



95H COMBINES



OPERATORS MANUAL 95H COMBINES

OMH62359 C6 English

OMH62359 C6

LITHO IN THE U.S.A.
ENGLISH



TO THE PURCHASER

The combine you have purchased has been carefully designed and manufactured to provide years of dependable, economical service.

To further insure trouble-free service we recommend that you follow closely all instructions concerning operation, lubrication, adjustments and service. Preventive maintenance has proved to be much more economical than corrective maintenance. Should you require information not covered in this manual, consult your John Deere dealer.

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. If your combine requires replacement parts, go to your John Deere dealer where you can obtain Genuine John Deere Parts—accept no substitutes.

ATTACHMENTS

In addition to the equipment furnished with your combine, there are attachments available to help you do a better job of combining in a special crop or condition. These attachments, illustrated and described in the Attachment section, are available from your John Deere dealer.

LOCATION REFERENCE

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

Radiator end of the engine is referred to as the "front," flywheel end as the "rear."

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. For your convenience a space is provided below for recording these numbers.

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 between the distributor and generator.

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

The cutting platform serial number is located on the right-hand side sheet.

Combine Serial No. _____

Engine Serial No. _____

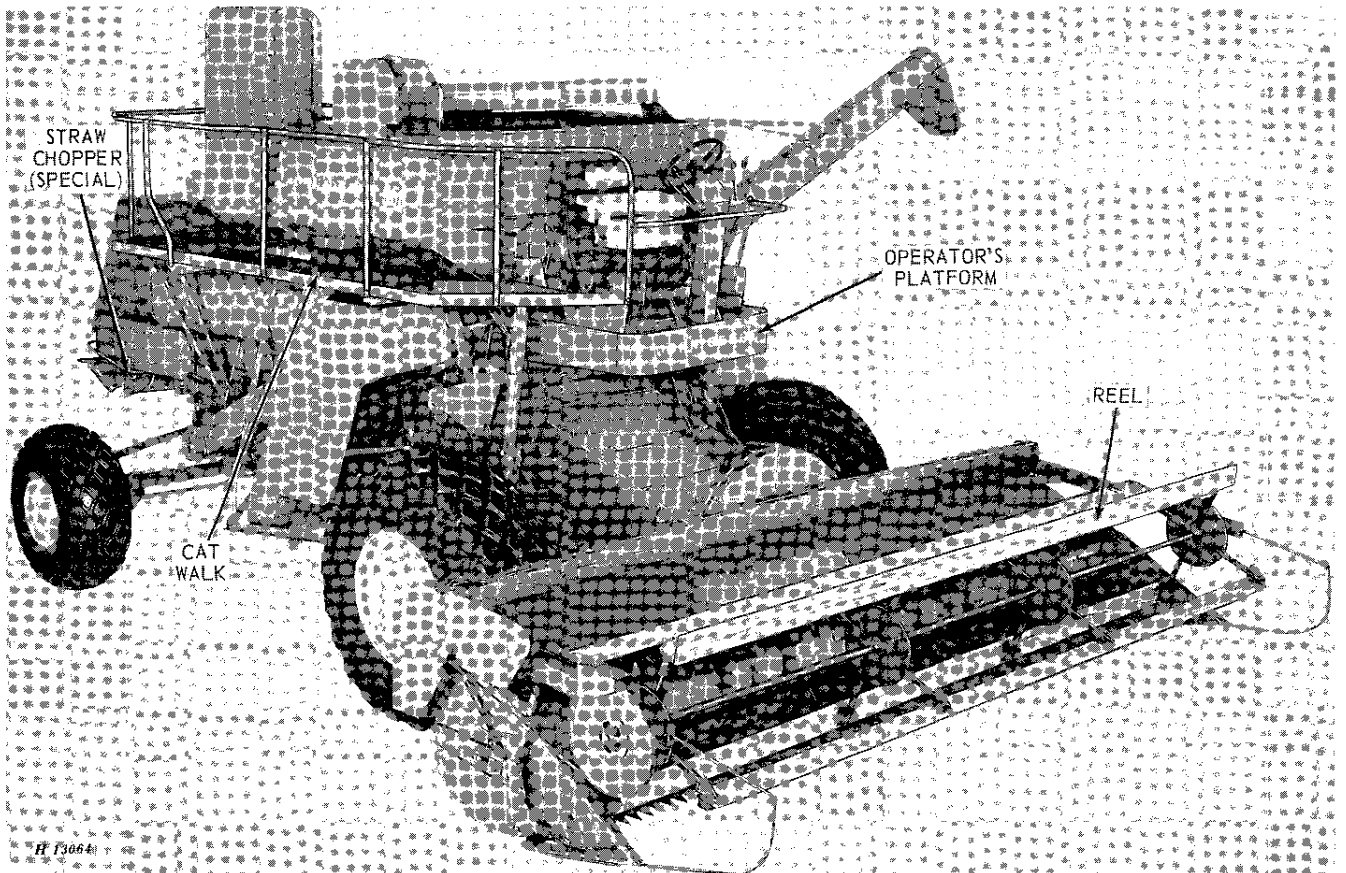
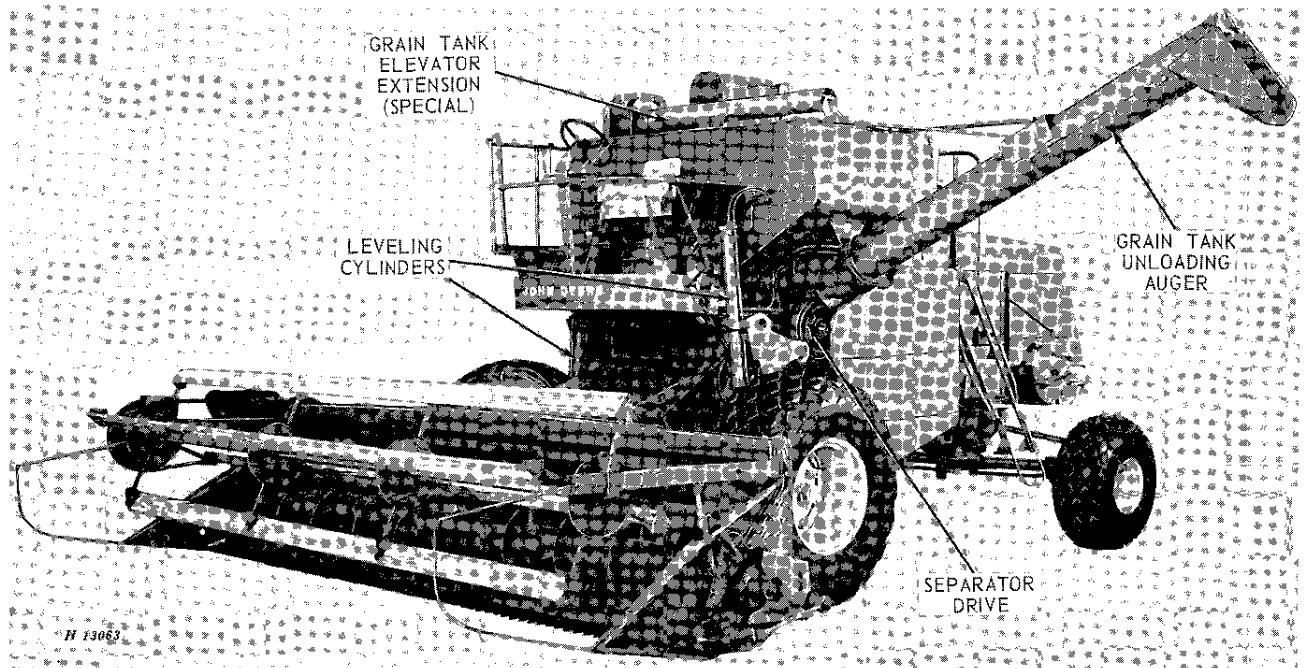
Axle Serial No. _____

