

600 and 700 Hi-Cycles Serial No. 600-2401 & 700-401



OPERATORS MANUAL

600 and 700 Hi-Cycles Serial No.
600-2401
& 700-401

OMN159072 J5 English

**John Deere Des Moines Works
OMN159072 J5**

LITHO IN 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.

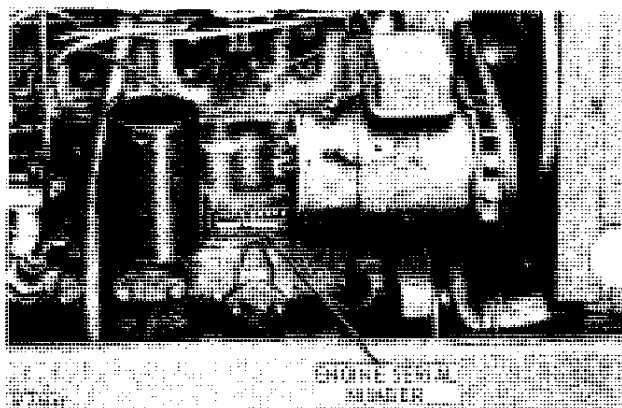
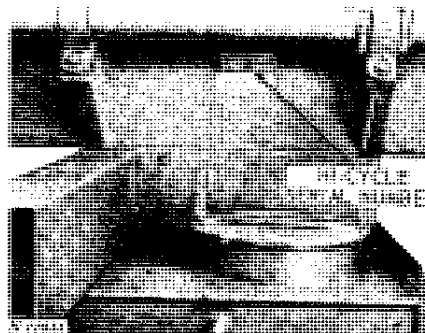
The way you operate your Hi-Cycle and the care you give it have much to do with the service and satisfaction you will get from it. This manual has been carefully prepared and illustrated to show you what to do and when to do it. It explains the adjustments that are built into the machine and gives instructions 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.

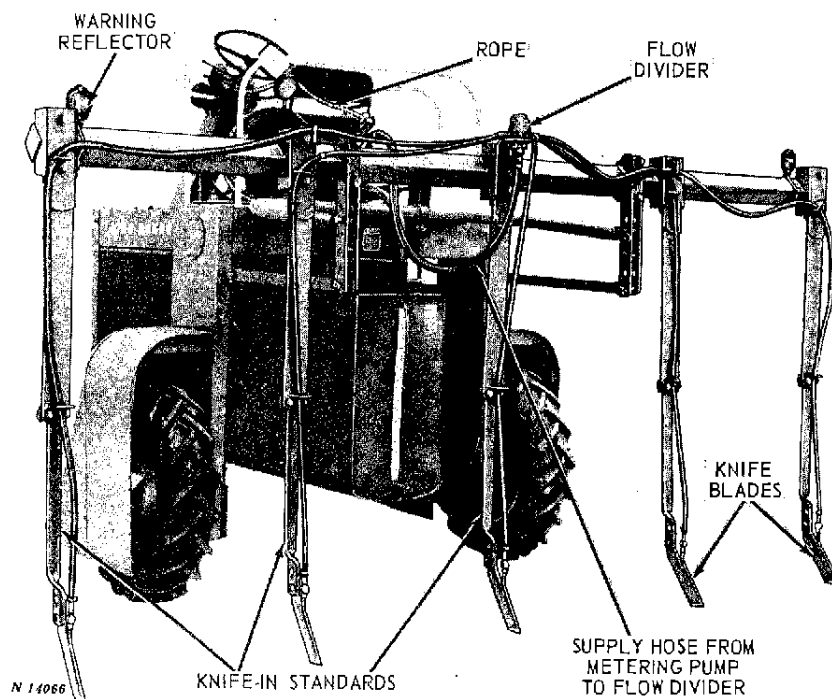
ENGINE SERIAL NO.

