# 95H
# Combines

JOHN DEERE

## OPERATORS MANUAL

95H
Combines

OMH63964 Issue A7 English

**OMH63964 Issue A7**

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ENGLISH

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OMH63964 A7

# 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 above the starter.

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.** _____

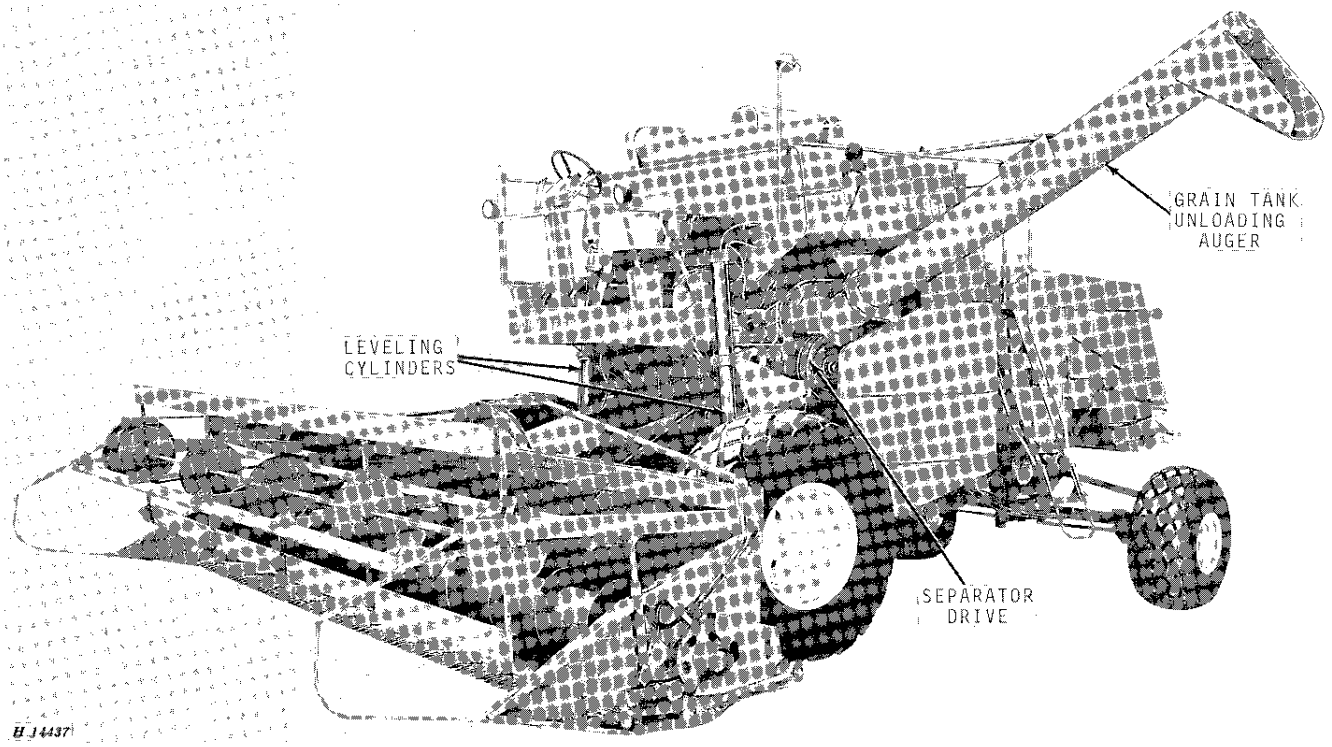
**Engine Serial No.** _____

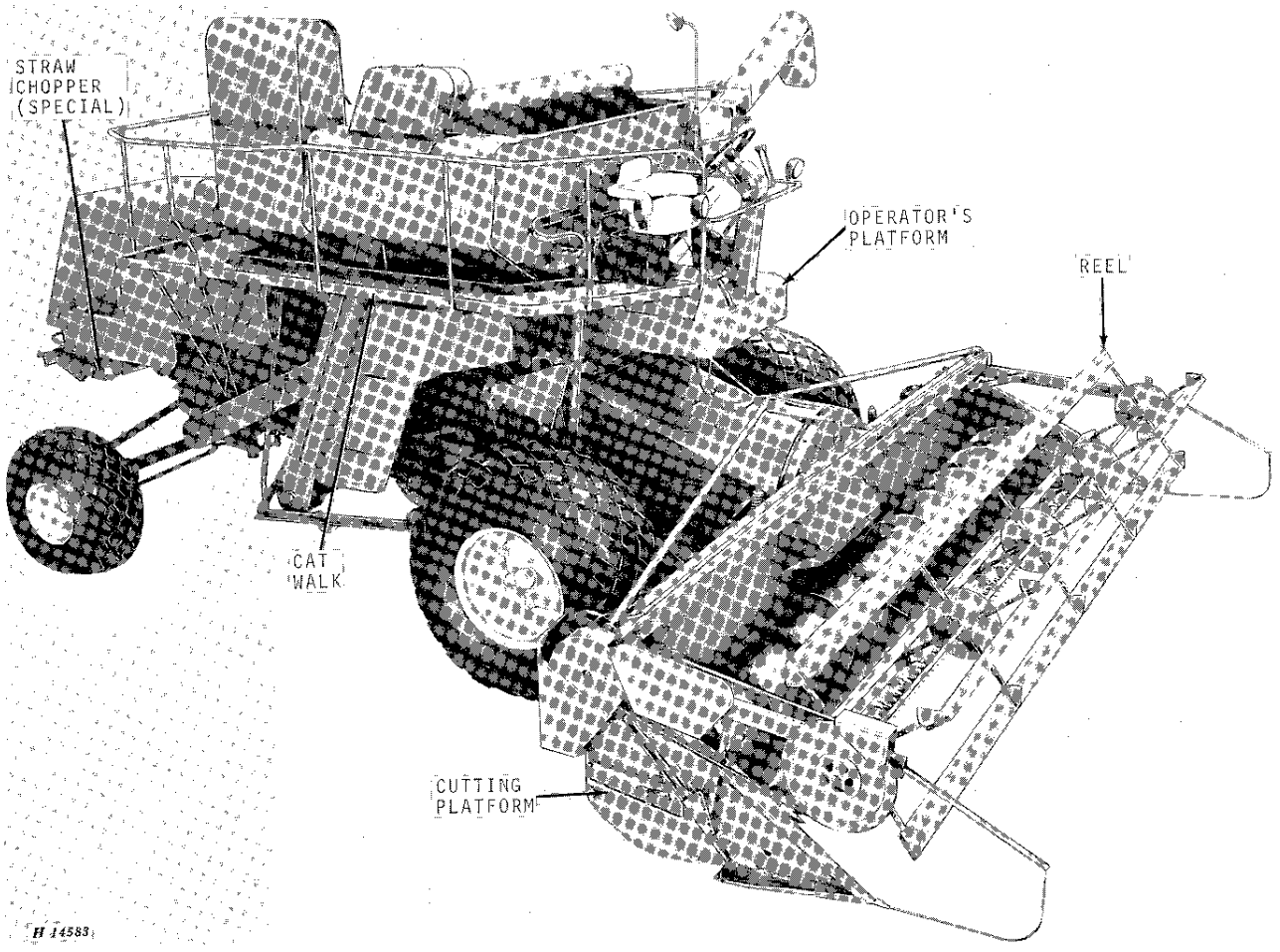
**Axle Serial No.** _____

**Cutting Platform Serial No.** _____

**Date Purchased** _____

## CONTENTS


GRAIN TANK
UNLOADING
AUGER
LEVELING
CYLINDERS
SEPARATOR
DRIVE
H 14437


STRAW
CHOPPER
(SPECIAL)
OPERATOR'S
PLATFORM
REEL
CAT
WALK
CUTTING
PLATFORM
H 14583

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# SPECIFICATIONS

CUTTER BAR
- Width of cut . . . . . 16-ft. or 18-ft.
- Length of cutter bar . . . . . 15-ft. 6-in., or 17-ft. 6-in.
- Type of knife sections . . . . . Heavy-duty overserrated

REEL
- 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

CUTTING PLATFORM
- 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

CUTTING PLATFORM AUGER
- Diameter. . . . . 20-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 (five 19-tooth bars and five 20-tooth bars)
- Drive. . . . . Roller chain
- Speed range. . . . . 196 rpm to 1190 rpm

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

