30
COMBINE

JOHN DEERE

OPERATORS MANUAL

30
COMBINE

OMH611159 (01NOV59) English

JOHN DEERE HARVESTER WORKS
OMH611159 (01NOV59)

LITHO IN THE U.S.A. (REVISED)
ENGLISH

• FOREWORD •

The combine you have just purchased was designed and manufactured to the traditional high quality standards of all John Deere Farm Equipment. We are confident that you will receive years of dependable economical service from your John Deere 30 Combine.

This manual has been carefully prepared and illustrated to provide you with the necessary information to hook up, adjust, service, lubricate and operate your new John Deere 30 Combine to best advantage.

Read and Study This Manual Carefully. Keep It in a Handy Place and Refer to It Often.

A combine must be constructed to harvest in a wide range of conditions. Average conditions can be handled by the standard equipment with which the combine is shipped. However, unusual conditions may require some special equipment.

The information given in the Manual will afford a clear understanding of the fundamentals of combine harvesting. **The proper use of these fundamentals to suit the condition in which the combine is operating is up to the operator.**

Conditions vary, not only from year to year and section to section, but also from field to field. It is, therefore, obviously impossible to give definite rules for combine operation that will directly apply in every case. It is entirely possible that there are several solutions to any particular threshing problem. For this reason, we give numerous suggestions, some of which may conflict; you can use the one that best suits your needs.

It is often necessary to settle on a compromise of adjustments to save the maximum amount of the crop. To illustrate, in a trashy condition where a large volume of straw stems, weed joints, etc., is being delivered to the cleaning unit along with the grain, it is advisable to open the chaffer and sieve a little wider and accept a slightly dirtier sample rather than to close the chaffer and sieve and receive a cleaner sample but allow too much grain to pass out of machine with the blanket of trash.

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.

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

LOCATION REFERENCE

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

SERIAL NUMBERS

Record the serial number of your combine (and engine if so equipped) in the spaces provided below.

The combine serial number is stamped on the name plate, located on the right-hand side of the separator just above the tailings auger.

The engine serial number is on the engine name plate, located on the front of the engine just above the crankcase oil level gauge.

Combine Serial No......

Engine Serial No......

Date Purchased.....

TABLE OF CONTENTS

Because the first thing **every day, I**

√ Lubricated the combine properly.

√ Made the proper adjustments for the crop and field conditions.

THESE DAILY PRECAUTIONS WILL INSURE GOOD PERFORMANCE AND LONG SERVICE.

SPECIFICATIONS

Distance Between Divider Points	84 in.
Length of Cutter Bar	78 in.
Right- or Left-Hand Cut	Left-Hand
Cutter Bar in Front or to Side of Cylinder	Front
Type of Platform	Hinged
Range of Cutting Height	1-1/2 in. to 30 in.
Type of Conveyor	Conveyor Chain
Reel Drive	Ground-Driven
Reel Adjustable from Tractor Seat	Yes, on Power-Controlled Reel
Number of Slats on Reel	4 Slats (*Six or Eight Slats Optional*)
Type of Cylinder	Rasp-Bar
Width of Cylinder	60 in.
Diameter of Cylinder	15 in.
Speed Range of Cylinder	430 to 1685 rpm
Type of Separation	Unit Rack
Length of Separating Surface	76 in.

(Measured in a straight line from center of cylinder shaft to point of discharge of straw.)

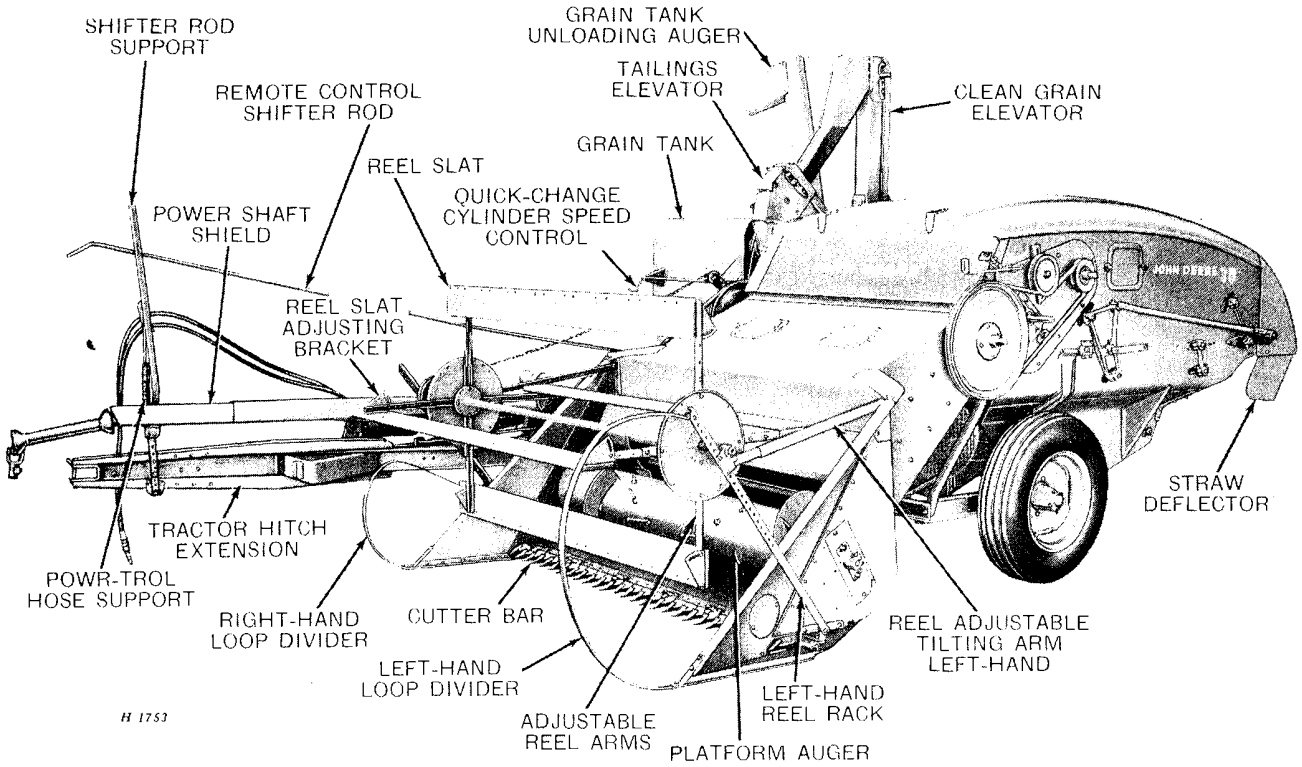
Width and Length of Chaffer and Cleaning Sieves	36 x 34 in.
Width of Separator, Rear	60 in.
Recleaner Available	Yes
Type of Drive	Power Take-Off or Engine
Drive to Cylinder	V-Belt
Number of Wheels	2
Tire Size	7.50 x 16
Wheel Tread—Center-to-Center at Ground Line—Wheels Dished Out	105 in.
Cylinder Bearings	Sealed Ball
Fan and Beater Bearings	Sealed Ball
Wheel Bearings	Tapered Roller
Length Over-All (With Tractor Hitch Extension)	19 ft., 4-in.
Width Over-All	10 ft., 11-1/2 in.
Height Over-All	9 ft., 2 in.
Capacity of Grain Tank	25 bu.
Shipping Weight, Standard Equipped	Approx. 3800 lbs.

