John Deere
600A High-Cycle

JOHN DEERE

OPERATORS MANUAL

John Deere
600A High-Cycle

OMN159308 K2 English

John Deere Des Moines Works
OMN159308 K2

LITHO IN U.S.A.
ENGLISH

To the Purchaser

This new Hi-Cycle was carefully designed and manufactured to give years of dependable service. To keep it running efficiently, read the instructions in this operator's manual. Each section is clearly identified so you can easily find the information you need—whether it is description, controls and instruments, operation, operating adjustments, fuels and lubricants, lubrication and periodic service, trouble shooting, service, attachments or specifications. Read the Table of Contents to learn where each is located. Use the alphabetical index for fast reference.

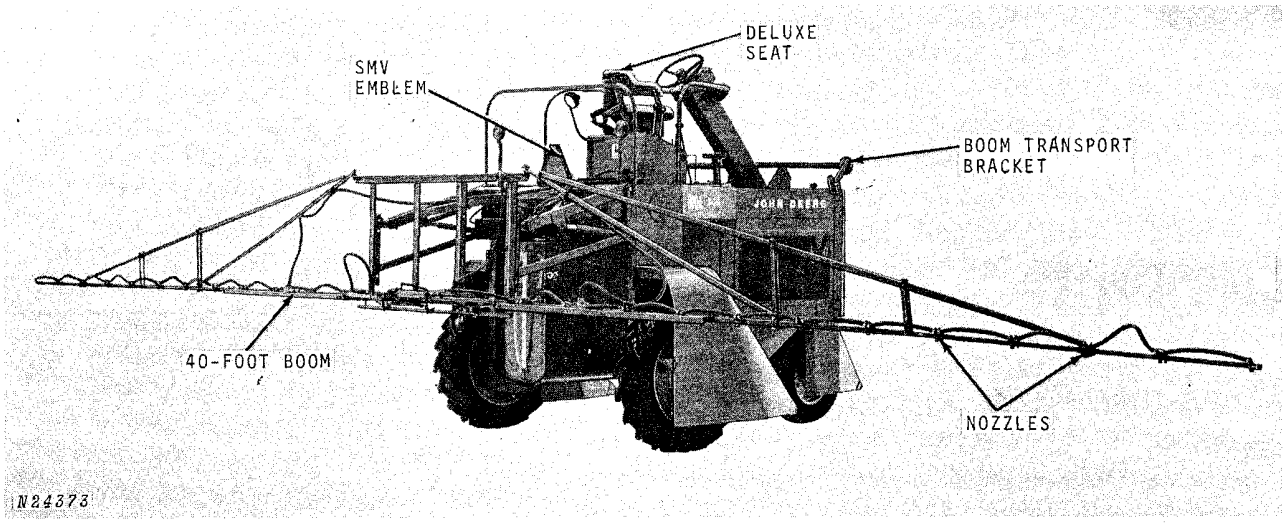
"Right-hand" and "left-hand" side are determined by facing in the direction of Hi-Cycle forward travel.

Record the serial numbers in the space provided on page 79. Your dealer needs this information to give you prompt, efficient service when you order parts or attachments. If your Hi-Cycle requires replacement parts, go to your John Deere dealer where you can obtain Genuine John Deere parts—accept no substitutes.

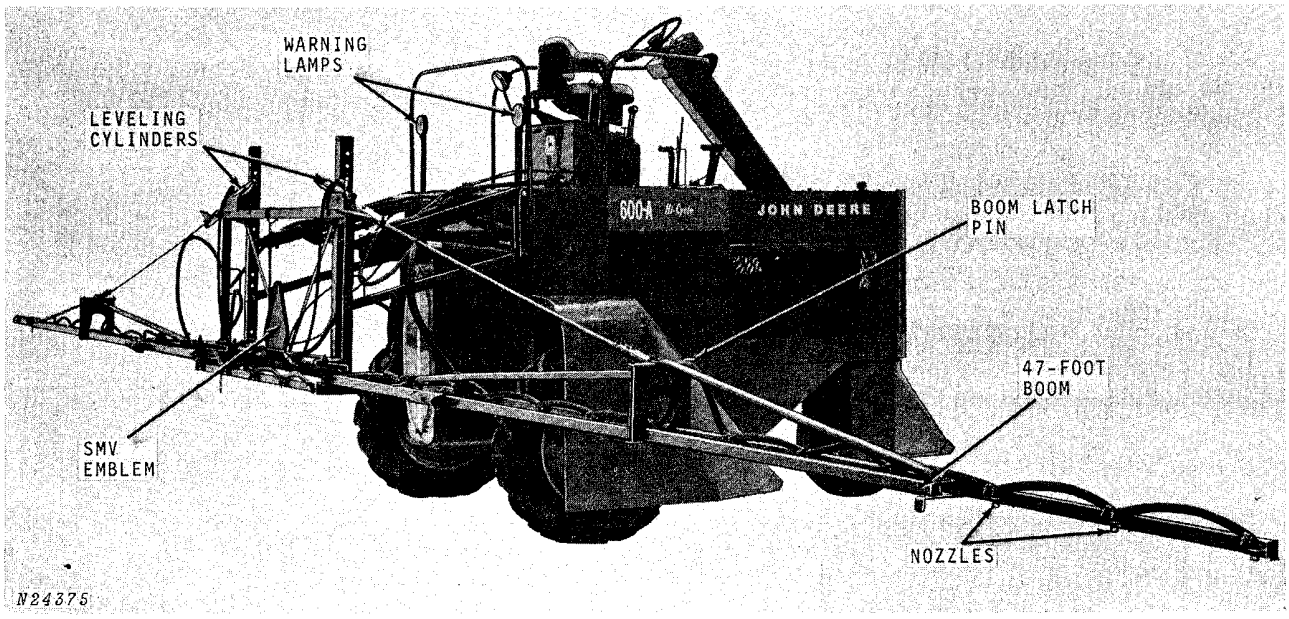
The warranty on this Hi-Cycle appears on your copy of the purchase order which you should have received from your dealer when you purchased the Hi-Cycle.

