attached	Bolts and Nuts	Bolts and Nuts	Bolts and Nuts	Integral Stud and Nuts
Shims	Not Used	Not Used	Not Used	Not Used
CRANKSHAFT				
Type	Counterbalanced	Counterbalanced	Counterbalanced	Counterbalanced
Material	Steel Forging	Steel Forging	Steel Forging	Steel Forging
No. of Counterweights	6 Forged Integral	8 Forged Integral	8 Bolted	6 Bolted
No. of Main Bearings	4	5	9	4
Main Bearing Diameter	2 3/4″	2 3/4″	2 5/8″	2 3/4″
Thrust Taken On	No. 1	Center	No. 7	No. 1
Vibration Damper	Rubber Friction Disc, Waterproof	Rubber Friction Disc, Waterproof	Rubber Friction Disc, Waterproof	Rubber Friction Disc, Waterproof
Weight	81 1/2 lbs.	95 lbs.	97 1/2 lbs.	120 lbs.
End Play	.003″—.008″	.003″—.008″	.003″—.005″	.003″—.005″
Main Bearing Material	Babbitt Lined Steel Shell	Babbitt Lined Steel Shell	Babbitt Lined Steel Shell	Babbitt Lined Steel Shell
Clearance—All Main Bearings	.001″—.003″	.001″—.003″	.001″—.002″	.001″—.002″
Crankshaft Sprocket—Material and Size	Steel—21 teeth	Steel—21 teeth	Steel—27 teeth	Steel—21 teeth
Shims	Not Used	Not Used	Not Used	Not Used
MOTOR LUBRICATION				
Type	Full Pressure	Full Pressure	Full Pressure	Full Pressure
Oil Pump Type	Gear	Gear	Gear	Gear
Crankcase Capacity	6 qts.	6 qts.	8 qts.	10 qts.
Oil Filler Location	Left Side	Left Side	Left Side	Left Side
Oil Filter Location	Left Side	Left Side	Left Side	Right Side
Oil Temperature Regulator	None	None	Left Side	Right Side
Oil Measuring Stick	Left Crankcase	Left Crankcase	Left Crankcase	Left Crankcase
Crankcase Ventilator	R.H. at Rear of Block	R.H. at Rear of Block	Right Side	Left Side and Valve Compartment
Oil Pressure—Normal Driving	35 lbs.	35 lbs.	50 lbs.	50 lbs.
Oil Drain	Hex. Head Flange Plug 5/8″—18	Hex. Head Flange Plug 5/8″—18	Hex. Head Flange Plug 1 1/4″—18	Hex. Head Flange Plug 1 1/4″—18
CHASSIS LUBRICATION Every 2,000 to 3,000 miles				
Crankcase—S.A.E. 30* *Below—10° F.—10-W plus 10% kerosene —10° F.—10-W +10° F.—20-W +32° F.—S.A.E. 30	Drain and Refill—6 qts.	Drain and Refill—6 qts.	Drain and Refill—8 qts.	Drain and Refill—10 qts.

NAME	1600	1601-1602	1603-4-5	1607-1608
CHASSIS LUBRICATION—Continued				
Average Daylight Temperature 90° F.—S.A.E. 40				
Every 5,000 miles				
Rear Spring Shackles			*2 Lub. Connectors	*2 Lub. Connectors
Knuckle Pins—Pressure Gun Grease	2 Lub. Connectors	2 Lub. Connectors	*2 Lub. Connectors	*2 Lub. Connectors
Steering Connecting Rod—Pressure Gun Grease	2 Lub. Connectors	2 Lub. Connectors	2 Lub. Connectors	2 Lub. Connectors
Steering Tie Rods—Pressure Gun Grease	4 Lub. Connectors	4 Lub. Connectors	4 Lub. Connectors	4 Lub. Connectors
Universal Joint Spline—Gun Grease	1 Lub. Connector	1 Lub. Connector	1 Lub. Connector	1 Lub. Connector
Water Pump Shaft—S.A.E. 30	1 Oiler	1 Oiler	1 Oiler	1 Oiler
Generator—S.A.E. 30	2 Oilers	2 Oilers	2 Oilers	2 Oilers
Starter Motor—S.A.E. 30	1 Oiler	2 Oilers	2 Oilers	1 Oiler
Distributor—No. 3 Cup Grease—S.A.E. 30	1 Cup	1 Cup	1 Cup	2 Oilers
Clutch and Brake Pedal—S.A.E. 30	1 Lub. Connector	1 Lub. Connector		
*With reservoirs.				