Cutting Platform Serial No. _____

Date Purchased _____

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Width of cut..... 16-ft. or 18-ft.
Length of cutter bar. . . . 6 inches less than width of cut
Type of knife sections. . . . Heavy-duty overserrated

Drive.	Chain
Number of slats.	4 regular
	3, 6, or 8 special
Diameter of reel.	32-in. or 40-in.
Speed range.	19.1 rpm to 50.5 rpm

Type of feed.	Auger
Range of cutting height:	
With 23.1-26 tires.	2-5/8-in. below wheel level to 28-5/8-in. above
With 26.5-25 tires.	1-in. below wheel level to 33-7/8-in. above.
Height control.	2 hydraulic cylinders

Diameter. 20-in.
Type of auger fingers. Round retracting

Type	Rasp-bar or spike-tooth
Width	40-in.
Diameter	22-in.
Number of bars	8 rasp-bars or 10 spike-tooth bars (five 19-tooth bars and five 20-tooth bars)
Drive	Roller chain
Speed range	196 rpm to 1190 rpm

Type. 12-bar open type or spike-tooth type
Width. 40-in.

NOTE: Open type concave is equipped with adjustable bottom cover plates.

Type . . .	Drum (Spike-tooth type with removable covers)
Width	40-in.
Diameter	12-in.
Speed	680 rpm

Type.	Grain conveyor, straw walker
Width.	40-in.
Length of separating surface.	140-in. (Straw walker pans extended)
Area of separating surface.	5,600 sq. in.

Type. Slat
Drive. Chain (CA550 roller)

Type.	5-bladed undershot
Drive.	V-belt
Speed range.	602 rpm to 858 rpm

Type.	Adjustable
Width.	38-1/2-in.
Length.	48-in.
Area.	1,867 sq. in.

Type.....	Adjustable
Width.....	38-1/2 in.
Length.....	12 in.
Area.....	462 sq. in.

Type.	Adjustable
Width.	38-1/2-in.
Length.	45-in.
Area.	1,732 sq. in.

SIEVE, AND CHAFFER EXTENSION. . . . 4,061 sq. in.

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

Capacity. . . . 80-bushel, approx. (Type and condition of
crop will determine actual volume)
Type of unloading. Hinged auger

Type, Individual, mechanical disk-type

TRANSMISSION. . . . Automotive—4 speeds forward, 1 reverse

STEERING. Full power

Type	Automatic—electrically activated-hydraulically controlled—can be activated manually
Maximum degree of leveling	0 to 42%

Combine with 18-ft. cutting platform and 23.1-26 tires. . . . 15,845 lbs. (Approx.)

DIMENSIONS. See page 4.

WHEEL TREAD DIMENSIONS	
Tire Size	Center-to-Center
23.1-26	112 inches
26.5-25	115-1/2 inches
18.4-16A	106 inches

TIRE INFLATION CHART		
Tire Size	Ply Rating	Pressure
18.4-16A (Low profile)	6	10 lbs.
23.1-26 (Low profile)	10	18 lbs.
26.5-25 (Low profile)	12	16 lbs.

GROUND SPEED RANGE

23.1-26 TIRES			26.5-25 TIRES		
	(Min.)	(Max.)		(Min.)	(Max.)
1st Gear	.7 to	1.6 mph	1st Gear	.8 to	1.8 mph
2nd Gear	1.5 to	3.3 mph	2nd Gear	1.6 to	3.7 mph
3rd Gear	2.9 to	6.5 mph	3rd Gear	3.3 to	7.4 mph
4th Gear	5.8 to	13.1 mph	4th Gear	6.6 to	14.8 mph
Reverse	2.0 to	4.5 mph	Reverse	2.3 to	5.1 mph

CAPACITIES (APPROX.)

Fuel tank	40 U.S. gallons—diesel 60 U.S. gallons—gasoline
Cooling system	6 U.S. gallons
Engine crankcase	7 U.S. quarts
Transmission	14 U.S. pints
Final drives (2)	4-1/2 U.S. pints each
Hydraulic unit	12 U.S. quarts
Automatic leveling unit	18 U.S. quarts

GASOLINE ENGINE

Make and model of engine	John Deere HB248G
Bore	3-7/8 in.
Stroke	3-1/2 in.
Brake horse power	95*
Number of cylinders	6
Piston displacement	248 cu. in.
Maximum load speed	2500 rpm
Firing order	1-5-3-6-2-4
Crankcase	Cast integral with block
Type of lubrication	Force feed by gear pump
Valve arrangement	Valve in head
Valve clearance:	
Intake	0.012-in. when cold
Exhaust	0.018-in. when cold
Make of governor	Pierce
Make of carburetor	Zenith (dual down draft)
Air cleaner	Dry type
Spark plug	Size 14 mm-gap 0.025-in.
Electrical system	12 volt
Cooling system	Water pressure
Type of fuel	Gasoline (regular)
Oil filter	Full flow

DIESEL ENGINE

Make and model of engine	John Deere HB248D
Bore	3-7/8 in.
Stroke	3-1/2 in.
Brake horse power	80*
Number of cylinders	6
Piston displacement	248 cu. in.
Maximum load speed	2500 rpm
Firing order	1-5-3-6-2-4
Crankcase	Cast integral with block
Type of lubrication	Force feed by gear pump
Valve arrangement	Valve in head
Valve clearance:	
Intake	0.012-in. when cold
Exhaust	0.018-in. when cold
Make of injection pump	Roosa-Master
Make of fuel injection nozzles	Robert Bosch (pintle-type)
Air cleaner	Dry type
Electrical system	12 volt
Cooling system	Water pressure
Type of fuel	No. 1-D or No. 2-D Diesel fuel
Oil filter	Full flow