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

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

SEPARATOR
- 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.

GRAIN CONVEYOR
- Type. . . . . Slat
- Drive. . . . . Chain (CA550 roller)

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

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

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

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

TOTAL CLEANING AREA OF CHAFFER, SIEVE, AND CHAFFER EXTENSION. . . . . 4,061 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. . . . 80-bushel, approx. (Type and condition of crop will determine actual volume)
- Type of unloading. . . . . Hinged auger

BRAKES
- Type. . . . . Individual, mechanical disk-type

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

STEERING. . . . . Full power

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

WEIGHT
- 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 | (Min.) | (Max.) |
|---|---|---|
| 1st Gear | .7 to | 1.6 mph |
| 2nd Gear | 1.5 to | 3.3 mph |
| 3rd Gear | 2.9 to | 6.5 mph |
| 4th Gear | 5.8 to | 13.1 mph |
| Reverse | 2.0 to | 4.5 mph |

| 26.5-25 TIRES | (Min.) | (Max.) |
|---|---|---|
| 1st Gear | .8 to | 1.8 mph |
| 2nd Gear | 1.6 to | 3.7 mph |
| 3rd Gear | 3.3 to | 7.4 mph |
| 4th Gear | 6.6 to | 14.8 mph |
| Reverse | 2.3 to | 5.1 mph |

