

PW8 Pick-Up Header

Unloading and Assembly Instructions (North America)

147977 Revision A
2017 Model Year
Original Instruction

PW8 Pick-Up Header



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Introduction

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

Carefully read all the material provided before attempting to unload, assemble, or use the machine.

The header can be configured for the following combines:

Combine	Model
Case IH	50/60/7088, 51/61/7130, 51/61/7140, 70/8010, 71/81/9120, 72/82/9230, and 72/82/9240
John Deere	96/97/9860STS, 96/97/9870, S650/660/670/680/690, 9660WTS, and T670
New Holland	All CR/CX Series
Versatile	RT490

When setting up the machine or making adjustments, review and follow the recommended machine settings in all relevant MacDon publications. Failure to do so may compromise machine function and machine life and may result in a hazardous situation.

NOTE:

Keep your MacDon publications up-to-date. The most current version can be downloaded from our website (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.

Summary of Change	Location
Changed measurement format so that metric appear first followed by imperial in parenthesis.	Throughout the book
Added New Holland information.	1.4 Safety Sign Locations, page 5
Changed illustrations to show updated wheel mounting plate.	3.2 Setting Wheels to Field/Working Position, page 17
Switched the order of procedure.	<ul style="list-style-type: none"> • 3.2 Setting Wheels to Field/Working Position, page 17 • 3.3 Lowering Header, page 18
Changed topic/instruction title.	<ul style="list-style-type: none"> • 4.1 Configuring Headers for John Deere, page 27 • 4.2 Configuring Headers for Case IH, page 33 • 4.3 Configuring Headers for New Holland CX, page 36 • 4.4 Configuring Headers for New Holland CR, page 42 • 7 Reference, page 137
<ul style="list-style-type: none"> • Updated the stripper plate to auger clearance. • Moved instruction to the end of chapter. 	4.5 Adjusting Stripper Plate Clearance, page 49
Revised some illustrations to show updated support channel along the top beam.	5.4 Attaching to Versatile Combine, page 62
Added CAUTION in an instruction.	<ul style="list-style-type: none"> • 5.6 Installing Crop Deflectors, page 67 • Setting Preset Cutting Height (Case 7010/8010, 7120/8120/9120, 7230/8230/9230), page 82
Added topics.	<ul style="list-style-type: none"> • Calibrating Feeder House Fore/Aft Tilt Range (John Deere S-Series), page 97 • Setting Preset Cutting Height (John Deere S-Series), page 103 • 7.1 Definitions, page 137 • 7.3.7 Tapered Pipe Thread Fittings, page 150

Summary of Change	Location
<p>Added section and its sub-topics.</p>	<ul style="list-style-type: none"> • 6.1.7 New Holland Combines (CR Series—Model Year 2015 and Later), page 114 • Engaging the Auto Header Height Control (New Holland CR Series), page 114 • Checking Voltage Range from the Combine Cab (New Holland CR Series), page 117 • Calibrating the Auto Header Height Control (New Holland CR Series), page 119 • Setting Auto Height (New Holland CR Series), page 121 • Setting Maximum Work Height (New Holland CR Series), page 122
<p>Revised illustration to show updated left auger arm</p>	<p>6.4.2 Lubricating Auger Drive Chain, page 130</p>
<p>Removed auger bearing from the greasing points illustration.</p>	<p>6.4.3 Greasing Points, page 132</p>

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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. Do **NOT** take chances. You may need the following:
 - Hard hat
 - Protective footwear with slip resistant soles
 - Protective glasses or goggles
 - Heavy gloves
 - Wet weather gear
 - Respirator or filter mask
- Be aware that exposure to loud noises can cause hearing impairment or loss. Wear suitable hearing protection devices such as ear muffs or ear plugs to help protect against objectionable or loud noises.

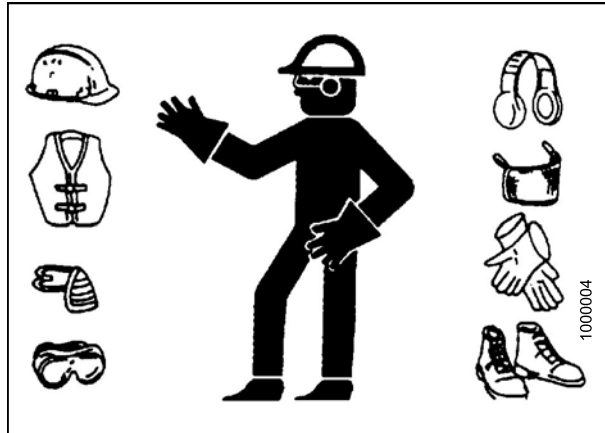


Figure 1.1: Safety Equipment



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. Take the time to consider the safest way. Never ignore the warning signs of fatigue.

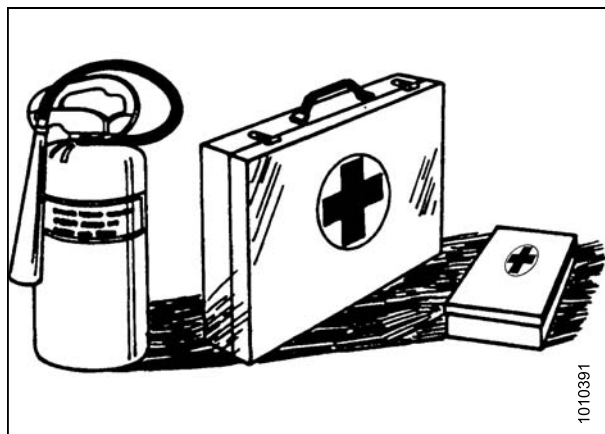


Figure 1.3: Safety Equipment

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.
- To avoid bodily injury or death from unexpected startup of machine, **ALWAYS** stop the engine and remove the key from ignition before leaving operator's seat for any reason.

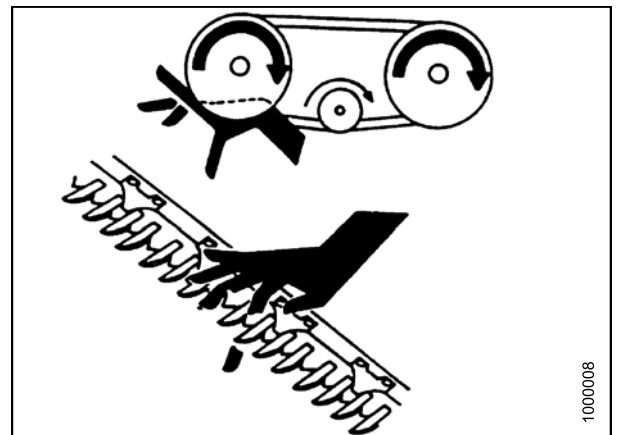


Figure 1.5: Safety around Equipment

- 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 is 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 MacDon Dealer.

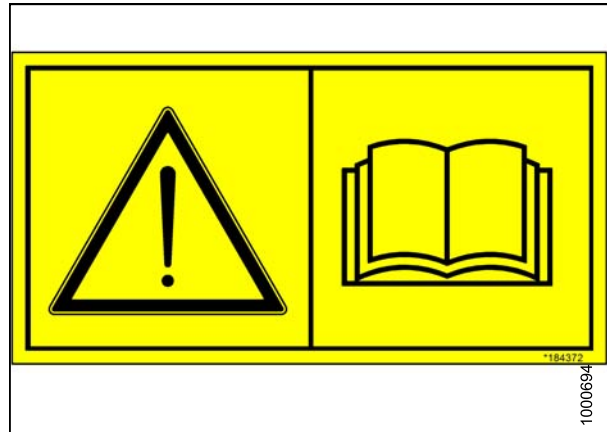


Figure 1.7: Operator's Manual Decal

1.4 Safety Sign Locations

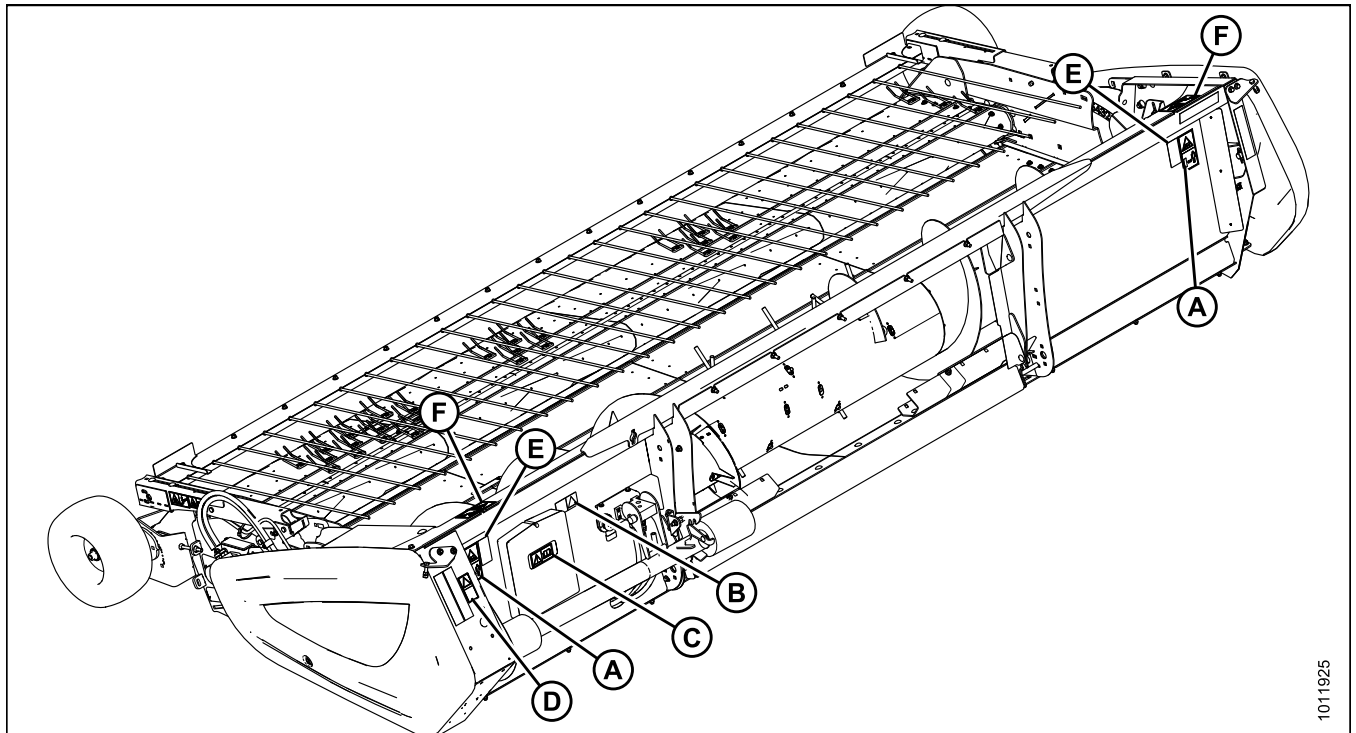


Figure 1.8: Header Decals – Case IH

A - MD #184370
D - MD #184422

B - MD #166466
E - MD #184420

C - MD #184372
F - MD #237298

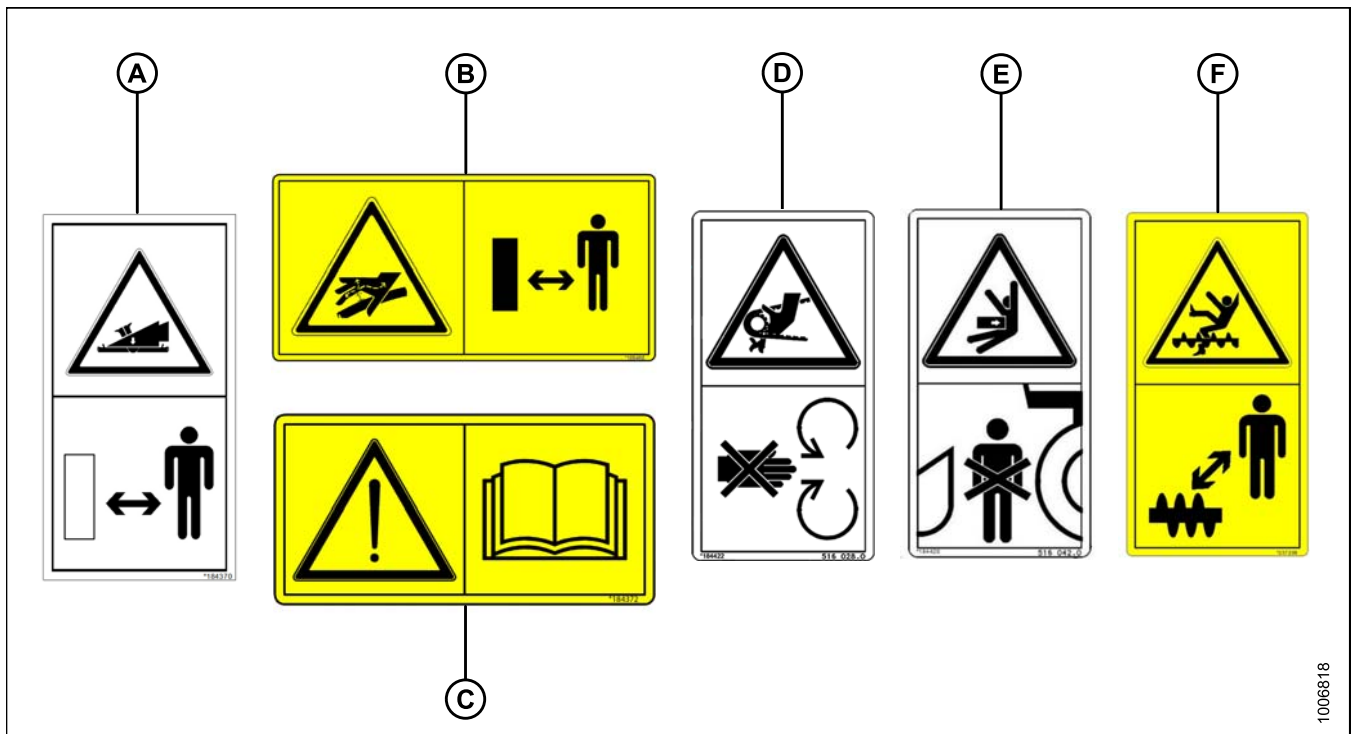
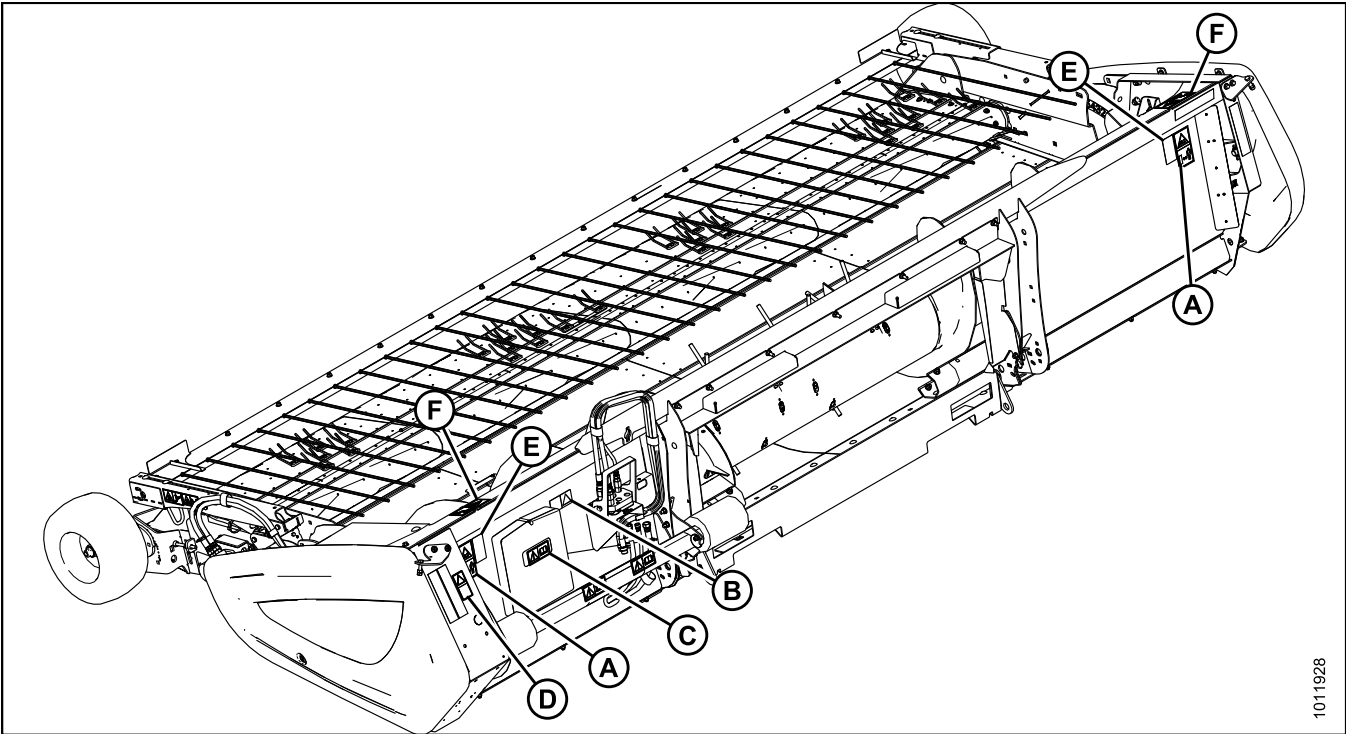


Figure 1.9: Header Decals

SAFETY



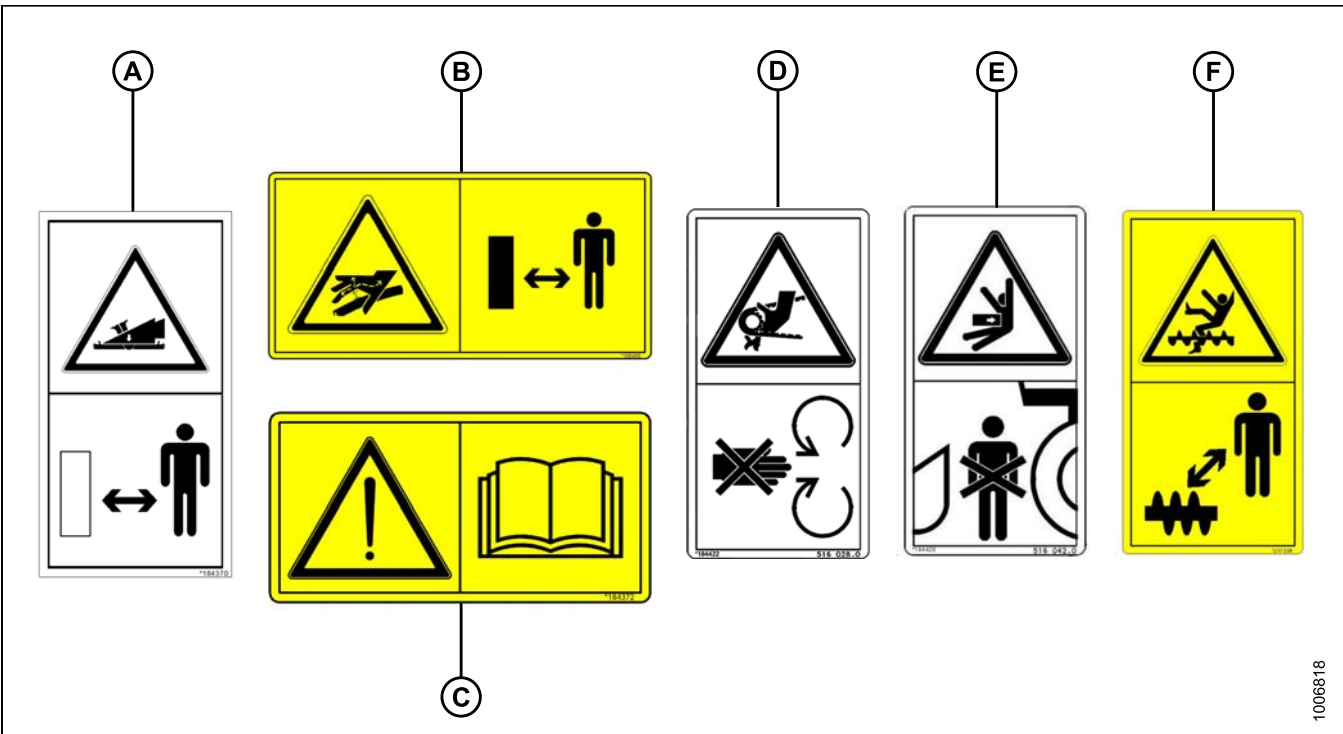
1011928

Figure 1.10: Header Decals – John Deere

A - MD #184370
D - MD #184422

B - MD #166466
E - MD #184420

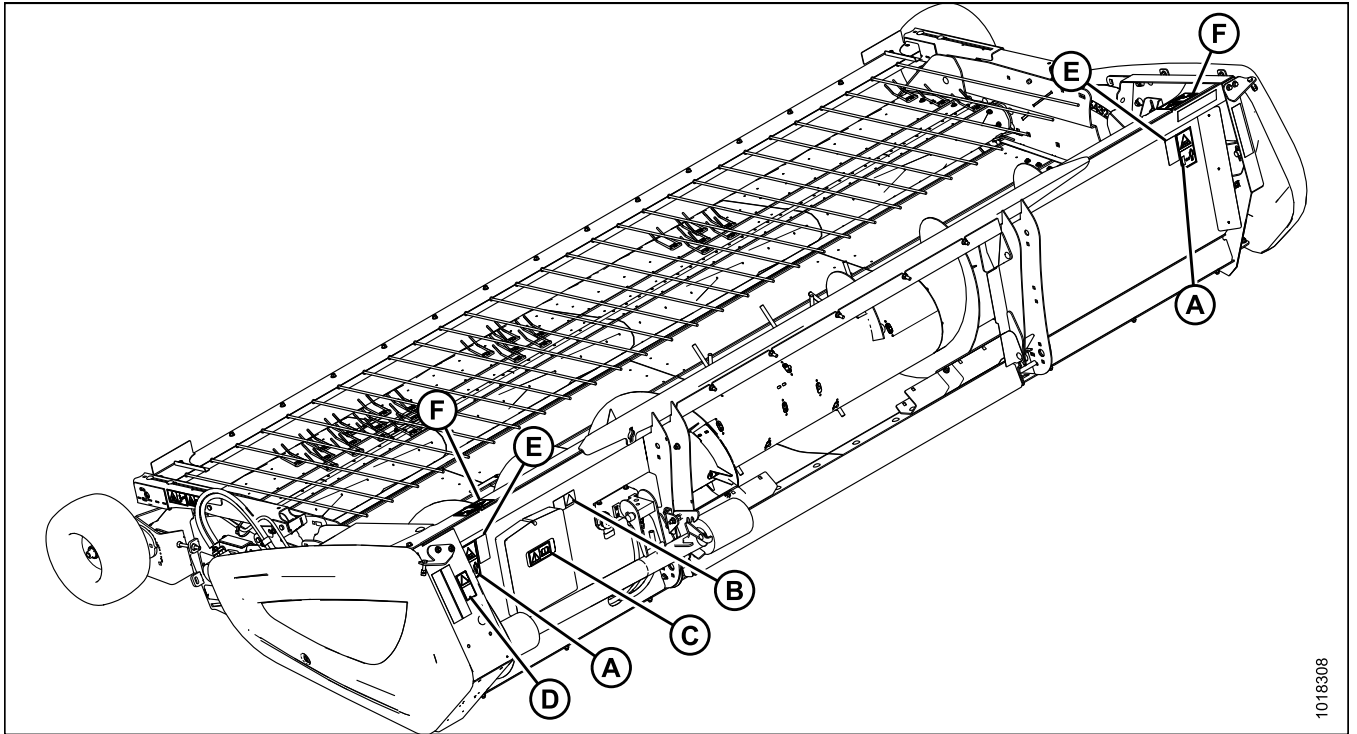
C - MD #184372
F - MD #237298



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Figure 1.11: Header Decals

SAFETY



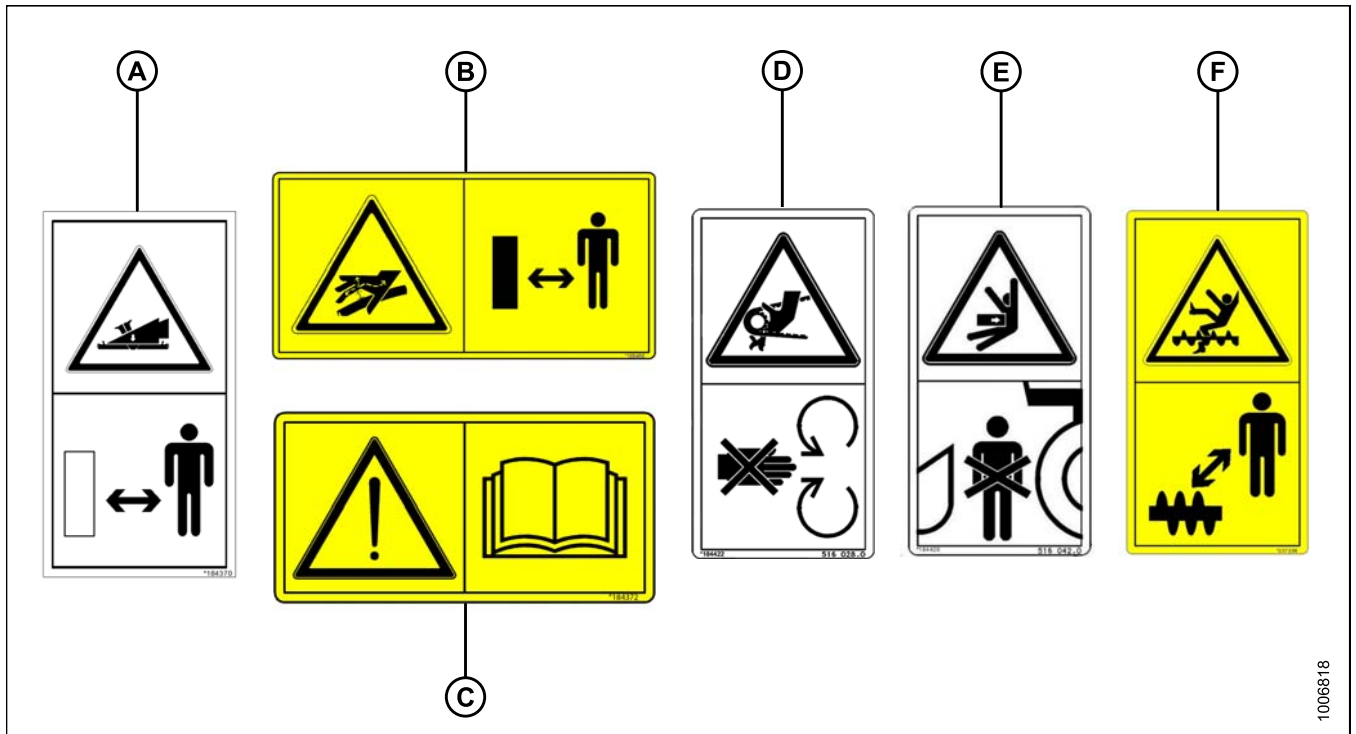
1018308

Figure 1.12: Header Decals – New Holland

A - MD #184370
D - MD #184422

B - MD #166466
E - MD #184420

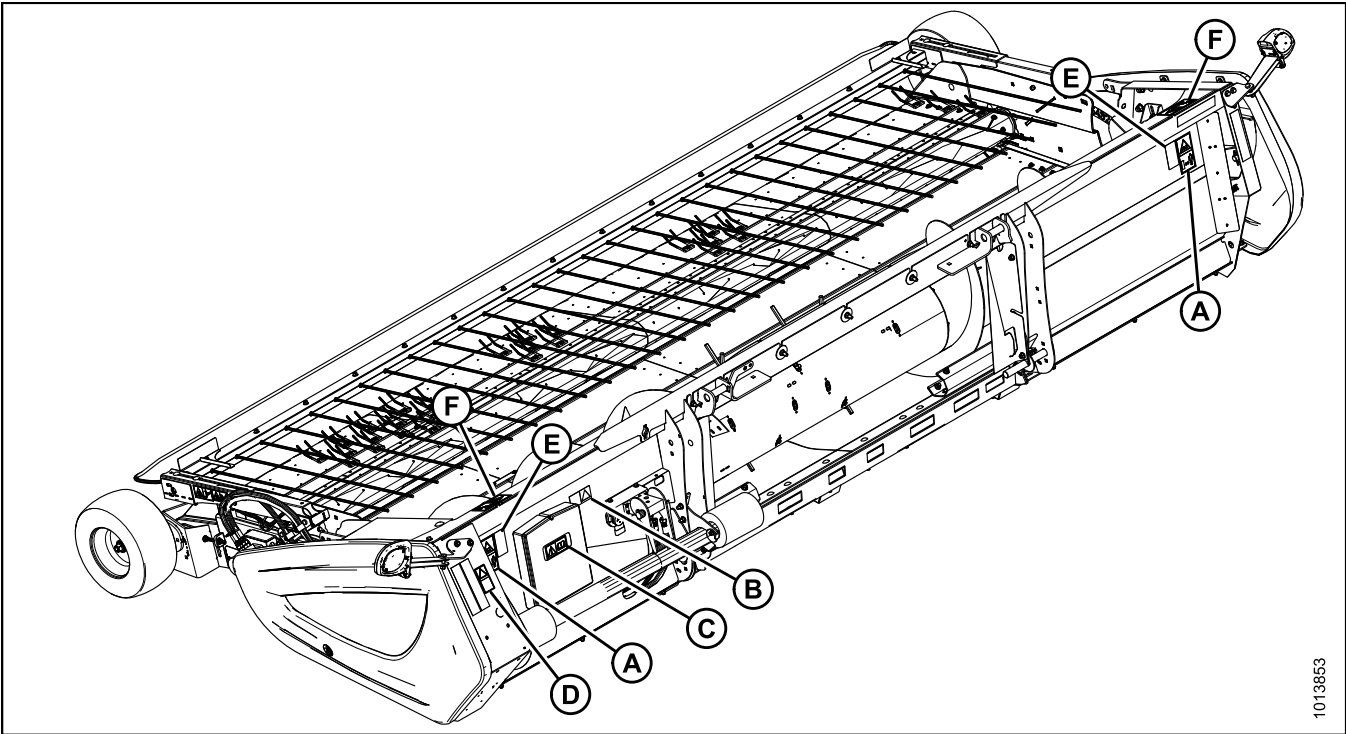
C - MD #184372
F - MD #237298



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Figure 1.13: Header Decals

SAFETY



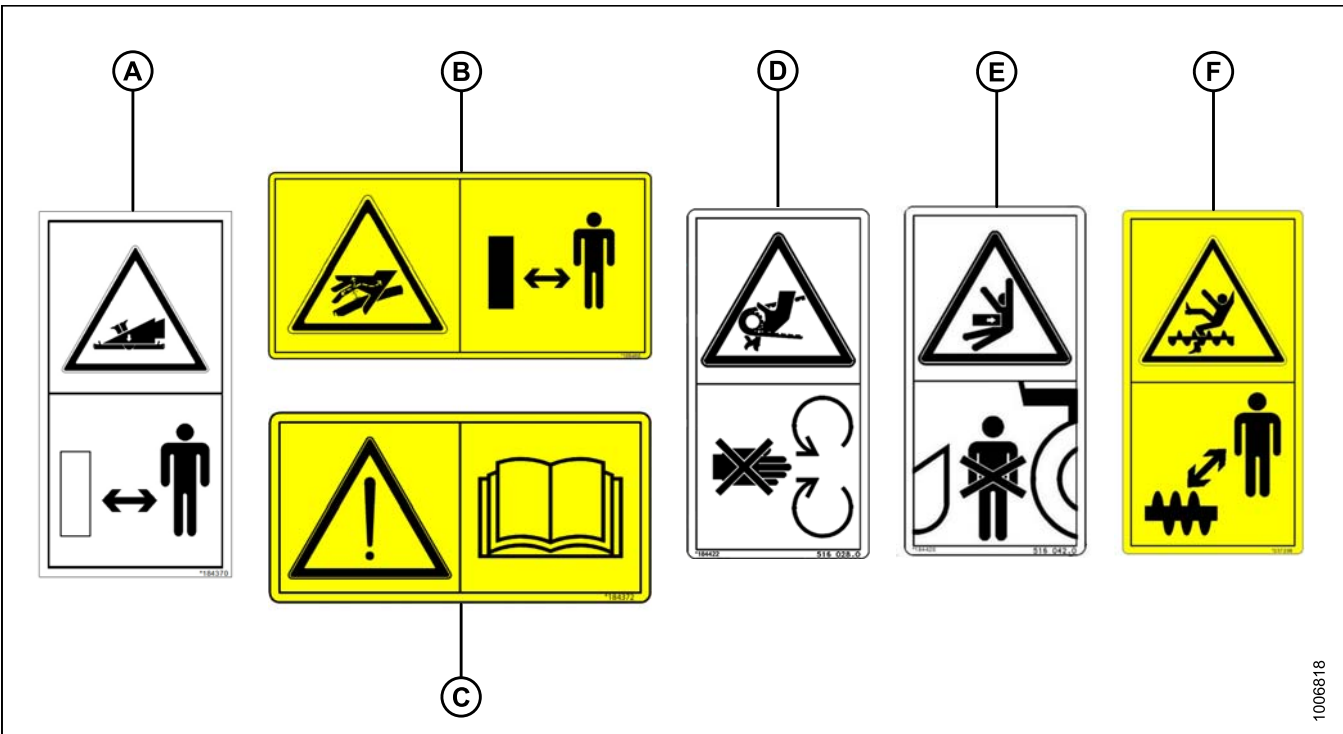
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Figure 1.14: Header Decals – Versatile

A - MD #184370
D - MD #184422

B - MD #166466
E - MD #184420

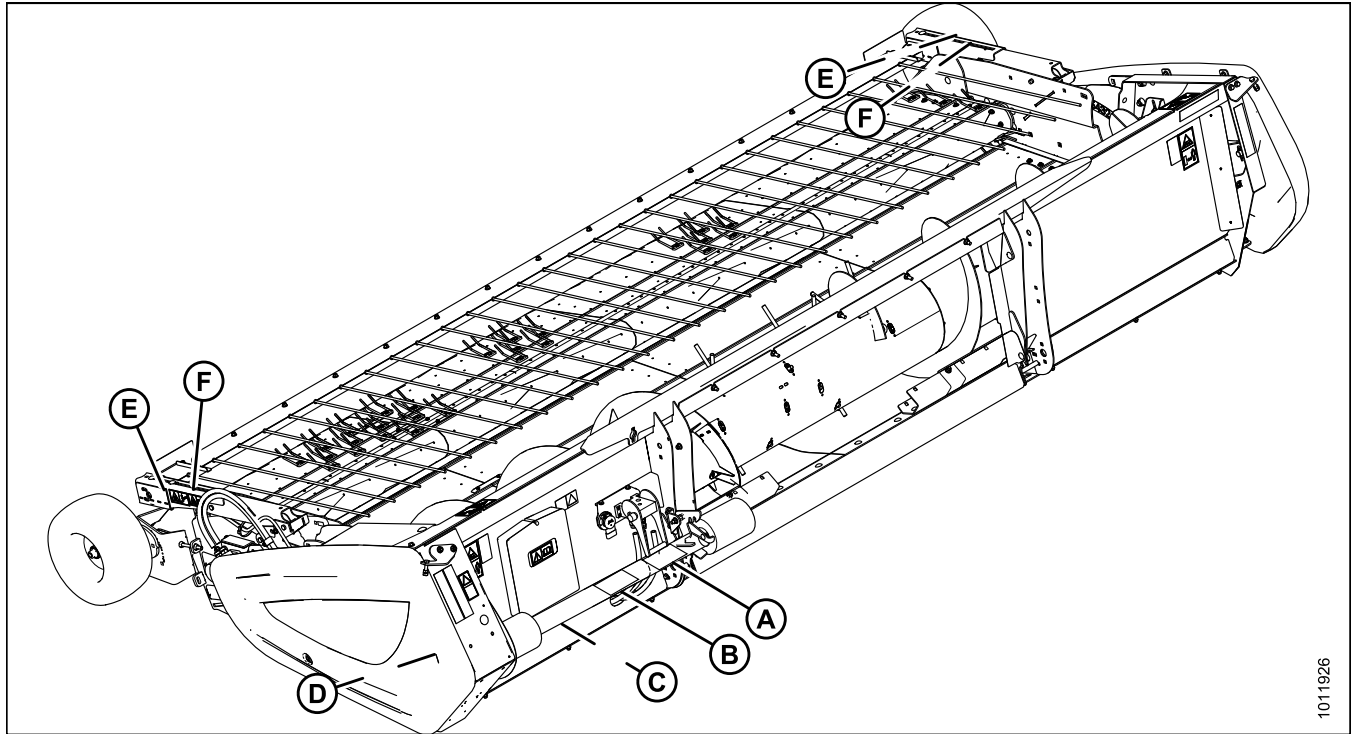
C - MD #184372
F - MD #237298



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Figure 1.15: Header Decals

SAFETY



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Figure 1.16: Driveline and Hold-Down Decals – Case IH

A - MD #30316

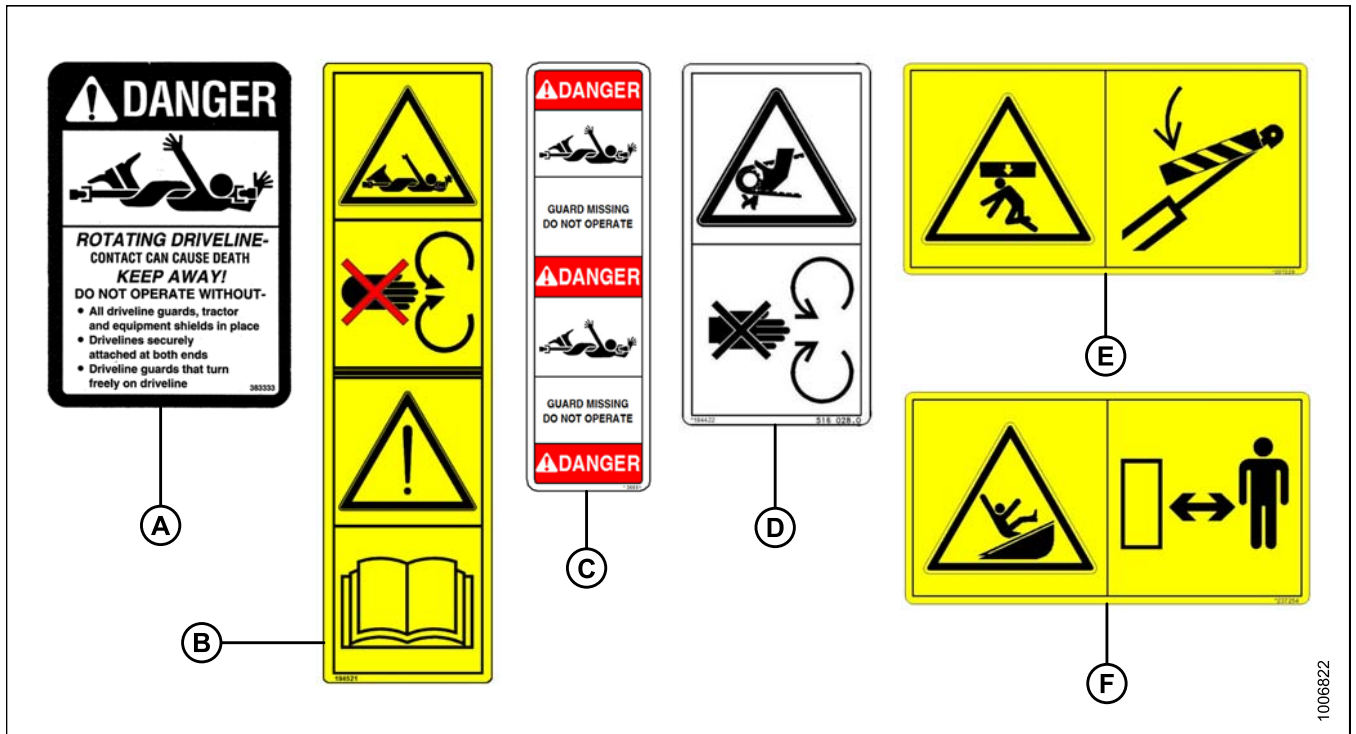
B - MD #191099

C - MD #36651

D - MD #184422 (Behind Endshield)

E - MD #237229

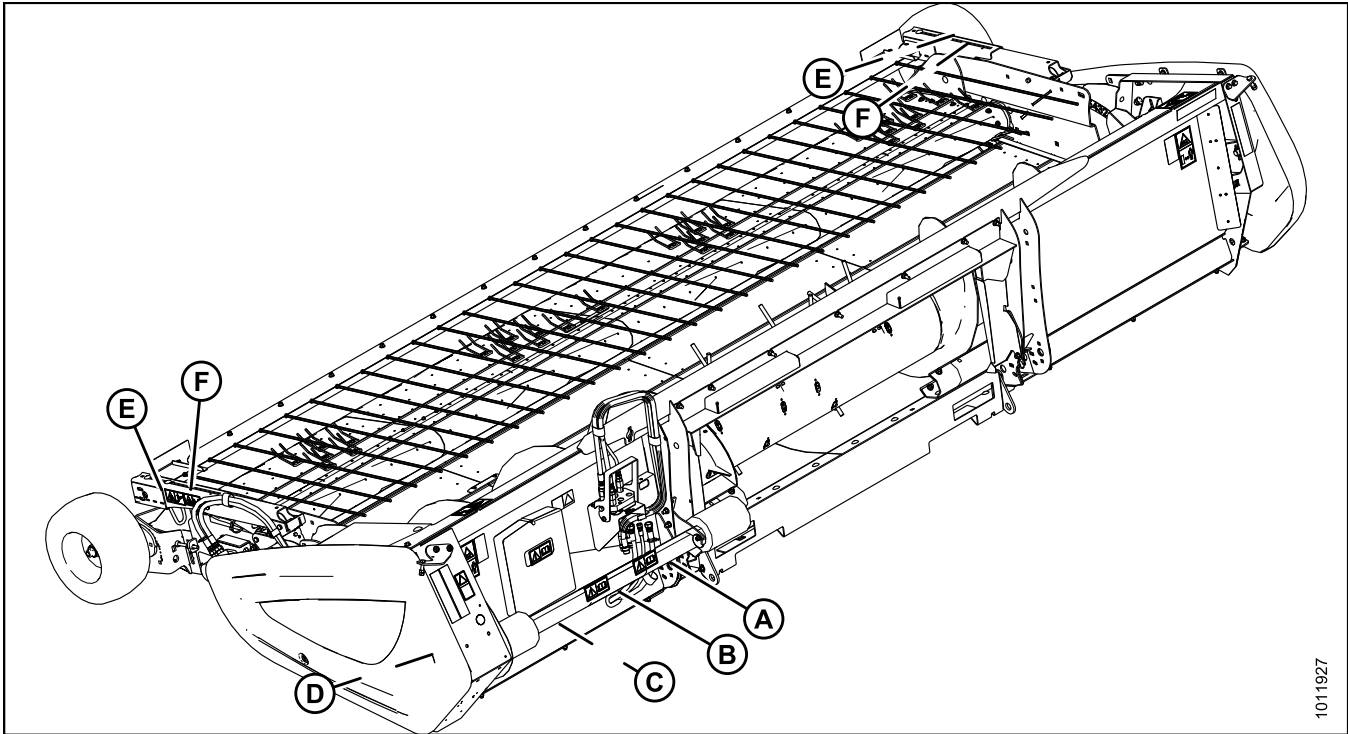
F - MD #237254



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Figure 1.17: Driveline and Hold-Down Decals

