

95 HI-LO COMBINES



JOHN DEERE

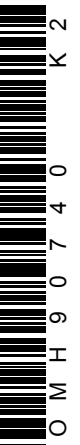
OPERATORS MANUAL

95 HI-LO COMBINES

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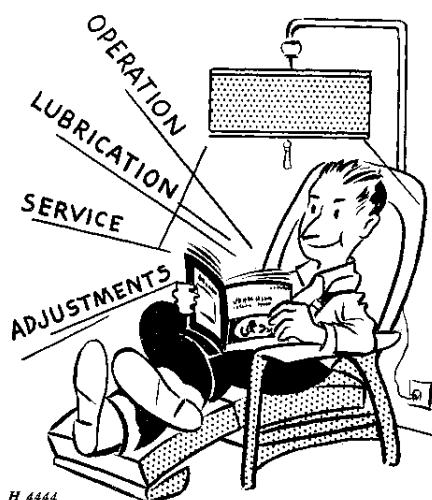
LITHO IN THE U.S.A.
ENGLISH



TO THE PURCHASER

The self-propelled combine you have just purchased was designed and manufactured to the traditionally high quality standards of all John Deere Farm Equipment. Your combine has been thoroughly inspected and tested, not only at the factory, but at your dealer's by a trained John Deere Serviceman. We are confident that you will receive years of dependable, economical service from your John Deere Self-Propelled Combine.

If you should find that you require information not covered in this manual, consult your John Deere dealer. He will be glad to answer any questions that may arise regarding the operation and service of the combine. He has trained mechanics who are kept informed on the best methods of John Deere Combine servicing, and can give you prompt know-how service in the field or in his shop.



Study This Manual Carefully, Keep it Handy, in a Safe Place, for Future Reference.

LOCATION REFERENCE

“Right-hand” and “left-hand” sides are determined by facing in the direction the combine will travel when in use.

“Clockwise” refers to parts turning to the right like the hands of a clock. “Counter-clockwise” refers to parts turning to the left.

ENGINE REFERENCE ONLY

Timing gear end of the engine is referred to as the “front”; flywheel end as the “rear.”

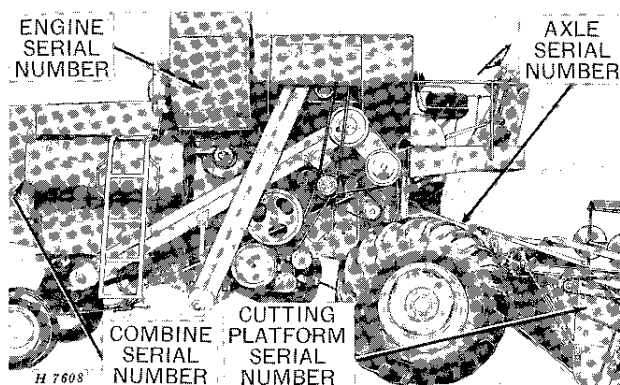
KEEP YOUR COMBINE A JOHN DEERE COMBINE

Genuine John Deere Parts fit properly and insure satisfactory service because they are made from the original patterns and from the same materials as used in new machines. Should your combine require replacement parts, go to your John Deere dealer where you can obtain Genuine John Deere Parts—accept no substitutes.

SERIAL NUMBERS

Your combine, cutting platform, axle, and engine have serial numbers.

When ordering parts, always bring with you the model and serial numbers as given on the serial number plates. By doing so, you will assist your John Deere dealer in giving you prompt, efficient service.



Record the serial numbers and date purchased in the spaces provided on this page.

The combine serial number is on a plate located on the support bracket at the rear end of the fuel tank.

The engine serial number is on a plate located on top of the flywheel housing.

The axle serial number is on the top, left-hand end of the axle tube.

The cutting platform serial number is on a plate located on the outside of the right-hand platform divider.

