600, 700 and 734 High-Cycles

JOHN DEERE

OPERATORS MANUAL

600, 700 and 734
High-Cycles

OMN159110 K8 English

John Deere Des Moines Works
OMN159110 K8

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.

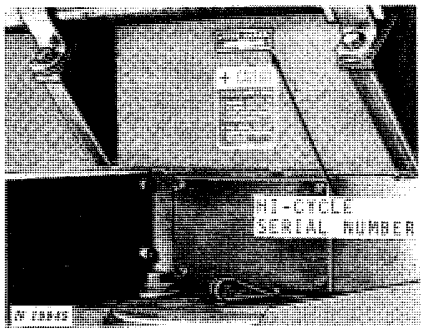
Suggestions in this manual on spraying practices are of a general nature and do not apply to any given area. If further questions arise regarding spraying operation, contact your local county agent.

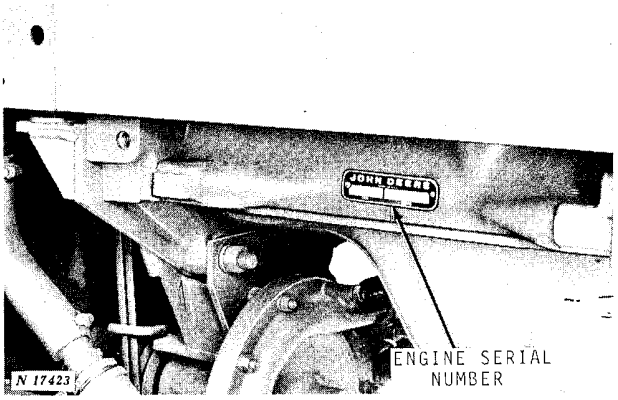
If you find you need information not covered in this manual or if your Hi-Cycle requires special servicing, take advantage of the facilities offered by your John Deere dealer. He has trained mechanics, who are kept informed on the best methods of servicing and can give you prompt, "know-how" service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

The warranty on this Hi-Cycle appears on your copy of the purchase order which you should have received from your dealer when you purchased the Hi-Cycle.

SERIAL NUMBERS





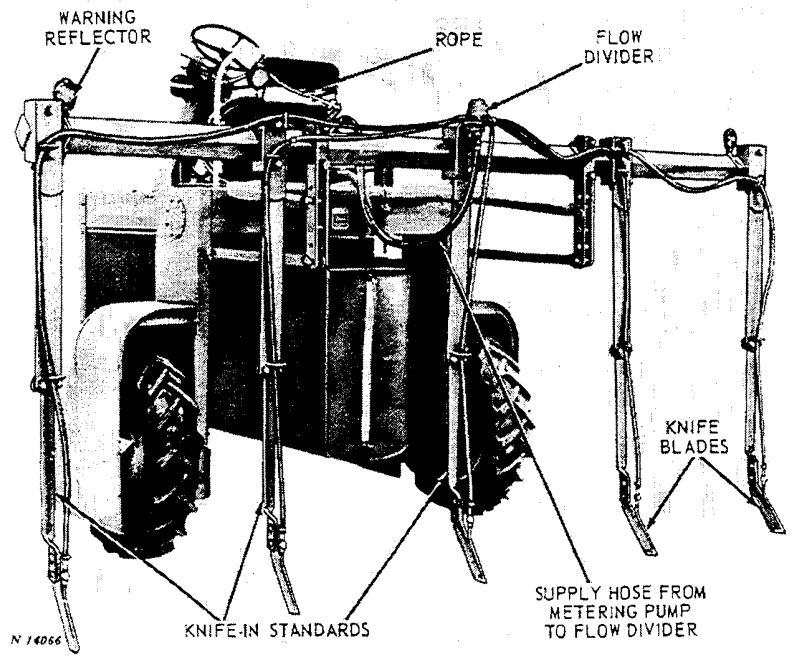
You will find the serial number of your Hi-Cycle stamped on a plate located on the rear of the main frame. The engine serial number is stamped on a plate on the right-hand side of the engine block. Write these serial numbers in the space provided below for handy reference later.

HI-CYCLE SERIAL NO. . . . . .