## CAPACITIES (APPROX.)

| | |
|---|---|
| Fuel tank | 40 U.S. gallons—diesel<br>60 U.S. gallons—gasoline |
| Cooling system | 7 U.S. gallons |
| Engine crankcase | 10 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 HC303G |
| Bore | 3.86 in. |
| Stroke | 4.33 in. |
| Brake horse power | 100* |
| Number of cylinders | 6 |
| Piston displacement | 303 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 | .014-in. |
| Exhaust | .022-in. |
| Make of governor | John Deere |
| Make of carburetor | Marvel-Schebler |
| Air cleaner | Dry type |
| Spark Plug | Size 14 mm-gap .025-in. |
| Electrical system | 12 volt |
| Cooling system | Water pressure |
| Type of fuel | Gasoline (regular) |
| Oil filter | Full flow |

## DIESEL ENGINE

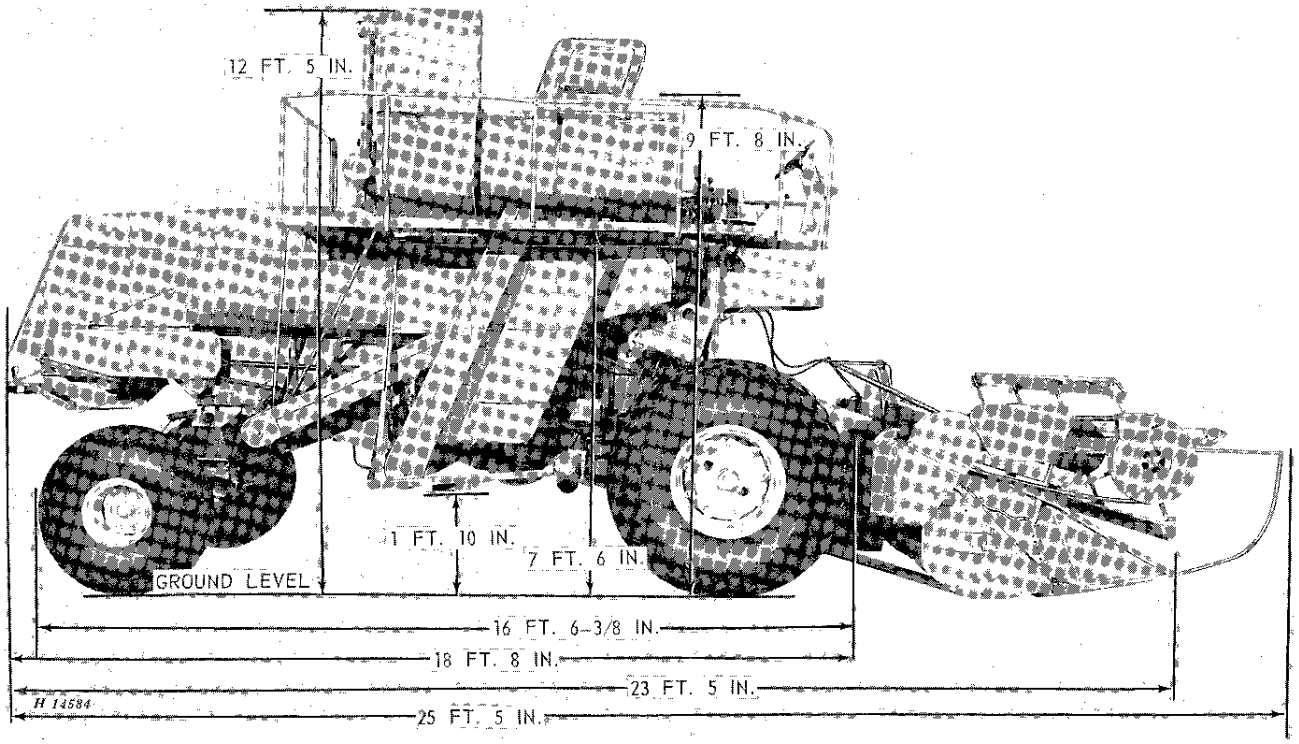
| | |
|---|---|
| Make and model of engine | John Deere HA303D |
| Bore | 3.86 in. |
| Stroke | 4.33 in. |
| Brake horse power | 100* |
| Number of cylinders | 6 |
| Piston displacement | 303 cu. in. |
| Maximum load speed | 2500 rpm |
| Firing order | 1-5-3-6-2-4 |
| Crankcase | Cast integral with block |
| Type of lubrication | Force feed by gear pump |
| Valve arrangement | Valve in head |
| Valve clearance: | |
| Intake | .014-in. |
| Exhaust | .018-in. |
| Make of injection pump | Roosa-Master |
| Make of fuel injection nozzles | Roosa-Master |
| 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 |