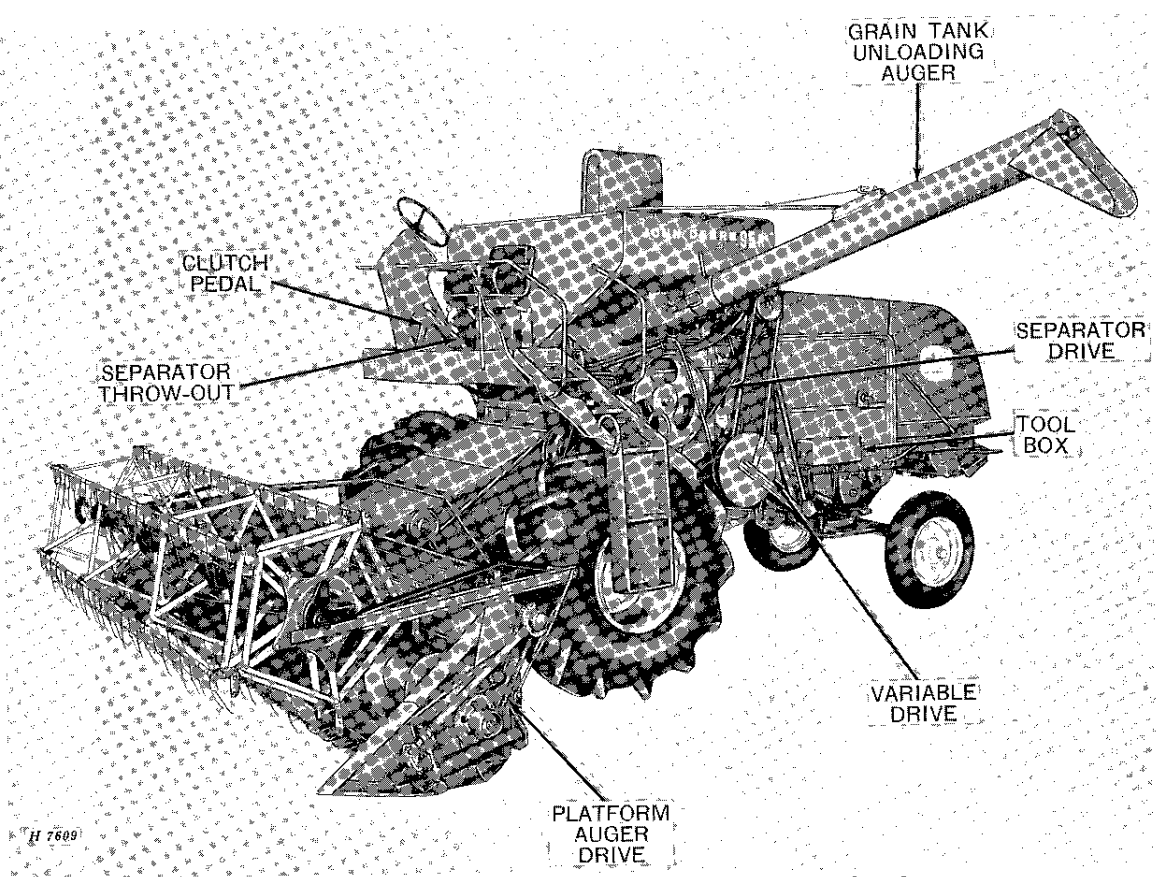
Combine Serial No. _____

Engine Serial No. _____

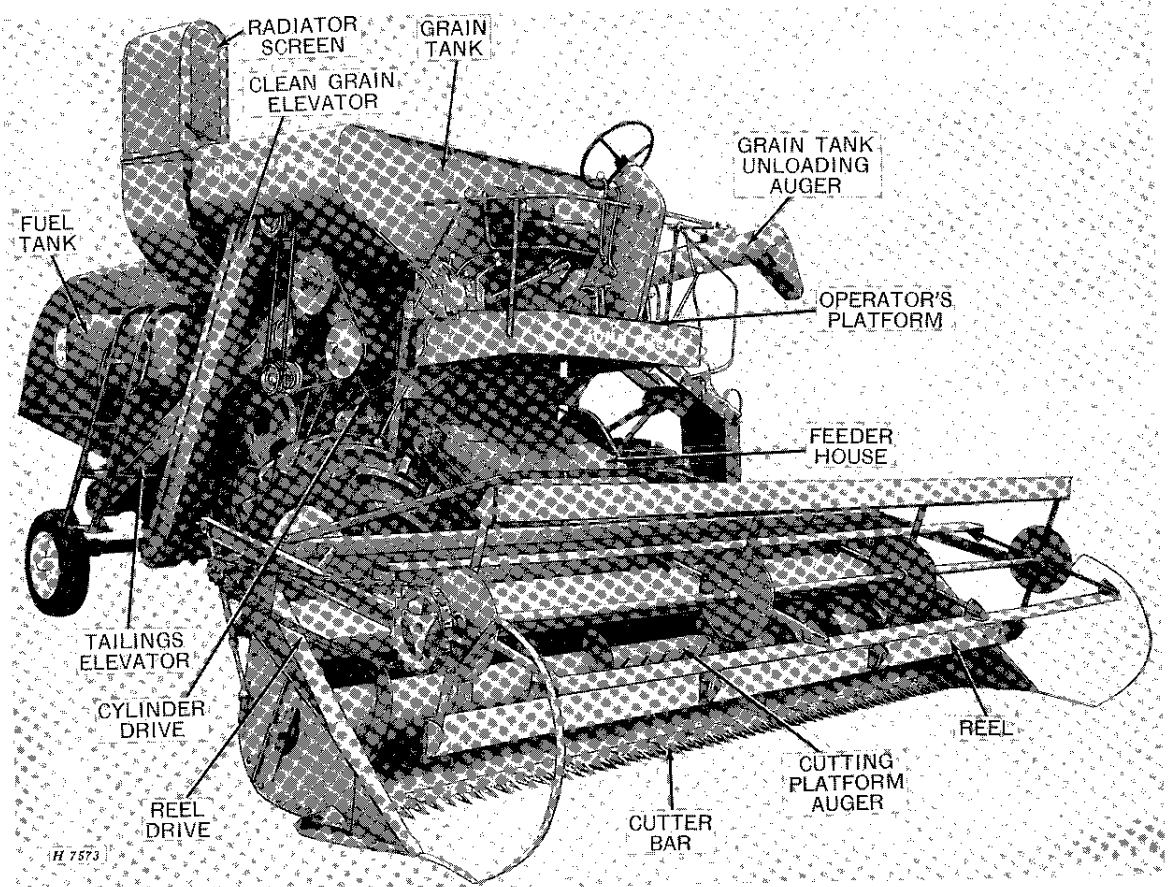
Axle Serial No. _____

Cutting Platform Serial No. _____

Date Purchased _____



Left-Hand Front View—John Deere 95 Grain Tank Rice Combine



Right-Hand Front View—John Deere 95 Grain Tank Combine

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SPECIFICATIONS

COMBINE

Cutter Bar

Width of
Cut.... 13 Ft., or 14 Ft., or
16 Ft., or 18 Ft.,
or 20 Ft.

Length of Cutter

Bar.... 12 Ft. 6 In., or 13
Ft. 6 In., or 15
Ft. 6 In., or 17 Ft.
6 In., or 19 Ft. 6
In.

Type of Knife

Sections. Heavy-Duty Over-
Serrated

Reel

Drive..... Chain
No. of Slats. 4 Regular; 3, 6, or 8
Special
Dia. of Reel. 32 In. or 40 In.
Speed
Range.. 18.5 rpm to 51.5
rpm

Cutting Platform

Type of
Feed... Auger

Range of
Cutting
Height
(Grain)
(15-26
Tires).. 2-1/2 In. Below
Wheel Level to
35 In. Above

Range of
Cutting
Height
(Rice)
(18-26
Tires).. 2-1/2 In. Below
Wheel Level to
38 In. Above

Height
Control.. Hydraulic (2 Cyl-
inders)

Cutting Platform Auger

Diameter. 18 In.
Dia. of Au-
ger Tube. 10 In.
Type of
Auger
Fingers. Round Retracting

Cylinder

Type..... Rasp-Bar or Spike-
Tooth
Width.... 40 In.
Diameter. 22 In.
Number of
Bars..... 8 Rasp-Bars or 10
Spike-Tooth Bars
(5 Bars with 19
Teeth and 5 Bars
with 20 Teeth)

Drive..... Roller Chain
S p e e d
Range.. 196 rpm to 1190
rpm

Concave

Type..... 12-Bar Open Type
or Spike-Tooth
Type
Width.... 40 In.

Beater (Behind the Cylinder)

Type..... Drum (Spiked Type
with Removable
Covers)
Width.... 40 In.
Diameter. 12 In.
Speed.... 680 rpm

Separator

Type..... Grain Conveyor,
Straw Walker
Width.... 40 In.
Length of
Separat-
ing Sur-
face.... 140 In. (Straw
Walker Pans Ex-
tended)

Area of
Separat-
ing Sur-
face.... 5,600 Sq. In.

Grain Conveyor

Type..... Slat
Drive..... Chain

Cleaning Fan

Type..... 5-Bladed Under-
shot
Drive..... V-Belt
S p e e d
Range.. 602 rpm to 858 rpm

Chaffer

Type..... Adjustable, No. 2,
No Choke, Corn,
or Petersen Ad-
justable
Width.... 38-1/2 In.
Length... 60-3/4 In.
Area..... 2,337 Sq. In.

Sieve

Type..... Adjustable
Width.... 38-1/2 In.
Length... 45 In.
Area..... 1,734 Sq. In.

Chaffer Extension

Type..... Adjustable
Width.... 38-1/2 In.
Length... 12 In.
Area..... 462 Sq. In.

T o t a l
C l e a n i n g
A r e a o f
C h a f f e r ,
S i e v e a n d
C h a f f e r E x -
t e n s i o n 4,071 Sq. In.

Straw Walkers

Number.. Four
Width.... 9-1/2 In.
Length
with Pans
Extended 123 In.
Area... 4,920 Sq. In.
Number of
Steps... Five
Drive..... V-Belt
Bearings.. Oil-Soaked Maple
Extension
Pans... One on Each
Walker

Grain Tank

Capacity.. 60-Bushel, Approx.
(Type and Con-
dition of Crop
Will Determine
Actual Volume)

Capacity
with
Grain
Tank
Exten-
sions
(Special
Equip-
ment).. 70-Bushel

Type of
Unload-
ing..... Hinged Auger

Brakes

Type..... Individual, Me-
chanical Disk-
Type

Transmis- sion.....

Automotive—4
Speeds Forward,
1 Reverse

Weights

G r a i n
C o m b i n e
with 16-
Ft. C u t -
t i n g
Platform 10,300 Lbs. (Ap-
prox.)

Rice Com-
b i n e
with 16-
Ft. C u t -
t i n g
Platform. 11,500 Lbs. (Ap-
prox.)

Dimensions—See Pages 6-7

TIRE SIZES

Main Wheels

Corn.....	14.9-26 (13-26) (8-Ply) Cleat 18.4-26 (15-26) (10-Ply) Cleat or Low Profile (Use with 410 Corn Attachment)
Grain and Soy- bean.....	18.4-26 (15-26) (6-Ply) Cleat or Low Profile
Grain.....	23.1-26 (18-26) (8-Ply) Low Pro- file or Cleat
Rice.....	23.1-26 (18-26) (8-Ply) Rice

Guide Wheels

Corn.....	6.00-16 (4-Ply) Rib Implement
Grain.....	6.50-16 (4-Ply) Rib Implement
Rice and Soy- bean.....	7.50-16 (4-Ply) Rib Implement
Rice Crawler..	7.50-20 (4-Ply) Rib Implement 7.50-20 (6-Ply) Skid Ring
Grain.....	9.50-16 (4-Ply) Low Profile

WHEEL TREAD

Combine	Tire Sizes	Center-to-Center Wheel Tread
Grain	18.4-26 (Dished In)	90 Inches
	23.1-26 (Dished In)	89 Inches
	6.50-16 (Regular)	64 Inches
	6.50-16 (Optional)	52-1/2 Inches
	9.50 (Regular)	65-1/4 Inches
Corn	9.50 (Optional)	54-3/8 Inches
	14.9-26 (Dished In)	80 Inches
	14.9-26 (Dished Out)	93-3/4 Inches
	18.4-26 (Dished In)	90 Inches
	6.00-16 (Regular)	61 Inches
Soybean	6.00-16 (Optional)	50-1/4 Inches
	18.4-26	99 Inches
	7.50-16 (Regular)	67-1/2 Inches
	7.50-16 (Optional)	52-1/2 Inches
	7.50-20 (Regular)	65-7/8 Inches
Rice	7.50-20 (Optional)	49-7/8 Inches
	23.1-26 (Dished In)	89 Inches
	7.50-16 (Regular)	67-1/2 Inches
	7.50-16 (Optional)	52-1/2 Inches
	Rice Crawler Tracks	7.50-20 (Regular) 7.50-20 (Optional)