Every 10,000 miles				
Support Arm Pin, Outer Gun Grease	2 Lub. Connectors	2 Lub. Connectors	2 Lub. Connectors	2 Lub. Connectors
Front Wheel Bearing No. 3 Fibre Grease	(4) Repack	(4) Repack	(4) Repack	(4) Repack
Transmission, S.A.E. 160 Summer, 90 Winter	Drain and Refill	Drain and Refill	Drain and Refill	Drain and Refill
Steering Gear, S.A.E. 160 Summer, 90 Winter	Drain and Refill (11 oz.)	Drain and Refill (11 oz.)	Drain and Refill (¾ pt.)	Drain and Refill (¾ pt.)
Rear Axle—See Packard Dealer	Drain and Refill	Drain and Refill	Drain and Refill	Drain and Refill
Every 30,000 miles				
Rear Wheel Bearing No. 3 Fibre Grease	Repack	Repack	—	—
Universal Joints, S.A.E. 160	Repack	Repack	—	—
Every 40,000 miles				
Rear Wheel Bearing No. 3 Fibre Grease	—	—	Repack	Repack
Universal Joints, S.A.E. 160	—	—	Repack	2 Lub. Connectors
CLUTCH				
Type	Single Dry Plate	Single Dry Plate	Single Dry Plate	Single Dry Plate with Vacuum Booster
Free Pedal	1½"—2"	1½"—2"	1"—1½"	1"—1 13/16"
Facing Material	U.S. Asbestos No. 733 Woven	U.S. Asbestos No. 733 Woven	Raybestos No. 250	Hyco DV 3903 PDX
Size Facing	6" x 9½" x .125"	6" x 10" x .137"	7" x 12" x .137"	7" x 12" x .137"
Throwout Bearing Lubrication	Packed	Packed	Packed	Packed
Clutch Spring Pressure	155 lbs. at 1 9/16"	115 lbs. at 1 9/16"	125 lbs. at 1 9/16"	Inner 52 lbs. at 1 9/16" Outer 115 lbs. at 1 9/16"
No. of Springs	6	9	12	12 Each
Vibration Neutralizer	Springs	Springs	Springs	Springs
TRANSMISSION				
Type	Selective—Silent—Synchronized	Selective—Silent—Synchronized	Selective—Silent—Synchronized	Selective—Silent—Synchronized
Number of Forward Speeds	3	3	3	3
Standard Ratio—High	4.54	1601 4.36 1602 4.7	4.69	4.41 to 1
Second	6.96	6.67 7.19	7.16	6.73
First	11.019	10.58 11.41	11.55	10.86
Reverse	14.41	13.84 14.92	13.5	12.71
Oil Capacity	2 Pts.	2 Pts.	4½ Pts.	4½ Pts.
Oil Level Plugs	½"—14 Pipe	½"—14 Pipe	1¼"—18 Flange	1¼"—18 Flange
Gear Teeth	Helical	Helical	Helical	Helical
FRAME				
Type	Taper Pressed Steel Double Drop, Box Section Side Rail in Front and at Kickup	Taper Pressed Steel Double Drop, Box Section Side Rail in Front and at Kickup	Taper Pressed Steel Double Drop, Box Section Side Rail in Front and at Kickup	Taper Pressed Steel Double Drop, Box Section Side Rail in Front and at Kickup
Depth	6 33/32"	6 33/32"—1601 7 1/32"—1602	8"	8 1/16"
Thickness	⅛"	⅛"—1601 3/32"—1602	⅛"	5/32"
Number of Cross Members	5 I-Beam, X Type Member in Center	5 I-Beam, X Type Member in Center	5 I-Beam, X Type Member in Center	5 I-Beam, X-Type Member in Center

NAME	1600	1601-1602	1603-4-5	1607-1608
FRAME—Continued				
Wheelbase	122″	127″—1601 148″—1602	127 3/8″—1603 134 3/8″—1604 139 3/8″—1605	134 3/8″—1607 139 3/8″—1608
FRONT SUSPENSION				
Make	Packard Safe-T-fleX	Packard Safe-T-fleX	Packard Safe-T-fleX	Packard Safe-T-fleX
