

# 7721 Combine



JOHN DEERE

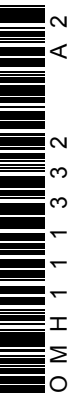
## OPERATORS MANUAL

7721  
Combine

OMH111332 Issue A2 English

**Harvester Works**  
**OMH111332 Issue A2**

LITHO IN U.S.A  
ENGLISH



## INTRODUCTION



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

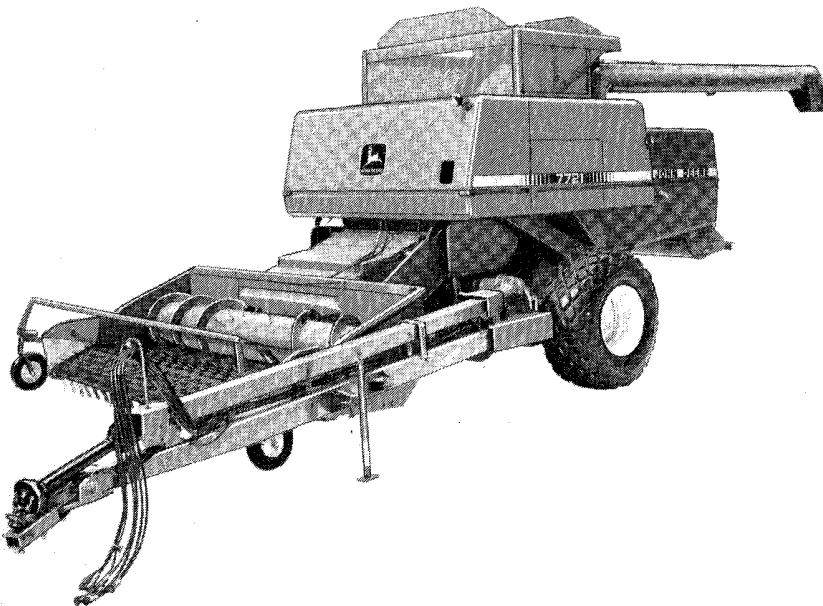
Your operator's manual contains SI metric equivalents which follow immediately after the U.S. customary units of measure.

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

Record your combine serial number in the space provided on page 119.

The warranty on this combine appears on your copy of the purchase order which you should have received from your dealer when making your purchase. This warranty provides you the assurance that John Deere will back its products where defects appear within the warranty period. In some circumstances, John Deere also provides field improvements, often without charge to the customer, even if the product is out of warranty.

Warranty and field improvements are a part of John Deere's product support program for customers who operate and maintain their equipment as described in this manual. Should the equipment be abused, or modified to change its performance beyond the original factory specifications, the warranty will become void and field improvements may be denied.



H31853



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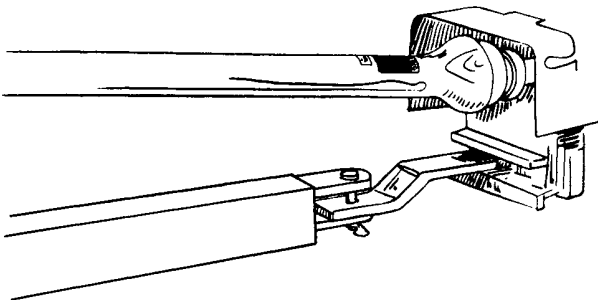
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# Safety

**!** Safety of the operator was one of the prime considerations in the minds of John Deere engineers when this combine was designed. Shielding, simple adjustments, and other safety features were built into the combine wherever possible. Unauthorized modifications to the machine may also impair the function and or safety and affect machine life.

## AVOID CONTACT WITH MOVING PARTS



A19405

Keep guards and shields in place at all times while operating the combine. Always disengage tractor PTO and shut off engine before removing guards or shields.

Keep hands, feet, and clothing away from power-driven parts.

Never clean, lubricate, or adjust the combine when it is running.

Everyone must be clear before starting tractor engine or running combine.

Never attempt to clear obstructions off the header unless the PTO is disengaged and the tractor engine is shut off.

## OPERATE SAFELY



WRONG



RIGHT

H28929

Clothing worn by operator must be fairly tight and belted. Loose jackets, shirts, or sleeves must never be worn.

The gearshift lever of tractor must be in neutral and the PTO lever disengaged before starting tractor engine.

Be careful when operating on hillsides so the combine or tractor will not tip sideways.

Always keep the tractor in gear when going down hills.

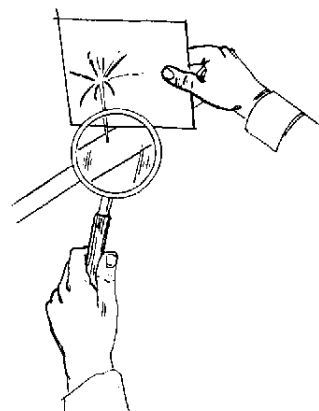
## AVOID HIGH PRESSURE LEAKS

Escaping hydraulic fluid under pressure can have sufficient force to penetrate the skin, causing serious injury. Before disconnecting lines, relieve all pressure. Before applying pressure to the system, all connections must be tight and lines, pipes, and hoses must be in good condition.

Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.

If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

Cracking hydraulic line fittings to lower the feeder house will result in an instantaneous dropping of feeder house or feeder house and header.



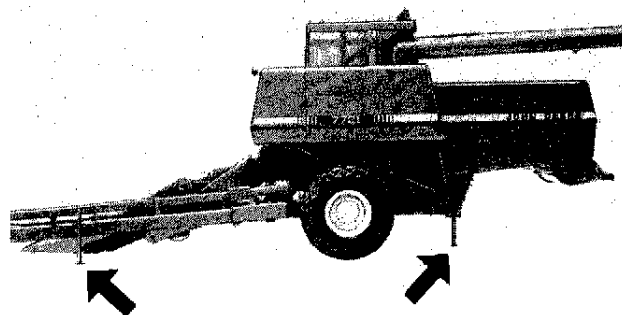
H33341

## LEAVING COMBINE UNATTENDED

Before leaving the combine unattended, support the header with either the hydraulic cylinder safety stop or with blocks, or lower it to the ground.