SELECTIVE GROUND SPEED CONTROL RANGE

14.9-26 (13-26) Tires—Grain Drive			18.4-26 (15-26) Tires—Rice Drive		
	(Min.)	(Max.)		(Min.)	(Max.)
1st Gear.....	.74 to	1.66 mph	1st Gear.....	.70 to	1.56 mph
2nd Gear.....	1.49 to	3.34 mph	2nd Gear.....	1.40 to	3.14 mph
3rd Gear.....	2.98 to	6.68 mph	3rd Gear.....	2.80 to	6.28 mph
4th Gear.....	5.97 to	13.39 mph	4th Gear.....	5.61 to	12.67 mph
Reverse.....	2.06 to	4.63 mph	Reverse.....	1.93 to	4.33 mph
18.4-26 (15-26) Tires—Grain Drive			23.1-26 (18-26) Tires—Rice Drive		
	(Min.)	(Max.)		(Min.)	(Max.)
1st Gear.....	.81 to	1.82 mph	1st Gear.....	.80 to	1.78 mph
2nd Gear.....	1.63 to	3.65 mph	2nd Gear.....	1.59 to	3.58 mph
3rd Gear.....	3.26 to	7.31 mph	3rd Gear.....	3.19 to	7.17 mph
4th Gear.....	6.53 to	14.65 mph	4th Gear.....	6.40 to	14.37 mph
Reverse.....	2.26 to	5.06 mph	Reverse.....	2.20 to	4.94 mph
23.1-26 (18-26) Tires—Grain Drive			Tracks—Rice Drive		
	(Min.)	(Max.)		(Min.)	(Max.)
1st Gear.....	.84 to	1.89 mph	1st Gear.....	.35 to	.79 mph
2nd Gear.....	1.70 to	3.79 mph	2nd Gear.....	.70 to	1.57 mph
3rd Gear.....	3.38 to	7.59 mph	3rd Gear.....	1.40 to	3.15 mph
4th Gear.....	6.78 to	15.23 mph	4th Gear.....	2.82 to	6.32 mph
Reverse.....	2.34 to	5.26 mph	Reverse.....	.97 to	2.17 mph

CAPACITIES (Approx.)

Fuel Tank.....	40 U. S. Gallons	Transmission.....	14 U. S. Pints
Cooling System (Radiator).....	6 U. S. Gallons	Final Drive (2).....	4-1/2 U. S. Pints (in each)
Engine Crankcase (Including Oil Filter).....	7 U. S. Quarts	Hydraulic Unit (Including Hydraul- ic Oil Lines and Cylinders.....	11 U. S. Quarts
Air Cleaner.....	1 U. S. Quart		

ENGINE

NOTE: For LP-Gas or Diesel Engine Specifications, see Operator's Manual furnished with LP-Gas or Diesel Combine.

Make of Engine	John Deere—HG-217-G	Valve Arrangement . . .	Valve-in-Head (Rotators on Exhaust Valves)
Bore	3-5/8 In.	Valve Clearance In-	
Stroke	3-1/2 In.	take012-in. (When Cold)
Brake Horsepower . . .	87*	Exhaust018-In. (When Cold)
Number of Cylinders .	6	Make of Governor . . .	Pierce
Piston Displacement .	217 Cu. In.	Make of Carburetor . .	Zenith (Dual Down Draft Type)
Max. Load Speed . . .	2500 rpm	Spark Plug	Champion H-10 or Auto-Lite AL-7 or AC-45L Gap .025-In. Heat Range 1200° to 1500° F.
Firing Order	1-5-3-6-2-4	Electrical System . . .	12-Volt (Two 6-Volt Batteries)
Crankcase	Cast Integral with Block	Cooling System	Water Pressure Type
Type of Lubrication . .	Force Feed by Gear Pump to All Connecting Rods, Main Bearings, Governor, and Oil Pump Drive. Oil Strainer in Bottom of Pan	Type of Fuel	Gasoline (Regular Grade)

**Calculated at 60° F. and 29.92 inches Hg. at Sea Level.*

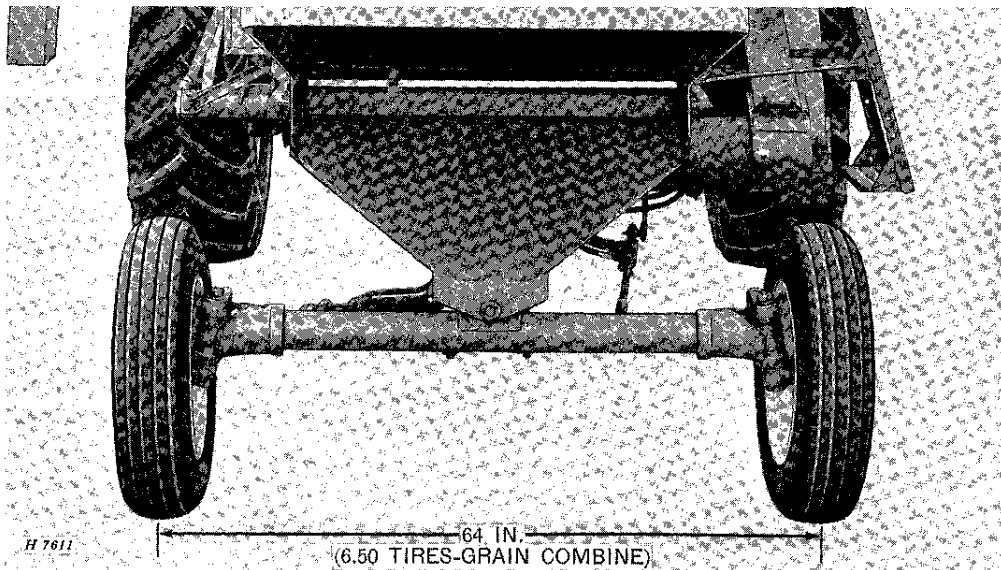
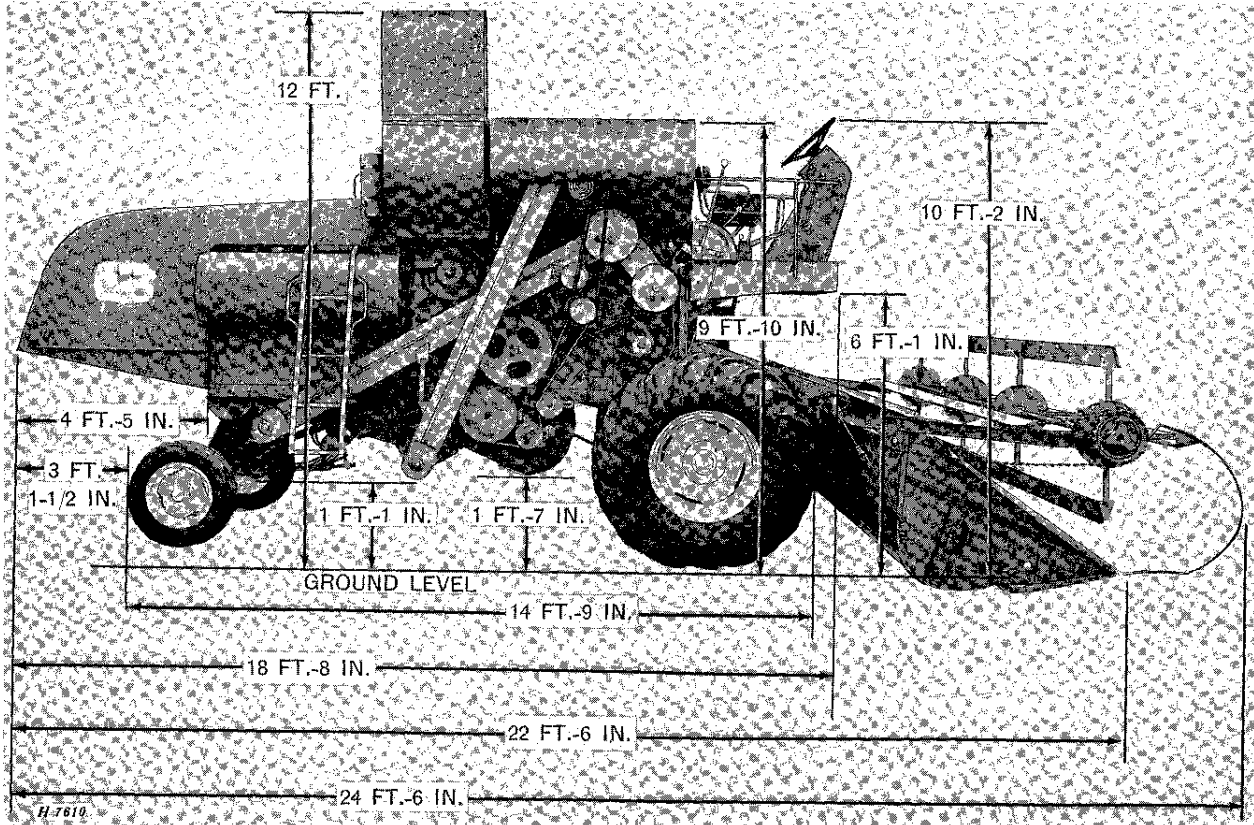
SPECIAL EQUIPMENT AVAILABLE

