MacDon

M-Series
Self-Propelled Windrower

Unloading and Assembly Instructions (Container Shipments)

147962 Revision A
2017 Model Year
Original Instruction

The harvesting specialists.

Featuring the Dual Direction® and Ultra Glide® suspension on the M155 and M205.

Published in August, 2016

Introduction

This instruction manual describes the unloading, setup, and predelivery requirements for the MacDon M-Series Self-Propelled Windrowers shipped in containers.

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

Retain this instruction for future reference.

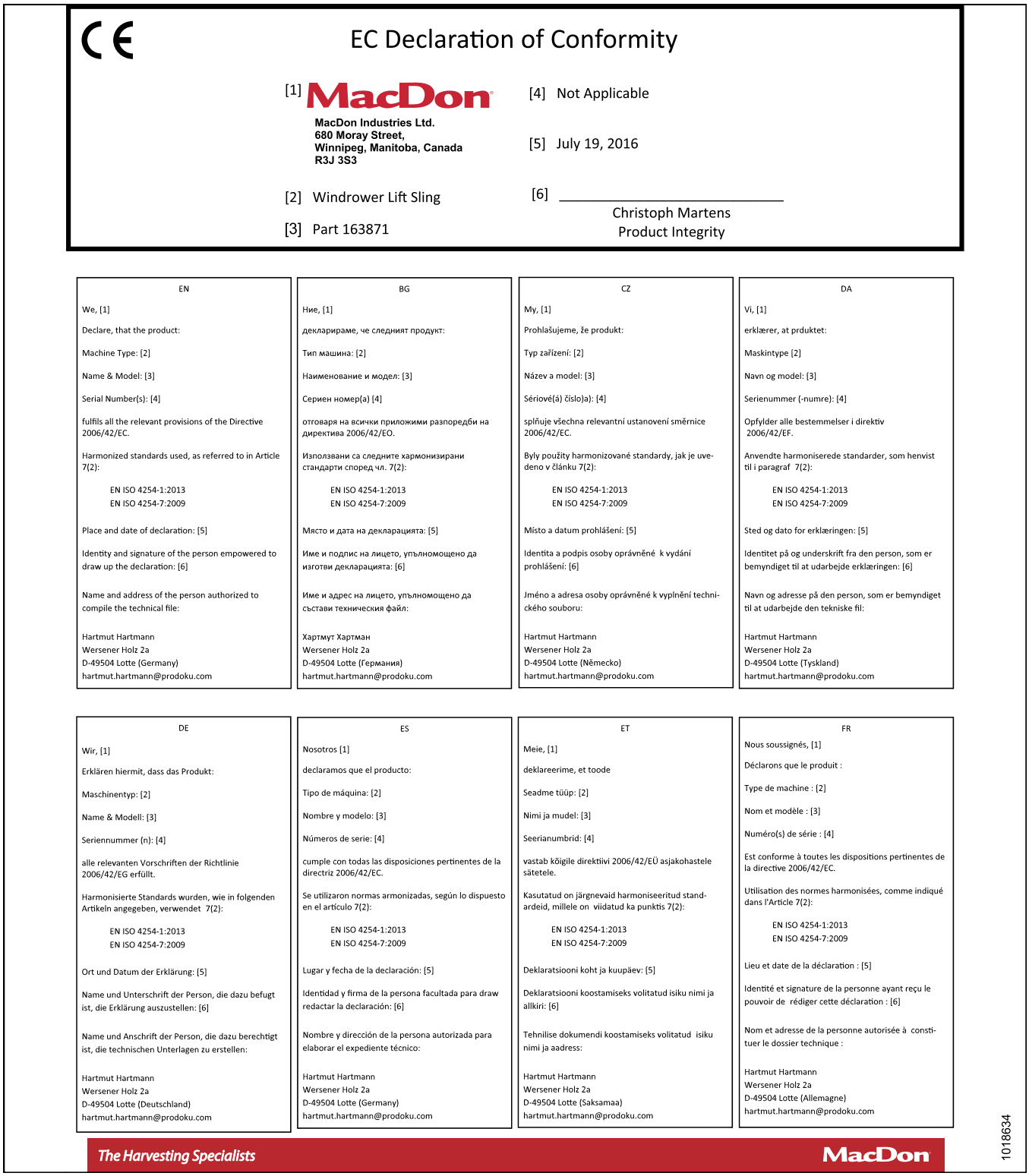
Conventions

The following conventions are used in this document: Right- and left-hand are determined from the operator's position. The front of the windrower is the side that faces the crop.

NOTE:
Keep your MacDon publications up-to-date. The most current version can be downloaded from our Dealer-only site (*https://portal.macdon.com*) (login required).

This instruction is also available in Russian and can be downloaded from our Dealer-only site.

EC Declaration of Conformity—Windrower Lift Sling



EC Declaration of Conformity

[1] MacDon

MacDon Industries Ltd.
680 Moray Street,
Winnipeg, Manitoba, Canada
R3J 3S3

[2] Windrower Lift Sling

[3] Part 163871

[4] Not Applicable

[5] July 19, 2016

[6] _____
Christoph Martens
Product Integrity

EN

We, [1]

Declare, that the product:

Machine Type: [2]

Name & Model: [3]

Serial Number(s): [4]

fulfils all the relevant provisions of the Directive 2006/42/EC.

Harmonized standards used, as referred to in Article 7(2):

EN ISO 4254-1:2013
EN ISO 4254-7:2009

Place and date of declaration: [5]

Identity and signature of the person empowered to draw up the declaration: [6]

Name and address of the person authorized to compile the technical file:

Hartmut Hartmann
Wersener Holz 2a
D-49504 Lotte (Germany)
hartmut.hartmann@prodoku.com

BG

Ние, [1]

декларираме, че следният продукт:

Тип машина: [2]

Наименование и модел: [3]

Сериен номер(а) [4]

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D-49504 Lotte (Германия)
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Seriennummer (n): [4]

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Name und Anschrift der Person, die dazu berechtigt ist, die technischen Unterlagen zu erstellen:

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D-49504 Lotte (Saksamaa)
hartmut.hartmann@prodoku.com

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Nous soussignés, [1]

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Nom et modèle : [3]

Numéro(s) de série : [4]

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1018634

The Harvesting Specialists MacDon

Figure 1: EC Declaration of Conformity – Windrower Lift Sling (Page 1 of 2)

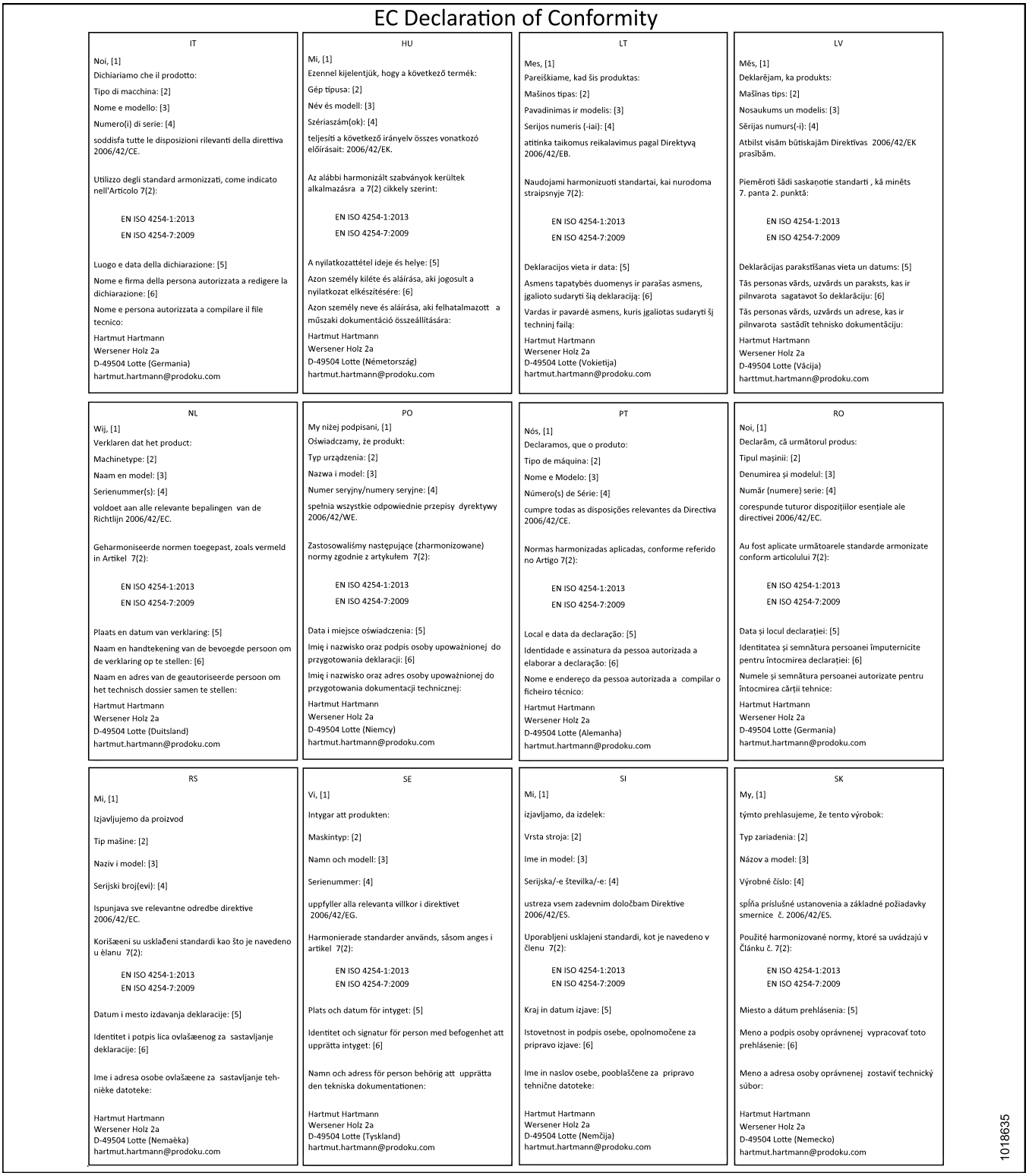
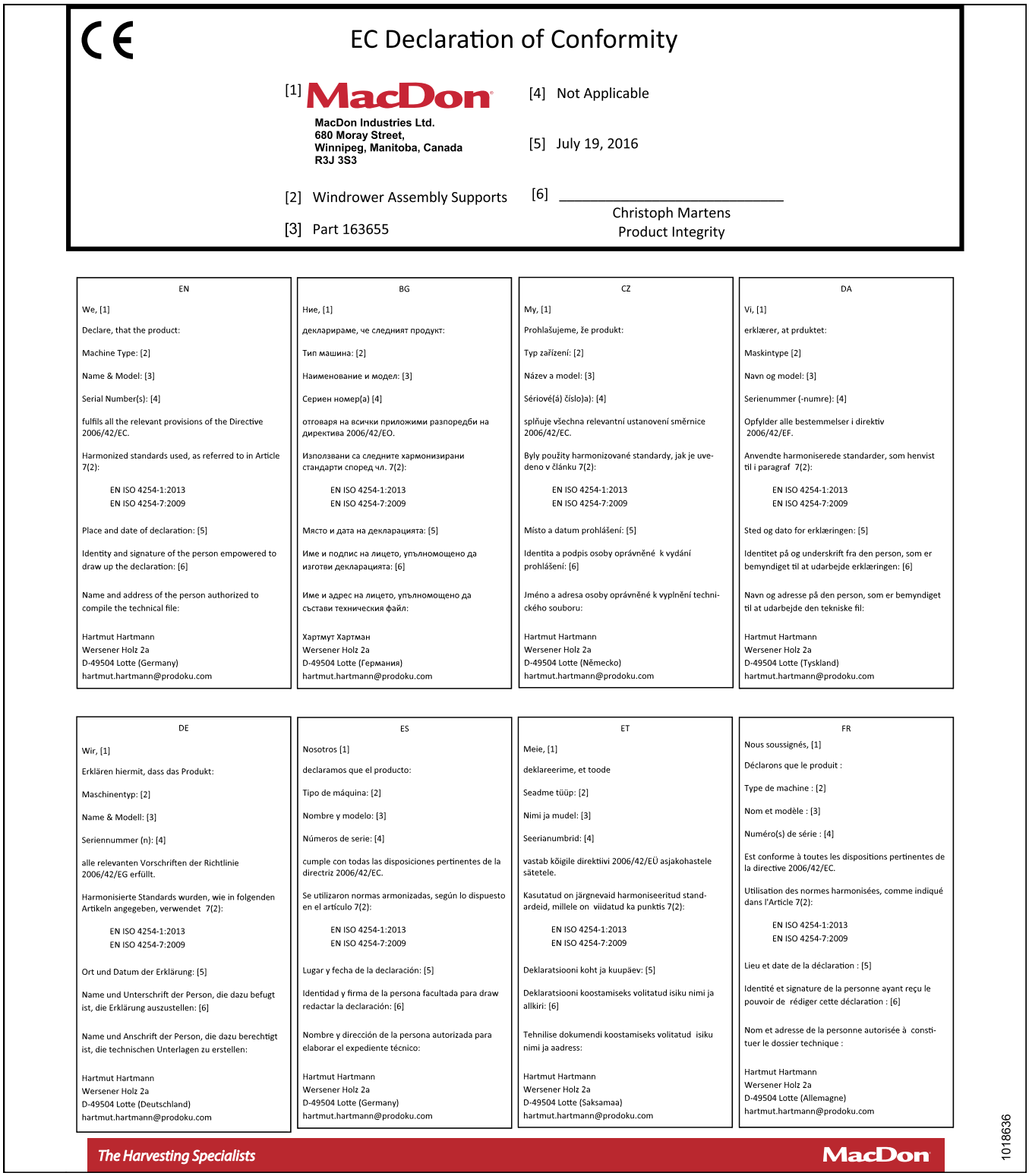


