

# **PW8 Pick-Up Header**

Unloading and Assembly Instructions (North America)

169967 Revision A

Original Instruction

PW8 Pick-Up Header



1006866

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# Introduction

This manual contains the unloading, setup, and predelivery requirements for the MacDon PW8 Pick-Up Header for North America.

This pick-up header can be configured to work with the following combine units:

**Table 1 Combine Models**

Combine	Model
Case IH	5088, 6088, 7088, 5130, 6130, 7130, 5140, 6140, 7140, 7010, 8010, 7120, 8120, 9120, 7230, 8230, 9230, 7240, 8240, and 9240
John Deere	60, 70, S Series, 9660 WTS, and T670
New Holland	All CR/CX Series

**NOTE:**

Keep your MacDon publications up-to-date. The most current version can be downloaded from our website ([www.macdon.com](https://www.macdon.com)) or from our Dealer-only site (<https://portal.macdon.com>) (login required).

## List of Revisions

The following list provides an account of major changes from the previous version of this document.

**Table 2 List of Revisions**

Summary of Change	Location
Updated the procedure for removing the shipping stands and supports	<a href="#">3.3 Removing Shipping Stands, page 14</a>
Updated the images and added the 46" Case IH conversion to the Reconfiguring Headers section	<a href="#">5 Reconfiguring Headers, page 25</a>
Updated the combine multi-coupler images	<a href="#">6 Attaching Header to Combine, page 47</a>
Added the Auto Header Height Control (AHHC) section	<a href="#">7.1 Auto Header Height Control (AHHC), page 59</a>
Updated the tire pressure information	<a href="#">7.2.1 Inflating Tire, page 101</a>
Updated the Checking Draper Belt Tension illustration	<a href="#">7.3 Checking Draper Belt Tension, page 102</a>
Updated the Adjusting Front Draper Belt Tension procedure	<a href="#">7.3.1 Adjusting Front Draper Belt Tension, page 102</a>
Updated the Adjusting Rear Draper Belt Tension procedure	<a href="#">7.3.2 Adjusting Rear Draper Belt Tension, page 104</a>
Changed the chain lubricant specification	<a href="#">7.4.2 Lubricating Auger Drive Chain, page 106</a>
Updated the Greasing Points illustration	<a href="#">7.4.3 Greasing Points, page 108</a>
Updated the Predelivery Checklist	<a href="#">Predelivery Checklist, page 123</a>





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# 1 Safety

## 1.1 Signal Words

Three signal words, *DANGER*, *WARNING*, and *CAUTION* are used to alert you to hazardous situations. The appropriate signal word for each situation has been selected using the following guidelines:

### **DANGER**

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

### **WARNING**

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. It may also be used to alert against unsafe practices.

### **CAUTION**

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may be used to alert against unsafe practices.

## 1.2 General Safety

### CAUTION

The following are general farm safety precautions that should be part of your operating procedure for all types of machinery.

Protect yourself.

- When assembling, operating, and servicing machinery, wear all the protective clothing and personal safety devices that **COULD** be necessary for the job at hand. Don't take chances. You may need the following:
  - A hard hat
  - Protective footwear with slip resistant soles
  - Protective glasses or goggles
  - Heavy gloves
  - Wet weather gear
  - A respirator or filter mask
- Be aware that exposure to loud noise can cause impairment or loss of hearing. Wear suitable hearing protection devices such as ear muffs or ear plugs to help protect against objectionable or loud noises.

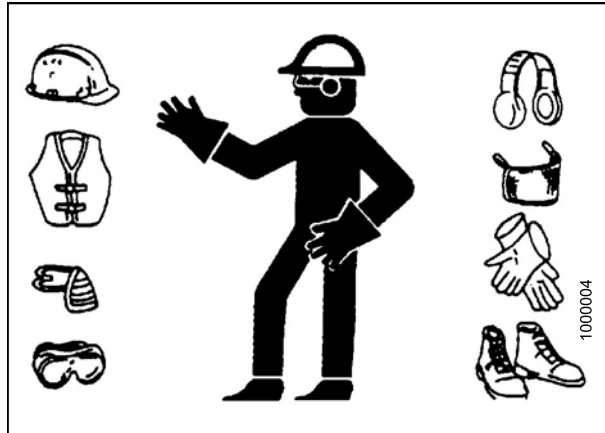


Figure 1.1: Safety Equipment



Figure 1.2: Safety Equipment

- Provide a first aid kit for use in case of emergencies.
- Keep a fire extinguisher on the machine. Be sure the fire extinguisher is properly maintained. Be familiar with its proper use.
- Keep young children away from the machinery at all times.
- Be aware that accidents often happen when the Operator is tired or in a hurry to get finished. Take the time to consider the safest way. Never ignore warning signs of fatigue.

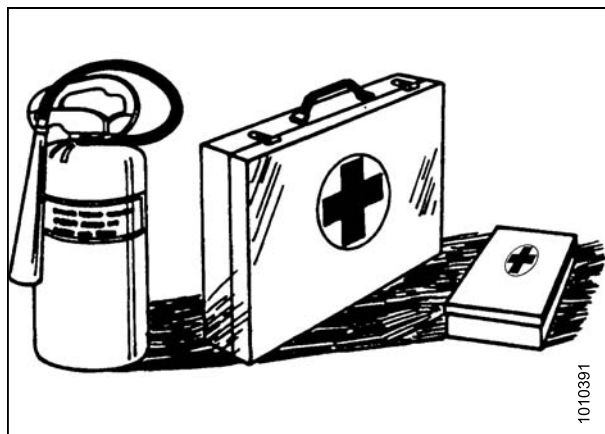


Figure 1.3: Safety Equipment

## SAFETY

- Wear close-fitting clothing and cover long hair. Never wear dangling items such as scarves or bracelets.
- Keep all shields in place. Never alter or remove safety equipment. Make sure driveline guards can rotate independently of the shaft and can telescope freely.
- Use only service and repair parts made or approved by the equipment manufacturer. Substituted parts may not meet strength, design, or safety requirements.



Figure 1.4: Safety Around Equipment

- Keep hands, feet, clothing, and hair away from moving parts. Never attempt to clear obstructions or objects from a machine while the engine is running.
- Do **NOT** modify the machine. Non-authorized modifications may impair machine function and/or safety. It may also shorten the machine's life.
- Stop the engine and remove the key from ignition before leaving operator's seat for any reason. A child or even a pet could engage an idling machine.

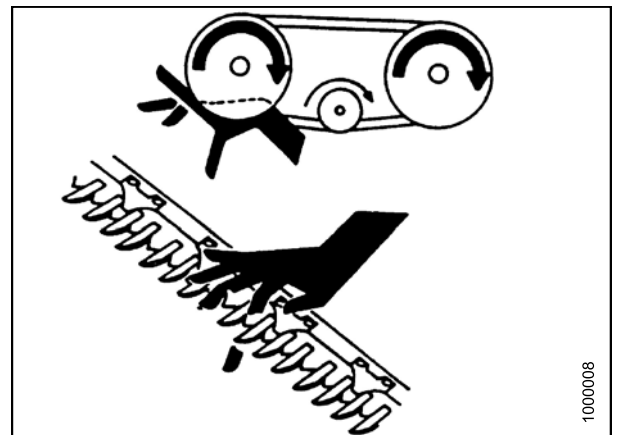


Figure 1.5: Safety Around Equipment

- Keep the service area clean and dry. Wet or oily floors are slippery. Wet spots can be dangerous when working with electrical equipment. Be sure all electrical outlets and tools are properly grounded.
- Keep work area well lit.
- Keep machinery clean. Straw and chaff, on a hot engine, are a fire hazard. Do **NOT** allow oil or grease to accumulate on service platforms, ladders, or controls. Clean machines before storage.
- Never use gasoline, naphtha, or any volatile material for cleaning purposes. These materials may be toxic and/or flammable.
- When storing machinery, cover sharp or extending components to prevent injury from accidental contact.



Figure 1.6: Safety Around Equipment

## 1.3 Safety Signs

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or become illegible.
- If original parts on which a safety sign was installed are replaced, be sure the repair part also bears the current safety sign.
- Safety signs are available from your Dealer Parts Department.

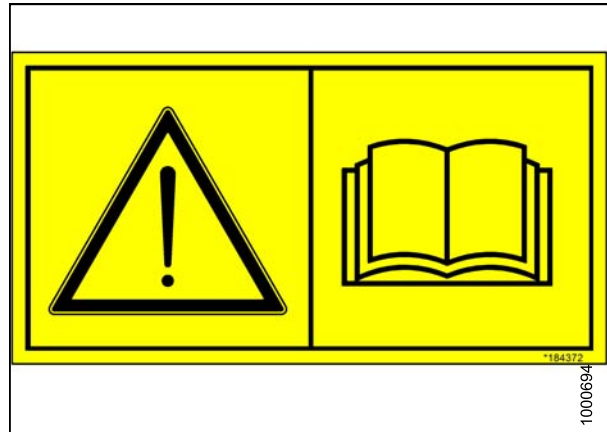
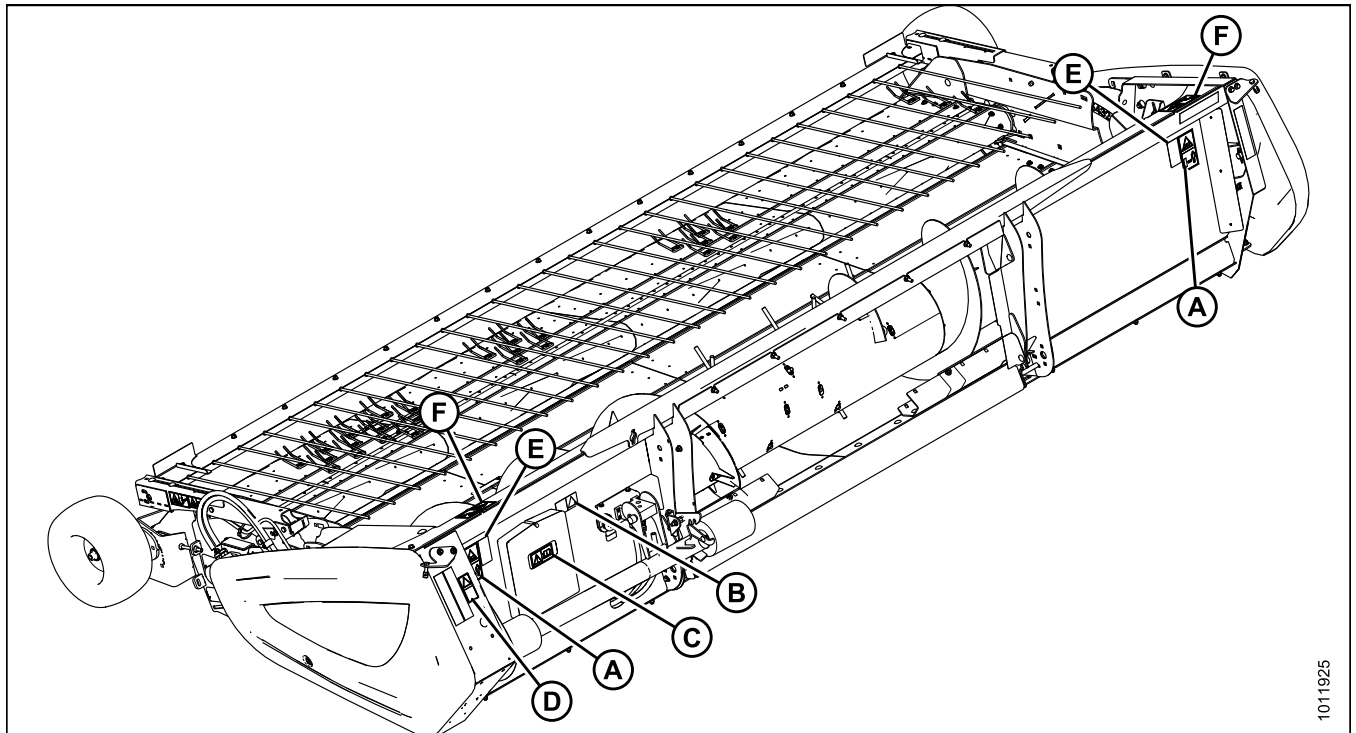


Figure 1.7: Operator's Manual Decal



## 1.4 Safety Sign Locations



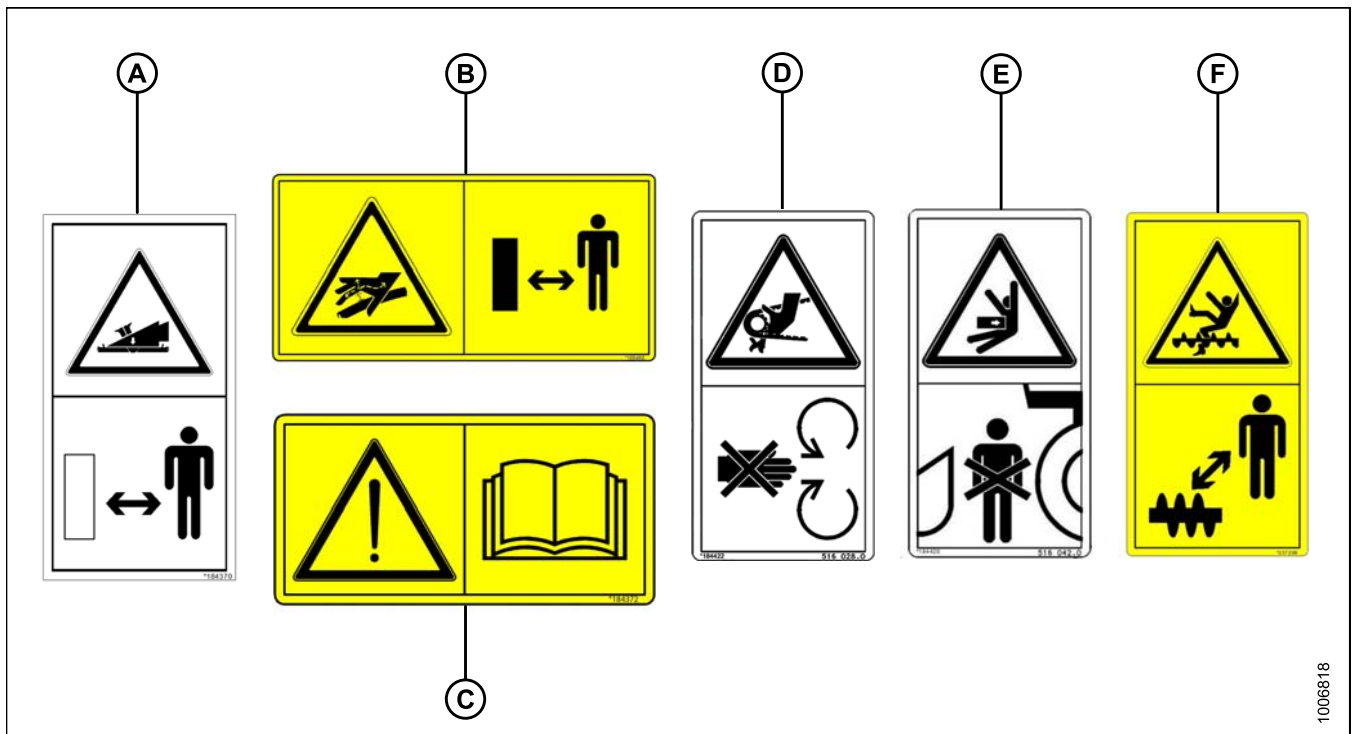
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Figure 1.8: Header Decals – Case IH

A - MD #184370  
D - MD #184422

B - MD #166466  
E - MD #184420

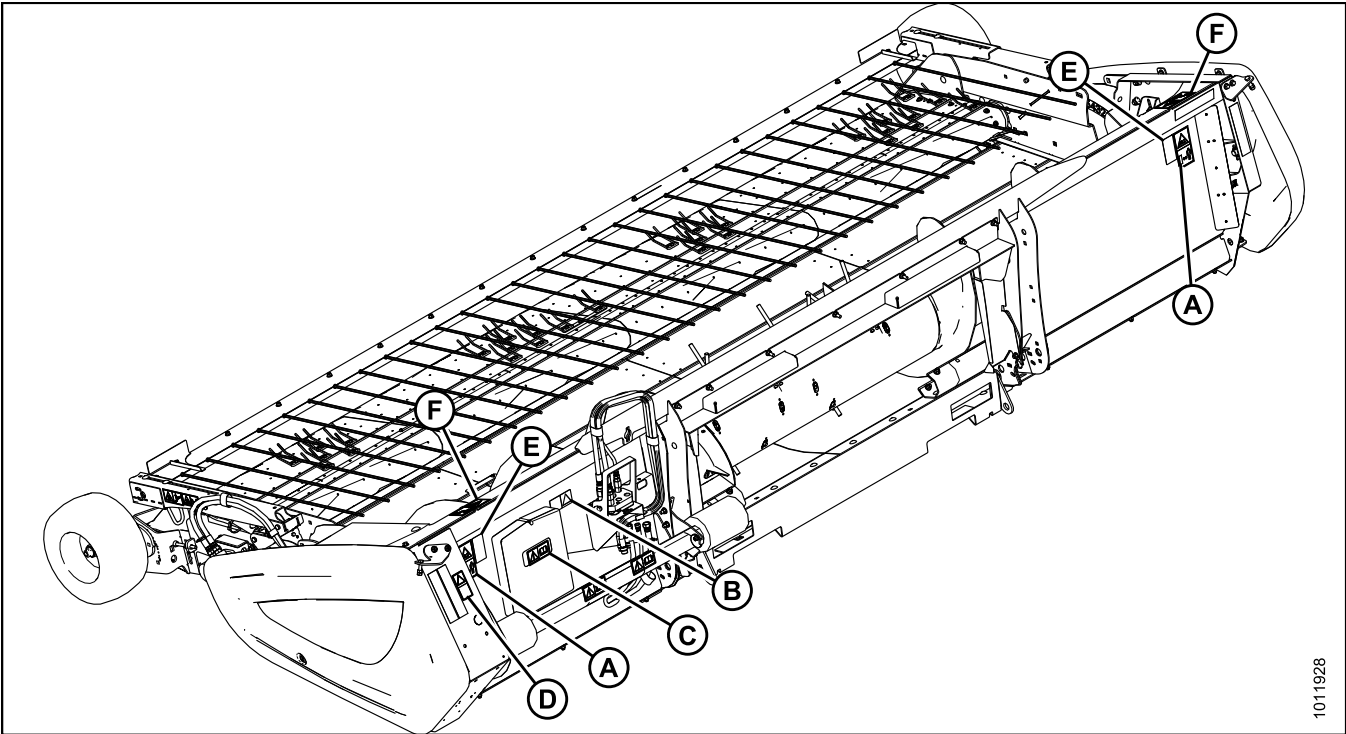
C - MD #184372  
F - MD #237298



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Figure 1.9: Header Decals

**SAFETY**



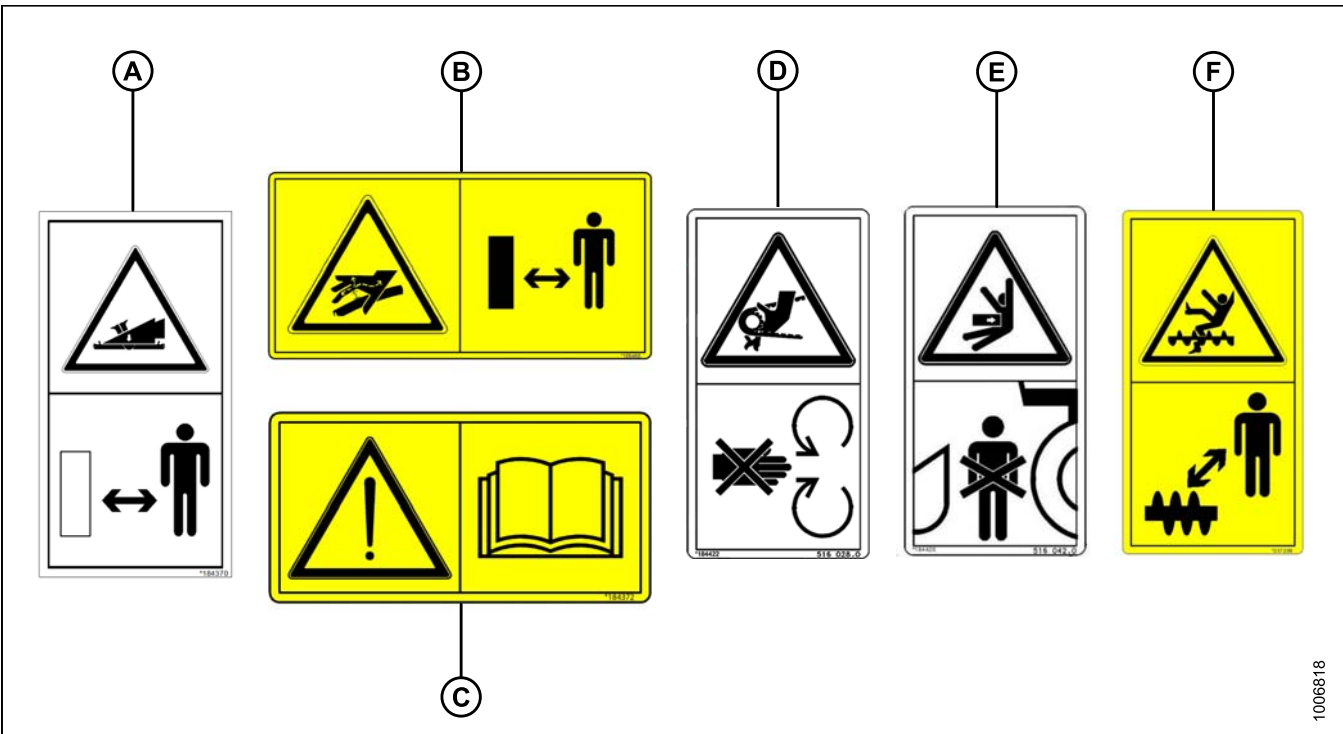
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**Figure 1.10: Header Decals – John Deere**

A - MD #184370  
D - MD #184422

B - MD #166466  
E - MD #184420

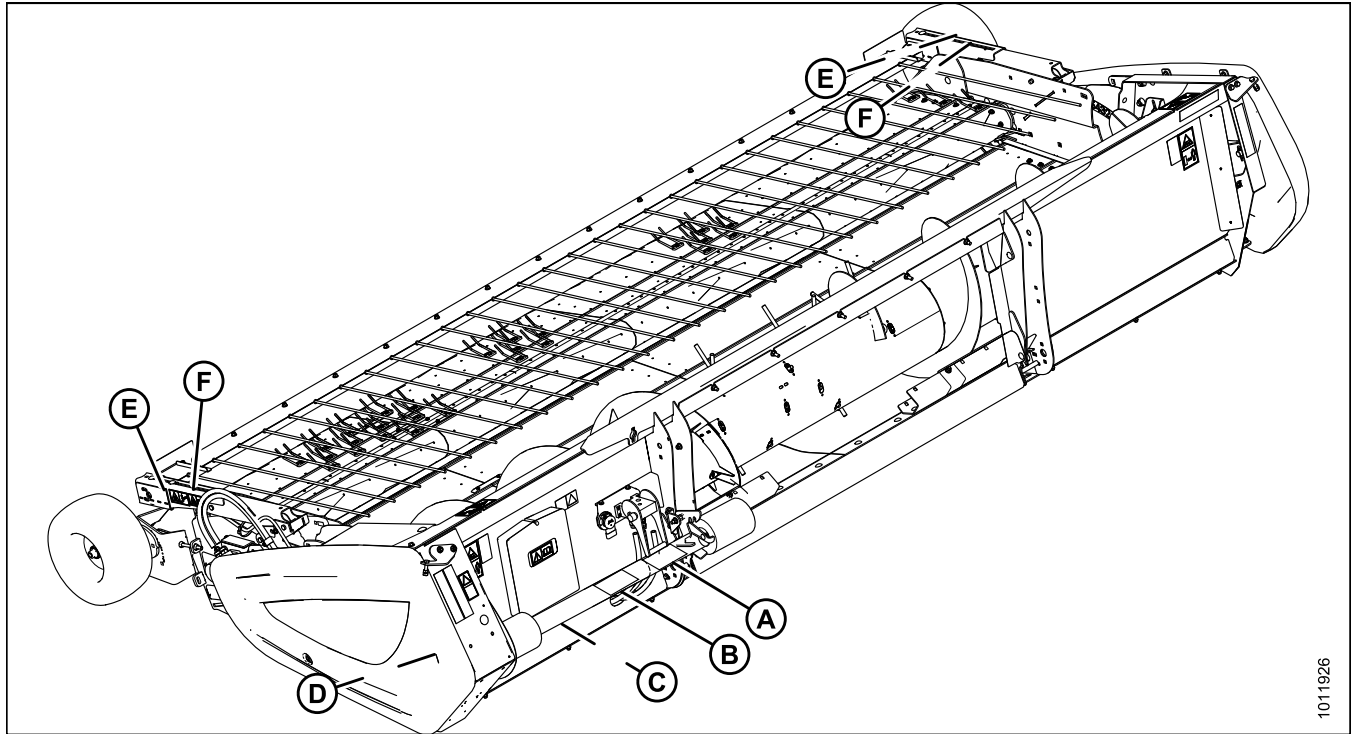
C - MD #184372  
F - MD #237298



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**Figure 1.11: Header Decals**

# SAFETY



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Figure 1.12: Driveline and Hold-Down Decals – Case IH

A - MD #30316

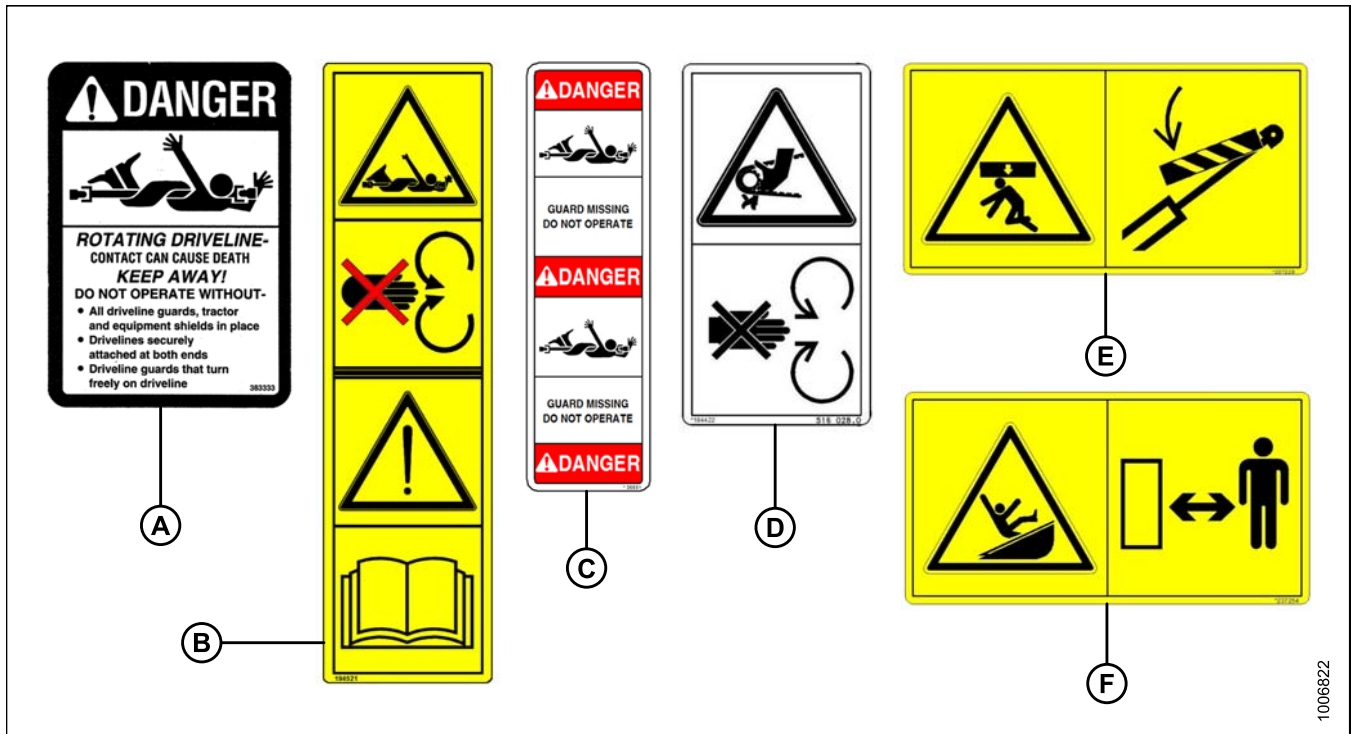
B - MD #191099

C - MD #36651

D - MD #184422 (Behind Endshield)

E - MD #237229

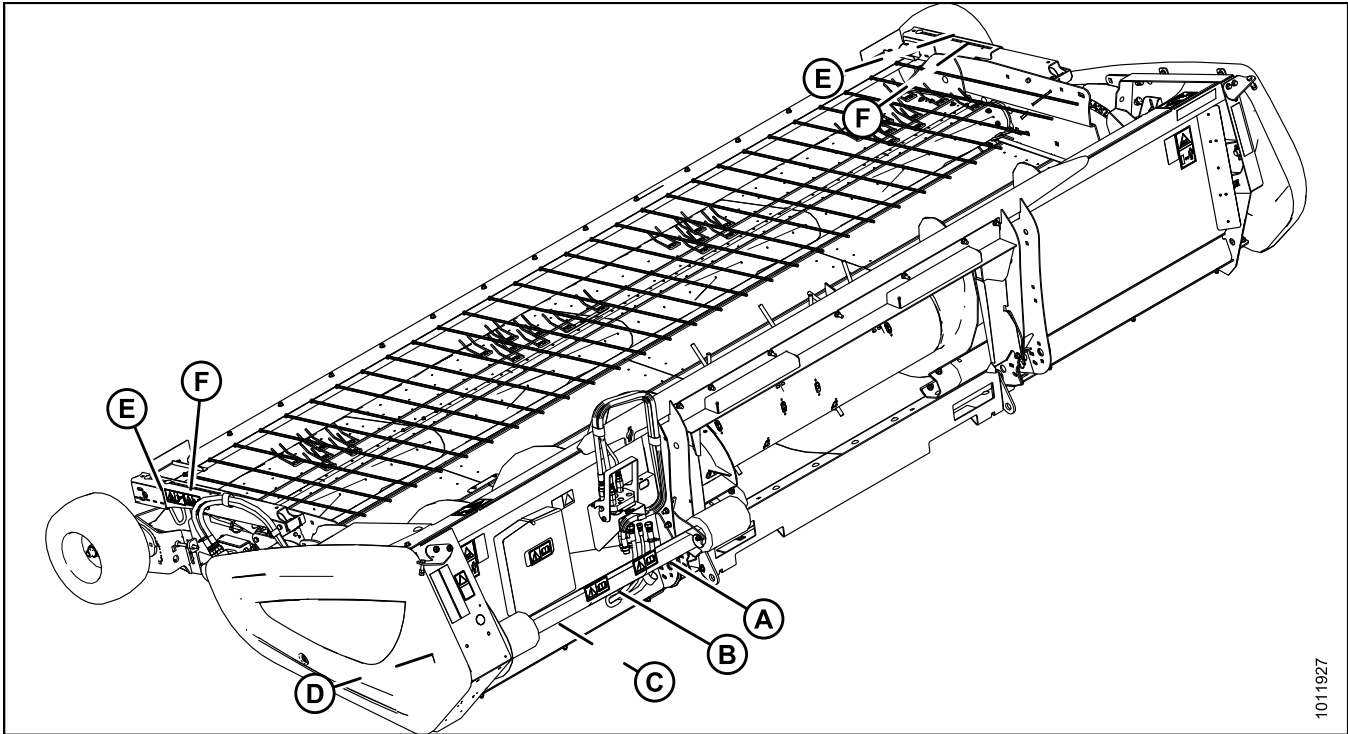
F - MD #237254



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Figure 1.13: Driveline and Hold-Down Decals

SAFETY



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Figure 1.14: Driveline and Hold-Down Decals – John Deere

A - MD #30316

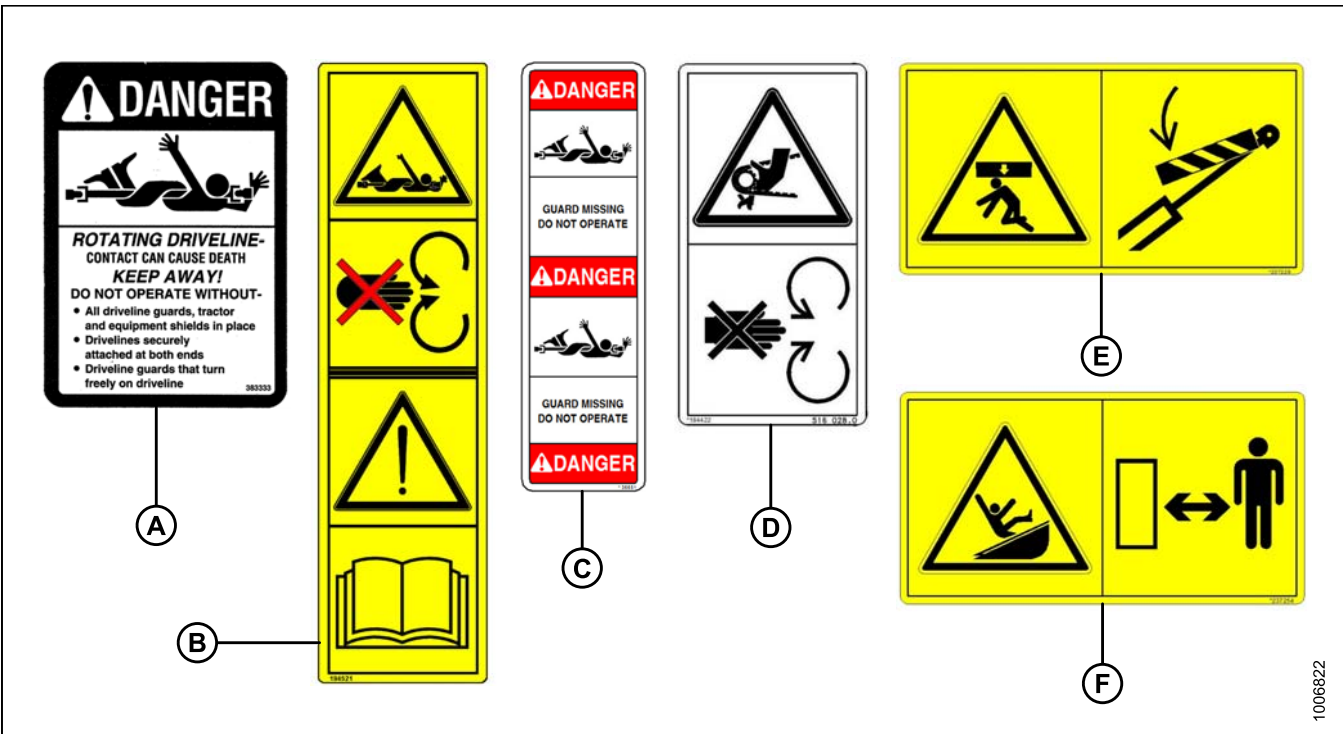
B - MD #191099

C - MD #36651

D - MD #184422 (Behind Endshield)

E - MD #237229

F - MD #237254



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Figure 1.15: Driveline and Hold-Down Decals

## 2 Shipping Data

The following data includes shipping stands:

Length (A)	Width (B)	Height (C)	Weight <sup>1</sup>
17 ft. 5 in. (5318 mm)	39-3/8 in. (1000 mm)	8 ft. 5-1/2 in. (2579 mm)	3550 lb. (1612 kg)

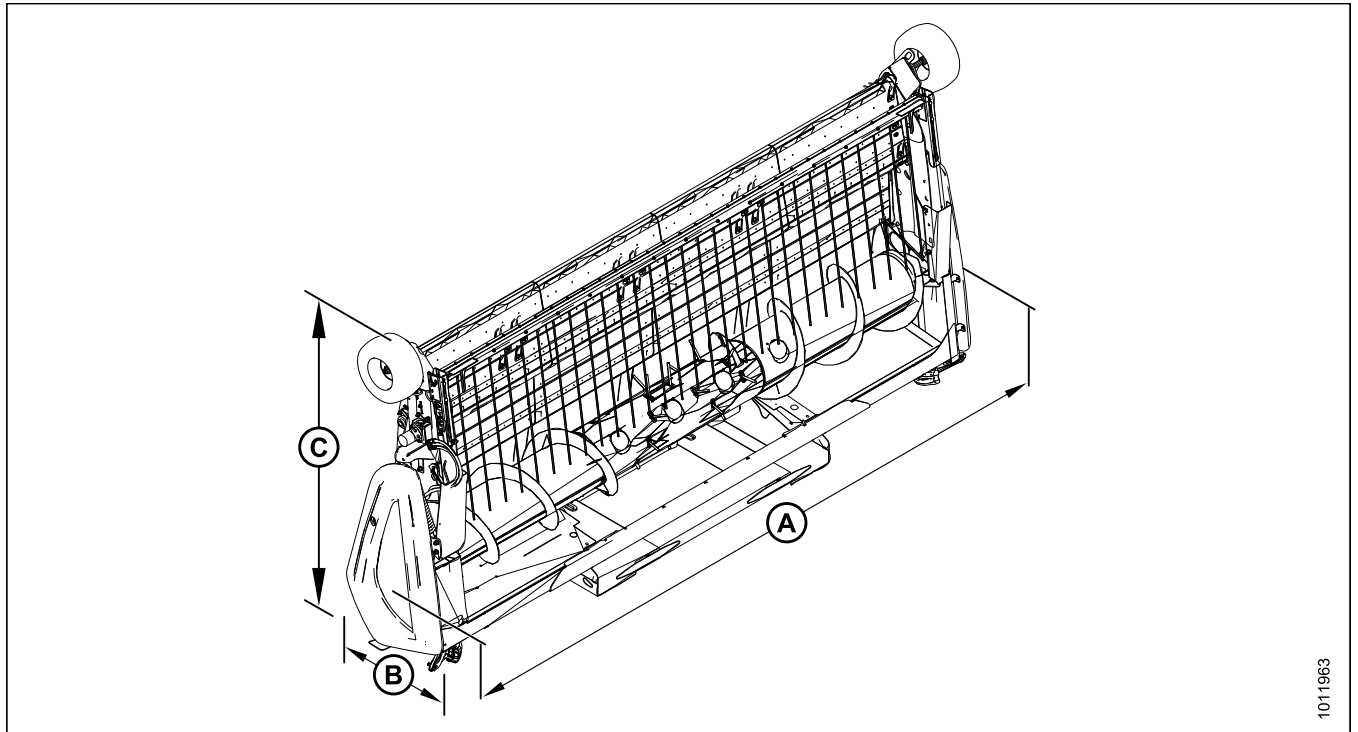


Figure 2.1: Shipping Dimensions

1. Weight is approximate and depends on combine completion package



# 3 Unloading the Header

Follow each of the procedures in this chapter in order.

