

PW8

Pick-Up Header

Unloading and Assembly Instructions (North America)

215576 Revision A

Original Instruction

PW8 Pick-Up Header



1006866

Published June 2021

© 2021 MacDon Industries, Ltd.

The information in this publication is based on the information available and in effect at the time of printing. MacDon Industries, Ltd. makes no representation or warranty of any kind, whether expressed or implied, with respect to the information in this publication. MacDon Industries, Ltd. reserves the right to make changes at any time without notice.

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.

If the shipment is damaged or is missing parts, contact shortageanddamage@macdon.com.

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, 96/97/9870STS, S650/660/670/680/690, 9660WTS, and T670
New Holland	All CR/CX Series
Versatile	RT490
Challenger®	500C Series, 500E Series, and 600B Series
Gleaner®	R55, 65, 66, 67, 75, 76, 77, and all S Series
Massey Ferguson®	9005/9500/9505 Series, IDEAL™ 7/7T, 8/8T, and 9/9T Series
Fendt®	IDEAL™ 7/7T, 8/8T, and 9/9T Series

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.

Conventions

- Right and left are determined from the operator's position. The front of the header is the side that faces the crop; the back of the header is the side that connects to the combine.
- Unless otherwise noted, use the standard torque values provided in Chapter [7.4 Torque Specifications, page 212](#).

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).

This manual is currently available in English only.

Summary of Changes

At MacDon, we're continuously making improvements, and occasionally these improvements affect product documentation. The following list provides an account of major changes from the previous version of this document.

Section	Summary of Change	Internal Use Only
<i>Introduction, page i</i>	Revised combine compatibility table: <ul style="list-style-type: none"> John Deere: Appended "STS" to 96/97/9870 Added AGCO brands of combine. 	Technical Publications
<i>1.4 Safety Sign Locations, page 5</i>	Revised illustration to show the two possible decals that could be used on the driveline. Added a corresponding footnote.	Technical Publications
<i>3.10 Repositioning Driveline Storage Bracket, page 24</i>	Added NOTE: <ul style="list-style-type: none"> This procedure is NOT applicable to IDEAL™. 	Technical Publications
<i>4.1 Configuring Header for AGCO, page 27</i>	Added AGCO topic.	Technical Publications
<i>4.1.1 Reducing Header Opening, page 27</i>	Added AGCO topic.	Technical Publications
<i>4.1.2 Installing Flighting Extensions, page 35</i>	Added AGCO topic.	Technical Publications
<i>4.1.3 Removing Auger Fingers, page 38</i>	Added AGCO topic.	Technical Publications
<i>4.2.3 Installing Auger Fingers, page 45</i> <ul style="list-style-type: none"> Step 2, page 46 	Added NOTE about threadlocker.	Technical Publications
<i>4.2.3 Installing Auger Fingers, page 45</i> <ul style="list-style-type: none"> Step 11, page 47 	Changed Loctite® 242 to Loctite® 243 for consistency with other manuals.	Technical Publications
<i>4.2.3 Installing Auger Fingers, page 45</i> <ul style="list-style-type: none"> Step 2, page 46 	Added NOTE about threadlocker.	Technical Publications
<i>4.2.3 Installing Auger Fingers, page 45</i> <ul style="list-style-type: none"> Step 11, page 47 	Changed Loctite® 242 to Loctite® 243 for consistency with other manuals.	Technical Publications
<i>4.1.3 Removing Auger Fingers, page 38</i> <ul style="list-style-type: none"> Step 9, page 39 	Added NOTE about threadlocker.	Technical Publications
<i>4.1.3 Removing Auger Fingers, page 38</i> <ul style="list-style-type: none"> Step 12, page 39 	Changed Loctite® 242 to Loctite® 243 for consistency with other manuals.	Technical Publications
<i>5 Attaching Header to Combine, page 65</i>	Added AGCO to table.	Technical Publications
<i>5.1 Attaching Header to Challenger®, Gleaner®, and Massey Ferguson® Combines, page 65</i>	Added AGCO topic.	Technical Publications
<i>5.2 Attaching Header to IDEAL™ Series Combine, page 71</i>	Added AGCO topic.	Technical Publications
<i>6.1.1 Auto Header Height Control System Overview, page 93</i>	Added links to AGCO brands of combine.	Technical Publications

Section	Summary of Change	Internal Use Only
6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94	Added AGCO brands of combine.	Technical Publications
6.1.4 IDEAL™ Series Combines, page 99	Added AGCO topic.	Technical Publications
Setting up the Header – IDEAL™ Series, page 99	Added AGCO topic.	Technical Publications
	Added AGCO topic.	Technical Publications
Setting up Automatic Header Controls – IDEAL™ Series, page 104	Added AGCO topic.	Technical Publications
Calibrating the Header – IDEAL™ Series, page 105	Added AGCO topic.	Technical Publications
Operating the Header – IDEAL™ Series, page 107	Added AGCO topic.	Technical Publications
Reviewing Header In-Field Settings – IDEAL™ Series, page 109	Added AGCO topic.	Technical Publications
6.1.7 Challenger® 6 Combines, page 128	Added AGCO topic.	Technical Publications
Checking Voltage Range from Combine Cab – Challenger® 6 and 7 Series, page 128	Added AGCO topic.	Technical Publications
Engaging Auto Header Height Control – Challenger® 6 Series, page 129	Added AGCO topic.	Technical Publications
Calibrating Auto Header Height Control – Challenger® 6 Series, page 130	Added AGCO topic.	Technical Publications
Adjusting Header Height – Challenger® 6 Series, page 131	Added AGCO topic.	Technical Publications
Adjusting Header Raise/Lower Rate – Challenger® 6 Series, page 132	Added AGCO topic.	Technical Publications
Setting Sensitivity of Auto Header Height Control – Challenger® 6 Series, page 133	Added AGCO topic.	Technical Publications
6.1.8 Gleaner® R65/R66/R75/R76 and S Series Combines – Except S9 Series, page 134	Added AGCO topic.	Technical Publications
Checking Voltage Range from Combine Cab – Gleaner® R65/R66/R75/R76 and S Series, page 135	Added AGCO topic.	Technical Publications
Engaging Auto Header Height Control – Gleaner® R65/R66/R75/R76 and S Series, page 136	Added AGCO topic.	Technical Publications
Calibrating Auto Header Height Control – Gleaner® R65/R66/R75/R76 and S Series, page 137	Added AGCO topic.	Technical Publications
Turning Accumulator Off – Gleaner® R65/R66/R75/R76 and S Series, page	Added AGCO topic.	Technical Publications

Section	Summary of Change	Internal Use Only
<i>Adjusting Header Raise/Lower Rate – Gleaner® R65/R66/R75/R76 and S Series, page 139</i>	Added AGCO topic.	Technical Publications
<i>Adjusting Ground Pressure – Gleaner® R65/R66/R75/R76 and S Series, page 139</i>	Added AGCO topic.	Technical Publications
<i>Adjusting Sensitivity of Auto Header Height Control – Gleaner® R65/R66/R75/R76 and S Series, page 140</i>	Added AGCO topic.	Technical Publications
<i>Troubleshooting Alarms and Diagnostic Faults – Gleaner® R65/R66/R75/R76 and S Series, page 141</i>	Added AGCO topic.	Technical Publications
<i>6.1.9 Gleaner® S9 Series Combines, page 143</i>	Added AGCO topic.	Technical Publications
<i>Setting up the Header – Gleaner® S9 Series, page 143</i>	Added AGCO topic.	Technical Publications
	Added AGCO topic.	Technical Publications
<i>Setting up Automatic Header Controls – Gleaner® S9 Series, page 147</i>	Added AGCO topic.	Technical Publications
<i>Calibrating Header – Gleaner® S9 Series, page 149</i>	Added AGCO topic.	Technical Publications
<i>Operating with a Gleaner® S9 Series Combine, page 153</i>	Added AGCO topic.	Technical Publications
<i>Header In-Field Settings for Gleaner® S9 Series Combine, page 154</i>	Added AGCO topic.	Technical Publications
<i>6.3.1 Adjusting Front Draper Belt Tension, page 196</i> <ul style="list-style-type: none"> Step 9, page 199 	Revised step per new vulcanized drive roller. Added illustration for clarity.	ECN 58182
<i>6.5 Checking Contents of Manual Storage Case, page 206</i> <ul style="list-style-type: none"> Step 4, page 206 	Revised step to clarify this it is only applicable to headers shipped with a Case/New Holland completion package.	Technical Publications
<i>6.6 Installing Endshield Decals – Case and New Holland Combines Only, page 207</i>	Revised title to clarify this procedure is only applicable to headers shipped with a Case/New Holland completion package.	Technical Publications
<i>7.1 Recommended Fluids and Lubricants, page 209</i>	Added topic.	Technical Publications

TABLE OF CONTENTS

Introduction	i
Summary of Changes.....	ii
Chapter 1: Safety	1
1.1 Signal Words	1
1.2 General Safety	2
1.3 Safety Signs	4
1.4 Safety Sign Locations.....	5
Chapter 2: Shipping Dimensions and Weight.....	7
Chapter 3: Unloading the Header	9
3.1 Unloading with a Forklift.....	9
3.2 Lowering Header to Field Position	11
3.3 Removing Shipping Stands	12
3.3.1 Opening Left Endshield	14
3.3.2 Closing Left Endshield	15
3.4 Attaching Fixed Wheels	17
3.5 Attaching Caster Wheels.....	18
3.6 Setting Fixed Wheels to Field/Working Position	20
3.7 Setting Caster Wheels to Field/Working Position.....	21
3.8 Extending Hold-Down to Field/Working Position	22
3.9 Adjusting Transport Lights.....	23
3.10 Repositioning Driveline Storage Bracket.....	24
Chapter 4: Reconfiguring Header.....	27
4.1 Configuring Header for AGCO	27
4.1.1 Reducing Header Opening	27
4.1.2 Installing Flighting Extensions.....	35
4.1.3 Removing Auger Fingers.....	38
4.2 Configuring Header for John Deere	40
4.2.1 Moving Stripper Assemblies.....	40
4.2.2 Removing Flighting Extensions	43
4.2.3 Installing Auger Fingers	45
4.3 Configuring Header for Case IH	48
4.3.1 Moving Stripper Assemblies.....	48
4.4 Configuring Header for New Holland CX	51
4.4.1 Moving Stripper Assemblies.....	51
4.4.2 Removing Flighting Extensions	54
4.4.3 Installing Auger Fingers	55
4.5 Configuring Header for New Holland CR	58
4.5.1 Moving Stripper Assemblies.....	58
4.5.2 Installing Flighting Extensions.....	60

TABLE OF CONTENTS

4.5.3 Removing Auger Fingers.....	62
4.6 Adjusting Stripper Plate Clearance.....	64
Chapter 5: Attaching Header to Combine	65
5.1 Attaching Header to Challenger®, Gleaner®, and Massey Ferguson® Combines.....	65
5.2 Attaching Header to IDEAL™ Series Combine.....	71
5.3 Attaching Header to Case IH Combine	75
5.4 Attaching Header to John Deere 60, 70, S, or T Series Combine	78
5.5 Attaching Header to New Holland CR/CX Series Combine	82
5.6 Attaching Header to Versatile Combine	86
5.7 Removing Deck Shipping Braces	91
5.8 Installing Crop Deflectors	92
Chapter 6: Predelivery Inspection.....	93
6.1 Auto Header Height Control	93
6.1.1 Auto Header Height Control System Overview	93
6.1.2 Auto Header Height Control Sensor Operation	94
6.1.3 Height Sensor Output Voltage Range – Combine Requirements	94
Manually Checking Voltage Range	95
Adjusting Header Height Sensor Voltage Range – Left Side.....	97
Adjusting Header Height Sensor Voltage Range – Right Side.....	97
6.1.4 IDEAL™ Series Combines	99
Setting up the Header – IDEAL™ Series.....	99
Setting up Automatic Header Controls – IDEAL™ Series	104
Calibrating the Header – IDEAL™ Series.....	105
Operating the Header – IDEAL™ Series	107
Reviewing Header In-Field Settings – IDEAL™ Series	109
6.1.5 Case IH 5130/6130/7130 and 5140/6140/7140 Midrange Combines	111
Setting up the Header on the Combine Display (Case IH 5130/6130/7130; 5140/6140/7140)	111
Checking Voltage Range from Combine Cab (Case IH 5130/6130/7130; 5140/6140/7140)	112
Calibrating Auto Header Height Control (Case IH 5130/6130/7130; 5140/6140/7140).....	115
Setting Preset Cutting Height (Case IH 5130/6130/7130; 5140/6140/7140).....	115
6.1.6 Case IH 7010/8010, 7120/8120/9120, 7230/8230/9230, and 7240/8240/9240 Combines	118
Checking Voltage Range from Combine Cab (Case 8010).....	118
Checking Voltage Range from Combine Cab (Case IH 7010/8010; 7120/8120/9120; 7230/8230/9230; 7240/8240/9240)	120
Calibrating Auto Header Height Control (Case IH 7010/8010; 7120/8120/9120; 7230/8230/9230; 7240/8240/9240) – Software Versions Below 28.00.....	122
Calibrating Auto Header Height Control (Case IH 7010/8010; 7120/8120/9120; 7230/8230/9230; 7240/8240/9240) – Software Versions Above 28.00	124
Setting Preset Cutting Height (Case 7010/8010, 7120/8120/9120, 7230/8230/9230, 7240/8240/9240)	127
6.1.7 Challenger® 6 Combines	128
Checking Voltage Range from Combine Cab – Challenger® 6 and 7 Series.....	128
Engaging Auto Header Height Control – Challenger® 6 Series	129
Calibrating Auto Header Height Control – Challenger® 6 Series.....	130
Adjusting Header Height – Challenger® 6 Series.....	131
Adjusting Header Raise/Lower Rate – Challenger® 6 Series	132
Setting Sensitivity of Auto Header Height Control – Challenger® 6 Series	133

TABLE OF CONTENTS

6.1.8 Gleaner® R65/R66/R75/R76 and S Series Combines – Except S9 Series.....	134
Checking Voltage Range from Combine Cab – Gleaner® R65/R66/R75/R76 and S Series.....	135
Engaging Auto Header Height Control – Gleaner® R65/R66/R75/R76 and S Series.....	136
Calibrating Auto Header Height Control – Gleaner® R65/R66/R75/R76 and S Series	137
Turning Accumulator Off – Gleaner® R65/R66/R75/R76 and S Series	139
Adjusting Header Raise/Lower Rate – Gleaner® R65/R66/R75/R76 and S Series	139
Adjusting Ground Pressure – Gleaner® R65/R66/R75/R76 and S Series	140
Adjusting Sensitivity of Auto Header Height Control – Gleaner® R65/R66/R75/R76 and S Series.....	141
Troubleshooting Alarms and Diagnostic Faults – Gleaner® R65/R66/R75/R76 and S Series	141
6.1.9 Gleaner® S9 Series Combines.....	143
Setting up the Header – Gleaner® S9 Series	143
Setting up Automatic Header Controls – Gleaner® S9 Series	147
Calibrating Header – Gleaner® S9 Series.....	149
Operating with a Gleaner® S9 Series Combine	153
Header In-Field Settings for Gleaner® S9 Series Combine.....	154
6.1.10 John Deere 60 Series Combines	156
Checking Voltage Range from Combine Cab (John Deere 60 Series)	156
Calibrating Auto Header Height Control (John Deere 60 Series).....	157
Turning Off Accumulator (John Deere 60 Series)	159
Setting Sensing Grain Header Height (John Deere 60 Series).....	160
Setting Sensitivity of Auto Header Height Control (John Deere 60 Series).....	161
Adjusting Threshold for Drop Rate Valve (John Deere 60 Series)	161
6.1.11 John Deere 70 Series Combines	162
Checking Voltage Range from Combine Cab (John Deere 70 Series)	162
Calibrating Feeder House Speed (John Deere 70 Series).....	165
Calibrating Auto Header Height Control (John Deere 70 Series).....	165
Setting Sensitivity of Auto Header Height Control (John Deere 70 Series).....	166
Adjusting Manual Header Raise/Lower Rate (John Deere 70 Series).....	167
6.1.12 John Deere S and T Series Combines.....	168
Checking Voltage Range from Combine Cab (John Deere S and T Series).....	168
Calibrating Feeder House Fore-Aft Tilt Range (John Deere S and T Series).....	170
Calibrating Auto Header Height Control (John Deere S and T Series)	173
Setting Sensitivity of Auto Header Height Control (John Deere S and T Series)	175
Adjusting Manual Header Raise/Lower Rate (John Deere S and T Series)	175
Setting Preset Cutting Height (John Deere S and T Series)	176
6.1.13 New Holland Combines CX/CR Series (CR Series – Model Year 2014 and Earlier).....	179
Checking Voltage Range from Combine Cab (New Holland CX/CR Series)	179
Engaging Auto Header Height Control (New Holland CR/CX Series)	181
Calibrating Auto Header Height Control (New Holland CR/CX Series)	181
Adjusting Header Raise Rate (New Holland CR/CX Series)	184
Setting Header Lower Rate (New Holland CR/CX Series)	184
Setting Auto Header Height Control Sensitivity to 200 (New Holland CR/CX Series)	185
Setting Preset Cutting Height (New Holland CR/CX Series).....	185
6.1.14 New Holland Combines (CR Series – Model Year 2015 and Later).....	186
Engaging Auto Header Height Control (New Holland CR Series).....	186
Checking Voltage Range from Combine Cab (New Holland CR Series).....	188
Calibrating Auto Header Height Control (New Holland CR Series)	190
Setting Auto Height (New Holland CR Series)	192
Setting Maximum Work Height (New Holland CR Series).....	194
6.2 Wheels and Tires.....	195
6.2.1 Inflating Tires	195
6.3 Checking Draper Belt Tension	196

TABLE OF CONTENTS

6.3.1 Adjusting Front Draper Belt Tension	196
6.3.2 Adjusting Rear Draper Belt Tension	201
6.4 Lubrication	203
6.4.1 Lubricating the Header.....	203
6.4.2 Lubricating Auger Drive Chain	203
6.4.3 Greasing Points	205
6.5 Checking Contents of Manual Storage Case.....	206
6.6 Installing Endshield Decals – Case and New Holland Combines Only	207
6.7 Running up the Header.....	208
Chapter 7: Reference	209
7.1 Recommended Fluids and Lubricants	209
7.2 Definitions	209
7.3 Conversion Chart.....	211
7.4 Torque Specifications	212
7.4.1 Metric Bolt Specifications	212
7.4.2 Metric Bolt Specifications Bolting into Cast Aluminum	214
7.4.3 Flare-Type Hydraulic Fittings	214
7.4.4 O-Ring Boss Hydraulic Fittings – Adjustable	215
7.4.5 O-Ring Boss Hydraulic Fittings – Non-Adjustable.....	217
7.4.6 O-Ring Face Seal Hydraulic Fittings.....	218
7.4.7 Tapered Pipe Thread Fittings.....	219
Predelivery Checklist	221

Chapter 1: Safety

1.1 Signal Words

Three signal words, **DANGER**, **WARNING**, and **CAUTION**, are used to alert you to hazardous situations. Two signal words, **IMPORTANT** and **NOTE**, identify non-safety related information.

Signal words are 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.

IMPORTANT:

Indicates a situation that, if not avoided, could result in a malfunction or damage to the machine.

NOTE:

Provides additional information or advice.

1.2 General Safety

Protect yourself when assembling, operating, and servicing machinery.

CAUTION

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

Wear all 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

In addition, take the following precautions:

- Be aware that exposure to loud noises can cause hearing impairment or loss. Wear suitable hearing protection devices such as earmuffs or earplugs to help protect against loud noises.



Figure 1.1: Safety Equipment



Figure 1.2: Safety Equipment

- Provide a first aid kit in case of emergencies.
- Keep a properly maintained fire extinguisher on the machine. Familiarize yourself with its use.
- Keep young children away from machinery at all times.
- Be aware that accidents often happen when Operators are fatigued or in a hurry. Take time to consider the safest way to accomplish a task. **NEVER** ignore the signs of fatigue.

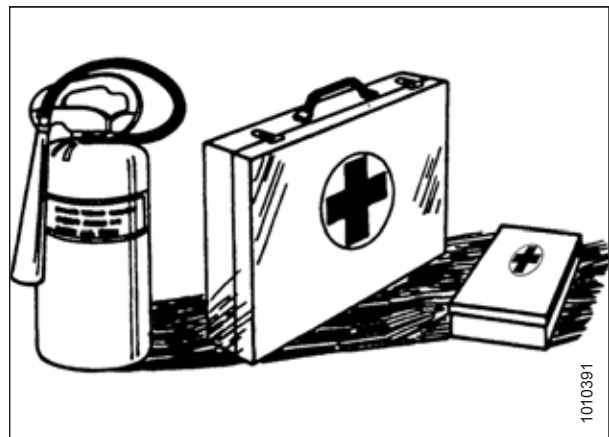


Figure 1.3: Safety Equipment

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. Ensure that the driveline guards can rotate independently of their shaft, and that they can telescope freely.
- Use only service and repair parts made or approved by the equipment manufacturer. Parts from other manufacturers may not meet the correct 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. Unauthorized modifications may impair the functionality and/or safety of the machine. It may also shorten the machine's service life.
- To avoid injury or death from the unexpected startup of the machine, **ALWAYS** stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

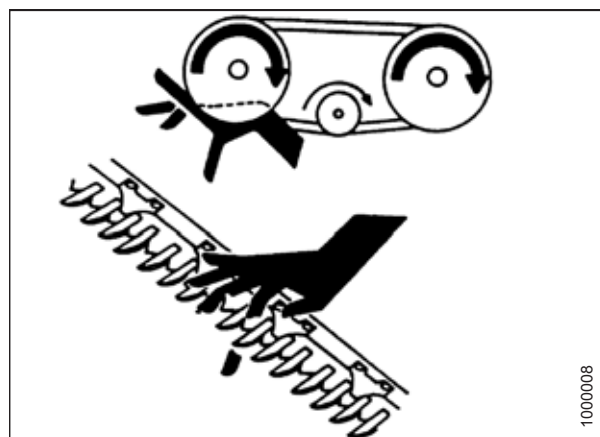


Figure 1.5: Safety around Equipment

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



Figure 1.6: Safety around Equipment

1.3 Safety Signs

Safety signs are decals placed on the machine where there is a risk of personal injury, or where the operator should take extra precautions before operating the controls. They are usually yellow. Operator manuals and technical manuals list the location and explain the meaning of all safety signs placed on the machine.

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or illegible.
- If the original part on which a safety sign was installed is replaced, ensure that the repair part displays the current safety sign.

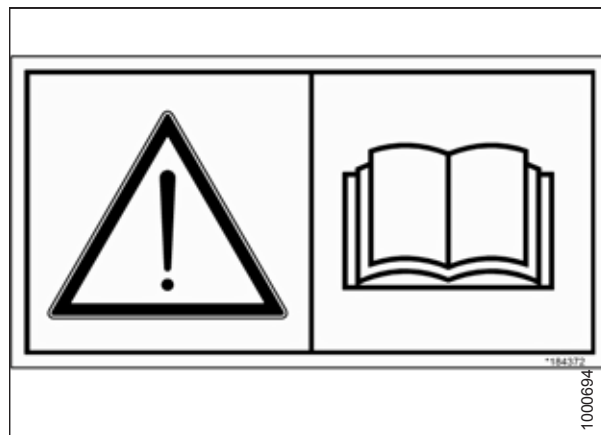


Figure 1.7: Operator's Manual Decal

1.4 Safety Sign Locations

Replace missing or damaged decals.

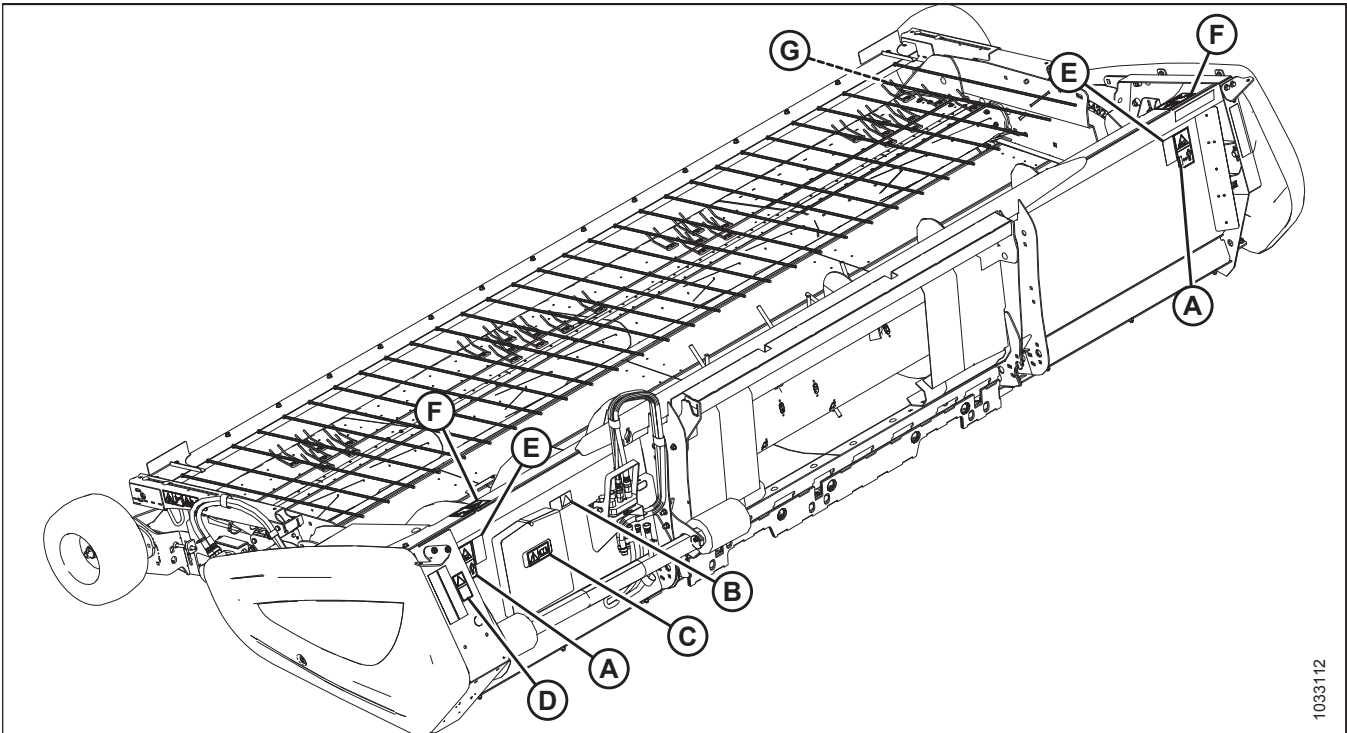


Figure 1.8: Header Decals

- | | | |
|----------------|----------------|----------------|
| A - MD #184370 | B - MD #166466 | C - MD #184372 |
| D - MD #184422 | E - MD #184420 | F - MD #237298 |
| G - MD #304865 | | |

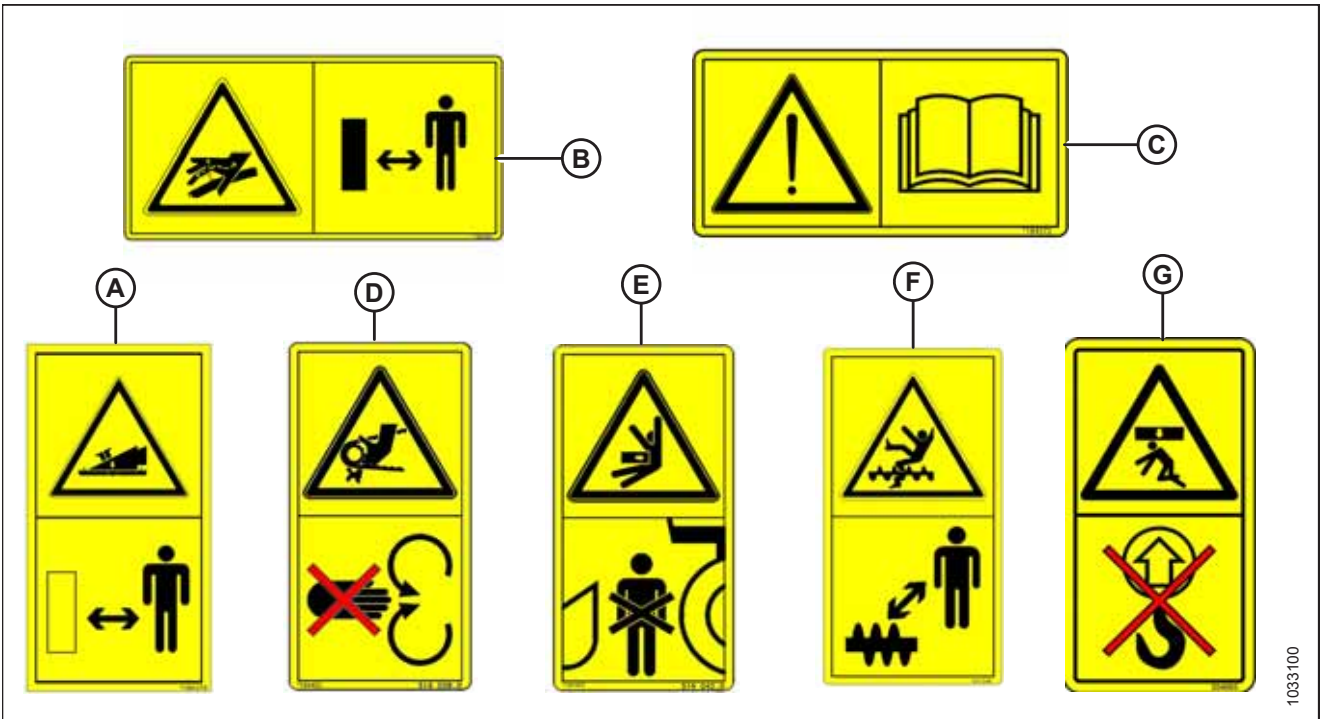


Figure 1.9: Header Decals

SAFETY

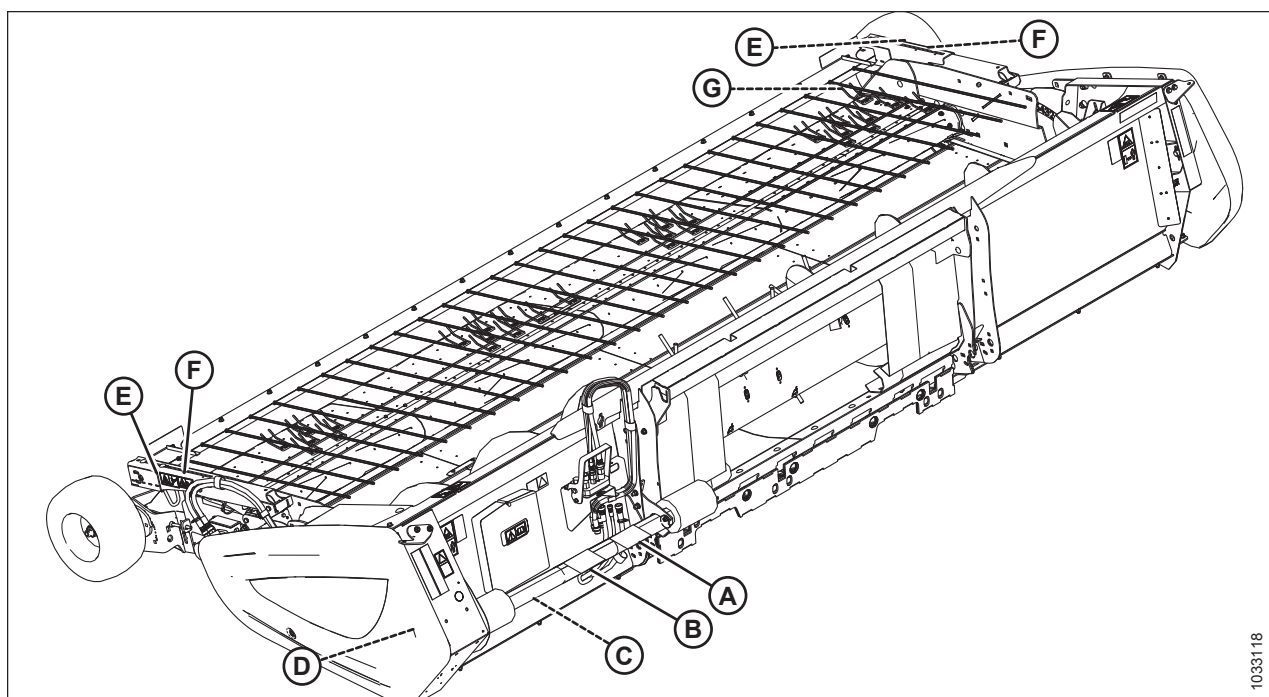


Figure 1.10: Driveline and Hold-Down Decals

A - MD #30316

D - MD #184422 (Behind Endshield)

G - MD #304865

B - See footnote¹

E - MD #237229

C - MD #36651

F - MD #237254

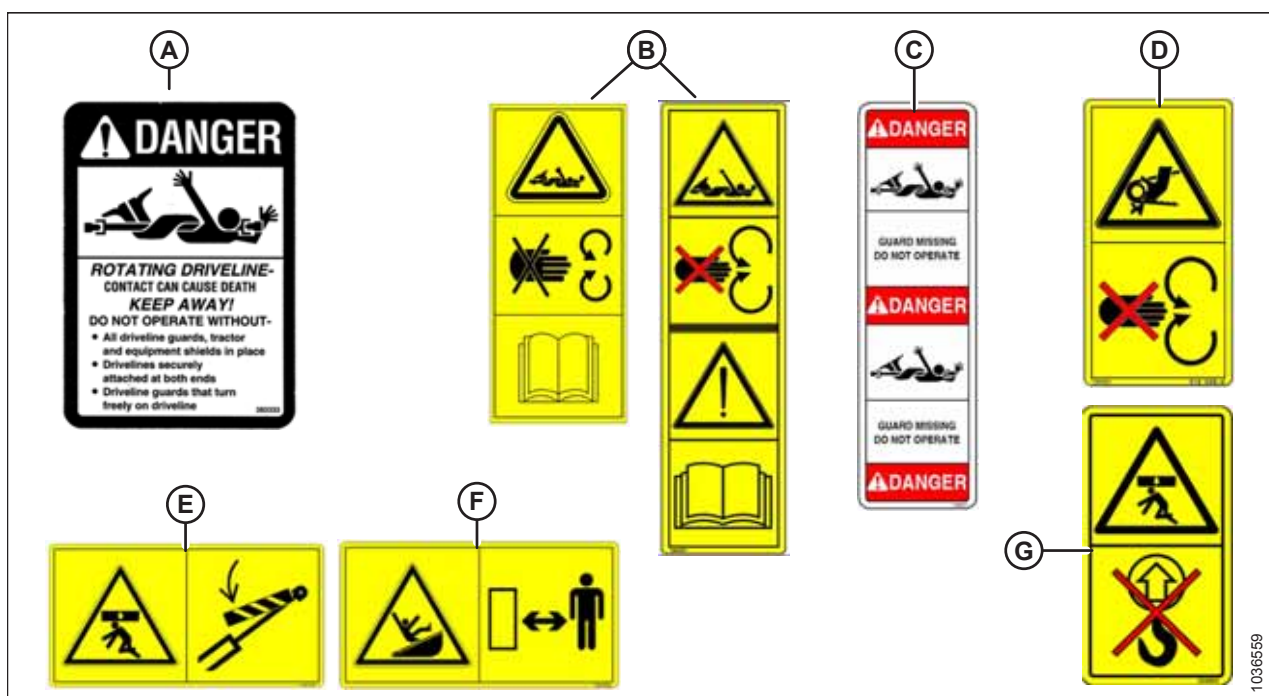


Figure 1.11: Driveline and Hold-Down Decals

1. MD #191099 (if Walterscheid supplies the driveline) or MD #194521 (if Weasler supplies the driveline)

Chapter 2: Shipping Dimensions and Weight

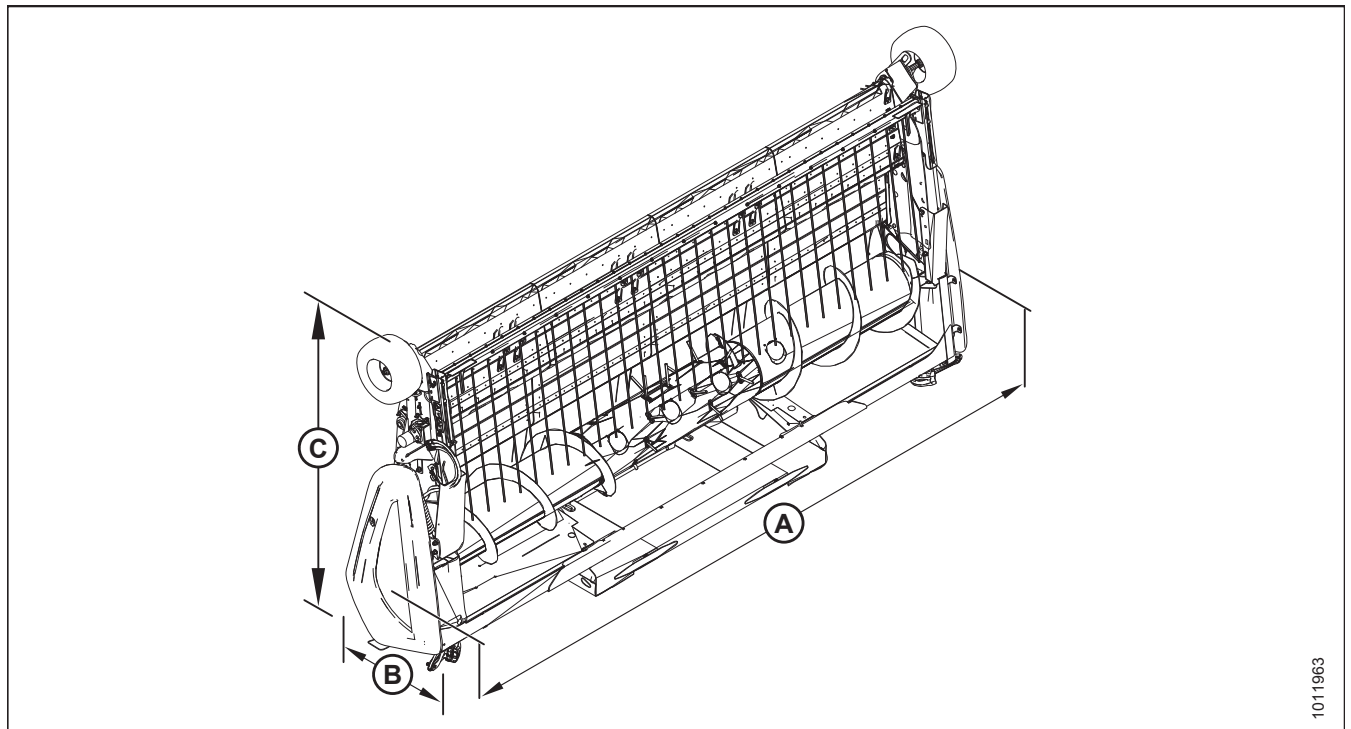
Shipping dimensions and weight are included to help you move and transport the headers. PW8 Pick-Up Headers are shipped as single headers.

The following data include shipping stands:

Table 2.1 Shipping Dimensions and Weight

Length (A)	Width (B)	Height (C)	Weight ²
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



2. Weight is approximate and depends on combine completion package.

Chapter 3: Unloading the Header

Follow each of the procedures in this chapter in order.

3.1 Unloading with a Forklift

The following procedure assumes the header was shipped upright on a trailer. Lift the header at the specific lifting points using a forklift (or equivalent) that meets or exceeds the lifting requirements.

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.



DANGER

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



DANGER

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



DANGER

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

Lifting Vehicle (Forklift or Equivalent)	
Minimum Lifting Capacity ³	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.

3. 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.

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.

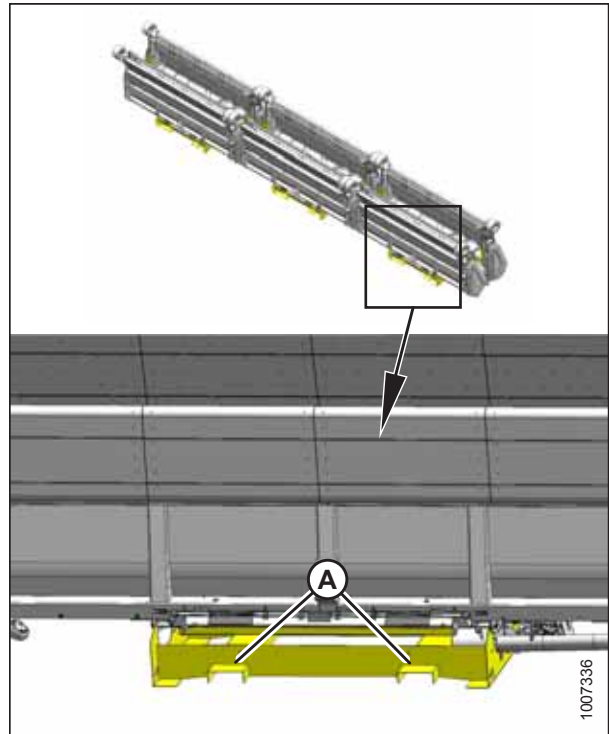


Figure 3.1: Header Shipping Stands

DANGER

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.

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



Figure 3.2: Unloading the Header

3.2 Lowering Header to Field Position

Lower the upright header into the flat position before removing shipping material and assembling the 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 tipping supports (C) on each end of the header as shown. Do **NOT** attach chains to, or through, hold-down components.

IMPORTANT:

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

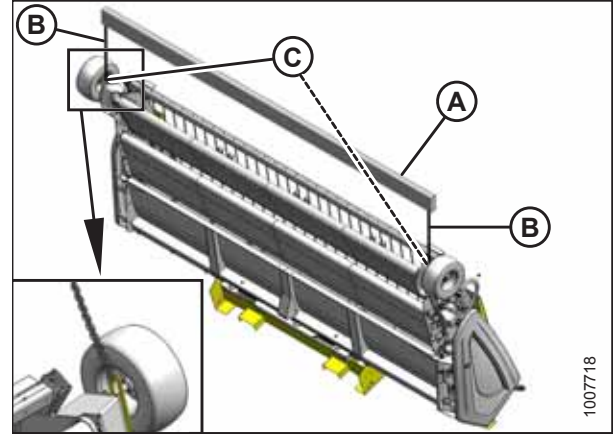


Figure 3.3: Spreader Bar on Header

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

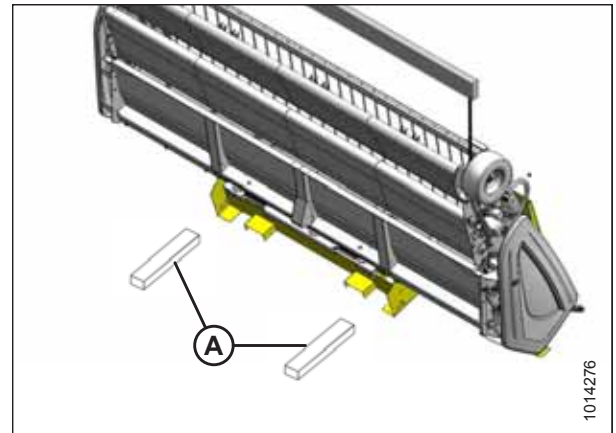


Figure 3.4: Wooden Blocks

4. Slowly back up forklift while lowering the front of pick-up header to the ground.
5. Remove chains (A) from tipping supports.
6. Proceed to [3.3 Removing Shipping Stands, page 12](#).

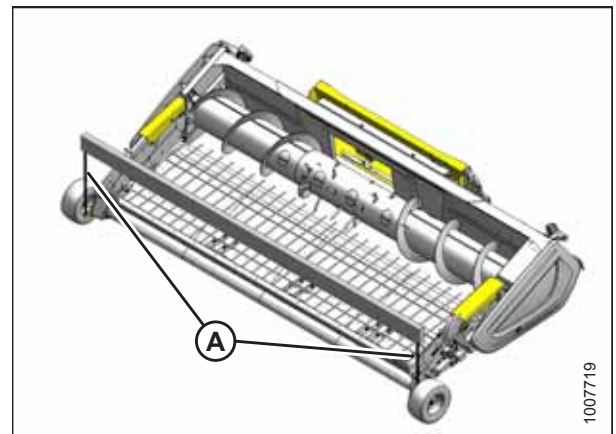


Figure 3.5: Spreader Bar on Header

3.3 Removing Shipping Stands

The removable stands are painted yellow.

CAUTION

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

NOTE:

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

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

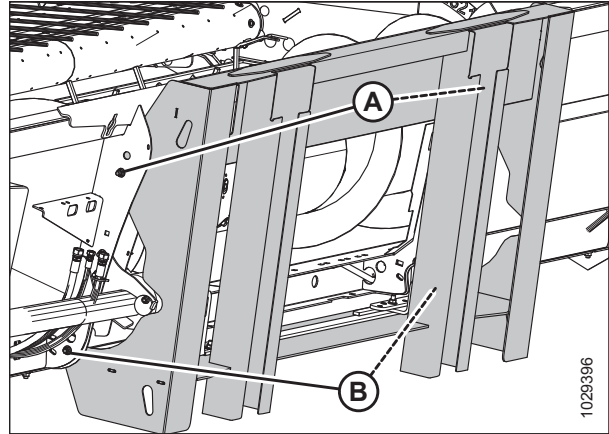


Figure 3.6: Shipping Stand

NOTE:

Wheel not shown for clarity.

3. Remove bolt (A) from tipping support (B).
4. Loosen bolt (C) and slide tipping support (B) in direction of arrow until bolt (C) disengages slot in header, then remove tipping support (B).
5. Remove tipping support from opposite end of header.

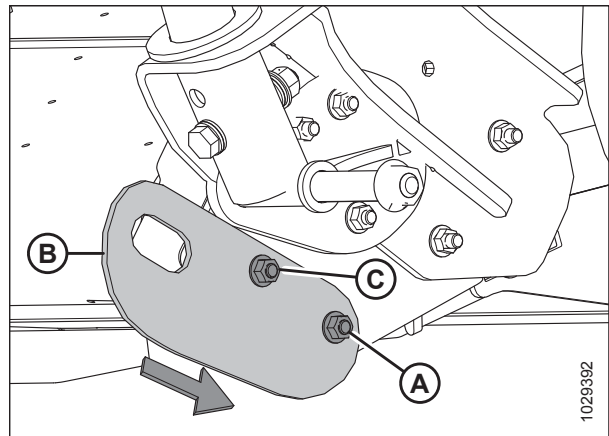


Figure 3.7: Tipping Support

UNLOADING THE HEADER

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

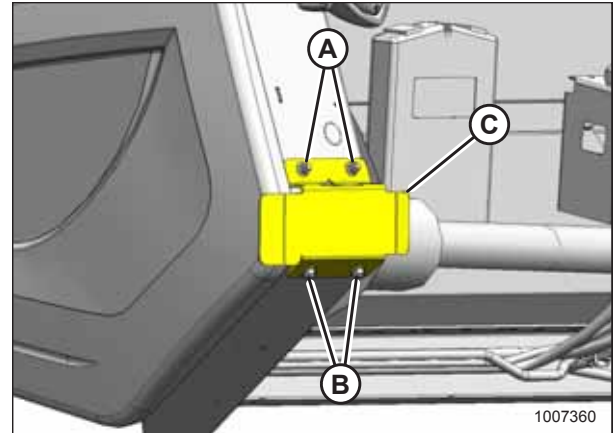


Figure 3.8: Shipping Bumper

8. Open left endshield (A). For instructions, refer to [3.3.1 Opening Left Endshield, page 14](#).
9. Remove the remaining nuts and bolts (B).
10. Close endshield. For instructions, refer to [3.3.2 Closing Left Endshield, page 15](#).

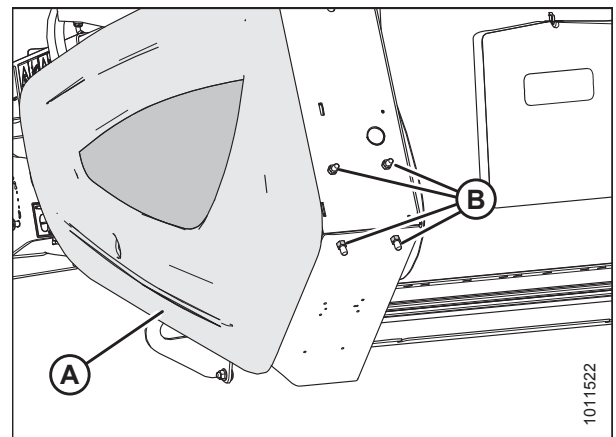


Figure 3.9: Bumper Bolts

NOTE:

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

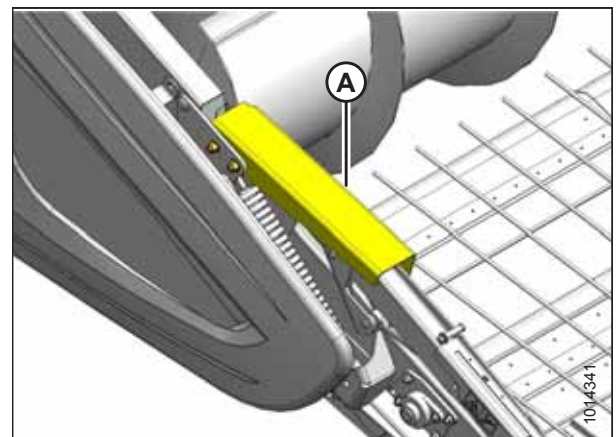


Figure 3.10: Deck Shipping Brace

3.3.1 Opening Left Endshield

Opening the endshield is a simple procedure. For some maintenance or repair procedures, it may be necessary to remove the left endshield on your pick-up header entirely.

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

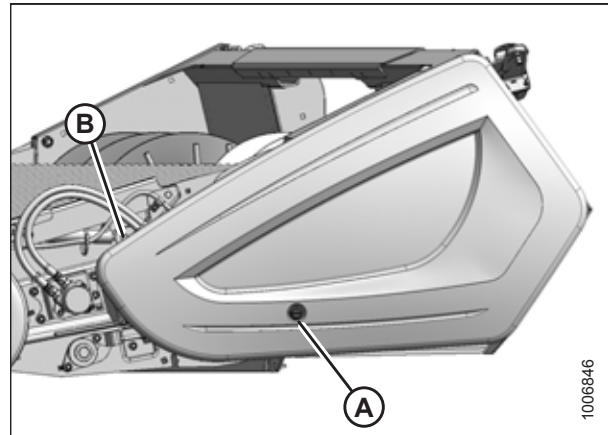


Figure 3.11: Endshield Closed

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

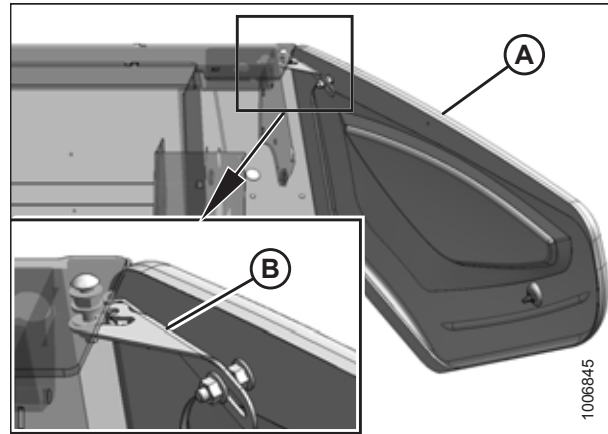


Figure 3.12: Endshield Open

3.3.2 Closing Left Endshield

Close the endshield when your maintenance or repair tasks are complete.

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

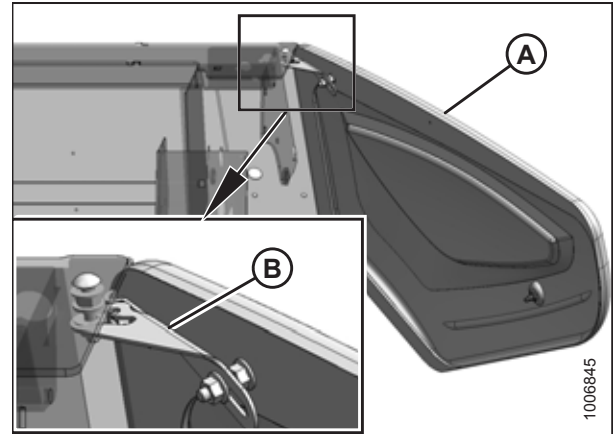


Figure 3.13: Endshield Support

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

NOTE:

The positions of latch (D) and magnet (B) are factory-set and should not require adjustment.

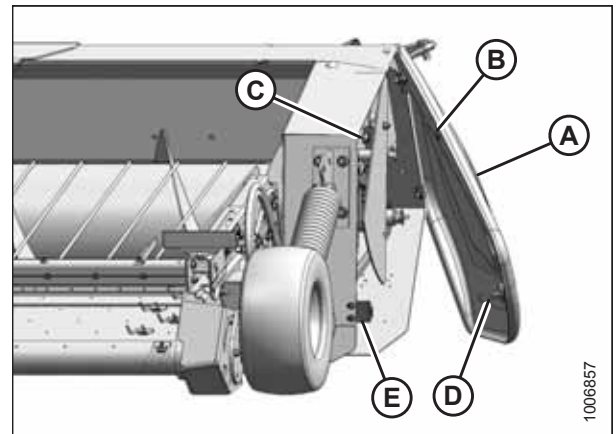


Figure 3.14: Endshield

3. If the front of the endshield needs to be raised or lowered, loosen nuts (B) on clips (C) at the back of endshield (A), and reposition the endshield. Tighten nuts (B).

IMPORTANT:

Do **NOT** overtighten nuts (B). Overtightening can damage the endshield.

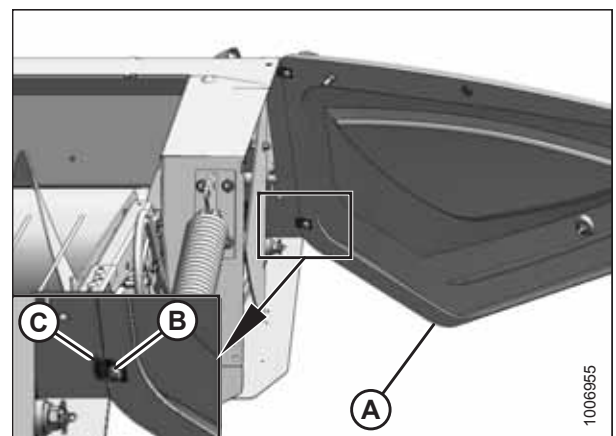


Figure 3.15: Endshield Adjustment

UNLOADING THE HEADER

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

NOTE:

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

5. Verify the following:
 - The endshield is positioned against the header endsheet.
 - The endshield is aligned with the cutout in the frame.
 - Latch (A) is engaged.

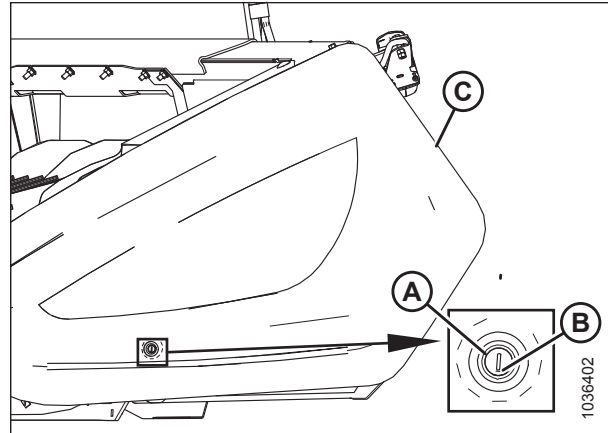


Figure 3.16: Endshield Closed

3.4 Attaching Fixed Wheels

Headers can be ordered with either fixed wheels or caster wheels.

For instructions about attaching caster wheels, refer to [3.5 Attaching Caster Wheels, page 18](#).

1. Retrieve wheel assemblies (A) and the bag of hardware from the crate.
2. Adjust the header to approximately working height.
3. Remove bolts and lock nuts (B) from the header frame.

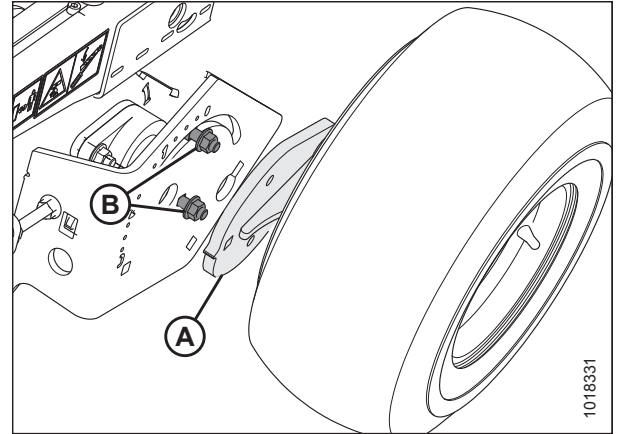


Figure 3.17: Wheel Assembly – Right Side

4. Position spindle plate (A) against the frame with cog (B) pointing aft.
5. Line up the lower hole in spindle plate with the center hole in the frame and install bolt (C) from the inboard side of the frame.
6. Secure with the nut, but do **NOT** tighten at this time.
7. Swivel the wheel assembly so that second bolt (D) can be installed through the slot in the frame and into spindle plate (A). Secure with the nut.
8. Position the wheel assembly with cog (B) lined up with the number **2** on the frame.
9. Tighten both nuts.
10. Repeat this procedure for the other wheel assembly.

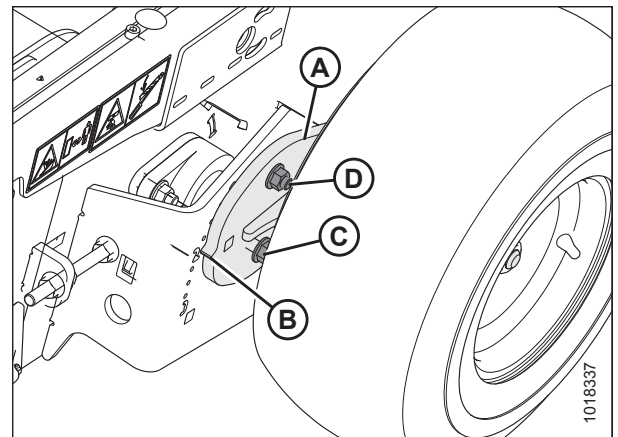


Figure 3.18: Attaching Wheel

3.5 Attaching Caster Wheels

Headers can be ordered with either fixed wheels or caster wheels.

For instructions about attaching fixed wheels, refer to [3.4 Attaching Fixed Wheels, page 17](#).

NOTE:

Headers are shipped with caster wheels removed.

1. Remove bolts and nuts (A).
2. Remove caster wheel support (B).

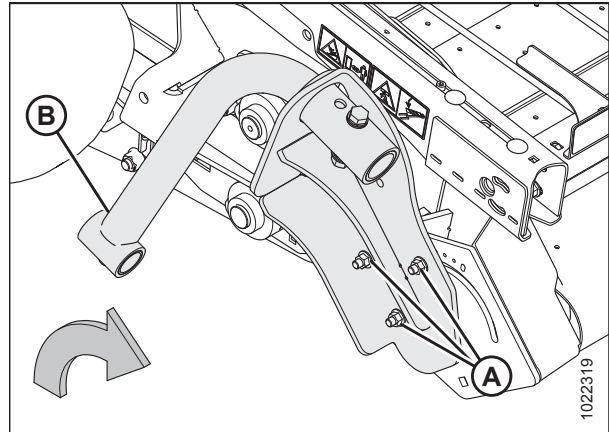


Figure 3.19: Header Wheel – Right Side

3. Rotate caster wheel support (A) until it aligns with the header frame at location (B).
4. Install bolts and nuts (C) and torque to 68.5 Nm (50.5 lbf-ft).

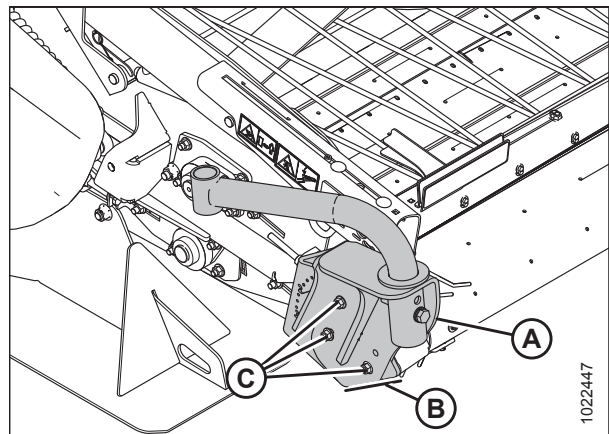


Figure 3.20: Header Wheel – Right Side

5. Remove bolt (A) and rotate caster wheel support tube (B) until upper hole (C) is aligned.
6. Install bolt (A) into hole (C). Torque bolt to 234 Nm (173 lbf-ft).

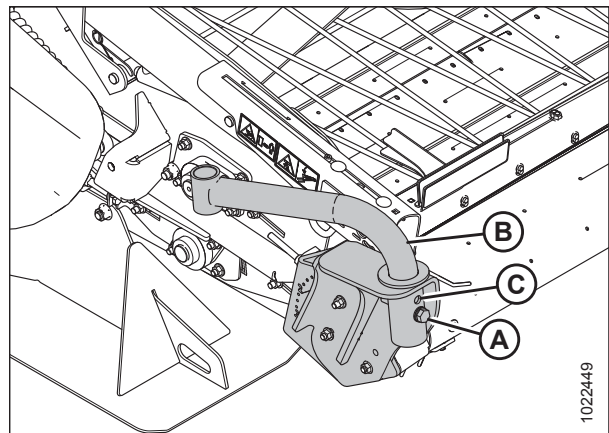


Figure 3.21: Header Wheel – Right Side

UNLOADING THE HEADER

7. Remove bolt (A), stop collar (E), thrust washers (D), and spacer (B) from the right caster wheel. Leave thrust washer (C) on the shaft of the caster assembly.

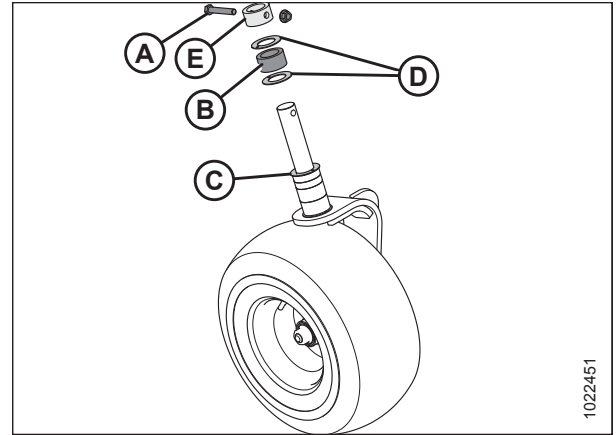


Figure 3.22: Caster Wheel Assembly

8. Insert the assembly into wheel support tube (D).
9. On the shaft extending past the wheel support tube, install thrust washer (C), collar (B), thrust washer (C) and stop collar (E).
10. Rotate the stop collar until the holes line up. Insert bolt (A), and torque the hardware to 68.5 Nm (50.5 lbf-ft).
11. Repeat installation on the left side of the header.