SAFETY



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Figure 1.18: Driveline and Hold-Down Decals – John Deere

A - MD #30316

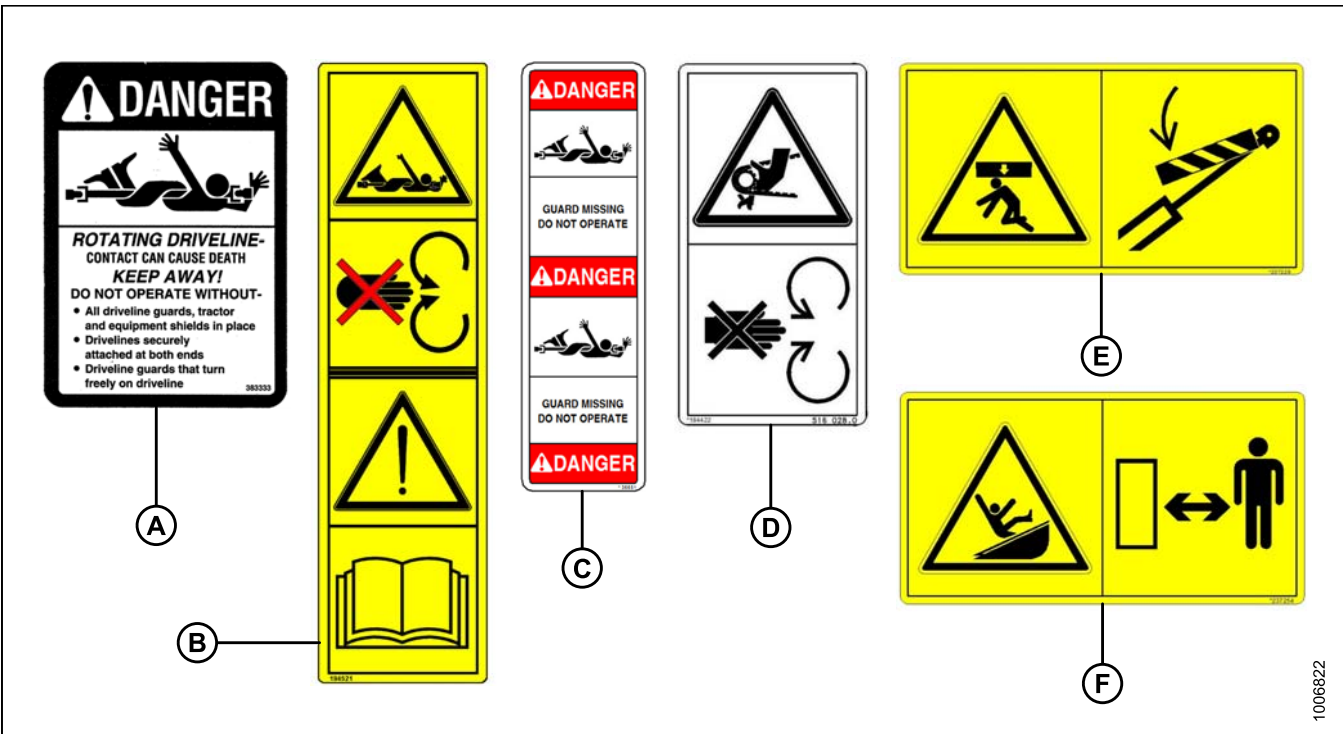
B - MD #191099

C - MD #36651

D - MD #184422 (Behind Endshield)

E - MD #237229

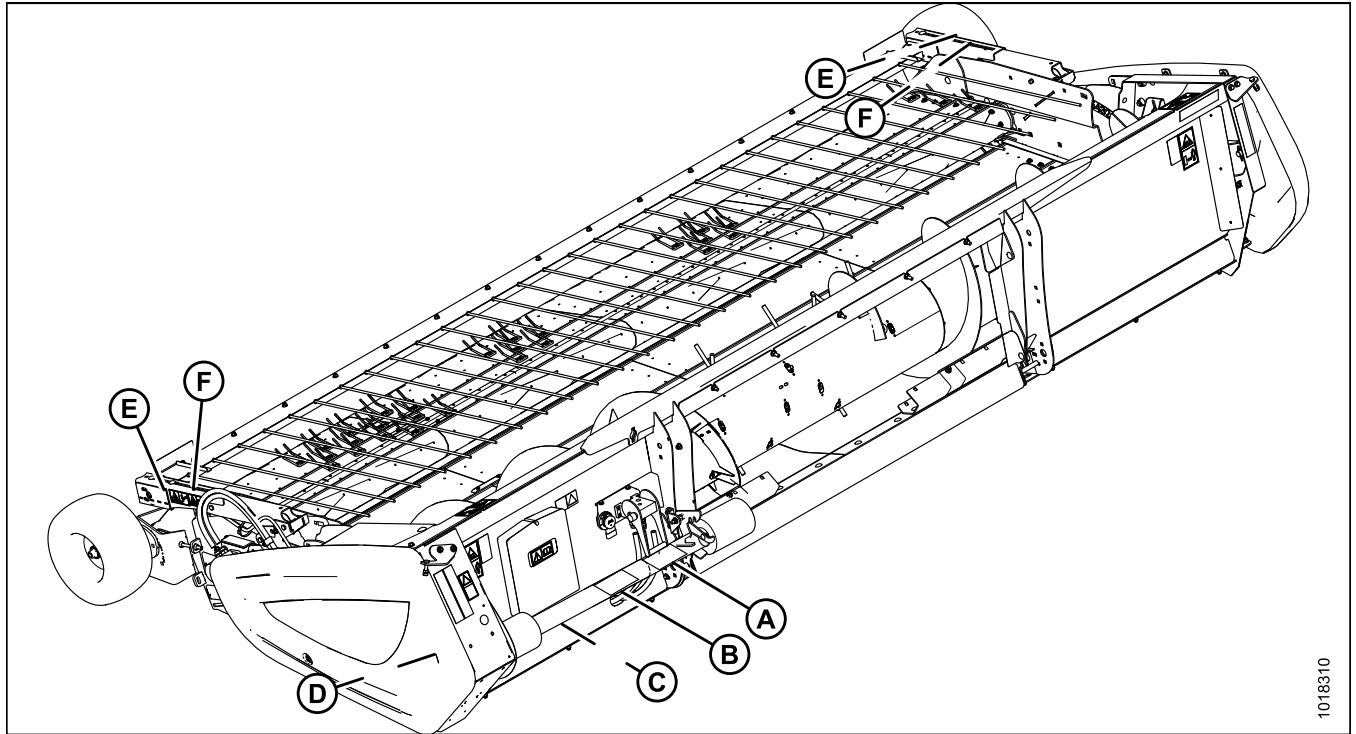
F - MD #237254



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Figure 1.19: Driveline and Hold-Down Decals

SAFETY



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Figure 1.20: Driveline and Hold-Down Decals – New Holland

A - MD #30316

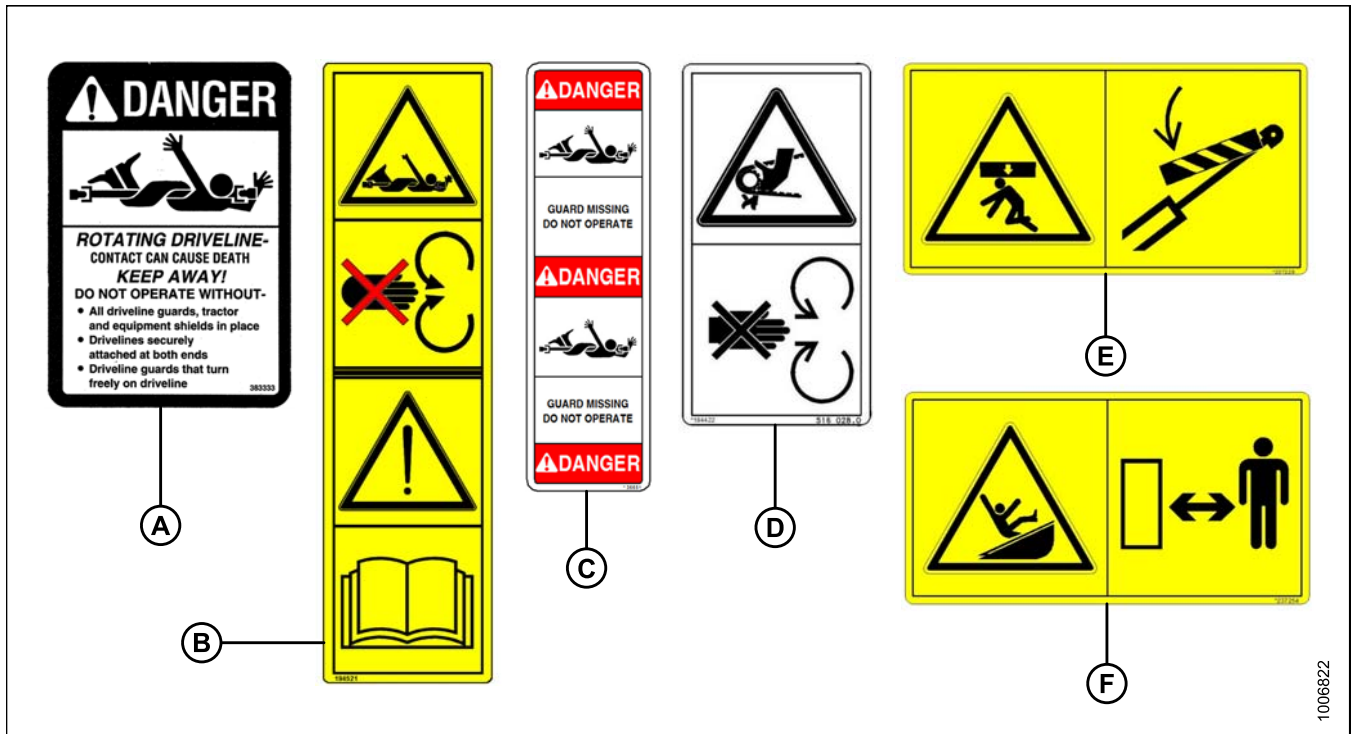
B - MD #191099

C - MD #36651

D - MD #184422 (Behind Endshield)

E - MD #237229

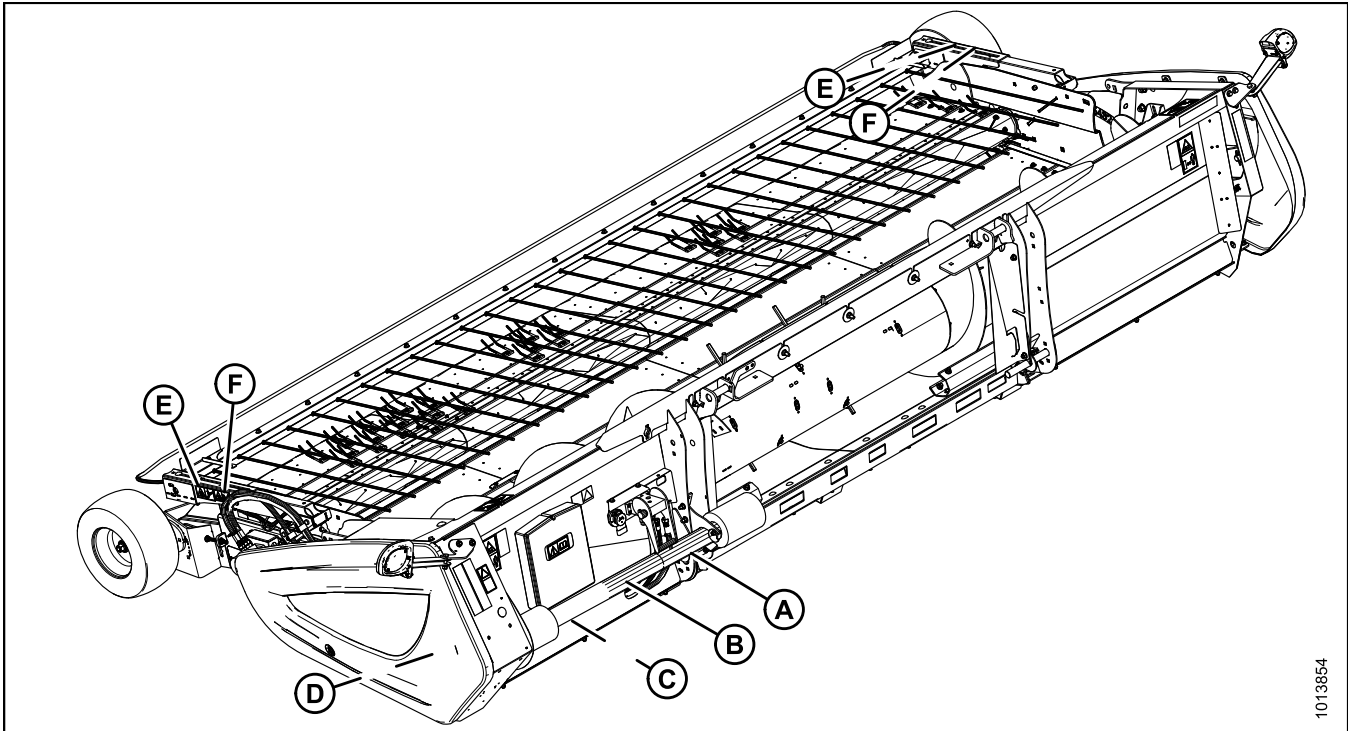
F - MD #237254



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Figure 1.21: Driveline and Hold-Down Decals

SAFETY



1013854

Figure 1.22: Driveline and Hold-Down Decals – Versatile

A - MD #30316

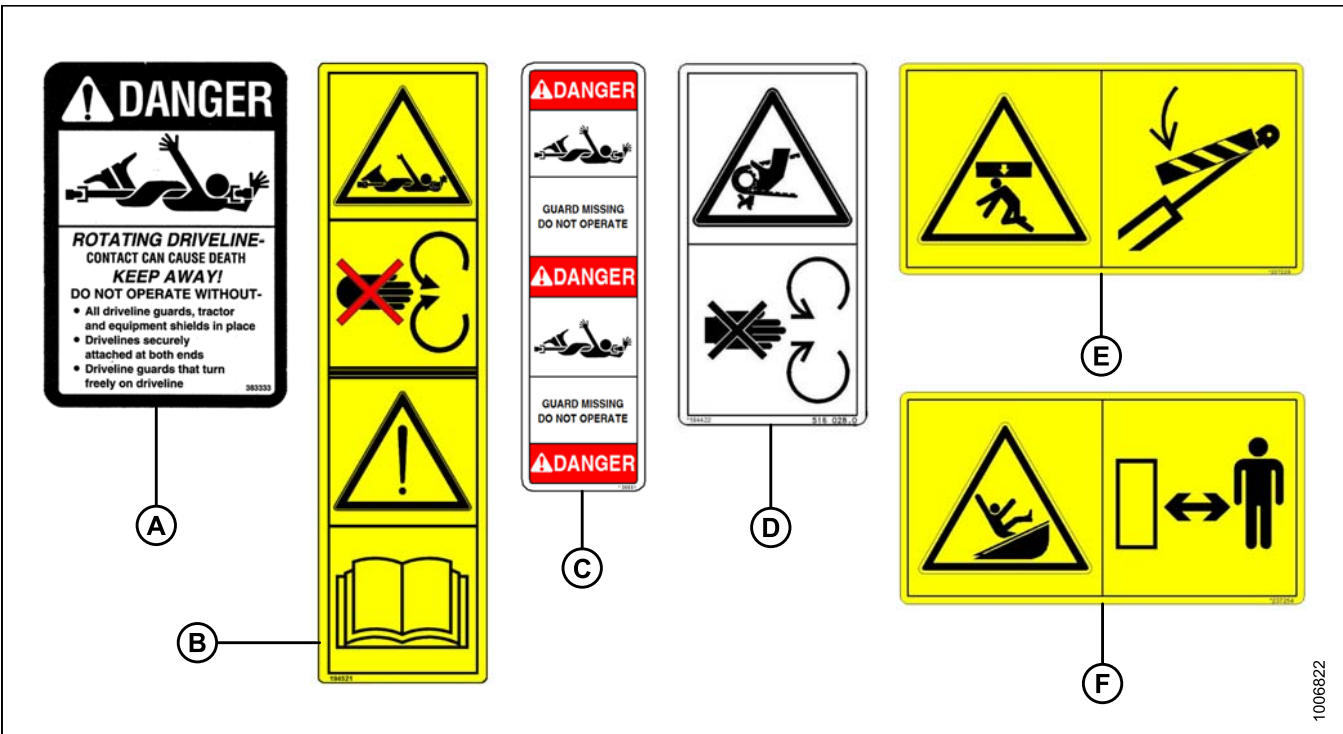
B - MD #191099

C - MD #36651

D - MD #184422 (Behind Endshield)

E - MD #237229

F - MD #237254



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Figure 1.23: Driveline and Hold-Down Decals

2 Shipping Data

The following data includes shipping stands:

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

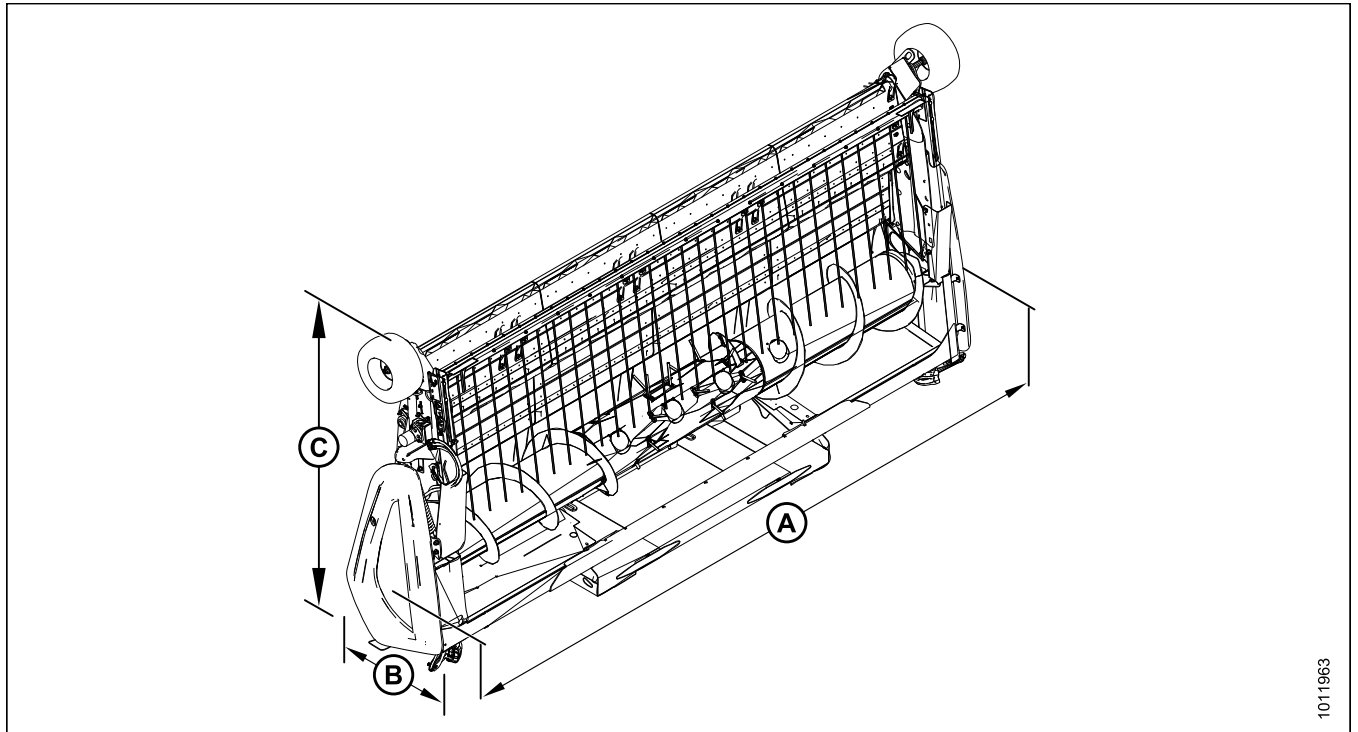


Figure 2.1: Shipping Dimensions

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 anyone 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 ²	2270 kg (5000 lb.)
Minimum Fork Length	1981 mm (78 in.)

IMPORTANT:

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

2. At 1220 mm (48 in.) 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.

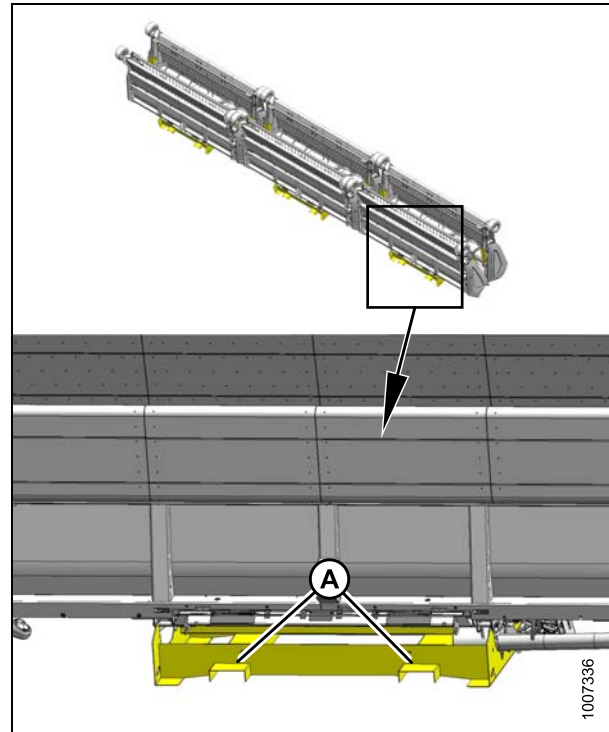


Figure 3.1: Header Shipping

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 150 mm (6 in.) 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 Setting Wheels to Field/Working Position

IMPORTANT:

To prevent damage to the header, wheels must be in working position (cog [A] lined up with number '2' on frame) BEFORE setting header on ground. See illustration. If wheels are **NOT** in working position, proceed as follows:

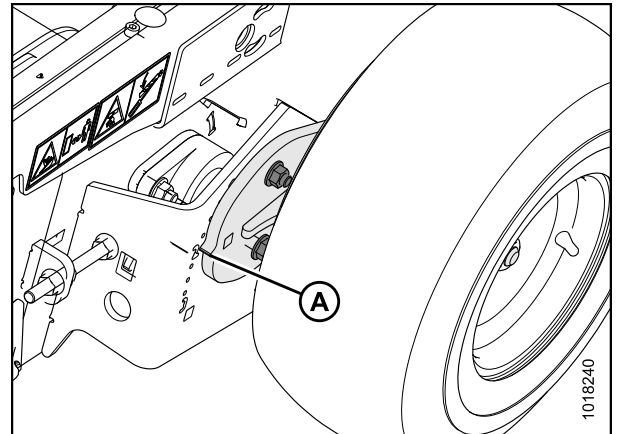


Figure 3.3: Working Position

1. Loosen bolts (A) until wheel mounting plate (B) can be rotated.

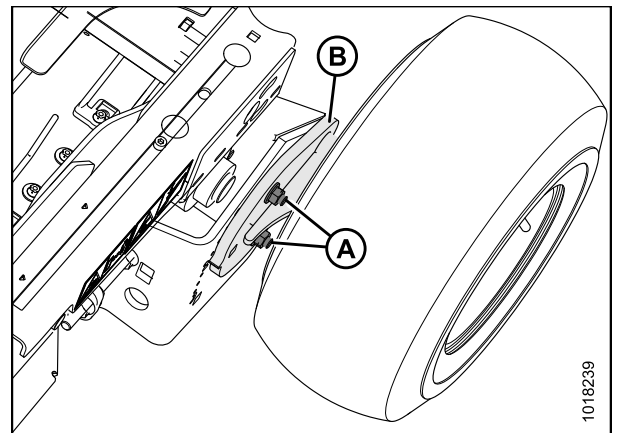


Figure 3.4: Header Wheel Right Side

2. Rotate wheel mounting plate (A) and wheel approximately 180 degrees until cog (B) lines up with the number '2' on frame.
3. Tighten nuts (C).

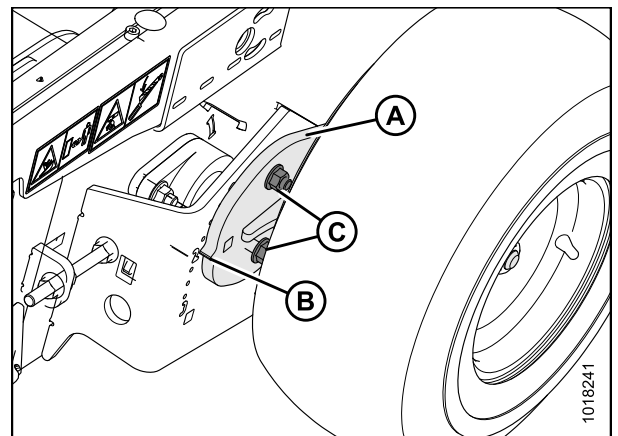


Figure 3.5: Header Wheel Right Side

UNLOADING THE HEADER

3.3 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 2270 kg (5000 lb.).
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.

3. If ground is soft, place two wooden blocks (2 x 4 in.) on ground in front of frame at locations shown so that header will rest on blocks after it is lowered.

4. Slowly back up forklift while lowering the front of pick-up header to the ground.
5. Remove chains (A) from header lugs.
6. Proceed to [3.4 Removing Shipping Stands, page 19](#).

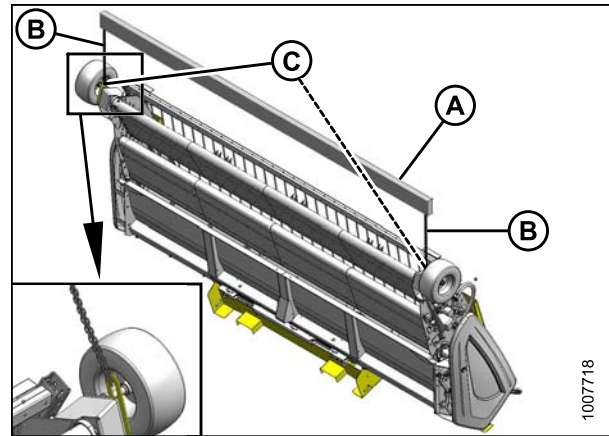


Figure 3.6: Spreader Bar on Header

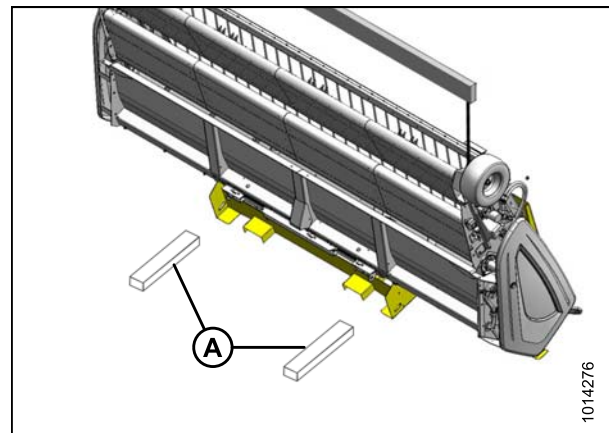


Figure 3.7: Wooden Blocks

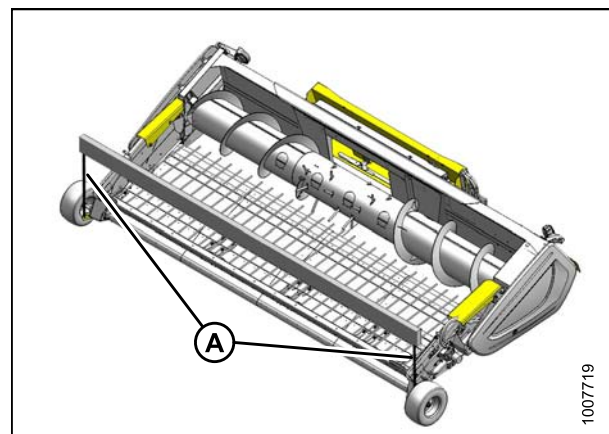


Figure 3.8: Spreader Bar on Header

3.4 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.

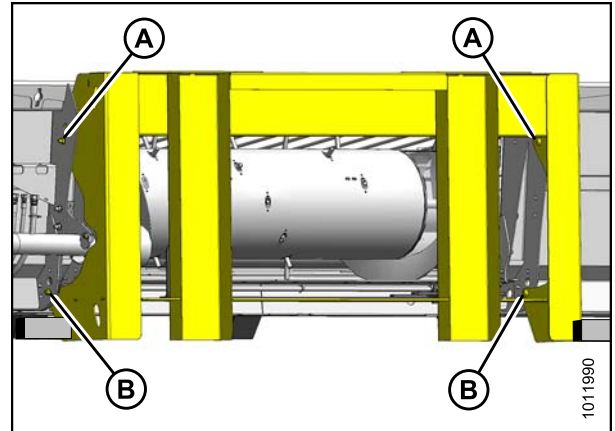


Figure 3.9: Shipping Stand

NOTE:

Wheel not shown for clarity.

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

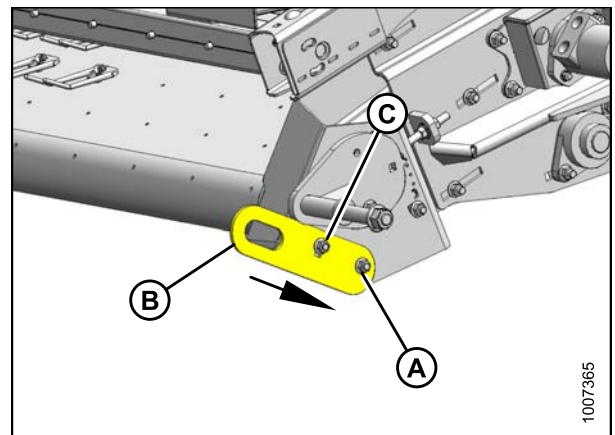


Figure 3.10: Shipping Lug

UNLOADING THE HEADER

6. Remove two nuts (A).
7. Loosen two nuts (B) and remove bumper (C).

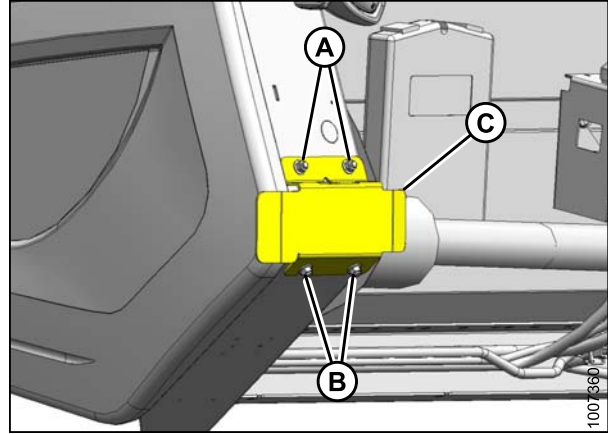


Figure 3.11: Shipping Bumper

8. Open the left endshield (A). Refer to [3.4.1 Opening Left Endshield, page 21](#).
9. Remove four nuts and bolts (B).

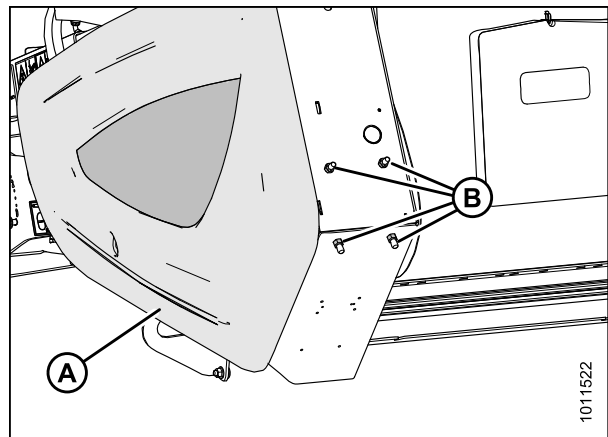


Figure 3.12: Bumper Bolts

10. Close endshield. Refer to [3.4.2 Closing Left Endshield, page 21](#).

NOTE:

The shipping brace (A) on the hold-down will be removed after the header is attached to the combine.

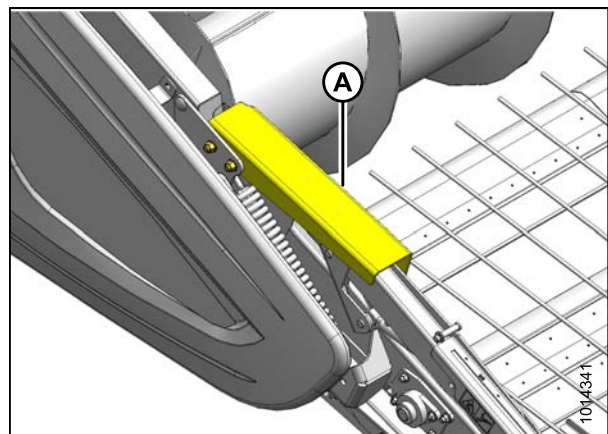


Figure 3.13: Deck Shipping Brace

UNLOADING THE HEADER

3.4.1 Opening Left Endshield

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

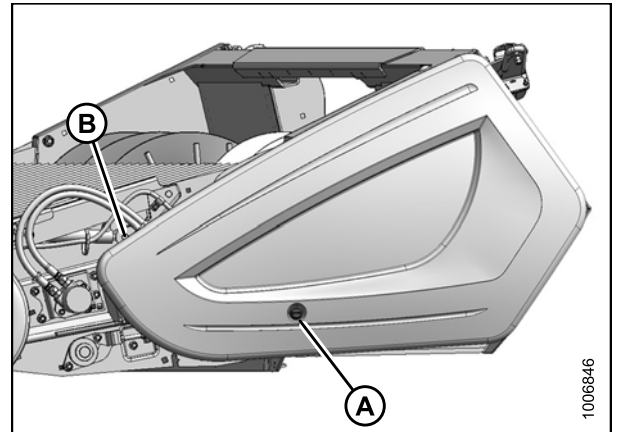


Figure 3.14: Endshield Closed

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

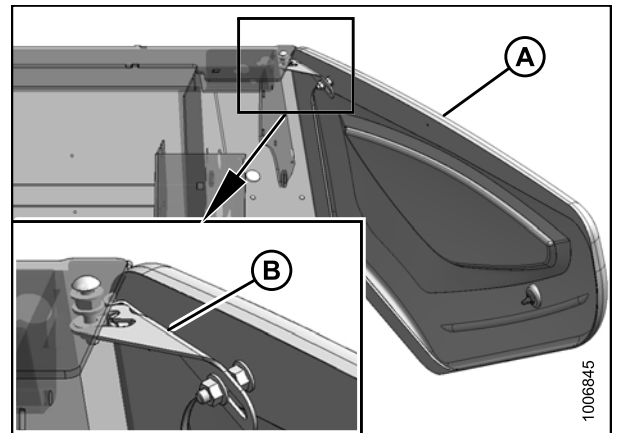


Figure 3.15: Endshield Open

3.4.2 Closing Left Endshield

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

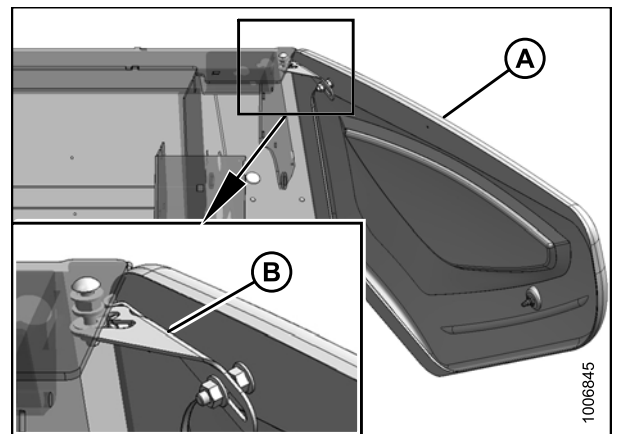


Figure 3.16: Endshield Support

UNLOADING THE HEADER

2. Close endshield (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 factory-set and should not require adjustment.

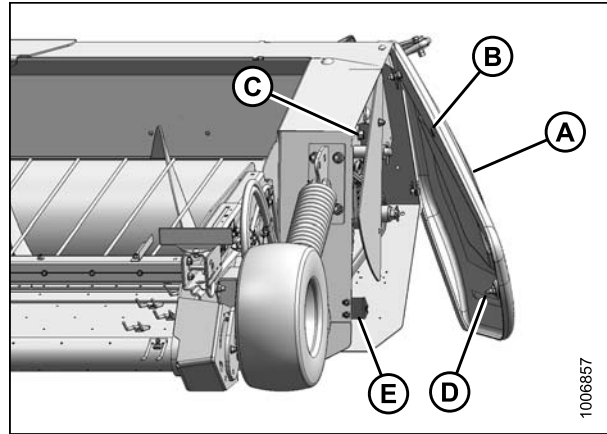


Figure 3.17: Endshield

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

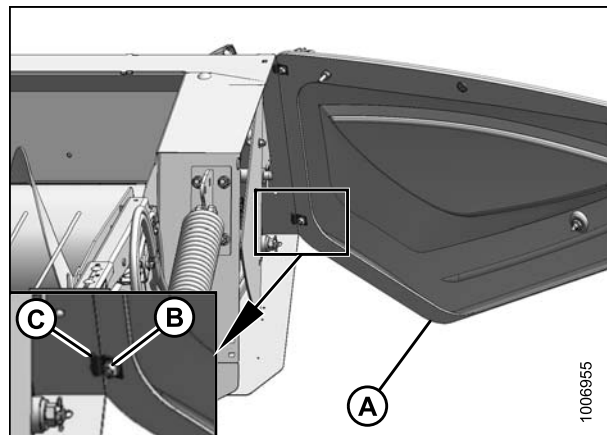


Figure 3.18: Endshield Adjustment

4. Close the endshield (D) and use a slotted screwdriver to turn latch (A) clockwise until it stops (slightly more than one-half turn).

NOTE:

When latch is fully engaged, the slot will align with notch (C), and the endshield will draw tightly against the header.

5. Check that magnet (B) on endshield is against the header endsheet and aligned with the cut out in the frame, and that latch (A) is engaged.

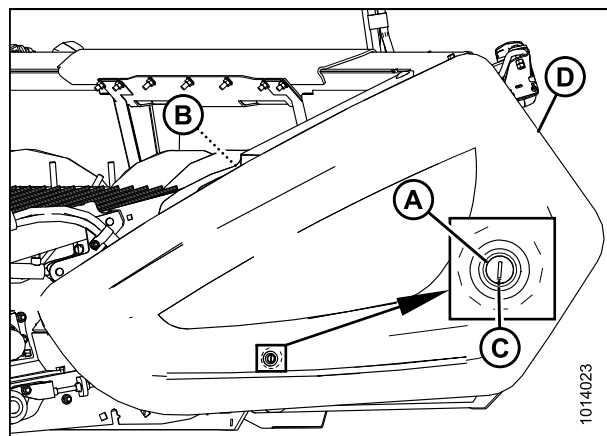


Figure 3.19: Endshield Closed

3.5 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.

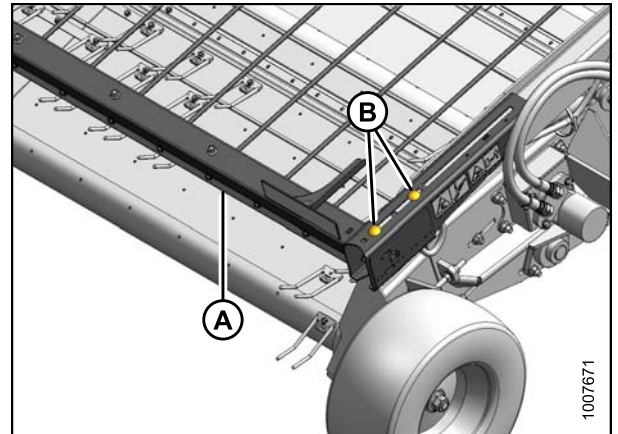


Figure 3.20: Hold-Down Left Side

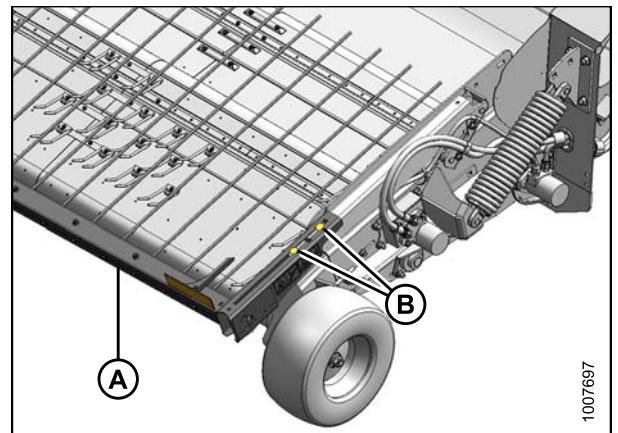


Figure 3.21: Hold-Down Left Side

3.6 Adjusting Transport Lights

Position the transport lights so they are perpendicular to the endsheet.

DANGER

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key from ignition before leaving operator's seat for any reason.

1. Lower header to the ground, shut off combine, and remove key from ignition.
2. If repositioning is required, swivel the lights with hand force.
3. 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.
4. Tighten jam nut (A).