DATE PURCHASED

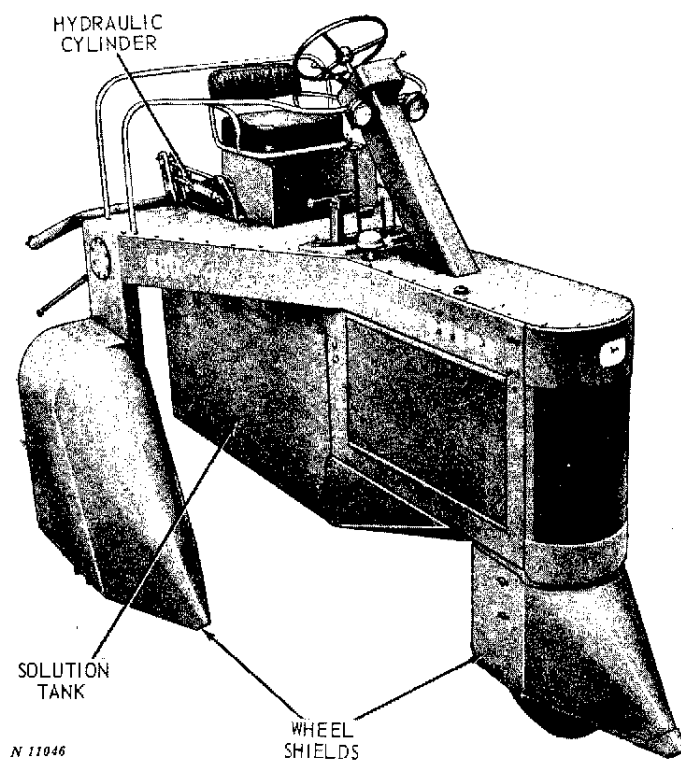


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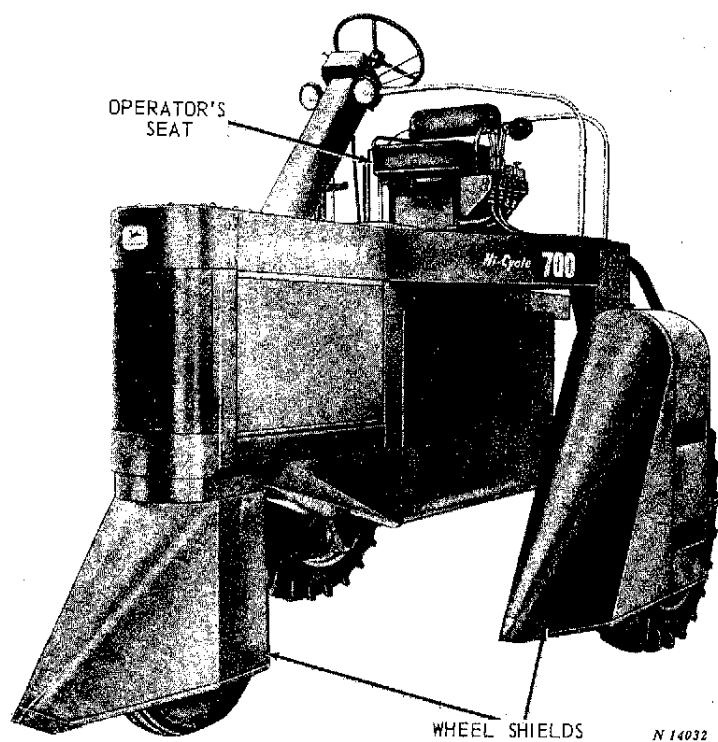