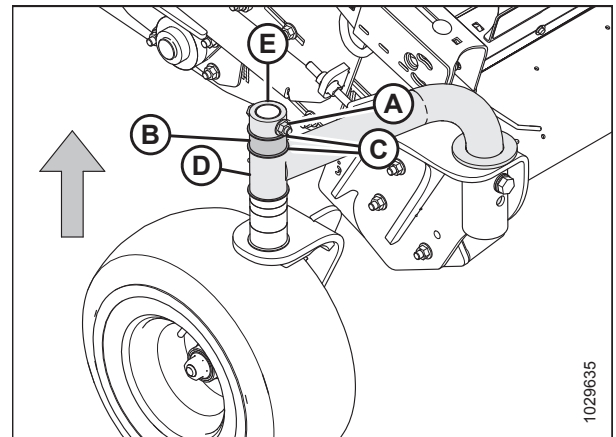


Figure 3.23: Caster Wheel Assembly

3.6 Setting Fixed Wheels to Field/Working Position

Headers can be ordered with either fixed wheels or caster wheels.

For instructions about positioning caster wheels in field/working position, refer to [3.7 Setting Caster Wheels to Field/Working Position, page 21](#).

Wheels must be in working position (with cog lined up with position **2** [A] on the header frame) prior to setting the header on the ground.

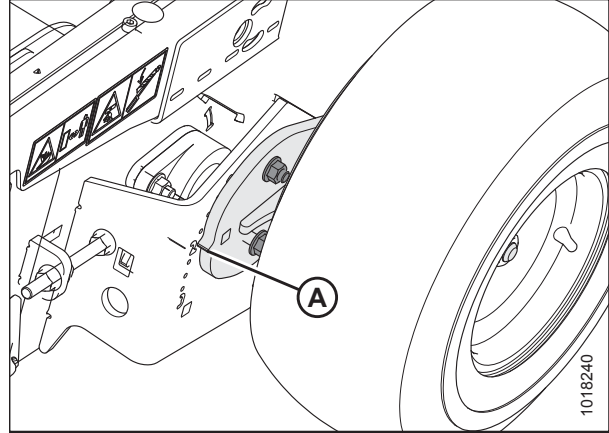


Figure 3.24: Working Position

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

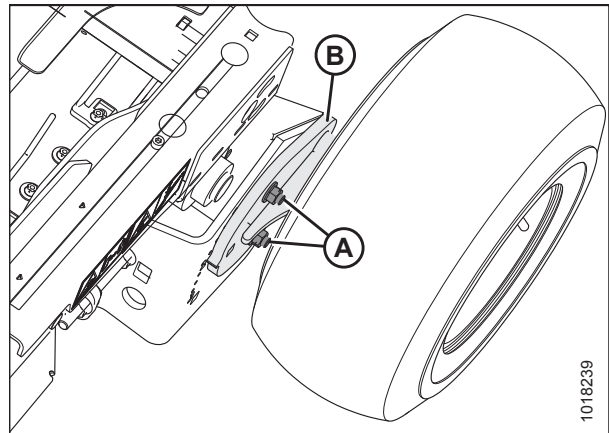


Figure 3.25: Header Wheel – Right Side

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

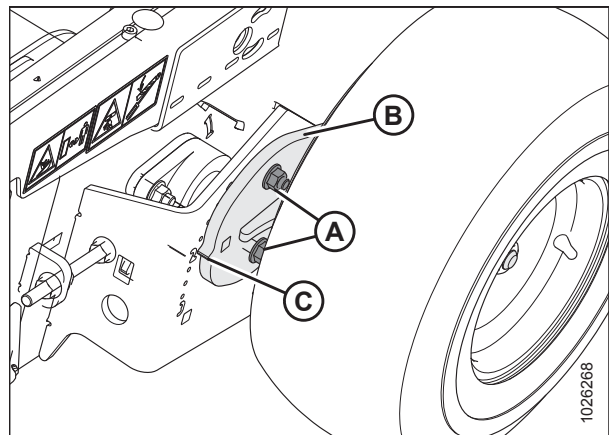


Figure 3.26: Header Wheel – Right Side

3.7 Setting Caster Wheels to Field/Working Position

Headers can be ordered with either fixed wheels or caster wheels.

For instructions about positioning fixed wheels in field/working position, refer to [3.6 Setting Fixed Wheels to Field/Working Position, page 20](#).

1. Locate right caster assembly (A).
2. Remove bolts (B) and caster wheel support (A).

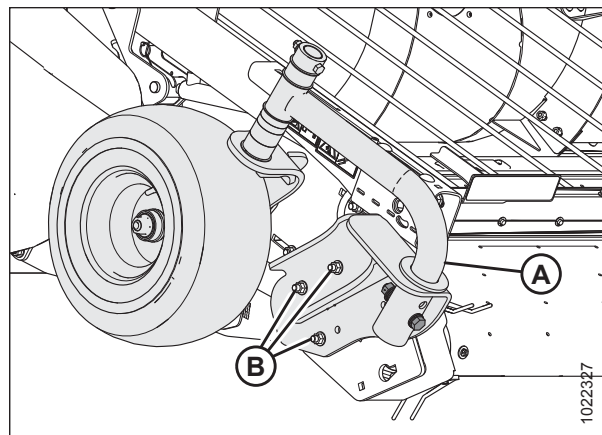


Figure 3.27: Header Wheel – Right Side

3. Position caster wheel support (A) until it aligns with the header frame at location (C).
4. Install bolts (B), and torque the bolts to 68.5 Nm (50.5 lbf·ft).
5. Remove bolt (D) from the lower hole.

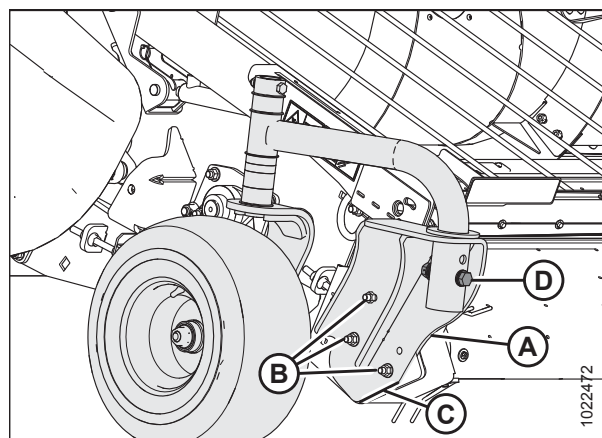


Figure 3.28: Header Wheel – Right Side

6. Rotate caster assembly (B) until the upper holes align. Insert bolt (A) and washers to secure. Torque the nut to 234 Nm (173 lbf·ft).
7. Repeat the procedure on the left side of the header.

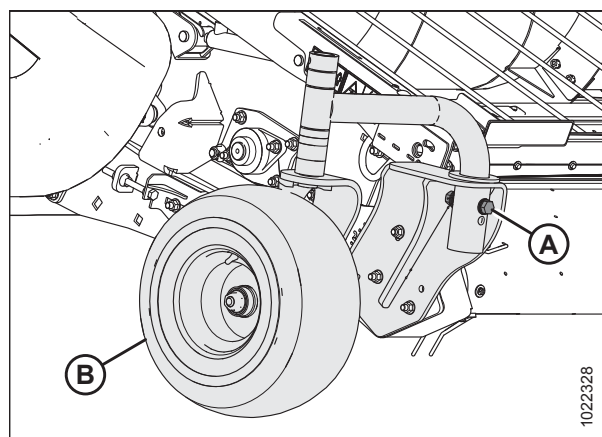


Figure 3.29: Header Wheel – Right Side

3.8 Extending Hold-Down to Field/Working Position

Extend the hold-down into the working position to prepare the header for the customer.

CAUTION

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

1. If necessary, lift hold-down (A) slightly to gain access to bolts (B) inside the hold-down arms.
2. Loosen four bolts (B) (two per side) in the hold-down frame with an 18 mm socket wrench.

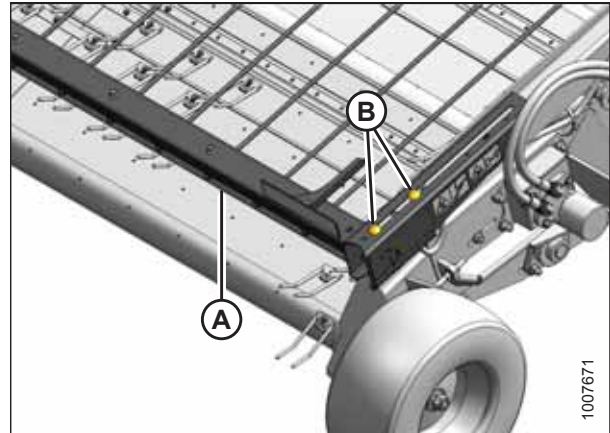


Figure 3.30: Hold-Down – Left Side

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

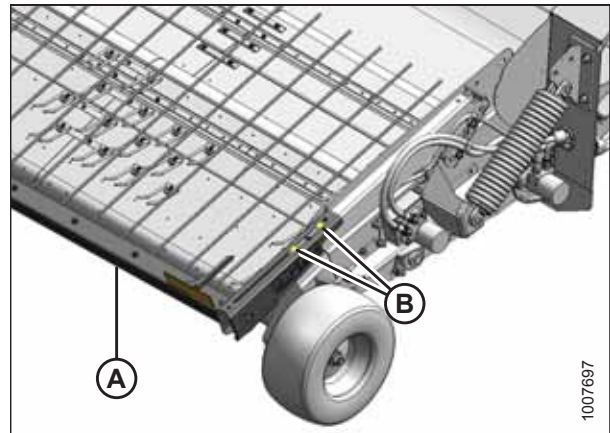


Figure 3.31: Hold-Down – Left Side

3.9 Adjusting Transport Lights

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

1. The transport lights should be perpendicular to the endsheet. If repositioning is required, swivel the lights by hand.
2. If the swivel is too loose or too tight, adjust jam nut (A) and turn nut (B) so that the light maintains its position and can be moved by hand.
3. Tighten jam nut (A). Do **NOT** overtighten the jam nut.

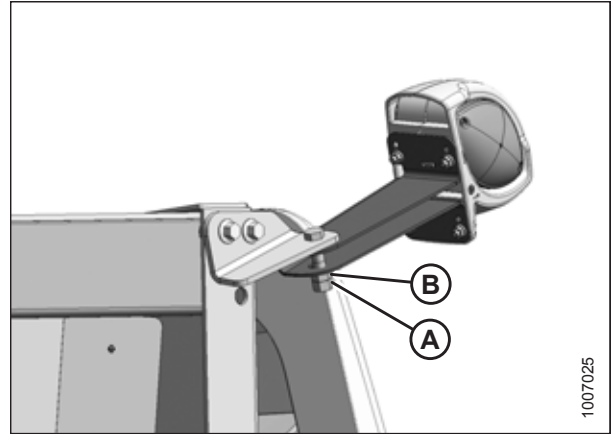


Figure 3.32: Transport Light

3.10 Repositioning Driveline Storage Bracket

For some brands of combine, the driveline storage bracket is shipped in a temporary position for shipping purposes. Reposition the driveline bracket if required before operating the header in the field.

NOTE:

This procedure is **NOT** applicable to IDEAL™ Series combines.

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

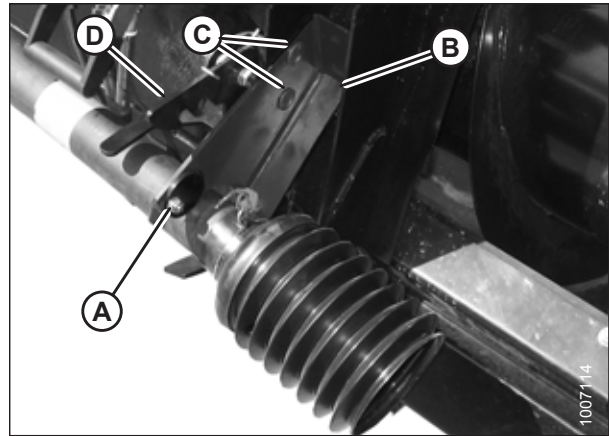


Figure 3.33: Driveline Bracket

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).

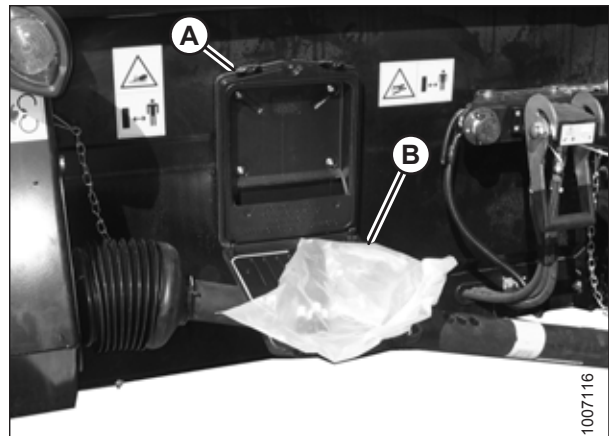


Figure 3.34: Hardware Bag

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.

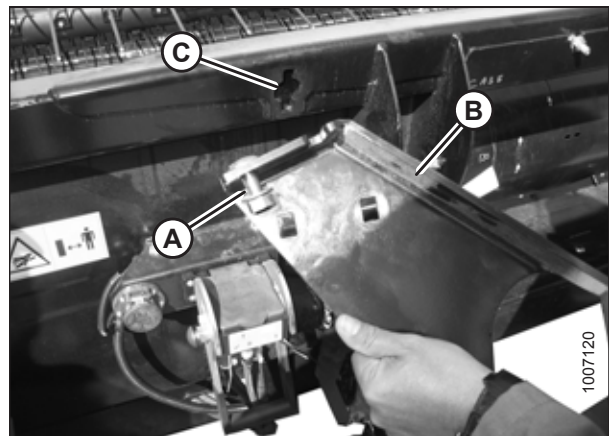


Figure 3.35: Driveline Bracket

UNLOADING THE HEADER

7. Position bracket (A) against header frame and locate 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.

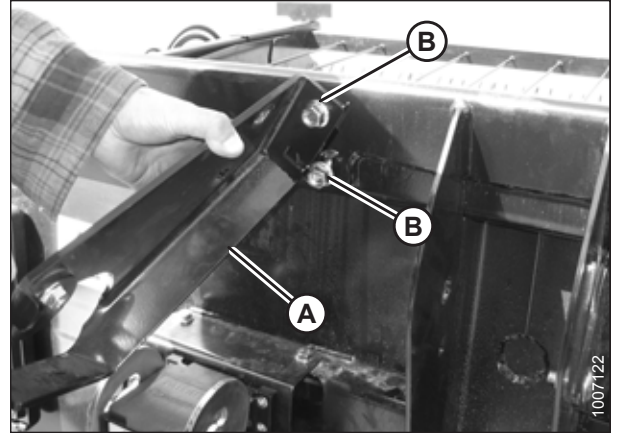


Figure 3.36: Driveline Bracket

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

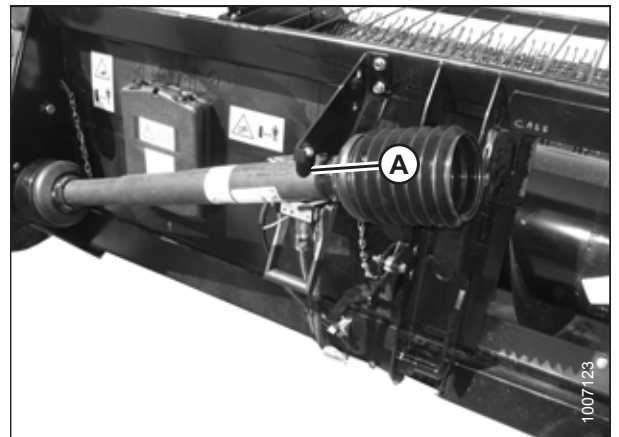


Figure 3.37: Driveline in Repositioned Bracket

Chapter 4: Reconfiguring Header

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.

- AGCO 1270 mm (50 in.), 1118 mm (44 in.), or 965 mm (38 in.)—refer to [4.1 Configuring Header for AGCO, page 27](#).
- Case 1156 mm (45 1/2 in.)—refer to [4.3 Configuring Header for Case IH, page 48](#)
- John Deere 1650 mm (65 in.)—refer to [4.2 Configuring Header for John Deere, page 40](#)
- New Holland 1016 mm (40 in.)—refer to [4.5 Configuring Header for New Holland CR, page 58](#)
- New Holland 1524 mm (60 in.)—refer to [4.4 Configuring Header for New Holland CX, page 51](#)

4.1 Configuring Header for AGCO

PW8 Pick-Up Headers are configured at the factory for combines with a 1397 mm (55 in.) feeder house. These procedures describe how to modify the header for combines with a 1270 mm (50 in.), 1118 mm (44 in.), or 965 mm (38 in.) feeder house.

4.1.1 Reducing Header Opening

Whether a Challenger®, Gleaner®, Massey Ferguson®, or IDEAL™ header, the header opening can be reduced by installing wider panels on both sides of the opening and repositioning the stripper assemblies. The two side panels are strapped to the rear draper deck. Follow the steps below to reduce the size of the header opening:

1. Remove the strapping securing the two panels (A) to the rear draper deck.

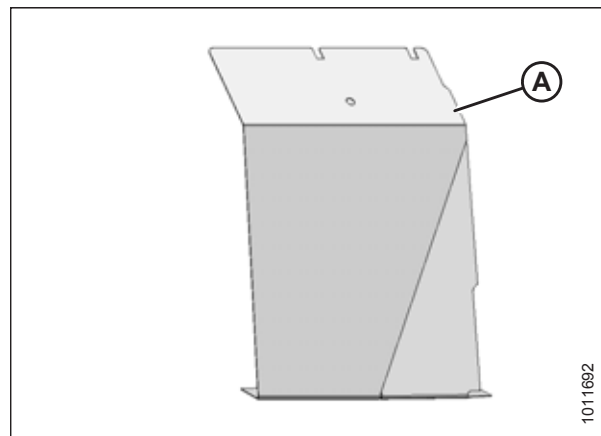


Figure 4.1: Challenger® and Massey Ferguson® Panel – Right Side Shown, Left Side Opposite

RECONFIGURING HEADER

NOTE:

IDEAL™ completion packages have differently formed panels as shown at right.

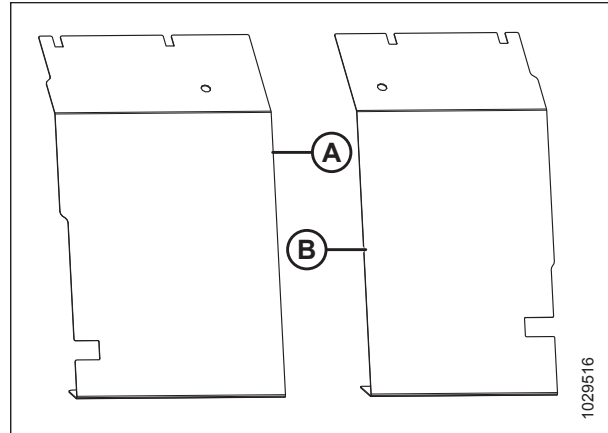


Figure 4.2: IDEAL™ Panels

A - Left Panel

B - Right Panel

NOTE:

Gleaner® completion packages have differently formed panels as shown at right.

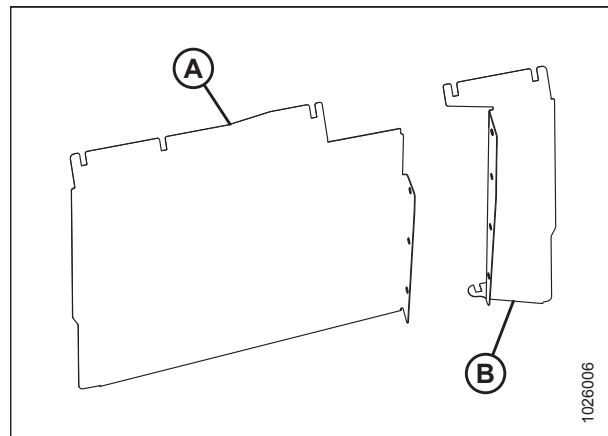


Figure 4.3: Gleaner® Panels

A - Left Panel

B - Right Panel

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

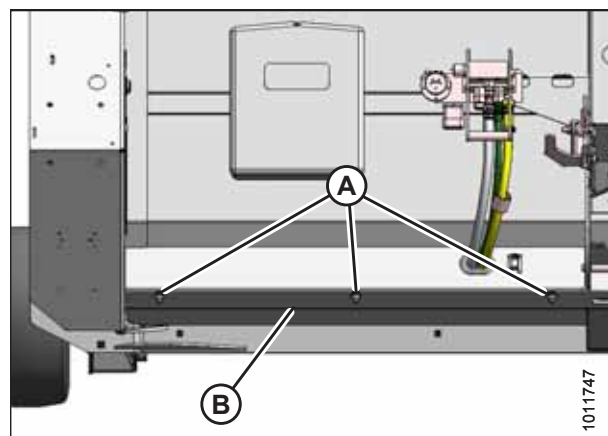


Figure 4.4: Left Cover – Right Side Opposite

RECONFIGURING HEADER

- Remove the five bolts (A) attaching left bracket stripper assembly (B) to the header frame. Retain hardware.

NOTE:

Auger removed from illustration for clarity.

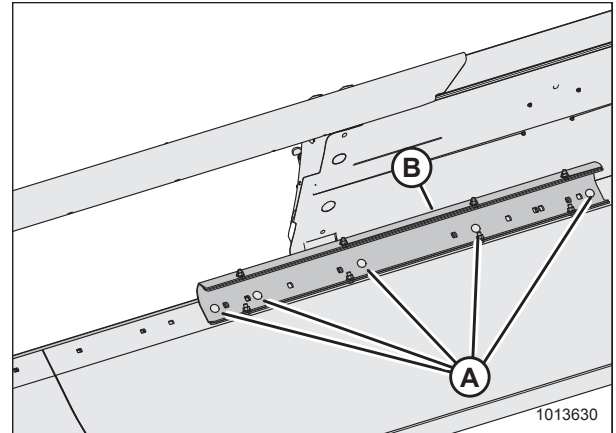


Figure 4.5: Left Stripper

- Move left stripper bracket assembly (A) inboard so the distance (B) between the stripper bracket assembly and the header centerline (C) is according to Table 4.1, page 29.

NOTE:

The centerline is located where the header pans meet.

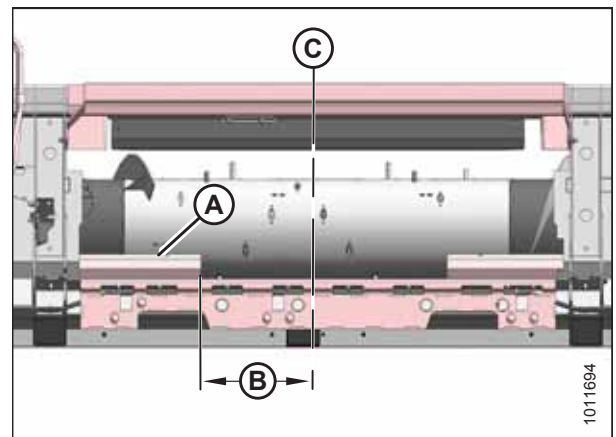


Figure 4.6: Left Stripper

Table 4.1 Left Stripper Bracket Distance

Feeder House Size	Combine	Distance (B)
965 mm (38 in.)	Gleaner®	87 mm (3 7/16 in.)
1118 mm (44 in.)	Challenger®/Massey Ferguson®	458 mm (18 in.)
1270 mm (50 in.)	IDEAL™	627 mm (24 11/16 in.)

- Reinstall the five bolts (A) retained from Step 3, page 29 at locations where the mounting holes on stripper bracket assembly (B) align with holes in the header frame. Tighten bolts.

NOTE:

Auger removed from illustration for clarity.

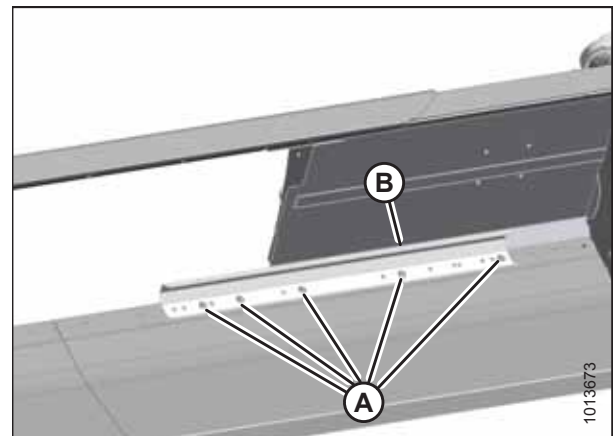


Figure 4.7: Left Stripper

RECONFIGURING HEADER

6. Remove the five bolts (B) attaching right stripper bracket assembly (A) to the header frame. Retain hardware.

NOTE:

Auger removed from illustration for clarity.

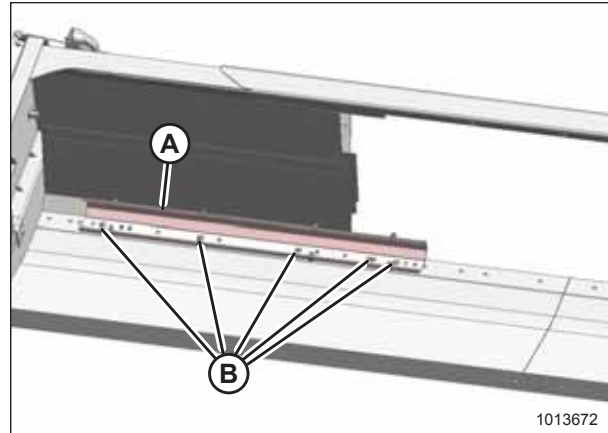


Figure 4.8: Right Stripper

7. Move right stripper assembly (A) inboard so the distance (B) between the stripper assembly and header centerline is according to [4.2, page 30](#).
8. Measure the distance (D) between stripper bracket assemblies. Distance (D) should be according to [Table 4.2, page 30](#).

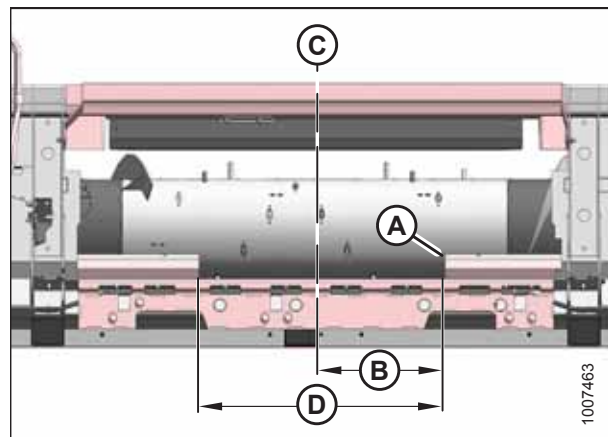


Figure 4.9: Right Stripper

Table 4.2 Right Stripper Bracket Distance

Feeder House Size	Combine	Distance (B)	Overall Stripper Bracket Opening (D)
965 mm (38 in.)	Gleaner®	729 mm (28 11/16 in.)	816 mm (32 1/8 in.)
1118 mm (44 in.)	Challenger®/Massey Ferguson®	505 mm (19 7/8 in.)	962 mm (37 7/8 in.)
1270 mm (50 in.)	IDEAL™	579 mm (22 13/16 in.)	1207 mm (47 1/2 in.)

RECONFIGURING HEADER

9. Reinstall the five bolts (B) retained from Step 6, [page 30](#) at locations where stripper bracket assembly (A) mounting holes line up with frame. Tighten bolts.

NOTE:

Auger removed from illustration for clarity.

NOTE:

To improve access, you can install side panels after installing/removing the flighting extensions or auger fingers. For instructions, refer to [4.1.2 Installing Flighting Extensions, page 35](#) and [4.1.3 Removing Auger Fingers, page 38](#).

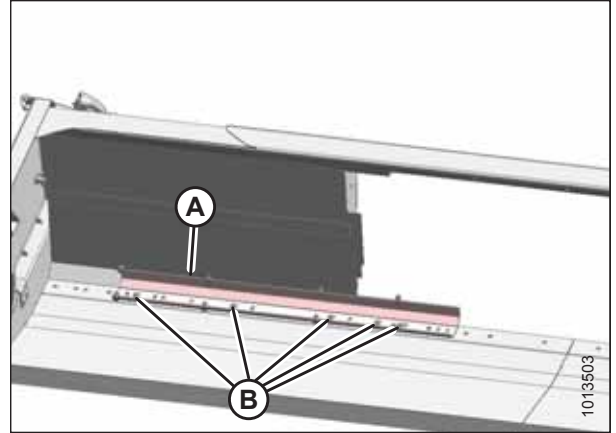


Figure 4.10: Right Stripper

10. For Gleaner® header:
 - a. Remove hardware (A) and (B) from the left stripper bracket assembly and top beam. Retain hardware.
 - b. Position left panel (C) and line up bottom bolt holes with bolt holes in left stripper bracket assembly. Reinstall retained hardware (A) from Step 10, [page 31](#) in the aligned bolt holes.
 - c. Secure left panel (C) at top beam with retained hardware (B) from Step 10, [page 31](#).
 - d. Loosely install bolt (D) through side panel (C) and top shield.
 - e. Tighten all bolts to secure panel to header.

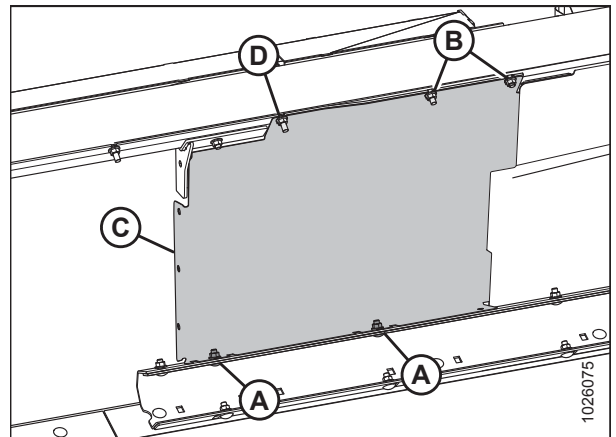


Figure 4.11: Gleaner Left Panel

RECONFIGURING HEADER

NOTE:

To improve access, you can install side panels after installing/removing the flighting extensions or auger fingers. For instructions, refer to [4.1.2 Installing Flighting Extensions, page 35](#) and [4.1.3 Removing Auger Fingers, page 38](#).

11. Remove hardware (A) and (B) from the right stripper bracket assembly and top beam. Retain hardware.
12. Position right panel (C) and line up bottom bolt holes with bolt holes in left stripper bracket assembly. Reinstall retained hardware (A) from Step [11, page 32](#) in the aligned bolt holes.
13. Secure right panel (C) at top beam with retained hardware (B) from Step [11, page 32](#).
14. Tighten all bolts to secure the panel to the header.
15. Repeat Step [11, page 32](#) to Step [14, page 32](#) for the left panel of IDEAL™, Challenger®, or Massey Ferguson® header.

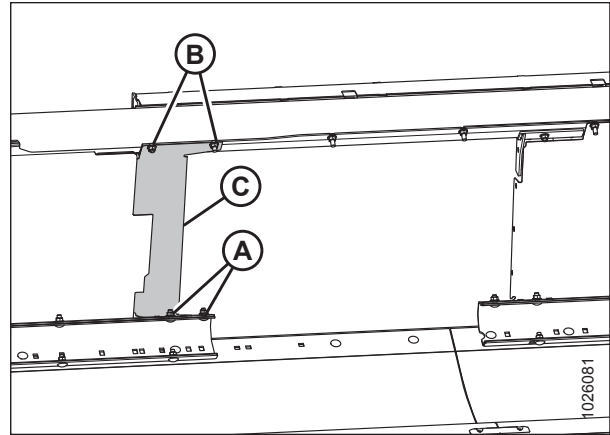


Figure 4.12: Gleaner® Right Panel

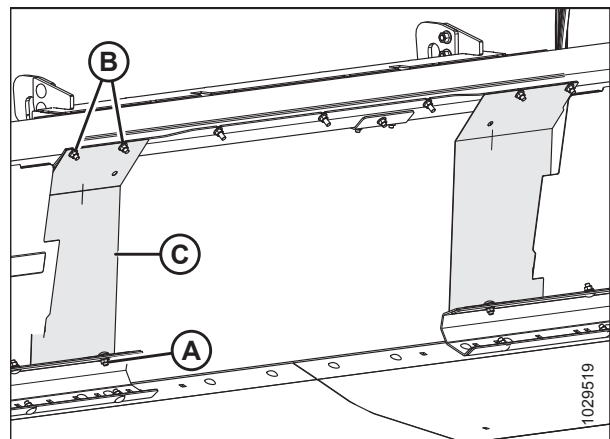


Figure 4.13: IDEAL™ Side Panels Shown, Challenger® and Massey Ferguson® Similar – View from Front

16. For Gleaner® header:
 - a. Attach top shield (A) to front of top beam (B) using two of the bolts and nuts (C).
 - b. Tighten hardware.

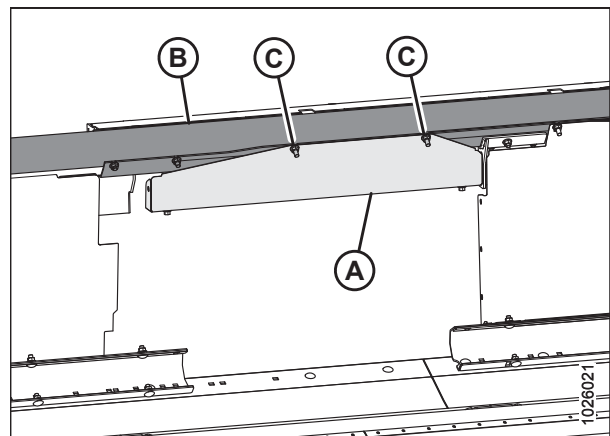


Figure 4.14: Gleaner® Top Beam and Top Shield

RECONFIGURING HEADER

17. For IDEAL™, Challenger®, or Massey Ferguson® header:

- a. Remove and retain two M12 x 1.75 x 25 hex flange bolts and nuts (D) that are shipped attached to top shield (A).
- b. Slide top shield (A) to the bolts (C) at front of top beam (B). Tighten hardware to secure top shield.
- c. Attach top shield (A) to the left and right panels (E) and (F) using two M12 x 1.75 x 25 hex flange bolts and nuts (D) retained from Step .

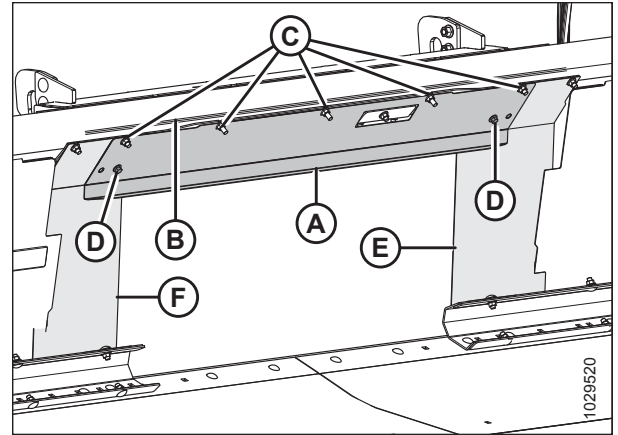


Figure 4.15: IDEAL™ Shield and Side Panels Shown, Challenger® and Massey Ferguson® Similar – Front View

18. For Gleaner® header:

- a. Install left bumper (B) on top beam (C) using three bolts and nuts (A). Tighten hardware.
- b. Attach bumper (B) to left shield (D) with 25 mm hex flange head bolt (E) and hex flange nut.

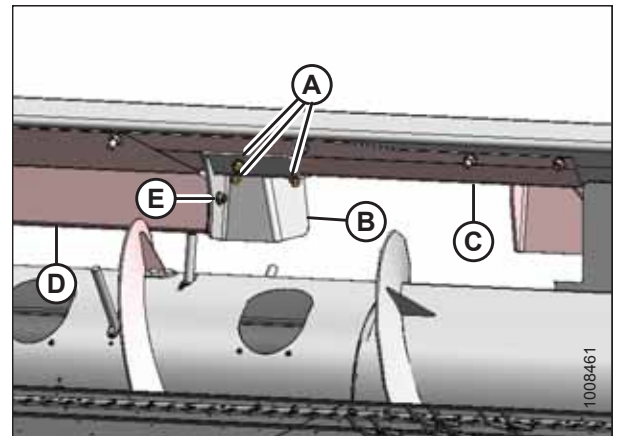


Figure 4.16: Left Bracket

19. For Gleaner® header:

- a. Install right bumper (A) on top beam (B) using two of the bolts and nuts (C). Tighten hardware.
- b. Attach bumper (A) to right shield (D) with 25 mm hex flange head bolt (E) and hex flange nut.

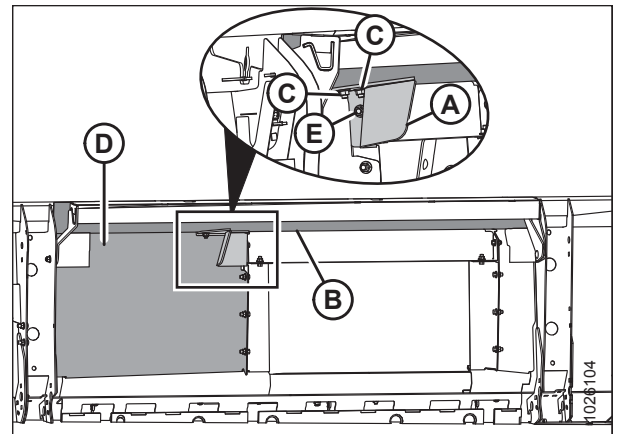


Figure 4.17: Gleaner® Left Bracket and Side Panel

RECONFIGURING HEADER

20. For Gleaner® header:

- a. Attach right side bumper (A) to gusset on top beam using bolt (B) and nut.
- b. Slide right side panel (C) behind the header backsheet and onto the stripper bracket. Attach with hex flange head bolt (D) and hex flange nut at top.
- c. Secure right side panel (C) bottom edge to stripper bracket with existing hardware (E).

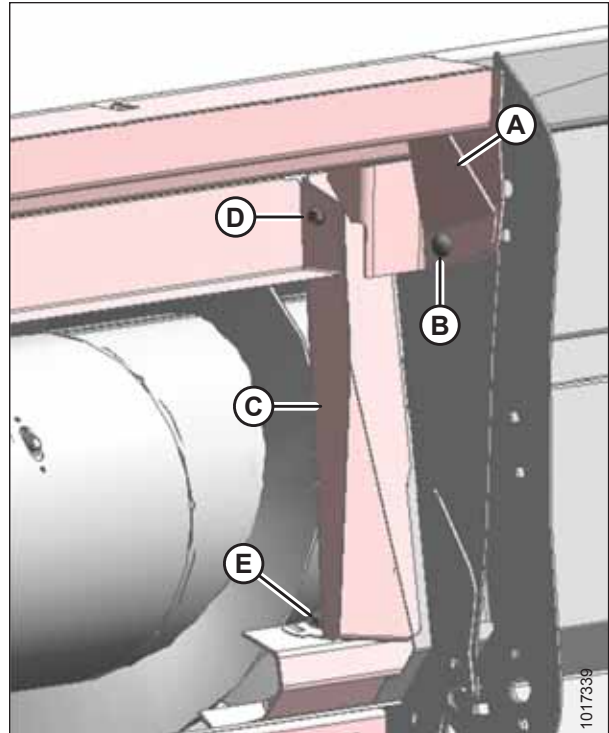


Figure 4.18: Right Bracket and Side Panel

21. For IDEAL™ header:

- a. Retrieve hook plate and hardware from shipping bag.
- b. Install hook plate (A) at each end of top beam support (B) as shown.
- c. Secure with two M16 x 2 bolts and nuts (C).

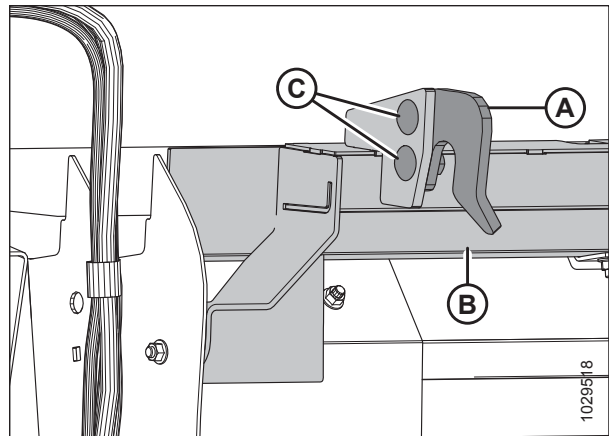


Figure 4.19: IDEAL™ Top Beam Support – Left Side Shown, Right Side Opposite

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

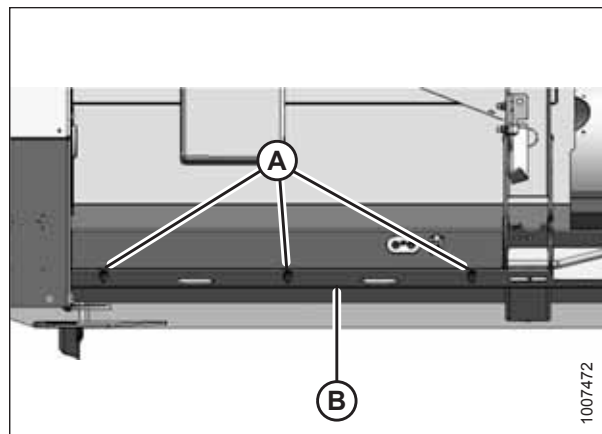


Figure 4.20: Left Cover – Right Side Opposite

23. For IDEAL™ header:
 - a. Retrieve guide and hardware from shipping bag.
 - b. Install guide (A) using two M12 x 1.75 bolts and nuts (B) at each end of bottom beam support (C).
 - c. Torque bolts to 68.5 Nm (50.5 lbf·ft).

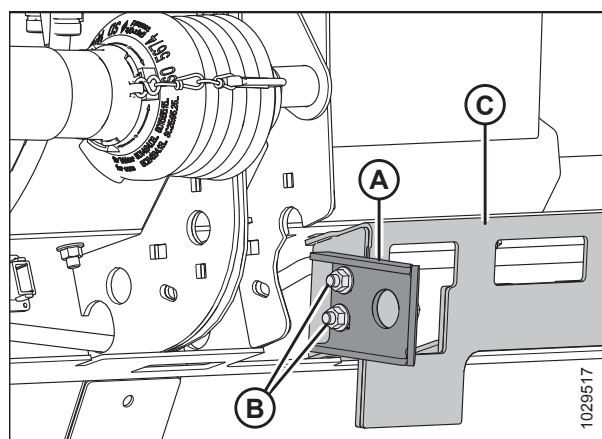


Figure 4.21: IDEAL™ Bottom Beam Support – Left Side Shown, Right Side Opposite

4.1.2 Installing Flighting Extensions

Follow these steps to install the long flighting extensions required for a 1 m (40 in.) feeder house:

NOTE:

This procedure is **NOT** applicable to IDEAL™ headers.

RECONFIGURING HEADER

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

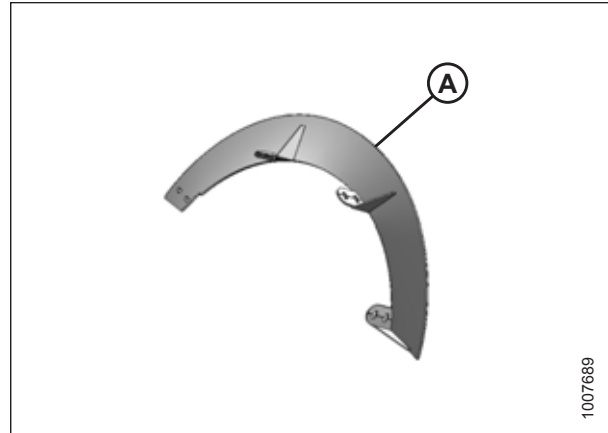


Figure 4.22: Left Extension – Right Opposite

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

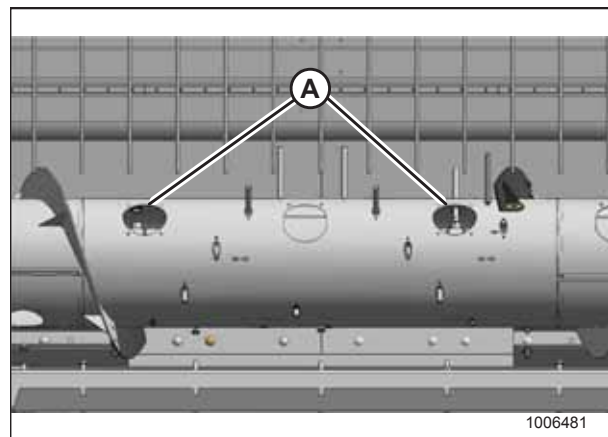


Figure 4.23: Access Holes in Auger

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

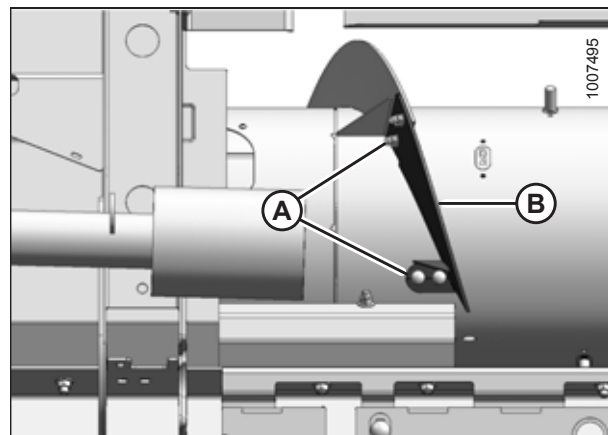


Figure 4.24: Short Fighting Extension

RECONFIGURING HEADER

4. Retrieve the hardware provided in the manual storage case.
5. Place new flighting extension (A) on auger, ensuring new flighting rests on the outboard side of existing flighting (B).
6. Secure flighting 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 flighting must be installed with heads facing inboard.
7. Adjust flighting extension position to achieve flushness with existing flighting along outer edge.
8. Repeat the above steps for the opposite side.
9. Store removed components in a safe place.
10. 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.). If necessary, adjust clearance. For instructions, refer to [4.6 Adjusting Stripper Plate Clearance, page 64](#).

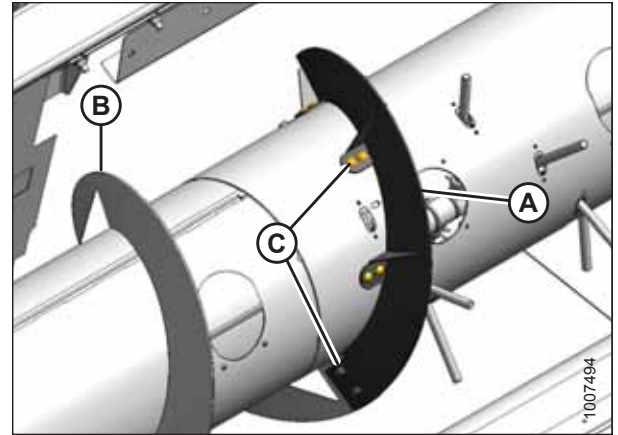


Figure 4.25: Long Flighting Extension

4.1.3 Removing Auger Fingers

Follow these steps to configure the auger fingers for a New Holland 1 m (40 in.) feeder house:

NOTE:

There should be 16 fingers on the auger.

1. Remove two covers (A) on each side of the auger to access auger fingers (B).

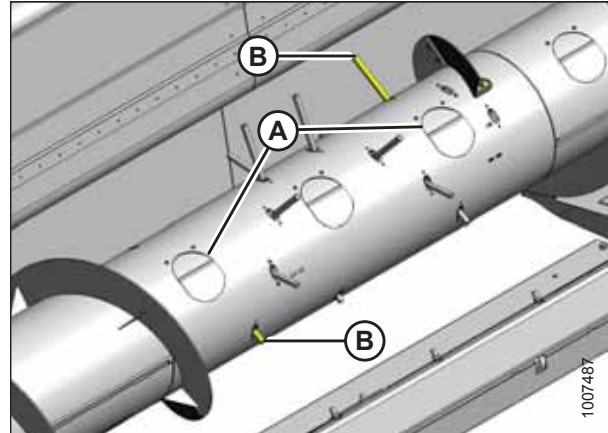


Figure 4.26: Access Holes in Auger

2. From inside the auger, remove hairpin (A) and pull finger (B) out of 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 Step 2, page 38 to Step 4, page 38 for the other finger.

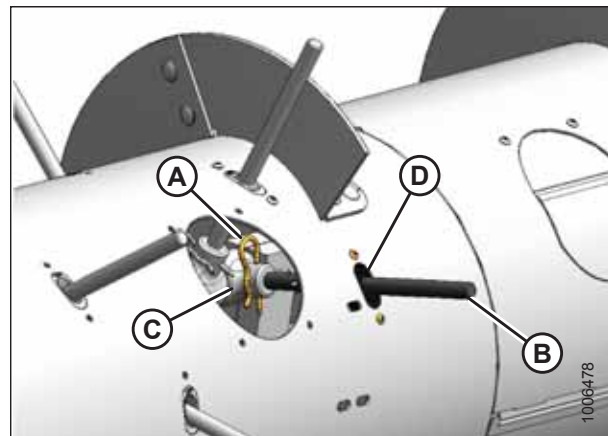


Figure 4.27: Auger Fingers

6. Remove screws (A) securing 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.

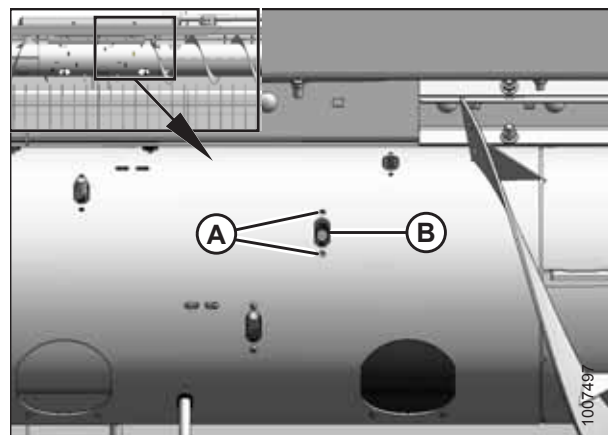


Figure 4.28: Finger Guide Plugs

RECONFIGURING HEADER

9. Position plug (B) in hole from inside the auger and secure with M6 x 20 long hex socket screws (A).

NOTE:

Screws (A) come with a threadlocker patch that will wear off if the bolts are removed. If reinstalling screws (A), apply medium-strength threadlocker (Loctite® 243 or equivalent) before installation.

10. Torque the screws to 9 Nm (80 lbf-in).
11. Repeat Step 6, page 38 to Step 10, page 39 for the other plastic guide.

IMPORTANT:

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

12. Reinstall access covers (A), using existing screws (B) (apply medium-strength threadlocker [Loctite® 243 or equivalent] to screws. Torque the screws to 9 Nm (80 lbf-in).

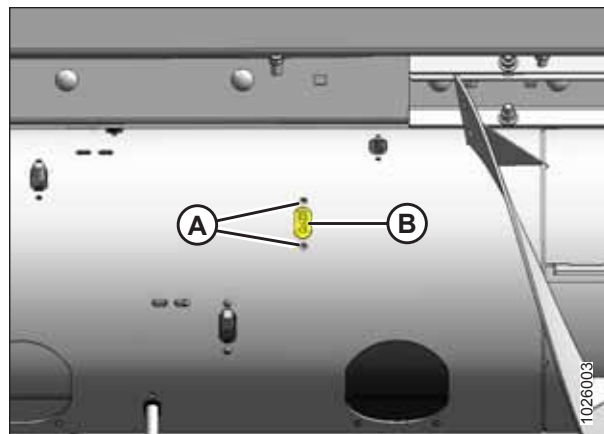


Figure 4.29: Finger Guide Plugs

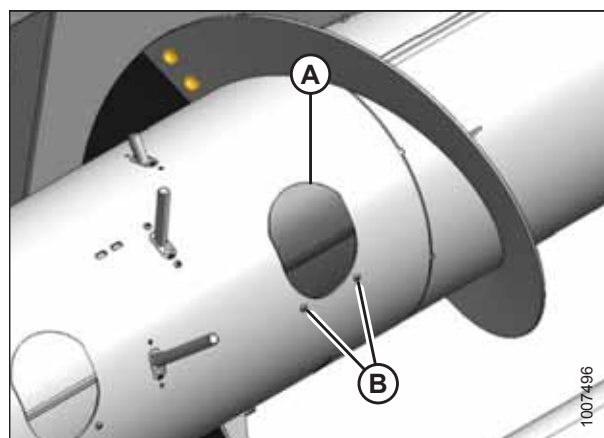


Figure 4.30: Access Cover

4.2 Configuring Header for John Deere

PW8 Pick-Up Headers are configured at the factory for John Deere 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.

4.2.1 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.

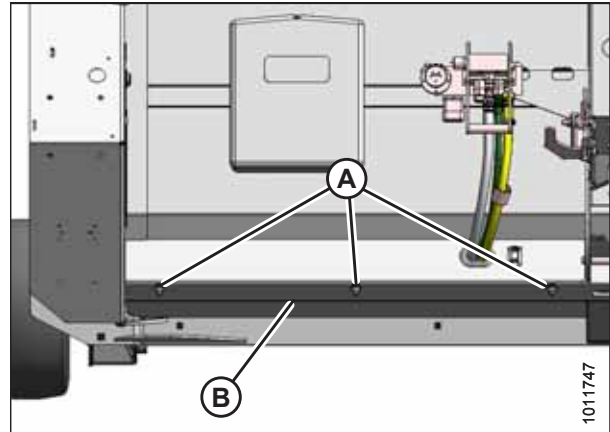


Figure 4.31: Left Cover – Right Side Opposite

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

NOTE:

For clarity, auger not shown in Figure 4.32, page 40.

NOTE:

The centerline is located where the header pans meet.

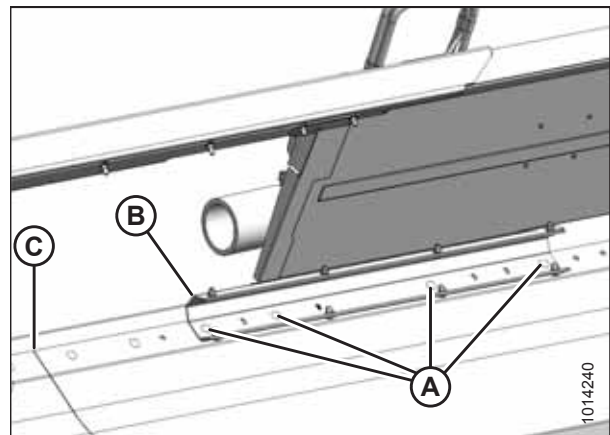


Figure 4.32: Left Stripper – Narrow Opening

RECONFIGURING HEADER

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

NOTE:

The centerline is located where the header pans meet.

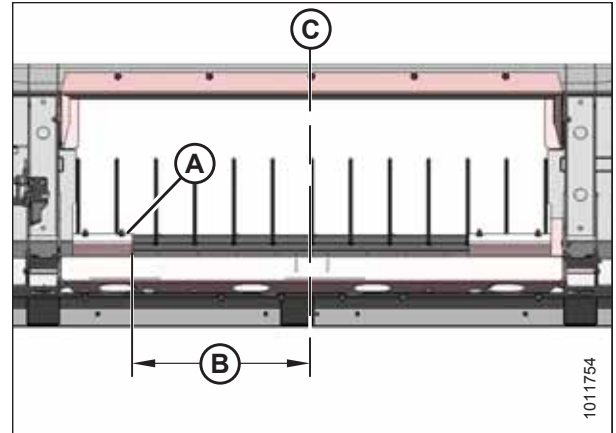


Figure 4.33: Left Stripper – Wide Opening

4. Reinstall four bolts (A) where 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.

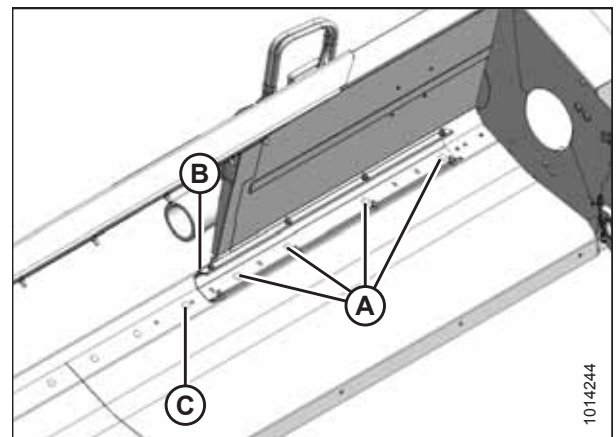


Figure 4.34: Left Stripper – Wide Opening

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

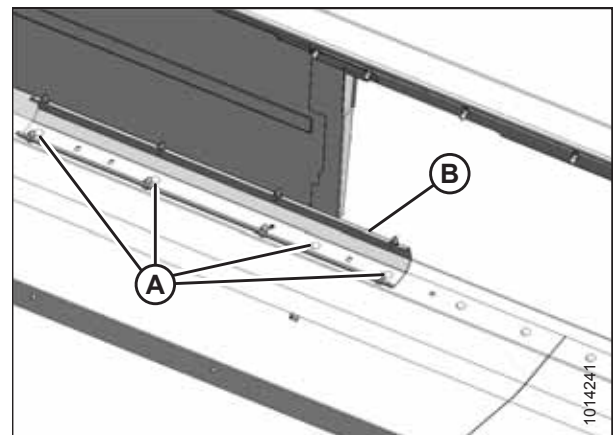


Figure 4.35: Right Stripper – Narrow Opening

RECONFIGURING HEADER

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

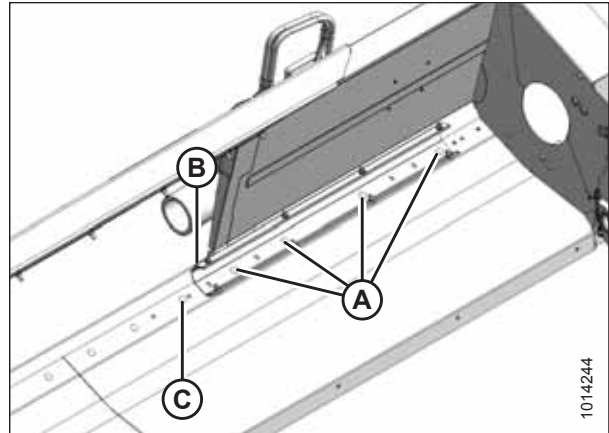


Figure 4.36: Left Stripper – Wide Opening

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

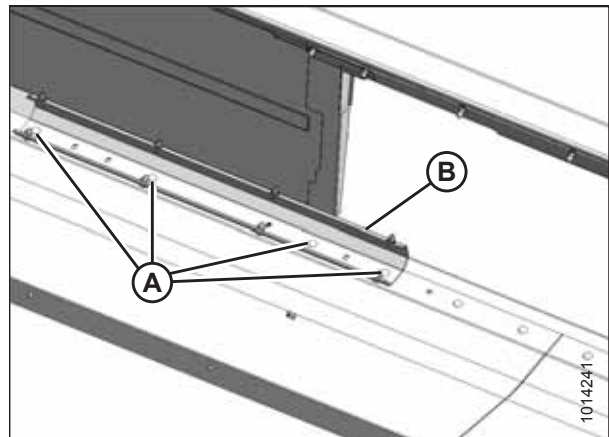


Figure 4.37: Right Stripper – Narrow Opening

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

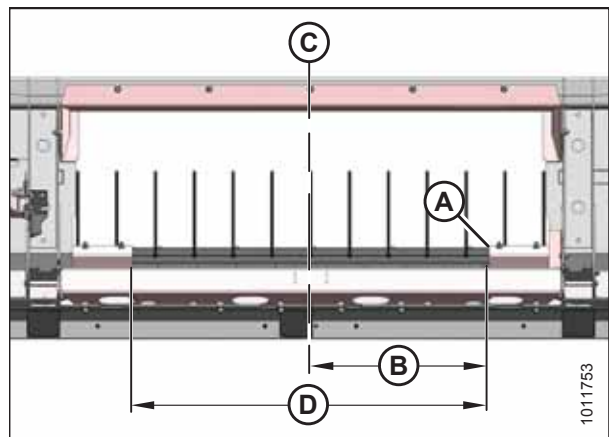


Figure 4.38: Right Stripper – Wide Opening

RECONFIGURING HEADER

12. Reinstall four bolts (A) where stripper assembly (B) mounting holes line up with the frame. Tighten bolts.
13. Install M12 x 30 carriage bolt (C) and nut (provided in hardware bag) into the existing hole as shown.
14. 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.).
15. If necessary, refer to [4.6 Adjusting Stripper Plate Clearance](#), [page 64](#).

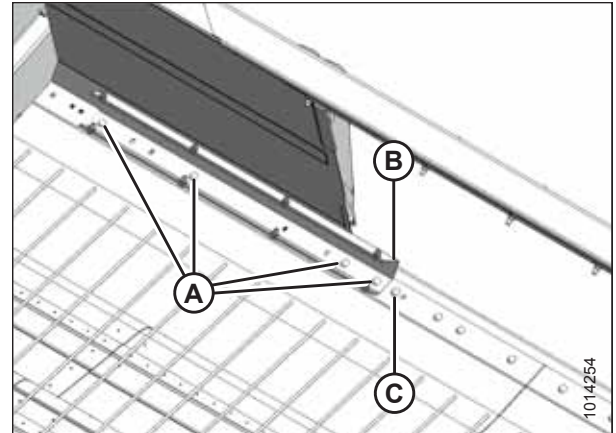


Figure 4.39: Right Stripper – Wide Opening

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

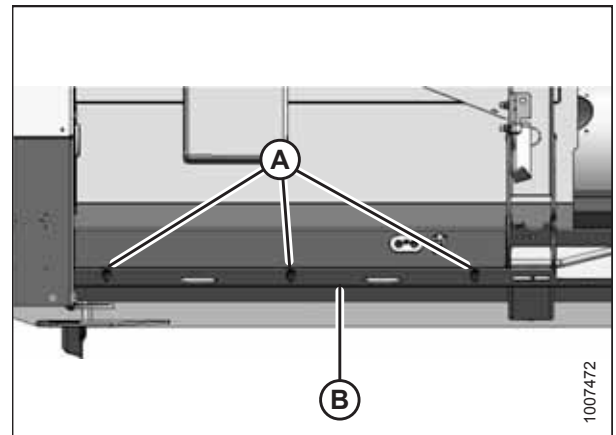


Figure 4.40: Left Cover – Right Side Opposite

4.2.2 Removing Flighting Extensions

When configuring the header for a combine with a 1650 mm (65 in.) feeder house, you need to remove the flighting extensions from the feed auger.

