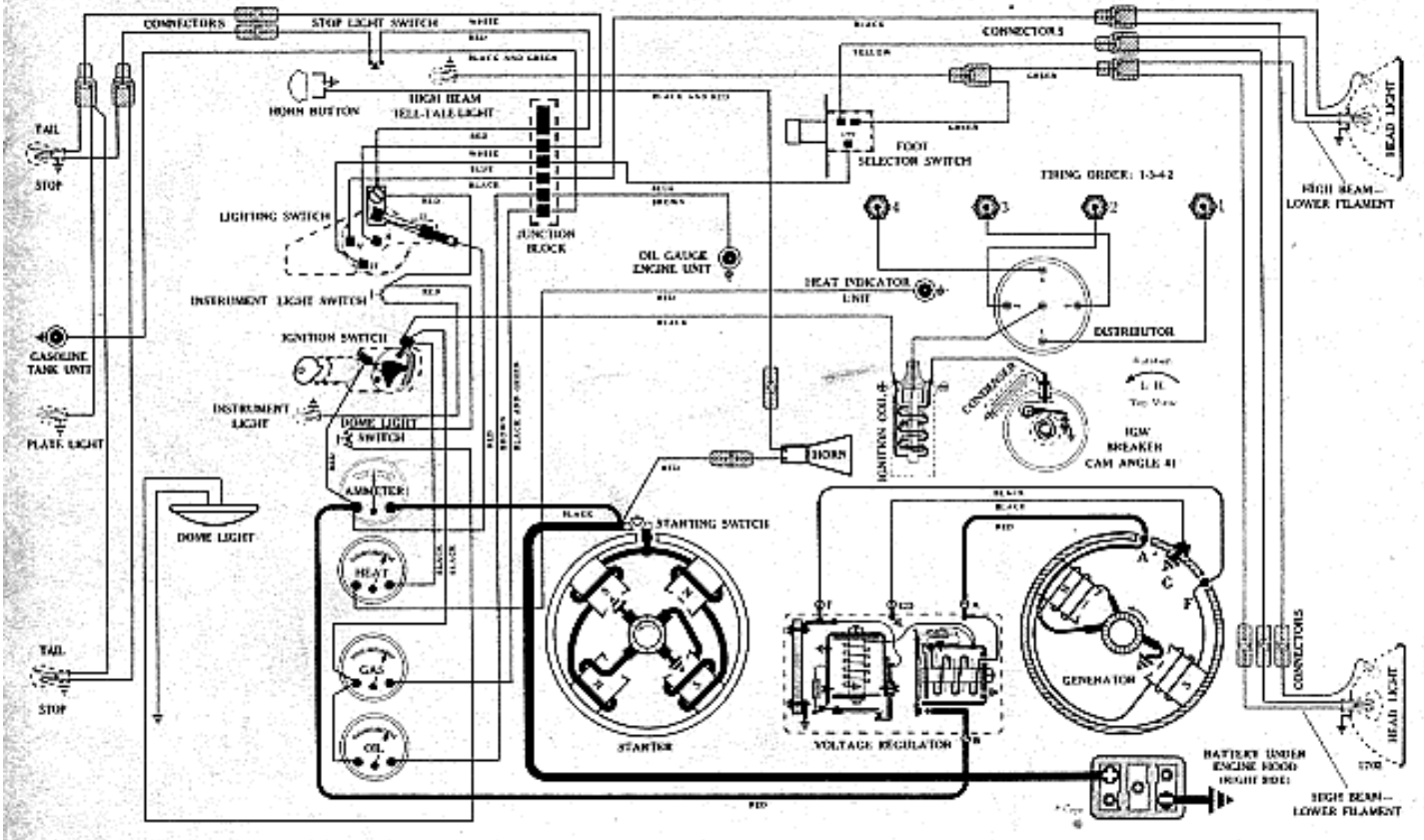
OVERLAND

Engine { Bore 3-1/8 / Stroke 4-3/8

Model 39, 4 cyl., (1939)



BATTERY

U.S.L., A-13, 6 volts.
Negative Terminal Grounded.

Starting Capacity—96 amps. for 20 minutes.

Minutes of Discharge at 300 Amps., Zero Degrees F.—1.9

Lighting Capacity—3.9 amps. for 20 hours (78 amp. hour).

Case—Length, 8-7/8; width, 7; height, 8-5/8 inches.

STARTER

A-L Test 162 Rotation, L. H., Com. End
Auto-Lite, MZ-4064

Connection to Engine—Bendix Drive, Type RC10HD.

Running Free—60 amps. at 5-1/2 volts, 5000 R.P.M.

Stall Data—7.8 pound-feet, 420 amps. at 3 volts.

Brush Spring Tension—42 to 53 ounces on each (new brushes). Brush spring tension should be measured by a scale hooked under the brush spring at the bend just beyond the brush, and the reading taken at moment spring leaves the brush. The pull should be exerted at right angles to force exerted by the brush spring.

Starting Switch—Auto-Lite, SW-3737-D, mounted on starter. Switch should not close with less than 2.3 pounds pull, applied at right angles to hole in end of lever.

Armature—Auto-Lite, MZ-2089.

IGNITION

Rotation, L. H., Top View
(Two Different Distributors Used)
Auto-Lite, IGS-4007-B or IGW-4129

A-L Test 618 Auto-Lite, IGS-4007-B

(Full) Automatic Spark Advance in conjunction with Integral Vacuum Chamber)

Breaker—Contact separation .020 inch.

Cam Angle—47 degrees.

Percentage of Dwell—52%.

Contact Spring Tension—16 to 20 ounces.