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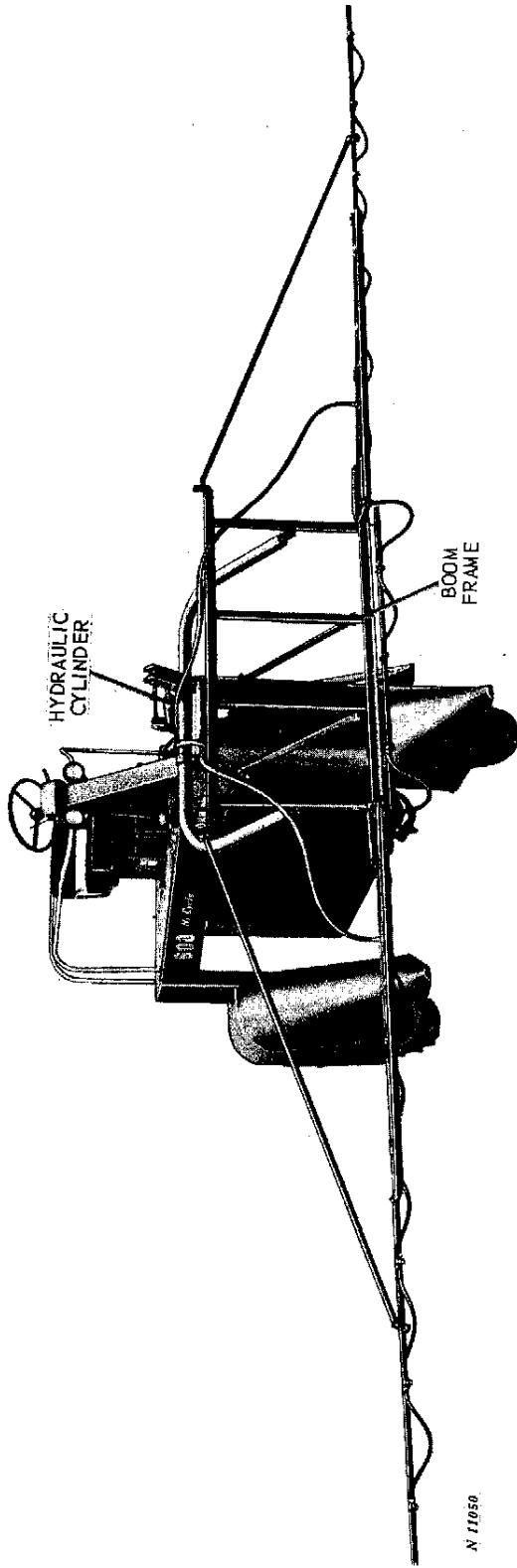
Liquid Fertilizer Knife-In Attachment with Metering Pump