Figure 2: EC Declaration of Conformity – Windrower Lift Sling (Page 2 of 2)

EC Declaration of Conformity—Windrower Assembly Supports



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1018636

Figure 3: EC Declaration of Conformity – Windrower Assembly Supports (Page 1 of 2)

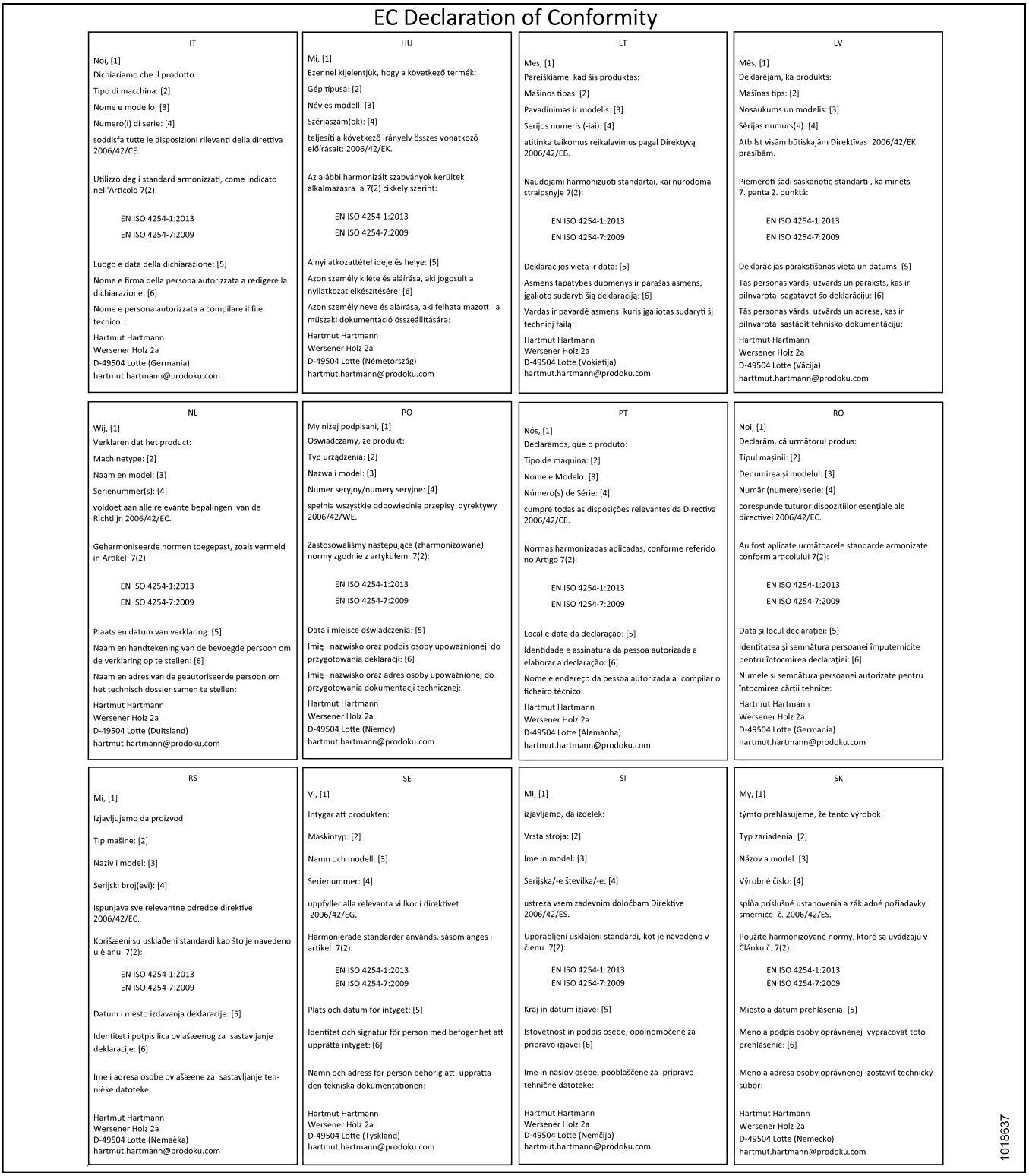

Figure 4: EC Declaration of Conformity – Windrower Assembly Supports (Page 2 of 2)

List of Revisions

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

Summary of Change	Location
Changed measurement format so that metric measurements appear first followed by imperial in parenthesis.	Throughout the book
Revised figure titles for clarity.	
Corrected general grammar and punctuation.	
Added paragraph stating that this instruction is also available in Russian.	*Introduction, page i*
Updated declarations of conformity.	• *EC Declaration of Conformity—Windrower Lift Sling, page ii* • *EC Declaration of Conformity—Windrower Assembly Supports, page iv*
Added new section for battery safety.	*1.3 Battery Safety, page 4*
Added footnote to lift sling part number stating that it is not sold separately.	• *2.2.1 Moving to Assembly Area: Crane Method, page 8* • *3.2.1 Lifting Windrower onto Stand: Crane Method, page 28*
Updated illustrations to show new battery hold-down.	• *3.7 Removing Battery Shipping Shield, page 61* • *3.13.1 Connecting Batteries on an M205 or M155, page 72*
Corrected step to attach red positive cable terminals to positive posts (C), which was erroneously referenced as (A).	*3.13.2 Connecting Batteries on an M105, page 73*
Removed reference to M200 and extra hose in the Note under Step 2.	*3.6.2 Installing Hydraulics on an M155, page 43*
Updated procedure to show location of fuse box.	*3.8 Unpacking Ignition Keys, page 62*
Updated illustration to show new safety prop handle and decal.	Throughout *3.21 Attaching Headers, page 97*
Reorganized sections for clarity.	
Added Hydraulic Union kit (MD #166844) to table of kits that may be required to attach a D-Series Header to an M205 Self-Propelled Windrower.	*3.21.2 Attaching a D-Series Header, page 98*
Added note recommending 18.4 x 26 drive tires when attaching 13-ft R85 headers to the M155 or M205.	*3.21.4 Attaching an R-Series Header, page 132*

Summary of Change	Location
Added new cross-reference and section for fluids, lubricants, and system capacities.	• *3.22 Lubricating the Windrower, page 150* • *5.2 Checking and Adding Wheel Drive Lubricant Level, page 321* • *6.4 Lubricants, Fluids, and System Capacities, page 374*
Revised Note regarding cab display module and windrower control module software to clarify software version compatibility with different M-Series windrower models.	*4.2 Cab Display Options, page 156*
Revised Notes specific to the M105 for clarity.	• *4.4.9 Setting the Header Index Mode, page 196* • *4.7.3 Displaying Header Sensor Input Signals, page 260*
Corrected references in Steps 7 and 8 from callouts C and D to callouts A and B.	• *4.8.3 Testing the Header Tilt Activate Function Using the Cab Display Module (CDM), page 278* • *4.8.7 Testing the Reel Fore-Aft Activate Function Using the Cab Display Module (CDM), page 288*
Replaced arrows showing serial number locations with callouts.	*5.1 Recording Serial Numbers, page 319*
Updated illustration to show new gearbox cover.	*5.8 Checking Gearbox Lubricant Level on an M155/M205, page 330*
Corrected broken links to Table *5.5 Knife Speed Setting, page 352*.	• *Setting Knife Speed, page 352* • *Adjusting Knife Speed, page 353*
Replaced M105 Operator Console illustration to show header drive switch.	*5.11.8 Checking Operator's Presence System, page 341*
Added new section for tapered pipe fittings.	*6.1.8 Tapered Pipe Thread Fittings, page 369*
Added new terms and acronyms.	*6.3 Definitions, page 371*
Added new section for fuel specifications.	*6.5 Fuel Specifications, page 378*

1 Safety

1.1 Signal Words

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

DANGER

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

WARNING

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

CAUTION

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

1.2 General Safety

CAUTION

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

Protect yourself.