(Specifications and design subject to change without notice.)

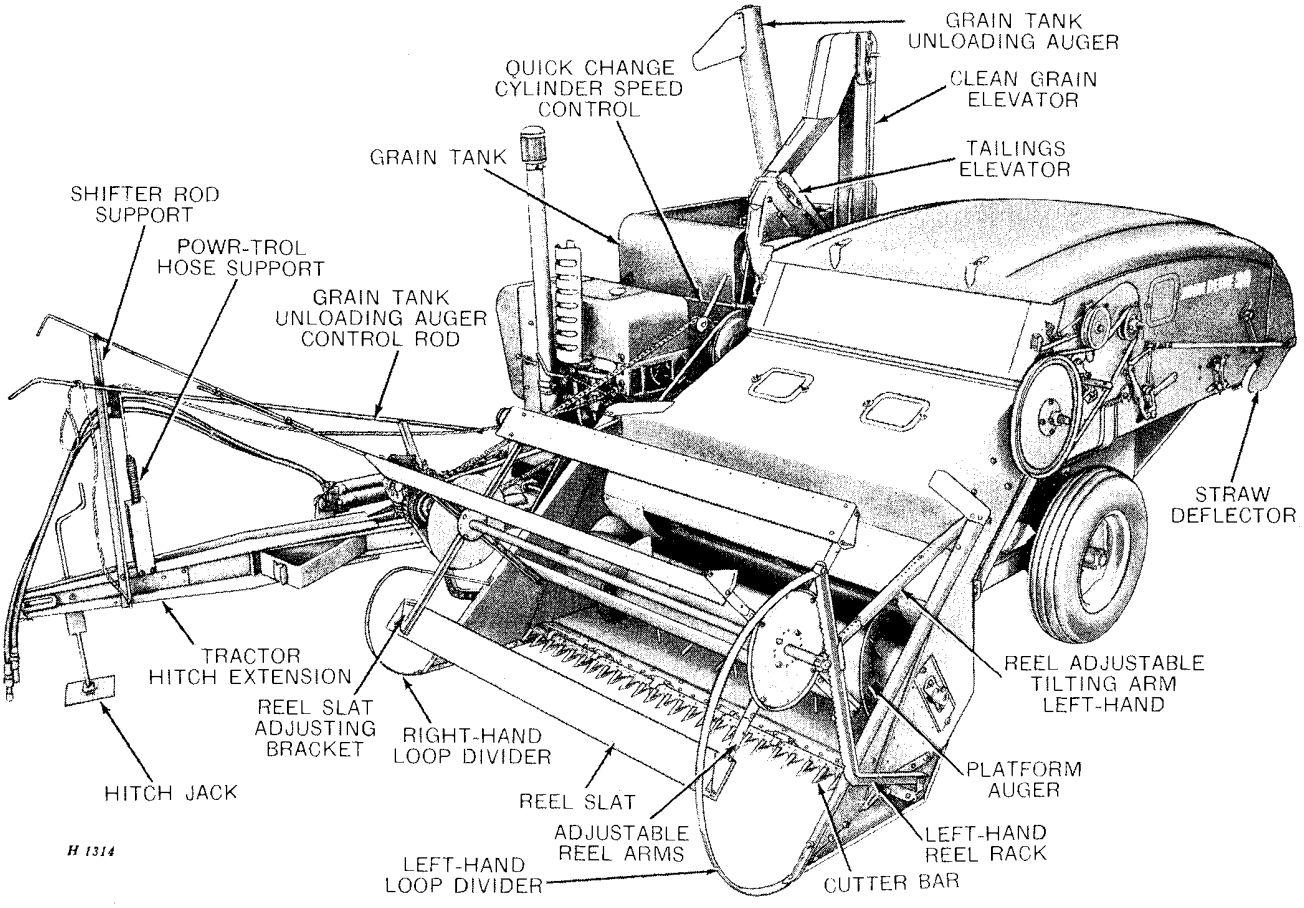
Keeping your equipment in proper adjustment will help to keep it operating efficiently and economically.

BE SAFE

It pays to be careful,
It costs to be careless!



John Deere 30 Combine—PTO-Driven Grain Tank Machine



John Deere 30 Combine—Engine-Driven Grain Tank Machine with Hydraulic Remote Cylinder

LUBRICATION

Economical and efficient operation of any machine depends on regular and proper lubrication of all moving parts with a quality lubricant. This is especially true of farm equipment which must operate in hot, dusty conditions over rough ground. Neglected lubrication quickly leads to reduced efficiency, heavy draft, wear, breakdown, and costly replacement of parts.

Wipe dirt from grease fittings and nozzle of grease gun before greasing.

Replace all missing grease fittings immediately.

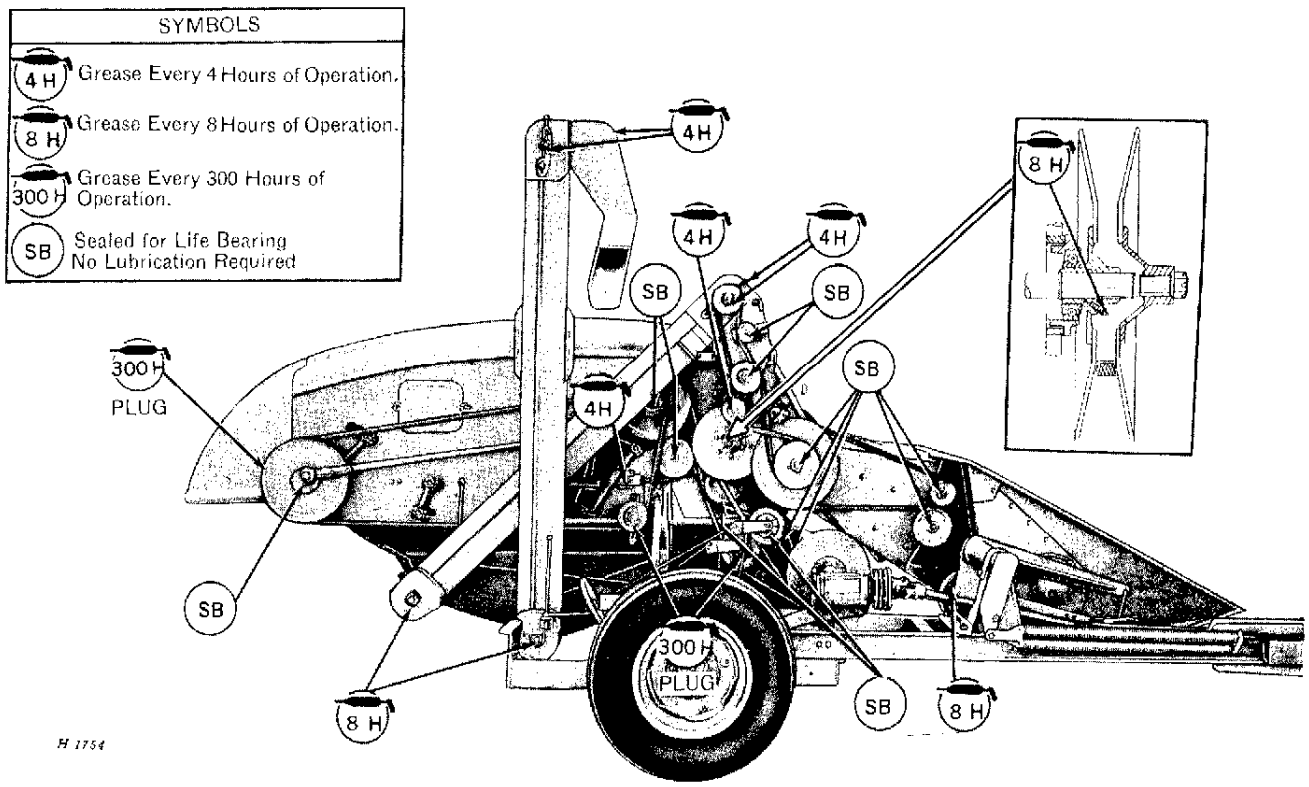
Lubricate at all grease fittings thoroughly, with SAE Multi-Purpose grease, until grease oozes out of bearing. This assures that bearing is full, also flushes out dirt that may have accumulated in the bearing. However, avoid excessive lubrication. Excessive lubricant that has dropped onto belts should be wiped off immediately to avoid slippage of belts. This does not apply to sealed bearings. They are pre-packed and need no lubrication.