Front View of John Deere 600 Hi-Cycle

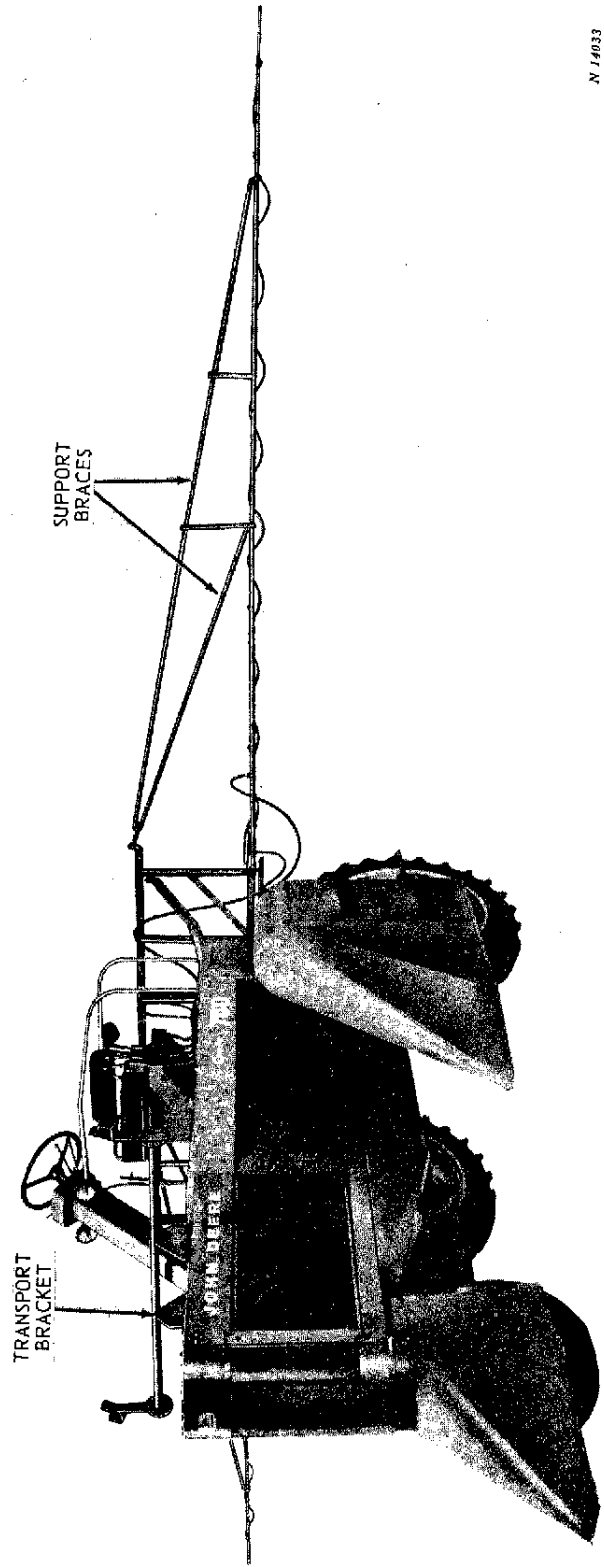


Front View of John Deere 700 Hi-Cycle



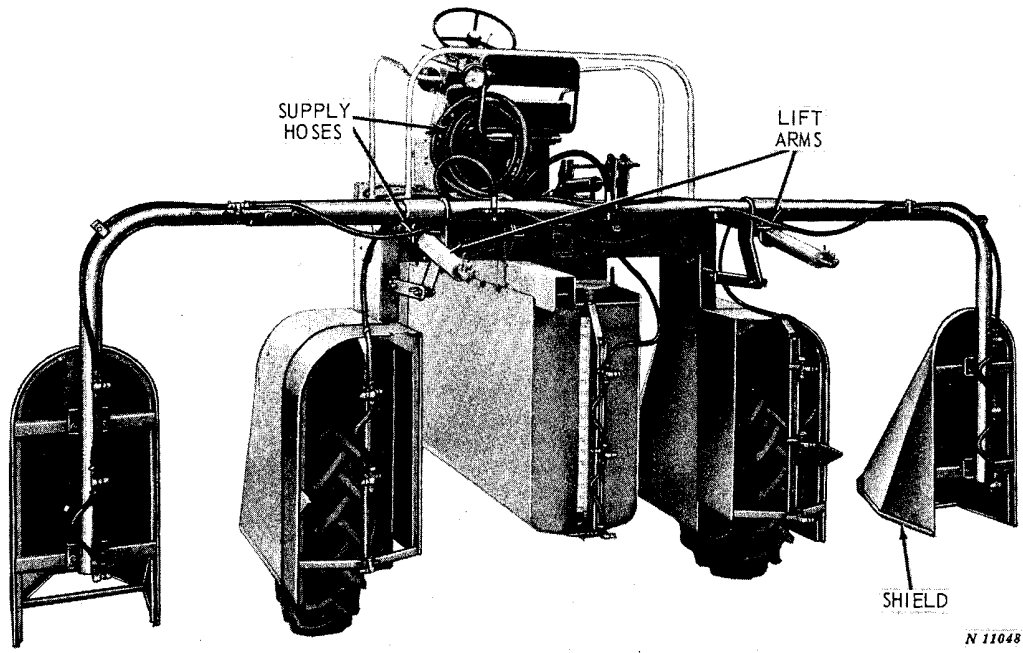
N 11050

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

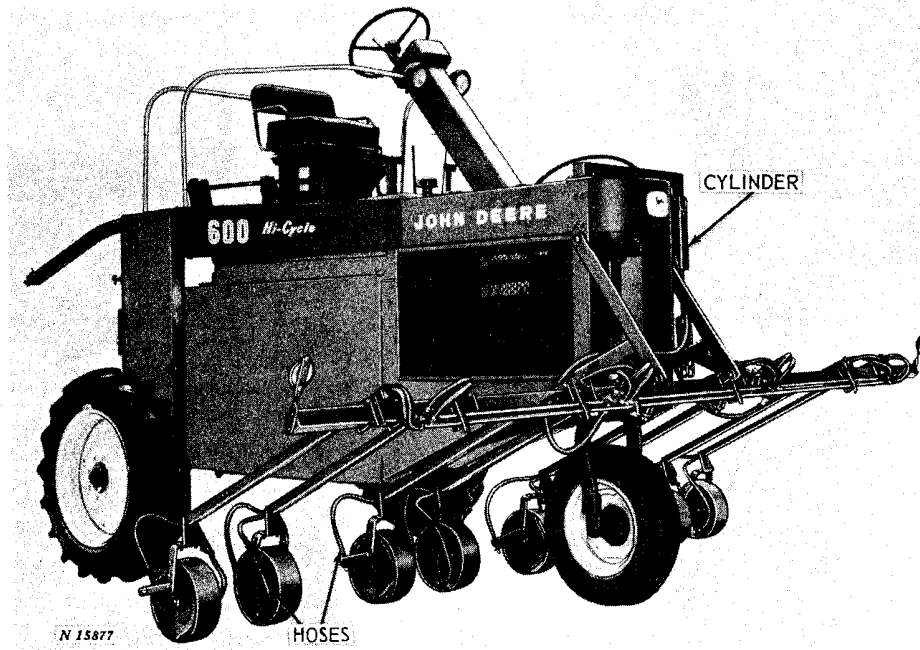


N 14033

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 600 Hi-Cycle with Directed Spray Attachment



SPECIFICATIONS

HI-CYCLE

ENGINE

Manufacturer and Model . 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 on 600 Hi-Cycle and
 38-inch tires on 700 Hi-Cycle, 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 Inches	700 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 (U.S. Measurement)

Fuel tank	13 gallons
Cooling system	2-1/2 gallons
Crankcase (including filter)	5 quarts
Air cleaner	1 quart
Transmission	4 quarts
Differential	3 quarts
Hydraulic system	3 quarts
Final drives (each)	
600 Hi-Cycle	9 quarts
700 Hi-Cycle	8 quarts

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 boom

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

SPRAYING SYSTEM

TANK

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

PUMP

Centrifugal Pump - 50 gallons per minute at
100 psi.
70 gallons per minute at
0-75 psi.
NI-Resist 8-Roller Pump - 20 gallons per
minute at 50 psi with nylon rollers (rubber
rollers optional)

All pumps are "live" belt driven.

LINE STRAINER

Centrifugal Pump - Located between pump and
boom control valve. The strainer is a flush
cleaning type.

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