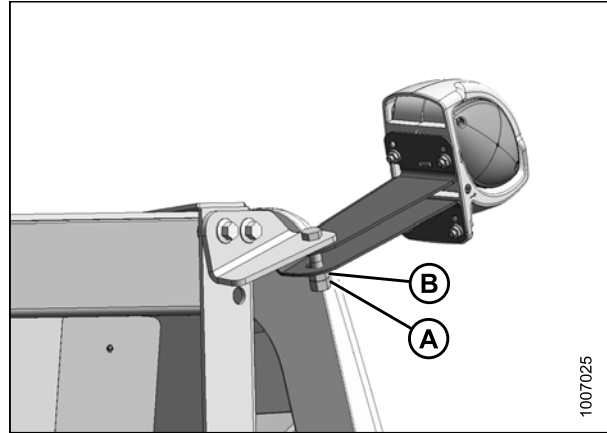


Figure 3.22: Transport Light

3.7 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.

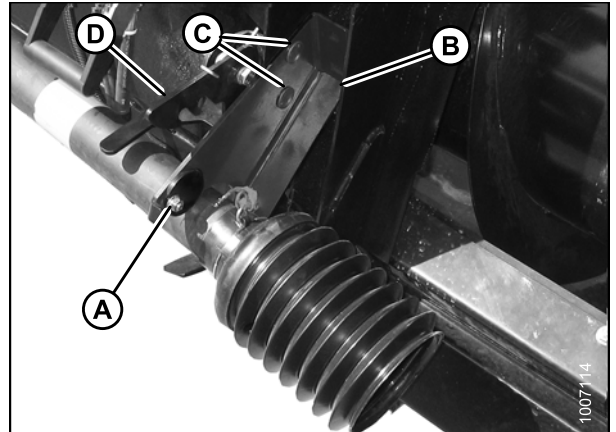


Figure 3.23: Driveline Bracket

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).

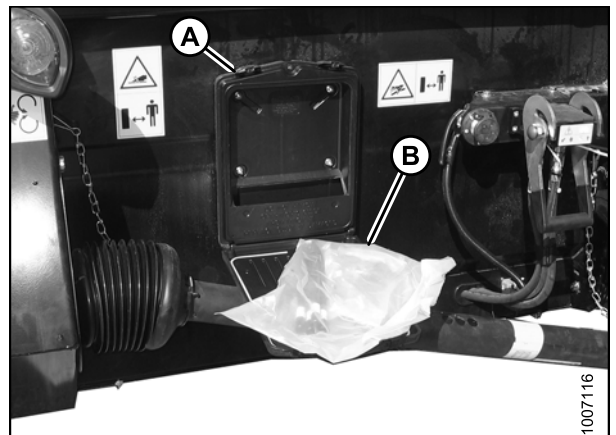


Figure 3.24: Hardware Bag

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.

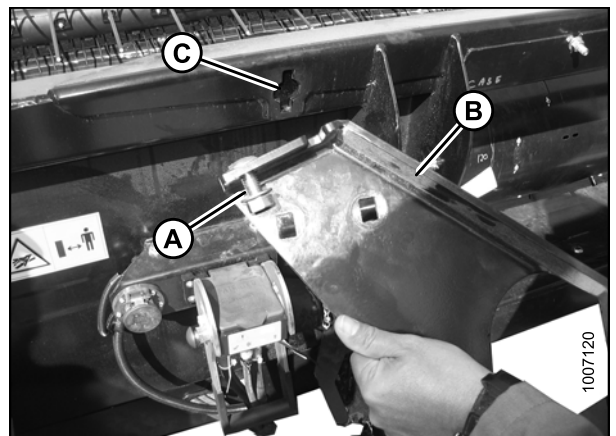


Figure 3.25: Driveline Bracket

UNLOADING 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.

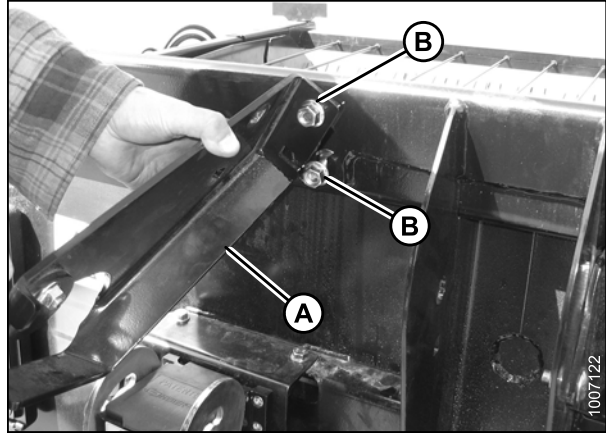


Figure 3.26: Driveline Bracket

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

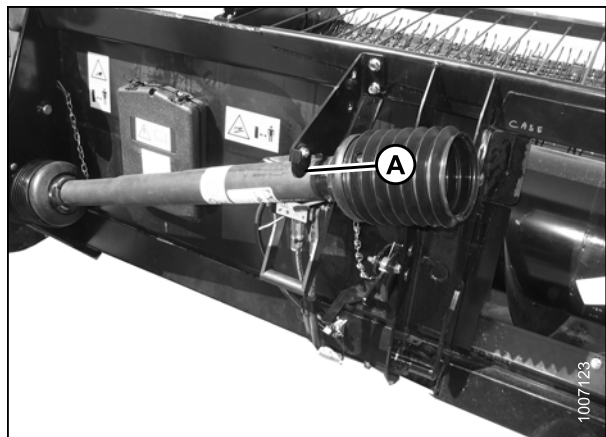


Figure 3.27: Driveline in Repositioned Bracket

4 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.

Reconfiguring the headers is more easily accomplished if the header is not attached to the combine.

- Case 1156 mm (45.5 in.) – refer to [4.2 Configuring Headers for Case IH, page 33](#)
- John Deere 1670 mm (65 in.) – refer to [4.1 Configuring Headers for John Deere, page 27](#)
- New Holland 1016 mm (40 in.) – refer to [4.4 Configuring Headers for New Holland CR, page 42](#)
- New Holland 1524 mm (60 in.) – refer to [4.3 Configuring Headers for New Holland CX, page 36](#)

4.1 Configuring Headers for John Deere

PW8 Pick-Up Headers are configured at the factory for combine models with a 1397 mm (55 in.) feeder house. These procedures describe how to modify the header for models with a 1650 mm (65 in.) feeder house.

4.1.1 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.

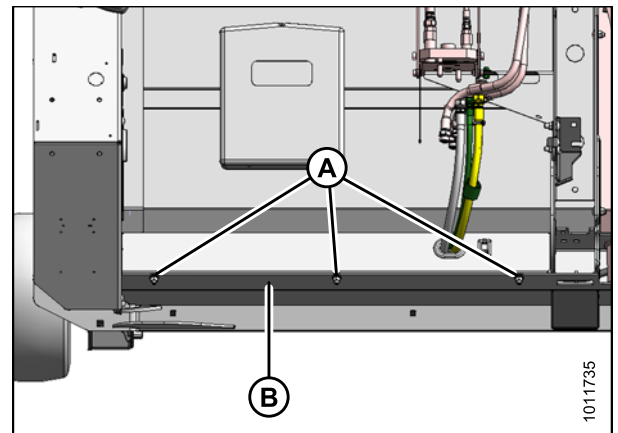


Figure 4.1: Left Cover – Right Side Opposite

RECONFIGURING HEADERS

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

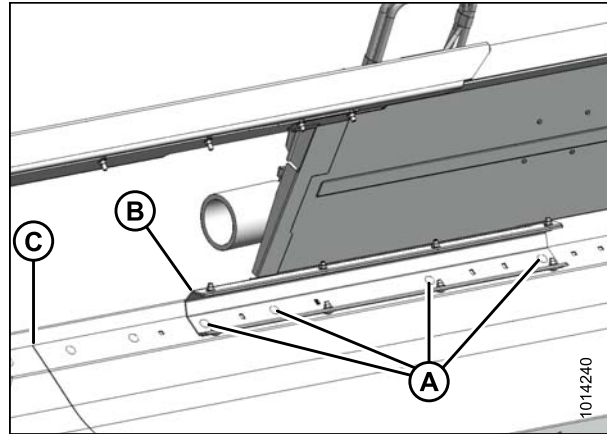


Figure 4.2: Left Stripper – Narrow Opening (Auger Not Shown for Clarity)

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

NOTE:

The centerline is located where the header pans meet.

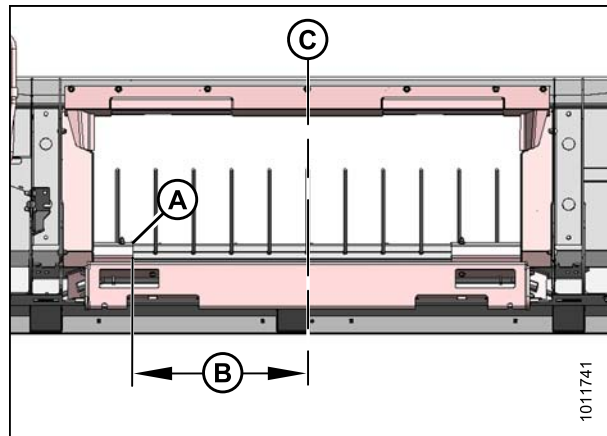


Figure 4.3: Left Stripper – Wide Opening

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.

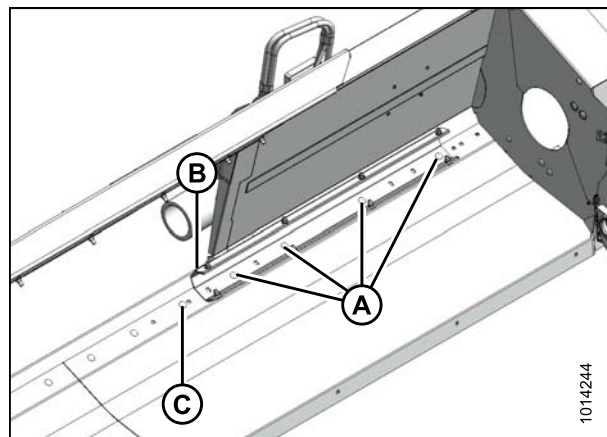


Figure 4.4: Left Stripper – Wide Opening

RECONFIGURING HEADERS

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

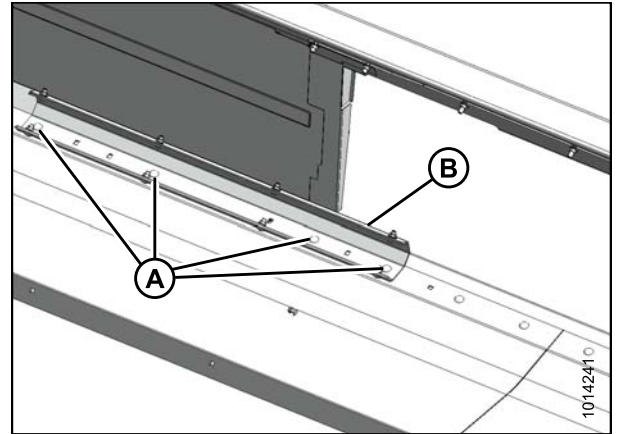


Figure 4.5: Right Stripper – Narrow Opening

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

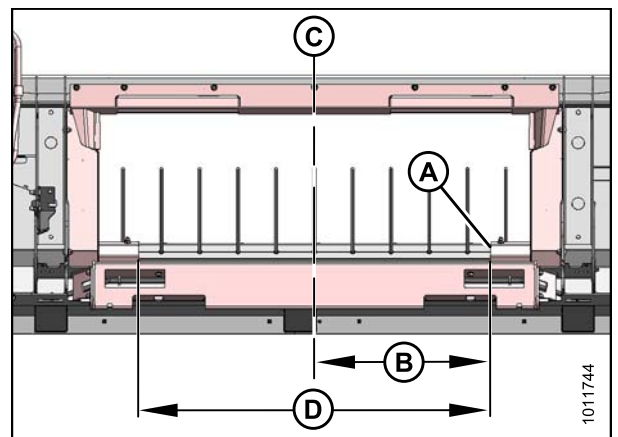


Figure 4.6: Right Stripper – Wide Opening

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 3–11 mm (1/8–7/16 in.).
12. If necessary, refer to [4.5 Adjusting Stripper Plate Clearance](#), page 49.

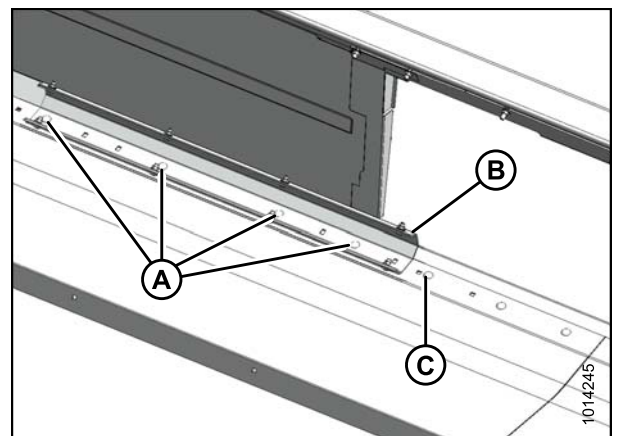


Figure 4.7: Right Stripper – Wide Opening

RECONFIGURING HEADERS

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

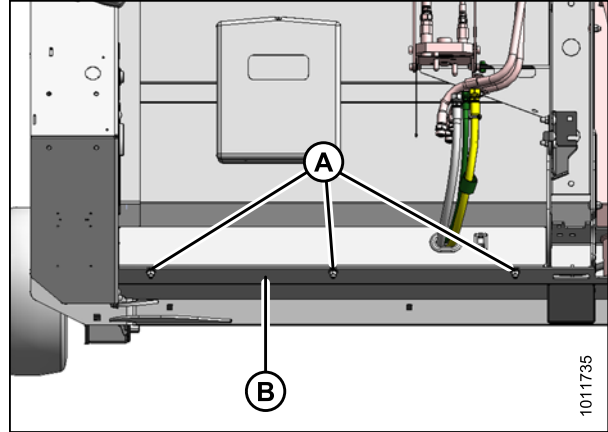


Figure 4.8: Left Cover – Right Side Opposite

4.1.2 Removing Flighting Extensions

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

1. Remove the two access covers (A) on both sides of center.

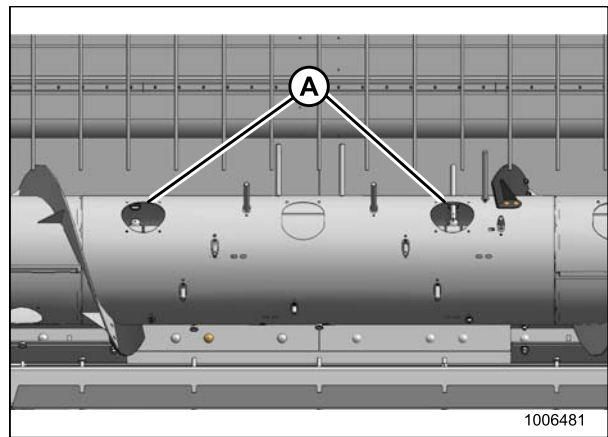


Figure 4.9: Access Holes in Auger

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

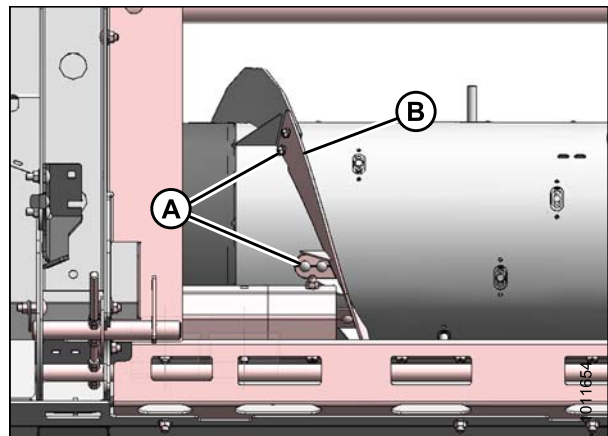


Figure 4.10: Left Flighting Extension – Right Extension Opposite

RECONFIGURING HEADERS

4.1.3 Installing Auger Fingers

Follow these steps to install the extra auger fingers required to configure the header: The total number of fingers should be 22.

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.

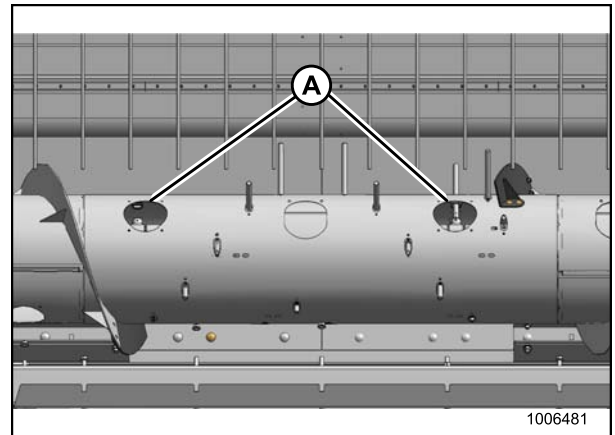


Figure 4.11: Access Holes in Auger

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 8.5 N·m (75 in·lbf).
7. Repeat Steps [3., page 31](#) to [6., page 31](#) for the remaining locations.

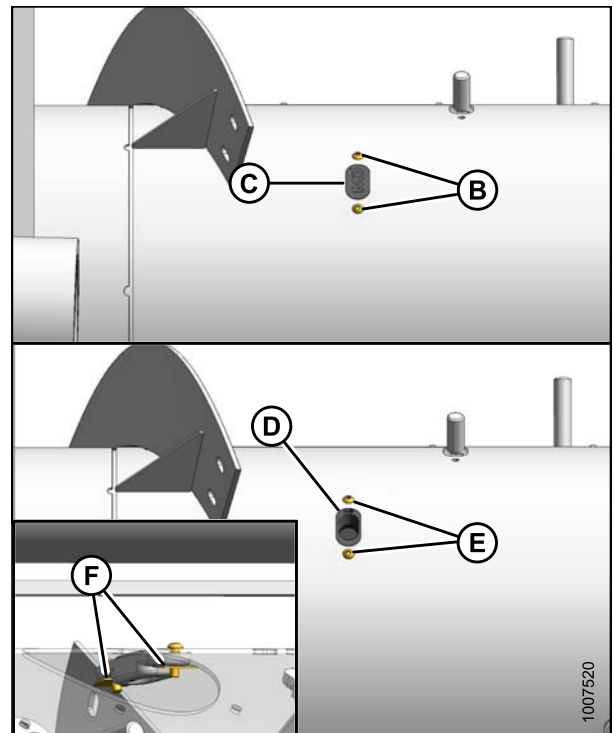


Figure 4.12: Plastic Guides

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 32 to 10., page 32 for the remaining fingers.

NOTE:

There should be a total of 22 fingers.

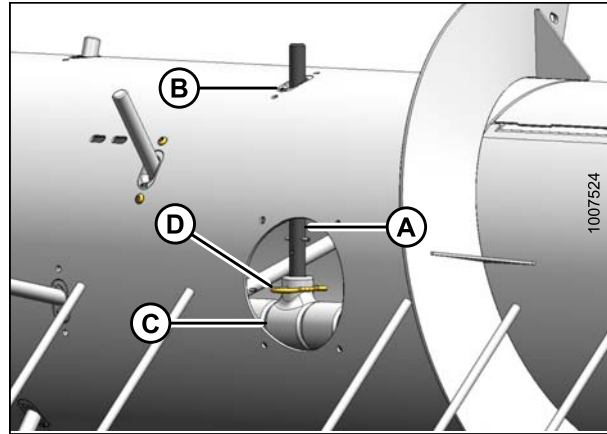


Figure 4.13: Auger Fingers

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 11 N·m (95 in-lbf).

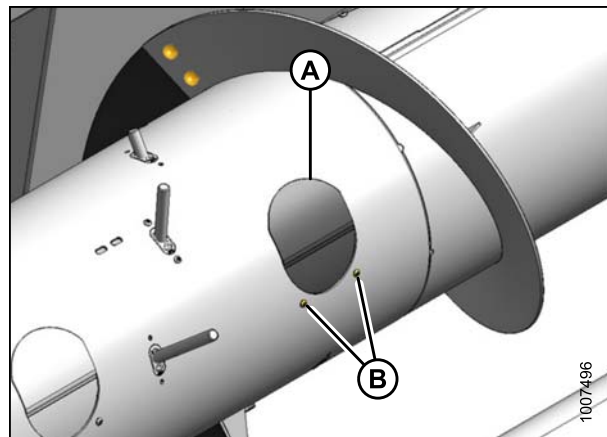


Figure 4.14: Access Cover

4.2 Configuring Headers for Case IH

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

4.2.1 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.

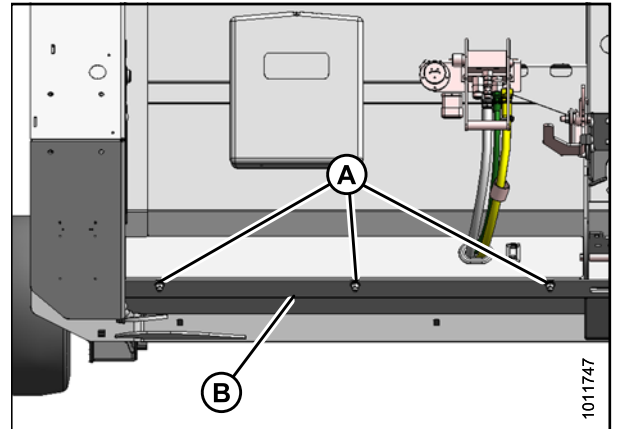


Figure 4.15: Left Cover – Right Side Opposite

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

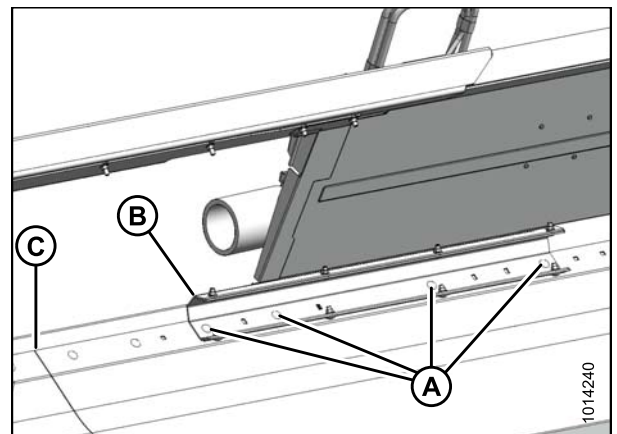


Figure 4.16: Left Stripper (Auger Not Shown for Clarity)

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 578 mm (22-3/4 in.).

NOTE:

The centerline is located where the header pans meet.

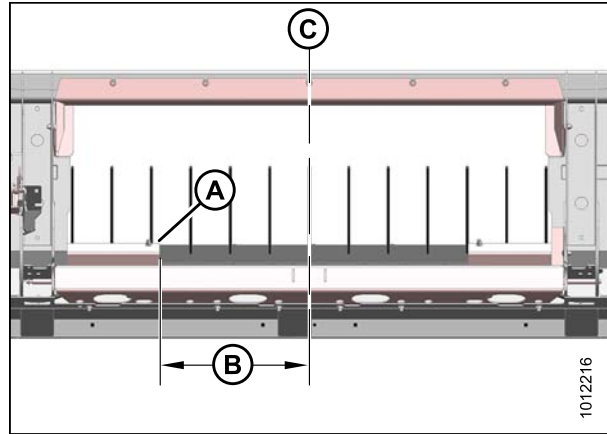


Figure 4.17: Narrow Opening

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

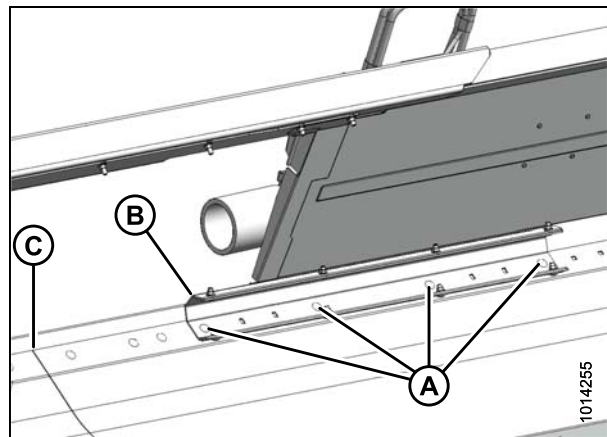


Figure 4.18: Left Stripper – Narrow Opening

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

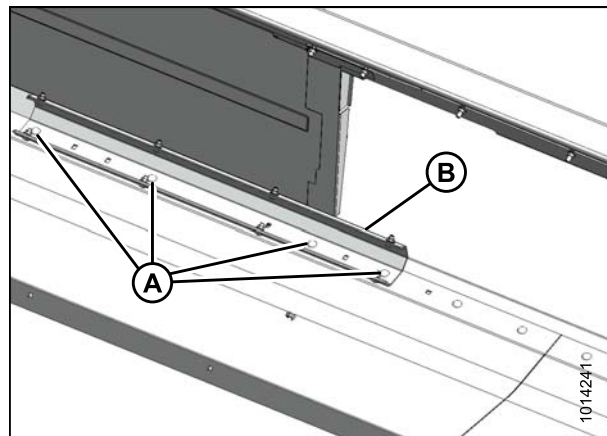


Figure 4.19: Right Stripper

RECONFIGURING HEADERS

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

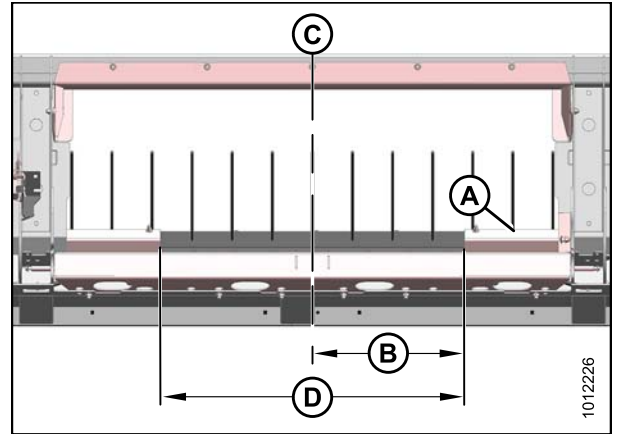


Figure 4.20: Narrow Opening

8. Reinstall the four bolts (A) where stripper assembly (B) mounting holes line up with the frame. Tighten bolts.
9. Manually rotate the auger and check the clearances between the auger flighting and stripper plates. The clearance should be 3–11 mm (1/8–7/16 in.).
10. If necessary, refer to [4.5 Adjusting Stripper Plate Clearance](#), page 49.

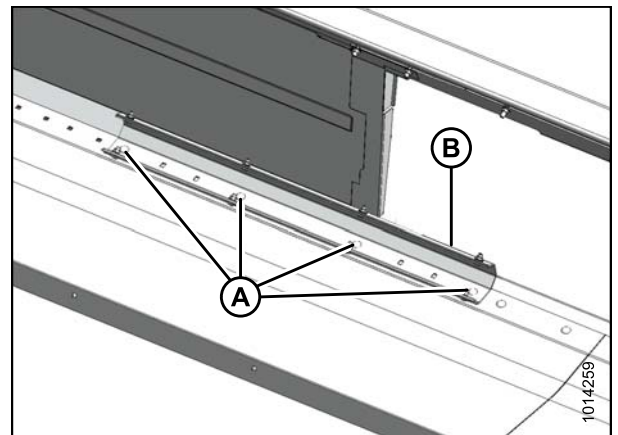


Figure 4.21: Right Stripper – Narrow Opening

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

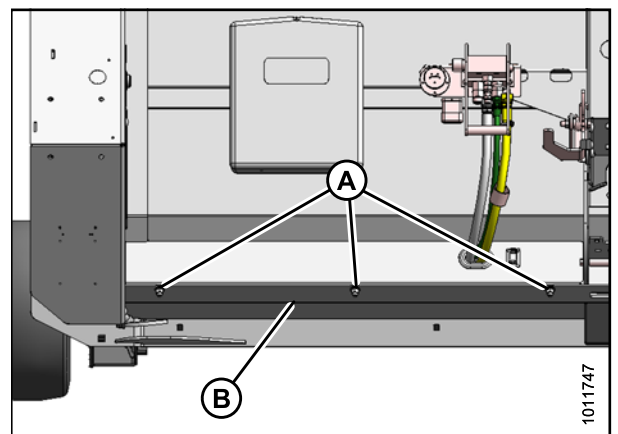


Figure 4.22: Left Cover – Right Side Opposite

4.3 Configuring Headers for New Holland CX

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

4.3.1 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.

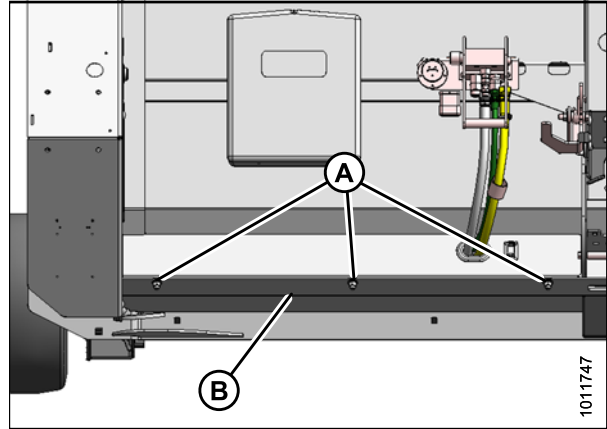


Figure 4.23: Left Cover – Right Side Opposite

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

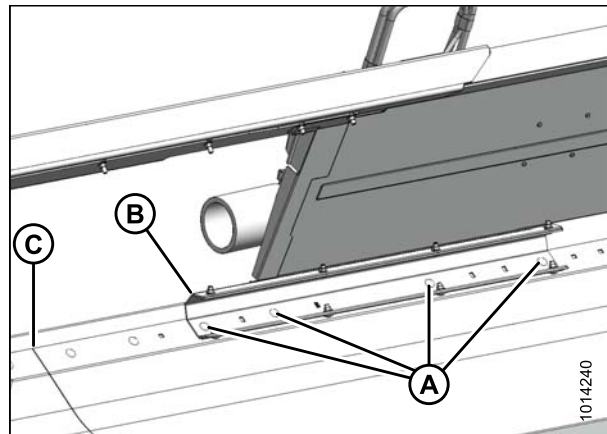


Figure 4.24: Left Stripper – Narrow Opening (Auger Not Shown for Clarity)

RECONFIGURING HEADERS

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

NOTE:

The centerline is located where the header pans meet.

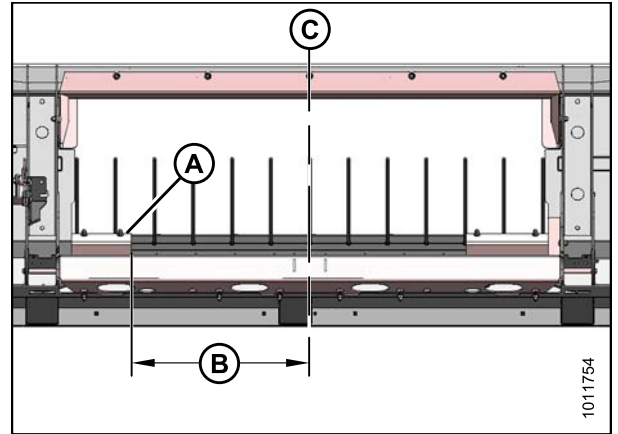


Figure 4.25: Left Stripper – Wide Opening

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.

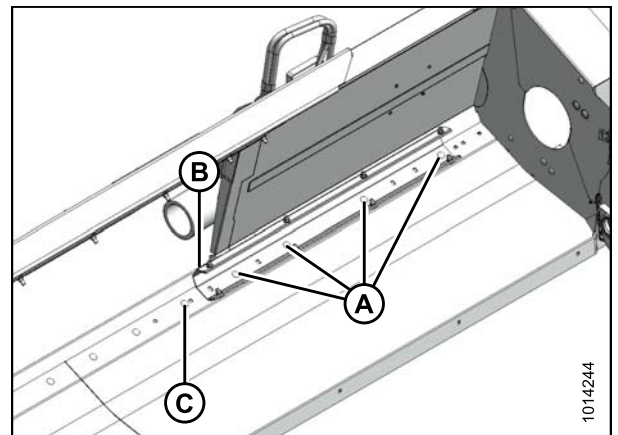


Figure 4.26: Left Stripper – Wide Opening

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

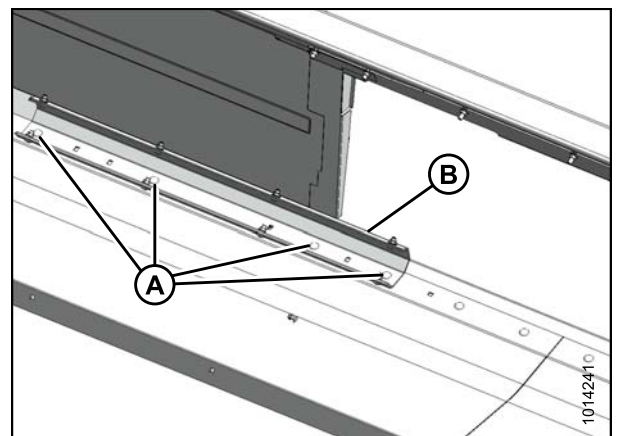


Figure 4.27: Right Stripper – Narrow Opening

RECONFIGURING HEADERS

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

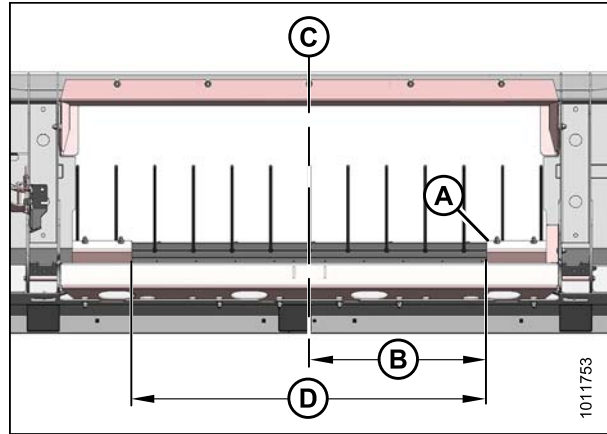


Figure 4.28: Right Stripper – Wide Opening

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 3–11 mm (1/8–7/16 in.).
12. If necessary, refer to [4.5 Adjusting Stripper Plate Clearance](#), page 49.

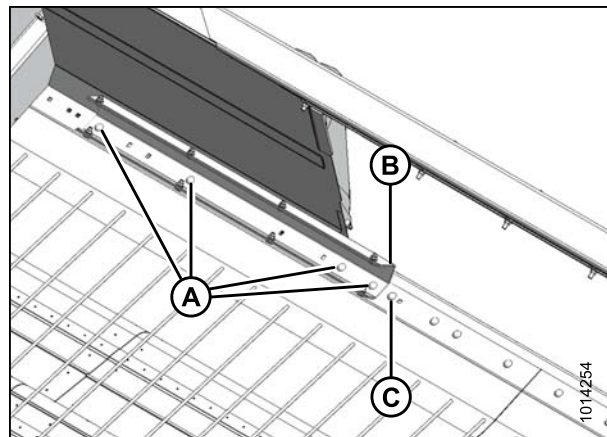


Figure 4.29: Right Stripper – Wide Opening

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

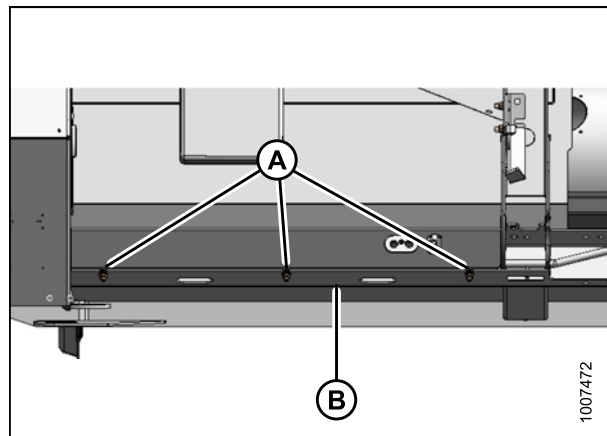


Figure 4.30: Left Cover – Right Side Opposite

RECONFIGURING HEADERS

4.3.2 Removing Flighting Extensions

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

1. Remove the two access covers (A) on both sides of center.

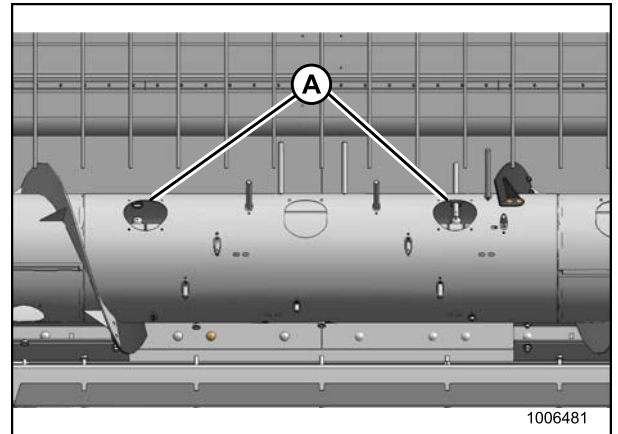


Figure 4.31: Access Holes in Auger

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

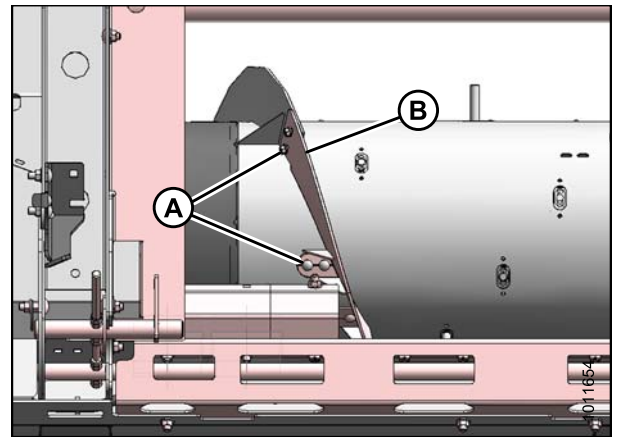


Figure 4.32: Left Flighting Extension – Right Extension Opposite

4.3.3 Installing Auger Fingers

Follow these steps to install the extra auger fingers required to configure the header: The total number of fingers should be 22.

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.

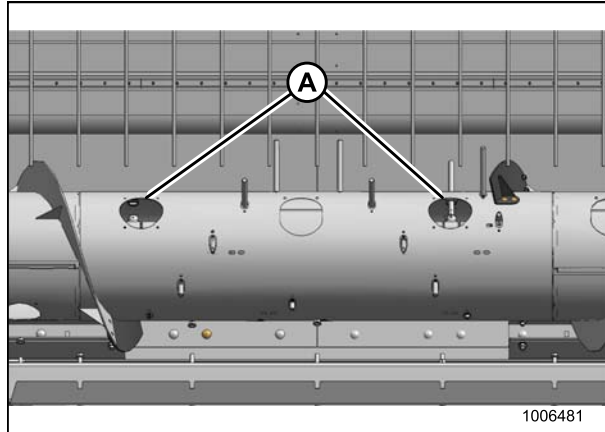


Figure 4.33: Access Holes in Auger

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 8.5 N·m (75 in·lbf).
7. Repeat Steps 3., page 40 to 6., page 40 for the remaining locations.

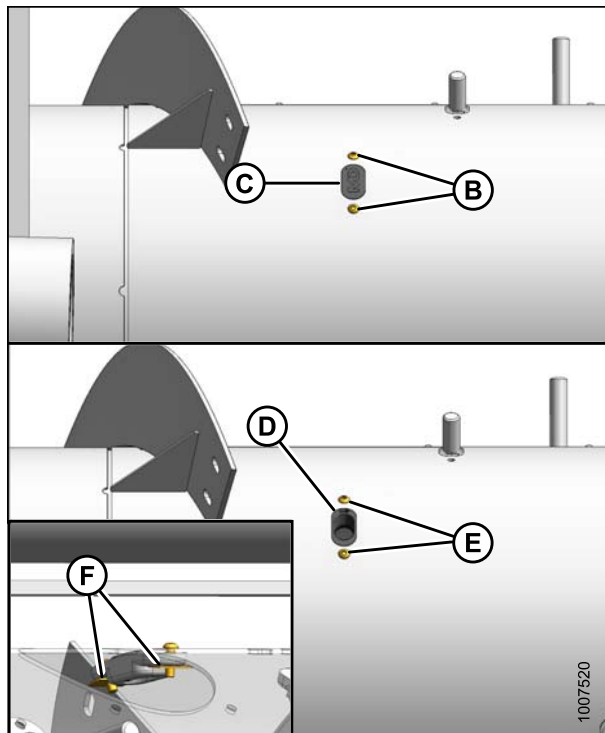


Figure 4.34: Plastic Guides

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 41 to 10., page 41 for the remaining fingers.

NOTE:

There should be a total of 22 fingers.

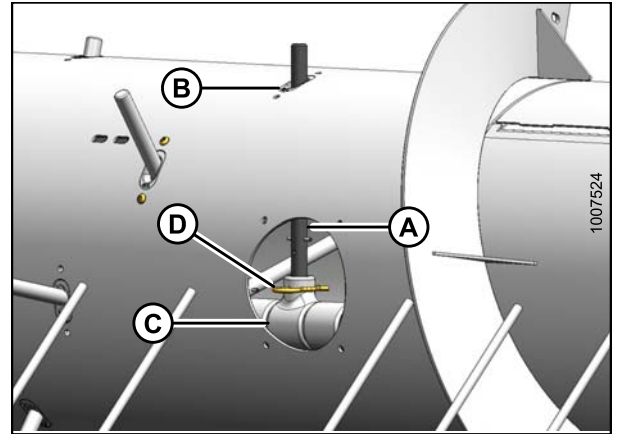


Figure 4.35: Auger Fingers

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 11 N·m (95 in·lbf).

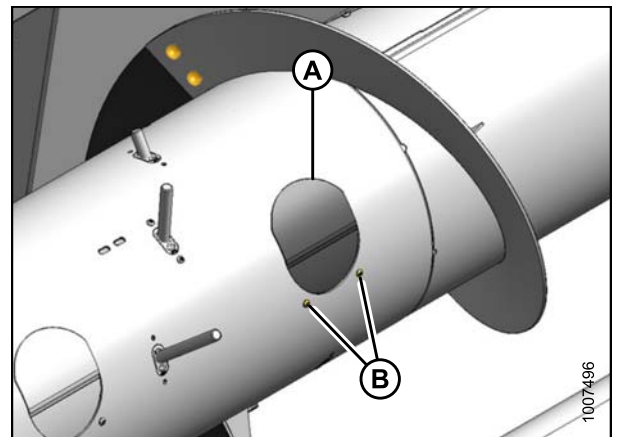


Figure 4.36: Access Cover

4.4 Configuring Headers for New Holland CR

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

4.4.1 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.

