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John Deere Service Manual

LA & LI

Service Manual

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JD-L,LA,LI

Make: John Deere	Model: L	Years Made: 1938-1946
HP-PTO:	HP-Engine:	HP-Drawbar:
HP-Range:	Engine-Make:	Engine-Fuel:
Engine-Cyl(s)-CID:	Transmission-STD:	Optional:
Fwd/Rev Standard:	Fwd/Rev Optional:	Mfwd-Std/Opt:
Tires-Std Front:	Tires-Std Rear:	Wheelbase-Inch:
Pto Type:	Pto Speed:	CAT I-3pt Hitch: False
CAT II-3pt Hitch: False	CAT III-3pt Hitch: False	Hitch Lift:
Hydraulics-Type:	Hyd-Cap:	Hyd-Flow:
Hyd Std Outlets:	Cooling Capacity:	Fuel Tank Capacity:
Cab-Std A/C; Rops:	Weight:	New Price: 0

Make: John Deere	Model: LA	Years Made: 1941-1946
HP-PTO:	HP-Engine:	HP-Drawbar:
HP-Range:	Engine-Make:	Engine-Fuel:
Engine-Cyl(s)-CID:	Transmission-STD:	Optional:
Fwd/Rev Standard:	Fwd/Rev Optional:	Mfwd-Std/Opt:
Tires-Std Front:	Tires-Std Rear:	Wheelbase-Inch:
Pto Type:	Pto Speed:	CAT I-3pt Hitch: False
CAT II-3pt Hitch: False	CAT III-3pt Hitch: False	Hitch Lift:
Hydraulics-Type:	Hyd-Cap:	Hyd-Flow:
Hyd Std Outlets:	Cooling Capacity:	Fuel Tank Capacity:
Cab-Std A/C; Rops:	Weight:	New Price: 0

Color Application:	MFG Color Name:
WHEELS & RIMS	CLASSIC YELLOW
BODY	CLASSIC GREEN

Serial Number:	Year Made:	Plate Location: JD L
621000	1937	REAR OF DIFFERENTIAL HOUSING
621079	1938	REAR OF DIFFERENTIAL HOUSING
626265	1939	REAR OF DIFFERENTIAL HOUSING
630160	1940	PLATE ON DIFFERENTIAL HOUSING AT REAR OF TRACTOR
634191	1941	REAR OF DIFFERENTIAL HOUSING
1001	1941	REAR OF DIFFERENTIAL HOUSING
640000	1942	REAR OF DIFFERENTIAL HOUSING
5361	1942	REAR OF DIFFERENTIAL HOUSING
640738	1943	REAR OF DIFFERENTIAL HOUSING
6029	1943	REAR OF DIFFERENTIAL HOUSING
641038	1944	REAR OF DIFFERENTIAL HOUSING
6159	1944	REAR OF DIFFERENTIAL HOUSING
641538	1945	REAR OF DIFFERENTIAL HOUSING
9732	1945	REAR OF DIFFERENTIAL HOUSING
641958	1946	REAR OF DIFFERENTIAL HOUSING
11529	1946	REAR OF DIFFERENTIAL HOUSING

Serial Number:	Year Made:	Plate Location: JD LA
1001	1941	REAR OF DIFFERENTIAL HOUSING
5361	1942	REAR OF DIFFERENTIAL HOUSING
6029	1943	REAR OF DIFFERENTIAL HOUSING
6159	1944	REAR OF DIFFERENTIAL HOUSING
9732	1945	REAR OF DIFFERENTIAL HOUSING
11529	1946	REAR OF DIFFERENTIAL HOUSING

LI Serial numbers

1941: 50001
1942: 50342
1943: 50767
1944: 50816
1945: 51018
1946: 51519
Final: 52019

Type:	John Deere
Fuel:	gasoline
Cylinders:	2
Bore/Stroke:	3.25x4.00 inches [83 x 102 mm]
Displacement:	66.4 ci [1.1 L]
Cooling:	liquid
Coolant:	10 qts [9.5 L]
Rated RPMs:	1550
Firing order:	1-2

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JOHN DEERE

Models "L" and "20"

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GENERAL - PURPOSE

T R A C T O R S

MANUAL PREVIEW

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SHOP MANUAL

MODELS Y-62-L-LA-LI

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HISTORY OF THE MODEL "L" TRACTORS

In 1936 a group of engineers headed by W. "Nordy" Noderson were told by John Deere & Co. to build a small tractor and not spend any money. The results of their endeavors was the Model "Y", produced at the Wagon Works.