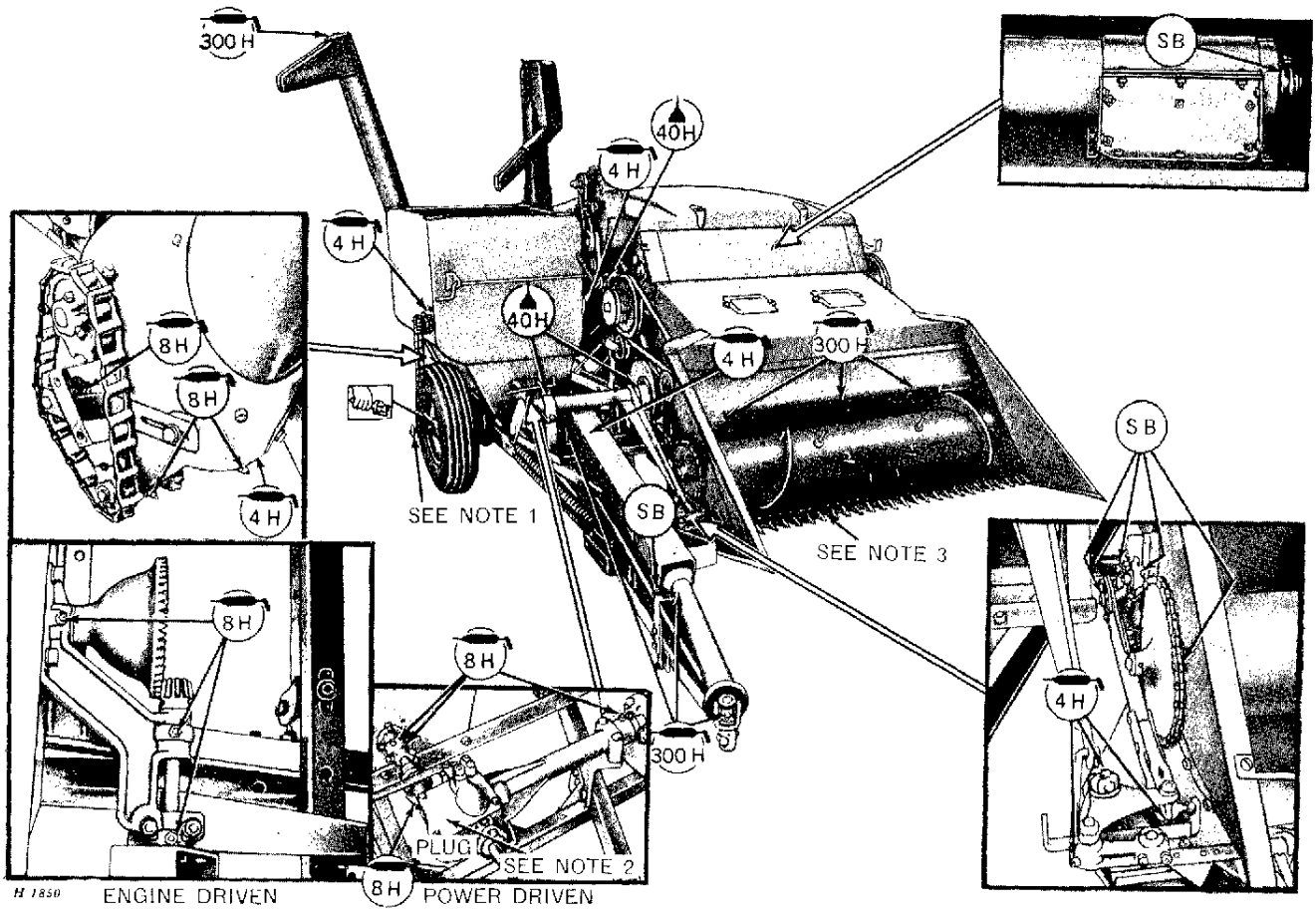
Keep main drive gear case filled with a good grade of SAE Multi-Purpose grease.

Wheel bearings are packed with grease at the factory. They should be repacked at the beginning of each season.

Chains, sprockets, and knife should be oiled except when working in sandy soil conditions.