## 3.1 Unloading with a Forklift

**NOTE:**

Extra hardware is stored inside the manual storage case at the back of the header. Loose parts are strapped to the header.

**NOTE:**

MacDon recommends storing pick-up headers in the horizontal position after being received. If the units must be stored in the vertical position, ensure the storage surface is flat and hard.

 **WARNING**

Be sure all persons/pets are clear when moving the header.

 **CAUTION**

To avoid injury to bystanders from being struck by machinery, do not allow persons to stand in unloading area.

 **CAUTION**

Equipment used for unloading must meet or exceed the requirements specified below. Using inadequate equipment may result in chain breakage, vehicle tipping, or machine damage.

Lifting Vehicle (Forklift or Equivalent)	
Minimum lifting capacity <sup>2</sup>	5000 lb (2270 kg)
Minimum fork length	78 in. (1981 mm)

**IMPORTANT:**

Forklifts are normally rated for a load located 24 in. (610 mm) from back end of forks. To obtain forklift capacity at 48 in. (1220 mm), check with your forklift distributor.

---

2. At 48 in. (1220 mm) from back end of forks.

## UNLOADING THE HEADER

To unload headers from a trailer, follow these steps:

1. Move trailer into position on level ground, and then block trailer wheels.
2. Lower trailer storage stands.
3. Approach side of trailer with forklift.
4. Adjust width of forks to line up with shipping stand pockets (A).
5. Slowly slide the forks into the shipping stand pockets.

### **WARNING**

Be sure forks are secure before moving away from load. Stand clear when lifting.

### **CAUTION**

Avoid lifting the second header and ensure the forks do not interfere with the shipping frame. If the forks contact the second header, damage to the headers may occur.

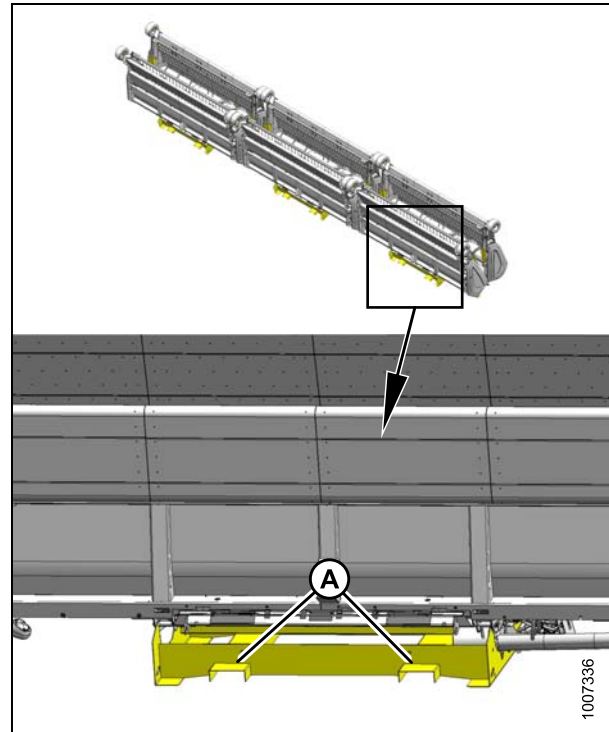


Figure 3.1: Header Shipping

### **IMPORTANT:**

Attempting to lift the header with forks not engaged in lift pockets may result in an unstable load and/or damage to shipping stands.

6. Raise header off deck and back up until forks clear trailer.
7. Slowly lower to 6 in. (150 mm) from ground.
8. Take header to storage or set up area, and place on level hard ground.
9. Check header for shipping damage, and check shipment for missing parts.
10. Repeat above steps for remaining headers.



Figure 3.2: Unloading the Header



## 3.2 Lowering Header

**IMPORTANT:**

These instructions are only for tipping over the unit. Lifting should only be done using a forklift and the shipping stand.

1. Attach a spreader bar (A) to forklift or equivalent. Spreader bar should have a minimum working load of 5000 lb. (2270 kg).
2. Attach the spreader bar chains (B) to the lifting lug (C) on each end of the header as shown. Do not attach chains to, or through, hold-down components.

**IMPORTANT:**

Damage to header resulting from lowering the unit with alternative methods will not be covered by warranty.

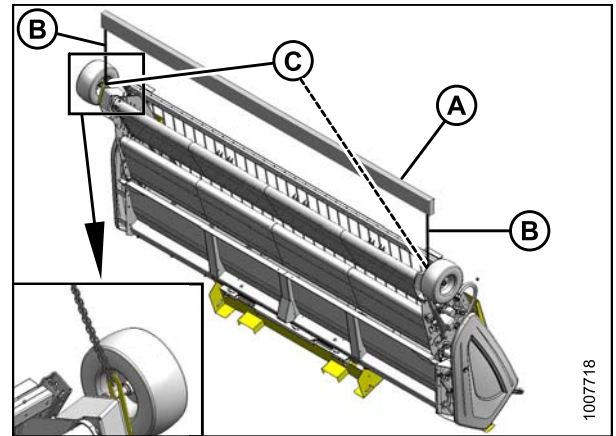


Figure 3.3: Spreader Bar on Header

3. Slowly back up forklift while lowering the front of pick-up header to the ground.
4. Remove chains (A) from header lugs.
5. Proceed to [3.3 Removing Shipping Stands, page 14](#).

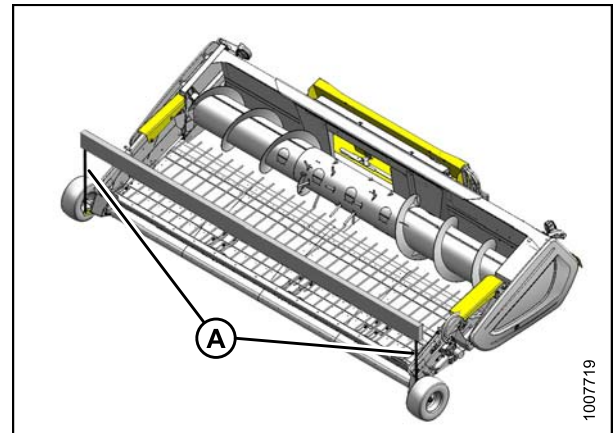


Figure 3.4: Spreader Bar on Header

### 3.3 Removing Shipping Stands

The removable stands are painted yellow.

**NOTE:**

Unless otherwise specified, discard stands as well as all shipping material and hardware.

**⚠ CAUTION**

Shipping stands are extremely heavy. Use caution when detaching shipping stands.

1. Remove the two bolts (A) near the top of the stand and allow the stand to rotate aft until it rests on the ground.
2. Remove the two lower bolts (B) and remove stand.

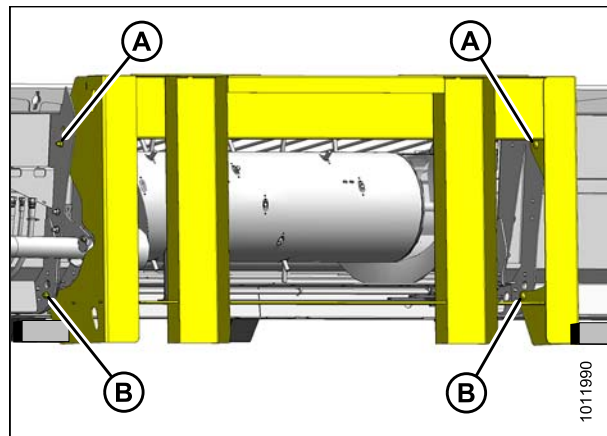


Figure 3.5: Shipping Stand

3. Attach the header to the combine feeder house. Refer to [6 Attaching Header to Combine, page 47](#).
4. Relieve load on support bolts (A) and (B) by raising and lowering the feeder house until bolts are loose.
5. Remove bolts (A) and (B) and remove support (C).
6. Similarly remove support from opposite end of header.

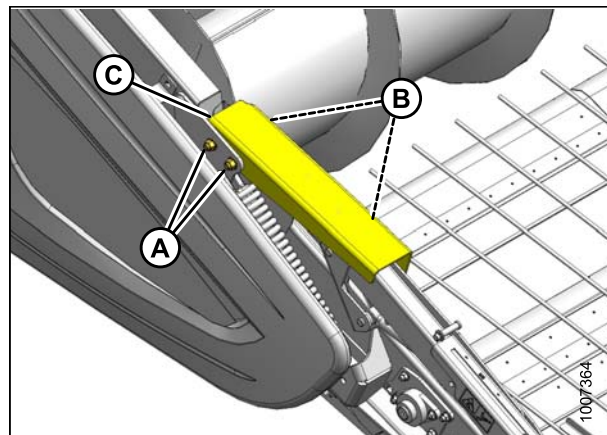


Figure 3.6: Shipping Support

## UNLOADING THE HEADER

7. Remove bolt (A) from lifting lug (B).
8. Loosen bolt (C) and slide lug (B) in direction of arrow until bolt (C) disengages slot in header.
9. Remove lug from opposite end of header.

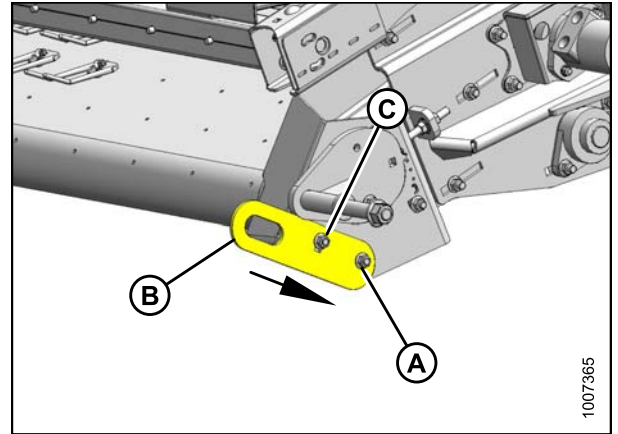


Figure 3.7: Shipping Lug

10. Remove two nuts (A).
11. Loosen two nuts (B) and remove bumper (C).

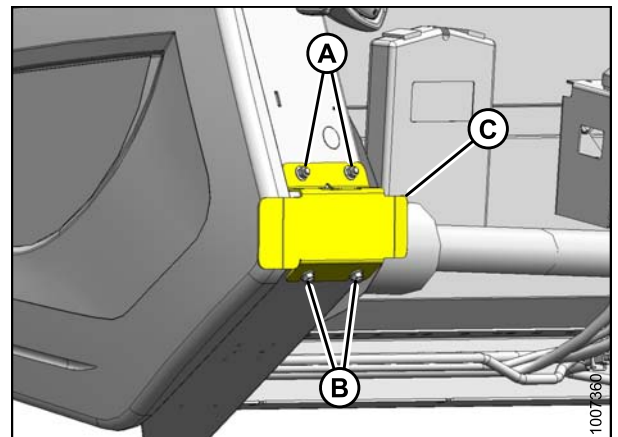


Figure 3.8: Shipping Bumper

12. Open the left endshield. (A) Refer to [4.1.1 Opening Left-Hand Endshield, page 17](#)
13. Remove four nuts and bolts (B).
14. Leave endshield open for next procedure.

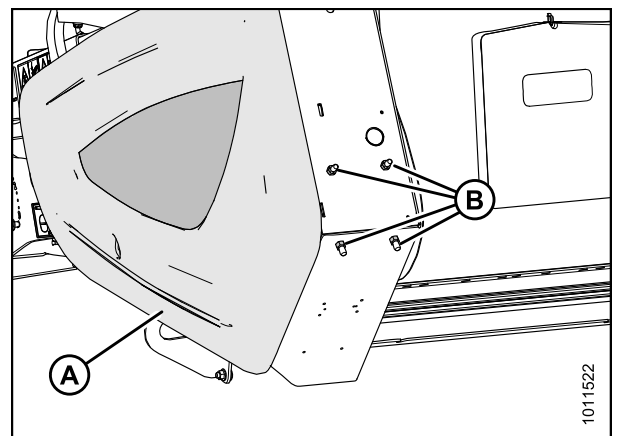


Figure 3.9: Bumper Bolts



## 4 Assembling the Header

To prepare the header for delivery to the Customer, complete the assembly procedures in this chapter in order.

### 4.1 Installing Crop Deflectors

Crop deflectors are provided to reduce the build up of stems under the hold-down support arm pivot. If crop deflectors will not be installed, remove them from the auger drive compartment and store them in the combine cab or another suitable location.

#### DANGER

**Stop engine and remove key from ignition before leaving operator's seat for any reason. A child or even a pet could engage an idling machine.**

1. Open the left endshield. Refer to [4.1.1 Opening Left-Hand Endshield, page 17](#).
2. Remove bolt (A) and remove the crop deflectors (B) and bag of installation hardware from inside the left endsheet.
3. Close the endshield. Refer to [4.1.2 Closing Left-Hand Endshield, page 18](#).

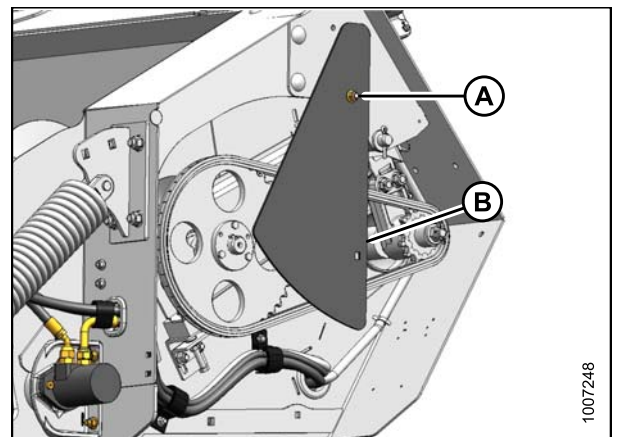


Figure 4.1: Crop Deflectors

4. Position crop deflector (A) onto header endsheet and secure with two M12 x 25 bolts (B) and nuts provided in bag.

#### NOTE:

Bolt heads must face inboard.

5. Repeat for the opposite deflector.

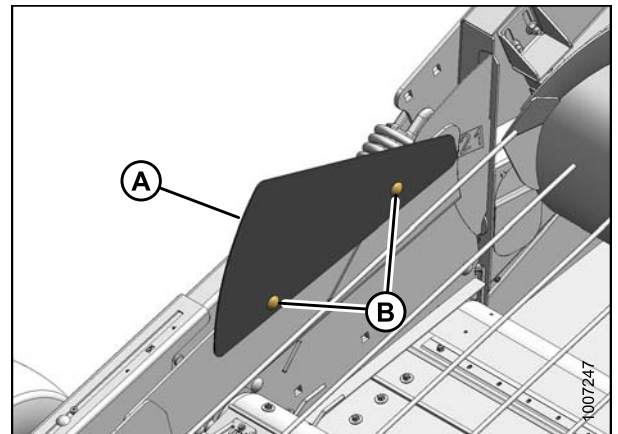


Figure 4.2: Crop Deflector

#### 4.1.1 Opening Left-Hand Endshield

To open the left-hand endshield, follow these steps:

## ASSEMBLING THE HEADER

1. Unlock endshield (B) by turning latch (A) counterclockwise using a slotted screwdriver until it stops (slightly more than one-half turn).

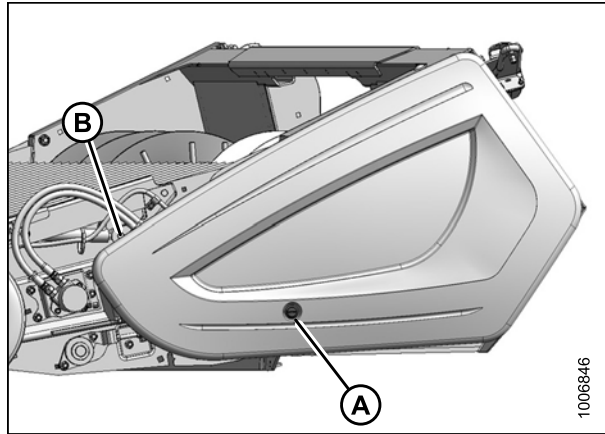


Figure 4.3: Endshield Closed

2. Grasp forward end of endshield (A) and pull open until support (B) engages and holds endshield in open position.

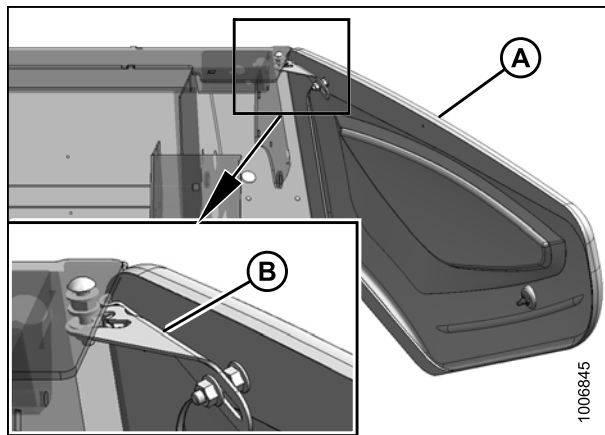


Figure 4.4: Endshield Open

### 4.1.2 Closing Left-Hand Endshield

To close the left-hand endshield, follow these steps:

1. Move endshield (A) slightly so support (B) can be moved out of the locked position.

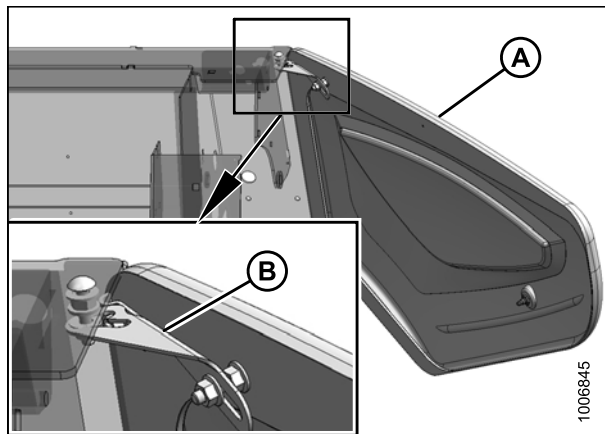


Figure 4.5: Endshield Support

## ASSEMBLING THE HEADER

2. Close shield (A) ensuring magnet (B) and stop (C) in header frame are aligned. This will ensure that latch (D) aligns with receptacle (E).

**NOTE:**

Latch (D) and magnet (B) positions are preset at the factory and should not require adjustment.

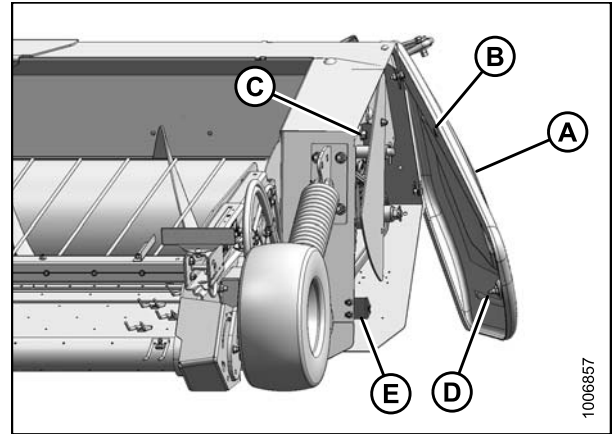


Figure 4.6: Endshield

3. If front of shield needs to be raised or lowered, loosen nuts (B) on clips (C) at the back of the shield (A) and reposition the shield. Tighten nuts (B) but do not overtighten to prevent damaging the shield.

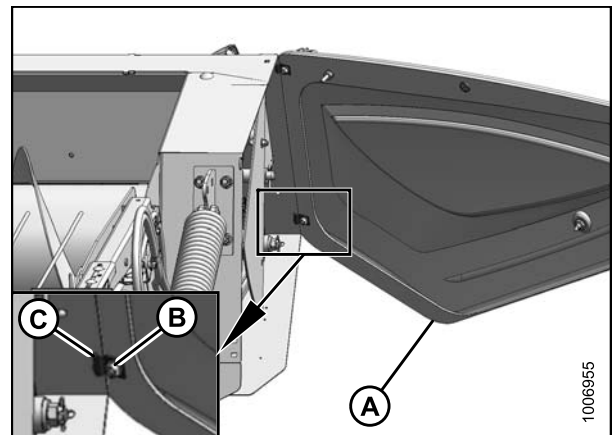


Figure 4.7: Endshield Adjustment

4. Close the shield and turn latch (A) clockwise using a slotted screwdriver until it stops (slightly more than one-half turn).

**NOTE:**

When latch is fully engaged, the notch on the latch will align with the notch on the endsheet (not shown), and the endshield will draw tightly against the header and slightly compress.

5. Ensure magnet (B) on endshield is against the stop on endsheet and latch is engaged.

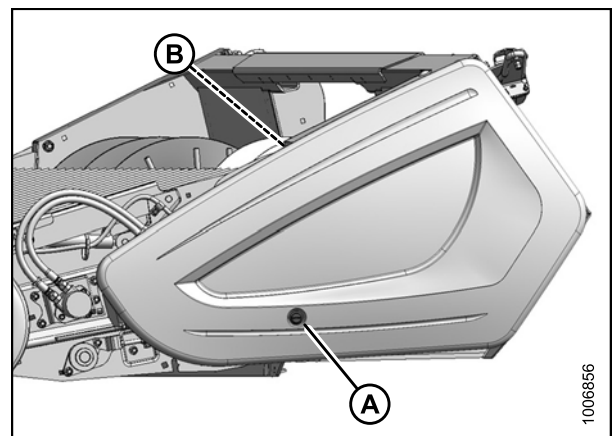


Figure 4.8: Endshield Closed

## 4.2 Repositioning Driveline Storage Bracket

1. Remove shipping wire securing driveline to header.
2. Rotate locking disc (A) and remove driveline from bracket (B).
3. Remove the two bolts (C) securing bracket (B) to header leg and remove bracket.
4. **For Case and New Holland combines,** reinstall bolts (C) to secure locking mechanism (D). For all other combines, retain hardware.

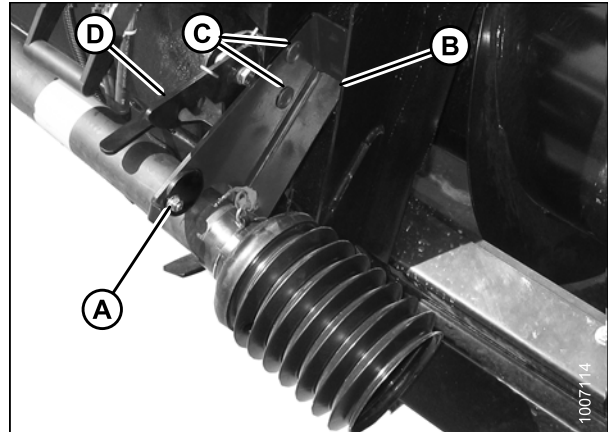


Figure 4.9: Driveline Bracket

5. For Case and New Holland combines, retrieve two M12 x 35 carriage bolts and locking nuts from hardware bag (B) in manual case (A).

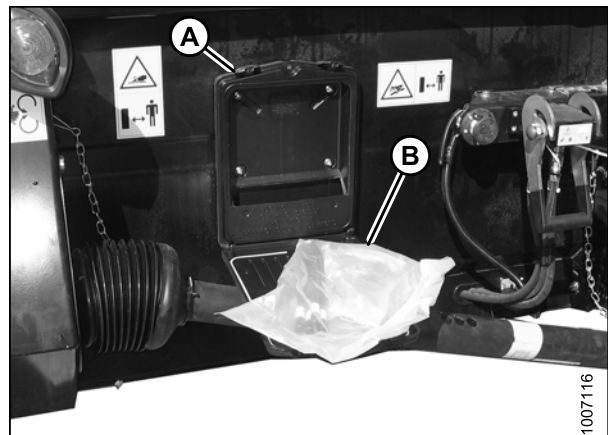


Figure 4.10: Hardware Bag

6. Loosely install one carriage bolt (A) and locking nut in bracket (B) and the other bolt and nut in slot (C) in header frame.

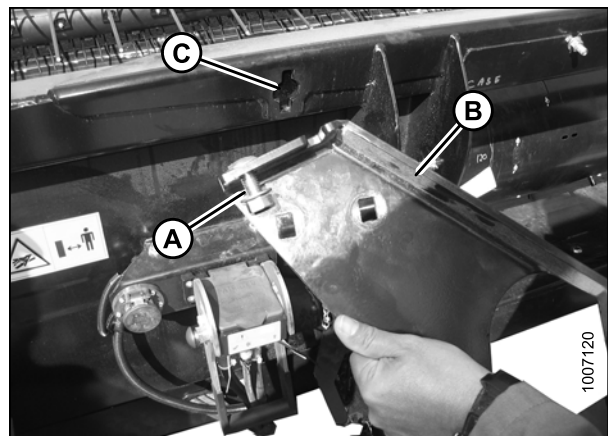
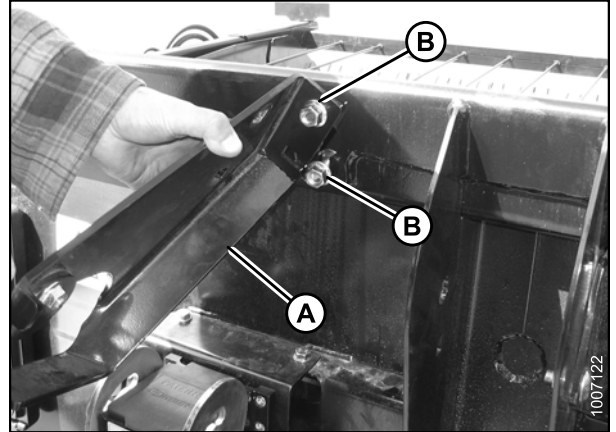


Figure 4.11: Driveline Bracket



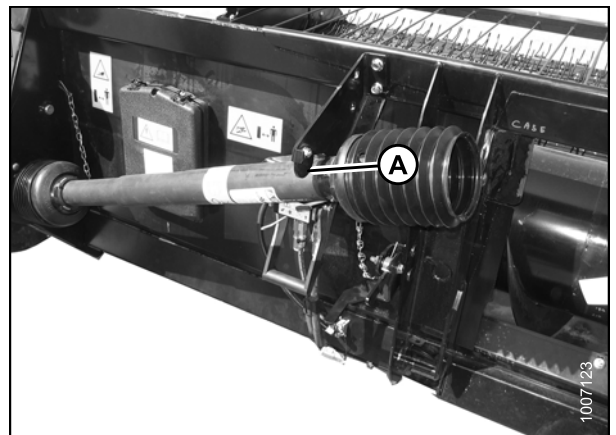
## ASSEMBLING THE HEADER

7. Position bracket (A) against header frame and locate the preinstalled bolt (B) into the upper slot in frame.
8. Swivel bracket (A) so that slot in bracket engages bolt (B) in lower slot in frame.
9. Tighten the two nuts.



**Figure 4.12: Driveline Bracket**

10. Place driveline in bracket ensuring locking disc (A) secures driveline in bracket.



**Figure 4.13: Driveline in Repositioned Bracket**

### 4.3 Adjusting Transport Lights

The transport lights, located at each end of the header, are used when driving the combine on the road with the header attached. Lights should be positioned perpendicular to the endsheet.

1. If repositioning is required, swivel the lights with hand force.
2. If the swivel is too loose or too tight, loosen jam nut (A) and turn nut (B) so the light maintains its position and can be moved with hand force. Do not overtighten.
3. Tighten jam nut (A).

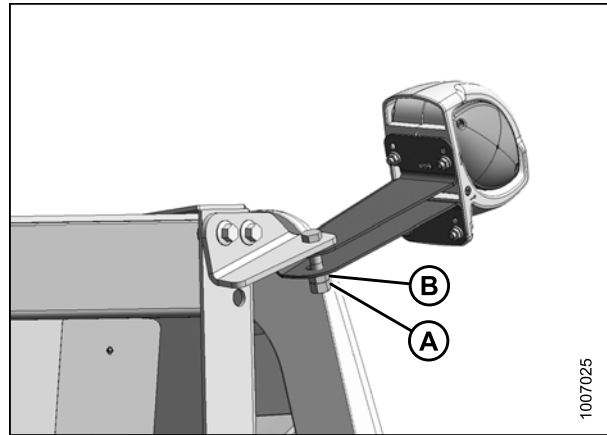


Figure 4.14: Transport Light

## 4.4 Extending Hold-Down to Field/Working Position

Extend the hold-down into the working position as follows:

1. If necessary, lift hold-down (A) slightly to gain access to bolts (B) inside hold-down arms.

**NOTE:**

When working under the hold-down, lower the safety props and engage the securing pins.

2. Loosen four bolts (B) (two per side) in hold-down frame with an 18 mm socket wrench.

3. Pull the hold-down frame (A) fully forward.
4. Tighten bolts (B) in hold-down arms.

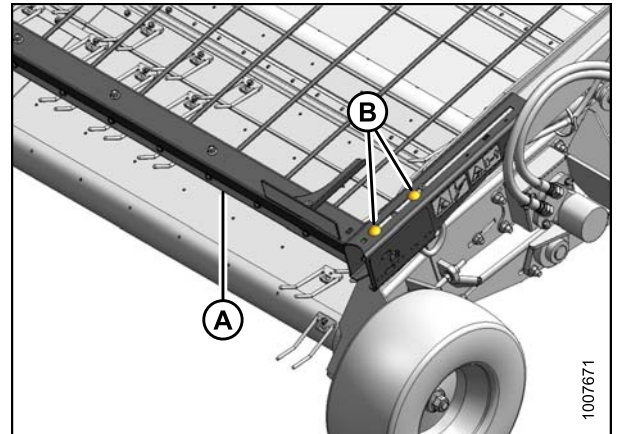


Figure 4.15: Hold-Down LH Side

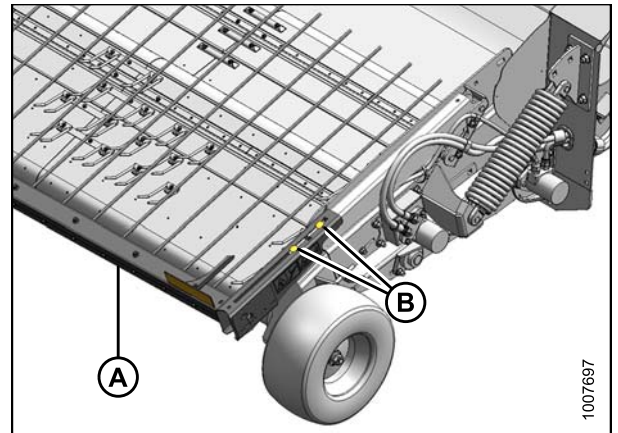


Figure 4.16: Hold-Down LH Side



## 5 Reconfiguring Headers

To minimize setup, PW8 Combine Pick-Up Headers are factory configured for a particular combine make, model, and feeder house size. This chapter describes how to modify the header to accommodate the following combine models and feeder house sizes.

- Case 45.5 in. (1156 mm) refer to [5.2 Converting Headers for Case IH, page 31](#)
- John Deere 65 in. (1670 mm) refer to [5.1 Converting Headers for John Deere, page 25](#)
- New Holland 40 in. (1016 mm) refer to [5.4 Converting Headers for New Holland CR Series, page 40](#)
- New Holland 60 in. (1524 mm) refer to [5.3 Converting Headers for New Holland CX, page 34](#)

### 5.1 Converting Headers for John Deere

PW8 Pick-Up Headers are configured at the factory for combine models with a 55 in. (1397 mm) feeder house. These procedures describe how to modify the header for models with a 65 in. (1670 mm) feeder house.

#### 5.1.1 Moving Stripper Assemblies

To reposition the stripper assemblies for a larger header opening, follow these steps:

1. Loosen three bolts (A) and remove cover (B) on both sides of the header to expose the stripper assembly attachment hardware.
2. Remove the four bolts (A) attaching the left stripper assembly (B) to the frame.

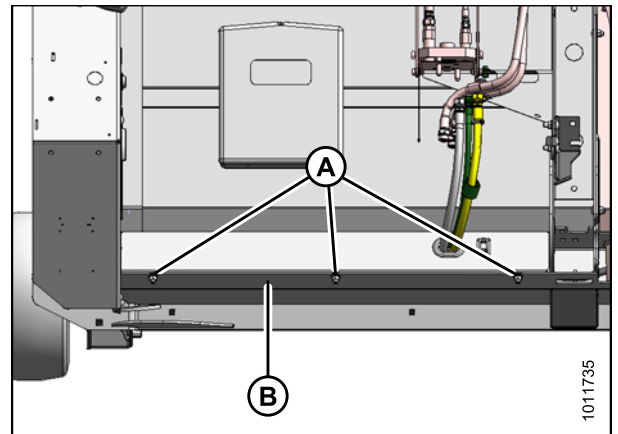


Figure 5.1: Left Cover – Right Side Opposite

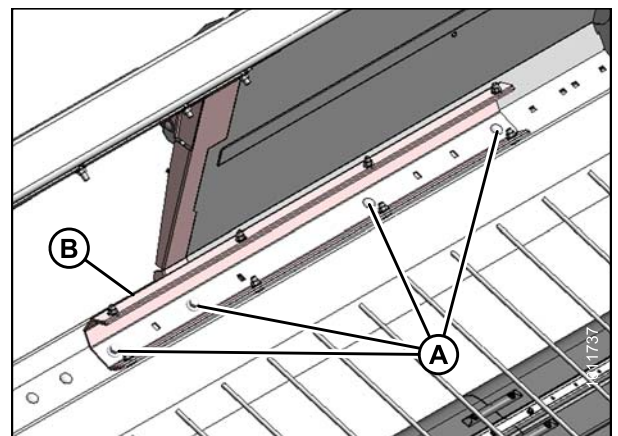


Figure 5.2: Left Stripper – Narrow Opening (Auger Not Shown for Clarity)

## RECONFIGURING HEADERS

3. Move the left stripper assembly (A) outboard so that distance (B) from the stripper assembly to the header centerline is 27-9/16 in. (700 mm).

**NOTE:**

The centerline is located where the header pans meet.

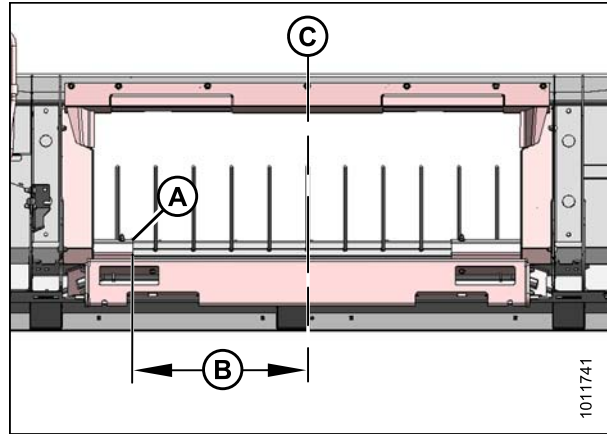


Figure 5.3: Left Stripper – Wide Opening

4. Reinstall the four bolts (A) where the stripper assembly (B) mounting holes line up with the frame. Tighten bolts.
5. Install M12 x 30 carriage bolt (C) and nut (provided in hardware bag) in the existing hole.

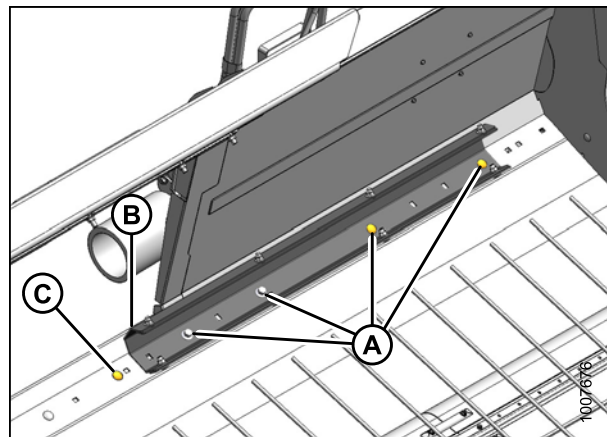


Figure 5.4: Left Stripper – Wide Opening

6. Remove four bolts (A) attaching the right stripper assembly (B) to the frame.

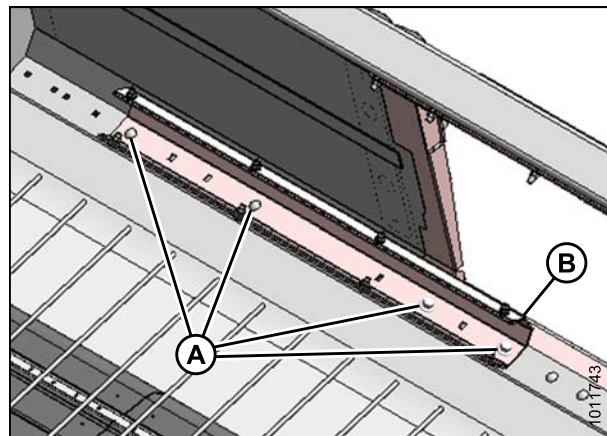


Figure 5.5: Right Stripper – Narrow Opening

## RECONFIGURING HEADERS

7. Move the right stripper assembly (A) outboard so that dimension (B) from header centerline (C) is 27-9/16 in. (700 mm).
8. Make sure distance (D) between stripper assemblies is 55-1/8 in. (1400 mm).

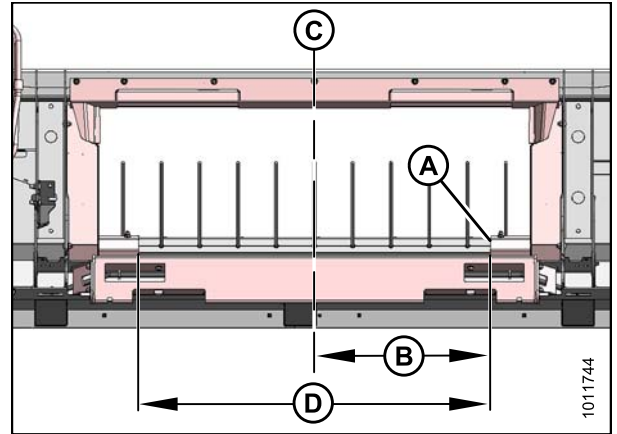


Figure 5.6: Right Stripper – Wide Opening

9. Reinstall the four bolts (A) where the stripper assembly (B) mounting holes line up with the frame. Tighten bolts.
10. Install M12 x 30 carriage bolt (C) and nut (provided in hardware bag) in the existing hole.
11. Manually rotate the auger and check the clearances between the auger flighting and stripper plates. The clearance should be 1/8–1/4 in. (3–6 mm).
12. If necessary, refer to [5.1.4 Adjusting Stripper Plate Clearance](#), page 30.