BOOM CONTROL VALVE

Consists of two levers, pressure gauge and
pressure regulator - all diaphragm type.

PRESSURE REGULATOR

Adjustable up to 160 psi.

PRESSURE GAUGE

Calibrated up to 160 psi.

HOSES

Hoses on general-purpose, defoliation, liquid
fertilizer knife-in, soil incorporator, di-
rected spray, and lay-by boom attachments
are braided and chemical resistant and
rated 275 psi. The No. 4 Post-Emergence and
No. 2 Lay-By Boom hoses are rated 150 psi.

BOOMS

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

Defoliation Boom - 4-row and 6-row rear
mounted. (4-row into 6-row conversion kit
available).

Liquid Fertilizer - Knife-In Attachment.

Soil Incorporator - 4-row and 6-row, rear
mounted.

Directed Spray Attachment - 4-row, front
mounted.

Lay-By Boom - 4-row, rear mounted.

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

No. 2 Lay-By Boom - 4-row, rear mounted.

NOZZLE TIPS

Adequate selection of hollow-cone or fan noz-
zle 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.

Flooding tips - Brass or stainless steel.

SPECIAL EQUIPMENT

Hand gun - available with either a 25- or 50-foot hose.

Spring-type row-crop drops for general-purpose booms.

Hydraulic boom folding attachment for general-purpose booms.

Hand lift conversion parts (for machines equipped with hydraulic lift).

Hydraulic lift kit (for machines equipped with hand lift).

8-inch rigid row-crop drops.

Wheel shields (for machines not regularly equipped with wheel shields).

Wheel steps for 700 Hi-Cycle without shields.