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

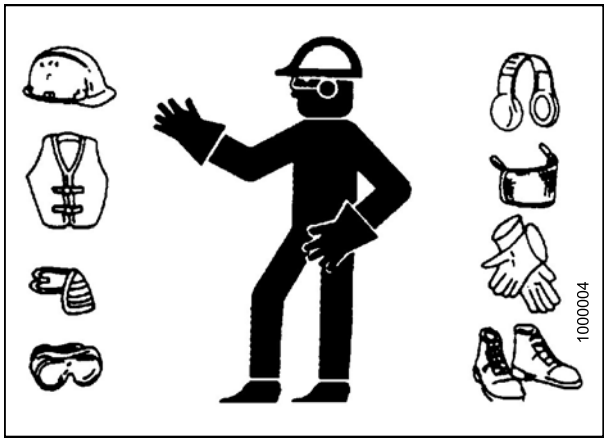

Figure 1.1: Safety Equipment

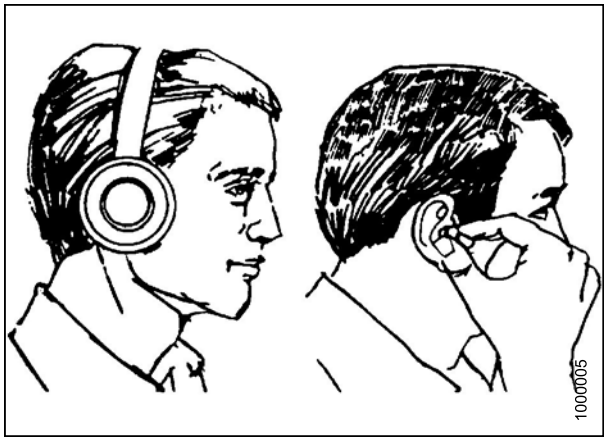

Figure 1.2: Safety Equipment

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

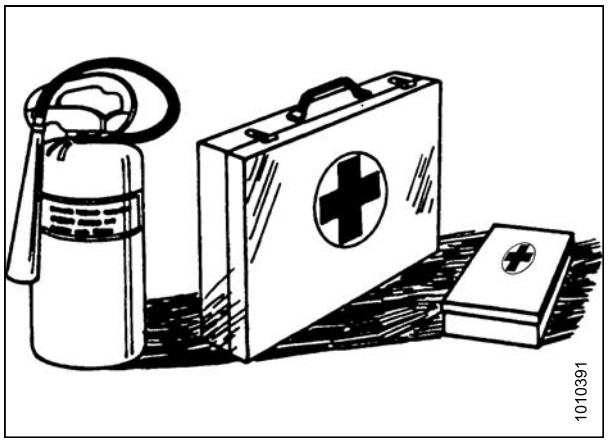

Figure 1.3: Safety Equipment

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

Figure 1.4: Safety around Equipment

- Keep hands, feet, clothing, and hair away from moving parts. **NEVER** attempt to clear obstructions or objects from a machine while engine is running.
- Do **NOT** modify machine. Non-authorized modifications may impair machine function and/or safety. It may also shorten machine's life.
- To avoid bodily injury or death from unexpected startup of machine, **ALWAYS** stop engine and remove key from ignition before leaving operator's seat for any reason.

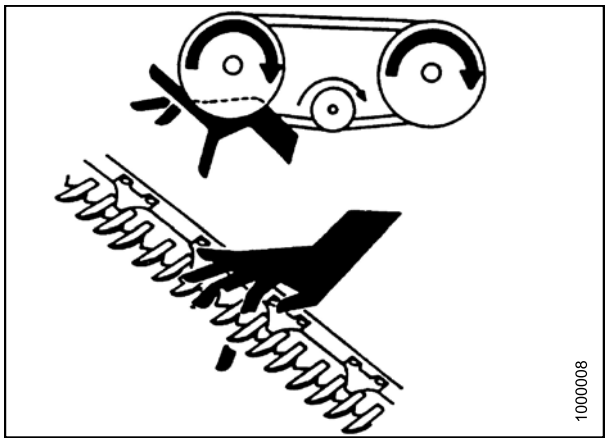

Figure 1.5: Safety around Equipment

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

Figure 1.6: Safety around Equipment

1.3 Battery Safety

WARNING

- **Keep all sparks and flames away from batteries, as a gas given off by electrolyte is explosive.**
- **Ventilate when charging in enclosed space.**

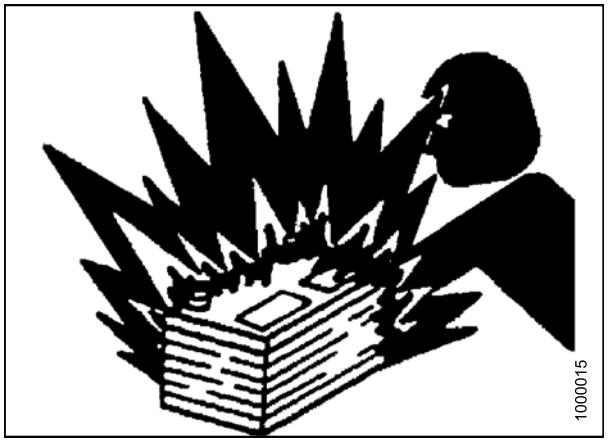

Figure 1.7: Safety around Batteries

WARNING

- **Wear safety glasses when working near batteries.**
- **Do NOT tip batteries more than 45° to avoid electrolyte loss.**
- **Battery electrolyte causes severe burns. Avoid contact with skin, eyes, or clothing.**
- **Electrolyte splashed into eyes is extremely dangerous. Should this occur, force eye open, and flood with cool, clean water for five minutes. Call a doctor immediately.**
- **If electrolyte is spilled or splashed on clothing or body, neutralize it immediately with a solution of baking soda and water, then rinse with clear water.**

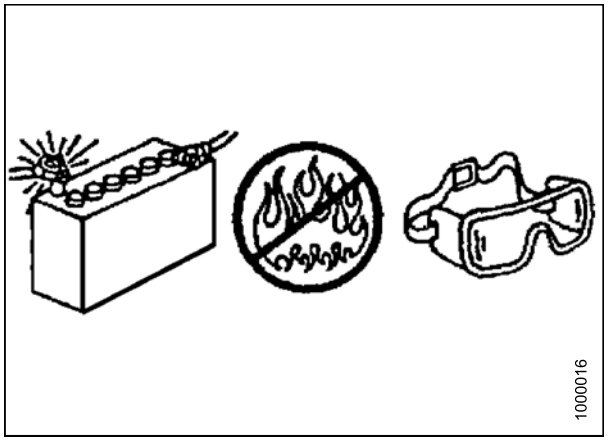

Figure 1.8: Safety around Batteries

WARNING

- **To avoid injury from spark or short circuit, disconnect battery ground cable before servicing and part of electrical system.**
- **Do NOT operate engine with alternator or battery disconnected. With battery cables disconnected and engine running, a high voltage can be built up if terminals touch frame. Anyone touching frame under these conditions would be severely shocked.**
- **When working around storage batteries, remember that all of the exposed metal parts are live. Never lay a metal object across terminals because a spark or short circuit will result.**
- **Keep batteries out of reach of children.**

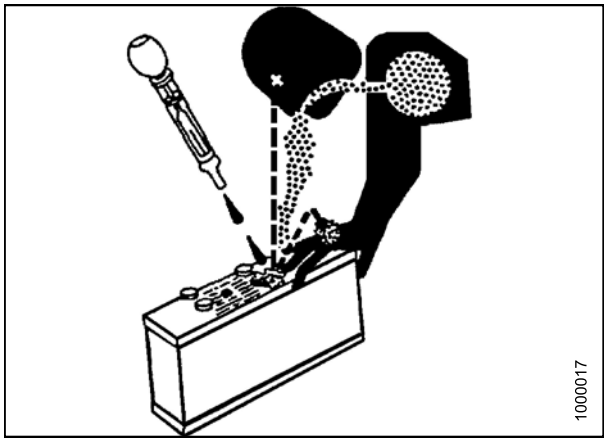

Figure 1.9: Safety around Batteries

1.4 Safety Signs

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

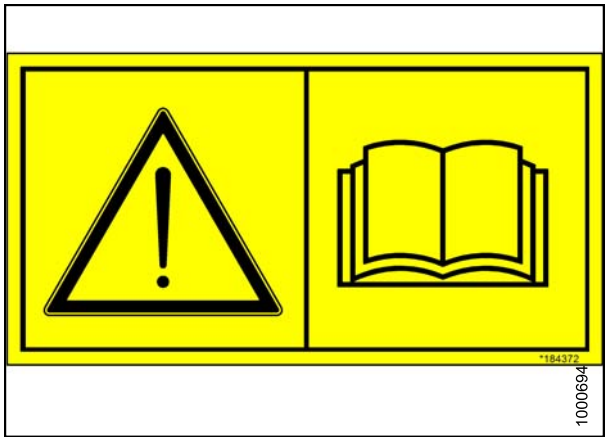

Figure 1.10: Operator's Manual Decal

2 Unloading the Windrower

Perform all procedures in this chapter in the order in which they are listed.

2.1 Unloading Container

CAUTION

To prevent injury to bystanders and avoid striking them with machinery, do NOT allow people to stand in the unloading area.

1. Move trailer into position and block trailer wheels.
2. Lower trailer storage stands.
3. Unlock and open container doors and remove all blocking.
4. Check container floor for nails or other obstructions and remove if necessary.
5. Position platform or ramp at container opening.
6. Attach chain/pull strap to slots in support channels (A).
7. Pull the windrower slowly from the container onto the platform.

Figure 2.1: Windrower Shipping Assembly

2.2 Moving to Assembly Area

The windrower can be moved to the assembly area using either a crane (refer to *2.2.1 Moving to Assembly Area: Crane Method, page 8*) or a forklift (refer to *2.2.2 Moving to Assembly Area: Forklift Method, page 10*).

2.2.1 Moving to Assembly Area: Crane Method

CAUTION

To prevent injury to bystanders and avoid striking them with machinery, do NOT allow people to stand in the unloading area.

CAUTION

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

Lift Sling	
Type	MacDon Part #163871[1]
Maximum Working Load	12,884 kg (28,404 lb.)

Chain	
Type	Overhead 1/2 in. lifting quality
Minimum Working Load	3221 kg (7100 lb.)

Lifting Vehicle	
Minimum Lifting Capacity	9072 kg (20,000 lb.)

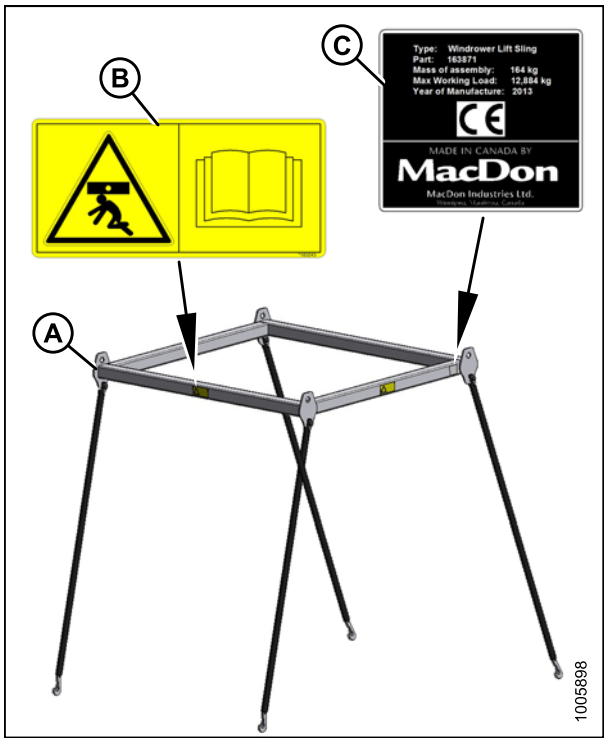

Figure 2.2: Lift Sling

A - Lift Sling (MD #163871)
B - Decal (MD #183245) (Four Places)
C - Decal (MD #183248)

1. Not sold separately.

1. Attach chains or cables to the four lifting points on the lift sling (MD #163871), and connect the loop ends to the crane hook.

   IMPORTANT:
   Use cables or chains with a minimum lifting capacity of 3221 kg (7100 lb.).