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

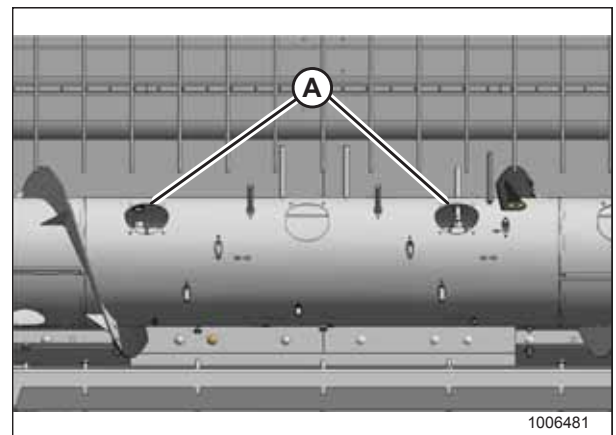


Figure 4.41: Access Holes in Auger

RECONFIGURING HEADER

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

IMPORTANT:

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

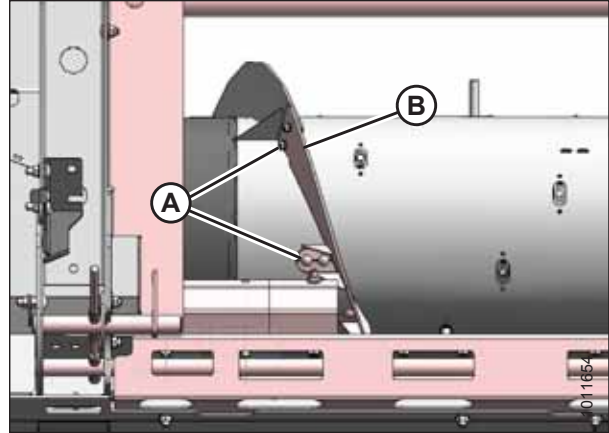


Figure 4.42: Left Fighting Extension – Right Extension Opposite

4.2.3 Installing Auger Fingers

For brands of combine other than Gleaner, the total number of fingers installed on the auger should be 18. For a Gleaner combine, it should be 12 auger fingers.

Follow these steps to install the extra auger fingers required to configure the header:

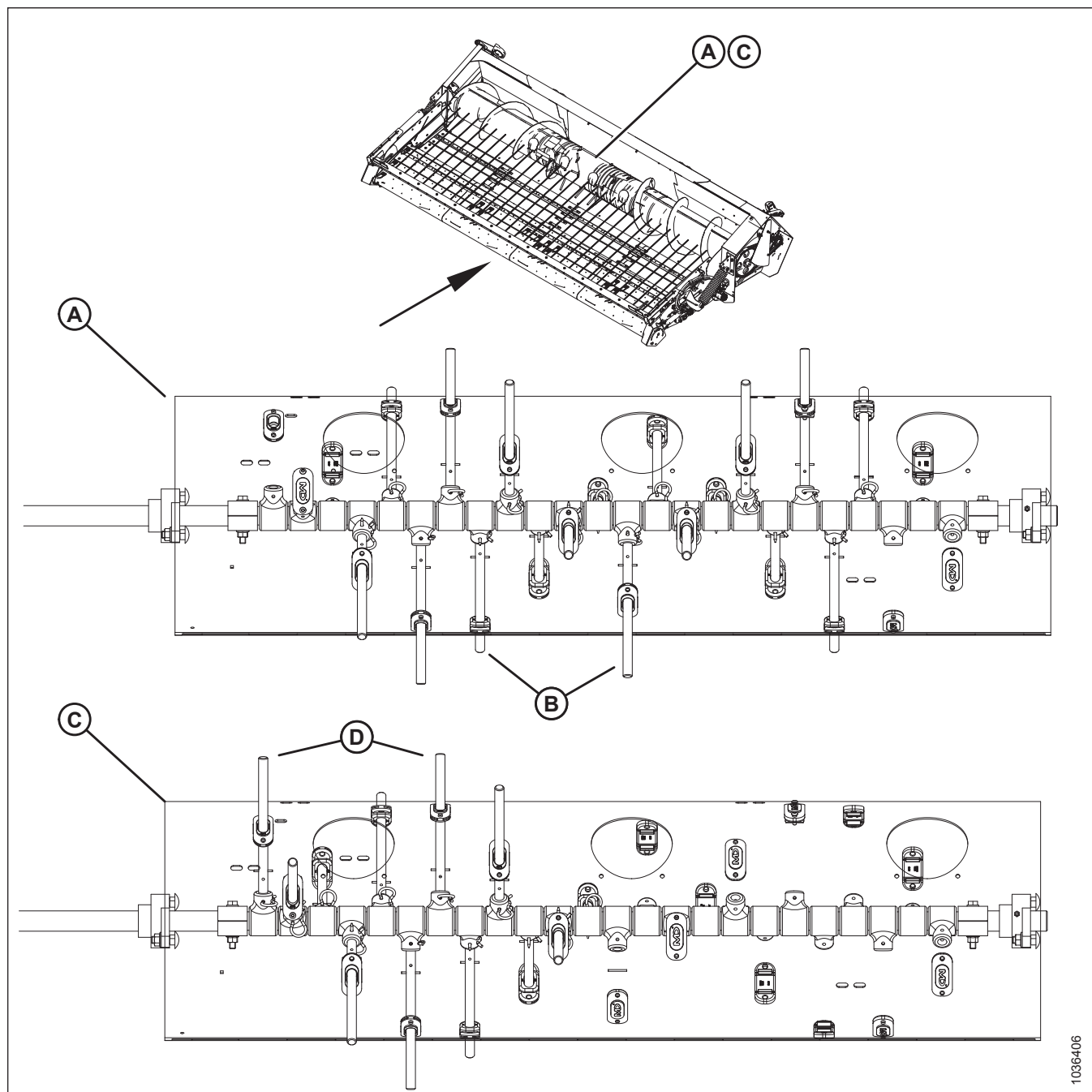


Figure 4.43: Auger Finger Installation Locations

NOTE:

The illustration shows the location of the fingers as if you are looking at the front of the auger (in the direction of the arrow). For brands of combine other than Gleaner, the total number of fingers installed on auger (A) should be 18 and installed at locations (B). For a Gleaner combine, auger (C) should have a total of 12 auger fingers installed at locations (D).

RECONFIGURING HEADER

1. Retrieve the bag of hardware from the manual storage case located on the back of the header.

2. Remove screws (A) securing plastic plug (B) to the auger, and then remove the plug from inside the auger.
3. Retrieve four plastic guides (C) from the bag of hardware.
4. Position plastic guide (C) in the hole from inside the auger and secure with hex socket screws (D) and tee nuts (E) provided in the hardware bag.

NOTE:

Screws (D) come with a threadlocker patch that will wear off if the bolts are removed. If reinstalling screws (A), apply medium-strength threadlocker (Loctite® 243 or equivalent) before installation.

5. Torque the screws to 9 Nm (80 lbf-in).
6. Repeat Step 2, [page 46](#) to Step 5, [page 46](#) for the remaining locations. For an illustration of the locations, refer to Figure 4.43, [page 45](#).

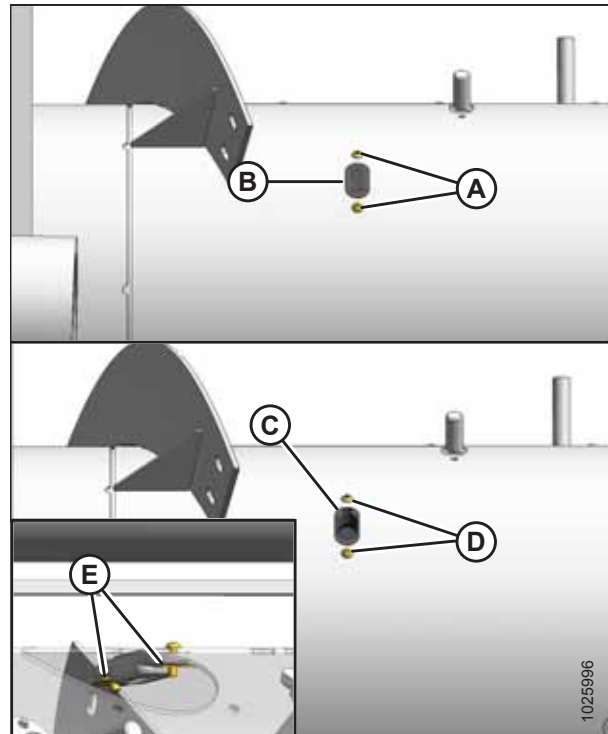


Figure 4.44: Plastic Guides

7. Insert finger (A) through plastic guide (B) from inside the auger.
8. Insert finger into bushing (C).
9. Secure finger (A) in bushing with hairpin (D). Install the hairpin with its closed end positioned to lead in the direction of the auger's forward rotation.

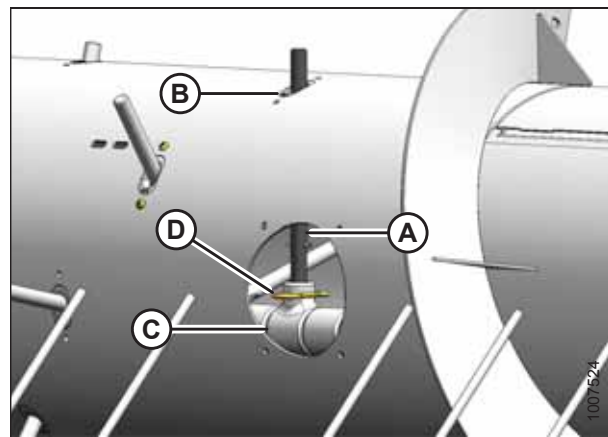


Figure 4.45: Auger Fingers

10. Repeat Step 7, [page 46](#) to Step 9, [page 46](#) for the remaining fingers. For an illustration of the locations, refer to Figure 4.43, [page 45](#).

IMPORTANT:

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

RECONFIGURING HEADER

11. Reinstall access covers (A) using existing screws (B) (apply medium-strength threadlocker [Loctite® 243 or equivalent] to screws). Torque the screws to 9 Nm (80 lbf·in).

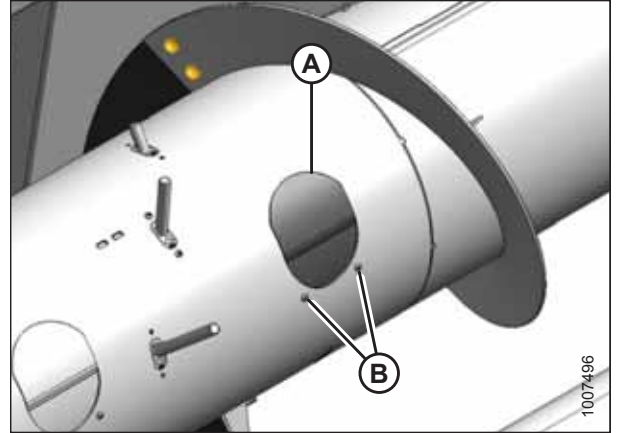


Figure 4.46: Access Cover

4.3 Configuring Header for Case IH

PW8 Pick-Up Headers are configured at the factory for Case IH combine models with a 1372 mm (54 in.) feeder house. These procedures describe how to modify the header for models with a 1156 mm (45 1/2 in.) feeder house.

4.3.1 Moving Stripper Assemblies

To reposition the stripper assemblies for a narrower feeder house 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.

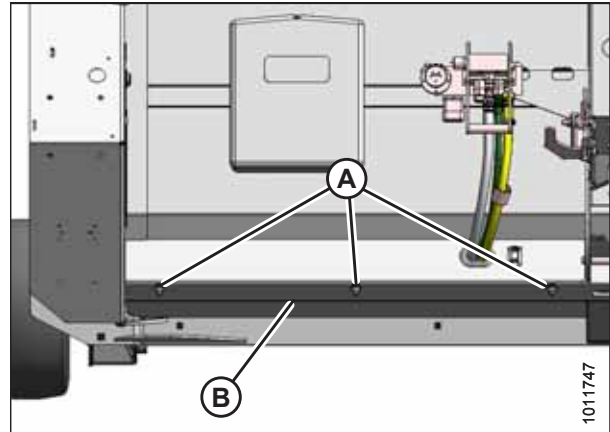


Figure 4.47: Left Cover – Right Side Opposite

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

NOTE:

For clarity, auger not shown in Figure 4.48, page 48.

NOTE:

The centerline is located where the header pans meet.

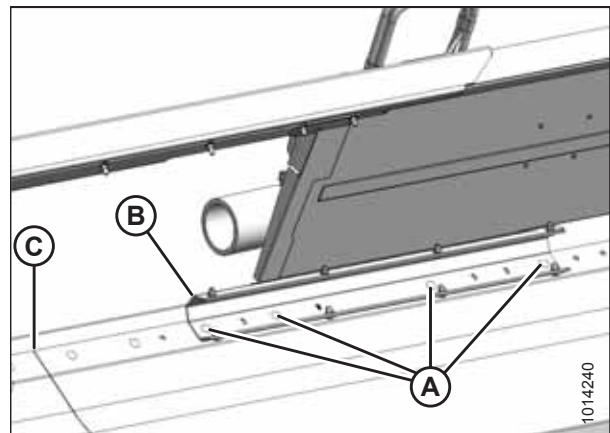


Figure 4.48: Left Stripper – Narrow Opening

3. Move left stripper assembly (A) inboard so that 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.

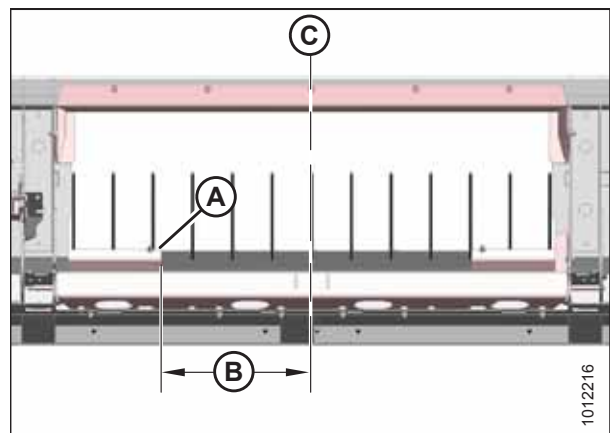


Figure 4.49: Narrow Opening

RECONFIGURING HEADER

4. Reinstall four bolts (A) where 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.

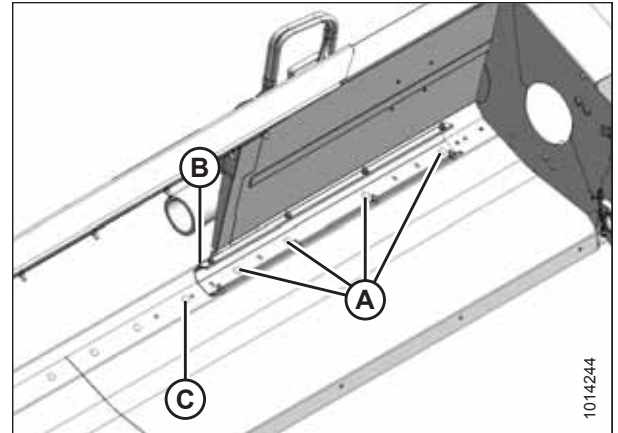


Figure 4.50: Left Stripper – Wide Opening

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

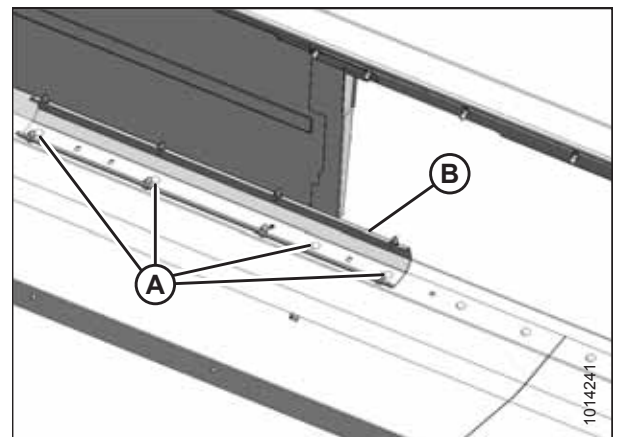


Figure 4.51: Right Stripper

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

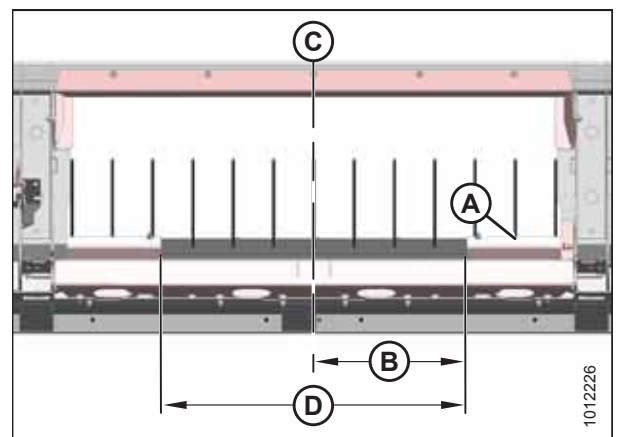


Figure 4.52: Narrow Opening

RECONFIGURING HEADER

9. Reinstall four bolts (A) where stripper assembly (B) mounting holes line up with the frame. Tighten the bolts.
10. 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.).
11. If necessary, refer to [4.6 Adjusting Stripper Plate Clearance](#), [page 64](#).

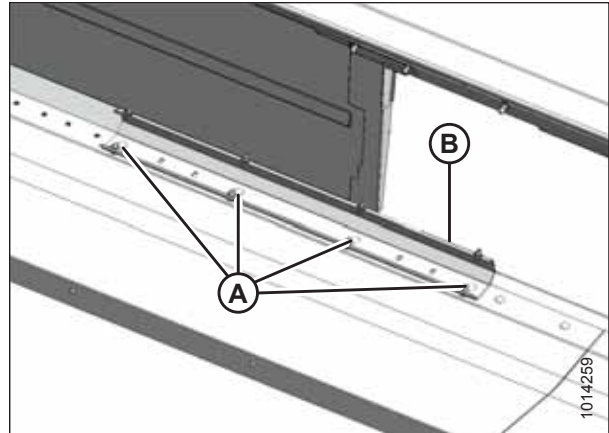


Figure 4.53: Right Stripper – Narrow Opening

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

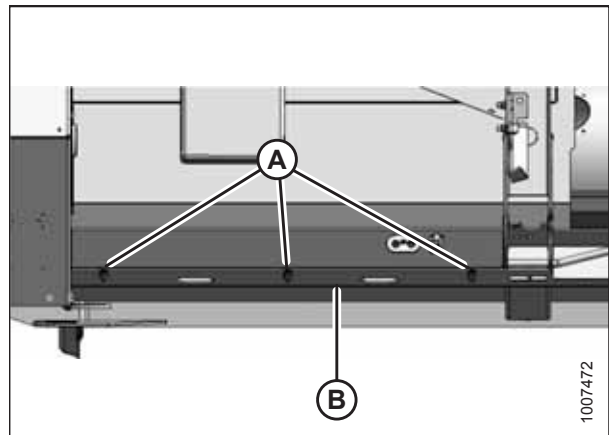


Figure 4.54: Left Cover – Right Side Opposite

4.4 Configuring Header 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.

4.4.1 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.

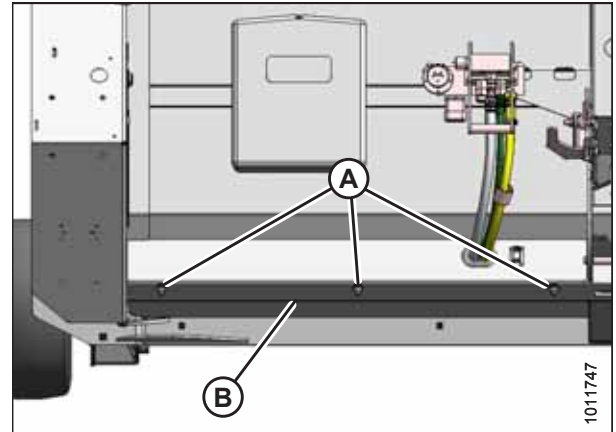


Figure 4.55: Left Cover – Right Side Opposite

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

NOTE:

For clarity, auger not shown in Figure 4.56, page 51.

NOTE:

The centerline is located where the header pans meet.

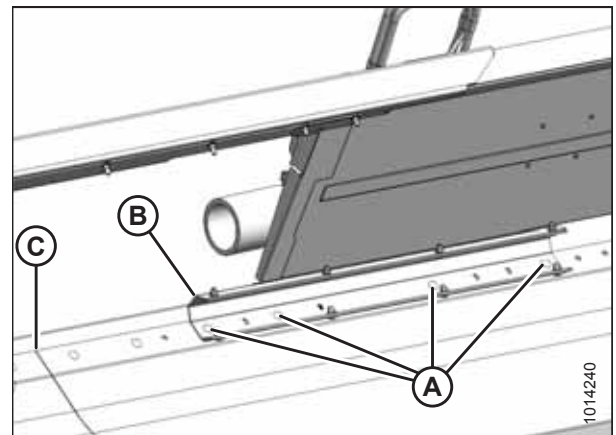


Figure 4.56: Left Stripper – Narrow Opening

RECONFIGURING HEADER

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

NOTE:

The centerline is located where the header pans meet.

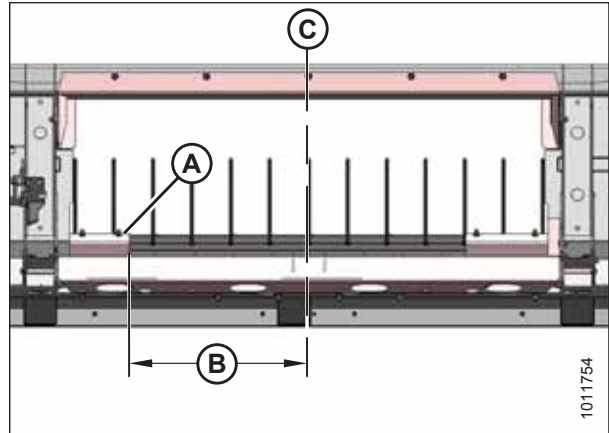


Figure 4.57: Left Stripper – Wide Opening

4. Reinstall four bolts (A) where 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.

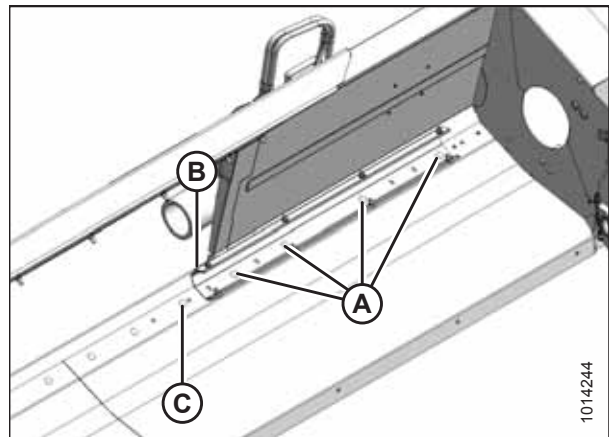


Figure 4.58: Left Stripper – Wide Opening

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

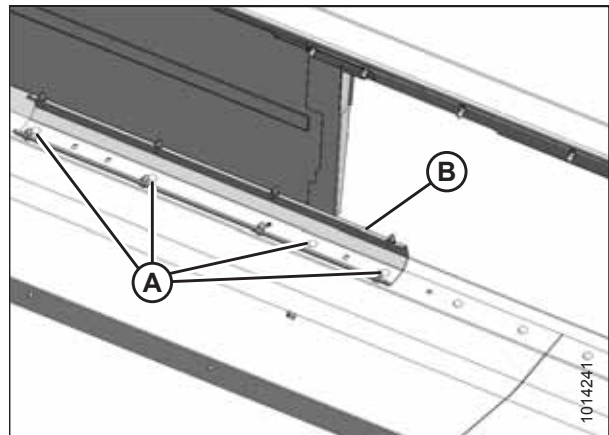


Figure 4.59: Right Stripper – Narrow Opening

RECONFIGURING HEADER

7. Move 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.).

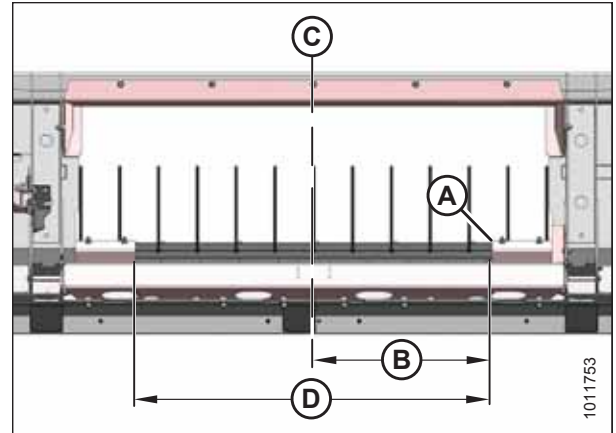


Figure 4.60: Right Stripper – Wide Opening

9. Reinstall 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 [4.6 Adjusting Stripper Plate Clearance](#), page 64.

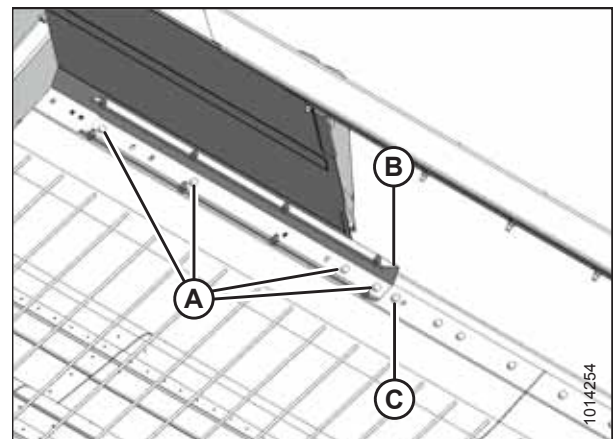


Figure 4.61: Right Stripper – Wide Opening

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

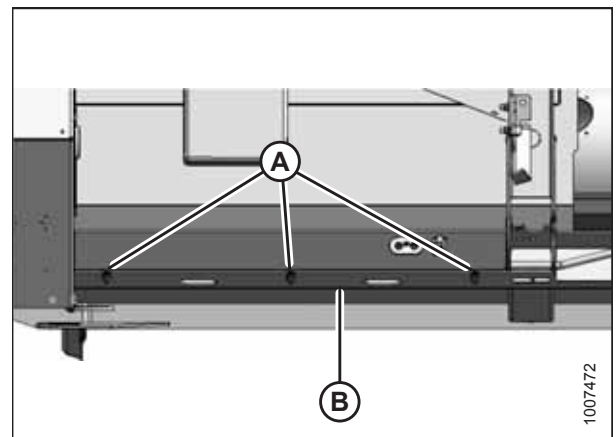


Figure 4.62: Left Cover – Right Side Opposite

4.4.2 Removing Flighting Extensions

When configuring the header for a combine with a 1650 mm (65 in.) feeder house, you need to remove the flighting extensions from the feed auger.

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

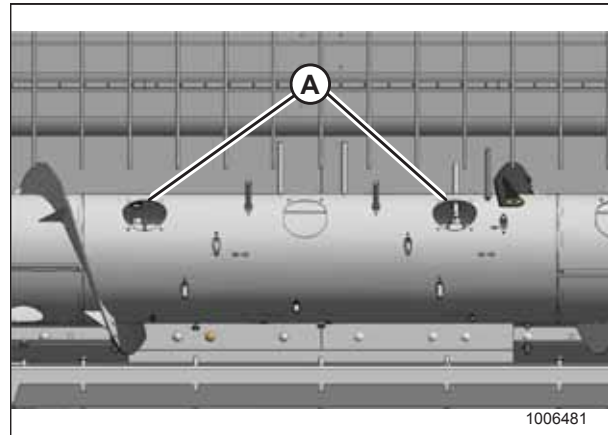


Figure 4.63: Access Holes in Auger

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

IMPORTANT:

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

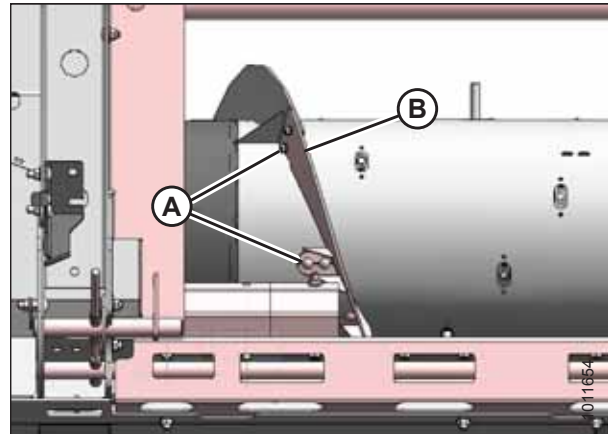


Figure 4.64: Left Flighting Extension – Right Extension Opposite

4.4.3 Installing Auger Fingers

For brands of combine other than Gleaner, the total number of fingers installed on the auger should be 18. For a Gleaner combine, it should be 12 auger fingers.

Follow these steps to install the extra auger fingers required to configure the header:

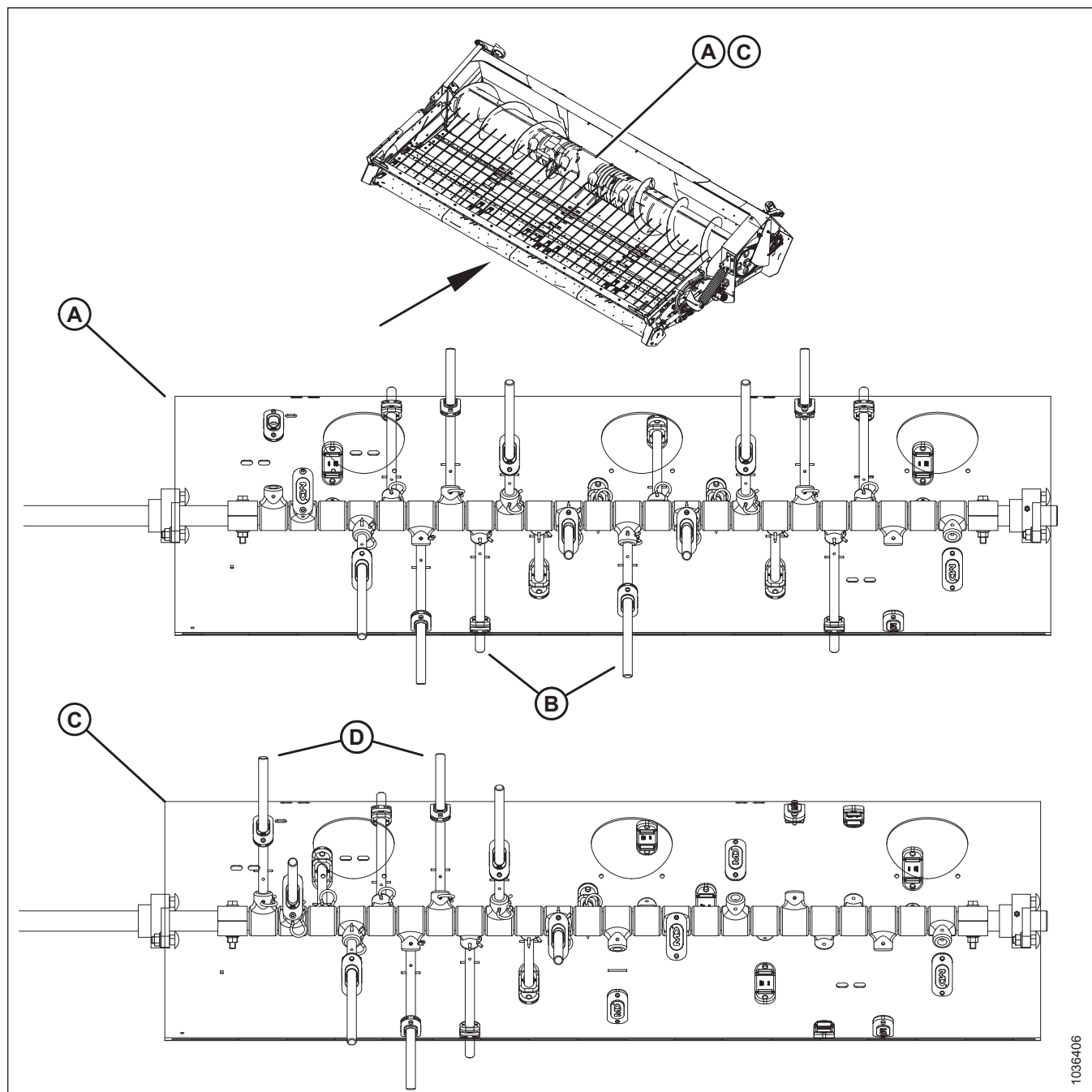


Figure 4.65: Auger Finger Installation Locations

NOTE:

The illustration shows the location of the fingers as if you are looking at the front of the auger (in the direction of the arrow). For brands of combine other than Gleaner, the total number of fingers installed on auger (A) should be 18 and installed at locations (B). For a Gleaner combine, auger (C) should have a total of 12 auger fingers installed at locations (D).

RECONFIGURING HEADER

1. Retrieve the bag of hardware from the manual storage case located on the back of the header.

2. Remove screws (A) securing plastic plug (B) to the auger, and then remove the plug from inside the auger.
3. Retrieve four plastic guides (C) from the bag of hardware.
4. Position plastic guide (C) in the hole from inside the auger and secure with hex socket screws (D) and tee nuts (E) provided in the hardware bag.

NOTE:

Screws (D) come with a threadlocker patch that will wear off if the bolts are removed. If reinstalling screws (A), apply medium-strength threadlocker (Loctite® 243 or equivalent) before installation.

5. Torque the screws to 9 Nm (80 lbf-in).
6. Repeat Step 2, [page 56](#) to Step 5, [page 56](#) for the remaining locations. For an illustration of the locations, refer to Figure 4.65, [page 55](#).

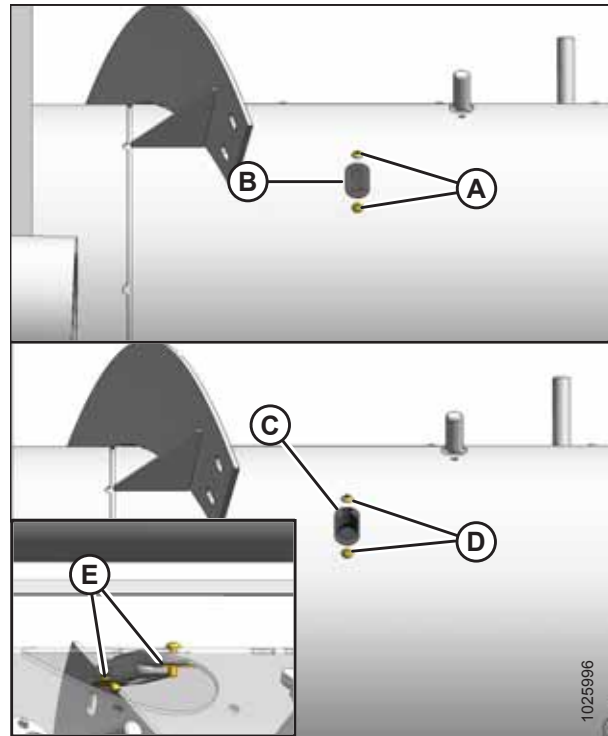


Figure 4.66: Plastic Guides

7. Insert finger (A) through plastic guide (B) from inside the auger.
8. Insert finger into bushing (C).
9. Secure finger (A) in bushing with hairpin (D). Install the hairpin with its closed end positioned to lead in the direction of the auger's forward rotation.

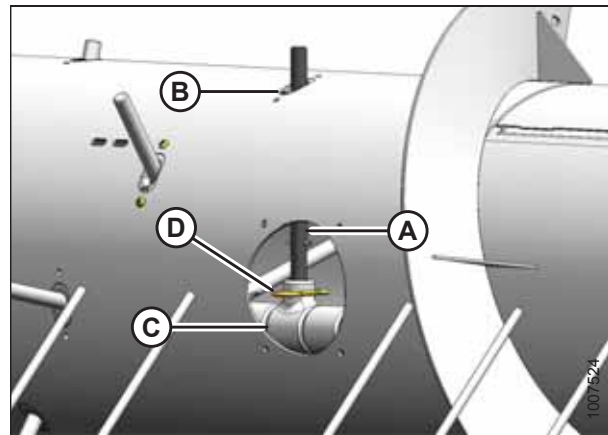


Figure 4.67: Auger Fingers

10. Repeat Step 7, [page 56](#) to Step 9, [page 56](#) for the remaining fingers. For an illustration of the locations, refer to Figure 4.65, [page 55](#).

IMPORTANT:

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

RECONFIGURING HEADER

11. Reinstall access covers (A) using existing screws (B) (apply medium-strength threadlocker [Loctite® 243 or equivalent] to screws). Torque the screws to 9 Nm (80 lbf·in).

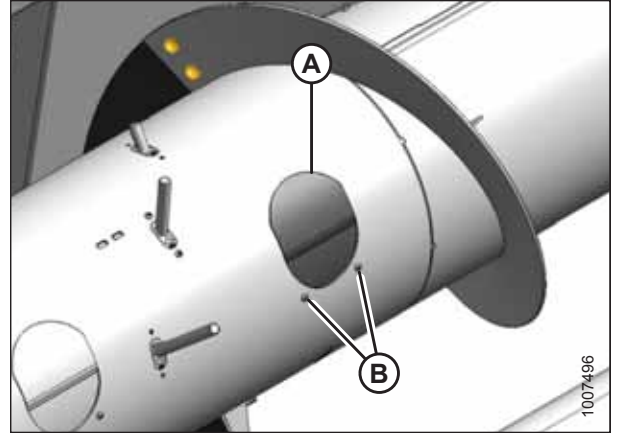


Figure 4.68: Access Cover

4.5 Configuring Header 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.

4.5.1 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.

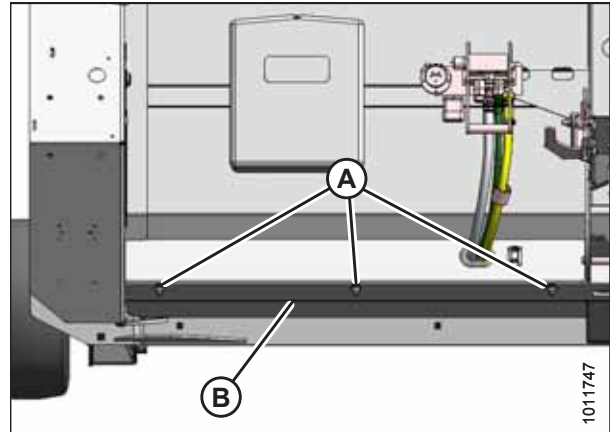


Figure 4.69: Left Cover – Right Side Opposite

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

NOTE:

For clarity, auger not shown in Figure 4.70, page 58.

NOTE:

The centerline is located where the header pans meet.

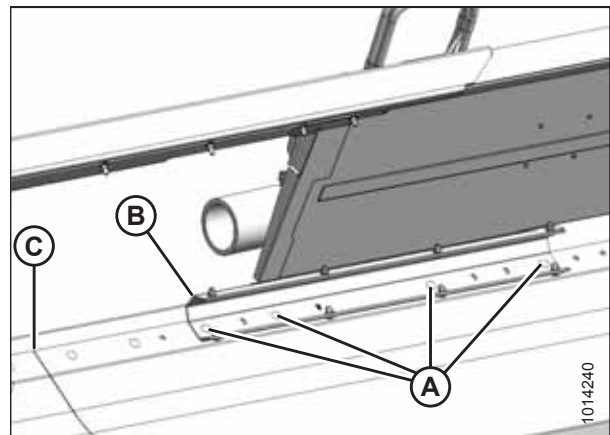


Figure 4.70: Left Stripper – Narrow Opening

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

NOTE:

The centerline is located where the header pans meet.

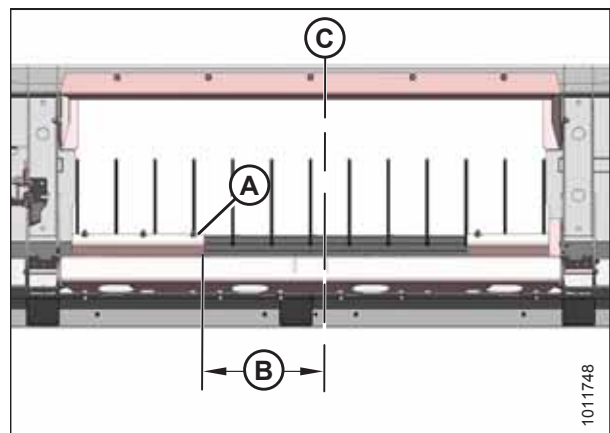


Figure 4.71: Narrow Opening

RECONFIGURING HEADER

4. Reinstall four bolts (A) where 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.

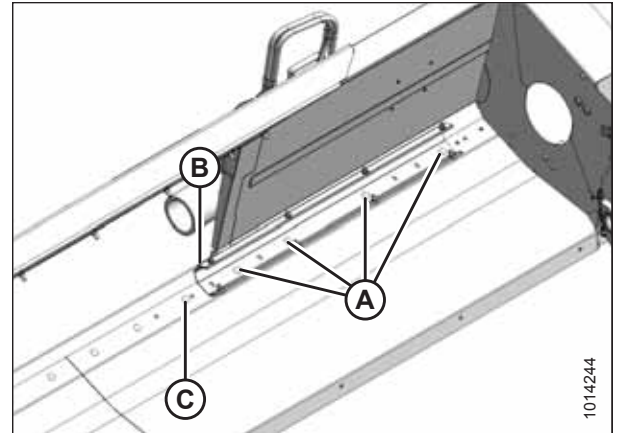


Figure 4.72: Left Stripper – Wide Opening

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

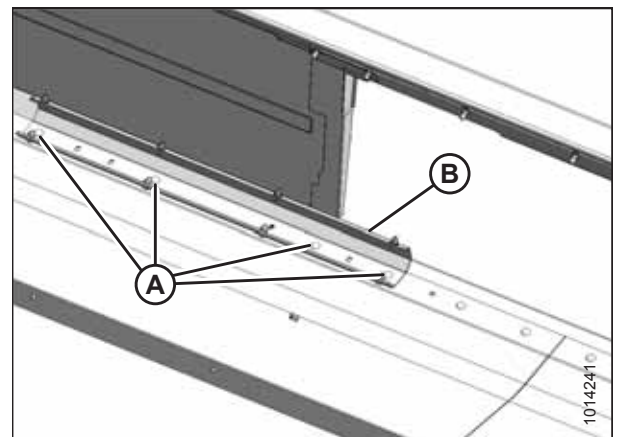


Figure 4.73: Right Stripper – Narrow Opening

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

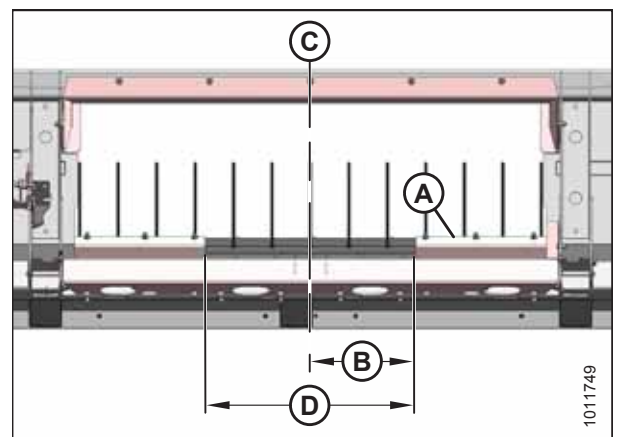


Figure 4.74: Narrow Opening

RECONFIGURING HEADER

9. Reinstall four bolts (A) where stripper assembly (B) mounting holes line up with the frame. Tighten bolts.
10. 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.).
11. If necessary, refer to [4.6 Adjusting Stripper Plate Clearance](#), [page 64](#).

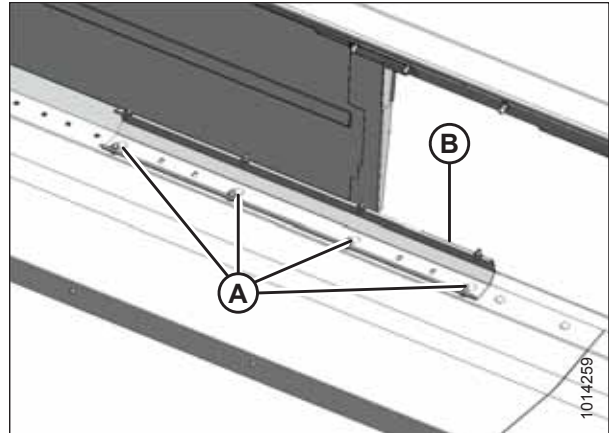


Figure 4.75: Right Stripper – Narrow Opening

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

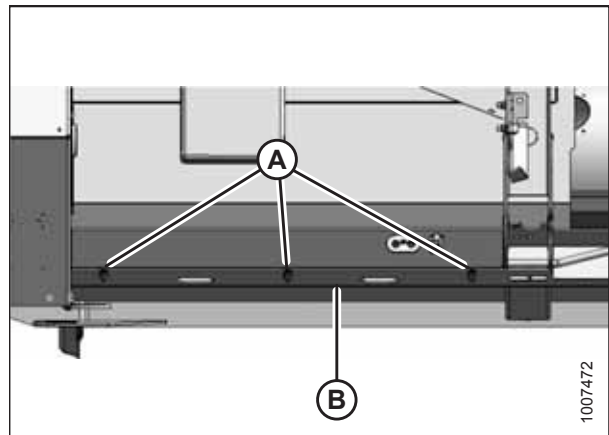


Figure 4.76: Left Cover – Right Side Opposite

4.5.2 Installing Flighting Extensions

Follow these steps to install the long flighting extensions required for a 1 m (40 in.) feeder house:

NOTE:

This procedure is **NOT** applicable to IDEAL™ headers.

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

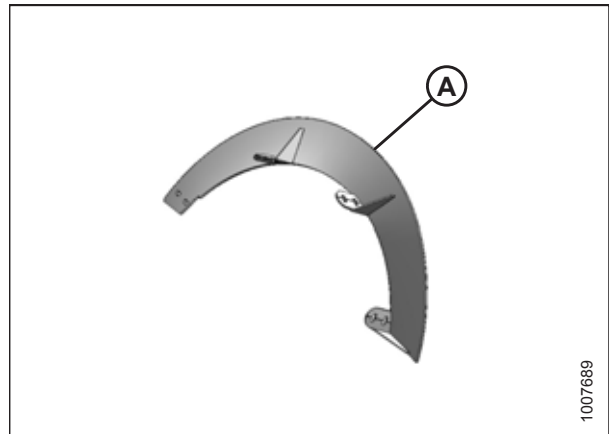


Figure 4.77: Left Extension – Right Opposite

RECONFIGURING HEADER

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

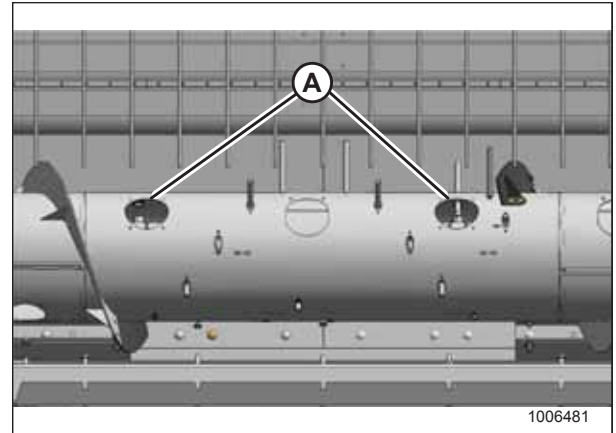


Figure 4.78: Access Holes in Auger

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

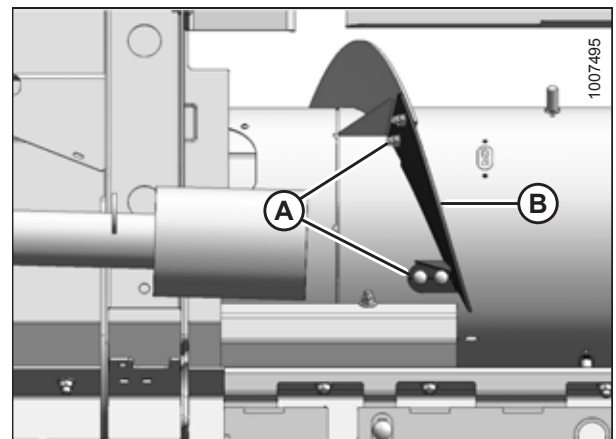


Figure 4.79: Short Flighting Extension

4. Retrieve the hardware provided in the manual storage case.
5. Place new flighting extension (A) on auger, ensuring new flighting rests on the outboard side of existing flighting (B).
6. Secure flighting 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 flighting must be installed with heads facing inboard.
7. Adjust flighting extension position to achieve flushness with existing flighting along outer edge.
8. Repeat the above steps for the opposite side.
9. Store removed components in a safe place.
10. 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.). If necessary, adjust clearance. For instructions, refer to [4.6 Adjusting Stripper Plate Clearance, page 64](#).

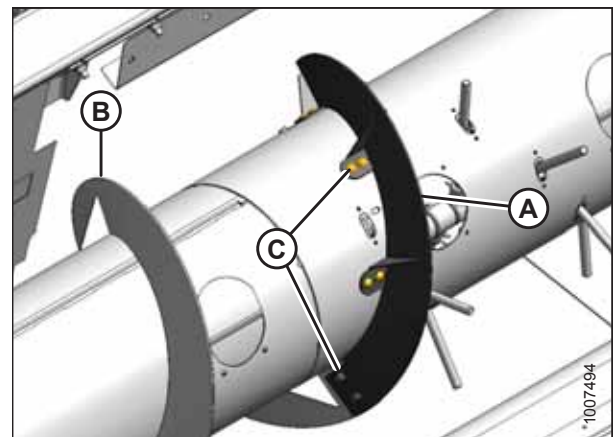


Figure 4.80: Long Flighting Extension

4.5.3 Removing Auger Fingers

Follow these steps to configure the auger fingers for a New Holland 1 m (40 in.) feeder house:

NOTE:

There should be 16 fingers on the auger.

1. Remove two covers (A) on each side of the auger to access auger fingers (B).

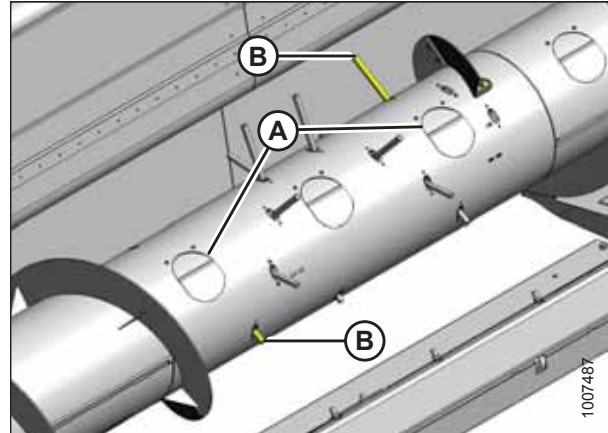


Figure 4.81: Access Holes in Auger

2. From inside the auger, remove hairpin (A) and pull finger (B) out of 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 Step 2, page 62 to Step 4, page 62 for the other finger.

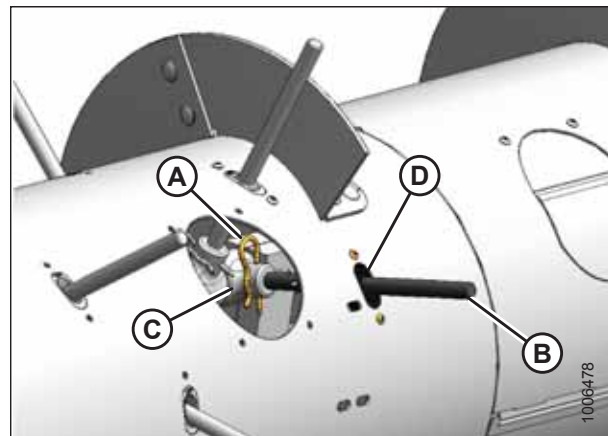


Figure 4.82: Auger Fingers

6. Remove screws (A) securing 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.

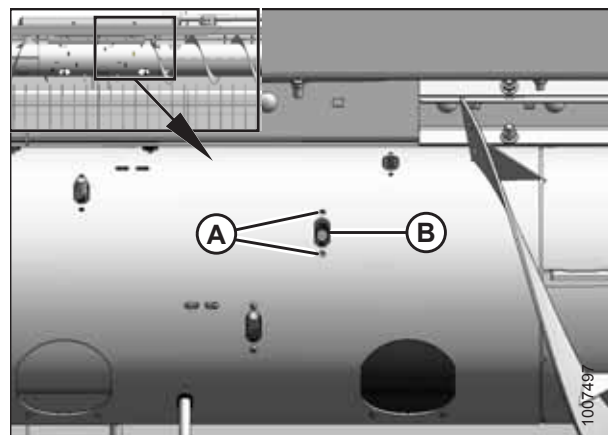


Figure 4.83: Finger Guide Plugs

RECONFIGURING HEADER

- Position plug (B) in hole from inside the auger and secure with M6 x 20 long hex socket screws (A).

NOTE:

Screws (A) come with a threadlocker patch that will wear off if the bolts are removed. If reinstalling screws (A), apply medium-strength threadlocker (Loctite® 243 or equivalent) before installation.

- Torque the screws to 9 Nm (80 lbf-in).
- Repeat Step 6, page 62 to Step 10, page 63 for the other plastic guide.

IMPORTANT:

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

- Reinstall access covers (A), using existing screws (B) (apply medium-strength threadlocker [Loctite® 243 or equivalent] to screws. Torque the screws to 9 Nm (80 lbf-in).

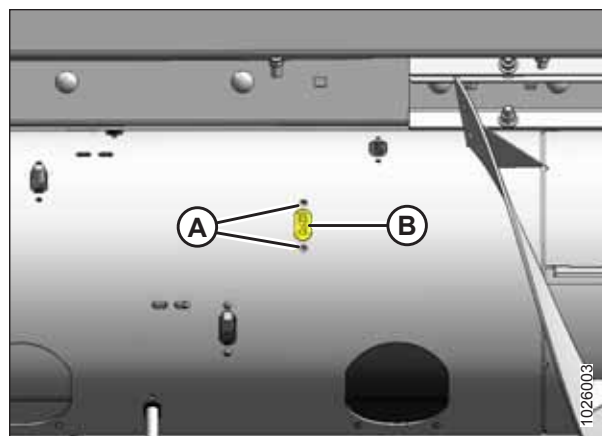


Figure 4.84: Finger Guide Plugs

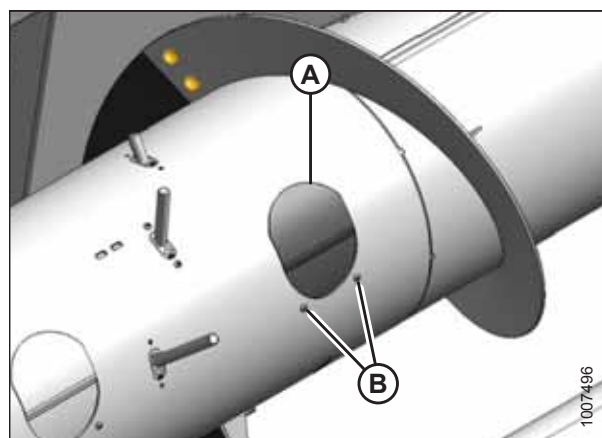


Figure 4.85: Access Cover

4.6 Adjusting Stripper Plate Clearance

Adjust the clearance between the stripper plates and the auger flighting so that there is no interference between these parts.

1. Loosen nuts (A) on 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. Check the clearance between the stripper plates and the auger flighting.

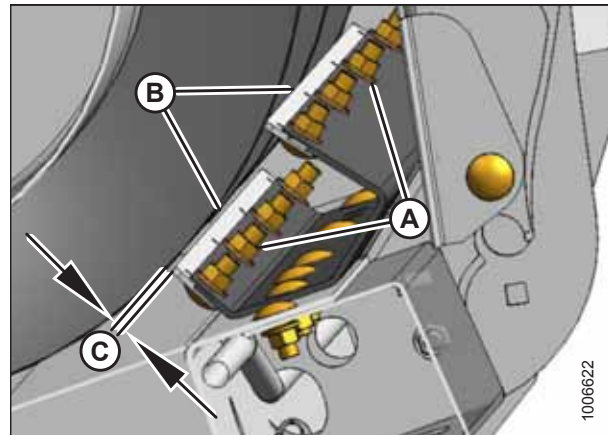


Figure 4.86: Stripper Plate Clearance

Chapter 5: Attaching Header to Combine

Once the header has been unloaded, assembled, and if necessary reconfigured, it is time to attach it to the combine.

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

Combine	Refer to
Challenger®, Massey Ferguson®, Gleaner®	5.1 Attaching Header to Challenger®, Gleaner®, and Massey Ferguson® Combines, page 65
IDEAL™	5.2 Attaching Header to IDEAL™ Series Combine, page 71
Case IH	5.3 Attaching Header to Case IH Combine, page 75
John Deere	5.4 Attaching Header to John Deere 60, 70, S, or T Series Combine, page 78
New Holland CR, CX Series	5.5 Attaching Header to New Holland CR/CX Series Combine, page 82
Versatile	5.6 Attaching Header to Versatile Combine, page 86

5.1 Attaching Header to Challenger®, Gleaner®, and Massey Ferguson® Combines

Once the header has been unloaded, assembled, and if necessary reconfigured, it is time to attach it to the combine.



DANGER

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



DANGER

Check to be sure all bystanders have cleared the area.

ATTACHING HEADER TO COMBINE

1. Retract hooks (A) at the base of the feeder house using tool (B). The tool is stored on the left side of the feeder house when not in use.

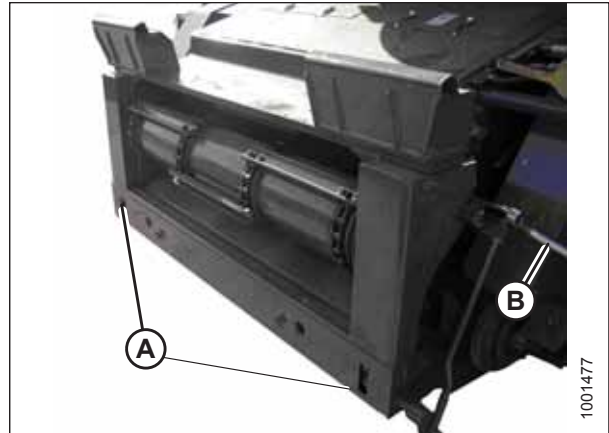


Figure 5.1: Feeder House – All AGCO Combines except Gleaner® R and S Series

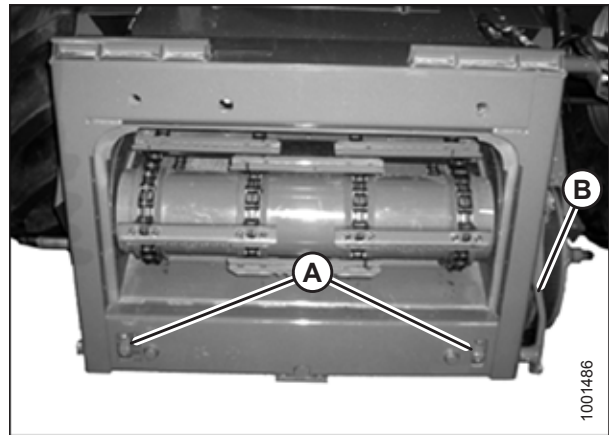


Figure 5.2: Feeder House – Gleaner® R and S Series

2. Check distance (A) between the underside of top beam (B) and the alignment holes in lower beam (C) on the header. Distance (A) should measure 793–799 mm (31–31 1/2 in.).
3. If necessary, loosen six bolts (D) and adjust lower beam (C) to adjust distance (A) to the correct value. Tighten the bolts.

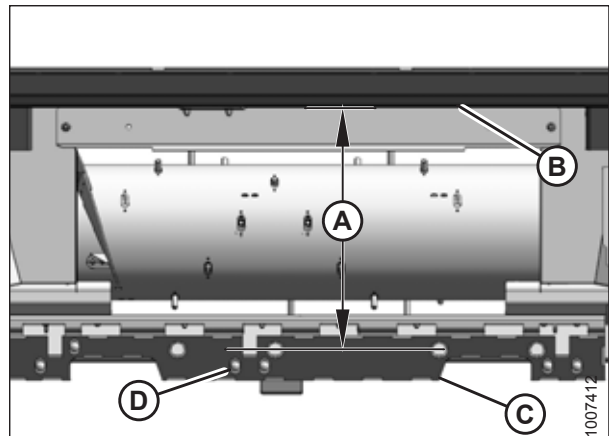


Figure 5.3: Lower Beam Adjustment

ATTACHING HEADER TO COMBINE

4. Start the engine.
5. Drive the combine slowly up to the header until the top of feeder house (A) is directly under top beam (B), and alignment pins (C) on feeder house are aligned with holes (D) in the header frame.

NOTE:

Take notice of two guides (E) on either side of the header opening.

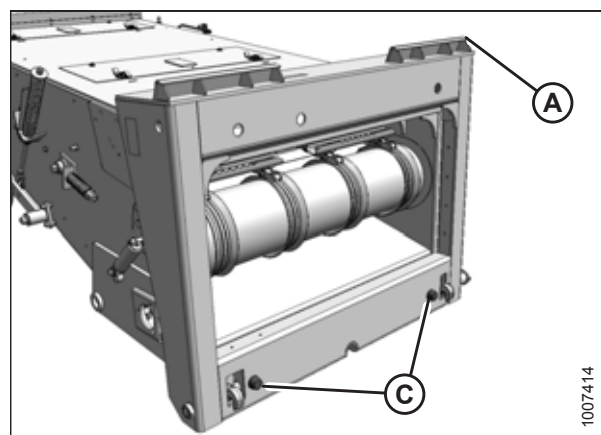


Figure 5.4: AGCO Combine Feeder House

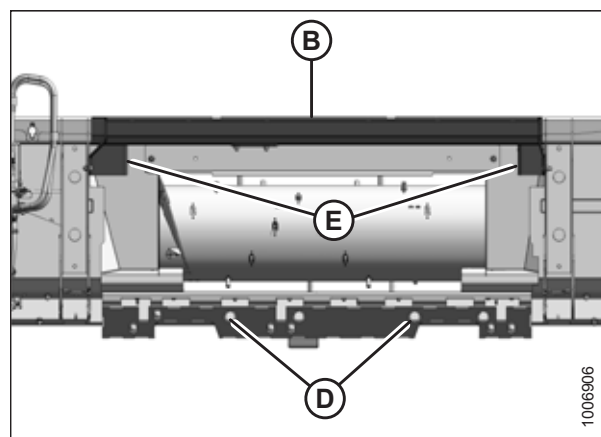


Figure 5.5: Header Opening – All AGCO Combines except Gleaner® R and S Series

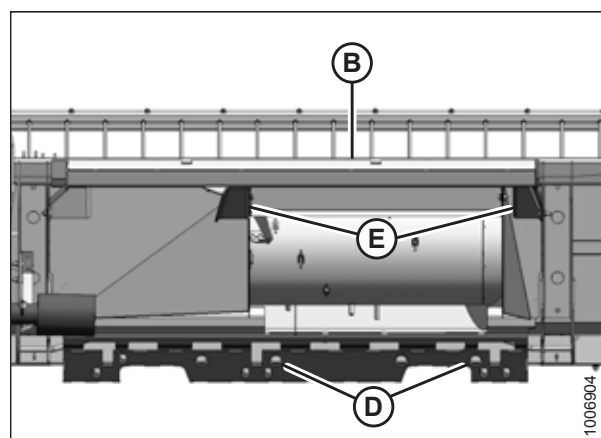


Figure 5.6: Header Opening – Gleaner® R and S Series

ATTACHING HEADER TO COMBINE

6. Raise the feeder house, ensuring that feeder house saddle (A) and the alignment pins are properly engaged in the header frame.
7. Position the header slightly off the ground, stop the engine, and remove the key from the ignition.