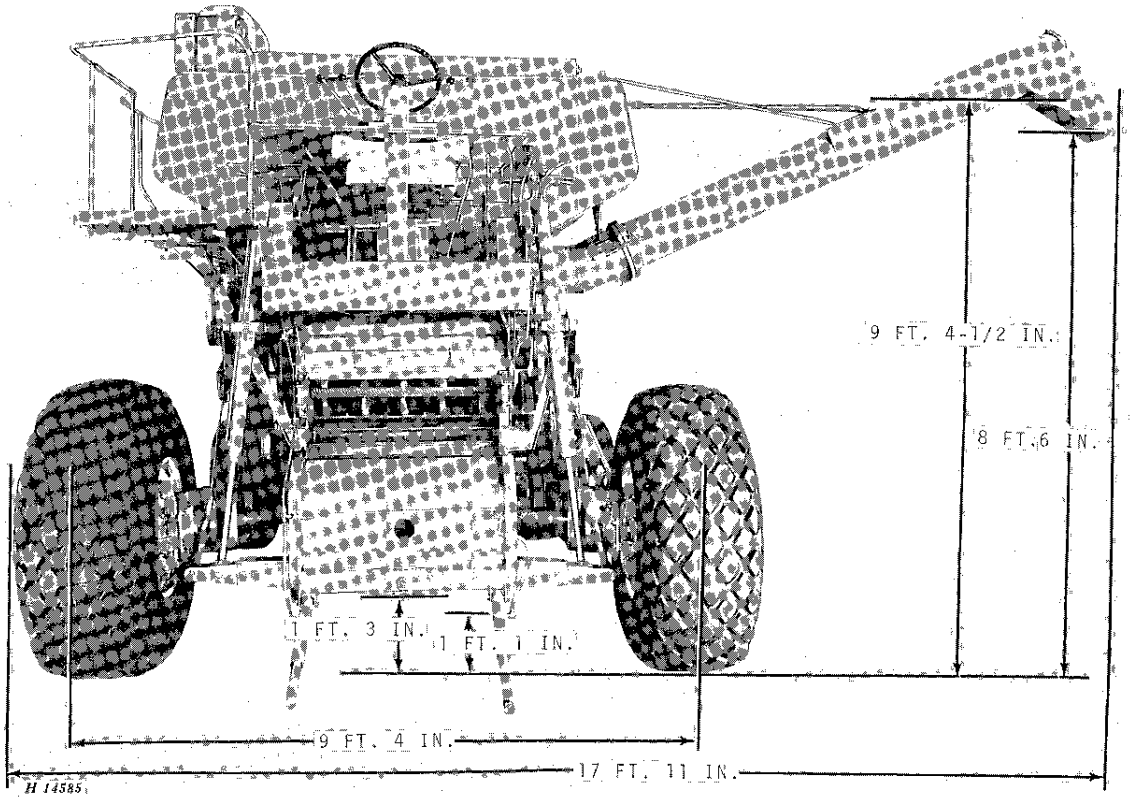
*(Specifications and design subject to change without notice.)*

**Factory observed at 85°F. and 29.38 in. Hg. at 500 ft. above sea level.*

## COMBINE DIMENSIONS—OVER-ALL

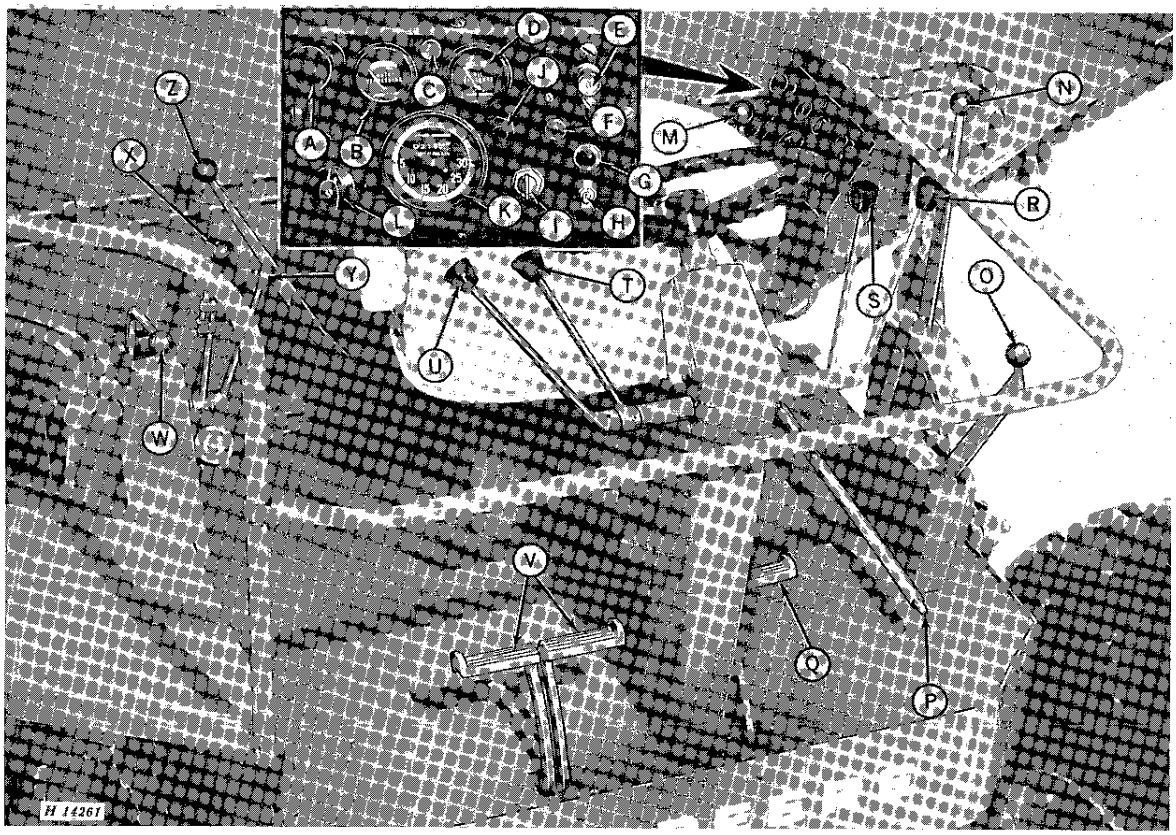
*NOTE: Dimensions are for combine equipped with 23.1-26 front tires and 18.4-16A rear tires.*