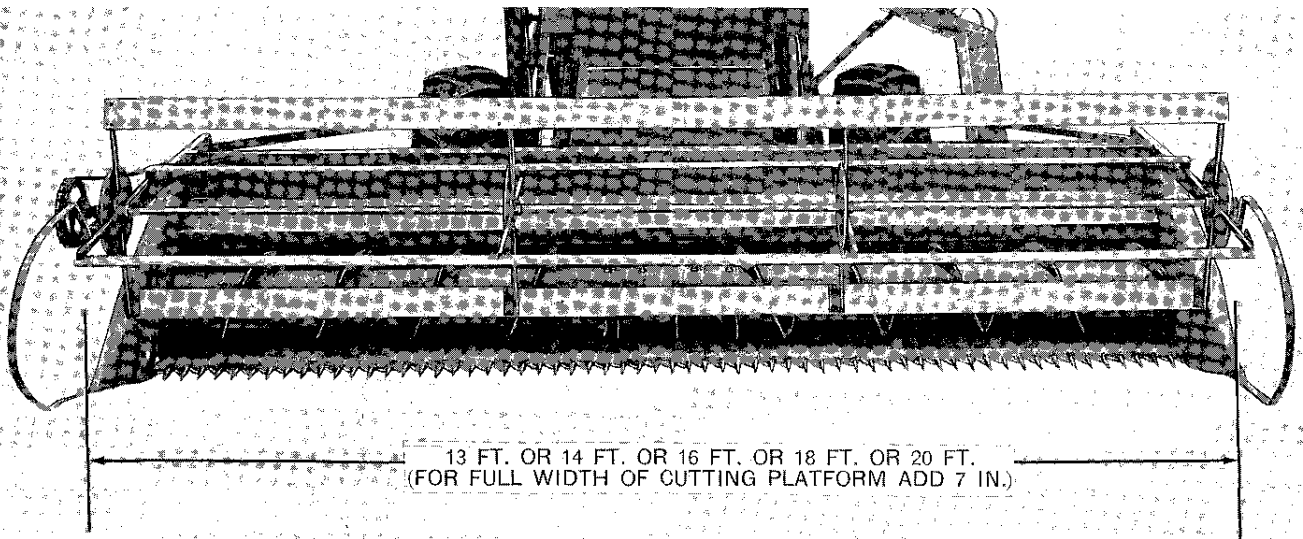
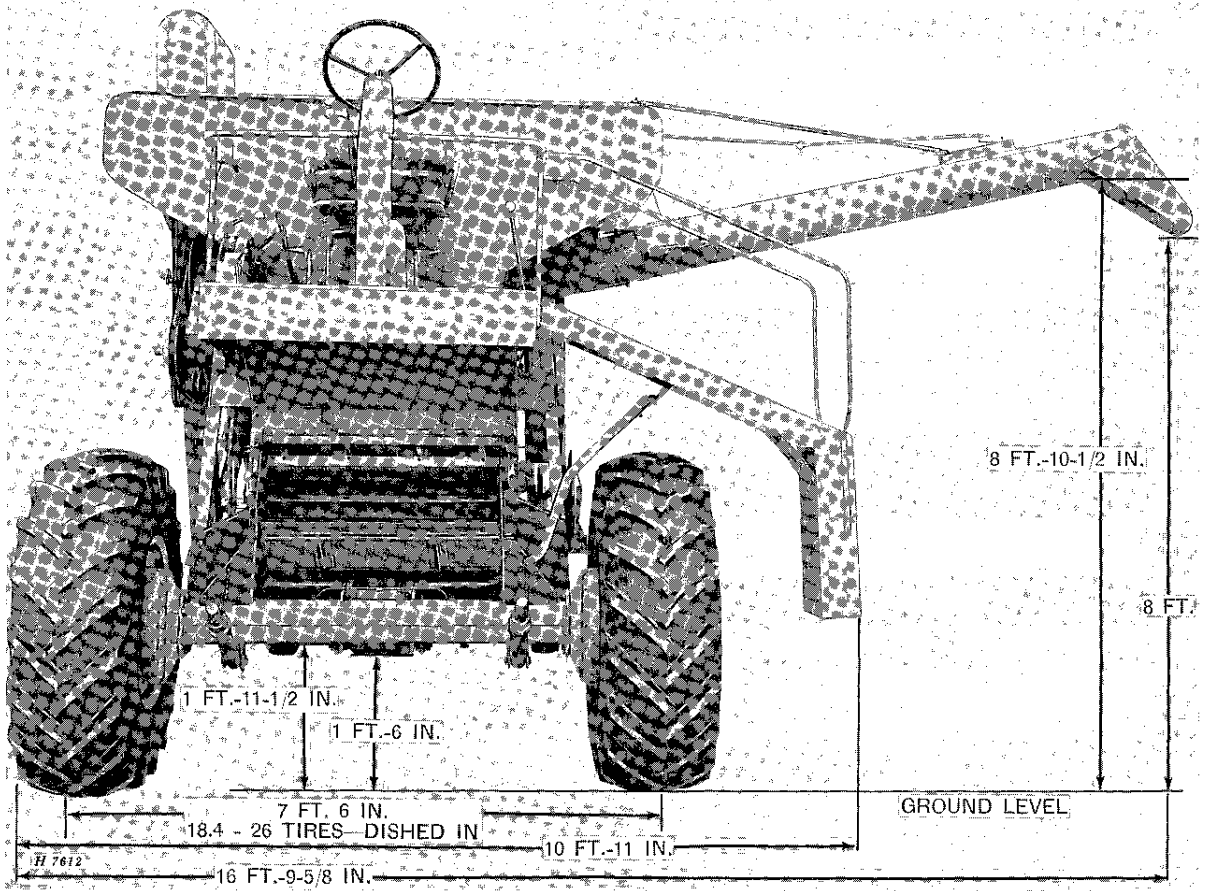
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Air Precleaner	110	Out Doors	69
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Cleaning Fan Housing Protective Shield	62	Spike-Tooth Straightener	54
Concave Cover Plates	56	Spike-Tooth Wrench	54
Corn Attachments	19	Spinning Fan Screens	62
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Cutter Bar Guard Straightener	42	Stone Trap	57
Cutting Platform Protection Plates	42	Straw Chopper	72
Cutting Platform Support Stand	50	Straw Spreader	71
Engine Cover	110	Stubble Shield	79
Feed Rolls Attachment	57	Tailings Finger Bar with Adjustable Tail-	
Grain Tank Extension	73	board	64
Guard and Knife Repair Block	41	Transmission Sheave Mud Guard	79
Highway Safety Lighting Attachment	17	Variable Drive Indicator Attachment	79
Hydraulic Cylinder Support Chains	50	Variable Reel Drive	36
Hydraulic Reel Lift	38	Weather Brake	19
Lifting Guards	42	Weed Bar	37
Lighting Attachment	17	Wheel Wrench	88

(Specifications and design subject to change without notice.)