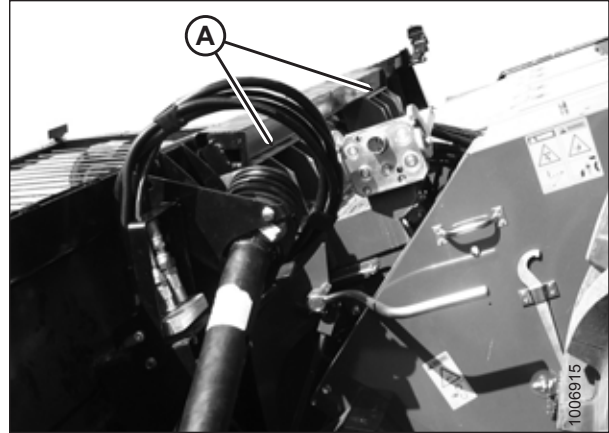


Figure 5.7: Feeder House Saddle – All AGCO Combines except Gleaner® R and S Series

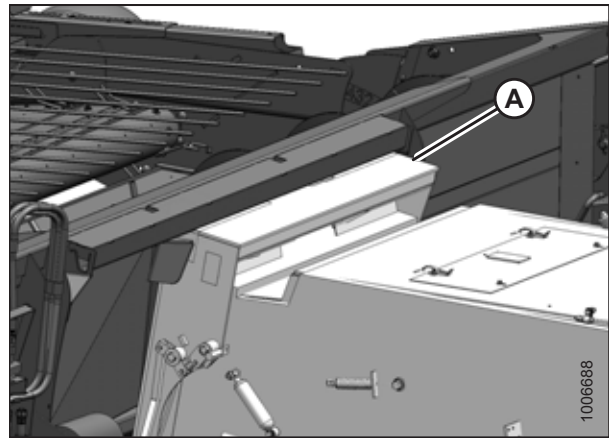


Figure 5.8: Feeder House Saddle – Gleaner® R and S Series

8. Insert the hooks into the header by moving lever (A) from the horizontal to the vertical position.

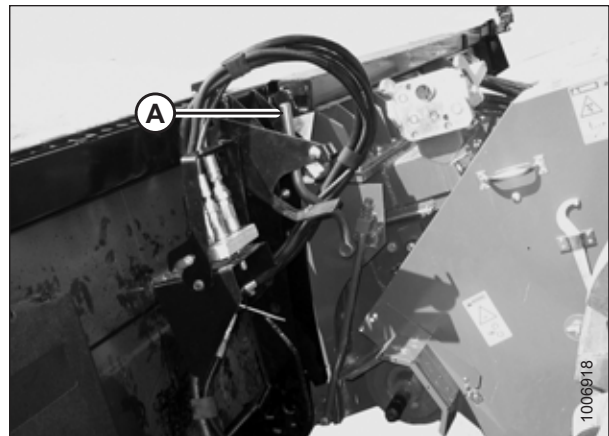


Figure 5.9: Engaging Hooks

ATTACHING HEADER TO COMBINE

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

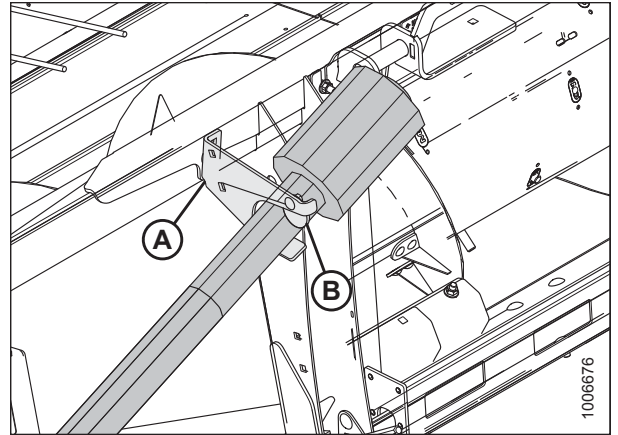


Figure 5.10: Driveline in Storage Position

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

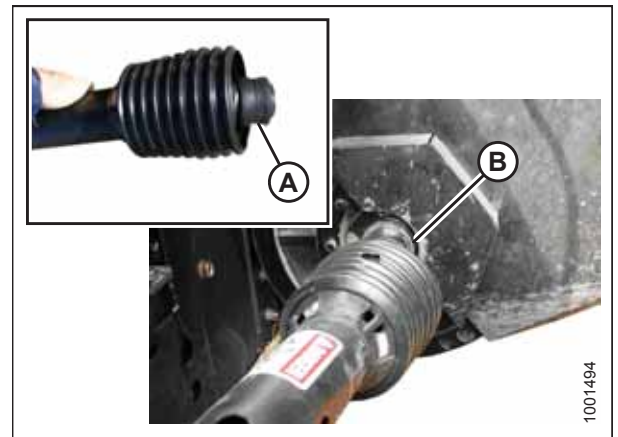


Figure 5.11: Connecting Driveline to Combine

11. Lower handle (A) to release coupler (B) from the header.

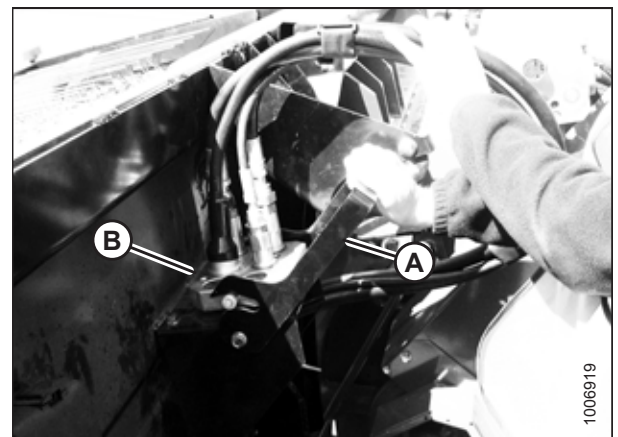


Figure 5.12: Coupler

ATTACHING HEADER TO COMBINE

12. Push handle (A) on the combine to the fully open position.
13. Clean the mating surfaces of coupler (B) and receptacle (C), if necessary.

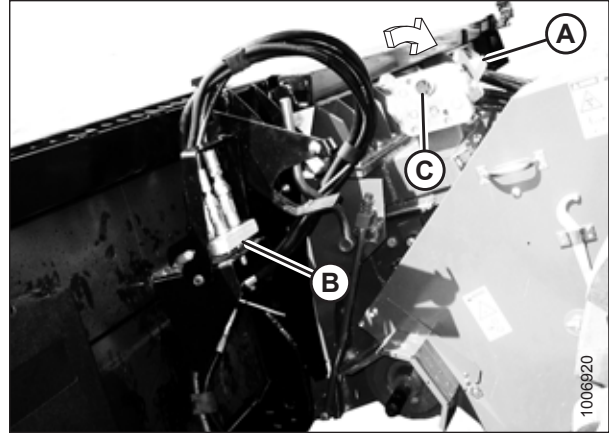


Figure 5.13: Opening Receptacle

14. Position coupler (A) onto the combine receptacle, and pull handle (B) to fully engage the coupler into the receptacle.
15. Remove the draper deck shipping braces. For instructions, refer to [5.7 Removing Deck Shipping Braces, page 91](#).

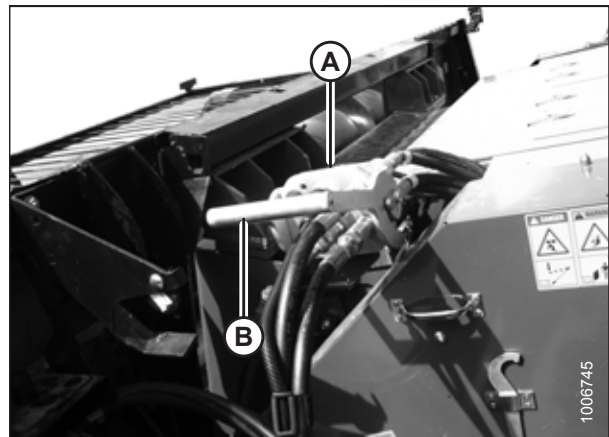


Figure 5.14: Coupler

5.2 Attaching Header to IDEAL™ Series Combine

Once the header has been unloaded, assembled, and if necessary reconfigured, it is time to attach it to the combine.

DANGER

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

DANGER

Check to be sure all bystanders have cleared the area.

1. Pull lever (A) up to retract pins (B) at the base of the feeder house.
2. Start the engine.

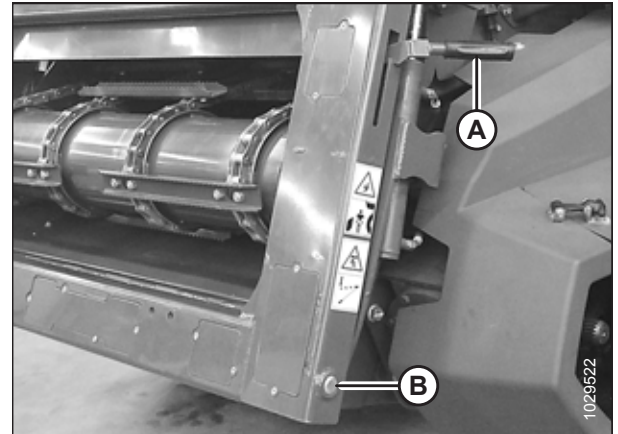


Figure 5.15: IDEAL™ Feeder House

3. Drive the combine slowly up to the header until the feeder house is directly under top beam (A), and pins (B) are under hooks (C).

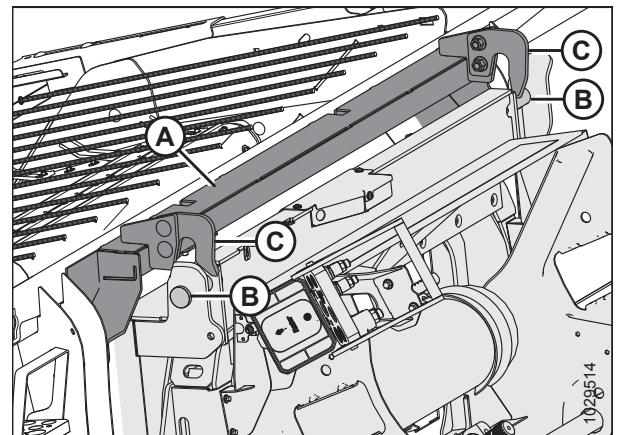


Figure 5.16: Feeder House

ATTACHING HEADER TO COMBINE

4. Raise the feeder house until transition frame top beam (A) is fully resting on the feeder house. Raise the header slightly off of the ground.

IMPORTANT:

The full weight of the header must be on the feeder house, **NOT** on pins (B).

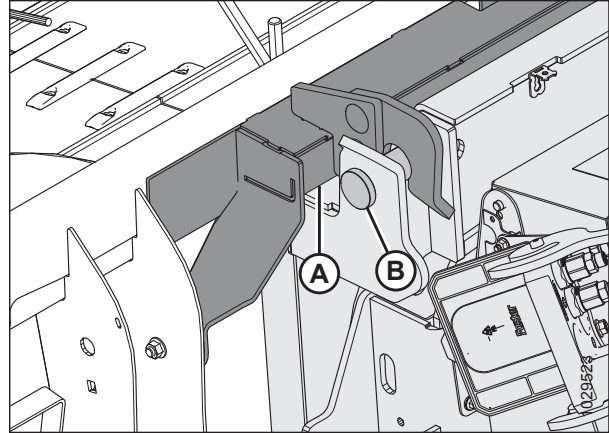


Figure 5.17: Top Beam Resting on Feeder House

5. Position the bottom of the feeder house so that locking pins (A) align with the holes in mounts (C).
6. Shut down the engine, and remove the key from the ignition.
7. Push lever (B) down to extend locking pins (A) so that they engage with mounts (C).

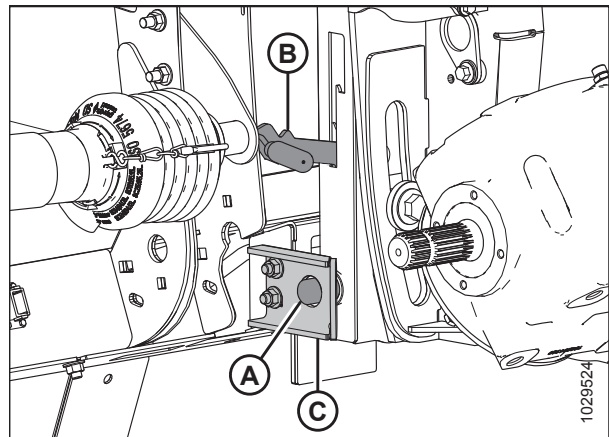


Figure 5.18: Feeder House Locking Pins

8. If you are unable to push down the lever, check the alignment of the mounts on both sides of the feeder house. If necessary, loosen nuts (A) and position mount (B) to line up with the pin. Retighten the nuts and ensure that both locking pins are extended into the mounts.

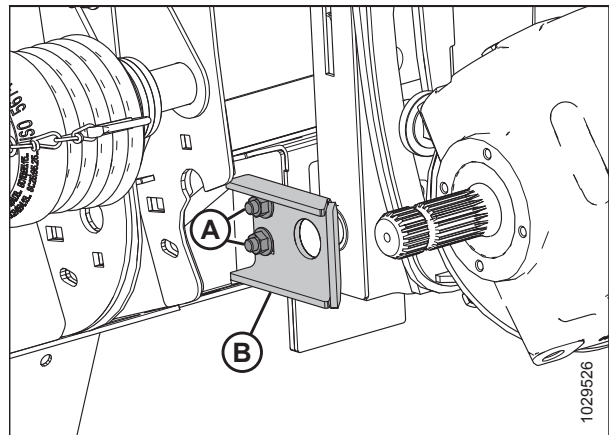


Figure 5.19: Transition Frame Adjustable Mount

ATTACHING HEADER TO COMBINE

9. Open the combine output shaft cover.
10. Pull collar (A) back to release the driveline from support bracket (B).

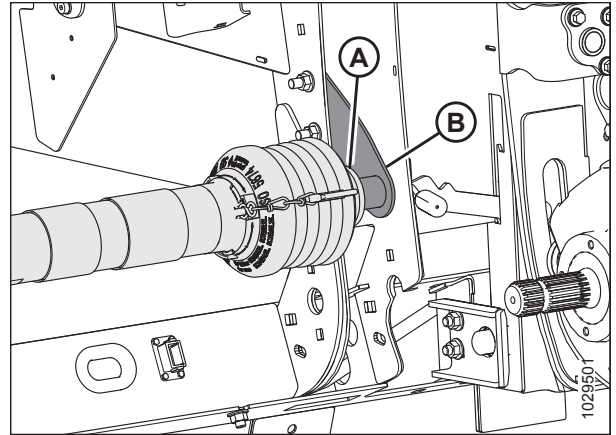


Figure 5.20: Driveline in Storage Position

11. Pull back collar (A) on the end of the driveline and push the driveline end onto combine output shaft (B) until the collar locks.
12. Close the combine output shaft cover.

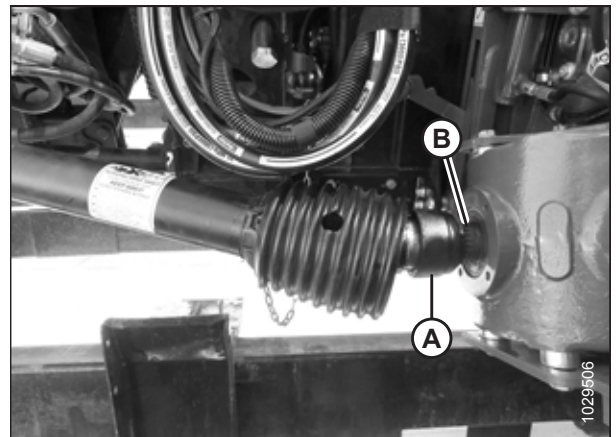


Figure 5.21: Connecting Driveline to Combine

13. Lower handle (A) to release multicoupler (B) from the header.
14. Open cover (C) on the combine receptacle.
15. Push handle (D) to the fully open position.
16. Clean the mating surfaces of the multicoupler and the receptacle, if necessary.

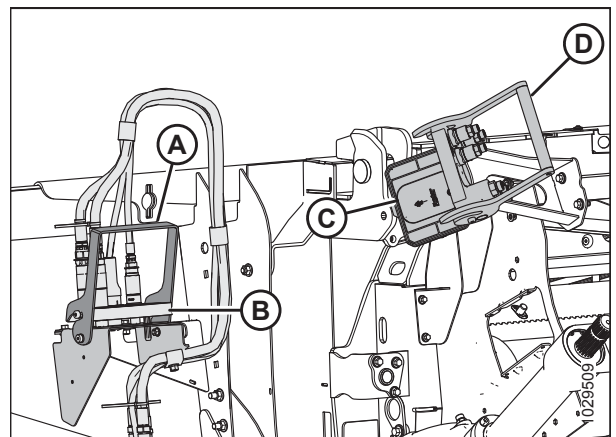


Figure 5.22: Multicoupler Receptacles

ATTACHING HEADER TO COMBINE

17. Position multicoupler (A) onto the combine receptacle, and pull handle (B) to fully engage the multicoupler into the receptacle.
18. Remove the draper deck shipping braces. For instructions, refer to [5.7 Removing Deck Shipping Braces, page 91](#).

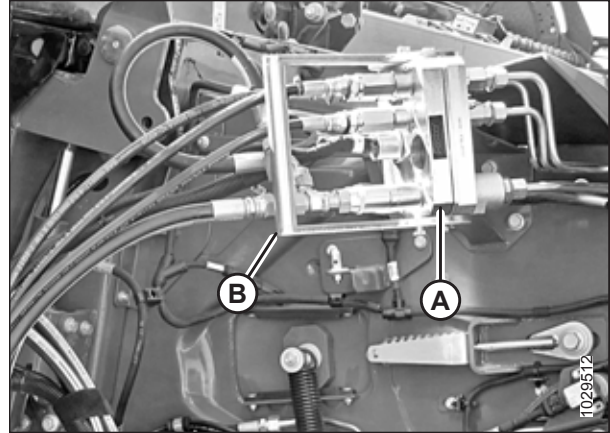


Figure 5.23: Multicoupler Connected to Combine

5.3 Attaching Header to Case IH Combine

Once the header has been unloaded, assembled, and if necessary reconfigured, it is time to attach it to the combine.

DANGER

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

DANGER

Check to be sure all bystanders have cleared the area.

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

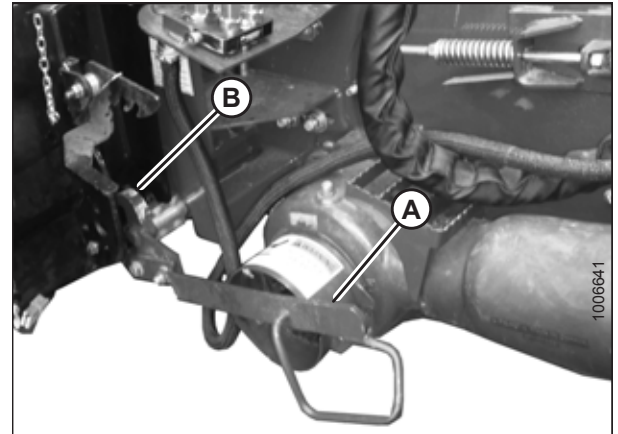


Figure 5.24: Feeder House Locks

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

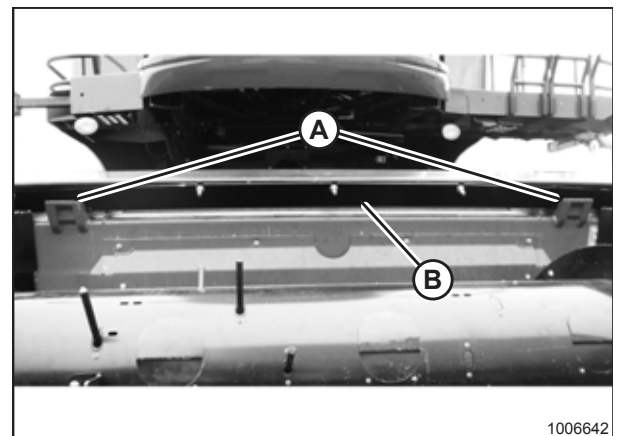


Figure 5.25: Header on Combine

ATTACHING HEADER TO COMBINE

6. Lift lever (A) on the header at the left side of the feeder house and push handle (B) on the combine to engage locks (C) on both sides of the feeder house.
7. Push down on lever (A) so that the slot in the lever engages handle (B). This will lock the handle in place.
8. If locks (C) do not fully engage with the spacer tube and the bolt on the header, loosen nut (E) and adjust the position of the spacer tube and bolt (D) as necessary (on both sides of the header). Tighten the nut.
9. Loosen bolts (F) and adjust the lock as needed to obtain a full lock on spacer tube and bolt (D) when lift lever (A) and handle (B) are engaged. Retighten the bolts.

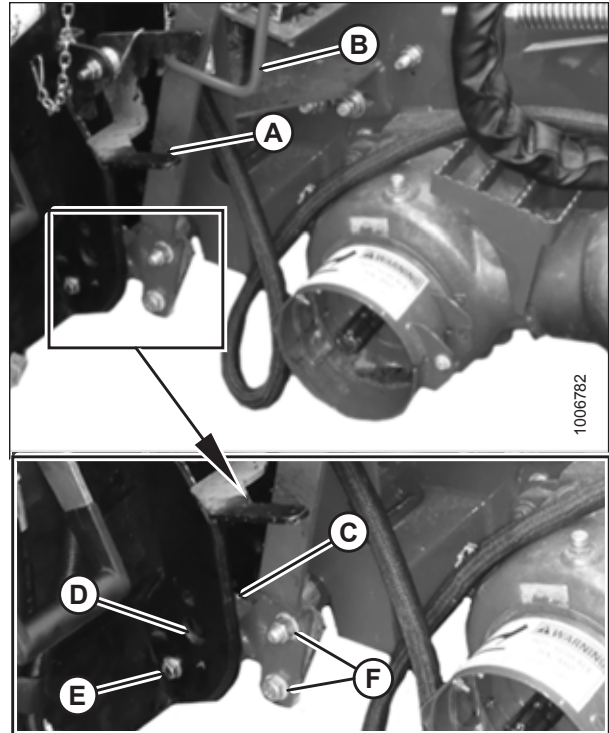


Figure 5.26: Engaging Locks

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

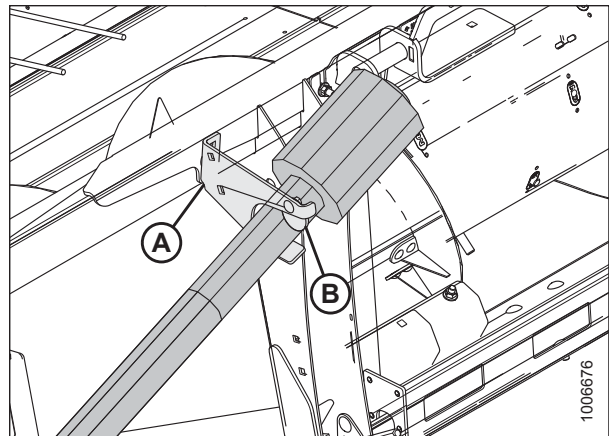


Figure 5.27: Driveline in Storage Position

ATTACHING HEADER TO COMBINE

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

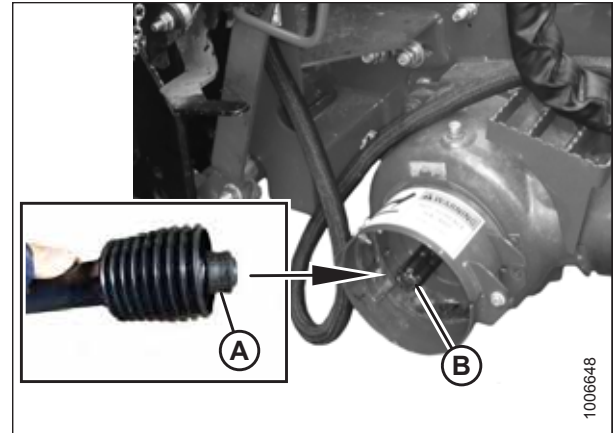


Figure 5.28: Attaching Driveline

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

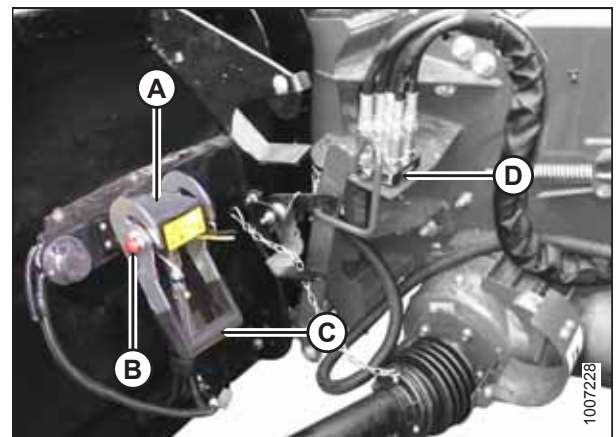


Figure 5.29: Coupler Lock

15. Position coupler (A) onto the header receptacle and push handle (B) downward to engage the coupler pins in the receptacle.
16. Push the handle to the closed position until lock button (C) snaps out.
17. Open cover (D) on the header electrical receptacle.
18. Remove electrical connector (E) from the storage cup on the combine.
19. Align the lugs on electrical connector (E) with the slots in the receptacle. Push the connector onto the receptacle and turn the collar on the connector to lock it in place.
20. Remove the draper deck shipping braces. For instructions, refer to [5.7 Removing Deck Shipping Braces](#), page 91.

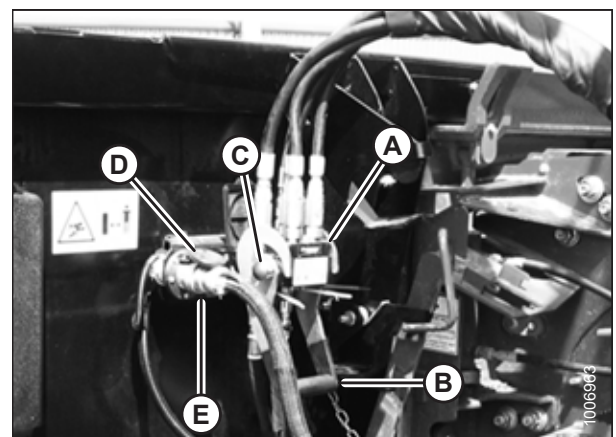


Figure 5.30: Attaching Coupler

5.4 Attaching Header to John Deere 60, 70, S, or T Series Combine

Once the header has been unloaded, assembled, and if necessary reconfigured, it is time to attach it to the combine.

DANGER

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

DANGER

Check to be sure all bystanders have cleared the area.

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

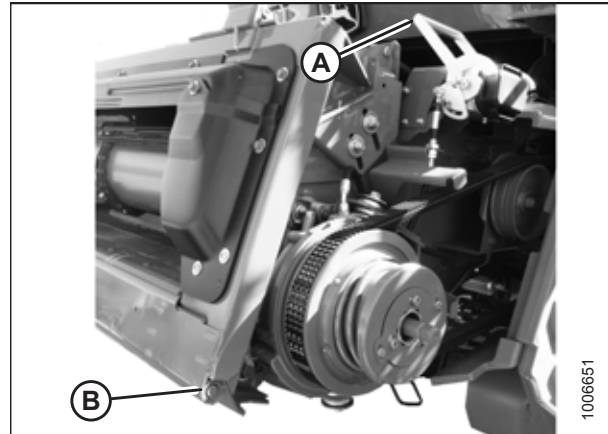


Figure 5.31: Feeder House Locks

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

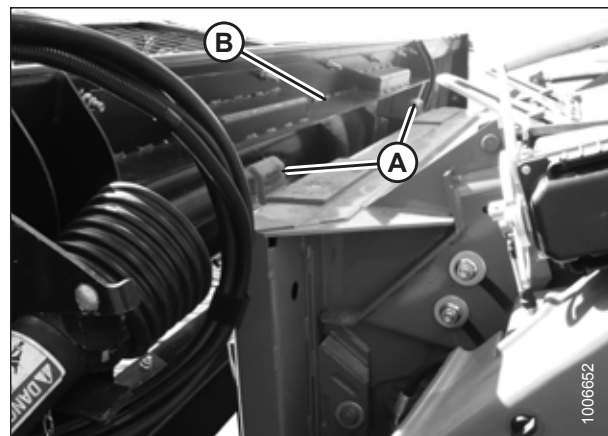


Figure 5.32: Header on Combine

ATTACHING HEADER TO COMBINE

6. Open driveshield (A) on the combine feeder house.

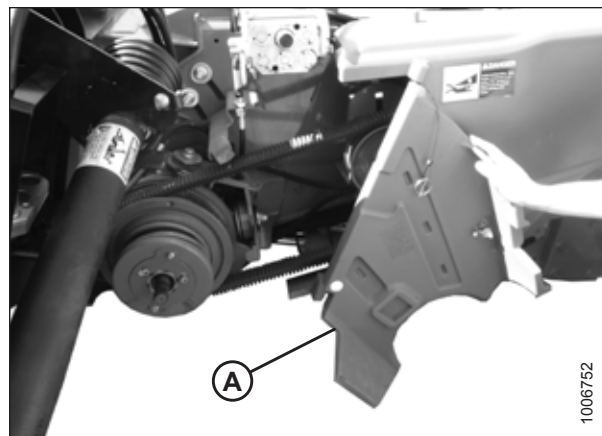


Figure 5.33: Combine Driveshield

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

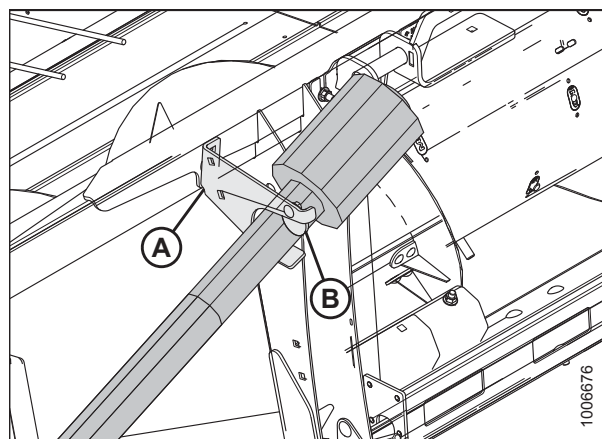


Figure 5.34: Driveline in Storage Position

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

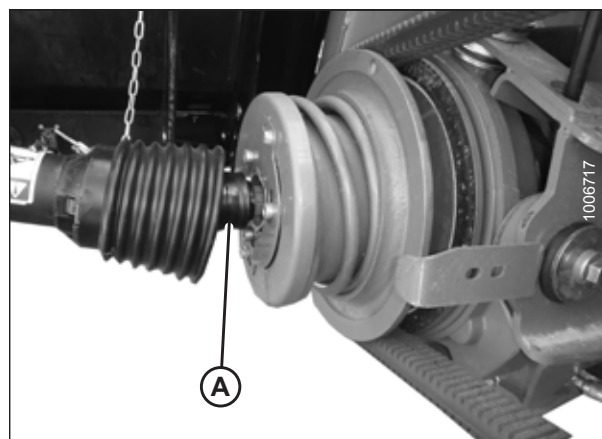


Figure 5.35: Attaching Driveline to Combine

ATTACHING HEADER TO COMBINE

10. Remove cover (A) from the combine multicoupler receptacle.

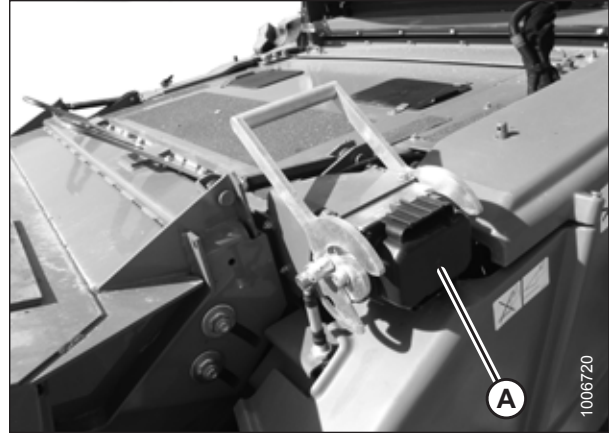


Figure 5.36: Combine Receptacle

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

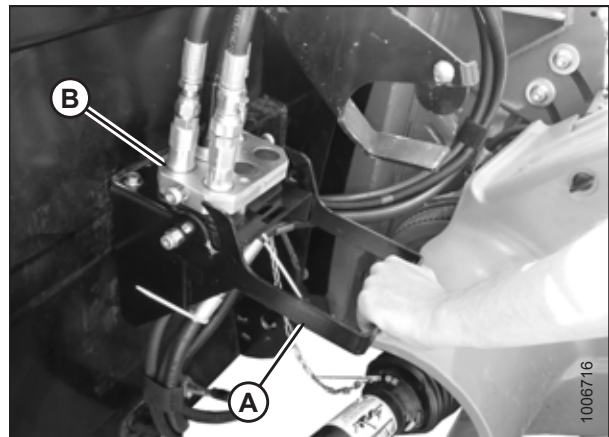


Figure 5.37: Releasing Coupler

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

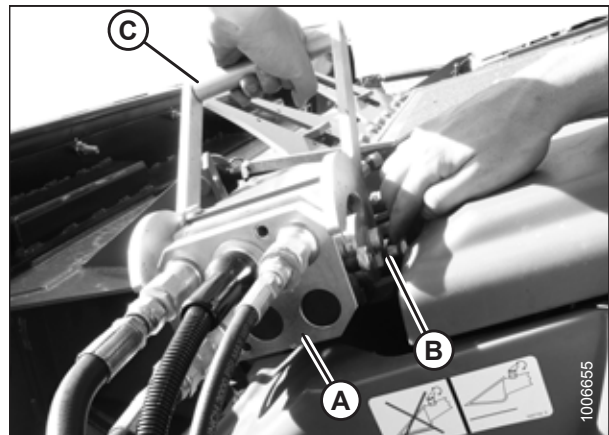


Figure 5.38: Engaging Coupler

ATTACHING HEADER TO COMBINE

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

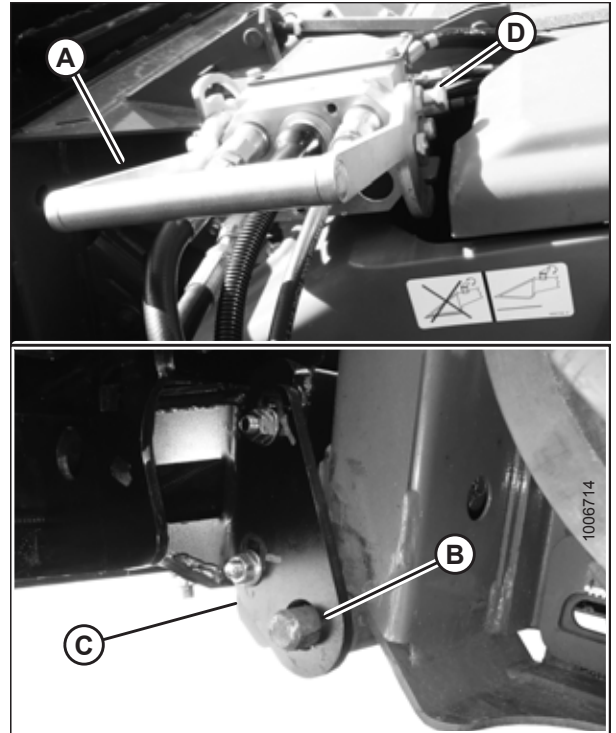


Figure 5.39: Locking Feeder House

NOTE:

If the handle does not move to the fully horizontal position, verify that locking plates (A) on the header are aligned with locking pins (B) on either side of the feeder house. If necessary, loosen nuts (C) and adjust plates (A) to line up with pins (B). Retighten the nuts.

15. Remove the draper deck shipping braces. For instructions, refer to [5.7 Removing Deck Shipping Braces, page 91](#).

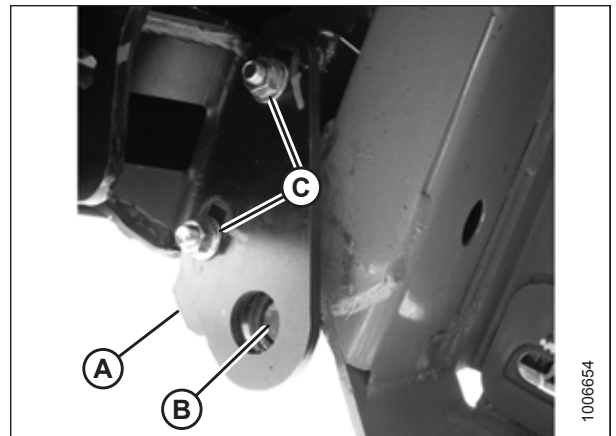


Figure 5.40: Aligning Locking Plates

5.5 Attaching Header to New Holland CR/CX Series Combine

Once the header has been unloaded, assembled, and if necessary reconfigured, it is time to attach it to the combine.

DANGER

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

DANGER

Check to be sure all bystanders have cleared the area.

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

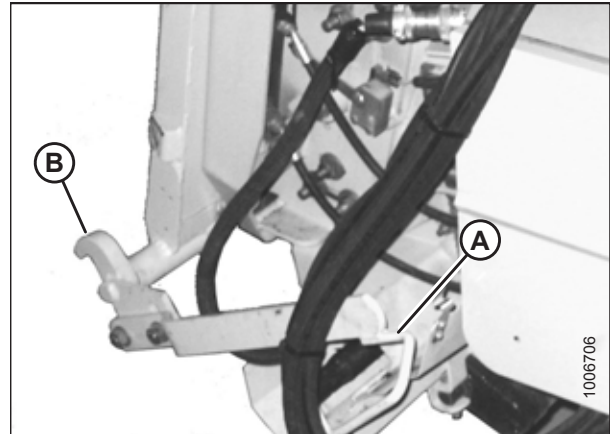


Figure 5.41: Feeder House Locks

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

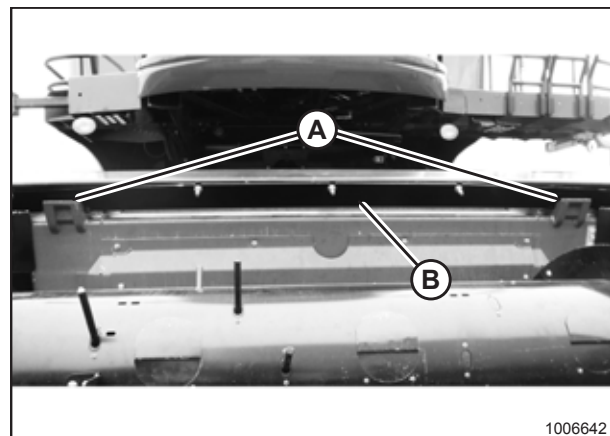


Figure 5.42: Header on Combine

ATTACHING HEADER TO COMBINE

5. Shut down the engine, and remove the key from the ignition.
6. Lift lever (A) on the left side of the header's feeder house and push handle (B) on the combine so that hooks (C) engage pins (D) on both sides of the feeder house.
7. Push down on lever (A) so that the slot in the lever engages handle (B).
8. If locks (C) do not fully engage pins (D) on the header, loosen nut (E) and adjust the position of pin (D) on both sides of the feeder house as needed. Tighten nut (E).
9. Loosen bolts (F) and adjust the lock as needed to fully lock pin (D) when lift lever (A) and handle (B) are engaged. Retighten bolts (F).

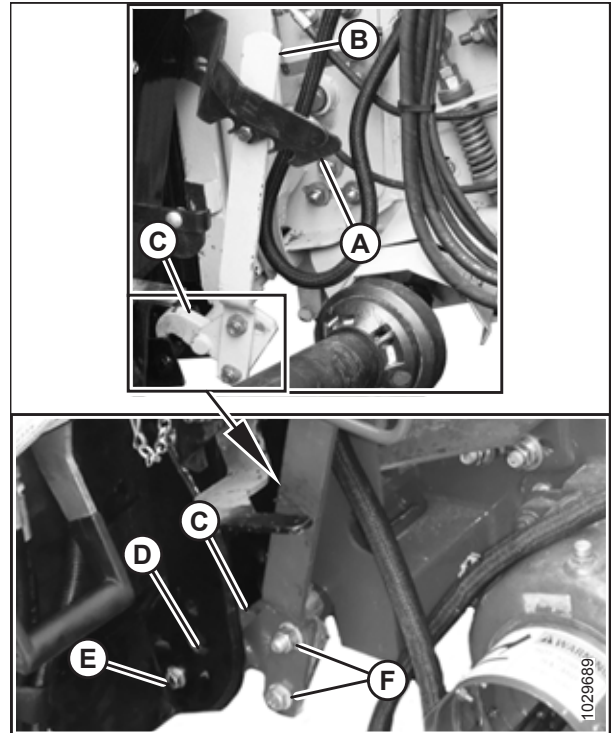


Figure 5.43: Engaging Locks

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

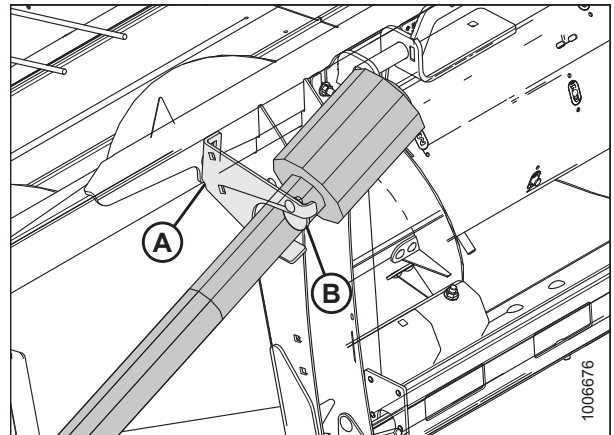


Figure 5.44: Driveline in Storage Position

ATTACHING HEADER TO COMBINE

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

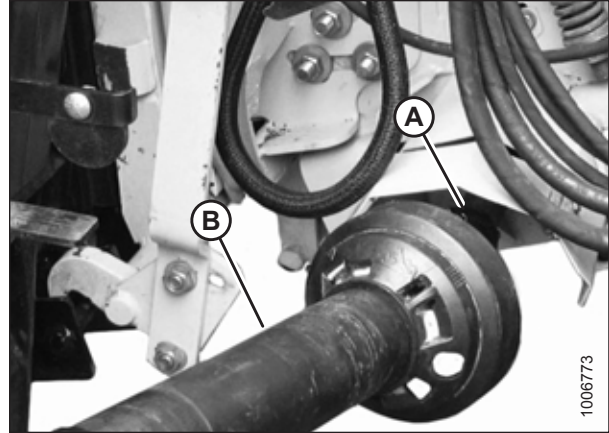


Figure 5.45: Attaching Driveline

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

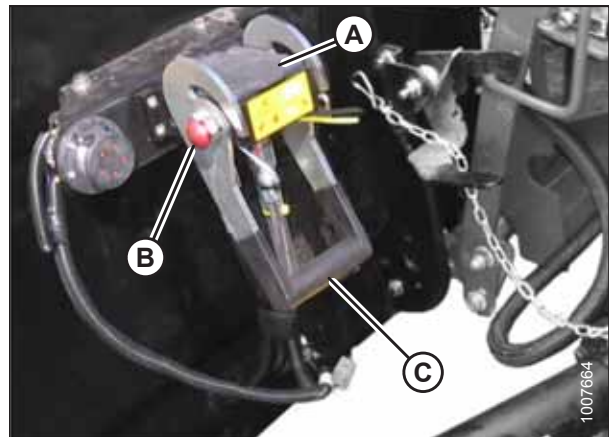


Figure 5.46: Header Receptacle

14. Remove coupler (A) from its storage position on the combine. Clean the mating surface of the coupler.

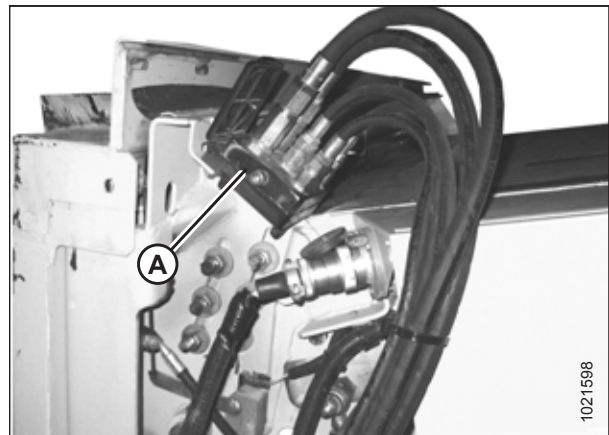


Figure 5.47: Combine Coupler/Connector

ATTACHING HEADER TO COMBINE

15. Position the coupler onto header receptacle (A) and push handle (B) downward to engage the pins into the receptacle.
16. Push handle (B) to the closed position until lock button (C) snaps out.
17. Open cover (D) on the header electrical receptacle.
18. Remove electrical connector (E) from the combine.
19. Align the lugs on electrical connector (E) with the slots in the header receptacle, push the connector onto the receptacle, and turn the collar on the connector to lock it in place.
20. Remove the draper deck shipping braces. For instructions, refer to [5.7 Removing Deck Shipping Braces](#), page 91.

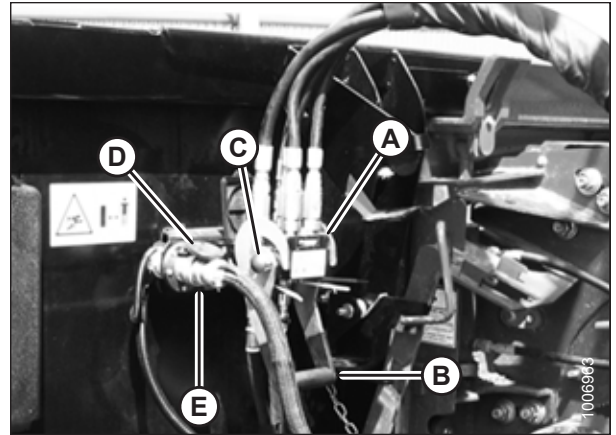


Figure 5.48: Attaching Coupler

5.6 Attaching Header to Versatile Combine

Once the header has been unloaded, assembled, and if necessary reconfigured, it is time to attach it to the combine.

DANGER

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

DANGER

Check to be sure all bystanders have cleared the area.

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

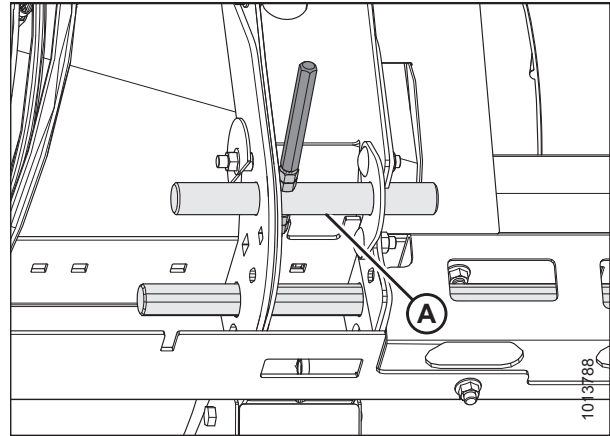


Figure 5.49: Locking Pins Retracted

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

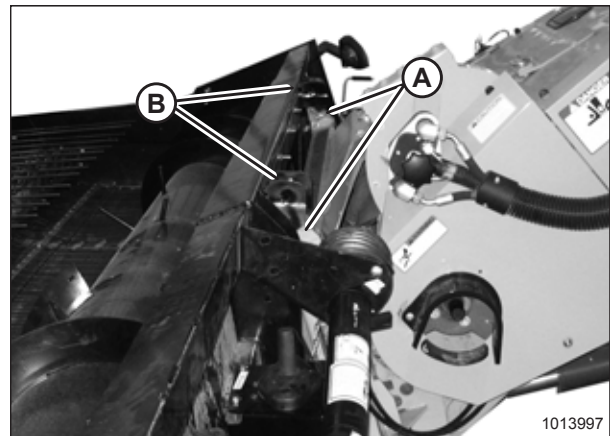


Figure 5.50: Picking up Header

ATTACHING HEADER TO COMBINE

6. Grasp handle (A) and slide pin (B) into feeder house receptacle (C) until pin stop (D) drops down to lock the pin as shown in the inset illustration. Ensure that the pin is engaged on the opposite side of the feeder house.
7. If pin (B) does not align with feeder house receptacle (C), or if the header pan and the bottom of feeder house opening are not properly aligned, you can reposition the top beam by performing Step 8, page 87 to Step 15, page 88.

NOTE:

If the pin aligns with feeder house receptacle (C), proceed to Step 19, page 89.

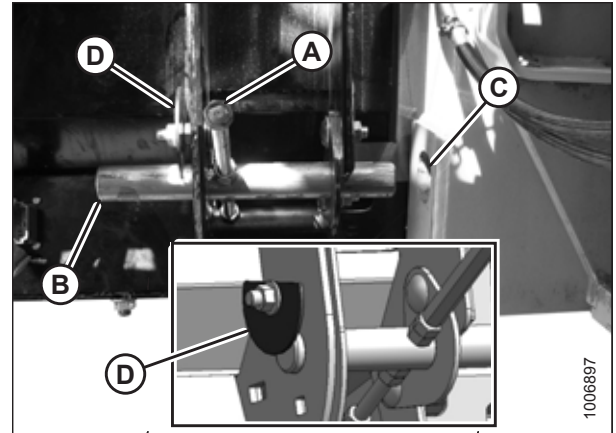


Figure 5.51: Feeder House Lock

8. Measure the misalignment between pin (A) and feeder house receptacle (B).
9. Start the engine.
10. Lower the header to the ground until the feeder house disengages from the top beam.
11. Shut down the engine, and remove the key from the ignition.

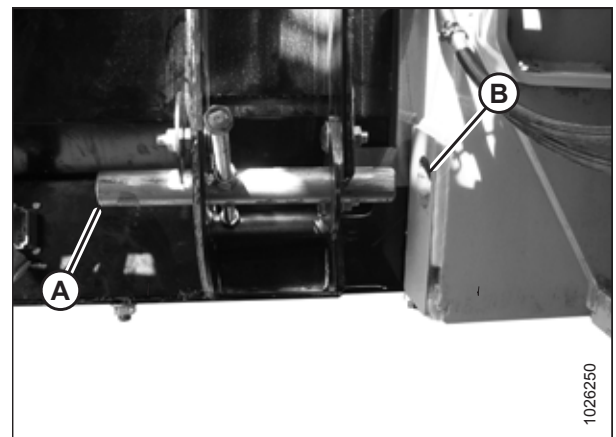


Figure 5.52: Feeder House Lock

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

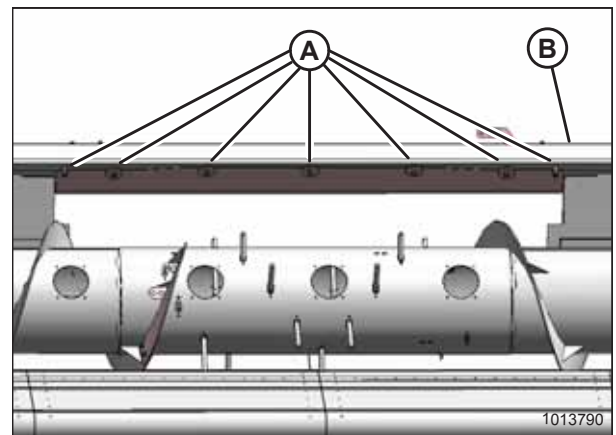


Figure 5.53: Top Beam — Front View

ATTACHING HEADER TO COMBINE

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

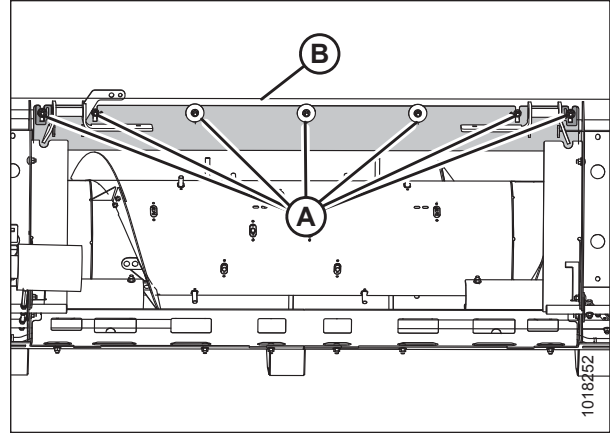


Figure 5.54: Top Beam — Rear View

14. Move support channel (A) according to the measurement made in Step 8, [page 87](#) to align the locking pin with the feeder house receptacle. For instructions, refer to Step 6, [page 87](#).
15. Tighten all the bolts.
16. Start the engine.

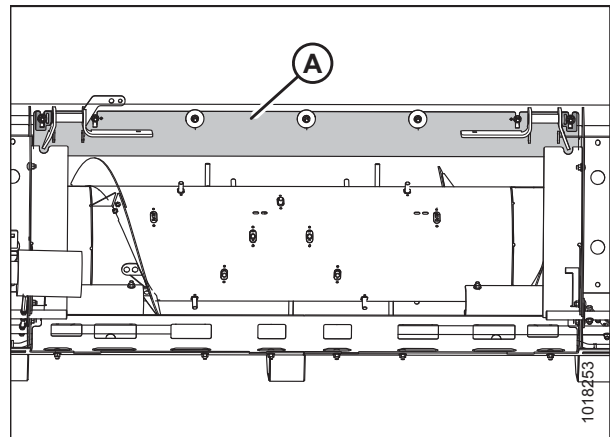


Figure 5.55: Top Beam — Rear View

17. Raise the feeder house to lift the header, ensuring that posts (A) are properly engaged around header frame (B).
18. Shut down the engine, and remove the key from the ignition.

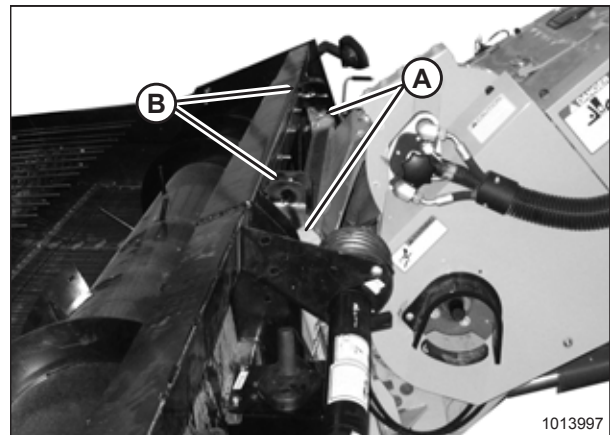


Figure 5.56: Picking up Header

ATTACHING HEADER TO COMBINE

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

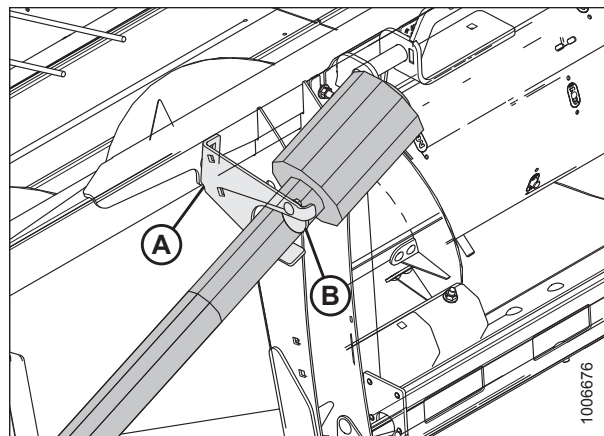


Figure 5.57: Driveline in Storage Position

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

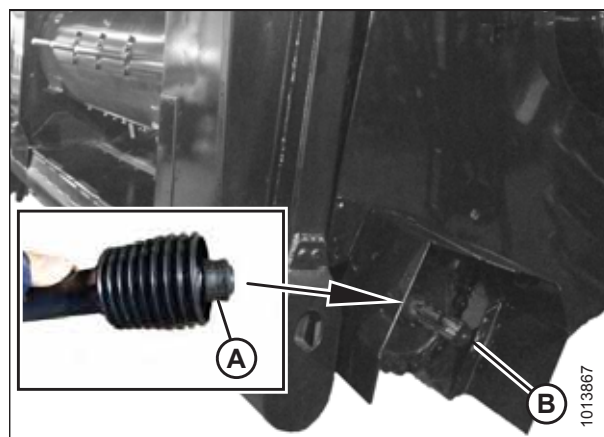


Figure 5.58: Driveline

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

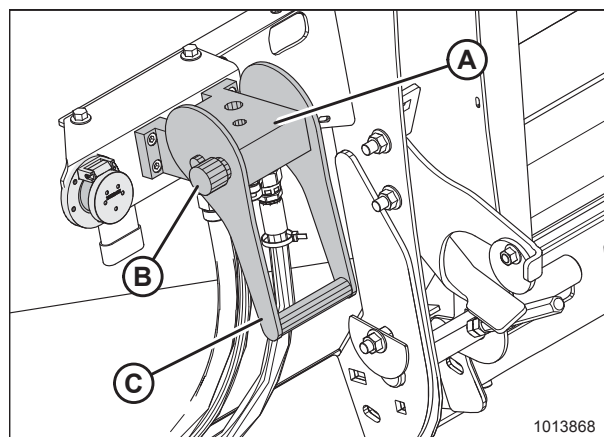


Figure 5.59: Coupler Lock

ATTACHING HEADER TO COMBINE

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

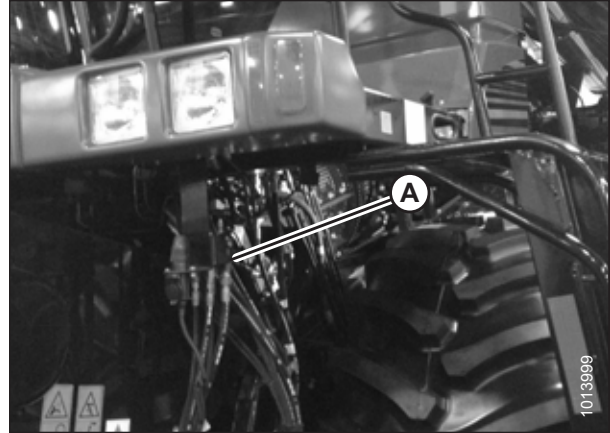


Figure 5.60: Versatile Coupler

24. Position coupler (A) onto the header receptacle and push handle (B) downward to engage the coupler pins into the receptacle.
25. Push the handle to the closed position until lock button (C) snaps out.
26. Open cover (D) on the header electrical receptacle.
27. Remove electrical connector (E) from the storage cup on the combine.
28. Align the lugs on electrical connector (E) with the slots in the receptacle, push the connector onto the receptacle, and turn the collar on the connector to lock it in place.
29. Remove the draper deck shipping braces. For instructions, refer to [5.7 Removing Deck Shipping Braces, page 91](#).

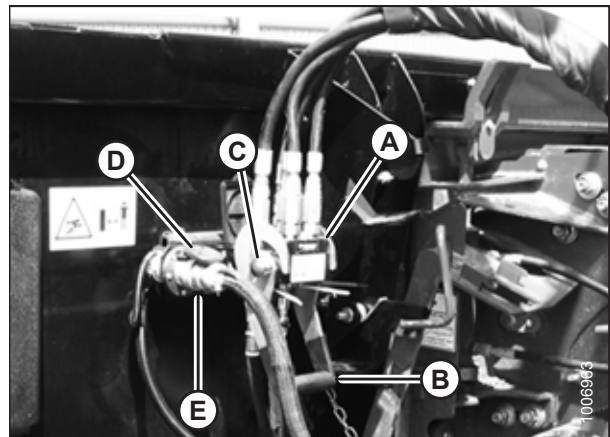


Figure 5.61: Attaching Coupler

5.7 Removing Deck Shipping Braces

The removable braces are painted yellow.

DANGER

To avoid injury or death from unexpected start-up of the machine, always stop the engine and remove the key from the ignition before leaving the 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 and remove key from ignition.
4. Remove bolts (A) and (B) and remove support (C).
5. Repeat at the opposite end of header.

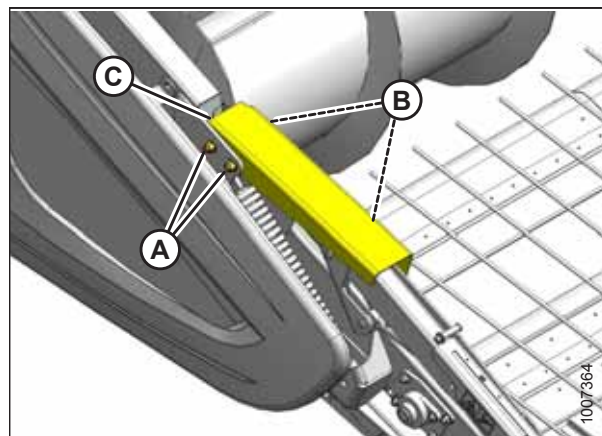


Figure 5.62: Shipping Support

5.8 Installing Crop Deflectors

Install crop deflectors to prevent crop from piling up around the hold-down support arm pivot.

DANGER

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

If not installing crop deflectors, remove them from the auger drive compartment and store them in the combine cab or another suitable location.

IMPORTANT:

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. For instructions, refer to [3.3.1 Opening Left Endshield, page 14](#).
2. Remove bolt (A), crop deflectors (B), and the bag of installation hardware from inside the left endsheet.
3. Close the endshield. For instructions, refer to [3.3.2 Closing Left Endshield, page 15](#).

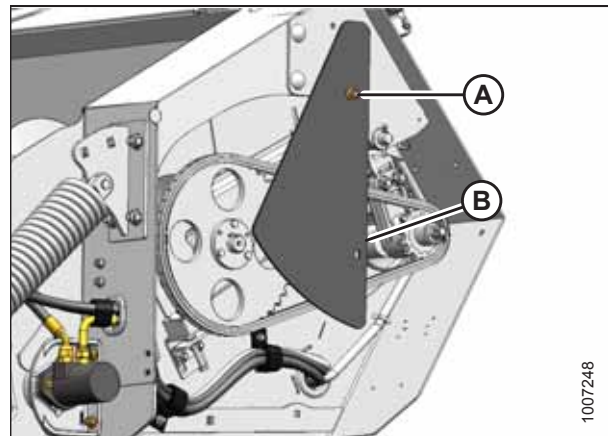


Figure 5.63: Crop Deflector

4. On the right side of the header, position crop deflector (A) onto the header endsheet and secure it with two M12 x 25 bolts and nuts (B) provided in the installation hardware bag.