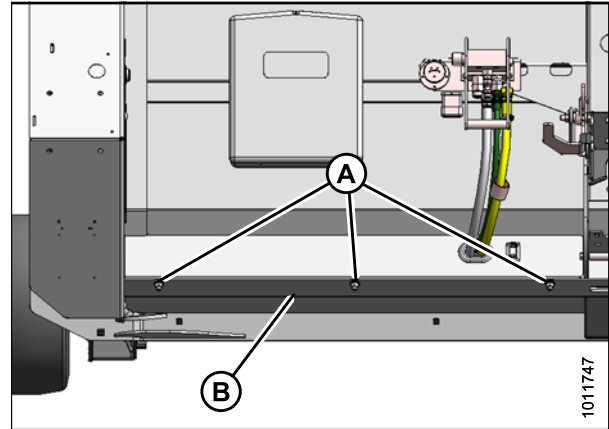


Figure 4.37: Left Cover – Right Side Opposite

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

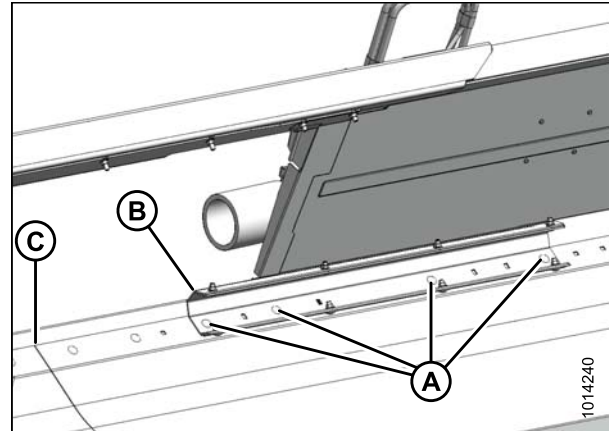


Figure 4.38: Left Stripper (Auger Not Shown for Clarity)

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 417 mm (16-7/16 in.).

NOTE:

The centerline is located where the header pans meet.

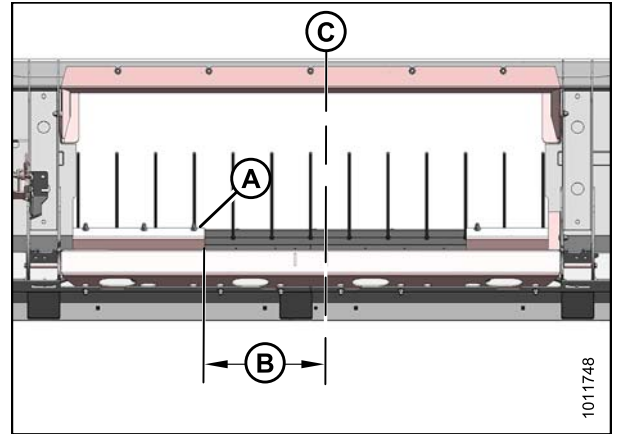


Figure 4.39: Narrow Opening

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

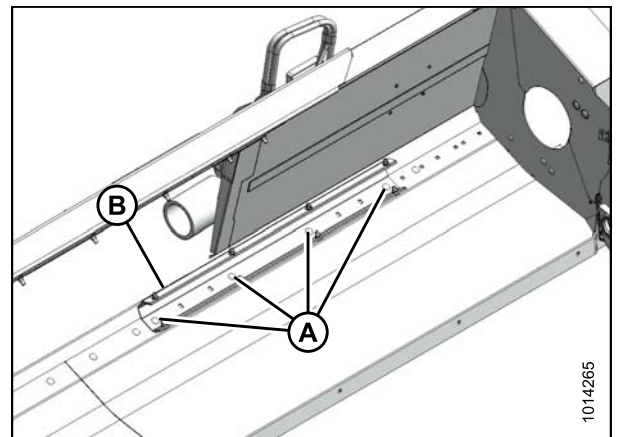


Figure 4.40: Left Stripper – Narrow Opening

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

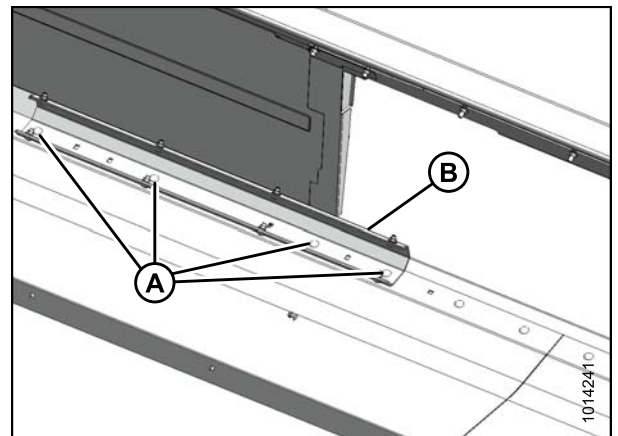


Figure 4.41: Right Stripper

RECONFIGURING HEADERS

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

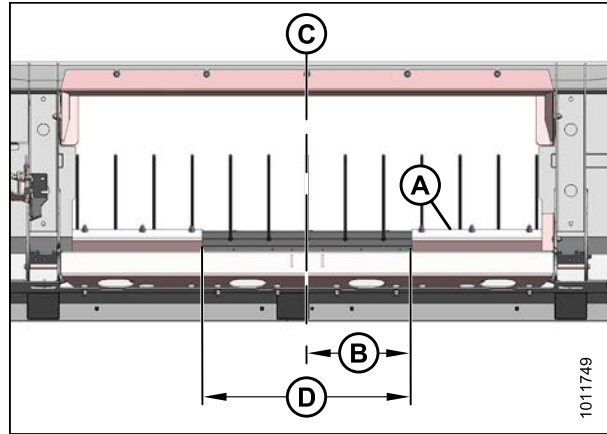


Figure 4.42: Narrow Opening

8. Reinstall the four bolts (A) where stripper assembly (B) mounting holes line up with the frame. Tighten bolts.
9. Manually rotate the auger and check the clearances between the auger flighting and stripper plates. The clearance should be 3–11 mm (1/8–7/16 in.).
10. If necessary, refer to [4.5 Adjusting Stripper Plate Clearance, page 49](#).

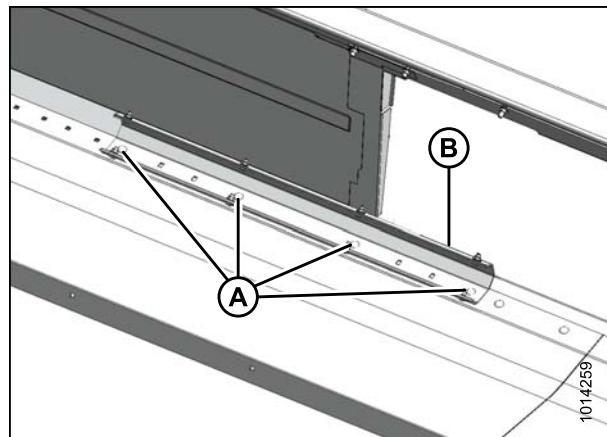


Figure 4.43: Right Stripper – Narrow Opening

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

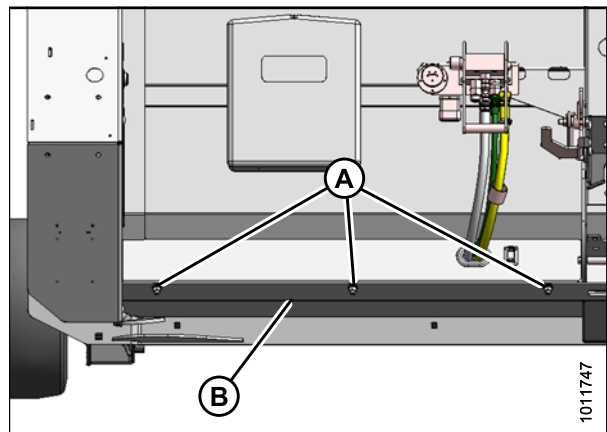


Figure 4.44: Left Cover – Right Side Opposite

4.4.2 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 4.45: Left Extension – Right Opposite

2. Remove two access covers (A), one on each side of the center.

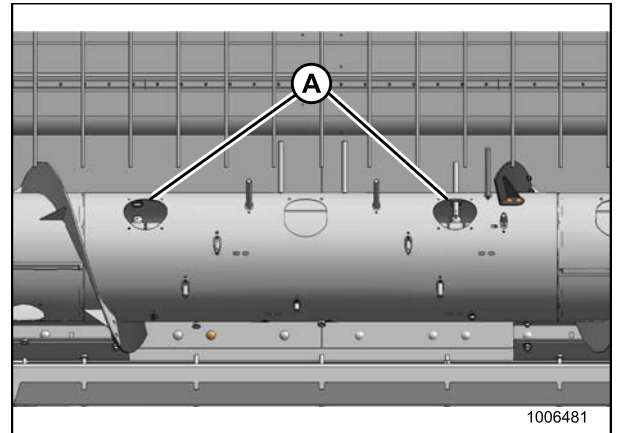


Figure 4.46: Access Holes in Auger

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

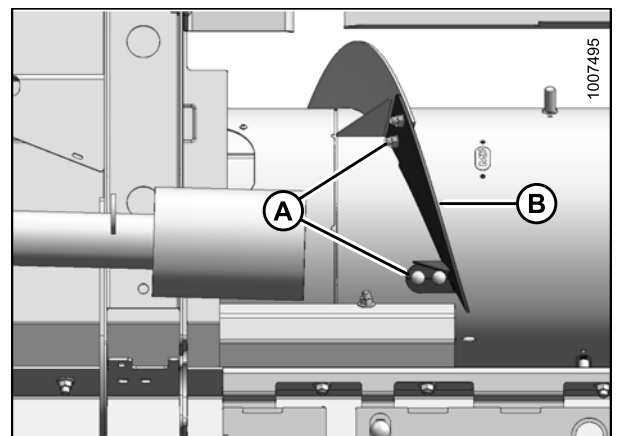


Figure 4.47: Short Flighting Extension

RECONFIGURING HEADERS

- Retrieve the hardware provided in the manual storage case.
- Place the new fighting extension (A) on auger, ensuring new fighting locates on the outboard side of the existing fighting (B).
- 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.
- Adjust fighting extension position to achieve flushness with existing fighting along outer edge.
- Repeat the above steps for the opposite side.

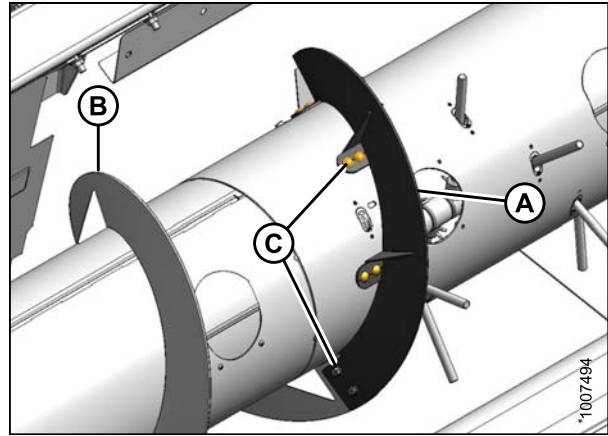


Figure 4.48: Long Fighting Extension

IMPORTANT:

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

- Store removed components in a safe place.
- Manually rotate the auger and check the clearances between the auger fighting and stripper plates. The clearance should be 3–11 mm (1/8–7/16 in.). If necessary, adjust clearance. Refer to [4.5 Adjusting Stripper Plate Clearance, page 49](#).

4.4.3 Removing Auger Fingers

Follow these steps to configure the auger fingers for a New Holland 40 in. feeder house: The total number of fingers should be 16.

- Access the extra auger fingers through the two covers (A) on each side of the center to allow access to the auger fingers (B).

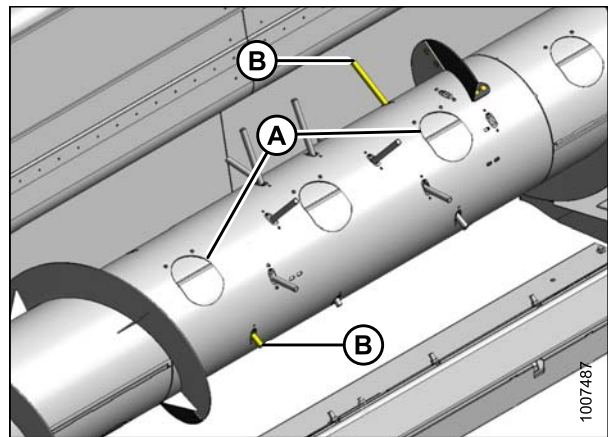


Figure 4.49: Access Holes in Auger

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 47](#) to [4., page 47](#) for the other finger.

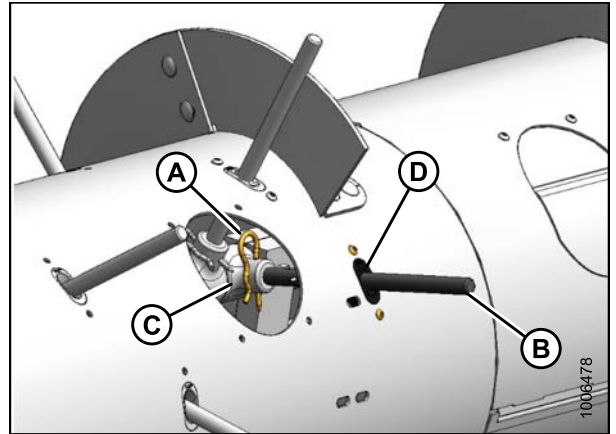


Figure 4.50: Auger Fingers

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.

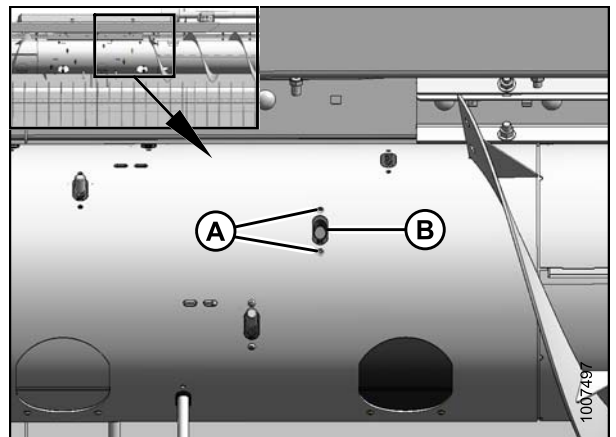


Figure 4.51: Finger Guide Plugs

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 8.5 N·m (75 in·lbf).
11. Repeat Steps [6., page 47](#) to Step [10., page 47](#) for the other plastic guide.

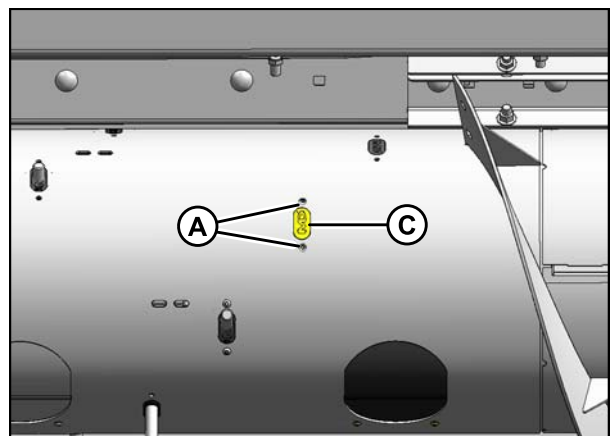


Figure 4.52: Finger Guide Plugs

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 11 N·m (95 in·lbf).

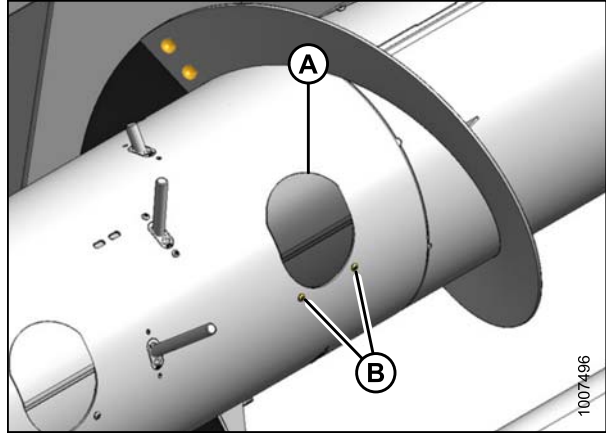


Figure 4.53: Access Cover

4.5 Adjusting Stripper Plate Clearance

1. Loosen nuts (A) on the stripper plate (B), and adjust the stripper plate to achieve clearance (C) of 3–8 mm (1/8–5/16 in.).
2. Tighten nuts (A).
3. Recheck clearance.

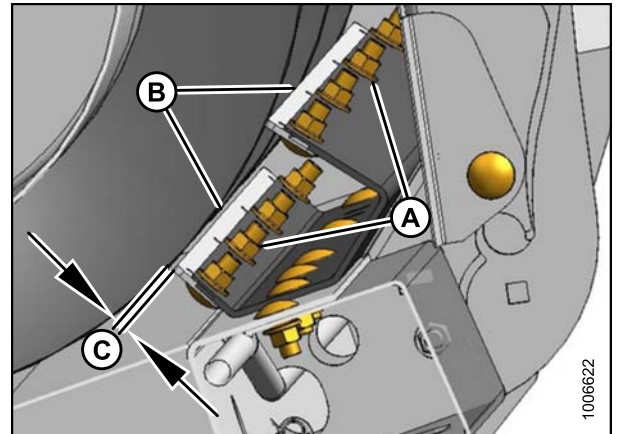


Figure 4.54: Stripper Plate Clearance

5 Attaching Header to Combine

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

Combine	Refer to
Case IH	5.1 Attaching to Case IH Combine, page 51
John Deere	5.2 Attaching to John Deere 60, 70, and S-Series Combine, page 54
New Holland CR, CX Series	5.3 Attaching to New Holland CR/CX Series Combine, page 58
Versatile	5.4 Attaching to Versatile Combine, page 62

5.1 Attaching to Case IH Combine

DANGER

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key from ignition before leaving operator's seat for any reason.

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

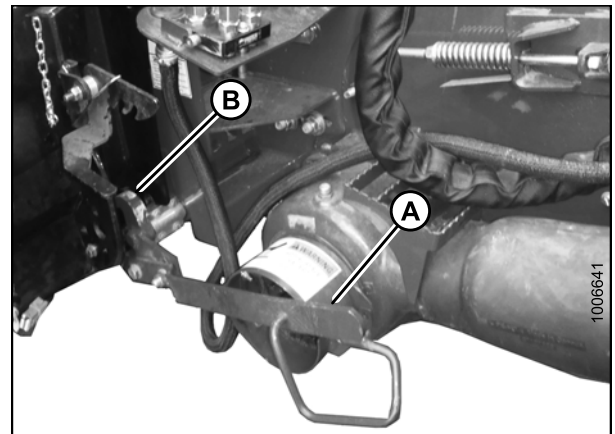


Figure 5.1: Feeder House Locks

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.

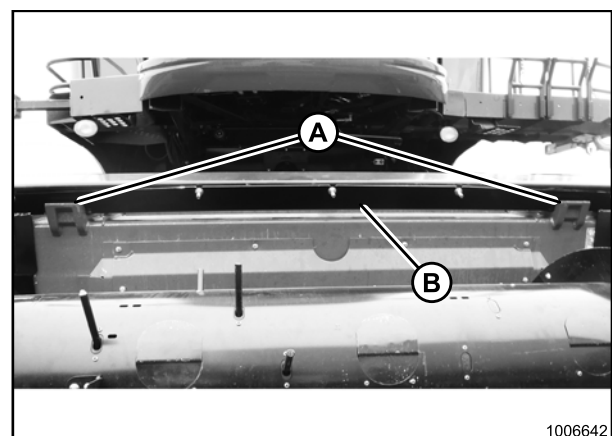


Figure 5.2: Header on Combine

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. If locks (C) do not fully engage the spacer tube and bolt on the header, loosen nut (E) and adjust position of the spacer tube and bolt (D) as necessary (both sides). Tighten nut.
8. Loosen bolts (F) and adjust lock as required to obtain full lock on spacer tube and bolt (D) when lift lever (A) and handle (B) are engaged. Retighten bolts.

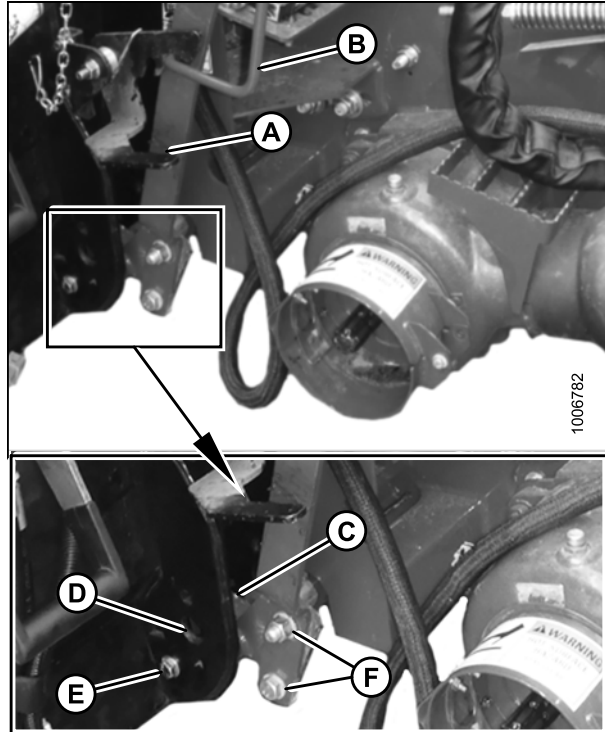


Figure 5.3: Engaging Locks

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

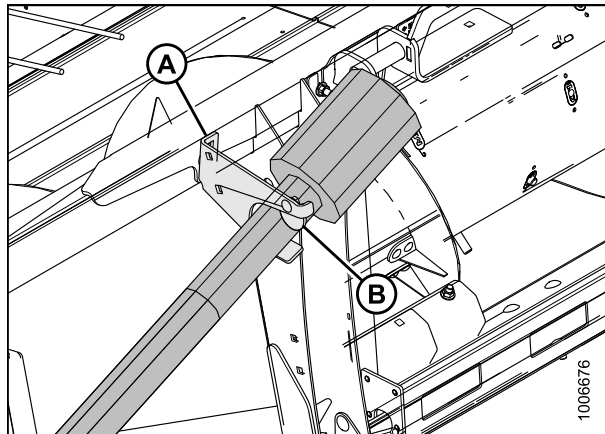


Figure 5.4: Driveline in Storage Position

ATTACHING HEADER TO COMBINE

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

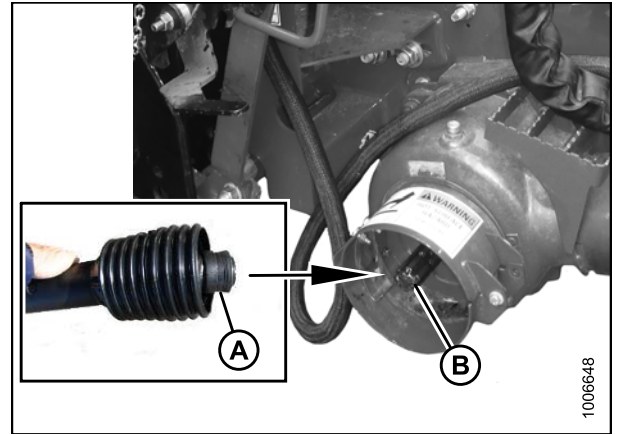


Figure 5.5: Attaching Driveline

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.

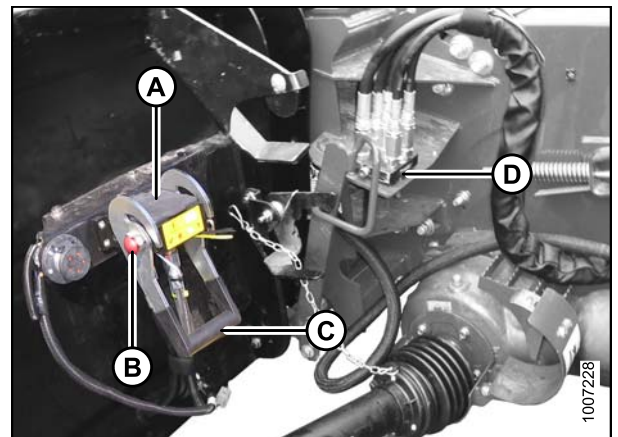


Figure 5.6: Coupler Lock

14. Position coupler (A) onto header receptacle and push handle (B) downward to engage coupler pins in 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. Remove draper deck shipping braces. Refer to [5.5 Removing Draper Deck Shipping Braces, page 66](#).

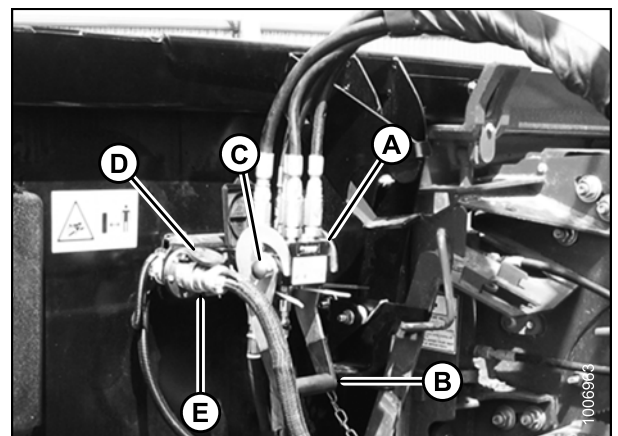


Figure 5.7: Attaching Coupler

5.2 Attaching to John Deere 60, 70, and S-Series Combine

⚠ DANGER

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key from ignition before leaving operator's seat for any reason.

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

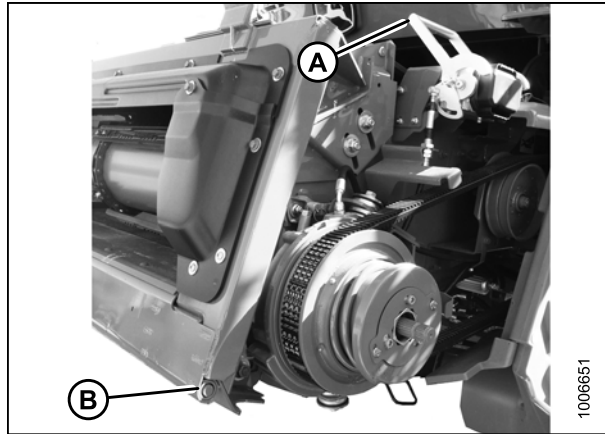


Figure 5.8: Feeder House Locks

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 slightly off the ground, stop engine, and remove key from ignition.

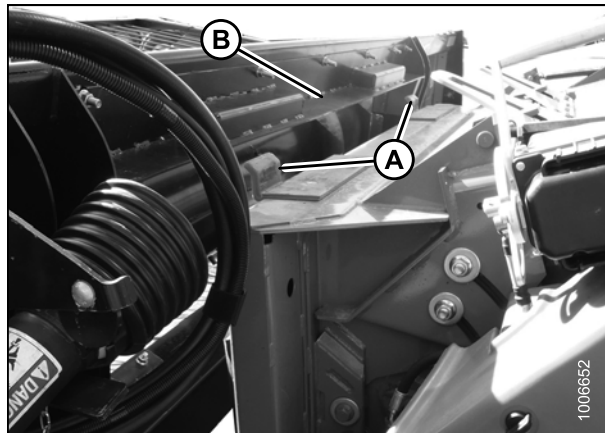


Figure 5.9: Header on Combine

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

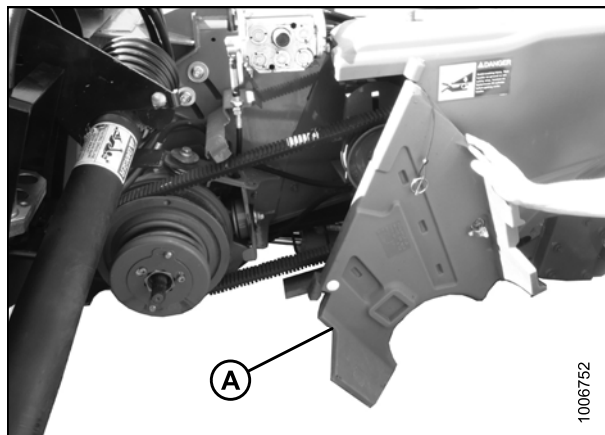


Figure 5.10: Combine Driveshield

ATTACHING HEADER TO COMBINE

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

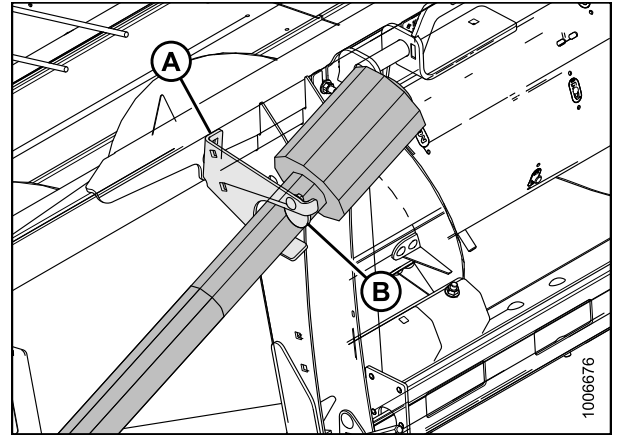


Figure 5.11: Driveline in Storage Position

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.

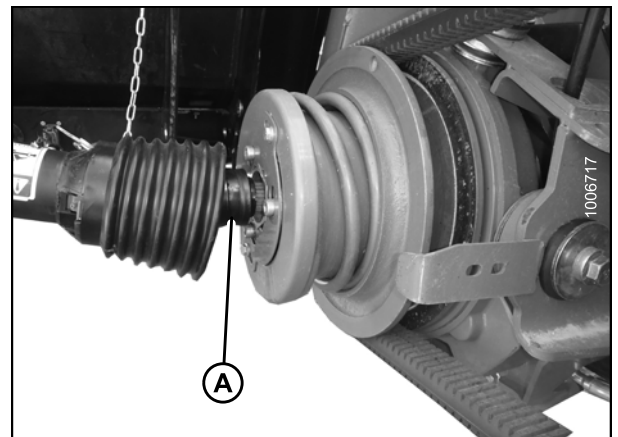


Figure 5.12: Attaching Driveline to Combine

9. Remove cover (A) from combine multicoupler receptacle.

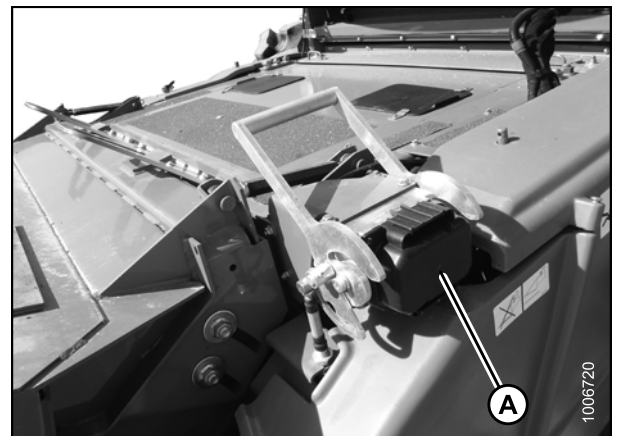


Figure 5.13: Combine Receptacle

ATTACHING HEADER TO COMBINE

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

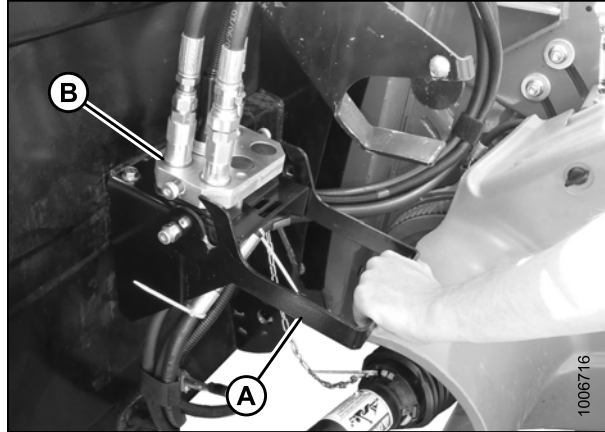


Figure 5.14: Releasing Coupler

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

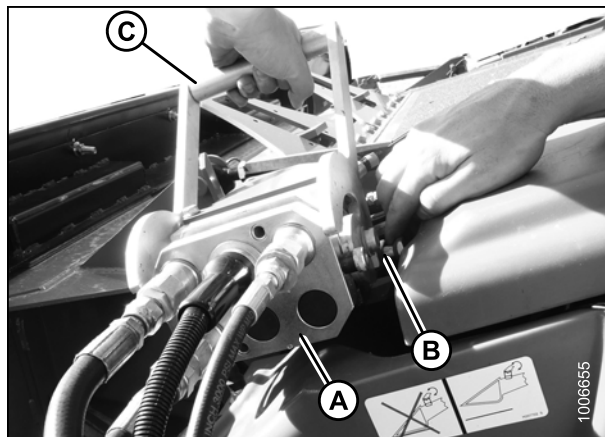


Figure 5.15: Engaging Coupler

ATTACHING HEADER TO COMBINE

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

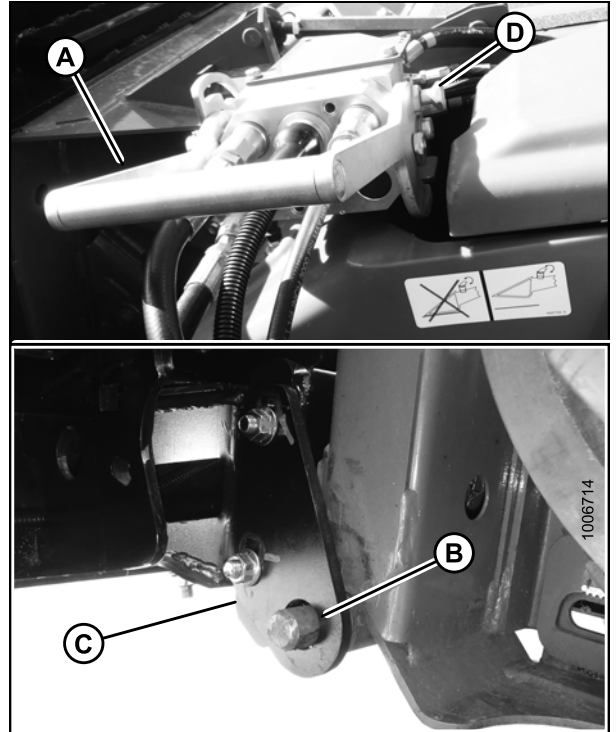


Figure 5.16: Locking Feeder House

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.

14. Remove draper deck shipping braces. Refer to [5.5 Removing Deck Shipping Braces](#), page 66.

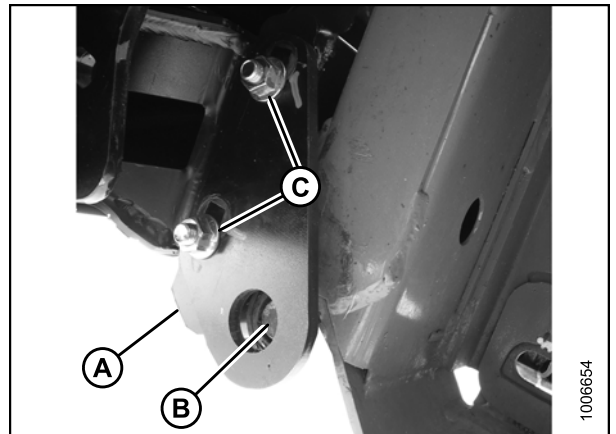


Figure 5.17: Aligning Locking Plates

5.3 Attaching to New Holland CR/CX Series Combine

DANGER

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key from ignition before leaving operator's seat for any reason.

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

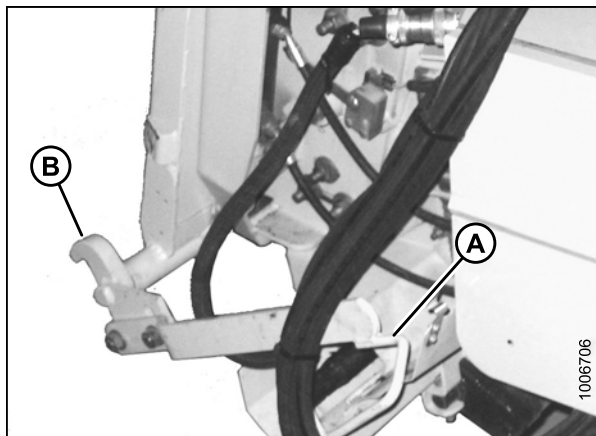


Figure 5.18: Feeder House Locks

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.

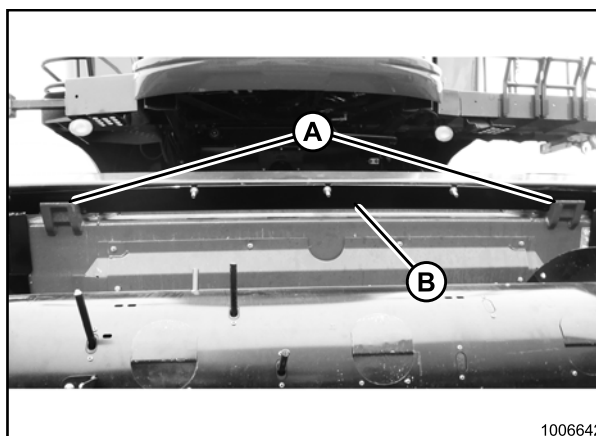


Figure 5.19: Header on Combine

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.

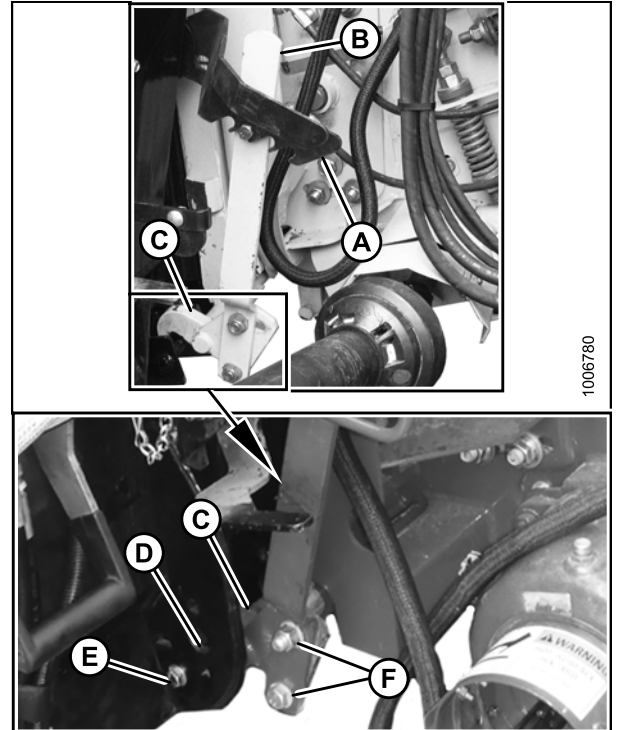


Figure 5.20: Engaging Locks

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

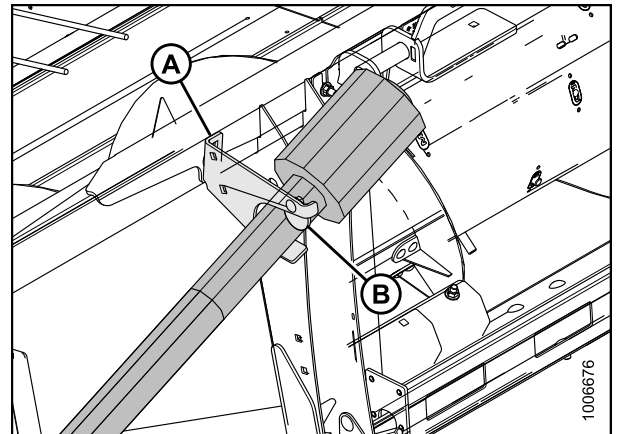


Figure 5.21: Driveline in Storage Position

ATTACHING HEADER TO COMBINE

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

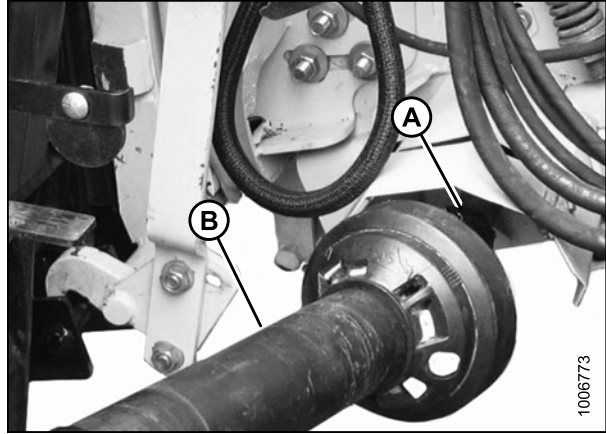


Figure 5.22: Attaching Driveline

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

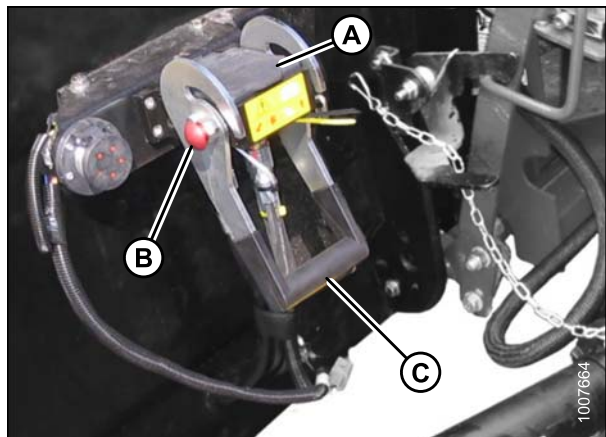


Figure 5.23: Header Receptacle

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

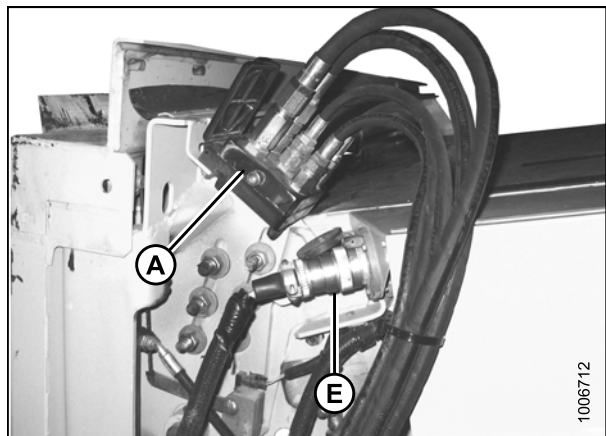


Figure 5.24: Combine Coupler/Connector

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.
18. Remove draper deck shipping braces. Refer to [5.5 Removing Deck Shipping Braces, page 66](#).