Lower hitch and separator support stands and block wheels.

If combine is attached to tractor, place tractor transmission in park, stop engine and remove tractor key.



H31854

## TRANSPORT SAFELY

Never ride or allow anyone on the tractor, drawbar, or hitch.

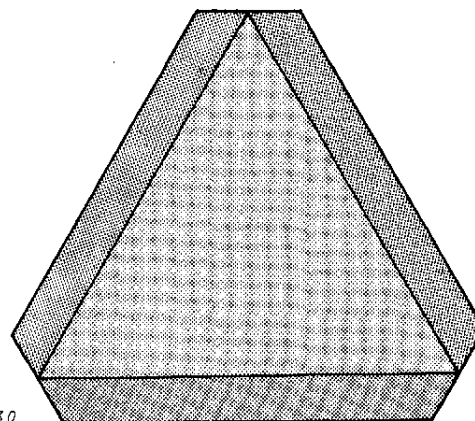
Be extra careful when transporting the combine in hilly country.

Use a tractor large enough to maintain control.

When transporting the combine on a road or highway, use accessory lights and devices for adequate warning to the operators of other vehicles. In this regard, check local governmental regulations.

Tow only with an agricultural tractor equipped with stationary drawbar.

Do not transport combine over 20 MPH (32.2 km/h).



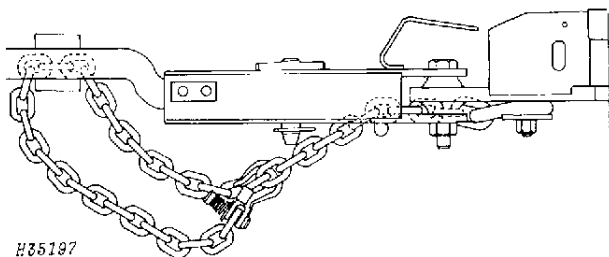
H28930

## RECOMMENDED MAXIMUM TOWING SPEED

To assure adequate braking performance and control during transport, do not exceed recommended maximum towing speed given in table below. When operating on slopes or less than optimum traction conditions, these towing speeds must be reduced. Always refer to this table before transporting combine.

Weight of Tractor	Total Weight of Combine with Empty Grain Tank and Attaching Equipment		
	10,000 lbs. (4536 kg)	16,000 lbs. (7200 kg)	18,000 lbs. (8100 kg)
0-3,300 lbs. (0-1497 kg)	Do not tow	Do not tow	Do not tow
3,300-5,300 lbs. (1497-2404 kg)	10 mph (16.1 km/h)	Do not tow	Do not tow
5,300-6,000 lbs. (2404-2722 kg)	10 mph (16.1 km/h)	10 mph (16.1 km/h)	Do not tow
6,000-10,000 lbs. (2722-4536 kg)	10 mph (16.1 km/h)	10 mph (16.1 km/h)	10 mph (16.1 km/h)
10,000-16,000 lbs. (4536-7258 kg)	20 mph (32.2 km/h)	10 mph (16.1 km/h)	10 mph (16.1 km/h)
16,000-18,000 lbs. (7258-8100 kg)	20 mph (32.2 km/h)	20 mph (32.2 km/h)	10 mph (16.1 km/h)
18,000 lbs. (8100 kg)—Up	20 mph (32.2 km/h)	20 mph (32.2 km/h)	20 mph (32.2 km/h)

## SAFETY CHAINS



Install safety chain before transporting combine.

## CHANGING TIRES SAFELY

Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death. Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job. Have it done by your John Deere dealer or a qualified tire repair service. See page 97.

## SAFETY DECALS

**⚠ CAUTION or WARNING:** Decals with these headings and symbol indicate the possibility of personal injury.

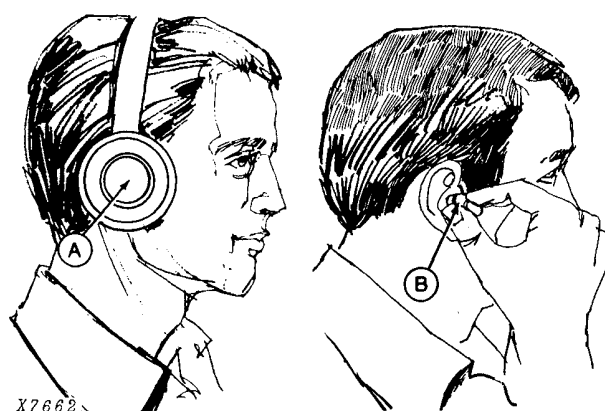
**IMPORTANT:** Decals with this heading indicate the possibility of damage to the machine.

Decals are located in areas where they apply.

## NOISE

Prolonged exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as earmuffs (A) or earplugs (B) to protect against objectionable or uncomfortable loud noises.



A—Earmuffs  
B—Earplugs

## SEPARATOR LADDER

Do not climb on rear separator ladder or any part of combine while combine is moving or running. Check tailings at lower door only after combine has been stopped and turned off.

## FIRE EXTINGUISHER

Have a multipurpose dry chemical fire extinguisher filled and handy. Know how to use it.

DO NOT refuel with the tractor engine running.