NOTE:

The bolt heads must face inboard.

5. Repeat Step 4, [page 92](#) to install the left deflector.

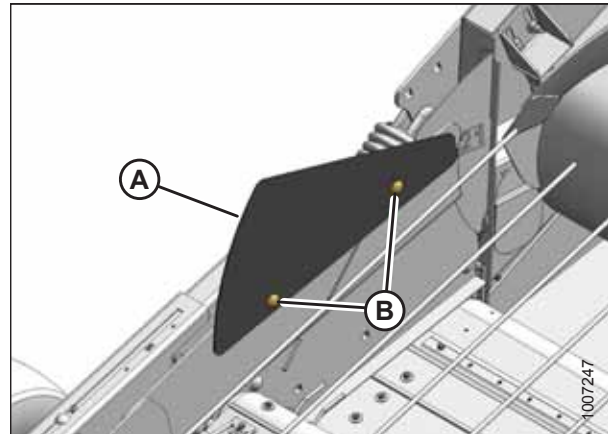


Figure 5.64: Crop Deflector

Chapter 6: Predelivery Inspection

Inspecting the machine before delivering it to the customer will ensure the machine provides maximum performance.

1. To avoid damaging the machine during operation, make sure no shipping dunnage has fallen into the machine.
2. Refer to the following procedures for detailed instructions and perform final checks as listed on the yellow *Predelivery Checklist, page 221* to ensure the machine is field-ready.

IMPORTANT:

If adjustments are absolutely necessary, follow the procedures in this document to comply with factory-specified values and tolerances.

NOTE:

Make sure the Operator or Dealer retains the completed Predelivery Checklist.

6.1 Auto Header Height Control

Understand the operation of the auto header height control (AHC) system and how to configure it to work with your combine.

6.1.1 Auto Header Height Control System Overview

The auto header height control (AHC) feature works in conjunction with the AHC option available on certain combine models.

NOTE:

This section does not apply to Versatile combines.

Sensors installed at each end of the header send a signal to the combine allowing it to maintain a consistent cutting height as the header follows the contours of the ground.

Headers are factory-equipped for AHC; however, before using the AHC feature, do the following:

1. Ensure that the AHC sensor's output voltage range is appropriate for the combine. For more information, refer to *6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94*.
2. Prepare the combine to use the AHC feature.
3. Calibrate the AHC 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 AHC feature in the field. For each make and model of combine, certain settings can be used to improve the performance of AHC feature.

NOTE:

If your header is not equipped to work with a specific combine model, you will need to install an appropriate combine completion package onto the header. Completion packages come with instructions for installing height sensors.

Refer to the following instructions for your specific combine model:

- *6.1.4 IDEAL™ Series Combines, page 99*
- *6.1.5 Case IH 5130/6130/7130 and 5140/6140/7140 Midrange Combines, page 111*
- *6.1.6 Case IH 7010/8010, 7120/8120/9120, 7230/8230/9230, and 7240/8240/9240 Combines, page 118*
- *6.1.7 Challenger® 6 Combines, page 128*
- *6.1.8 Gleaner® R65/R66/R75/R76 and S Series Combines – Except S9 Series, page 134*
- *6.1.9 Gleaner® S9 Series Combines, page 143*
- *6.1.10 John Deere 60 Series Combines, page 156*

- [6.1.11 John Deere 70 Series Combines, page 162](#)
- [6.1.12 John Deere S and T Series Combines, page 168](#)
- [6.1.13 New Holland Combines CX/CR Series \(CR Series – Model Year 2014 and Earlier\), page 179](#)
- [6.1.14 New Holland Combines \(CR Series – Model Year 2015 and Later\), page 186](#)

6.1.2 Auto Header Height Control Sensor Operation

The sensors which send height signals to the combine are essentially large resistors which allow a position sensor arm to move and thereby send a position signal to the combine.

The position sensors supplied with the auto header height control (AHHC) system are 1000 ohm (1 k) industrial series variable resistors. Each sensor consists of a sealed unit with one three-pin connection point (A) and two mounting holes (B). A signal wire is connected internally to movable wiper (C), which sweeps across a high resistance filament band. An external arm is attached to movable wiper (C) and, as it moves, the wiper moves across the resistance filament to change the resistance at the signal wire, which changes the output voltage. The resistance across the power and ground pins should be approximately 100 ohms. Normal operating signal voltages are 0.5–4.5 VDC or 5–95% of available voltage.

- A sensor operating with a signal voltage **below 5%** is considered to be shorted.
- A sensor with a signal voltage **above 95%** is considered to be open.
- A change in header height will cause the voltage signal to change.

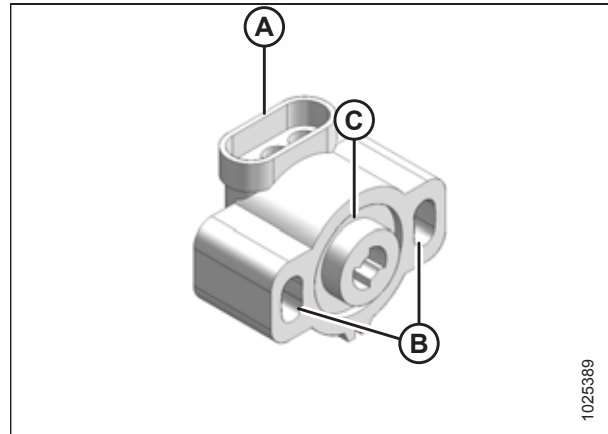


Figure 6.1: Variable Resistor Type Sensor

6.1.3 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
Challenger® Gleaner® Massey Ferguson® IDEAL™	0.7 V	4.3 V	2.5 V
Case IH 7/8010, 5/6/7088, 7/8/9120, 5/6/7130, 5/6/7140, 7/8/9230, 7/8/9240	0.7 V	4.3 V	2.5 V
John Deere 60/70/S/T Series	0.7 V	4.3 V	2.5 V
New Holland CR/CX – 5 V system	0.7 V	4.3 V	2.5 V
New Holland CR/CX – 10 V system	3.0 V	7.0 V	4.1–4.4 V

NOTE:

For instructions on manually checking the voltage range, refer to [Manually Checking Voltage Range, page 95](#).

Manually Checking Voltage Range

In some combines, the output voltage range for the auto header height control (AHHC) sensors can be checked from the cab. Otherwise, follow this procedure.

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

NOTE:

Ensure that the float spring is fully extended. If the float spring is not fully extended, the voltage may go out of range during header operation, which can cause the AHHC system to malfunction.

2. Shut down the combine. Position the key so that power is still supplied to the sensors.
3. Open the left endshield. For instructions, refer to [3.3.1 Opening Left Endshield, page 14](#).
4. Locate left height sensor (A).

NOTE:

The sensor and the connector may not be exactly as shown.

5. With the connector plugged into the sensor, measure the voltage between orange signal wire (B) in the middle position on the connector and brown ground wire (C) at one side of the connector. The voltage obtained from this reading tells you the maximum voltage for the left sensor.

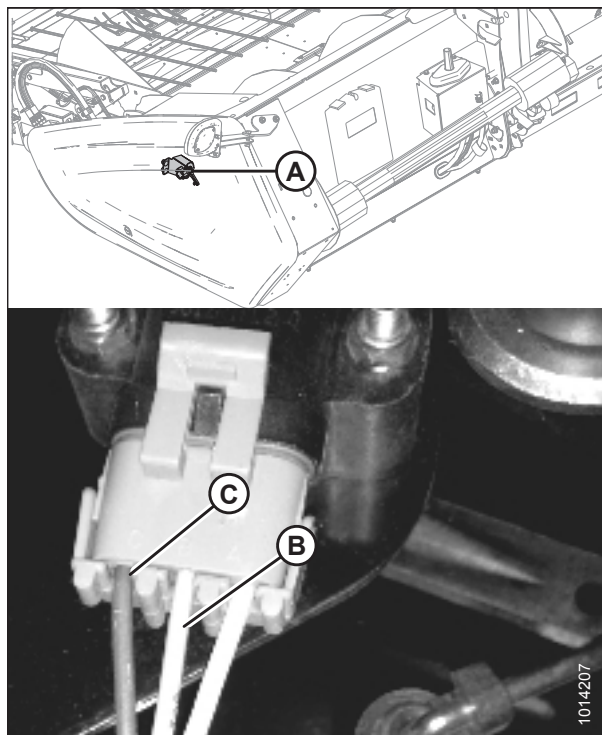


Figure 6.2: Left Height Sensor

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

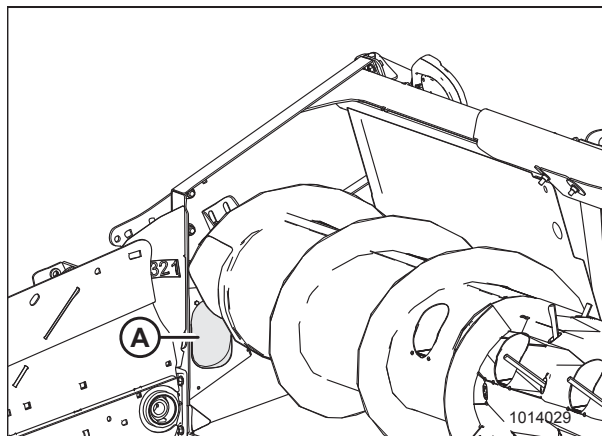


Figure 6.3: Right Access Panel

PREDELIVERY INSPECTION

7. Remove two bolts (A) and access panel (B).

NOTE:

The auger has been removed from the illustration for the sake of clarity.

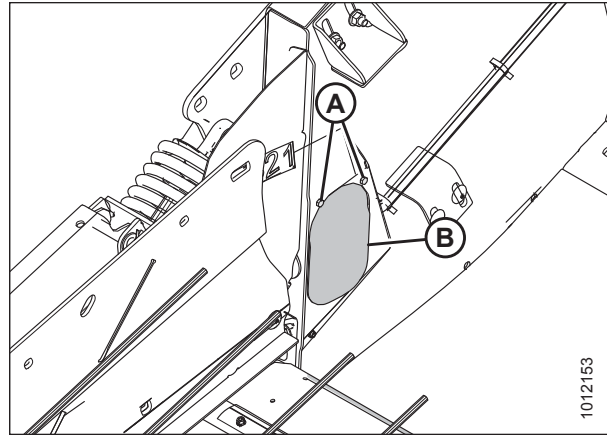


Figure 6.4: Access Panel – Right Side

8. Locate right height sensor (A).

NOTE:

The sensor may not be exactly as shown.

9. With the connector plugged into the sensor, measure the voltage between orange signal wire (B) in the middle position on the connector and brown ground wire (C) on one side of the connector. The voltage obtained from this reading tells you the maximum voltage for the right sensor.
10. Start the combine and fully lower the combine feeder house. Ensure that the float springs are fully compressed.
11. Shut down the combine and position the key so that power is still supplied to the sensors.
12. Repeat the voltage measurement procedures described in Steps 5, [page 95](#) and 9, [page 96](#) for both sensors. The voltages obtained from these readings tells you the minimum voltages for each sensor.

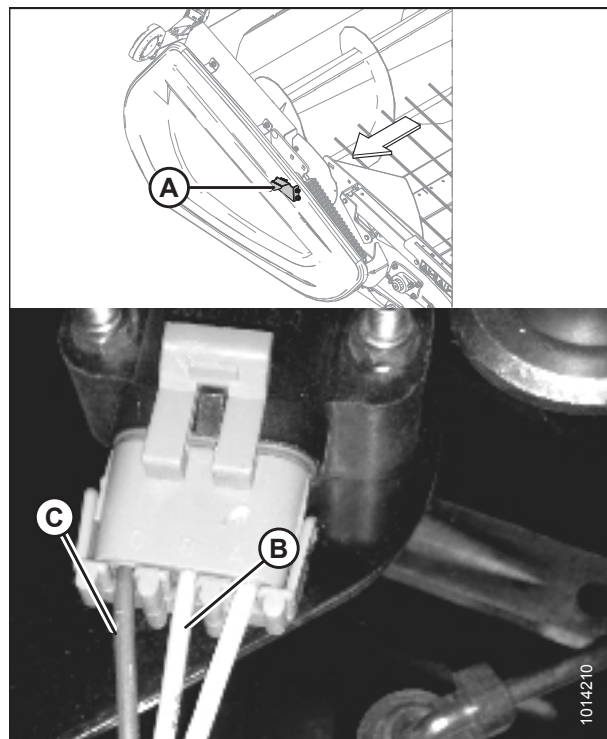


Figure 6.5: Right Height Sensor

13. Compare the voltage measurements to the values specified in [6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94](#).
14. If the sensor voltage is outside of the low or 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 97](#) or [Adjusting Header Height Sensor Voltage Range – Right Side, page 97](#).

Adjusting Header Height Sensor Voltage Range – Left Side

If the voltage output range of the left header height sensor does not match the specifications, the sensor's voltage range must be adjusted.

DANGER

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

1. Lower the header to the ground, shut down the combine, and remove the key from the ignition.
2. Open the left endshield. For instructions, refer to [3.3.1 Opening Left Endshield, page 14](#).
3. Loosen nuts (A).
4. Rotate control (B) until the desired voltage range is achieved. For instructions, refer to [6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94](#).

NOTE:

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

5. Tighten nuts (A).
6. Close the left endshield. For instructions, refer to [3.3.2 Closing Left Endshield, page 15](#).

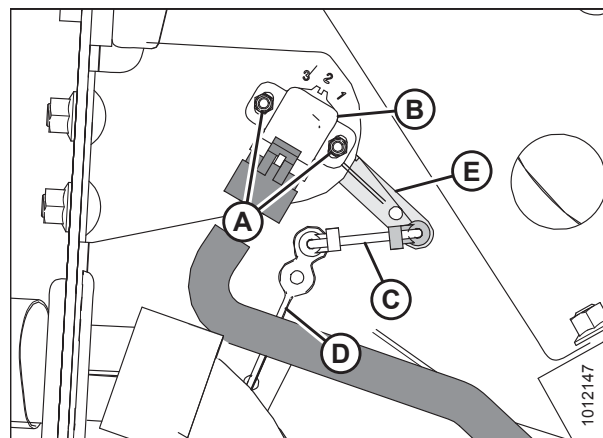


Figure 6.6: Header Height Sensor Assembly – Left Side

Adjusting Header Height Sensor Voltage Range – Right Side

If the voltage output range of the right header height sensor does not match the specifications, the sensor's voltage range must be adjusted.

DANGER

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

1. Raise the hold-down and engage the lift cylinder safety props.
2. Locate access panel (A) on the inside of the right endsheet.

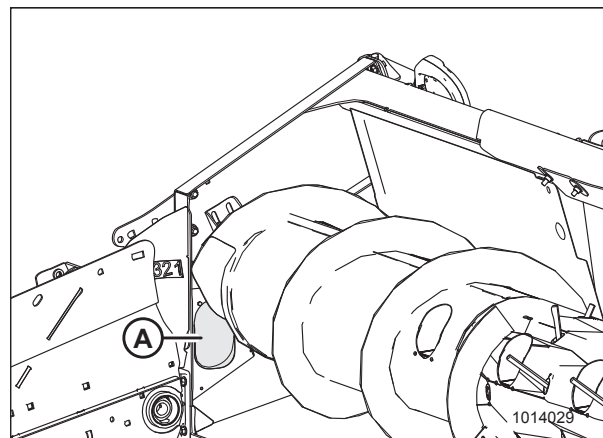


Figure 6.7: Access Panel – Right Side

PREDELIVERY INSPECTION

3. Remove two bolts (A) and access panel (B).

NOTE:

The auger has been removed from the illustration for the sake of clarity.

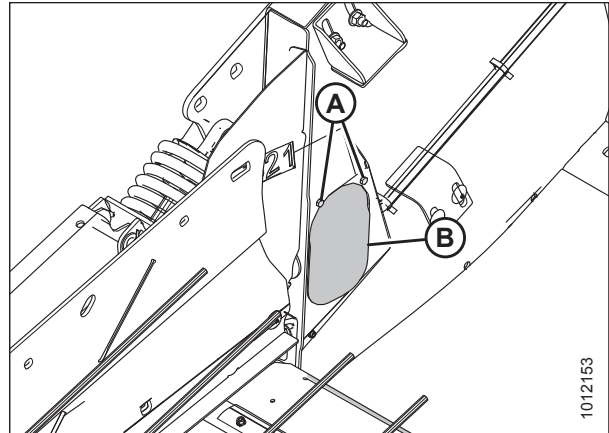


Figure 6.8: Access Panel – Right Side

4. Loosen nuts (A).

NOTE:

The auger has been removed from the illustration for the sake of clarity.

5. Rotate sensor (B) until the desired voltage range is achieved. For instructions, refer to [6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94](#).

NOTE:

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

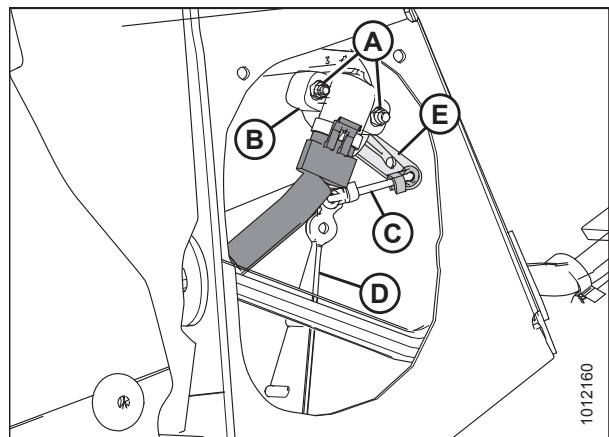


Figure 6.9: Header Height Sensor Assembly – Right Side

6. Tighten nuts (A).
7. Install access panel (B) and secure it with bolts (A).

NOTE:

The auger has been removed from the illustration for the sake of clarity.

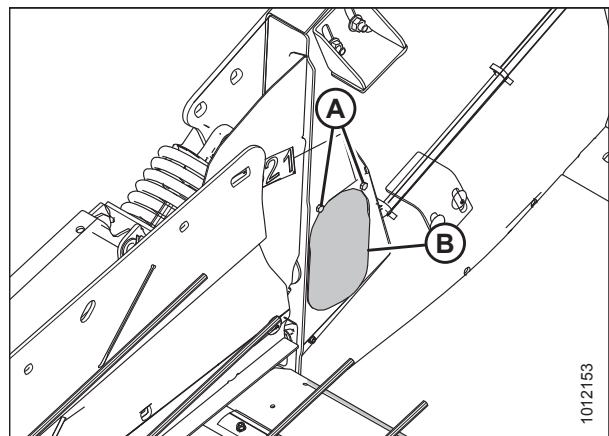


Figure 6.10: Access Panel – Right Side

6.1.4 IDEAL™ Series Combines

To make your header's auto header height control (AHHC) system compatible with IDEAL™ combines, you must set your combine's header configuration options for the particular model of header, configure the reel speed settings, set up the AHHC controls, and calibrate the AHHC system to ensure that it is working correctly.

Setting up the Header – IDEAL™ Series

Set these initial configuration options on your IDEAL™ combine when setting up the auto header height control (AHHC) system.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

AGCO Tyton terminal (A) is used to set up and manage a MacDon pick-up header on an IDEAL™ series combine. Use the touch screen display to select the desired item on the page.



Figure 6.11: IDEAL™ Series Operator Station

A - Tyton Terminal B - Control Handle
C - Throttle D - Header Control Cluster

1. On the top right of the home page, touch COMBINE icon (A). The COMBINE MAIN MENU opens.

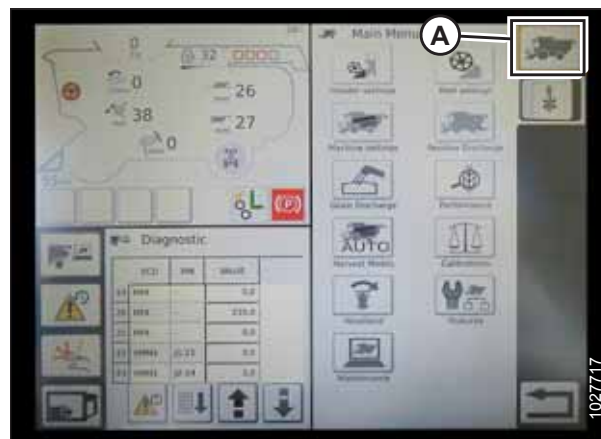


Figure 6.12: Combine Icon on Home Page

PREDELIVERY INSPECTION

2. On the COMBINE MAIN MENU, touch HEADER SETTINGS (A). The HEADER SETTINGS page opens.

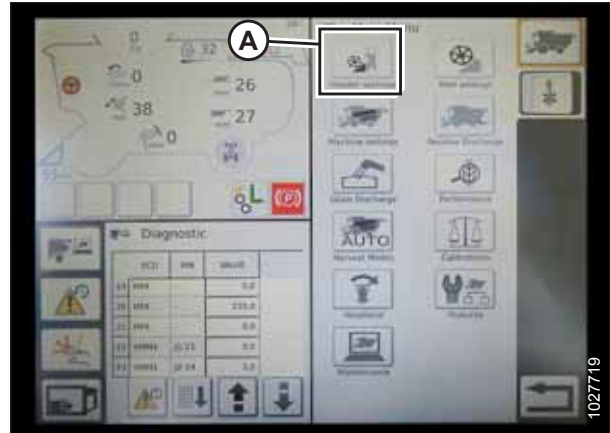


Figure 6.13: Header Settings in Combine Main Menu

3. Touch HEADER CONFIGURATION field (A). A dialog box showing a list of predefined header configuration profiles opens.
 - If your MacDon header is already set up, it appears on the header list. Touch MacDon header title (B) to highlight the selection in blue, and then touch green check mark (E) to continue.
 - If only default header (D) is shown, touch ABC button (C) and use the on-screen keyboard to enter the MacDon header information. When complete, select one of the following options to return to the HEADER SETTINGS page:
 - Green check mark (E) saves the settings
 - Garbage can icon (F) deletes the highlighted header from the list
 - Red X (G) cancels the change(s)

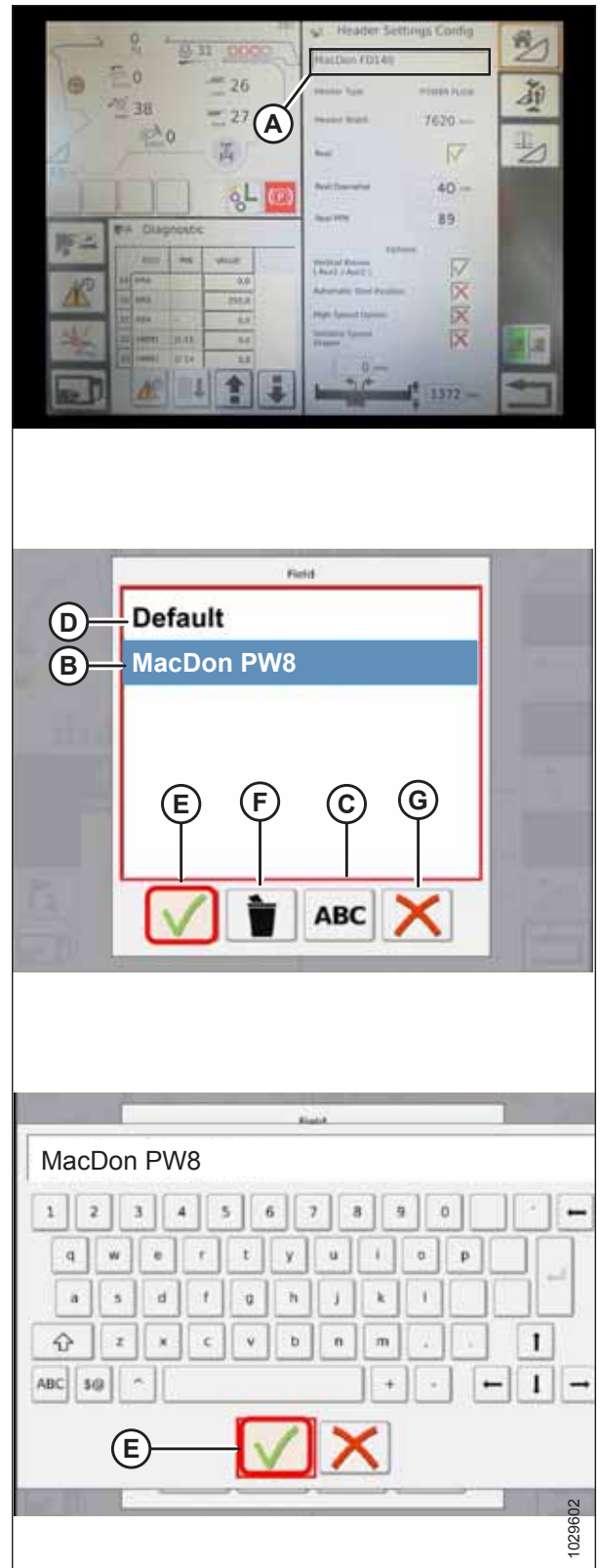


Figure 6.14: Header Configuration Menu on Header Settings Page

PREDELIVERY INSPECTION

4. To specify the type of header installed on the machine, touch HEADER TYPE field (A).

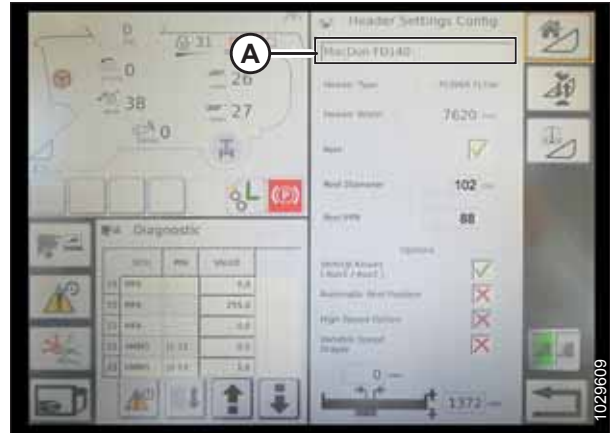


Figure 6.15: Header Settings

5. From the list of predefined header types, touch PICK UP (A).
6. Touch green check mark (B) to save the selection and continue.

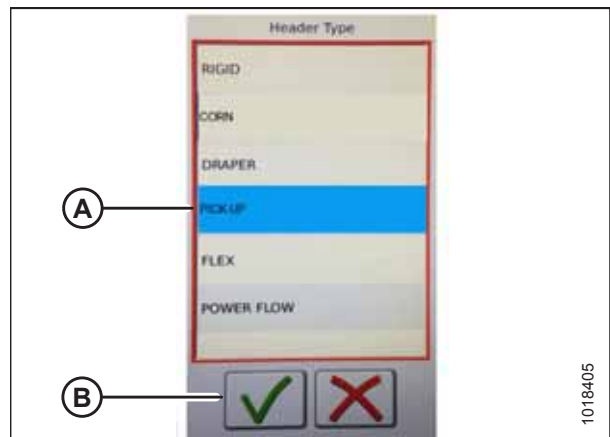


Figure 6.16: Header Type

7. Make sure that REEL check box (A) is checked.

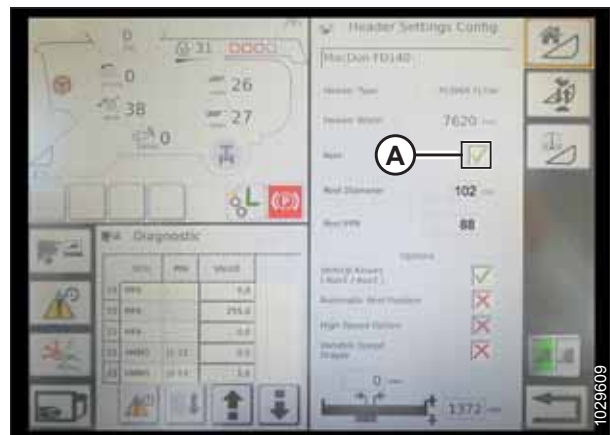


Figure 6.17: Header Settings

PREDELIVERY INSPECTION

8. Touch REEL DIAMETER field (A) and a numeric keypad appears. Enter the following value for a MacDon reel:
 - 11 cm (4.3 in.)
9. Touch REEL PPR (Pulses Per Revolution) field (B) and enter the following as the value for your MacDon header:
 - 18

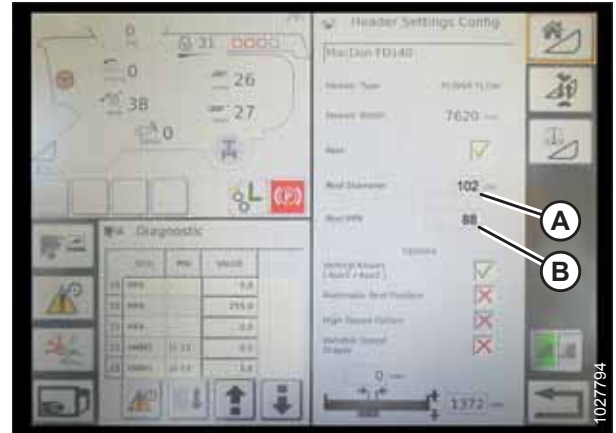


Figure 6.18: Header Settings

10. Touch green check mark (B) at the bottom of numeric keypad (A) when complete, or the red X to cancel.

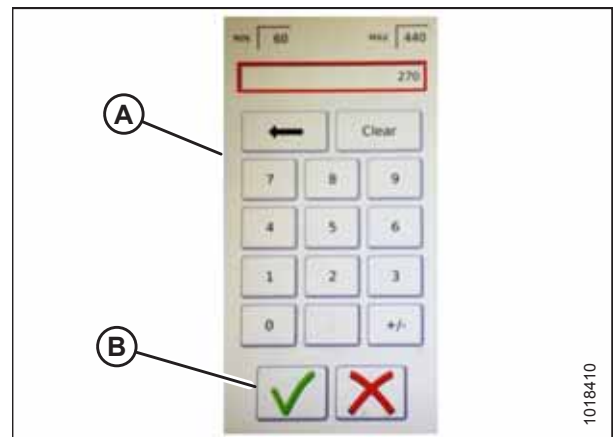


Figure 6.19: Numeric Keypad

11. When complete, touch green check mark (A) at the bottom of the HEADER SETTINGS page.

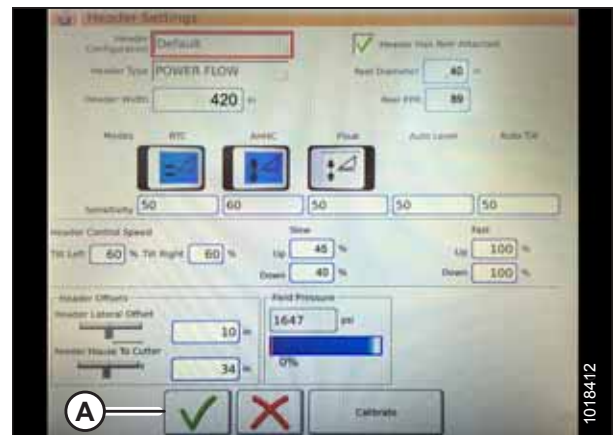


Figure 6.20: Header Settings Page

Setting up Automatic Header Controls – IDEAL™ Series

To configure the automatic header height control (AHHC) functions on an IDEAL™ combine to work with your header, navigate to the HEADER SETTINGS page on the combine's computer.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

1. **Automatic Control Functions:** There are toggle (OFF/ON) switches on the HEADER SETTINGS page for the automatic control functions. For MacDon headers, ensure that the following two functions are enabled as shown:

- RTC (return to cut) (A)
- AHHC (automatic header height control) (B)

All other switches should be disabled (not highlighted).

2. **Sensitivity** setting (C) controls how responsive a control (RTC or AHHC) is to a given change in sensor feedback. The setting fields are located directly below the toggle switches. To enter a new sensitivity setting, touch the setting field below the specific toggle switch, and enter the new value in the on-screen keyboard.

- Increase the sensitivity if the combine does not change the feeder position quickly enough when in Auto Mode.
- Decrease the sensitivity if the combine continually hunts for a position in Auto Mode.

NOTE:

The recommended sensitivity settings for MacDon headers are:

- 50 for RTC (A)
- 60 for AHHC (B)

3. **Header Speed:** HEADER CONTROL SPEED area (A) on the HEADER SETTINGS page is used to adjust the following speeds:

- Tilt left and right is the lateral tilt of the combine faceplate
- Header up and down (slow and fast speeds) is a two-stage button with slow speed on the first detent and fast on the second

NOTE:

The recommended header control speed settings are:

- Slow: Up 45/Down 40
- Fast: Up 100/Down 100

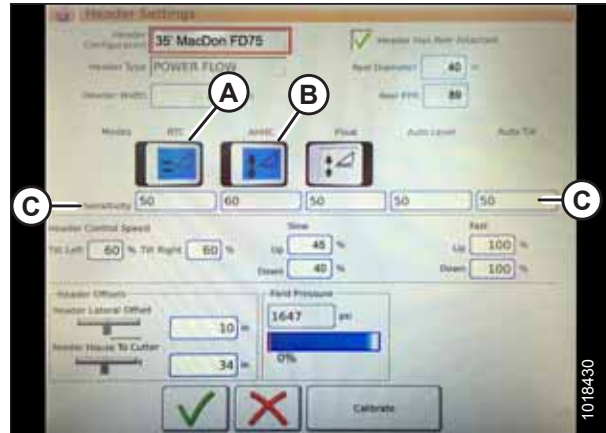


Figure 6.21: Automatic Controls and Sensitivity Settings

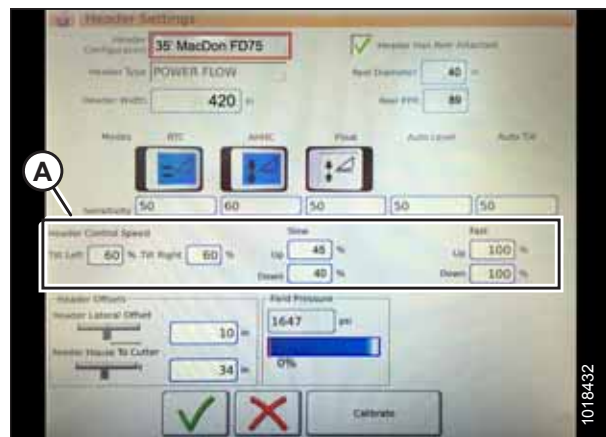


Figure 6.22: Header Speed Control Settings

PREDELIVERY INSPECTION

4. **Header Offsets (A):** Offset distances are important for yield mapping. There are two adjustable dimensions on the HEADER SETTINGS page:

- Header Lateral Offset: the distance between the centerline of the header and the centerline of the machine. This should be set at **0** for a MacDon header.
- Feeder House to Cutter: the distance from the machine interface to the cutterbar. This should be set at **68** for a MacDon header.

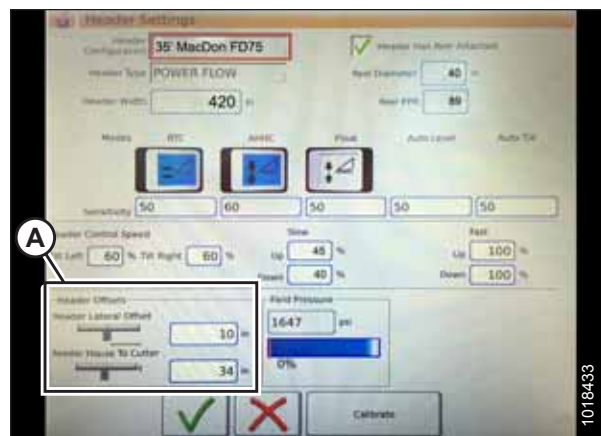


Figure 6.23: Header Offset Settings

Calibrating the Header – IDEAL™ Series

The auto header height control (AHC) sensor output must be calibrated for IDEAL™ combines, or the AHC feature will not work properly.



DANGER

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

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

1. On the COMBINE MAIN MENU, touch HEADER SETTINGS (A).

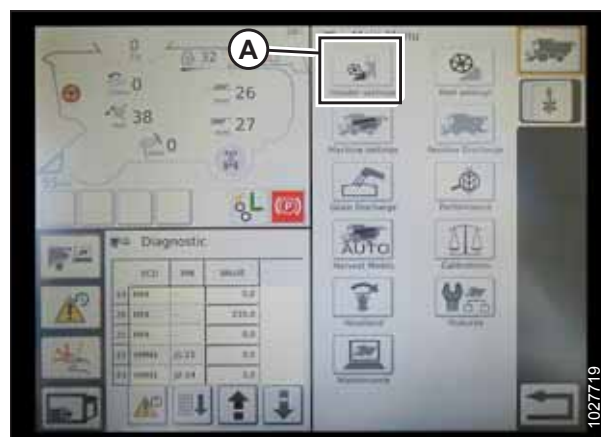


Figure 6.24: Combine Main Menu

PREDELIVERY INSPECTION

2. Touch HEADER CALIBRATE (A) at the right side of the HEADER SETTINGS CONFIG page.

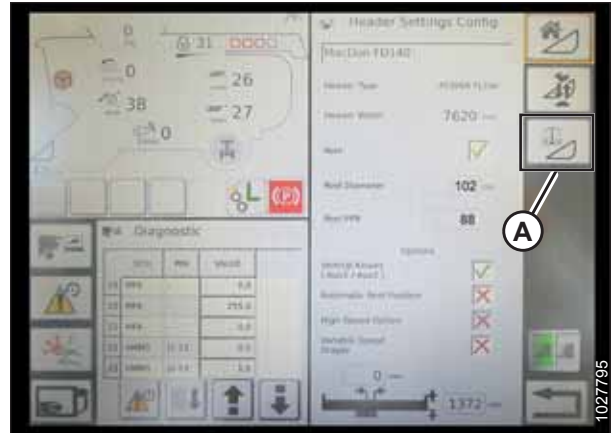


Figure 6.25: Header Settings Page

3. The hazard warning for HEADER CALIBRATION appears. Ensure that all conditions are met.
4. Touch the green check mark at the bottom of the page to start the calibration procedure and follow the on-screen commands.



Figure 6.26: Header Calibration Warning

A progress bar is provided and the calibration can be stopped by touching the red X. The header moves automatically and erratically during this process.

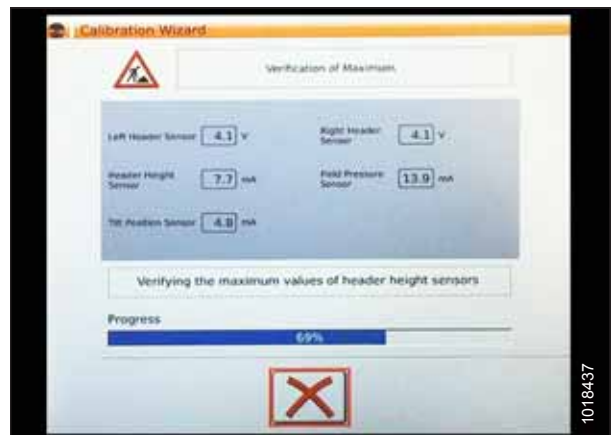


Figure 6.27: Calibration in Progress

PREDELIVERY INSPECTION

6. When the calibration procedure is complete:
 - Review summary information (A)
 - Review green check marks confirming calibrated functions (B)
 - Touch check mark (C) to save



Figure 6.28: Completed Calibration Page

NOTE:

Touch CALIBRATIONS icon (A) on the MAIN MENU page to display the CALIBRATION MENU where you can choose from a variety of calibrations including header and reel calibration.

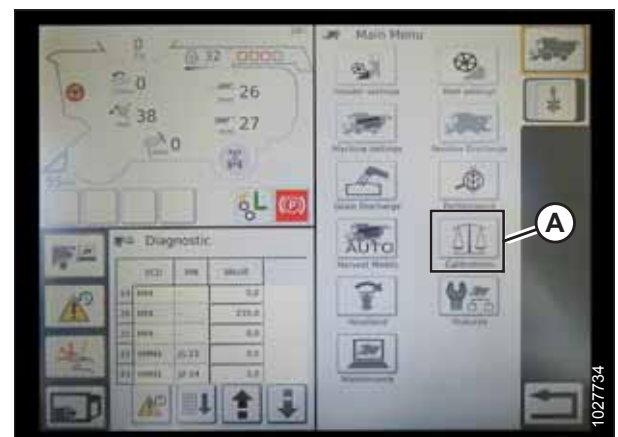


Figure 6.29: Direct Calibration Menu

Operating the Header – IDEAL™ Series

Once the auto header height control (AHHC) system has been configured on your IDEAL™ combine, the AHHC system can be controlled from the combine cab.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

PREDELIVERY INSPECTION

The following are used to operate the auto header height control (AHC) functions:

- Tyton terminal (A)
- Control handle (B)
- Throttle (C)
- Header control cluster (D)

Refer to the combine operator's manual to familiarize yourself with the combine's controls.



Figure 6.30: IDEAL™ Operator Station

1. With the header running, set the lateral tilt to MANUAL by pressing switch (A). The light above the switch should be off.
2. Engage the AHC by pressing switch (B). The light above the switch should be on.



Figure 6.31: Header Control Cluster

3. Press AHC control switch (A) on the control handle to engage the AHC. The header will move to the configured setpoint position.



Figure 6.32: AHC on Control Handle

4. Use HEADER HEIGHT SETPOINT control dial (A) as necessary to fine-tune the header position.



Figure 6.33: Header Control Cluster

Reviewing Header In-Field Settings – IDEAL™ Series

Once the auto header height control (AHHC) system is working correctly with your IDEAL™ combine, you can fine-tune these AHHC settings to your liking.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

1. To view the header group settings, touch HEADER icon (A) on the right side of the home page.
2. The following information is displayed:
 - CURRENT POSITION of header (B).
 - SETPOINT cut-off position (C) (indicated by the red line)
 - HEADER symbol (D) – touch this to adjust the setpoint cut-off position using the adjustment wheel on the right side of the Tyton terminal.
 - CUT HEIGHT for AHHC (E) – fine-tune this setting with the header height setpoint control dial on the header control cluster.
 - HEADER WORKING WIDTH (F)
 - HEADER PITCH (G)

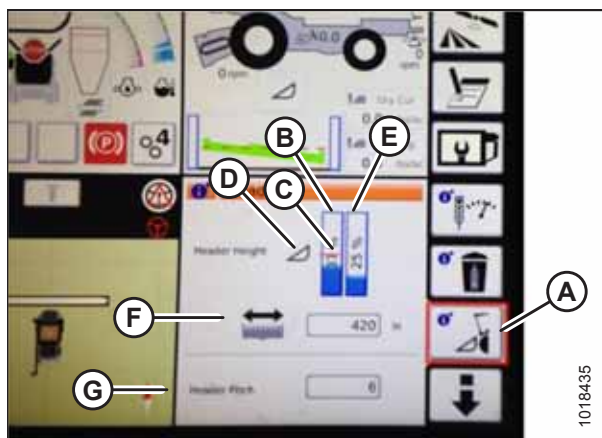


Figure 6.34: Header Groups

PREDELIVERY INSPECTION

3. Touching a field opens the on-screen keyboard so that the values can be adjusted. Enter the new value and touch the green check mark.

NOTE:

Adjustment wheel (A) is located on the right of the Tyton terminal.



Figure 6.35: Adjustment Wheel on Right of Tyton Terminal

NOTE:

HEADER HEIGHT SETPOINT control dial (A) is on the header control cluster.



Figure 6.36: Header Control Cluster

6.1.5 Case IH 5130/6130/7130 and 5140/6140/7140 Midrange Combines

To make your header's auto header height control (AHHC) system compatible with Case IH 5, 6 and 7 (Midrange) series combines, you must set your combine's header configuration options for the particular model of header, check the height sensor voltage range, and calibrate the AHHC system to ensure that it is working correctly.

Setting up the Header on the Combine Display (Case IH 5130/6130/7130; 5140/6140/7140)

Set these initial configuration options on your Case IH 5,6 and 7 (Midrange) series combine when setting up the auto header height control (AHHC) system.

1. On the main page of the combine display, select TOOLBOX (A).

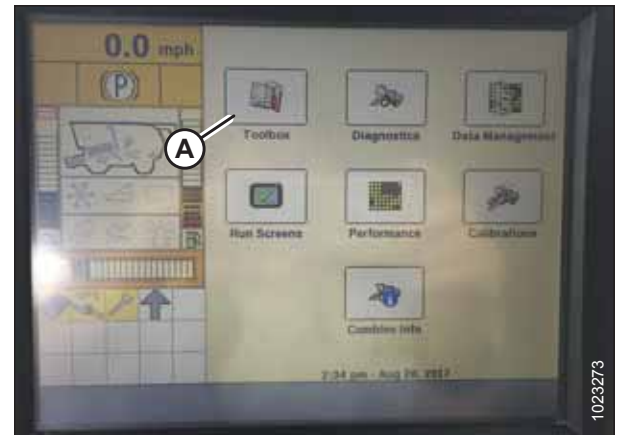


Figure 6.37: Case IH Combine Display

2. Select HEAD 1 tab (A). The HEADER SETUP page appears.
3. From CUTTING TYPE menu (B), select PLATFORM.

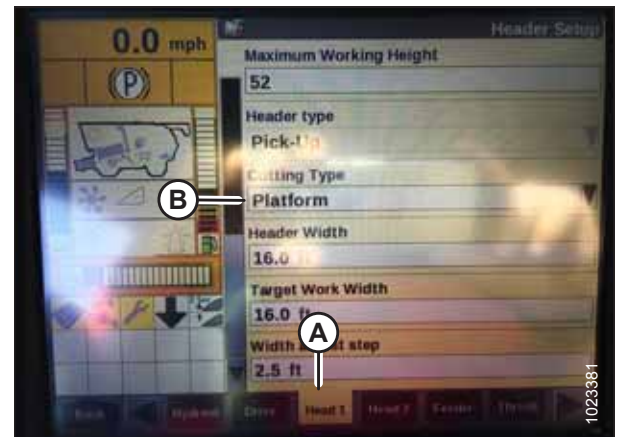


Figure 6.38: Case IH Combine Display

PREDELIVERY INSPECTION

4. Select HEAD 2 tab (A). The HEADER SETUP 2 page appears.
5. From HEADER PRESSURE FLOAT menu (B), select NOT INSTALLED.



Figure 6.39: Case IH Combine Display

6. From BELT DRIVE TYPE menu (A), select
 - 1 - for most pick-up headers
 - 2 - for 4.9 m (16 ft.) Rake-Up pick-up headers
 - 3 - for SwathMaster pick-up headers

NOTE:

Selecting the proper belt drive optimizes the auto-belt to ground speed setting.

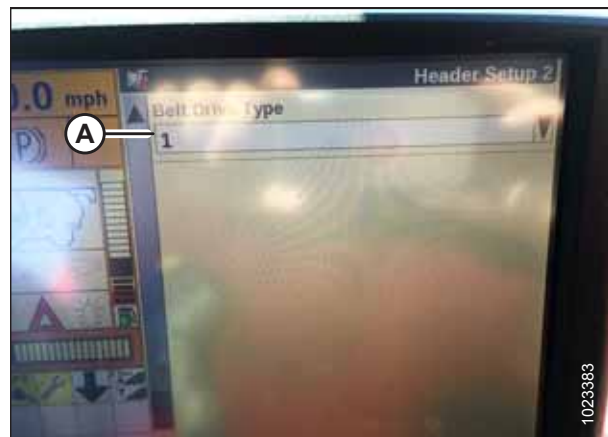


Figure 6.40: Case IH Combine Display

Checking Voltage Range from Combine Cab (Case IH 5130/6130/7130; 5140/6140/7140)

To ensure that the auto header height control (AHHC) system on your header works correctly with your Case IH 5, 6, and 7 (Midrange) series combine, the output voltage from the header height control sensors must be verified.

NOTE:

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



DANGER

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

- On the main page of the combine display, select **DIAGNOSTICS (A)**. The **DIAGNOSTICS** page opens.

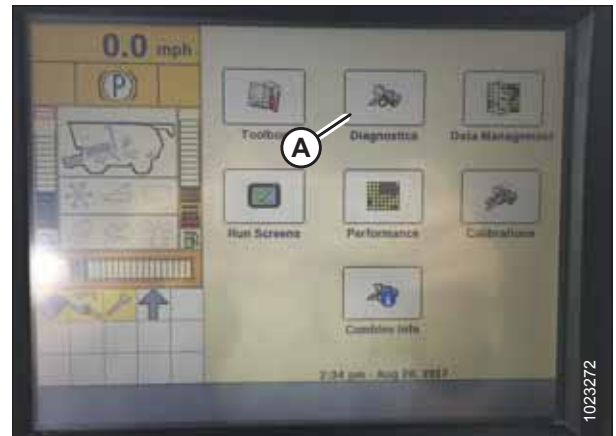


Figure 6.41: Case IH Combine Display

- Select **SETTINGS (A)**. The **SETTINGS** page opens.
- From **GROUP** menu (B), select **HEADER**.

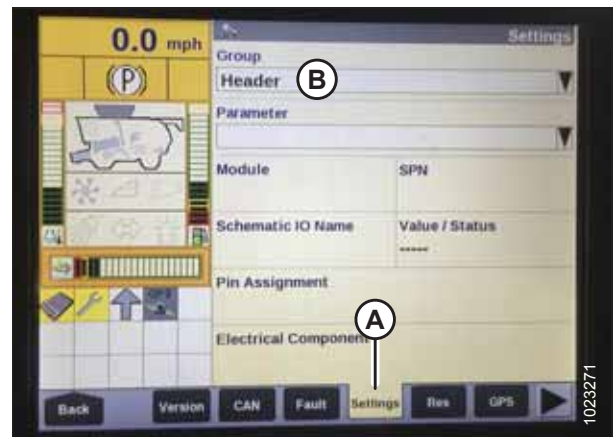


Figure 6.42: Case IH Combine Display

- From the **PARAMETER** menu, select **LEFT HEIGHT/TILT SENSOR (A)**.



Figure 6.43: Case IH Combine Display

PREDELIVERY INSPECTION

6. The SETTINGS page updates to display the voltage in VALUE/STATUS field (A). Lower the feeder house fully, and then raise it 305 mm (12 in.) off the ground to view the full range of voltage readings.
7. If the sensor voltage is not within the low and high limits shown in [6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94](#), or if the range between the low and high limits is insufficient, you need to make adjustments to the height sensors. For instructions, refer to [Adjusting Header Height Sensor Voltage Range – Left Side, page 97](#) and [Adjusting Header Height Sensor Voltage Range – Right Side, page 97](#).



Figure 6.44: Case IH Combine Display

Calibrating Auto Header Height Control (Case IH 5130/6130/7130; 5140/6140/7140)

The auto header height control (AHHC) sensor output must be calibrated for Case IH 5, 6, and 7 (Midrange) series combines, or the AHHC feature will not work properly.

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 Auto Header Height Control \(Case IH 7010/8010; 7120/8120/9120; 7230/8230/9230; 7240/8240/9240\) – Software Versions Above 28.00, page 124.](#)

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

1. Ensure that all header electrical and hydraulic connections are complete.
2. Lower the combine feeder house all the way down.
3. Hold the DOWN button for 2 seconds.
4. Push the RAISE button and hold it until the feeder house travels all the way up. It will stop 61 cm (2 ft.) above the ground for 5 seconds, then it will resume rising. This is an indication that the calibration procedure has been successful.



Figure 6.45: Calibrating Auto Header Height

Setting Preset Cutting Height (Case IH 5130/6130/7130; 5140/6140/7140)

Your Case IH 5, 6, or 7 (Midrange) series combine can have up to two auto header height control (AHHC) header height presets configured at one time.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.



DANGER

Check to be sure all bystanders have cleared the area.

PREDELIVERY INSPECTION

1. Engage the separator and the header.
2. Manually raise or lower the header to the desired cutting height.
3. Press 1 on button (A). A yellow light next to the button will light up.



Figure 6.46: Case Combine Console

4. Manually raise or lower the header to a second desired cutting height.
5. Press 2 on button (A). A yellow light next to the button will light up.



Figure 6.47: Case Combine Console

Up and down arrows should now appear in MANUAL HEIGHT box (A) on the RUN 1 page on the combine display. This indicates that the auto header height control (AHHC) is functioning.



Figure 6.48: Case Combine Display – Run 1 Page

PREDELIVERY INSPECTION

6. To enable the presets, activate AHHC button (A) to place the header on the ground. To enable the first preset, tap the button once. To enable the second preset, tap the button twice.

To lift the header to maximum working height, hold the SHIFT button on the back of the ground speed lever (GSL) while tapping AHHC button (A).



Figure 6.49: Case Combine Joystick

7. The maximum working height can be adjusted on the HEADER SETUP page on the combine display. Enter the desired height in MAXIMUM WORKING HEIGHT field (A).

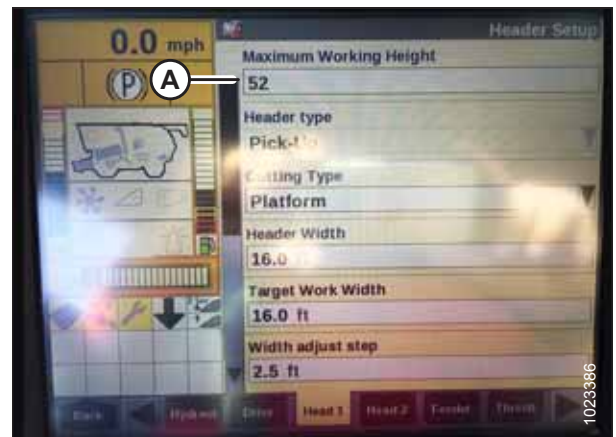


Figure 6.50: Case Combine Display – Header Setup Page

8. If you need to change the position of one of the presets, you can fine-tune this setting with button (A) on the combine console.



Figure 6.51: Case Combine Console

6.1.6 Case IH 7010/8010, 7120/8120/9120, 7230/8230/9230, and 7240/8240/9240 Combines

To make your header's auto header height control (AHHC) system compatible with Case IH 7, 8 or 9 series combines, you must set your combine's header configuration options for the particular model of header, check the height sensor voltage range, and calibrate the AHHC system to ensure that it is working correctly.

Checking Voltage Range from Combine Cab (Case 8010)

To ensure that the auto header height control (AHHC) system on your header works correctly with your Case IH 8010 combine, the output voltage from the header height control sensors must be verified.

NOTE:

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



DANGER

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 appears.

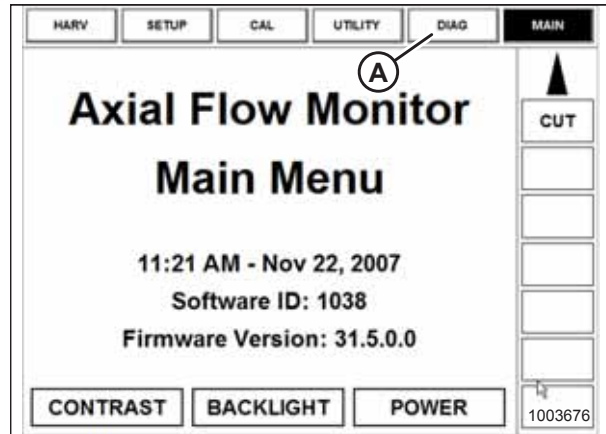


Figure 6.52: Case 8010 Combine Display

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

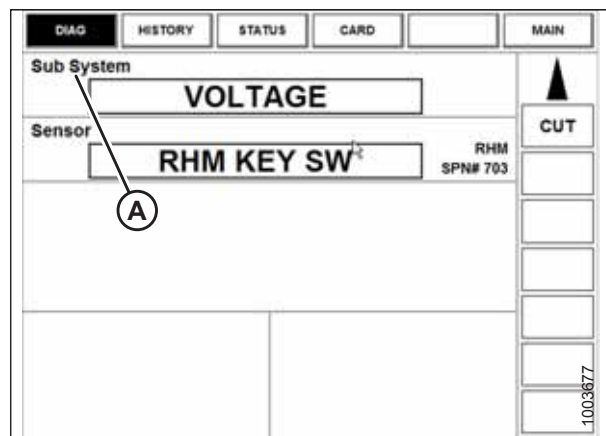


Figure 6.53: Case 8010 Combine Display

PREDELIVERY INSPECTION

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

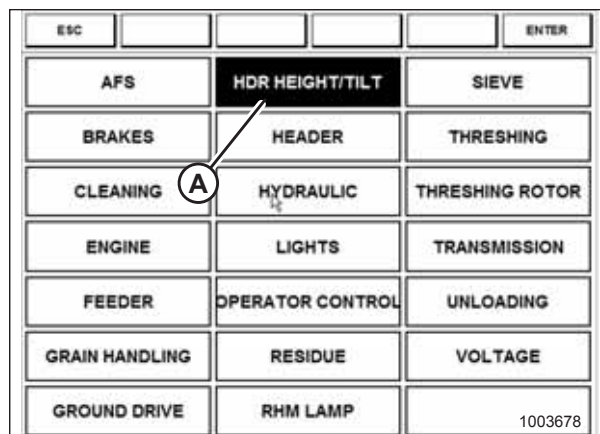


Figure 6.54: Case 8010 Combine Display

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

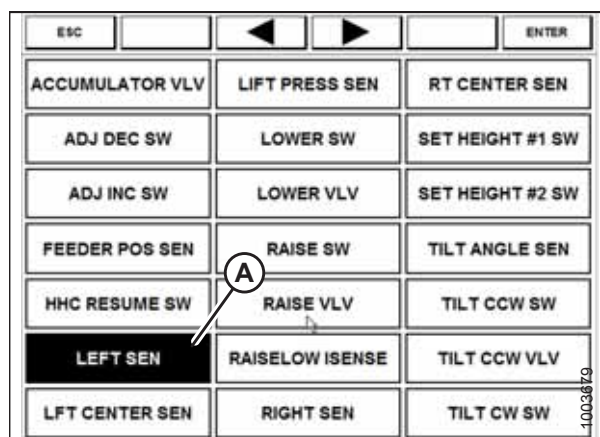


Figure 6.55: Case 8010 Combine Display

6. If the sensor voltage is not within the low and high limits shown in [6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94](#), or if the range between the low and high limits is insufficient, then you will need to make adjustments to the height sensors. For instructions, refer to [Adjusting Header Height Sensor Voltage Range – Left Side, page 97](#) and [Adjusting Header Height Sensor Voltage Range – Right Side, page 97](#).

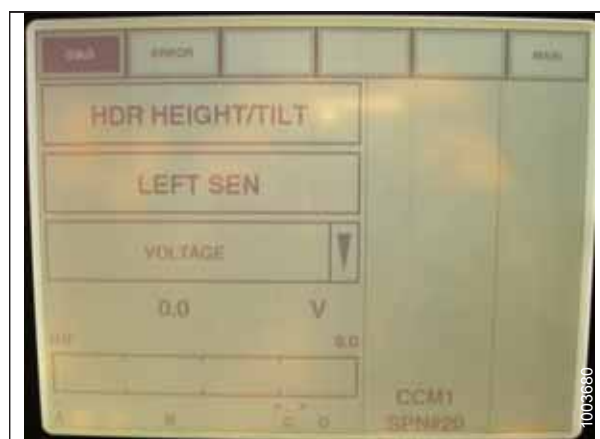


Figure 6.56: Case 8010 Combine Display

PREDELIVERY INSPECTION

Checking Voltage Range from Combine Cab (Case IH 7010/8010; 7120/8120/9120; 7230/8230/9230; 7240/8240/9240)

To ensure that the auto header height control (AHH) system on your header works correctly with your Case IH 7, 8, or 9 series combine, the output voltage from the header height control sensors must be verified.

NOTE:

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

DANGER

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 appears.
3. Select SETTINGS. The SETTINGS page appears.

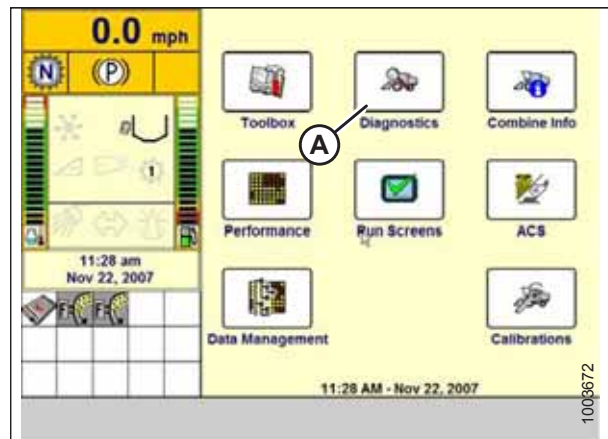


Figure 6.57: Case IH Combine Display

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

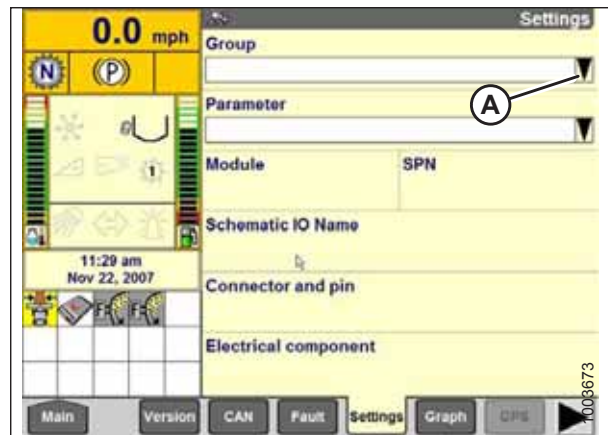


Figure 6.58: Case IH Combine Display

PREDELIVERY INSPECTION

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

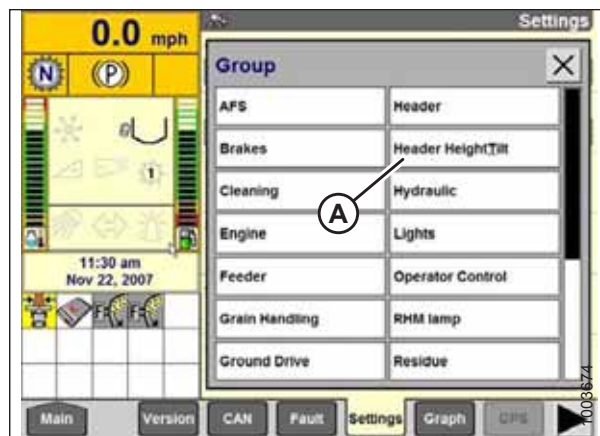


Figure 6.59: Case IH Combine Display

6. Select LEFT HEADER HEIGHT SEN (A) and then select GRAPH button (B). The exact voltage is displayed at the top of the page. 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 [6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94](#), or if the range between the low and high limits is insufficient, the height sensors must be adjusted. For instructions, refer to [Adjusting Header Height Sensor Voltage Range – Left Side, page 97](#) and [Adjusting Header Height Sensor Voltage Range – Right Side, page 97](#).