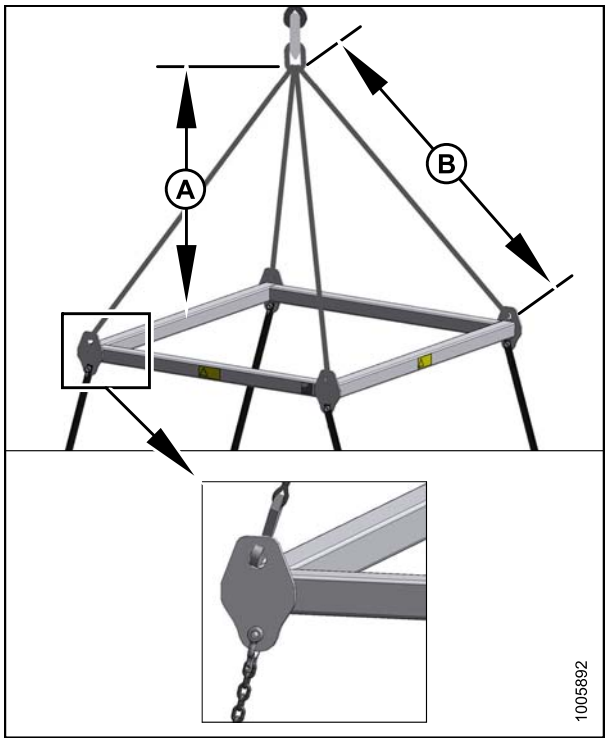

Figure 2.3: Lift Sling

A - 1500 mm (59 in.) Minimum B - 2120 mm (83.5 in.) Typical

2. Attach lift sling (MD #163871) to the four designated lifting points on the windrower shipping frame.

DANGER

To avoid injury or death from a swinging or falling load, keep all bystanders clear when lifting. Equipment used for lifting must exceed the maximum requirements specified in this section.

3. Lift the windrower off the platform and move to the setup area.

Figure 2.4: Shipping Frame Lifting Points

4. Lower assembly onto 127–152 mm (5–6 in.) blocks as shown.
5. Remove chains from shipping frame.
6. Check for shipping damage and missing parts.

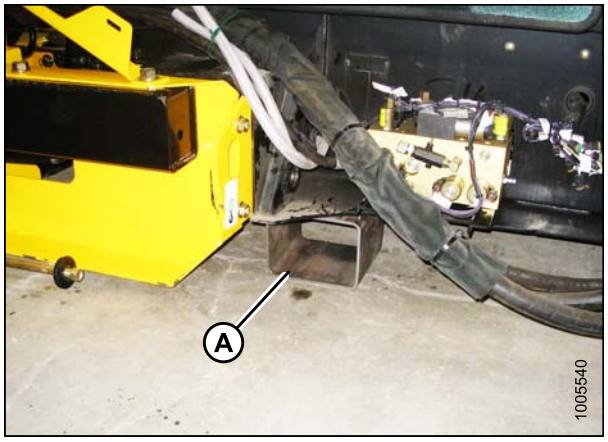

Figure 2.5: Windrower Shipping Assembly on Blocks

2.2.2 Moving to Assembly Area: Forklift Method

CAUTION

To prevent injury to bystanders and avoid striking them with machinery, do NOT allow people to stand in the unloading area.

CAUTION

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

Lifting Vehicle	
Minimum Lifting Capacity[2]	9072 kg (20,000 lb.)

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

WARNING

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

1. Approach the windrower from the hood end and slide the forks underneath the lifting framework.
2. Raise the windrower off the platform and move to the assembly area.

Figure 2.6: Forklift Method Lifting Points

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

3. Lower assembly onto 127–152 mm (5–6 in.) blocks as shown.
4. Check for shipping damage and missing parts.

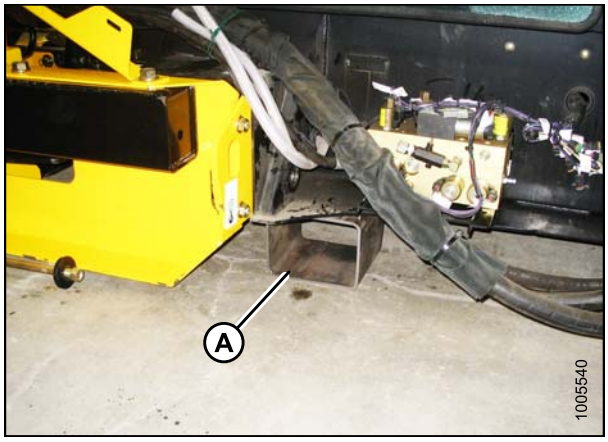

Figure 2.7: Windrower Shipping Assembly on Blocks

2.3 Removing Wheel and Step Assembly

1. Remove shipping wire (A) and bolt securing the hose support to the shipping frame, and remove the hose support.
2. Lay hose support off to the side.

Figure 2.8: Shipping Frame

3. Remove two 3/4 x 16.5 in. bolts (A) (one per side) from the front frame beam. Retain for reinstallation.

Figure 2.9: Front Frame Beam

4. Remove the 25.4 mm (1 in.) pin (A) from the center-link.

Figure 2.10: Center-Link

5. Remove the four (two per side) carriage bolts from the rear of the wheel/step assembly.

Figure 2.11: Rear of Wheel/Step Assembly

6. Remove the plastic cable tie (A) and shipping wire (B) securing the hose bundles to the frame.

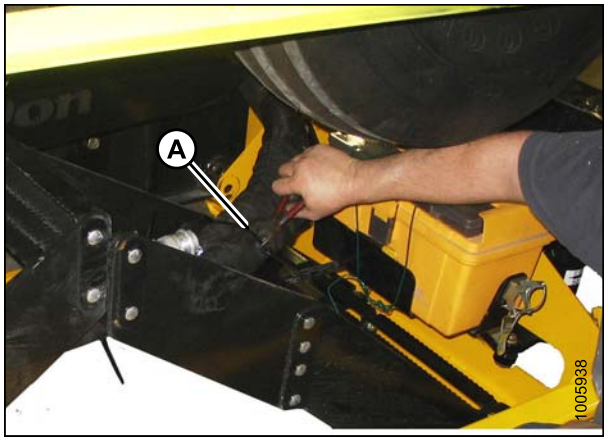

Figure 2.12: Hose Bundles on Frame

Figure 2.13: Hose Bundles on Frame

7. Attach a chain to the wheel/step assembly (A) and a lifting device, and pull away from the shipping assembly.

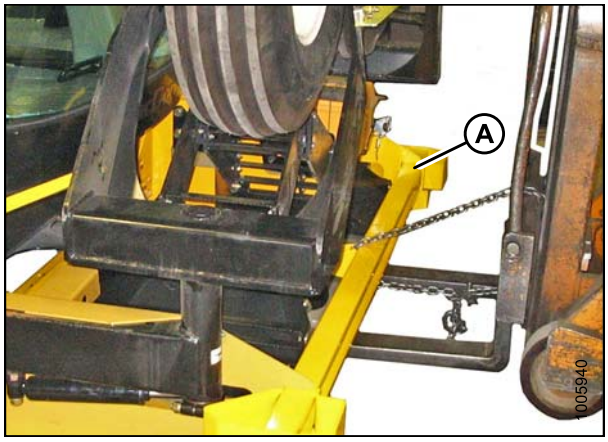

Figure 2.14: Wheel/Step Shipping Assembly

8. Lift center-link (A) until it clears the wheel/step assembly frame (B).

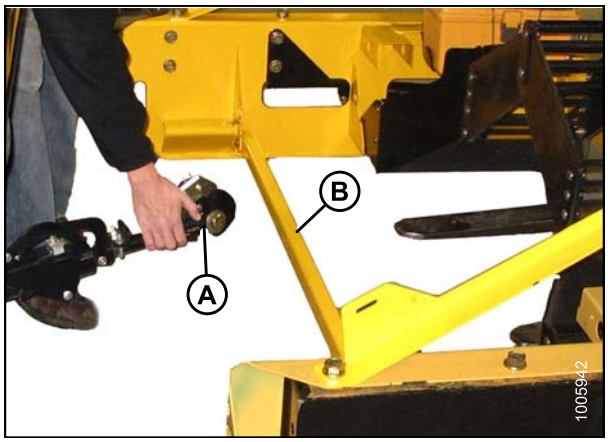

Figure 2.15: Wheel/Step Assembly Frame

9. Install leg bolts, washers, and nuts to secure the lifting plate onto the mainframe.

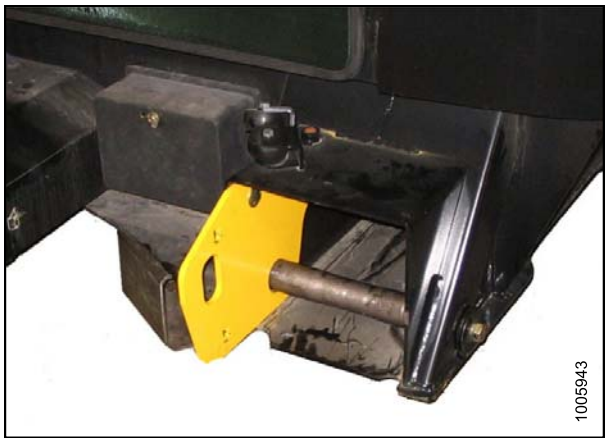

Figure 2.16: Lifting Plate

2.4 Removing Drive Wheels

IMPORTANT:
Remove the drive wheels as a pair from above the hood.

1. Remove the two bolts (A) from the front cross member over the hood.

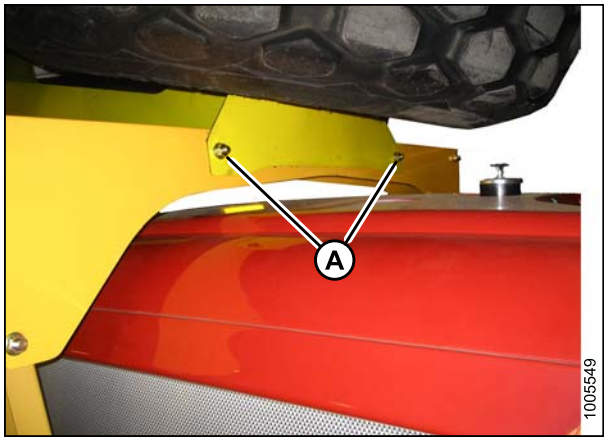

Figure 2.17: Front Cross Member on Hood

2. Remove one bolt (A) from the rear of the hood directly under the center of the drive wheel.

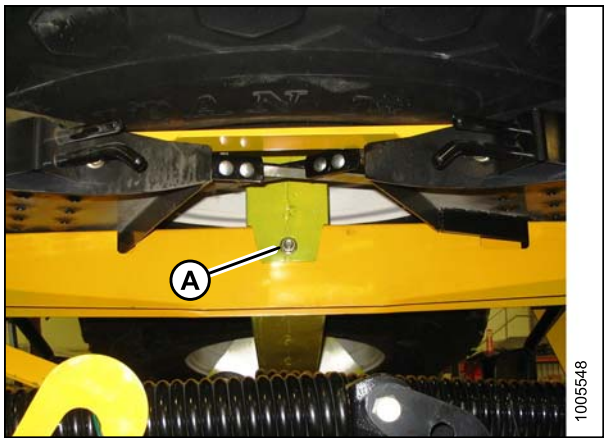

Figure 2.18: Rear of Hood

3. Attach a lifting device to the lift hooks (A) located in the center of each drive wheel.

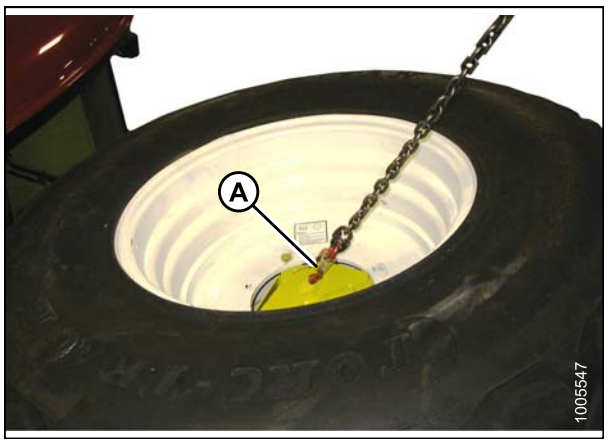

Figure 2.19: Drive Wheel

4. Carefully lift the wheels off the frame.

   IMPORTANT:
   Ensure the tire is guided away from the cab roof when lifting wheels to prevent damaging the cab. The chain on the forward wheel should be snug, and the chain on the aft wheel should be loose.