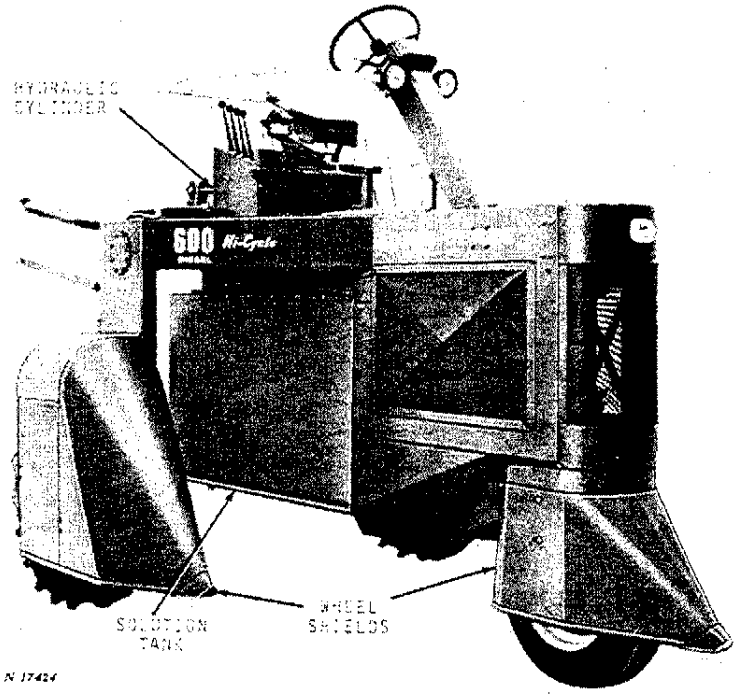
ENGINE SERIAL NO. . . . . .

DATE PURCHASED . . . . . .