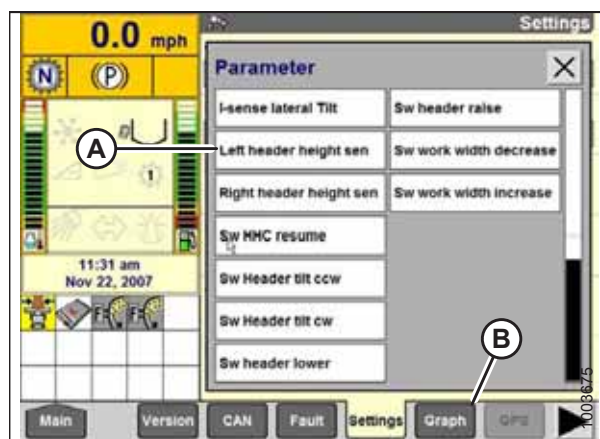


Figure 6.60: Case IH Combine Display

PREDELIVERY INSPECTION

Calibrating Auto Header Height Control (Case IH 7010/8010; 7120/8120/9120; 7230/8230/9230; 7240/8240/9240) – Software Versions Below 28.00

The auto header height control (AHHC) sensor output must be calibrated for Case IH 7, 8, or 9 series combines with software versions below 28.00, or the AHHC feature will not work properly.

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 Auto Header Height Control \(Case IH 7010/8010; 7120/8120/9120; 7230/8230/9230; 7240/8240/9240\) – Software Versions Above 28.00, page 124](#).

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

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



Figure 6.61: Case IH Combine Display

4. Set the AUTO REEL SPEED SLOPE setting.
5. Set the HEADER PRESSURE FLOAT setting to NO (A) if equipped, and ensure that the REEL DRIVE setting is set to HYDRAULIC (B).

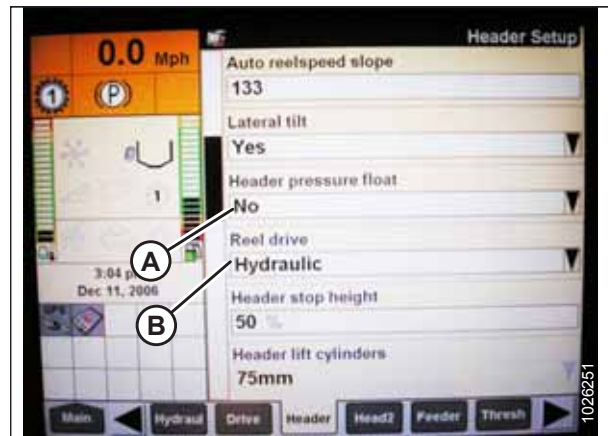


Figure 6.62: Case IH Combine Display

PREDELIVERY INSPECTION

6. Select YES (A) from the REEL FORE-BACK list (if applicable).
7. Set HEIGHT SENSITIVITY (B) to the desired value. The recommended starting value is 180.

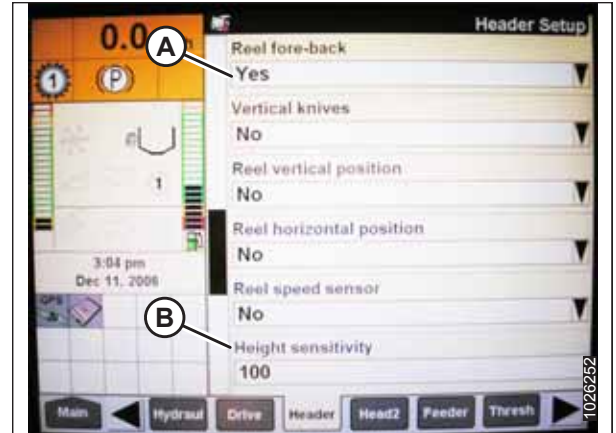


Figure 6.63: Case IH Combine Display

8. Select YES for FORE-AFT CONTROL (A) and HDR FORE-AFT TILT (B) (if applicable).

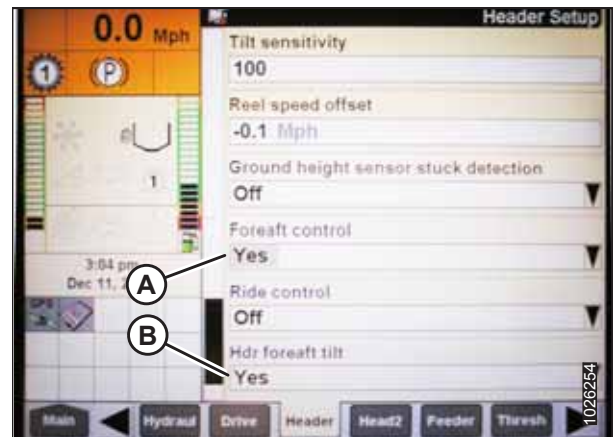


Figure 6.64: Case IH Combine Display

9. Select the HEAD2 tab at the bottom of the page.
10. Ensure that PICKUP (A) is selected from the HEADER TYPE list.

NOTE:

If the recognition resistor is plugged into the header harness, you will not be able to change the header type.

11. Set the cutting type to PLATFORM (B).
12. Set the appropriate HEADER WIDTH (C) and HEADER USAGE (D) values.

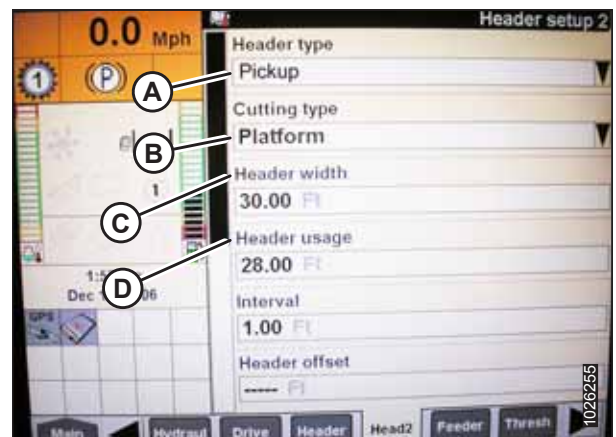


Figure 6.65: Case IH Combine Display

PREDELIVERY INSPECTION

Calibrating Auto Header Height Control (Case IH 7010/8010; 7120/8120/9120; 7230/8230/9230; 7240/8240/9240) – Software Versions Above 28.00

The auto header height control (AHHC) sensor output must be calibrated for Case IH 7, 8, or 9 series combines with software versions above 28.00, or the AHHC feature will not work properly.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

1. Select TOOLBOX on the MAIN page and then select HEADER SETUP.
2. Locate the HEADER SUB TYPE field. It will be located on either the HEAD 1 or HEAD 2 tab found at the bottom of the display.
3. Select 2000 (A).



Figure 6.66: Case IH Combine Display

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

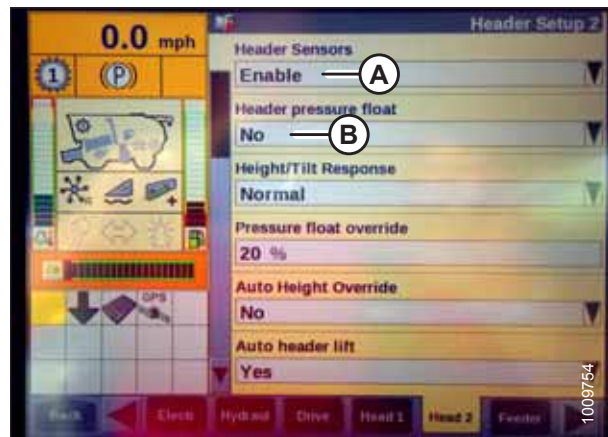


Figure 6.67: Case IH Combine Display

PREDELIVERY INSPECTION

7. Engage the separator and the header and press preset 1 or preset 2.
8. Ensure that AUTO HEIGHT icon (A) appears on the display and can be seen at location (B) as shown. When the header is set for cutting on the ground, this step verifies that the combine is using the potentiometers on the header correctly to sense the ground pressure.

NOTE:

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



Figure 6.68: Case IH Combine Display

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

NOTE:

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

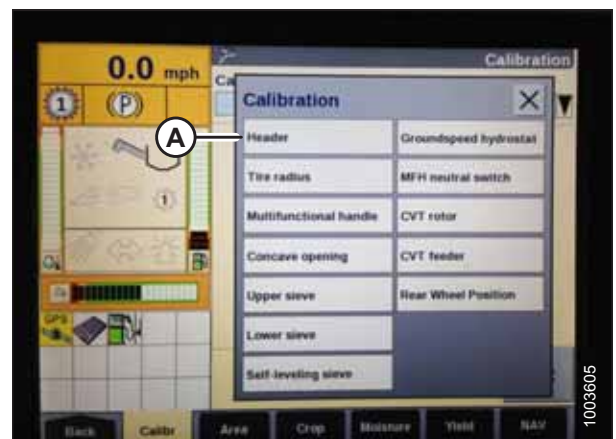


Figure 6.69: Case IH Combine Display

11. 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 in the procedure.

NOTE:

The calibration procedure will stop if the system sits idle for more than 3 minutes or if the ESC key is pressed during any step.

NOTE:

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



Figure 6.70: Case IH Combine Display

12. When all the calibration steps have been completed, the message CALIBRATION SUCCESSFUL is displayed on the page. Exit the CALIBRATION menu by pressing the ENTER or ESC key.

PREDELIVERY INSPECTION

NOTE:

If the float was changed to a heavier setting to complete the ground calibration procedure, readjust the float after the calibration procedure is completed.

13. If the AHHC system still does not function properly, perform the combine's maximum stubble height calibration procedure.

Setting Preset Cutting Height (Case 7010/8010, 7120/8120/9120, 7230/8230/9230, 7240/8240/9240)

Your Case IH 7, 8, or 9 series combine can have up to two auto header height control (AHC) header height presets configured at one time.

NOTE:

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

! DANGER

Check to be sure all bystanders have cleared the area.

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

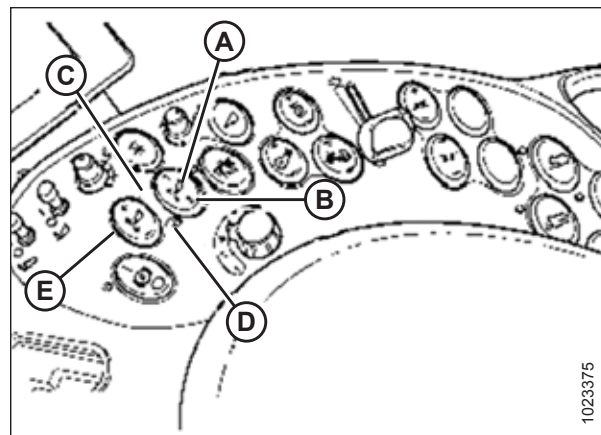


Figure 6.71: Case Combine Controls

A - Set #1 Switch
B - Set #2 Switch
C - Header Height Mode Light
D - Header Height Mode Light
E - Fine Adjust Switch

6. To swap between these header height presets, press HEADER RESUME (A).
7. To pick up the header, press HEADER RESUME (A) twice. To lower the header, press HEADER RESUME (A).

NOTE:

You can adjust these set points by using FINE ADJUST switch (E) in Figure 6.71, page 127.

NOTE:

Pressing the HEADER RAISE/LOWER switch will disengage AUTO HEIGHT mode. Press HEADER RESUME to re-engage that mode.

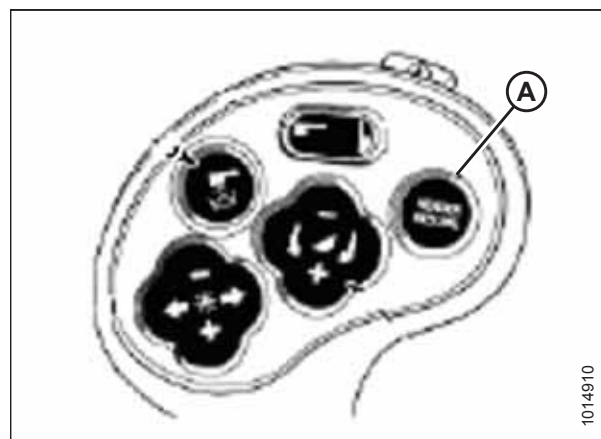


Figure 6.72: Case Combine Controls

6.1.7 Challenger® 6 Combines

To make your header's auto header height control (AHHC) system compatible with Challenger® 6 series combines, you must set your combine's header configuration options for the particular model of header, check the height sensor voltage range, and calibrate the AHHC system to ensure that it is working correctly.

Checking Voltage Range from Combine Cab – Challenger® 6 and 7 Series

To ensure that the auto header height control (AHHC) system on your header works correctly with your Challenger® 6 or 7 series combine, the output voltage from the header height control sensors must be verified.

The header's height sensor output must be within a specific range for the AHHC system to work properly. Refer to [6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94](#) for information about the voltage limits.

Check the range of the output voltage from the height sensors:

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

1. Raise the header until its wheels are 150 mm (6 in.) above the ground.
2. Go to the FIELD page on the combine monitor and select the diagnostics icon. The MISCELLANEOUS page appears.
3. Select VMM DIAGNOSTIC button (A). The VMM DIAGNOSTIC page appears.

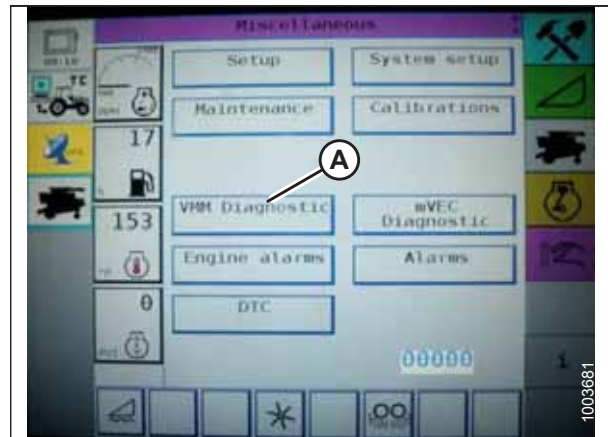


Figure 6.73: Challenger® Combine Display

4. Go to the ANALOG IN tab and select VMM MODULE 3 by pressing the text box below the four tabs. The voltage from the AHHC sensors is now displayed on the page as HEADER HEIGHT RIGHT POT and HEADER HEIGHT LEFT POT. Both readings should be identical.

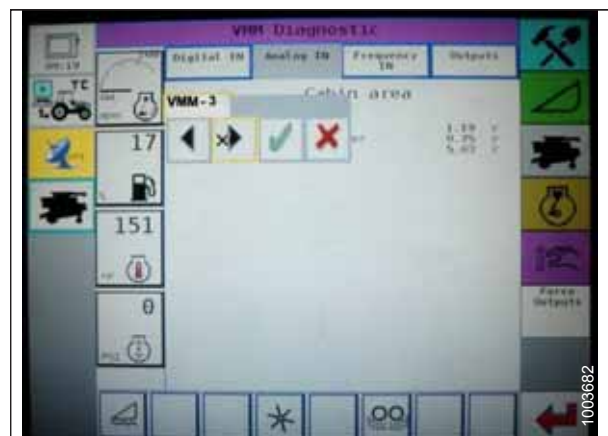


Figure 6.74: Challenger® Combine Display

PREDELIVERY INSPECTION

5. Fully lower the combine feeder house.

NOTE:

You may need to hold the HEADER DOWN switch for a few seconds to ensure that the feeder house is fully lowered.

6. Record the height sensor voltage.
7. Raise the header so that the cutterbar is 150 mm (6 in.) off of the ground.
8. Record the height sensor voltage.



Figure 6.75: Challenger® Combine Display

9. If the sensor voltage is not within the low and high limits shown in [6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94](#), or if the range between the low and high limits is insufficient, the voltage range of the height sensors may require adjustment. For instructions, refer to [Adjusting Header Height – Challenger® 6 Series, page 131](#).

Engaging Auto Header Height Control – Challenger® 6 Series

Set these initial configuration options on your Challenger® 6 Series combine when setting up the auto header height control (AHHC) system.

NOTE:

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

The following system components are required for the auto header height control (AHHC) to work:

- The main module (PCB board) and header driver module (PCB board) mounted in the card box in the fuse panel module (FP)
- The multifunction control handle operator inputs
- The operator inputs mounted in the control console module (CC) panel

NOTE:

The electro-hydraulic header lift control valve is also an integral part of the system.

1. Using the header control switch, scroll through the header control options on the combine display until the AHHC icon is displayed in the first message box. The AHHC will adjust the header height in relation to the ground according to the height setting and the sensitivity setting.

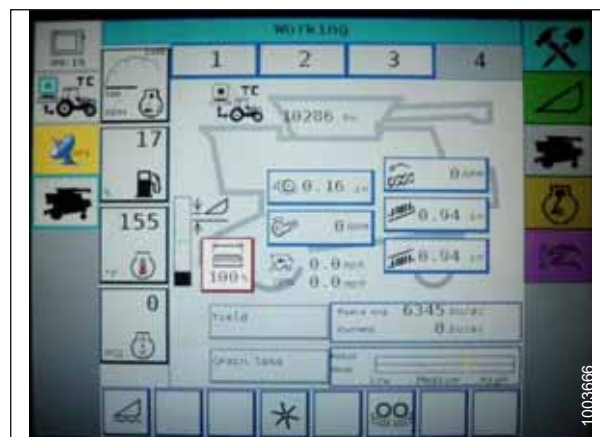


Figure 6.76: Challenger® Combine Display

Calibrating Auto Header Height Control – Challenger® 6 Series

The auto header height control (AHHC) sensor output must be calibrated for Challenger® 6 Series combines, or the AHHC feature will not work properly.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

1. On the FIELD page, select the DIAGNOSTICS icon. The MISCELLANEOUS page appears.

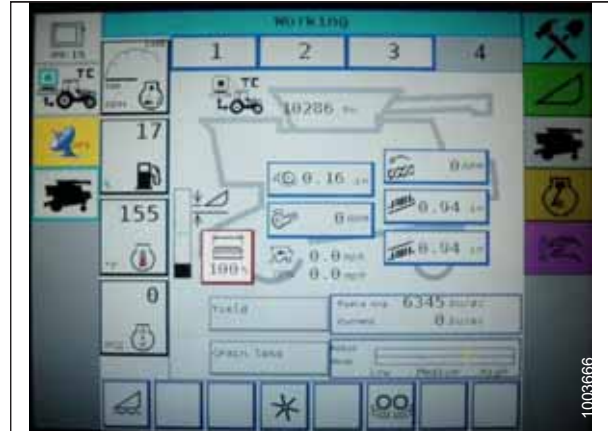


Figure 6.77: Challenger® Combine Display

2. Select CALIBRATIONS button (A). The CALIBRATIONS page appears.

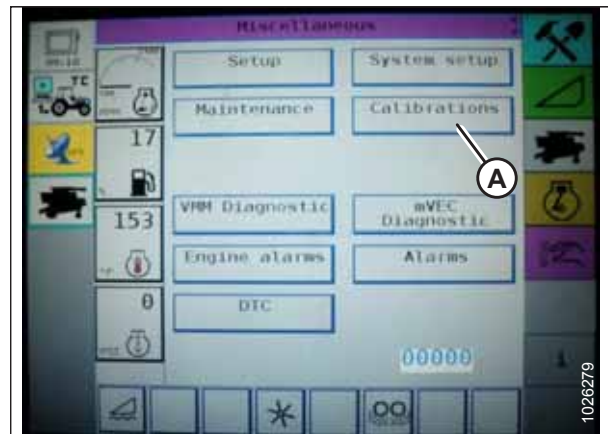


Figure 6.78: Challenger® Combine Display

3. Select HEADER button (A). The HEADER CALIBRATION page displays a warning.



Figure 6.79: Challenger® Combine Display

PREDELIVERY INSPECTION

4. Read the warning message, and then press green check mark button (A).

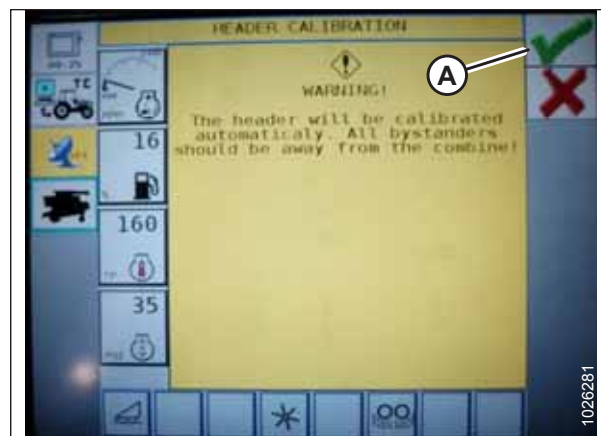


Figure 6.80: Challenger® Combine Display

5. Follow the on-screen prompts to complete the calibration procedure.

NOTE:

The calibration procedure can be canceled at any time by pressing the cancel button in bottom right corner of page. While the header calibration procedure is running, it can also be canceled by using the up, down, tilt right, or tilt left buttons on the control handle.

NOTE:

If the combine does not have the header tilt function installed or if it is inoperable, you may receive warnings during calibration. Press the green check mark if these warnings appear. This will not affect AHHC calibration.

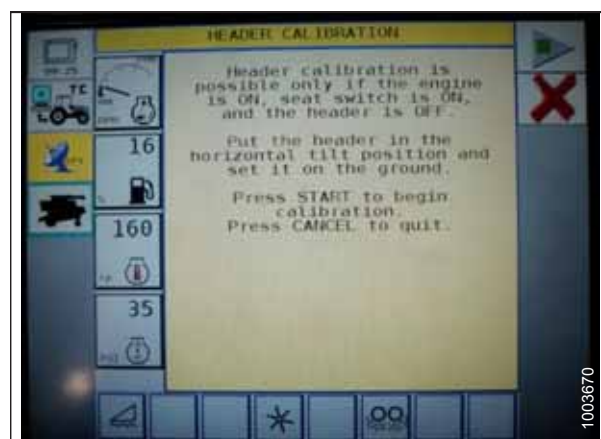


Figure 6.81: Challenger® Combine Display

Adjusting Header Height – Challenger® 6 Series

Once the auto header height control (AHHC) system is activated, press and release the HEADER LOWER button on the control handle. The AHHC will automatically lower the header to the preset height.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

PREDELIVERY INSPECTION

The selected AHHC height is adjusted using HEIGHT ADJUSTMENT knob (A) on the control console. Turning the knob clockwise increases the selected height. Turning the knob counterclockwise decreases the selected height.



Figure 6.82: Height Adjustment Knob on Combine Control Console

Adjusting Header Raise/Lower Rate – Challenger® 6 Series

The speed at which the header rises or falls can be adjusted on a Challenger® 6 Series combine.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

1. Press the header icon on the FIELD page. The HEADER page appears.



Figure 6.83: Challenger® Combine Display

2. Press HEADER CONTROL (A). The HEADER CONTROL page appears.

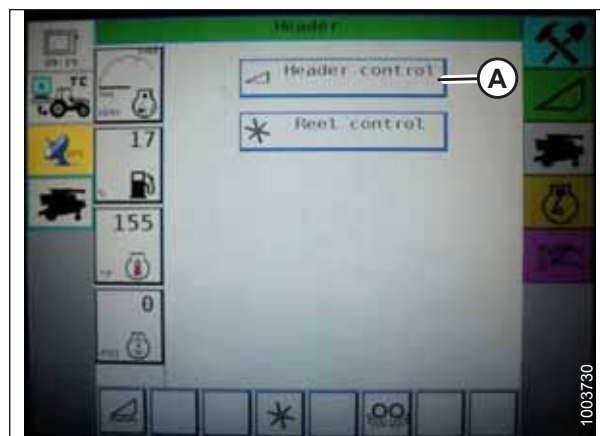


Figure 6.84: Challenger® Combine Display

3. Go to the TABLE SETTINGS tab.
4. Press up arrow (A) on MAX UP PWM to increase the percentage number and thereby increase the speed at which the header rises; press down arrow (B) on MAX UP PWM to decrease percentage number and thereby decrease the speed at which the header rises.

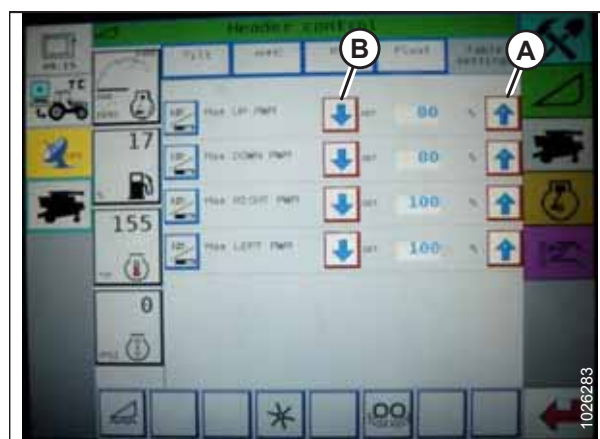


Figure 6.85: Challenger® Combine Display

5. Press the up arrow (A) on the MAX DOWN PWM setting to increase the percentage number and thereby increase the speed at which the header falls; press the down arrow (B) on MAX DOWN PWM to decrease the percentage number and thereby decrease the speed at which the header falls.

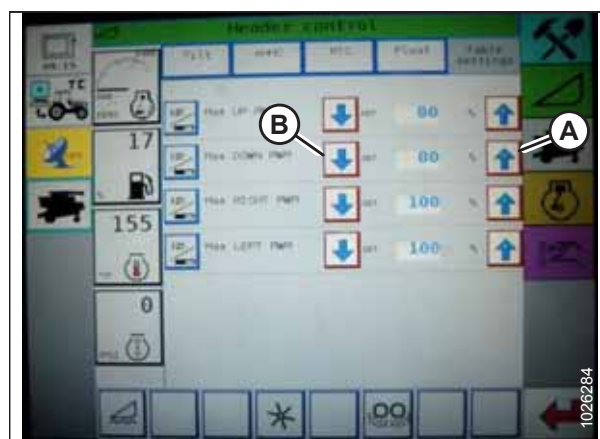


Figure 6.86: Challenger® Combine Display

Setting Sensitivity of Auto Header Height Control – Challenger® 6 Series

The sensitivity adjustment controls the distance the header must travel up or down before the auto header height control (AHHC) reacts and raises or lowers the feeder house.

When the sensitivity is set to maximum, only small changes in ground height are needed to cause the feeder house to rise or fall. When the sensitivity is set to minimum, large changes in the ground height are needed to cause the feeder house to rise or fall.

NOTE:

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

1. Press the HEADER icon on the FIELD page. The HEADER page appears.
2. Press HEADER CONTROL button (A). The HEADER CONTROL page appears.

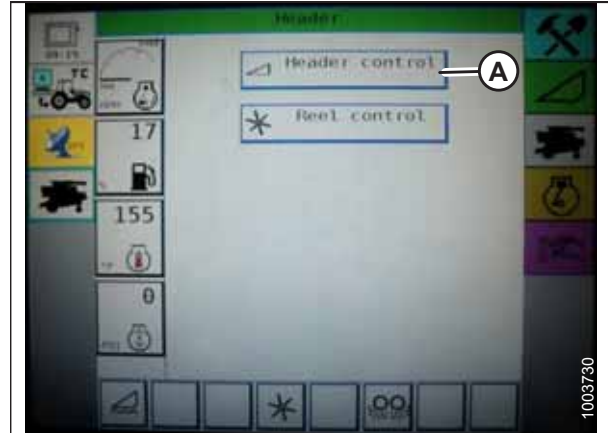


Figure 6.87: Challenger® Combine Display

3. Adjust the sensitivity to the MAXIMUM setting using on-screen up and down arrows (A).
4. Activate the AHHC and press the HEADER LOWER button on the control handle.
5. Decrease the sensitivity until the feeder house remains steady and does not bounce up and down.

NOTE:

This is the maximum sensitivity and is only an initial setting. The final setting must be made in the field; the system's reaction will vary according to changing field surfaces and operating conditions.

NOTE:

A setting lower than the maximum will reduce the frequency of header height corrections and, thereby, component wear. Partially opening the accumulator valve will cushion the action of the header lift cylinders and reduce the occurrence of "header hunting" events, during which the combine continually tries to find a height setting without success.

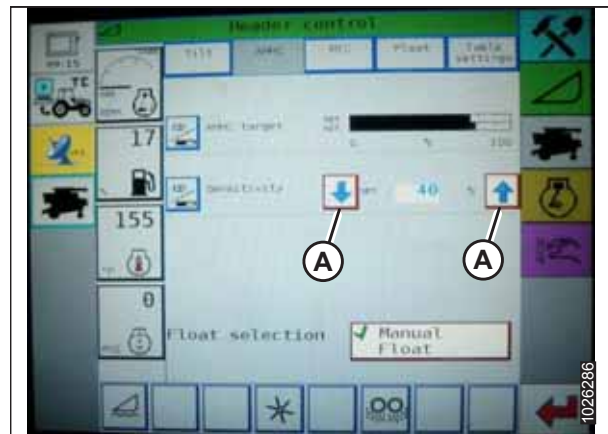


Figure 6.88: Challenger® Combine Display

6.1.8 Gleaner® R65/R66/R75/R76 and S Series Combines – Except S9 Series

To make your header's auto header height control (AHHC) system compatible with Gleaner® R65/R66/R75/R76 and non-S9 S series combines, you must set your combine's header configuration options for the particular model of header, check the

PREDELIVERY INSPECTION

height sensor voltage range, adjust the header height response rate and ground pressure settings, and calibrate the AHHC system to ensure that it is working correctly.

Checking Voltage Range from Combine Cab – Gleaner® R65/R66/R75/R76 and S Series

To ensure that the auto header height control (AHHC) system on your header works correctly with your Gleaner® R65/R66/R75/R76 or non-S9 S series combine, the output voltage from the header height control sensors must be verified.

The auto header height sensor output must be within a specific range for the feature to work properly. Refer to [6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94](#) for voltage limits.

NOTE:

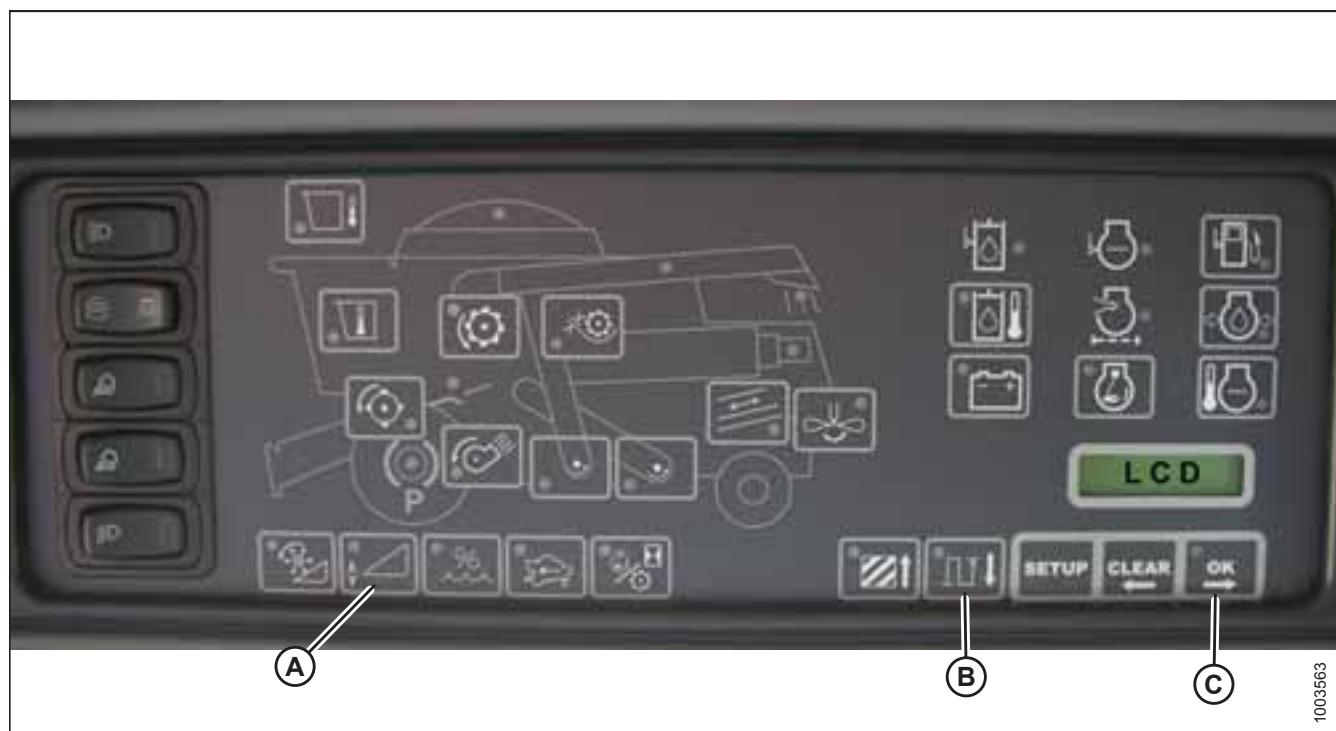
Changes may have been made to the combine controls or the display since this document was published. Refer to the combine operator's manual for updated information.

NOTE:

Refer to [6.1.9 Gleaner® S9 Series Combines, page 143](#) for information specific to Gleaner® S9 Series combines.

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

Figure 6.89: Combine Heads-Up Display



2. Press and hold button (A) on the heads-up display for 3 seconds to enter diagnostic mode.
3. Scroll down using button (B) until LEFT is displayed on the LCD screen.
4. Press OK button (C). The number indicated on the LCD screen is the voltage reading from the AHHC sensor. Fully raise and then fully lower the header to see the full range of voltage readings.
5. If the sensor voltage is not within the low and high limits shown in [6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94](#), or if the range between the low and high limits is insufficient, adjustments to the height sensors may be required.

PREDELIVERY INSPECTION

Engaging Auto Header Height Control – Gleaner® R65/R66/R75/R76 and S Series

Set these initial configuration options on your Gleaner® R65/R66/R75/R76 or non-S9 S Series combine when setting up the auto header height control (AHHC) system.

NOTE:

Refer to [6.1.9 Gleaner® S9 Series Combines, page 143](#) for information specific to Gleaner® S9 Series combines.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

1. The following system components are required for the auto header height control (AHHC) to work:
 - The main module (PCB board) and header driver module (PCB board) mounted in the card box in the fuse panel module (FP)
 - The multifunction control handle operator inputs
 - The operator inputs mounted in the control console module (CC) panel

NOTE:

The electro-hydraulic header lift control valve is also an integral part of the system.



Figure 6.90: Combine Auto Header Height Controls

2. Press AUTO MODE button (A) until AHHC LED light (B) begins flashing. If the RTC light is flashing, press AUTO MODE button (A) again until the AHHC system is activated.

PREDELIVERY INSPECTION

- Briefly press button (A) on the control handle. The AHHC light should change from flashing to solid and the header should drop toward the ground. The AHHC is now engaged and the height and sensitivity settings can be adjusted.

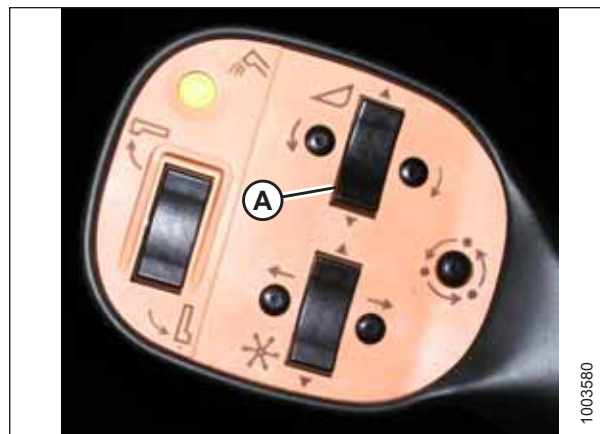


Figure 6.91: Control Handle

Calibrating Auto Header Height Control – Gleaner® R65/R66/R75/R76 and S Series

The auto header height control (AHHC) sensor output must be calibrated for Gleaner® R65/R66/R75/R76 and non-S9 S series combines, or the AHHC feature will not work properly.

NOTE:

The calibration procedure should be performed on flat, level ground without the header clutches engaged. The header height and header tilt settings must **NOT** be in auto or standby mode. The engine rpm must be above 2000 rpm. The header tilt option on 2004 and earlier model combines does **NOT** work with MacDon headers. This system will have to be removed and disabled in order to calibrate the AHHC system. Refer to the combine operator's manual for instructions.

To set up the AHHC system on Gleaner® S9 Series combines, refer to [6.1.9 Gleaner® S9 Series Combines, page 143](#).

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.



PREDELIVERY INSPECTION

Figure 6.92: Combine Auto Header Height Controls

A - AUTO MODE Button
D - Raise Header
G - CAL2 Button

B - AHHC Light
E - Lower Header

C - CAL1 Button
F - Auto Mode

1. Press AUTO MODE button (A) until AHHC light (B) is activated.
2. Press and hold CAL1 button (C) until the following lights flash: raise header (D), lower header (E), tilt auto mode (F), and AHHC (B).
3. Fully lower the header.
4. Press CAL2 button (G) until lower header light (E) stops flashing. Release the button when raise header light (D) begins flashing.
5. Raise the header to its maximum height.
6. Press CAL2 button (G) until raise header light (D) turns off.

NOTE:

The following steps are applicable only to model year 2005 and newer combines with Smartrac feeder houses.

7. Wait for the HEADER TILT LEFT light (not shown) to start flashing and then tilt the header to its maximum left position.
8. Press CAL2 button (G) until the HEADER TILT LEFT light (not shown) stops flashing and release the button when the HEADER TILT RIGHT light (not shown) begins flashing.
9. Tilt the header to its maximum right position.
10. Press CAL2 button (G) until all of following lights flash: raise header (D), lower header (E), height auto mode (A), right header and left header (not shown), and tilt auto mode (F).
11. Center the header.
12. Press CAL1 button (C) to exit the calibration procedure. Exiting will save all values to memory. All the lights on the console should stop flashing.

Turning Accumulator Off – Gleaner® R65/R66/R75/R76 and S Series

Activating the accumulator on a Gleaner® R65/R66/R75/R76 and non-S9 S series combine will negatively affect the speed at which the AHHC system adjusts the height of the header. Turning the accumulator off will ensure good AHHC performance.

Refer to the combine operator's manual for the proper procedure for turning the accumulator off and on. For best performance of the AHHC system, turn the feeder house accumulator off.



Figure 6.93: Combine Accumulator ON/OFF Switch

A - Accumulator Lever (Off Position)

Adjusting Header Raise/Lower Rate – Gleaner® R65/R66/R75/R76 and S Series

The speed at which the header rises or falls on a Gleaner® R65/R66/R75/R76 and non-S9 S series combine can be adjusted by opening or closing the height restrictor valves.

NOTE:

Refer to [6.1.9 Gleaner® S9 Series Combines, page 143](#) for information specific to Gleaner® S9 Series combines.

NOTE:

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

The auto header height control (AHHC) system's stability is affected by the rate at which the hydraulic fluid flows through the hydraulic system. Ensure that header raise (A) and header lower (B) adjustable restrictors in the hydraulic valve block are adjusted so that it takes approximately 6 seconds to raise the header from ground level to its maximum height (with the hydraulic cylinders fully extended), and approximately 6 seconds to lower the header from its maximum height to ground level.

If there is too much header movement when the header is on ground (for example, if the AHHC system seems to be continually "hunting" for a height setting), then adjust the lowering rate so that the header takes 7 or 8 seconds to fall.

NOTE:

Make this adjustment with the hydraulic system at its normal operating temperature (54.4°C [130°F]) and the engine running at full throttle.



Figure 6.94: Header Raise and Lower Adjustable Restrictors

Adjusting Ground Pressure – Gleaner® R65/R66/R75/R76 and S Series

The ground pressure settings determine the height of the header when used with the auto header height control system (AHHC) on Gleaner® R65/R66/R75/R76 and non-S9 S Series combines.

NOTE:

Refer to [6.1.9 Gleaner® S9 Series Combines, page 143](#) for information specific to Gleaner® S9 Series combines.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

PREDELIVERY INSPECTION

To adjust the header height, ensure that the header is in AHHC mode, as indicated by AUTO MODE LED light (A) displaying a continuous, solid light. The header will lower to the height (i.e. the ground pressure) corresponding to the position selected with height control knob (B).

Turn knob (B) counterclockwise to decrease the ground pressure setting and clockwise to increase the ground pressure setting.



Figure 6.95: Auto Header Height Control Console

Adjusting Sensitivity of Auto Header Height Control – Gleaner® R65/R66/R75/R76 and S Series

Setting the sensitivity of the auto header height control (AHHC) system on a Gleaner® R65/R66/R75/R76 and non-S9 S Series combine affects how quickly the AHHC system changes the height of the header.

NOTE:

Refer to [6.1.9 Gleaner® S9 Series Combines, page 143](#) for information specific to Gleaner® S9 Series combines.

NOTE:

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



Figure 6.96: Auto Header Height Control Console

SENSITIVITY ADJUSTMENT dial (A) controls the distance the header must travel up or down before the AHHC reacts and raises or lowers the feeder house.

PREDELIVERY INSPECTION

When SENSITIVITY ADJUSTMENT dial (A) is set to the maximum value (i.e. is turned completely clockwise), only small changes in ground height are needed to cause the feeder house to raise or lower. In this position, the cutterbar moves up and down approximately 19 mm (3/4 in.) before the control module signals the hydraulic control valve to raise or lower the header frame.

When SENSITIVITY ADJUSTMENT dial (A) is set to the minimum value (i.e. is turned completely counterclockwise), large changes in ground height are needed to cause the feeder house to raise or lower. In this position, the cutterbar moves up and down approximately 51 mm (2 in.) before the control module signals the hydraulic control valve to raise or lower the header frame.

The HEADER SENSE LINE input changes the range of sensitivity. When connected to a draper header, the counterclockwise (i.e. the least sensitive) position allows for approximately 102 mm (4 in.) of vertical travel before the AHHC intervenes.

Troubleshooting Alarms and Diagnostic Faults – Gleaner® R65/R66/R75/R76 and S Series

Errors in the auto header height control (AHHC) system on Gleaner® R65/R66/R75/R76 and non-S9 S series combines appear on a display on the combine's Electronic Instrument Panel (EIP).

NOTE:

Refer to [6.1.9 Gleaner® S9 Series Combines, page 143](#) for information specific to Gleaner® S9 Series combines.

NOTE:

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

Display type:

Displayed on tachometer (A) as XX or XXX.



Figure 6.97: Tachometer

Displayed on LCD (A) as XXX cm or XX in.

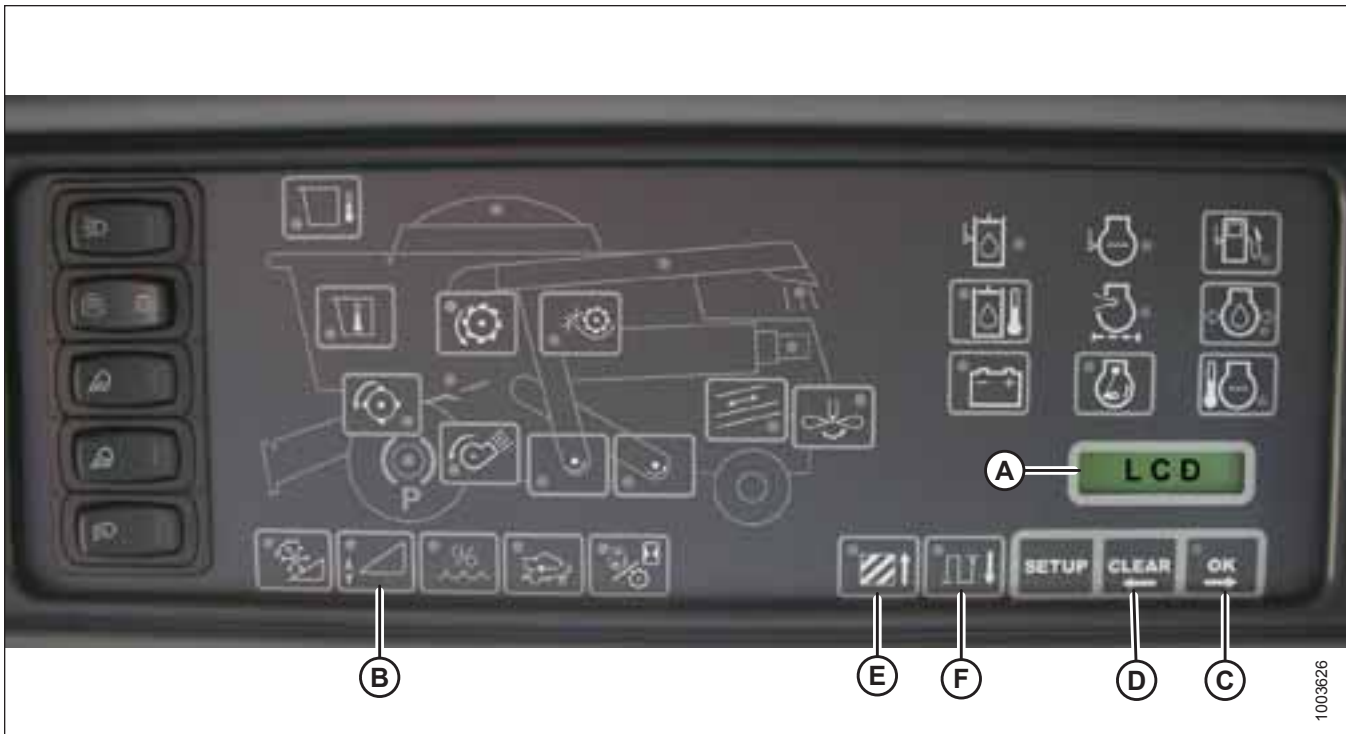


Figure 6.98: Combine Heads-Up Display

Alarm conditions:

If an error message is received from the fuse panel, an audible alarm sounds. The LCD on the electronic instrument panel (EIP) indicates a header system error as HDR CTRL followed by HGT ERR for height, and HDR CTRL followed by TILT ERR for tilt. The header height LED flashes yellow two times every second.

When this alarm occurs, a buzzer will also sound 5 times every 10 seconds.

When an alarm condition occurs, a green LED begins flashing (green, yellow, or red depending on the input). In addition, a message is displayed on the LCD which explains the nature of the alarm. For example, HYD TEMP, OPEN, SHRT will be flashed alternately.

Diagnostic fault failures: For an illustration, refer to Figure 6.98, page 142.

Pressing header height switch (B) for a minimum of 5 seconds will put the EIP in header diagnostic mode. LCD (A) will display the message HDR DIAG when the EIP has entered header diagnostic mode.

In this mode, after 3 seconds, the header fault parameter labels are displayed on the EIP's LCD. All the information displayed on the LCD is read-only.

OK (C) and CLEAR (D) buttons allow you to scroll through a list of parameters. If there are no active fault codes, the EIP's LCD will display NO CODE.

When a parameter is displayed, its label is displayed for 3 seconds, after which its value is automatically displayed.

Pressing OK button (C) while the value is displayed will cause the EIP to advance to the next parameter and display its label.

When a parameter label is displayed and OK button (C) is pressed before 3 seconds, the parameter's value will be displayed.

Pressing AREA (E) will cycle through options. When LEFT is displayed on the LCD, press OK button (C), and the auto header height control (AHHC) voltage will show on the display.

Press DIST button (F) to cycle back through the table.

Press CLEAR button (D) to exit the header diagnostics menu.

For more information, refer to [6.1.2 Auto Header Height Control Sensor Operation, page 94](#).

6.1.9 Gleaner® S9 Series Combines

To make your header's auto header height control (AHHC) system compatible with Gleaner® S9 series combines, you must set your combine's header configuration options for the particular model of header, configure the controls and reel speed settings, and calibrate the AHHC system to ensure that it is working correctly.

Setting up the Header – Gleaner® S9 Series

Set these initial configuration options on your Gleaner® S9 series combine when setting up the auto header height control (AHHC) system.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

The AGCO Tyton terminal is used to set up and manage a MacDon header on a Gleaner® S9 combine. The terminal has a touch screen. Touch the terminal screen to select an item.



Figure 6.99: Gleaner® S9 Terminal Screen

A - Tyton Terminal B - Hydro Handle/Ground Speed Lever
C - Throttle Lever D - Header Control Cluster

1. On the top right of the home page, touch COMBINE icon (A). The COMBINE MAIN MENU appears.



Figure 6.100: Combine Icon on Home Page

PREDELIVERY INSPECTION

2. On the COMBINE MAIN MENU, touch HEADER SETTINGS (A). The HEADER SETTINGS page appears.



Figure 6.101: Header Settings in Combine Main Menu

PREDELIVERY INSPECTION

3. Touch **HEADER CONFIGURATION** field (A). A page showing the predefined header profiles opens.

- If your MacDon header is already set up, it appears on header list. Touch MacDon header title (B) to highlight the selection in blue, and then touch green check mark (E) to continue.
- If only default header (D) is shown, touch **ADD/KEYBOARD** button (C), and use the on-screen keyboard to enter the relevant MacDon header information. When complete, touch one of the areas at the bottom of the page to return to the **HEADER SETTINGS** page.
 - The green check mark saves your settings.
 - The garbage can icon deletes the highlighted header profile from the list.
 - The red **X** cancels any change(s).

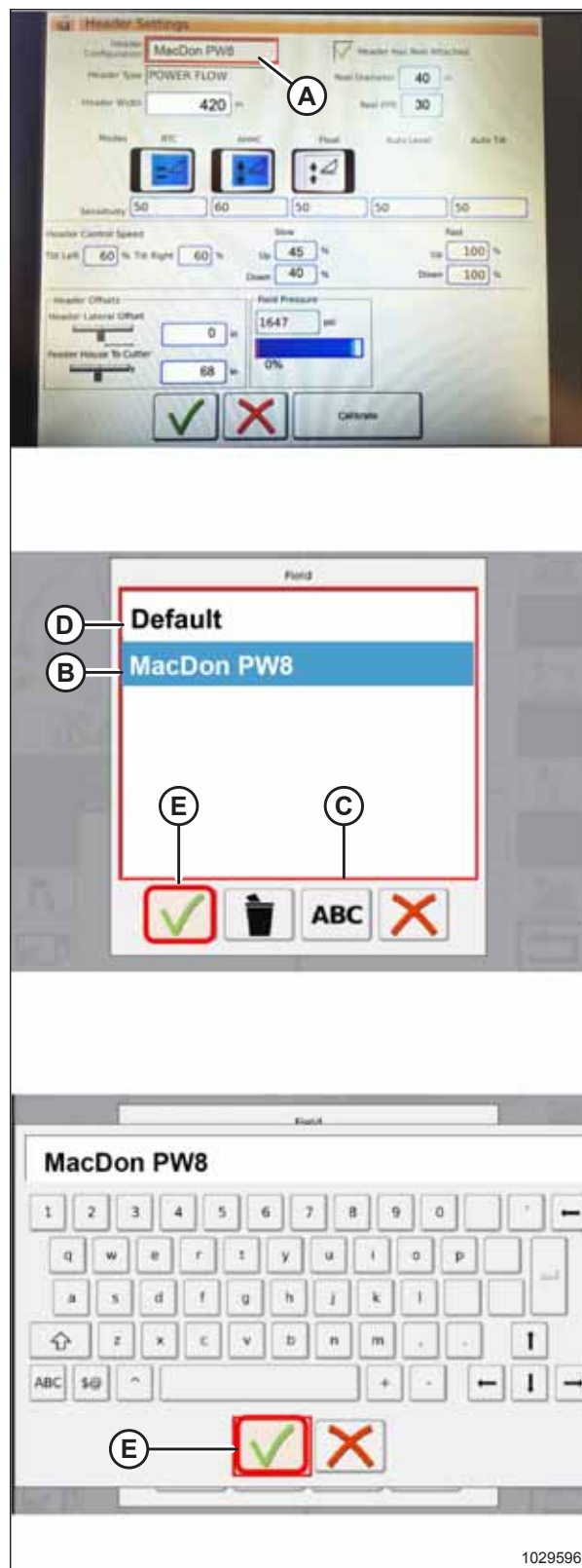


Figure 6.102: Header Configuration Menu on Header Settings Page

PREDELIVERY INSPECTION

4. To specify the type of header installed on the combine, touch HEADER TYPE field (A).

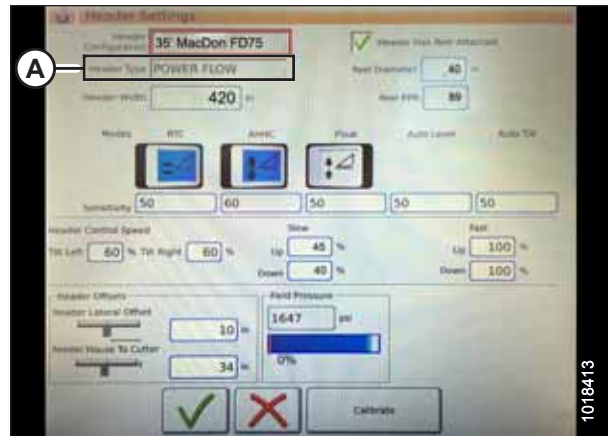


Figure 6.103: Header Settings

5. A list of predefined header types appears.
 - For a pick-up header, select PICK UP (A).
 - Touch green check mark (B) to save your selection and continue.

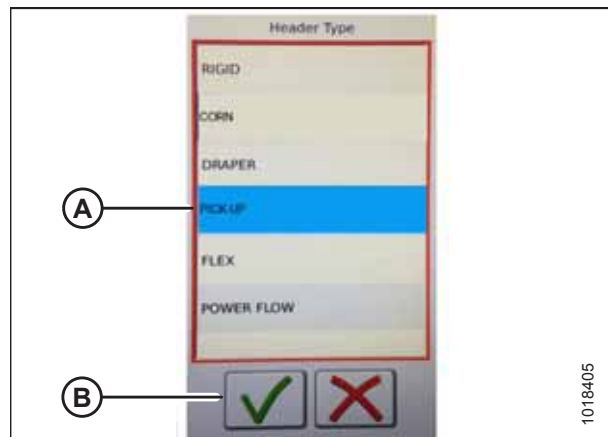


Figure 6.104: Header Type

6. Make sure that HEADER HAS REEL ATTACHED green check box (A) is checked.

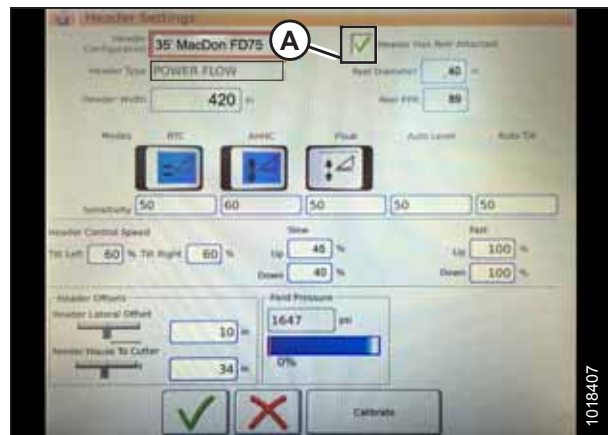


Figure 6.105: Header Settings

PREDELIVERY INSPECTION

7. Touch REEL DIAMETER field (A) and a numeric keypad appears. Enter **40** for the MacDon reel diameter.
8. Touch REEL PPR (speed pulses per revolution) field (B) and enter **30** as the PPR value for your MacDon header.

NOTE:

PPR is the number of teeth on the reel speed sprocket. AGCO-configured MacDon headers have 30 teeth on the sensor pick-up reel.

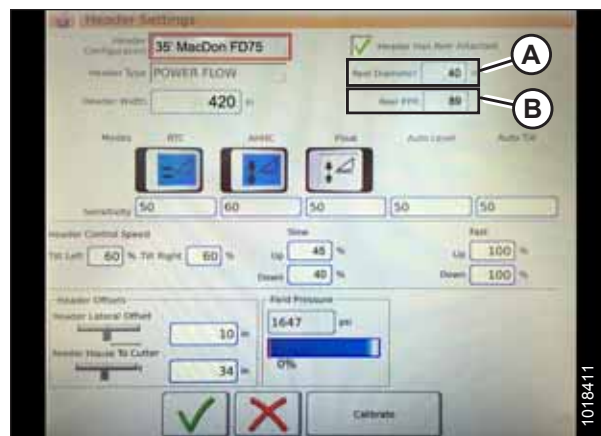


Figure 6.106: Header Settings

9. Touch green check mark (B) at the bottom of numeric keypad (A) when complete, or the red X to cancel.

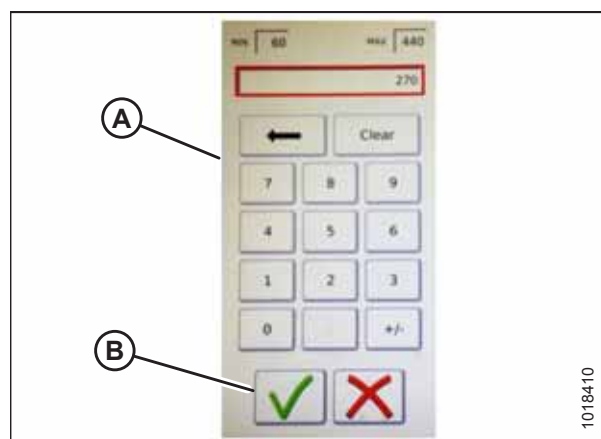


Figure 6.107: Numeric Keypad

10. When your entries are complete, touch green check mark (A) at the bottom of the HEADER SETTINGS page.

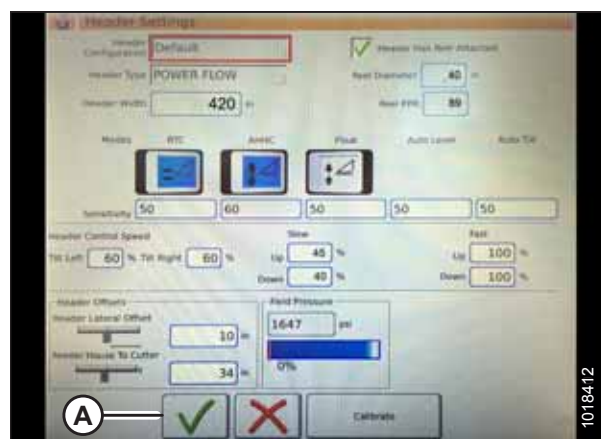


Figure 6.108: Header Settings Page

Setting up Automatic Header Controls – Gleaner® S9 Series

The auto header height control (AHHC) functions are configured on the Gleaner® S9 series' HEADER SETTINGS page.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

PREDELIVERY INSPECTION

1. **Automatic Control Functions:** There are toggle (OFF/ON) switches on the HEADER SETTINGS page for automatic height control functions. For MacDon headers, ensure that the following functions are enabled:

- RTC (return to cut) (A)
- AHHC (automatic header height control) (B)

All other switches should be disabled (i.e. not highlighted).

2. **Sensitivity** setting (C) controls how responsive a control (RTC or AHHC) is to a given change in sensor feedback. The setting fields are located directly below the toggle switches. To enter a new sensitivity setting, touch the setting field below the specific toggle switch, and enter a new value using the on-screen keyboard.

- If the combine does not change feeder house position quickly enough when in Auto Mode, increase the sensitivity.
- If the combine hunts for a position in Auto Mode, decrease the sensitivity.

NOTE:

The recommended sensitivity settings for MacDon headers are:

- **50** for RTC (A)
- **60** for AHHC (B)

3. **Header Speed:** The header tilt and raise/lower speed can be adjusted in HEADER CONTROL SPEED area (A) of the HEADER SETTINGS page.

- The tilt left and right function is a lateral tilt of the combine faceplate.
- The header up and down function is a two-stage button with slow speed on the first detent and fast on the second.

NOTE:

The recommended header control speed settings for MacDon headers are:

- Slow: 45 up/40 down
- Fast: 100 up/100 down

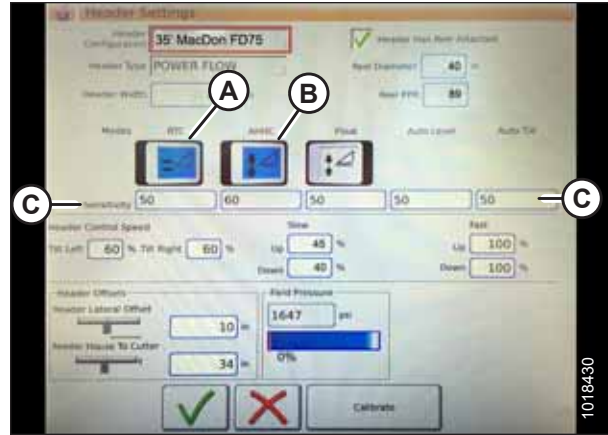


Figure 6.109: Automatic Controls and Sensitivity Settings

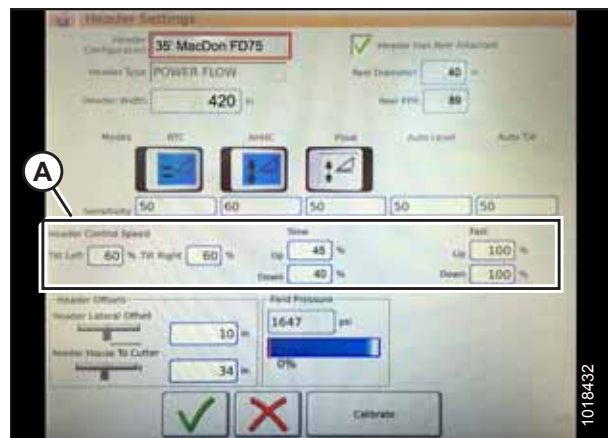


Figure 6.110: Header Speed Control Settings

PREDELIVERY INSPECTION

4. **Header Offsets (A):** Offset distances are important for yield mapping. There are two dimensions that can be adjusted on the HEADER SETTINGS page:

- **Header Lateral Offset:** this is the distance between the centerline of the header and the centerline of the machine. This should be set at **0** for a MacDon header.
- **Feeder House to Cutter:** this is the distance from the machine interface to the cutterbar. This should be set at **68** for a MacDon header.