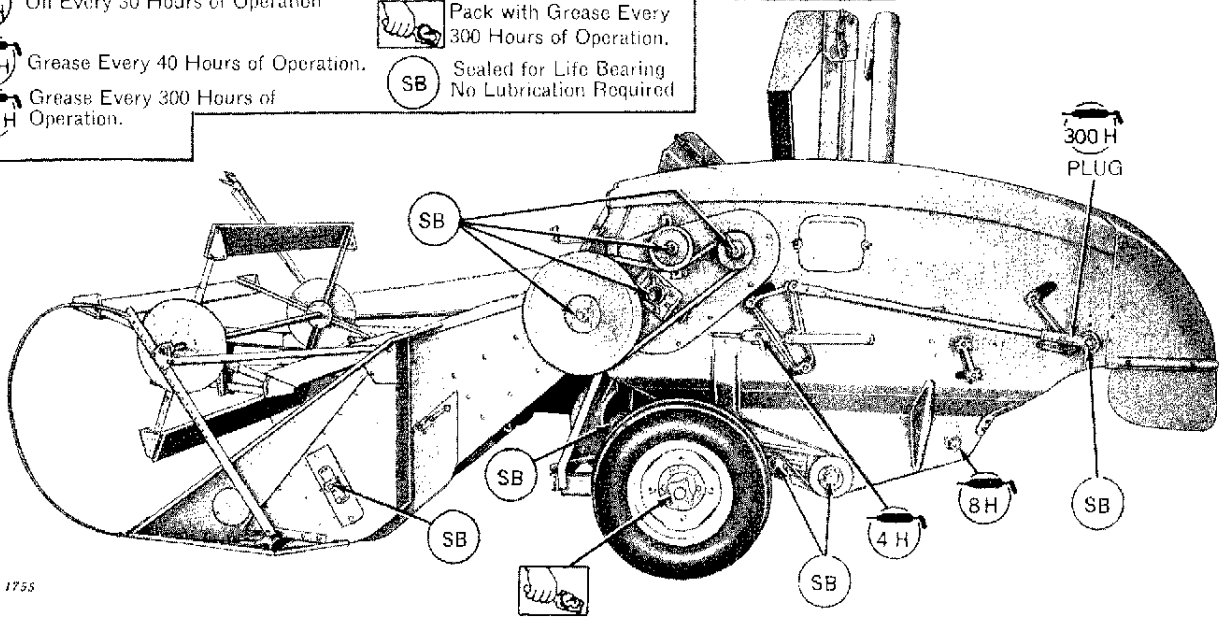
NOTE: The "symbols" on the charts that follow apply to combines that have been thoroughly broken in. When the combine is new, lubricate the bearings more often during the first few days of operation.





SYMBOLS

- 4 H — Grease Every 4 Hours of Operation.
- 8 H — Grease Every 8 Hours of Operation.
- 30H — Oil Every 30 Hours of Operation
- 40H — Grease Every 40 Hours of Operation.
- 300 H — Grease Every 300 Hours of Operation.
- Note 1 Grease Every Time Combine Is Transported.
- Note 2 Check Gear Housing. Keep Filled to Capacity with SAE Multi-Purpose Grease.
- Note 3 Keep Oiled Except When Operating in Dry, Sandy Conditions.
- Pack with Grease Every 300 Hours of Operation.
- SB — Sealed for Life Bearing No Lubrication Required



COMBINE CONTROLS

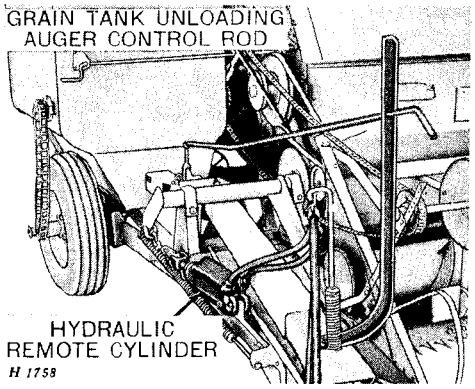
Quick-Change Cylinder Speed Adjusting Crank is used to change the speed of the cylinder to meet varying field conditions.

With the 12-3/4-inch sheave on the cylinder shaft, one turn of the crank clockwise will decrease the speed approximately 25 rpm. One turn counter-clockwise will increase the speed approximately 25 rpm.

With the 15-inch sheave on the cylinder shaft the speed will be decreased or increased approximately 12 rpm with each turn of the crank.

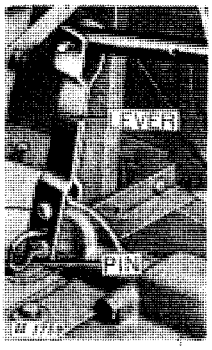
Grain Tank Unloading Auger Gearshift Lever moved forward will disengage the separator and engage the grain tank unloading auger.

Platform Hand Lever moved forward will raise the platform; moved to the rear, it will lower the platform.

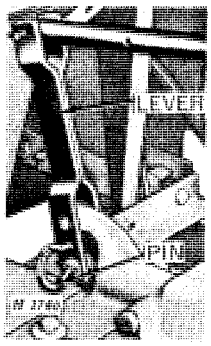


Grain Tank Combine with Hydraulic Remote Cylinder

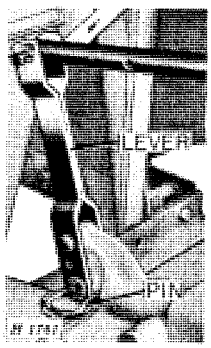
Grain Tank Unloading Auger Control Rod allows grain tank or separator to be engaged or disengaged from tractor seat. Before engaging clutch, stop the forward motion of the combine and disengage the PTO shaft clutch on the tractor.



Separator Engaged. Unloading Auger Disengaged



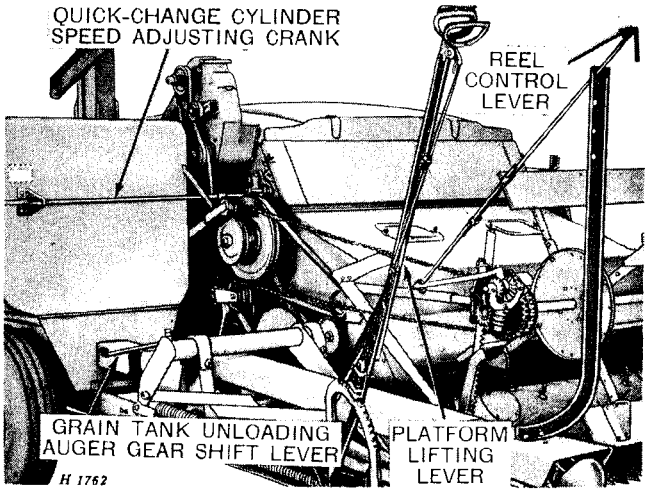
Separator Engaged. Unloading Auger Engaged



Separator Disengaged. Unloading Auger Engaged

Reel Shifter Lever moved forward will lower the reel; moved to the rear, it will raise the reel.

Hydraulic Remote Cylinder is used instead of the platform hand lever to raise or lower the platform. The operation of this cylinder is controlled from the tractor seat.

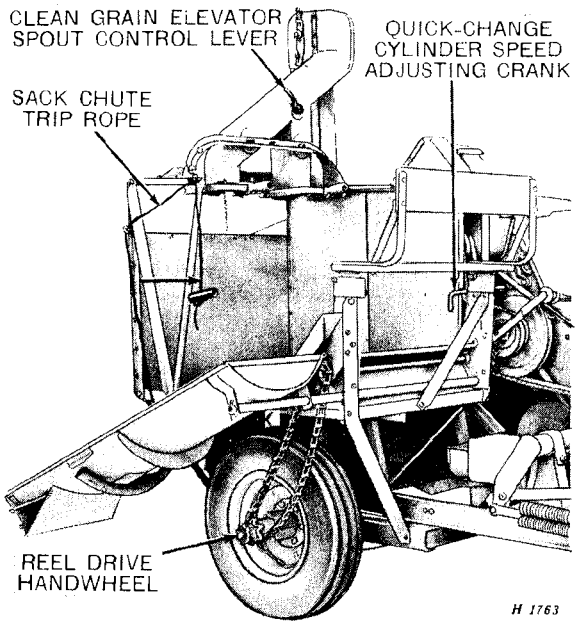


Grain Tank Combine with Hand Levers and Standard Type Gear Case

Sack Chute Trip Rope when pulled forward releases the door at the rear of chute, depositing filled sacks on the ground.