This safety alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

Contents



John Deere 600A Hi-Cycle Equipped with 40-Foot General-Purpose Boom

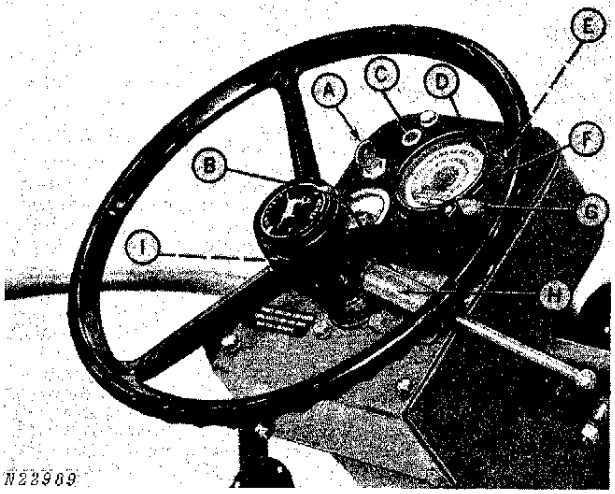


John Deere 600A Hi-Cycle Equipped with 47-Foot General-Purpose Rear-Folding Boom

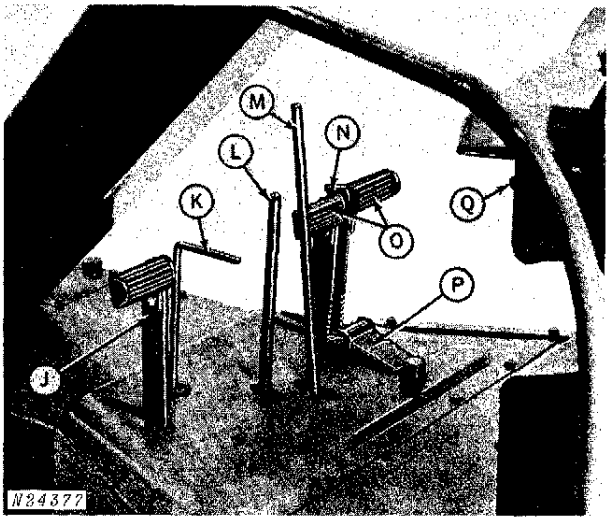
Operation

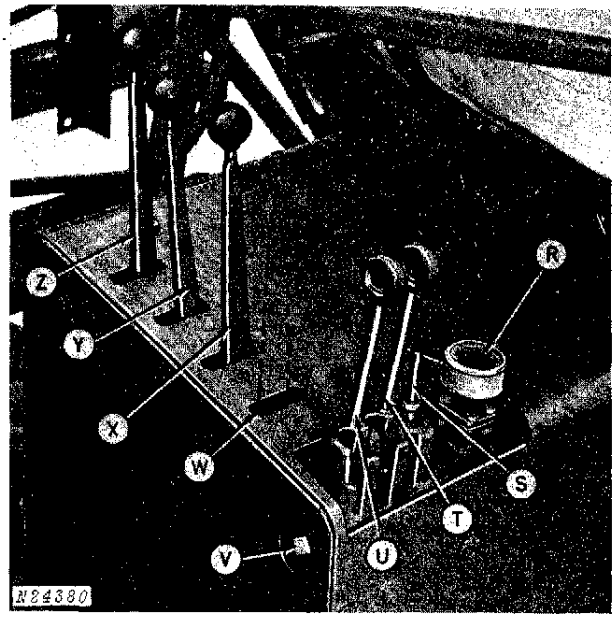
CONTROLS AND INSTRUMENTS

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 Switch
B—Engine Coolant Temperature Gauge
C—Oil Pressure Tel-Light
D—Speed-Hour Meter
E—Alternator Tel-Light
F—Starter Button
G—Light Switch
H—Hand Throttle
I—Choke