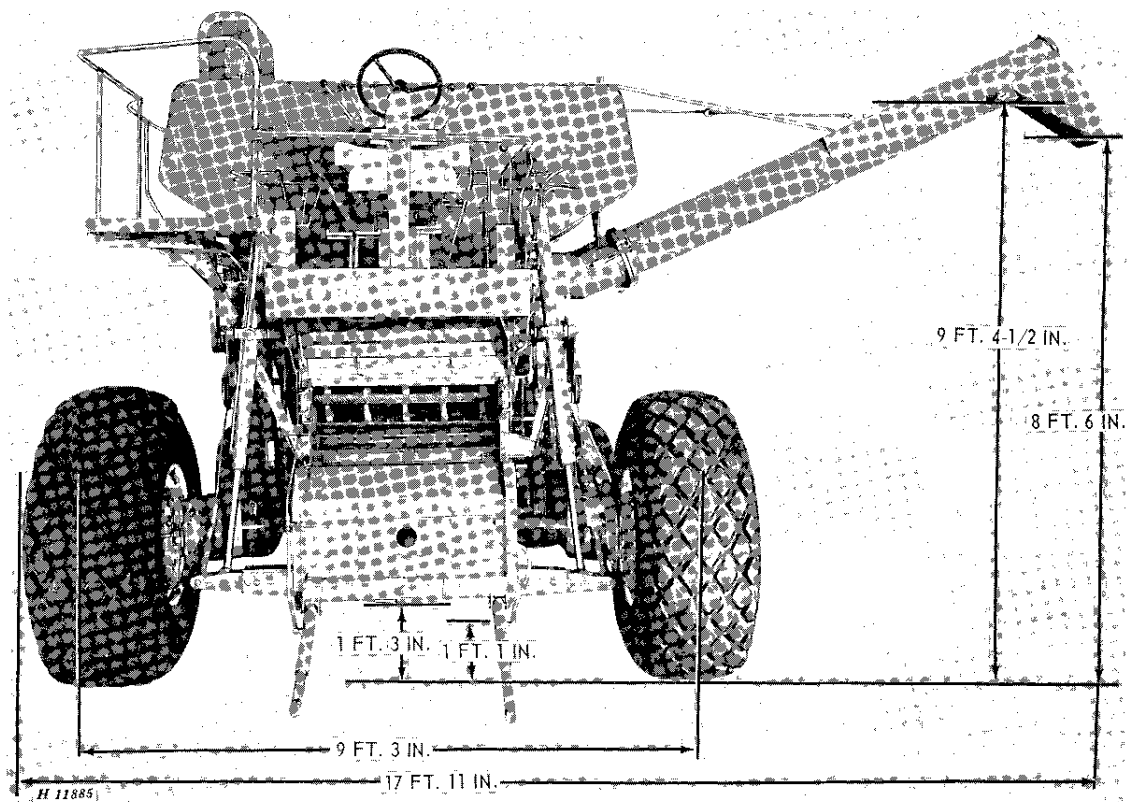
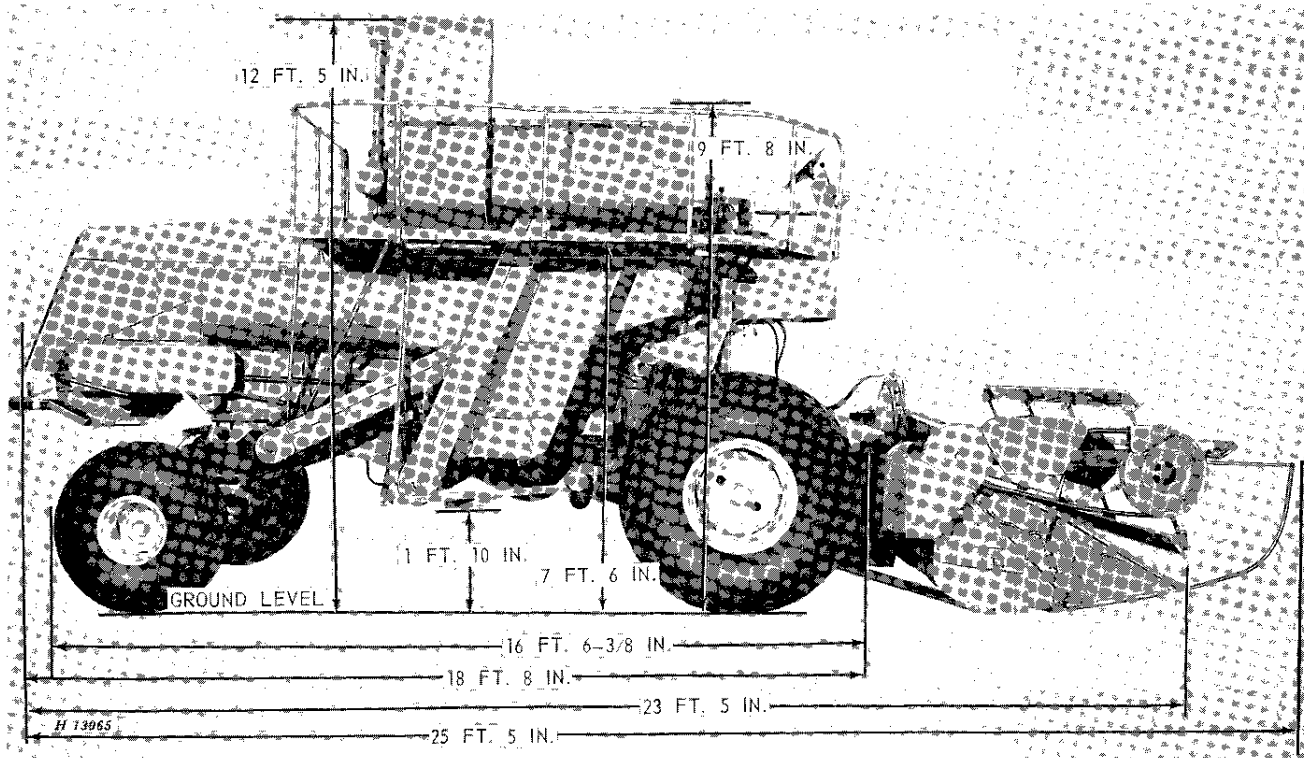
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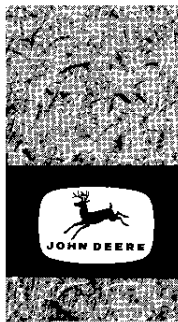
*Calculated at 60° F. and 29.92 inches Hg. at sea level.

4 Specifications

COMBINE DIMENSIONS—OVER-ALL

NOTE: Dimensions are for combine equipped with 23.1-26 front tires and 18.4-16A rear tires.