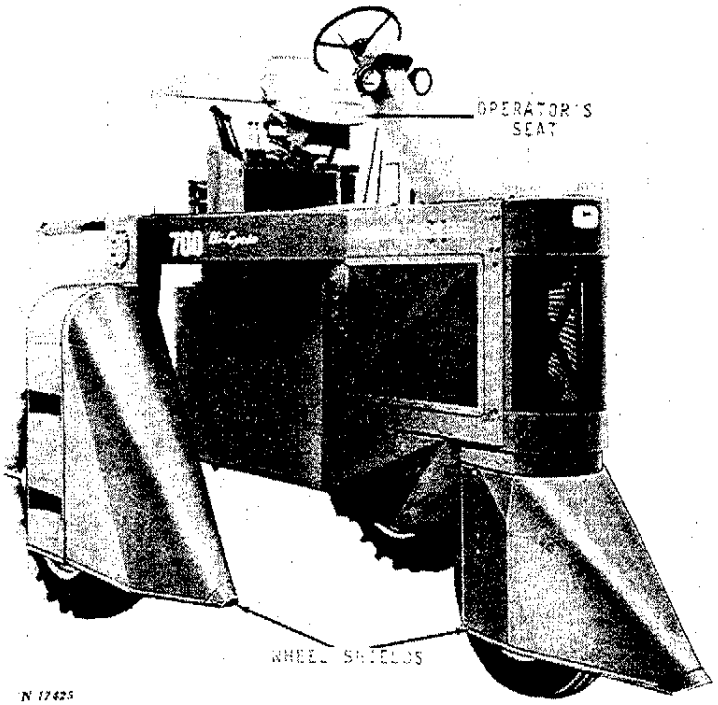
CONTENTS



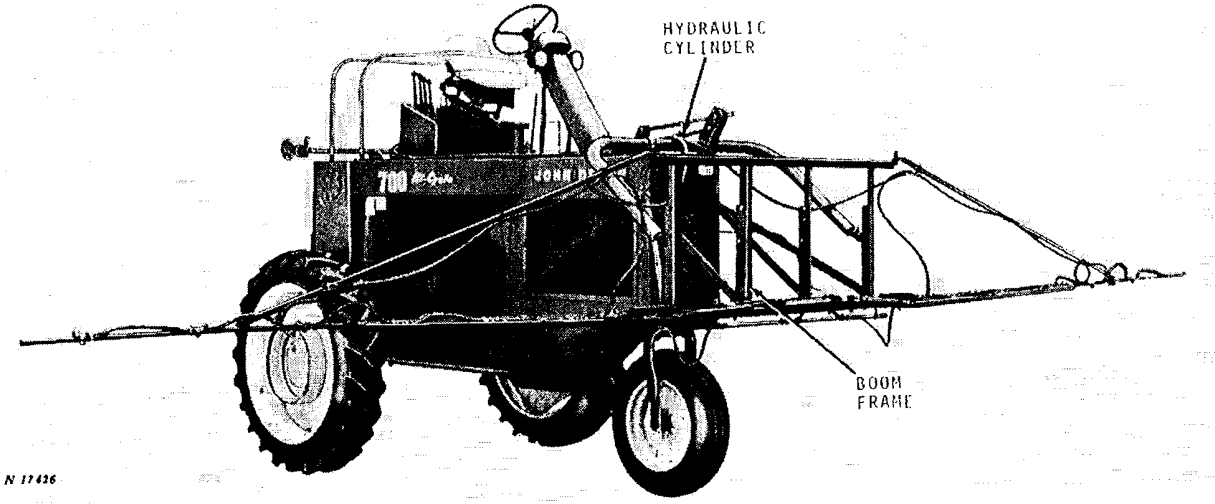
Liquid Fertilizer Knife-In Attachment with Metering Pump