# 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.




A – Instrument Panel Light
B – Water Temperature Gauge
C – Alternator Warning Light
D – Oil Pressure Gauge
E – Cutting Platform Throw-Out Switch
F – Parking Brake Warning Light
G – Leveling Limit Warning Light
H – Automatic Leveling Control Cut-Off Switch
I – Key Switch
J – Starter Button
K – Tachometer Hour Meter (Special)
L – Light Switch
M – Separator Throw-Out Lever
N – *Concave Front Adjusting Lever*
O – *Grain Tank Unloading Auger Lever*
P – Parking Brake Lever
Q – Clutch Pedal
R – Reel Variable Speed Control Lever
S – Reel Hydraulic Lift Control Lever
T – Cutting Platform Height Control Lever
U – Selective Ground Speed Control Lever
V – Brake Pedals
W – Transmission Gearshift Lever
X – Throttle Control Lever
Y – Choke Control Lever – Gasoline only
Z – Manual Leveling Control Lever

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.

### WATER TEMPERATURE GAUGE

This gauge indicates the water temperature in the cooling system. Normal operating temperature is 160° to 219°F. (indicated by green band on dial). If 219° F. or above (indicated by red band on dial), stop engine and determine cause.

### ALTERNATOR WARNING LIGHT

This light indicates whether or not the alternator is charging. Should the light go on while the engine is running, alternator is not charging; stop engine and determine cause.

### OIL PRESSURE GAUGE

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

### 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, then when the 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 is turned on. This is a precaution against moving the combine with the parking brake engaged.

### LEVELING LIMIT WARNING LIGHT

The leveling limit warning 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.

### 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.

### SEPARATOR THROW-OUT LEVER

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

### CONCAVE FRONT ADJUSTING LEVER

Move lever forward to open front of concave; move lever rearward to close front of concave.

### GRAIN TANK UNLOADING AUGER LEVER

Pull the lever rearward to engage the auger. To disengage auger, move the lever forward. Grain tank unloading drive and separator drive are independent. If the engine is running, the separator can be stopped without affecting unloading of the grain tank.

### 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.*

### REEL VARIABLE SPEED CONTROL LEVER

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

### REEL HYDRAULIC LIFT CONTROL LEVER

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

## CUTTING PLATFORM HEIGHT CONTROL LEVER

This lever hydraulically controls the height of the cutting platform. Move the lever forward to lower cutting platform; pull it rearward to raise cutting platform. When released, the lever automatically returns to neutral position and the cutting platform remains at selected position. As a safety measure, cutting platform height cannot be changed unless the engine is running.

## 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. Separator speed remains constant.

## TRANSMISSION GEARSHIFT LEVER

The combine has four forward speed ranges and one reverse range. Position the gearshift lever for different transmission speed ranges according to the diagram.