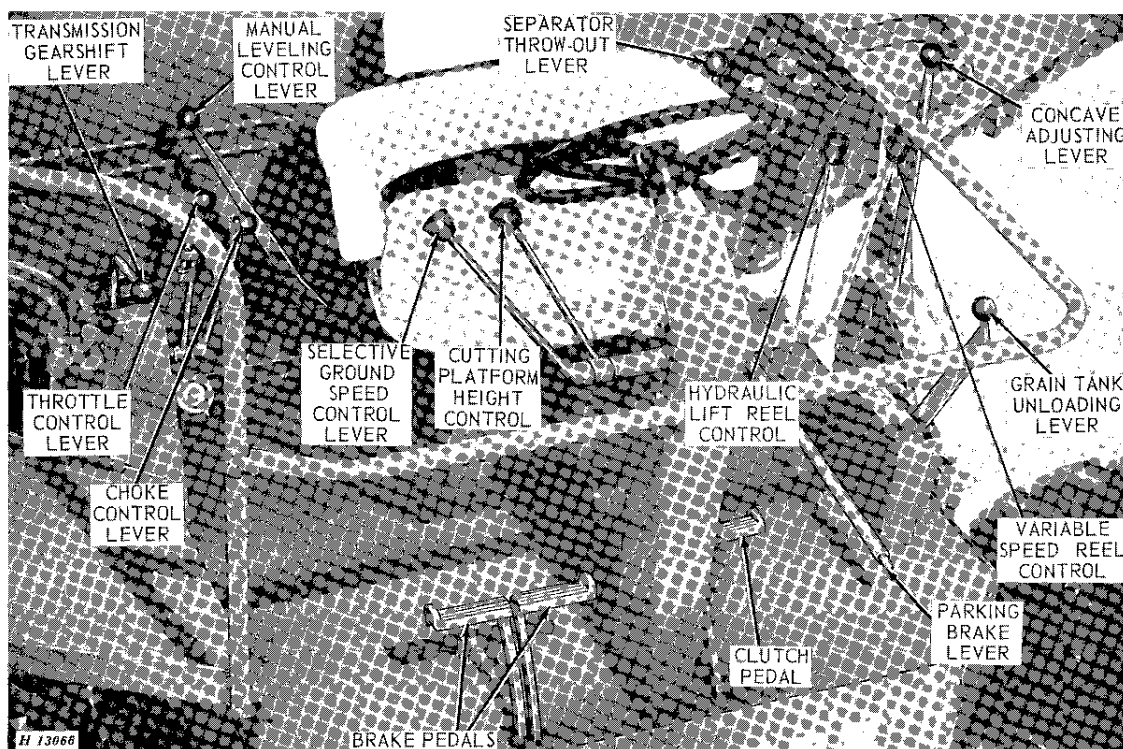




CONTROLS AND INSTRUMENTS

Before attempting to operate your new combine, become familiar with the location and purpose of its controls and instruments. Study these pages carefully, regardless of your previous combine experience.

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, are not explained.

TRANSMISSION GEARSHIFT LEVER

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

CAUTION: Be certain the gearshift lever is in neutral position and clutch pedal fully depressed 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.

CONCAVE ADJUSTING LEVER

Move lever forward to open front of concave; move lever rearward to close front of concave. The normal maximum opening is one inch.

CONTROLS—Continued

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.

CUTTING PLATFORM HEIGHT CONTROL LEVER

This lever controls the height of the platform through a hydraulic mechanism. 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.

HYDRAULIC LIFT REEL CONTROL

To raise reel, move lever rearward; to lower the reel move lever forward. The lever automatically returns to neutral when released.

VARIABLE SPEED REEL CONTROL

To increase reel speed, move the lever forward; to decrease the reel speed, move lever rearward. The lever automatically returns to neutral when released.

CUTTING PLATFORM THROW-OUT SWITCH

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

MANUAL LEVELING CONTROL LEVER

If the automatic leveling mechanism should fail to function, or if the operator desires to tilt the separator while on level land, the leveling mechanism can be controlled by means of the manual control lever. Move lever to right for right-hand tilt and to left for left-hand tilt.

THROTTLE CONTROL LEVER

Move lever one quarter forward from rear to start engine. *Note: On combines with diesel engine, it is necessary to lift plunger on the throttle lever before the lever can be moved.* Move lever all the way rearward for slow idle; move lever all the way forward for normal operation.

CHOKE CONTROL LEVER

Move lever all the way forward to start engine. After engine is started, and for normal operation, move lever all the way rearward.

FLOW RESTRICTOR VALVE

The flow restrictor valve controls the leveling speed. This valve can be adjusted from the operator's seat to give the desired leveling speed. The speed can be quickly changed to meet varying ground and slope conditions.

Turn the valve clockwise to slow down the leveling speed; turn valve counter-clockwise to increase the leveling speed.

The valve is color coded and numbered so that various speed adjustments can be made, changed, and reset by remembering the colors and numbers used.

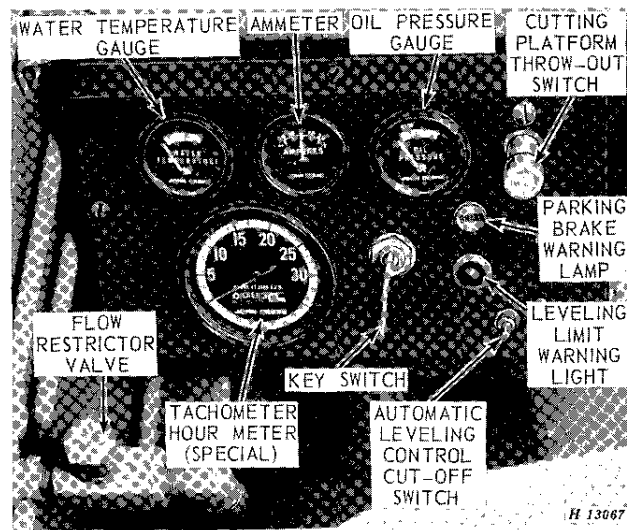
A locking set screw is provided so that the valve can be locked in one position if so desired. If the locking screw is not used, it is necessary to occasionally check the setting to be certain the valve is not "creeping," due to vibration.

CAUTION: When the flow is restricted any amount, extreme caution must be taken against excessive speed on steep slopes.

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, depress button and move lever forward.

Never attempt to move combine with parking brake lever engaged.



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 precaution against moving the combine with the parking brake engaged.

LEVELING LIMIT WARNING LIGHT

This light will flash on and off when the separator has reached the automatic leveling limit; beyond this point, the separator will start to lean and the operator should proceed only with the utmost caution.

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

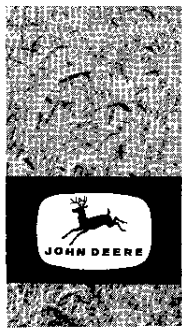
This gauge indicates the pressure of engine lubricating oil. Oil pressure will vary slightly with wear, but with recommended oil, it should read normal (indicated by green band on dial) at full governed speed. If oil pressure drops (indicated by red band on dial), stop immediately and determine cause.