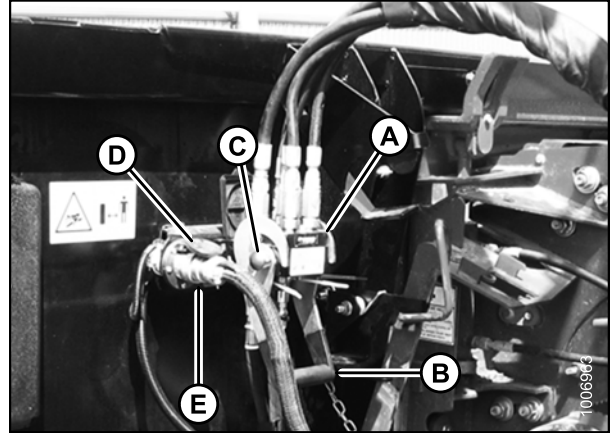


Figure 5.25: Attaching Coupler

5.4 Attaching to Versatile Combine

⚠ DANGER

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key from ignition before leaving operator's seat for any reason.

1. Check that pins (A) at lower corners of header opening are retracted.

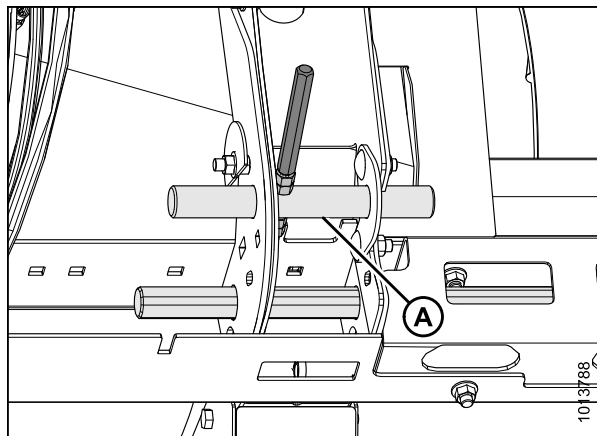


Figure 5.26: Locking Pins Retracted

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

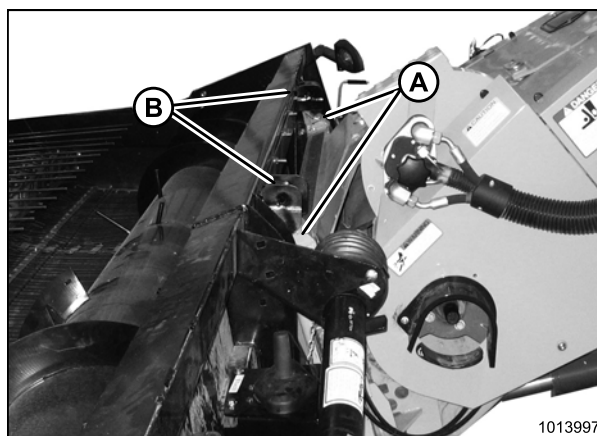


Figure 5.27: Picking up Header

ATTACHING HEADER TO COMBINE

5. Grasp handle (A) and slide pin (B) into the feeder house receptacle (C) until pin stop (D) drops down to lock the pin (see inset). Ensure pin is engaged on the opposite side of the feeder house.
6. If pin (B) does not align with feeder house receptacle (C), or if alignment of the header pan and bottom of feeder house opening is unacceptable, reposition the top beam by performing Step 7, page 63 to Step 12, page 64.

NOTE:

If pin aligns with feeder house receptacle (C), proceed to Step 14, page 64.

7. Measure the misalignment between pin (B) and the feeder house receptacle (C).
8. Lower header to the ground until the feeder house disengages the top beam.
9. Loosen the seven bolts (A) along the top beam (B) on the auger side of the header.

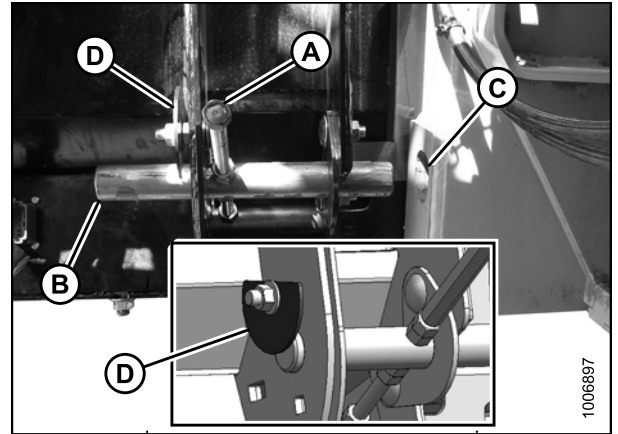


Figure 5.28: Feeder House Lock

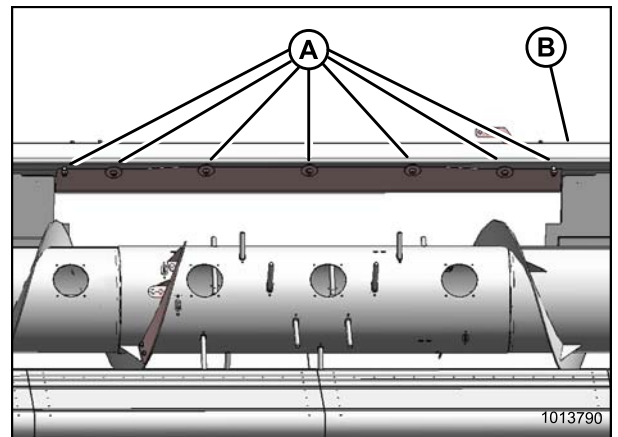


Figure 5.29: Top Beam (Front View)

10. Loosen the seven bolts (A) along the top beam (B) on the back side of the header.

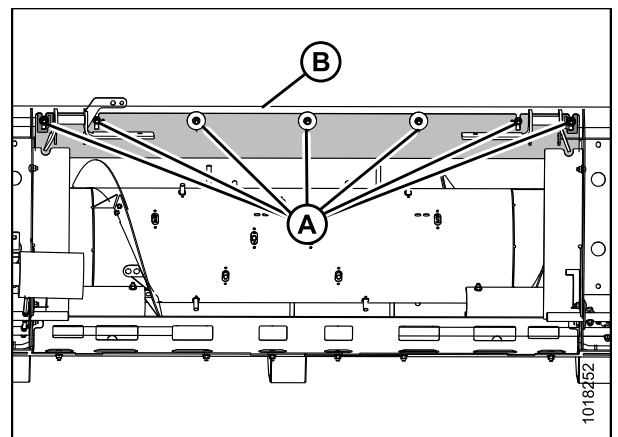


Figure 5.30: Top Beam (Rear View)

ATTACHING HEADER TO COMBINE

11. Move support channel (A) according to measurement in Step 7, page 63 to achieve proper alignment of locking pin and feeder house receptacle. Refer to Figure 5.28: *Feeder House Lock*, page 63.
12. Tighten all bolts.
13. Repeat Step 3, page 62.

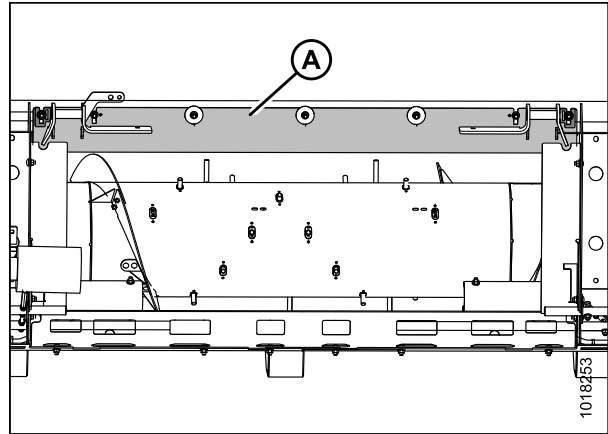


Figure 5.31: Top Beam (Rear View)

14. Rotate disc (B) on the header driveline storage hook (A), and remove driveline from the hook.

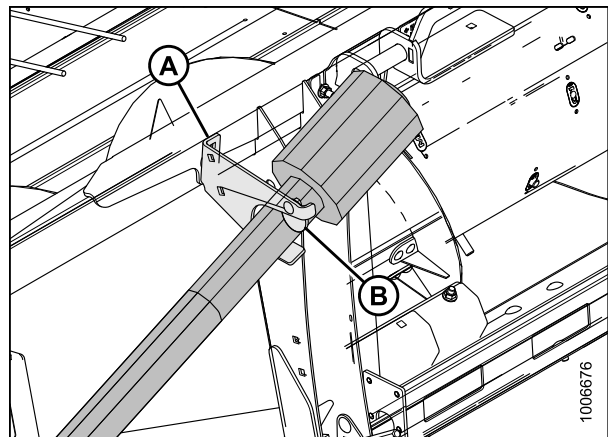


Figure 5.32: Driveline in Storage Position

15. Pull back collar (A) at the end of driveline and push onto the combine output shaft (B) until collar locks.

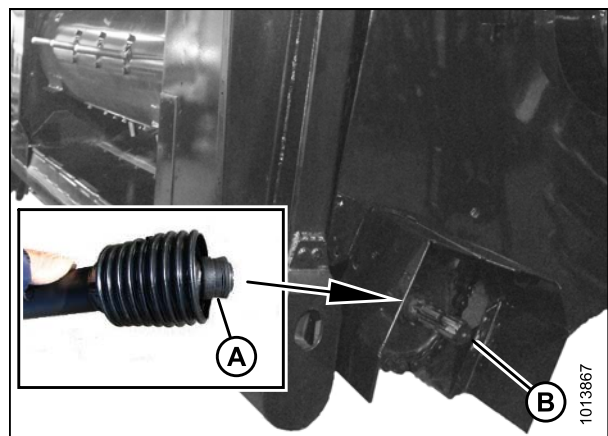


Figure 5.33: Driveline

ATTACHING HEADER TO COMBINE

16. Open cover (A) on header receptacle.
17. Push in lock button (B) and pull handle (C) upward to fully open position.

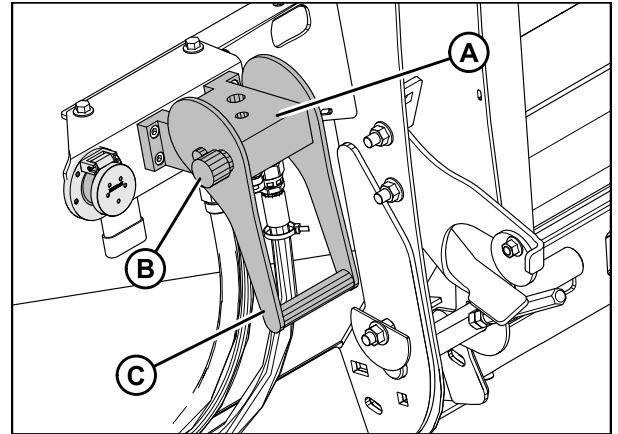


Figure 5.34: Coupler Lock

18. Remove coupler (A) from combine and clean mating surfaces.

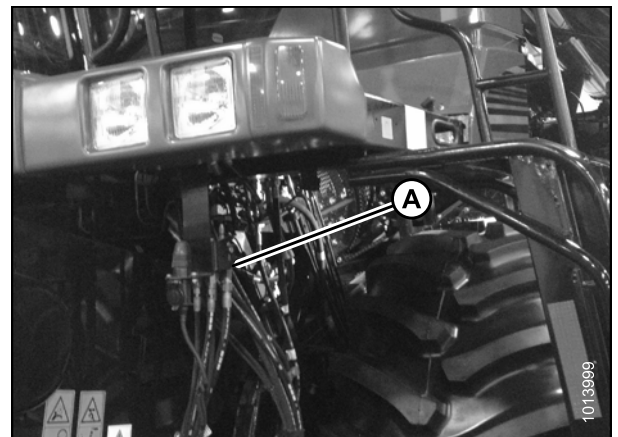


Figure 5.35: Versatile Coupler

19. Position coupler (A) onto header receptacle and push handle (B) downward to engage coupler pins into receptacle.
20. Push handle to closed position until lock button (C) snaps out.
21. Open cover (D) on header electrical receptacle.
22. Remove electrical connector (E) from storage cup on combine.
23. Align lugs on electrical connector (E) with slots in receptacle, push connector onto receptacle, and turn collar on connector to lock it in place.
24. Remove draper deck shipping braces. Refer to [5.5 Removing Deck Shipping Braces, page 66](#).

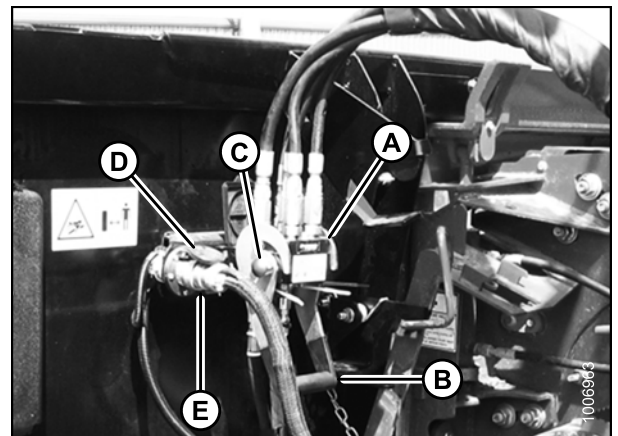


Figure 5.36: Attaching Coupler

5.5 Removing Deck Shipping Braces

DANGER

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key from ignition before leaving operator's seat for any reason.

1. Start combine.
2. Relieve load on support bolts (A) and (B) by raising and lowering the feeder house until bolts are loose.
3. Shut down combine.
4. Remove bolts (A) and (B) and remove support (C).
5. Similarly remove support from opposite end of header.

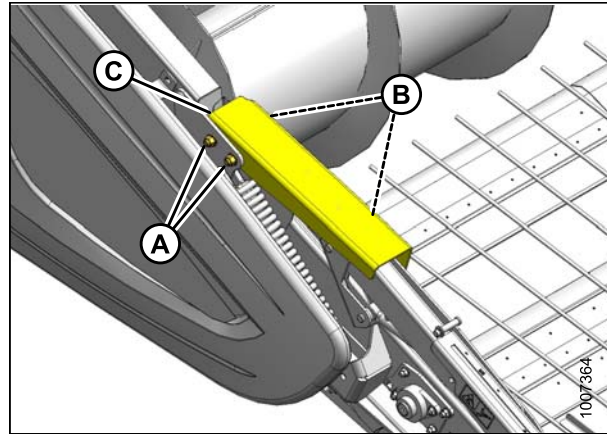


Figure 5.37: Shipping Support

5.6 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

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key from ignition before leaving operator's seat for any reason.

CAUTION

To avoid damage to the header drive, do NOT operate the header with the crop deflectors bolted in the shipping location inside the header drive compartment.

1. Open the left endshield. Refer to [3.4.1 Opening Left Endshield, page 21](#).
2. Remove bolt (A) and remove the crop deflectors (B) and bag of installation hardware from inside the left endsheet.

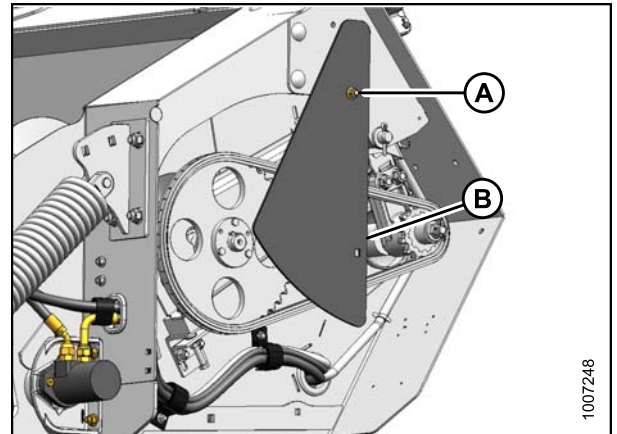


Figure 5.38: Crop Deflectors

3. Close the endshield. Refer to [3.4.2 Closing Left Endshield, page 21](#).
4. Position crop deflector (A) onto header endsheet and secure with two M12 x 25 bolts (B) and nuts provided in the bag.

NOTE:

Bolt heads must face inboard.

5. Repeat Step [4, page 67](#) for the opposite deflector.

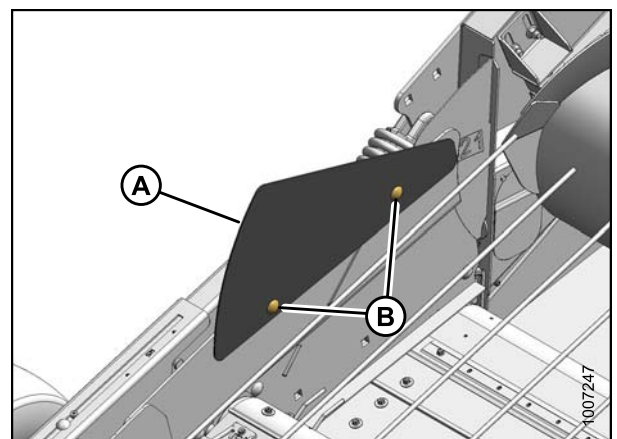


Figure 5.39: Crop Deflector

6 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, page 151](#) 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.

6.1 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.

NOTE:

This section does not apply to Versatile combines.

Sensors installed at each end of the PW8 Pick-Up Header 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 [6.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 70](#).
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.
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:

- [6.1.2 Case IH 5130/6130/7130, 7010/8010, 7120/8120/9120, and 7230/8230/9230 Combines, page 75](#)
- [6.1.3 John Deere 60 Series Combines, page 83](#)
- [6.1.4 John Deere 70 Series Combines, page 89](#)
- [6.1.5 John Deere S-Series Combines, page 95](#)
- [6.1.6 New Holland Combines CX/CR Series \(CR Series—Model Year 2014 and Earlier\), page 104](#)
- [6.1.7 New Holland Combines \(CR Series—Model Year 2015 and Later\), page 114](#)

PREDELIVERY INSPECTION

6.1.1 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.

Table 6.1 Combine Voltage Range

Combine	Low Voltage Limit	High Voltage Limit	Minimum Range
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 70](#).

Manually Checking Voltage Range

In some combines, the output voltage range of the auto header height control (AHHC) sensors can be checked from the cab. For instructions, refer to the combine operator's manual or the AHHC instructions later in this document.

1. Position header until header wheels are approximately 150 mm (6 in.) above the ground.

NOTE:

Ensure the float spring is fully extended. If the float spring is not fully extended during the next step, the voltage may go out of range during operation causing a malfunction of the AHHC system.

2. Shut down the combine. Position key so that power is supplied to sensors.
3. Open left endshield. Refer to [3.4.1 Opening Left Endshield, page 21](#).

PREDELIVERY INSPECTION

4. Locate left height sensor (A).

NOTE:

Sensor and connector may not be exactly as shown.

5. With connector plugged into sensor, measure the voltage between the orange signal wire (B) in the middle position on the connector, and the ground (brown) wire (C) at one side of the connector. This is the maximum voltage for the left sensor.

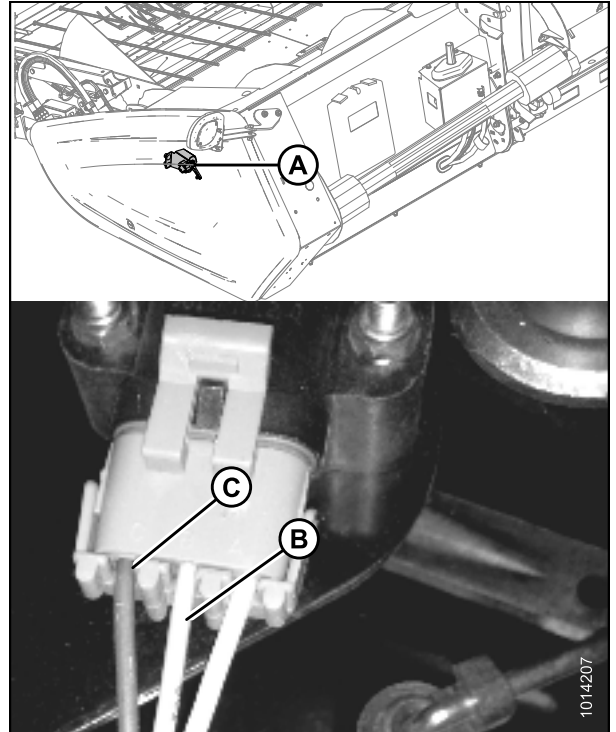


Figure 6.1: Left Height Sensor

6. Locate the access panel (A) on the inside of the right end frame.

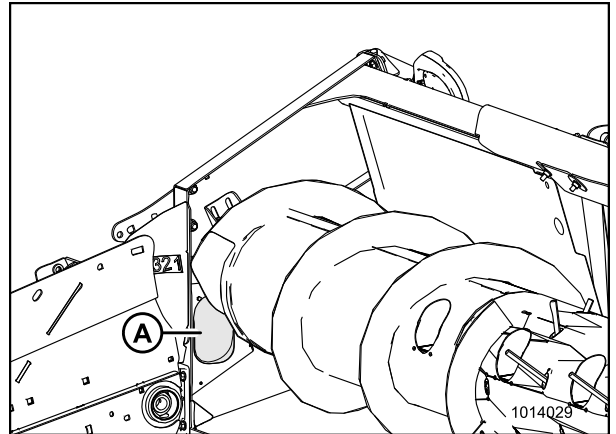


Figure 6.2: Right Access Panel

PREDELIVERY INSPECTION

7. Remove the two bolts (A) from access panel (B).
8. Remove access panel (B).

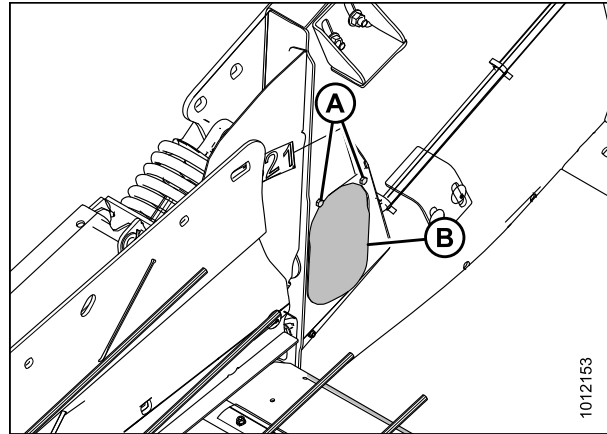


Figure 6.3: Right Access Panel

9. Locate the right height sensor (A).

NOTE:

Sensor may not be exactly as shown and view of harness is from inboard side of endsheet.

10. With the connector plugged into the sensor, measure the voltage between the signal (orange) wire (B) in the middle position on the connector and the ground (brown) wire (C) on one side of the connector. This is the maximum voltage for the right sensor.
11. Start combine and fully lower the combine feeder house. The float springs should be fully compressed. Shut down the combine. Position key so that power is supplied to sensors.
12. Repeat the voltage measurements for both sensors. These are the minimum voltages.

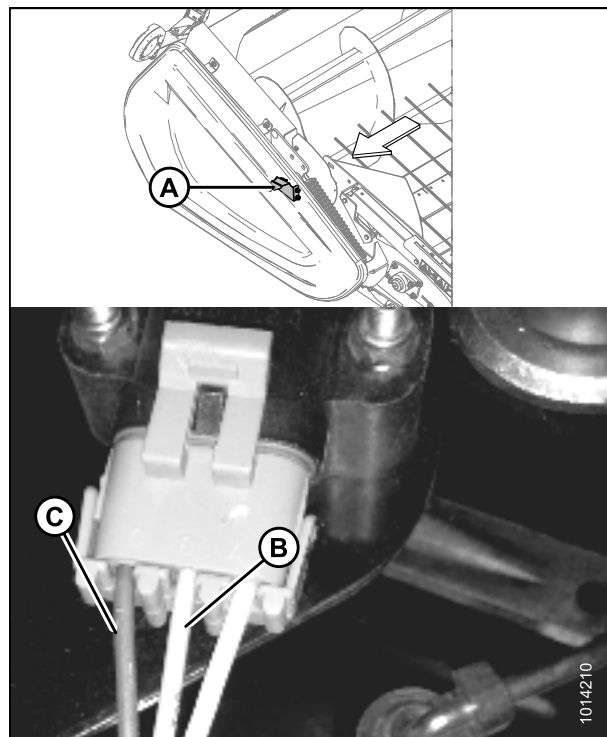


Figure 6.4: Right Height Sensor

13. Compare voltage measurements to specified values. Refer to [6.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 70](#).
14. If the sensor voltage is outside the low and high limits, or if the voltage range is less than the specified value, adjustments are required. For instructions, refer to [Adjusting Header Height Sensor Voltage Range \(Left Side\), page 73](#) or [Adjusting Header Height Sensor Voltage Range \(Right Side\), page 73](#).

PREDELIVERY INSPECTION

Adjusting Header Height Sensor Voltage Range (Left Side)

DANGER

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key from ignition before leaving operator's seat for any reason.

1. Lower header to the ground, shut down combine, and remove key from ignition.
2. Open the left endshield. Refer to [3.4.1 Opening Left Endshield, page 21](#).
3. Loosen nuts (A).
4. Rotate control (B) until desired voltage range is achieved. Refer to [6.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 70](#).

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).

5. Close left endshield. Refer to [3.4.2 Closing Left Endshield, page 21](#).

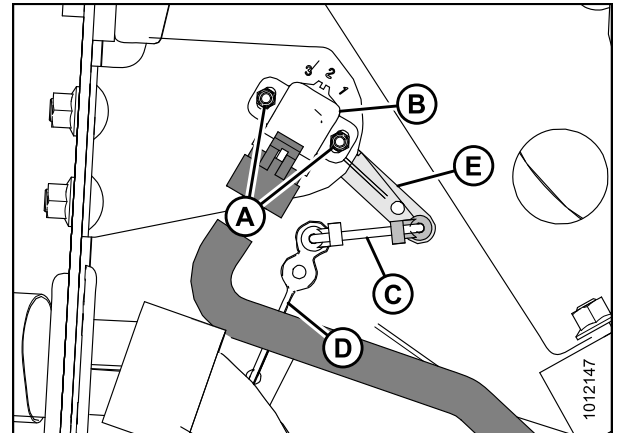


Figure 6.5: Header Height Sensor Assembly – Left Side

Adjusting Header Height Sensor Voltage Range (Right Side)

DANGER

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key from ignition before leaving operator's seat for any reason.

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 (A) on the inside of the right end frame.

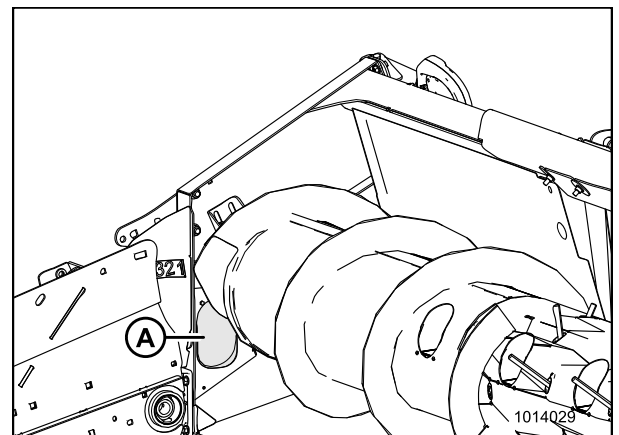


Figure 6.6: Right Access Panel

PREDELIVERY INSPECTION

4. Remove the two bolts (A) from access panel (B).
5. Remove access panel (B).

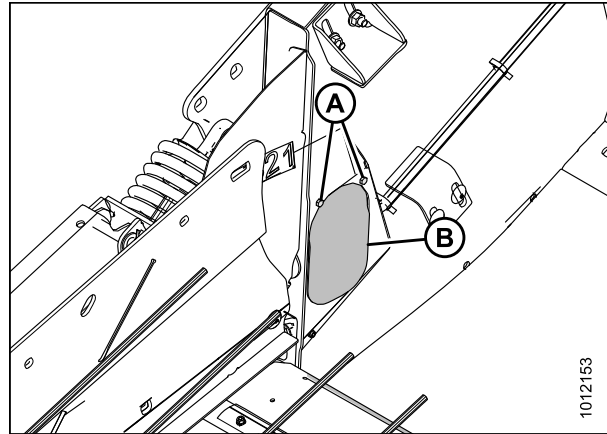


Figure 6.7: Right Access Panel

6. Loosen nuts (A).
7. Rotate sensor (B) until desired voltage range is achieved. Refer to [6.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 70](#).

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).

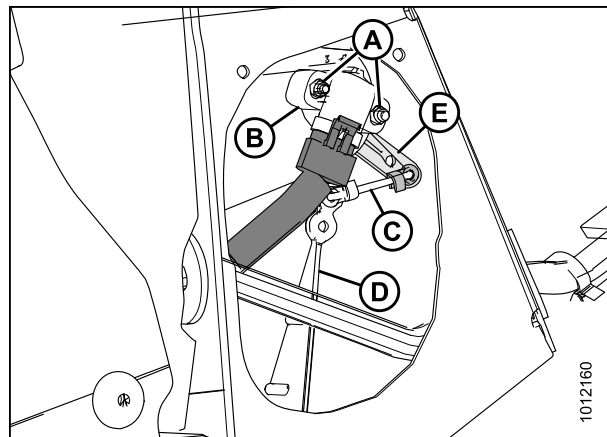


Figure 6.8: Header Height Sensor Assembly – Right Side

8. Once complete, install the access panel (B) and secure it with bolts (A).

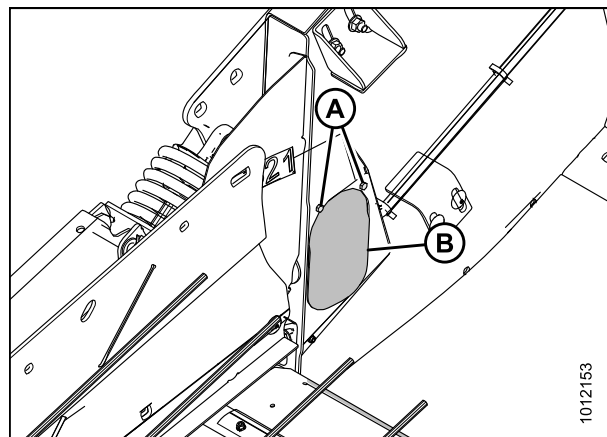


Figure 6.9: Header Height System (Auger Removed for Clarity)

PREDELIVERY INSPECTION

6.1.2 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.

CAUTION

Check to be sure all bystanders have cleared the area.

1. Raise the header until the header wheels are 150 mm (6 in.) above the ground.
2. Select DIAG (A) on the Universal display MAIN page. The DIAG page displays.

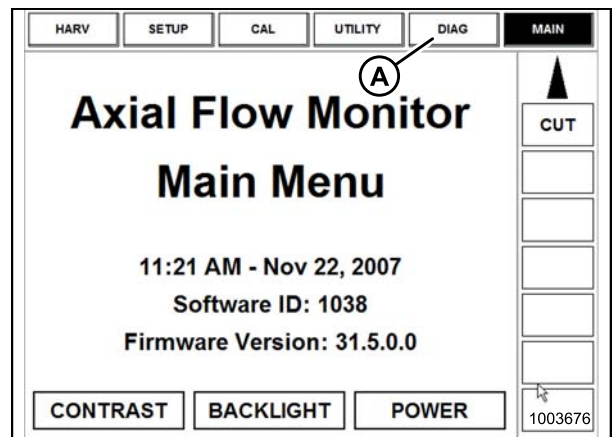


Figure 6.10: Case 8010 Combine Display

3. Select SUB SYSTEM (A). The SUB SYSTEM page displays.

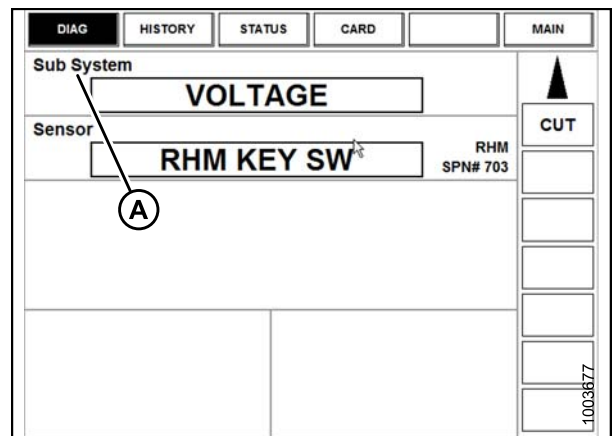


Figure 6.11: Case 8010 Combine Display

PREDELIVERY INSPECTION

4. Select HDR HEIGHT/TILT (A). The SENSOR page displays.

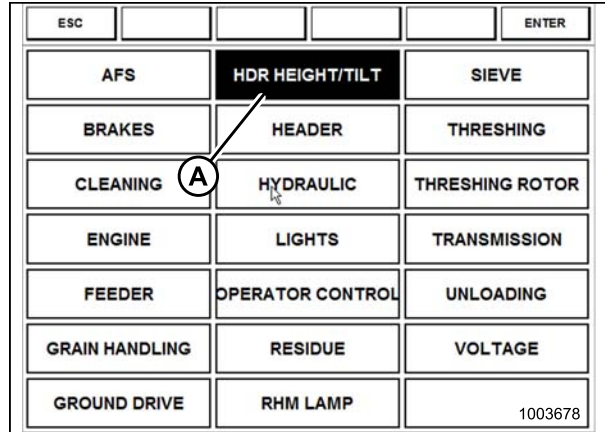


Figure 6.12: Case 8010 Combine Display

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

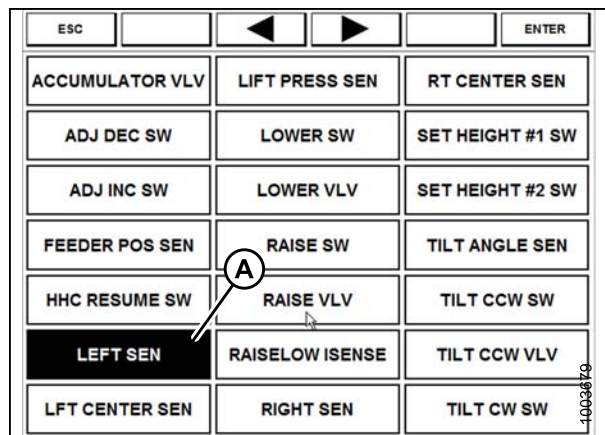


Figure 6.13: Case 8010 Combine Display

6. If the sensor voltage is not within the low and high limits shown in [6.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 70](#), or if the range between the low and high limits is insufficient, you need to make adjustments. For instructions, refer to [Adjusting Header Height Sensor Voltage Range \(Left Side\), page 73](#) and [Adjusting Header Height Sensor Voltage Range \(Right Side\), page 73](#).

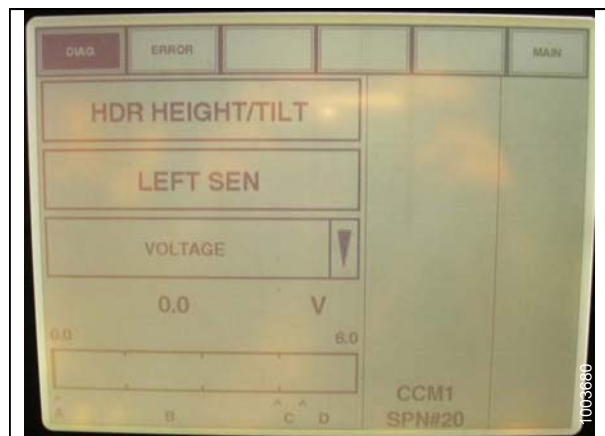


Figure 6.14: Case 8010 Combine Display

PREDELIVERY INSPECTION

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.

CAUTION

Check to be sure all bystanders have cleared the area.

1. Raise the header until the header wheels are 150 mm (6 in.) above the ground.
2. Select DIAGNOSTICS (A) on the MAIN page. The DIAGNOSTICS page opens.
3. Select SETTINGS. The SETTINGS page opens.

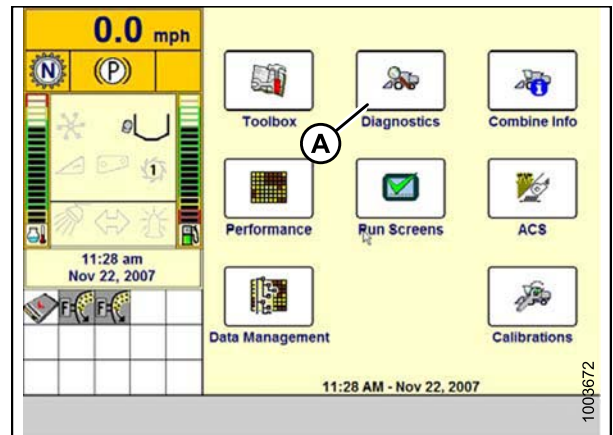


Figure 6.15: Case IH Combine Display

4. Select the GROUP drop-down arrow (A). The GROUP dialog box.

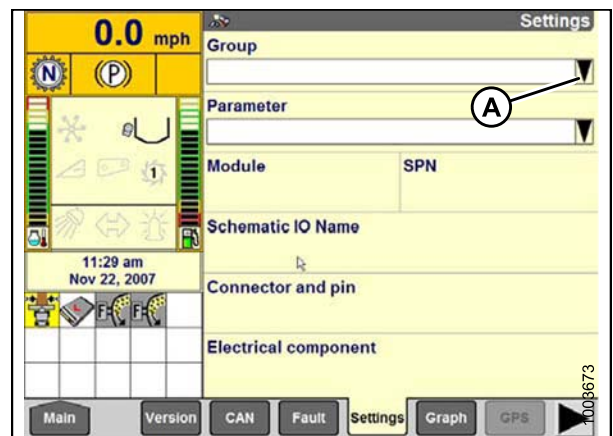


Figure 6.16: Case IH Combine Display

PREDELIVERY INSPECTION

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

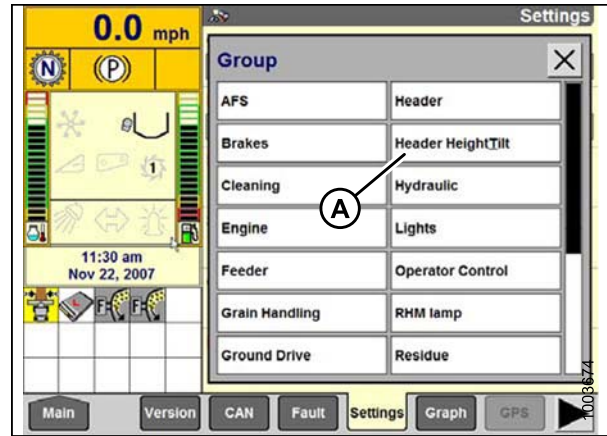


Figure 6.17: Case IH Combine Display

6. Select LEFT HEADER HEIGHT SEN (A), and then select the GRAPH button (B). The exact voltage is displayed at top of page. 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 [6.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 70](#), or if the range between the low and high limits is insufficient, you need to make adjustments. For instructions, refer to [Adjusting Header Height Sensor Voltage Range \(Left Side\), page 73](#) and [Adjusting Header Height Sensor Voltage Range \(Right Side\), page 73](#).

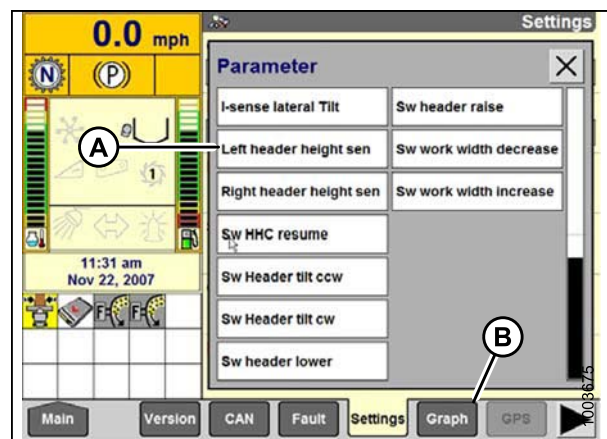


Figure 6.18: Case IH Combine Display

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 \(Case Combines with Version 28.00 or Higher Software\), page 80](#).

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. Ensure all header electrical and hydraulic connections are made.
2. Select TOOLBOX on the MAIN page, and then select HEADER.

PREDELIVERY INSPECTION

3. Set appropriate HEADER STYLE.



Figure 6.19: Case IH Combine Display

4. Set AUTO REEL SPEED SLOPE.
5. Set HEADER PRESSURE FLOAT to NO if equipped, and ensure REEL DRIVE is HYDRAULIC.

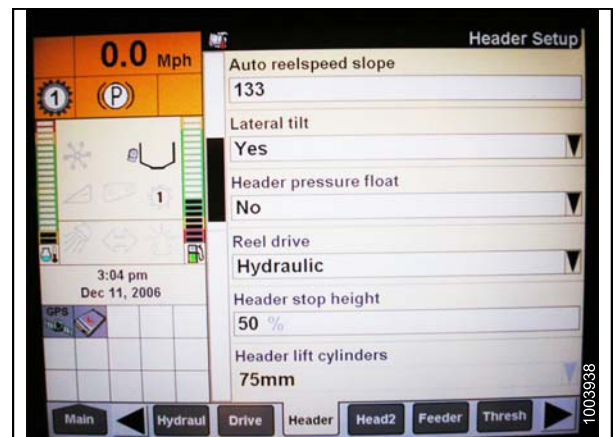


Figure 6.20: Case IH Combine Display

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

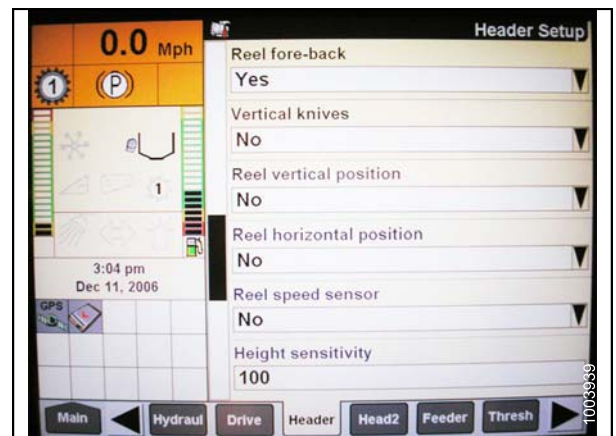


Figure 6.21: Case IH Combine Display

PREDELIVERY INSPECTION

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

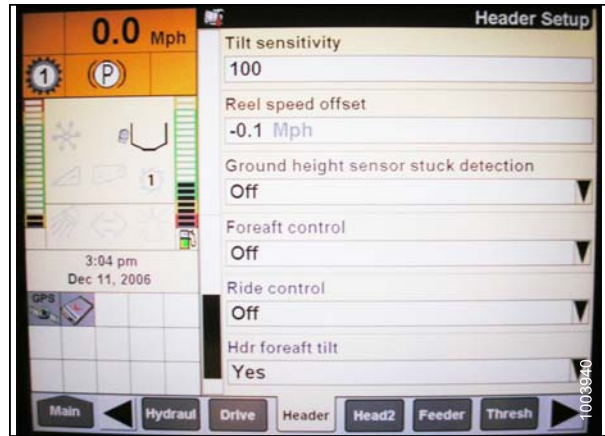


Figure 6.22: Case IH Combine Display

- Press HEAD2 at bottom of page.
- Ensure HEADER TYPE is PICK-UP.

