Service Data---Tune-Up

Buick, 1938

SERIES 38-60, 38-80, 38-90

ENGINE

DATA

No. Cylinders—8.
Bore—3 7/16".
Stroke—4 5/16".
Taxable H. P.—37.81.
Displacement—320.2 cu. in.
Firing Order—1-6-2-5-8-3-7-4.
Max. H. P.—141 at 3600 r.p.m.

CAMSHAFT

Drive—Chain.
Chain Data—50 links, 1" wide, ½" pitch.
Valve Timing—Sprocket marks in line with copper-plated washers on chain 10 links apart.
Bearings—5, replaceable.
End Thrust Taken On—Thrust plate front end.
End Clearance—.002"-.006".
Bearing Clearance—.0005"-.0035".

CONNECTING RODS

End Clearance—.005"-.010".
Dia. Clearance—.0008" min.-.0018" max.

COOLING SYSTEM

Capacity—17 qts.
Pump Drive—Fan belt.
Belt Size—45° V, 29/32" wide.
Belt Adjustment—Generator mounting.
Pump Pack. Adj.—Self-adjusting.

CRANKSHAFT

No. Bearings—5.
Material—Steel-backed babbitt.
End Thrust Taken On—Center main bearing.
End Clearance—.004"-.008".
Dia. Clearance—.0007" min.-.0022" max.

FUEL SYSTEM

Carburetor Make—Stromberg AAV-2 or Marvel CD-2B.
Type—Downdraft dual.
Adjustment—Stromberg: idle, 1 turn open. Marvel: idle, ⅜ turn open.
Fuel Delivery—A. C. camshaft pump.

LUBRICATION

Type—Pressure.
Pump Type—Helical gear.
Capacity—9 qts.; refill 8 qts.
Oil Pressure—45 lbs. normal operation.
Adjustment—Non-adjustable.
Oil: Not lower than 32° F. S.A.E. 20W. or 20
As low as 10° above. S.A.E. 20W.
As low as 10° below. S.A.E. 10W.
Below 10° below zero. S.A.E. 10W. plus 10% kerosene.

PISTONS

Material—Alum. alloy, T-slot, anodized finish.
Clearance—Top—Not given.
Clearance—Bottom—.0017"-.0023" selective.

PISTON RINGS

Gap—All rings .010"-.015".
No. Comp. Rings—2.
Width—Upper ⅛"; No. 2, 3/32".
No. Oil Rings—2.
Width—3/16".

PISTON PINS

Type—Clamped in rod.
Fit in Piston—.0003".0004" selective at 70° F.
Fit in Rod—Clamp fit.

VALVES AND TAPPETS

Dia. Exhaust—1 7/16".
Dia. Intake—1 23/32".
Stem Dia.—Int. .3715"; Exh. .3711".
Seat Angle—45°.
Seat Width—.062" nominal.
Tappet Type—Cylindrical.
Clearance—Hot:
Intake—.015".
Exhaust—.015".
Guides Removable—Yes.
Spring Pressure—42-52 lbs. total, valve closed. 112-124 lbs. total, valve open.

CHASSIS

FRONT AXLE

Caster—Reverse 7/8° + ⅛°.
Camber—−¼°-1°.
Toe-in—0"-1/16".
Kingpin Angle—Series 60, 3½°-4½°; Series 80, 4¼°-5¼°; Series 90, 4°-5°.
Tie Rod—Adj.—Thread.

REAR AXLE

Type—Semi-floating hypoid.
Series 60, Hyatt roller No. 125630 and N. D. double row ball No. 905126.
Series 80 and 90, Hyatt roller No. 126047 and N. D. double row ball No. 905307.
Adjustment—Shims.
End Play—Not given.
Lash—.006"-.010".
Diff. Bearing Type—Hyatt roller, Series 60 No. KA-1145Z; Series 80 and 90, No. 149523.
Adjustment—Thread.
End Play—Not given.
Lubricant Capacity—Housing—Series 60, 3 pts.; Series 80 and 90, 4 pts.

TRANSMISSION

Make and Type—Own, helical gear, 3-speed.
Main Shaft Bearing Type and No.—N. D. No. 47507 and No. 43306.
Countershaft Bearing Type and No.—Needle bearings.

BRAKES

Type—Bendix hydraulic.
Lining Type—Primary woven; secondary moulded.
Lining Size—Series 60 and 80, Primary shoe 9 15/16" x 2" x 3/16"; Secondary shoe 12¾" x 2" x 3/16". Series 90, Primary shoe 12 1/16" x 2" x ¼"; Secondary shoe 14¼" x 2" x ¼".
Eccentric for centralizing.
Adjusting screw for clearance.
Sliding anchor.
Clearance—Top—.010".
Bottom—.010".
Brake Effort—Series 60 and 80, 53% front, 47% rear; Series 90, 52.6% front, 47.4% rear.