COMBINE DIMENSIONS—OVER-ALL

NOTE: Combine equipped with 18.4-26 (15-26) main wheel tires and 6.50-16 guide wheel tires for dimensions.





OPERATION

KNOW YOUR COMBINE!

Before operating the combine, be sure to read this manual carefully. The Operation section will make you thoroughly acquainted with the function of all working units of the John Deere 95 Combine.

A cross-sectional view is provided on page 13, showing exactly what happens to the grain from the time it enters the cutting platform until it is delivered to the grain tank.

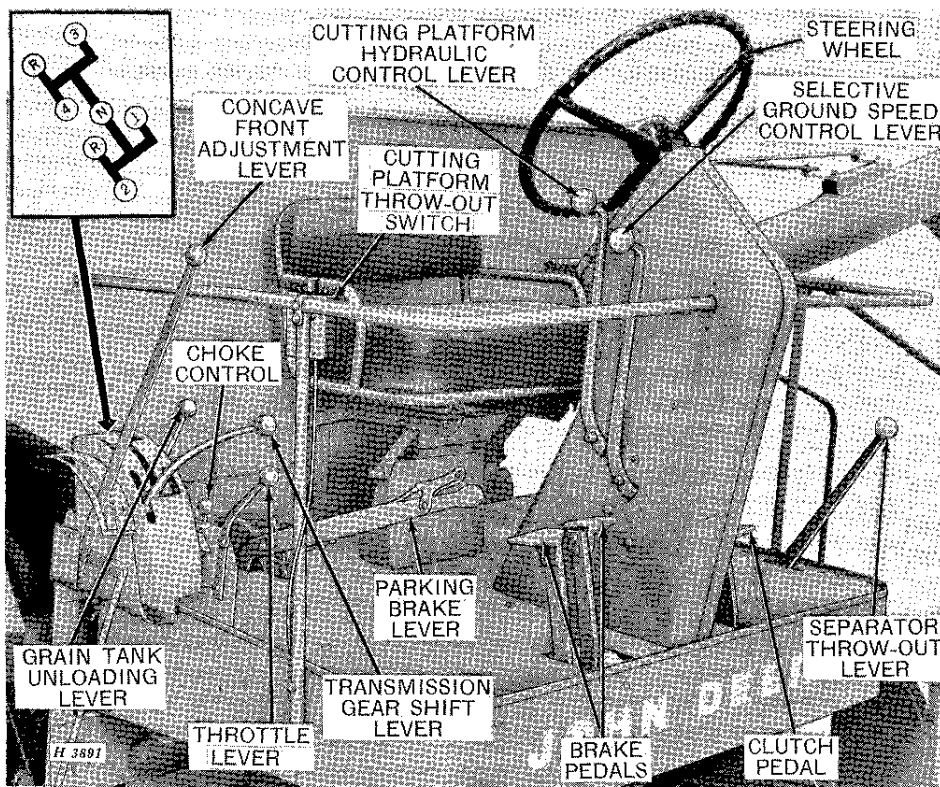
The Adjustments and Service section of this manual will help you to become familiar with the adjustments and service procedures necessary to obtain the best results.

Make this Operator's Manual your guide. Follow its recommendations, regardless of what may have been your practice with other combines.

Special attachments are described and illustrated throughout the manual. When an attachment requires operating and servicing instructions, these instructions will be furnished with the attachment.

Genuine John Deere parts for this combine can be obtained from your John Deere dealer. Always give him your combine serial number when ordering parts.

COMBINE CONTROLS



The combine controls are located on the operator's platform within easy reach of the operator. Those controls whose purpose and function are obvious will not be explained.

TRANSMISSION GEARSHIFT LEVER

There are four speed ranges forward and one reverse range (with two positions). Positions of gearshift lever for different transmission speed ranges are shown by diagram.

CAUTION: Be certain the gearshift lever is in neutral position before starting engine.

GRAIN TANK UNLOADING LEVER

This lever engages auger when pulled rearward. To disengage, move lever forward. Grain tank unloading drive and separator drive are independent. If engine is running, separator can be stopped without affecting unloading of grain tank.

SEPARATOR THROW-OUT LEVER

This lever is disengaged when in forward position. To engage, pull lever rearward.

SELECTIVE GROUND SPEED CONTROL LEVER

To increase ground travel speed within a selected transmission range, move lever forward. It will automatically return to neutral position when released and speed will remain as selected. Ground travel speeds from .81 to 14.65 mph (18.4-26 tires) are available at governed engine speed. Separator speed remains constant.

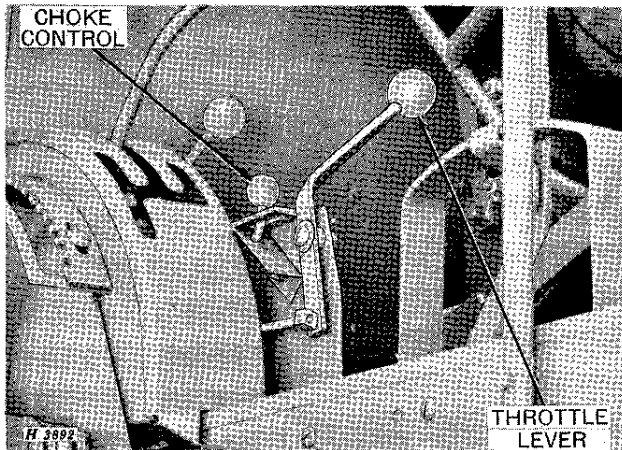
CUTTING PLATFORM HEIGHT CONTROL LEVER

This lever controls the height of the platform through a hydraulic mechanism. Platform height range is from 2-1/2 inches below wheel level to 35 inches above wheel level on grain combines, and from 2-1/2 inches below wheel level to 38 inches above wheel level on rice combines. Move lever forward to lower platform; pull lever rearward to raise platform. When released, lever automatically returns to neutral position and cutting platform remains at selected position. As a safety measure, cutting platform height cannot be changed unless engine is running.

PARKING BRAKE LEVER

The parking brake lever is used to lock the wheel brakes so the combine cannot move if left unattended. To engage, pull lever rearward. To disengage, move lever forward.

Never attempt to move combine with parking brake lever engaged.



THROTTLE LEVER

Move lever one-quarter forward to start engine. Move lever all the way forward for normal operation (fast idle); move lever all the way rearward for slow idle.

CHOKE CONTROL

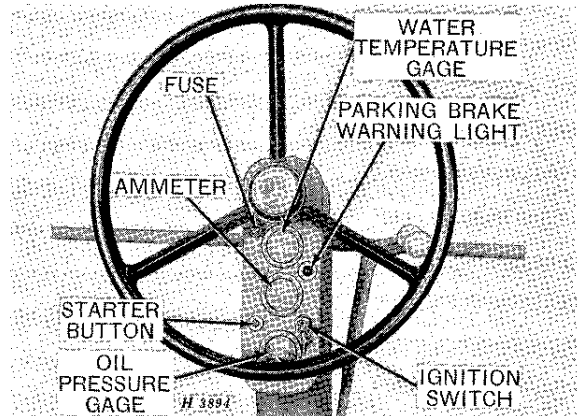
Lift choke control to operate. Move choke control all the way forward to start engine. After engine is started, and for normal operation, move choke control all the way rearward.

CUTTING PLATFORM THROW-OUT SWITCH

(Regular Equipment for Rice Combines, Special Equipment for Grain Combines.)

This switch operates the electromagnetic throw-out clutch which permits instant stopping of the cutting platform and feeder while the separator continues to run.

Push switch down to disengage drive. When trouble has been taken care of, push switch down again to engage drive.



PARKING BRAKE WARNING LIGHT

When the parking brake is engaged, the warning light will flash on and off the instant the ignition switch is turned on. This is a warning not to move the combine with parking brake engaged.

WATER TEMPERATURE GAUGE

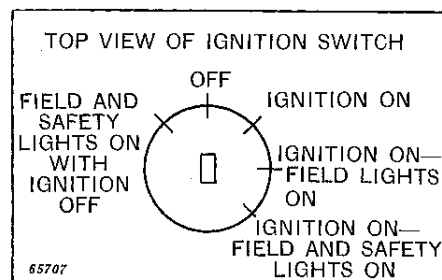
This gauge indicates the water temperature in the cooling system—not the quantity. Normal operating temperature is 160° to 200° F. (indicated by green band on dial). If 200° F. or above (indicated by red band on dial), stop engine and determine cause.