Type	IndependentParallelogram	IndependentParallelogram	IndependentParallelogram	IndependentParallelogram
Axle End	Reverse Elliot	Reverse Elliot	Reverse Elliot	Elliot
Steering Knuckle Pin Bushing—Upper and Lower	"Oilite" .8665″ x 1.058″ x 1 3/16″ Long	"Oilite" .8665″ x 1.058″ x 1 3/16″ Long	"Oilite" 1.0625″ x 1.2532″ x 1 3/16″ Long	"Oilite" 1.054″ x 1.246″ x 1 1/4″ Long
Caster	1 1/2° + — 1/2°	1 1/2° + — 1/2°	2 1/2° + — 1/2°	0° + 0° — 1/2°
Front Wheel Toe-In	0 + 1/16—0	0 + 1/16 — 0	1/16 + 1/16 — 0	1/16 + 1/16 — 0
Knuckle Pin Angle	1° 54′	1° 54′	1° 30′	1° 30′
Tread	59 3/16″	59 3/16″	59 1/4″	60 1/4″
Camber	1/2° + — 1/2°	1/2° + — 1/2°	1° + — 1/4°	1° + — 1/4°
Wheel Bearing—Inner	Timken 2585 Cone 2523 Cup	Timken 2585 Cone 2523 Cup	Timken 2788 Cone 2720 Cup	Timken 3383 Cone 3320 Cup
Wheel Bearing—Outer	Timken 1380 Cone 1329 Cup	Timken 1380 Cone 1329 Cup	Timken 2687 Cone 2620 Cup	Timken 2687 Cone 2620 Cup
Wheel Bearing Adjustment	Tighten Nut and Back Off 1/2 Turn and Lock	Tighten Nut and Back Off 1/2 Turn and Lock	Tighten Nut and Back Off 1/2 Turn and Lock	Tighten Nut and Back O 1/2 Turn and Lock
STEERING GEAR				
Make	Packard	Packard	Packard	Packard
Type	Worm and Double Tooth Roller	Worm and Double Tooth Roller	Worm and Double Tooth Roller	Worm and Double Tooth Roller
Steering Wheel	18″—3 Spoke	18″—3 Spoke	18 1/2″—3 Spoke	18 1/2″—3 Spoke
Ratio	18.4 to 1	18.4 to 1	20.5 to 1	20.5 to 1
Type of Steering Wheel	Vulcanized Rubber Over Steel Frame	Vulcanized Rubber Over Steel Frame	Vulcanized Rubber Over Steel Frame	Vulcanized Rubber Over Steel Frame, Damped
Minimum Turning Radius	21 ft. 0 in.	21 ft. 6 in.—1601 26 ft. 6 in.—1602	22 ft. 0 in.—1603 23 ft. 3 in.—1604 23 ft. 9 in.—1605	24 ft. 6 in.—1608 24 ft. 0 in.—1607
ELECTRICAL				
Battery—Make	Willard—15 Plate	Delco—17 Plate	Hi Level Prest-O-Lite Delco—21 Plate	Hi-Level Prest-O-Lite Delco—21 Plate
Battery—Capacity	95 Ampere Hours	114 Ampere Hours	150 Ampere Hours	150 Ampere Hours
Battery—Size	8 13/16″ x 7″ x 8 3/4″	10 3/8″ x 7″ x 8 5/8″	13″ x 7″ x 9 3/32″	13″ x 7″ x 9 3/16″
Ignition Timing	6° BTDC	8° BTDC	6° BTDC	6° BTDC
Breaker Point Gap	.018″—.022″	.0125″—.0175″	.0125″—.0175″	.018″—.022″
Spark Control	Full Automatic	Full Automatic	Full Automatic	Full Automatic
Spark Advance Begins At	600 r.p.m. engine	600 r.p.m. engine	600 r.p.m. engine	600 r.p.m. engine
Distributor	Delco-Remy 647 E	Autolite IGT-4007	Autolite IGT-4006	Autolite IGO-4002-A
Spark Plug—Size	10 mm	10 mm	10 mm	10 mm
Spark Plug—Make and Type (2)	103 AC or Champion Y4	103 AC or Champion Y4	103 AC or Champion Y4	103 AC or Champion Y4
Spark Plug Gap	.0255″—.0305″	.0255″—.0305″	.0255″—.0305″	.0255″—.0305″
Generator—Make and Type	Delco-Remy No. 1100005	Autolite GCJ-4807-A-2	Autolite GCO-4803-A	Autolite GCE-4803-A
Generator Drive	Belt	Belt	Belt	Belt
Generator Cut-In Speed—Cold	850 r.p.m.	710 r.p.m.	800 r.p.m.	700 r.p.m.