J—Clutch Pedal
K—Spray Pump Control Lever
L—Hi-Lo Gearshift Lever
M—Gearshift Lever
N—Brake Tie Latch
O—Brake Pedals
P—Brake Locking Latch
Q—Seat Adjusting Lever
R—Spray Pump Pressure Gauge
S—Spray Pressure Regulator
T—Left-Hand Boom Spray Control Lever
U—Right-Hand Boom Spray Control Lever
V—Hand Gun Port
W—(Not Shown) Right-Hand Boom Leveling Control Lever (27 and 40-foot Boom)
X—Left-Hand Boom Leveling Control Lever (27 and 40-foot Boom)
Right-Hand Boom Folding and Leveling Control Lever (47-foot Boom)
Y—Boom Folding Control Lever (27 and 40-foot Boom)
Left-Hand Boom Folding and Leveling Control Lever (47-foot Boom)
Z—Lift Arm Control Lever

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 33.
2. Check the radiator coolant level - see page 35.
3. Check the fuel filter sediment bowl - see below.
4. Inspect air cleaner - see pages 35 and 36.

STARTING THE ENGINE

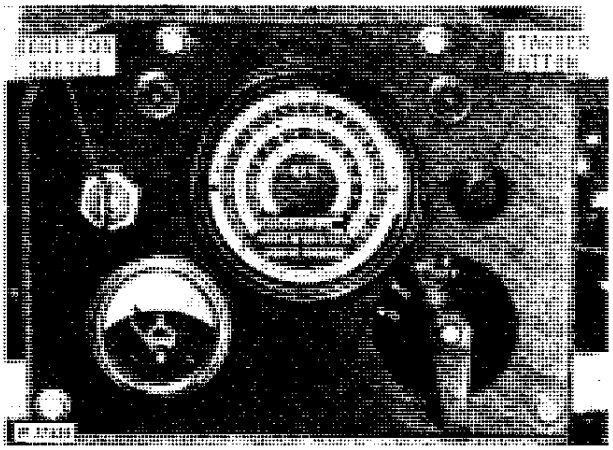
1. Make sure fuel shut-off valve, located on the fuel filter is open.

2. Place the gearshift lever in neutral position (see page 6) 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 60.

3. Place the hand throttle in fast idle 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 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 43-49.

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 staisfactory 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.

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 slowly. 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.

COLD WEATHER STARTING

For greater starting efficiency in cold weather, conform to recommendations for gasoline, crankcase, and air cleaner oil as listed on pages 31-34.

The oil used in the air cleaner should be the same viscosity as used in the crankcase.

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

ENGINE IDLING

Avoid unnecessary engine idling. Prolonged engine idling may cause the engine coolant temperature to fall below its normal range. This in turn causes crankcase oil dilution, due to incomplete fuel combustion, and permits formation of lacquer or gummy deposits on valves, pistons, and piston rings. It also promotes rapid accumulation of engine sludge.

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, cylinder, and bearings. Do not race the engine during warm-up period. This wastes fuel and causes extreme wear on engine parts.

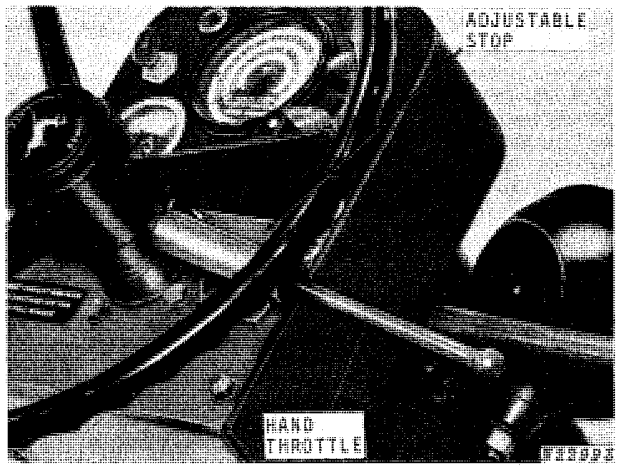
ENGINE SPEEDS

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.

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.

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, between 1500 and 2500 rpm, giving the desired engine speed without watching the speed-hour meter.



Set the adjustable stop by loosening the lock nut and rotating the stop. 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.

IMPORTANT: If coolant temperature rises to the warning zone on the gauge, reduce the load on the engine until temperature returns to normal.