NOTE:

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

- Set cutting type to PLATFORM.
- Set appropriate HEADER WIDTH and HEADER USAGE.

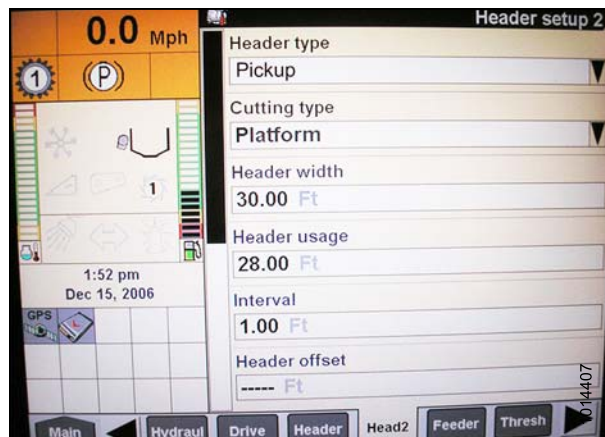


Figure 6.23: Case IH Combine Display

Calibrating the Auto Header Height Control (Case Combines with Version 28.00 or Higher 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.

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



Figure 6.24: Case IH Combine Display

PREDELIVERY INSPECTION

4. Locate the HEADER SENSORS and HEADER PRESSURE FLOAT 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 FLOAT field.

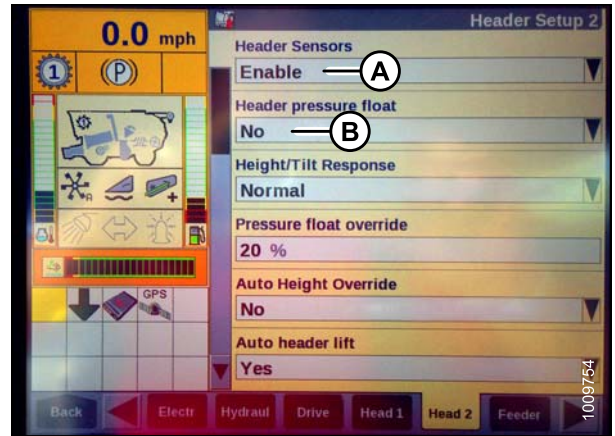


Figure 6.25: Case IH Combine Display

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.

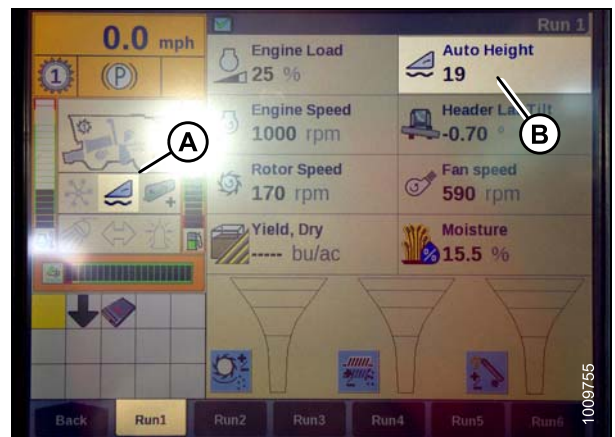


Figure 6.26: Case IH Combine Display

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

NOTE:

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

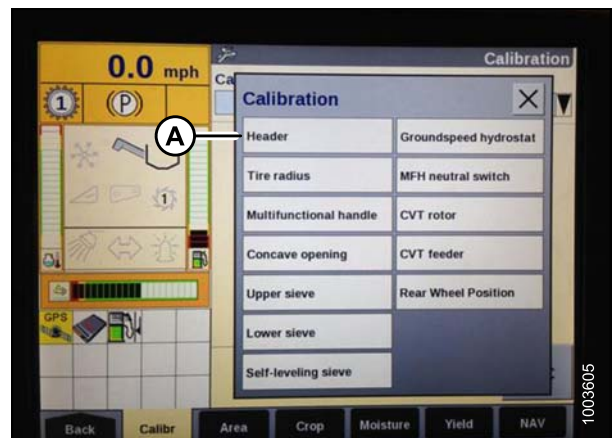


Figure 6.27: Case IH Combine Display

PREDELIVERY INSPECTION

10. Follow the calibration steps in the order in which they appear in the dialog box. 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 6.28: Case IH Combine Display

11. When all steps have been completed, CALIBRATION SUCCESSFUL message is displayed on the page. 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.

12. If the unit does not function properly, conduct the maximum stubble height calibration.

Setting Preset Cutting Height (Case 7010/8010, 7120/8120/9120, 7230/8230/9230)

To set the preset cutting height, follow these steps:

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.

CAUTION

Check to be sure all bystanders have cleared the area.

PREDELIVERY INSPECTION

1. Engage separator and header.
2. Manually raise or lower the header to the desired cutting height.
3. Press the SET #1 switch (A). The HEADER HEIGHT MODE lamp (C), next to the SET #1 switch, turns on.
4. Manually raise or lower the header to a second desired cutting height.
5. Press the SET #2 switch (B). The HEADER HEIGHT MODE lamp (D), next to the SET #2 switch, turns on.

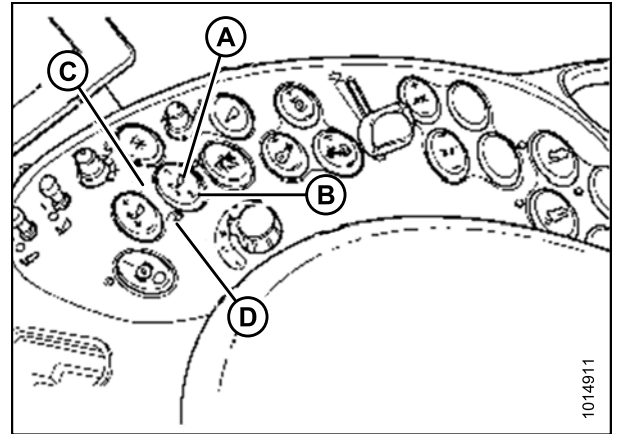


Figure 6.29: Case Combine Controls

6. To swap between set points, press HEADER RESUME (A).
7. To pick up header at headlands, press HEADER RESUME (A) twice. To lower, press HEADER RESUME (A).

NOTE:

You can fine adjust these set points by using the FINE ADJUST switch (A).

NOTE:

Pressing the HEADER RAISE/LOWER switch will disengage AUTO HEIGHT mode. Press HEADER RESUME to reengage.



Figure 6.30: Case Combine Controls

6.1.3 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.

⚠ CAUTION

Check to be sure all bystanders have cleared the area.

1. Raise the header until the header wheels are 150 mm (6 in.) above the ground.

PREDELIVERY INSPECTION

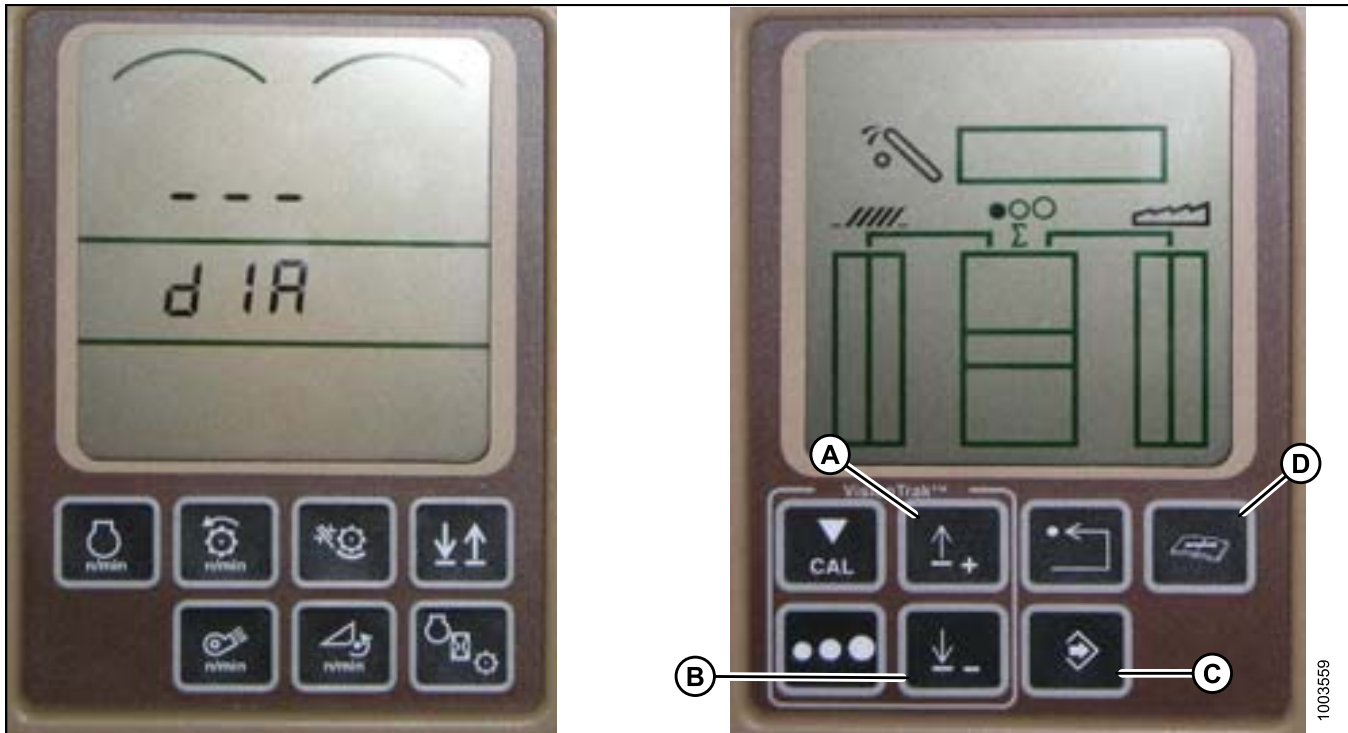


Figure 6.31: John Deere Combine Display

2. Press the diagnostic button (D) on the HHS monitor (the button with the open book with the wrench on top of it). dIA appears on the monitor.
3. Press the up button (A) until EO1 appears on the monitor (these are the header adjustments).
4. Press the ENTER button (C).
5. Press up (A) or down (B) until 24 is displayed on the top portion of the monitor. This is the voltage reading of the sensor.
6. Start the combine and lower the 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 and check the sensor reading again.
9. If the sensor voltage is not within the low and high limits shown in [6.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 70](#), or if the range between the low and high limits is insufficient, you need to make adjustments. For instructions, refer to [Adjusting Header Height Sensor Voltage Range \(Left Side\), page 73](#) and [Adjusting Header Height Sensor Voltage Range \(Right Side\), page 73](#).

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.

PREDELIVERY INSPECTION

CAUTION

Check to be sure all bystanders have cleared the area.

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

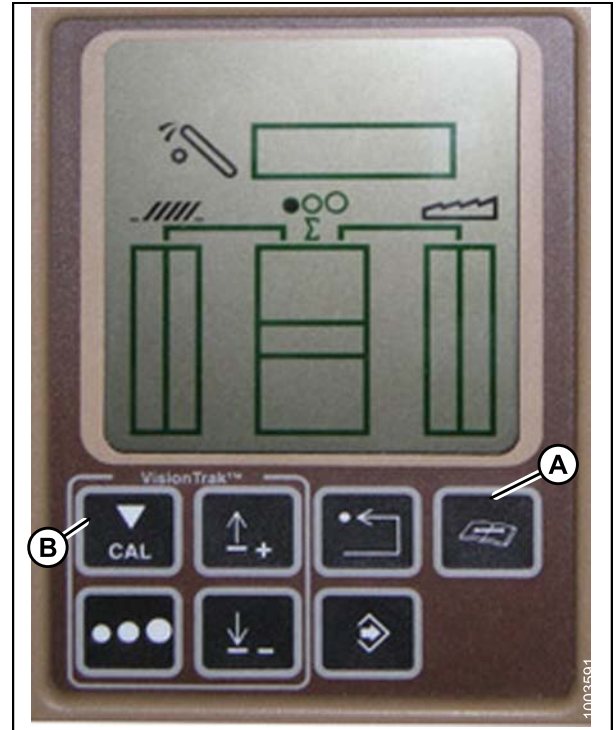


Figure 6.32: John Deere Combine Display

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.

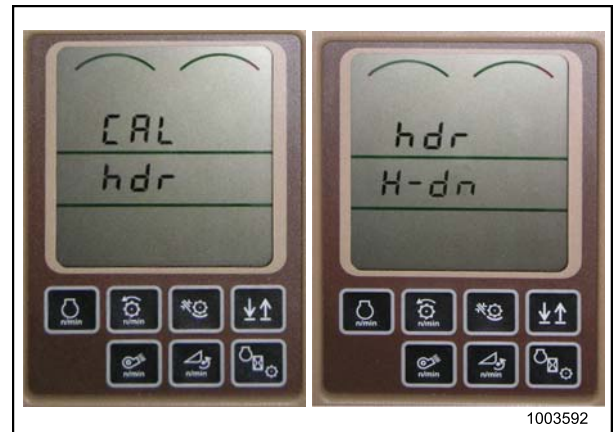


Figure 6.33: John Deere Combine Display

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.

PREDELIVERY INSPECTION

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 83.

NOTE:

After the calibration is complete, adjust combine operation settings to ensure proper field operation.

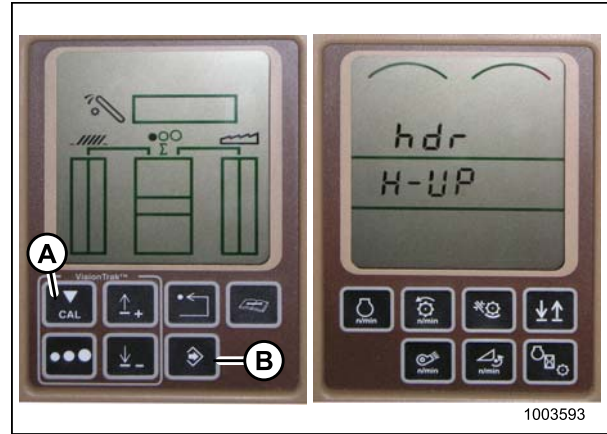


Figure 6.34: John Deere Combine Display

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.

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.

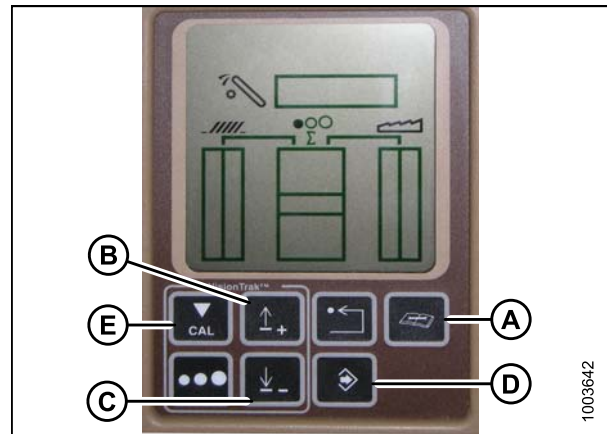


Figure 6.35: John Deere Combine Display

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.

PREDELIVERY INSPECTION

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.

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 6.37: *John Deere Combine Display*, page 87.

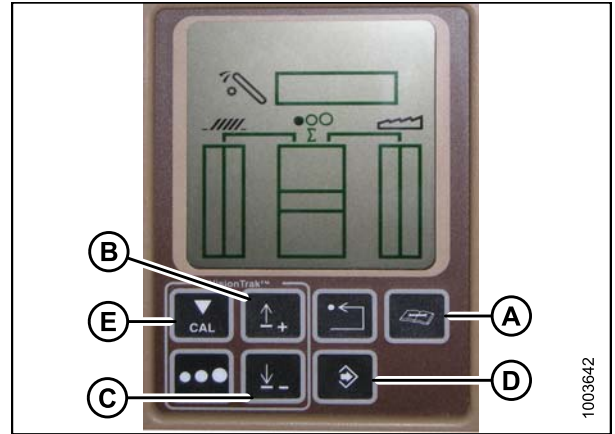


Figure 6.36: John Deere Combine Display

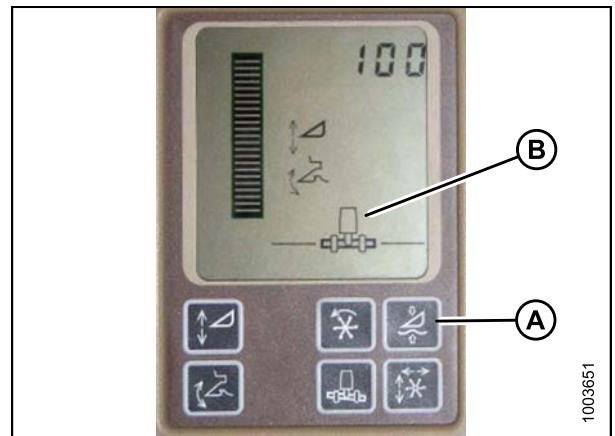


Figure 6.37: John Deere Combine Display

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.

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 and 80.

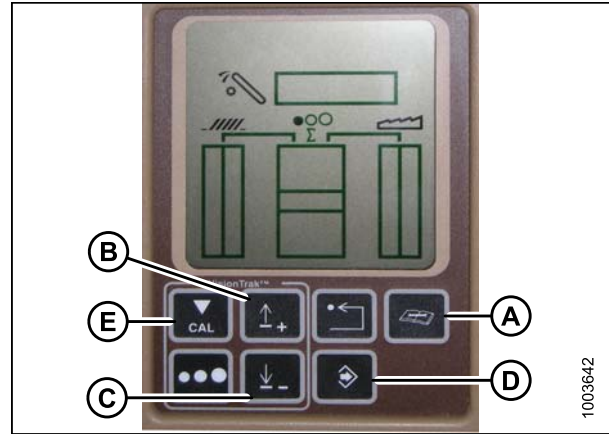


Figure 6.38: John Deere Combine Display

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 UP (B) or DOWN (C) until the desired number is displayed, then press the CAL (E) button. This will bring 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.

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

This procedure explains how to adjust 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.

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 and 85.

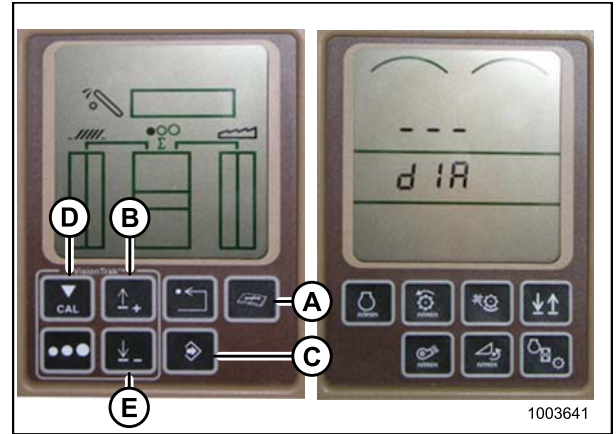


Figure 6.39: John Deere Combine Display

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 UP (B) or DOWN (E) until the desired number is displayed, then 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.

6.1.4 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.

CAUTION

Check to be sure all bystanders have cleared the area.

1. Raise the header until the header wheels are 150 mm (6 in.) above the ground.

PREDELIVERY INSPECTION

2. Press the HOME PAGE button (A) on the main page of the combine display.



Figure 6.40: John Deere Combine Display

3. Ensure the three icons (A) depicted in the illustration at right appear on the combine display.



Figure 6.41: John Deere Combine Display

4. Use scroll knob (A) to highlight the middle icon (the green i) and press the check mark button (B) to select it. This will display the Message Center.

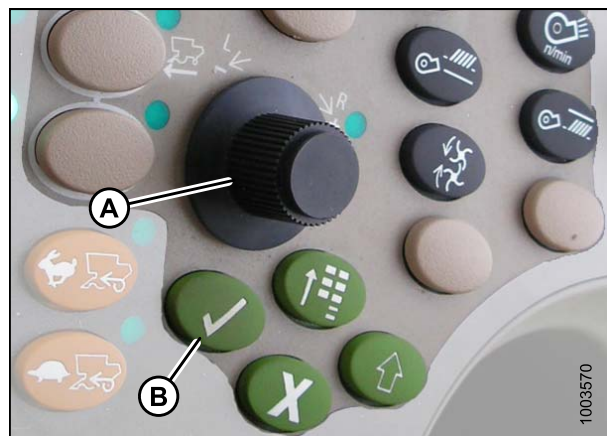


Figure 6.42: John Deere Combine Control Console

PREDELIVERY INSPECTION

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



Figure 6.43: John Deere Combine Display

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



Figure 6.44: John Deere Combine Display

8. 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 combine display.

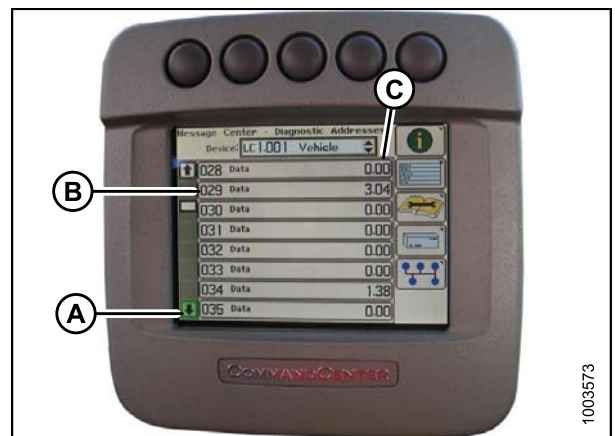


Figure 6.45: John Deere Combine Display

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.

10. Check the sensor reading on the monitor.

PREDELIVERY INSPECTION

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 [6.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 70](#), or if the range between the low and high limits is insufficient, you need to make adjustments. For instructions, refer to [Adjusting Header Height Sensor Voltage Range \(Left Side\), page 73](#) and [Adjusting Header Height Sensor Voltage Range \(Right Side\), page 73](#).

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.

CAUTION

Check to be sure all bystanders have cleared the area.

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 6.46: John Deere Combine Display

4. Select HEADER in box (A) by scrolling down to the box using the scroll knob, and then pressing the check mark button (knob and button are shown in Figure 6.48: [John Deere Combine Control Console, page 93](#)).
5. Scroll down to the lower right icon that resembles an arrow in a diamond (B) and press the check mark button to select it.

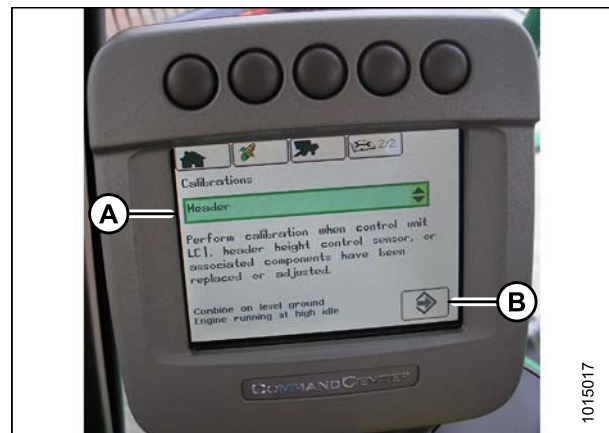


Figure 6.47: John Deere Combine Display

PREDELIVERY INSPECTION

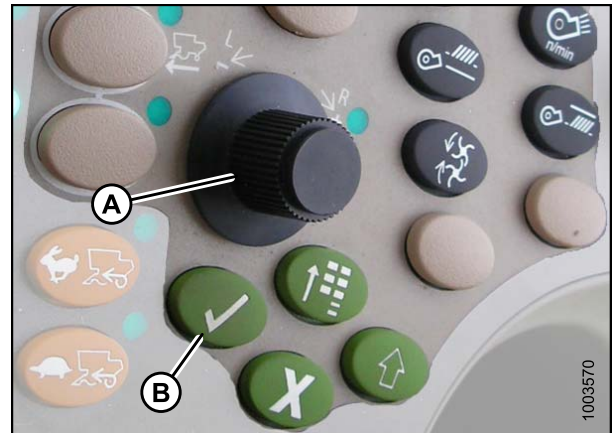


Figure 6.48: John Deere Combine Control Console

A - Scroll Knob

B - Check Mark Button

6. Follow the steps listed on the combine display to perform the calibration.

NOTE:

If an error code appears on page, the sensor is not in the correct working range. Refer to [Checking Voltage Range from the Combine Cab \(John Deere 70 Series\), page 89](#) to check and adjust the range.

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.

1. Press button (A) twice and the current sensitivity setting will appear on the combine display (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 combine display to the previous page.

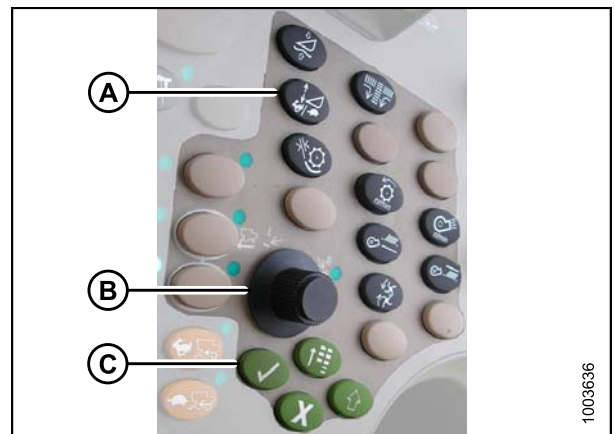


Figure 6.49: John Deere Combine Control Console

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 6.50: John Deere 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.

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) will also return the monitor to the previous page.

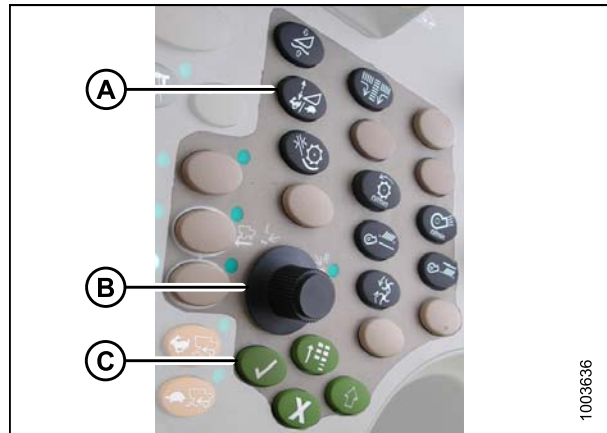


Figure 6.51: John Deere Combine Control Console

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 6.52: John Deere Combine Display

6.1.5 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.

⚠ CAUTION

Check to be sure all bystanders have cleared the area.

1. Raise the header until the header wheels are 150 mm (6 in.) above the ground.
2. Press the CALIBRATION icon (A) on the main page of the combine display. The CALIBRATION page appears.

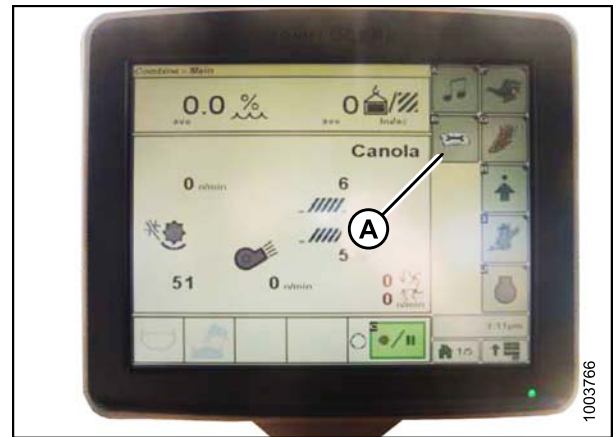


Figure 6.53: John Deere Combine Display

3. Press the DIAGNOSTIC READINGS icon (A) on the CALIBRATION page. The DIAGNOSTIC READINGS page appears. This page provides access to calibrations, header options, and diagnostic information.

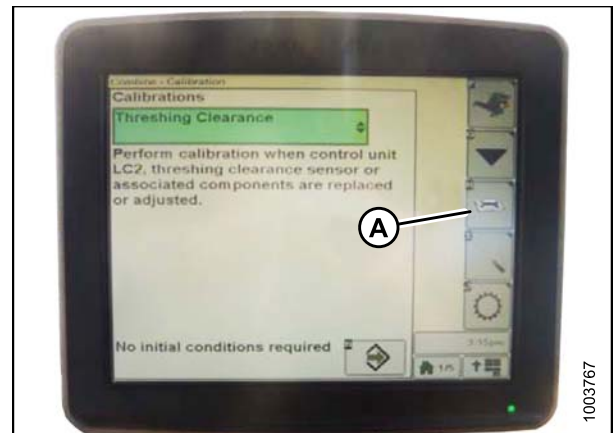


Figure 6.54: John Deere Combine Display

PREDELIVERY INSPECTION

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



Figure 6.55: John Deere Combine Display

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



Figure 6.56: John Deere Combine Display

7. Press icon (A) until it reads Page 5 near the top of the page and the following sensor readings appear:
 - LEFT HEADER HEIGHT
 - CENTER HEADER HEIGHT
 - RIGHT HEADER HEIGHT

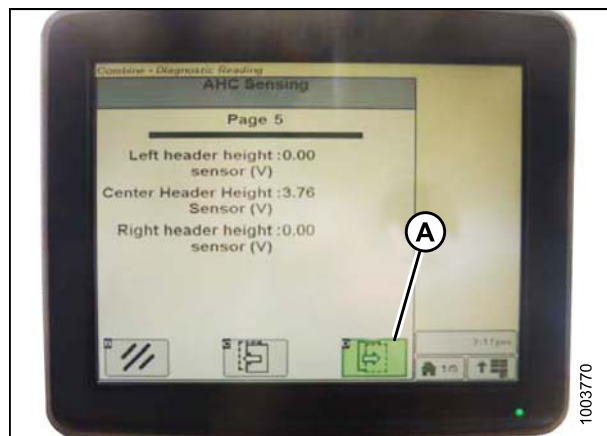


Figure 6.57: John Deere Combine Display

PREDELIVERY INSPECTION

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 [6.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 70](#), or if the range between the low and high limits is insufficient, you need to make adjustments. For instructions, refer to [Adjusting Header Height Sensor Voltage Range \(Left Side\), page 73](#) and [Adjusting Header Height Sensor Voltage Range \(Right Side\), page 73](#).

Calibrating Feeder House Fore/Aft Tilt Range (John Deere S-Series)

This procedure applies only to model year 2015 and later John Deere S-Series combines.

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.

The feeder house fore/aft tilt is controlled by buttons (C) and (D) at the back of the hydro handle.



Figure 6.58: John Deere Hydro Handle

PREDELIVERY INSPECTION

NOTE:

The feeder house fore/aft tilt controls can be changed to work with buttons E and F by pressing the hydro handle icon (A) and then selecting FEEDER HOUSE FORE/AFT TILT from the drop-down menu (B) on the combine display.

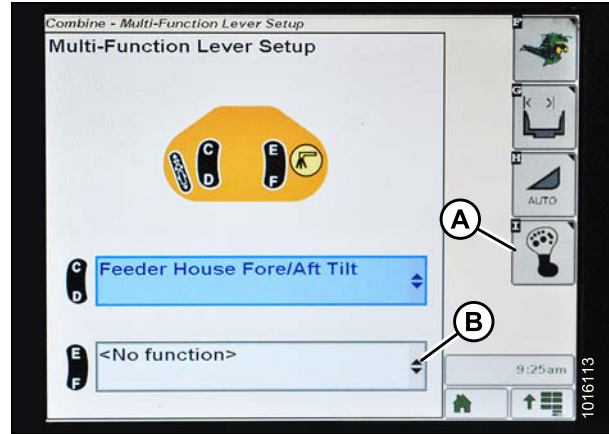


Figure 6.59: John Deere Combine Display

To calibrate the feeder house fore/aft tilt range, follow these steps:

1. Press the DIAGNOSTIC icon (A) on the main page of the combine display. The CALIBRATION page displays.
2. Select the CALIBRATIONS drop-down menu (A) to view the list of calibration options.

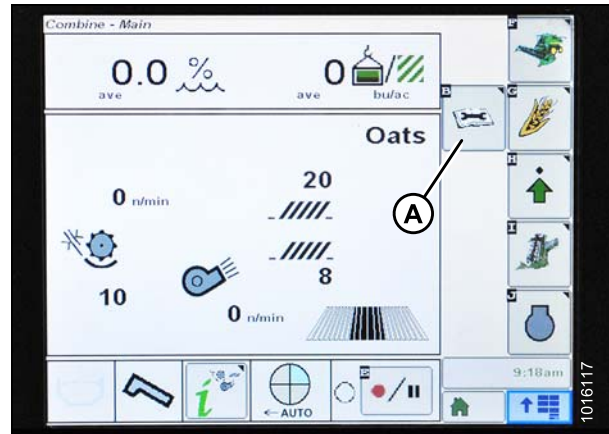


Figure 6.60: John Deere Combine Display

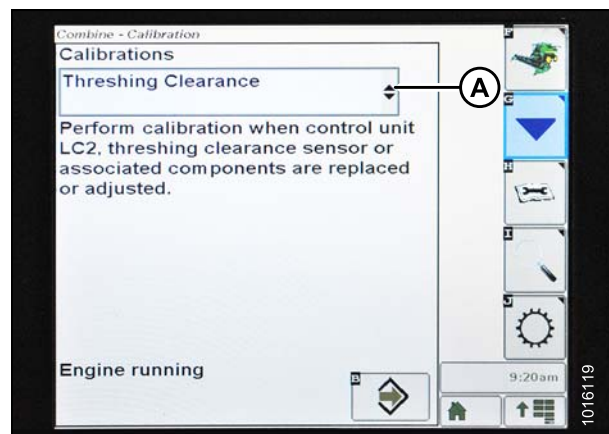


Figure 6.61: John Deere Combine Display

PREDELIVERY INSPECTION

3. Press the arrow (A) to cycle up through the calibration options and select FEEDER HOUSE FORE/AFT TILT RANGE.

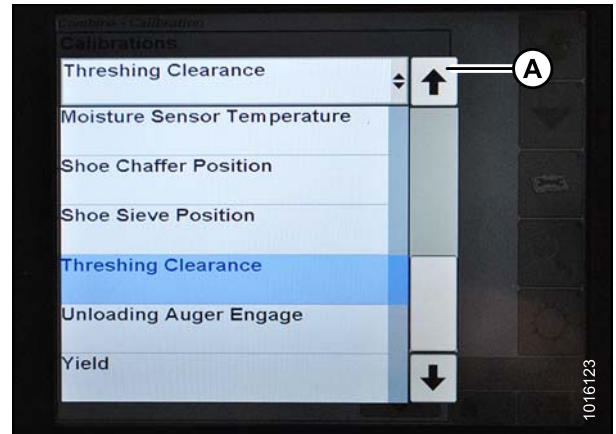


Figure 6.62: John Deere Combine Display

4. Press the ENTER icon (A).

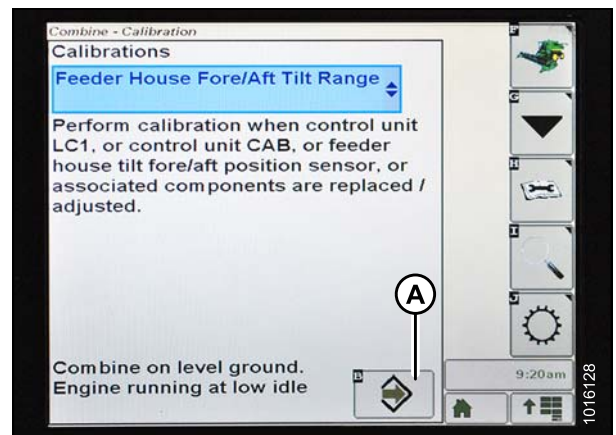


Figure 6.63: John Deere Combine Display

5. Follow the instructions that appear on the combine display. As you proceed through the calibration process, the display will automatically update to show the next step.

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 95.

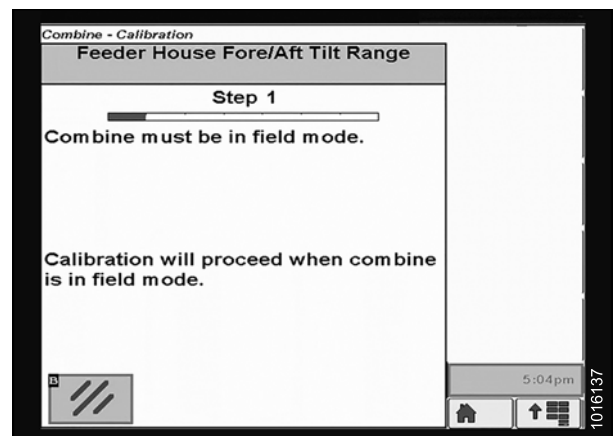


Figure 6.64: John Deere Combine Display

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.

PREDELIVERY INSPECTION

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

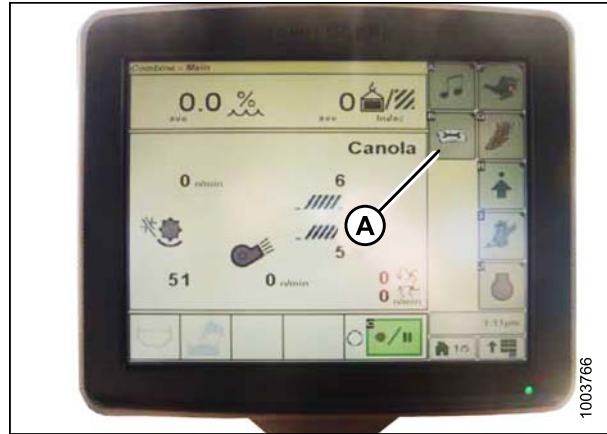


Figure 6.65: John Deere Combine Display

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

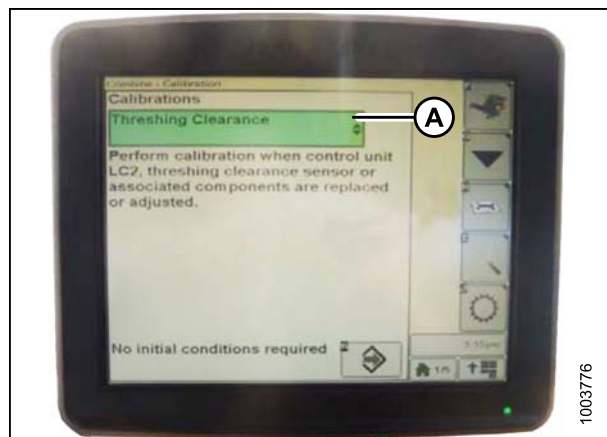


Figure 6.66: John Deere Combine Display

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

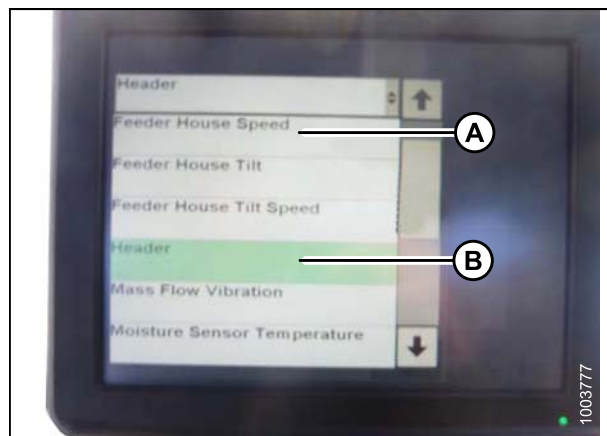


Figure 6.67: John Deere Combine Display

PREDELIVERY INSPECTION

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

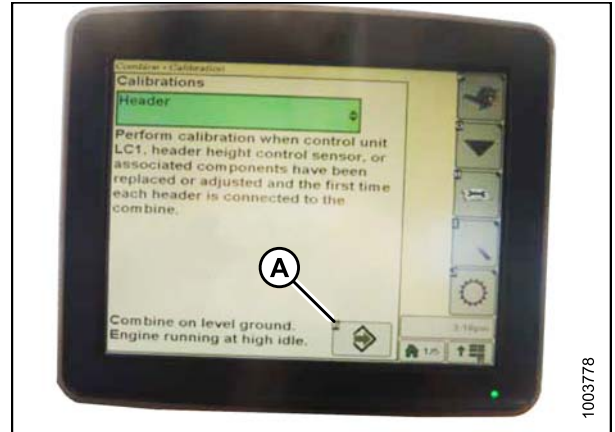


Figure 6.68: John Deere Combine Display

6. 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, one or both of the sensors is out of voltage range and will require adjustment. Refer to [Adjusting Header Height Sensor Voltage Range \(Left Side\), page 73](#) and [Adjusting Header Height Sensor Voltage Range \(Right Side\), page 73](#).

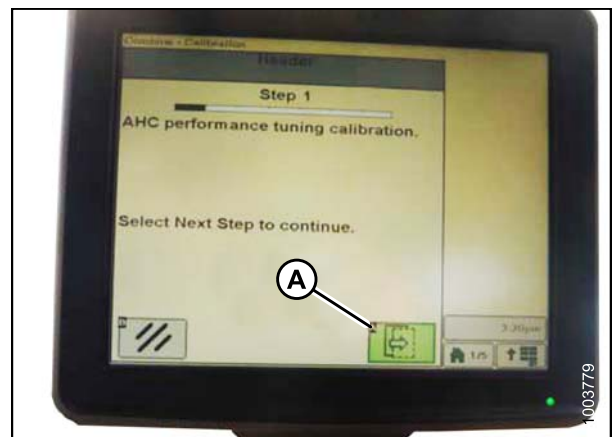


Figure 6.69: John Deere Combine Display

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.