5. Set wheels aside for later installation.

Figure 2.20: Wheels on Frame

2.5 Removing Platforms

1. Remove the two support tubes on either side of the hood.
2. Attach two slings and a chain to the platform at the locations shown to prevent damaging the paint.
3. Attach opposite ends of slings and chain to a lifting device with a minimum lifting capacity of 2268 kg (5000 lb.) and a lift height of 4 m (13 ft.).

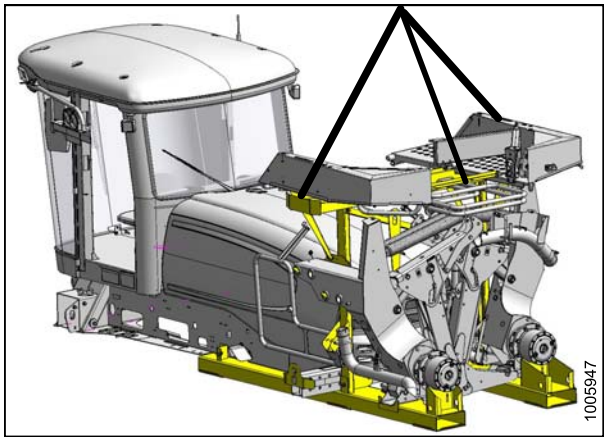

Figure 2.21: Platforms on Hood

4. Remove two 5/8 x 5 in. bolts (B) at the top of the vertical supports, and remove two 5/8 x 1-1/4 in. bolts (A) attaching the angle braces to the platforms.

   NOTE:
   The M105 Self-Propelled Windrower is equipped with only one platform.

5. Use care and lift the platform assembly off the frame.

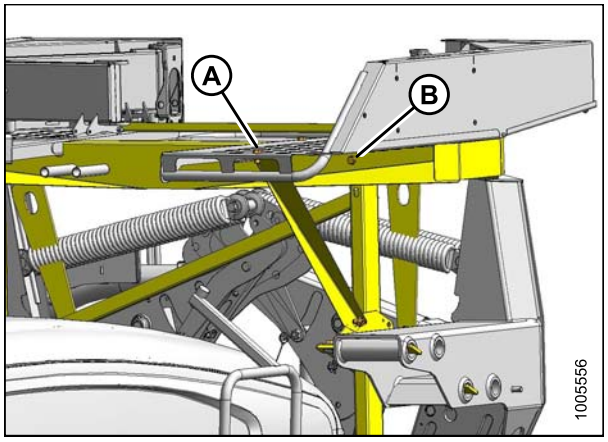

Figure 2.22: Platforms on Hood

6. Back away from the windrower, and set the platform assembly on a level surface.
7. Unhook one sling and chain.
8. Lift one end of the platform assembly so it can be inverted and laid down with the base on the floor. Use a piece of cardboard under the platform assembly to protect the paint.

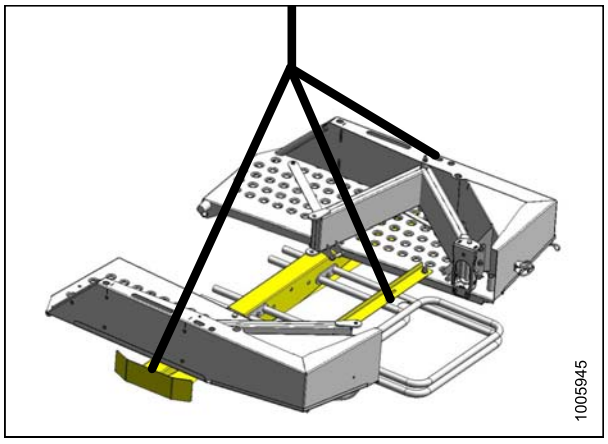

Figure 2.23: Platforms

9. Unhook the remaining sling.

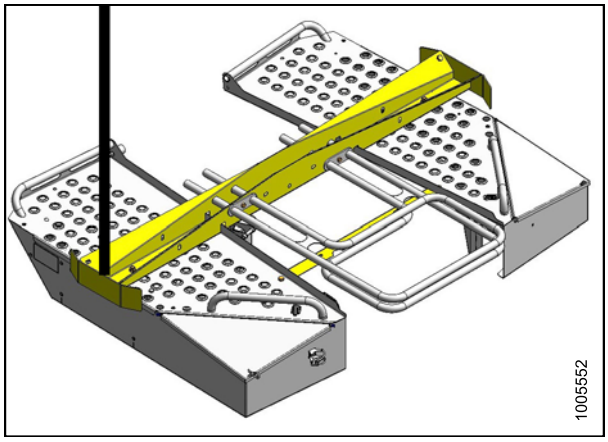

Figure 2.24: Platforms

2.6 Removing Hand Rails and Exhaust Stack

1. Cut the plastic cable ties and move the hose bundle clear of the platform.

Figure 2.25: Hand Rails and Exhaust Stack Shipping Assembly

2. Remove shipping wire and foam from the exhaust stack (A).
3. Remove nuts (B) from clamp (C), and remove the exhaust stack (A) and clamp from the shipping frame.
4. Reinstall nuts (B) onto clamp (C) and set exhaust stack (A) aside for later installation.
5. Remove the two bolts (D) securing the hand rail (E) to the shipping frame, and remove the hand rail.
6. Repeat for the other hand rail on the opposite side. Retain hardware.
7. Set parts aside for later installation.

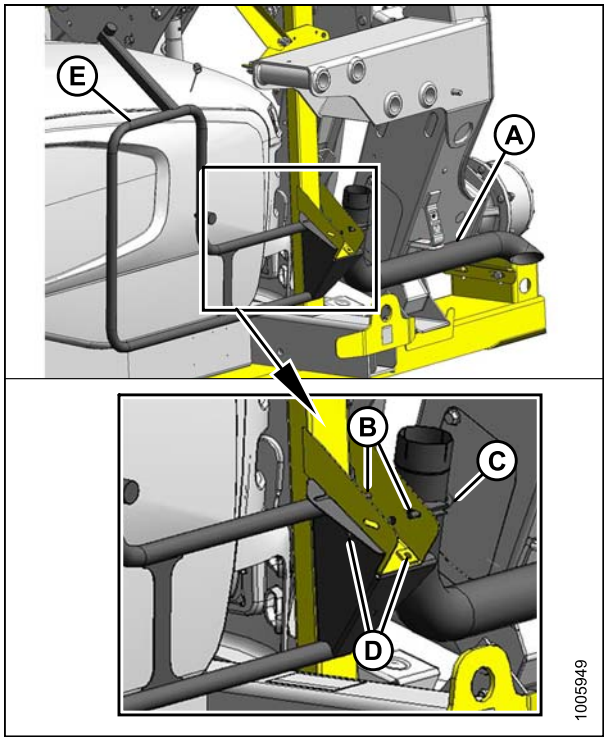

Figure 2.26: Hand Rails and Exhaust Stack Shipping Position

2.7 Removing Leg Assemblies

1. Ensure the lift bar is attached to the leg assembly as shown and the clevis pin is installed with the head on near side.
2. Attach the chain (A) to the lifting bar (B) on the leg assembly, and connect the chain to a lifting device with a minimum lifting capacity of 2268 kg (5000 lb.).

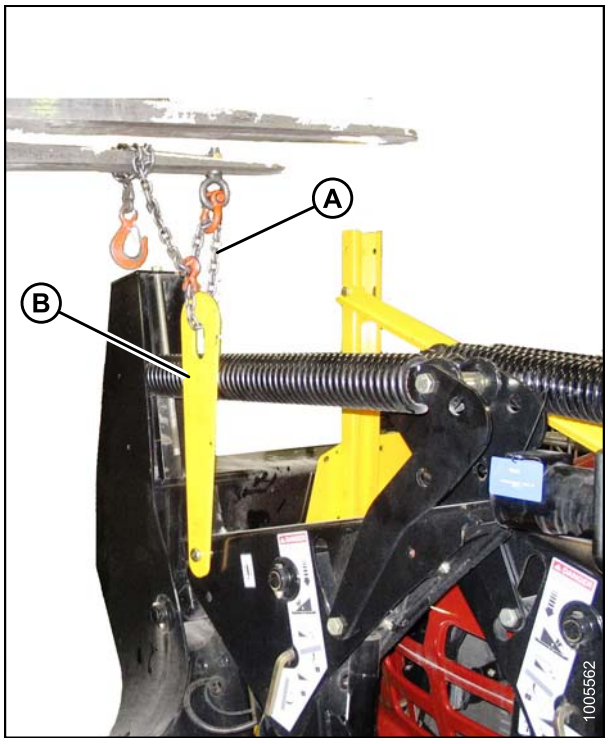

Figure 2.27: Leg Shipping Assembly

3. Remove two bolts (A) from the lower support channel.

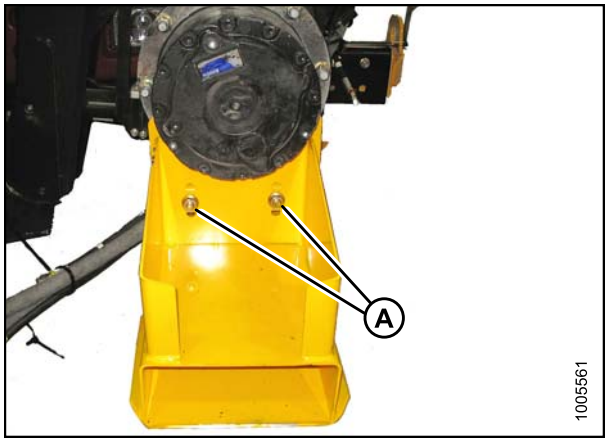

Figure 2.28: Lower Support Channel

4. Remove two bolts (A) from the shipping channel located at the top of the leg.

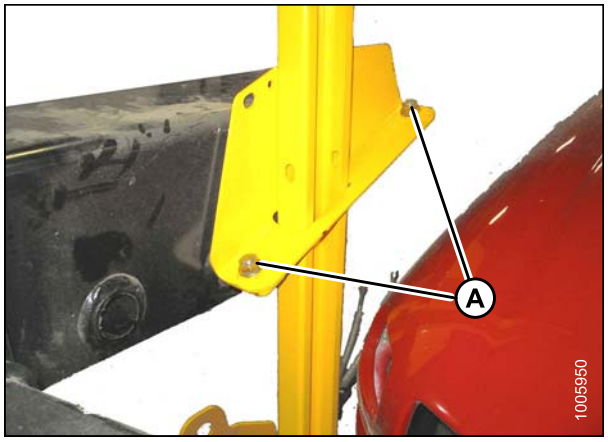

Figure 2.29: Shipping Channel on Leg

5. Remove bars (A) from leg.

   NOTE:
   Insert cardboard or foam between the leg assembly and the hood to prevent damaging the hood.