AMMETER

This gauge indicates the rate of charge or discharge of the batteries. If ammeter shows discharge for an extended period during normal operation, check for a ground, short circuit, or faulty regulator. If ammeter shows high charge continually, inspect for low batteries, faulty connections, low battery water, or bad regulator.

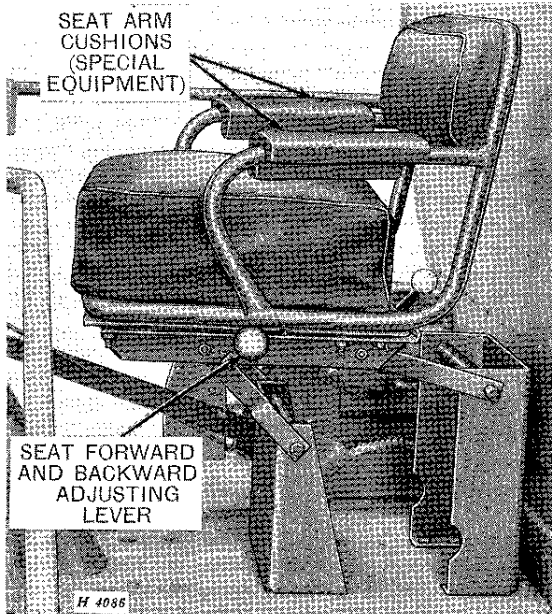
OIL PRESSURE GAUGE

This gauge indicates the pressure of engine lubricating oil. Oil pressure will vary slightly but with recommended oil it should read **NORMAL** at full governed speed. If oil pressure drops, **stop immediately and determine cause.**

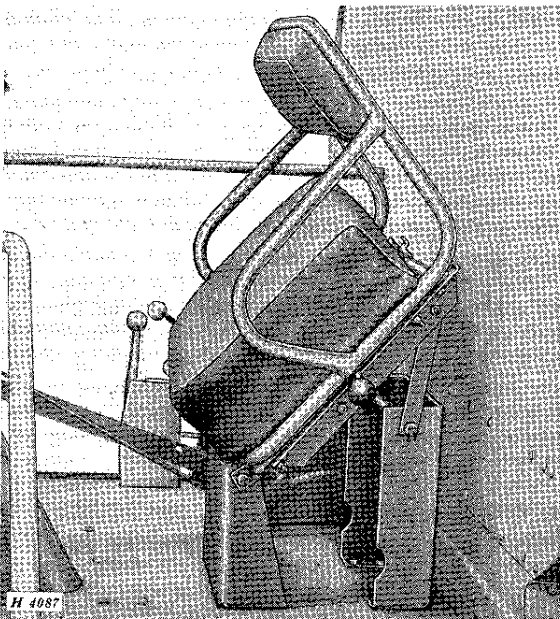


Top View of Ignition Switch

OPERATOR'S SEAT



Operator's Seat—Down Position (With Seat Arm Cushions Installed)



Operator's Seat—Up Position

The John Deere 95 Combine is equipped with a fold-up type seat. The fold-up type seat can be moved forward and rearward, and also can be folded back into a vertical position against the grain tank should the operator desire to work in a standing position.

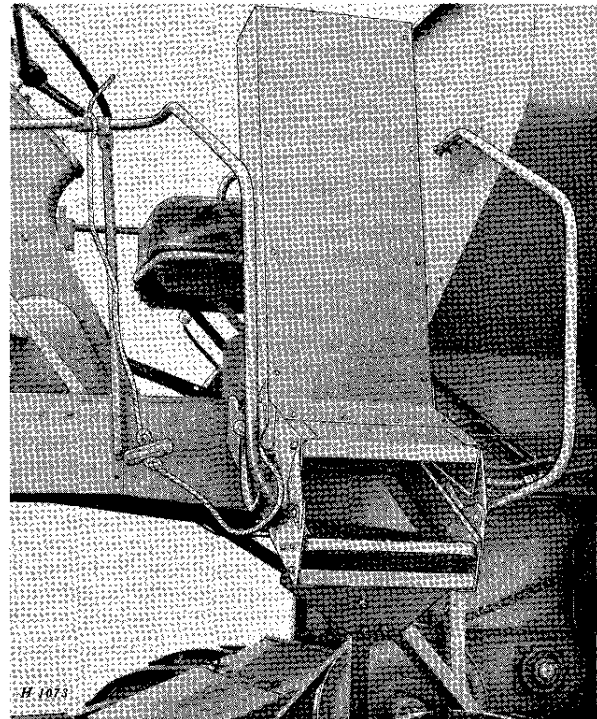
SEAT ARM CUSHIONS (Special Equipment)

Foam rubber seat arm cushions are available as special equipment designed to add to the riding comfort of your combine.

The seat arm cushions are held in place by U-shaped steel spring clips. Installation is accomplished by hand-pressing the clips over the seat arms—no holes to drill—no hardware necessary.

Order shipping package AA6022R, one pair of seat arm cushions from your John Deere dealer.

OPERATOR'S PLATFORM HINGED LADDER (Optional Equipment)



Hinged Ladder in Retracted Position

The hinged ladder must be installed when combining corn.

IMPORTANT: When lowering the hinged ladder, always use the rope provided so the ladder may be lowered slowly. Do not allow the ladder to drop, as damage may result.

CAUTION: When lowering the hinged ladder, always be certain that no one is standing where he might be struck by the ladder.

COMBINE AND ENGINE BREAK-IN COMBINE

Check all V-belt drives carefully for proper alignment and tension. Keep belts tight enough to prevent slippage. Belts can be ruined very quickly if allowed to slip in the grooves of a sheave for any length of time. Excessive heating of a sheave is a sign of belt slippage. New belts will stretch slightly after the first run-off. Check tension frequently.

Open the clean-out doors in the bottom of the clean grain and tailings elevators and check tension of elevator chains—see page 67 for adjustments. It is a good plan to check the chain tension every day of operation.

Be certain all shafts turn freely.

After 50 hours of operation, drain the oil from the transmission and final drives. Fill with oil as specified in the lubrication section of this manual.

Follow the lubrication instructions and charts closely.

ENGINE

Your new combine was shipped from the factory with a special "breaking-in" oil in the engine crankcase and the hydraulic reservoir.

Do not allow the engine to operate at slow idle for any prolonged period as part of a break-in procedure, as doing so does not permit good piston ring seating which may promote oil consumption in the future.

After 20 hours of operation, drain the special "breaking-in" oil from the crankcase and hydraulic system. Replace the engine oil filter and clean the hydraulic reservoir oil filter (if combine is equipped with power steering). Fill with the proper viscosity of oil as specified in the lubrication section of this manual.

An ounce of care can prevent a pound of cure—service your equipment at recommended intervals, using correct lubricant.

BEFORE-OPERATION CHECKS AND ADJUSTMENTS

Careful inspection and service of the combine before starting work each day will prevent needless delays and breakdowns in the field. Make the following checks and adjustments:

1. Lubricate combine according to the lubrication charts.

2. Fill gasoline tank with a good regular grade of gasoline (capacity of tank is 40 U.S. gallons).

CAUTION: Do not fill tank while engine is running or when near an open flame.

3. Check water level in radiator. Fill with rain water, if available. Do not use water containing alkali. Add water or anti-freeze slowly until level is 1-1/2 inches below filler neck. **CAUTION: If combine is being operated at temperatures below 32° F., refer to "Cold Weather Operation," page 18.**

4. Check tire inflation. See chart, page 82.

5. Service the air cleaner, see page 26.

6. Check oil level of hydraulic unit, see page 29.

7. Check oil level of crankcase, see page 27.

8. Check tension drag adjustment for choke and throttle controls. See page 100.

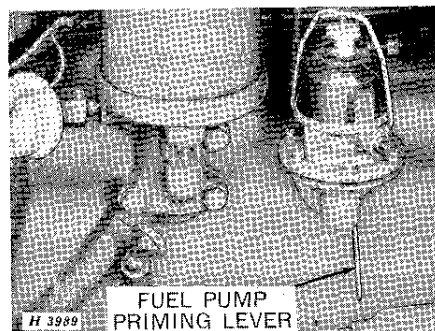
9. Open the doors at bottom of elevators and leave them open until combine is started.