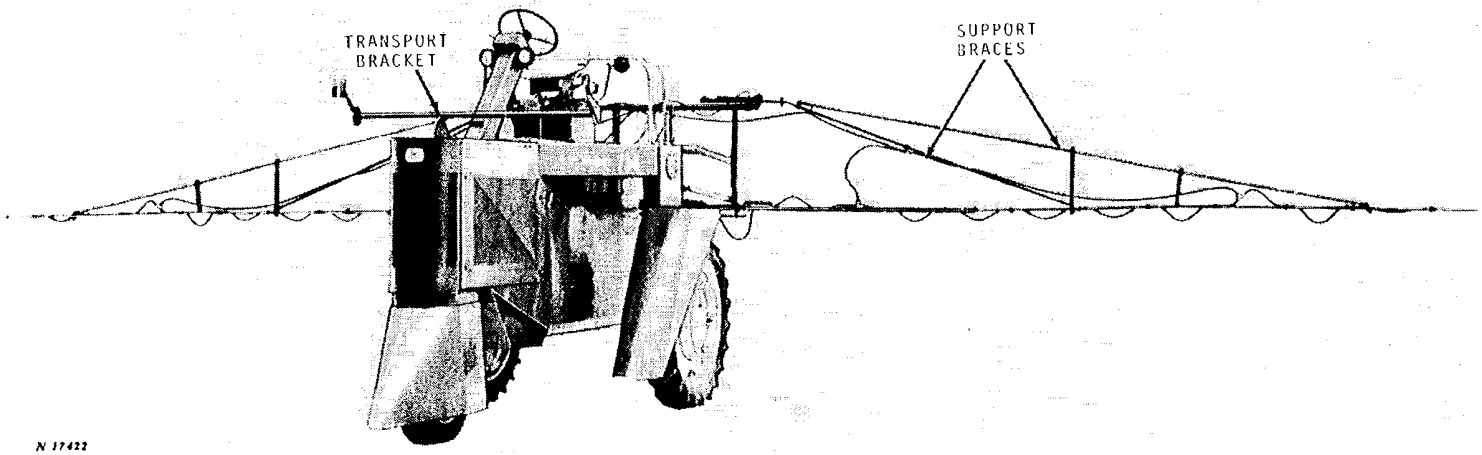
Front View of John Deere 600 Hi-Cycle



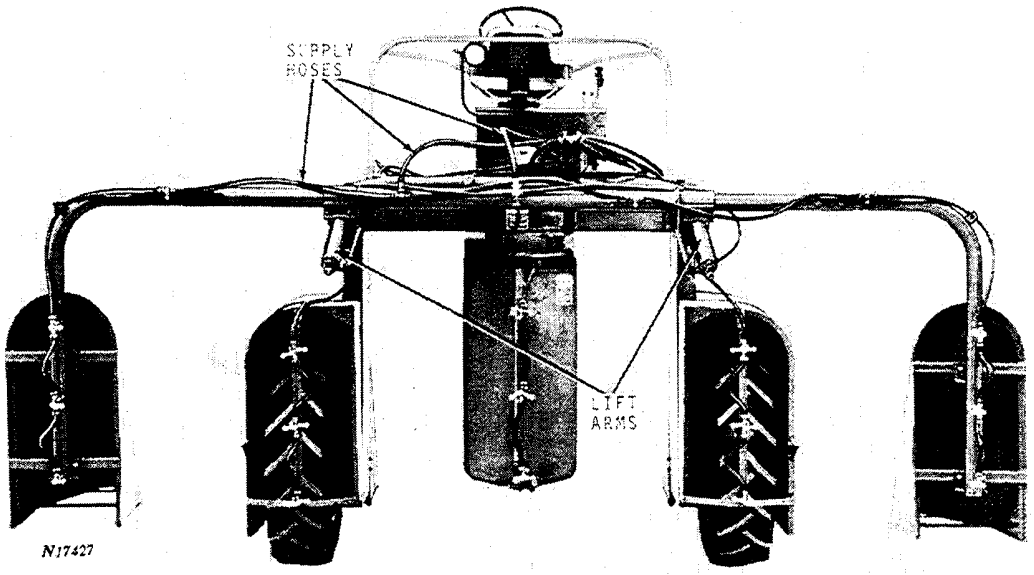
Front View of John Deere 700 Hi-Cycle



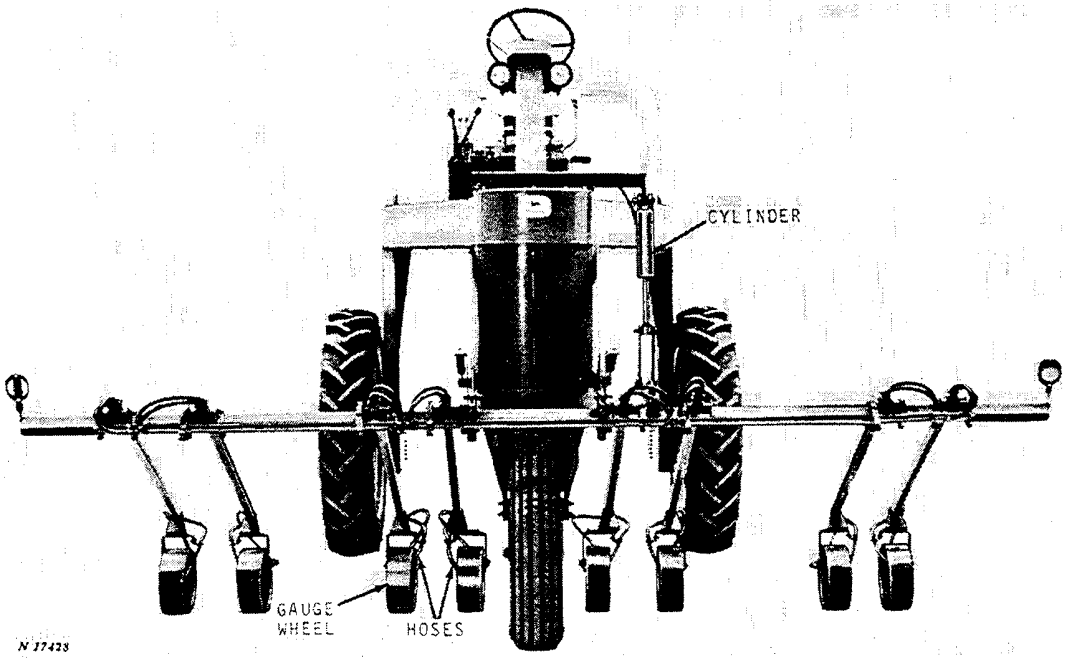
John Deere 700 Hi-Cycle Equipped with 8-Row General-Purpose Boom on Front of Machine



John Deere 734 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

	Gasoline	Diesel
Manufacturer and Model	John Deere NA135G	John Deere NA152D
Number of cylinders	3	3
Bore & stroke (inches)	3.86 x 3.86	3.86 x 4.33
Piston displacement, cubic inches	135.0	152.0
*Brake horsepower	42	42
Compression ratio	7.5 to 1	16.7 to 1
Type of fuel	gasoline	diesel

*Calculated at 60 F. and 29.92 inches of HG. at sea level and 2500 rpm full load.