STOPPING THE ENGINE

Run the engine at about half throttle for a few minutes before stopping it. Sudden stopping of a hot engine may cause overheating, or sudden cooling (producing extreme contraction) of some parts, either of which may cause damage.

Avoid excessive engine idling or operation at reduced engine speeds. Be sure to maintain adequate supply of engine oil and coolant. If necessary to add oil during the first 100 hours, use only John Deere Torq-Gard or Torq-Gard Supreme oil or its equivalent as indicated in the lubrication instructions. See page 32.

To stop the gasoline engine, turn the ignition switch off.

Never drain water from the radiator or engine block immediately after stopping the engine. Always allow engine to cool off gradually.

Place the gearshift lever in neutral position and lock the brakes—see page 6.

ENGINE BREAK-IN PERIOD

Before your new Hi-Cycle was shipped from the factory, the crankcase was filled with fresh oil.

ENGINE BREAK-IN PERIOD—Continued

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 than an adequate supply of oil is maintained in the crankcase. If it becomes necessary to add oil during the run-in period, use oil of the normal seasonal type recommended on page 32.

After 100 hours of operation, drain the crankcase, replace the oil filter, and fill the crankcase with oil of proper viscosity and quality—see page 32.

SELECTING GROUND SPEED

Choosing Gears

The Hi-Cycle Transmission has four forward speeds and one reverse speed. These various gears, together with the various engine speeds that may be selected, enable the operator to balance the power and speed for maximum efficiency. For example, for a given ground speed the operator may choose to work in a low gear at a high engine speed or in a higher gear at a lower engine speed. A speed-hour meter is provided in the instrument panel so the engine and ground speeds can be accurately determined—see page 7.

Examples of ground speeds at which the Hi-Cycle will travel are shown below. Engine working speeds may be varied between 1500 rpm and 2500 rpm.

GROUND SPEEDS (MPH)

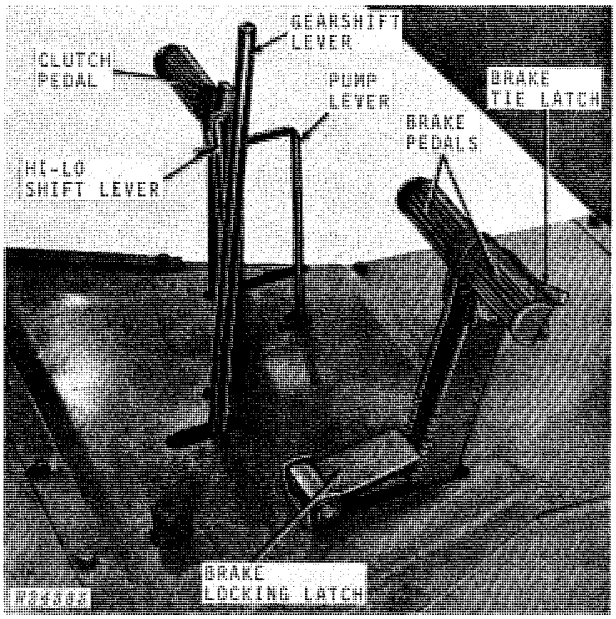
Engine Speed (RPM)	Gear 1st	2nd	3rd	4th	R
1500	2.9	4.0	5.7	7.7	4.0
1750	3.4	4.6	6.7	9.0	4.6
2000	3.9	5.3	7.6	10.3	5.3
2250	4.4	5.9	8.6	11.6	5.9
2500	4.8	6.6	9.5	12.8	6.6

Shifting Gears

Disengage the clutch and move the Hi-Lo gearshift lever to the necessary range. For second and fourth gears, the lever must be in the "Hi" end of the quadrant. The lever must be in the "Lo" end of the quadrant for operating the Hi-Cycle in either the first or third gears. With the clutch still disengaged, move the gearshift into the gear desired.

NOTE: There is no neutral position for the "Hi-Lo" range gearshift.

A gearshift diagram is located on the floor beside the gearshift levers for your convenience in determining the gearshift lever positions. Gradually release the clutch pedal to take up the load smoothly.



BRAKES

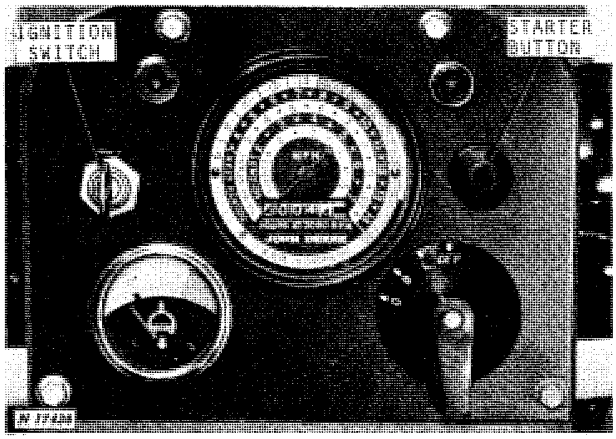
The Hi-Cycle is equipped with disk-type, self-energizing brakes. Stopping is accomplished easily with only a light touch of the brake pedals. This is because the motion of the Hi-Cycle actually aids in the braking action.