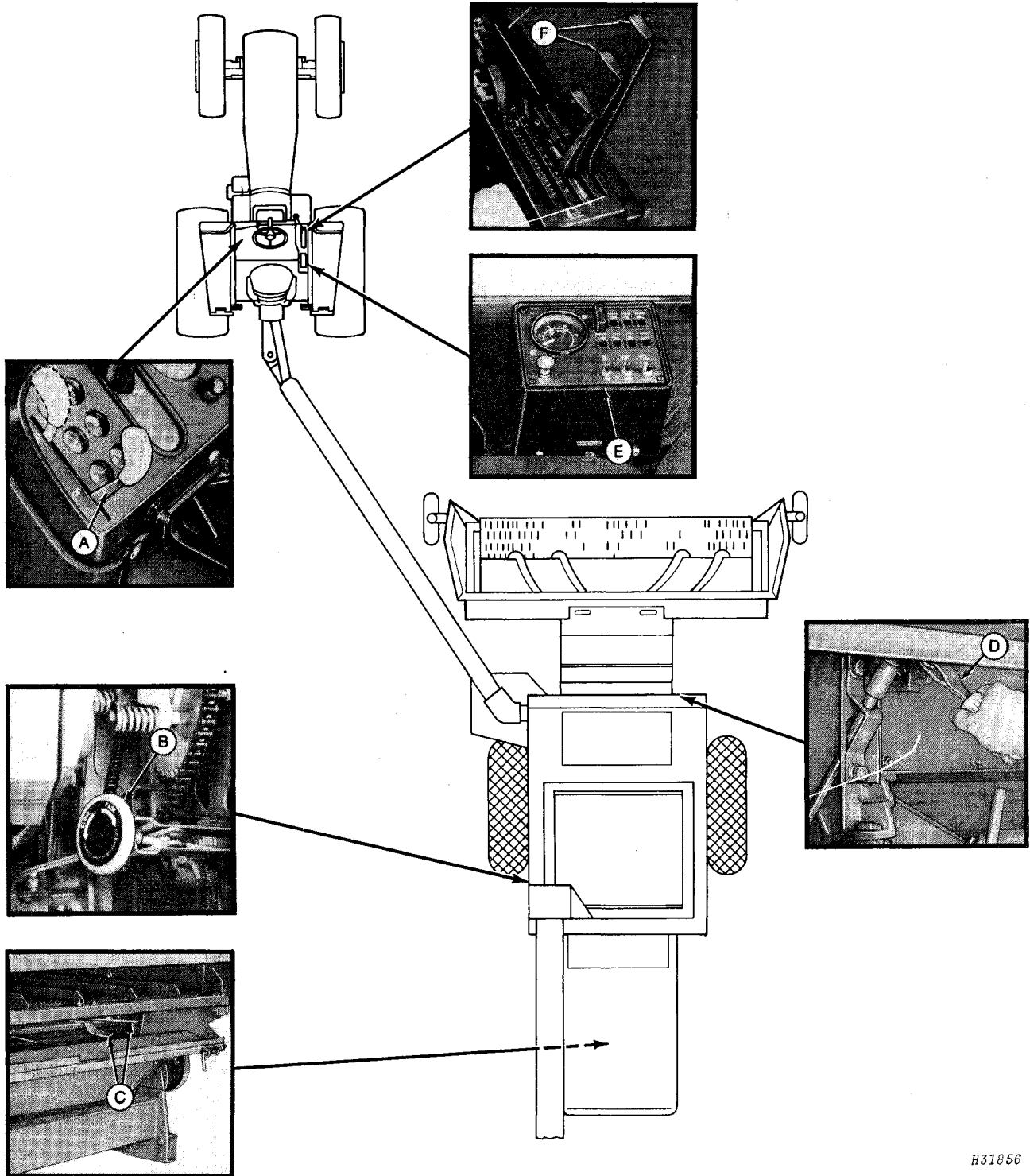
DO NOT smoke or use a lantern when refueling.



N32054



# Combine Function Controls



A—PTO Clutch Lever  
B—Cleaning Fan Speed Control Wheel  
C—Chaffer and Sieve Levers

See page 22  
See page 53  
See pages 87,88

D—Concave Spacing Control Ratchet  
E—Control Box  
F—Header Height and Unloading Auger  
Swing Controls

H31856  
H31856  
See page 52  
See page 23  
See page 22

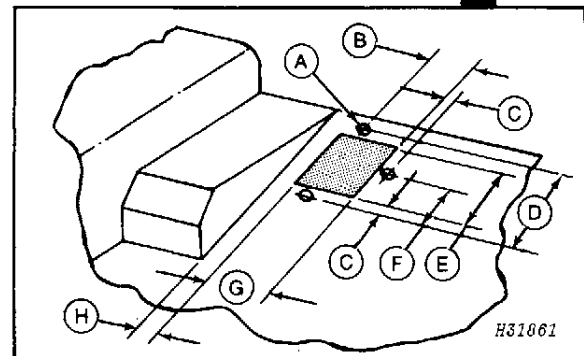
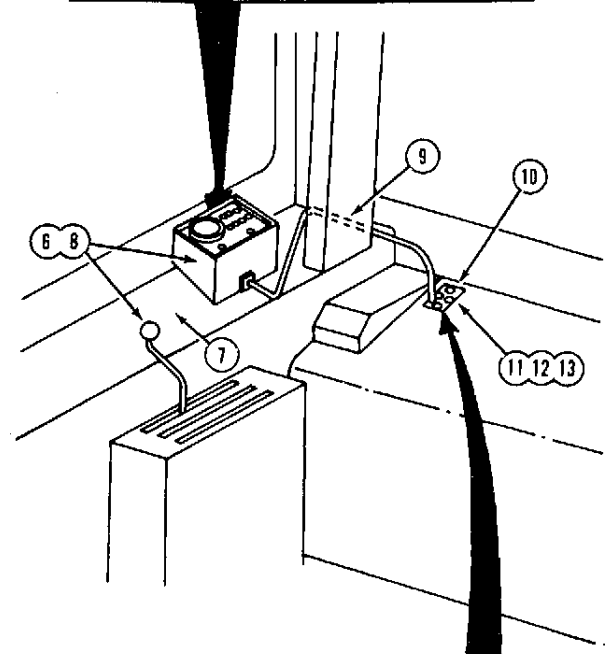
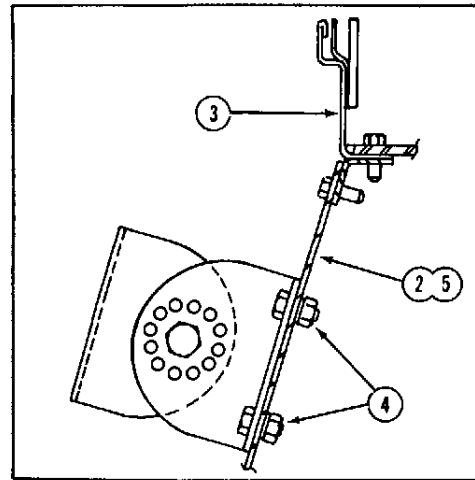


# Initial Tractor Preparation

## INSTALLING CONTROL BOX IN TRACTORS WITH PRE-SOUND GARD CABS (1968-1971)

**IMPORTANT:** This combine must be used with tractors having a minimum of 125 (93 kW) PTO horsepower and be equipped with 1000 RPM PTO.