ENGINE SPEEDS

Slow idle	600 rpm	850 rpm
Fast idle (no load)	2680 rpm	2650 rpm

GROUND SPEEDS

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.

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 . . . . . negative
Starting . . . . . 12-volt electric motor

IGNITION SYSTEM (NA135G gasoline engine)

Type . . . . . Battery-distributor

FUEL SYSTEM (NA135G gasoline engine)

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

ENGINE LUBRICATION

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

LIFTING MECHANISM

Hydraulically operated. Lift arms mounted on either front or rear of Hi-Cycle.

FUEL SYSTEM (NA152D diesel engine)

Type of fuel . . . . . 1-D or 2-D Diesel fuel
Injection pump
- Engine Serial No. prior to NA95,000 - Mechanical shut-off
- Engine Serial No. NA95,000 and up - Electric shut-off

Air cleaner . . . . . Dry-type

HI-CYCLE - Continued

DIMENSIONS

	600 (Inches)	700 (Inches)	734 (Inches)
Wheel base	90	90	90
Wheel tread	80	80	69
Under axle clearance	60	70	68
Over-all height	110	117-1/4	116
Over-all length (tire to tire)	128	139	137
Over-all length (front wheel shield to rear of lift arms straight out)	163	182	182
Over-all width (tires only)	92	94	78
Over-all width (wheel shields)	98	98	82

CAPACITIES (U.S. Measurement)

Fuel tank	13 gallons
Cooling system	3 gallons
Crankcase (including filter)	7 quarts
Transmission	4 quarts
Differential	3 quarts
Hydraulic system	3 quarts
Final drives (each)	
600 Hi-Cycle	9 quarts
700 Hi-Cycle	8 quarts
734 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

Regular - 734 Hi-Cycle
Front . . . . . 7.50 x 20, 4-ply implement
Rear . . . . . 9.5 x 36, 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
734 Hi-Cycle . . . . . 4150 pounds

With 8-Row General-Purpose Boom
600 Hi-Cycle . . . . . 3800 pounds
700 Hi-Cycle . . . . . 4200 pounds
734 Hi-Cycle . . . . . 4500 pounds

SPRAYING SYSTEM

TANK

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

PUMP

Centrifugal Pump - "live" belt driven
50 gallons per minute at 100 psi
70 gallons per minute at 0-75 psi.

LINE STRAINER

Located between pump and boom control valve. The strainer is a continuous flush type.

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

Braided, chemical resistant hoses are used on general-purpose, defoliation, liquid fertilizer knife-in, soil incorporator, directed spray, and lay-by boom attachments. These hoses are rated 275 psi.

BOOMS

General-Purpose Boom - 8-row and 12-row, or 16-row thirty-inch spacing, 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.

NOZZLE TIPS

Adequate selection of flat spray, even spray, cone spray or flooding spray tips to spray agricultural chemicals at the application rate desired at speeds up to 12 mph.

Flat spray tips - Brass or stainless steel.

Even spray tips - Brass or hardened stainless steel.

Cone spray tips - Hardened stainless steel.

Flood spray tips - Brass or stainless steel.

SPECIAL EQUIPMENT

Hand gun - available with a 25-foot hose.

18-1/2 inch spring-type row-crop drops for general-purpose booms.

Hydraulic boom folding attachment for general-purpose booms.

Hydraulic boom leveling attachment for general-purpose booms.

High Lift boom extensions for general-purpose booms.

8-inch rigid row-crop drops.

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

Wheel steps for 700 Hi-Cycle without shields.