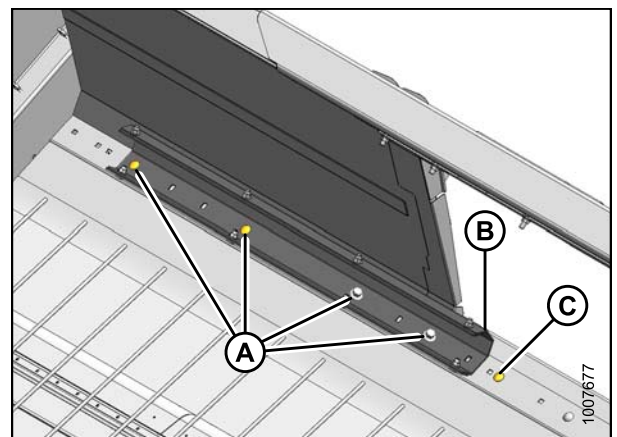


Figure 5.7: Right Stripper – Wide Opening

13. Reinstall covers (B) and tighten bolts (A).

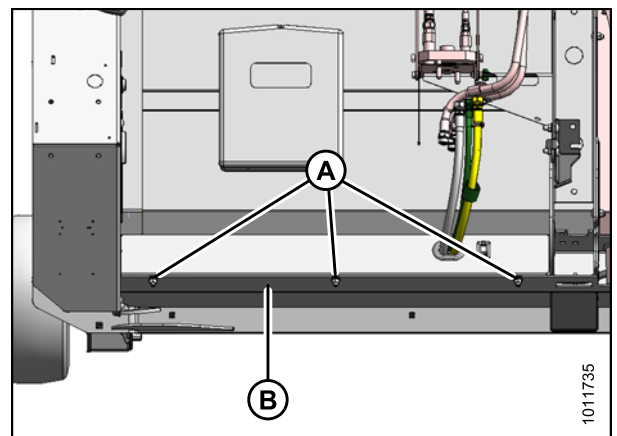


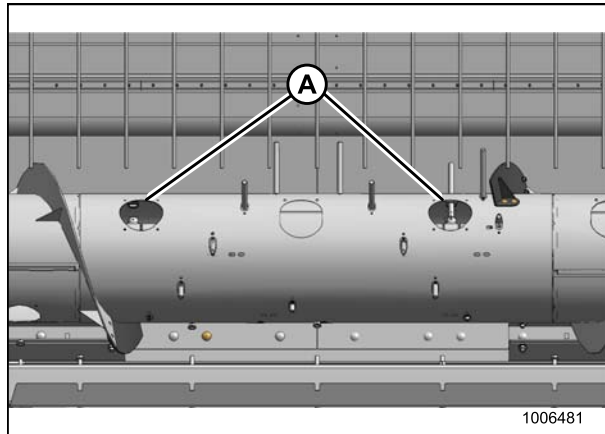
Figure 5.8: Left Cover – Right Side Opposite

## RECONFIGURING HEADERS

### 5.1.2 Removing Flighting Extensions

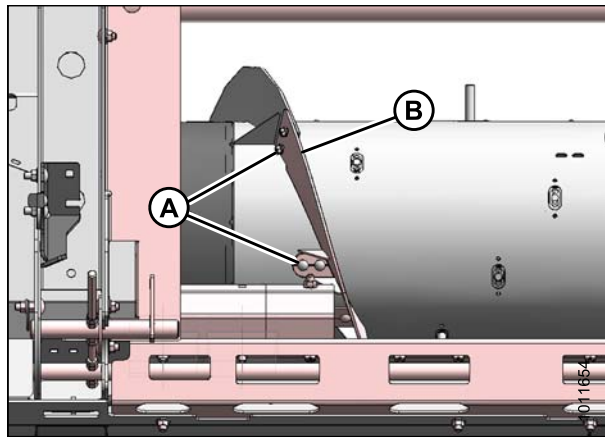
Follow these steps to configure the auger flighting extensions for a 65 in. (1651 mm) feeder house:

1. Remove the two access covers (A) on either side of center.



**Figure 5.9: Access Holes in Auger**

2. Remove hardware (A) securing existing left and right auger flighting extensions (B) and remove extensions.



**Figure 5.10: Left Flighting Extension – Right Extension Opposite**



## RECONFIGURING HEADERS

### 5.1.3 Installing Auger Fingers

Follow these steps to install the extra auger fingers required for a 65 in. (1650 mm) feeder house:

1. Retrieve the bag of hardware from the manual storage case located on the back of the header.
2. Access the two covers (A) located on each side of center.

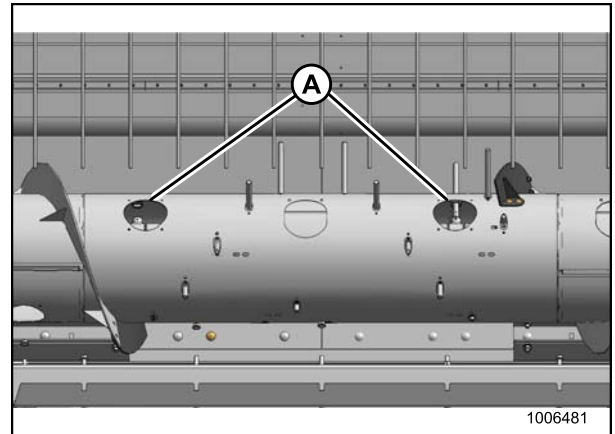


Figure 5.11: Access Holes in Auger

3. Remove screws (B) securing plastic plug (C) to the auger and remove plug from inside the auger.
4. Retrieve four plastic guides (D) from the bag of hardware.
5. Position plastic guide (D) in the hole from inside the auger and secure with hex socket screws (E) and tee nuts (F) provided in the hardware bag.
6. Torque the screws to 75 in-lbf (8.5 N·m).
7. Repeat Steps 3., page 29 to 6., page 29 for the remaining locations.

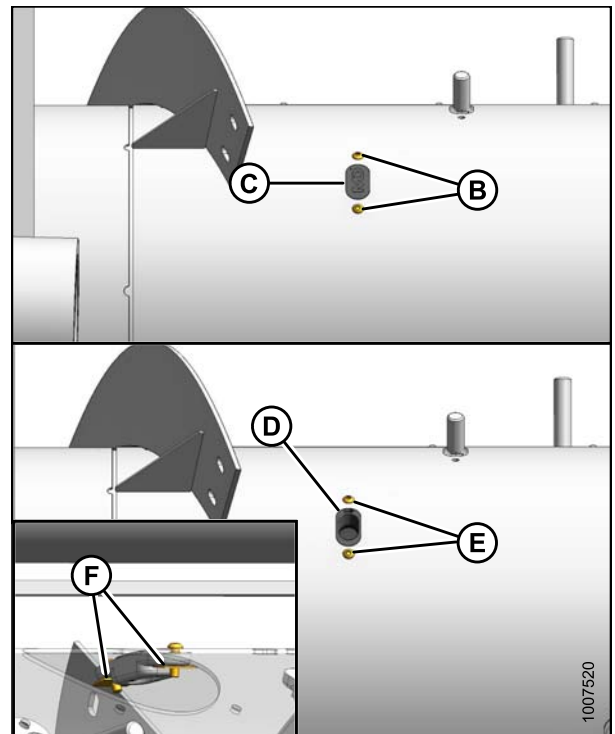


Figure 5.12: Plastic Guides

## RECONFIGURING HEADERS

8. Insert finger (A) through plastic guide (B) from inside the auger.
9. Insert finger into bushing (C).
10. Secure finger (A) in bushing with hairpin (D). Install hairpin with closed end leading with respect to auger forward rotation.
11. Repeat Steps 8., page 30 to 10., page 30 for the remaining fingers.

**NOTE:**

There should be a total of 22 fingers.

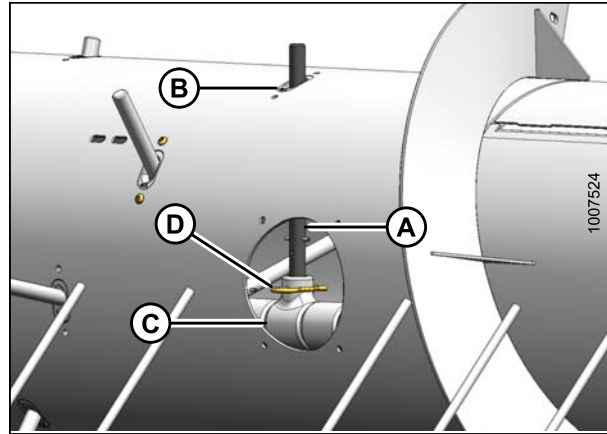


Figure 5.13: Auger Fingers

**IMPORTANT:**

To avoid damage to auger, check that all loose hardware and tools are removed from inside the auger.

12. Replace access covers (A) and secure with existing screws (B). Torque to 95 in-lbf (11 N·m).

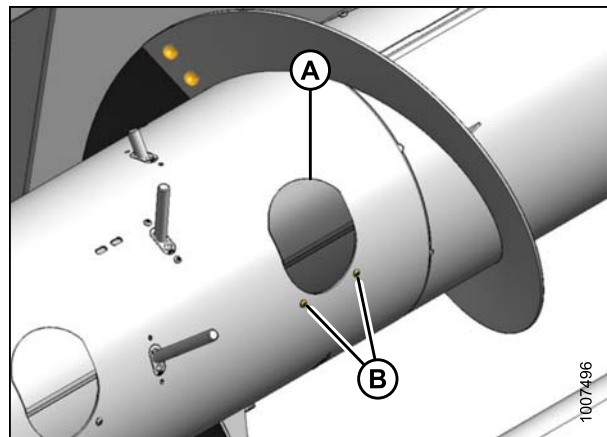


Figure 5.14: Access Cover

### 5.1.4 Adjusting Stripper Plate Clearance

1. Loosen nuts (A) on the stripper plate (B) and adjust plate to achieve clearance (C) of 1/8–1/4 in. (3–6 mm).
2. Tighten nuts (A).
3. Recheck clearance.

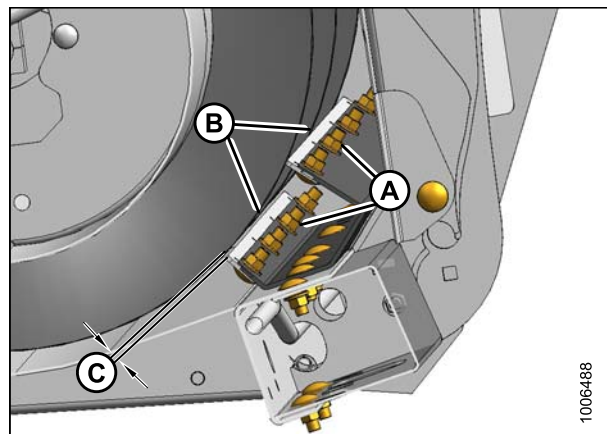


Figure 5.15: Stripper Plate Clearance

## 5.2 Converting Headers for Case IH

PW8 Pick-Up Headers are configured at the factory for combine models with a 54 in. (1372 mm) feeder house. These procedures describe how to modify the header for models with a 46 in. (1156 mm) feeder house.

### 5.2.1 Moving Stripper Assemblies

This procedure describes the repositioning of the stripper assemblies to accommodate the narrower feeder house opening.

1. Loosen three bolts (A) and remove cover (B) on both sides of the header to expose the stripper assembly attachment hardware.

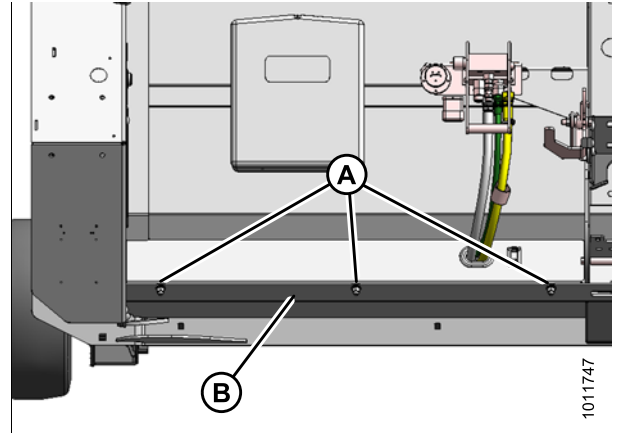


Figure 5.16: Left Cover – Right Side Opposite

2. Remove the four bolts (A) attaching the left stripper assembly (B) to the frame.

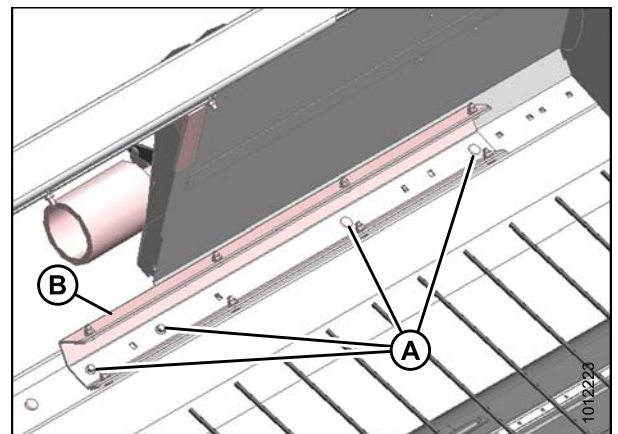


Figure 5.17: Left Stripper (Auger Not Shown for Clarity)

## RECONFIGURING HEADERS

3. Move the left stripper assembly (A) inboard so that the distance (B) from the stripper assembly to the header centerline (C) is 22-3/4 in. (578 mm).

**NOTE:**

The centerline is located where the header pans meet.

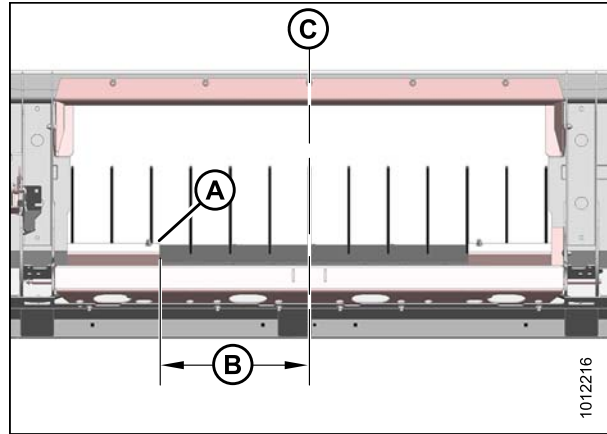


Figure 5.18: Narrow Opening

4. Reinstall the four bolts (A) where the stripper assembly (B) mounting holes line up with the frame. Tighten bolts.

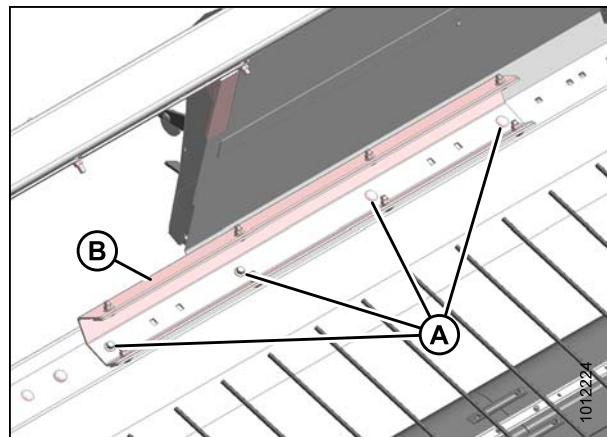


Figure 5.19: Left Stripper – Narrow Opening

5. Remove four bolts (A) attaching the right stripper assembly (B) to the frame.

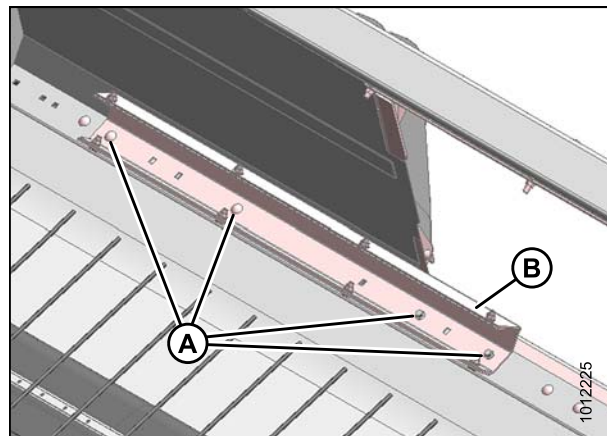


Figure 5.20: Right Stripper

## RECONFIGURING HEADERS

6. Move the right stripper assembly (A) inboard so that dimension (B) from header centerline (C) is 22-3/4 in. (578 mm).
7. Check distance (D) between stripper assemblies is 45-1/2 in. (1156 mm).

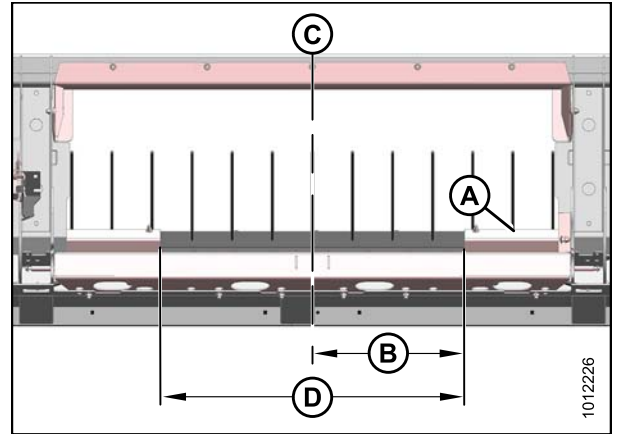


Figure 5.21: Narrow Opening

8. Reinstall the four bolts (A) where stripper assembly (B) mounting holes line up with the frame. Tighten bolts.

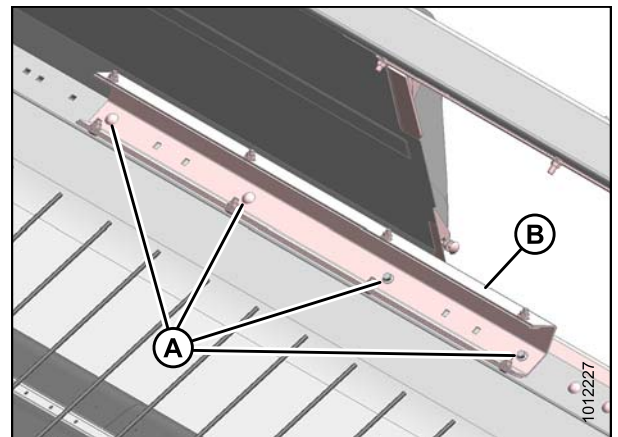


Figure 5.22: Right Stripper – Narrow Opening

9. Reinstall covers (B) and tighten bolts (A).

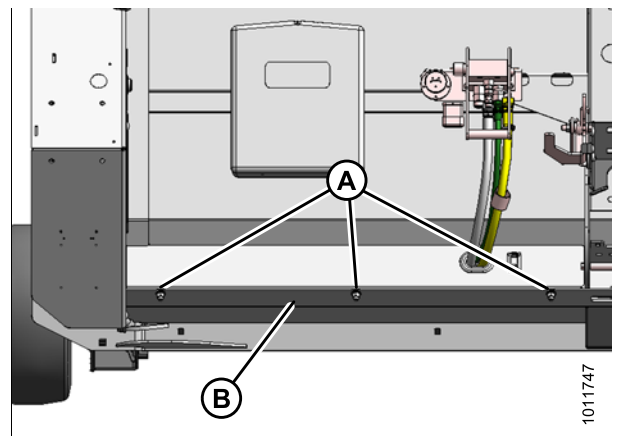


Figure 5.23: Left Cover – Right Side Opposite

## 5.3 Converting Headers for New Holland CX

PW8 Pick-Up Headers are configured at the factory for combine models with a 50 in. (1270 mm) feeder house. These procedures describe how to modify the header for model CX with a 60 in. (1524 mm) feeder house.

### 5.3.1 Moving Stripper Assemblies

To reposition the stripper assemblies for a larger header opening, follow these steps:

1. Loosen three bolts (A) and remove cover (B) on both sides of the header to expose the stripper assembly attachment hardware.

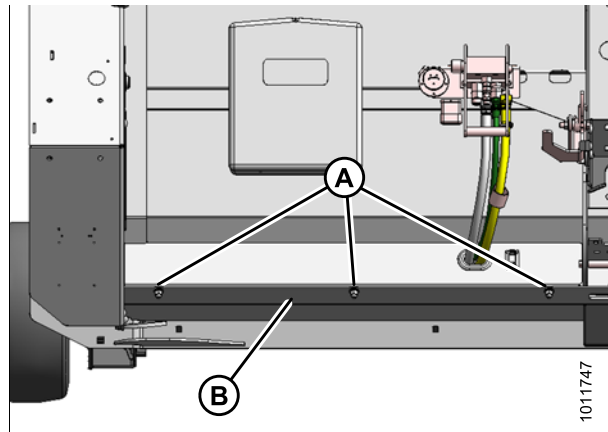


Figure 5.24: Left Cover – Right Side Opposite

2. Remove the four bolts (A) attaching the left stripper assembly (B) to the frame.

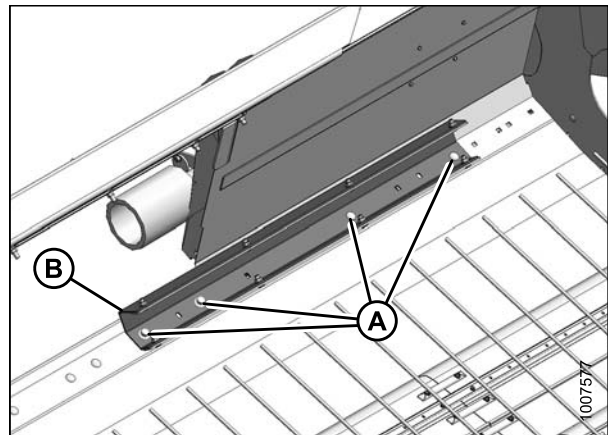


Figure 5.25: Left Stripper – Narrow Opening (Auger Not Shown for Clarity)



## RECONFIGURING HEADERS

3. Move the left stripper assembly (A) outboard so that the distance (B) from the stripper assembly to the header centerline is 27-9/16 in. (700 mm).

**NOTE:**

The centerline is located where the header pans meet.

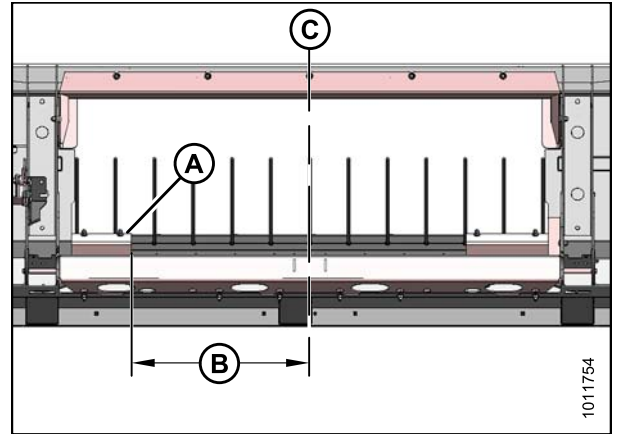


Figure 5.26: Left Stripper – Wide Opening

4. Reinstall the four bolts (A) where the stripper assembly (B) mounting holes line up with the frame. Tighten bolts.
5. Install M12 x 30 carriage bolt (C) and nut (provided in hardware bag) in the existing hole.

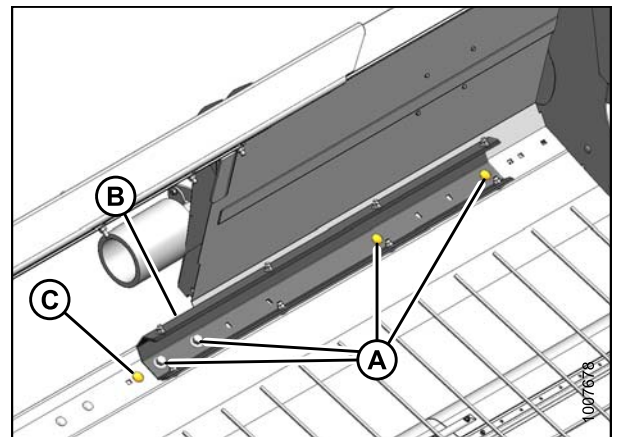


Figure 5.27: Left Stripper – Wide Opening

6. Remove four bolts (A) attaching the right stripper assembly (B) to the frame.

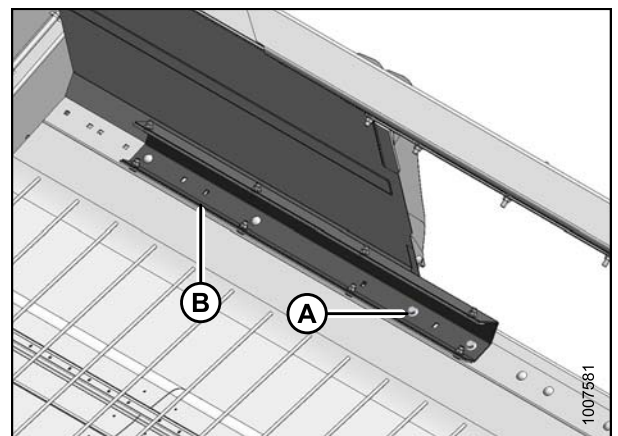


Figure 5.28: Right Stripper – Narrow Opening

## RECONFIGURING HEADERS

7. Move the right stripper assembly (A) outboard so that dimension (B) from header centerline (C) is 27-9/16 in. (700 mm).
8. Make sure distance (D) between stripper assemblies is 55-1/8 in. (1400 mm).

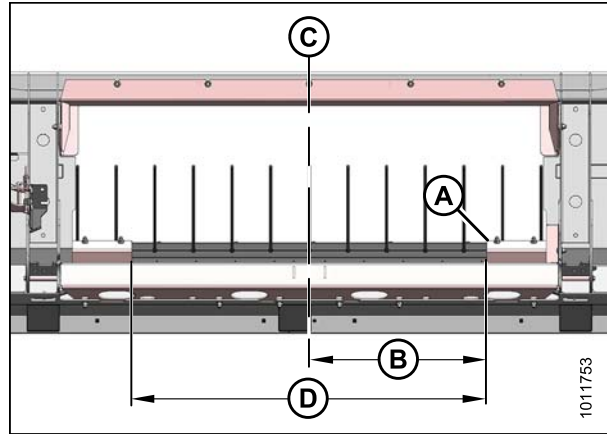


Figure 5.29: Right Stripper – Wide Opening

9. Reinstall the four bolts (A) where stripper assembly (B) mounting holes line up with the frame. Tighten bolts.
10. Install M12 x 30 carriage bolt (C) and nut (provided in hardware bag) into the existing hole as shown.
11. Manually rotate the auger and check the clearances between the auger flighting and stripper plates. The clearance should be 1/8–1/4 in. (3–6 mm).
12. If necessary, refer to [5.1.4 Adjusting Stripper Plate Clearance](#), page 30.

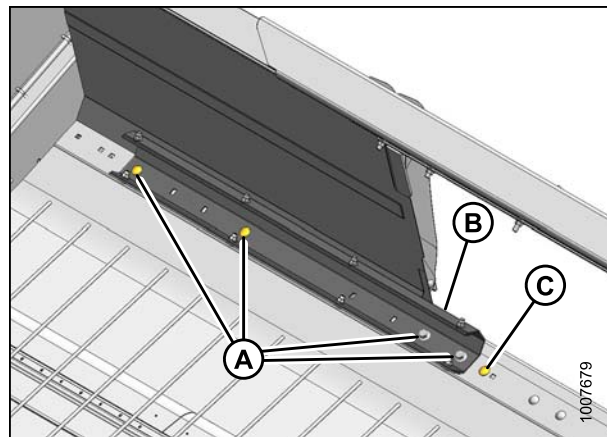


Figure 5.30: Right Stripper – Wide Opening

13. Reinstall covers (B) and tighten bolts (A).

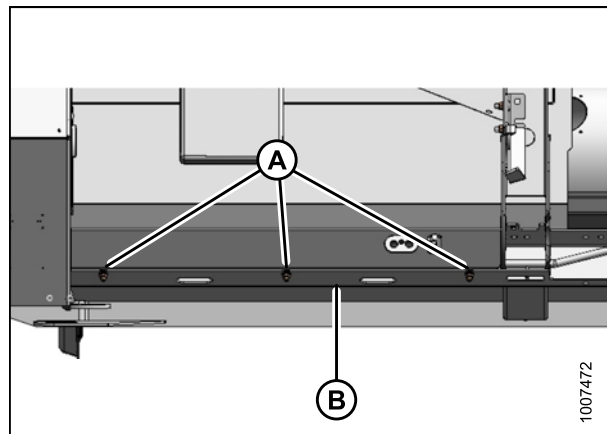


Figure 5.31: Left Cover – Right Side Opposite



### 5.3.2 Removing Flighting Extensions

Follow these steps to configure the auger flighting extensions for a 65 in. (1651 mm) feeder house:

1. Remove the two access covers (A) on either side of center.

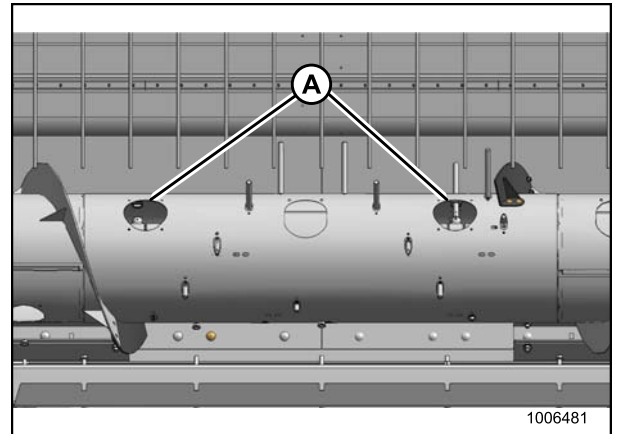


Figure 5.32: Access Holes in Auger

2. Remove hardware (A) securing existing left and right auger flighting extensions (B) and remove extensions.

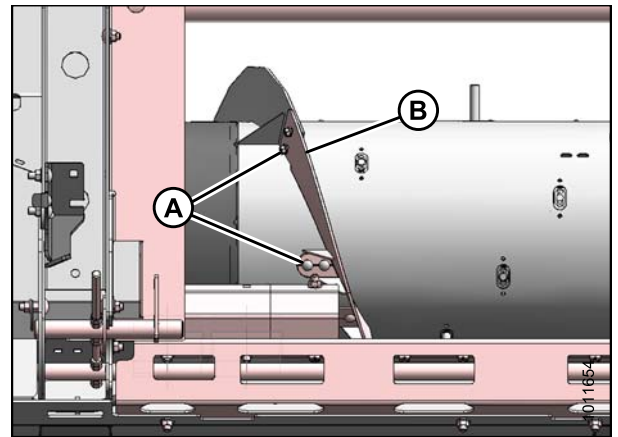


Figure 5.33: Left Flighting Extension – Right Extension Opposite

### 5.3.3 Installing Auger Fingers

Follow these steps to install the extra auger fingers required for a 65 in. (1650 mm) feeder house:

1. Retrieve the bag of hardware from the manual storage case located on the back of the header.
2. Access the two covers (A) located on each side of center.

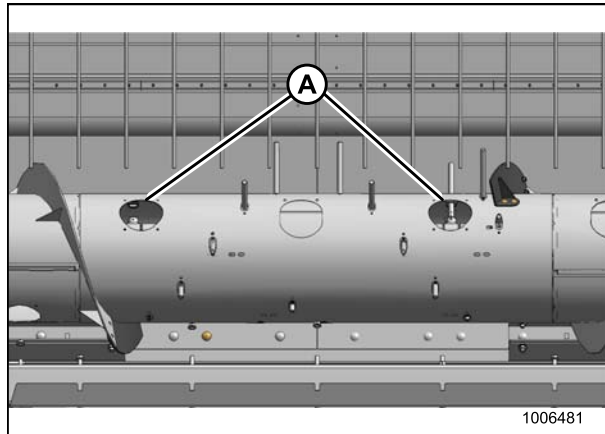


Figure 5.34: Access Holes in Auger

3. Remove screws (B) securing plastic plug (C) to the auger and remove plug from inside the auger.
4. Retrieve four plastic guides (D) from the bag of hardware.
5. Position plastic guide (D) in the hole from inside the auger and secure with hex socket screws (E) and tee nuts (F) provided in the hardware bag.
6. Torque the screws to 75 in-lbf (8.5 N·m).
7. Repeat Steps 3., page 38 to 6., page 38 for the remaining locations.

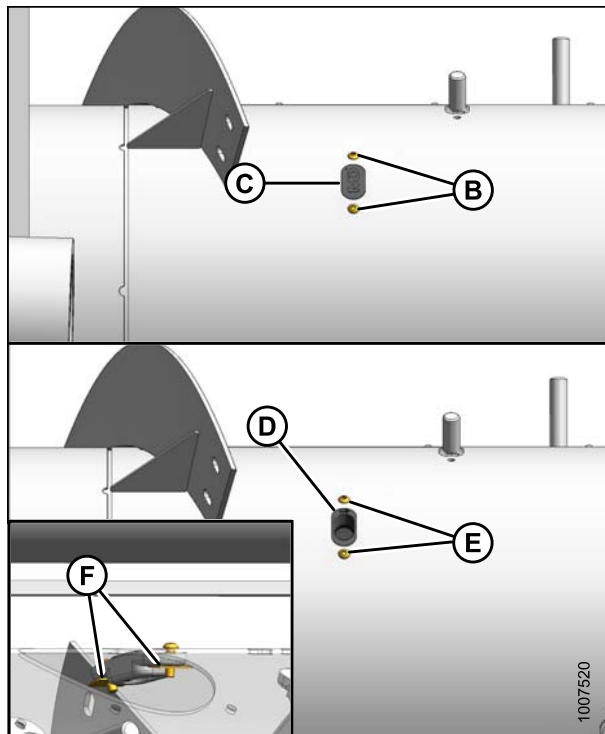


Figure 5.35: Plastic Guides

## RECONFIGURING HEADERS

8. Insert finger (A) through plastic guide (B) from inside the auger.
9. Insert finger into bushing (C).
10. Secure finger (A) in bushing with hairpin (D). Install hairpin with closed end leading with respect to auger forward rotation.
11. Repeat Steps 8., page 39 to 10., page 39 for the remaining fingers.

**NOTE:**

There should be a total of 22 fingers.

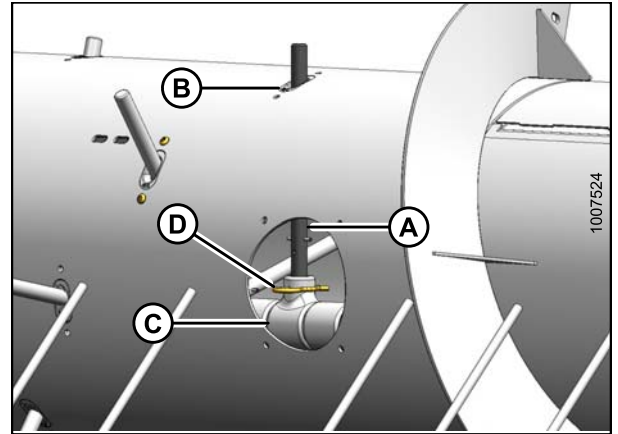


Figure 5.36: Auger Fingers

**IMPORTANT:**

To avoid damage to auger, check that all loose hardware and tools are removed from inside the auger.

12. Replace access covers (A) and secure with existing screws (B). Torque to 95 in-lbf (11 N·m).

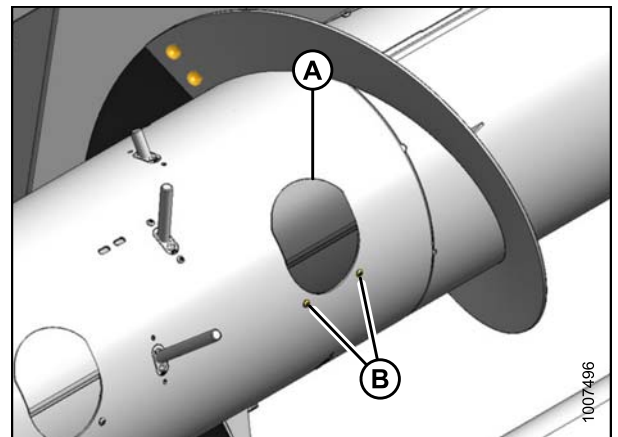


Figure 5.37: Access Cover

### 5.3.4 Adjusting Stripper Plate Clearance

1. Loosen nuts (A) on the stripper plate (B) and adjust plate to achieve clearance (C) of 1/8–1/4 in. (3–6 mm).
2. Tighten nuts (A).
3. Recheck clearance.

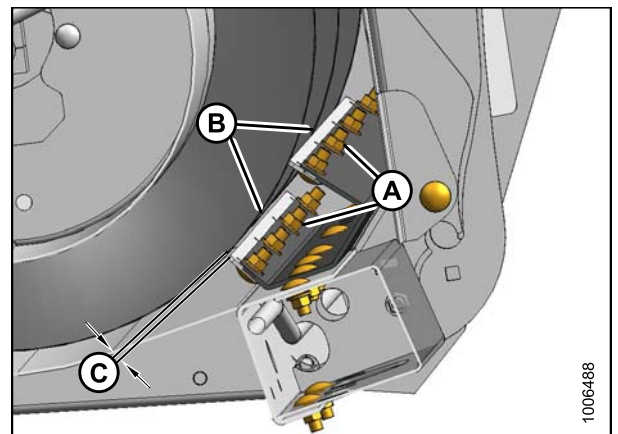


Figure 5.38: Stripper Plate Clearance

## 5.4 Converting Headers for New Holland CR Series

PW8 Pick-Up Headers are configured at the factory for combine models with a 50 in. (1270 mm) feeder house. These procedures describe how to modify the header for models with a 40 in. (1016 mm) feeder house.

### 5.4.1 Moving Stripper Assemblies

This procedure describes the repositioning of the stripper assemblies to accommodate the narrower feeder house opening.

1. Loosen three bolts (A) and remove cover (B) on both sides of the header to expose the stripper assembly attachment hardware.

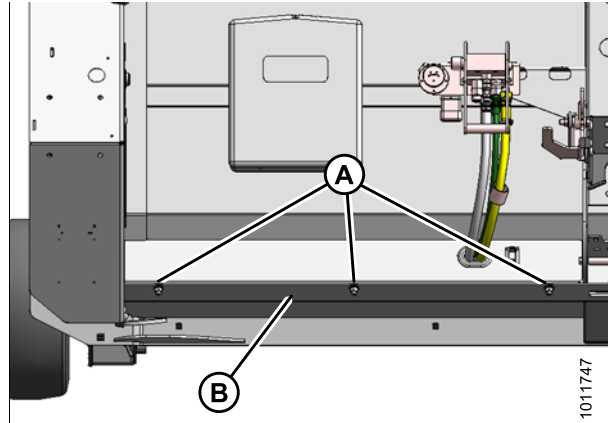


Figure 5.39: Left Cover – Right Side Opposite

2. Remove the four bolts (A) attaching the left stripper assembly (B) to the frame.

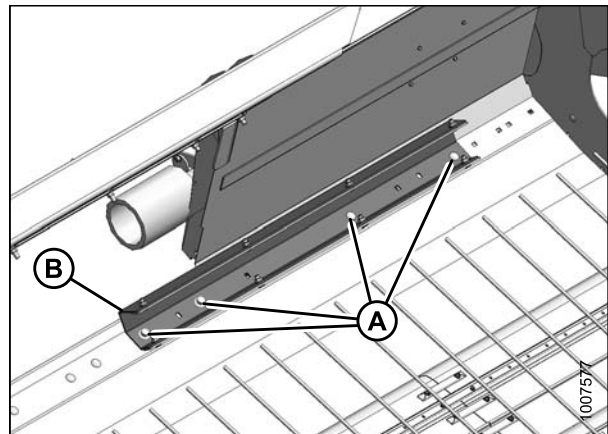


Figure 5.40: Left Stripper (Auger Not Shown for Clarity)

## RECONFIGURING HEADERS

3. Move the left stripper assembly (A) inboard so that the distance (B) from the stripper assembly to the header centerline (C) is 16-7/16 in. (417 mm).