1. (Not illustrated) Install seven pin connector following the instructions provided with it.
2. Remove five 1/4 x 5/8-inch screws and remove base on back of control box.
3. Discard adapter for Sound Gard Cabs.
4. Attach mounting brackets to base with four 1/4 x 1/2-inch cap screws, lock washers, and nuts.
5. Attach base to control box with the five screws removed in step 2.
6. Position control box to allow for full movement of the hydraulic control levers.
7. Using the mounting bracket as a guide, mark through the bracket for four holes. Center punch fender and drill four 11/32-inch diameter holes.
8. Attach control box with mounting bracket to fender with four 5/16 x 5/8-inch cap screws, lock washers, 11/32 x 1-1/8 x .060-inch flat washers, and special cage nuts.
9. Route harness around cab post.
10. Cut panel and drill holes to the dimensions shown for the right hand rear deck area of the cab.
11. Attach harness plate to rear deck with three 1/4 x 7/8-inch machine screws, lock washers, and nuts.
12. Remove plug and route harness through harness plate.
13. Slip grommet over harness and press grommet into harness plate.



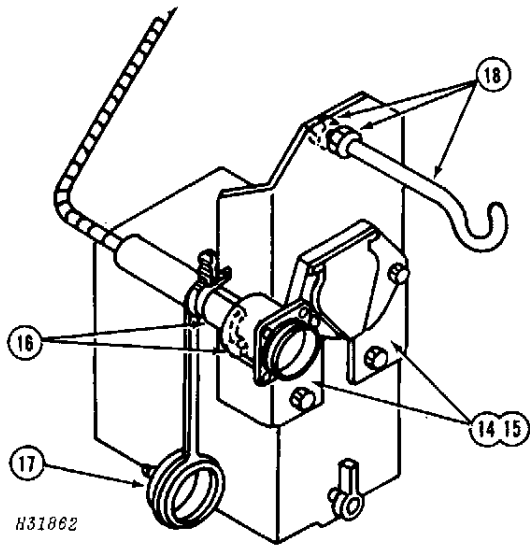
A—Three 9/32-inch  
(7 mm) Diameter Holes  
B—2 Inches (51 mm)  
C—19/64-inch (7 mm)  
D—4-19/32 Inches (118 mm)

E—4 Inches (102 mm)  
F—2-19/64 Inches (58 mm)  
G—3 Inches (76 mm)  
H—1-1/2 Inches (38 mm)

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Continued on next page.

## 8 Initial Tractor Preparation

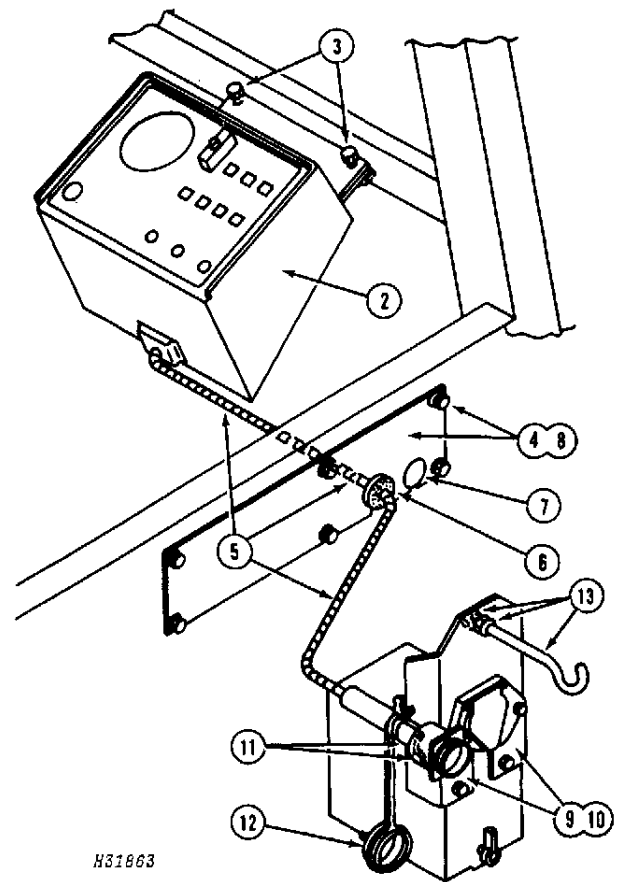


14. Remove four cap screws and discard the two straps.
15. Attach harness mounting bracket with the four cap screws removed in step 14.
16. Secure harness connector to bracket with a 5/16 x 1/2-inch self tapping screw and a coated clamp.
17. Attach dust cap to harness.
18. Attach harness support rod to bracket with two 3/8-inch nuts.