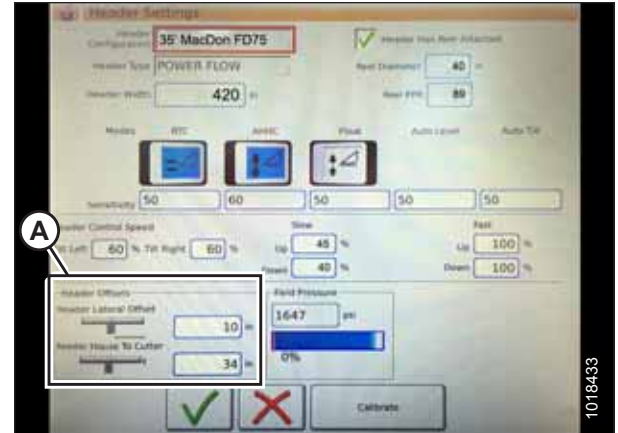
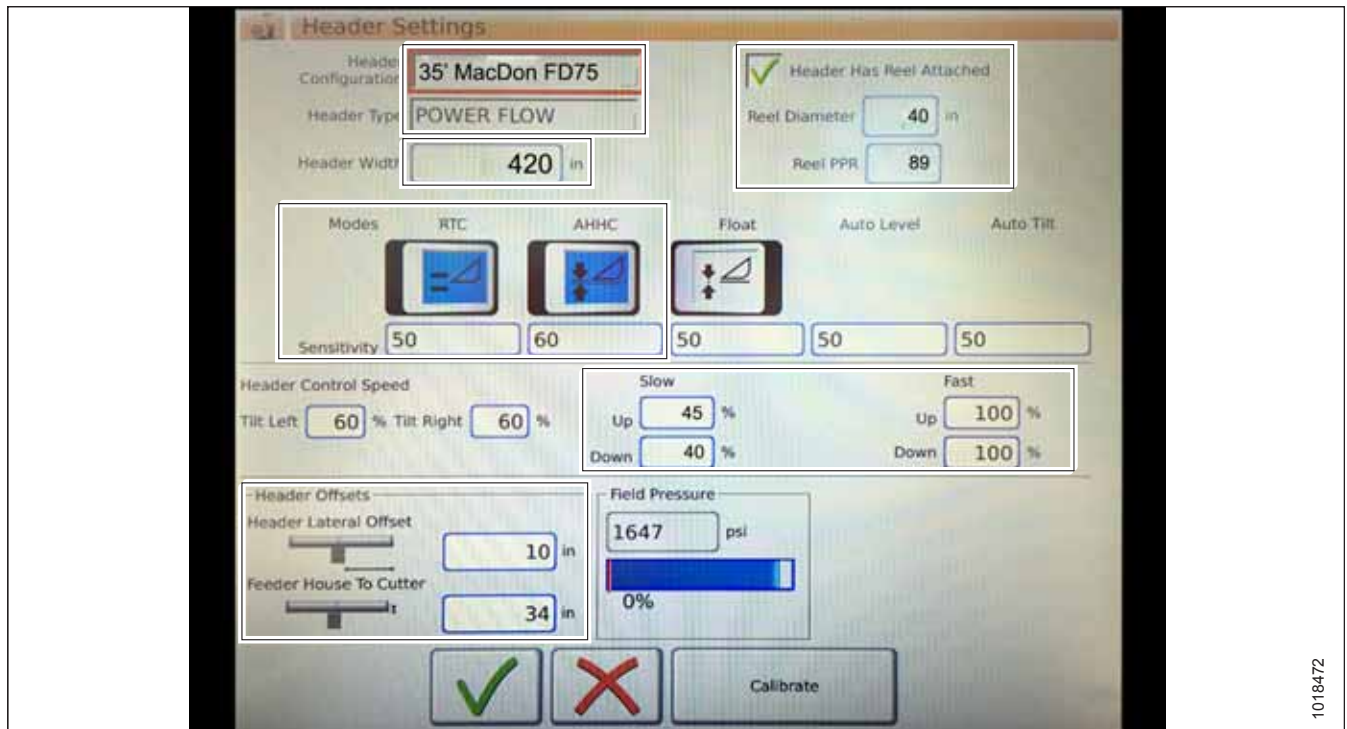


Figure 6.111: Header Offset Settings

Figure 6.112: Header Settings Inputs for MacDon Headers



Calibrating Header – Gleaner® S9 Series

The auto header height control (AHHC) sensor output must be calibrated for Gleaner® S9 series combines, or the AHHC feature will not work properly.

CAUTION

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

NOTE:

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

PREDELIVERY INSPECTION

1. On the COMBINE MAIN MENU, touch HEADER SETTINGS (A).



Figure 6.113: Combine Main Menu

2. Touch CALIBRATE (A) at the bottom right of the page. The HEADER CALIBRATION page appears.

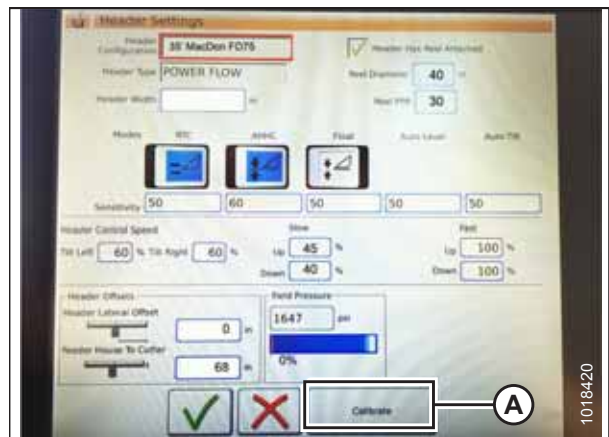


Figure 6.114: Calibration

The right of the page shows calibration information (A). Results are shown for sensors (B) at the top of the list:

- Left and right header sensor outputs (V) (the values should be identical with MacDon headers)
- Header height sensor (mA)
- Tilt position sensor (mA)

The modes applicable to MacDon headers are shown with check marks below line (C):

- Return to cut
- Automatic header height control

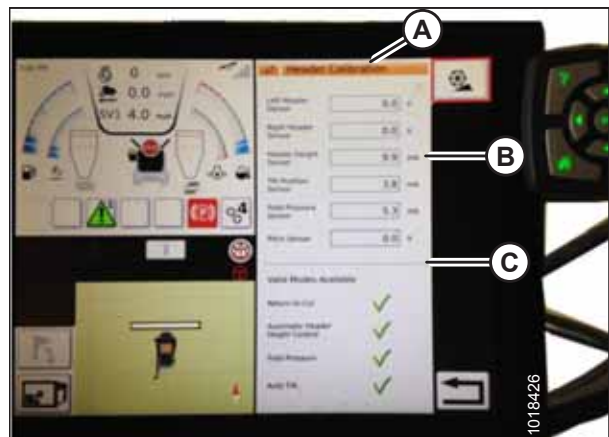


Figure 6.115: Header Calibration Page

CAUTION

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

PREDELIVERY INSPECTION

3. On the ground speed lever (GSL), press HEADER DOWN button (A). The sensor values on the HEADER CALIBRATION page will change as the header falls.

NOTE:

The header needs to be fully lowered and then fully raised. The sensor voltage range should be between **0.7 and 4.3 V**. If the values do not fall within that range, the height sensors will need to be adjusted. For instructions, refer to [Adjusting Header Height Sensor Voltage Range – Left Side, page 97](#) or [Adjusting Header Height Sensor Voltage Range – Right Side, page 97](#).



Figure 6.116: Header Down Switch

4. When the sensor values are stable, touch CALIBRATE icon (A).



Figure 6.117: Header Calibration

5. The hazard message for the HEADER CALIBRATION procedure appears. Before touching the green check mark, ensure that all the conditions listed on the page have been met.
6. Touch the green check mark to start the CALIBRATION WIZARD.



Figure 6.118: Header Calibration Warning

PREDELIVERY INSPECTION

A progress bar will appear. The calibration wizard can be stopped at any time by touching the red X. The header moves automatically during this process.

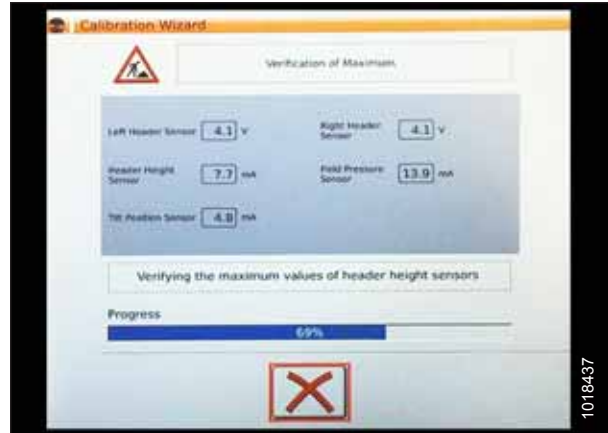


Figure 6.119: Calibration In Progress

7. When the calibration procedure is complete, a message appears displaying summary information (A). A green check mark on row (B) confirms that a particular function has been calibrated. Touch bottom green check mark (C) to save these settings.



Figure 6.120: Completed Calibration Page

NOTE:

On the COMBINE MAIN MENU page, touching CALIBRATION icon (A) opens a general CALIBRATION menu where you can directly choose settings such as header and reel calibration.



Figure 6.121: Direct Calibration Menu

Operating with a Gleaner® S9 Series Combine

Once the auto header height control (AHHC) system has been configured on your Gleaner® S9 series combine, the AHHC system can be controlled from the combine cab.

NOTE:

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

These are the controls used to engage and adjust the auto header height control (AHHC) system.



Figure 6.122: Gleaner® S9

A - Tyton Terminal B - Hydro Handle/Ground Speed Lever
C - Throttle Lever D - Header Control Cluster

1. Engage the header.
2. Set the Lateral Tilt to MANUAL by pressing switch (A) upward to the MAN position.
3. Engage the AHHC by pressing switch (B) upward to the I position.



Figure 6.123: Header Control Cluster

PREDELIVERY INSPECTION

4. Press AHHC control switch (A) on the ground speed lever (GSL) to engage the AHHC. The header positions itself to the last-saved setpoint position.



Figure 6.124: AHHC on GSL

5. Use HEADER HEIGHT SETPOINT control dial (A) as necessary to fine-tune the setpoint position.



Figure 6.125: Header Control Cluster

Header In-Field Settings for Gleaner® S9 Series Combine

Once the auto header height control (AHHC) system is working correctly with your Gleaner® S9 series combine, you can fine-tune these AHHC settings to your liking.

NOTE:

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

PREDELIVERY INSPECTION

1. To view the header group settings, touch HEADER icon (A).
2. The display area shows:
 - Left header height indicator (B), which shows the current position of the header.
 - Red line (C) on current header height position indicator (B), which shows the setpoint cut-off position.
 - Header symbol (D). Touch and then use the scroll wheel on the right of the Tyton terminal to adjust the setpoint cut-off position. As the scroll wheel is moved, the cut-off position will move.
 - Right indicator (E), which shows the set cutting height when AHHC is enabled. You can fine-tune the cutting height by using the header height setpoint control dial on the header control cluster. As this control is adjusted, the cut height indicator will change position.
 - Header working width (F).
 - Header pitch (G).
3. Touching a field on the display opens the on-screen keyboard so that the values can be adjusted. Enter a new value and touch the green check mark when you are finished.

NOTE:

Scroll wheel (A) is on the right of the Tyton terminal.

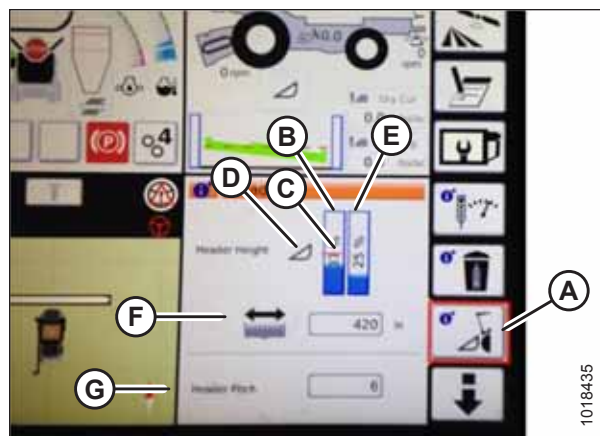


Figure 6.126: Header Groups



Figure 6.127: Scroll Wheel for Adjustments

NOTE:

Header height setpoint control dial (A) is on the header control cluster.



Figure 6.128: Header Control Cluster

6.1.10 John Deere 60 Series Combines

To make your header's auto header height control (AHHC) system compatible with John Deere 60 series combines, you must check the height sensor voltage range, adjust the header height response rate and drop settings, and calibrate the AHHC system to ensure that it is working correctly.

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

To ensure that the auto header height control (AHHC) system on your header works correctly with your John Deere 60 series combine, the output voltage from the header height control sensors must be verified.

The auto header height sensor output must fall within a specific range, or this feature will not work properly. Refer to [6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94](#) for voltage limits.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

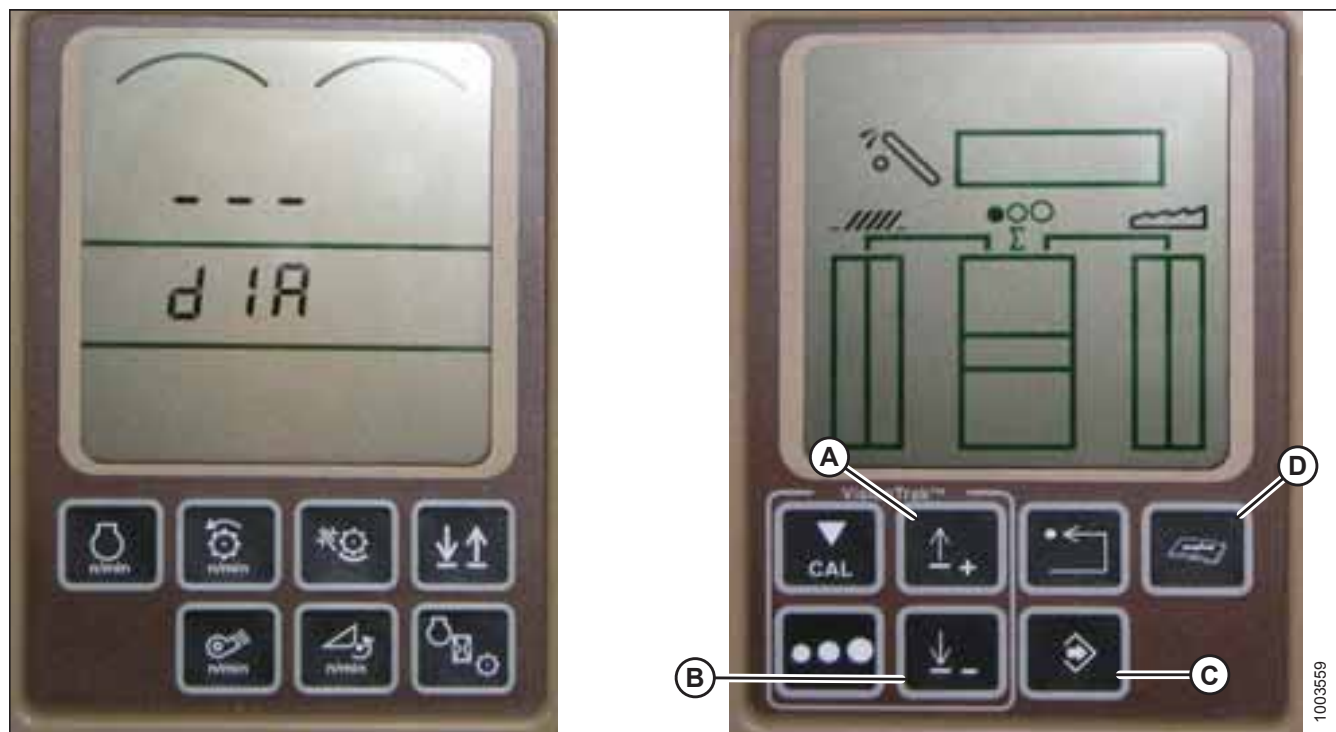


DANGER

Check to be sure all bystanders have cleared the area.

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

Figure 6.129: John Deere Combine Display



2. Press diagnostic button (D) (the button with open book with wrench on top of it) on the HHS monitor . d1A appears on the monitor.
3. Press up button (A) until EO1 appears on the monitor. This is the header adjustment setting.
4. Press ENTER button (C).
5. Press up (A) or down (B) until 22 is displayed on the top portion of monitor. This is the voltage reading from the height sensor.
6. Start the combine and lower the feeder house to the ground. Keep doing this until the feeder house stops moving.

NOTE:

You may need to hold the HEADER DOWN switch for a few seconds to ensure that the feeder house is fully lowered.

7. Check the sensor reading on the monitor.
8. Raise the header so that 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 [6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94](#), or if the range between low and high limits is insufficient, you will need to adjust the height sensors. For instructions, refer to [Adjusting Header Height Sensor Voltage Range – Left Side, page 97](#) and [Adjusting Header Height Sensor Voltage Range – Right Side, page 97](#).

Calibrating Auto Header Height Control (John Deere 60 Series)

The auto header height control (AHHC) sensor output must be calibrated for John Deere 60 series combines, or the AHHC feature will not work properly.

NOTE:

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

DANGER

Check to be sure all bystanders have cleared the area.

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

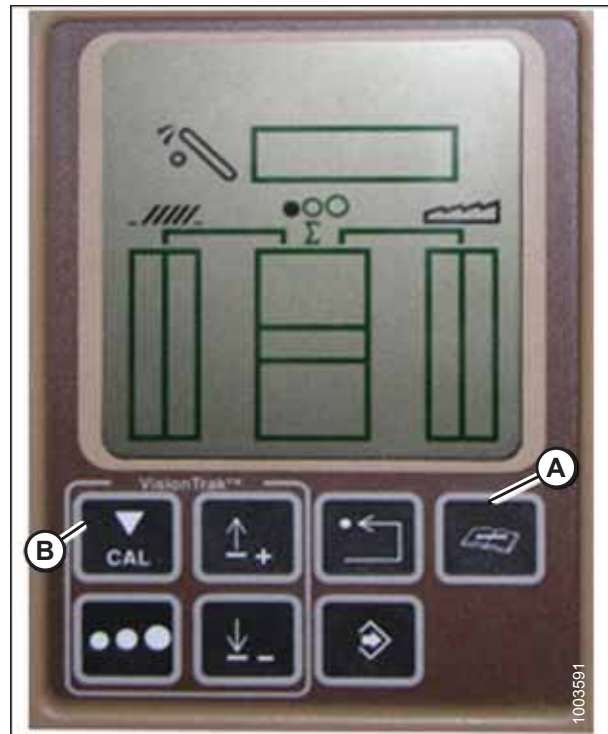


Figure 6.130: John Deere Combine Display

3. Press the UP or DOWN buttons until HDR appears on the monitor.
4. Press the ENTER button. HDR H-DN appears on the monitor.
5. Fully lower the feeder house to the ground.

NOTE:

You may need to hold the HEADER DOWN switch for a few seconds to ensure that the feeder house is fully lowered.

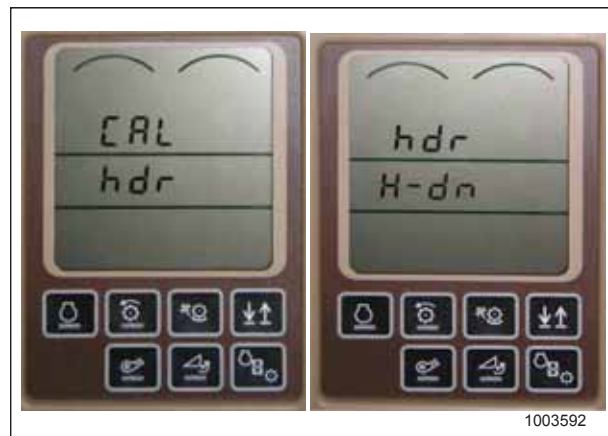


Figure 6.131: John Deere Combine Display

PREDELIVERY INSPECTION

- Press CAL button (A) to save the calibration of the header. HDR H-UP appears on the monitor.
- Raise the header 1 m (3 ft.) off of the ground, and press CAL (A) button. EOC appears on the monitor.
- Press ENTER button (B) to save the calibration of the header. The AHHC system is now calibrated.

NOTE:

If an error code appears during calibration, the height sensor output is out of the specified voltage range, and so the height sensors must be adjusted. For instructions, refer to *Calibrating Auto Header Height Control (John Deere 60 Series)*, page 157.

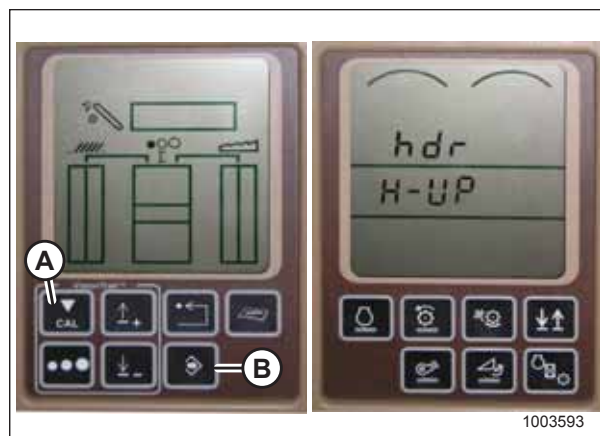


Figure 6.132: John Deere Combine Display

Turning Off Accumulator (John Deere 60 Series)

Activating the accumulator on a John Deere 60 series combine will negatively affect the speed at which the AHHC system adjusts the height of the header. Turning the accumulator off will ensure good AHHC performance.

NOTE:

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

- Press DIAGNOSTIC button (A) on monitor. DIA appears on the monitor.
- Press UP button (B) until EO1 appears on the monitor, and press ENTER (D). This is the header adjustment setting.
- Press UP (B) or DOWN (C) button until 132 is displayed on the top portion of the monitor. This is the reading from the accumulator.
- Press ENTER (D) to select 132 as the accumulator reading. Doing this will allow you to change the display to a three-digit number so that it has a 0 in it, i.e., x0x).
- Press UP (B) or DOWN (C) button until the desired value is displayed, and press CAL button.(E)
- Press ENTER (D) to save these settings. The accumulator is now deactivated.

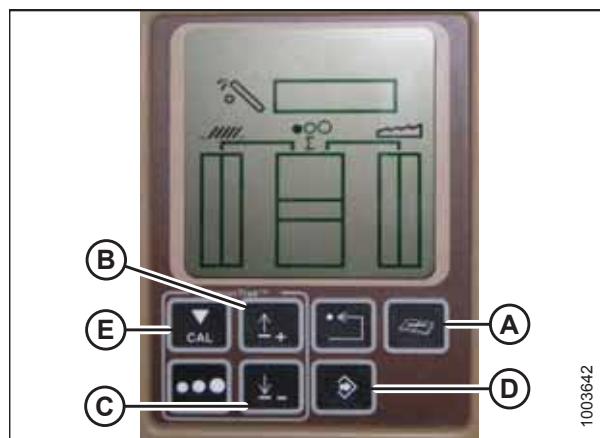


Figure 6.133: John Deere Combine Display

Setting Sensing Grain Header Height (John Deere 60 Series)

Change the preset header height in the auto header height control (AHHC) system on your John Deere 60 series combine after calibration is complete. 50 is the recommended header height value.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

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

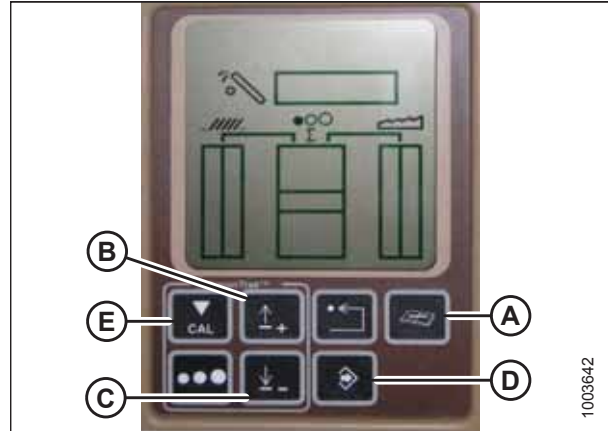


Figure 6.134: John Deere Combine Display

NOTE:

Do **NOT** use active header float function (A) in combination with the AHHC system; the two systems will counteract each other. 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 6.135, page 160.

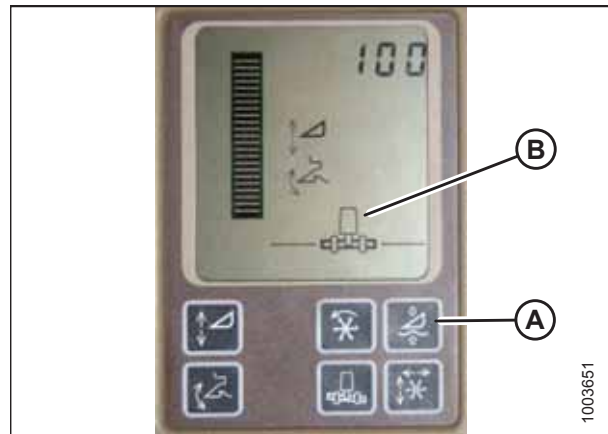


Figure 6.135: John Deere Combine Display

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

Setting the sensitivity (sometimes called “dead-band adjustment”) of the auto header height control (AHHC) system on a John Deere 60 series combine affects how quickly the AHHC system changes the height of the header.

NOTE:

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

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

NOTE:

The lower the reading, the higher the sensitivity. The sensitivity should be set between 50 and 80.

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

NOTE:

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

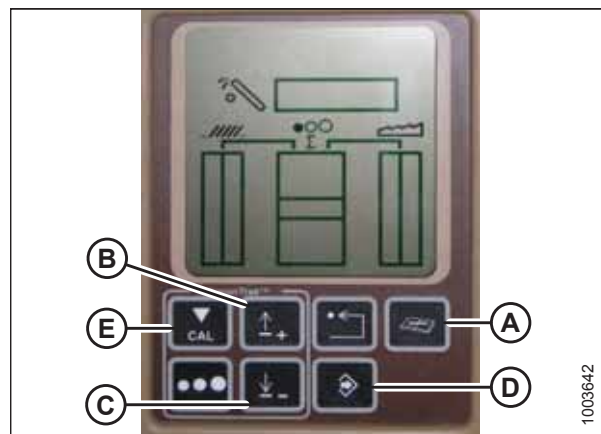


Figure 6.136: John Deere Combine Display

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

The speed at which the header rises or falls on a John Deere 60 series combine can be adjusted from the combine cab.

NOTE:

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

PREDELIVERY INSPECTION

1. Press DIAGNOSTIC button (A) on the monitor. DIA appears on the monitor.
2. Press UP button (B) until EO1 appears on the monitor. Press ENTER (C). This is the header adjustment setting.
3. Press UP (B) or DOWN button (D) 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 sensitivity setting.

NOTE:

The default setting is 100. This value should be set between 60 and 85.

4. Press ENTER (C) to select 114 for the fast drop rate. This will allow you to change the first digit of the entry.
5. Press UP (A) or DOWN (B) until the desired value is displayed, then press CAL button (C). You can now edit the second digit. Repeat this procedure until the desired setting is achieved.
6. Press ENTER (D) to save these settings.

NOTE:

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

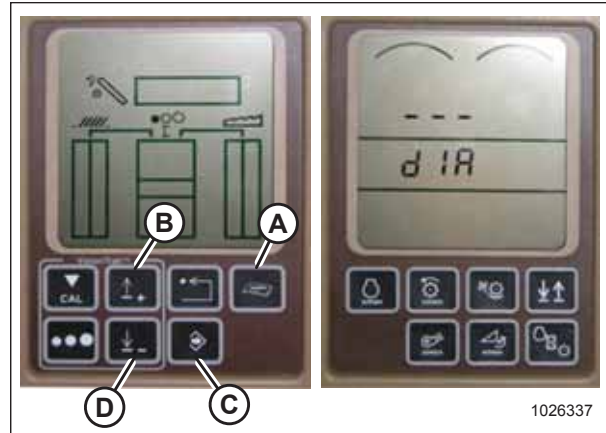


Figure 6.137: John Deere Combine Display

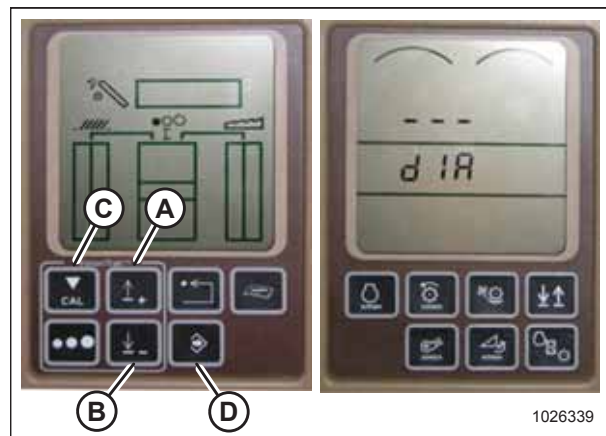


Figure 6.138: John Deere Combine Display

6.1.11 John Deere 70 Series Combines

To make your header's auto header height control (AHHC) system compatible with John Deere 70 series combines, you must check the height sensor voltage range, calibrate the feeder house speed, calibrate the AHHC system to ensure that it is working correctly, and adjust the header sensitivity.

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

To ensure that the auto header height control (AHHC) system on your header works correctly with your John Deere 70 series combine, the output voltage from the header height control sensors must be verified.

The auto header height sensor output must fall within a specific range, or the feature will not work properly. Refer to [6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94](#) for the voltage limits.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.



DANGER

Check to be sure all bystanders have cleared the area.

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

PREDELIVERY INSPECTION

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



Figure 6.139: John Deere Combine Display

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



Figure 6.140: John Deere Combine Display

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

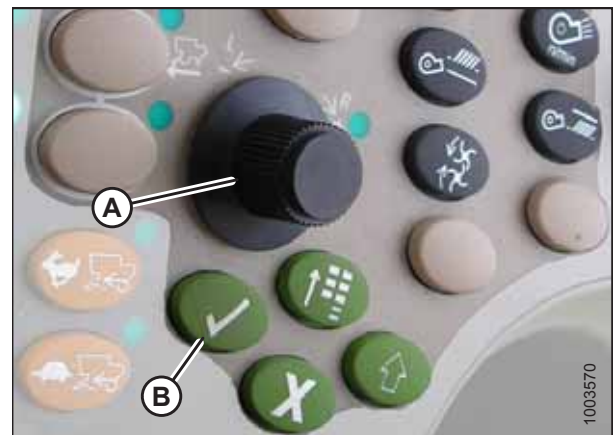


Figure 6.141: John Deere Combine Control Console

PREDELIVERY INSPECTION

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



Figure 6.142: John Deere Combine Display

7. Use the scroll knob to highlight LC 1.001 VEHICLE (A). Press the check mark button to select it.



Figure 6.143: John Deere Combine Display

8. Use scroll knob to highlight 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.
9. Start the combine and fully lower the feeder house to the ground.

NOTE:

You may need to hold the HEADER DOWN switch for a few seconds to ensure that the feeder house is fully lowered.

10. Check the sensor reading on the monitor.
11. Raise the header so that it is just off ground and recheck the sensor reading.

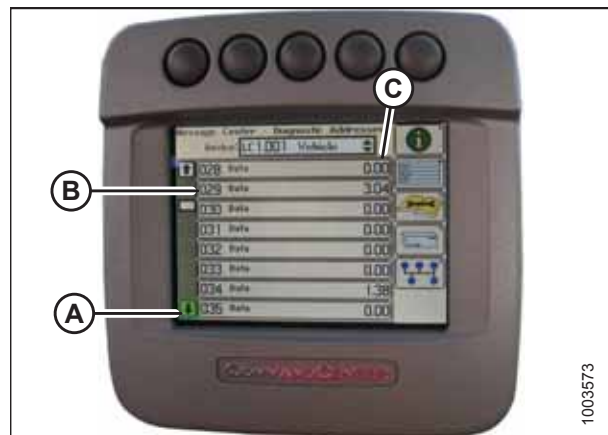


Figure 6.144: John Deere Combine Display

12. If the sensor voltage is not within the low and high limits shown in [6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94](#), or if the range between the low and high limits is insufficient, the height sensors will need to be adjusted. For instructions, refer to [Adjusting Header Height Sensor Voltage Range – Left Side, page 97](#) and [Adjusting Header Height Sensor Voltage Range – Right Side, page 97](#).

Calibrating Feeder House Speed (John Deere 70 Series)

The feeder house speed must be calibrated on your John Deere 70 series combine before the auto header height control (AHHC) system can be calibrated.

Refer to the combine operator's manual for instructions on how to calibrate the feeder house speed.

Calibrating Auto Header Height Control (John Deere 70 Series)

The auto header height control (AHHC) sensor output must be calibrated for John Deere 70 series combines, or the AHHC feature will not work properly.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

DANGER

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 monitor (A) to select the icon (B) resembling an open book with a wrench on it.
3. Press button (A) a second time to enter the diagnostics and calibration mode.

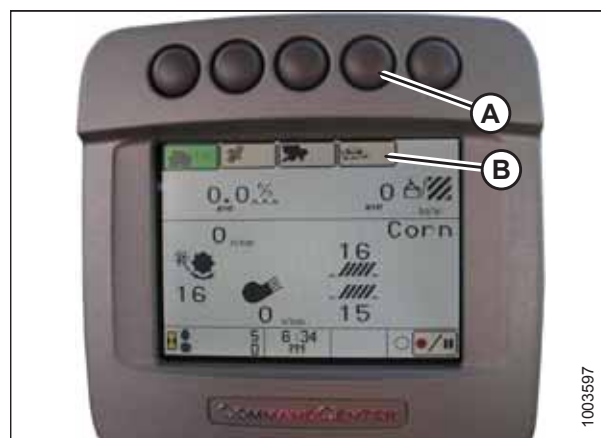


Figure 6.145: John Deere Combine Display

4. Use the scroll knob to scroll down to box (A) and select HEADER. Press the check mark button.

NOTE:

The knob and the button are shown in Figure 6.147, page 166.

5. Scroll down to lower right icon (B). Press the check mark button to select it.
6. Follow the steps listed on the combine display to perform the calibration procedure.

NOTE:

If an error code appears on the display, then the height sensors' output voltage is not in the correct working range. Refer to *Checking Voltage Range from Combine Cab (John Deere 70 Series)*, page 162 to check and adjust the range.

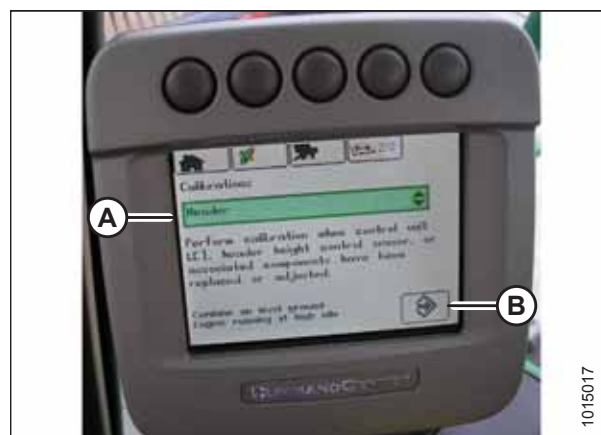


Figure 6.146: John Deere Combine Display

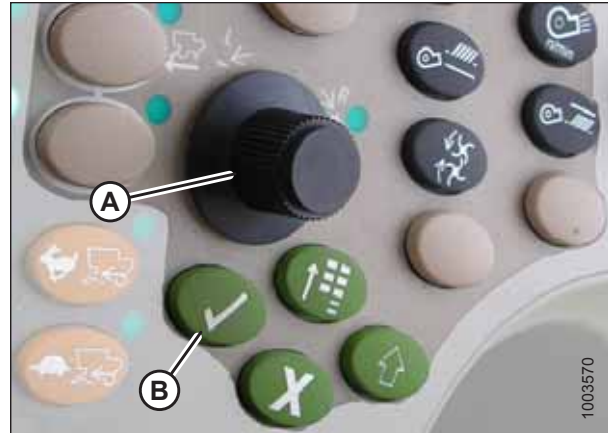


Figure 6.147: John Deere Combine Control Console

A - Scroll Knob

B - Check Mark Button

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

Setting the sensitivity (sometimes called “dead-band adjustment”) of the auto header height control (AHHC) system on a John Deere 70 series combine affects how quickly the AHHC system changes the height of the header.

NOTE:

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

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

NOTE:

The lower the sensitivity value displayed, the lower the sensitivity setting is. Higher sensitivity settings will change how quickly the AHHC system changes the height of the header.

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 check mark button (C) will also display the previous page.

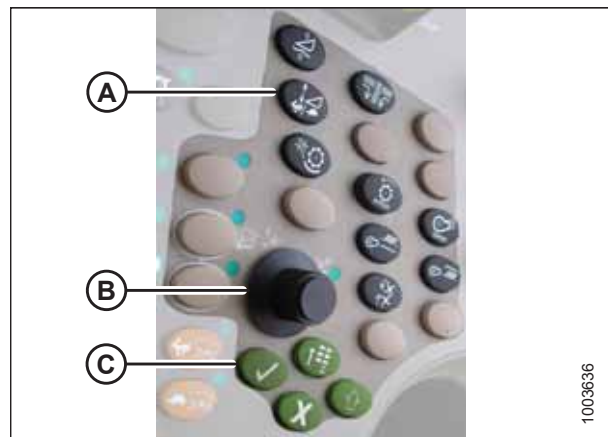


Figure 6.148: John Deere Combine Control Console

PREDELIVERY INSPECTION

NOTE:

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



Figure 6.149: John Deere Combine Display

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

The speed at which the header rises or falls on a John Deere 70 series combine can be adjusted from the combine cab.

NOTE:

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

1. Press button (A). The current raise/lower rate setting will appear on the monitor.

NOTE:

Lower readings indicate a lower rate of header rise and fall; higher readings indicate a higher 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, you will be returned to the previous page. Pressing check mark button (C) will also return the monitor to the previous page.

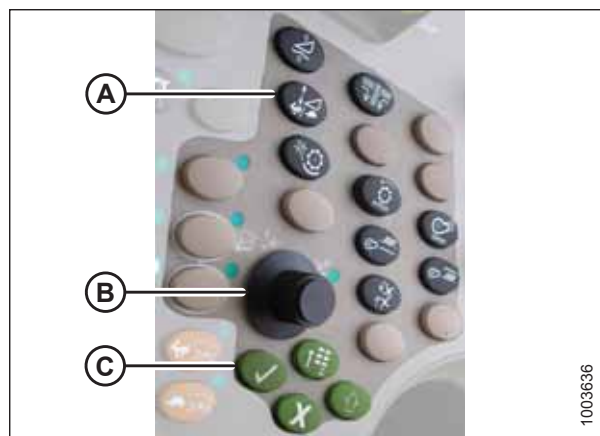


Figure 6.150: John Deere Combine Control Console

PREDELIVERY INSPECTION

NOTE:

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



Figure 6.151: John Deere Combine Display

6.1.12 John Deere S and T Series Combines

To make your header's auto header height control (AHHC) system compatible with John Deere S and T series combines, you must check the height sensor voltage range, calibrate the feeder house speed, calibrate the AHHC system to ensure that it is working correctly, and adjust the sensitivity and cutting height presets.

Checking Voltage Range from Combine Cab (John Deere S and T Series)

To ensure that the auto header height control (AHHC) system on your header works correctly with your John Deere S or T series combine, the output voltage from the header height control sensors must be verified.

The auto header height sensor output must be within a specific range, or feature will not work properly. Refer to [6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94](#) for voltage limits.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

DANGER

Check to be sure all bystanders have cleared the area.

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

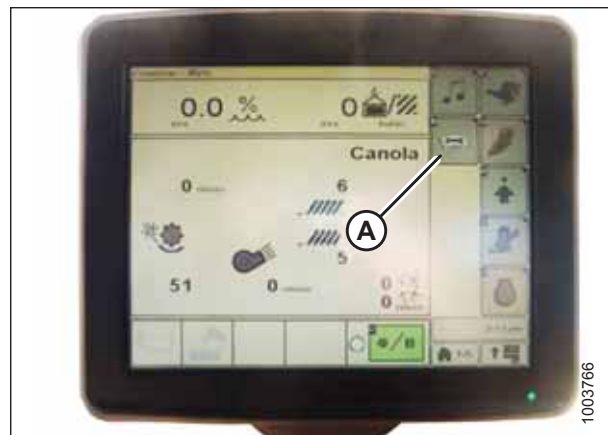


Figure 6.152: John Deere Combine Display

PREDELIVERY INSPECTION

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

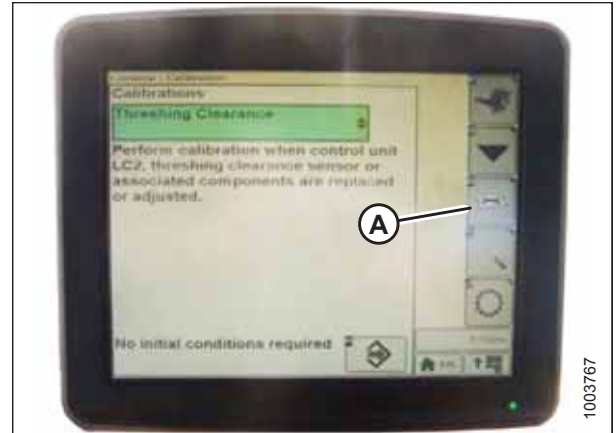


Figure 6.153: John Deere Combine Display

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



Figure 6.154: John Deere Combine Display

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



Figure 6.155: John Deere Combine Display

PREDELIVERY INSPECTION

7. Press icon (A) until it reads Page 5 near the top of the page. The following sensor readings appear:

- LEFT HEADER HEIGHT
- CENTER HEADER HEIGHT
- RIGHT HEADER HEIGHT



Figure 6.156: John Deere Combine Display

8. Start the combine and fully lower the feeder house to the ground.

NOTE:

You may need to hold the HEADER DOWN switch for a few seconds to ensure that the feeder house is fully lowered.

9. Check the height sensor reading on the monitor.
10. If the sensor voltage is not within the low and high limits shown in [6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94](#), or if the range between the low and high limits is insufficient, the height sensors will need to be adjusted. For instructions, refer to [Adjusting Header Height Sensor Voltage Range – Left Side, page 97](#) and [Adjusting Header Height Sensor Voltage Range – Right Side, page 97](#).

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

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

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

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



Figure 6.157: John Deere Hydro Handle

PREDELIVERY INSPECTION

NOTE:

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

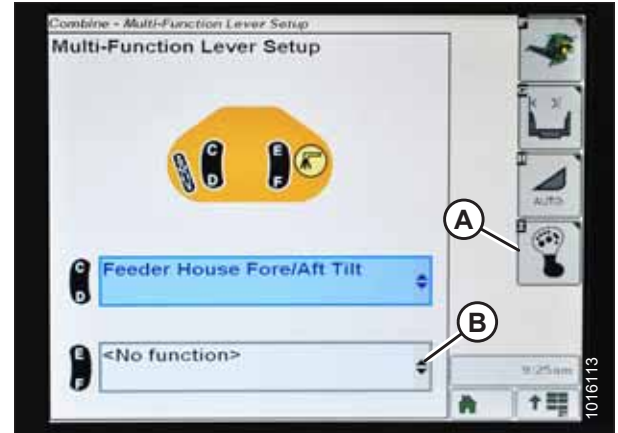


Figure 6.158: John Deere Combine Display

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



Figure 6.159: John Deere Combine Display

2. Select CALIBRATIONS drop-down menu (A) to view the list of calibration options.

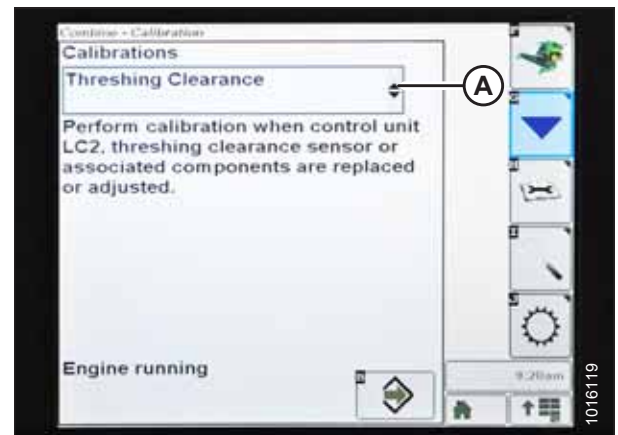


Figure 6.160: John Deere Combine Display

PREDELIVERY INSPECTION

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

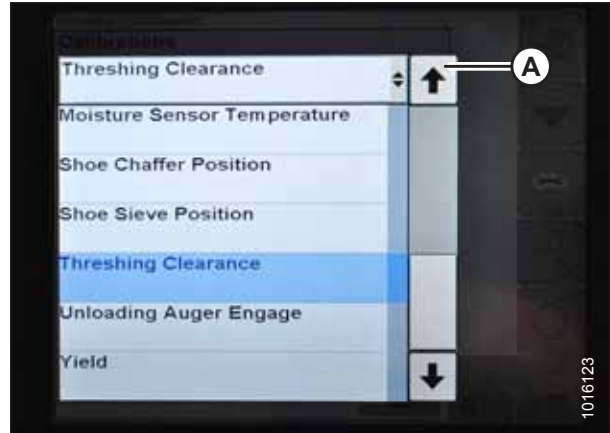


Figure 6.161: John Deere Combine Display

- Press ENTER icon (A).

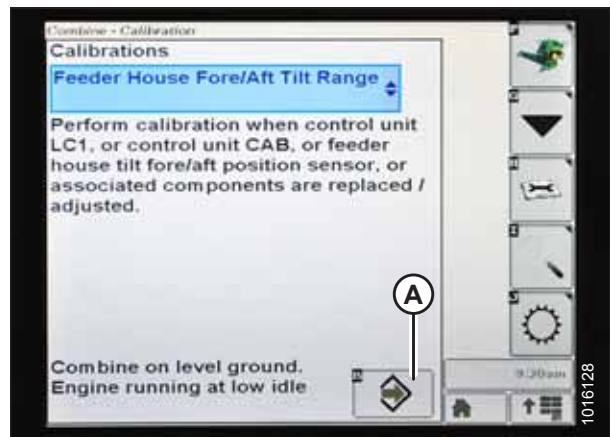


Figure 6.162: John Deere Combine Display

- Follow the instructions that appear on the combine display.

NOTE:

If an error code appears during calibration, the output from the height sensors is out of the specified voltage range and will require adjustment. For instructions, refer to [Checking Voltage Range from Combine Cab \(John Deere S and T Series\)](#), page 168.

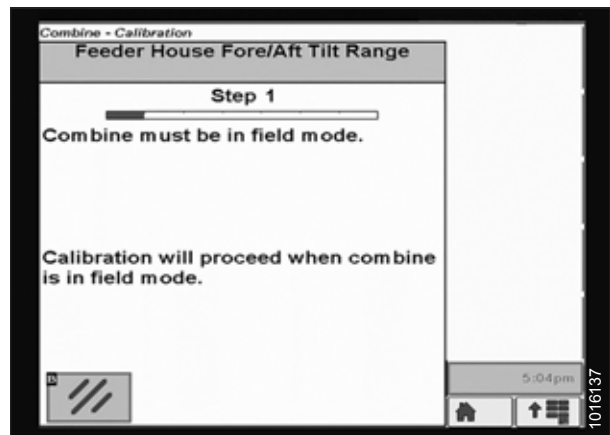


Figure 6.163: John Deere Combine Display

Calibrating Auto Header Height Control (John Deere S and T Series)

The auto header height control (AHC) sensor output must be calibrated for John Deere S and T series combines, or the AHC feature will not work properly.

NOTE:

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

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



Figure 6.164: John Deere Combine Display

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

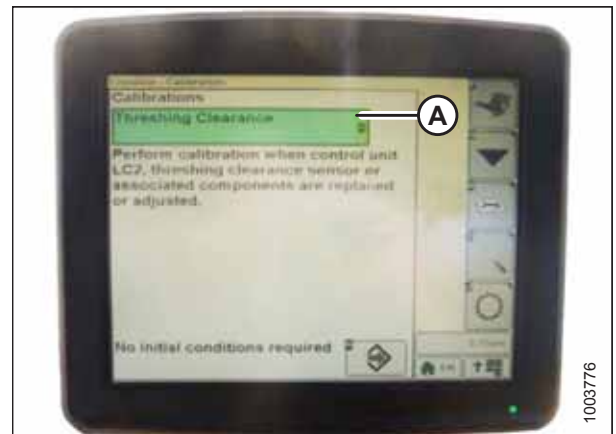


Figure 6.165: John Deere Combine Display

PREDELIVERY INSPECTION

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

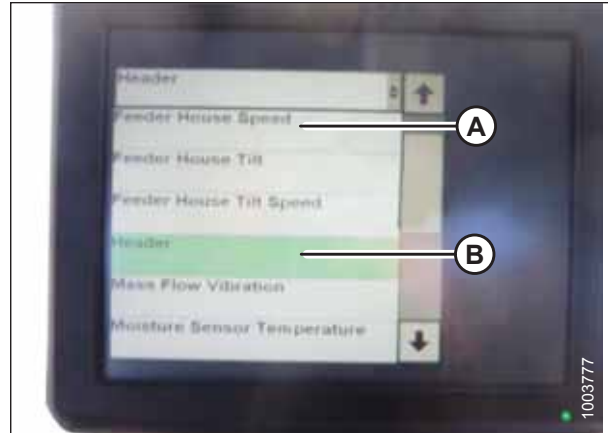


Figure 6.166: John Deere Combine Display

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

NOTE:

The feeder house speed calibration procedure must be done before the header calibration procedure.

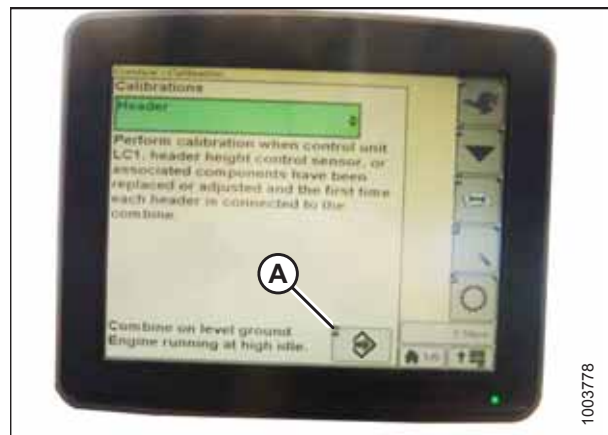


Figure 6.167: John Deere Combine Display

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

NOTE:

If an error code appears during calibration, the voltage output of one or both height sensors are out of the proper range. It will be necessary to adjust the height sensors. For instructions, refer to *Adjusting Header Height Sensor Voltage Range – Left Side, page 97* and *Adjusting Header Height Sensor Voltage Range – Right Side, page 97*.



Figure 6.168: John Deere Combine Display

Setting Sensitivity of Auto Header Height Control (John Deere S and T Series)

Setting the sensitivity (sometimes called “dead-band adjustment”) of the auto header height control (AHHC) system on a John Deere S or T series combine affects how quickly the AHHC system changes the height of the header.

NOTE:

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

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



Figure 6.169: John Deere Combine Command Center

2. Press – or + icon (A) to adjust the sensitivity.

NOTE:

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



Figure 6.170: John Deere Combine Display

Adjusting Manual Header Raise/Lower Rate (John Deere S and T Series)

The speed at which the header rises or falls on a John Deere S or T series combine can be adjusted from the combine cab.

NOTE:

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

PREDELIVERY INSPECTION

1. Press button (A). The current manual raise/lower speed setting will appear on the monitor.



Figure 6.171: John Deere Combine Command Center

2. Press – or + icon (A) to adjust the manual raise/lower speed.

NOTE:

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

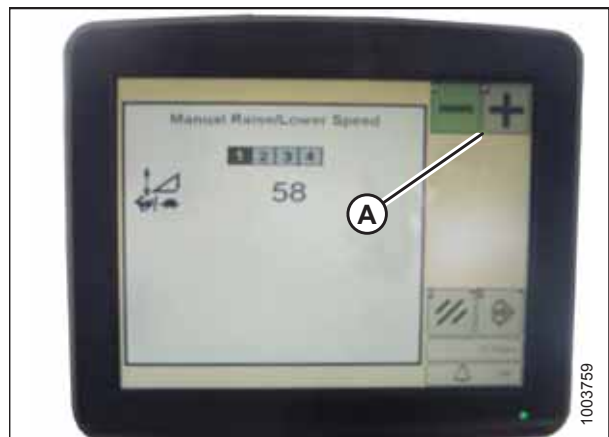


Figure 6.172: John Deere Combine Display

Setting Preset Cutting Height (John Deere S and T Series)

You will need to configure both preset header heights on your John Deere S or T series combine to use the auto header height control (AHHC) system with your header.

NOTE:

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

PREDELIVERY INSPECTION

1. Press 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 the reel speed, header width, and the height of the feeder house for acre counter engagement.



Figure 6.173: Combine Display

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



Figure 6.174: Combine Display

3. Select HEADER HEIGHT SENSING ENABLE (A), HEADER HEIGHT RESUME ENABLE (B), and REEL POSITION RESUME ENABLE (C) icons.

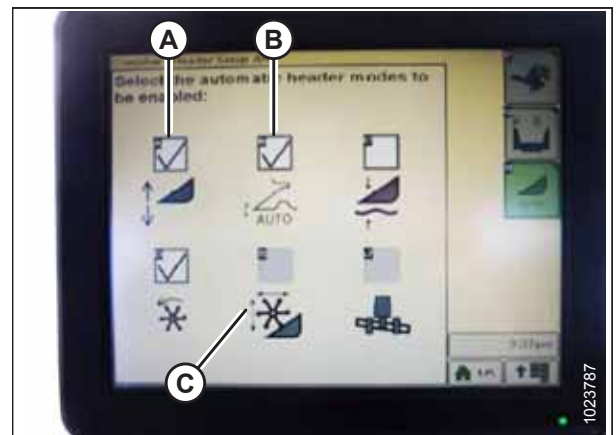


Figure 6.175: Combine Display

PREDELIVERY INSPECTION

4. Turn on header engagement switch (A) and move the header to the desired preset position.
5. The header position can be fine-tuned with HEADER HEIGHT PRESSURE CONTROL DIAL (B).



Figure 6.176: Combine Control Console

6. Hold joystick button 2 (B) until the AHHC icon flashes on the monitor.
7. To store another preset, repeat Step 4, page 178 and Step 6, page 178 for button 3 (C).
8. Select an appropriate ground pressure setting:
 - Preset button 2 (B) on the joystick for a light ground pressure setting. Lighter settings are suitable for muddy or soft soil conditions.
 - Preset button 3 (C) for a heavy ground pressure setting. Heavier ground pressure settings are suitable for harder soil conditions, and allow for a faster ground speed.



Figure 6.177: Joystick Buttons

NOTE:

Preset button 1 (A) is reserved for the header lift function on headlands; it is not used for ground cutting.

NOTE:

When the AHHC is engaged, AHHC icon (A) appears on the monitor. Number (B) indicates which button was most recently pressed.

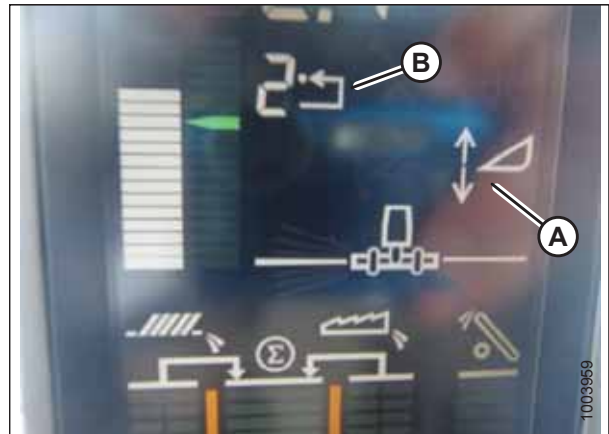


Figure 6.178: Combine Display

6.1.13 New Holland Combines CX/CR Series (CR Series – Model Year 2014 and Earlier)

To make your header's auto header height control (AHHC) system compatible with New Holland CX and CR series combines (CR models of model year 2014 and earlier), you must check the height sensor voltage range, engage and calibrate the AHHC system, and adjust the sensitivity, header rise and fall rates, and the cutting height presets.

NOTE:

For New Holland CR models 6.80, 6.90, 7.90, 8.90, 9.90, and 10.90, refer to [6.1.14 New Holland Combines \(CR Series – Model Year 2015 and Later\)](#), page 186.

Checking Voltage Range from Combine Cab (New Holland CX/CR Series)

To ensure that the auto header height control (AHHC) system on your header works correctly with your New Holland CX or CR series combine, the output voltage from the header height control sensors must be verified.

NOTE:

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



DANGER

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 appears.
3. Select SETTINGS. The SETTINGS page appears.

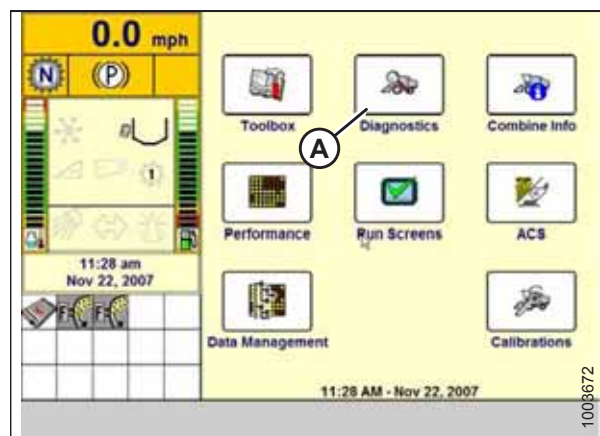


Figure 6.179: New Holland Combine Display

PREDELIVERY INSPECTION

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

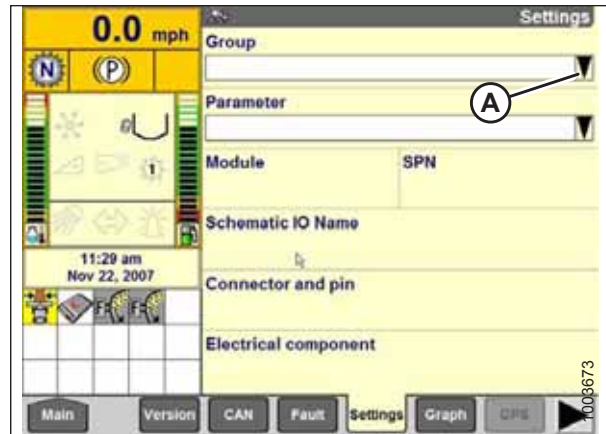


Figure 6.180: New Holland Combine Display

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

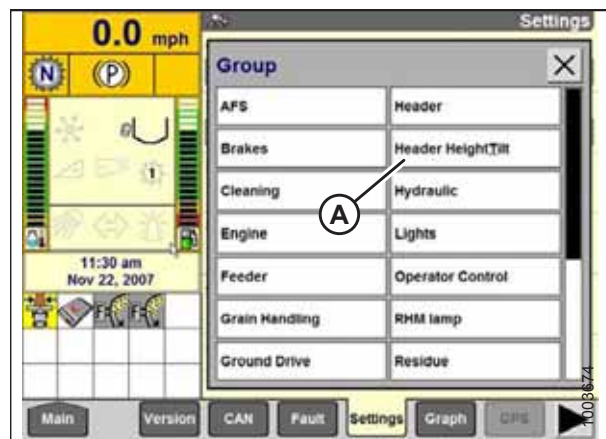


Figure 6.181: New Holland Combine Display

6. Select LEFT HEADER HEIGHT SEN (A), and then select GRAPH button (B). The exact height sensor output voltage is displayed at the top of page.
7. Raise and lower the header to see the full range of height sensor output voltage readings.
8. If the sensor voltage is not within the low and high limits shown in [6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94](#), or if the range between the low and high limits is insufficient, the height sensors will need to be adjusted. For instructions, refer to [Adjusting Header Height Sensor Voltage Range – Left Side, page 97](#) and [Adjusting Header Height Sensor Voltage Range – Right Side, page 97](#).

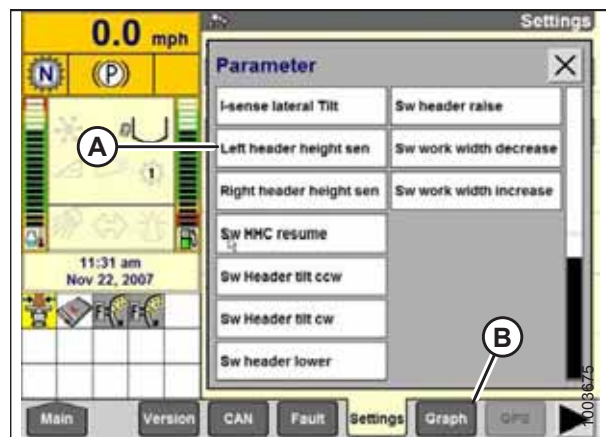


Figure 6.182: New Holland Combine Display

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

Set these initial configuration options on your New Holland CR or CX Series combine when setting up the auto header height control (AHHC) system.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

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



Figure 6.183: New Holland Combine Display

3. Select HEADER AUTOFLOAT and press ENTER.
4. Select INSTALLED.



Figure 6.184: New Holland Combine Display

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

The auto header height control (AHHC) sensor output must be calibrated for New Holland CR and CX series combines, or the AHHC feature will not work properly.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.



DANGER

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.

PREDELIVERY INSPECTION

- The combine is on level ground, with the header level with the ground.
- The engine is running.
- The combine is not moving.
- No faults have been received from the Header Height Controller (HHC) module.
- The header/feeder is disengaged.
- The lateral float buttons are **NOT** pressed.
- The 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.
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 the options.

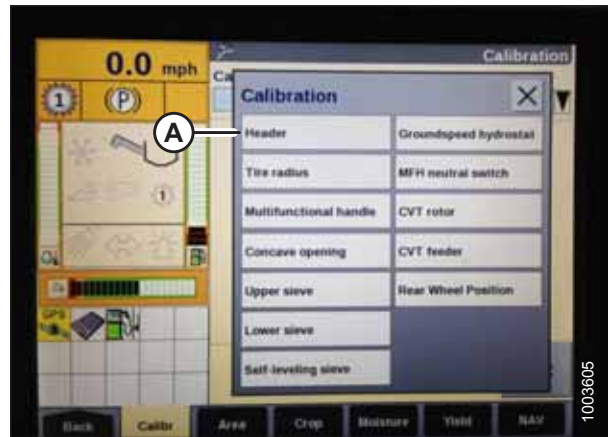


Figure 6.185: New Holland Combine Display

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 3 minutes will stop the calibration process.

NOTE:

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



Figure 6.186: New Holland Combine Display

4. When all steps have been completed, a CALIBRATION SUCCESSFUL message is displayed on the page. Exit the CALIBRATION menu by pressing either the ENTER or ESC key.

NOTE:

If the float was adjusted to a heavier setting to complete the calibration procedure, remember to adjust it back to the recommended operating setting after the calibration procedure is completed.

5. If the AHHC system still does not function properly, conduct the maximum stubble height calibration: [Calibrating Maximum Stubble Height, page 183](#).

Calibrating Maximum Stubble Height

The height at which the combine's harvested area counter stops or starts counting may need to be calibrated for the auto header height control (AHHC) system to work correctly.

Set the maximum stubble height to a value that will never be reached while cutting. The area counter will stop counting harvested area when the header is above the programmed height, and will begin counting when the header is below the programmed height.

IMPORTANT:

- If value is set too low, the harvested area may **NOT** be counted, since the header can be raised above this threshold even while the combine is still harvesting.
- If value is set too high, the area counter will keep counting even when the header is raised and the combine is no longer harvesting, if the header height is still below the height threshold.



DANGER

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.

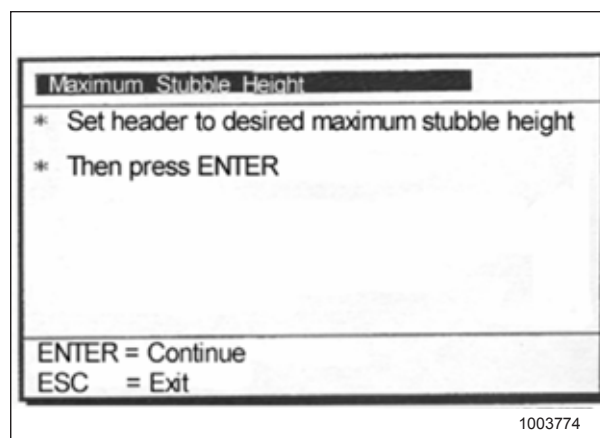


Figure 6.187: New Holland Calibration Dialog Box

2. Move the header to the correct position using the header up or down control switch on the multifunction handle.
3. Press ENTER to continue.
4. Press ENTER or ESC to close the calibration page.