Generator Maximum Charging Rate—Cold (8 Volt)	28.3 Ampere	30.5 Ampere	28 Ampere	30 Ampere
Generator Maximum Charging Rate—Hot (8 Volt)	26.5 Ampere	25.5 Ampere	28 Ampere	30 Ampere
Generator Voltage Regulator	Delco-Remy 5827 on Dash	Autolite VRD-4001-A	Autolite VRB-4002-D	Autolite VRB-4008-AP
Generator Voltage to Close Cut-Out	6 1/2 to 7 1/4 Volts	7 to 7 1/4 Volts	6 1/2 to 7 Volts	6 1/2 to 7 Volts
Generator Ventilated	Yes	Yes	Yes	Yes
Starter Motor—Make and Type	Delco-Remy 739-F	Autolite MAX 4006	Autolite MAX 4014	Autolite DN 1389
Starter Drive	Bendix Shift	Bendix Shift	Bendix Shift	Bendix Shift
Number of Flywheel Teeth	140	140	148	118
Number of Teeth in Bendix Pinion	9	9	9	10
Pinion Meshes	From Front	From Front	From Front	From Front
Light Control	On Instrument Board and Foot Switch	On Instrument Board and Foot Switch	On Instrument Board and Foot Switch	On Instrument Board and Foot Switch
Headlamp Current Protection	Thermostat Relay	Thermostat Relay	Thermostat Relay	Thermostat Relay
Auxiliary Fuse	25 Volt, 20 Ampere	25 Volt, 20 Ampere	Thermostat Relay	Thermostat Relay

NAME	1600	1601-1602	1603-4-5	1607-1608
ELECTRICAL—Continued				
Body Fuse	25 Volt, 20 Ampere	25 Volt, 20 Ampere	—	—
Tail Lamp Fuse	25 Volt, 20 Ampere	25 Volt, 20 Ampere	25 Volt, 20 Ampere	25 Volt, 20 Ampere
Stop Light Fuse	—	—	25 Volt, 20 Ampere	25 Volt, 20 Ampere
Head Lamp Lens—Dia. at Bezel	7″	7″	7¼″	7¼″
Head Lamp Bulb—C. P. and Mazda No.	32 32 Mazda No. 2330-L	32-32 Mazda No. 2330-L	32-32 Mazda No. 2330-L RT	32-32 Mazda No. 2330-L RT
Export	50 32 Mazda No. 1104	50-32 Mazda No. 1104	32 21 Mazda No. 1104-LT	32-21 Mazda No. 1104-LT
Lamps—Make	C. M. Hall	C. M. Hall	C. M. Hall	C. M. Hall
Horn—Make and Type	Sparton or Klaxon	Sparton or Klaxon	Sparton or Klaxon	Sparton or Klaxon
Horn—Location	Mounted on Engine	Mounted on Engine	Mounted on Engine	Mounted on Engine
Battery Terminal Grounded	Positive	Positive	Positive	Positive
Ampere Draw of Horns (2)	22-25 Ampere	22-25 Ampere	22-25 Ampere	22-25 Ampere
Ampere Draw of Car Heater Motor	5 Ampere	5 Ampere	5 Ampere	5 Ampere
Ampere Draw of Lights	10 Ampere	10 Ampere	12 Ampere	12 Ampere
Ampere Draw of Coil—Idling	½ Ampere	½ Ampere	½ Ampere	½ Ampere
Ampere Draw of Coil—Stopped	2½ Ampere	2½ Ampere	2½ Ampere	2½ Ampere
Clock—Make and Type	Electric—Western and Jaeger	Electric—Western and Jaeger	Electric—Jaeger	Electric—Jaeger
Cigar Lighter—Type	Automatic	Automatic	Automatic	Automatic
Starter Stall Torque	12 Ft. Lbs., 3.4 Volt, 525 Ampere	16 Ft. Lbs., 2.7 Volt, 600 Ampere	16 Ft. Lbs., 3 Volt, 600 Ampere	39 Ft. Lbs., 2.9 Volt, 610 Ampere
Ignition Coil	Delco-Remy 539-N on Cylinder Head	Autolite CE-4628 on Cylinder Head	Autolite CE-4026 on Cylinder Head	2 Autolite CE-1203 on Gear Cover
Spring Tension on Contacts—Distributor	19-23 Oz.	19-23 Oz.	19-23 Oz.	15-19 Oz.