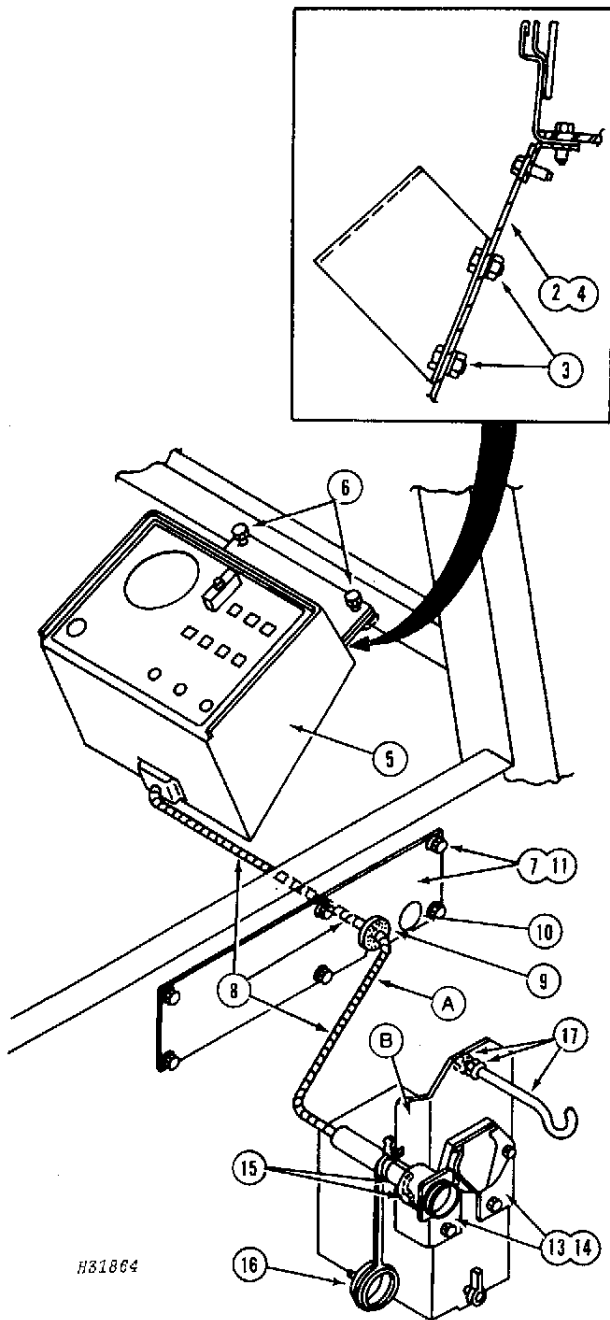
## INSTALLING CONTROL BOX IN ROW-CROP TRACTORS WITH SOUND GARD CABS (1972- )

**IMPORTANT:** This combine must be used with tractors having a minimum of 125 (93 kW) PTO horsepower and be equipped with 1000 RPM PTO.

1. (Not Illustrated) Install seven pin connector following the instructions provided with it.
2. Position control box to allow for full movement of the hydraulic control levers.
3. Install and tighten two 1/4-20 x 3/4-inch cap screws to secure control box to window frame.
4. Remove six self tapping screws, cover, and gasket on rear of cab. Save screws, cover and gasket. Cover can be used when tractor is not used with combine.
5. Route harness from control box under cab foam.
6. Slip grommet over harness and press grommet into new cover provided.
7. Press plug into cover.
8. Reinstall cover and gasket with the six screws removed in step 4.
9. Remove four cap screws and discard the two straps.
10. Attach harness mounting bracket with the four cap screws removed in step 9.
11. Secure harness connector to bracket with a 5/16 x 1/2-inch self tapping screw and a coated clamp.
12. Attach dust cap to harness.
13. Attach harness support rod to bracket with two 3/8-inch nuts.



## INSTALLING CONTROL BOX IN JOHN DEERE 8430, 8440, 8630, AND 8640 FOUR WHEEL DRIVE TRACTORS



H31864

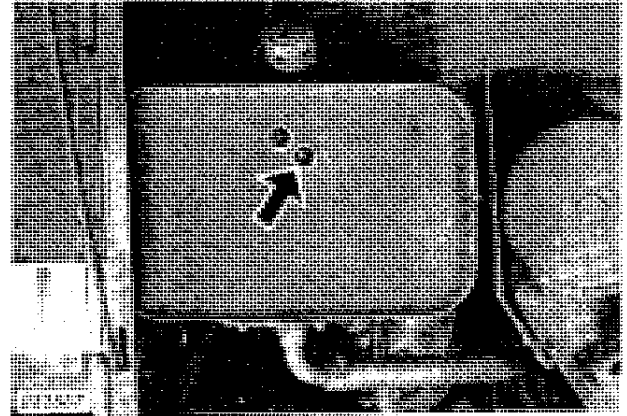
1. (Not illustrated) Install seven pin connector following the instruction provided with it.
2. Remove two 1/4-20 x 5/8-inch and two 1/4 x 5/8-inch screws and remove base on back of control box.
3. Attach plate to mounting bracket with four 1/4 x 1/2-inch cap screws, lock washers, and nuts.
4. Attach control box to base with the four screws removed in step 2.
5. Position control box to allow for full movement of the hydraulic control levers.
6. Install and tighten two 1/4-20 x 3/4-inch cap screws to secure control box to window frame.
7. Remove six self tapping screws, cover, and gasket on rear of cab. Save screws, cover and gasket. Cover can be used when tractor is not used with combine.
8. Route harness from control box under cab foam.
9. Slip grommet over harness and press grommet into new cover provided.
10. Press plug into cover.
11. Reinstall cover and gasket with the six screws removed in step 7.
12. Install BH77003 wiring harness extension between harness (A) and bracket (B).
13. Remove four cap screws and discard the two straps.
14. Attach harness mounting bracket with the four screws removed in step 13.
15. Secure harness connector to bracket with a 5/16 x 1/2-inch self tapping screw and a coated clamp.
16. Attach dust cap to harness.
17. Attach harness support rod to bracket with two 3/8-inch nuts.



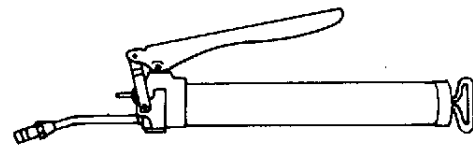
## Preparing the Combine

Before starting to combine for the first time each day:

1. Check hydraulic oil level. With header on the ground, oil must be visible in top sight glass. Do not overfill above top sight glass.