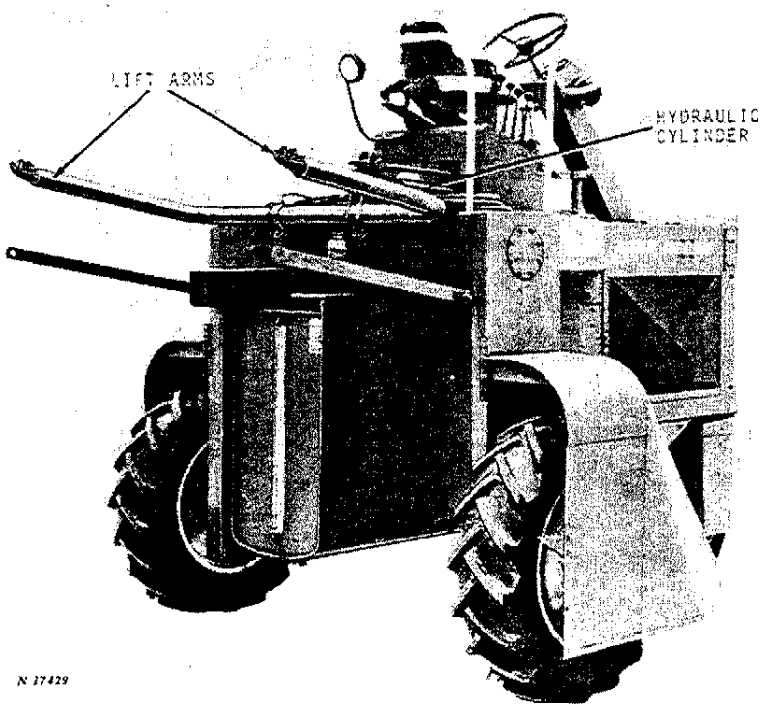
Tow bar (for transporting Hi-Cycle).

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)