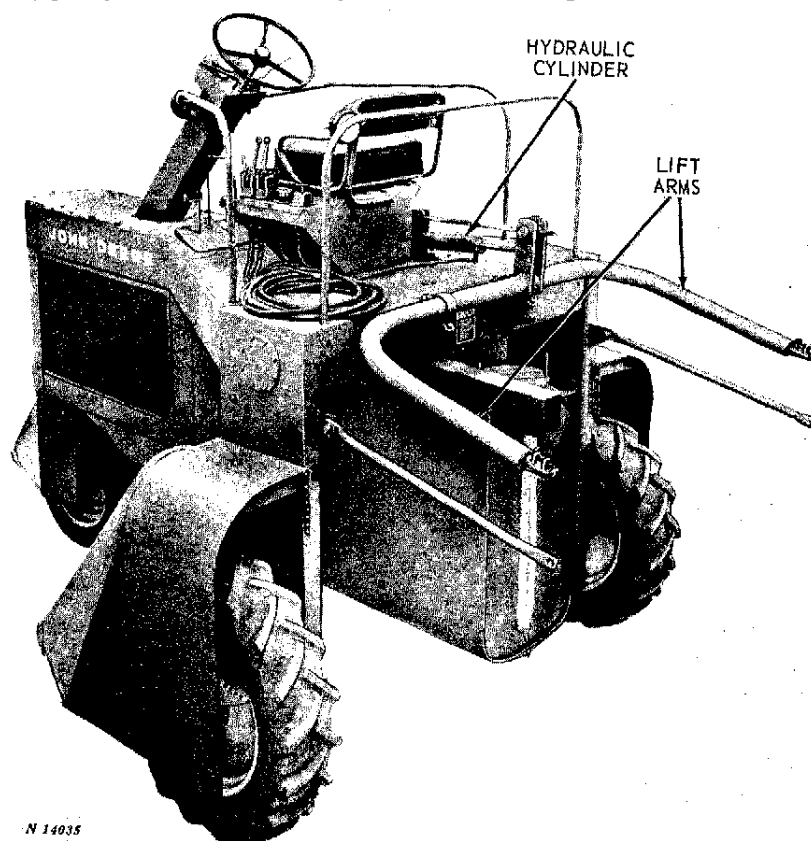
Tow bar (for transporting Hi-Cycle).

Metering pump for liquid fertilizer knife-in attachment.

Dribble applicator check valves for use with general-purpose booms (for applying liquid fertilizer).

Stainless steel fan tips (for broadcast spraying liquid fertilizer).

(Specifications and design subject to change without notice)



N 14035

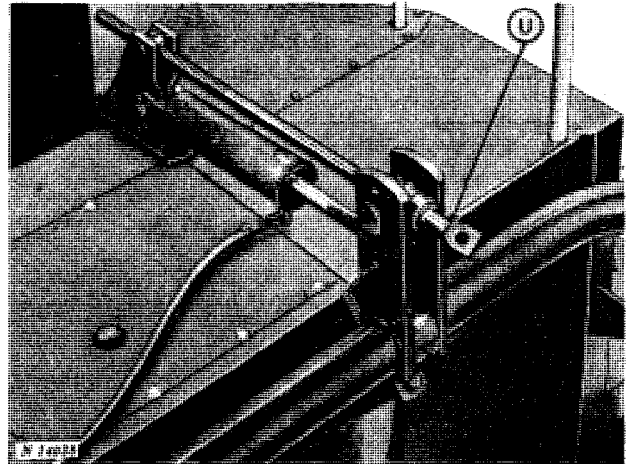
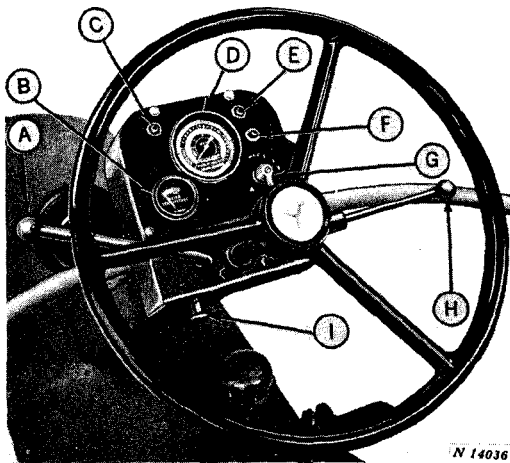
Rear View of John Deere 600 Hi-Cycle