These are differential brakes, allowing use of individual pedals for turning to left or right at row ends. When pedals are used together, a quick stop is assured. When transporting, lock pedals together with brake tie latch. See page 13.

If brakes are used to reduce speed, do not disengage the clutch pedal except at very slow speeds. When the clutch is disengaged, the braking effect of the engine is lost.

To keep the Hi-Cycle from moving when parked, depress both brake pedals simultaneously and turn over the brake locking latch so it will engage both brake pedals.

SPEED HOUR METER



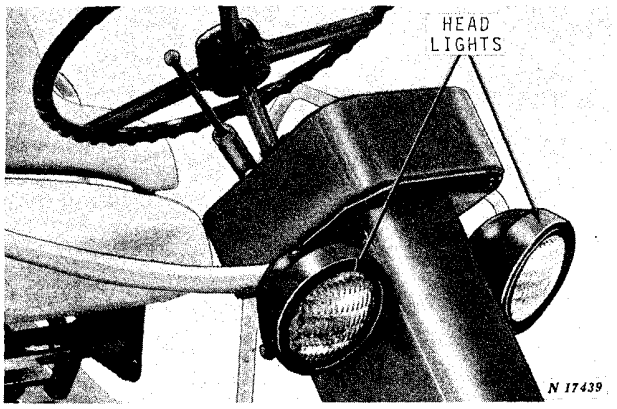
The speed-hour meter, which operates when the engine is running, shows the following:

Engine Speed, in hundreds of rpm. This is shown on the outer ring. Engine speeds between 1500 rpm and 2500 rpm, which are fully governed speeds, are indicated with a green background.

Hi-Cycle Ground Speed, in miles per hour according to the gear in which the Hi-Cycle is operating. A miles per hour band is provided for each of the four forward gears.

Hours of Operation, or accumulated engine service, in hours and tenth of hours.

LIGHTS



The lights are designed for maximum safety and convenience when operating at night or during other periods of low visibility.

Two sealed-beam headlights are mounted on the steering column and a combination flood and red warning sealed-beam tail lamp is attached to the rear of the seat. A single combination switch on the instrument panel controls all the lights. The positions of the switch are as follows:

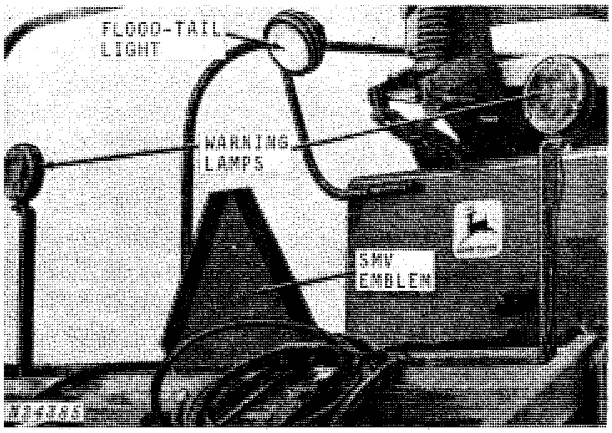
"OFF" - All lights are off.

"L" - Headlights on bright and taillight on flood.

"B" - Headlights on bright and taillight on red, warning lamps flashing.

"D" - Headlights on dim and taillight on red, warning lamps flashing.

WARNING LAMPS



The Hi-Cycle is equipped with two flashing warning lamps, located on either side at the rear of the platform.

If local laws prohibit use of a flashing light, remove instrument panel (See page 7) and remove flasher and twelve-inch wire from "TL2" terminal of light switch. Connect green warning lamp wire to "TL2" terminal to provide steady burning lamps.

TIRES

Properly inflated tires are important to the operation of the Hi-Cycle unit. Under inflated tires break and wear out rapidly. Over-inflated tires reduce traction and increase wheel slippage.