10. Inspect belts and chains for proper tension and alignment. See that there are no loose bolts or missing cotter pins.

STARTING THE ENGINE

1. Make certain separator, cutting platform, and grain tank unloading auger throw-out levers are disengaged and transmission is in neutral.

2. If engine has not been operated for a period of time or the gasoline tank has run dry, prime fuel pump lever up and down to force gasoline into carburetor.



STARTING THE ENGINE—Continued

NOTE: After priming fuel pump, be sure the priming lever is in the "down" position. If the priming lever is left in the "up" position, the fuel pump is inoperative.

3. Turn ignition switch on. Move throttle lever one-quarter forward. Move choke lever all the way forward; then press starter button. After engine operates a few revolutions, move choke control rearward. Set engine at slow idle speed by moving throttle lever all the way rearward.

4. Check oil pressure gauge to see if it is registering pressure.

5. Do not place engine under load until it is properly warmed up.

STOPPING THE ENGINE

1. Set engine at slow idle speed and allow engine to operate at this speed for a few minutes before stopping. Turn off ignition.

STARTING THE COMBINE

1. Look around and make sure no one is standing near enough to the combine to touch any moving parts. Warn everyone to stand clear.

2. When engine is properly warmed up, pull separator throw-out lever rearward to engage the separator. Move throttle lever all the way forward.

3. Check the speed of beater behind the cylinder with a speed indicator. Beater should operate at 680 to 685 rpm with separator empty and not under load. If beater speed is not correct, adjust governor setting (see page 99).

4. Test operation of hydraulic control for adjusting cutting platform height.

5. Test operation of grain tank unloading auger.

6. Test operation of hydraulic selective ground speed control.

7. Check brakes to see if they are in proper working order.

8. Inspect entire combine again, making certain all units are working properly.

9. Disengage separator, then close doors at bottom of elevators.

SELECTING PROPER GROUND SPEED

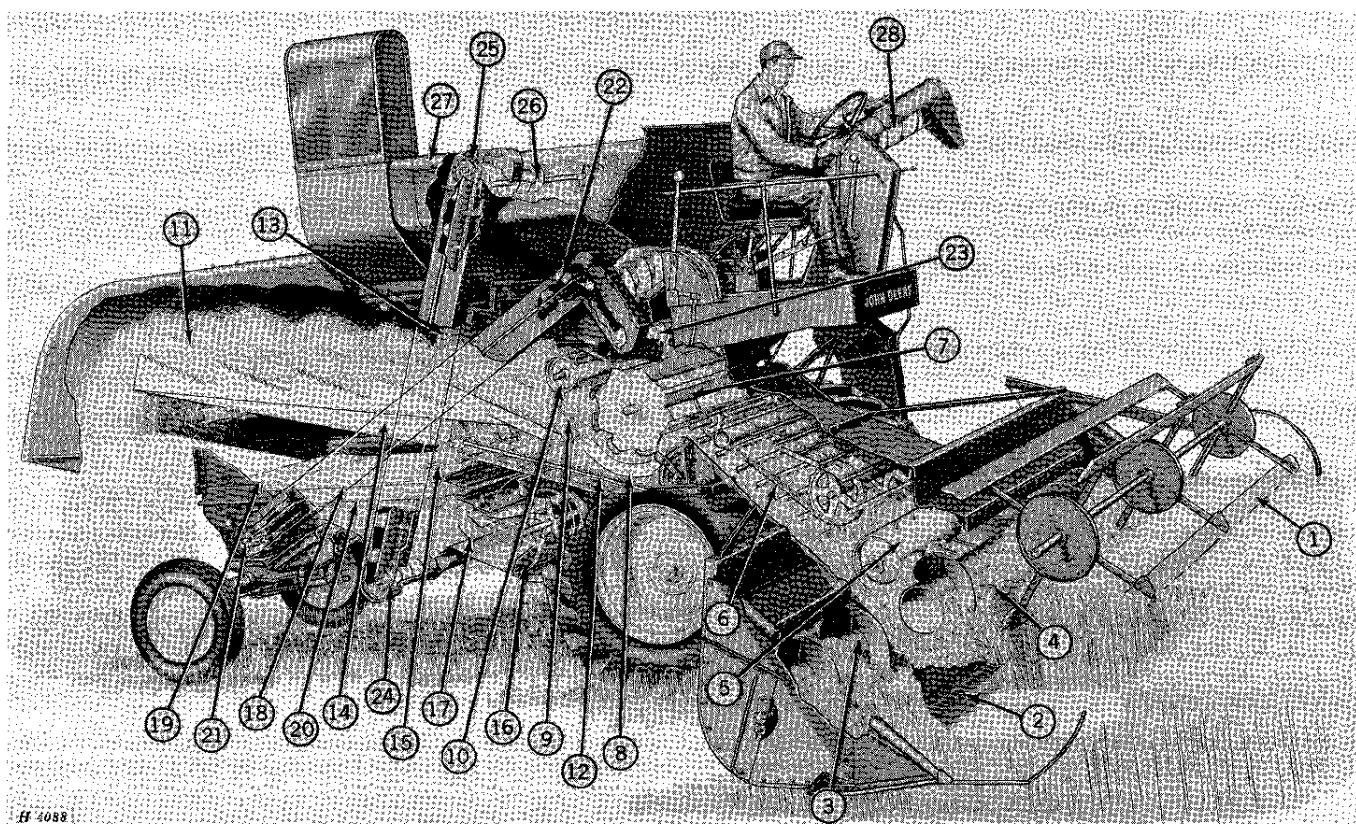
Selecting the proper ground speed is one of the most important factors in combining. Too fast a ground speed causes overloading, resulting in loss of grain. Too slow a ground speed means the full capacity of the combine is not being used. Also, traveling over rough ground at high speed causes extra wear and possible damage to the combine.

The ground speed of the combine can be very closely controlled by using the selective ground speed drive in conjunction with different transmission speeds. The table on page 4 shows the range of speeds that can be obtained in each transmission range by means of selective ground speed control. Select the best transmission speed range; then, with the selective ground speed control lever, adjust the ground speed to meet field conditions exactly.

SPEED OF VARIOUS UNITS (Fast Idle—No Load)

Auger, Platform.....	217 rpm
Beater Behind Cylinder.....	680 to 685 rpm
Beater, Front of Feeder House.....	123 rpm
Cylinder:	
Regular.....	1,057 rpm
Rice (Rasp-Bar).....	952 rpm
Rice (Spike-Tooth).....	793 rpm
Bean.....	604 rpm
Cylinder (Extreme Low).....	196 rpm
Cylinder (Extreme High).....	1,190 rpm
Elevators.....	313 rpm
Engine.....	2,500 rpm
Fan (Normal Operating Speed).....	750 rpm
Fan (Extreme Low).....	602 rpm
Fan (Extreme High).....	858 rpm
Feeder House Conveyor Drive Shaft ..	231 rpm
Grain Conveyor Under Cylinder:	
(With Regular 15-Tooth Sprocket) ..	170 rpm
(With Special 10-Tooth Sprocket) ...	255 rpm
Ground Travel Speeds.....	(See Page 4)
Reel.....	18.5 to 51.5 rpm
Shoe Crank.....	286 rpm
Straw Walker.....	213 rpm

CROSS-SECTIONAL VIEW OF JOHN DEERE 95 COMBINE



This cutaway view shows how grain and straw are handled from cutter bar on through separator.

The reel (1), divides grain and holds it to cutter bar (2), until cut. The auger (3) carries grain from both ends of platform to center of auger (4). Retracting fingers in auger beater (4), take material and feed it to feeder beater (5). Feeder beater (5), moves grain to feeder conveyor chain (6). The chain (6), delivers grain to rasp-bar or spike-tooth cylinder (7).

As grain travels between cylinder (7), and concave (8), over grate fingers (9), and back against separating beater (10), the greater part of separating takes place. Separating beater (10) strips straw from the cylinder (7), deflects grain through finger grates (9), and passes straw onto the straw walkers (11).

Most of the grain falls through concave grate (8) and fingers (9) onto grain conveyor (12). Straw and remaining loose grain are passed along to the straw walkers (11). Curtain (13) keeps grain from being thrown over. On its outward movement, straw is

agitated by straw walkers (11). The remaining grain falls through openings in walkers and flows back through straw walker grain return pans (14) onto auxiliary chaffer (15). Straw is dropped off end of the straw walkers and out separator. The straw can be spread by straw spreader (special equipment) or broken up by straw chopper (special equipment).