COOLING SYSTEM				
Water Pump	Centrifugal Self-Adjusting	Centrifugal Self-Adjusting	Centrifugal	Centrifugal
Water Pump Drive	Fan Belt	Fan Belt	Fan Belt	Fan Belt
Radiator Core	Cellular	Cellular	Tubular	Tubular
Radiator Shell	One-Piece Stamping	One-Piece Stamping	One-Piece Stamping	One-Piece Stamping
Capacity of System	3¾ Gal.	4 Gal.	5 Gal.	10 Gal.
Fan	4 Blade 18″	4 Blade 18″	4 Blade 19″	4 Blade 21″
Driving Pulley	On Crankshaft	On Crankshaft	On Crankshaft	On Crankshaft
Ratio	.963 to 1	.963 to 1	.951 to 1	.975 to 1
Thermostat Starts to Open	150°	150°	150°	150°
Radiator Shutter	Yes	Yes	Yes	Yes
Fan Belt	49¼ O.D. x ¾″ x 42°	49¼ O.D. x ¾″ x 42°	48⅝ O.D. x 1″ x 42°	50½ O.D. x ¾″ x 47° Duel
Radiator Hose—Inlet	7″ x 1¾″ I.D.	7″ x 1¾″ I.D.	9″ x 1¾″ I.D.	11 $\frac{7}{16}$″ x 1½″ I.D. 12 $\frac{9}{16}$″ x 1½″ I.D.
Radiator Hose—Outlet	3″ x 1¾″ I.D.	3″ x 1¾″ I.D.	7 $\frac{11}{16}$″ x 1¾″ I.D.	7¾″ x 2″ I.D.
Heat Indicator	On Instrument Board	On Instrument Board	On Instrument Board	On Instrument Board
Fan Belt Adjustment	At Generator	At Generator	At Generator	At Generator
Gravity Flow of Radiator	36 Gal. per Minute	38.5 Gal. per Minute	32 Gal. per Minute	40 Gal. per Minute
GASOLINE SYSTEM				
Carburetor—Make and Size	Chandler-Groves 1¼″ Down-draft, Single Barrel	Stromberg 1″ Duplex Down-draft	Stromberg 1¼″ Duplex Down-draft	Stromberg 1½″ Duplex Down-draft
Gasoline Feed	Mechanical Pump A.C. in Combination with Vacuum Pump	Mechanical Pump A.C. in Combination with Vacuum Pump	Mechanical Pump A.C. in Combination with Vacuum Pump	Mechanical Pump A.C. in Combination with Vacuum Pump
Pump Drive	Off Camshaft	Off Camshaft	Off Camshaft	Off Camshaft
Gasoline Filter	Incorporated in Fuel Pump	Incorporated in Fuel Pump	Visible Screen Type	Visible Screen Type
Gasoline Gauge	Electric	Electric	Electric	Electric
Gasoline Tank Capacity	18 Gal.	21 Gal.	24 Gal.	30 Gal.
Air Cleaner and Silencer	A.C.—Oil Bath Type	A.C.—Oil Bath Type	A.C.—Oil Bath Type	A.C.