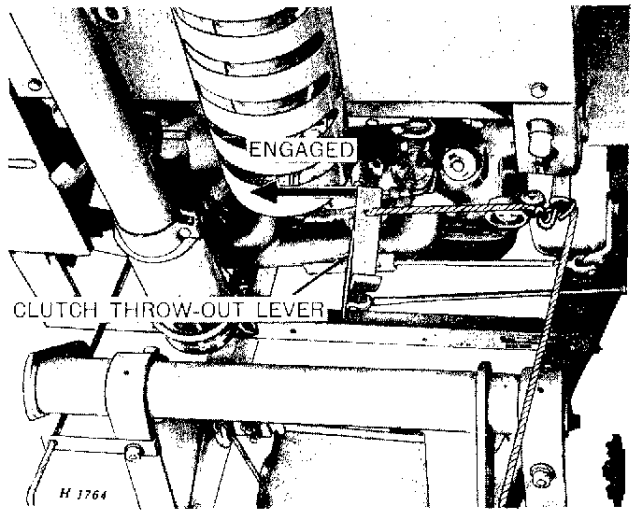
Clean Grain Elevator Sacking Spout Control Lever moved toward the separator diverts the grain down the inner spout; moved toward the sack chute, it diverts the grain down the outer spout.

Reel Drive Hand Wheel when turned clockwise engages reel drive sprocket on right-hand wheel. Turned counter-clockwise it disengages sprocket; this should always be done when transporting combine.



Sacker Combine with Hydraulic Remote Cylinder

COMBINE EQUIPPED WITH ENGINE CONTROLS



Clutch Control Lever

Clutch. The clutch lever is equipped with a rope control so the clutch can be operated from the tractor seat.

To disengage the clutch, pull rope or push lever until the latch catches.

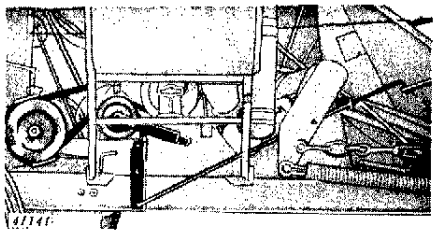
To engage the clutch, pull rope or move lever back until the latch releases, then allow the lever to come forward slowly.

Engine Speed Control Lever. The engine speed is increased by moving the control lever into the lower position and decreased by placing the lever in the upper position.

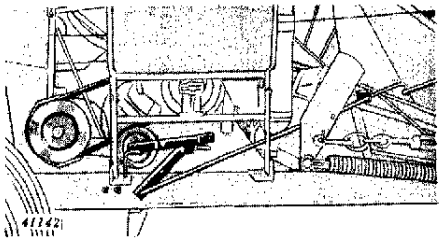
Grain Tank Unloading Auger Control Rod. To engage grain tank unloading auger, pull control rod out; to disengage it, push rod in.

Speed Control Lever in Lower Position

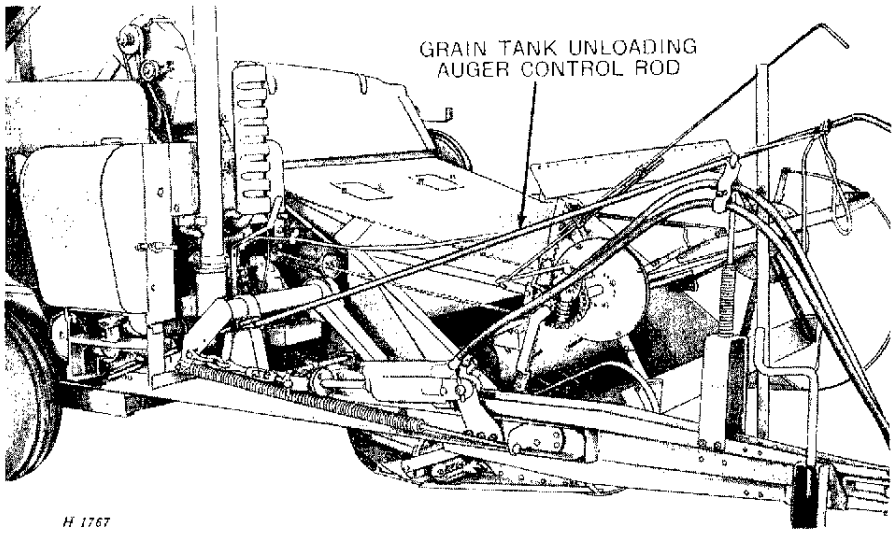
Speed Control Lever in Upper Position



Grain Tank Unloading Auger Engaged



Grain Tank Unloading Auger Disengaged



Combine Equipped with Engine

OPERATION

BREAKING IN THE NEW COMBINE

All V-belt drives should be checked carefully. See the illustrations on page 51. Keep belts tight enough to eliminate slippage, because a belt can be ruined very quickly if it is 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 and tension should be increased. Be sure all shafts turn freely.

Remember, the break-in period is just as important with a new combine as it is with a new automobile. Don't try to "step it down to the floor" right at the start. If you do, trouble is sure to develop later.

STARTING IN THE FIELD

Know Your Combine

Understand Function of All Working Units.

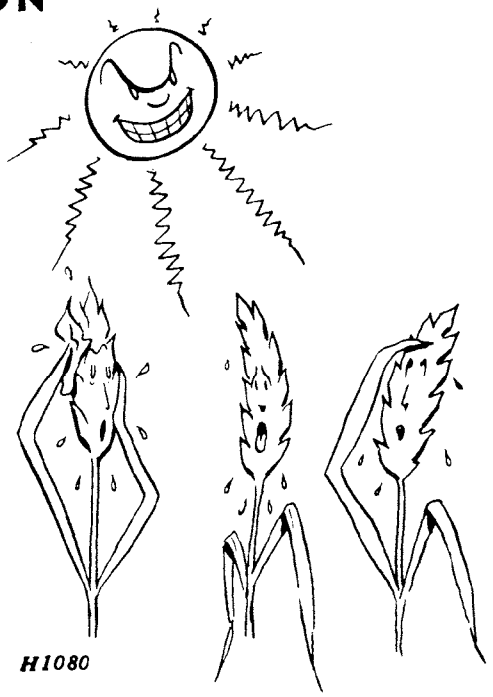
Before starting to combine, turn to page 10 where you will find a cutaway view of the working units of the combine. Study this illustration until you understand the function of each unit thoroughly. Also, read the section of the manual on "Adjustments and Service" to become familiar with the adjustments necessary to obtain best results.