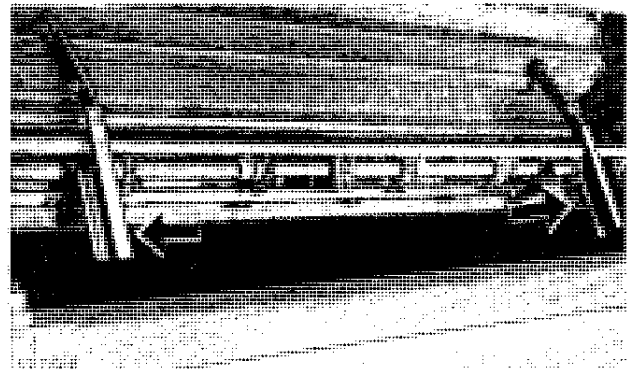


2. Perform all daily lubrication and maintenance. See page 27.

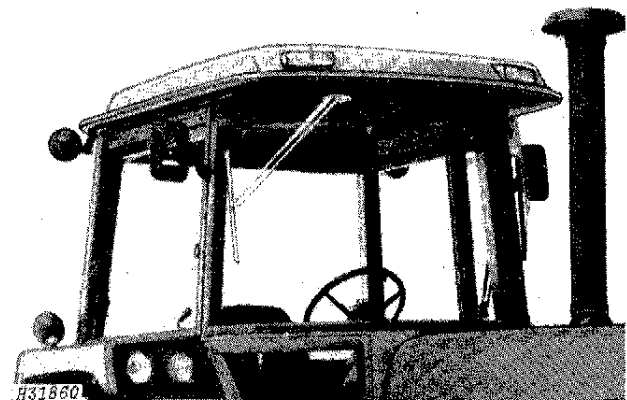


H31858

3. Clean out stone traps.



4. Clean tractor cab glass.

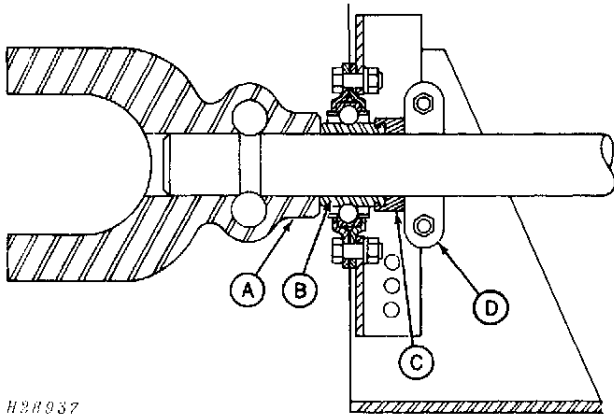


H31860



# Attaching and Detaching the Combine

## ATTACHING COMBINE TO TRACTOR



H38937

### Combine to Tractor Hookup

**IMPORTANT:** Locking clamp must not be moved unless it is necessary to replace parts.

- A—Yoke
- B—Bearing
- C—Locking Collar
- D—Locking Clamp

If the combine is to be hooked up to a different model John Deere tractor than originally equipped for, the following parts must be ordered and installed:

#### 4430 Tractors

BH76512 10-inch (254 mm) Drawbar Extension. Support braces for the extension are included.

*NOTE: If tractor is equipped with AR46810 wide swinging drawbar kit, also order AR33911 drawbar support and two R49106 bolts.*

BH76535 1-3/8-inch (10 mm) Telescoping PTO Shaft

BH76472 Drawbar Attaching Parts

#### 4440, 4520, 4630, and 5020 Tractors

BH76513 10-inch (254 mm) Drawbar Extension

BH76535 1-3/8-inch (10 mm) Telescoping PTO Shaft

BH76473 Drawbar Attaching Parts

#### 4640, 4840, and 6030 Tractors

BH76511 6-inch (152 mm) Drawbar Extension

BH76534 1-3/4-inch (44 mm) Telescoping PTO Shaft

BH76473 Drawbar Attaching Parts

#### 8430, 8440, 8630, and 8640

##### Four Wheel Drive Tractors

BH76511 6-inch (152 mm) Drawbar Extension

BH76534 1-3/4-inch (44 mm) Telescoping PTO Shaft

BH76473 Drawbar Attaching Parts

BH71110 Wiring Harness Extension

1. Lower hitch beam support stand (A) and separator support stand (B).

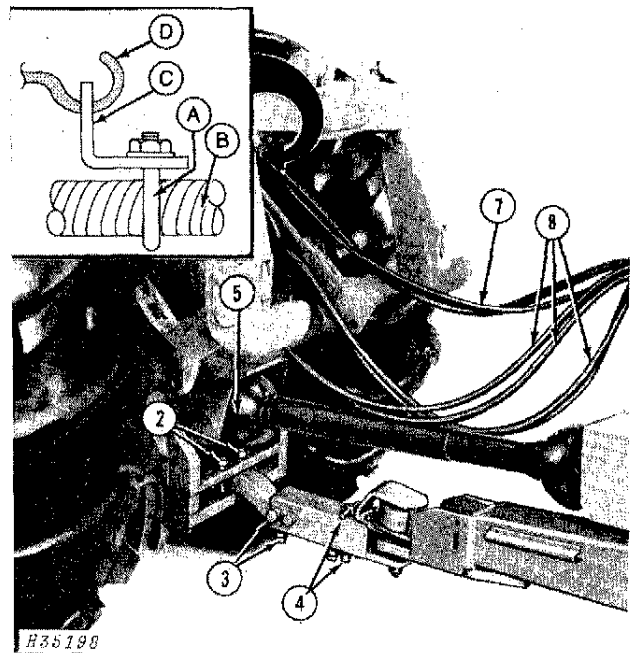
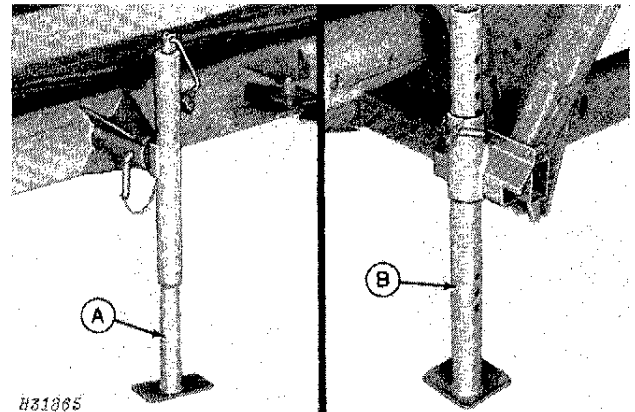
**CAUTION:** If the header and feeder house are removed, the separator support stand must contact the ground so hitch beam will not fly upward.