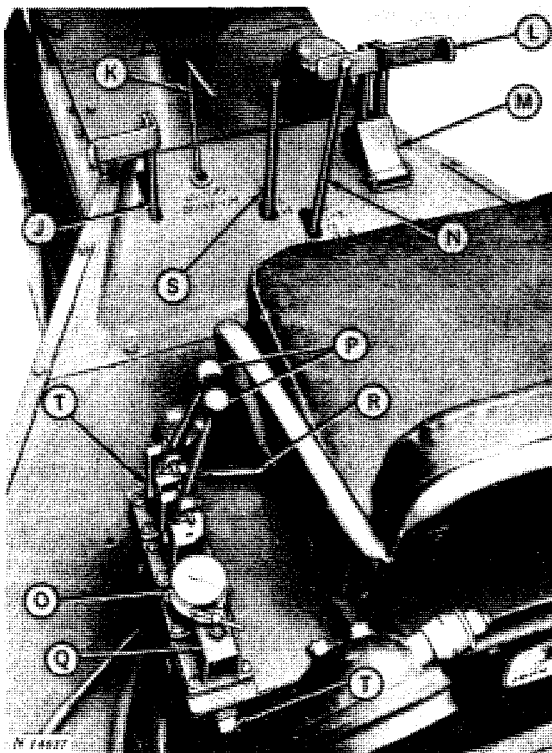
OPERATION

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. Study these pages carefully.



- A - Lift Arm Control Lever (Page 16)
- B - Engine Temperature Gauge
- C - Oil Pressure Tel-Light (Page 10)
- D - Speed-Hour Meter (Page 12)
- E - Generator Tel-Light (Page 10)
- F - Starter Button (Page 9)
- G - Ignition and Light Switch (Pages 9 and 12)
- H - Hand Throttle (Page 10)
- I - Choke Control (Page 9)
- J - Clutch Pedal (Page 11)
- K - Spray Pump Control Lever (Page 22)
- L - Brake Pedals (Page 11)
- M - Brake Lock (Page 11)
- N - Gearshift Lever (Page 11)
- O - Pressure Gauge (Page 23)
- P - Spray Control Levers (Page 23)
- Q - Pressure Regulator (Page 23)
- R - Seat Adjusting Lever (Page 13)
- S - "Hi-Lo" Gearshift Lever (Page 11)
- T - Hand Gun Port (Page 65)
- U - Hydraulic Cylinder Stop (Page 16)



OPERATING THE HI-CYCLE

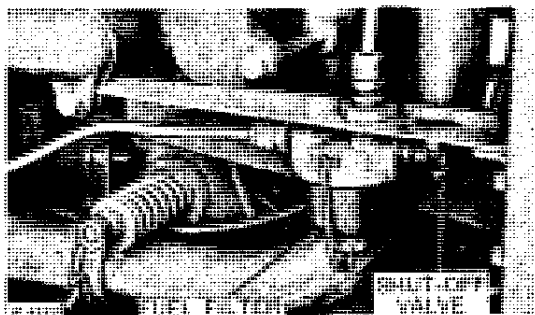
Complete instructions for operating your Hi-Cycle safely and efficiently are given on the following pages. By following these directions carefully, you can be sure that you are taking full advantage of the many features built into your Hi-Cycle.

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 76.
2. Check the radiator coolant level.
3. Check the fuel filter sediment bowl.
4. Lubricate the lift arm bearings—see page 76.

STARTING THE ENGINE



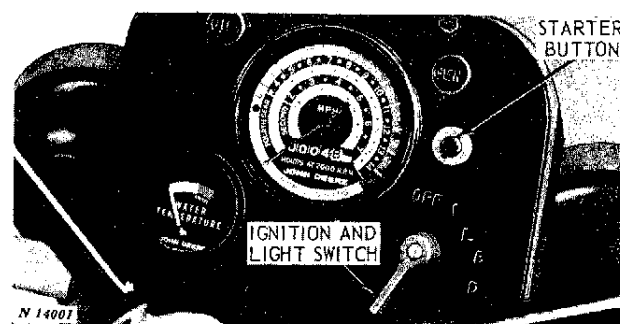
1. Make sure the fuel shut-off valve, located on the fuel filter is open.
2. Place the gearshift lever in neutral position (see page 11) and depress the clutch. This activates the starter safety switch.