The Model "Y" was first powered by a 2 cylinder model C-66 Novo Engine. This engine was removed from use because of lower end problems. The engine held only one quart of oil and repowered with a Hercules engine designed per John Deeres' specifications. Eventually all 26 tractors were recalled and the last one known destroyed per management orders at the Dubuque experimental farm in 1956.

Then in 1937 the Model "62" was introduced and powered with a Hercules NXA, and total of 72 tractors were built although serial numbers indicate 78. Numbers 62-1002 and 62-1003 have been found.

Production of the unstyled Model "L" started in 1937 with 5 tractors of which at least one was experimental and possibly the first industrial (number 62- 1083). Production continued into 1938, with the number of tractors still not determined although records indicate 1800, and engine records indicate about 1580.

A model LW was developed in 1938 but this row crop version never reached production and there was only one made. Photos obtained show it with a Hercules engine and then with a John Deere engine. Also, styled sheet metal was added and the tractor was returned to John Deere experimental Farm at Dubuque in 1949 and destroyed by management decision in 1956.

In 1938 the "L" Tractor was styled by Dreyfus and production started with serial number 62-5000, with a Hercules NXB engine. This engine was used until 1942 when John Deere started production with their own engine and this was produced until 1946.

In 1941 the industrial Model "LI" was introduced. Although industrials were produced before this but not indicated as such until this time.

Also in 1941 the Model LA was introduced which was a higher horsepower version. Production ceased on both the "L", "LI" and "LA" in 1946.

Records indicate the following:

TRACTORS	Model "L"	1938 - 1946	12,541
	Model "LI"	1939 - 1946	2,438
	Model "LA"	1941 - 1946	12,549
"LU" ENGINES	LUC	1945 - 1946	10,314
	LUH	1941 - 1946	14,718
	LUE	1941 - 1945	1,467
	LUI	1941 - 1946	844

A BRIEF REVIEW OF "LU" TYPE ENGINE.

The LUC engine is the combine power unit mounted crosswise on the combine.

The LUH engine was the predecessor to the LUC but mounted horizontally on the combine.

The LUE engine was provided to Dain for use on hay processors and the like.

LUI engine was the industrial power unit and predecessor to the LUS stationary power unit.

*We have no production record on the LUS.

ENGINE

DESIGN No. 15 Model "L" Tractors (Serial No. L-640000)

A. Two-Cylinder Heavy Duty Vertical Engine of our own design and manufacture

B. Weight complete with fan, carburetor, magneto, flywheel, clutch, and clutch shaft housing less belt pulley 306#.

1. Crankshaft - 23#
2. Flywheel - 61#

C. Bore and Stroke.

1. 3-1/4 x 4".

D. Assembly.

1. Cam followers - self-locking tappet adjusting screw in follower.

2. Camshaft.

- a. Mounted in steel back babbitt lined replaceable bearings. (Align oil holes. Install to top.)
- b. Cam gear is replaceable. A sharp blow with mallet on opposite end of shaft will remove gear.
- c. Timing marks stamped in the gear.
- d. Thrust washer placed between gear and bearing.
- e. Oil pump drive cut in center of shaft.

3. Crankshaft.

- a. Both upper and lower bearings steel backed babbitt lined.
- b. Bearing caps dowel pinned into position and are not replaceable.
- c. Front bearing is plain. Rear bearing controls crankshaft end PLAY
- d. Match camshaft and crankshaft timing marks.
- e. Main bearing caps are not adjustable. (DO NOT FILE CAPS.)
- f. When bearings become worn bearing inserts are replaced.
- g. Rear oil seal and oil seal plate.

4. Pistons and Connecting Rods.

- a. Spun bearings in rods.
- b. Exchange plan.