**NOTE:**

The centerline is located where the header pans meet.

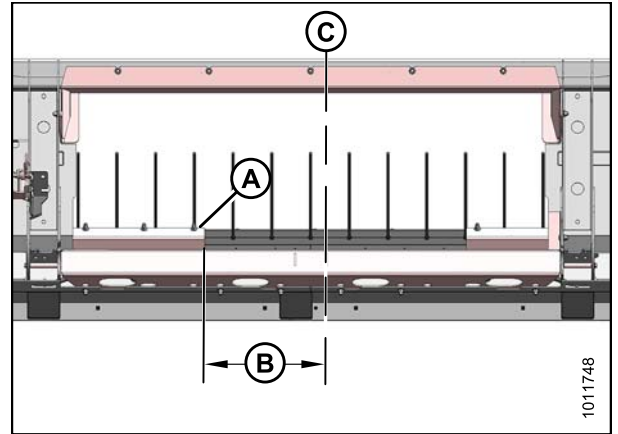


Figure 5.41: Narrow Opening

4. Reinstall the four bolts (A) where the stripper assembly (B) mounting holes line up with the frame. Tighten bolts.

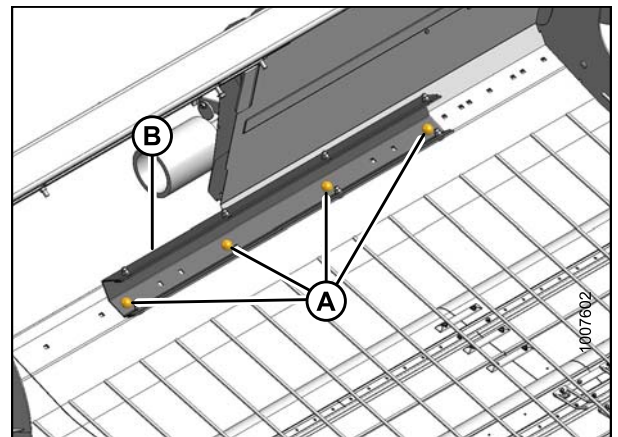


Figure 5.42: Left Stripper – Narrow Opening

5. Remove four bolts (A) attaching the right stripper assembly (B) to the frame.

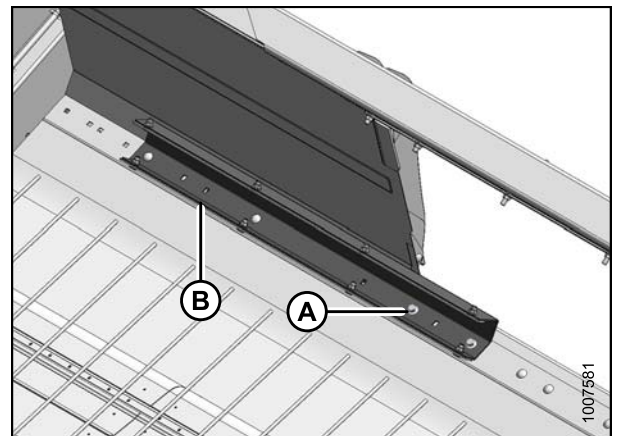


Figure 5.43: Right Stripper

## RECONFIGURING HEADERS

6. Move the right stripper assembly (A) inboard so that dimension (B) from header centerline (C) is 16-7/16 in. (417 mm).
7. Ensure distance (D) between stripper assemblies is 32-13/16 in. (834 mm).

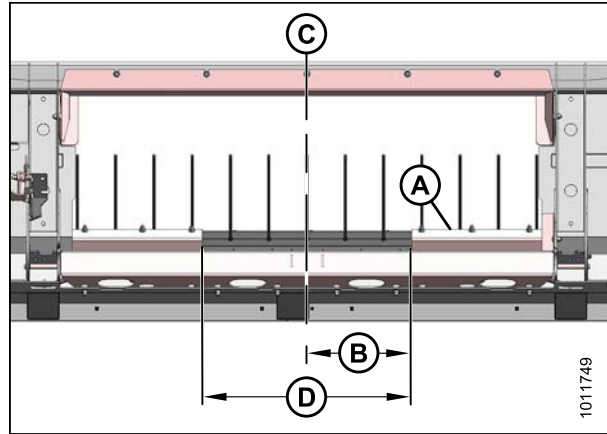


Figure 5.44: Narrow Opening

8. Reinstall the four bolts (A) where stripper assembly (B) mounting holes line up with the frame. Tighten bolts.

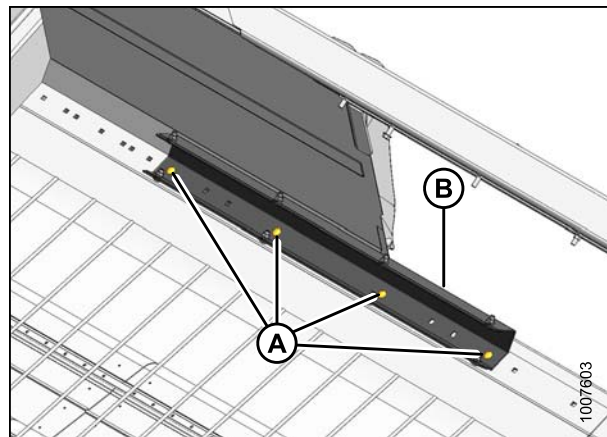


Figure 5.45: Right Stripper – Narrow Opening

9. Reinstall covers (B) and tighten bolts (A).

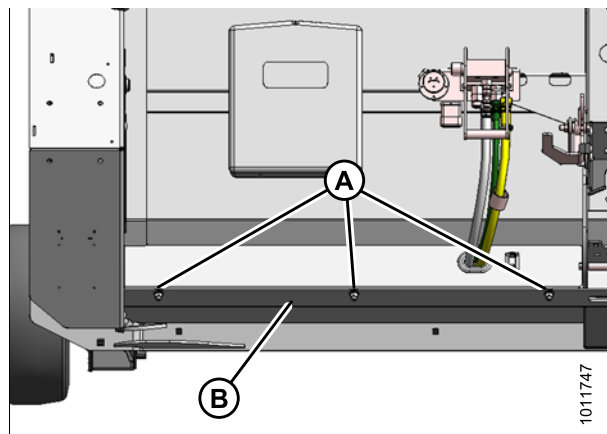


Figure 5.46: Left Cover – Right Side Opposite

## 5.4.2 Installing Flighting Extensions

Follow these steps to install the long flighting extensions required for a 40 in. feeder house:

1. Remove the two flighting extensions (A) that are strapped to the auger.

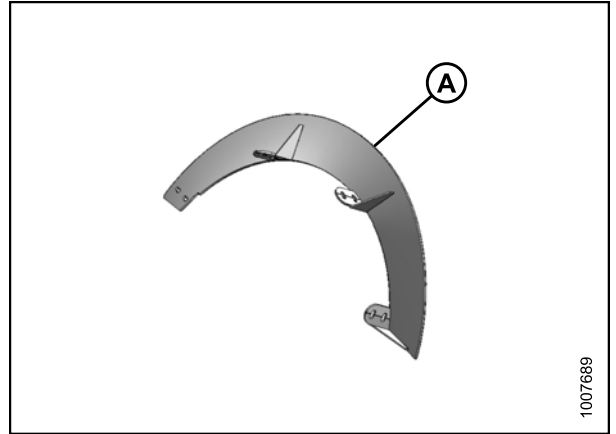


Figure 5.47: Left Extension – Right Opposite

2. Remove two access covers, one either side of center.

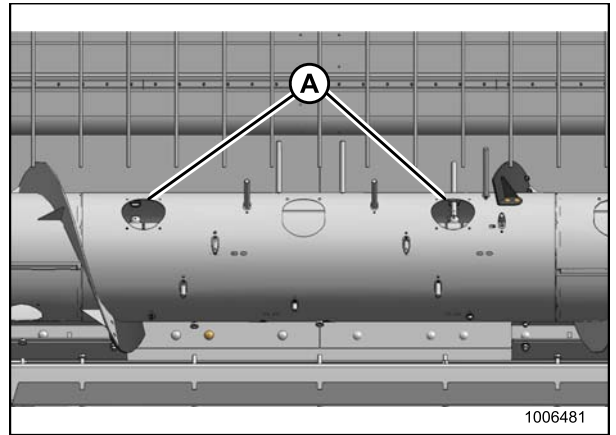


Figure 5.48: Access Holes in Auger

3. Remove hardware (A) securing existing left and right auger flighting extensions (B) and remove extensions. Retain hardware.

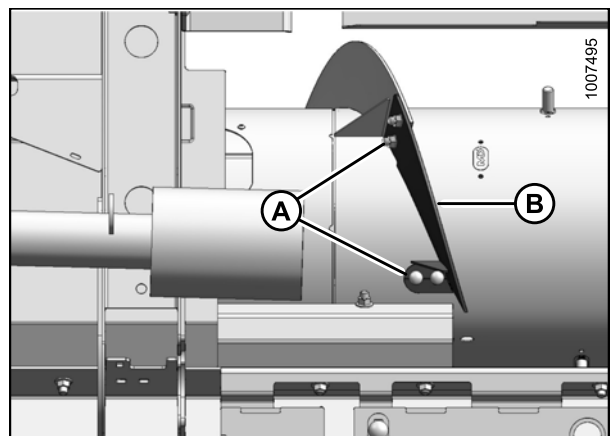


Figure 5.49: Short Flighting Extension



## RECONFIGURING HEADERS

4. Retrieve the longer fighting extensions (A) and hardware provided in the manual storage case.
5. Place the new fighting extension (A) on auger, ensuring new fighting locates on the outboard side of the existing fighting (B).
6. Secure fighting extension (A) to auger with existing hardware and additional M8 x 20 bolts (C) and locknuts provided in hardware bag. Bolts (C) that join the fighting must be installed with heads facing inboard.
7. Repeat the above steps for the opposite side.

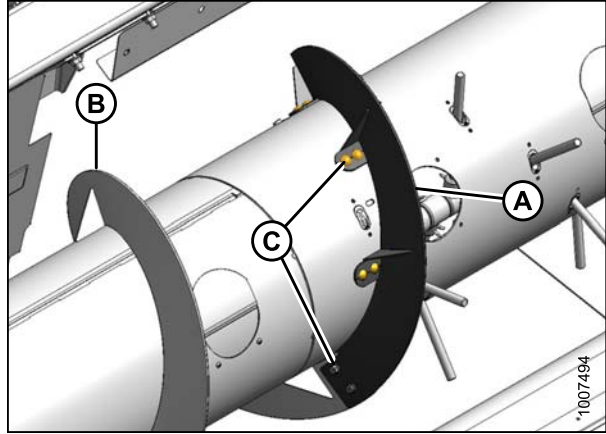


Figure 5.50: Long Fighting Extension

### IMPORTANT:

To avoid damage to auger, check that all loose hardware and tools are removed from inside the auger.

8. Store removed components in a safe place.
9. Manually rotate the auger and check the clearances between the auger fighting and stripper plates. The clearance should be 1/8–1/4 in. (3–6 mm). If necessary adjust clearance as per [5.3.4 Adjusting Stripper Plate Clearance, page 39](#).

### 5.4.3 Removing Auger Fingers

Follow these steps to configure the auger fingers for a 40 in. feeder house:

1. Access the extra auger fingers through the two covers (A) one either side of center to allow access to the auger fingers (B).

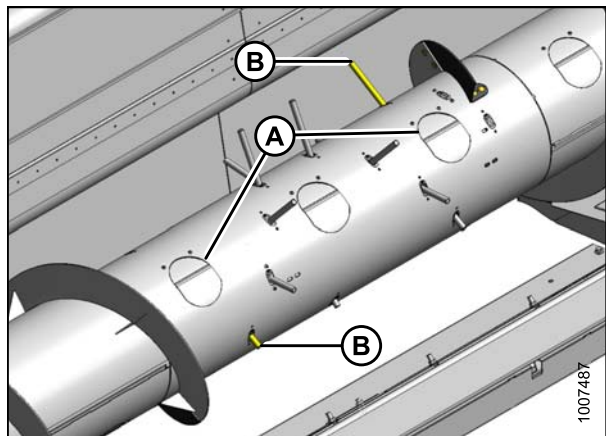


Figure 5.51: Access Holes in Auger



## RECONFIGURING HEADERS

2. From inside the auger, remove hairpin (A) and pull finger (B) out of the bushing (C).
3. From inside the auger, swivel finger away from bushing, pull from plastic guide (D), and remove from auger.
4. Assemble hairpin to finger and store in the manual case.
5. Repeat Steps [2.](#), [page 45](#) to [4.](#), [page 45](#) for the other finger.

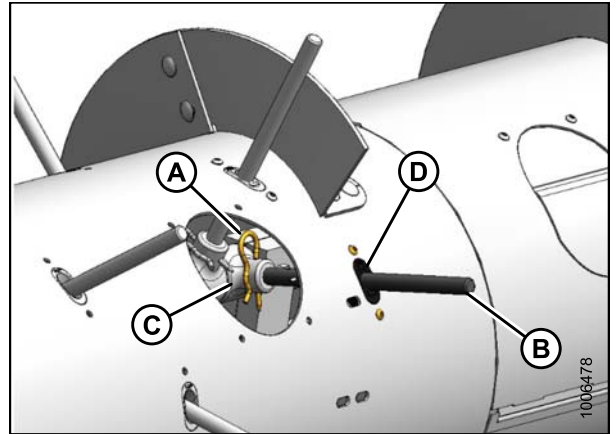


Figure 5.52: Auger Fingers

6. Remove screws (A) securing the plastic guide (B) where the extra finger was located.
7. Remove plastic guide from inside the auger.
8. Retrieve plugs and hardware from bag provided.

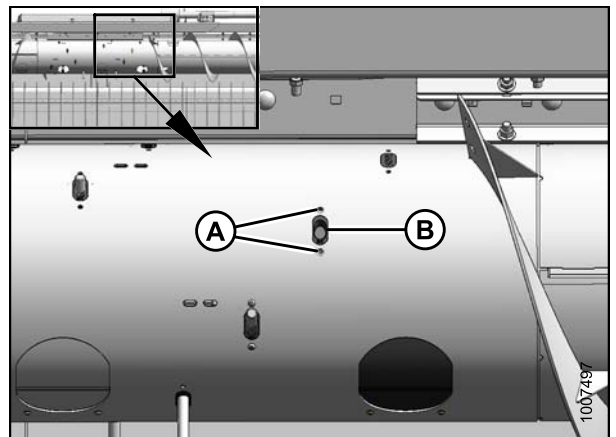


Figure 5.53: Finger Guide Plugs

9. Position plug (C) in hole from inside the auger and secure with M6 x 20 long hex socket screws (A).
10. Torque screws to 75 in-lbf (8.5 N·m).
11. Repeat Steps [6.](#), [page 45](#) to Step [10.](#), [page 45](#) for the other plastic guide.

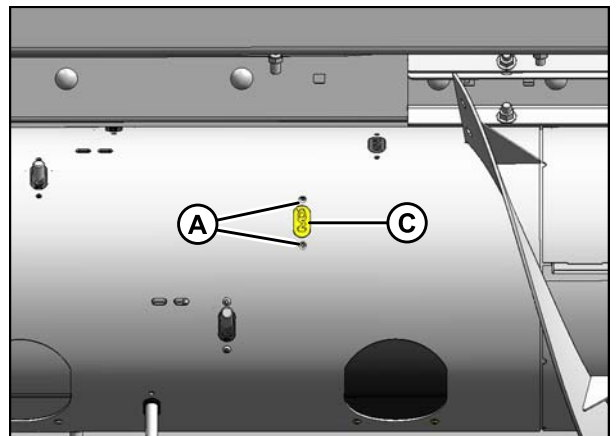


Figure 5.54: Finger Guide Plugs

## RECONFIGURING HEADERS

### IMPORTANT:

To avoid damage to auger, check that all loose hardware and tools are removed from inside the auger.

12. Replace access covers (A) and secure with existing screws (B). Torque to 95 in·lbf (11 N·m).

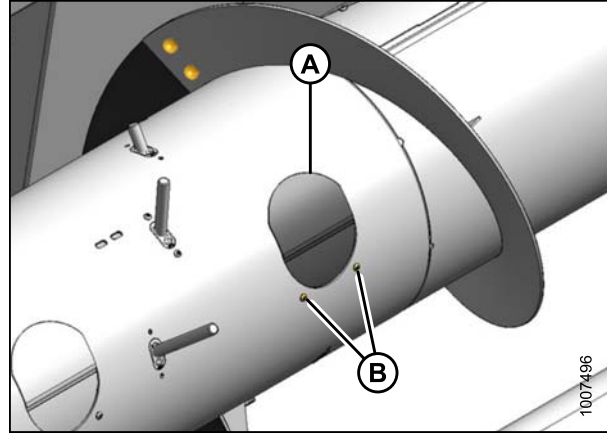


Figure 5.55: Access Cover

### 5.4.4 Adjusting Stripper Plate Clearance

1. Loosen nuts (A) on the stripper plate (B) and adjust plate to achieve clearance (C) of 1/8–1/4 in. (3–6 mm).
2. Tighten nuts (A).
3. Recheck clearance.

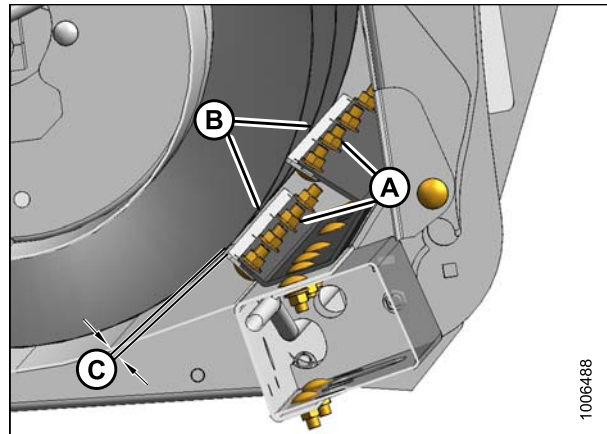


Figure 5.56: Stripper Plate Clearance

## 6 Attaching Header to Combine

This section includes instructions for attaching PW8 headers to the combines listed below.

Combine	Refer to
Case IH	<a href="#">6.1 Attaching to Case IH Combine, page 47</a>
John Deere	<a href="#">6.2 Attaching to John Deere 60, 70, and S Series Combine, page 50</a>
New Holland CR, CX Series	<a href="#">6.3 Attaching to New Holland CR/CX Series Combine, page 54</a>

### 6.1 Attaching to Case IH Combine

#### DANGER

Stop engine and remove key from ignition before leaving operator's seat for any reason. A child or even a pet could engage an idling machine.

1. Pull handle (A) on combine to raise hooks (B) on both sides of the feeder house.

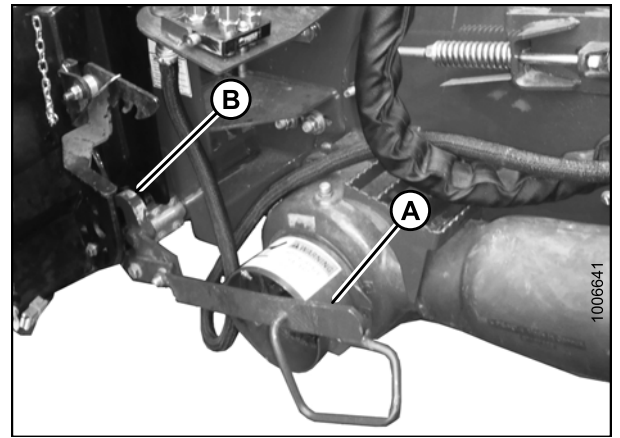


Figure 6.1: Feeder House Locks

2. Drive combine slowly up to header until feeder house saddle (A) is directly under the header top beam (B).
3. Raise feeder house slightly to lift header ensuring feeder house saddle (A) is properly engaged in header frame.
4. Stop engine, and remove key from ignition.

#### WARNING

Stop combine engine and remove key before making adjustments to machine. A child or even a pet could engage the drive.

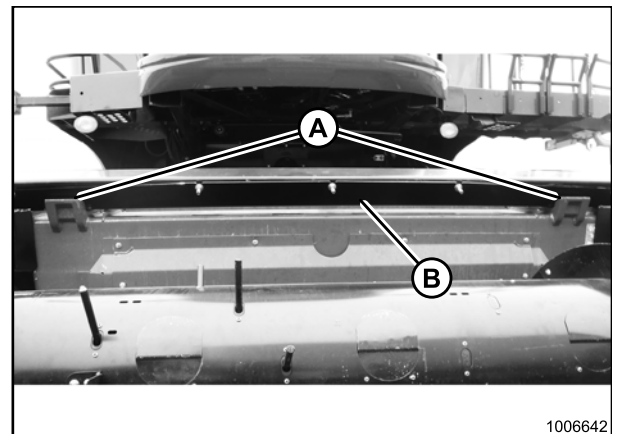


Figure 6.2: Header on Combine

## ATTACHING HEADER TO COMBINE

5. Lift lever (A) on header at left side of feeder house and push handle (B) on combine to engage locks (C) on both sides of the feeder house.
6. Push down on lever (A) so that slot in lever engages handle (B) to lock handle in place.
7. Loosen nut (E) and adjust position of pin (D) as necessary (both sides) if locks (C) do not fully engage pins (D) on header. Tighten nut.
8. Loosen bolts (F) and adjust lock as required to obtain full lock on pin (D) when lift lever (A) and handle (B) are engaged. Retighten bolts.

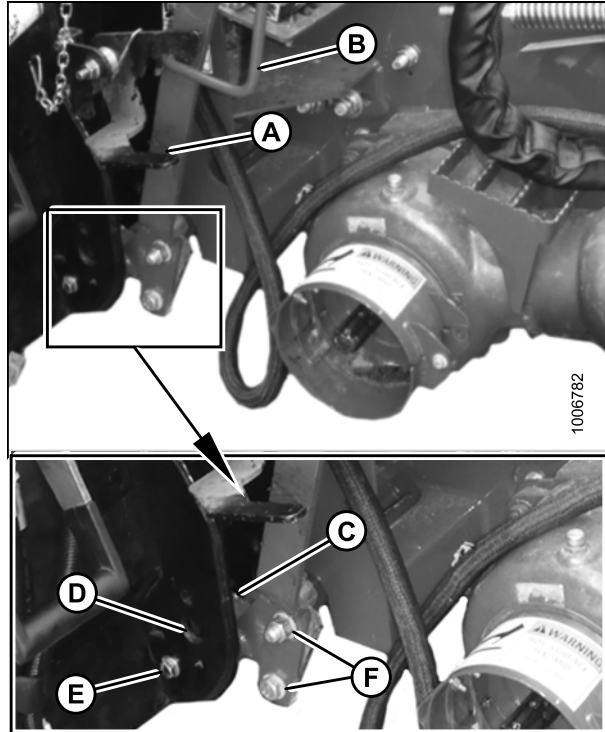


Figure 6.3: Engaging Locks

9. Rotate disc (B) on header driveline storage hook (A) and remove driveline from hook.

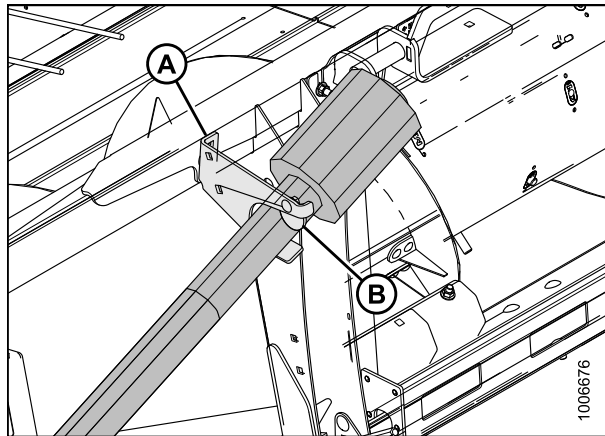


Figure 6.4: Driveline

## ATTACHING HEADER TO COMBINE

10. Pull back collar (A) on end of driveline and push onto combine output shaft (B) until collar locks.

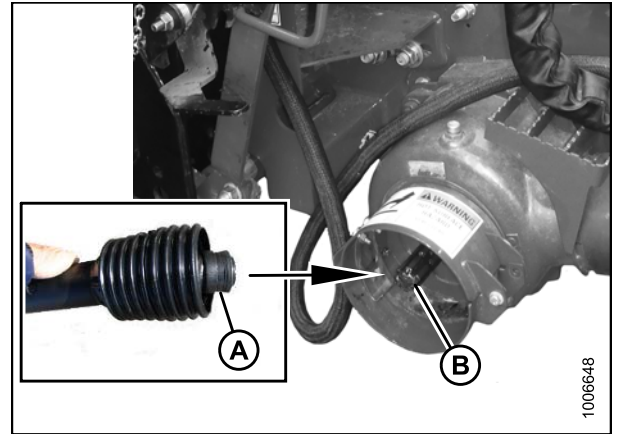


Figure 6.5: Attaching Driveline

11. Open cover (A) on header receptacle.
12. Push in lock button (B) and pull handle (C) upward to fully open position.
13. Remove coupler (D) from combine and clean mating surfaces.

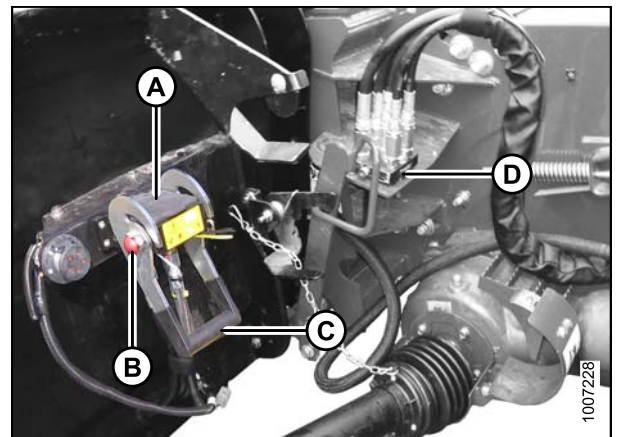


Figure 6.6: Coupler Lock

14. Position coupler (A) onto header receptacle and push handle (B) downward to engage coupler pins into receptacle.
15. Push handle to closed position until lock button (C) snaps out.
16. Open cover (D) on header electrical receptacle.
17. Remove electrical connector (E) from storage cup on combine.
18. Align lugs on electrical connector (E) with slots in receptacle, push connector onto receptacle, and turn collar on connector to lock it in place.
19. Proceed to [7 Predelivery Inspection, page 59](#).

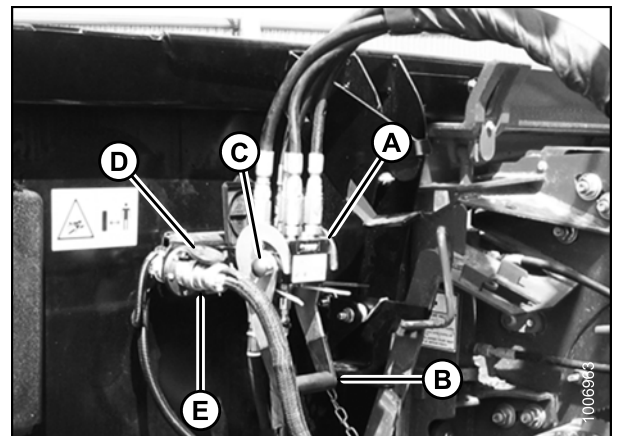


Figure 6.7: Attaching Coupler

## 6.2 Attaching to John Deere 60, 70, and S Series Combine

1. Push handle (A) on combine coupler toward feeder house to retract pins (B) at bottom corners of feeder house.

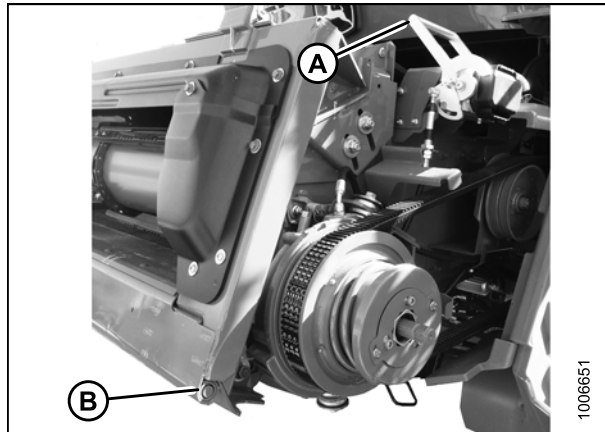


Figure 6.8: Feeder House Locks

2. Drive combine slowly up to header until feeder house saddles (A) are directly under the header top beam (B).
3. Raise feeder house to lift header ensuring feeder house saddles (A) are properly engaged in header frame.
4. Position header until slightly off the ground, stop engine, and remove key from ignition.

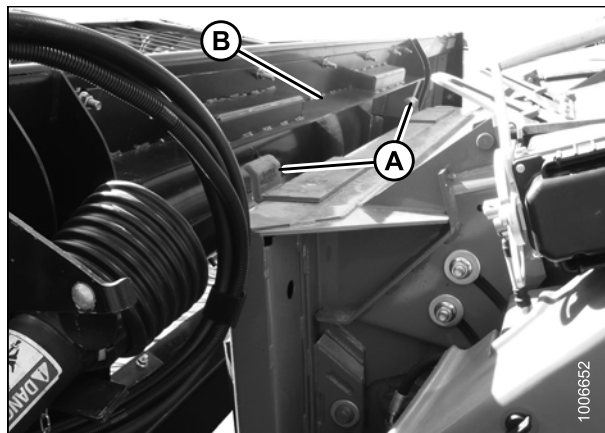


Figure 6.9: Header on Combine

### WARNING

Stop combine engine and remove key before making adjustments to machine. A child or even a pet could engage the drive.

5. Open driveshield (A) on combine feeder house.

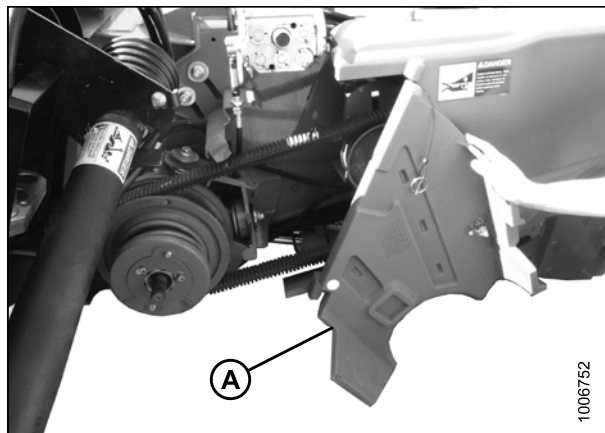
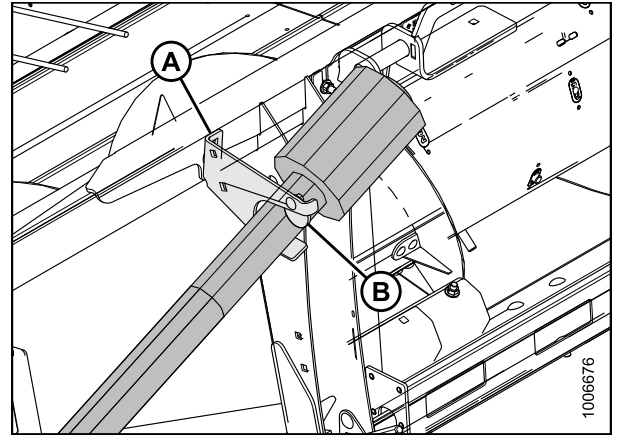


Figure 6.10: Combine Driveshield

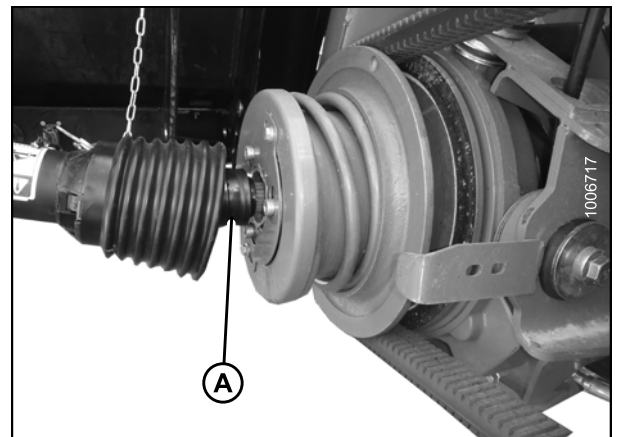
## ATTACHING HEADER TO COMBINE

6. Rotate disc (B) on header driveline storage hook (A) and remove driveline from hook.



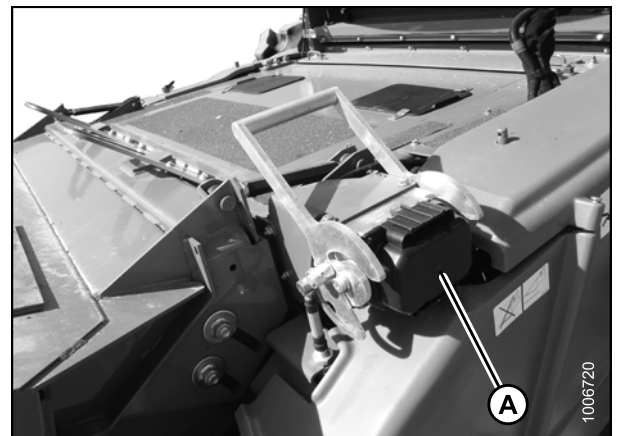
**Figure 6.11: Driveline**

7. Pull back collar (A) on end of driveline and slide driveline on feeder house driveshaft until the collar locks.
8. Close feeder house driveshield.



**Figure 6.12: Attaching Driveline**

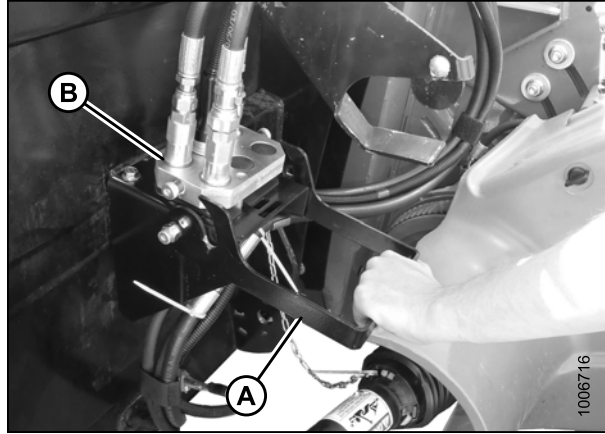
9. Remove cover (A) from combine multi-coupler receptacle.



**Figure 6.13: Combine Receptacle**

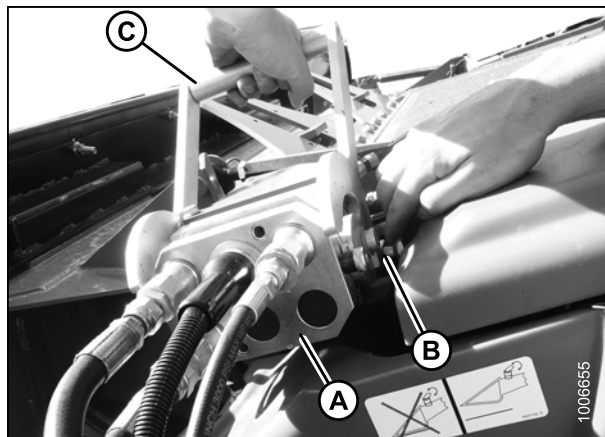
## ATTACHING HEADER TO COMBINE

10. Pull handle (A) on header to release multi-coupler (B) from storage position, remove coupler, and push handle back into header to store.



**Figure 6.14: Releasing Coupler**

11. Place coupler (A) onto combine receptacle.
12. Pull out knob (B) to release handle and pull handle (C) to engage pins in coupler.



**Figure 6.15: Engaging Coupler**



## ATTACHING HEADER TO COMBINE

13. Pull handle (A) from vertical to fully horizontal position to fully engage multi-coupler and to extend pins (B) at base of feeder house into the locking plates (C). Knob (D) will engage to lock handle.

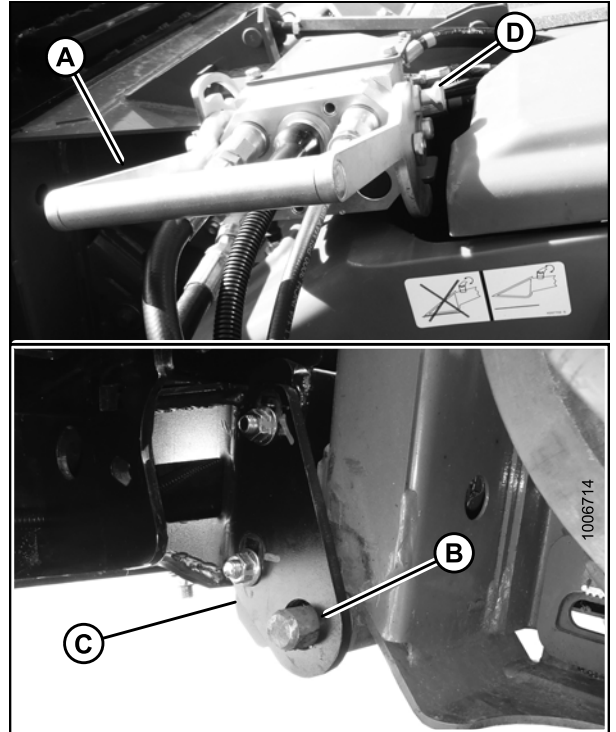


Figure 6.16: Locking Feeder House

**NOTE:**

If handle does not move to fully horizontal position, check alignment of locking plates (A) on the header with locking pins (B) on both sides of the feeder house. If necessary, loosen nuts (C) and adjust plates (A) to line up with pins (B). Retighten nuts.

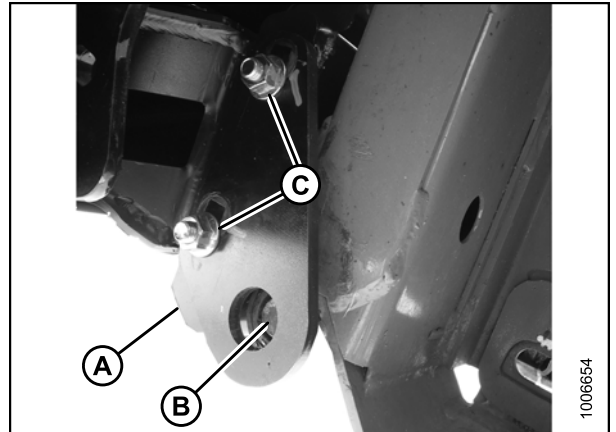


Figure 6.17: Aligning Locking Plates

14. Proceed to [7 Predelivery Inspection, page 59](#)

## 6.3 Attaching to New Holland CR/CX Series Combine

### DANGER

Stop engine and remove key from ignition before leaving operator's seat for any reason. A child or even a pet could engage an idling machine.

