

# 600 AND 700 HI-CYCLES



## OPERATORS MANUAL 600 AND 700 HI-CYCLES

OMN97718 (01MAR64) English

**OMN97718 (01MAR64)**

LITHO IN THE U.S.A.  
ENGLISH



# TO THE PURCHASER

Your new Hi-Cycle was built to rigid manufacturing standards. Material and workmanship are the best. However, the machine will serve you only in direct proportion to the care you give it. How long it will last and continue its good work is a matter entirely in your hands.

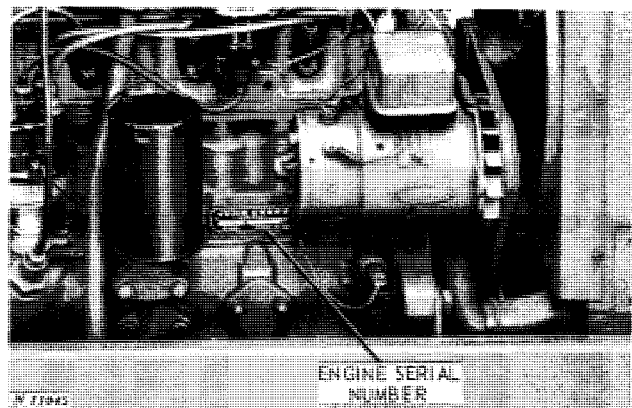
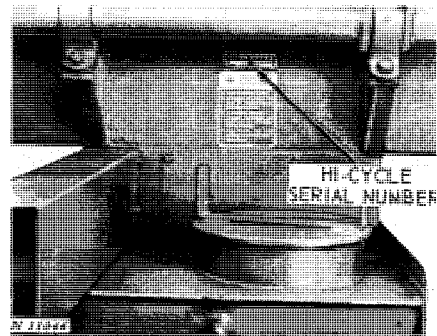
The way you operate your Hi-Cycle and the care you give it have much to do with the service and satisfaction you will get from it. This manual has been carefully prepared and illustrated to show you what to do and when to do it. It explains the adjustments that are built into the machine and gives instructions on when and how to make these adjustments. The information given in this manual will afford a clear understanding of fundamentals in the use of this Hi-Cycle and spraying operations. The best use of these fundamentals to suit the conditions in which the machine is operating is a responsibility that is completely up to the operator.

Suggestions in this manual on spraying practices are of a general nature and do not apply to any given area. If further questions arise regarding spraying operation, contact your local county agent.

If you find you need information not covered in this manual or if your Hi-Cycle requires special servicing, take advantage of the facilities offered by your John Deere dealer. He has trained mechanics, who are kept informed on the best methods of servicing and can give you prompt, "know-how" service in the field or in his shop.

Right-hand and left-hand reference is determined by standing at the rear of the Hi-Cycle and facing the direction of travel.

## SERIAL NUMBERS



You will find the serial number of your Hi-Cycle stamped on a plate located on the rear of the main frame. The engine serial number is stamped on a plate on the right-hand side of the engine block. Write these serial numbers in the space provided below for handy reference later.

HI-CYCLE SERIAL NO. ....

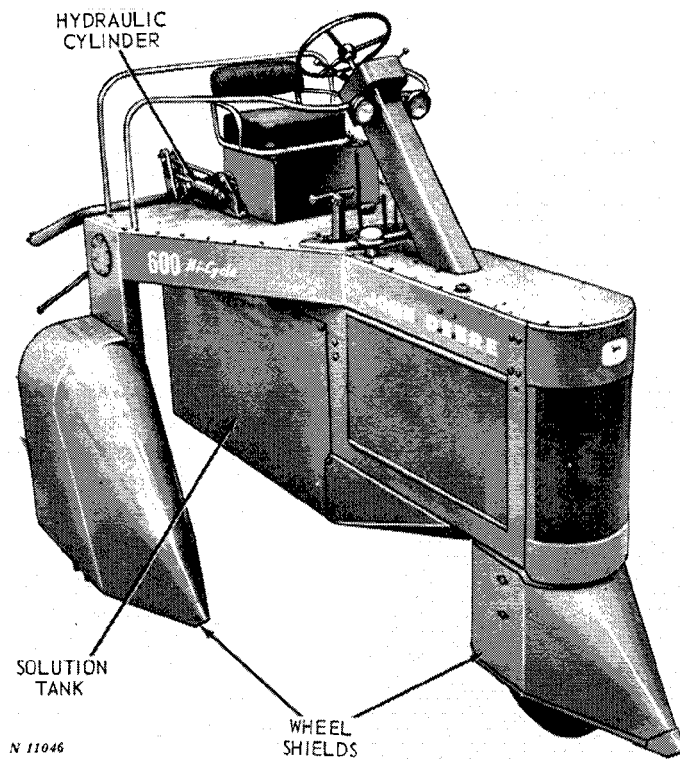
ENGINE SERIAL NO. ....