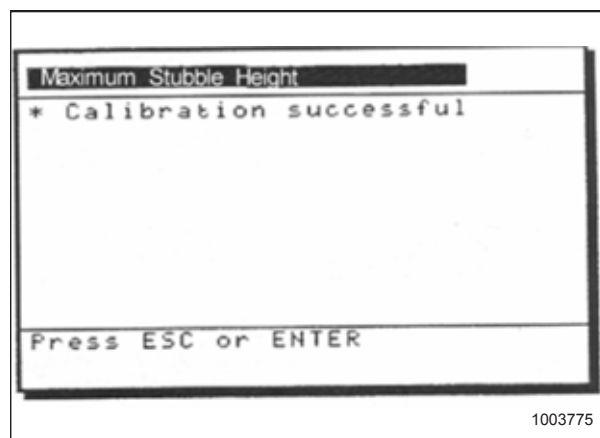


Figure 6.188: New Holland Calibration Dialog Box

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

The speed at which the header rises on a New Holland CR or CX series combine can be adjusted from the combine cab.

NOTE:

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

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

NOTE:

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

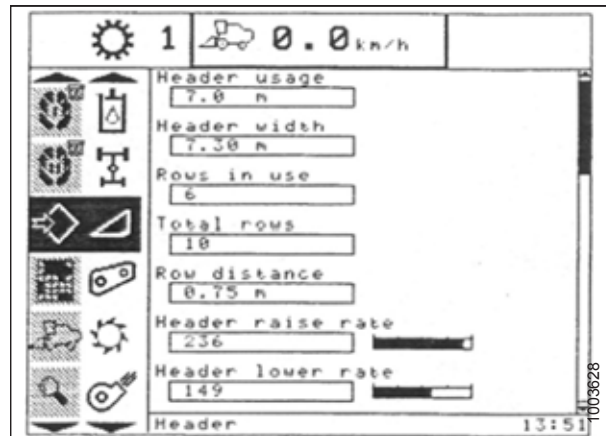


Figure 6.189: New Holland Combine Display

Setting Header Lower Rate (New Holland CR/CX Series)

The speed at which the header falls on a New Holland CR or CX series combine can be adjusted from the combine cab. The recommended header lower rate for these combines is 50.

NOTE:

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

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

NOTE:

The header lower rate can be changed from 2 to 247 in increments of 7. It is factory-set to 100.

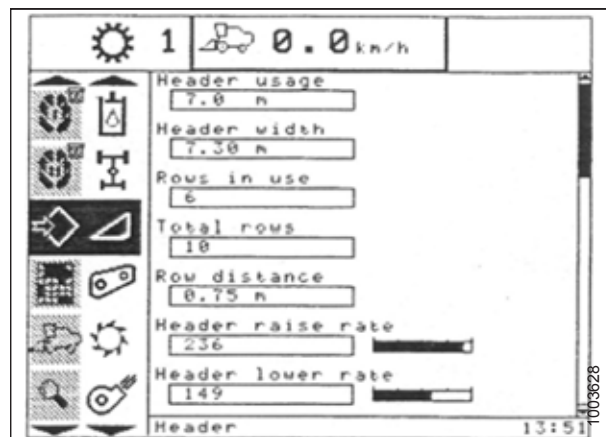


Figure 6.190: New Holland Combine Display

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

Setting the sensitivity of the auto header height control (AHHC) system on a New Holland CR or CX series combine affects how quickly the AHHC system changes the height of the header. The recommended value for these combines is 200.

NOTE:

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

DANGER

Check to be sure all bystanders have cleared the area.

1. Engage the threshing function and the 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 increments of 10. It is factory-set to 100.



Figure 6.191: New Holland Combine Display

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

You will need to configure both preset cutting heights on your New Holland CR or CX series combine to use the auto header height control (AHHC) system with your header.

NOTE:

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

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

NOTE:

It is possible to store two different header height values by using HEADER MEMORY rocker switch (D) in STUBBLE HEIGHT/AUTO FLOAT MODE.

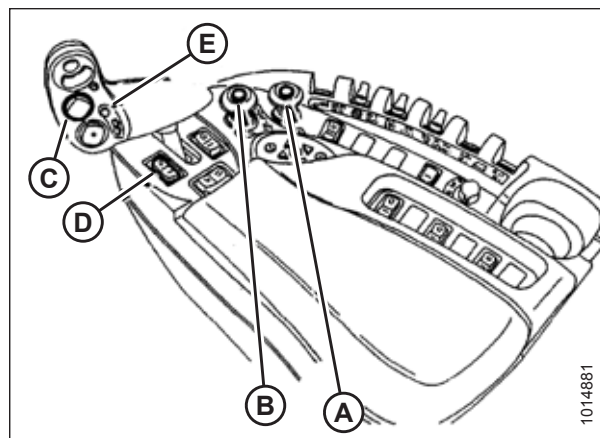


Figure 6.192: New Holland Combine Controls

PREDELIVERY INSPECTION

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

NOTE:

Do **NOT** press too hard on AUTOMATIC HEADER HEIGHT CONTROL button (B), or the float mode will be disengaged.

NOTE:

It is not necessary to press rocker switch (C) again after adjusting the header height.

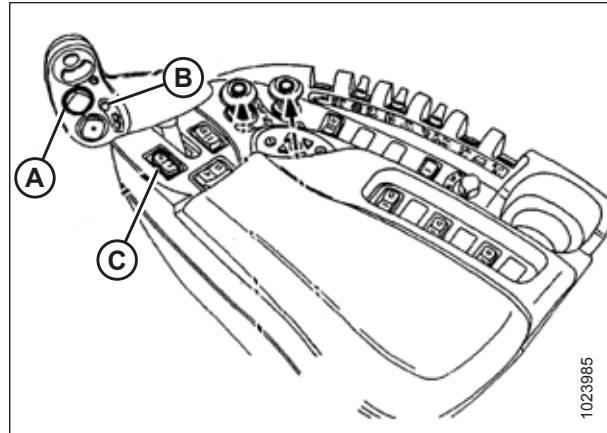


Figure 6.193: New Holland Combine Controls

6.1.14 New Holland Combines (CR Series – Model Year 2015 and Later)

To make your header's auto header height control (AHHC) system compatible with New Holland CR series combines of model year 2015 and later (6.80, 6.90, 7.90, 8.90, 9.90, and 10.90), you must check the height sensor voltage range, engage and calibrate the AHHC system, and adjust the sensitivity, cutting height presets and tilt functions.

Engaging Auto Header Height Control (New Holland CR Series)

Set these initial configuration options on your New Holland CR series combine (model year 2015 or later) when setting up the auto header height control (AHHC) system.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.

- Select TOOLBOX (A) on the main page. The TOOLBOX page appears.

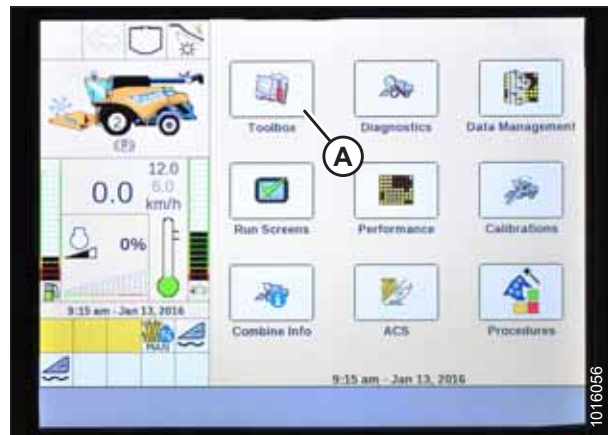


Figure 6.194: New Holland Combine Display

PREDELIVERY INSPECTION

NOTE:

On some older combine models, you may have to simultaneously press both UNLOAD (A) and RESUME (B) buttons on the hydro handle to access the TOOLBOX page.



Figure 6.195: New Holland Combine Controls

2. Select HEAD 1 (A). The HEADER SETUP 1 page appears. The HEADER TYPE field will automatically register as PICKUP (B).

NOTE:

HEADER SUB TYPE menu (C) is not applicable to MacDon pickup headers. The menu's two selectable options – NO HYDR CONTROL and SPARE – have no effect on header performance.

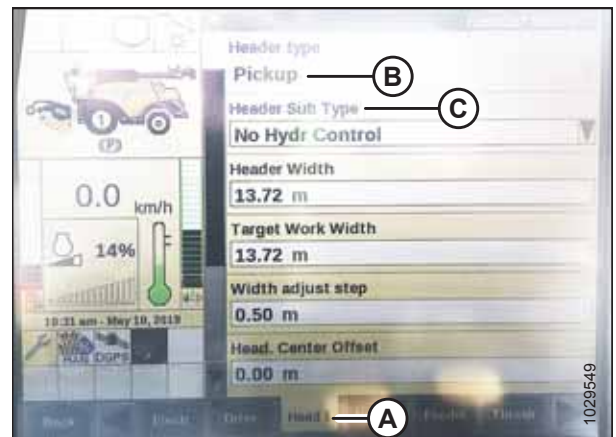


Figure 6.196: New Holland Combine Display

3. Select HEAD 2 (A). The HEADER SETUP 2 page appears.



Figure 6.197: New Holland Combine Display

PREDELIVERY INSPECTION

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

NOTE:

With the AUTO HEADER LIFT feature installed and the AHHC system engaged, the header will lift up automatically whenever you pull back on the hydro handle.

6. Set the values for MANUAL HHC RAISE RATE (C) and MANUAL HHC LOWER RATE (D) according to harvest conditions.



Figure 6.198: New Holland Combine Display

7. Set the values for HHC HEIGHT SENSITIVITY (A) and HHC TILT SENSITIVITY (B) according to harvest conditions.



Figure 6.199: New Holland Combine Display

Checking Voltage Range from Combine Cab (New Holland CR Series)

To ensure that the auto header height control (AHHC) system on your header works correctly with your New Holland CR series combine (model year 2015 or later), the output voltage from the header height control sensors must be verified.

NOTE:

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



DANGER

Check to be sure all bystanders have cleared the area.

1. Position the header 150 mm (6 in.) above the ground.

PREDELIVERY INSPECTION

2. Select DIAGNOSTICS (A) on the main page. The DIAGNOSTICS page appears.



Figure 6.200: New Holland Combine Display

3. Select SETTINGS (A). The SETTINGS page appears.



Figure 6.201: New Holland Combine Display

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



Figure 6.202: New Holland Combine Display

PREDELIVERY INSPECTION

6. Select GRAPH (A). Height sensor out voltage (B) 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 [6.1.3 Height Sensor Output Voltage Range – Combine Requirements, page 94](#), or if the range between the low and high limits is insufficient, the height sensors will need to be adjusted. For instructions, refer to [Adjusting Header Height Sensor Voltage Range – Left Side, page 97](#) and [Adjusting Header Height Sensor Voltage Range – Right Side, page 97](#).

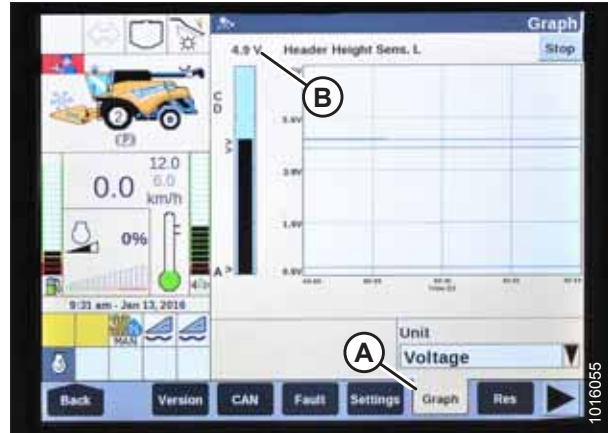


Figure 6.203: New Holland Combine Display

Calibrating Auto Header Height Control (New Holland CR Series)

The auto header height control (AHHC) sensor output must be calibrated for New Holland CR series combines (model year 2015 and later), or the AHHC feature will not work properly.

NOTE:

Changes may have been made to the combine controls or the display since this document was published. For instructions, refer to the combine operator's manual for updated information.



DANGER

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 Header Height Controller (HHC) module.
- The header/feeder is disengaged.
- The lateral float buttons are **NOT** pressed.
- The ESC key is **NOT** pressed.

PREDELIVERY INSPECTION

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



Figure 6.204: New Holland Combine Display

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



Figure 6.205: New Holland Combine Display

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



Figure 6.206: New Holland Combine Display

PREDELIVERY INSPECTION

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

NOTE:

Pressing the ESC key during programming or letting the system sit idle for more than 3 minutes will stop the calibration procedure.

NOTE:

Refer to the combine operator's manual for an explanation of error codes (should any occur).



Figure 6.207: New Holland Combine Display

5. When all calibration steps have been completed, the CALIBRATION COMPLETED message will be displayed on the screen.

NOTE:

If the float was adjusted to a heavier setting to complete ground the calibration procedure, remember to adjust it back to the recommended operating setting after the calibration procedure is completed.



Figure 6.208: New Holland Combine Display

Setting Auto Height (New Holland CR Series)

You will need to configure both preset cutting heights on your New Holland CR series combine (of model year 2015 or later [6.80, 6.90, 7.90, 8.90, 9.90, and 10.90]) to use the auto header height control (AHHC) system with your header.

The console has two buttons used for auto height presets. The toggle switch used on previous models for auto height presets is now configured as shown at right. MacDon headers require only buttons (A) and (B). Button (C) does not need to be configured.



Figure 6.209: New Holland Combine Controls

PREDELIVERY INSPECTION

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



Figure 6.210: New Holland Combine Display

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) as shown.

4. Lower the header to the ground.
5. Select one of auto height set point buttons shown in Figure 6.209, page 192.
 - Press SET 1 button for the lower position
 - Press SET 2 button for the higher position



Figure 6.211: New Holland Combine Display

PREDELIVERY INSPECTION

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 main page. The TOOLBOX page appears.



Figure 6.212: New Holland Combine Display

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

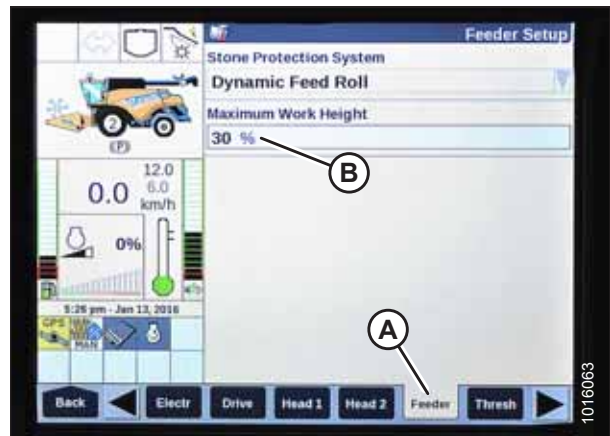


Figure 6.213: New Holland Combine Display

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



Figure 6.214: New Holland Combine Display

6.2 Wheels and Tires

There are two wheels and tires on the pick-up header, one on each side.



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

6.2.1 Inflating Tires

Maintain the correct tire pressure to achieve the desired pick-up height. Check the tire pressure daily.

Table 6.2 Tire (MD #152724)

Tire	Pressure
18.50 x 8.50-8	240–310 kPa (35–45 psi) ⁴

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

6.3 Checking Draper Belt Tension

Proper draper tension is achieved when the draper aligns with the indicator notches in the viewing slots on the side of the header.

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

DANGER

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

NOTE:

Drapers may be sticky when new. To help reduce stickiness, apply talcum or baby powder to the drapers.

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

IMPORTANT:

For proper draper tracking, ensure that deck indicator (B) is in the same position on both sides of the header.

If the drapers need to be adjusted, refer to [6.3.1 Adjusting Front Draper Belt Tension, page 196](#) or [6.3.2 Adjusting Rear Draper Belt Tension, page 201](#).

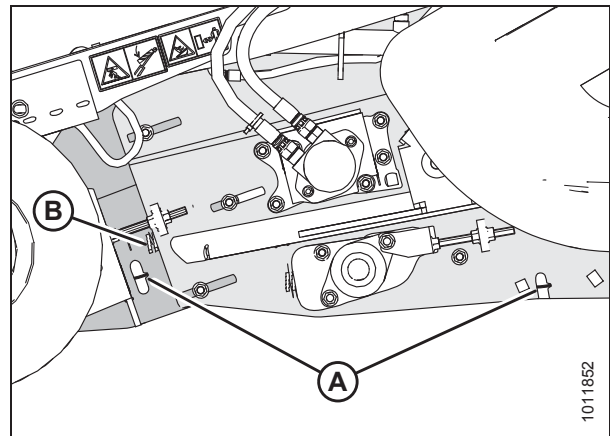


Figure 6.215: Draper Tension Indicator

6.3.1 Adjusting Front Draper Belt Tension

If the front draper belt does not line up with the tension indicator notches in the viewing holes on the side of the header, it will need to be adjusted. If you notice any symptoms of incorrect draper tracking such as a wrinkled belt, a belt worn from rubbing on the header, or a belt that has flipped back onto itself, adjust the draper tension.

DANGER

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

1. Raise the header fully.
2. Shut down the engine, and remove the key from the ignition.
3. Engage the header safety props.

PREDELIVERY INSPECTION

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

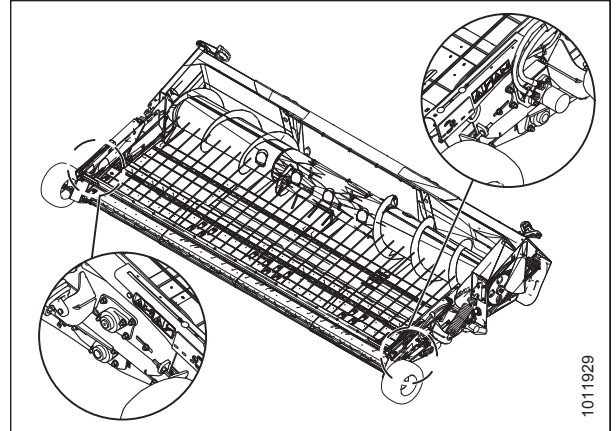


Figure 6.216: Front Deck Adjusting Bolt Locations

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.).

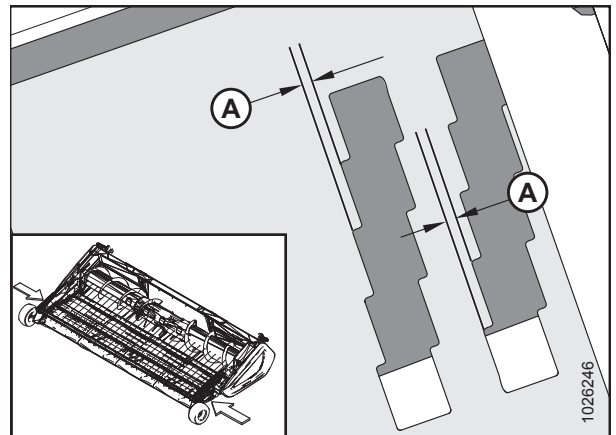


Figure 6.217: Stepped Position Indicators

4. Loosen three clamp bolts (A) on each side of the header.
5. Loosen jam nut (B) on the left side of the header.

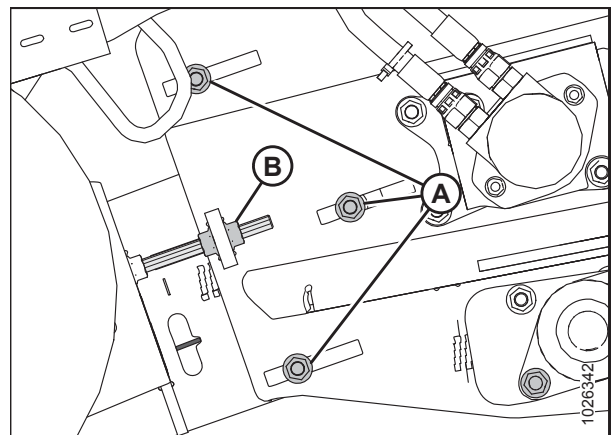


Figure 6.218: Front Deck – Left Side Shown, Right Side Opposite

PREDELIVERY INSPECTION

6. Turn adjuster nut (A) to set the draper tension. Proper tension is achieved when the draper lines up with indicator notch (B).

IMPORTANT:

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

- Joining bolts pulled out of the draper
- Damage to the rollers or bearings
- Drapers twisting and wrinkling

NOTE:

Note the position of stepped position indicator gauge (C).

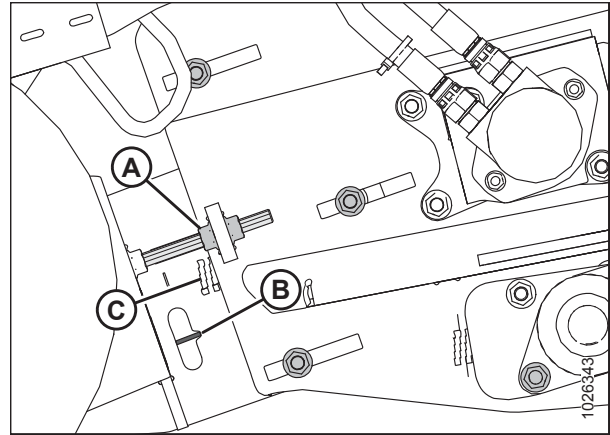


Figure 6.219: Front Deck – Left Side Shown, Right Side Opposite

7. Loosen jam nut (A) on the right side of the header.
8. Turn adjuster nut (B) until the position of right stepped position indicator gauge (C) is identical to that on the left stepped position indicator gauge.

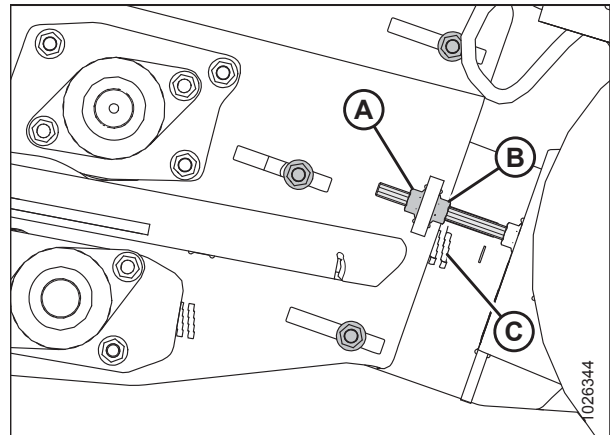
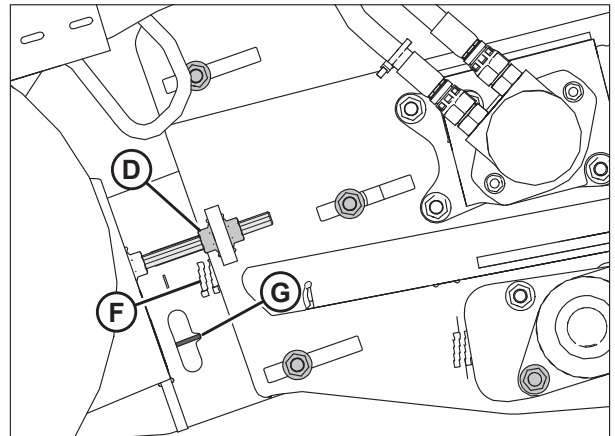
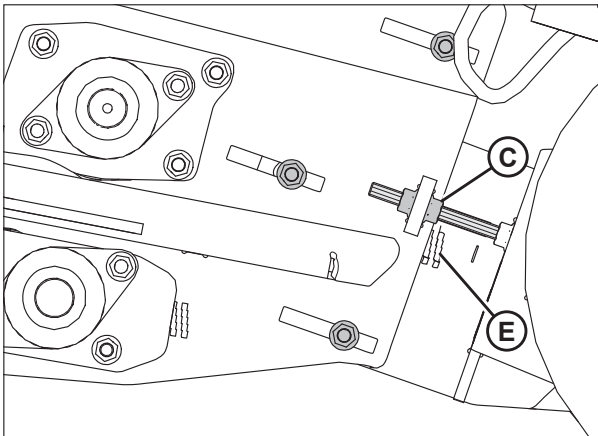
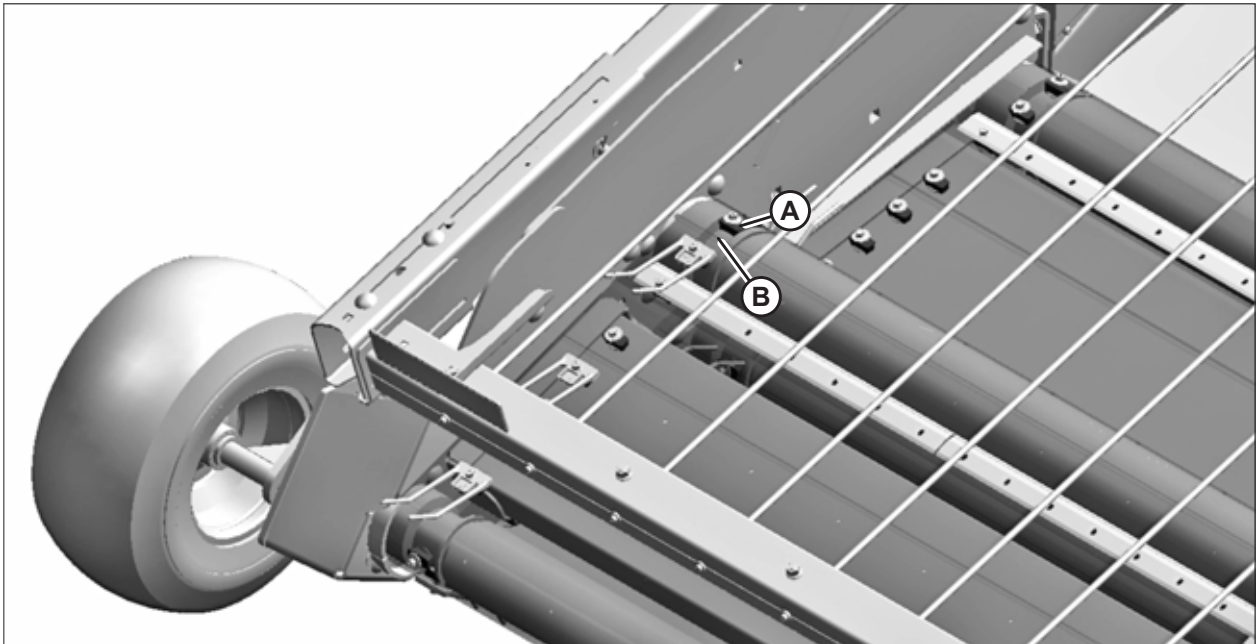


Figure 6.220: Stepped Position Indicator Gauge – Right Side



1036427

Figure 6.221: Draper Guides

9. If the draper lifts or if V-guides (D) are pulled from drive roller grooves (E) on the header, **LOOSEN** adjuster nut [(A) for the right side, (B) for the left side] by one half turn on the side of the header which the draper should track towards. On the **OPPOSITE** side of the header, **TIGHTEN** the adjuster nut by the same amount (one half turn in this example). Confirm right stepped position indicator gauge (E) is **identical** to that on the left stepped position indicator gauge (F). Make sure draper lines up with indicator notch (G).

PREDELIVERY INSPECTION

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

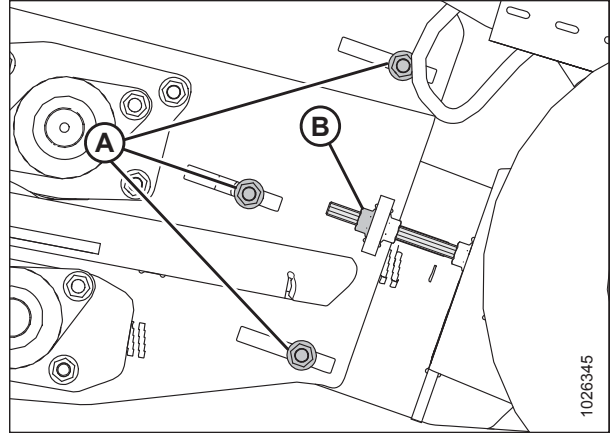


Figure 6.222: Front Deck Adjuster

6.3.2 Adjusting Rear Draper Belt Tension

If the rear draper belt does not line up with the tension indicator notches in the viewing holes on the side of the header, it will need to be adjusted.



DANGER

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

1. Raise the header fully.
2. Shut down the engine, and remove the key from the ignition.
3. Engage the header safety props.
4. Turn off the engine and remove the key from the ignition.
5. Loosen two clamp bolts (A) on the left side of the header.
6. Loosen jam nut (B).
7. 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 the draper above indicator notch (B). Drapers only need to be tight enough to prevent slippage. Overtightening drapers may result in the following:

- Joining bolts may be pulled out of the draper.
- Damage to the rollers or bearings.
- Drapers twisting and wrinkling.

NOTE:

If the draper lifts or if the guides are pulled from their grooves on the header, loosen adjuster nut (A) by one half turn on the side of the header which the draper should track towards.

8. Tighten clamp bolts (A) and jam nut (B).
9. Note the position of indicator (E) and set the right side [(D), Figure 6.224, page 202] to the same position.

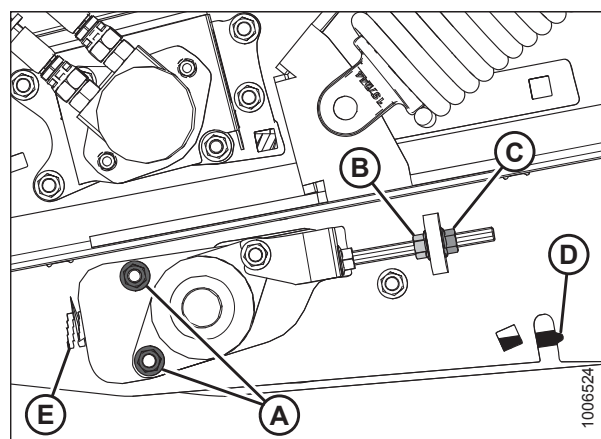


Figure 6.223: Rear Deck – Left Side Shown

PREDELIVERY INSPECTION

10. Loosen three clamp bolts (A) on the right side of the header.
11. Loosen jam nut (B).
12. Loosen jam nut (A) on the right side of the header. Turn adjuster nut (B) until the position of right stepped position indicator gauge (C) is identical to that on the left stepped position indicator gauge.
13. Tighten clamp bolts (A) and jam nut (B).

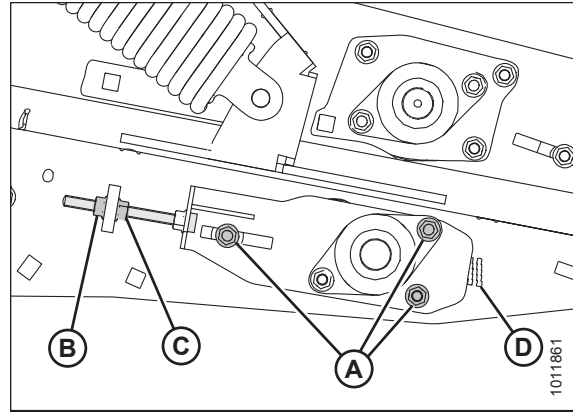


Figure 6.224: Rear Deck – Right Side Shown

6.4 Lubrication

Proper lubrication is essential to ensuring the service life of the pick-up header.



DANGER

To avoid personal injury, before servicing the header or opening the drive covers, perform the following procedures:

- Lower the header fully. If you intend to work on the header in the raised position, always engage the header lift cylinder safety props on the combine.
- Stop the engine and remove the key.
- Engage the parking brake.
- Wait for all moving parts to stop.

6.4.1 Lubricating the Header

Lubricate the header with the specified grease for maximum service life.

Lubricant	Specification	Description	Use
Grease	SAE Multi-purpose	High temperature extreme pressure (EP2) performance with 1% max Molybdenum Disulphide (NLGI Grade 2) Lithium base	As required unless otherwise specified
		Extreme pressure (EP) performance with 1.5–5% Molybdenum Disulphide (NLGI Grade 2) Lithium base	Drive motor shaft



DANGER

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

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

6.4.2 Lubricating Auger Drive Chain

The auger drive chain should be lubricated frequently with SAE 30 engine oil for maximum service life.



DANGER

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

1. Lower the header fully.
2. Shut down the engine, and remove the key from the ignition.

PREDELIVERY INSPECTION

3. Open left endshield (A). For instructions, refer to [3.3.1 Opening Left Endshield, page 14](#).

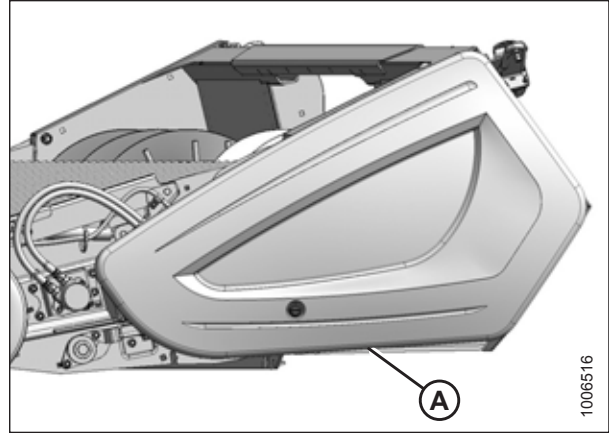


Figure 6.225: Left Endshield

4. Apply a liberal amount of SAE 30 engine oil to chain (A).
5. Close the left endshield. For instructions, refer to [3.3.2 Closing Left Endshield, page 15](#).

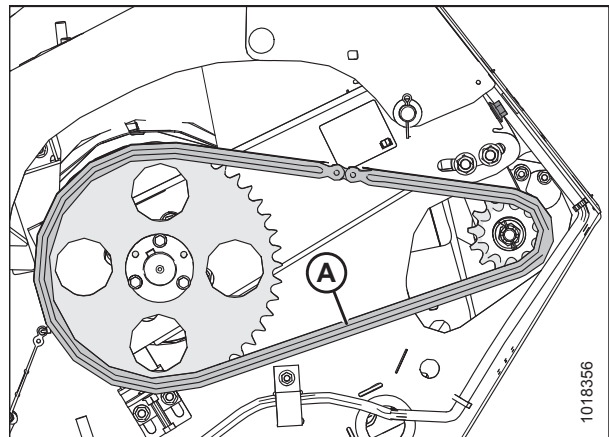


Figure 6.226: Auger Drive Chain

6.4.3 Greasing Points

Add grease to these greasing points according to the maintenance schedule. Be sure to leave a small blob of grease on top of each fitting to prevent contamination.

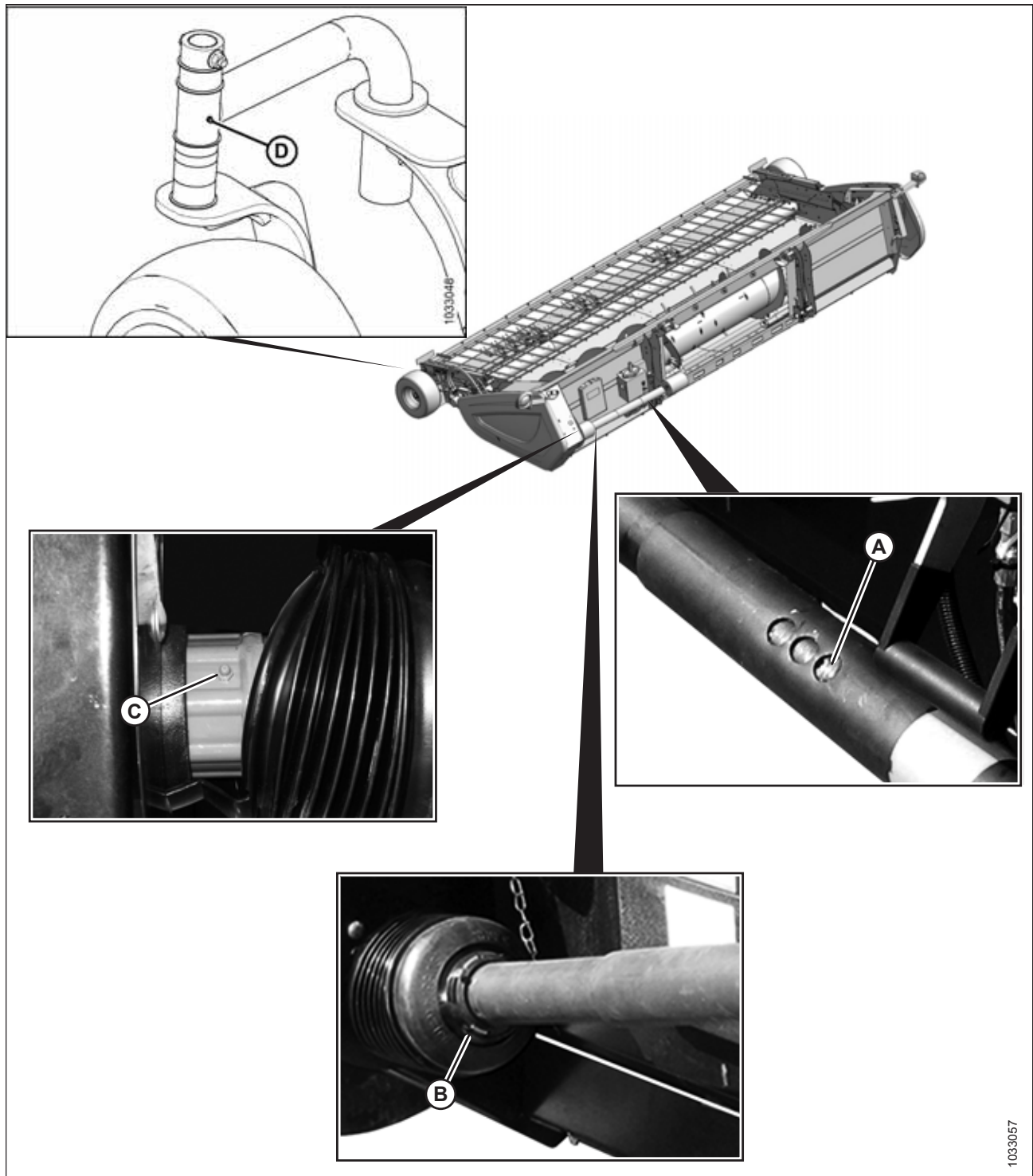


Figure 6.227: Greasing Points

A - Driveline Slip-Joint
C - Driveline Clutch

B - Driveline Guard (Both Ends)
D - Optional Caster Wheel (Two Places)

NOTE:

The header illustration shows the factory-equipped fixed wheels. Caster wheels (D) are available as an optional kit, and should be greased if equipped.

6.5 Checking Contents of Manual Storage Case

The manuals case contains manuals for the Operator and, if the header was shipped with a Case/New Holland completion package, decals for endshields.

1. Remove cable tie on manual case (A), and open case.
2. Check that the case contains the following manuals:
 - PW8 Pick-Up Header Operator's Manual
 - PW8 Pick-Up Header Parts Catalog
3. Return the manuals to the case.
4. **Headers shipped with a Case/New Holland completion package:** Remove the red and yellow stripe decals from the case and set aside for installation.
5. Close the manual case.

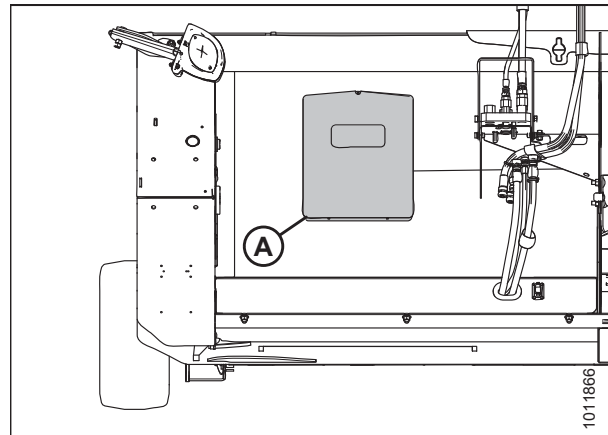


Figure 6.228: Manual Storage Case

6.6 Installing Endshield Decals – Case and New Holland Combines Only

If the header was shipped with a Case/New Holland completion package, 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.

1. Clean and dry the installation area outlined by black shadow (A) on the left endshield.
2. Ensure the decal is placed on top of 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 this procedure on the right endshield.

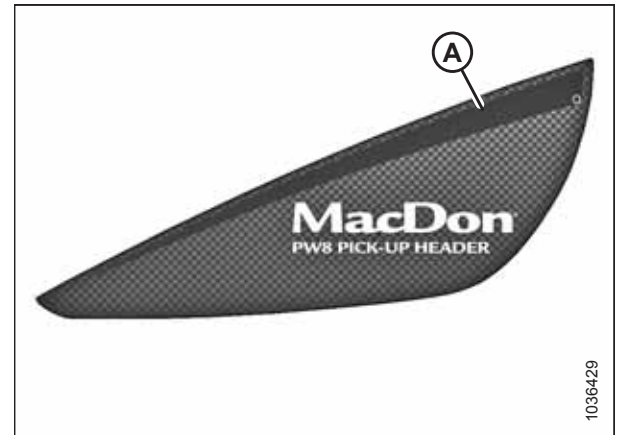


Figure 6.229: Left Endshield – Right Opposite

6.7 Running up the Header

DANGER

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

DANGER

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

DANGER

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

NOTE:

Perform all testing with the pick-up header in 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 the 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. To test the function of the height controller, 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. If applicable, check that the draper speed and auger speed are displayed on the combine display.
4. Fully raise the hold-down. If the hold-down is not level, perform the following steps:
 - a. Raise the hold-down and leave it pressurized to rephase.
 - b. Lower and raise the hold-down several times and check that the hold-down is level.
 - c. If the hold-down is still not level, lower the hold-down. Place a container under the bleed screw on the slave cylinder and remove the bleed screw.
 - d. Pressurize the hold-down circuit until the oil flow is free of air bubbles.
 - e. Lower the hold-down and reinstall the bleed plug. Torque the plug to 3.4 Nm (30 lbf-in).
 - 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 extended 0–13 mm (0–1/2 in.) when the master cylinder is fully retracted.
5. Watch the draper at the V-guide drive roller locations for the following:
 - a. If draper is lifting or V-guides seem to be climbing out of the groove, loosen (one-half thread turn) the side you want draper to track towards and tighten the other side (the same amount).
 - b. If V-guides are still pulling out of the grooves, raise the wheel again 152 mm (6 in.), run the header for 15 seconds and then lower back to level position. Once in level position, run the header for another 30 seconds—this will get the guides back into the groove.
6. Perform the run-up check and the post run-up check listed on the [Predelivery Checklist, page 221](#) to ensure the machine is field-ready.

Chapter 7: Reference

The reference chapter provides additional information such as lubricants, fluids, and system capacities, fuel and torque specifications, conversion chart, and a list of acronyms, abbreviations, and terms used in this publication.

7.1 Recommended Fluids and Lubricants

Lubricate header with the specified grease and lubricant for maximum service life.

Keep your machine operating at top efficiency by using only clean lubricants and by ensuring the following:

- Use clean containers to handle all lubricants.
- Store lubricants in an area protected from dust, moisture, and other contaminants.

Table 7.1 Recommend Fluids and Lubricants

Lubricant	Specification	Description	Use
Grease	SAE multi-purpose	High temperature extreme pressure (EP2) performance with 1% max molybdenum disulphide (NLGI Grade 2) lithium base	As required, unless otherwise specified
		Extreme pressure (EP) performance with 1.5–5% molybdenum disulphide (NLGI Grade 2) lithium base	Drive motor shaft
Oil	SAE 30	—	Auger drive chain

7.2 Definitions

Understanding the technical terms and acronyms used throughout this document will improve your ability to apply the procedures detailed herein.

Term	Definition
AHHC	Auto header height control
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 gross vehicle 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 openings 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 an O-ring seal (ORS)

REFERENCE

Term	Definition
Pick-up header	A machine that attaches to a combine and 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
Torque	The product of a force X lever arm length, usually measured in Newton-meters (Nm) or foot-pounds (lbf·ft)
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
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

7.3 Conversion Chart

Both SI units (including metric) and US customary units (sometimes referred to as standard units) of measurement are used in this manual. A list of those units along with their abbreviations and conversion factors is provided here for your reference.

Table 7.2 Conversion Chart

Quantity	SI Units (Metric)		Factor	US Customary Units (Standard)	
	Unit Name	Abbreviation		Unit Name	Abbreviation
Area	hectare	ha	$\times 2.4710 =$	acre	acres
Flow	liters per minute	L/min	$\times 0.2642 =$	US gallons per minute	gpm
Force	Newton	N	$\times 0.2248 =$	pound force	lbf
Length	millimeter	mm	$\times 0.0394 =$	inch	in.
Length	meter	m	$\times 3.2808 =$	foot	ft.
Power	kilowatt	kW	$\times 1.341 =$	horsepower	hp
Pressure	kilopascal	kPa	$\times 0.145 =$	pounds per square inch	psi
Pressure	megapascal	MPa	$\times 145.038 =$	pounds per square inch	psi
Pressure	bar (Non-SI)	bar	$\times 14.5038 =$	pounds per square inch	psi
Torque	Newton meter	Nm	$\times 0.7376 =$	pound feet or foot pounds	lbf-ft
Torque	Newton meter	Nm	$\times 8.8507 =$	pound inches or inch pounds	lbf-in
Temperature	degrees Celsius	°C	$(^{\circ}\text{C} \times 1.8) + 32 =$	degrees Fahrenheit	°F
Velocity	meters per minute	m/min	$\times 3.2808 =$	feet per minute	ft/min
Velocity	meters per second	m/s	$\times 3.2808 =$	feet per second	ft/s
Velocity	kilometers per hour	km/h	$\times 0.6214 =$	miles per hour	mph
Volume	liter	L	$\times 0.2642 =$	US gallon	US gal
Volume	milliliter	mL	$\times 0.0338 =$	ounce	oz.
Volume	cubic centimeter	cm ³ or cc	$\times 0.061 =$	cubic inch	in. ³
Weight	kilogram	kg	$\times 2.2046 =$	pound	lb.

7.4 Torque Specifications

The following tables provide 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.

Jam nuts

When applying torque to finished jam nuts, multiply the torque applied to regular nuts by $f=0.65$.

Self-tapping screws

Standard torque is to be used (**NOT** to be used on critical or structurally important joints).

7.4.1 Metric Bolt Specifications

Torque values shown in following tables are valid for non-greased, or non-oiled threads and heads; therefore, do **NOT** grease or oil bolts or cap screws unless otherwise specified in this manual.

Table 7.3 Metric Class 8.8 Bolts and Class 9 Free Spinning Nut

Nominal Size (A)	Torque (Nm)		Torque (lbf·ft) (*lbf·in)	
	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

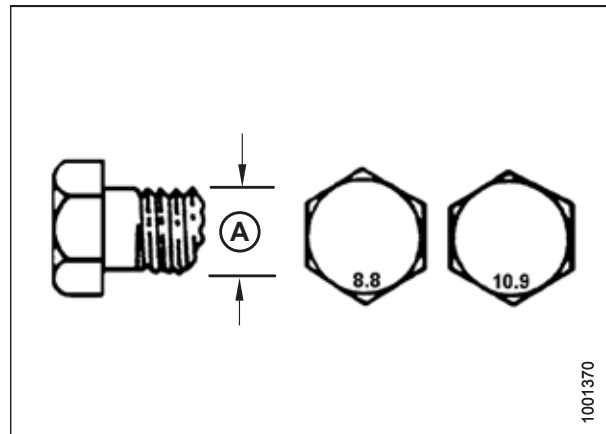


Figure 7.1: Bolt Grades

Table 7.4 Metric Class 8.8 Bolts and Class 9 Distorted Thread Nut

Nominal Size (A)	Torque (Nm)		Torque (lbf·ft) (*lbf·in)	
	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

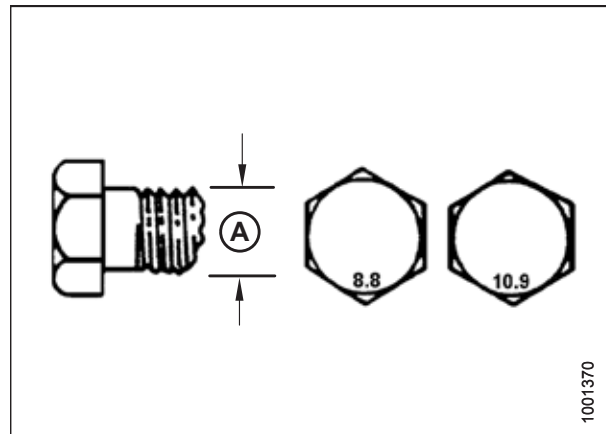


Figure 7.2: Bolt Grades

REFERENCE

Table 7.4 Metric Class 8.8 Bolts and Class 9 Distorted Thread Nut (continued)

Nominal Size (A)	Torque (Nm)		Torque (lbf·ft) (*lbf·in)	
	Min.	Max.	Min.	Max.
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

Table 7.5 Metric Class 10.9 Bolts and Class 10 Free Spinning Nut

Nominal Size (A)	Torque (Nm)		Torque (lbf·ft) (*lbf·in)	
	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

Table 7.6 Metric Class 10.9 Bolts and Class 10 Distorted Thread Nut

Nominal Size (A)	Torque (Nm)		Torque (lbf·ft) (*lbf·in)	
	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

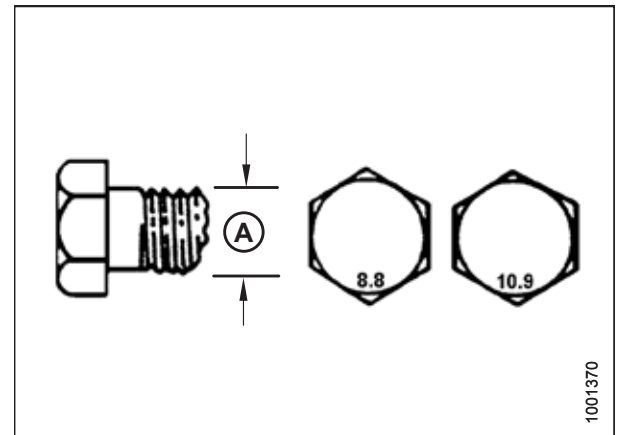


Figure 7.3: Bolt Grades

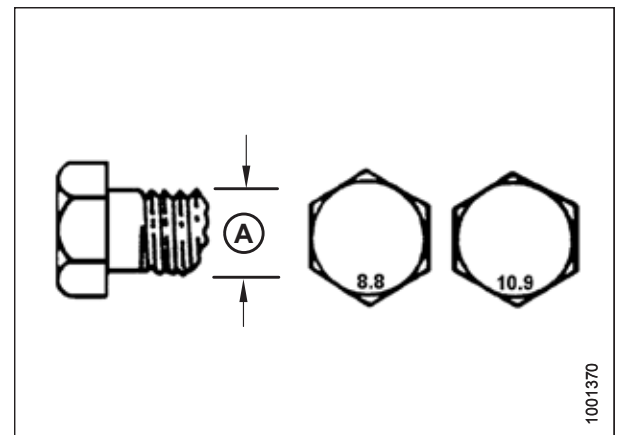


Figure 7.4: Bolt Grades

7.4.2 Metric Bolt Specifications Bolting into Cast Aluminum

Torque values shown in following tables are valid for non-greased, or non-oiled threads and heads; therefore, do **NOT** grease or oil bolts or cap screws unless otherwise specified in this manual.

Table 7.7 Metric Bolt Bolting into Cast Aluminum

Nominal Size (A)	Bolt Torque			
	8.8 (Cast Aluminum)		10.9 (Cast Aluminum)	
	Nm	lbf-ft	Nm	lbf-ft
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	—	—	—	—

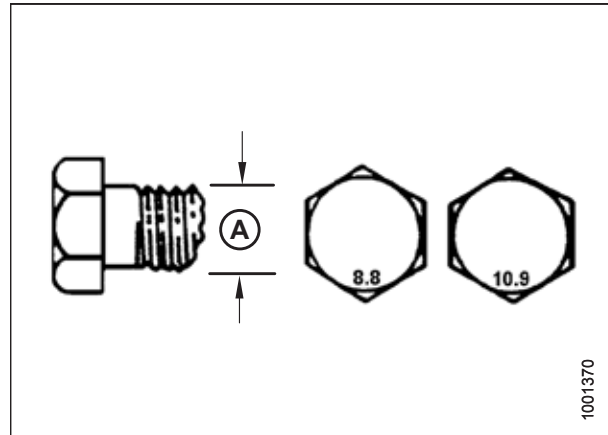


Figure 7.5: Bolt Grades

7.4.3 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 7.8, page 214](#).
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.

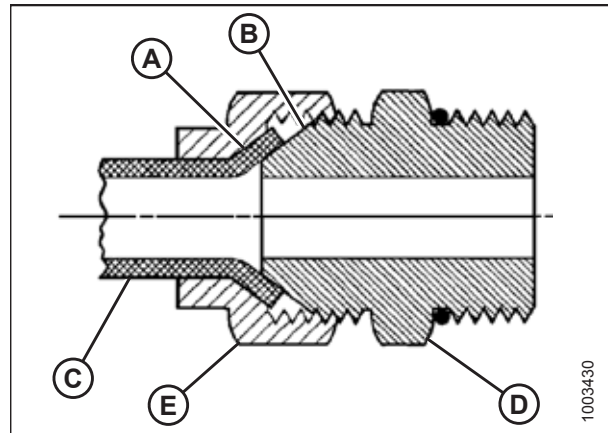


Figure 7.6: Hydraulic Fitting

Table 7.8 Flare-Type Hydraulic Tube Fittings

SAE Dash Size	Thread Size (in.)	Torque Value ⁵		Flats from Finger Tight (FFFT)	
		Nm	lbf-ft	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

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

Table 7.8 Flare-Type Hydraulic Tube Fittings (continued)

SAE Dash Size	Thread Size (in.)	Torque Value ⁶		Flats from Finger Tight (FFFT)	
		Nm	lbf-ft	Tube	Swivel Nut or Hose
-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

7.4.4 O-Ring Boss Hydraulic Fittings – Adjustable

Torque values are shown in following table below.

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).

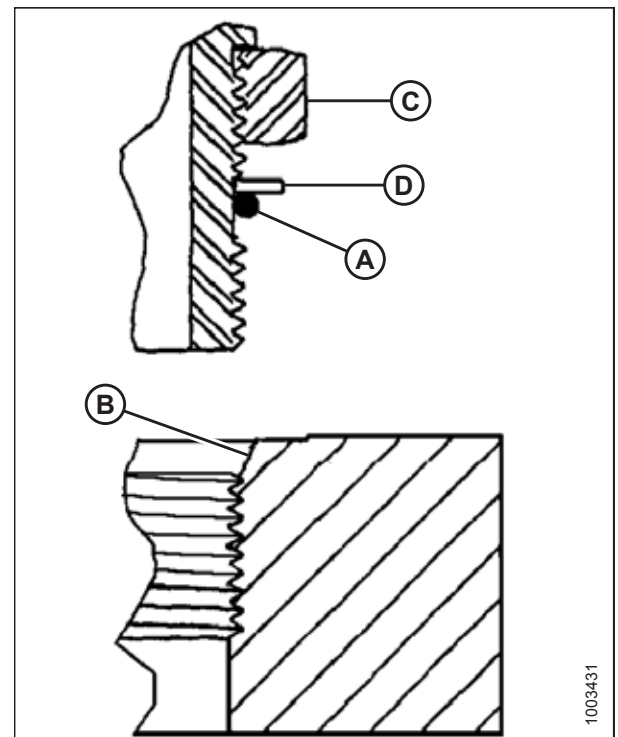


Figure 7.7: Hydraulic Fitting

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

REFERENCE

5. Install fitting (B) into port until backup washer (D) and O-ring (A) contact part face (E).
6. Position the 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 the final condition of the fitting.

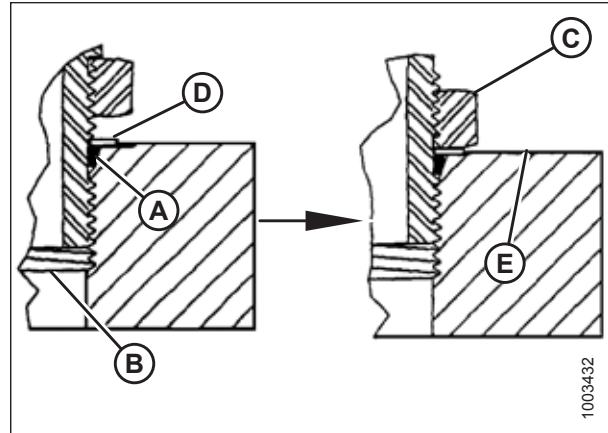


Figure 7.8: Hydraulic Fitting

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

SAE Dash Size	Thread Size (in.)	Torque Value ⁷	
		Nm	lbf·ft (*lbf·in)
-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

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

7.4.5 O-Ring Boss Hydraulic Fittings – Non-Adjustable

Torque values are shown in following table below.

1. Inspect O-ring (A) and seat (B) for dirt or obvious defects.
2. Check that O-ring (A) is **NOT** on the threads and adjust if necessary.
3. Apply hydraulic system oil to the O-ring.
4. Install fitting (C) into port until the fitting is hand-tight.
5. Torque fitting (C) according to values in Table 7.10, page 217.
6. Check the final condition of the fitting.

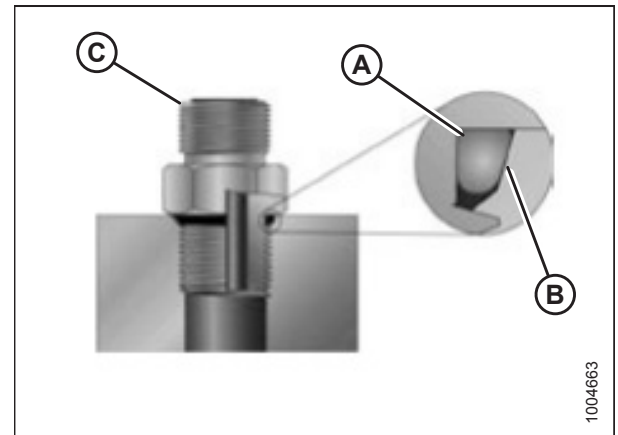


Figure 7.9: Hydraulic Fitting

Table 7.10 O-Ring Boss (ORB) Hydraulic Fittings – Non-Adjustable

SAE Dash Size	Thread Size (in.)	Torque Value ⁸	
		Nm	lbf·ft (*lbf·in)
-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

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

7.4.6 O-Ring Face Seal Hydraulic Fittings

Torque values are shown in following table below.

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



Figure 7.10: Hydraulic Fitting

2. Apply hydraulic system oil to O-ring (B).
3. Align the tube or hose assembly so that the flat face of sleeve (A) or (C) comes in full contact with O-ring (B).
4. Thread tube or hose nut (D) until it is hand-tight. The nut should turn freely until it is bottomed out.
5. Torque the fittings according to values in Table 7.11, page 218.

NOTE:

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

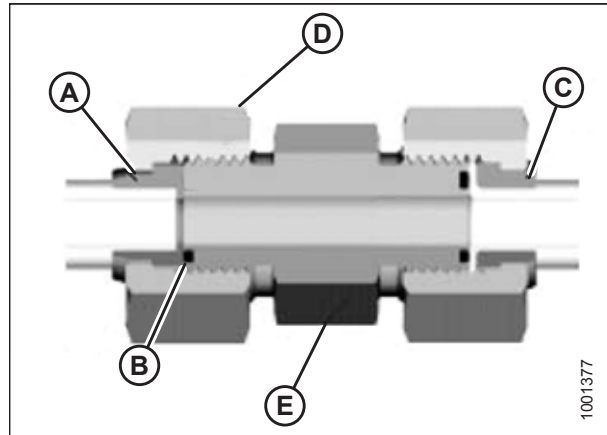


Figure 7.11: Hydraulic Fitting

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

Table 7.11 O-Ring Face Seal (ORFS) Hydraulic Fittings

SAE Dash Size	Thread Size (in.)	Tube O.D. (in.)	Torque Value ⁹	
			Nm	lbf·ft
-3	Note ¹⁰	3/16	–	–
-4	9/16	1/4	25–28	18–21
-5	Note ¹⁰	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 ¹⁰	7/8	–	–

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

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

REFERENCE

Table 7.11 O-Ring Face Seal (ORFS) Hydraulic Fittings (continued)

SAE Dash Size	Thread Size (in.)	Tube O.D. (in.)	Torque Value ¹¹	
			Nm	lbf·ft
-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

7.4.7 Tapered Pipe Thread Fittings

Torque values are shown in following table below.

Assemble pipe fittings as follows:

1. Check components to ensure that the fitting and port threads are free of burrs, nicks, scratches, and any form of contamination.
2. Apply pipe thread sealant (paste type) to the external pipe threads.
3. Thread the fitting into the port until it is hand-tight.
4. Torque the connector to the appropriate torque angle. The turns from finger tight (TFFT) and flats from finger tight (FFFT) values are shown in Table 7.12, page 219. Make sure that the tube end of a shaped connector (typically 45° or 90°) is aligned to receive the incoming tube or hose assembly. Always finish alignment of fitting in the direction of tightening. Never back off (loosen) the pipe threaded connectors to achieve alignment.
5. Clean all the residue and any excess thread conditioner with an appropriate cleaner.
6. Assess the final condition of the fitting. Pay special attention to the possibility of cracks to port opening.
7. Mark the final position of the fitting. If a fitting leaks, disassemble the fitting and check it for damage.

NOTE:

Overtorque failure of fittings may not be evident until fittings are disassembled.

Table 7.12 Hydraulic Fitting Pipe Thread

Tapered Pipe Thread Size	Recommended TFFT	Recommended FFFT
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

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

Predelivery Checklist

After completing setup and adjustment procedures, perform these checks before delivering the header 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.

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.	7.4 Torque Specifications, page 212
	Check that wheels are in field (working) position.	3.6 Setting Fixed Wheels to Field/Working Position, page 20
	Check if tire air pressure is 240–310 kPa (35–45 psi). Adjust as required.	6.2.1 Inflating Tires, page 195
	Check that the hold-down is set in the field/working position.	3.8 Extending Hold-Down to Field/Working Position, page 22
	Check if the machine is completely lubricated.	6.4.1 Lubricating the Header, page 203
	Check draper belt tension.	6.3 Checking Draper Belt Tension, page 196
	Check that transport lights (if installed) are extended.	3.9 Adjusting Transport Lights, page 23
	Check that the height sensor is calibrated.	6.1.1 Auto Header Height Control System Overview, page 93
Run-Up Procedure		
	Check the hydraulic hose and wiring harness routing for clearance problems when raising or lowering the header and hold-down bar.	—
	Check that the hold-down is level when fully raised.	6.7 Running up the Header, page 208
	Check that the draper speed sensor is working.	Refer to combine operator's manual
	Check that the height controller is working.	6.7 Running up the Header, page 208
	Check that the transport lights (if installed) are functional.	Refer to combine operator's manual
Post Run-Up Checks. Stop Engine.		
	Check the drives for heated bearings.	—
	Check for hydraulic leaks.	—
	Check that the manual storage case contains the PW8Swath Up 450 Pick-Up Header Operator's Manual and Parts Catalog.	6.5 Checking Contents of Manual Storage Case, page 206

Date Checked:

Checked by:



CUSTOMERS
MacDon.com

DEALERS
Portal.MacDon.com

Trademarks of products are the marks of their
respective manufacturers and/or distributors.

Printed in Canada