Carburetor Heat Control	Thermostat	Thermostat	Thermostat	Fixed
Automatic Choke	Thermostatically Controlled Unit Construction	Thermostatically Controlled	Thermostatically Controlled	Thermostatically Controlled
Carburetor Fuel Level	$\frac{1}{32}$″ Below Top of Bowl	$\frac{1}{32}$″ Below Top of Bowl	$\frac{5}{8}$″ Below Top of Bowl	$\frac{5}{16}$″ Below Top of Bowl

NAME	1600	1601-1602	1603-4-5	1607-1608
REAR AXLE				
Type	Semi-floating	Semi-floating	Angle set—Semi-floating	Angle set—Semi-floating
Make	Packard	Packard	Packard	Packard
Final Drive	Hypoid Gears	Hypoid Gears	Hypoid Gears	Hypoid Gears
Propulsion	Through Springs	Through Springs	Through Springs	Through Springs
Axle Housing	Pressed Steel—Banjo Type	Pressed Steel—Banjo Type	Pressed Steel—Banjo Type	Pressed Steel—Banjo Type
Universal Joints	"Mechanics" Roller Bearing Type	Universal Products Roller Bearing Type	Universal Products Roller Bearing Type	"Spicer" Roller Bearing Type
Number Required	2	2	2	2
Oil Capacity	6 Pints	6 Pints	6½ Pints	6 Pints
Wheel Bearings	Timken Cone 26878 (2) Cup 26830 (2)	Timken Cone 26878 1601 Cup 26830 1601 Timken Cone 3576 1601A Cup 3525 1601A Timken Cone 3576 1602 Cup 3525 1602	Timken—(4) Cone 342; Cup 332	Timken—(4) Cone 359; Cup 354
Tread	60″	60″—1601 62.5″—1601A 62.5″—1602	61″	61″
Standard Gear Ratio	4.54 to 1	4.36 to 1—1601 4.7 to 1—1602	4.69 to 1	4.41 to 1
Pinion Back Lash	.003″—.005″	.003″—.005″	.003″—.005″	.003″—.005″
Number Teeth—Gear and Pinion	50—11	48—11—1601 47—10—1602	61—13	75—17
Oil Drain Plugs	½″—14 Pipe	½″—14 Pipe	½″—14 Pipe	1¼″—18 Flange
SPRINGS				
Front—5 Passenger Sedan	1575 x 77 Rate—Coil	1601—1620 x 77 Rate—Coil 1602—1890 x 95 Rate—Coil	1603—1750 x 90 Rate—Coil 1604—1850 x 95 Rate—Coil 1605—1850 x 95 Rate—Coil	1607—2325 x 120 Rate—Coil 1608—2325 x 120 Rate—Coil
Rear—5 Passenger Sedan	1075 x 115 Rate—Leaf	1601—1075 x 115 Rate—Leaf	1603—1400 x 135 Rate—Leaf	1607—1400 x 150 Rate—Leaf
1608—7 Passenger Sedan		1602—1350 x 135 Rate—Leaf	1604—1400 x 135 Rate—Leaf	1608—1500 x 150 Rate—Leaf
1605—7 Passenger Sedan			1605—1500 x 135 Rate—Leaf	
Front—Size	5.8″ O.D., 4½″ I.D.	5.82″ O.D., 4½″ I.D. 5.9″	5.3″ O.D., 4″ I.D.	5.6″ O.D., 4¼″ I.D.
Number of Coils	8.4″ Effective	8.4″ Effective	9¾″ Effective	8 11/16″ Effective
Rear—Length and Width	54″ x 2″	54″ x 2″	58″ x 2″	60½″ x 2¼″
Shackles	Rubber Bushed	Rubber Bushed	Lower—Threaded Type Upper—Rubber Bushed	Lower—Threaded Type Upper—Rubber Bushed
Spring Covers	No	No	Metal on Rear Springs	Metal on Rear Springs
Shock Absorbers	Delco Hydraulic Two-Way	Houdaille Hydraulic Two-Way	Delco Hydraulic Two-Way	Delco Hydraulic Two-Way
Shock Absorbers Stabilizer	Rear Only	Rear Only	Rear Only	Front and Rear
Lateral Stabilizer	Standard Equipment	Standard Equipment	Standard Equipment	Standard Equipment
Spring Material—Front and Rear	Silico Manganese	Silico Manganese	Silico Manganese	Silico Manganese
BRAKES				
Type	Internal Expanding 4 Wheels	Internal Expanding 4 Wheels	Internal Expanding 4 Wheels	Internal Expanding 4 Wheels
Operation	Hydraulic—2 Shoe	Hydraulic—2 Shoe	Hydraulic—2 Shoe	Hydraulic—2 Shoe
Effective Area	168 sq. in.	1601 —182 sq. in. 1601A—232 sq. in. 1602 —232 sq. in.	260 sq. in.	330 sq. in.
Effective Area Hand Brake	84 sq. in.	1601 — 91 sq. in. 1601A—166 sq. in. 1602 —166 sq. in.	130 sq. in.	165 sq. in.