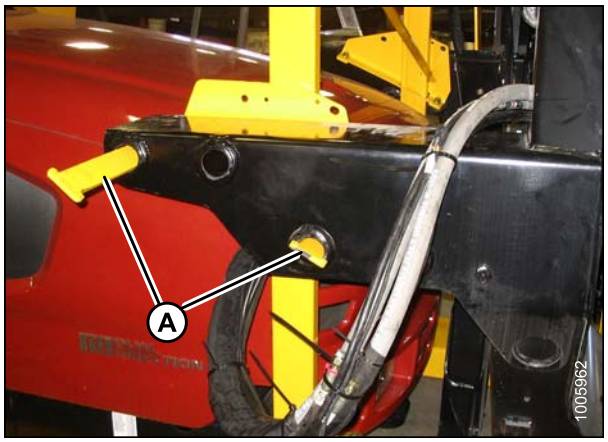

Figure 2.30: Leg Shipping Assembly

6. Lift off the leg assembly (A), and securely set the assembly on level ground as shown (B).
7. Repeat the above steps for the second leg assembly.

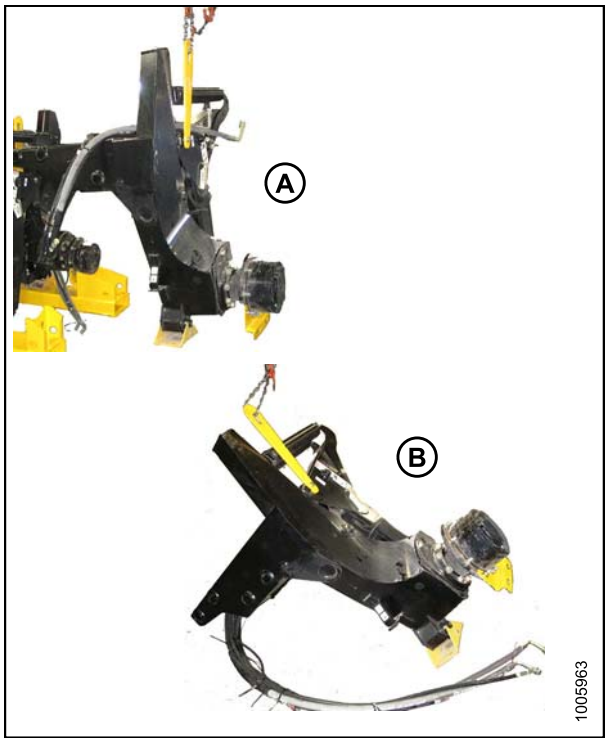

Figure 2.31: Leg Assembly Positioning

2.8 Removing Wheel and Platform Support

1. Remove the cross brace (A) and the two upright supports (B and C) from the frame.

Figure 2.32: Wheel and Platform Support

2. Remove the cross member from above the hood (A).

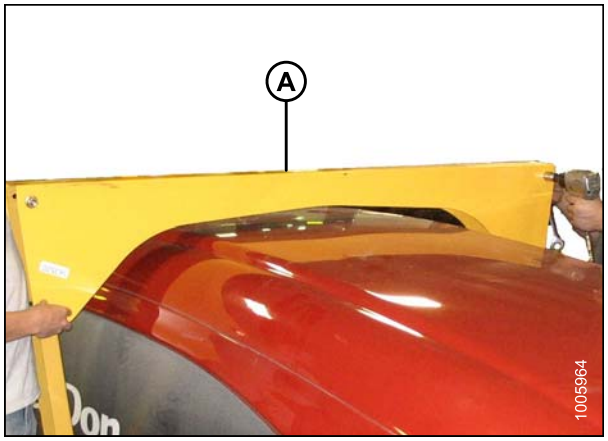

Figure 2.33: Wheel and Platform Support

3. Remove the two uprights (A) on both sides of the hood.

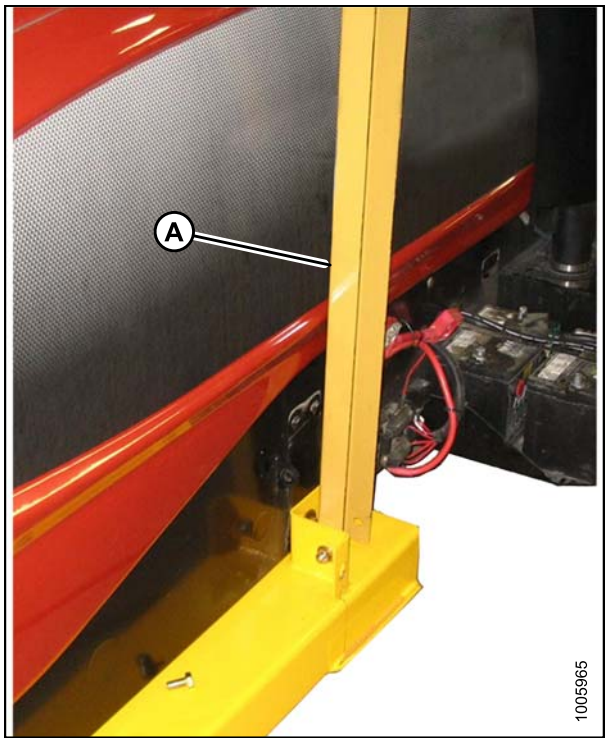

Figure 2.34: Wheel and Platform Support

3 Assembling the Windrower

Perform all procedures in this chapter in the order in which they are listed.

3.1 Assembling Support Stand

Special stands for assembling the windrower are available from the factory. If the stands are not available, use an equivalent support system.

IMPORTANT:
The stands must be capable of supporting a 6800 kg (15,000 lb.) load.

1. Remove all shipping materials from the stands and set aside the air control valve tripod (D).
2. Arrange forward (A) and rear (B) stands on level ground so the attachment lugs on each stand face each other.
3. Attach four support tubes (C) to the stands as shown, and secure with the hardware provided with the stands.

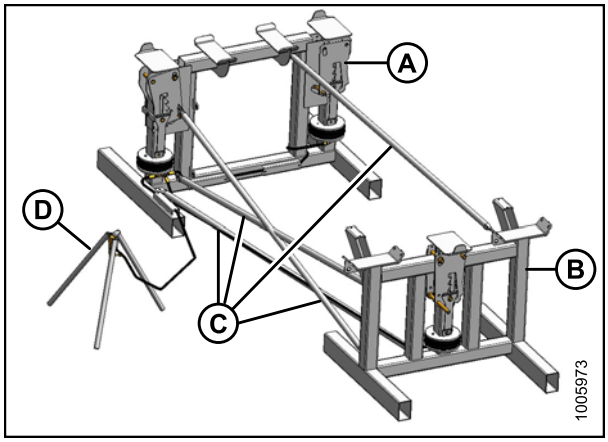

Figure 3.1: Support Stand

4. Set up the air control valve tripod, remove plug (A) from the valve, and install a 690 kPa (100 psi) air line. The stand is now operational and instructions for its use are provided throughout this manual.

WARNING

Use stand only as instructed in this manual. Do NOT use stand for any other purpose. Do NOT pressurize air bags beyond 690 kPa (100 psi).

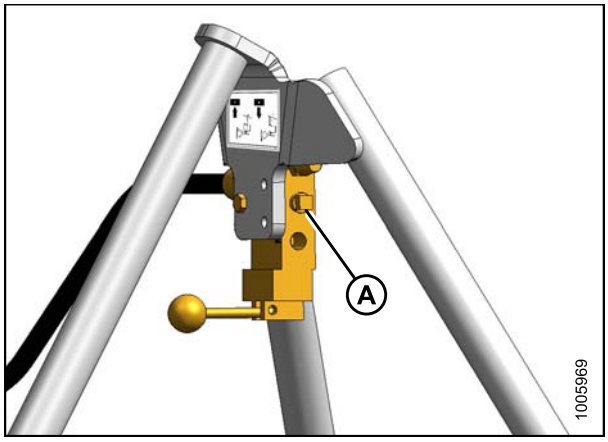

Figure 3.2: Air Control Valve Tripod

3.2 Lifting Windrower onto Stand

The windrower can be lifted onto the support stand using either a crane (refer to *3.2.1 Lifting Windrower onto Stand: Crane Method, page 28*) or a forklift (refer to *3.2.1 Lifting Windrower onto Stand: Crane Method, page 28*).

3.2.1 Lifting Windrower onto Stand: Crane Method

CAUTION

To prevent injury to bystanders and avoid striking them with machinery, do NOT allow people to stand in the unloading area.

CAUTION

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

Lift Sling	
Type	MacDon Part #163871[3]
Maximum Working Load	12,884 kg (28,404 lb.)

Chain	
Type	Overhead 1/2 in. lifting quality
Minimum Working Load	3221 kg (7100 lb.)

Crane Lifting Vehicle	
Minimum Lifting Capacity	9072 kg (20,000 lb.)

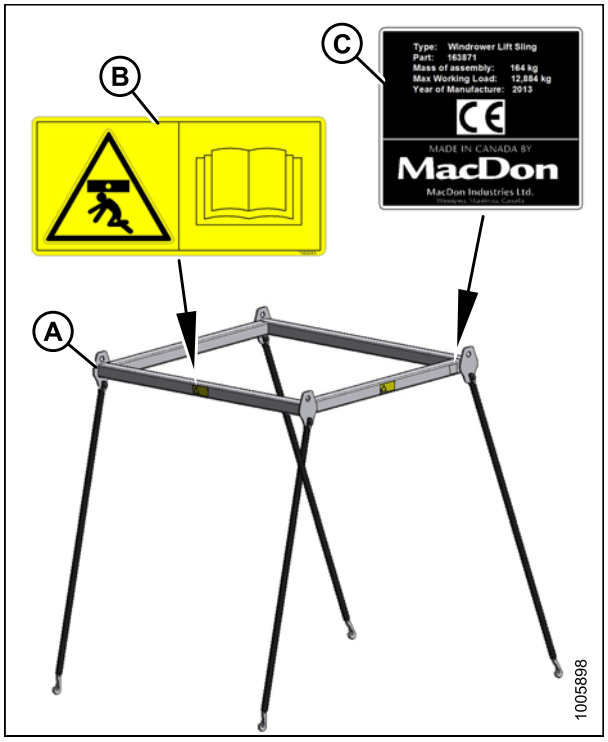

Figure 3.3: Lift Sling

A - Lift Sling (MD #163871)
B - Decal (MD #183245) (Four Places)
C - Decal (MD #183248)

3. Not sold separately.

1. Attach chains or cables to the four lifting points (A) on the lift sling (MD #163871), and connect the loop ends to the crane hook.

   IMPORTANT:
   Use cables or chains with a minimum lifting capacity of 3221 kg (7100 lb.).