1. Press button (A) twice and the current sensitivity setting will appear on the combine display.



Figure 6.70: John Deere Combine Command Center

PREDELIVERY INSPECTION

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.

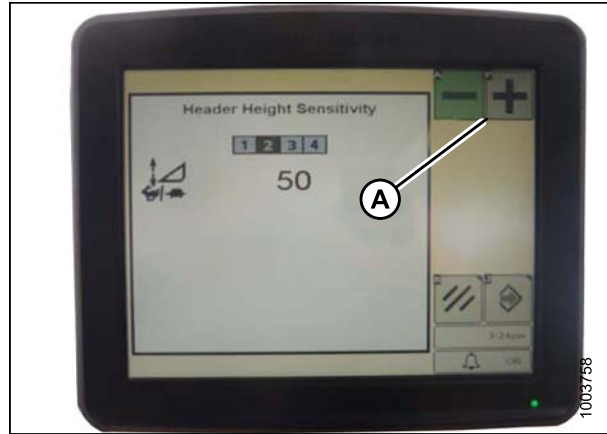


Figure 6.71: John Deere Combine Display

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.

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



Figure 6.72: John Deere 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.

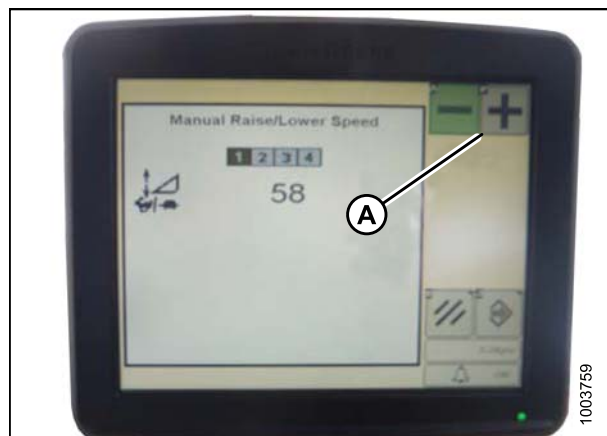


Figure 6.73: John Deere Combine Display

PREDELIVERY INSPECTION

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.

1. Press the COMBINE – HEADER SETUP icon (A) on the main page. The COMBINE – HEADER SETUP page appears. 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 6.74: Combine Display

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



Figure 6.75: Combine Display

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

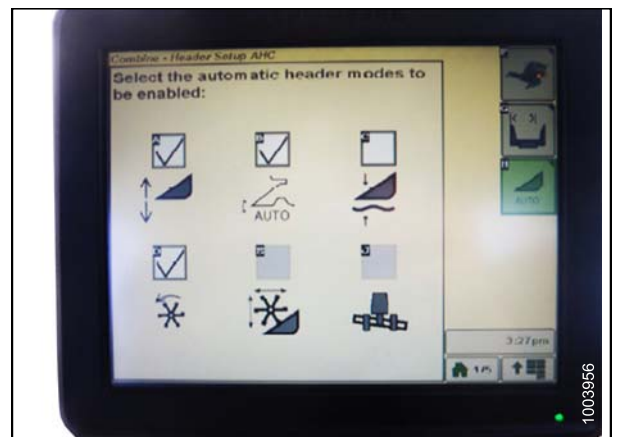


Figure 6.76: Combine Display

PREDELIVERY INSPECTION

4. Select an appropriate ground pressure setting. 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 and is not used for ground cutting.



Figure 6.77: Joystick Buttons

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



Figure 6.78: 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.

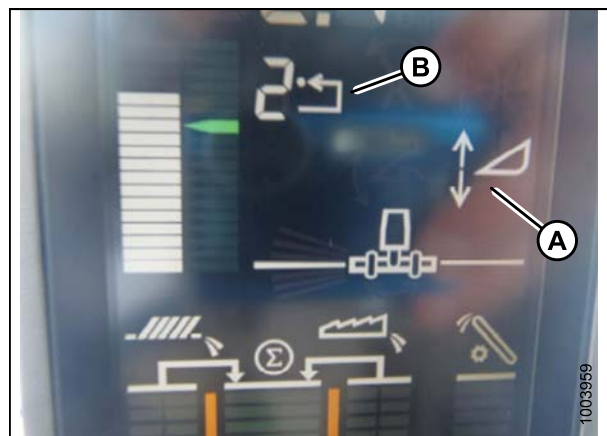


Figure 6.79: Combine Display

6.1.6 New Holland Combines CX/CR Series (CR Series—Model Year 2014 and Earlier)

NOTE:

For New Holland CR models 6.80, 6.90, 7.90, 8.90, 9.90, and 10.90, refer to [6.1.7 New Holland Combines \(CR Series—Model Year 2015 and Later\)](#), page 114.

PREDELIVERY INSPECTION

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.

CAUTION

Check to be sure all bystanders have cleared the area.

1. Raise the header until the header wheels are 150 mm (6 in.) above the ground.
2. Select DIAGNOSTICS (A) on the main page. The DIAGNOSTICS page displays.
3. Select SETTINGS. The SETTINGS page displays.

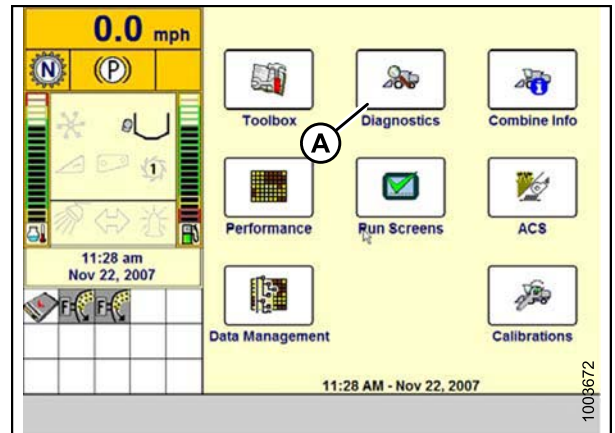


Figure 6.80: New Holland Combine Display

4. Select the GROUP drop-down arrow (A). The GROUP dialog box displays.

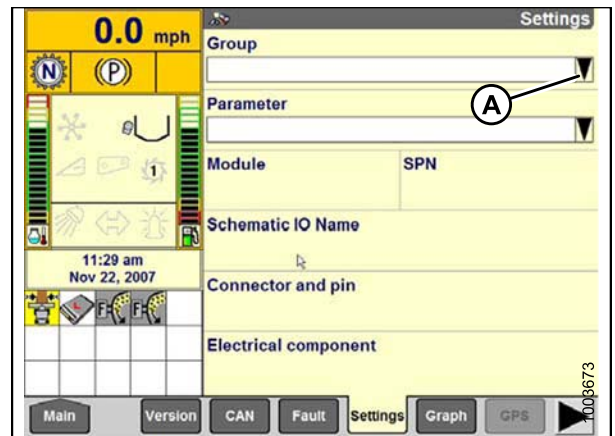


Figure 6.81: New Holland Combine Display

PREDELIVERY INSPECTION

5. Select HEADER HEIGHT/TILT(A). The PARAMETER page displays.

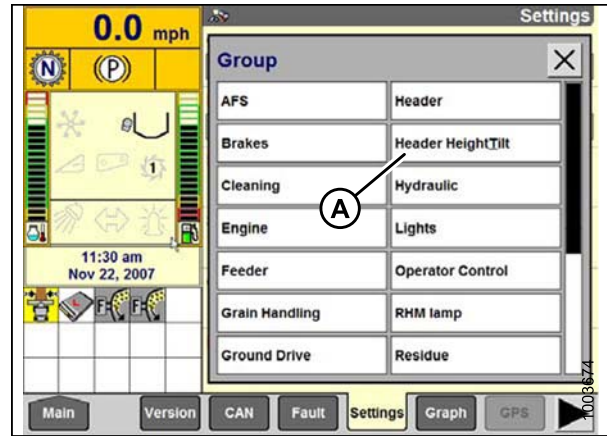


Figure 6.82: New Holland Combine Display

6. Select LEFT HEADER HEIGHT SEN (A), and then select GRAPH button (B). The exact voltage is displayed at the top of the page.
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 [6.1.1 Height Sensor Output Voltage Range – Combine Requirements, page 70](#), or if the range between the low and high limits is insufficient, you need to make adjustments. For instructions, refer to [Adjusting Header Height Sensor Voltage Range \(Left Side\), page 73](#) and [Adjusting Header Height Sensor Voltage Range \(Right Side\), page 73](#).

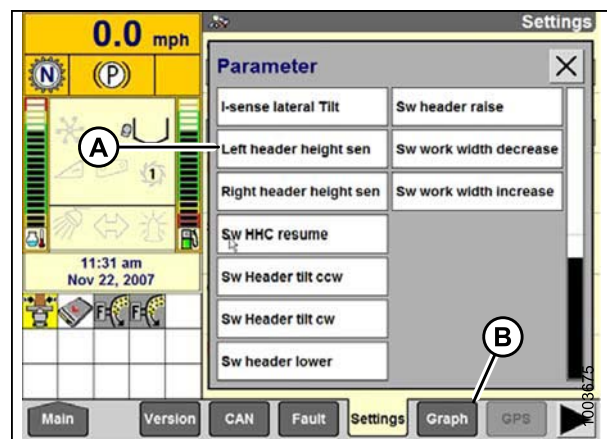


Figure 6.83: New Holland Combine Display

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.

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



Figure 6.84: New Holland Combine Display

PREDELIVERY INSPECTION

3. Select HEADER AUTOFLOAT, and press ENTER.
4. Use the up and down navigation keys to move between options, and select INSTALLED.

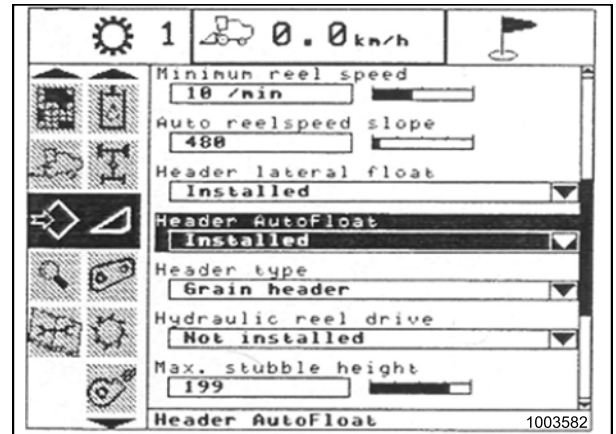


Figure 6.85: New Holland Combine Display

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.

CAUTION

Check to be sure all bystanders have cleared the area.

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 AHHC, follow these steps:

1. Select CALIBRATION on the combine display, and press the right arrow navigation key to enter the information box.

PREDELIVERY INSPECTION

2. Select HEADER (A), and press ENTER. The CALIBRATION dialog box opens.

NOTE:

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

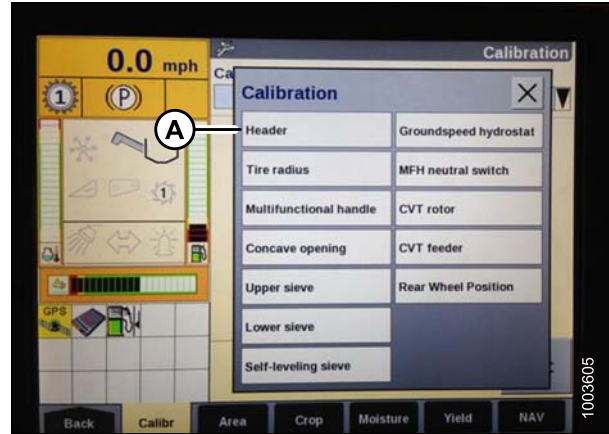


Figure 6.86: New Holland Combine Display

3. Follow the calibration steps in the order in which they appear in the dialog box. 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 6.87: New Holland Combine Display

4. When all steps have been completed, CALIBRATION SUCCESSFUL message is displayed on the page. 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. If the unit does not function properly, conduct the maximum stubble height calibration.

Calibrating Maximum Stubble Height

This procedure describes how to calibrate the area counter to stop or start counting at the correct height. Program the header to a height that will never be reached while cutting. The area counter will stop counting when the header is above the programmed height, and will begin counting when the header is below the programmed height.

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

PREDELIVERY INSPECTION

IMPORTANT:

- If the value is set too low, area may NOT 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 counting even when the header is raised (but below this threshold) and the combine is no longer cutting crop.

CAUTION

Check to be sure all bystanders have cleared the area.

1. Select the MAXIMUM STUBBLE HEIGHT calibration dialog box. As you proceed through the calibration process, the display will automatically update to show the next step.

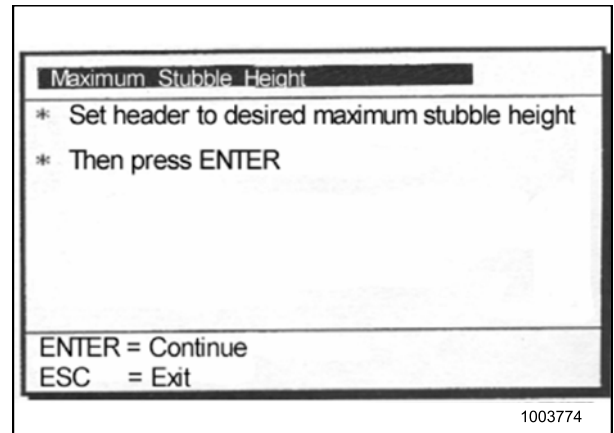


Figure 6.88: New Holland Calibration Dialog Box

2. Move header to the correct position using the header up or down control switch on the multifunction handle.
3. Press ENTER to continue. As you proceed through the calibration process, the display will automatically update to show the next step.
4. Press ENTER or ESC to close the calibration page. The calibration is now complete.

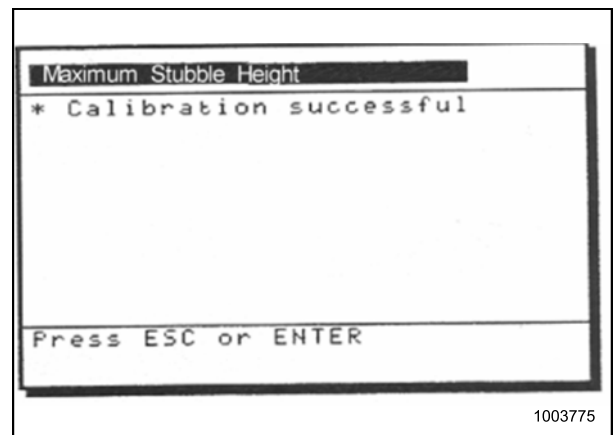


Figure 6.89: New Holland Calibration Dialog Box

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.

PREDELIVERY INSPECTION

1. Select HEADER RAISE RATE on the combine display.
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 to 236 in steps of 34. The factory setting is 100.

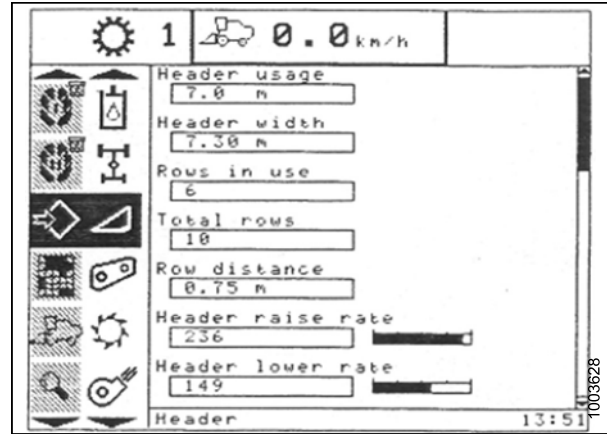


Figure 6.90: New Holland Combine Display

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.

1. Select HEADER LOWER RATE on the combine display.
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 to 247 in steps of 7. It is factory-set to 100.

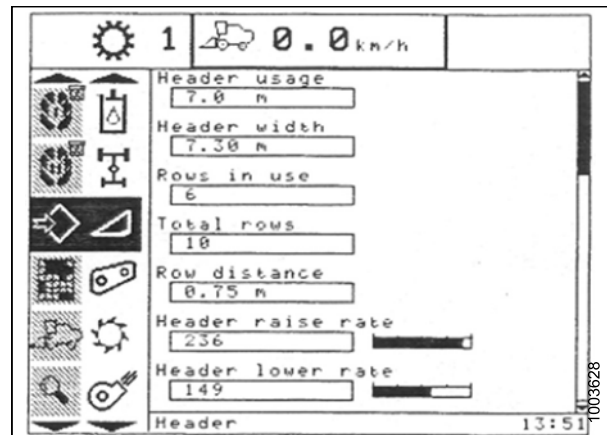


Figure 6.91: New Holland Combine Display

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.

CAUTION

Check to be sure all bystanders have cleared the area.

PREDELIVERY INSPECTION

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 to 250 in steps of 10. It is factory-set to 100.

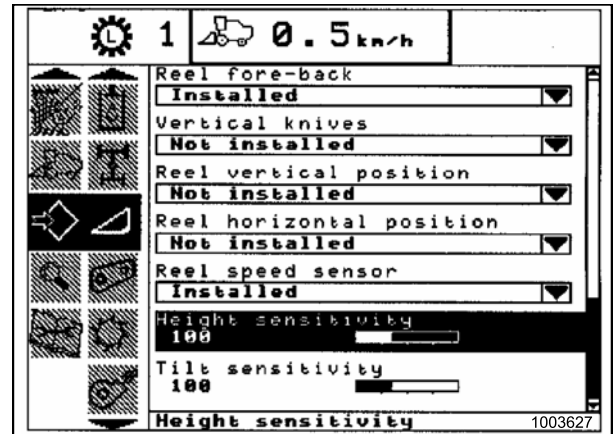


Figure 6.92: New Holland Combine Display

Setting Preset Cutting Height (New Holland CR/CX Series)

To set the preset cutting height, follow these steps:

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.

PREDELIVERY INSPECTION

1. Engage the threshing mechanism and the feeder with switches (A) and (B).
2. Set HEADER MEMORY rocker switch (D) in STUBBLE HEIGHT/AUTOFLOAT MODE position (A) or (B).
3. Lower the header to the desired cutting height using the HEADER HEIGHT AND HEADER LATERAL FLOTATION rocker switch (C).
4. Press AUTOMATIC HEADER HEIGHT CONTROL button (E) for a minimum of two seconds to store the height position. A beep will confirm the setting.

NOTE:

It is possible to store two different header height values by using HEADER MEMORY rocker switch (D) in STUBBLE HEIGHT/AUTOFLOAT MODE position (A) or (B).

5. To change one of the memorized header height set points while the combine is in use, use the HEADER HEIGHT AND HEADER LATERAL FLOTATION rocker switch (C) (slow up/down) to raise or lower header to the desired value. Press the AUTOMATIC HEADER HEIGHT CONTROL button (E) for a minimum of 2 seconds to store the new height position. A beep will confirm setting.

NOTE:

Do not press too hard on AUTOMATIC HEADER HEIGHT CONTROL button (E), or float mode will be disengaged.

NOTE:

It is not necessary to press rocker switch (D) again after adjusting.

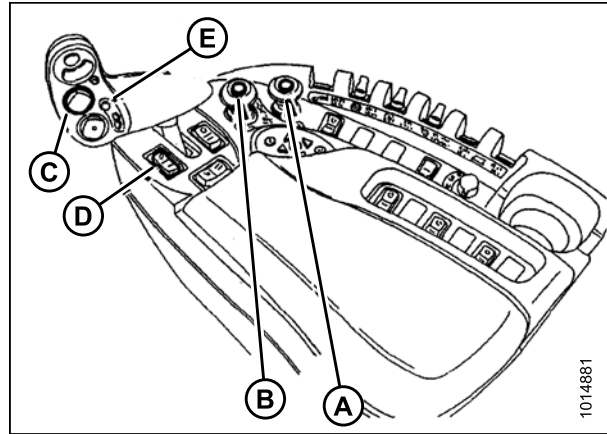


Figure 6.93: New Holland Combine Controls

Configuring Reel Fore-Aft, Header Tilt, and Header Type (New Holland CR Series)

This procedure applies only to 2016 New Holland CR models 6.90, 7.90, 8.90, and 9.90.

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.

PREDELIVERY INSPECTION

1. Simultaneously press both the UNLOAD (A) and RESUME (B) buttons on the hydro handle.



Figure 6.94: New Holland Combine Controls

2. On the HEAD 1 page, change the CUTTING TYPE from FLEX to PLATFORM as shown at (A).

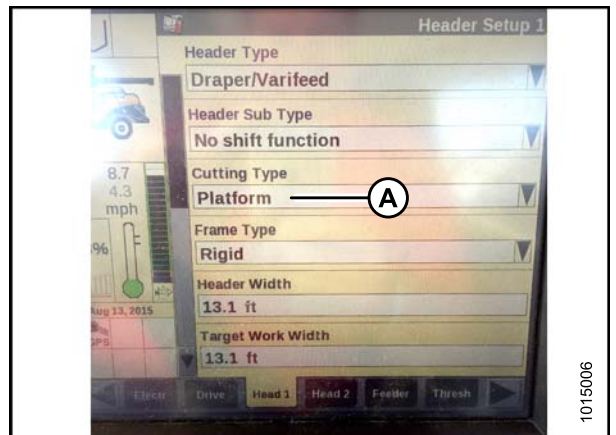


Figure 6.95: New Holland Combine Display

3. On the HEAD 2 page, change HEADER SUB TYPE from DEFAULT to 80/90 as shown at (A).

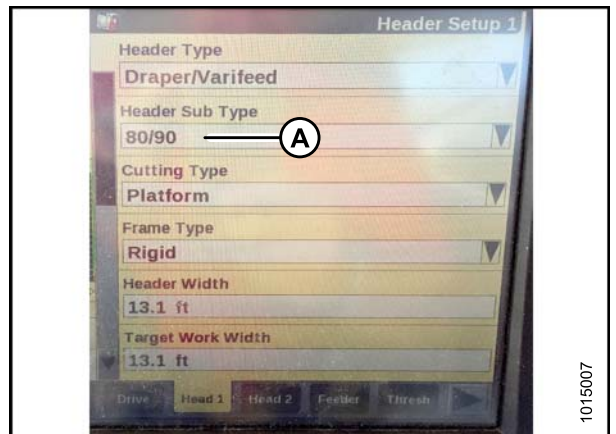


Figure 6.96: New Holland Combine Display

PREDELIVERY INSPECTION

There are now two different buttons for ON GROUND presets. The toggle switch that was present on previous models is now configured as shown at right. MacDon headers only require the first two buttons (A and B). The third button down (C) is not configured.

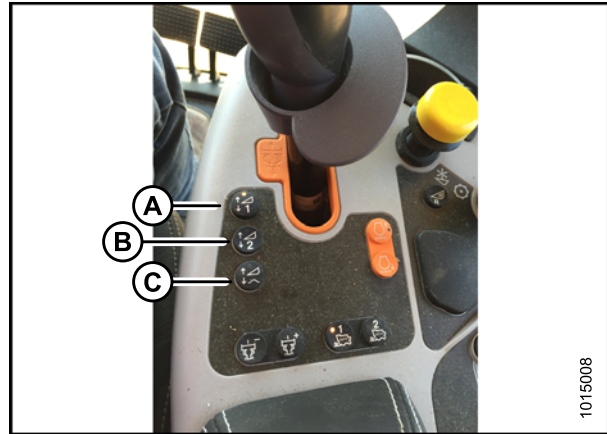


Figure 6.97: New Holland Combine Controls

6.1.7 New Holland Combines (CR Series—Model Year 2015 and Later)

This section applies only to 2015 and later CR models (6.80, 6.90, 7.90, 8.90, 9.90, and 10.90). For other New Holland combine models, refer to [6.1.6 New Holland Combines CX/CR Series \(CR Series—Model Year 2014 and Earlier\)](#), page 104.

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

This procedure applies only to 2015 and later CR models (6.80, 6.90, 7.90, 8.90, 9.90, and 10.90).

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 (A) on the main page. The TOOLBOX page displays.

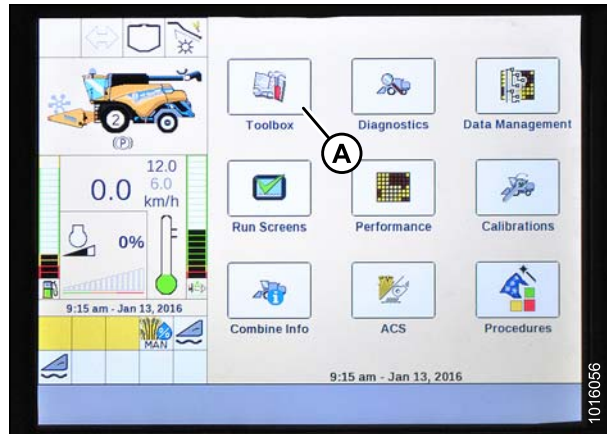


Figure 6.98: New Holland Combine Display

PREDELIVERY INSPECTION

2. Simultaneously press both the UNLOAD (A) and RESUME (B) buttons on the hydro handle.

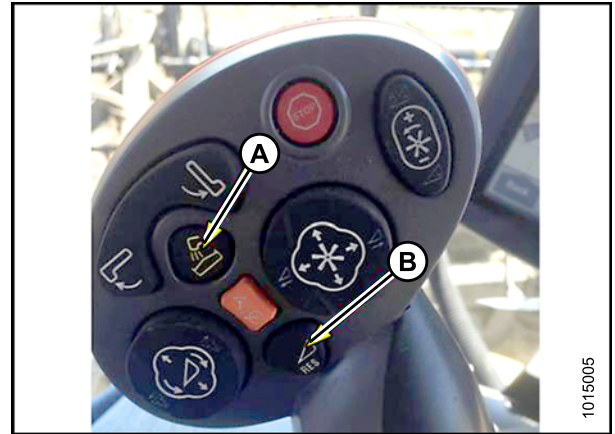


Figure 6.99: New Holland Combine Controls

3. Select HEAD 1 (A). The HEADER SETUP 1 page displays.
4. Select the CUTTING TYPE drop-down arrow (B) and change the CUTTING TYPE to PLATFORM (C).

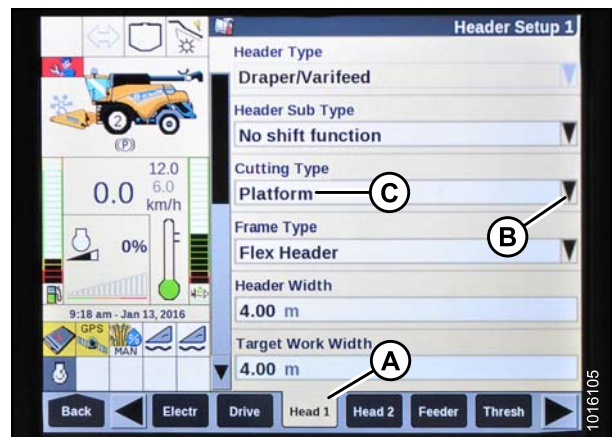


Figure 6.100: New Holland Combine Display

5. Select the HEADER SUB TYPE drop-down arrow (A). The HEADER SUB TYPE dialog box displays.



Figure 6.101: New Holland Combine Display

PREDELIVERY INSPECTION

6. Select 80/90 (A).



Figure 6.102: New Holland Combine Display

7. Select HEAD 2 (A). The HEADER SETUP 2 page displays.



Figure 6.103: New Holland Combine Display

8. Select the AUTOFLOAT drop-down arrow and set AUTOFLOAT to INSTALLED (A).
9. Select the AUTO HEADER LIFT drop-down arrow and set AUTO HEADER LIFT to INSTALLED (B).

NOTE:

With AUTO HEADER LIFT installed and AHHC engaged, the header will lift up automatically when you pull back on the GSL.

10. Set the values for MANUAL HHC RAISE RATE (C) and MANUAL HHC LOWER RATE (D) for best performance according to ground conditions.

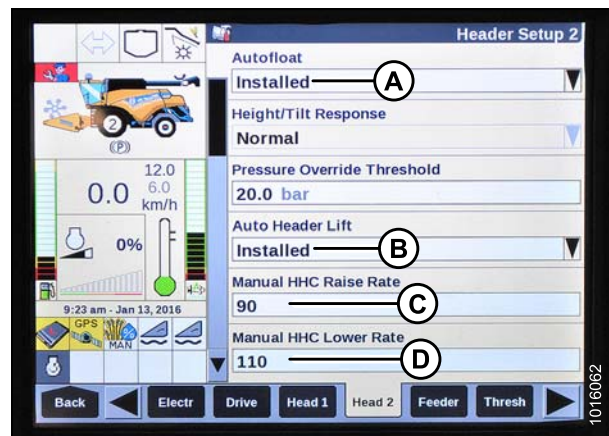


Figure 6.104: New Holland Combine Display

PREDELIVERY INSPECTION

11. Set the values for HHC HEIGHT SENSITIVITY (A) and HHC TILT SENSITIVITY (B) for best performance according to ground conditions.

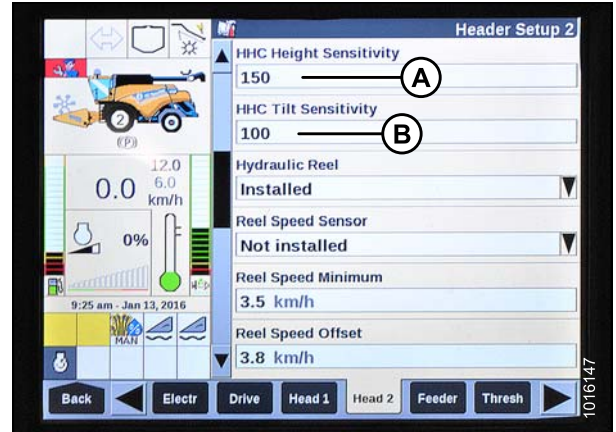


Figure 6.105: New Holland Combine Display

Checking Voltage Range from the Combine Cab (New Holland CR 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.

CAUTION

Check to be sure all bystanders have cleared the area.

1. Position the header 150 mm (6 in.) above the ground.
2. Ensure header float is unlocked.
3. Select DIAGNOSTICS (A) on the main page. The DIAGNOSTICS page displays.

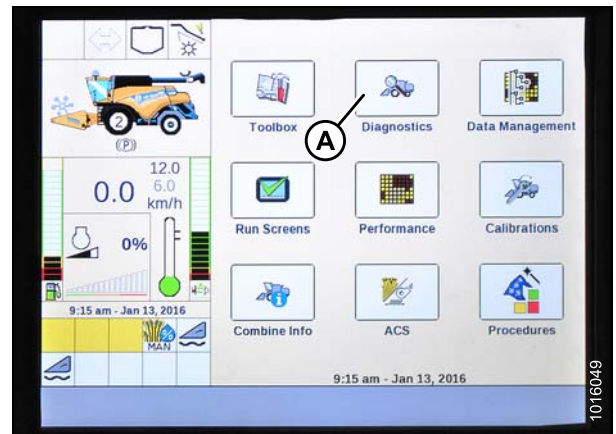


Figure 6.106: New Holland Combine Display

PREDELIVERY INSPECTION

4. Select SETTINGS (A). The SETTINGS page displays.

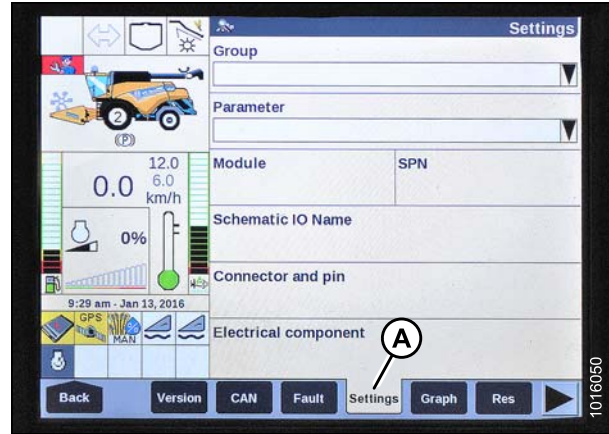


Figure 6.107: New Holland Combine Display

5. Select HEADER HEIGHT/TILT (A) from the GROUP drop-down menu.
6. Select HEADER HEIGHT SENS. L (B) from the PARAMETER drop-down menu.

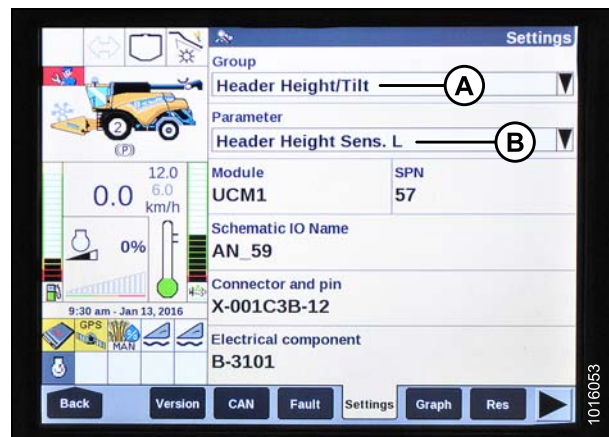


Figure 6.108: New Holland Combine Display

7. Select GRAPH (A). The exact voltage (B) is displayed at the top of the page.
8. Raise and lower the header to see the full range of voltage readings.
9. If the sensor voltage is not within the low and high limits shown in [6.1.1 Header Height Sensor Output Voltage Range – Combine Requirements, page 70](#), or if the range between the low and high limits is insufficient, you need to make adjustments. For instructions, refer to [Adjusting Header Height Sensor Voltage Range \(Left Side\), page 73](#) and [Adjusting Header Height Sensor Voltage Range \(Right Side\), page 73](#).

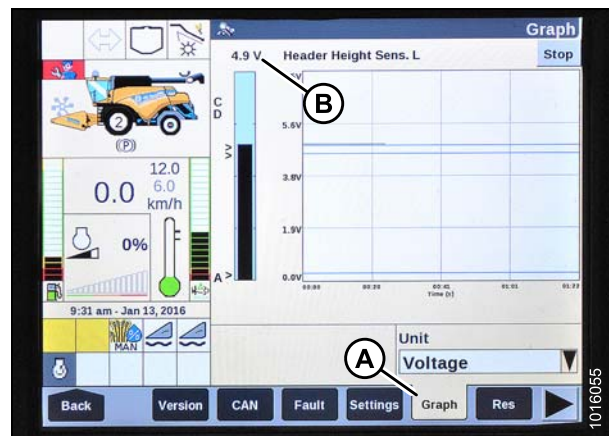


Figure 6.109: New Holland Combine Display

PREDELIVERY INSPECTION

Calibrating the Auto Header Height Control (New Holland CR 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.

CAUTION

Check to be sure all bystanders have cleared the area.

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 AHHC, follow these steps:

1. Select CALIBRATIONS (A) on the main page. The CALIBRATION page displays.

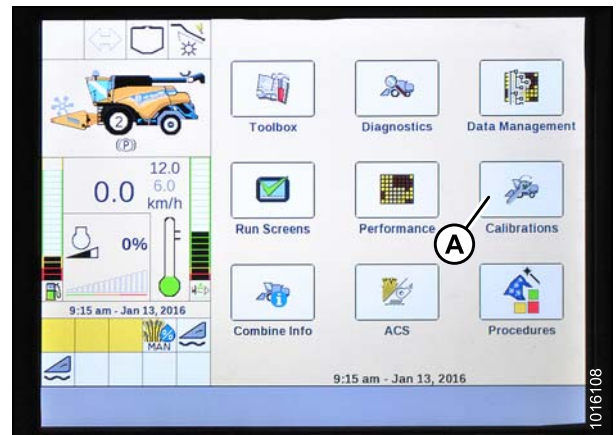


Figure 6.110: New Holland Combine Display

PREDELIVERY INSPECTION

2. Select the CALIBRATION drop-down arrow (A).



Figure 6.111: New Holland Combine Display

3. Select HEADER (A) from the list of calibration options.

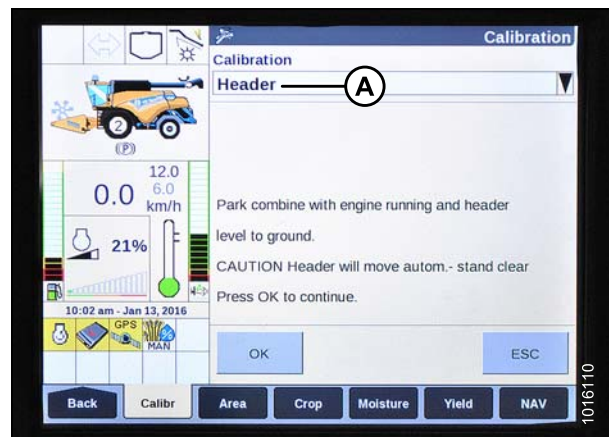


Figure 6.112: New Holland Combine Display

4. Follow the calibration steps in the order in which they appear on the screen. 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 6.113: New Holland Combine Display

PREDELIVERY INSPECTION

- When all steps have been completed, CALIBRATION COMPLETED message is displayed on the screen.

NOTE:

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



Figure 6.114: New Holland Combine Display

Setting Auto Height (New Holland CR Series)

This procedure applies only to 2015 and later CR models (6.80, 6.90, 7.90, 8.90, 9.90, and 10.90).

The console has two buttons used for auto height presets. The toggle switch that was present on previous models is now configured as shown at right. MacDon headers only require the first two buttons (A and B). The third button (C) is not configured.

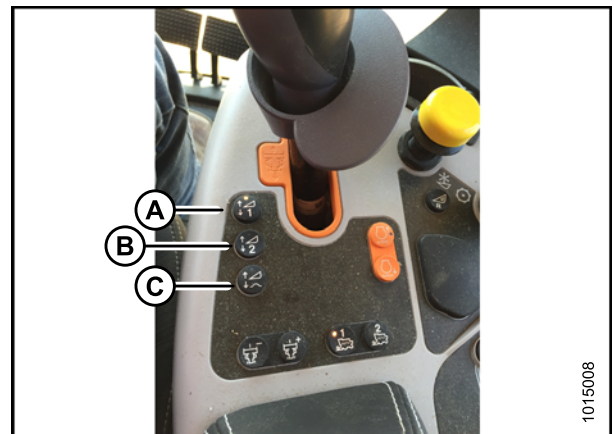


Figure 6.115: New Holland Combine Controls

To set the auto height, follow these steps:

- Engage separator and header.
- Select RUN SCREENS (A) on the main page.

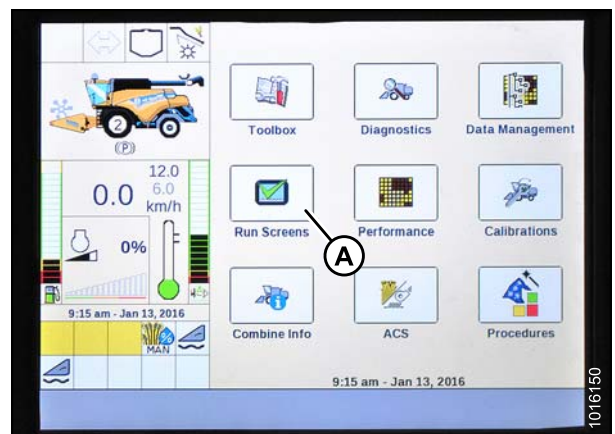


Figure 6.116: New Holland Combine Display

PREDELIVERY INSPECTION

3. Select the RUN tab that shows MANUAL HEIGHT.

NOTE:

The MANUAL HEIGHT field may appear on any of the RUN tabs. When an auto height set point button is pressed, the display will change to AUTO HEIGHT (A).

4. Lower the header to the ground.
5. Select one of the auto height set point buttons shown in Figure 6.115: *New Holland Combine Controls, page 121*.
 - Press the SET 1 button for lower position
 - Press the SET 2 button for higher position

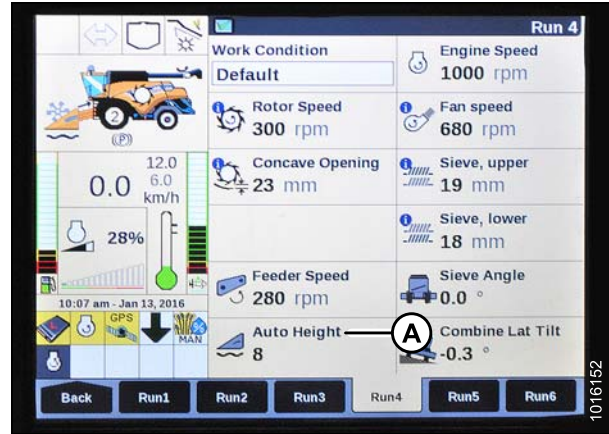


Figure 6.117: New Holland Combine Display

Setting Maximum Work Height (New Holland CR Series)

This procedure applies only to 2015 and later CR models (6.80, 6.90, 7.90, 8.90, 9.90, and 10.90).

1. Select TOOLBOX (A) on the main page. The TOOLBOX page displays.

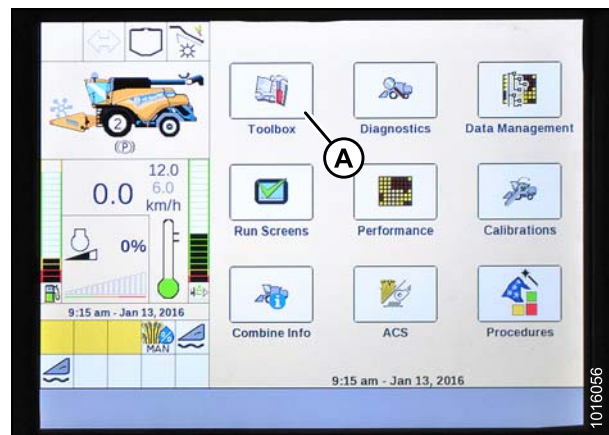


Figure 6.118: New Holland Combine Display

2. Select FEEDER (A). The FEEDER SETUP page displays.
3. Select the MAXIMUM WORK HEIGHT field (B).

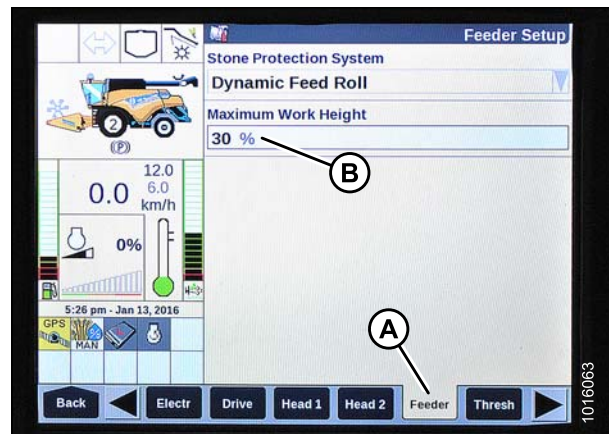


Figure 6.119: New Holland Combine Display

PREDELIVERY INSPECTION

4. Set MAXIMUM WORK HEIGHT to desired value.
5. Press SET and then press ENTER.



Figure 6.120: New Holland Combine Display

6.1.8 Sensor Operation

The position sensors supplied with the auto header height control (AHHC) system are 1000 ohm (1k) 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).