DATE PURCHASED . ....

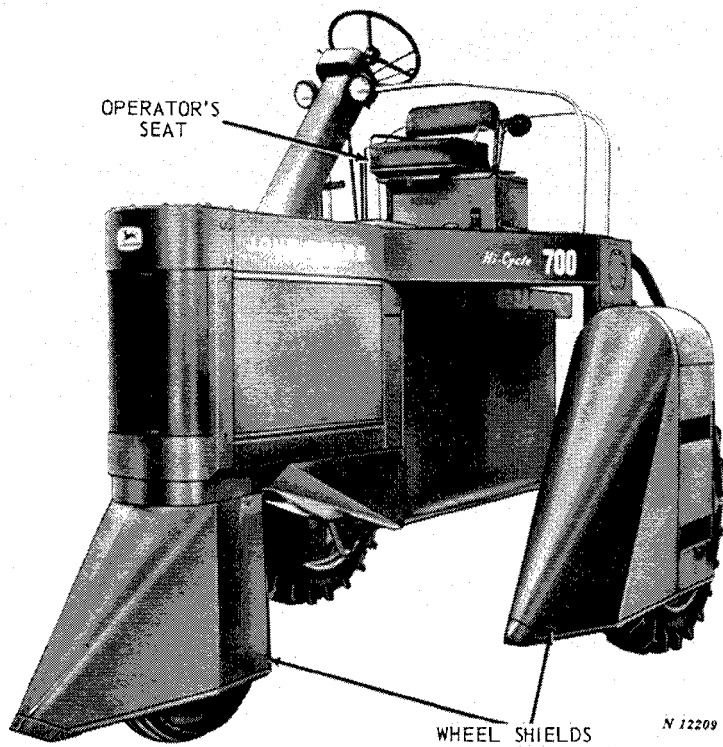


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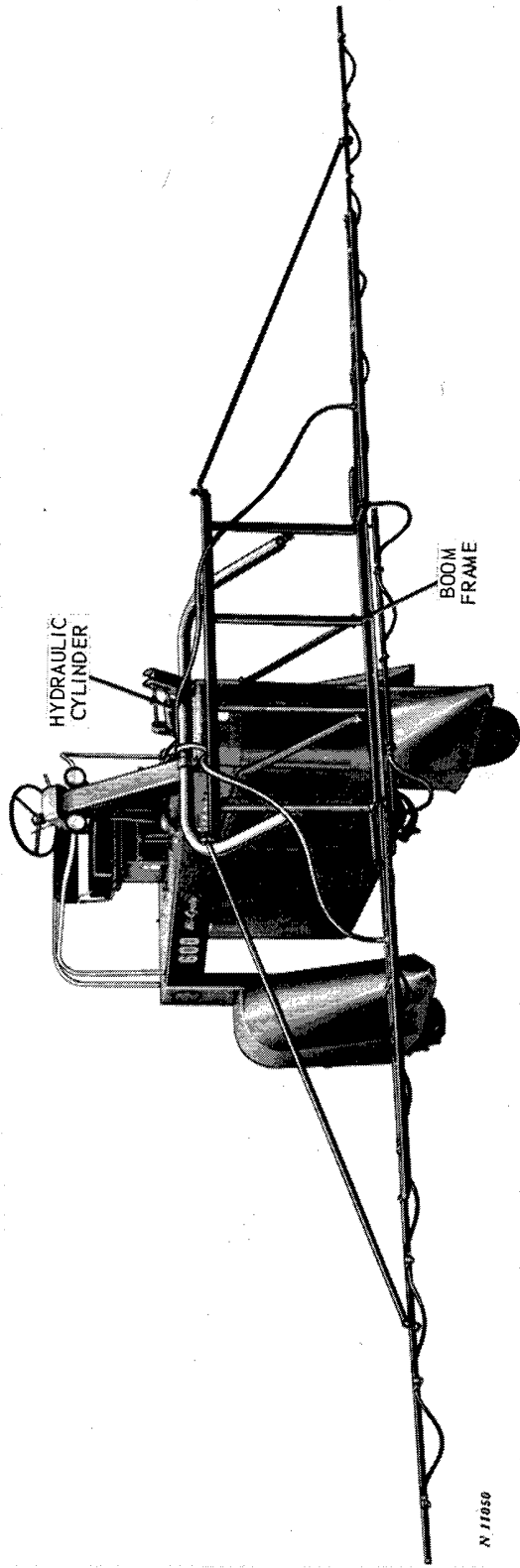
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Front View of John Deere 600 Hi-Cycle