2. Attach the lift sling to the four designated lifting points on the windrower shipping frame as shown.

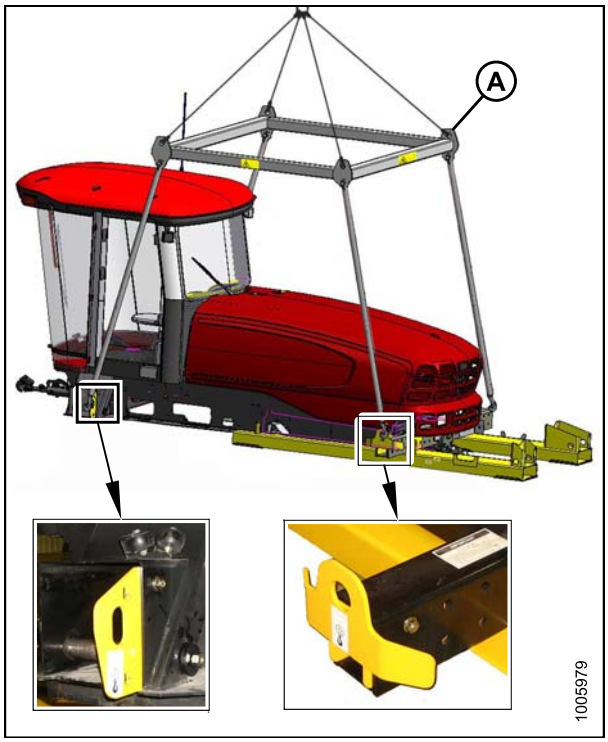

Figure 3.4: Shipping Frame Lifting Points

DANGER

To avoid injury or death from a swinging or falling load, keep all bystanders clear when lifting. Equipment used for lifting must exceed the maximum requirements specified in this section.

3. Lift the windrower onto the support stand (A).
4. Remove chains from shipping frame and move lift sling (B) clear of the work area.

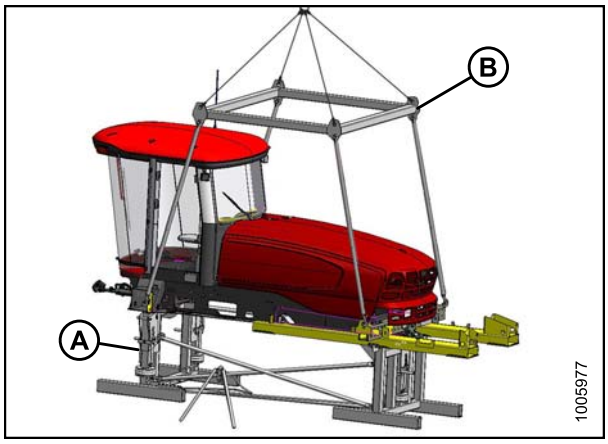

Figure 3.5: Windrower on Support Stand

3.2.2 Lifting Windrower onto Stand: Forklift Method

CAUTION

To prevent injury to bystanders and avoid striking them with machinery, do NOT allow people to stand in the unloading area.

CAUTION

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

Lifting Vehicle	
Minimum Lifting Capacity[4]	9072 kg (20,000 lb.)

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

1. Approach the windrower from the hood end and slide the forks fully into shipping support channels (A).

Figure 3.6: Forklift Method Lifting Points

2. Raise the windrower and lower onto the support stand.
3. Back away forklift.

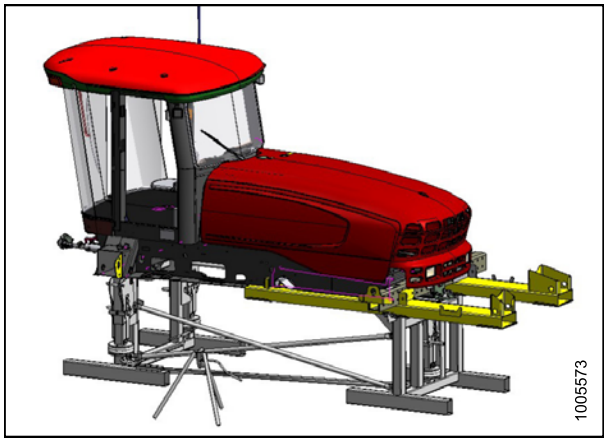

Figure 3.7: Windrower on Support Stand

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

3.3 Installing Legs

1. Remove the front leg bolts (A) and pins (B) and set aside for reinstallation. Remove carriage bolt (C) and remove lifting plate (D).

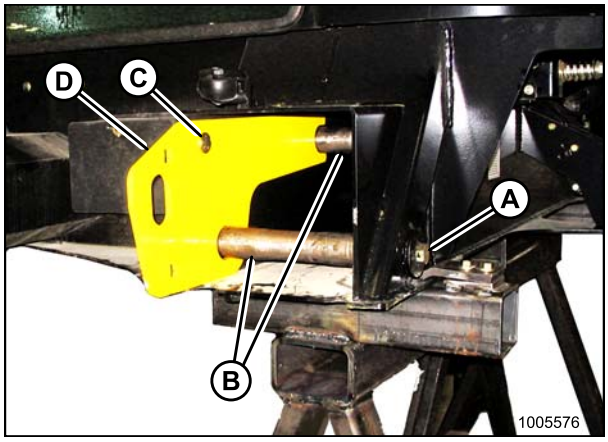

Figure 3.8: Lifting Plate

2. Attach the front leg to a lifting device using lifting bar (A).
3. Position the leg at the frame.

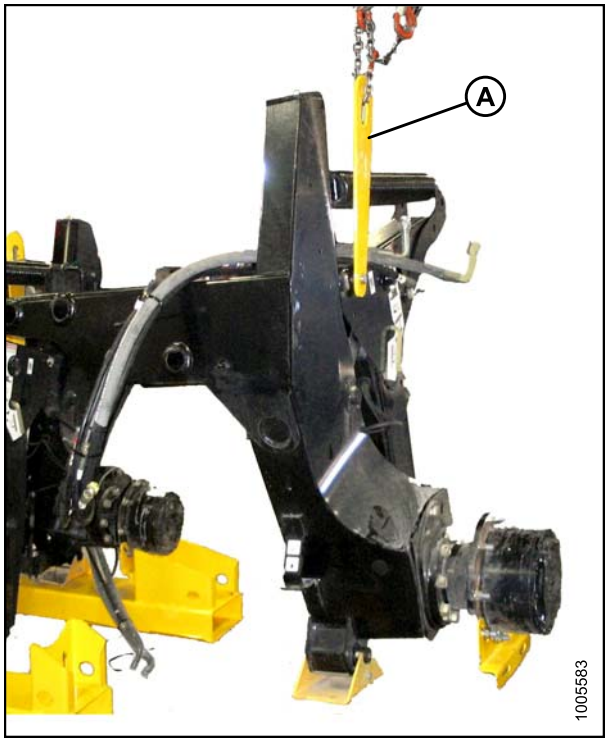

Figure 3.9: Leg Position

4. Feed the hydraulic hose bundle (A) into the frame and through the hole (B) at the center of the frame.

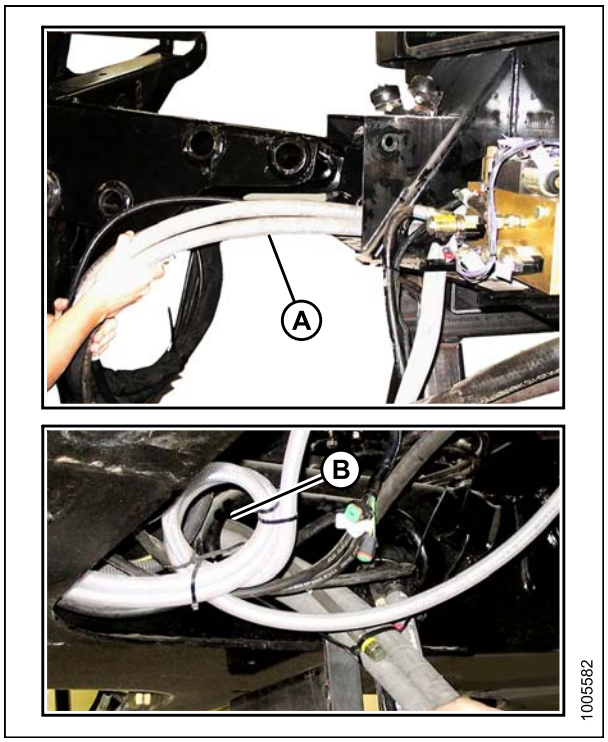

Figure 3.10: Hydraulic Hoses

5. Insert the leg into the frame and line up the holes in the frame and the leg at the first position (widest tread with one exposed hole [A]).
6. Insert pins and secure with 3/4 x 16-1/2 in. long bolts (B), washers, and nuts. Torque to 136 N·m (100 ft·lbf).
7. Repeat for opposite leg.

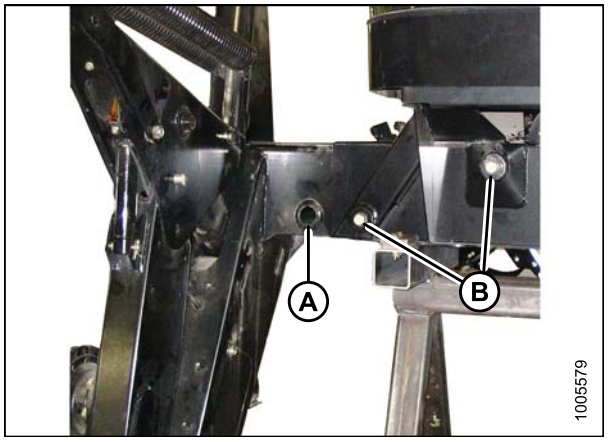

Figure 3.11: Leg Position on Frame

8. Use the lifting device to slightly lift the header lift arms, and remove the lifting bars (A) from the legs.
9. Relocate the spring locking pins (B) to the front of the lift arms.

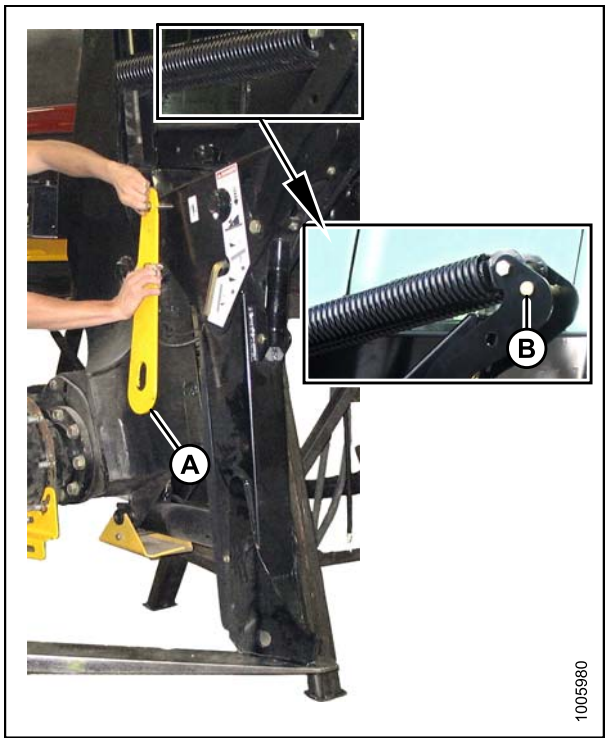

Figure 3.12: Header Lift

3.4 Installing Drive Wheels

NOTE:
If using the factory stand, proceed to Step *1, page 34*; otherwise, skip to Step *5, page 34*.

1. Ensure the three (one at rear, two at front) lift locks are activated on the lift mechanism.

   NOTE:
   Lock is activated when keeper (A) is vertical and latch (B) is free to move back and forth.

2. Pressurize the air bag system (690 kPa [100 psi] air pressure required) and raise the windrower to the maximum height (approximately 178 mm [7 in.]) above the stand.