Size of Lining	1¾″ x 3/16″ x 12″	1¾″ x 3/16″ x 13″—1601 2¼″ x 3/16″ x 13″—1601A 2¼″ x 3/16″ x 13″—1602	2½″ x 3/16″ x 13″	2¾″ x ¼″ x 15″
Material—Primary	No. 714 U. S. Asbestos	No. 451 Raybestos	Marshall Asbestos Co. No. 1035	No. 451 Raybestos
Material—Secondary	No. 589 U. S. Asbestos	No. 589-F U. S. Asbestos	Marshall Asbestos Co. No. 600	No. 589 U. S. Asbestos
Drum—Diameter	11″ Centrifuse	12″ Centrifuse	12″ Centrifuse	14″ Centrifuse
Vacuum Booster	None	None	None	Yes

NAME	1600	1601-1602	1603-4-5	1607-1608
WHEELS				
Make	Motor Wheel Demountable Disc (Steel Artillery Wheel Special Equipment)	Motor Wheel Demountable Disc (Steel Artillery Wheel Special Equipment)	Motor Wheel Demountable Disc (Steel Artillery Wheel Special Equipment)	Motor Wheel Demountable Disc
Size of Tire	16 x 6.50—4 ply	16 x 7.00—4 ply	16 x 7.50—6 ply	15 x 8.25—6 ply
Recommended Tire Pressure—Cold Front Rear	 22 23	 1601—22; 1602—24 1601—23; 1602—27	 24 27 Except Coupes which are 25 and 1605 which is 29	 26 27 except 1134-1135 which are 29
BODY				
Make	Packard	Packard	Packard	Packard
Panel Material	Steel	Steel	Steel	Steel
Upholstery Material: Closed Cars Convertible Cars	 *Broadcloth Machine-buffed Leather	 *Broadcloth Machine-buffed Leather	 *Broadcloth Natural Grain Leather	 *Broadcloth Natural Grain Leather
Glass	Safety	Safety	Safety	Safety
Windshield Wiper (Vacuum Type)	Tandem with Vacuum Booster	Tandem with Vacuum Booster	Tandem with Vacuum Booster	Tandem with Vacuum Booster
Radio Antenna	Left Side Cowl Accessory	Left Side Cowl Accessory	Built in Roof	Built in Roof
Built-in Trunk***	Yes	Yes	Yes	Yes
Radio Lead-in Location	None	None	**Left Front Pillar	**Left Front Pillar
Spare Wheel Location—R	Rear Compartment	Rear Compartment	Rear Compartment Except Coupe	Rear Compartment Except Coupe
Top Type	Metal	Metal	Fabric	Fabric
Trunk Rack	Special Equipment	Special Equipment	Special Equipment	Special Equipment

**Radio lead-in on 1603-4-5 and on 160-7-8 is in left front pillar on all closed jobs except limousines where lead-in enters trunk compartment on right side.
***Trunk or rear compartment.

COMPLETE CAR SHIPPING WEIGHTS

1600	1601	1601-D	1602	1603	1604	1605	1607	1608	PASS.	TYPE OF BODY
					4795		5550		5	Formal Sedan
3525	3650	3685		4530	4670		5525		5	4-Door Touring Sedan
3475	3600	3630							5	2-Door Touring Sedan
			4195			4700		5600	7	Touring Sedan
			4245			4815		5660	7	Touring Limousine
					4600		5520		5	Club Sedan
					4595		5415		5	Coupe
3425	3550				4585		5255		2-4	Coupe
3500	3625				4580		5255		2-4	Convertible Coupe
					4650		5345		5	Victoria
	3775					4945		5680	5	Convertible Sedan
3450	3570								2	Coupe
2480	2620	2620	2830	3300	3375	3430	3910	3965		Chassis

MODELS	1600	1601	1602	1603	1604	1605	1607	1608
Wheelbase	122″	127″	148″	127 3/8″	134 3/8″	139 3/8″	134 3/8″	139 3/8″
Overall Length—Bumper to Bumper	196 5/16	200 13/32	221 13/32	216 13/32	223 13/32	228 13/32	223 13/32	228 13/32
Overall Length—Bumper to Bumper with Trunk Rack	200 1/16	204 31/32	225 31/32	218 25/32	225 25/32	230 25/32	225 25/32	230 25/32
Overall Height (Loaded)	68 3/16	68 7/16	68 3/4	70 5/16	70 7/16	70 3/4	70 7/8	70 15/16
Overall Width— Front Rear	 73 11/16 73	 73 11/16 73	 73 11/16 75	 74 3/4	 74 3/4	 74 3/4	 74 3/4	 74 3/4

SUGGESTIONS OR QUESTIONS ARE ALWAYS WELCOME. ADDRESS—N. A. LULL—EDITOR PACKARD SERVICE LETTER

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