FRONT TIRE

Size	Inflation Pressure (psi)
7.60 - 15, 6PR	28*

REAR TIRES

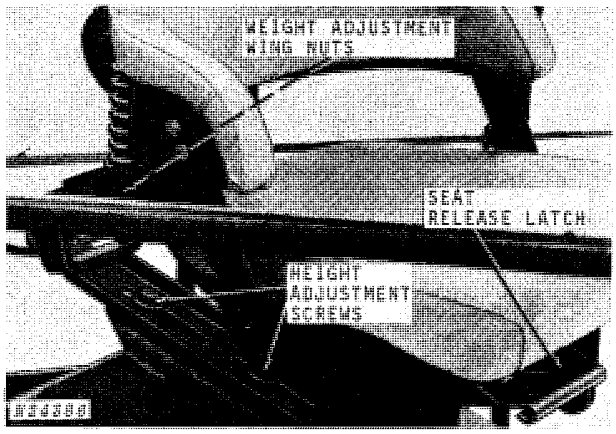
Size	Inflation Pressure (psi)
9.5 - 24	18
11.2 - 24	16
12.4 - 24	16

* *NOTE: When the 6 or 8-row Directed Spray Attachment is mounted on the Hi-Cycle, fill the front tire to 90 percent of its capacity with chromated calcium chloride solution. This requires about 7.9 gallons of water and 39.5 pounds of chromated calcium chloride, and will add approximately 105 pounds to the front of the Hi-Cycle.*

CAUTION: Observe precautions provided by chemical manufacturer when working with solutions containing chemicals.

SEAT

The Hi-Cycle may be equipped with a regular or a deluxe cushioned seat. Both seats are adjustable for the operator's height. The deluxe seat is also adjustable for the operator's weight. Both seats fold back for standing.



Moving Seat To Upper Rear for Standing

Deluxe Seat. Lift the release latch (shown). Stand up and lift the seat to the upper rear. This will give you room to drive while standing. To return the seat to the normal position, pull the seat forward. Sit on the seat to lock it in place.

Regular Seat. To move the seat to the upper rear, lift back of seat and push seat to rear. This will give you room to drive while standing. To return the seat to the normal position, lift the front of the seat and move it forward.

Adjusting For Height Of Operator

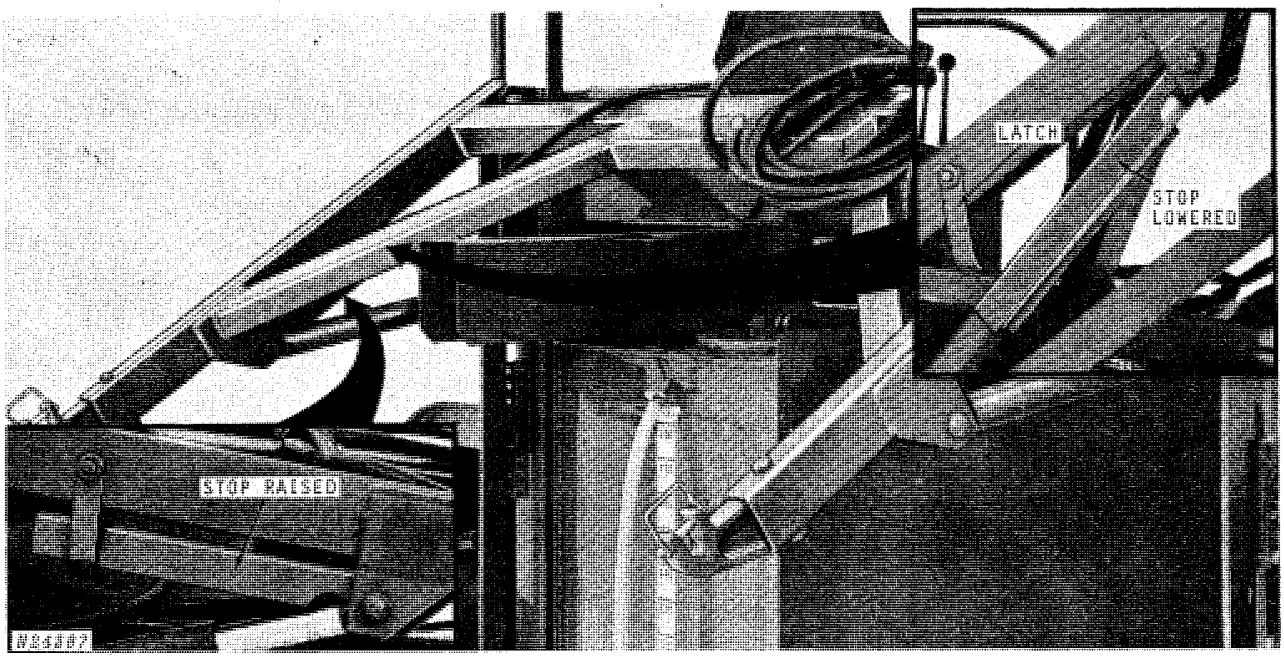
To adjust the seat for operator's height, loosen the cap screws securing the seat to the seat box or seat support base and slide seat to desired position. Then securely tighten cap screws.