1. Pull handle (A) on combine to raise hooks (B) on both sides of the feeder house.

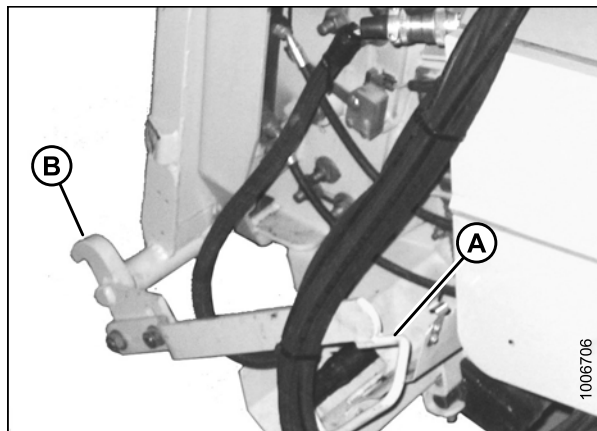


Figure 6.18: Feeder House Locks

2. Drive combine slowly up to header until feeder house saddle (A) is directly under the header top beam (B).
3. Raise feeder house to lift header ensuring feeder house saddle (A) is properly engaged in header frame.

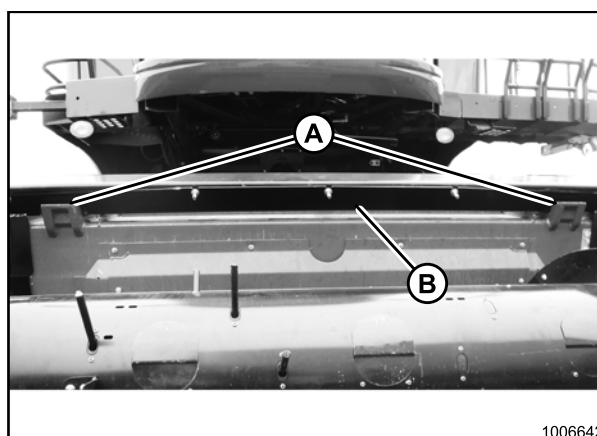


Figure 6.19: Header on Combine

## ATTACHING HEADER TO COMBINE

4. Lift lever (A) on header at left side of feeder house and push handle (B) on combine so that hooks (C) engage pins (D) on both sides of the feeder house.
5. Push down on lever (A) so that slot in lever engages handle (B) to lock handle in place.
6. Loosen nut (E) and adjust position of pin (D) as necessary (both sides) if locks (C) do not fully engage pins (D) on header. Tighten nut.
7. Loosen bolts (F) and adjust lock as required to obtain full lock on pin (D) when lift lever (A) and handle (B) are engaged. Retighten bolts.

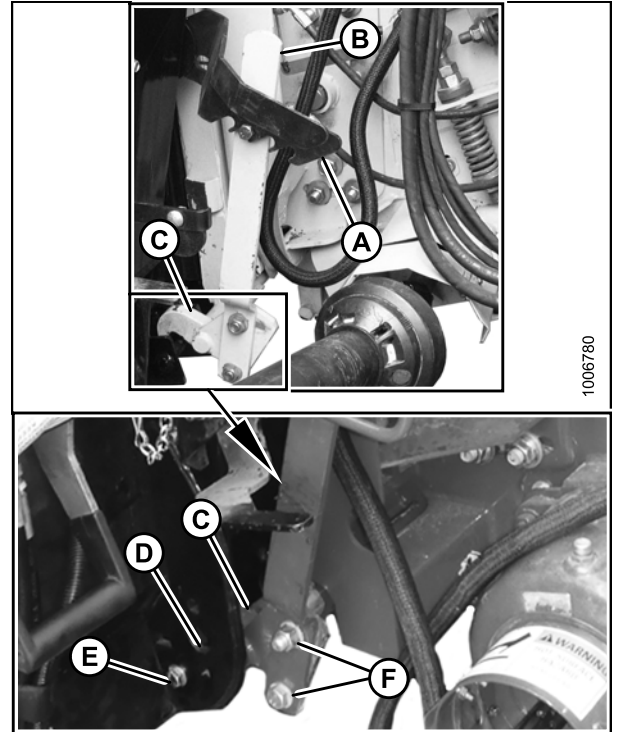


Figure 6.20: Engaging Locks

8. Rotate disc (B) on header driveline storage hook (A) and remove driveline from hook.

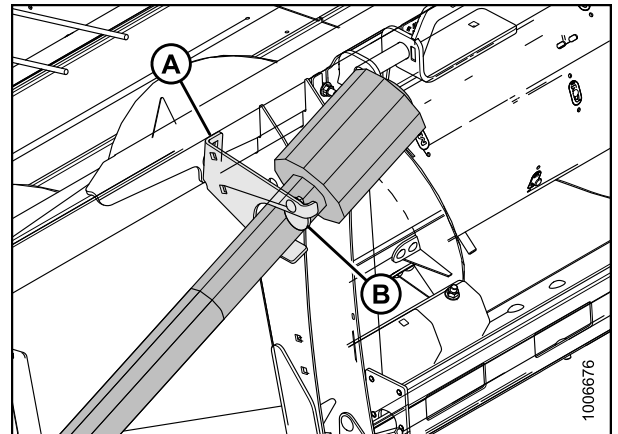


Figure 6.21: Driveline

## ATTACHING HEADER TO COMBINE

9. Pull back collar (B) on end of driveline and push onto combine output shaft (A) until collar locks.

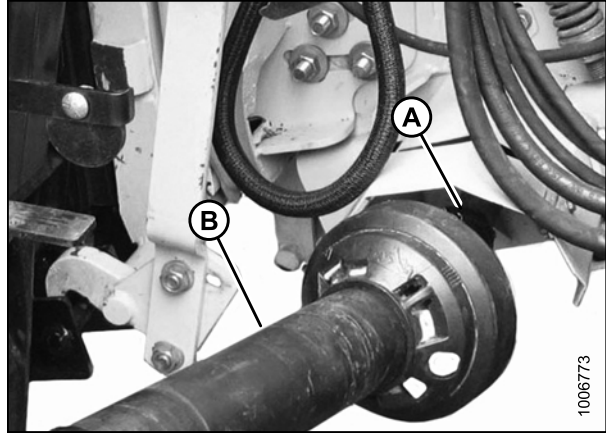


Figure 6.22: Attaching Driveline

10. Open cover (A).
11. Push in lock button (B) and pull handle (C) halfway up to open position.

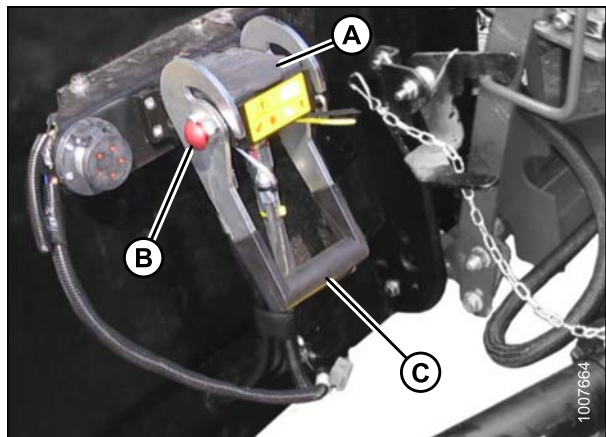


Figure 6.23: Header Receptacle

12. Remove coupler (A) from storage location on combine and clean mating surface of coupler.

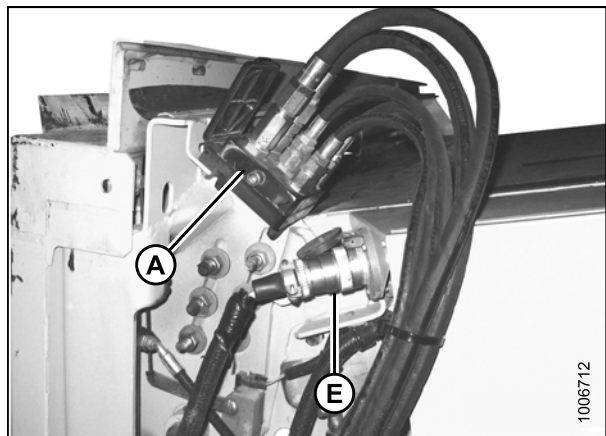
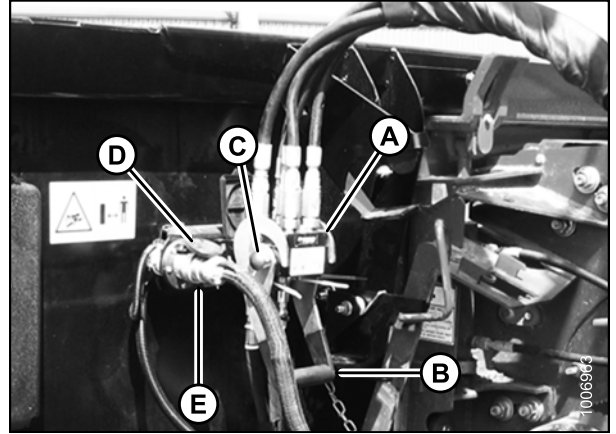


Figure 6.24: Combine Coupler/Connector

## ATTACHING HEADER TO COMBINE

13. Position coupler onto header receptacle (A) and push handle (B) downward to engage pins into receptacle.
14. Push handle (B) to closed position until lock button (C) snaps out.
15. Open cover (D) on header electrical receptacle.
16. Remove electrical connector (E) from combine.
17. Align lugs on electrical connector (E) with slots in header receptacle, push connector onto receptacle and turn collar on connector to lock it in place.



**Figure 6.25: Attaching Coupler**



## 7 Predelivery Inspection

1. To avoid machine damage, check that no shipping dunnage has fallen into machine.
2. Perform the final checks as listed on the yellow Predelivery Checklist ([Predelivery Checklist, page 123](#)) to ensure the machine is field-ready.
3. Refer to the following subsections for detailed instructions as indicated on the Checklist.
4. Present the completed Checklist to the Dealer or Operator.

### **IMPORTANT:**

If adjustments are absolutely necessary, follow instructions in this manual to comply with factory specified values and tolerances.

### 7.1 Auto Header Height Control (AHHC)

MacDon's Auto Header Height Control (AHHC) feature works in conjunction with the AHHC option available on certain combine models.

A sensor is installed at each end of the PW8 Pick-Up Header. These sensors send a signal to the combine allowing it to maintain a consistent cutting height as the header follows ground contours.

PW8 Pick-Up Headers are factory-equipped for Auto Header Height Control; however, before using the Auto Header Height Control feature, you must do the following:

1. Ensure that the Auto Header Height Control sensor's output voltage range is appropriate for the combine. For more information, refer to [7.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 60](#).
2. Prepare the combine to use the Auto Header Height Control feature.
3. Calibrate the Auto Header Height Control system so that the combine can correctly interpret data from the height sensors on the header.

### **NOTE:**

Once calibration is complete, you are ready to use the Auto Header Height Control feature in the field. For each combine, certain operation settings can be used to improve the performance of the Auto Header Height Control feature.

### **NOTE:**

If your PW8 Pick-Up Header is not equipped to work with a specific combine model, you will need to install the appropriate combine completion package. Completion packages come with instructions for installing the height sensors.

Refer to the following instructions for your specific combine model:

- [7.1.3 Case IH 5130/6130/7130, 7010/8010, 7120/8120/9120, and 7230/8230/9230 Combines, page 66](#)
- [7.1.4 John Deere 60 Series Combines, page 73](#)
- [7.1.5 John Deere 70 Series Combines, page 79](#)
- [7.1.6 John Deere S Series Combines, page 85](#)
- [7.1.7 New Holland Combines, page 93](#)

## PREDELIVERY INSPECTION

### 7.1.1 Height Sensor Output Voltage Range – Combine Requirements

The height sensor output must be within a specific voltage range for each combine or the Auto Header Height Control (AHHC) feature will not work properly.

Combine	Low Voltage Limit	High Voltage Limit	Range (Difference between High and Low Limits)
Case IH 7/8010, 5/6/7088, 7/8/9120, 5/6/7130, 5/6/7140, 7/8/9230, 7/8/9240	0.5 V	4.5 V	2.5 V
John Deere 60/70/S/T Series	0.5 V	4.5 V	2.5 V
New Holland CR/CX - 5 V system	0.5 V	4.5 V	2.5 V
New Holland CR/CX - 10 V system	2.8 V	7.2 V	4.1–4.4 V

**NOTE:**

For instructions on manually checking the voltage range, refer to [Manually Checking Voltage Range, page 60](#).

#### *Manually Checking Voltage Range*

You can manually check the output voltage range of the Auto Header Height Control (AHHC) sensor at the float indicator box. Some combines will allow you to check the voltage range from the cab. For instructions, refer to your combine operator's manual or the AHHC instructions for your combine model later in this document.

To manually check the sensor's output voltage range, follow these steps:

1. Position the header 6 inches (150 mm) above the ground, and rest it on the down stops. Unlock the auger float.

**NOTE:**

If the header is not on down stops during the next step, the voltage may go out of range during operation, causing a malfunction of the AHHC system. Refer to [7.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 60](#).

2. Using a voltmeter at the left-hand height sensor, measure the voltage between the ground and signal wires. Measure the high voltage limit.
3. Fully lower the combine feeder house and float the header up off the down stops.
4. Using a voltmeter at the left-hand height sensor, measure the voltage between the ground and signal wires. Measure the low voltage limit.
5. Repeat previous steps to check the voltage range at the right-hand height sensor.
6. If the sensor voltage is not within the low and high limits, or if the range between the low and high limits is less than the range specified, you need to make adjustments. For instructions, refer to [Adjusting Header Height Control Voltage Range \(Left-Hand Side\), page 61](#) or [Adjusting Header Height Control Voltage Range \(Right-Hand Side\), page 61](#).



## PREDELIVERY INSPECTION

### Adjusting Header Height Control Voltage Range (Left-Hand Side)

#### DANGER

Stop engine and remove key from ignition before leaving operator's seat for any reason. A child or even a pet could engage an idling machine.

1. Lower header to the ground, shut down combine, and remove key from ignition.
2. Open the left-hand endshield. Refer to [4.1.1 Opening Left-Hand Endshield, page 17](#).
3. Loosen nuts (A).
4. Rotate control (B) until desired voltage range is achieved. Refer to [7.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 60](#).

#### NOTE:

If the voltage range is too large or too small, you may need to relocate the linkage rod (C) to a different hole in sensor control arm (D). If that doesn't work, relocate the linkage rod (C) to a different hole in sensor control arm (E).

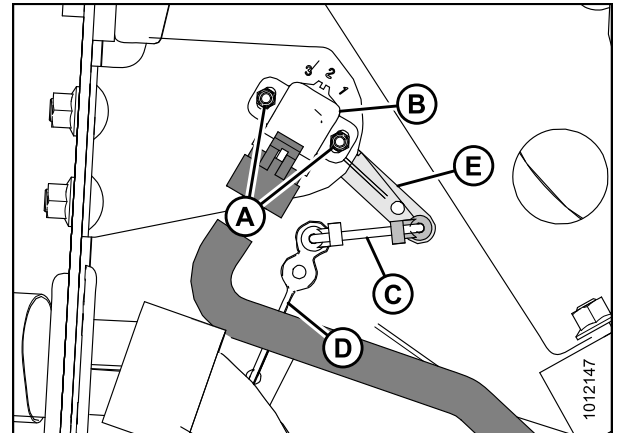


Figure 7.1: Header Height System

### Adjusting Header Height Control Voltage Range (Right-Hand Side)

#### DANGER

Stop engine and remove key from ignition before leaving operator's seat for any reason. A child or even a pet could engage an idling machine.

1. Raise the hold-down and engage lift cylinder safety props.
2. Lower header to the ground, shut down combine, and remove key from ignition.
3. Locate the access panel on the inside of the right-hand end frame. Remove the two bolts (A) from access panel (B).
4. Remove access panel (B).

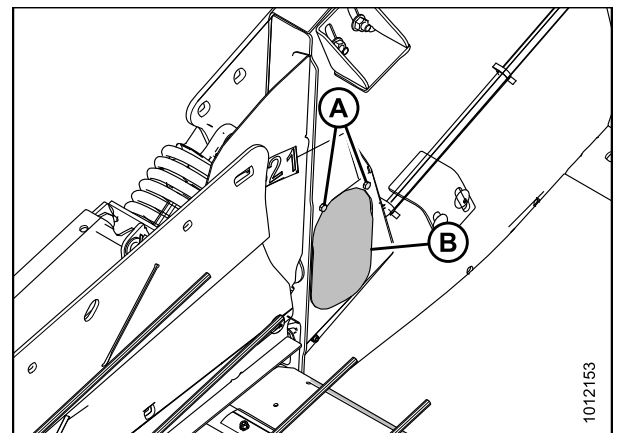


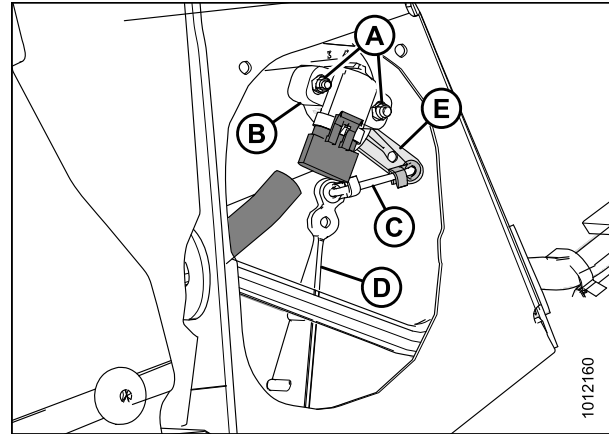
Figure 7.2: Header Height System (Auger Removed for Clarity)

## PREDELIVERY INSPECTION

- Loosen nuts (A).
- Rotate control (B) until desired voltage range is achieved. Refer to [7.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 60](#).

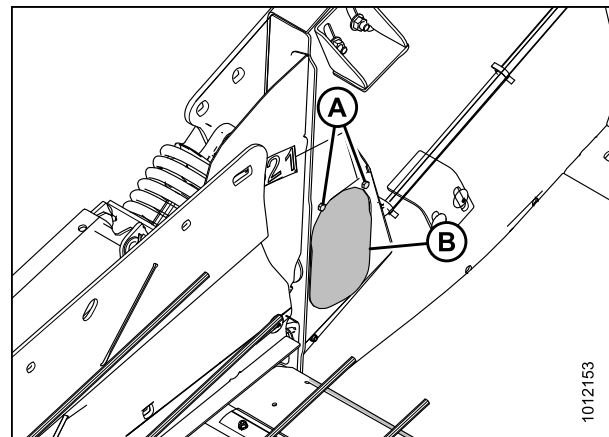
**NOTE:**

If the voltage range is too large or too small, you may need to relocate the linkage rod (C) to a different hole in sensor control arm (D). If that doesn't work, relocate the linkage rod (C) to a different hole in sensor control arm (E).



**Figure 7.3: Header Height System**

- Once complete Install the access panel (B), secure it with bolts (A).



**Figure 7.4: Header Height System (Auger Removed for Clarity)**

### 7.1.2 Case IH 5088/6088/7088 Combines

#### *Engaging the Auto Header Height Control (Case IH 2300)*

**NOTE:**

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To engage the Auto Header Height Control (AHHC), follow these steps:

## PREDELIVERY INSPECTION

1. Turn mode select switch (A) to HT.
2. Set the desired header height with position control knob (B). The AHHC will raise and lower the header to maintain this fixed distance from the ground.
3. Turn feeder ON.
4. Push header LOWER switch.

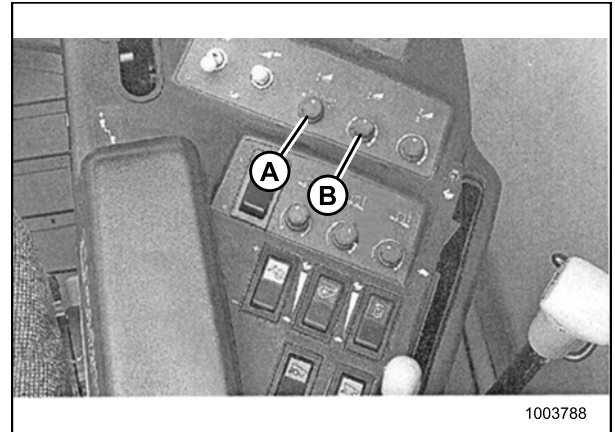


Figure 7.5: Combine Controls

5. Use header raise rate control (A) and header lower rate control (B) as required to adjust the rate at which the header raises or lowers to maintain the desired header height.



Figure 7.6: Combine Controls

6. Use sensitivity control (A) to set the sensitivity to changing ground conditions.

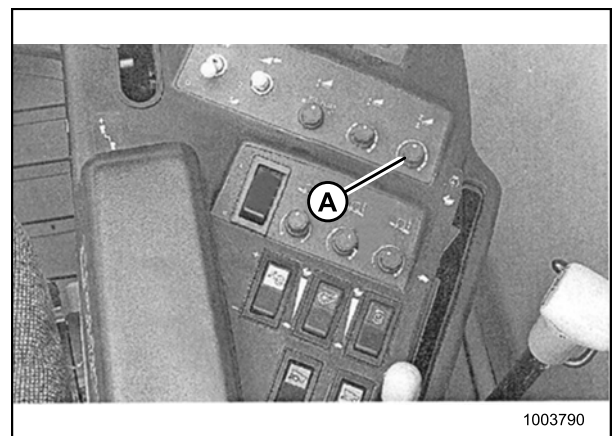


Figure 7.7: Combine Controls

### *Calibrating the Auto Header Height Control (Case IH 2300/2500 and 5088/6088/7088)*

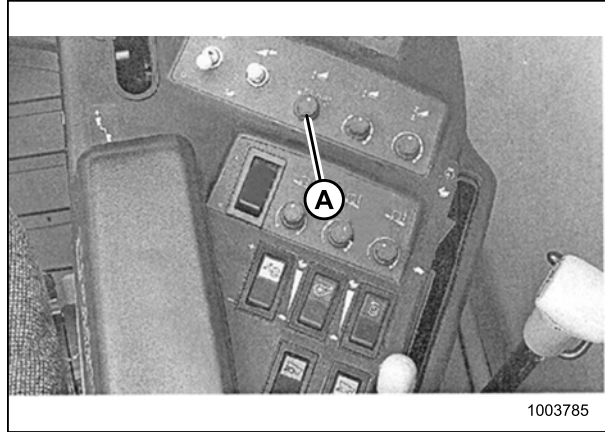
#### **NOTE:**

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To calibrate the AHHC system, follow these steps:

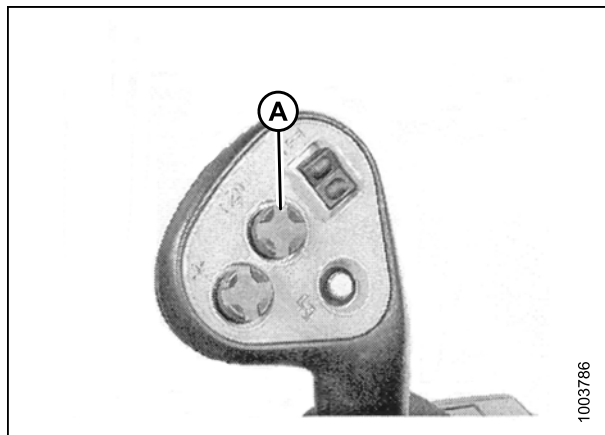
## PREDELIVERY INSPECTION

1. Start combine engine, but do NOT have separator or feeder house engaged.
2. Locate header control switch (A) on the right-hand console, and set to "HT" (this is AHHC mode).

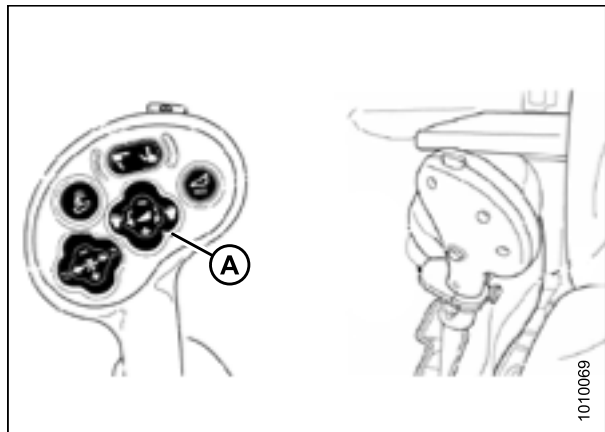


**Figure 7.8: Right-Hand Console**

3. Press the header lower switch (A) on the joystick lever until the header is fully lowered. You may need to hold the switch for several seconds.
4. Press the header raise switch (A) on the joystick lever. The header should stop at about the halfway point. Continue holding the header raise switch, and the header will rise until the feeder house reaches its upper limit. The AHHC system is now calibrated.



**Figure 7.9: Joystick Lever (Case IH 2300/2500)**



**Figure 7.10: Joystick Lever (Case IH 5088/6088/7088)**

## PREDELIVERY INSPECTION

### *Setting the Sensitivity of the Auto Header Height (Case IH 2300/2500 and 5088/6088/7088)*

The sensitivity adjustment controls the distance the header must travel up or down before the Auto Header Height Control (AHHC) reacts and raises or lowers the feeder house. When the sensitivity is set to maximum, only small changes in ground height are needed to cause the feeder house to raise or lower. When the sensitivity is set to minimum, large changes in the ground height are needed to cause the feeder house to raise or lower.

**NOTE:**

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To adjust the sensitivity of the AHHC system, follow these steps:

1. Use the HEADER SETTINGS key (M) to display the HEADER SENSITIVITY CHANGE SCREEN.
2. Use the UP or DOWN keys (E and H) to adjust the highlighted item. The height sensitivity setting range is 0 (least sensitive) to 250 (most sensitive) in increments of 10.

**NOTE:**

Adjustments take effect immediately. Use the CANCEL key to return to the original settings.

3. Use the HEADER SETTINGS key (M) to highlight the next changeable item.
4. Use the ENTER key (D) to save changes and return to the monitor screen. If there are no changes, the screen will return to the monitor screen after five seconds.

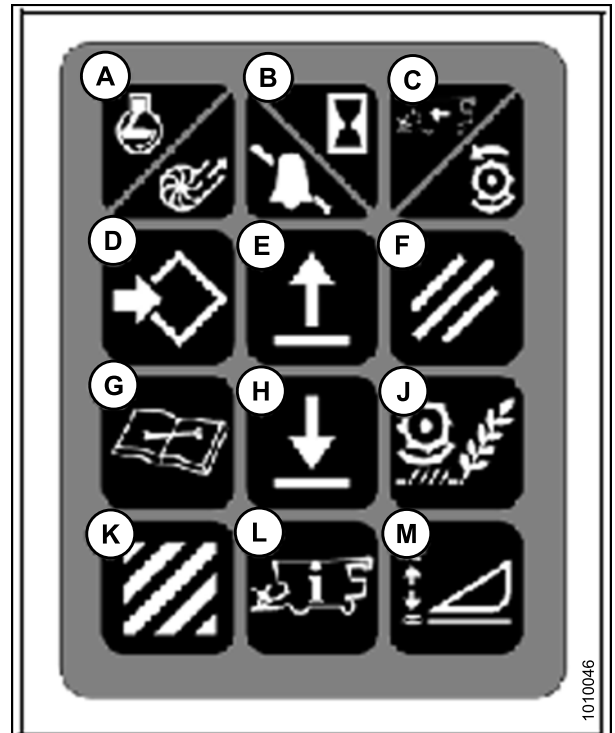


Figure 7.11: Combine Controls

## PREDELIVERY INSPECTION

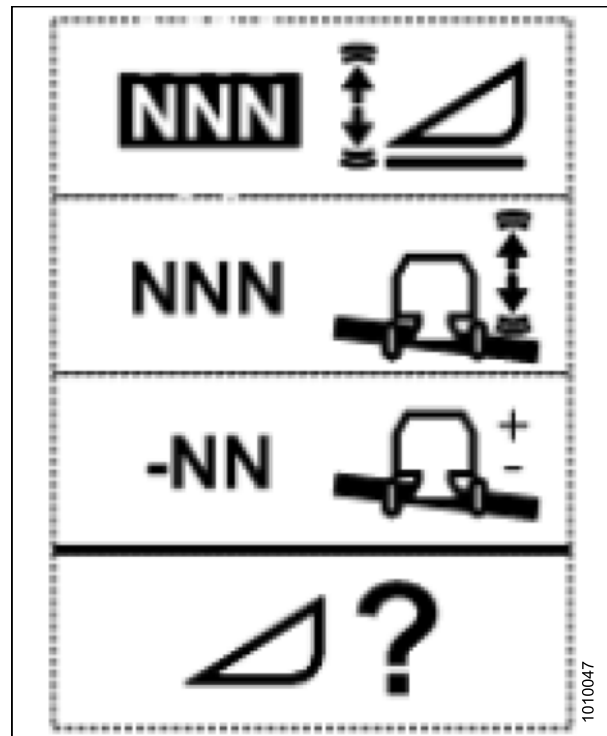


Figure 7.12: Height Sensitivity Change Screen

### 7.1.3 Case IH 5130/6130/7130, 7010/8010, 7120/8120/9120, and 7230/8230/9230 Combines

#### *Checking Voltage Range from the Combine Cab (Case 8010)*

**NOTE:**

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To check the sensor output voltage range from the combine cab for Universal Display, follow these steps:

1. Ensure header float is unlocked.
2. Select DIAG (A) on the Universal display MAIN screen. The DIAG screen opens.

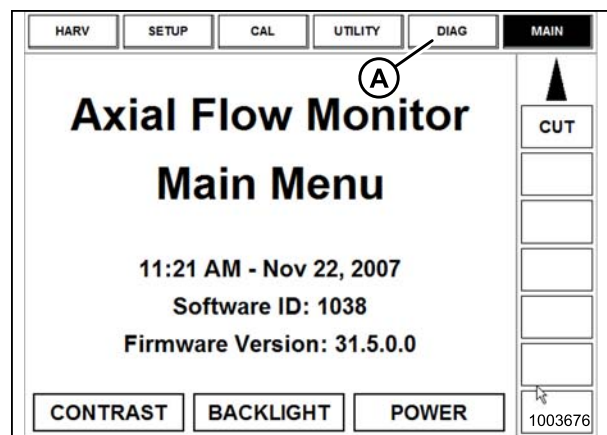
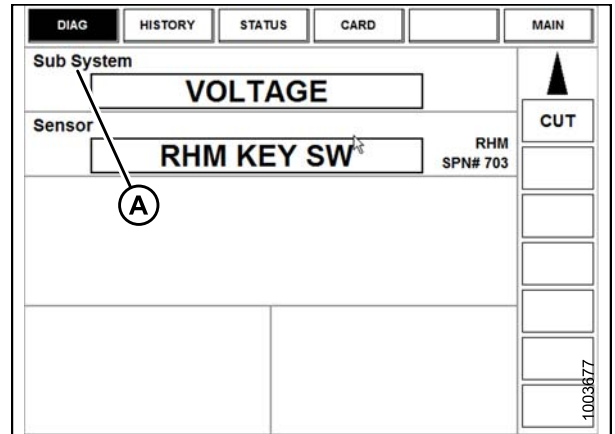


Figure 7.13: Case 8010 Combine Display

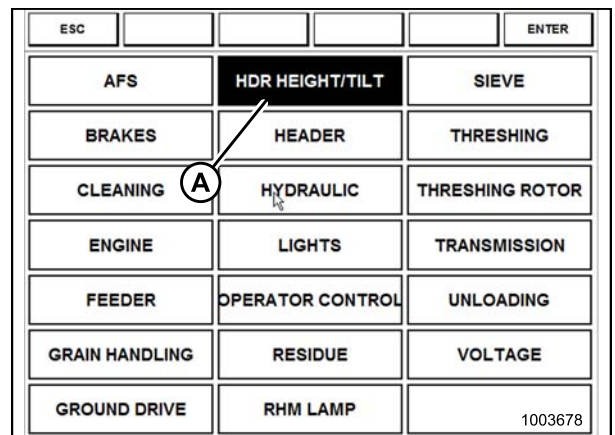
## PREDELIVERY INSPECTION

3. Select SUB SYSTEM (A). The SUB SYSTEM window opens.



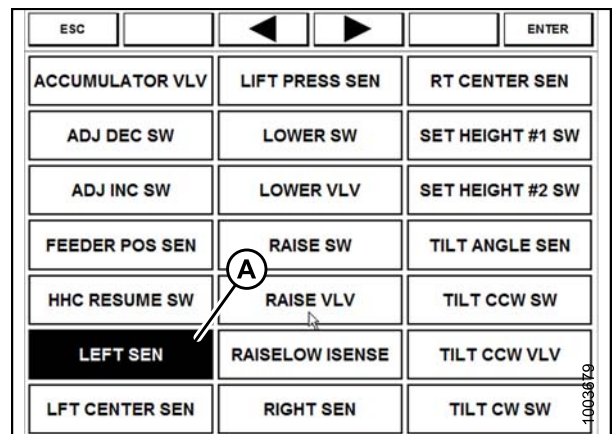
**Figure 7.14: Case 8010 Combine Display**

4. Select HDR HEIGHT/TILT (A). The SENSOR window opens.



**Figure 7.15: Case 8010 Combine Display**

5. Select LEFT SEN (A). The exact voltage is displayed. Raise and lower the header to see the full range of voltage readings.



**Figure 7.16: Case 8010 Combine Display**

## PREDELIVERY INSPECTION

- If the sensor voltage is not within the low and high limits shown in [7.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 60](#), or if the range between the low and high limits is insufficient, you need to make adjustments. For instructions, refer to [Adjusting Header Height Control Voltage Range \(Left-Hand Side\), page 61](#) and [Adjusting Header Height Control Voltage Range \(Right-Hand Side\), page 61](#).



Figure 7.17: Case 8010 Combine Display

*Checking Voltage Range from the Combine Cab (Case IH 5130/6130/7130, 7010/8010; 7120/8120/9120; 7230/8230/9230)*

### NOTE:

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To check the sensor output voltage range from the combine cab for Pro 600 Display, follow these steps:

- Ensure header float is unlocked.
- Select DIAGNOSTICS (A) on the MAIN screen. The DIAGNOSTICS screen opens.
- Select SETTINGS. The SETTINGS screen displays.

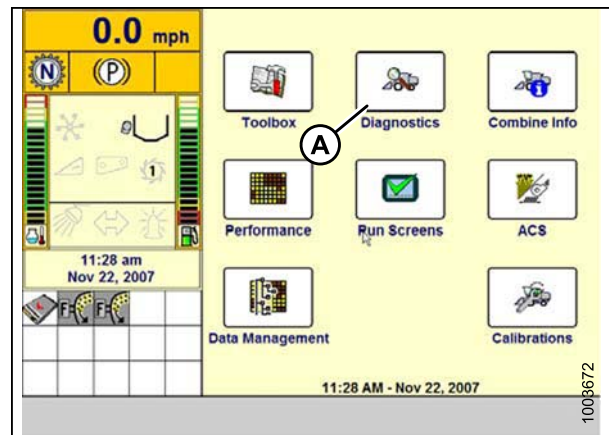
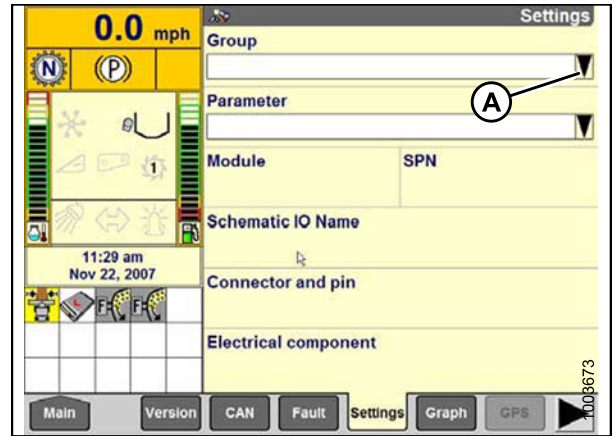


Figure 7.18: Case IH Combine Display



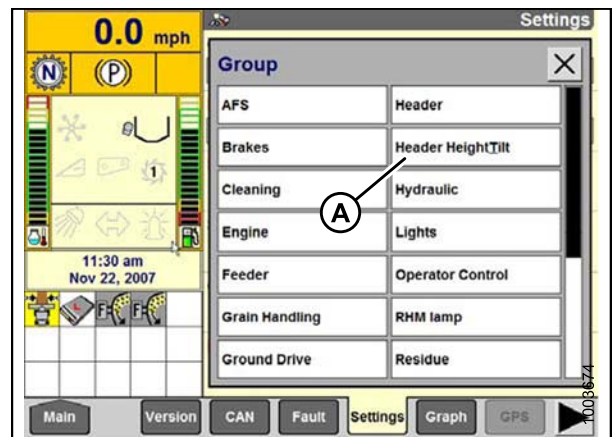
## PREDELIVERY INSPECTION

4. Select the GROUP arrow (A). The GROUP window opens.



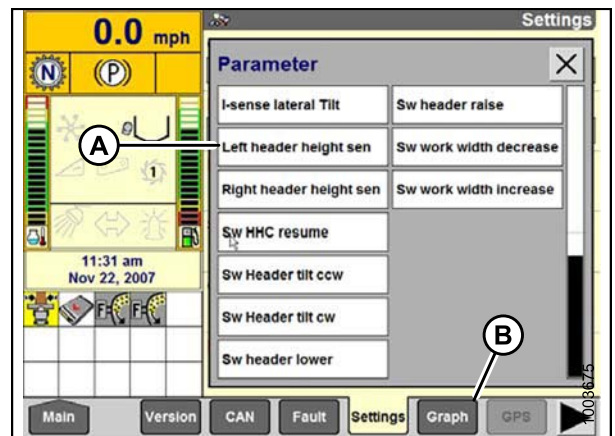
**Figure 7.19: Case IH Combine Display**

5. Select HEADER HEIGHT/TILT (A). The PARAMETER window opens.



**Figure 7.20: Case IH Combine Display**

6. Select LEFT HEADER HEIGHT SEN (A), and then select the GRAPH button (B). The exact voltage is displayed at top of screen. Raise and lower the header to see the full range of voltage readings.
7. If the sensor voltage is not within the low and high limits shown in [7.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 60](#), or if the range between the low and high limits is insufficient, you need to make adjustments. For instructions, refer to [Adjusting Header Height Control Voltage Range \(Left-Hand Side\), page 61](#) and [Adjusting Header Height Control Voltage Range \(Right-Hand Side\), page 61](#).