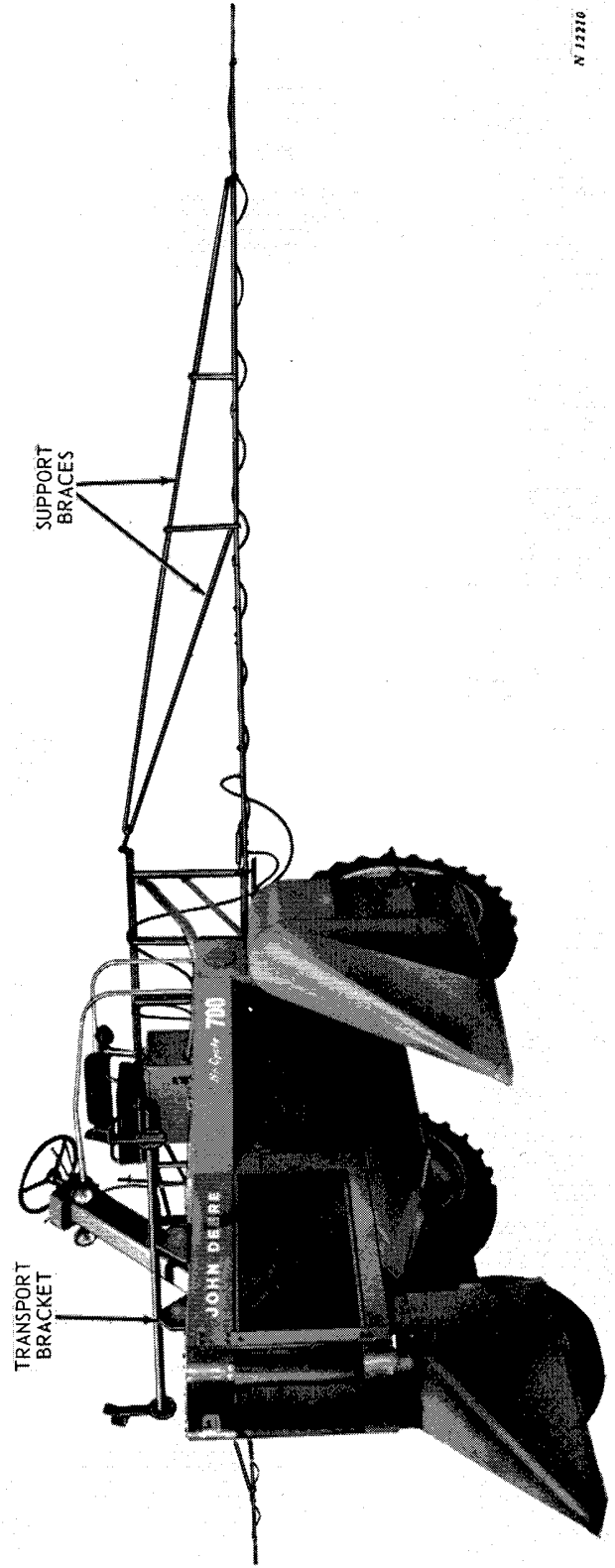


Front View of John Deere 700 Hi-Cycle



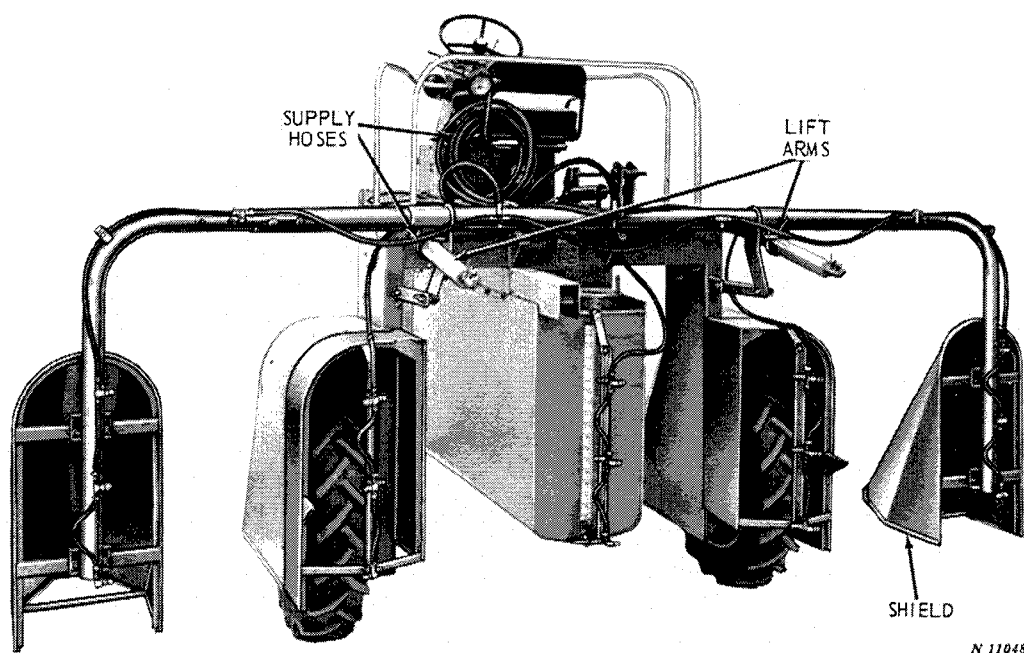
N 11050

*John Deere 600 Hi-Cycle Equipped with 8-Row