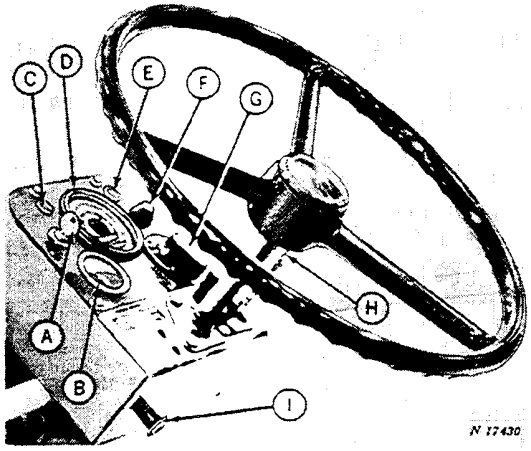


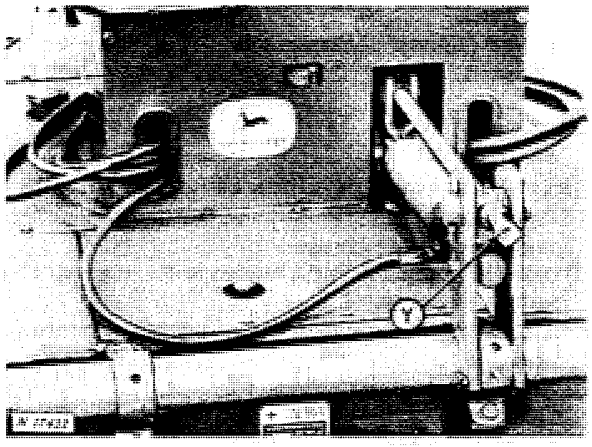
Rear View of John Deere 600 Hi-Cycle

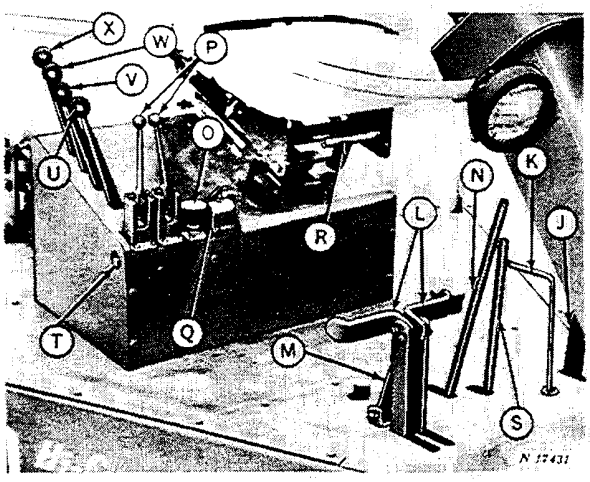
OPERATION

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 – Ignition Key (Page 9)
B – Engine Coolant Temperature Gauge
C – Oil Pressure Tel-Light (Page 10)
D – Speed-Hour Meter (Page 12)
E – Alternator Tel-Light (Page 10)
F – Starter Button (Page 9)
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H – Hand Throttle (Page 10)
I – Choke Control (Gasoline) (Page 9)
J – Clutch Pedal (Page 11)
K – Spray Pump Control Lever (Page 22)
L – Brake Pedal (Page 11)
M – Brake Lock (Page 11)
N – Gearshift Lever (Page 11)
O – Spray Pump Pressure Gauge (Page 23)
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Q – Spray Pressure Regulator (Page 23)
R – Seat Adjusting Lever (Page 13)
S – Hi-Lo Gearshift Lever (Page 11)
T – Hand Gun Port (Page 52)
U – Lift Arm Control Lever (Page 16)
V – Boom Folding Control Lever (Page 16)
W – Right-Hand Boom Leveling Control Lever (Page 16)
X – Left-Hand Boom Leveling Control Lever (Page 16)
Y – Hydraulic Cylinder Stop (Page 16)

OPERATING THE HI-CYCLE

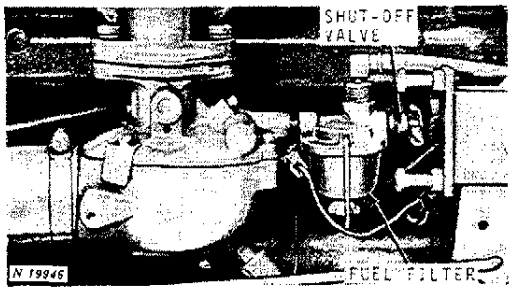
Complete instructions for operating your Hi-Cycle safely and efficiently are given on the following pages. By following these directions carefully, you can be sure that you are taking full advantage of the many features built into your Hi-Cycle.

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 75.
2. Check the radiator coolant level - see page 63.
3. Check the fuel filter sediment bowl.
4. Lubricate the lift arm bearings - see page 61.
5. Inspect air cleaner - see pages 62 and 64.

STARTING THE ENGINE



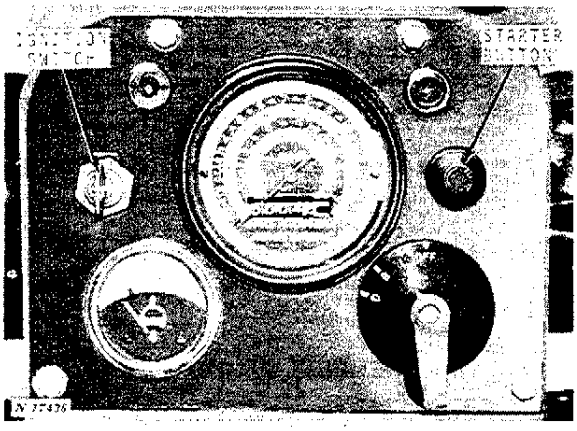
1. Make sure fuel shut-off valve, located on the fuel filter is open.

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 94.

3. Place the hand throttle in slow idle position (gasoline) or halfway open position (diesel).

4. On gasoline engine, 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 on. 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 72-78.

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. On gasoline engine, 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.

7. As soon as engine starts, release starter switch and adjust engine speed to approximately half throttle. The engine oil pressure indicator light and the alternator indicator light should go out. If the lights do not go out after the engine has been running for 10 seconds, the engine should be shut off at once and the cause of difficulty determined.

8. Release clutch pedal. In cold weather, warm engine and transmission for five minutes by operating engine at half throttle. Do not allow engine to operate at slow idle speed during engine warm-up. Observe gauges.

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

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