CLUTCH

Type—Plate.
Facing Type—Woven.
Pilot Bearing Type and No.—N. D. Ball No. 7109.
Throwout Bearing Type and No.—Bearings Co. No. 4768A.

SPRINGS

Type Front—Coil.
Type Rear—Coil.
Shackle Adjustment—None.

STEERING GEAR

Type—Saginaw worm and double-tooth roller.
Adjustments—Column end play—adjusting screw at bottom.
Cross-shaft end play—adjusting screw.
Mesh or lash—adjuster at bottom.
Lubricant—1¼ pt. or lb. all season steering gear lubricant.

ELECTRICAL DATA

STARTING MOTOR

Make—Delco-Remy 7i27W.
Drive—Solenoid shifted pinion.
Rotation—Clockwise, viewing pinion.
No Load—65 amps., 5 volts, 5500 r.p.m.
Lock Torque—16 ft. lbs., 600 amps., 3.0 volts.
Brush Spring Tension—24-28 oz.

GENERATOR

Make—Delco-Remy, Series 60, No. 1101053; Series 80 and 90, No. 1101055.
Drive—Fan belt.
Regulation—Compensated 3rd brush and voltage regulator.
Thermostat—None.
Output, cold—28-31 amps. at 8 volts.
Output, hot—25-28 amps. at 8 volts.
Brush Spring Tension—Not given.
Rotation—Clockwise, viewing drive end.
Cutout to Close—6.4-7 volts cold.
Amps. Discharge to Open—0-35 discharge.
Field Fuse—Not given.

IGNITION

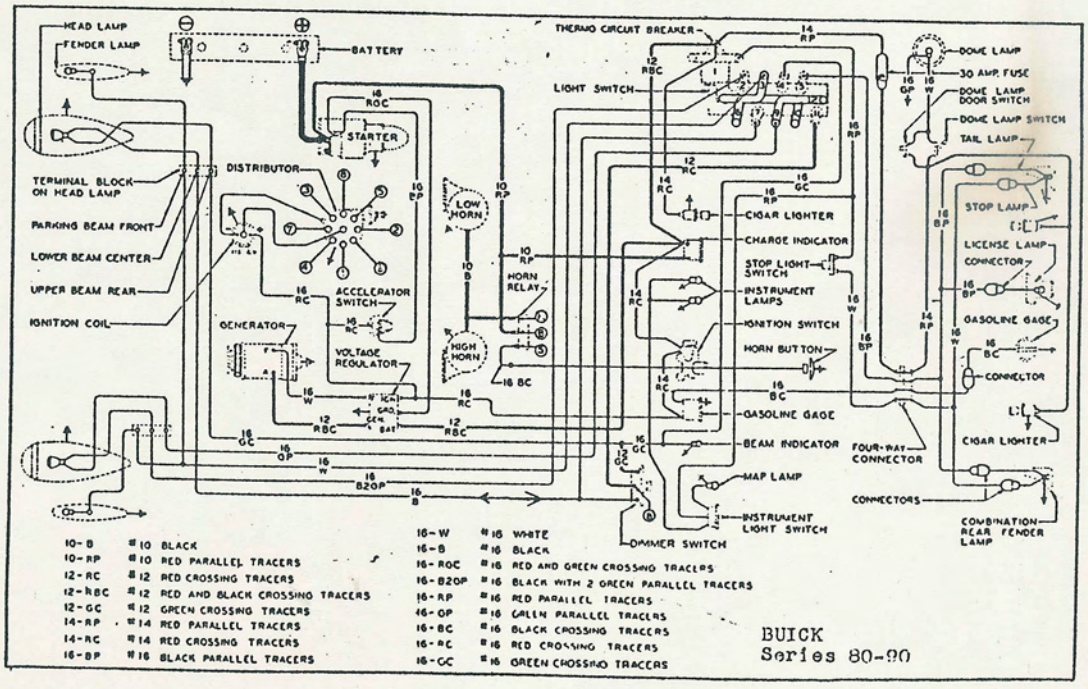
Distributor—Delco-Remy.
Coil—Delco-Remy.
Distr. Rotation—Clockwise, viewing drive end.
Breaker Gap—.0125"-.0175".
Brush Spring Tension—19-23 oz.
Spark Plug Gap—.023"-.028".
Spark Plug Size—14 m/m. A. C. No. 46.
Manual Advance—Not given.
Automatic Advance—22°-26° at 3000 r.p.m.
Vacuum Adv.—12°.
Timing—6 degs. before top dead center advanced.
Coil Amps., Engine Idling—2½.
Coil Amps., Engine Stopped—4½.

BATTERY

Amps.—Delco 110 amp. hour.

LAMPS

Head—No. 2320L.
Park—No. 55.
Instrument—No. 55.
Fuse—30 amps.
Dome—No. 81L.
Stop and Tail—No. 1154.



BUICK
Series 80-90