General-Purpose Boom on Front of Machine*

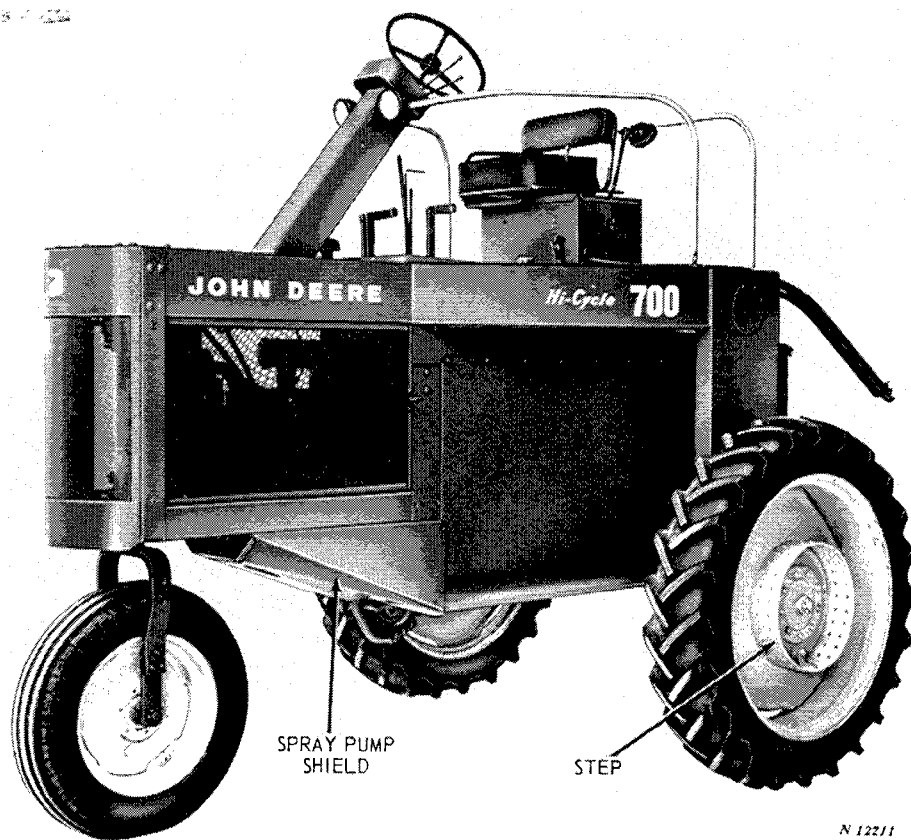


N 12210

*John Deere 700 Hi-Cycle equipped with 12-Row General-Purpose Boom on rear of Machine*