Adjusting For Weight Of Operator (Deluxe Seat)

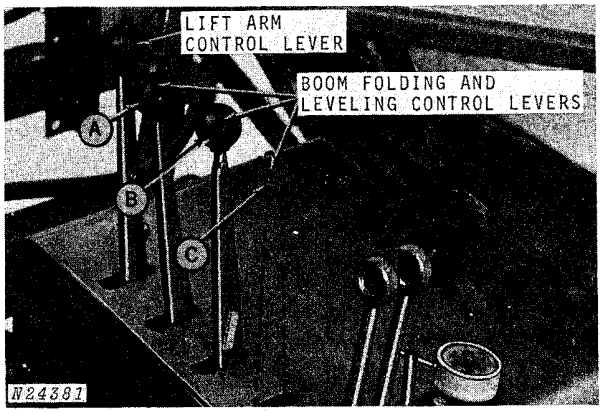
Move the seat to the upper rear position to take tension off the spring. Loosen the wing nuts under the weight adjustment link and move slide to desired weight position. Tighten wing nuts and return seat to the normal position.

The seat is adjustable for operator's weight from 100 to 300 pounds.

LIFT ARMS AND CONTROL SYSTEM



The lift arms and control system provide a quick and easy means for attaching and lifting various spray booms and for controlling their working height. The lift arms are raised hydraulically. The control system for the hydraulically operated lift arms includes a cylinder safety stop and a control lever. (See insets.)



Lift Arm Control Lever

The lift arms are controlled by the rear lever on the right-hand side of the seat box. The lift arms can be operated when the Hi-Cycle is moving or standing still, as long as the engine is running.

Pull the control lever to the left to raise the lift arms or push the lever to the right to lower the lift arms. When the lever is released, it will automatically return to neutral position and the lift arms will remain in the selected position.

Boom Folding and Leveling Control Levers

27 and 40-foot General Purpose Booms - Lever "A" controls boom folding. Pull lever to the left to fold the booms, push lever to the right to swing the booms into operating position.

IMPORTANT: Be sure booms are high enough to clear tops of wheel shields before folding them into transport position.

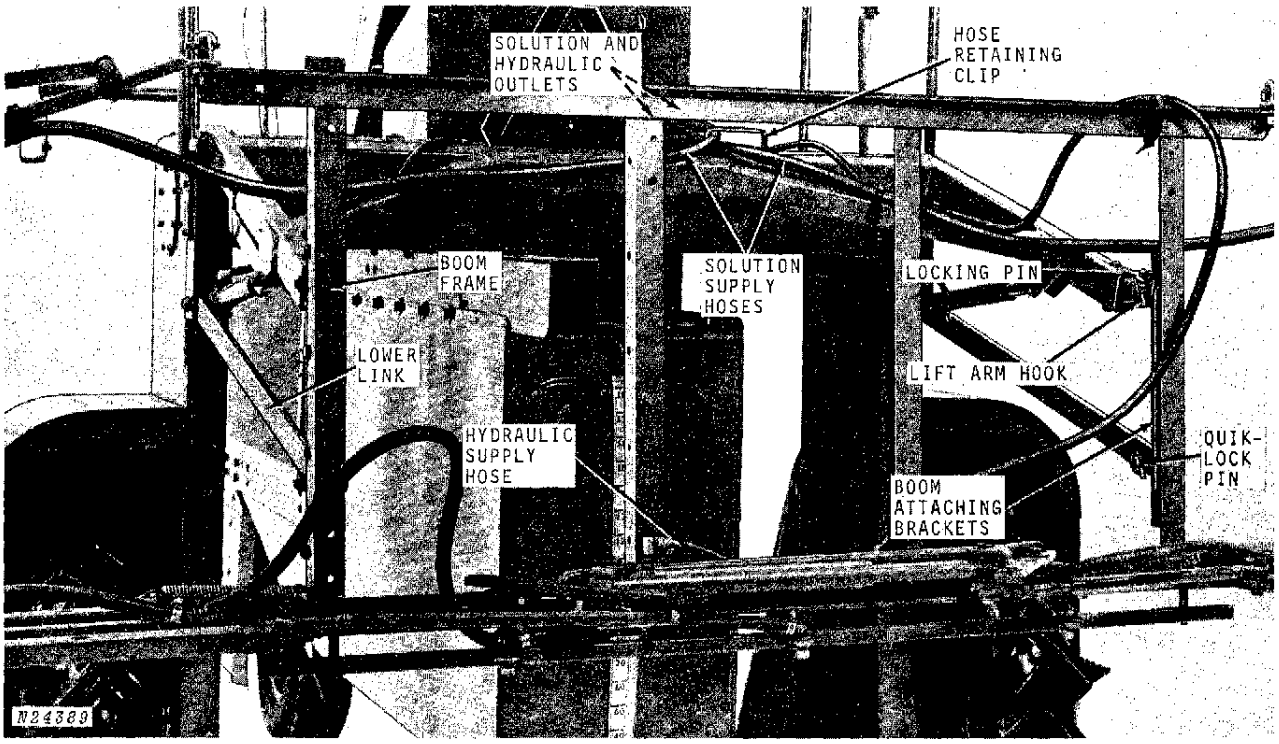
Levers "B" and "C" control boom leveling (optional attachment) for left and right-hand booms respectively. Pull lever to left to raise booms, push lever to right to lower boom.