**Figure 7.21: Case IH Combine Display**

## PREDELIVERY INSPECTION

8. Push the GRAPH tab beside the SETTINGS tab to view the voltage.

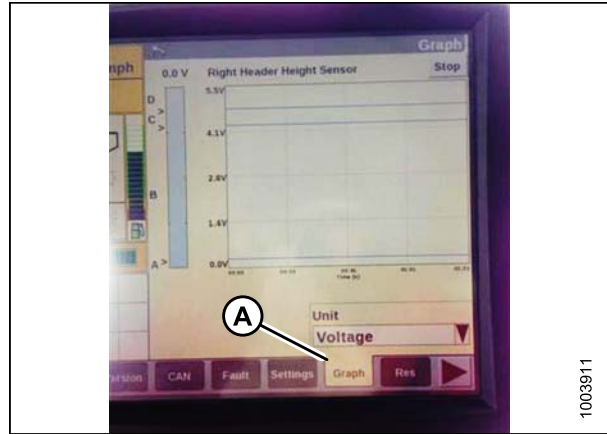


Figure 7.22: Case IH Combine Display

*Calibrating the Auto Header Height Control (Case IH 5130/6130/7130, 7010/8010; 7120/8120/9120; 7230/8230/9230)*

### NOTE:

This procedure applies to combines with a software version below 28.00. For instructions on calibrating the AHHC for combines with software version 28.00 or above, refer to [Calibrating the Auto Header Height Control System \(Case Combines with Version 28.00 Software\)](#), page 72.

### NOTE:

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To calibrate the AHHC, follow these steps:

1. Ensure all header electrical and hydraulic connections are made.
2. Select TOOLBOX on the MAIN screen, and then select HEADER.
3. Set appropriate HEADER STYLE.



Figure 7.23: Case IH Combine Display

## PREDELIVERY INSPECTION

4. Set AUTO REEL SPEED SLOPE.
5. Set HEADER PRESSURE FLOAT to YES if equipped, and ensure REEL DRIVE is HYDRAULIC.

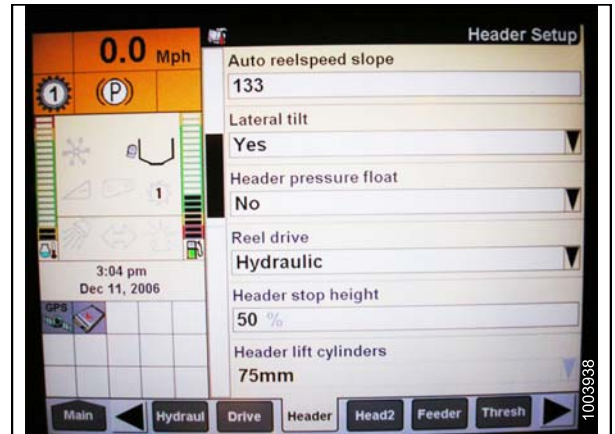


Figure 7.24: Case IH Combine Display

6. Install REEL FORE-BACK (if applicable).
7. Set HEIGHT SENSITIVITY to desired value. The recommended starting point is 180.

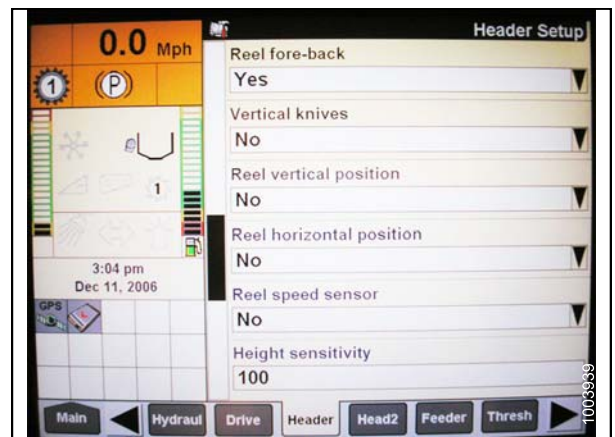


Figure 7.25: Case IH Combine Display

8. Install FORE-AFT CONTROL, and HDR FORE-AFT TILT (if applicable).

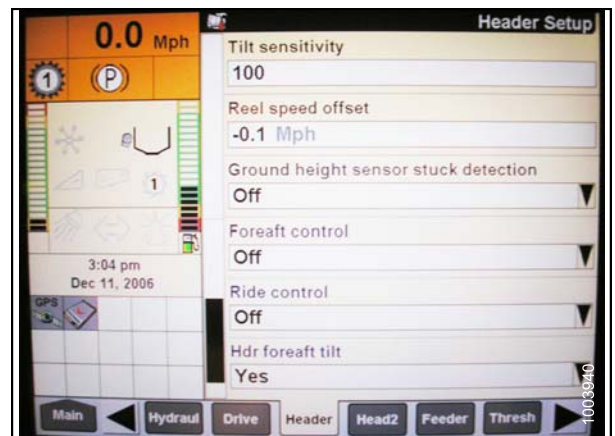


Figure 7.26: Case IH Combine Display

## PREDELIVERY INSPECTION

9. Press HEAD2 at bottom of screen.
10. Ensure HEADER TYPE is PICK-UP.

**NOTE:**

If recognition resistor is plugged in to header harness, you will not be able to change this.

11. Set cutting type to PLATFORM.
12. Set appropriate HEADER WIDTH and HEADER USAGE.

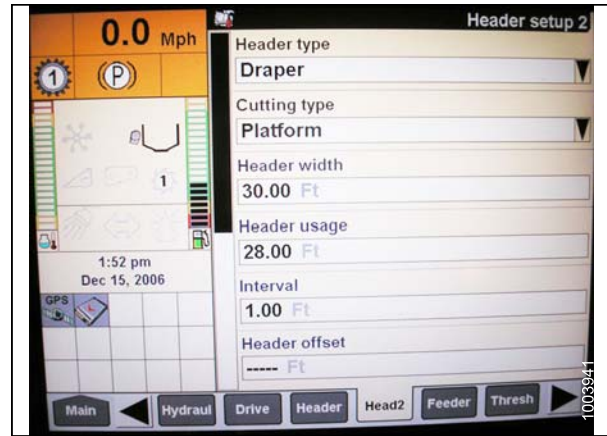


Figure 7.27: Case IH Combine Display

### *Calibrating the Auto Header Height Control System (Case Combines with Version 28.00 Software)*

**NOTE:**

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

1. Select TOOLBOX on the MAIN screen, and then select HEADER SETUP.
2. Locate the HEADER SUB TYPE field. It will be located on either the HEAD 1 or the HEAD 2 tab.
3. Select 2000 (A).



Figure 7.28: Combine Display

4. Locate the HEADER SENSORS and HEADER PRESSURE FLAT fields. They will be located on either the HEAD 1 or the HEAD 2 tab.
5. Select ENABLE (A) in the HEADER SENSORS field.
6. Select NO (B) in the HEADER PRESSURE FLAT field.

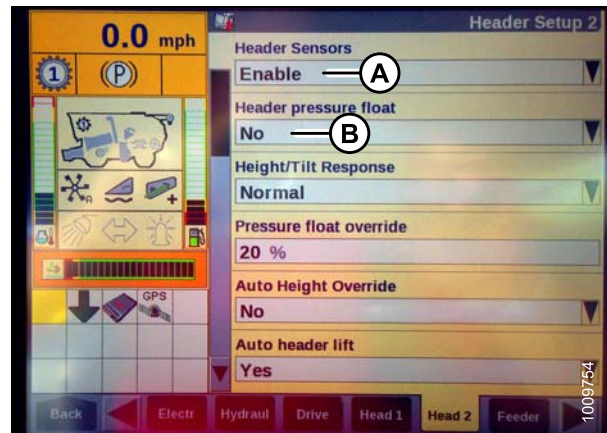


Figure 7.29: Combine Display



## PREDELIVERY INSPECTION

7. Ensure AUTO HEIGHT icon (A) appears on the monitor and is displayed as shown at (B). When the header is set for cutting on the ground, this verifies that the combine is correctly using the potentiometers on the header to sense ground pressure.

**NOTE:**

AUTO HEIGHT field (B) may appear on any of the RUN tabs and not necessarily on the RUN 1 tab.

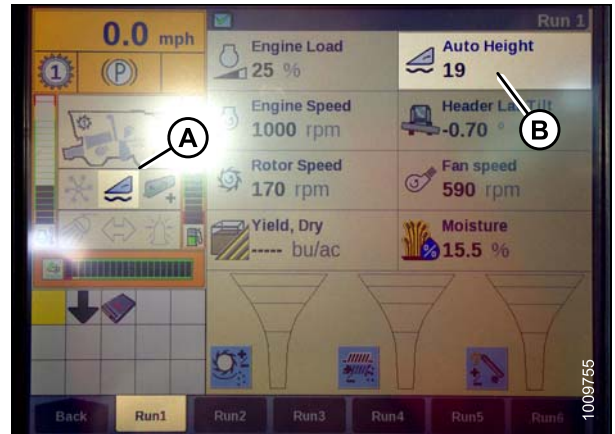


Figure 7.30: Combine Display

### 7.1.4 John Deere 60 Series Combines

#### Checking Voltage Range from the Combine Cab (John Deere 60 Series)

**NOTE:**

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To check the sensor output voltage range from the combine cab, follow these steps:

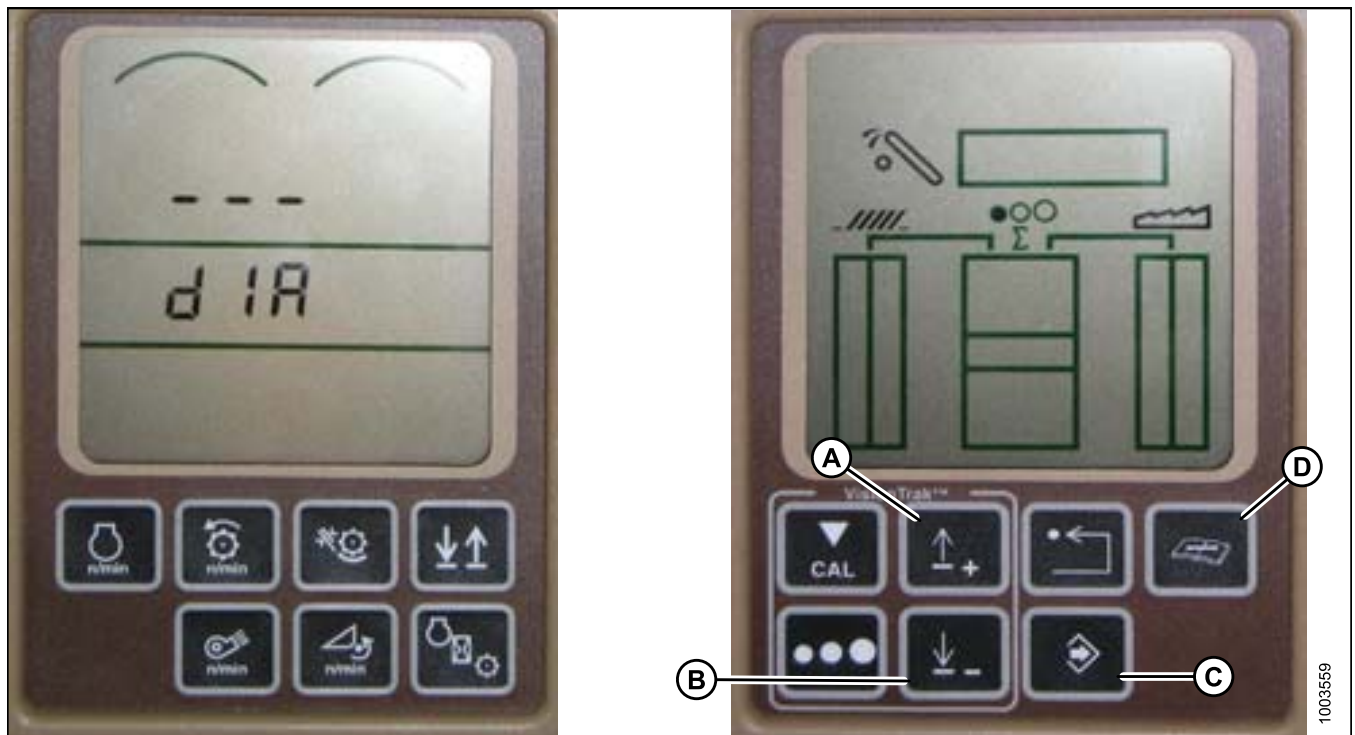


Figure 7.31: Combine HHS Monitor

1. Press the diagnostic button on the (HHS) monitor – the button with the open book with the wrench on top of it (D) d1A appears on the monitor.

## PREDELIVERY INSPECTION

2. Press the up button (A) until EO1 appears on the monitor (these are all your header adjustments).
3. Press the enter button (C).
4. Press the up (A) or down button (B) until 24 is displayed on the top portion of the monitor. This is the voltage reading of the sensor.
5. Ensure header float is unlocked.
6. Start the combine, lower feeder house to the ground until the feeder house stops moving.

### NOTE:

You may need to hold the header down switch for a few seconds to ensure the feeder house is entirely down.

7. Check the sensor reading on the monitor.
8. Raise the header so it is just off the ground, check the sensor reading again.
9. If the sensor voltage is not within the low and high limits shown in [7.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 60](#), or if the range between the low and high limits is insufficient, you need to make adjustments. For instructions, refer to [Adjusting Header Height Control Voltage Range \(Left-Hand Side\), page 61](#) and [Adjusting Header Height Control Voltage Range \(Right-Hand Side\), page 61](#).

### Calibrating the Auto Header Height Control (John Deere 60 Series)

### NOTE:

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

1. Start the combine.
2. Press the DIAGNOSTIC button (D) on the monitor – DIA appears on the monitor.
3. Press the CAL button (B) – DIA-CAL appears on the monitor.

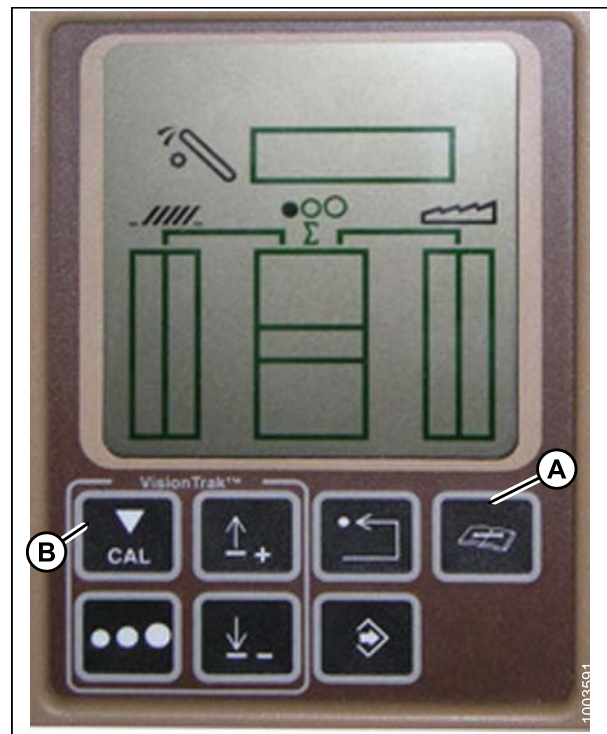


Figure 7.32: Combine Display

## PREDELIVERY INSPECTION

4. Press the UP or DOWN buttons until HDR appears on the monitor.
5. Press the enter button – HDR H-DN appears on the monitor.

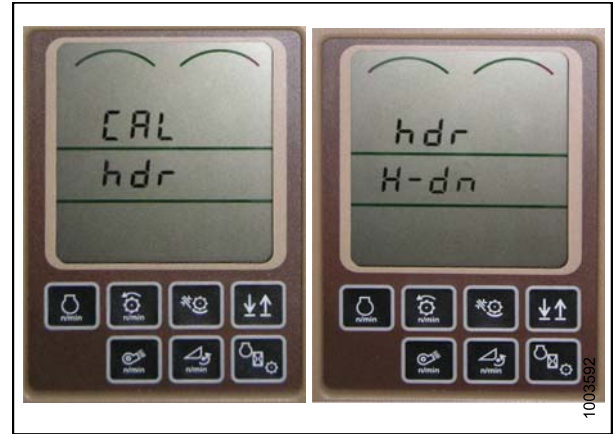


Figure 7.33: Combine Display

6. Fully lower feeder house to the ground.

**NOTE:**

You may need to hold the header down switch for a few seconds to ensure the feeder house is fully lowered.

7. Press the CAL button (A) to save the calibration of the header– HDR H-UP appears on the monitor.
8. Raise the header three feet off the ground, and press the CAL (A) button – EOC appears on the monitor.
9. Press the enter button (B) to save the calibration of the header. Your AHHC is now calibrated.

**NOTE:**

If an error code appears during calibration, the sensor is out of voltage range and will require adjustment. Refer to [Checking Voltage Range from the Combine Cab \(John Deere 60 Series\)](#), page 73.

**NOTE:**

After the calibration is complete, specific combine operation settings need to be made to ensure proper field operation.

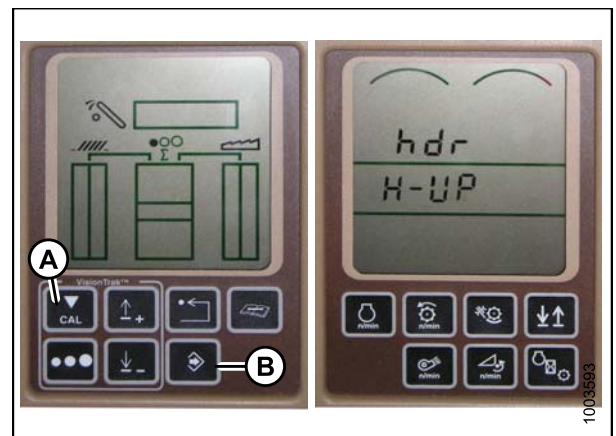


Figure 7.34: Combine Display

### *Turning the Accumulator Off (John Deere 60 Series)*

**NOTE:**

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To turn the accumulator off, follow these steps:

## PREDELIVERY INSPECTION

1. Press the DIAGNOSTIC button (A) on the monitor – DIA appears on the monitor.
2. Press the UP button (B) until EO1 appears on the monitor, and press ENTER (D) – this is the header adjustment.
3. Press the UP (B) or DOWN (C) button until '132' is displayed on the top portion of the monitor – this is the reading for the accumulator.
4. Press ENTER (D) to select '132' as the accumulator reading (this will allow you to change the display to a three-digit number so it has a '0' in it. For example, 'x0x').
5. Press the UP (B) or DOWN (C) button until the desired number is displayed, and press the CAL (E) button.
6. Press ENTER (D) to save the changes. The accumulator is now deactivated.

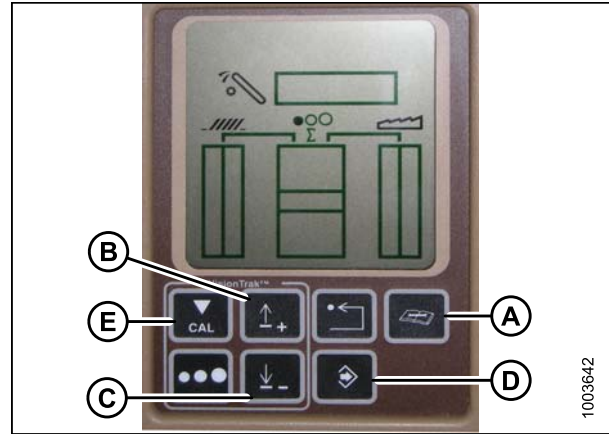


Figure 7.35: Combine Display

### *Setting the Sensing Grain Header Height to 50 (John Deere 60 Series)*

#### **NOTE:**

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To set the sensing grain header height, follow these steps:

1. Press the DIAGNOSTIC button (A) on the monitor – DIA appears on the monitor.
2. Press the UP button (B) until EO1 appears on the monitor, and press ENTER (D) – this is the header adjustment.
3. Press the UP (B) or DOWN (C) button until '128' is displayed on the top portion of the monitor – this is the reading for the sensor.
4. Press ENTER (D) to select '128' as the sensor reading (this will allow you to change the display to a three-digit number so it has a '50' in it).
5. Press the UP (B) or DOWN (C) button until the desired number is displayed, and press the CAL (E) button.
6. Press ENTER (D) to save the changes. The height is now set.

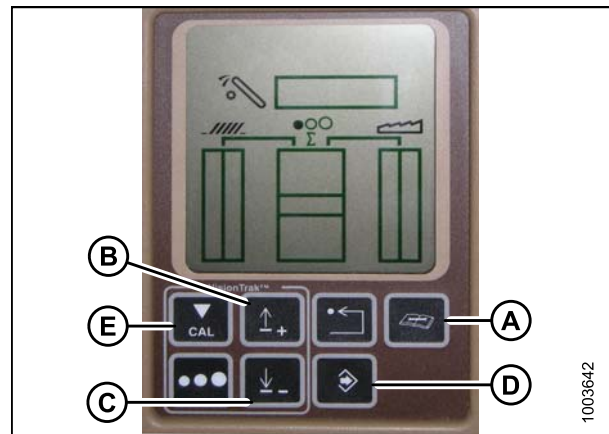


Figure 7.36: Combine Display



## PREDELIVERY INSPECTION

### NOTE:

Do **NOT** use the active header float function (A) in combination with the MacDon Auto Header Height Control (AHHC) – the two systems will counteract one another. The header symbol (B) on the display should NOT have a wavy line under it and should appear exactly as shown on the Active Header Control Display in Figure 7.37: *Combine Display*, page 77.

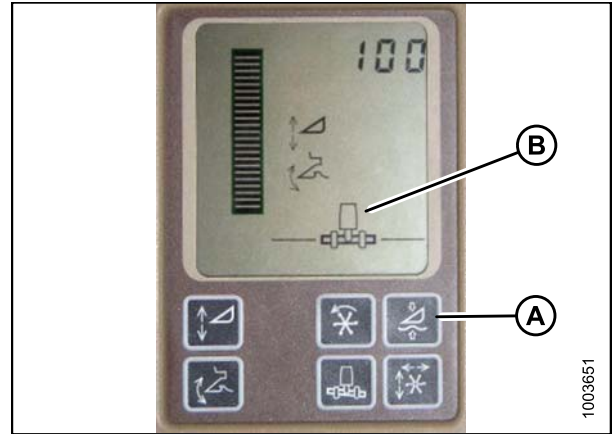


Figure 7.37: Combine Display

### *Setting the Sensitivity of the Auto Header Height Control (John Deere 60 Series)*

This is also known as dead band adjustment.

### NOTE:

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To change the sensitivity of the Auto Header Height Control (AHHC), follow these steps:

## PREDELIVERY INSPECTION

1. Press the DIAGNOSTIC button (A) on the monitor – DIA appears on the monitor.
2. Press the UP button (B) until EO1 appears on the monitor, and press ENTER (D) – this is the header adjustment.
3. Press the UP (B) or DOWN (C) button until '112' is displayed on the monitor – this is your sensitivity setting.

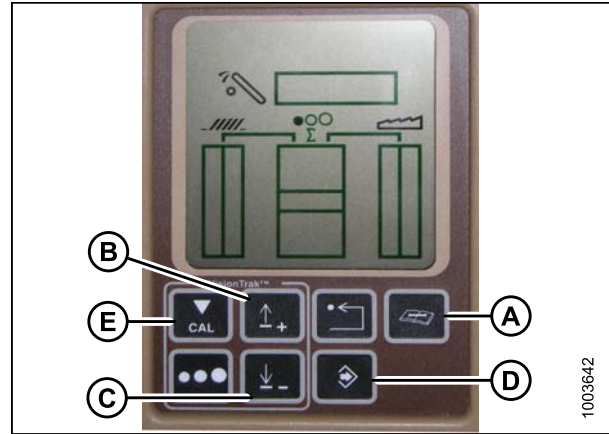
**NOTE:**

The lower the reading, the higher the sensitivity.  
Ideal operating range is typically between 50–80.

4. Press ENTER (D) to select '112' as the sensitivity setting (this will allow you to change the first digit of the number sequence).
5. Press the UP (B) or DOWN (C) button until the desired number is displayed, and press the CAL (E) button. This will you to the second digit. Repeat this procedure until the desired setting is achieved.
6. Press ENTER (D) to save changes.

**NOTE:**

The numbers depicted on the displays in these illustrations are for reference purposes only; they are not intended to represent the specific settings for your equipment.



**Figure 7.38: Combine Display**

### *Adjusting the Threshold for the Drop Rate Valve (John Deere 60 Series)*

This adjusts the point at which the restrictor valve opens allowing full flow to the lift cylinders.

**NOTE:**

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To start the increased flow rate sooner, follow these steps:

## PREDELIVERY INSPECTION

1. Press the DIAGNOSTIC button (A) on the monitor – DIA appears on the monitor.
2. Press the UP button (B) until EO1 appears on the monitor. and press ENTER (C) – this is the header adjustment.
3. Press the UP (B) or DOWN button until '114' is displayed on the top portion of the monitor – this is the setting that adjusts when the fast drop rate starts with respect to the dead band.

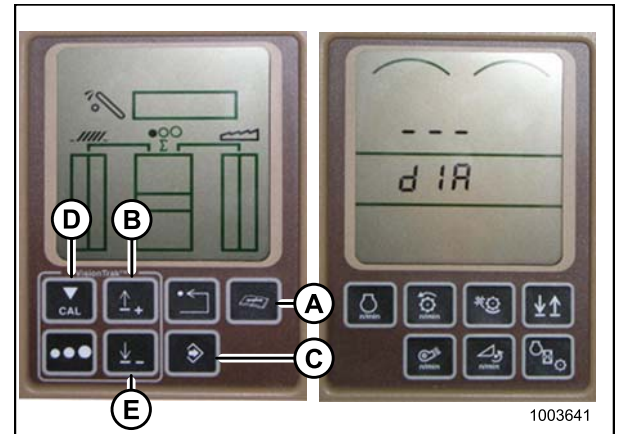
**NOTE:**

The default setting is 100. Ideal operating range is typically between 60–85.

4. Press ENTER (C) to select '114' as the fast drop rate (this will allow you to change the first digit of the number sequence).
5. Press the UP (B) or DOWN (E) button until the desired number is displayed, and press the CAL button (D). This will bring you to the second digit. Repeat this procedure until the desired setting is achieved.
6. Press ENTER (C) to save changes.

**NOTE:**

The numbers depicted on the displays in these illustrations are for reference purposes only; they are not intended to represent the specific settings for your equipment.



**Figure 7.39: Combine Display**

### 7.1.5 John Deere 70 Series Combines

#### *Checking Voltage Range from the Combine Cab (John Deere 70 Series)*

**NOTE:**

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To check the sensor output voltage range from the combine cab, follow these steps:

## PREDELIVERY INSPECTION

1. Press the HOME PAGE button (A) on the main page of the monitor.



Figure 7.40: Combine Display

2. Ensure the three icons (A) depicted in the illustration at right appear on the monitor.



Figure 7.41: Combine Display

3. Use scroll knob (A) to highlight the middle icon, the green 'i', and press the check mark button (B) to select it. This will bring up the Message Center.

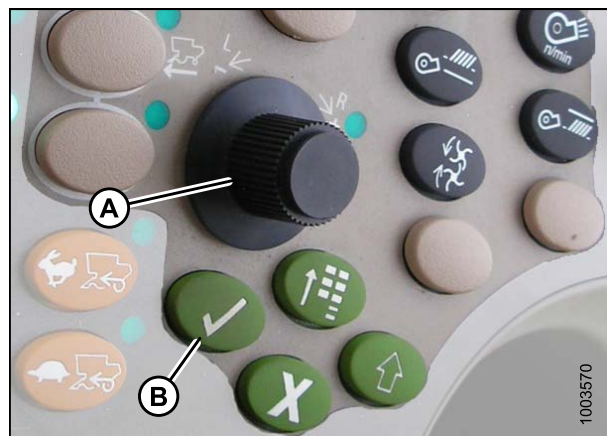


Figure 7.42: Combine Controls

## PREDELIVERY INSPECTION

4. Use the scroll knob to highlight DIAGNOSTIC ADDRESSES (A) from the right-hand column, and select it by pressing the check mark button.
5. Use the scroll knob to highlight drop down box (B), and press the check mark button to select it.



Figure 7.43: Combine Display

6. Use the scroll knob to highlight LC 1.001 VEHICLE (A) is highlighted, and press the check mark button to select it.



Figure 7.44: Combine Display

7. Use the scroll knob to highlight the DOWN ARROW (A), and press the check mark button to scroll through the list until 029 DATA (B) is displayed and voltage reading (C) appears on the monitor.

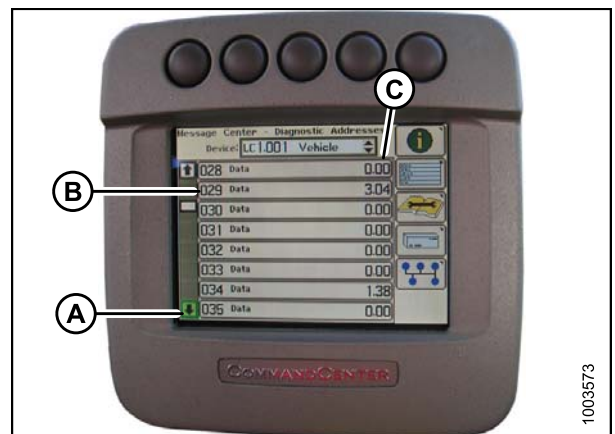


Figure 7.45: Combine Display

8. Ensure header float is unlocked.
9. Start the combine and fully lower feeder house to the ground.

### NOTE:

You may need to hold the header down switch for a few seconds to ensure the feeder house is fully lowered.

## PREDELIVERY INSPECTION

10. Check the sensor reading on the monitor.
11. Raise the header so it is just off the ground, and recheck the sensor reading.
12. If the sensor voltage is not within the low and high limits shown in [7.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 60](#), or if the range between the low and high limits is insufficient, you need to make adjustments. For instructions, Refer to [Adjusting Header Height Control Voltage Range \(Left-Hand Side\), page 61](#) and [Adjusting Header Height Control Voltage Range \(Right-Hand Side\), page 61](#).

### Calibrating Feeder House Speed (John Deere 70 Series)

The feeder house speed must be calibrated before you calibrate the Auto Header Height Control (AHHC) system. Refer to the combine operator's manual for instructions.

### Calibrating the Auto Header Height Control (John Deere 70 Series)

#### NOTE:

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To calibrate the AHHC system, follow these steps:

1. Start the combine.
2. Press the button located fourth from the left along the top of the monitor (A) to select the icon that resembles an open book with a wrench on it (B).
3. Press the top button (A) a second time to enter diagnostics and calibration mode.



Figure 7.46: Combine Display



## PREDELIVERY INSPECTION

4. Use scroll knob (A) to highlight the HEADER option, and press the check mark button (B) to select it.
5. Use the scroll knob (A) to highlight the lower right-hand icon that resembles an arrow in a diamond, and press the check mark button (B) to select it.
6. Follow the steps listed on the monitor to perform the calibration.

**NOTE:**

If an error code appears on screen, the sensor is not in the correct working range. Refer to [Checking Voltage Range from the Combine Cab \(John Deere 70 Series\), page 79](#) to check and adjust the range.

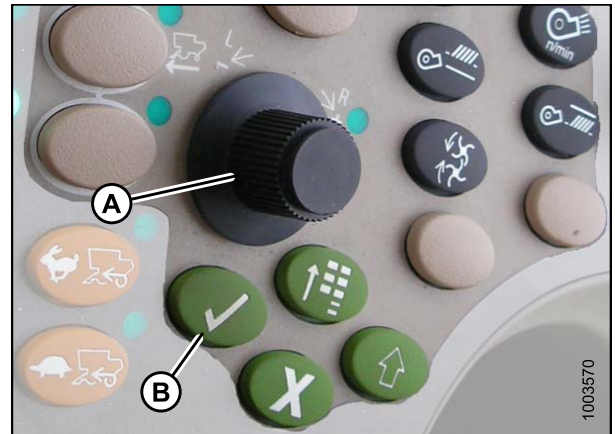


Figure 7.47: Combine Control Console



Figure 7.48: Combine Display

### Setting the Sensitivity of the Auto Header Height Control (John Deere 70 Series)

**NOTE:**

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To adjust the sensitivity of the Auto Header Height Control (AHHC), follow these steps:

1. Press button (A) twice, and the current sensitivity setting will appear on the monitor (the lower the reading, the lower the sensitivity).
2. Use scroll knob (B) to adjust the sensitivity setting. The adjustment will be saved automatically.

**NOTE:**

If the page remains idle for a short period of time, it will automatically return to the previous page. Pressing the check mark button (C) also will return the monitor to the previous page.

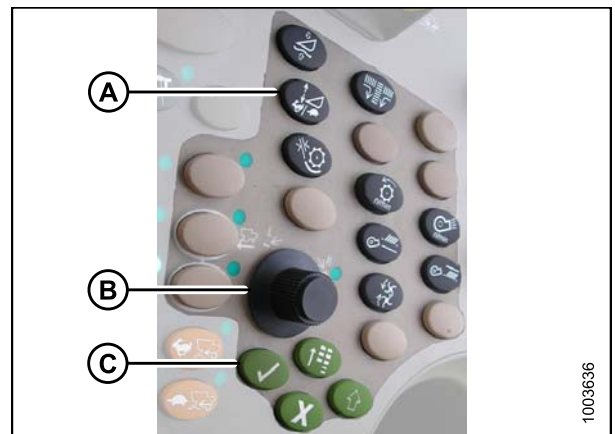


Figure 7.49: Combine Control Console

## PREDELIVERY INSPECTION

### NOTE:

The numbers depicted on the displays in these illustrations are for reference purposes only; they are not intended to represent the specific settings for your equipment.



Figure 7.50: Combine Display

### *Adjusting the Manual Header Raise/Lower Rate (John Deere 70 Series)*

### NOTE:

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To adjust the raise/lower rate, follow these steps:

1. Press button (A), and the current raise/lower rate setting will appear on the monitor (the lower the reading, the slower the rate).
2. Use scroll knob (B) to adjust the rate. The adjustment will be saved automatically.

### NOTE:

If the page remains idle for a short period of time, it will automatically return to the previous page. Pressing the check mark button (C) also will return the monitor to the previous page.

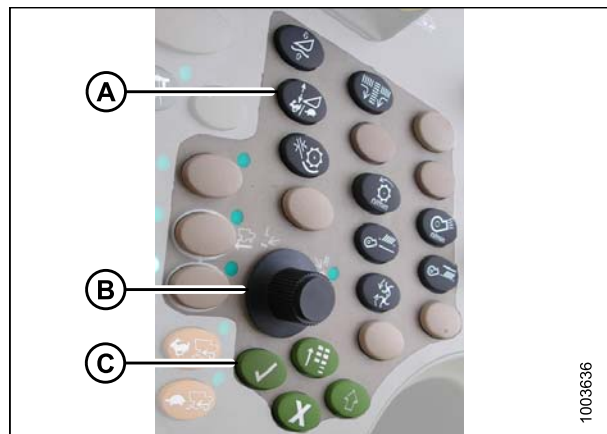


Figure 7.51: Combine Control Console

### NOTE:

The numbers depicted on the displays in these illustrations are for reference purposes only; they are not intended to represent the specific settings for your equipment.



Figure 7.52: Combine Display



## 7.1.6 John Deere S Series Combines

### Checking Voltage Range from the Combine Cab (John Deere S Series)

**NOTE:**

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To check the sensor output voltage range from the combine cab, follow these steps:

1. Press the CALIBRATION icon (A) on the main page of the monitor. The CALIBRATION page appears.

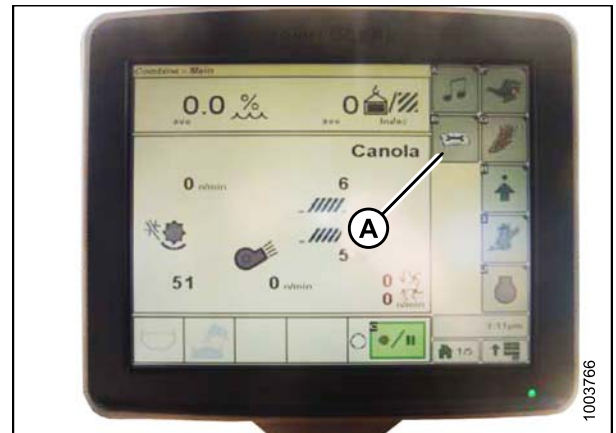


Figure 7.53: Combine Display

2. Press the DIAGNOSTIC READINGS icon (A) on the CALIBRATION page. The DIAGNOSTIC READINGS page appears. This page is where you will be able to complete calibrations, modify header options, and read diagnostic information.

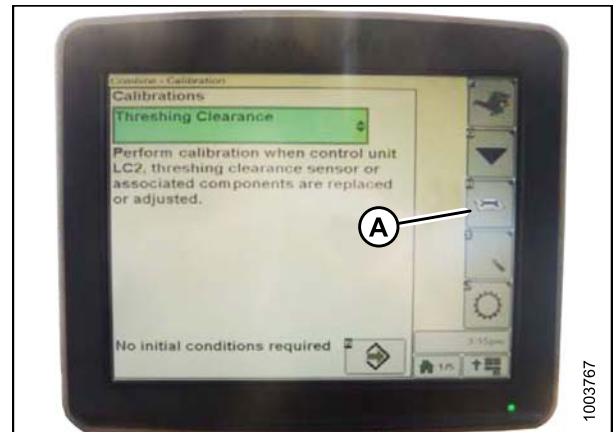


Figure 7.54: Combine Display

## PREDELIVERY INSPECTION

3. Select AHHC RESUME (A), and a list of calibration options appears.



Figure 7.55: Combine Display

4. Select the AHHC SENSING option.
5. Press the icon that resembles an arrow in a box (A). The AHHC SENSING menu appears and five pages of information are displayed.



Figure 7.56: Combine Display

6. Press icon (A) until it reads 'Page 5' near the top of the page. On Page 5 you will see the following sensor readings:
  - LEFT HEADER HEIGHT
  - CENTER HEADER HEIGHT
  - RIGHT HEADER HEIGHT

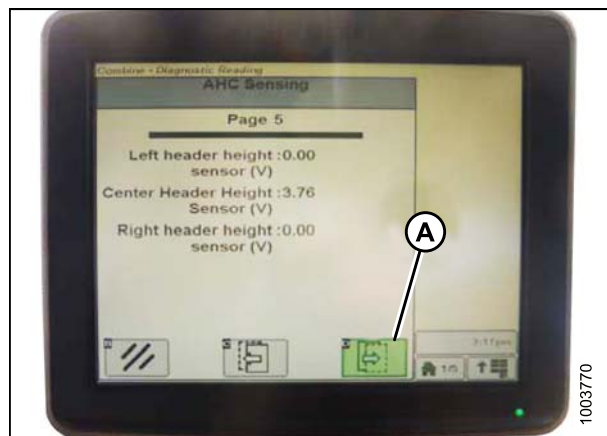


Figure 7.57: Combine Display

## PREDELIVERY INSPECTION

7. Ensure header float is unlocked.
8. Start the combine, and fully lower feeder house to the ground.

**NOTE:**

You may need to hold the header down switch for a few seconds to ensure the feeder house is fully lowered.