*John Deere 600 Hi-Cycle Equipped with 4-Row Defoliation Boom*



*John Deere 700 Hi-Cycle Without Wheel Shields*



# SPECIFICATIONS

## HI-CYCLE

### ENGINE

Make of engine . . . . . John Deere NA115G  
 Number of cylinders . . . . . 4  
 Bore and stroke, inches . . . . . 3-1/2 x 3  
 Piston displacement, cubic inches . . . . . 115  
 \*Brake horsepower . . . . . 42  
 Compression ratio . . . . . 7.9 to 1  
 Type of fuel . . . . . gasoline

### ENGINE SPEEDS

Slow idle . . . . . 600 rpm  
 Fast idle (no load) . . . . . 2600 rpm

### GROUND SPEEDS

MPH based on 24-inch tires with no wheel  
 slippage

Engine Speed (RPM)	Gear				
	1st	2nd	3rd	4th	R
1500	2.9	4.0	5.7	7.7	4.0
1750	3.4	4.6	6.7	9.0	4.6
2000	3.9	5.3	7.6	10.3	5.3
2250	4.4	5.9	8.6	11.6	5.9
2500	4.8	6.6	9.5	12.8	6.6

### TRANSMISSION

Selective sliding gear type with 4 speeds forward and 1 speed reverse

### TRANSMISSION CLUTCH

Single 8-1/2-inch plate automotive type, foot operated

### DIFFERENTIAL

Spiral bevel type gears

### BRAKES

Self-energizing disk-type, foot-operated individually or simultaneously  
 \*Calculated at 60°F. and 29.92 inches of HG. at sea level and 2500 rpm full load.

### FINAL DRIVES

Heavy-duty roller chain with run-in-oil lubrication

### COOLING SYSTEM

Pressurized, with water pump, thermostat and fixed bypass

### ELECTRICAL SYSTEM

Battery . . . . . 12 volts  
 Battery terminal grounded . . . . . positive  
 Starting . . . . . 12-volt electric motor

### IGNITION SYSTEM

Type . . . . . Battery-distributor  
 Spark plug size . . . . . 14 mm

### FUEL SYSTEM

Type of fuel . . . . . Regular grade gasoline  
 Carburetor . . . . . Conventional up-draft  
 Air cleaner . . . . . Oil wash type

### ENGINE LUBRICATION

Oil filter is a full-flow, "spin-on" type with special bypass valve.

### LIFTING MECHANISM

Lift arms mounted on either front or rear of Hi-Cycle. They are either manually or hydraulically operated.

### DIMENSIONS

	600	700
	Inches	Inches
Wheel base . . . . .	90	90
Wheel tread . . . . .	80	80
Under axle clearance . . . . .	60	70
Over-all height . . . . .	110	117-1/4
Over-all length (tire to tire) . .	128	139
Over-all length (front wheel shield to rear of lift arms—straight out) . . . . .	163	182
Over-all width (tires only) . . .	92	94
Over-all width (wheel shields) .	98	98

## 6 Specifications

### Capacities

Fuel tank . . . . .	13 U.S. gallons
Cooling system . . . . .	2-1/2 U.S. gallons
Crankcase (including filter) . .	5 U.S. quarts
Air cleaner . . . . .	1 U.S. quart
Transmission . . . . .	4 U.S. quarts
Differential . . . . .	3 U.S. quarts
Hydraulic system . . . . .	3 U.S. quarts
Final drives . . . . .	2-1/2 U.S. gallons each

### TIRES

#### *Regular — 600 Hi-Cycle*

Front . . . . .	6.70 x 15, 4-ply implement
Rear . . . . .	9.5 x 24, 4-ply tractor

#### *Regular — 700 Hi-Cycle*

Front . . . . .	7.50 x 20, 4-ply implement
Rear . . . . .	11.2 x 38, 4-ply tractor