NOTE: If the starter does not operate when the clutch pedal is depressed, check starter safety switch. See page 107.

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," pages 89-90.

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 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.

10 Operation

7. With the engine running at about half throttle, the oil pressure Tel-Light should go out. If indicator glows bright red after the engine has been running 10 seconds, turn off the ignition immediately and determine the cause of reduced oil pressure.

8. The Generator Tel-Light will glow red after the ignition switch is turned on during cranking, and for a few seconds after the engine has started. If the Tel-Light continues to glow after the engine has been running about 10 seconds, the battery is discharging and the cause of trouble should be determined.

NOTE: The generator Tel-Light may glow continuously with the engine speed at slow-idle. This is normal and does not indicate a malfunction unless the Tel-Light continues to glow after increased acceleration.

9. Regulate the engine speed by using the throttle.

NOTE: Do not place the engine under load until it has properly warmed up.

COLD WEATHER STARTING

For greater starting efficiency in cold weather, conform to recommendations for gasoline and crankcase oil as listed on pages 72 and 73.

The oil used in the air cleaner should be the same viscosity as used in the crankcase. Do not dilute the oil in the air cleaner.

The battery should be brought up to full charge so that maximum cranking speed can be obtained.

ENGINE WARM-UP PERIOD

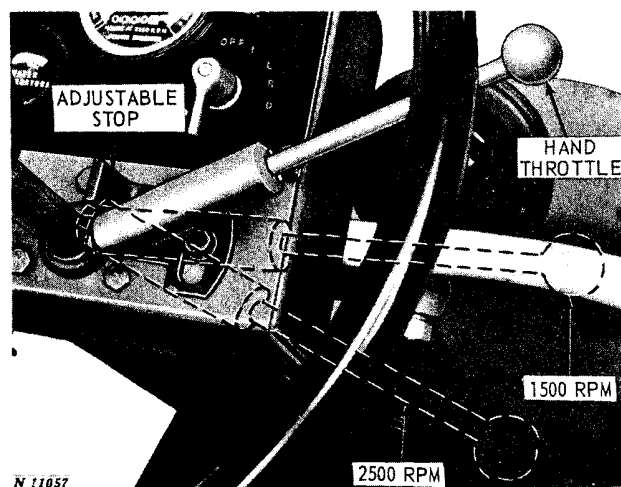
Before putting the engine under full load be sure it is warmed up sufficiently. Oil will then circulate freely, preventing excessive wear on piston rings, cylinders, and bearings. Do not race the engine during warm-up period. This wastes fuel and causes extreme wear on engine parts.

ENGINE SPEEDS

The engine is designed to operate at speeds ranging from 1500 rpm to 2500 rpm. These are variable governed speeds, and the engine can be operated at any speed between the two extremes to meet various working conditions.

An adjustable stop is provided at the base of the throttle lever so that once the speed of work has been determined, the throttle lever can always be returned to the same position, giving the desired engine rpm without watching the speed-hour meter.

USING THE THROTTLE



Use the throttle to select slow idle or any of the variable governed speeds. Moving the lever down increases engine speed; moving the lever up decreases engine speed.

Set the adjustable stop by loosening the lock nut and rotating the stop. This stop can be set so the throttle lever will be stopped at the desired engine rpm within the 1500 to 2500 rpm range. When it is desired to increase the speed beyond that set by the stop, pull outward on the throttle lever and select the speed desired.

STOPPING THE ENGINE

To stop the engine, first allow it to operate for a short time at slow idle. Then turn the ignition switch counter-clockwise to the vertical "off" position.

Place the gearshift lever in neutral position and lock the brakes—see page 11.

ENGINE RUN-IN PERIOD

Before your new Hi-Cycle was shipped from the factory, the crankcase and air cleaner were filled with "breaking-in" oil.

To be sure all bearing surfaces will be properly lubricated and piston rings properly seated, operate the engine under load immediately. Avoid long periods of light loads until the rings are seated, especially during the first 20 hours of operation. Check periodically to be sure that

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