Don't Start Combining Until Crop Is Ripe.

Combining should not be started until the grain 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.

BE SAFE

It pays to be careful,
It costs to be careless!



Wait Until the Crop Is Dry

Grain crops containing 14% moisture or less are considered dry enough for safe storage. Arrangements can usually be made at the local grain elevator for necessary moisture tests. The maximum moisture content for safe storage depends upon the crop to be combined and in part upon atmospheric conditions, storage facilities, foreign material in the grain, whether handled in bulk or sacks, and whether the crop is for market or feeding.

The first round in the field is usually the hardest. The forward speed of tractor should be as slow as possible to reduce the volume of material entering the combine. With a PTO-driven combine, the tractor should be run at full throttle to keep the combine mechanism up to full speed thus guarding against slugging and clogging. Shift travel speed but do not throttle down tractor engine.

LIMITATIONS OF A PTO-DRIVEN COMBINE

The operating efficiency of any PTO-driven combine is directly proportional to the tractor power available and crop condition. Steady, smooth power is of vital importance—any fluctuations in tractor engine speed is reflected in the speed of the combine. Uneven speed results in loss of grain, inferior threshing and, in extreme cases, complete plugging of the combine. Every precaution should be taken to maintain uniform speed.

THE OPERATOR

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

Excessive travel speed is one of the greatest causes of trouble. Traveling at a high rate of speed over rough ground can cause extra wear and breakage that would not occur if the combine was pulled at a more reasonable speed. Overloading, resulting in a loss of grain, is another evil of fast ground travel. More straw is taken in than the combine can handle. Grain is carried over the rack and sieve if the layer of material passing over them is too heavy.

On a PTO-driven combine, the tractor engine must be operated at full throttle at all times. Any reduction in travel speed should be handled by shifting to a lower gear instead of throttling the tractor engine.

When stopping the tractor to unload grain tank, or for any other reason, the combine should be cleaned out before disengaging the power take-off. If necessary to stop in the middle of the field, the combine and tractor should be backed up a few feet before proceeding ahead. This will allow the combine to come up to speed before grain enters.

If there are ditches in the field that require throttling down the tractor engine to cross them, cut around the ditches rather than reduce the engine speed.

Watch the condition of the crop carefully and adjust platform so just enough of the straw is cut to get all the grain. If the crop is extremely heavy and down badly in a certain section of the field, take less than a full swath.

Listen for the warning of clutches slipping. Also listen to tractor engine for any evidence of slowing down, caused by the threshing cylinder starting to slug, and stop the tractor before the combine has become completely plugged.

Combine should be thoroughly cleaned out before leaving one field and going to the next in order to reduce the spread of noxious weed seeds. When through cutting in a field, sweep trash and straw off the outside of combine, open doors at bottom of elevators, and run combine until all possible straw trash and grain are removed from inside of combine before moving to the next field.

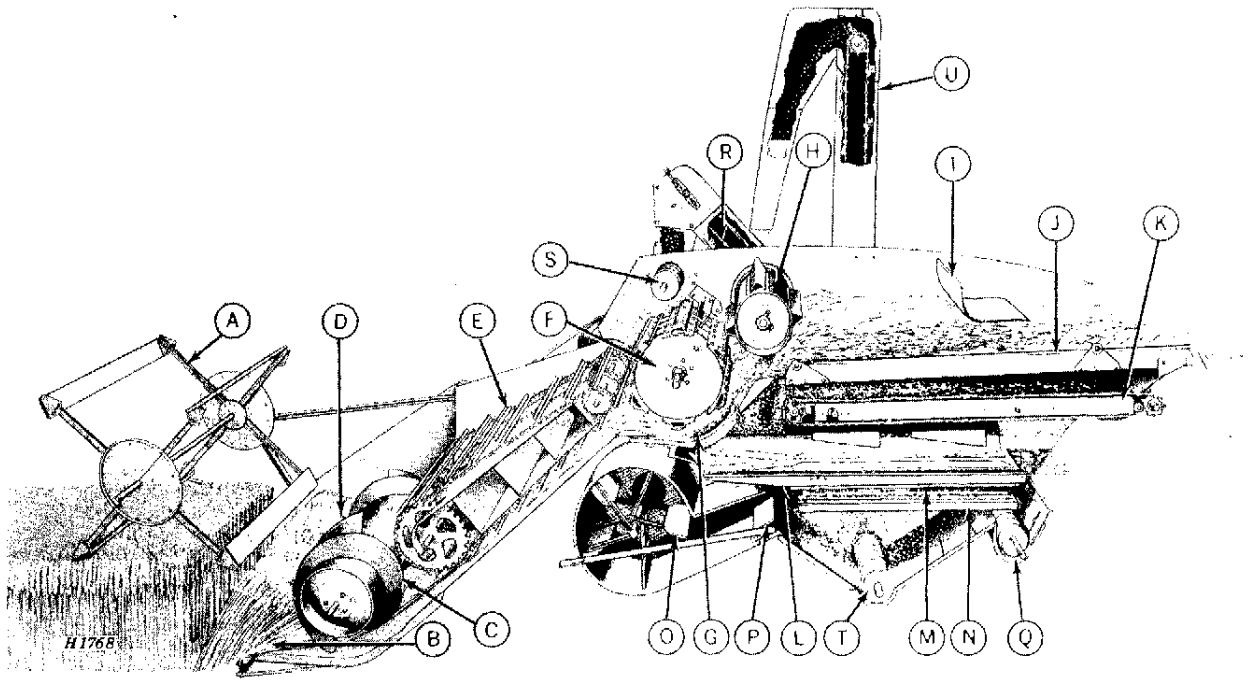
Prepare the Field

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, special care should be taken before seeding to clean up or cover cornstalks and large corn roots. They can be very troublesome should the crop go 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 on. Raising the cutter bar to avoid this will mean a loss of some of the beaten down grain.

Haste can cause an accident. Take your time when working around machines.

CROSS-SECTIONAL VIEW OF JOHN DEERE 30 COMBINE



This cutaway view shows how the grain and straw are handled from the cutter bar straight through the combine.

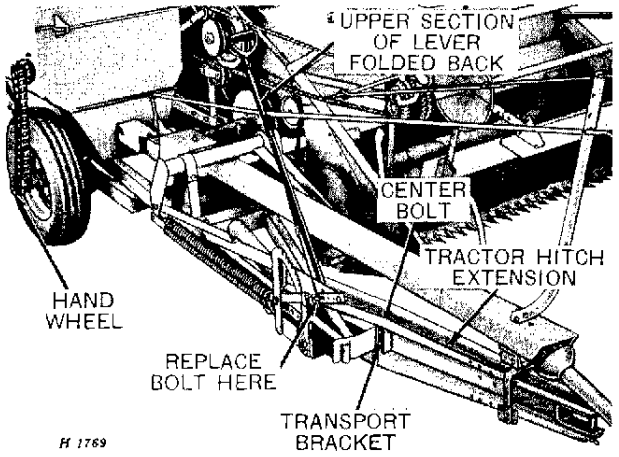
The reel, "A," divides the grain and holds it to the cutter bar, "B," until cut. The auger, "C," carries the grain from both ends of the platform to the center of the auger, where fingers in the auger, at "D," feed the material to the feeder conveyor chain, "E." The feeder conveyor chain, "E," delivers the grain to the rasp-bar cylinder, "F."