#### *Optional — 600 Hi-Cycle only*

Front . . . . .	7.50 x 16, 4-ply implement
Rear . . . . .	11.2 x 24, 4-ply tractor

Or

Front . . . . .	7.50 x 16, 4-ply implement
Rear . . . . .	9.5 x 24, 4-ply tractor

### WEIGHT

Less boom, with tank and wheel shields	
600 Hi-Cycle . . . . .	3450 pounds
700 Hi-Cycle . . . . .	3850 pounds

With 8-row general-purpose sprayer

600 Hi-Cycle . . . . .	3700 pounds
700 Hi-Cycle . . . . .	4200 pounds

## SPRAYER

### TANK

200 U.S. gallons capacity, aluminized steel.  
9-1/4-inch filler opening at rear with  
bucket-type strainer.

### PUMP

*Gear Pump* - 25 gallons per minute at 50 psi  
*NI-Resist 8-Roller Pump* - 20 gallons per  
minute at 50 psi with Nylon Rollers, Rubber  
Rollers Optional  
"Live" belt driven

### LINE STRAINER

Located between spray tank and pump, equipped with 50-mesh screen. 100 mesh screen optional.

### BOOM SELECTOR VALVE

One handle control which controls spray delivery to full length of boom or either section individually. Also handle controls turning "on" or "off" in any of the selected positions.

### PRESSURE REGULATOR

Adjustable up to 200 psi

### PRESSURE GAUGE

Calibrated up to 200 psi

### HOSES

Braided, chemical resistant, rated 275 psi (general-purpose and defoliation booms only)

### BOOMS

*General Purpose* — 8-row and 12-row front or rear mounted (8-row into 12-row conversion kit available)

*Defoliation* — 600 Hi-Cycle only — 4-row and 6-row rear mounted. (4-row into 6-row conversion kit available)

*No. 4 Post Emerge Oiling Applicator* — 4-row, front mounted

*No. 2 Lay-By* — 4-row, rear mounted

### NOZZLE TIPS

Adequate selection of hollow-cone or fan nozzle tips to spray agricultural chemicals at the application rate desired at speeds up to 12 mph

*Fan nozzle tips* — Brass or stainless steel

*Hollow-cone tips* — Hardened stainless steel



## SPECIAL EQUIPMENT

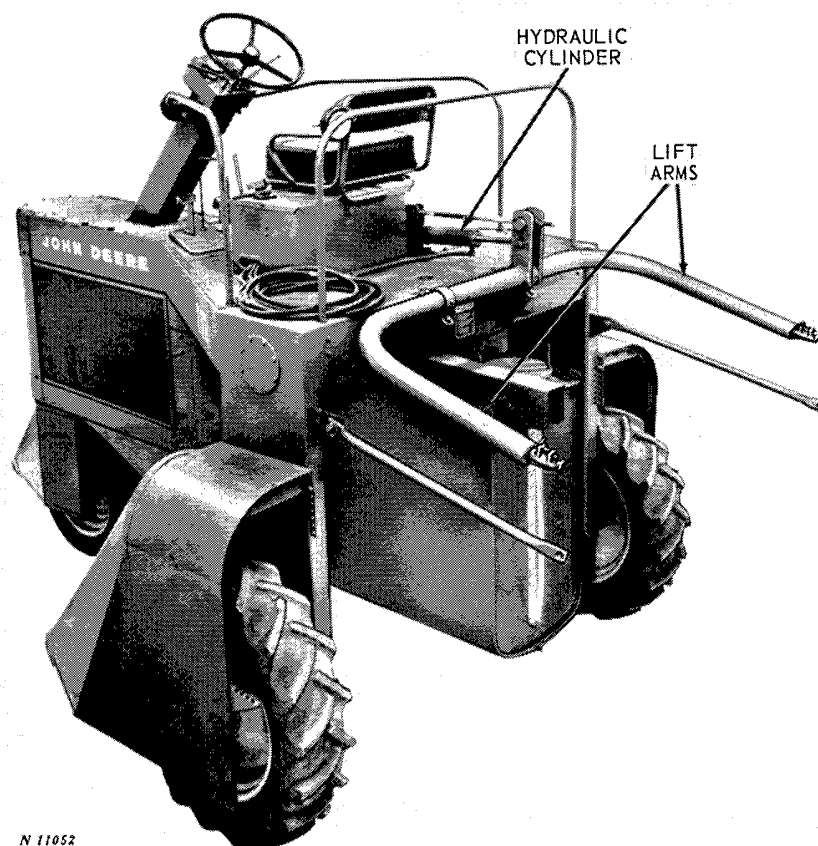
BB 11381 B	Handgun with 25-foot hose
BB 11382 B	Handgun with 50-foot hose
B 13912 B	Hose adapter (required for BB11381B and BB11382B)
BN 85004 N	Row-Crop drops, long (9) (for 8-row general-purpose boom)
BN 85035 N*	Row-Crop drops, long (4) (for 12-row general-purpose boom)
BN 85005 N	Row-Crop drops, short (9) (for 8-row general-purpose boom)
BN 85036 N**	Row-Crop drops, short (4) (for 12-row general purpose boom)
BN 85062 N	Hydraulic boom folding attachments for 8- or 12-row general-purpose booms