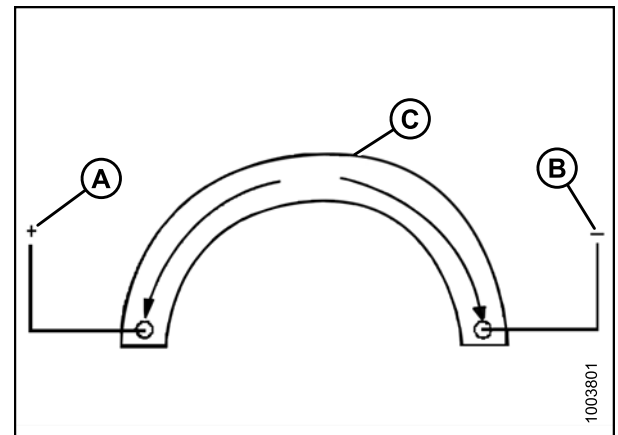


Figure 6.121: Power, Ground, and Signal Wires

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 (.08–0.1 k) to a high 800–1200 ohms (0.8–1.2 k). 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.

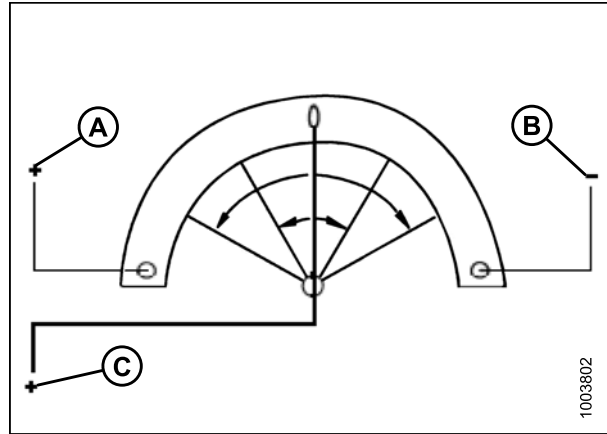


Figure 6.122: Power, Ground, and Signal Wires

6.2 Wheels and Tires

There are two wheels and tires on the PW8 Combine Pick-Up Header, one on each side of the header.

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.
- Replace the tire if it is worn or damaged beyond repair.

6.2.1 Inflating Tire

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

Table 6.2 Tire (MD #152724)

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

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

6.3 Checking Draper Belt Tension

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

DANGER

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key from ignition before leaving operator's seat for any reason.

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 [6.3.1 Adjusting Front Draper Belt Tension, page 126](#) or [6.3.2 Adjusting Rear Draper Belt Tension, page 128](#).

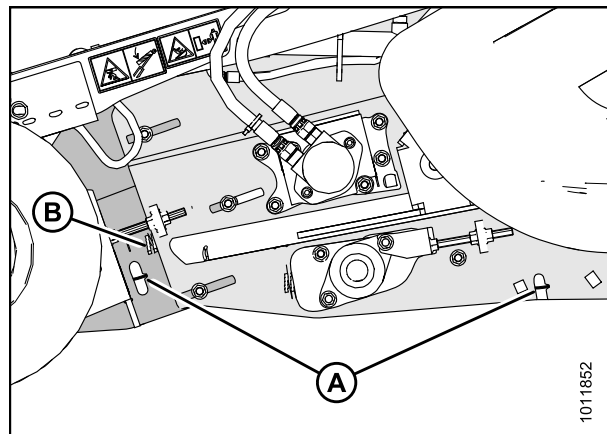


Figure 6.123: Draper Tension Indicator

6.3.1 Adjusting Front Draper Belt Tension

Draper belt tension is factory-set, but it should be checked before operating.

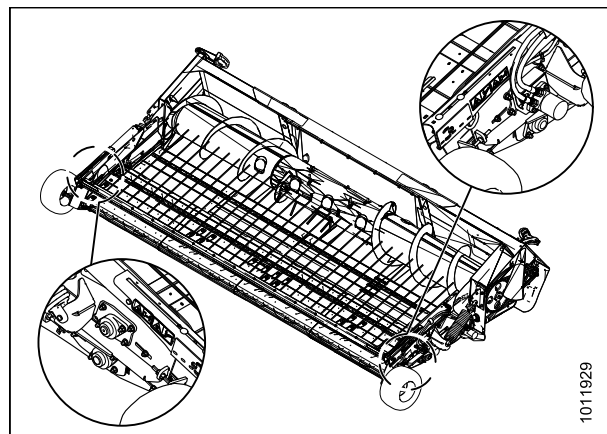


Figure 6.124: Front Deck Adjusting Bolts

PREDELIVERY INSPECTION

The stepped position indicator gauges are used to precisely align each side of the front and rear decks. Each notch (A) represents an adjustment of 1 mm (3/64 in.).

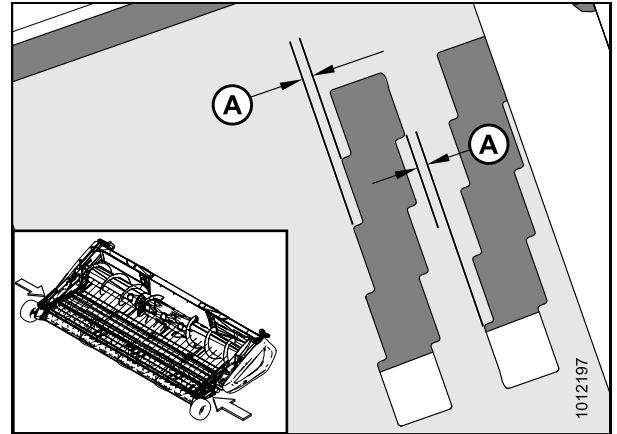


Figure 6.125: Stepped Position Indicators

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 (D). Drapers only need to be tight enough to prevent slippage. Overtightening drapers 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 stepped position indicator gauge (E).
5. Loosen jam nut (A) on the right side of the header, and turn adjuster nut (B) until the position of stepped position indicator gauge (C) is identical to the left side.

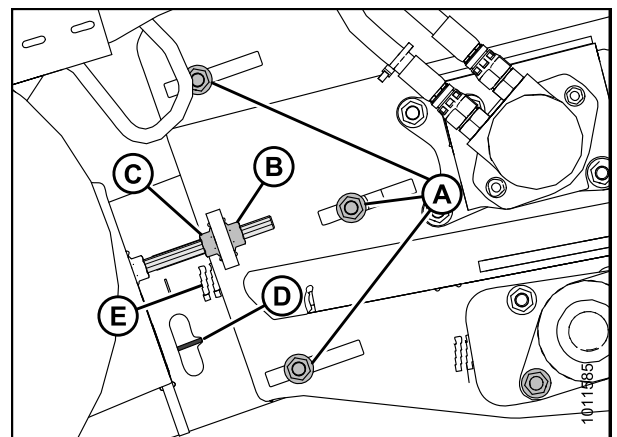


Figure 6.126: Left Side Front Deck Shown – Right Side Opposite

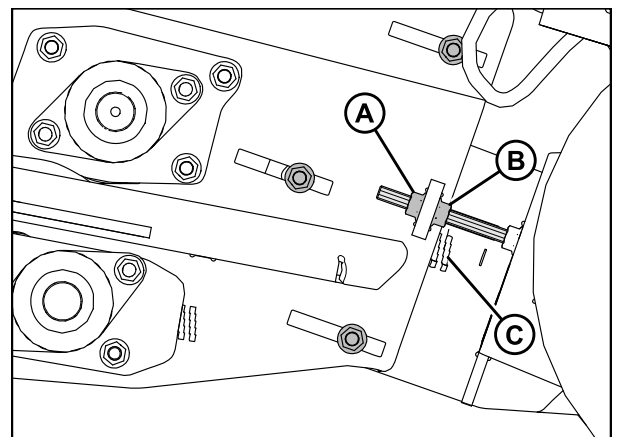


Figure 6.127: Right Side Stepped Position Indicator Gauge

PREDELIVERY INSPECTION

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

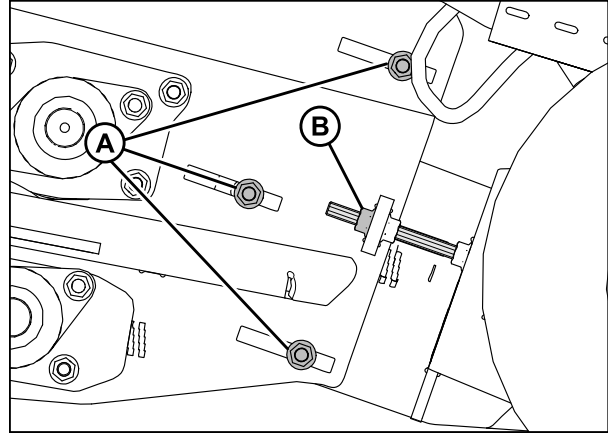


Figure 6.128: Front Deck Adjuster

6.3.2 Adjusting Rear Draper Belt Tension

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).

IMPORTANT:

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

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

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.

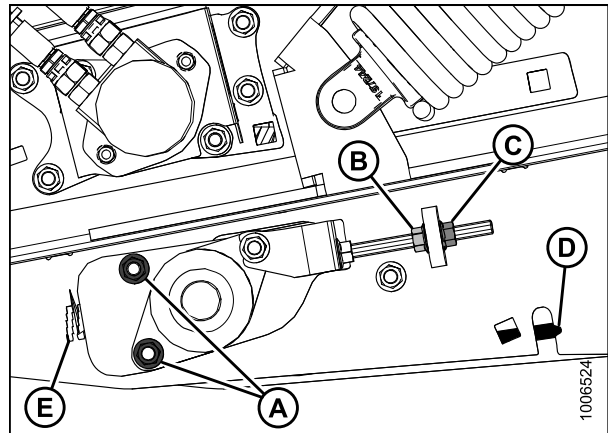


Figure 6.129: Left Side Rear Deck

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).

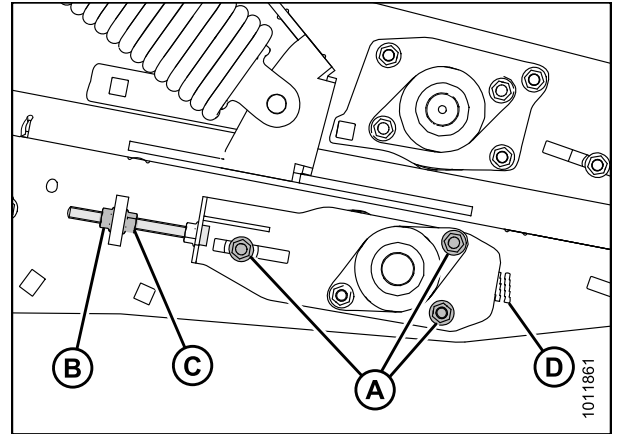


Figure 6.130: Right Side Rear Deck

6.4 Lubrication

6.4.1 Lubricating the Header

⚠ DANGER

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key from ignition before leaving operator's seat for any reason.

- Use the recommended lubricant specified in the pick-up header operator's manual.
- 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.

6.4.2 Lubricating Auger Drive Chain

⚠ DANGER

To avoid bodily injury or death from unexpected startup of machine, always stop engine and remove key from ignition before leaving operator's seat for any reason.

1. Lower header to the ground, shut down the combine, and remove the key from the ignition.
2. Open left endshield (A). Refer to [3.4.1 Opening Left Endshield, page 21](#).

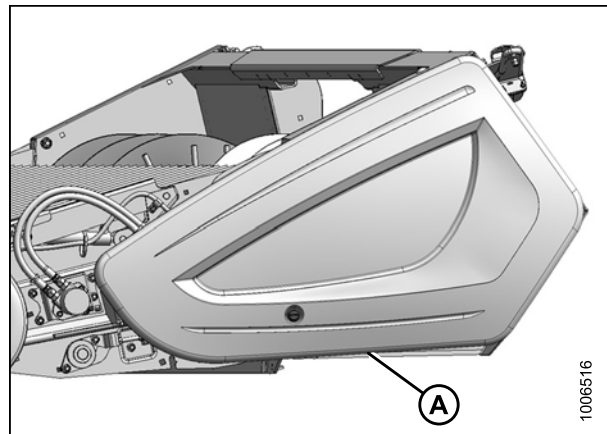


Figure 6.131: Left Endshield

PREDELIVERY INSPECTION

3. Apply a liberal amount of SAE 30 engine oil to the chain (A).
4. Close left endshield. Refer to [3.4.2 Closing Left Endshield, page 21](#).

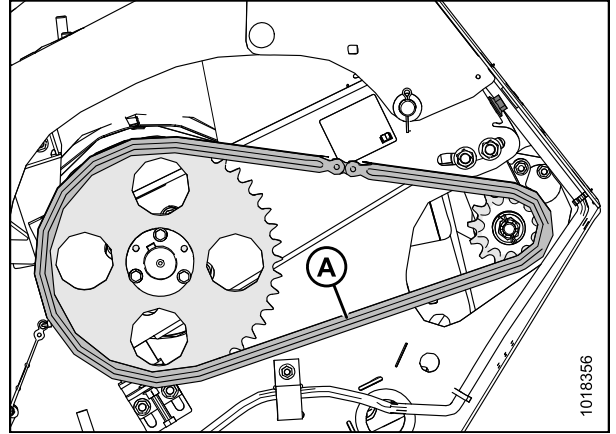
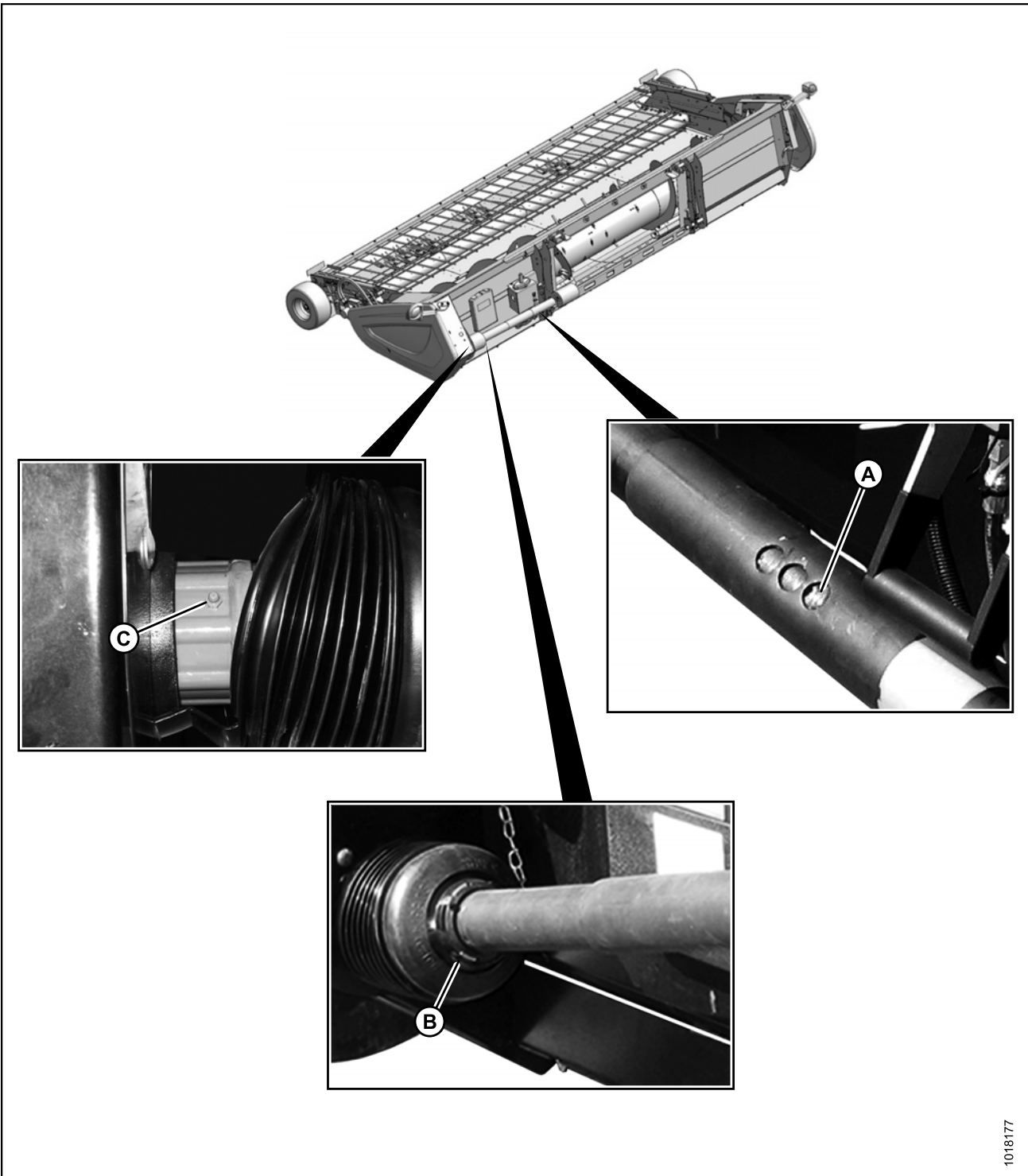


Figure 6.132: Auger Drive Chain

6.4.3 Greasing Points



1018177

Figure 6.133: Greasing Points

A - Driveline Slip-Joint
C - Driveline Clutch

B - Driveline Guard (Both Ends)

6.5 Manuals

1. Remove cable 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.
4. Remove red and yellow stripe decals from case and set aside.
5. Close the manual case.

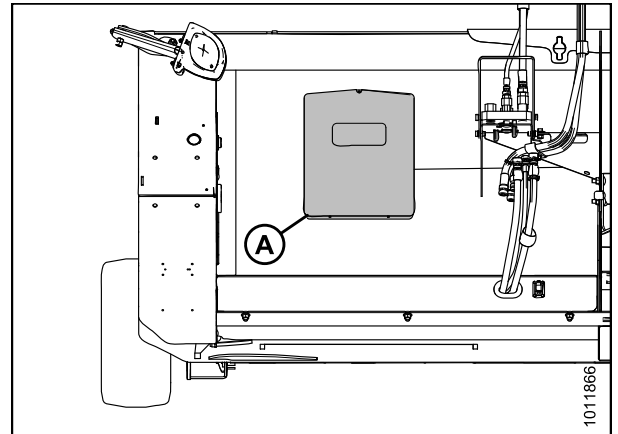


Figure 6.134: Manual Storage Case

6.6 Installing Endshield Decals

Red and yellow stripe decals for the right and left header endshields are provided in the manual case. Select the stripe decals matching your combine color and follow the installation instructions.

1. Clean and dry the installation area outlined by the black shadow (A) on left endshield.
2. Ensure the decal is placed on top of the black shadow (A). Remove the smaller portion of the split backing paper.
3. Place the decal in position and slowly peel back the remaining paper, smoothing the decal as it is applied.
4. Prick small air pockets with a pin and smooth out.
5. Repeat procedure on right endshield.

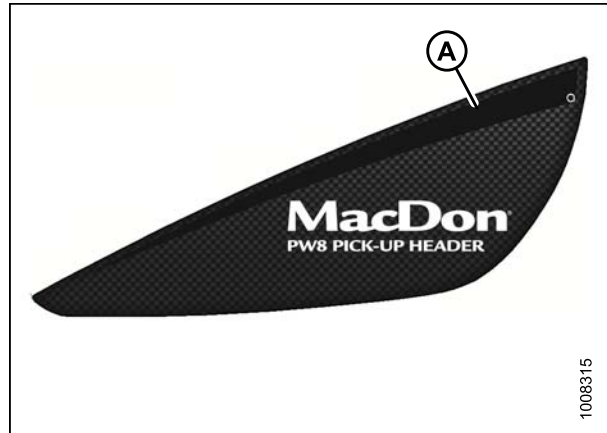


Figure 6.135: Left Endshield – Right Opposite

6.7 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, shut down engine, engage parking brake, and remove key.

NOTE:

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

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. Check draper speed and auger speeds are displayed on combine monitor if applicable.
4. Raise hold-down fully. If hold-down is not level, perform the following:
 - a. Raise hold-down and leave pressurized to rephase.
 - b. Lower and raise hold-down several times and check that hold-down is level.
 - c. If hold-down is still not level, lower hold-down. Place a container under bleed screw on slave cylinder and remove the bleed screw.
 - d. Pressurize the hold-down circuit until oil flow is free of air bubbles.
 - e. Lower hold-down and reinstall bleed plug. Torque plug to 3.4 N·m (30 in·lbf).
 - f. Repeat Steps a and b. The cylinders should lower at the same time and at the same rate. It should take 12–18 seconds for the hold-down to lower from the highest point. It is acceptable for the slave cylinder to remain from 0–13 mm (0–1/2 in.) extended when the master cylinder is fully retracted.
5. Perform the run-up check listed on the [Predelivery Checklist, page 151](#) and the post run-up check to ensure the machine is field-ready.

7 Reference

7.1 Definitions

The following definitions and acronyms may be used in this manual:

Term	Definition
API	American Petroleum Institute.
ASTM	American Society of Testing and Materials.
Bolt	A headed and externally threaded fastener that is designed to be paired with a nut.
CGVW	Combined Vehicle Gross Weight.
Finger tight	Finger tight is a reference position where sealing surfaces or components are making contact with each other and the fitting has been tightened to a point where the fitting is no longer loose.
F.F.F.T.	Flats from finger tight.
GVW	Gross Vehicle Weight.
hp	Horsepower
JIC	Joint Industrial Council: A standards body that developed the standard sizing and shape for original 37° flared fitting.
n/a	Not applicable
Nut	An internally threaded fastener that is designed to be paired with a bolt.
NPT	National Pipe Thread: A style of fitting used for low pressure port openings. Threads on NPT fittings are uniquely tapered for an interference fit.
ORB	O-ring Boss: a style of fitting commonly used in port opening on manifolds, pumps and motors.
ORFS	O-ring face seal: A style of fitting commonly used for connecting hoses and tubes. This style of fitting is also commonly called ORS, which stands for O-ring Seal.
Pick-Up Header	A machine that attaches to a combine that picks up grain that has been cut and laid in windrows.
PTO	Power take-off.
RoHS (Reduction of Hazardous Substances)	A directive by the European Union to restrict the use of certain hazardous substances (such as hexavalent chromium used in some yellow zinc platings).
SAE	Society of Automotive Engineers.
Screw	A headed and externally threaded fastener that threads into preformed threads or forms its own thread in one of the mating parts.
Soft joint	A joint made with the use of a fastener where the joining materials are compressible or experience relaxation over a period of time.
spm	Strokes per minute.
Tension	Axial load placed on a bolt or screw, usually measured in Newtons (N) or pounds (lb.).
T.F.F.T.	Turns from finger tight.

REFERENCE

Term	Definition
Torque	The product of a force X lever arm length, usually measured in Newton-meters (N·m) or foot-pounds (ft·lbf).
Torque angle	A tightening procedure where the fitting is assembled to a precondition (finger tight) and then the nut is turned further a number of degrees or a number of flats to achieve its final position.
Torque-tension	The relationship between the assembly torque applied to a piece of hardware and the axial load it induces in the bolt or screw.
Tractor	Agricultural-type tractor.
Truck	A four-wheel highway/road vehicle weighing no less than 3400 kg (7500 lb.).
Washer	A thin cylinder with a hole or slot located in the center and is to be used as a spacer, load distribution element or a locking mechanism.

REFERENCE

7.2 Conversion Chart

Table 7.1 Conversion Chart

Quantity	SI Units (Metric)		Factor	Inch-Pound Units	
	Unit Name	Abbreviation		Unit Name	Abbreviation
Area	hectares	ha	$\times 0.4047 =$	acres	acres
Flow	liters per minute	L/min	$\times 3.7854 =$	US gallons per minute	gpm
Force	Newtons	N	$\times 4.4482 =$	pounds force	lbf
Length	millimeters	mm	$\times 25.4 =$	inch	in.
	meters	m	$\times 0.305 =$	foot	ft.
Power	kilowatts	kW	$\times 0.7457 =$	horsepower	hp
Pressure	kilopascals	kPa	$\times 6.8948 =$	pounds per square inch	psi
	megapascals	MPa	$\times .00689 =$		
	bar (Non-SI)	bar	$\div 14.5038 =$		
Torque	Newton meters	N·m	$\times 1.3558 =$	pound feet or foot pounds	ft·lbf
	Newton meters	N·m	$\times 0.1129 =$	pound inches or inch pounds	in·lbf
Temperature	Celsius	°C	$(^{\circ}\text{F}-32) \times 0.56 =$	degrees Fahrenheit	°F
Velocity	meters per minute	m/min	$\times 0.3048 =$	feet per minute	ft/min
	meters per second	m/s	$\times 0.3048 =$	feet per second	ft/s
	kilometers per hour	km/h	$\times 1.6063 =$	miles per hour	mph
Volume	liters	L	$\times 3.7854 =$	US gallons	US gal
	milliliters	ml	$\times 29.5735 =$	ounces	oz.
	cubic centimeters	cm ³ or cc	$\times 16.3871 =$	cubic inches	in. ³
Weight	kilograms	kg	$\times 0.4536 =$	pounds	lb.

REFERENCE

7.3 Torque Specifications

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

- Tighten all bolts to torque values specified in charts (unless otherwise noted throughout this manual).
- Replace hardware with same strength and grade of bolt.
- Use 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.

7.3.1 Metric Bolt Specifications

Table 7.2 Metric Class 8.8 Bolts and Class 9 Free Spinning Nut

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

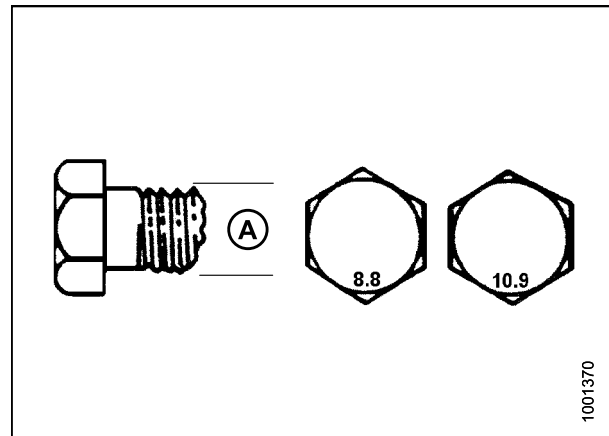


Figure 7.1: Bolt Grades

REFERENCE

Table 7.3 Metric Class 8.8 Bolts and Class 9 Distorted Thread Nut

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

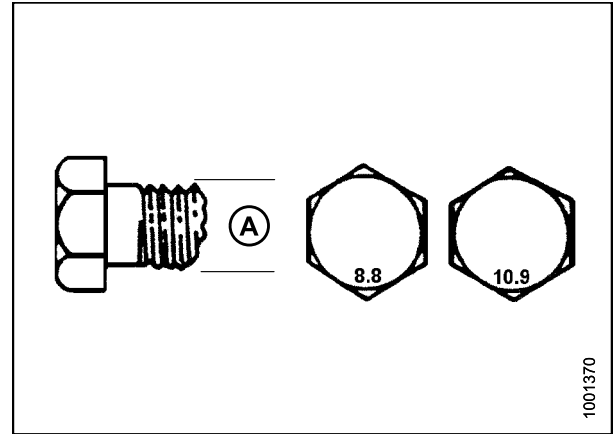


Figure 7.2: Bolt Grades

Table 7.4 Metric Class 10.9 Bolts and Class 10 Free Spinning Nut

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

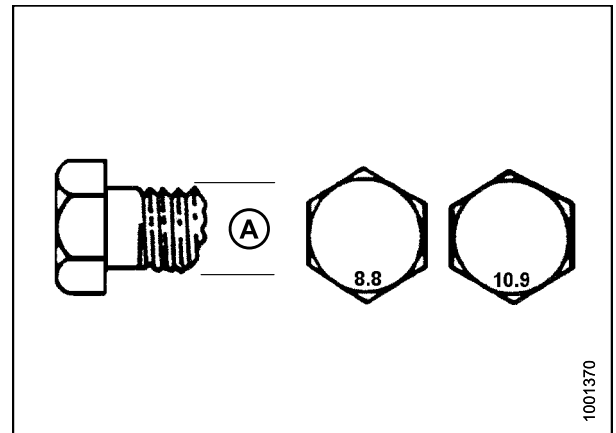


Figure 7.3: Bolt Grades

REFERENCE

Table 7.5 Metric Class 10.9 Bolts and Class 10 Distorted Thread Nut

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

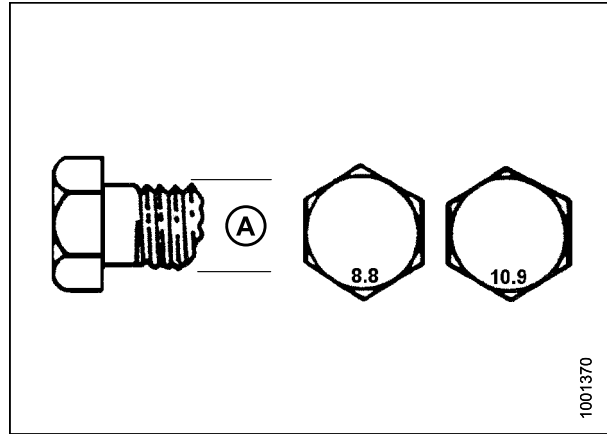


Figure 7.4: Bolt Grades

7.3.2 Metric Bolt Specifications Bolting into Cast Aluminum

Table 7.6 Metric Bolt Bolting into Cast Aluminum

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

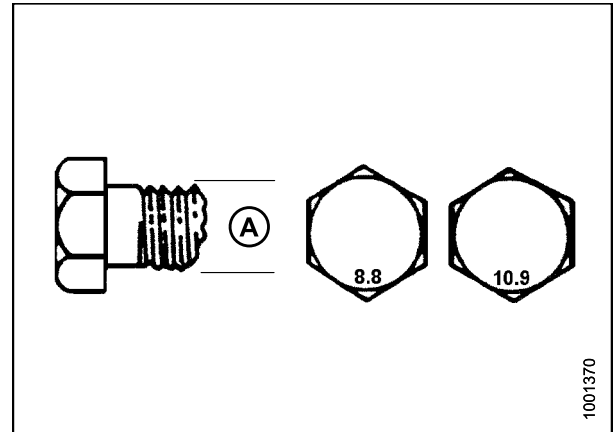


Figure 7.5: Bolt Grades

7.3.3 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 flared surfaces.
3. Torque fitting nut (E) to specified number of flats from finger tight (FFFT) or to a given torque value in [Table 7.7 Flare-Type Hydraulic Tube Fittings, page 144](#).
4. Use two wrenches to prevent fitting (D) from rotating. Place one wrench on fitting body (D), and tighten nut (E) with other wrench to torque shown.
5. Assess final condition of connection.

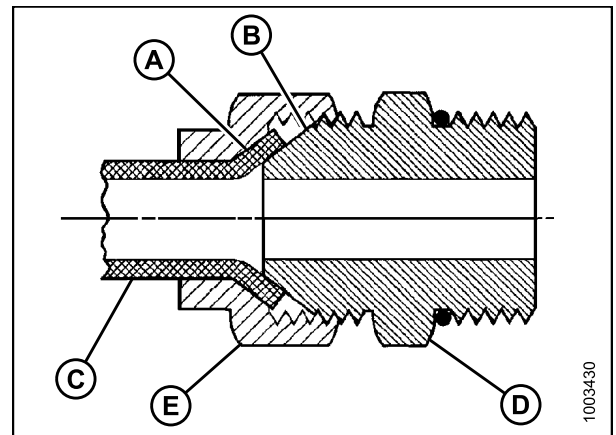


Figure 7.6: Hydraulic Fitting

REFERENCE

Table 7.7 Flare-Type Hydraulic Tube Fittings

SAE Dash Size	Thread Size (in.)	Torque Value ⁴		Flats from Finger Tight (FFFT)	
		N-m	ft-lbf	Tube	Swivel Nut or Hose
-2	5/16-24	4-5	3-4	—	—
-3	3/8-24	7-8	5-6	—	—
-4	7/16-20	18-19	13-14	2-1/2	2
-5	1/2-20	19-21	14-15	2	2
-6	9/16-18	30-33	22-24	2	1-1/2
-8	3/4-16	57-63	42-46	2	1-1/2
-10	7/8-14	81-89	60-66	1-1/2	1-1/2
-12	1-1/16-12	113-124	83-91	1-1/2	1-1/4
-14	1-3/16-12	136-149	100-110	1-1/2	1-1/4
-16	1-5/16-12	160-176	118-130	1-1/2	1
-20	1-5/8-12	228-250	168-184	1	1
-24	1-7/8-12	264-291	195-215	1	1
-32	2-1/2-12	359-395	265-291	1	1
-40	3-12	—	—	1	1

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

REFERENCE

7.3.4 O-Ring Boss (ORB) Hydraulic Fittings (Adjustable)

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

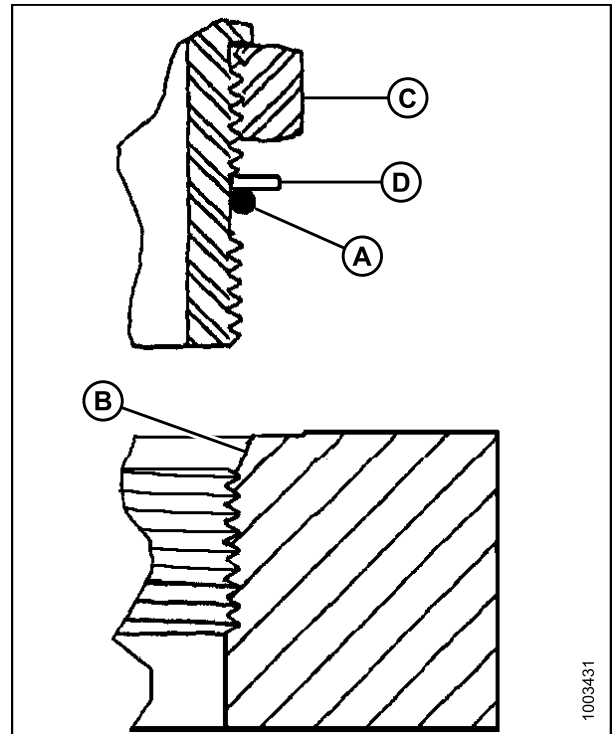


Figure 7.7: Hydraulic Fitting

5. Install fitting (B) into port until back up washer (D) and O-ring (A) contact 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 other on lock nut (C).
8. Check final condition of fitting.

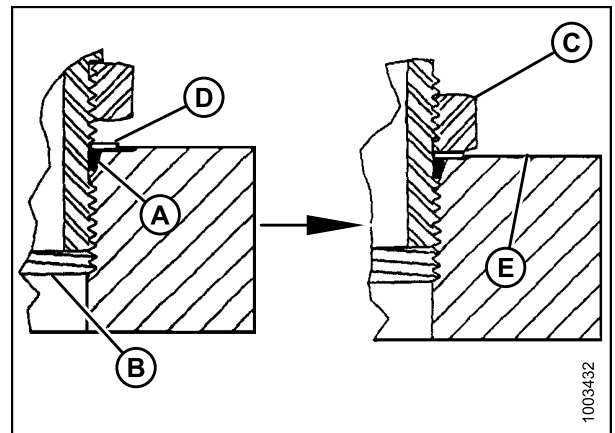


Figure 7.8: Hydraulic Fitting

REFERENCE

Table 7.8 O-Ring Boss (ORB) Hydraulic Fittings (Adjustable)

SAE Dash Size	Thread Size (in.)	Torque Value ⁵	
		N-m	ft·lbf (*in·lbf)
-2	5/16-24	6-7	*53-62
-3	3/8-24	12-13	*106-115
-4	7/16-20	19-21	14-15
-5	1/2-20	21-33	15-24
-6	9/16-18	26-29	19-21
-8	3/4-16	46-50	34-37
-10	7/8-14	75-82	55-60
-12	1-1/16-12	120-132	88-97
-14	1-3/8-12	153-168	113-124
-16	1-5/16-12	176-193	130-142
-20	1-5/8-12	221-243	163-179
-24	1-7/8-12	270-298	199-220
-32	2-1/2-12	332-365	245-269

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

REFERENCE

7.3.5 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 threads and adjust if necessary.
3. Apply hydraulic system oil to O-ring.
4. Install fitting (C) into port until fitting is hand tight.
5. Torque fitting (C) according to values in Table 7.9 *O-Ring Boss (ORB) Hydraulic Fittings (Non-Adjustable)*, page 147.
6. Check final condition of fitting.

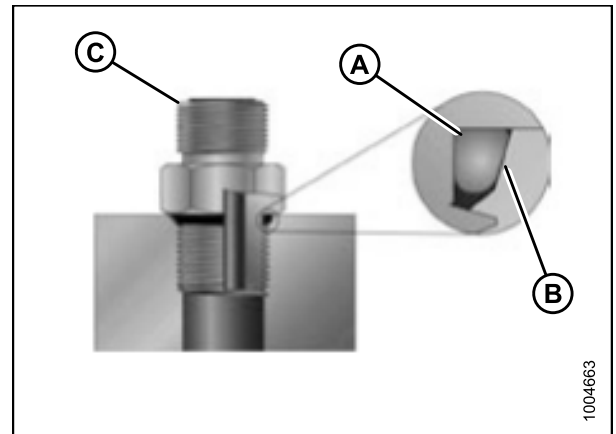


Figure 7.9: Hydraulic Fitting

Table 7.9 O-Ring Boss (ORB) Hydraulic Fittings (Non-Adjustable)

SAE Dash Size	Thread Size (in.)	Torque Value ⁶	
		N·m	ft·lbf (*in·lbf)
-2	5/16–24	6–7	*53–62
-3	3/8–24	12–13	*106–115
-4	7/16–20	19–21	14–15
-5	1/2–20	21–33	15–24
-6	9/16–18	26–29	19–21
-8	3/4–16	46–50	34–37
-10	7/8–14	75–82	55–60
-12	1-1/16–12	120–132	88–97
-14	1-3/8–12	153–168	113–124
-16	1-5/16–12	176–193	130–142
-20	1-5/8–12	221–243	163–179
-24	1-7/8–12	270–298	199–220
-32	2-1/2–12	332–365	245–269

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

REFERENCE

7.3.6 O-Ring Face Seal (ORFS) Hydraulic Fittings

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



Figure 7.10: Hydraulic Fitting

2. Apply hydraulic system oil to O-ring (B).
3. Align tube or hose assembly so that flat face of 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 values in Table [7.10 O-Ring Face Seal \(ORFS\) Hydraulic Fittings, page 149](#).

NOTE:

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

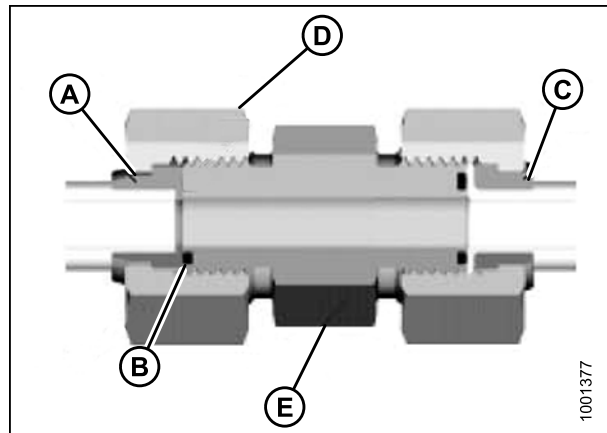


Figure 7.11: Hydraulic Fitting

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

REFERENCE

Table 7.10 O-Ring Face Seal (ORFS) Hydraulic Fittings

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

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.

7.3.7 Tapered Pipe Thread Fittings

Assemble pipe fittings as follows:

1. Check components to ensure that fitting and port threads are free of burrs, nicks and scratches, or any form of contamination.
2. Apply pipe thread sealant (paste type) to external pipe threads.
3. Thread fitting into port until hand-tight.
4. Torque connector to appropriate torque angle. The Turns From Finger Tight (TFFT) values are shown in Table 7.11 *Hydraulic Fitting Pipe Thread*, page 150. Make sure that tube end of a shaped connector (typically 45° or 90°) is aligned to receive incoming tube or hose assembly. Always finish alignment of fitting in tightening direction. Never back off (loosen) pipe threaded connectors to achieve alignment.
5. Clean all residue and any excess thread conditioner with appropriate cleaner.
6. Assess final condition of fitting. Pay special attention to possibility of cracks to port opening.
7. Mark final position of fitting. If a fitting leaks, disassemble fitting and check for damage.

NOTE:

*Over-torque failure of fittings may not be evident until fittings are disassembled.

Table 7.11 Hydraulic Fitting Pipe Thread

Tapered Pipe Thread Size	Recommended T.F.F.T	Recommended F.F.F.T
1/8-27	2-3	12-18
1/4-18	2-3	12-18
3/8-18	2-3	12-18
1/2-14	2-3	12-18
3/4-14	1.5-2.5	12-18
1-11 1/2	1.5-2.5	9-15
1 1/4-11 1/2	1.5-2.5	9-15
1 1/2-11 1/2	1.5-2.5	9-15
2-11 1/2	1.5-2.5	9-15

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 1 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.	7.3 Torque Specifications, page 140
	Check wheels are in field (working) position.	3.2 Setting Wheels to Field/Working Position, page 17
	Check tire air pressure is 240–310 kPa (35–45 psi). Adjust as required.	6.2.1 Inflating Tire, page 125
	Check hold-down is in the field/working position.	3.5 Extending Hold-Down to Field/Working Position, page 23
	Check machine is completely lubricated.	6.4.1 Lubricating the Header, page 130
	Check draper belt tension.	6.3 Checking Draper Belt Tension, page 126
	Check that transport lights (if installed) are extended.	3.6 Adjusting Transport Lights, page 24
	Check height sensor is calibrated.	6.1 Auto Header Height Control (AHHC), page 69
Run-Up Procedure		
	Check hydraulic hose and wiring harness routing for clearance problems when raising or lowering the header and hold-down bar.	—
	Check hold-down is level when fully raised.	6.7 Running up the Header, page 135
	Check draper speed sensor is working.	Refer to combine operator's manual
	Check height controller is working.	6.7 Running up the Header, page 135
	Check transport lights (if installed) are functional.	Refer to combine operator's manual
Post Run-Up Checks. Stop Engine.		
	Check drives for heated bearings.	—
	Check for hydraulic leaks.	—
	Check that manual storage case contains PW8 Pick-Up Header Operator's Manual and Parts Catalog.	6.5 Manuals, page 133

Date Checked:

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