After grain and chaff leave conveyor, (12) a blast of air from fan (16), through adjustable windboards (17), is directed against auxiliary chaffer (15), chaffer (18), chaffer extension (19), and sieve (20). The air blast, with aid of sieve agitation, blows chaff away and moves tailings to tailings auger (21). The tailings auger (21) carries tailings to tailings elevator (22), which conveys them through cross-auger (23), to center of cylinder (7), for rethreshing.

Clean grain after dropping through auxiliary chaffer (15), chaffer (18), chaffer extension (19), and sieve (20), is carried by clean grain auger (24), to elevator (25). Elevator (25) delivers clean grain to tank loading auger (26). The loading auger (26) distributes grain evenly to grain tank (27). Grain tank unloading auger is (28).

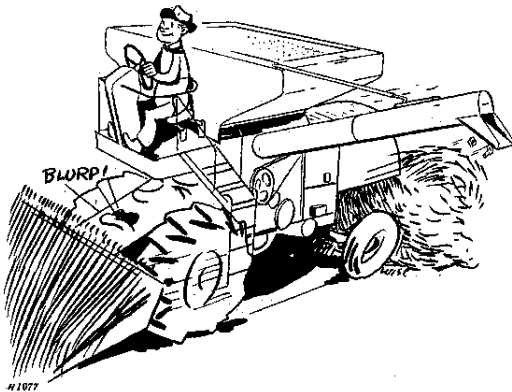
FUNDAMENTALS OF COMBINE HARVESTING

Combining has proved to be the most economical, easiest, and fastest method of harvesting. This combine can be quickly adjusted to harvest almost any crop under any condition. On the following pages, you will find information about speeds, settings, and special equipment that will enable you to do a first-class job of harvesting your crop.

The one most important factor in harvesting is for the operator to have a thorough understanding of the fundamentals of combine operation.

These fundamentals in brief are:

1. Be sure crop is in condition to thresh—moisture content not too high—straw not too green, etc.



Don't Overload the Combine

2. In making the first round of the field, keep the combine forward speed as slow as possible to reduce the volume of material entering the combine. Always run the engine at full throttle to keep the combine mechanism up to full speed, thus guarding against slugging and clogging. Use the selective ground speed drive to obtain slower travel speed or shift to a lower gear if necessary—but do not throttle down the engine.

3. Select a ground speed that will not overload the combine.

4. See that cylinder is operating at the correct speed. Engine should be in good condition—governor should be properly set and responsive enough to accelerate quickly if an overload occurs.

5. Keep the cylinder speed as low as possible and concave clearance as high as possible to remove the maximum amount of grain from head without breaking up the straw excessively. Edible beans are easily mutilated and require use of special slow speed cylinder drive. Maintain correct beater speed to guard against wrapping of straw on beater.

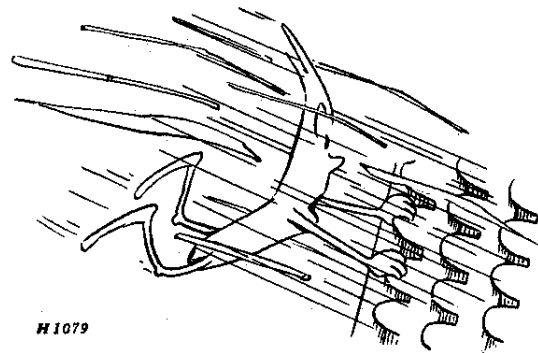
6. Cut the crop as high as possible without excessive loss of low grain heads. If the straw is down and tangled, it may be desirable to use lifting guards. Slow travel speed is imperative.

7. Adjust the reel position and speed for even feeding.

8. Regulate adjustable chaffer openings to pass the grain or seed to the lower sieve before it has passed over two-thirds the length of chaffer without admitting too much coarse material.

9. Close adjustable sieve as far as possible without carrying clean grain into the tailings auger.

10. If material loads up on front of chaffer, adjust upper windboard to throw blast to front of shoe.



Use Proper Amount of Blast

11. Use as much air as possible without blowing over clean seed. If the grain or seed is unusually light, it may be necessary to reduce the volume of air. In heavy seeds, increase the volume of air. **NOTE:** The volume of air is regulated by the cleaning fan speed and fan shutters at sides of fan housing.

12. Keep amount of tailings as low as possible.

OPERATING SUGGESTIONS

The degree of satisfaction given by this or any other combine depends upon the carefulness of the operator. Once the combine has been adjusted to meet the crop condition, the rest is up to the operator.

Don't start combining until the crop is ripe. The natural tendency of the owner of a new combine is to try out his new machine as soon as possible. This results in many new combines being started in the field before the crop is ready for combining.

Unless crop drying equipment is available, a crop should not be combined until it is dead ripe. If the threshed grain feels damp or is easily dented with the fingernail, the moisture content is usually too high for safe storage.



Suggest:

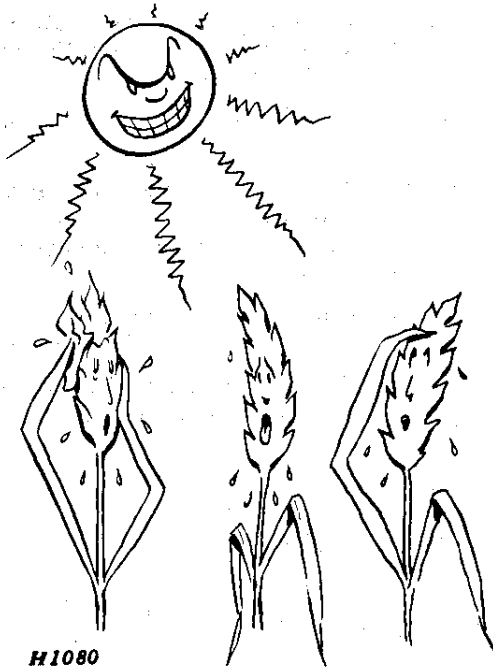
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Wait Until the Crop Is Dry

Grain crops containing 14% moisture or less are usually considered dry enough for safe storage. A John Deere Moisture Meter for checking moisture content of grain and a portable Grain Dryer can be purchased from your John Deere dealer, or arrangements can usually be made at the local grain elevator for necessary moisture tests and drying if necessary.

PREPARING THE FIELD

Proper Preparation of Field for Combining Will Mean Less Trouble and More Profitable Operation.

In fields where small grain follows corn in the rotation of crops, take special care before seeding to clean up or cover cornstalks and large corn roots. They can be very troublesome if the crop goes down.

When a cornstalk or root hooks onto the point of a guard, a great deal of grain is pushed ahead and run down. It is then usually necessary to stop, back up, and clean off the cutter bar before going ahead. If the cutter bar is raised to avoid stalks and roots, loss of some grain results.

A little extra work done when preparing the field for the small grain crop will pay big dividends when harvest time rolls around.

OPERATION IN WEEDY CONDITIONS

Combining in fields where weeds are numerous is particularly troublesome as they tend to gum up the sieves. Also, the moisture in the seeds is imparted to the grain.

*Prepare the Field*

Weeds should be disposed of quickly and not be broken up any more than necessary.

The following suggestions will help while operating in weedy conditions.

1. Cut the grain as high as possible.
2. Try to avoid weeds and undergrowth.
3. Check to see that cylinder is operating at proper speed.
4. Use as much blast on shoe as possible without blowing over grain.
5. Lower rear end of chaffer.

HEIGHT OF CUT

The cutting platform has a cutting height range from 2-1/2 inches below wheel level to 35 inches above wheel level on grain combines, and from 2-1/2 inches below wheel level to 38 inches above wheel level on rice combines. Cut just low enough to get all grain heads. Watch the height and condition of grain and continually raise and lower the cutting platform to meet conditions. If the crop is extremely heavy and badly down, it may be necessary to cut less than a full swath or reduce travel speed.

BE ALERT!

Listen for the warning of the clutches slipping. Also, listen to the engine for any evidence of slowing down caused by cylinder starting to slug. Immediately stop the forward travel of the combine and, if combine is equipped with electromagnetic throw-out clutch, disengage the platform drive. This will permit the separator to clear.

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