Back Suction Economizer System

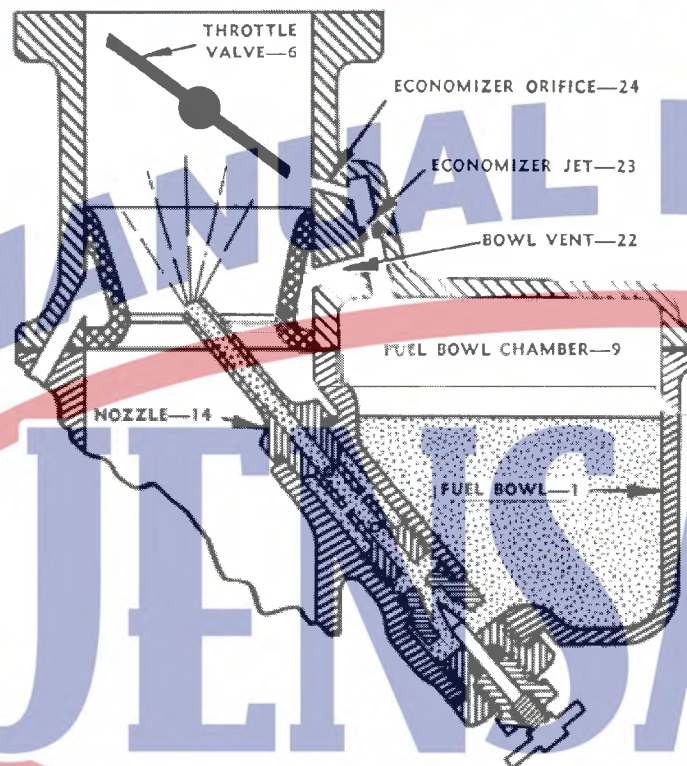


Fig. S-16

The amount of fuel supplied to an engine is controlled by the size of the power jet, the position of the power adjusting needle, and the difference in air pressure between the fuel bowl chamber and the venturi. However, in many engines the mixture must be leaned out additionally during part throttle operation to obtain maximum economy. To provide this leaner mixture Marvel-Schebler Tractor and Industrial Carburetors make use of the "Back Suction Economizer System. With this method of metering fuel, the air pressure in the fuel bowl chamber is regulated and controlled according to load conditions by a combination of bowl vent and economizer passages communicating with the throttle bore of the carburetor. Through regulations of the air pressure in the fuel bowl chamber the fuel flow through the carburetor can be controlled to provide the proper mixture proportions for the engine.

All the air that enters the fuel bowl chamber (9) must first pass through the air cleaner and the bowl vent (22). The size of the bowl vent (22) controls or limits the amount of air that can enter the fuel bowl chamber (9). The

amount of air that is drawn out of the fuel bowl chamber (9) is controlled by the size of the economizer jet (23), the economizer orifice (24) and the position of the throttle valve (6) as its position determines the manifold vacuum or suction on the economizer orifice (24). As the throttle valve (6) is opened from the fast idle position the economizer orifice (24) is gradually exposed to manifold suction, and air flows from the fuel bowl chamber (9), through the economizer jet (23) and out the economizer orifice (24). This air must be replaced by air entering through the bowl vent (22) but as the size of the bowl vent (22) restricts the amount of air that can enter, the resultant pressure in the fuel bowl chamber (9) will be lowered, reducing the difference in air pressure between the nozzle (14) and the fuel bowl chamber (9). The flow of fuel will therefore be retarded so that the exact economy mixture ratio will be delivered to the engine at this particular throttle opening. Opening the throttle valve (6) further exposes the entire economizer orifice (24) to manifold suction, resulting in additional air being removed

from the fuel bowl chamber (9), again leaning out the mixture ratio to the correct proportions for this new throttle position. After the economizer orifice (24) is fully exposed to manifold suction the amount of air that is drawn out of the fuel bowl chamber (9) is controlled by the manifold vacuum or suction at any given throttle valve (6) position and as this suction decreases as the throttle approaches wide open position, less air is drawn out of the fuel bowl chamber and additional fuel flows to the engine to provide the extra richness required for operation at heavy loads where maximum horsepower is necessary.

The "Back Suction Economizer System" assures the proper metering of fuel to the engine throughout the service life of the carburetor as there are no moving parts to wear out or adjustments to get out of order. It is essential, however, that the system remain free of dirt and foreign matter because any foreign substance in the system will restrict the flow of air thereby creating improper pressures in the fuel bowl chamber and resulting improper fuel delivery to the engine.

Specifications

GENERATOR

DR 1100517

Voltage - 6

Brush Tension - 16 oz.

Field Coil Amps - 2.5 - 2.72

Cold Output Amps 20-25

Volts 7.0

RPM 2400

REGULATOR

DR 1116809

Voltage

6

Relay

Air Gap .020

Point Opening .022

Closing Voltage All-Lim. 6.4 - 7.8

CRANKING MOTOR

DR1107036

Voltage 6

Brush Tension 24 Min.

Free Running Test

Amps 80

Volts 5.67

RPM 5000

MAGNETO

ES RM

Lag Angle

Rotor Gap

PtSet

L 62 1000 - L 63 9999

10%

.040 -.080

.015

LA 1000 - 4532

20%

.040 -.080

.015

LI Before L 639999

25%

.040 -.080

.014 -.018

35%

.040 -.080

.015

WICO C

LU

20%

.090 -.100

.015

L 640000 -

21%

4.0 - 8.0

.015

LA 4533 -

30%

.090 -.1000

.015

LI 50001 -

35%

.090 -.1000

.015

WICO XH909

ALL

LU

20%

.90 -.100

.015