As the grain travels between cylinder, "F," and concave grate, "G," and back against beater behind cylinder, "H," the greater part of the separation takes place. The grain falls through the grate to shoe pan, "L," and is moved back to shoe chaffer—grain is not remixed with straw to overload straw rack. Beater, "H," deflects grain down through the chaffer section at the front end of the straw rack, and passes the straw onto straw rack, "J." Curtain, "I," deflects and retards straw and grain so full length of rack is utilized. During its rearward movement, the remaining grain falls through cells in rack onto grain conveyor, "K," and is delivered back to shoe pan, "L," which moves it to front end of chaffer. Straw is then tossed out on the ground.

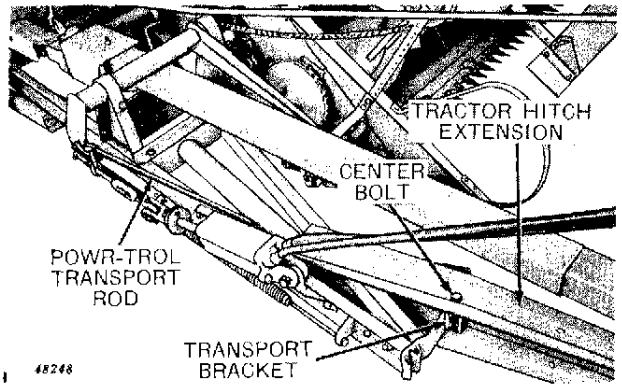
A blast of air from fan, "O," is directed by windboard "P," against shoe chaffer, "M," and shoe sieve, "N." This blast, with the aid of chaffer and sieve agitation, blows chaff away and moves the tailings to tailings auger, "Q." This auger carries them to tailings elevator, "R," which conveys them to distributing auger, "S," where they are delivered to the center of the cylinder for re-threshing.

Clean grain, after dropping through shoe chaffer, "M," and shoe sieve, "N," is carried by clean grain auger, "T," to elevator, "U," on opposite side of combine and elevated into grain tank.

TRANSPORTING



PTO-Driven Combine with Hand Lever in Transport Position



PTO-Driven Combine with Hydraulic Remote Cylinder in Transport Position

Loosen hand wheel on hub of combine right-hand main wheel to disengage reel drive sprocket.

Remove the center bolt in the tractor hitch extension and swing the combine to the right until hitch extension can be bolted to small bracket located on the front of hitch transport bracket.

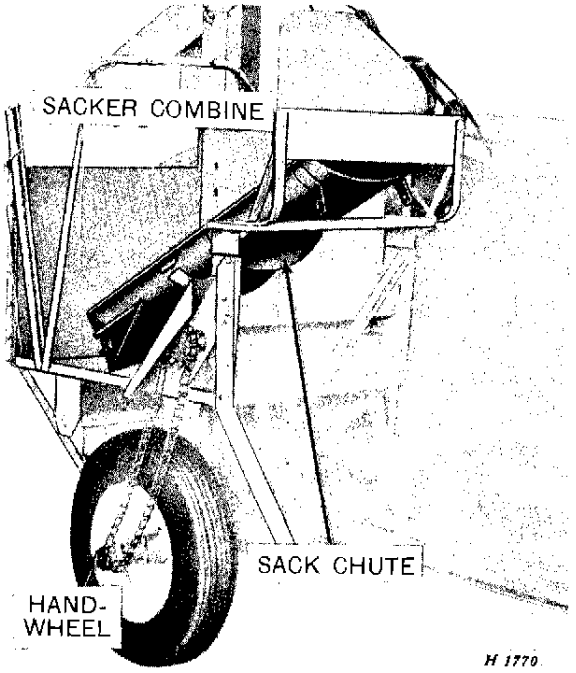
Raise platform to highest position.

If combine is equipped with a hand lever, remove upper bolt through upper and lower sections of lever and fold upper section back. Replace bolt in lower section.

If combine is equipped with hydraulic-remote cylinder, hook transport rod to clevis on lifting crank.

On a sacker combine, remove sack chute, front support pipe, and rear support pipe, and place on operator's platform.

When transporting combine on highway after dusk or during periods of low visibility, use a warning light on the extreme left-hand side of the combine. **(See page 14.)**



Sacker Combine with Sack Chute in Transport Position

Be Careful

THE LIFE YOU SAVE MAY BE YOUR OWN...

HOOKING UP TO THE TRACTOR WITH 540 RPM PTO

1. Remove wire, cap screw, and flat washer from front end of powershaft. Attach rear universal joint to telescoping powershaft, being sure hole in universal joint lines up with hole in shaft. Lock cap screw in place by inserting wire through hole in cap screw and wrapping around universal fork. Tighten with pliers. Insert cotter in hole and spread.

2. **Hitch Jack Only:** Bolt interlocking clip to tractor hitch extension with a 7/16- x 1-1/4-inch bolt.

3. **Hitch Jack Only:** Attach jack to hitch extension and turn jack crank until hitch extension and interlocking clip come to rest firmly in jack.

NOTE: If interlocking clip does not fit properly into notch in jack or, if jack binds on upper portion of hitch extension, place one or more 7/16- x 1/16-inch (thick) washers between interlocking clip and hitch extension.

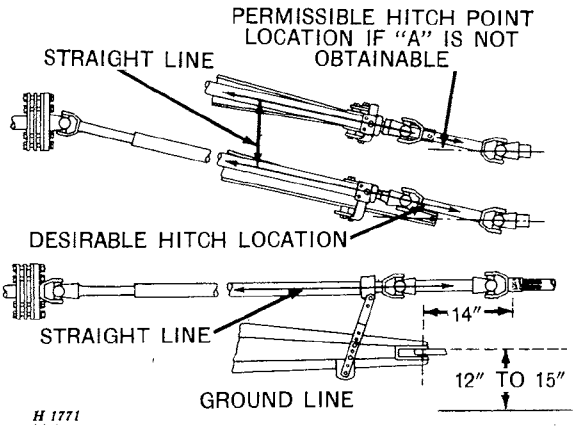
4. Connect combine to tractor drawbar. *NOTE: When hooking up to a John Deere "720," "730," "820" or "830" Tractor, use the 1-1/4-inch bushing provided in rear hole in tractor drawbar.*

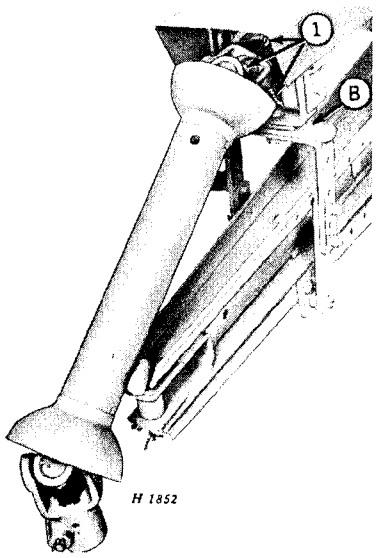
5. **Hitch Jack Only:** Turn crank until jack is free and can be removed from hitch. Open door over cylinder and lay jack on top of cover over cylinder.