9. Check the sensor reading on the monitor.
10. If the sensor voltage is not within the low and high limits shown in [7.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 60](#), or if the range between the low and high limits is insufficient, you need to make adjustments. For instructions, refer to [Adjusting Header Height Control Voltage Range \(Left-Hand Side\), page 61](#) and [Adjusting Header Height Control Voltage Range \(Right-Hand Side\), page 61](#).

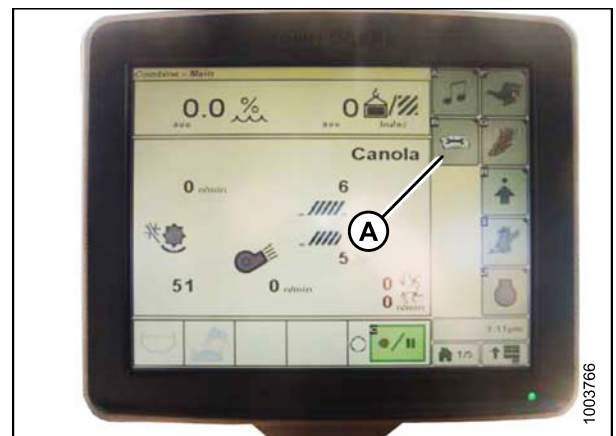
### *Calibrating the Auto Header Height Control (John Deere S Series)*

**NOTE:**

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To calibrate the AHHC, follow these steps:

1. Press the DIAGNOSTIC icon (A) on the main page of the monitor. The CALIBRATION page appears.



**Figure 7.58: Combine Display**

## PREDELIVERY INSPECTION

2. Select THRESHING CLEARANCE (A) and a list of calibration options appears.

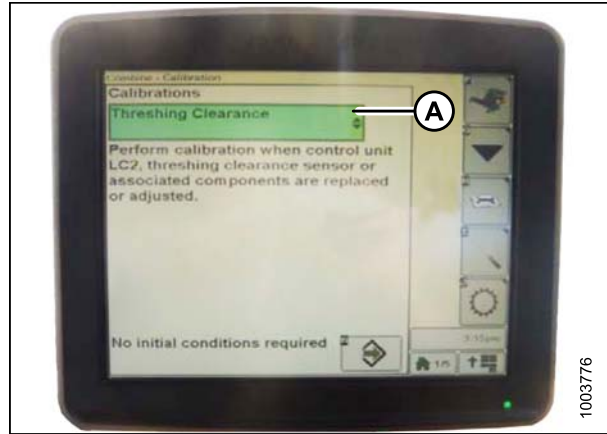


Figure 7.59: Combine Display

3. Select FEEDER HOUSE SPEED (A) and calibrate.
4. Select HEADER (B) and calibrate.

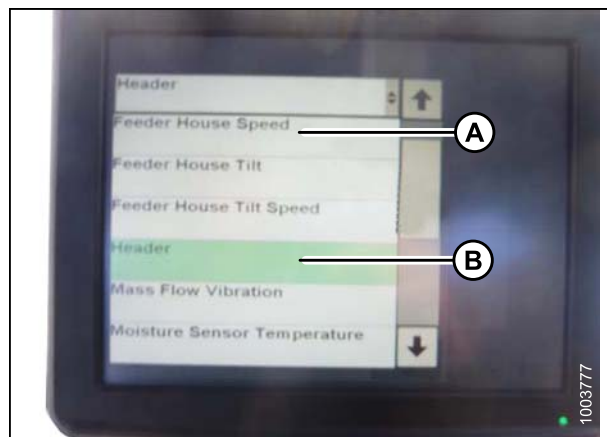


Figure 7.60: Combine Display

5. Press icon (A) with either FEEDER HOUSE SPEED or HEADER selected, and the icon will turn green.

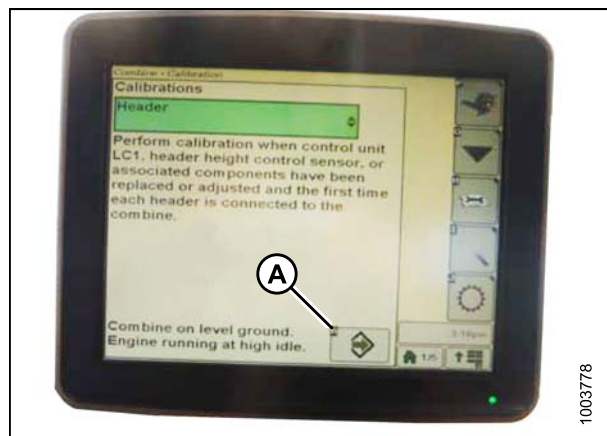


Figure 7.61: Combine Display

## PREDELIVERY INSPECTION

- Click button (A) and instructions will appear on screen to guide you through the remaining calibration steps.

**NOTE:**

If an error code appears during calibration, the sensor is out of voltage range and will require adjustment. Refer to [Checking Voltage Range from the Combine Cab \(John Deere S Series\)](#), page 85.

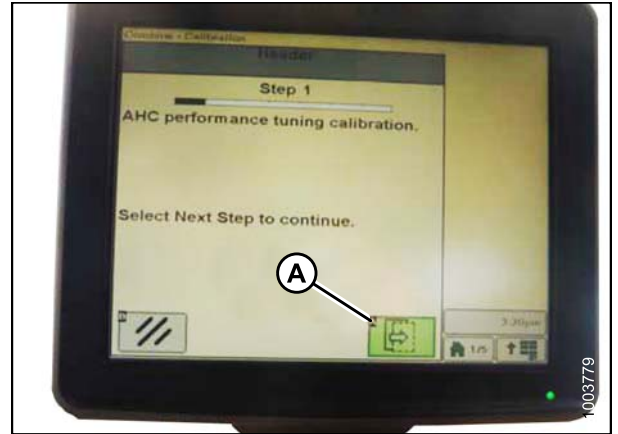


Figure 7.62: Combine Display

### Setting the Sensitivity of the Auto Header Height Control (John Deere S Series)

**NOTE:**

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To adjust the sensitivity of the Auto Header Height Control (AHC), follow these steps:

- Press button (A) twice, and the current sensitivity setting will appear on the monitor.



Figure 7.63: Combine Command Center

- Press the '-' or '+' icon (A) to adjust rates.

**NOTE:**

The numbers depicted on the displays in these illustrations are for reference purposes only; they are not intended to represent the specific settings for your equipment.

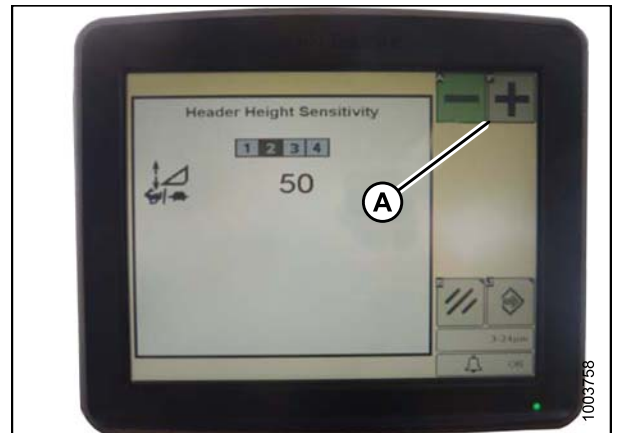


Figure 7.64: Combine Display

## PREDELIVERY INSPECTION

### *Adjusting the Manual Header Raise/Lower Rate (John Deere S Series)*

**NOTE:**

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To adjust the raise/lower rate, follow these steps:

1. Press button (A) and the current sensitivity setting will appear on the monitor.

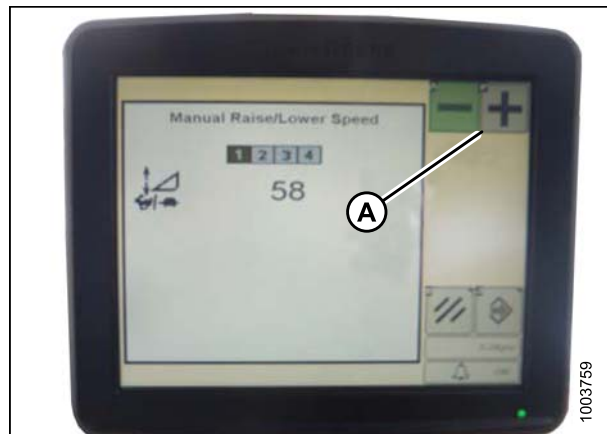


**Figure 7.65: Combine Command Center**

2. Press the '-' or '+' icon (A) to adjust rates.

**NOTE:**

The numbers depicted on the displays in these illustrations are for reference purposes only; they are not intended to represent the specific settings for your equipment.



**Figure 7.66: Combine Display**

### *Setting Preset Cutting Height (John Deere S Series)*

**NOTE:**

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To operate your Auto Header Height Control (AHHC), follow these steps:



## PREDELIVERY INSPECTION

1. Press the COMBINE - HEADER SETUP icon (A) on the main page. The COMBINE - HEADER SETUP page displays. This page is used to set various header settings such as reel speed, header width, and height of feeder house for acre counter engagement.



Figure 7.67: Combine Display

2. Select the COMBINE – HEADER SETUP AHC icon (A). The COMBINE – HEADER SETUP AHC screen displays.



Figure 7.68: Combine Display

3. Select the top-left and top-center icons for auto height sensing and return to cut.

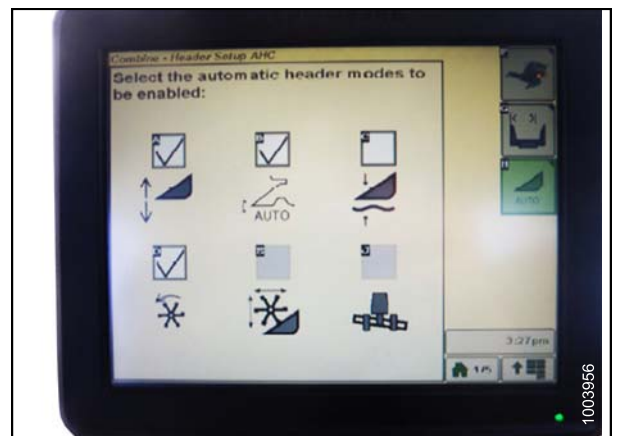


Figure 7.69: Combine Display

## PREDELIVERY INSPECTION

4. Select an appropriate ground pressure setting using preset button '2' (B) on the joystick for a light ground pressure setting in muddy or soft soil conditions, or preset button '3' (C) for a heavy ground pressure setting in harder soil conditions and a faster ground speed.

**NOTE:**

Preset button '1' (A) is reserved for header lift on the headland, it is not used for ground cutting.



Figure 7.70: Joystick Buttons

5. Use control knob (A) to scroll through the different button options.



Figure 7.71: Combine Control Console

**NOTE:**

When the AHHC is engaged, the AHHC icon (A) appears on the monitor, and the number indicating which button was pressed (B) is displayed on the screen.

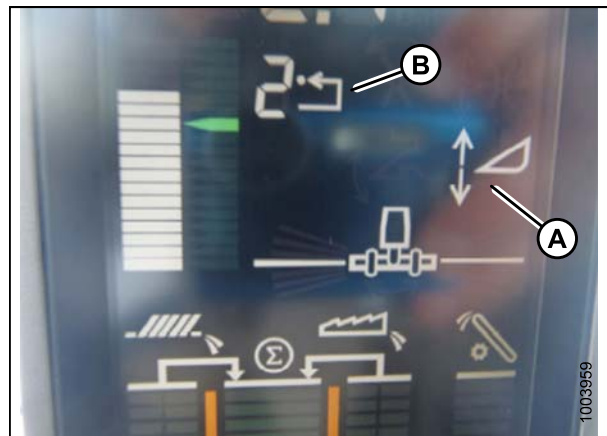


Figure 7.72: Combine Display



## 7.1.7 New Holland Combines

### Checking Voltage Range from the Combine Cab (New Holland)

**NOTE:**

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To check the sensor output voltage range from the combine cab, follow these steps:

1. Ensure header float is unlocked.
2. Select DIAGNOSTICS (A) on the main screen. The DIAGNOSTICS screen displays.
3. Select SETTINGS. The SETTINGS screen displays.

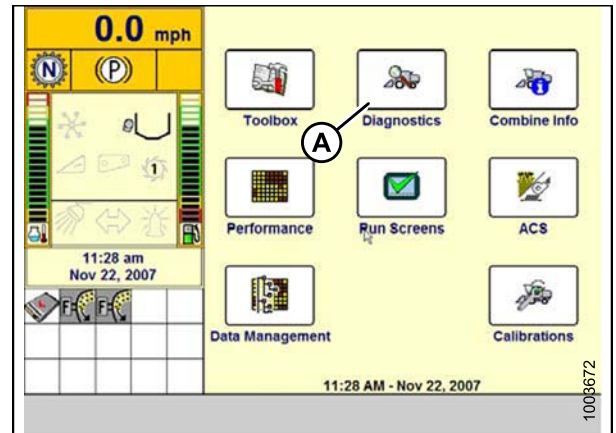


Figure 7.73: Combine Display

4. Select the GROUP drop-down arrow (A). The GROUP window opens.

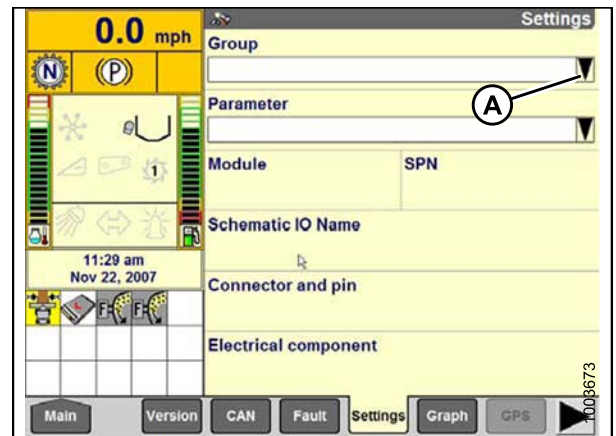


Figure 7.74: Combine Display

## PREDELIVERY INSPECTION

5. Select HEADER HEIGHT/TILT(A). The PARAMETER window opens.

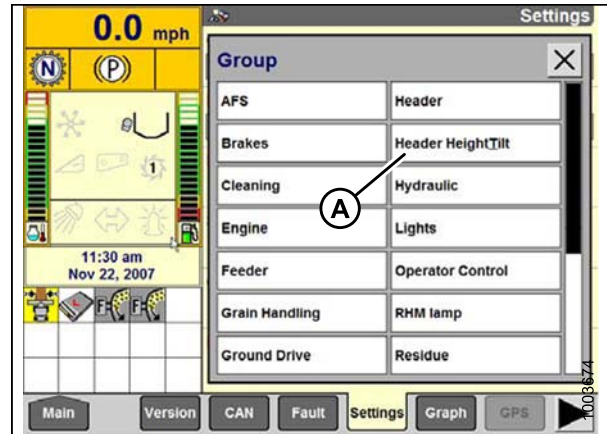


Figure 7.75: Combine Display

6. Select LEFT HEADER HEIGHT SEN (A), and then select GRAPH button (B). The exact voltage is displayed at top of screen.
7. Raise and lower the header to see the full range of voltage readings.
8. If the sensor voltage is not within the low and high limits shown in [7.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 60](#), or if the range between the low and high limits is insufficient, you need to make adjustments. For instructions, Refer to [Adjusting Header Height Control Voltage Range \(Left-Hand Side\), page 61](#) and [Adjusting Header Height Control Voltage Range \(Right-Hand Side\), page 61](#).

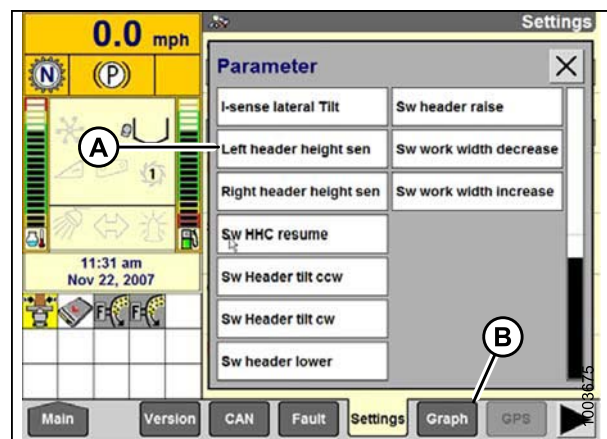


Figure 7.76: Combine Display

9. Push the GRAPH tab (A) to view the voltage.

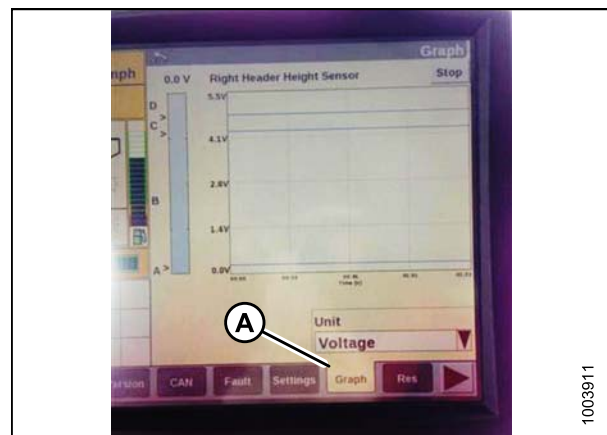


Figure 7.77: Combine Display

### Engaging the Auto Header Height Control (New Holland CR/CX Series)

#### NOTE:

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To engage the Auto Header Height Control, follow these steps:

## PREDELIVERY INSPECTION

1. Select HEADER LATERAL FLOAT on the combine display screen, and press ENTER.
2. Use the up and down navigation keys to move between options, and select INSTALLED from the open window.

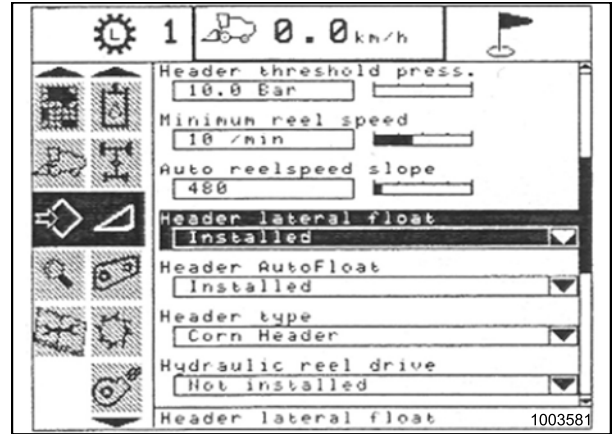


Figure 7.78: Combine Display

3. Select HEADER AUTOFLOAT on the combine display screen, and press ENTER.
4. Use the up and down navigation keys to move between options, and select INSTALLED from the open window.

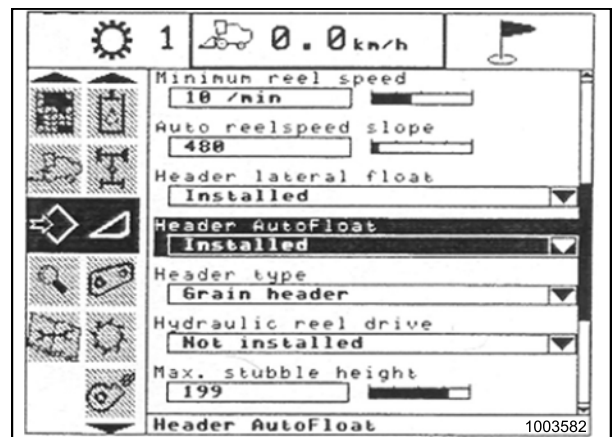


Figure 7.79: Combine Display

### *Calibrating the Auto Header Height Control (New Holland CR/CX Series)*

#### **NOTE:**

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

Check the following conditions before starting the header calibration procedure:

- The header is attached to the combine.
- The combine is on level ground, with the header level to the ground.
- The engine is running.
- The combine is not moving.
- No faults have been received from the Header Height Controller (HHC) module.
- Header/feeder is disengaged.
- Lateral flotation buttons are NOT pressed.
- ESC key is NOT pressed.

To calibrate the Auto Header Height Control, follow these steps:

## PREDELIVERY INSPECTION

1. Select CALIBRATION on the combine display, and press the right arrow navigation key to enter the information box.
2. Select HEADER (A), and press ENTER. The CALIBRATION window opens.

**NOTE:**

You can use the up and down navigation keys to move between options.

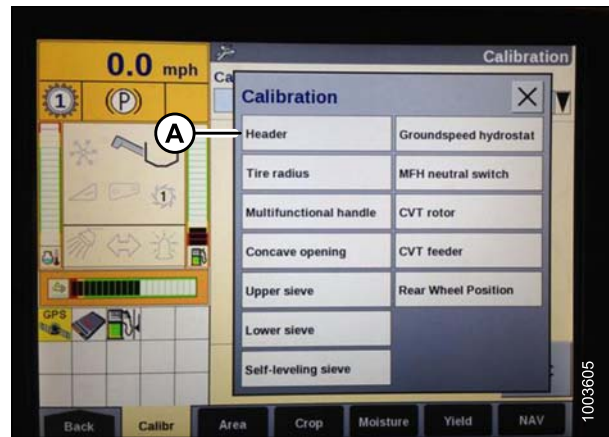


Figure 7.80: Combine Display

3. Follow the calibration steps in the order in which they appear in the window. As you proceed through the calibration process, the display will automatically update to show the next step.

**NOTE:**

Pressing the ESC key during any of the steps or letting the system sit idle for more than three minutes will cause the calibration procedure to stop.

**NOTE:**

Refer to your combine operator's manual for an explanation of any error codes.

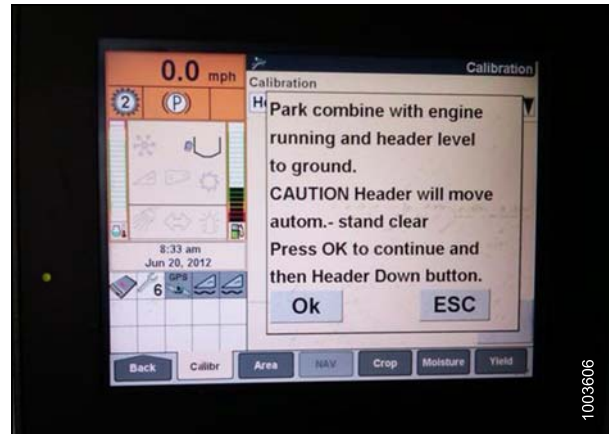


Figure 7.81: Combine Display

4. Ensure that CALIBRATION SUCCESSFUL message is displayed on the screen when all steps have been completed, and exit the CALIBRATION menu by pressing the ENTER or ESC key.

**NOTE:**

If float was set heavier to complete ground calibration procedure, adjust to recommended operating float after the calibration is complete.

5. Conduct the maximum stubble height calibration if unit does not function properly.

## PREDELIVERY INSPECTION

### Calibrating Maximum Stubble Height

This procedure describes how to calibrate the area counter to know from which height it should stop or start counting. When the header is raised above this level, the area counter assumes you are not cutting crop; therefore, you must raise the header to a specific height that you will always exceed when not cutting, and lower the header to a specific height you will always stay below when cutting.

Select the height of the header that corresponds to the description above.

#### IMPORTANT:

- If the value is set too low, area may be counted since the header is sometimes raised above this threshold although the combine is still cutting.
- If the value is set too high, the area counter will keep cutting even when the header is raised (but below this threshold) and the combine is no longer cutting crop.

To calibrate the maximum stubble height, follow these steps:

1. Select the MAXIMUM STUBBLE HEIGHT calibration window.

Message: "Set header to desired maximum stubble height".

Message: "Then press ENTER".

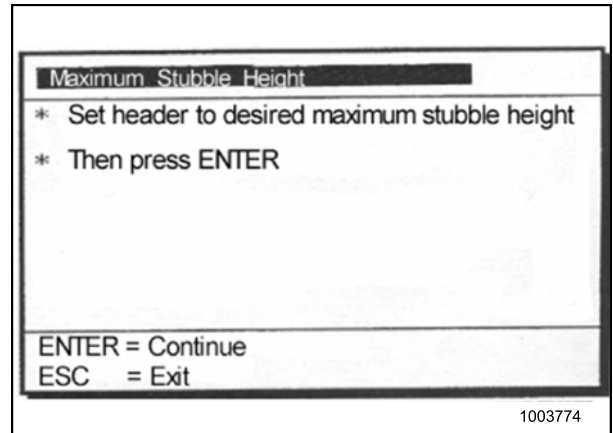


Figure 7.82: Calibration Window

2. Move header to the correct position using the header up or down control switch on the multifunction handle.
3. Press ENTER to continue.  
Message: "Calibration successful".
4. Press ENTER or ESC to close the calibration window.  
The calibration is now complete.

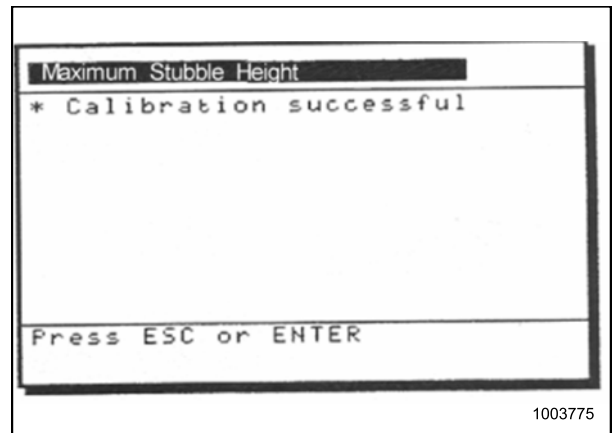


Figure 7.83: Calibration Window

## PREDELIVERY INSPECTION

### *Adjusting Header Raise Rate (New Holland CR/CX Series)*

If necessary, the header raise rate (the first speed on the header height rocker switch of the multifunctional handle) can be adjusted.

**NOTE:**

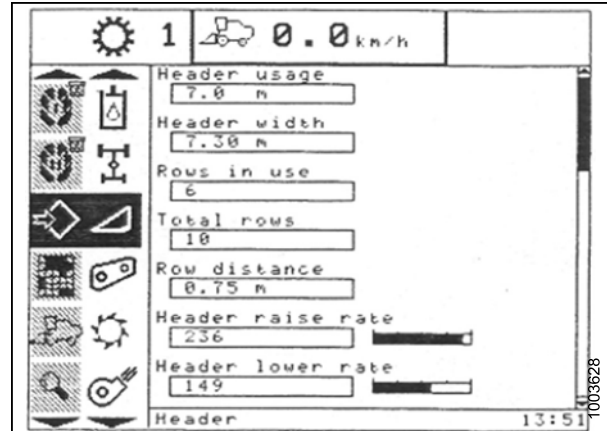
Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To adjust the header raise rate, follow these steps:

1. Select HEADER RAISE RATE on the combine display screen.
2. Use the '+' or '-' buttons to change the setting.
3. Press ENTER to save the new setting.

**NOTE:**

The raise rate can be changed from 32–236 in steps of 34. The factory setting is 100.



**Figure 7.84: Combine Display**

### *Setting the Header Lower Rate to 50 (New Holland CR/CX Series)*

If necessary, the header lower rate (the automatic header height control button or second speed on the header height rocker switch of the multi-function handle) can be adjusted.

**NOTE:**

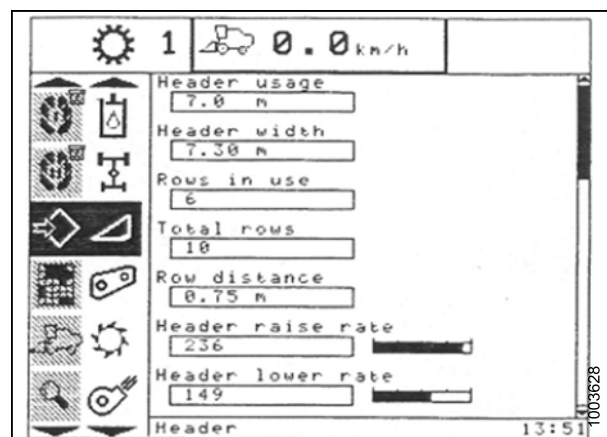
Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To set the header lower rate, follow these steps:

1. Select HEADER LOWER RATE on the combine display screen.
2. Use the '+' or '-' buttons to change the setting to 50.
3. Press ENTER to save the new setting.

**NOTE:**

The lower rate can be changed from 2–247 in steps of 7. It is factory set to 100.



**Figure 7.85: Combine Display**

## PREDELIVERY INSPECTION

### Setting the Sensitivity of the Auto Header Height Control to 200 (New Holland CR/CX Series)

#### NOTE:

Changes may have been made to the combine controls or display since this document was published. Refer to the combine operator's manual for updates.

To set the Auto Header Height Control sensitivity, follow these steps:

1. Engage threshing and feeder house.
2. Select HEIGHT SENSITIVITY on the combine display screen.
3. Use the '+' or '-' buttons to change the setting to 200.
4. Press ENTER to save the new setting.

#### NOTE:

The sensitivity can be changed from 10–250 in steps of 10. It is factory set to 100.

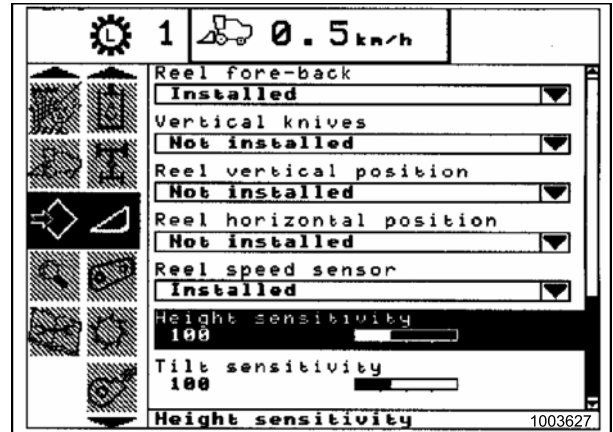


Figure 7.86: Combine Display

### 7.1.8 Sensor Operation

The position sensors supplied with the Auto Header Height Control (AHHC) system are (1K) 1000 ohm industrial series sensors containing sealed connectors. Normal operating signal voltages for the sensors fall between 10% (0.5VDC) and 90% (4.5VDC).

A sensor operating with a signal voltage below 5% is considered to be shorted, and a sensor with a signal voltage above 95% is considered to be open. An increase in sensor voltage correlates to an increase in header height.

Each sensor is constructed with a power wire and a ground wire. Inside the sensor, these two wires are connected by a high resistance filament band (C). The resistance measured across the power (A) and ground (B) wires should read a constant value between 800 and 1200 ohms (0.8-1.2 k) with the nominal reading being 1000 ohms (1 k).

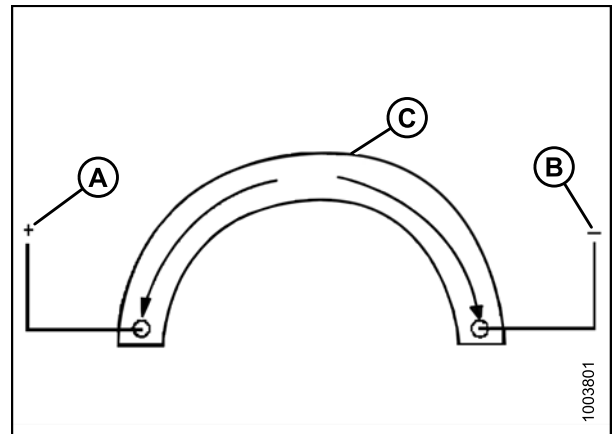


Figure 7.87: Power, Ground, and Signal Wires

## PREDELIVERY INSPECTION

In addition to the power (A) and ground (B) wires, a signal wire (C) is connected internally to a movable wiper that is attached to an external arm and sweeps the high resistance filament band. As the external arm is rotated and the wiper is moved toward or away from the power wire connection, the measured resistance at the signal wire (C) changes.

The resistance measured across the signal and ground wires should increase uniformly from a low (80–100 ohms) to a high (800–1200 ohms). This can be observed if an ohmmeter is connected across the signal and power wires and the sensor shaft rotated. When an input voltage is applied to the high resistance filament band through the power wire (A), the output (or 'measured') voltage in the signal wire (C) is changed by this variable resistance.

### NOTE:

Ground and power wires may differ depending on combine.

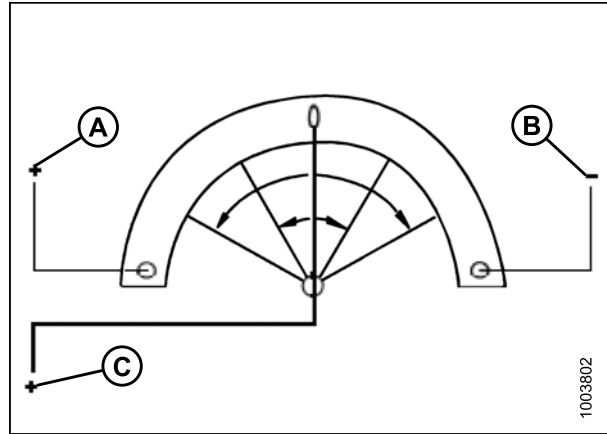


Figure 7.88: Power, Ground, and Signal Wires



## 7.2 Wheels and Tires

### DANGER

- Never install a tube in a cracked wheel rim.
- Never weld a wheel rim.
- Make sure all the air is removed from the tire before removing the tire from the rim.
- Never use force on an inflated or partially inflated tire. Make sure the tire is correctly seated before inflating to operating pressure.
- Do NOT remove, install, or repair a tire on a rim unless you have the proper equipment and experience to perform the job. Take the tire and rim to a qualified tire repair shop.
- If the tire is overinflated or is incorrectly position on the rim, the tire bead can loosen on one side causing air to escape at high speed and with great force. An air leak of this nature can propel the tire in any direction and endanger anyone in the area.
- Do NOT exceed the maximum inflation pressure indicated on the tire label.

### 7.2.1 Inflating Tire

Maintain correct tire pressure to achieve desired cutting height. Check tire pressure daily.

**Table 7.1 Tire (MD #152724)**

Tire	Pressure
18.50 x 8.50-8	35–45 psi (240–310 kPa) <sup>3</sup>

---

3. Use the lower end of this range if operating on rough terrain.

## 7.3 Checking Draper Belt Tension

Draper tension is factory set but should be checked before operating.

### DANGER

Stop engine and remove key from ignition before leaving operator's seat for any reason. A child or even a pet could engage an idling machine.

#### NOTE:

Drapers may be sticky when new. Talcum or baby powder applied to the drapers should help to reduce the stickiness.

1. Raise the header fully and engage the combine safety props.
2. Stop engine and remove key from ignition.
3. Ensure drapers are visible through slots (A). Proper tension is achieved when the draper aligns with indicator notch in slots (A).

#### IMPORTANT:

For proper draper tracking, ensure deck indicator (B) is in the same position on both sides of the header. If adjustment is required, refer to [7.3.1 Adjusting Front Draper Belt Tension, page 102](#) or [7.3.2 Adjusting Rear Draper Belt Tension, page 104](#).

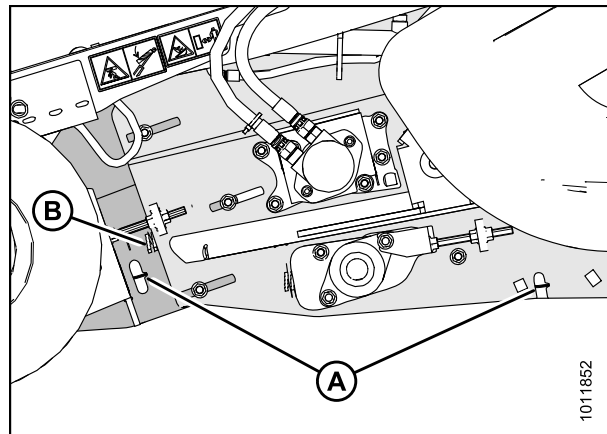


Figure 7.89: Draper Tension Indicator

### 7.3.1 Adjusting Front Draper Belt Tension

Draper tension is factory set but should be checked before operating.

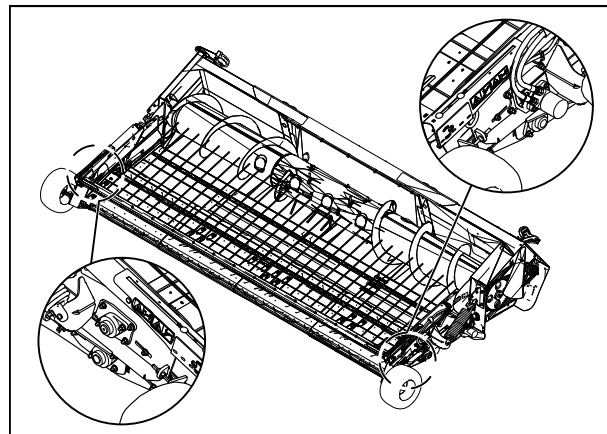


Figure 7.90: Front Deck Adjusting Bolts

## PREDELIVERY INSPECTION

The stepped deck position indicator gauges are used to precisely align each side of the front and rear decks. Each notch (A) represents an adjustment of 0.04 in. (1 mm).

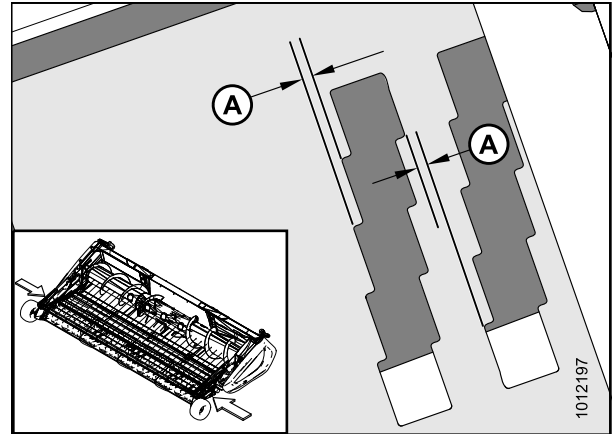


Figure 7.91: Deck Position Indicators

1. Loosen three clamp bolts (A) on each side of the header.
2. Loosen jam nut (B) on the left side.
3. Turn adjuster nut (C) to set the draper tension. Proper tension is achieved when the draper lines up with indicator notch (D).

**IMPORTANT:**

Do **NOT** tighten draper above the indicator notch. Overtightening may result in the following:

- Joining bolts pulling out of draper
- Damage to the rollers or bearings
- Twisting and wrinkling of drapers

4. Note the position of the indicator gauge (E).
5. Loosen jam nut (A) on the right side of the header, and turn adjuster nut (B) until the position of indicator gauge (C) is identical to the left side.