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

## THROTTLE CONTROL LEVER

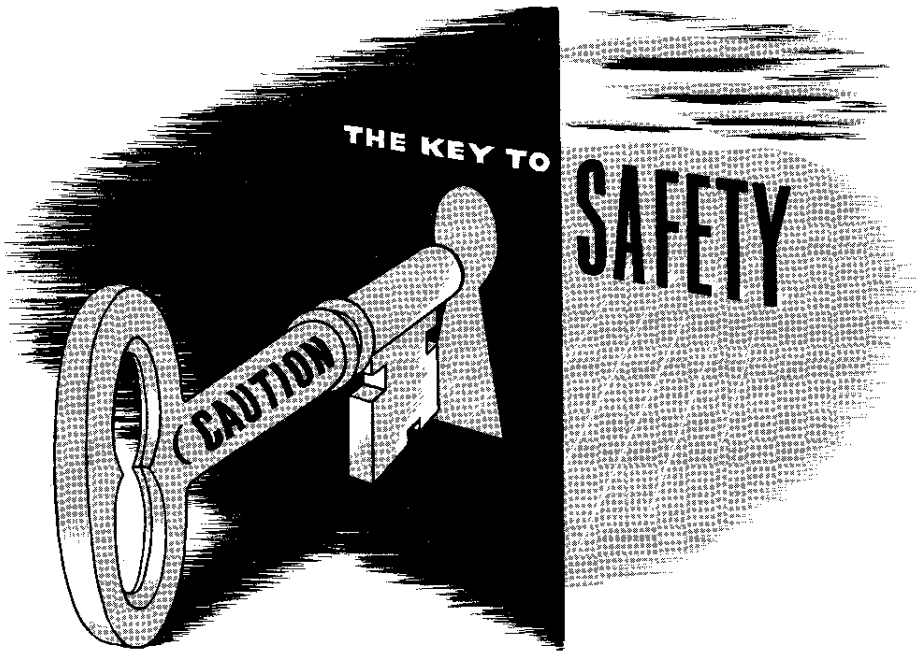
Move lever one quarter forward from rear to start engine. NOTE: On combines with diesel engine, it is necessary to lift plunger on the throttle lever before the lever can be moved. Move lever all the way rearward for slow idle; move lever all the way forward for normal operation.

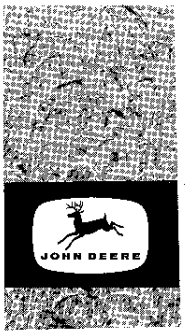
## MANUAL LEVELING CONTROL LEVER

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.

## CHOKE CONTROL LEVER

Move lever all the way forward when starting engine. After engine has started, and for normal operation, move lever all the way rearward.






# 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.

Check all hydraulic fittings.

## 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 during break-in period.

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.

Follow the lubrication instructions and charts closely.

Check coolant level in radiator. Add proper coolant as necessary. Do not use water containing alkali. If combine is being operated at temperatures below 32° F., refer to "Cold Weather Operation."

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 100 hours of operation, drain the oil from the crankcase. Replace the oil filter and clean the hydraulic reservoir oil filter. Fill with the proper viscosity and service of oil as specified in the lubrication section of this manual.

If it is necessary to add oil to the crankcase during break-in period, use oil as recommended on page 19.

## STARTING THE ENGINE

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.

GASOLINE ENGINE

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.*

Move throttle lever one-quarter open. Move choke lever all the way forward, depress clutch pedal, turn key to "ON" and press starter button. After engine starts, release starter button and push choke control rearward. Check oil pressure gauge to make certain it is registering pressure; if not, stop engine and determine cause.

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

DIESEL ENGINE

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 72 for bleeding procedure.

**CAUTION: Never let the fuel tank run dry.**

Move throttle to one-quarter open, depress clutch pedal, turn key to "ON" and press starter button.

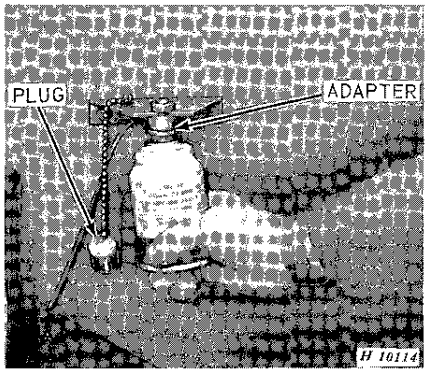
After engine starts, release starter button and check oil pressure gauge to make certain it is registering pressure; if not, stop and determine cause.

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

COLD WEATHER STARTING AID

Diesel engines are equipped with an ether starting fluid adapter which is used to inject atomized starting fluid into the engine air intake system. Normally ether is used for starting at temperatures below 32° F. Pressurized cans of starting fluid are available from your John Deere dealer.

To use the starting fluid, remove the safety cap and plastic spray button from the can. Remove the cap from the adapter and position the can under the adapter.




To inject starting fluid, push up on the can.

**CAUTION: To avoid damage, turn engine with starter one or two revolutions before injecting starting fluid. Inject starting fluid only while the engine is turning.**

Relax pressure on the can between "shots" of starting fluid. Stop injecting fluid after the engine starts. If the engine begins to die during the first few minutes of operation, inject another "shot" of fluid. When the engine is operating satisfactorily, remove the can from the adapter and replace the safety cap on the can.