AN 85202 N	Rubber pump rollers
BN 85043 N	Spring drops (4) for general-purpose spray booms
BN 85038 N	Hand Lift conversion parts (for machines equipped with hydraulic lift)
BN 85041 N	Hydraulic kit (for machines equipped with hand lift)
BN 85064 N	Wheel Shields - 600 Hi-Cycle
BN 85090 N	Wheel Shields - 700 Hi-Cycle
B 11910 B	Line strainer screen - 100 mesh
BN 85091 N	Wheel steps, 700 Hi-Cycle without shields

*\*Must be used with BN85004N*

*\*\*Must be used with BN85005N*

*Specifications and design subject to change without notice.*



N 11052

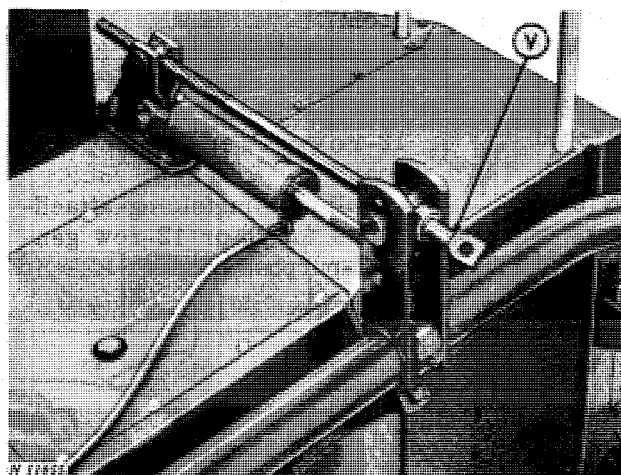
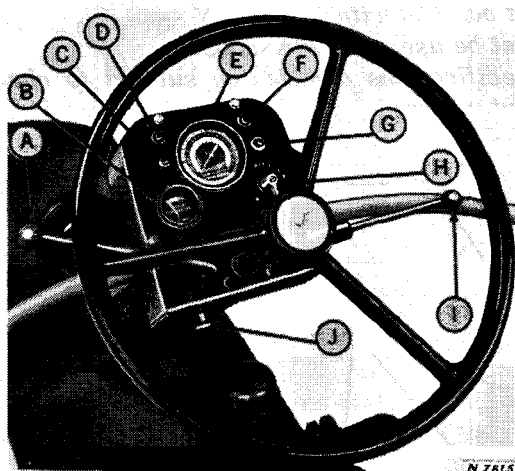
Rear View of John Deere 600 Hi-Cycle



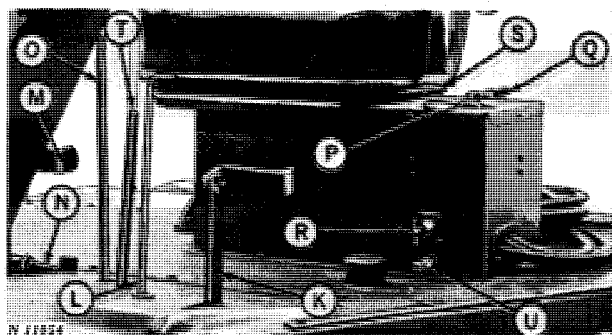
# OPERATION

## CONTROLS AND INSTRUMENTS

Before attempting to operate your new Hi-Cycle, become familiar with the location and purpose of all controls and instruments. See the pages indicated for detailed information.