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.

AUTOMATIC LEVELING CONTROL CUT-OUT SWITCH

This switch enables the operator to disengage the automatic leveling control mechanism if so desired for various purposes such as transporting.



OPERATION

FUNDAMENTALS OF COMBINE HARVESTING

The 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:

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

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 speed or shift to a lower gear if necessary—but do not throttle down the engine.

Select a ground speed that will not overload the combine.

Engine should be in good condition—governor should be properly set and responsive enough to accelerate quickly if an overload occurs.

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. Maintain correct beater speed to guard against wrapping of straw on beater.

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

Adjust the reel position and speed for even feeding.

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.

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

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

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.

Keep amount of tailings as low as possible.

FUNDAMENTALS OF AUTOMATIC LEVELING

The automatic leveling control switch actuates the leveling mechanism, allowing the separator to be held level while the wheels conform to the contour of the hill.

When the combine has reached the limit of its automatic leveling capacity, approximately 42 per cent, the limit switch cuts in an electrical circuit to a flasher light on the instrument panel. The light will continue to flash on and off as long as the arm on the axle pivot contacts the limit switch plunger. This indicates to the operator the limit of leveling has been reached, and beyond this point, the separator will start to lean.

When the ignition switch is turned off, the automatic leveling will not function.

OPERATING SUGGESTIONS

Don't start combining until the crop is ripe.

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.

Grain crops containing 14 per cent 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.

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.

The following suggestions will help while operating in weedy conditions.

Cut the crop as high as possible to avoid weeds and undergrowth.

Check to see that the cylinder is operating at proper speed.

Use as much air blast on the shoe as possible without blowing over grain.

Lower rear end of chaffer.

HOLD DOWN THE GROUND SPEED

Excessive travel speed is one of the greatest causes of trouble in combining. Traveling at too high a ground speed causes overloading, resulting in a loss of grain.

Also, traveling at an excessively high speed over rough ground also causes extra wear and damage to parts, not incurred when the combine is operated at a more reasonable speed.

KEEP STEADY, SMOOTH ENGINE SPEED

Any fluctuation in engine speed is reflected in the speed of the separator. Uneven speed results in loss of grain, inferior threshing and, in extreme cases, complete plugging of the combine. Take every precaution to maintain the correct uniform speed.

By rounding the corners in the field, you can maintain more uniform speed when turning.

When stopping, wait until material in the combine is cleaned out before disengaging separator throw-out lever.

BEFORE-OPERATION CHECKS AND ADJUSTMENTS

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

Fill fuel tank with proper grade of fuel. See fuels and lubricants section.

Add water or antifreeze slowly until the level is approximately 1-inch below the bottom of the filler neck.

Lubricate the combine completely. Service air cleaner, and check oil level of hydraulic units, transmission, and final drives. See Lubrication section.

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

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

STARTING THE GASOLINE ENGINE

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

neutral, and clutch pedal fully depressed before starting engine.

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

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. Move throttle lever one-quarter open.

4. Move choke lever all the way open. If engine is warm, start engine without choking.

5. Depress clutch pedal, and turn key as far clockwise as possible. (Do not crank engine longer than 30 seconds at a time. Prolonged cranking may cause starter to overheat. Wait a minute or two before trying again.)

6. After engine starts, release key and push choke control rearward. Check oil pressure gauge to make certain it is registering pressure; if not, stop engine and determine cause.

7. Release clutch, warm engine and transmission for five minutes at fast idle—no load. Do not operate combine during warm up.

STARTING THE DIESEL ENGINE

1. Make certain the separator, cutting platform, and grain tank unloading auger throw-out levers are disengaged, the gearshift lever is in neutral, and clutch pedal fully depressed before starting engine.

2. If the engine has not been operated for a long period of time, or if the fuel tank has run dry, it is necessary to bleed the entire fuel system to remove air bubbles. See page 81 for bleeding procedure.

CAUTION: If possible never let the fuel tank run dry.

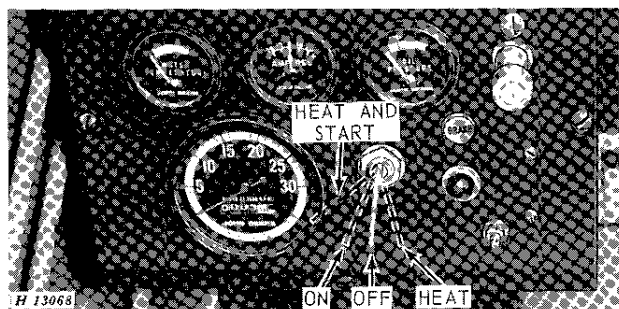
3. Lift the plunger and move throttle to one-quarter open.

4. The diesel engine is equipped with electrical combustion chamber pre-heaters called glow plugs, located above the fuel injectors. They

10 Operation

are used when starting a cold engine, but need not be used when starting a hot engine.

To start engine, stroke primer pump when necessary, turn key counter-clockwise, and heat glow plugs as specified in the chart.



Primer Pump Chart

Temperature	Prime	Preheat Time
Warm engine	None	30 seconds
Above 32°F.	2 strokes	30 seconds
32°F. to 0°F.	3 strokes	30 seconds
Below 0°F.	4 strokes	30 seconds

NOTE: Do not prime more than specified in chart.

IMPORTANT: Lock plunger in place after using pump.

5. Depress clutch pedal. Turn key switch clockwise as far as possible to heat glow plugs and crank engine at the same time.

6. After engine starts, release key. Check oil pressure gauge to make certain it is registering pressure; if not, stop engine and determine cause.

7. Release clutch, warm engine and transmission for five minutes at fast idle - no load. Do not operate combine during warm-up.

COMBINE AND ENGINE BREAK-IN

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. 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.

Lubricate the straw walker bearing blocks with SAE multipurpose grease after the first 5 hours of operation for the first three days; then every 150 hours of operation or every season (whichever comes first).

Follow the lubrication instructions and charts closely.

Check water level in radiator. Fill with rain water, if available. Do not use water containing alkali. *If combine is being operated at temperatures below 32°F., refer to "Cold weather operation."*

Your new engine was shipped from the factory with SAE 10W-30 oil Service DS for gasoline engines or Service DM for diesel engines in the crankcase. Check crankcase oil level.

To promote good ring seating and to prevent cylinder wall glazing, put the engine to work as soon as possible. Do not overload. Second gear will give the best load during early operation. If prolonged transport periods are required, use third gear. This will keep torque level up and induce ring seating.

After the first 20 hours of operation, drain the oil from the crankcase. Replace the engine oil filter and clean the hydraulic reservoir oil filter. Fill with the proper viscosity of oil as specified in the Lubrication section of this manual.