Be certain to install the cap on the adapter when it is not in use. This will prevent dust from being drawn into the engine.

**CAUTION: Ether starting fluid is highly flammable. Store starting fluid cans where they will not be subject to extreme cold or warm temperatures. For best results, store fluid at room temperature.**

## STOPPING THE ENGINE

GASOLINE ENGINE

Set engine at half throttle (approximately 1200 rpm) and allow engine to run at this speed for a few minutes before stopping.

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. 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 | 144 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 |

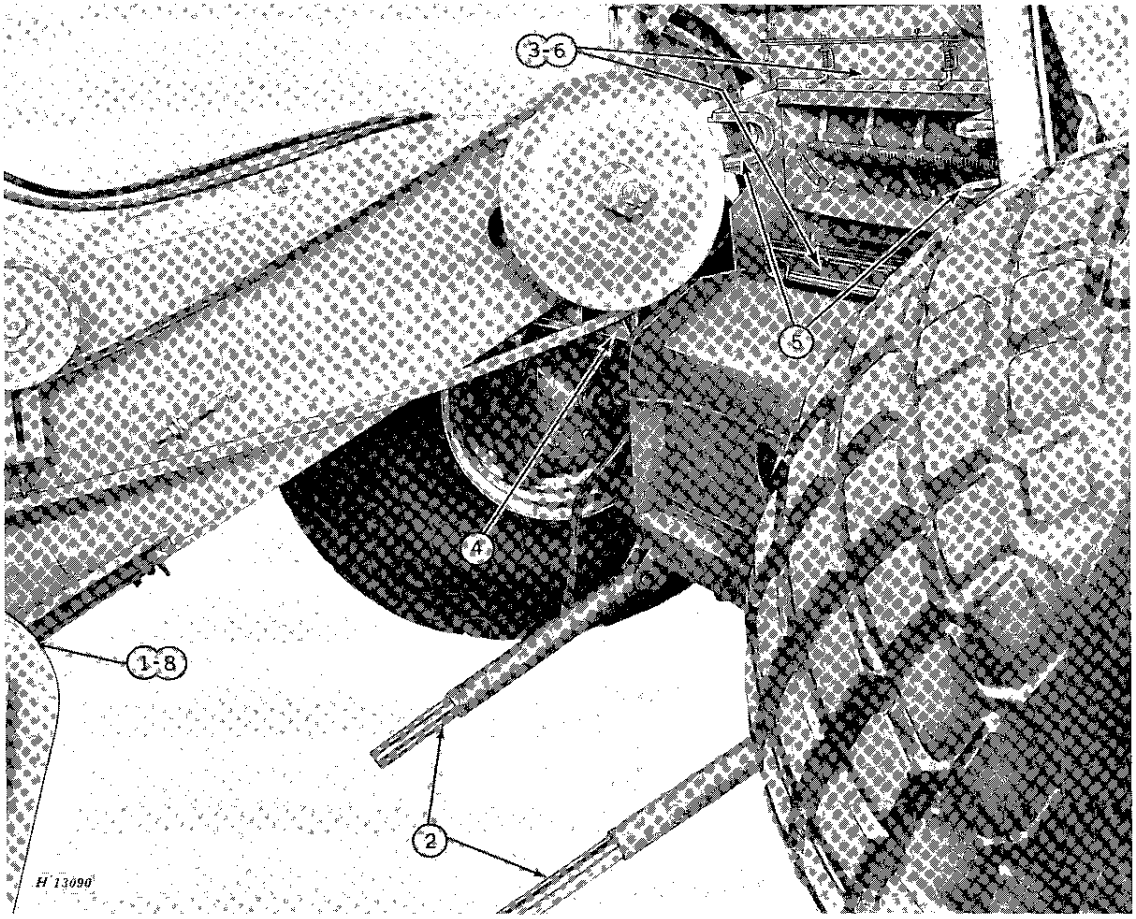
## SUGGESTED SETTINGS FOR COMBINING VARIOUS CROPS

*(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.

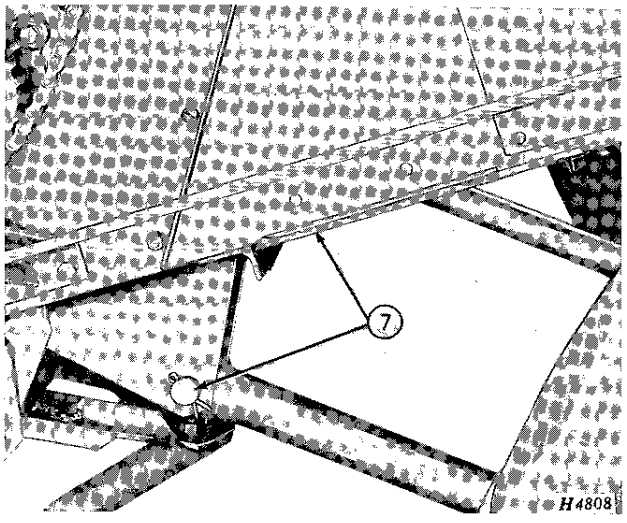
4. Raise feeder house hinged plate.