- A - Lift Arm Control Lever (Page 15)
- B - Engine Temperature Gauge
- C - Fuse (Page 78)
- D - Oil Pressure Tel-Light (Page 10)
- E - Speed-Hour Meter (Page 12)
- F - Generator Tel-Light (Page 10)
- G - Starter Button (Page 9)
- H - Ignition and Light Switch (Pages 9 and 12)
- I - Hand Throttle (Page 10)
- J - Choke Control (Page 9)
- K - Clutch Pedal (Page 11)
- L - Spray Pump Control Lever (Page 20)
- M - Brake Pedals (Page 11)
- N - Brake Lock (Page 11)
- O - Gearshift Lever (Page 11)
- P - Pressure Gauge (Page 21)
- Q - Spray Control Lever (Page 20)
- R - Pressure Regulator (Page 21)
- S - Seat Adjusting Lever (Page 13)
- T - "Hi-Lo" Gearshift Lever (Page 11)
- U - Hand Gun Port (Page 40)
- V - Hydraulic Cylinder Stop (Page 15)



## OPERATING THE HI-CYCLE

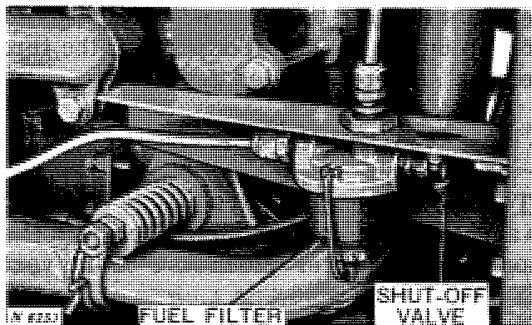
Complete instructions for operating your Hi-Cycle safely and efficiently are given on the following pages. By following these directions carefully, you can be sure that you are taking full advantage of the many features built into your Hi-Cycle.

### PRESTARTING CHECKS

Perform the following checks and services before starting the engine for the first time each day:

1. Check the engine crankcase oil level—see page 54.
2. Check the radiator coolant level.
3. Check the fuel filter sediment bowl.
4. Lubricate the lift arm bearings—see page 54.

### STARTING THE ENGINE



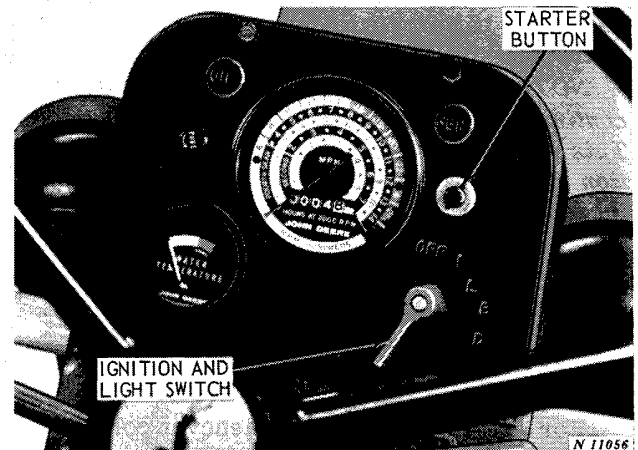
1. Make sure the fuel shut-off valve, located on the fuel filter is open.

2. Place the gearshift lever in neutral position (see page 11) and depress the clutch. This activates the starter safety switch.

*NOTE: The engine will not start unless the clutch pedal is depressed.*

3. Advance the throttle to about half-way open position.

4. Pull the choke control outward full distance. If the engine has been running a short time previously, it may not be necessary to use the choke and it is advisable to try starting the engine without choking.



5. Turn the ignition switch clockwise to first position "I." Depress the starter button and hold it until the engine has had time to rotate several revolutions or until it starts. If engine fails to start, see "Trouble Shooting," page 66.

Due to the heavy amperage required from the battery whenever the starter is used, and due to the heat generated in the starter, it is advisable to limit the length of time the starter is used to 30 seconds. A two-minute rest period is then recommended to permit the battery to restore to a more satisfactory charge. This rest period will also allow the heat to escape from the starter.

6. After the engine has started or after it has turned 4 or 5 revolutions, push the choke control all the way in. This will prevent flooding of the carburetor. Usually enough gasoline for starting has been drawn into the combustion chamber by this time.

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