STOPPING THE ENGINE

GASOLINE ENGINE

Set engine at slow idle speed and allow engine to run at this speed for a few minutes before stopping. Turn off key and set parking brake.

DIESEL ENGINE

Set engine at slow idle speed and allow engine to run at this speed until temperature gauge drops well into white range on dial. Lift plunger, move throttle to rear and turn off key.

CAUTION: Do not attempt to stop engine by turning off fuel supply at tank. Doing so will cause injection pump to run dry and damage internal parts.

STARTING THE COMBINE

CAUTION: Make certain no one is standing near enough to the combine to touch any moving parts. Warn everyone to stand clear.

When engine is properly warmed up, move separator throw-out lever forward to engage the separator. Push throttle lever all the way forward.

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.

Test operation of hydraulic control for adjusting cutting platform height.

Test operation of grain tank unloading auger.

Test operation of hydraulic selective ground speed control.

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

Test operation of hydraulic leveling system with the manual leveling control lever.

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

Disengage separator, shut off engine, and close doors at bottom of elevators.

SELECTING PROPER GROUND SPEED

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 chart on page 3 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.

TRANSPORTING

When transporting, drive combine under its own power or load it on a truck. Combine may be towed with caution.

This combine is designed for easy and safe transporting. The width of the combine can be reduced by folding the unloading auger back along the separator and removing the cutting platform. The radiator screen can be removed to reduce the height.

Over-all dimensions are given on page 4.

If the cutting platform is removed, the hydraulic cylinders must be wired or supported by support chains (special attachment) no closer to separator support channel than 14 inches. Damage may result to hoses if carried too close.

Reduce the spread of noxious weed seeds by cleaning out combine thoroughly before leaving one field and going to the next.

When through cutting in a field, sweep trash and straw from outside of combine, open doors at bottom of elevators and run combine until all straw, trash, and grain are removed from inside of combine before moving to the next field.

CAUTION: When driving the combine on a road or highway at night or during the day, use accessory lights and devices for adequate warning to the operators of other vehicles. In this regard check local governmental regulations. Various safety lights and devices are available from your John Deere dealer.

SPEEDS OF VARIOUS UNITS (FULL THROTTLE—NO LOAD)

Auger, platform.	192 rpm
Beater behind cylinder.	680 to 685 rpm
Beater, front of feeder house.	161 rpm
Cylinder, regular.	816 rpm
Cylinder (extreme low).	196 rpm
Cylinder (extreme high).	1,190 rpm
Elevators.	313 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 3.
Reel.	18 to 53 rpm
Shoe crank.	286 rpm
Straw walker.	213 rpm

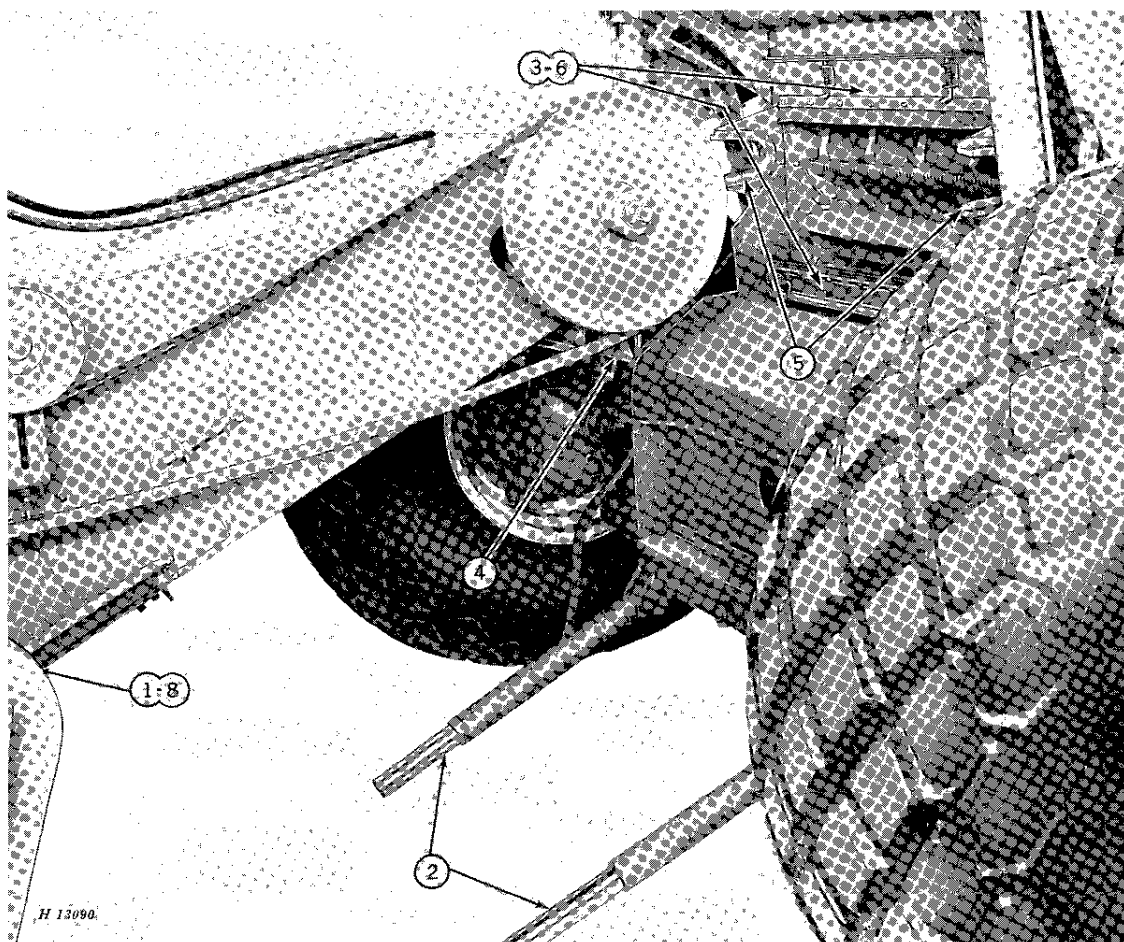
SUGGESTED SETTINGS FOR COMBINING VARIOUS CROPS

(These suggested settings are for average conditions. Different field conditions may make it necessary to change these settings.)