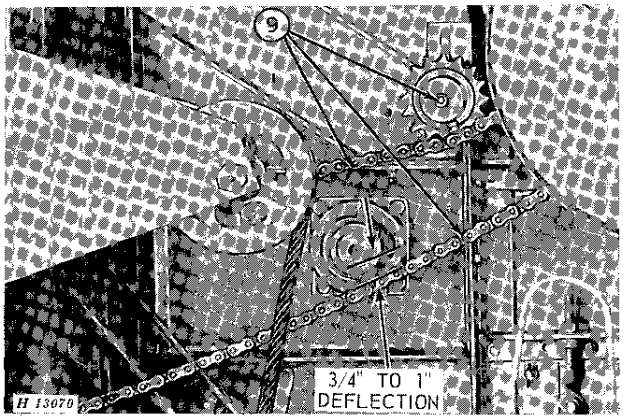
5. Drive separator forward and secure feeder house in pivot brackets on separator with retainers, pins, and cap screws.

6. Install the cylinder front door and the lower grain conveyor front door.

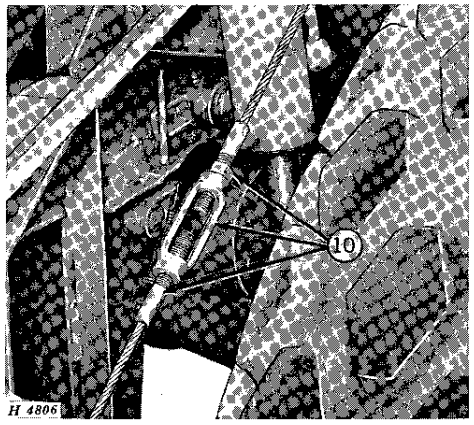
7. Attach hydraulic cylinders to brackets.

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.

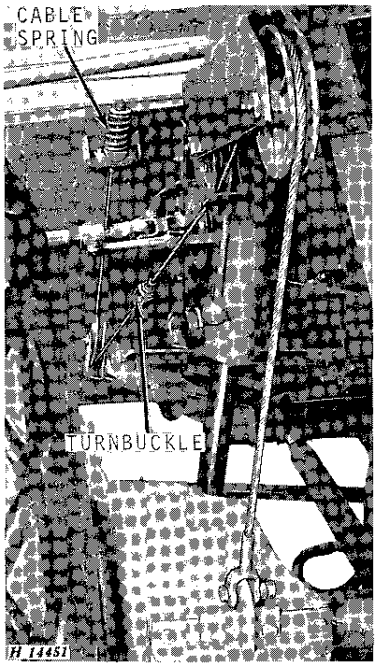
The combine should be located on flat, level ground when making the adjustment. However, if necessary, the adjustment can be made, exercising extreme caution, when the combine is on a hillside.

**IMPORTANT: Main drive wheel tires must be inflated to equal tire pressure, otherwise an 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.*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## 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-around use.

FUEL SYSTEM

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

COOLING SYSTEM

Drain, flush and fill cooling system with a recognized brand of radiator sealer and antifreeze solution. Use a permanent-type (ethylene glycol) antifreeze solution containing rust inhibitors. This type of antifreeze is resistant to evaporation when heated. See page 84.

| *Quarts of Ethylene Glycol Required at Lowest Expected Temperature* | | | | | |
|---|---|---|---|---|---|
| +20°F. | +10°F. | 0°F. | -10°F. | -20°F. | -34°F. |
| 5-1/4 | 8 | 10-1/2 | 12-1/2 | 14 | 16 |

After following manufacturer's instructions, check system for leaks.

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 1.300 (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 alternator passes a charging current through the batteries.

**CAUTION: If booster batteries are required see instructions on page 79.**

## END OF SEASON SERVICE

It is recommended that AR41785 kit be used when preparing combine and engine for storage. This includes rust inhibitor, tape, and plastic bags required in the following steps.

ENGINE

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

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

3. With engine warm, drain crankcase. Replace filter and fill crankcase with new oil of proper weight and quality. See page 20.

4. Drain, flush, and refill cooling system as follows:

   a. If freezing weather is anticipated, fill system with antifreeze to lower temperature expected per chart.

   b. If warm weather is anticipated, fill with clean, soft water and add T19566T—Summer Engine Coolant Conditioner.

5. Drain gasoline and diesel fuel tanks. On gasoline engines only, drain sediment bowl and drain carburetor by operating engine at fast idle until it stops. Add 1/4 oz. of rust inhibitor for each gallon of fuel tank capacity. See page 3.

6. Add 1 oz. of rust inhibitor for each quart of crankcase capacity. See page 3.

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