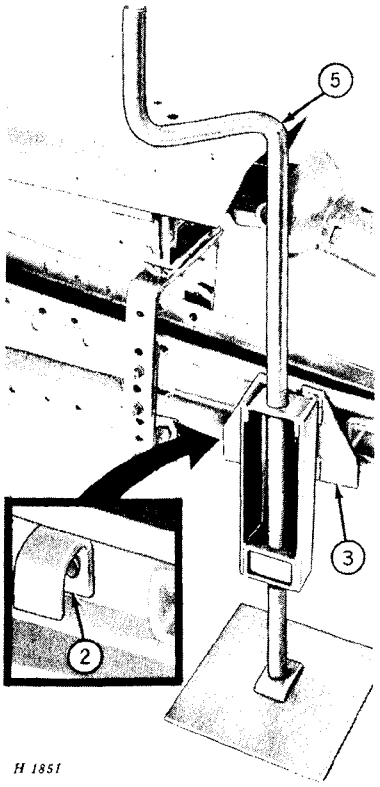
6. Slide front splined universal joint onto splined PTO shaft on tractor.

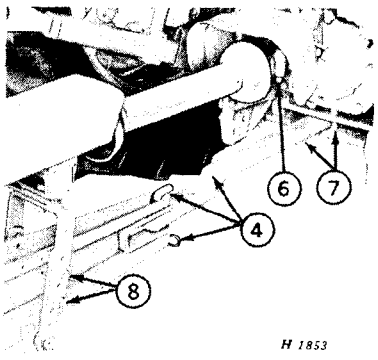
7. Adjust tractor drawbar (hitch point "A") so power line runs in a straight line and lock drawbar in this position. For tractors with a stationary hitch point directly behind PTO shaft, bolt the upper bearing support bracket to lower support bracket using the extreme left-hand hole "B" in lower bracket.

8. Adjust the height of the powershaft up or down so it runs in a straight line. Be sure nuts are always to the outside.









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to download the complete manual.

Thank you so much for reading

HOOKING UP TO TRACTOR WITH 1000 RPM PTO

1. Remove wire, cap screw, and flat washer from front end of powershaft. Disassemble telescoping powershaft and attach rear universal joint to powershaft, being sure hole in universal joint lines up with hole in shaft. Lock cap screw in place by inserting wire through hole in cap screw and wrapping around universal fork. Tighten with pliers. Insert cotter in hole and spread.

2. **Hitch Jack Only:** Bolt interlocking clip to tractor hitch extension with a 7/16- x 1-1/4-inch bolt.

3. **Hitch Jack Only:** Attach jack to hitch extension and turn jack crank until hitch extension and interlocking clip come to rest firmly in jack.

NOTE: If interlocking clip does not fit properly into notch in jack or if jack binds on upper portion of hitch extension, place one or more 7/16- x 1/16-inch (thick) washers between interlocking clip and hitch extension.

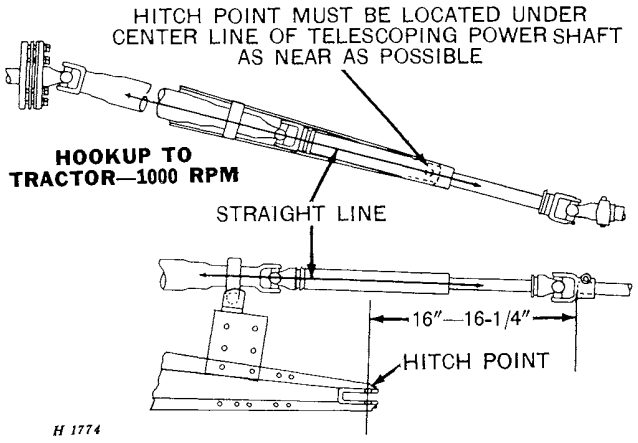
4. Connect combine to tractor drawbar. *NOTE: When hooking up to a John Deere "720," "730," "820," or "830" Tractor, use the 1-1/4-inch bushing provided in rear hole in tractor drawbar.*

5. Apply grease to inside of square tube in rear section. Assemble telescoping powershaft and slide front splined universal joint on splined shaft on tractor.

NOTE: Every 50 hours of operation, remove front section of powershaft and apply grease to inside of square tube in rear section.

6. Adjust tractor drawbar so powershaft runs in a straight line as seen from the top; lock drawbar in this position.

7. Adjust the height of the powershaft up or down so it runs in a straight line as seen from the side.



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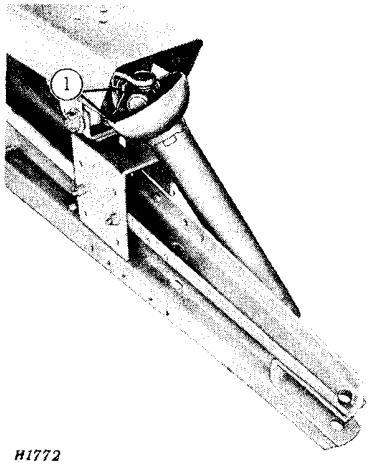

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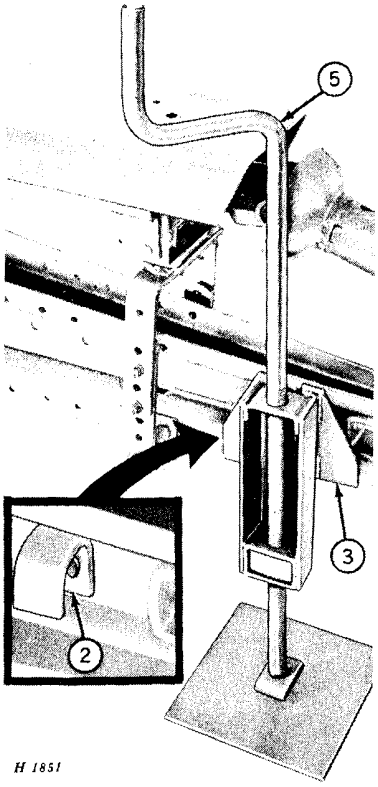

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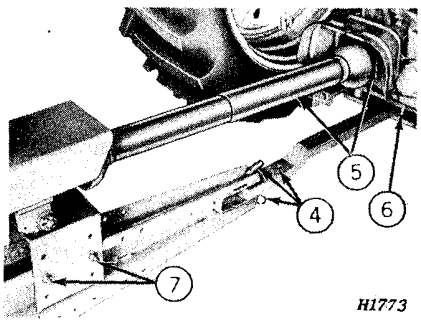

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