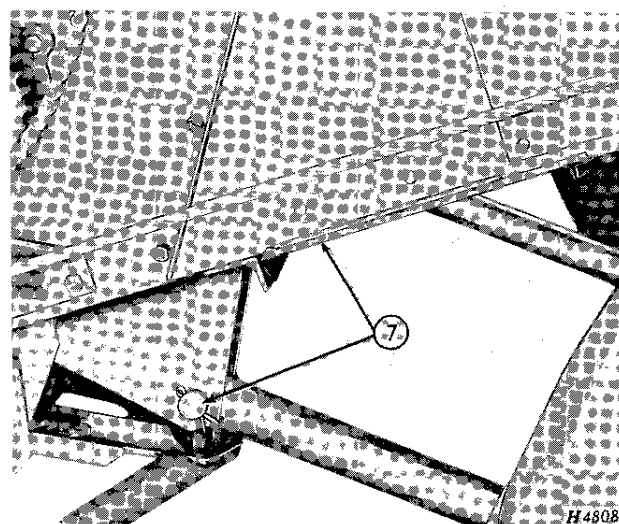
Crop	Cylinder Rpm*	Cylinder to Concave Clearance		Type of Cleaning Sieve	Setting of Adjustable Cleaning Sieve	Setting of Adjustable Chaffer	Setting of Adjustable Cleaning Fan Sheave Rpm	Fan Side Shutter Opening	Grain Conveyor Inserts (Special Attachments)
		Front	Rear						
Alfalfa	793 to 1190	3/16"	1/8"	Adjustable or 1/10" round hole	Slightly open	1/8 open	600-640	Closed	0.050" round holes
Barley—Feed and Malting	765 to 1190	1/2"	1/4"	Adjustable	1/3 to 1/2 open	1/2 to 1/3 open	780-850	1/2 open	0.165" triangle holes
Beans—Edible	323 to 437	1/2" to 3/4"	1/4" to 1/2"	Adjustable	1/2 open	Nearly wide open	800-850	Open	3/32"x3/4" slotted
Beans—White Pea	466 to 656	1/2"	1/4"	Adjustable	1/2 open	2/3 open	810-850	Open	5/32" round holes
Clover—Most Varieties	893 to 1190	3/16" to 5/32"	1/8" to 1/16"	Adjustable or 1/10" round hole	Slightly open	1/4 to 2/3 open	600-640	Closed	0.050" round holes
Grass—Most Varieties	893 to 1190	3/16"	1/8"	Adjustable or 5/32" round hole	1/4 to 1/3 open	1/2 to 2/3 open	600-640	Closed	0.050" round holes
Mustard	765 to 1190	3/8"	1/4"	Adjustable	1/4 to 1/3 open	2/3 open	710-760	Closed	0.070" round holes
Oats	765 to 1190	5/16"	3/16"	Adjustable	1/3 to 1/2 open	3/4 open	760-810	1/2 open	0.125" triangle
Peas—Field	388 to 540	1"	3/4"	Adjustable	1/3 open	2/3 open	790-840	Open	3/32"x3/4" slotted
Peas—Scotch Green	388 to 540	1"	3/4"	Adjustable	1/3 open	2/3 open	800-840	Open	3/32"x3/4" slotted
Peas—Willets Wonder	388 to 540	1"	3/4"	Adjustable (preferred) or 3/8" round hole	1/3 open	2/3 open	790-840	Open	3/32"x3/4" slotted
Proso or Hog Millet	793 to 850	3/16"	1/8"	Adjustable or 5/32" round hole	Slightly open	1/2 open	740-800	1/3 open	0.050" round holes
Rye	893 to 1190	5/16"	1/4"	Adjustable	1/3 open	2/3 open	790-820	1/2 open	0.165" triangle holes
Safflower	756 to 793	1/2"	3/16"	Adjustable	1/2 open	3/4 open	760-830	3/4 open	0.165" triangle holes
Timothy	1190	5/32"	1/16"	Adjustable or 1/10" round hole	Slightly open	1/2 open	610-700	Closed	0.050" round holes
Wheat	893 to 1190	5/16"	3/16"	Adjustable	1/3 to 1/2 open	2/3 open	790-845	2/3 open	0.165" triangle holes

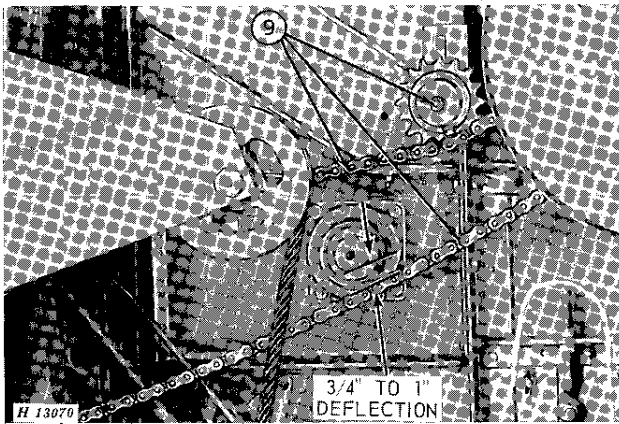
*See cylinder speed chart for sprocket combinations - page 50.

ATTACHING CUTTING PLATFORM

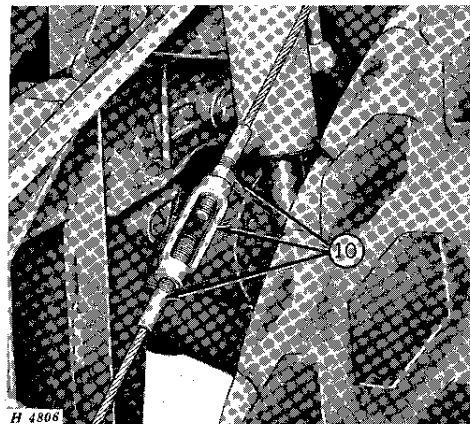


1. Block up platform under brackets.
2. Wire up hydraulic cylinders.
3. Remove the cylinder front door and the lower grain conveyor front door.
4. Raise feeder house hinged plate.
5. Drive separator forward and secure feeder house in pivot brackets on separator with retainers, pins, and cap screws.
6. Install the cylinder front door and the lower grain conveyor front door.
7. Attach hydraulic cylinders to brackets.
8. Remove blocking.





9. Install platform drive chain and adjust chain tension. NOTE: Top of chain must be tight and bottom must have 3/4 to 1-inch deflection



10. Attach platform leveling cables at turnbuckles. (One each side.)

CUTTING PLATFORM LEVELING ADJUSTMENT

To insure satisfactory performance, the cutting platform must be parallel with the main drive wheels. This should be checked periodically.

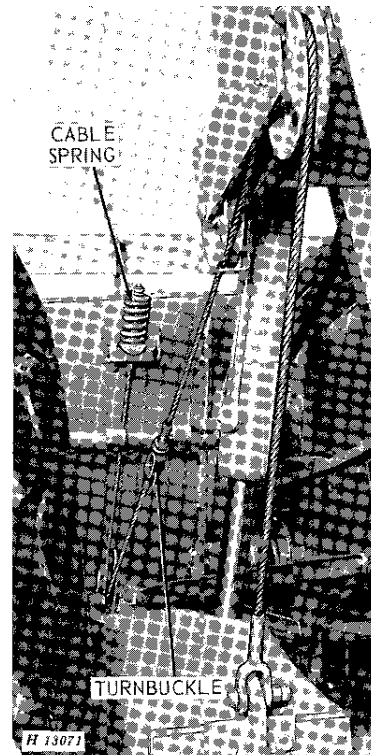
The combine should be located on flat, level ground when making the adjustment. However, if necessary, the adjustment can be made, exercising extreme caution, when the combine is on a hillside.