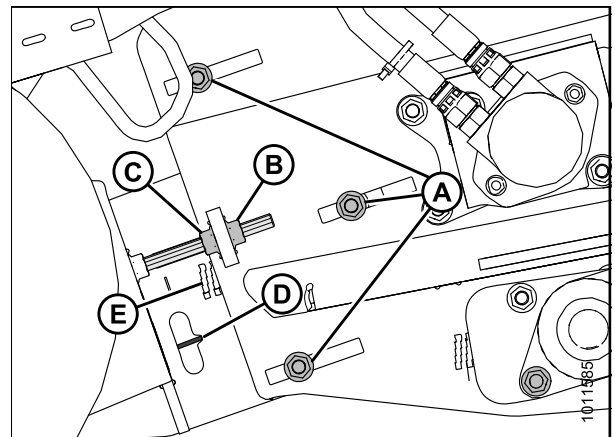


Figure 7.92: Left Side Front Deck Shown - Right Side Opposite

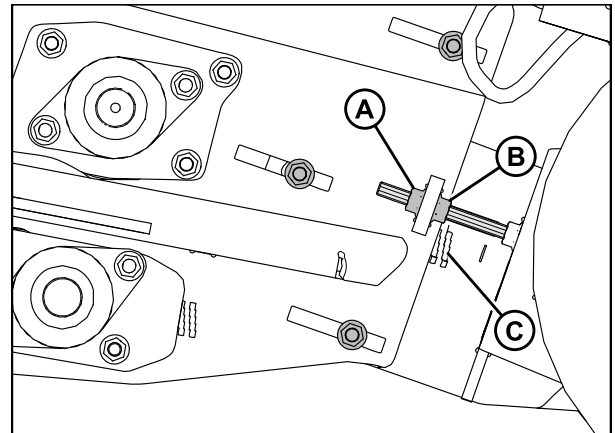


Figure 7.93: Right Side Indicator Gauge

## PREDELIVERY INSPECTION

6. Tighten three clamp bolts (A) and jam nut (B) on both sides of the header.

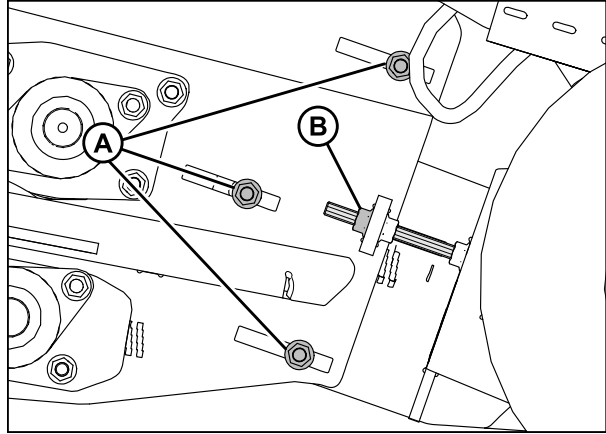


Figure 7.94: Front Deck Adjuster

### 7.3.2 Adjusting Rear Draper Belt Tension

#### IMPORTANT:

Do **NOT** tighten draper above the indicator notch. Drapers only need to be tight enough to prevent slippage. Overtightening may result in the following:

- Joining bolts pulling out of draper
- Damage to the rollers or bearings
- Twisting and wrinkling of drapers

#### Left Side

1. Loosen two clamp bolts (A).
2. Loosen jam nut (B).
3. Turn adjuster nut (C) to set draper tension. Proper tension is achieved when the draper lines up with indicator notch (D).
4. Tighten clamp bolts (A) and jam nut (B).
5. Note the position of indicator (E) and set the right side to the same position.

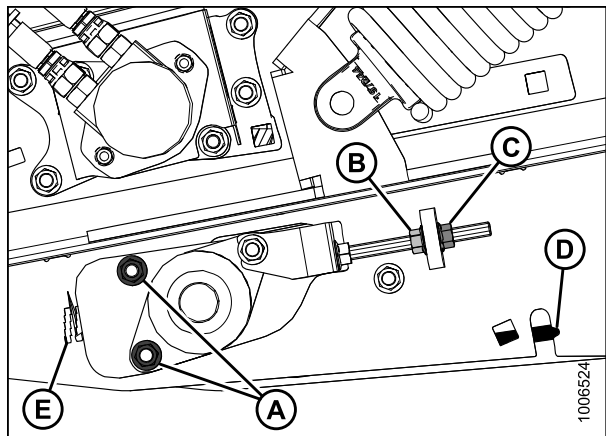


Figure 7.95: Left Side Rear Deck

## PREDELIVERY INSPECTION

### Right Side

6. Loosen three clamp bolts (A).
7. Loosen jam nut (B).
8. Turn adjuster nut (C) until the position of the indicator notch (D) is exactly the same as the left side.
9. Tighten clamp bolts (A) and jam nut (B).

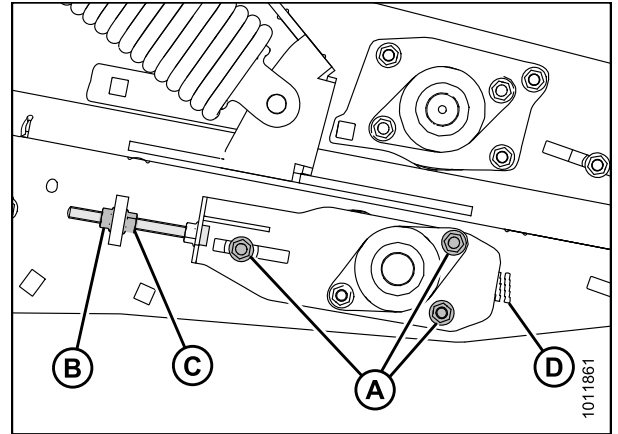


Figure 7.96: Right Side Rear Deck

## 7.4 Lubrication

### 7.4.1 Lubricating the Header

Lubricant	Specification	Description	Use
Grease	SAE Multi-purpose	High temperature extreme pressure (EP2) performance with 1% max Molybdenum Disulphide (NLGI Grade 2) Lithium base	As required unless otherwise specified

#### DANGER

Stop engine and remove key from ignition before leaving operator's seat for any reason. A child or even a pet could engage an idling machine.

- Use the recommended lubricants specified above.
- Wipe grease fittings with a clean cloth before greasing, to avoid injecting dirt and grit.
- Inject grease through fitting with grease gun until grease overflows fitting, except where noted.
- Leave excess grease on fitting to keep out dirt.
- Replace any loose or broken fittings immediately.
- If fitting will not take grease, remove and clean it thoroughly. Also clean lubricant passageway. Replace fitting if necessary.

### 7.4.2 Lubricating Auger Drive Chain

#### DANGER

Stop engine and remove key from ignition before leaving operator's seat for any reason. A child or even a pet could engage an idling machine.

1. Lower header to the ground, shut down combine, and remove key from ignition.
2. Open left-hand endshield (A). Refer to [4.1.1 Opening Left-Hand Endshield, page 17](#).

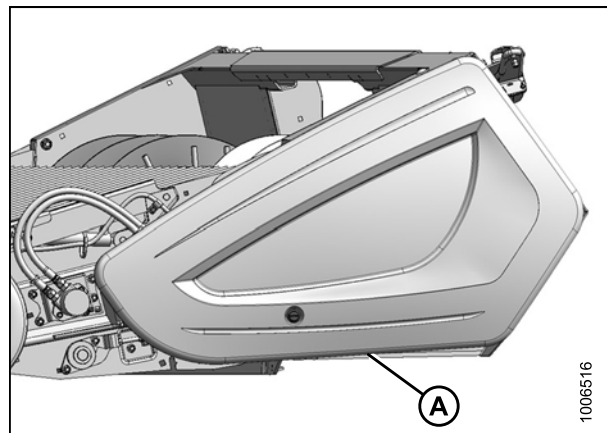
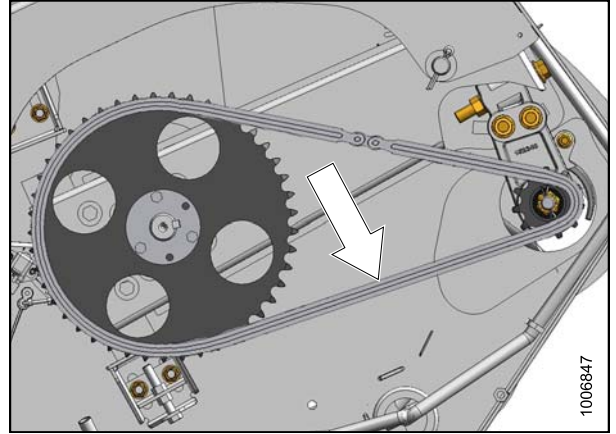


Figure 7.97: Left-Hand Endshield

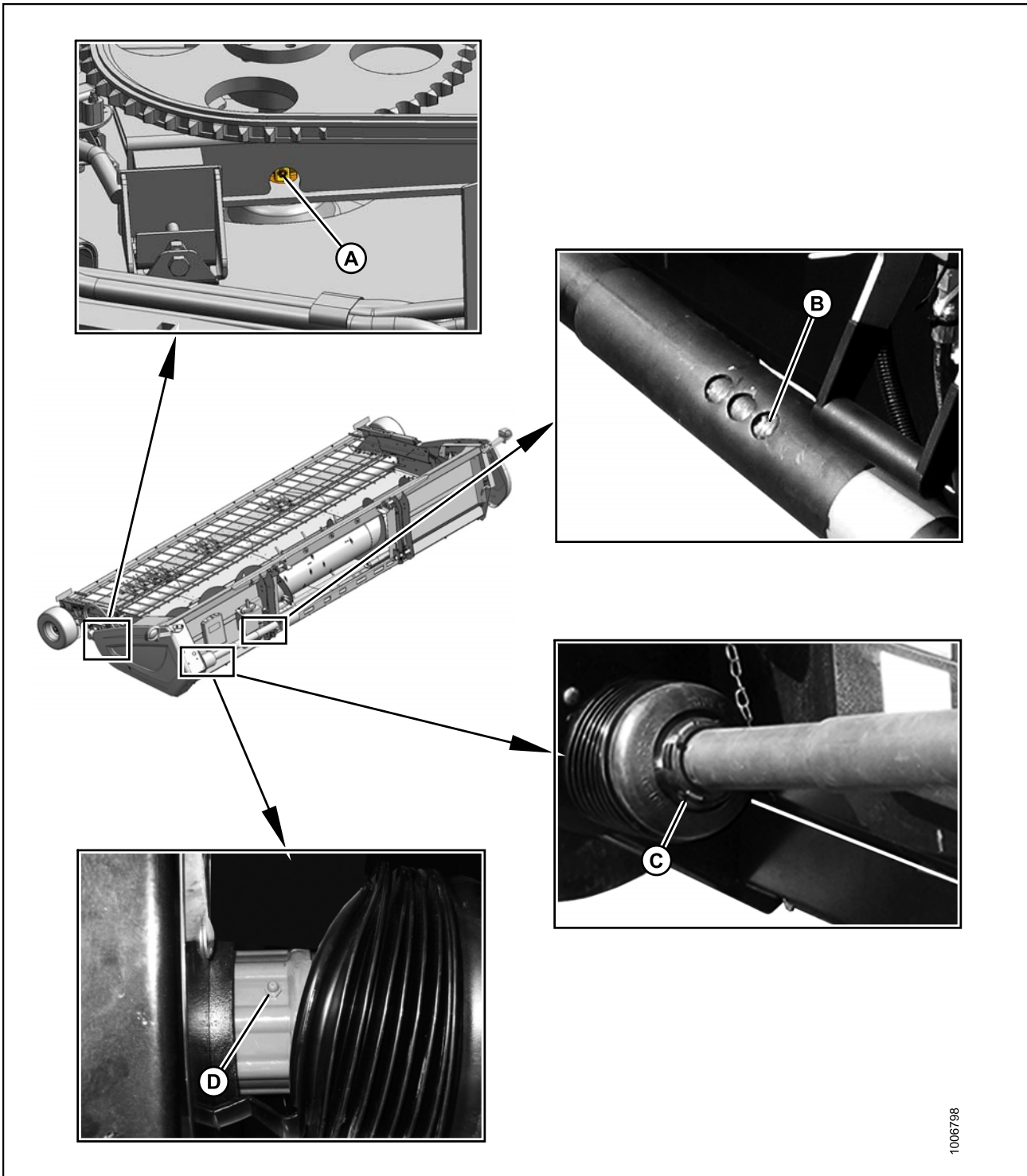
## PREDELIVERY INSPECTION

3. Liberally apply SAE 30 engine oil to the chain.
4. Close left-hand endshield. Refer to [4.1.2 Closing Left-Hand Endshield, page 18](#).



**Figure 7.98: Auger Drive Chain**

### 7.4.3 Greasing Points



**Figure 7.99: Greasing Points**

A - Auger Bearing  
C - Driveline Guard (Both Ends)

B - Driveline Slip-Joint  
D - Driveline Clutch



## 7.5 Manuals

1. Remove plastic tie on manual case (A) and open case.
2. Check that case contains the following manuals:
  - PW8 Pick-Up Header Operator's Manual
  - PW8 Pick-Up Header Parts Catalog
3. Return manuals to the case and close it.

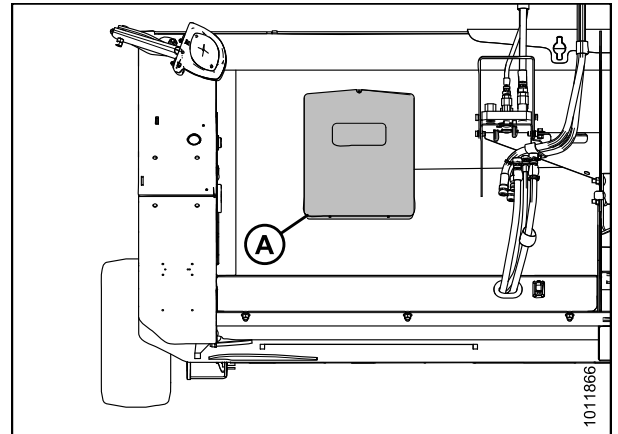


Figure 7.100: Manual Storage Case

## 7.6 Running Up the Header

### CAUTION

Never start or move the machine until you are sure all bystanders have cleared the area.

### CAUTION

Clear the area of other people, pets etc. Keep children away from machinery. Walk around the machine to be sure no one is under, on, or close to the header.

### CAUTION

Before investigating an unusual sound or attempting to correct a problem, shutdown engine, engage parking brake, and remove key.

1. Start combine, and run the machine at operating speed for 15 minutes. Run the header slowly for the first 5 minutes, watching and listening **FROM THE OPERATOR'S SEAT** for binding or interfering parts.
2. Test the function of the height controller as follows:
  - a. Drive the combine over uneven ground and note the following:
    - If the front end of the header goes up (as if going up a hill), the header height should move up to compensate.
    - If the front of the header goes down (as if dropping into a hole), the header height should drop to compensate.
3. Perform the run-up check listed on the Predelivery Checklist ( [Predelivery Checklist, page 123](#)) and the post run-up check to ensure the machine is field-ready.

### 7.6.1 Testing Hold-Down Hydraulics

#### NOTE:

Perform all testing with the pick-up header in the working position with wheels on the ground and approximately 14 in. (356 mm) from the ground to the center of the rear roller. This is the standard operating height.

1. The hold-down is controlled by the reel lift control located in the combine cab. Activate the control to lift the hold-down. The cylinders should begin lifting simultaneously.

#### NOTE:

John Deere combines use the fore/aft circuit to control the hold-down cylinders.

2. Lift the hold-down completely to the top. Continue to force the cylinders up for one to two seconds to ensure the cylinders are in phase. Both cylinders should be fully extended.
3. Lower the hold-down. The cylinders should lower at the same time and at the same rate. It should take from 12 to 18 seconds for the hold-down to lower from the highest point.
4. Completely lower the hold-down. The cylinders should stop at the same time. It is acceptable for the slave cylinder to remain from 0–1/2 in. (0–13 mm) extended when the master cylinder is fully retracted.

# A Appendix

## Topics Covered in this Appendix

? Conversion Chart

? Torque Specifications

## A.1 Conversion Chart

Table A.1 Conversion Chart

Quantity	Inch-Pound Units		Factor	SI Units (Metric)	
	Unit Name	Abbreviation		Unit Name	Abbreviation
Area	Acres	acres	$\times 0.4047 =$	Hectares	ha
Flow	US gallons per minute	gpm	$\times 3.7854 =$	Liters per minute	L/min
Force	Pounds force	lbf	$\times 4.4482 =$	Newtons	N
Length	Inch	in.	$\times 25.4 =$	Millimeters	mm
	Foot	ft.	$\times 0.305 =$	Meters	m
Power	Horsepower	hp	$\times 0.7457 =$	Kilowatts	kW
Pressure	Pounds per square inch	psi	$\times 6.8948 =$	Kilopascals	kPa
			$\times .00689 =$	Megapascals	MPa
			$\div 14.5038 =$	Bar (Non-SI)	bar
Torque	Pound feet or foot pounds	ft·lbf	$\times 1.3558 =$	Newton meters	N·m
	Pound inches or inch pounds	in·lbf	$\times 0.1129 =$	Newton meters	N·m
Temperature	Degrees Fahrenheit	°F	$(°F-32) \times 0.56 =$	Celsius	°C
Velocity	Feet per minute	ft/min	$\times 0.3048 =$	Meters per minute	m/min
	Feet per second	ft/s	$\times 0.3048 =$	Meters per second	m/s
	Miles per hour	mph	$\times 1.6063 =$	Kilometres per hour	km/h
Volume	US gallons	US gal	$\times 3.7854 =$	Liters	L
	Ounces	oz.	$\times 29.5735 =$	Milliliters	ml
	Cubic inches	in. <sup>3</sup>	$\times 16.3871 =$	Cubic centimeters	cm <sup>3</sup> or cc
Weight	Pounds	lbs	$\times 0.4536 =$	Kilograms	kg

## A.2 Torque Specifications

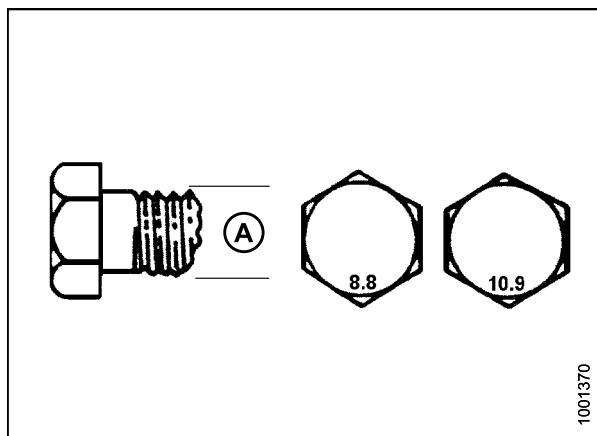
The following tables provide the correct torque values for various bolts, cap screws, and hydraulic fittings.

- Tighten all bolts to the torque values specified in the charts (unless otherwise noted throughout this manual).
- Replace hardware with the same strength and grade of bolt.
- Use the torque value tables as a guide and periodically check tightness of bolts.
- Understand torque categories for bolts and cap screws by using their identifying head markings.

### A.2.1 Metric Bolt Specifications

**Table A.2 Metric Class 8.8 Bolts and Class 9 Free Spinning Nut**

Nominal Size (A)	Torque (ft-lbf) (*in-lbf)		Torque (N-m)	
	Min.	Max.	Min.	Max.
3-0.5	*13	*14	1.4	1.6
3.5-0.6	*20	*22	2.2	2.5
4-0.7	*29	*32	3.3	3.7
5-0.8	*59	*66	6.7	7.4
6-1.0	*101	*112	11.4	12.6
8-1.25	20	23	28	30
10-1.5	40	45	55	60
12-1.75	70	78	95	105
14-2.0	113	124	152	168
16-2.0	175	193	236	261
20-2.5	341	377	460	509
24-3.0	589	651	796	879



**Figure 1: Bolt Grades**

APPENDIX

Table A.3 Metric Class 8.8 Bolts and Class 9 Distorted Thread Nut

Nominal Size (A)	Torque (ft-lbf) (*in-lbf)		Torque (N-m)	
	Min.	Max.	Min.	Max.
3-0.5	*9	*10	1	1.1
3.5-0.6	*14	*15	1.5	1.7
4-0.7	*20	*22	2.3	2.5
5-0.8	*40	*45	4.5	5
6-1.0	*69	*76	7.7	8.6
8-1.25	*167	*185	18.8	20.8
10-1.5	28	30	37	41
12-1.75	48	53	65	72
14-2.0	77	85	104	115
16-2.0	119	132	161	178
20-2.5	233	257	314	347
24-3.0	402	444	543	600

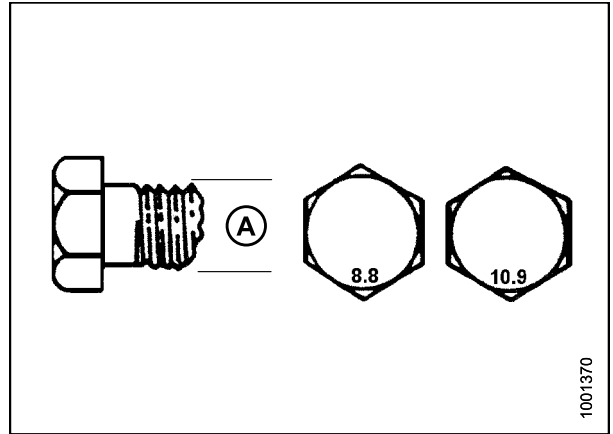


Figure 2: Bolt Grades

Table A.4 Metric Class 10.9 Bolts and Class 10 Free Spinning Nut

Nominal Size (A)	Torque (ft-lbf) (*in-lbf)		Torque (N-m)	
	Min.	Max.	Min.	Max.
3-0.5	*18	*19	1.8	2
3.5-0.6	*27	*30	2.8	3.1
4-0.7	*41	*45	4.2	4.6
5-0.8	*82	*91	8.4	9.3
6-1.0	*140	*154	14.3	15.8
8-1.25	28	31	38	42
10-1.5	56	62	75	83
12-1.75	97	108	132	145
14-2.0	156	172	210	232
16-2.0	242	267	326	360
20-2.5	472	521	637	704
24-3.0	815	901	1101	1217

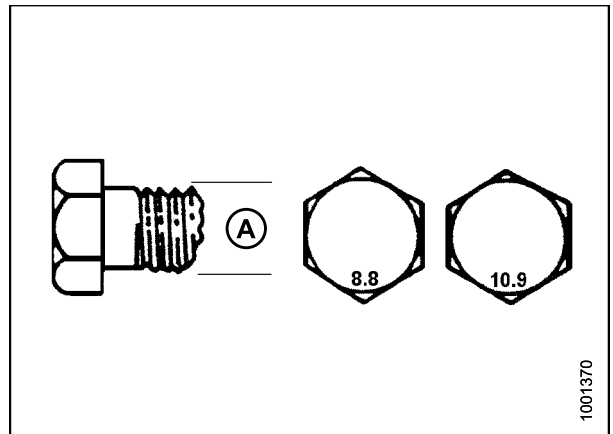


Figure 3: Bolt Grades

APPENDIX

Table A.5 Metric Class 10.9 Bolts and Class 10 Distorted Thread Nut

Nominal Size (A)	Torque (ft-lbf) (*in-lbf)		Torque (N·m)	
	Min.	Max.	Min.	Max.
3-0.5	*12	*13	1.3	1.5
3.5-0.6	*19	*21	2.1	2.3
4-0.7	*28	*31	3.1	3.4
5-0.8	*56	*62	6.3	7
6-1.0	*95	*105	10.7	11.8
8-1.25	19	21	26	29
10-1.5	38	42	51	57
12-1.75	66	73	90	99
14-2.0	106	117	143	158
16-2.0	165	182	222	246
20-2.5	322	356	434	480
24-3.0	556	614	750	829

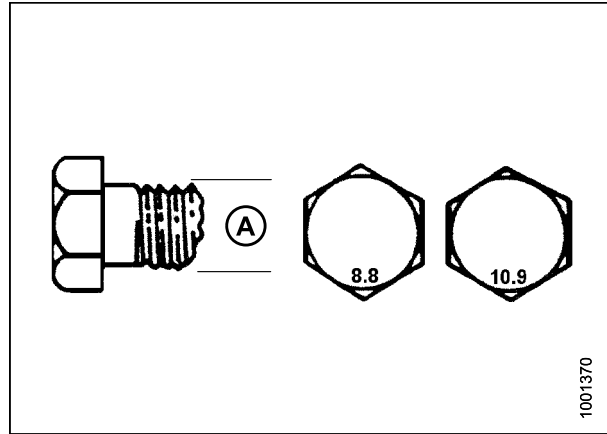


Figure 4: Bolt Grades

## A.2.2 Metric Bolt Specifications Bolting into Cast Aluminum

Table A.6 Metric Bolt Bolting into Cast Aluminum

Nominal Size (A)	Bolt Torque			
	8.8 (Cast Aluminum)		10.9 (Cast Aluminum)	
	ft-lbf	N-m	ft-lbf	N-m
M3	–	–	1	–
M4	–	–	2.6	4
M5	–	–	5.5	8
M6	6	9	9	12
M8	14	20	20	28
M10	28	40	40	55
M12	52	70	73	100
M14	–	–	–	–
M16	–	–	–	–

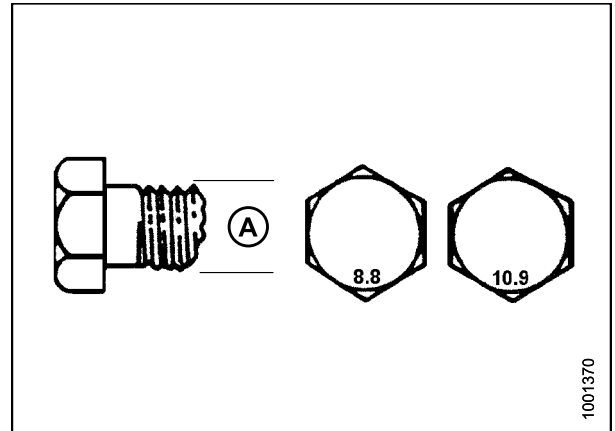


Figure 5: Bolt Grades

## A.2.3 Flare-Type Hydraulic Fittings

1. Check flare (A) and flare seat (B) for defects that might cause leakage.
2. Align tube (C) with fitting (D), and thread nut (E) onto fitting without lubrication until contact has been made between the flared surfaces.
3. Torque the fitting nut (E) to the specified number of flats from finger tight (FFFT) or to a given torque value shown in Table [A.7 Flare-Type Hydraulic Tube Fittings](#), page 116.
4. Use two wrenches to prevent fitting (D) from rotating. Place one wrench on the fitting body (D), and tighten nut (E) with the other wrench to the torque shown.
5. Assess the final condition of the connection.

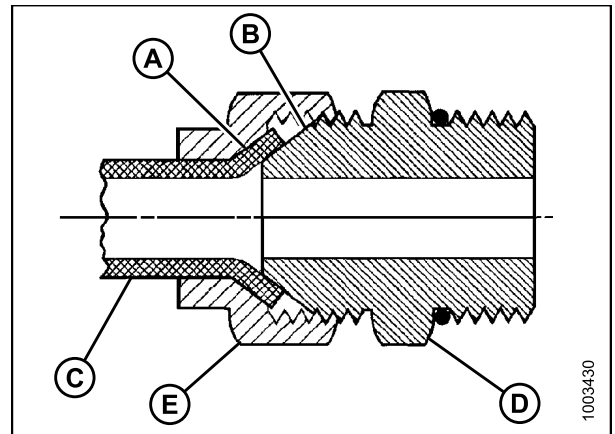


Figure 6: Hydraulic Fitting

**APPENDIX**

**Table A.7 Flare-Type Hydraulic Tube Fittings**

SAE No.	Tube Size O.D.(in.)	Thread Size (in.)	Nut Size Across Flats (in.)	Torque Value <sup>4</sup>		Flats from Finger Tight (FFFT)	
				ft·lbf	N·m	Flats	Turns
3	3/16	3/8	7/16	6	8	1	1/6
4	1/4	7/16	9/16	9	12	1	1/6
5	5/16	1/2	5/8	12	16	1	1/6
6	3/8	9/16	11/16	18	24	1	1/6
8	1/2	3/4	7/8	34	46	1	1/6
10	5/8	7/8	1	46	62	1	1/6
12	3/4	1-1/16	1-1/4	75	102	3/4	1/8
14	7/8	1-3/8	1-3/8	90	122	3/4	1/8
16	1	1-5/16	1-1/2	105	142	3/4	1/8

4. Torque values shown are based on lubricated connections as in reassembly.



## A.2.4 O-Ring Boss (ORB) Hydraulic Fittings (Adjustable)

1. Inspect O-ring (A) and seat (B) for dirt or obvious defects.
2. Back off the lock nut (C) as far as possible. Ensure that washer (D) is loose and is pushed toward the lock nut (C) as far as possible.
3. Check that O-ring (A) is **NOT** on the threads and adjust if necessary.
4. Apply hydraulic system oil to the O-ring (A).

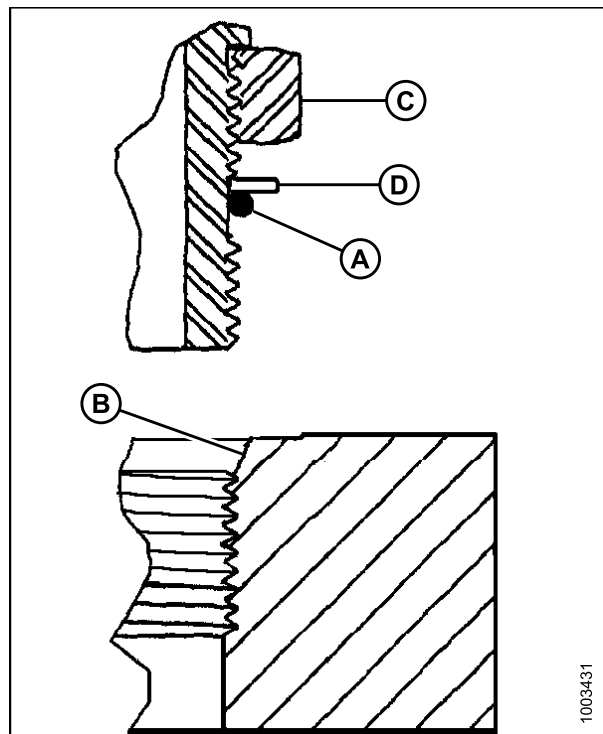


Figure 7: Hydraulic Fitting

5. Install fitting (B) into port until back up washer (D) and O-ring (A) contact the part face (E).
6. Position angle fittings by unscrewing no more than one turn.
7. Turn lock nut (C) down to washer (D) and tighten to torque shown. Use two wrenches, one on fitting (B) and the other on lock nut (C).
8. Check the final condition of the fitting.

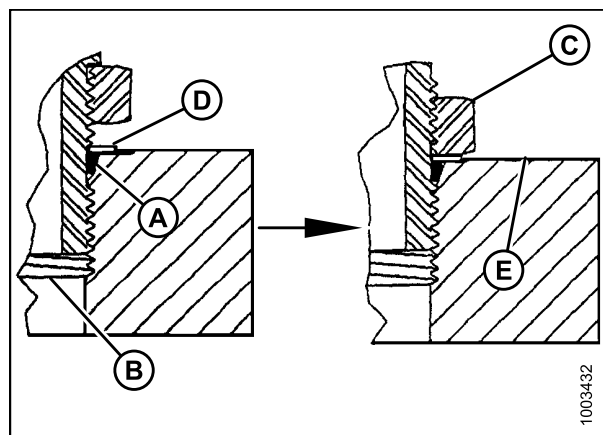


Figure 8: Hydraulic Fitting

**APPENDIX**

**Table A.8 O-Ring Boss (ORB) Hydraulic Fittings (Adjustable)**

SAE Dash Size	Thread Size (in.)	Torque Value <sup>5</sup>	
		ft·lbf (*in·lbf)	N·m
-3	3/8-24	*106-115	12-13
-4	7/16-20	14-15	19-21
-5	1/2-20	15-24	21-33
-6	9/16-18	19-21	26-29
-8	3/4-16	34-37	46-50
-10	7/8-14	55-60	75-82
-12	1-1/16-12	88-97	120-132
-14	1-3/8-12	113-124	153-168
-16	1-5/16-12	130-142	176-193
-20	1-5/8-12	163-179	221-243
-24	1-7/8-12	199-220	270-298

---

5. Torque values shown are based on lubricated connections as in reassembly.

## A.2.5 O-Ring Boss (ORB) Hydraulic Fittings (Non-Adjustable)

1. Inspect O-ring (A) and seat (B) for dirt or obvious defects.
2. Check that O-ring (A) is **NOT** on the threads and adjust if necessary.
3. Apply hydraulic system oil to the O-ring.
4. Install fitting (C) into port until fitting is hand tight.
5. Torque fitting (C) according to the values in Table [A.9 O-Ring Boss \(ORB\) Hydraulic Fittings \(Non-Adjustable\)](#), page 119.
6. Check the final condition of the fitting.

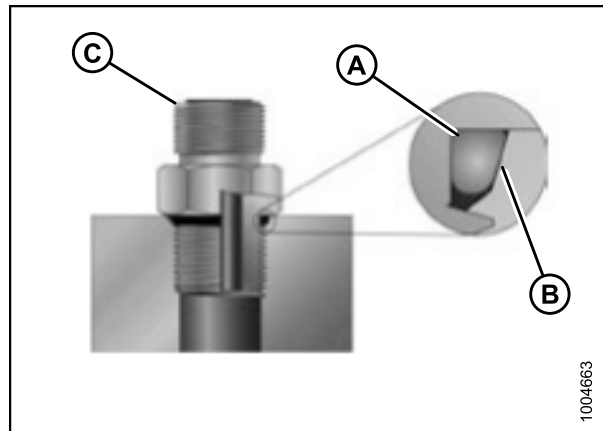


Figure 9: Hydraulic Fitting

Table A.9 O-Ring Boss (ORB) Hydraulic Fittings (Non-Adjustable)

SAE Dash Size	Thread Size (in.)	Torque Value <sup>6</sup>	
		ft·lbf (*in·lbf)	N·m
-3	3/8–24	*106–115	12–13
-4	7/16–20	14–15	19–21
-5	1/2–20	15–24	21–33
-6	9/16–18	19–21	26–29
-8	3/4–16	34–37	46–50
-10	7/8–14	55–60	75–82
-12	1-1/16–12	88–97	120–132
-14	1-3/8–12	113–124	153–168
-16	1-5/16–12	130–142	176–193
-20	1-5/8–12	163–179	221–243
-24	1-7/8–12	199–220	270–298

6. Torque values shown are based on lubricated connections as in reassembly.

## A.2.6 O-Ring Face Seal (ORFS) Hydraulic Fittings

1. Check components to ensure that the sealing surfaces and fitting threads are free of burrs, nicks, scratches, or any foreign material.



Figure 10: Hydraulic Fitting

2. Apply hydraulic system oil to the O-ring (B).
3. Align the tube or hose assembly so that the flat face of the sleeve (A) or (C) comes in full contact with O-ring (B).
4. Thread tube or hose nut (D) until hand-tight. The nut should turn freely until it is bottomed out.
5. Torque fittings according to the values in Table [A.10 O-Ring Face Seal \(ORFS\) Hydraulic Fittings, page 121](#).

**NOTE:**

If applicable, hold the hex on the fitting body (E) to prevent rotation of fitting body and hose when tightening the fitting nut (D).

6. Use three wrenches when assembling unions or joining two hoses together.
7. Check the final condition of the fitting.

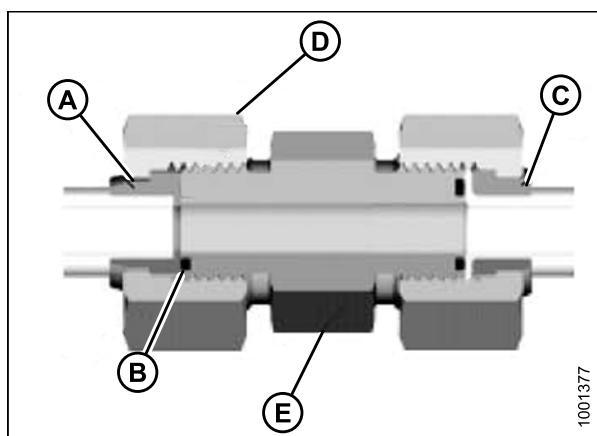


Figure 11: Hydraulic Fitting

APPENDIX

Table A.10 O-Ring Face Seal (ORFS) Hydraulic Fittings

SAE Dash Size	Thread Size (in.)	Torque Value <sup>7</sup>	
		ft·lbf (*in·lbf)	N·m
-3	Note <sup>8</sup>	–	–
-4	9/16–18	18–21	25–28
-5	Note <sup>8</sup>	–	–
-6	11/16–16	29–32	40–44
-8	13/16–16	41–45	55–61
-10	1–14	59–65	80–88
-12	1-3/16–12	85–94	115–127
-14	Note <sup>8</sup>	–	–
-16	1-7/16–12	111–122	150–165
-20	1-11/16–12	151–167	205–226
-24	2–12	232–256	315–347
-32	2-1/2–12	376–414	510–561

7. Torque values and angles shown are based on lubricated connection as in reassembly.

8. O-ring face seal type end not defined for this tube size.



# Predelivery Checklist

After completing setup and adjustment procedures, perform these checks before delivery to your Customer. If further adjustments are required, refer to the appropriate page number in this manual. The completed Checklist should be retained by either the Operator or the Dealer.

## CAUTION

Carefully follow the instructions given. Be alert for safety related messages that bring your attention to hazards and unsafe practices.

Table 3 PW8 Pick-up Header Predelivery Checklist. Header Serial Number: \_\_\_\_\_

✓	Item	Reference
	Check for shipping damage or missing parts. Be sure all shipping dunnage is removed.	—
	Check for loose hardware. Tighten to specified torque.	<a href="#">A.2 Torque Specifications, page 112</a>
	Ensure wheels are in field (working) position.	
	Check tire air pressure is 35–45 psi (240–310 kPa). Adjust as required.	<a href="#">7.2.1 Inflating Tire, page 101</a>
	Ensure hold-down is in the field/working position.	<a href="#">4.4 Extending Hold-Down to Field/Working Position, page 23</a>
	Ensure the machine is completely lubricated.	<a href="#">7.4.1 Lubricating the Header, page 106</a>
	Check draper belt tension.	<a href="#">7.3 Checking Draper Belt Tension, page 102</a>
	Check that transport lights (if installed) are extended.	<a href="#">4.3 Adjusting Transport Lights, page 22</a>
	Ensure the height sensor is calibrated.	Refer to <a href="#">7.1 Auto Header Height Control (AHHC), page 59</a>
<b>Run-Up Procedure</b>		
	Check hydraulic hose and wiring harness routing for clearance problems when raising or lowering the header and hold-down bar.	—
	Ensure the draper speed sensor is working.	Refer to Combine Operator's Manual
	Ensure the height controller is working.	<a href="#">7.6 Running Up the Header, page 110</a>
	Ensure the transport lights (if installed) are functional.	Refer to Combine Operator's Manual
<b>Post Run-Up Checks. Stop Engine.</b>		
	Check drives for heated bearings.	—
	Check for hydraulic leaks.	—
	Ensure that the manual storage case contains the PW8 Pick-Up Header Operator's Manual and Parts Catalog.	<a href="#">7.5 Manuals, page 109</a>

Date Checked:

Checked by:







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