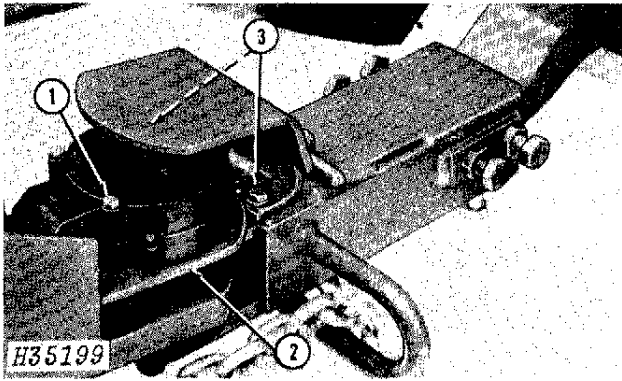
2. Lock tractor drawbar so it is aligned with tractor PTO shaft.
3. Loosen eight drawbar retaining bolts before tractor drawbar is moved into drawbar extension.
4. Move tractor drawbar into drawbar extension and lock with hitch pin, spring locking pin, and bolts. Eight bolts must be tightened evenly and locked with lock nuts.

**IMPORTANT:** Do not detach tractor from combine by unbolting drawbar extension from combine hitch tube.

5. Secure front joint to tractor PTO shaft.
6. Place U-bolt (A) around harness (B) and secure to hanger (C) with two flange nuts. Hook hanger over support rod (D).
7. Connect two combine electrical connectors to the mating connectors on tractor.
8. Couple hydraulic hoses to tractor.

**NOTE:** For header lift, adapt the tractor remote hydraulic cylinder valve housing for single-action cylinder operation. See tractor operator's manual. Couple hydraulic hose to tractor No. 1 hydraulic circuit break-away coupler.



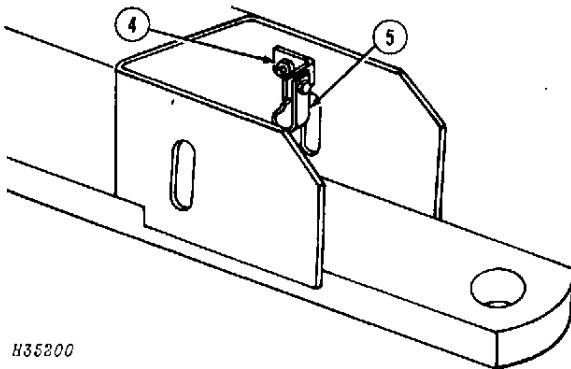


### Short Turn Warning Switch

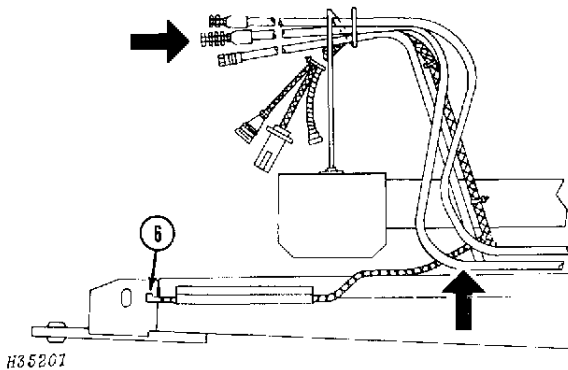
1. Install short turn warning switch to base plate with three 1/4 x 2-1/4-inch flat head screws (installed from bottom up).
2. Secure short turn warning switch to hitch beam extension with 1 x 5-1/4-inch cap screw, cup washer (cup down), spacer, and nut. Do not tighten at this time.
3. Secure switch shield to hitch beam extension with two 3/8 x 1-inch cap screws and lock washers. Secure bolt from Step 4.

**IMPORTANT: Switch arm must be through hole in switch shield.**

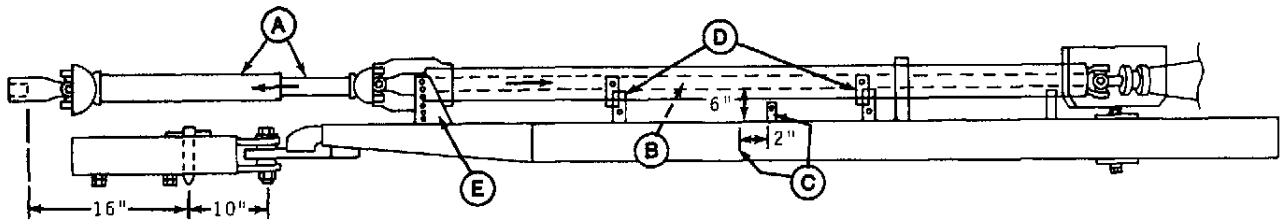
4. Install bracket with two 5/16 x 3/4-inch cap screws, lock washers, and hex. nuts.
5. Fasten harness to base plate with clamp and "J" clamp.