IMPORTANT: Main drive wheel tires must be inflated to equal tire pressure, otherwise on accurate cutting platform leveling adjustment cannot be made.

Adjust cables equally at the turnbuckles, until the cable springs are compressed approximately 3/8 of an inch, making the compressed length of each spring approximately 3-5/8 inches.

Adjust the cables by loosening and tightening turnbuckles until the cutting platform is parallel with the main drive wheels.

NOTE: When removing cutting platform from the separator, be certain to disconnect front and rear cables at the turnbuckles.



NOTE: When harvesting peas, it may be desirable to loosen tension on the platform leveling cables to prevent damage to cable sheave supports when the platform is riding on the ground.

COLD WEATHER OPERATION

HYDRAULIC UNIT AND CRANKCASE

Use the grade of oil recommended in the lubrication section. Lubricants of the right viscosity are necessary for proper protection.

TRANSMISSION AND FINAL DRIVES

Use only SCL Multipurpose-type SAE 90 gear oil for year-round use; however, if oil is too heavy, thin with SAE 10W oil.

FUEL SYSTEM

Use winter-grade fuel. See recommendations on page 19. Fill the fuel tank at the end of the day's run to prevent moisture from condensing in the fuel tank.

COOLING SYSTEM

When the temperature is likely to be 32° F. or lower, there is danger of water freezing in the cooling system. To prevent this either drain the cooling system at the end of each day's run, or use an antifreeze solution. The use of antifreeze is recommended. *NOTE: All combines are shipped from factory with anti-freeze in radiator.*

Quarts of Ethylene Glycol Required at Lowest Expected Temperature					
+20° F	+10° F	0° F	-10° F	-20° F	-34° F
4	6	8	9-1/2	10-1/2	12

After draining and refilling radiator, add rust inhibitor, available from your John Deere dealer.

BATTERIES

When the temperature drops below freezing, take precautions to avoid damage to the battery cells. A badly discharged battery freezes more quickly than one that is well charged. For example, a battery with a specific gravity reading of 1.175 (discharged) will freeze at 4° F., and a battery with specific gravity reading 1.260 (fully charged) will not freeze until the temperature reaches -65° F.

In freezing weather, do not add water to the batteries unless engine is going to be run. Water

will readily freeze as it will not mix with the electrolyte until the generator passes a charging current through the batteries.

CAUTION: If booster batteries are required see instructions on page 89.

END OF SEASON SERVICE

Follow the suggestions on these pages to be sure your combine is ready to go when the next season starts.

ENGINE

Wash the outside of the engine thoroughly. Use diesel fuel and a stiff brush.

Drain the crankcase, fill with fresh oil (see Lubrication Section) and run the engine at idling speed for 15 to 20 minutes. Be sure to leave oil in crankcase while combine is stored.

Drain and fill the hydraulic system with clean oil (see Lubrication Section). Do not leave hydraulic system dry while combine is stored.

Clean inside of air cleaner, remove dirt from filter and install filter in air cleaner.

Drain out all fuel and leave drain valve open.

Drain water by removing drain plugs from radiator and engine block. Leave out drain plugs so water that might condense in cooling system can drain out.

If combine is stored in the open, remove batteries and store them in a cool, dry place where temperature will stay above freezing. Do not place batteries on a concrete floor as cold tends to draw strength from the batteries. Check and recharge the batteries every 30 days to prevent damage to the plates.

Remove radiator screen and duct and use air or water under pressure, to clean out any dust or dirt accumulated in the radiator core.

Condition engine according to the following specifications and seal exhaust opening, air intake, crankcase breather, and hydraulic oil reservoir breather with sealing tape to prevent entrance of moisture or foreign material.



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Conditioning Gasoline Engine

Operate engine 10 to 15 minutes, using WHITE (non-leaded) gasoline.

Use an oil, produced by a reputable refinery, to condition the combustion chambers of the engine for storage. Either flood the engine with this oil or introduce the oil through spark plug openings, depending upon the oil manufacturer's recommendations.

Conditioning Diesel Engine

Drain the fuel tank, lines and both fuel filters. Add approximately 2 gallons of kerosene and oil mixture (50 per cent water-white kerosene and 50 per cent SAE-10W rust preventive type engine oil) to fuel tank. Prime and bleed fuel system, using hand primer on fuel transfer pump. Start engine and run engine until exhaust appears light blue, indicating that the oil and kerosene have entered the fuel system; then stop engine. This mixture will protect fuel injection pump, injector lines, and injectors from rust.

Remove air intake tube at the manifold (see illustration, page 93) and move throttle lever rearward to keep engine from firing. Squirt approximately two teaspoonfuls of a rust preventive type engine oil into each of the intake ports. Turn engine over slowly to spread oil over the cylinder walls.

COMBINE

If possible, shelter the combine in a dry place.

Clean the combine thoroughly inside and out. Chaff and dirt will draw moisture, and rust the steel.

Remove belts, clean and wrap them in burlap, and store in a cool, dark place. Clean chains thoroughly and brush on fairly heavy oil to prevent corrosion.

Clean out augers and elevators. Leave doors open at bottom of elevators.

Clean out bottom of grain tank and unloading auger. Open clean-out door.

Clean the chaffer and sieve.

Grease feeder house conveyor bottom so it will not rust.

Lubricate combine completely. See Lubrication Charts. Grease the threads on bolts used for adjustments. Apply a coating of grease to slip clutch jaws.

Paint all parts from which paint has worn.

Support cutting platform with blocks to level it.

Block up combine, taking load off tires. Do not deflate tires. If combine is stored outside remove wheels and tires and store in a cool, dark, dry place.

Block clutch pedal in disengaged position to prevent damage to clutch plates during storage.

Release spring tension on slip clutches.

On the electromagnetic throw-out clutch for the cutting platform, place a few drops of SAE-10W oil on the four studs for the face plate.

List the repairs that will be needed before the next season and order them early. Your John Deere dealer can give better service during the off season, and when parts are received, they can be installed in your spare time—no delay at harvest time.

BEGINNING OF THE SEASON SERVICE

Before the next harvest season, make the following checks and adjustments to avoid costly breakdown during the harvest season.

ENGINE

Check oil level in crankcase, hydraulic unit, final drives, and transmission.

Clean inside of air cleaner and install new filter element.

Install the batteries. Check electrolyte level and recharge batteries.

Flush radiator, install drain plugs, and fill with clean rain water if obtainable. Do not use water containing alkali. Add Summer Engine Coolant Conditioner to radiator for summer operation. (Page 93.)

Remove sealing tape from all engine openings.

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