47-foot General Purpose Rear-Folding Boom - Levers "A" and "B" control boom leveling (optional attachment) AND folding for left and right-hand booms respectively. Pull lever to left to raise booms, push lever to right to lower boom.

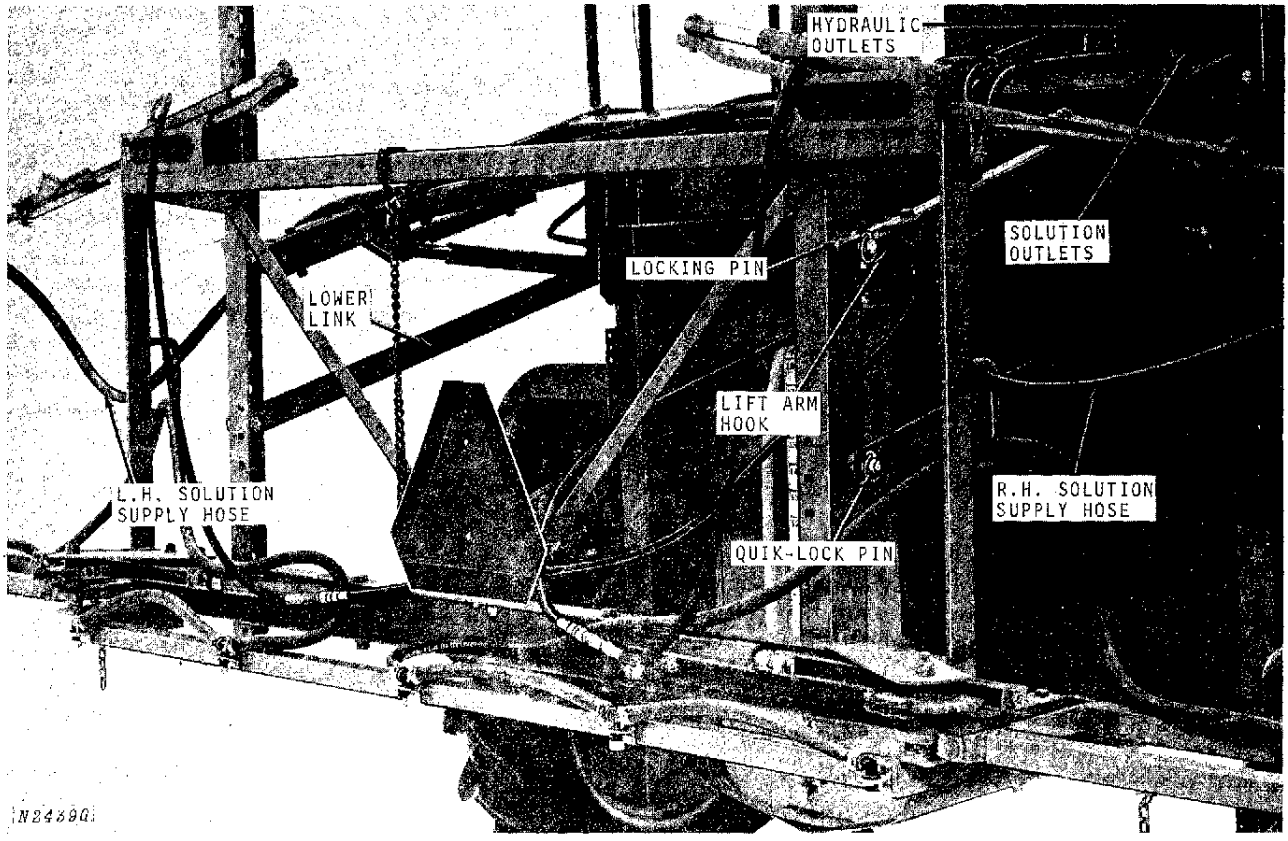
To fold booms, remove long pins holding outer boom sections and fold them back (see page 12). Push either lever to right and hold until boom folds in against frame, then fold other boom.

⚠ CAUTION: Always lower cylinder safety stop when working under or around the booms when they are raised. (See inset above right.)

ATTACHING SPRAY BOOMS TO LIFT ARMS



40-Foot General-Purpose Spray Boom Mounted on Hi-Cycle



47-Foot General-Purpose Rear-Folding Boom Mounted on Hi-Cycle

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