Timing—Exact top dead center. Loosen screw holding flywheel inspection hole cover, located in left top side of flywheel housing, and swing cover to one side. Flywheel mark "TC-IGN" (located at exact top dead center) should register with the pointed end of inspection plate screw.

Spark Plugs—14-MM (Champion type J-8); Gap .025 inch.

Firing Order—1-3-4-2.

Vacuum Chamber (Auto-Lite, IGT-1028-ES; Test No. 614)—7 degrees advance (Dist.). Starts with vacuum of 5 inches of mercury. Requires a vacuum of 15 inches for full travel.

Vacuum Chamber Advance Table—

Inches of Mercury	Degrees Dist. Advance
5.00	Start
6.42	1
7.85	2
9.28	3
10.71	4
12.14	5
13.57	6
15.00	7

Automatic Advance—9-1/2 degrees (Distributor).

Eng. R.P.M.	Dist. R.P.M.	Degrees Advance (Dist.)
600	300	Start
852	426	1
1104	552	2
1356	678	3
1610	805	4
1862	931	5
2114	1057	6
2368	1184	7
2620	1310	8
2872	1436	9
3000 (Max.)	1500	9-1/2

Breaker Plate—Auto-Lite, IGS-2044-D (stamped with the figure 7).
Condenser—Auto-Lite, IG-2671-K.
Contact Point—Auto-Lite, IGP-33.
Breaker Lever and Point—Auto-Lite, IGP-3028-L.
Rotor—Auto-Lite, IG-1657.
Distributor Cap—Auto-Lite, IG-1324.
Flexible Lead (Insulated)—Auto-Lite, IGS-78.
Ignition Coil—Auto-Lite, IG-4090.

A-L Test 618 Auto-Lite, IGW-4129

(Full Automatic Spark Advance in conjunction with Vacuum Chamber which moves the entire Distributor.)
Breaker—Contact separation .020 inch.
Cam Angle—41 degrees.
Percentage of Dwell—40%.
Vacuum Distributor Control (Auto-Lite, VC-4007; Test No. 626)—7 degrees advance (Dist.). Starts with vacuum of 3.60 inches of mercury. Requires a vacuum of 15 inches for full travel.
Vacuum Chamber Advance Table—

Inches of Mercury	Degrees Dist. Advance
3.60	Start
5.22	1
6.85	2
8.48	3
10.11	4
11.74	5
13.37	6
15.00	7

Automatic Advance—9-1/2 degrees (Distributor).

Eng. R.P.M.	Dist. R.P.M.	Degrees Advance (Dist.)
600	300	Start
852	426	1
1104	552	2
1356	678	3
1608	804	4
1862	931	5
2114	1057	6
2366	1183	7
2618	1309	8
2870	1435	9
3000 (Max.)	1500	9-1/2

Condenser—Auto-Lite, IGB-1025. Capacity .20 to .25 microfarads.
Contact Point—Auto-Lite, IGP-33.
Breaker Lever and Point—Auto-Lite, IGW-3028.
Rotor—Auto-Lite, IGB-1239.
Distributor Cap—Auto-Lite, IGB-1241.
(All other data the same as IGS-4007-B Distributor.)

GENERATOR

Rotation, L. H., Com. End
Auto-Lite, GCJ-4811-A

Performance Data—Gen. cold.

Amps.	R.P.M.	Volts
0	825	6.20
2	870	6.38
4	915	6.55
6	960	6.70
8	1020	6.89
10	1075	7.05
12	1135	7.22
14	1200	7.38
16	1270	7.53
18	1340	7.70
20	1430	7.89
22	1545	8.05
24	1720	8.20
25	1850 (Max.)	8.30

Motoring Freely—4.0 to 4.4 amps. at 6 volts.
Max. Stall Current—28 to 30 amps. at 5.2 volts.
Field Test—1.9 to 2.1 amps. at 6 volts.
Brush Spring Tension—53 ounces max. on each (new brushes).
Armature—Auto-Lite, GCJ-2006-F.
Third Brush Adjustment—Loosen cover band. Shift third brush by hand. Mounting plate held in any position by friction clamp washers. In no case should third brush be adjusted nearer than 1 commutator bar to the insulated main brush. 3 bars (max.) is approximately correct.

RELAY-REGULATOR

Auto-Lite, VRD-4004-A Neg. Ground

A combination of Cut-Out Relay and Vibrating Point Voltage Regulator.

Cut-Out Relay

Resistance of Voltage Winding—35 to 39 ohms.
Points Close—6.4 to 7.0 volts.
Points Open—.5 to 3.0 amps. discharge.
Contact Gap—.015 inch minimum (points open).
Armature Air Gap—.034 to .038 inch (points open).

Voltage Regulator

Resistance of Voltage Winding—10.4 to 11.2 ohms.
Resistance Unit—Auto-Lite, TC-51-T, marked "20"; Ohms 19 to 21.
Armature Air Gap—.0595 to .0625 inch (the distance between core and underside of armature when contacts just open).
Contact Point Gap—.010 to .020 inch (armature pressed down against stop pin).
Operating Voltage—7.3 to 7.6 (70° F.).

LIGHTING

Switch—H. A. Douglas Mfg. Co., No. 5400-C.
Location—Behind instrument board.
Fuse—Single 20 amp. fuse (type SFE-20) on switch back. Protects all lighting circuits.
Foot Selector Switch—H. A. Douglas Mfg. Co., No. 5530.
Lamps—HEAD--2320; PARK--55; INDICATOR--51; INSTRUMENT--51; DOME--63; LICENSE PLATE--63; STOP AND TAIL--1158.