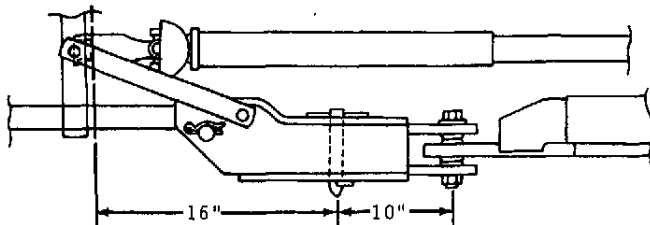
6. Connect electrical connectors. *NOTE: The short turn warning switch is non-adjustable.*



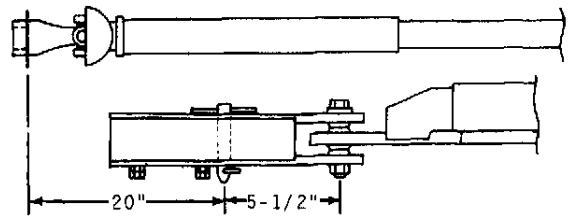
### Hookup Adjustments on John Deere Tractors



CRITICAL DIMENSIONS  
4440, 4520, 5020,  
4630 TRACTORS



CRITICAL DIMENSIONS  
4430 TRACTORS



CRITICAL DIMENSIONS  
4640, 4840, 6030, 8430, 8440,  
8630 AND 8640 TRACTORS

#31867

Drawbar must be aligned with tractor PTO shaft.

Telescoping shaft (A) must run in a straight line with powershaft (B). Bottom of powershaft (B) must measure six inches (152 mm) from top of hitch beam at point (C). Use adjusting brackets (D) and center holes of hitch brackets (E) to obtain this dimension.

- A—Telescoping Shaft
- B—Powershaft
- C—Measuring Location
- D—Adjusting Brackets
- E—Hitch Brackets



**Suggest:**

**If the above button click is invalid.**

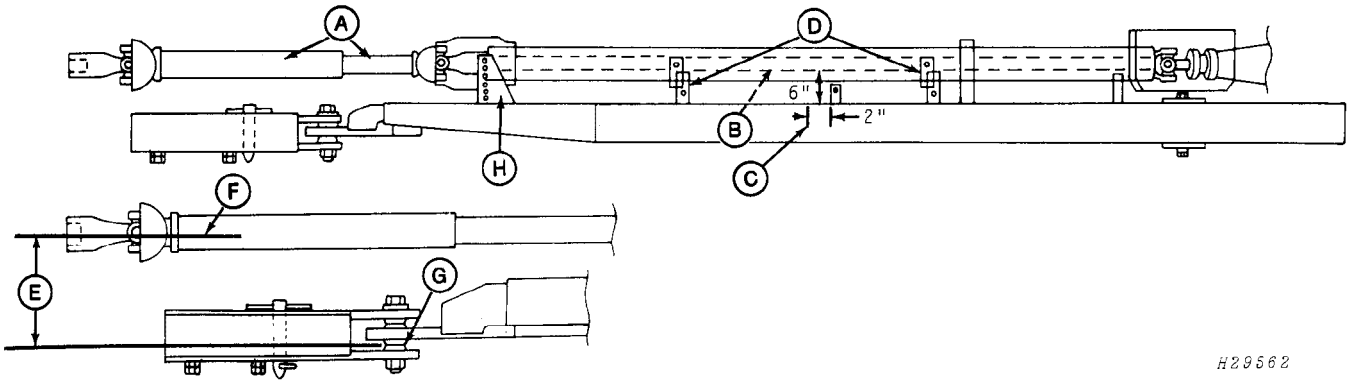
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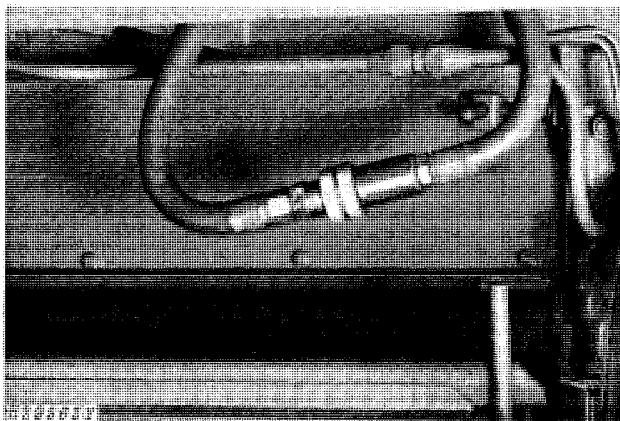
### Hookup Adjustments On Other Tractors



H29562

- A—Telescoping Shaft
- B—Powershaft
- C—Measuring Location
- D—Adjusting Brackets
- E—Dimension for Tractors other than John Deere
- F—Centerline of Tractor PTO
- G—Washer welded on Drawbar Extension
- H—Hitch Brackets

1. Drawbar must be aligned with tractor PTO shaft.
2. Measure distance (E) from centerline of tractor PTO (F) to top of washer welded on drawbar extension (G). If distance is less than 10 inches, use bottom holes of hitch brackets (H). Bottom of powershaft (B) must measure 5-13/64 inches (132 mm) from top of hitch beam at point (C). Use adjusting brackets (D) to obtain this dimension. If distance (E) is greater than 10-3/4 inches (273 mm), use top holes of hitch brackets (H). Bottom of powershaft (B) must measure 6-51/64 inches (173 mm) from top of hitch beam at point (C). Use adjusting brackets (D) to obtain this dimension. If distance (E) is between 10 and 10-3/4 inches, use center holes of hitch brackets (H). Bottom of powershaft (B) must measure 6 inches (152 mm) from top of hitch tube beam at point (C). Use adjusting brackets (D) to obtain this dimension.



**IMPORTANT:** Before running the combine, without a belt pickup or with a corn head or row-crop head installed, connect the hoses together at the quick-couplers located at the front of the combine separator body. This prevents continuous operation of the belt pickup drive pump at relief valve pressure point, which can cause hydraulic system to overheat.

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