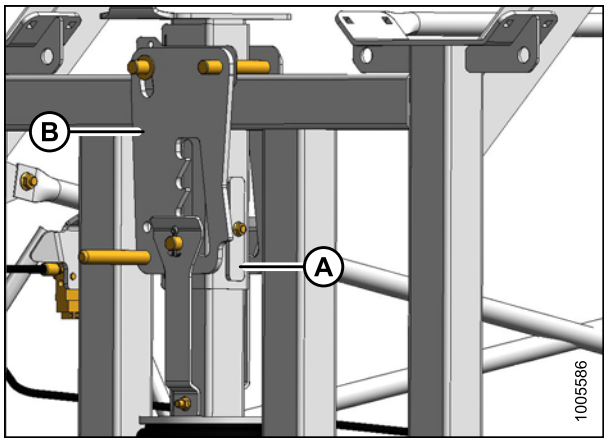

Figure 3.13: Lift Locks

3. Verify that all three locks are engaged before proceeding to the next step.

   NOTE:
   Lock is engaged when the witness hole (A) above the pin is exposed.

4. Release pressure until the locks support the weight of the windrower.

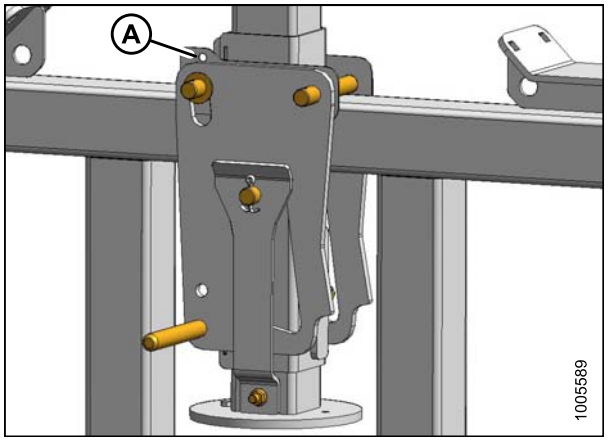

Figure 3.14: Lift Locks

5. Remove shipping support (A) from the drive wheel hub, and remove the wheel lug nuts (B).

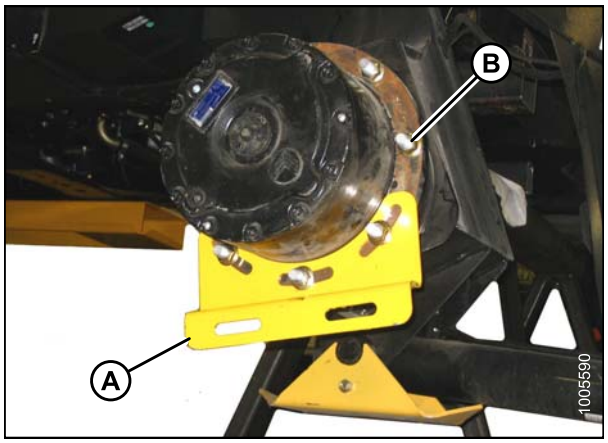

Figure 3.15: Drive Wheel Shipping Support

6. Position the wheels against the hubs so the air valves (A) are on the outside and the tire tread points forward.

   NOTE:
   For turf tires (diamond tread), be sure arrow on sidewall points in forward rotation with windrower in cab-forward orientation.

7. Lift wheel onto hub using a lifting device.
8. Lower lifting device.

Figure 3.16: Wheel Position

9. Line up the holes in the rim with the studs on the wheel drive hub and install wheel nuts (A).

   IMPORTANT:
   To avoid damage to wheel rims and studs, tighten nuts by hand. Do **NOT** use an impact gun, do **NOT** use lubricant or Never-Seez® compound, and do **NOT** overtighten wheel nuts.

10. Torque drive wheel nuts to 510 N·m (375 ft·lbf) using the tightening sequence shown.

    IMPORTANT:
    Use only manufacturer specified nuts (MD #205397).

11. Repeat torque procedure every hour until two consecutive checks confirm there is no movement of the nuts.

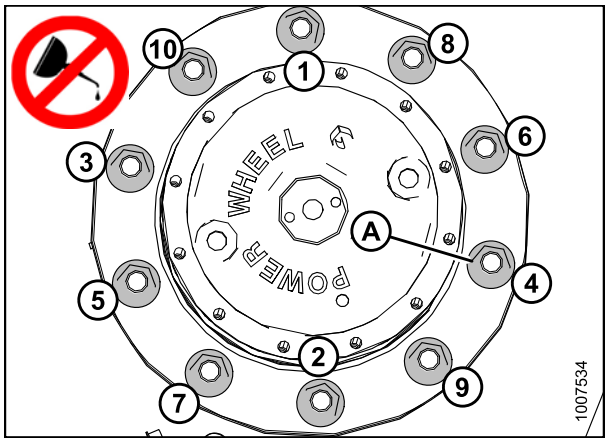

Figure 3.17: Wheel Nuts

3.5 Installing Caster Wheels

1. Remove two guide plates (A) from the ends of the walking beam.

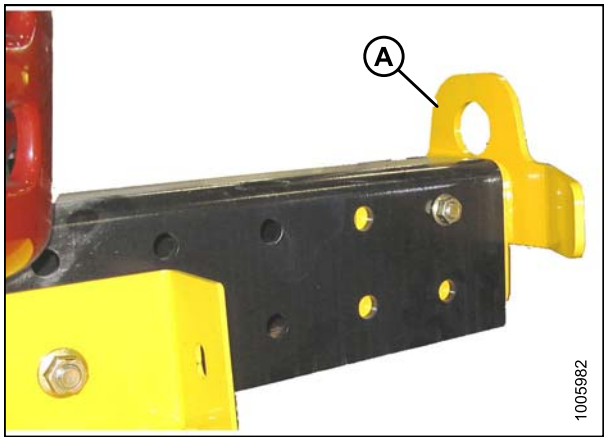

Figure 3.18: Guide Plate on Walking Beam

2. Support the shipping frame channel and remove the bolts attaching the shipping frame to the walking beam and mainframe side rail. Remove the shipping frame.

   NOTE:
   Shipping frame does not need to be removed if air bag lifting stand is used; however, ensure the bolts are removed prior to moving the windrower off the stand.

3. Repeat for opposite shipping frame channel.

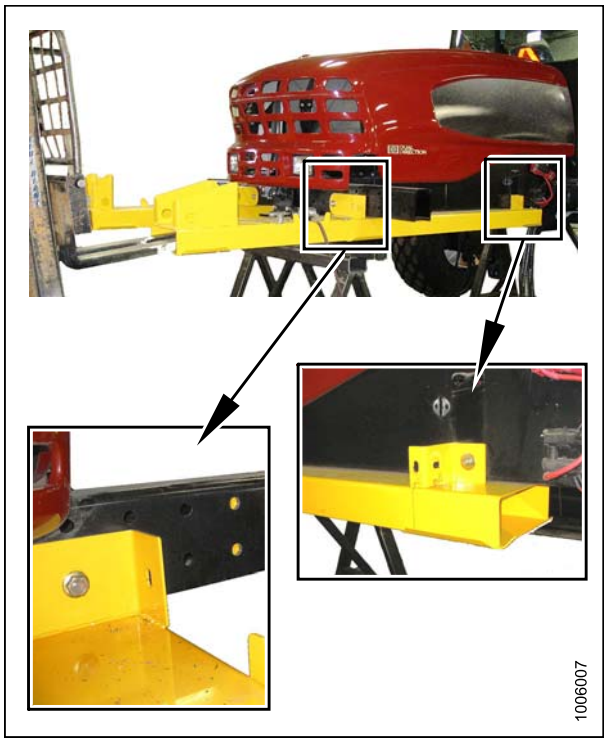

Figure 3.19: Shipping Frame

4. Remove tie bar (A) between the two caster wheels.

Figure 3.20: Caster Wheel Shipping Assembly

5. Remove the two caster supports (A) from the caster wheels and frame. Retain bolts for attaching caster to walking beam.

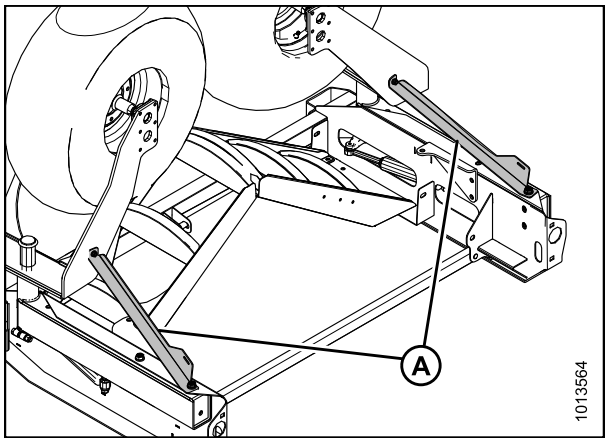

Figure 3.21: Caster Supports

6. Attach a chain to the right-hand caster and support caster with lifting device.

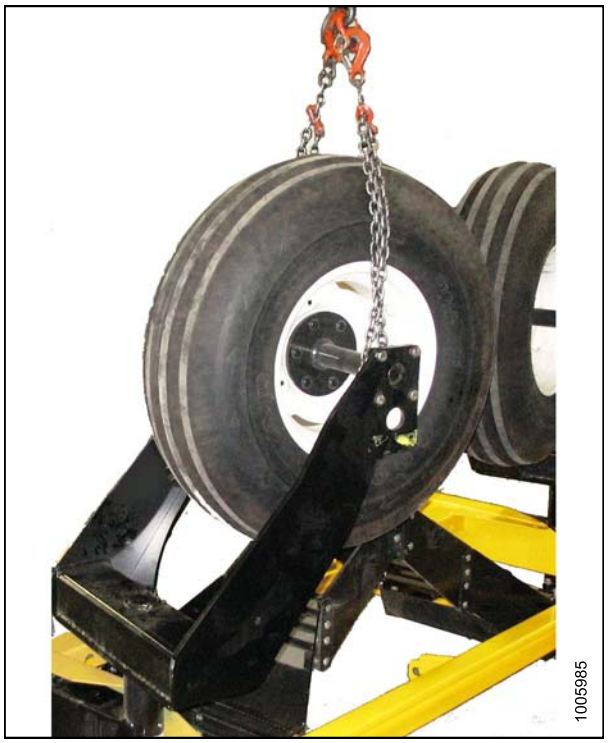

Figure 3.22: Lifting Device on Caster

7. Remove the five remaining bolts (A) securing the caster to the shipping frame. Retain bolts for attaching caster to walking beam.

CAUTION

Stand clear when lifting, as caster may swing.

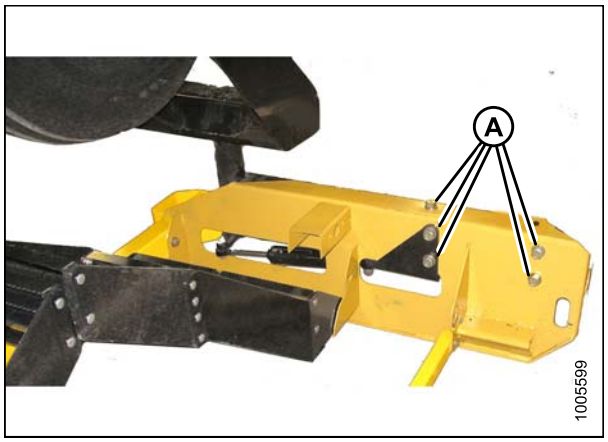

Figure 3.23: Shipping Frame on Caster

8. Lift caster assembly off shipping frame and position at end of walking beam (A).
9. Insert right-hand caster extension into walking beam and position for desired tread.

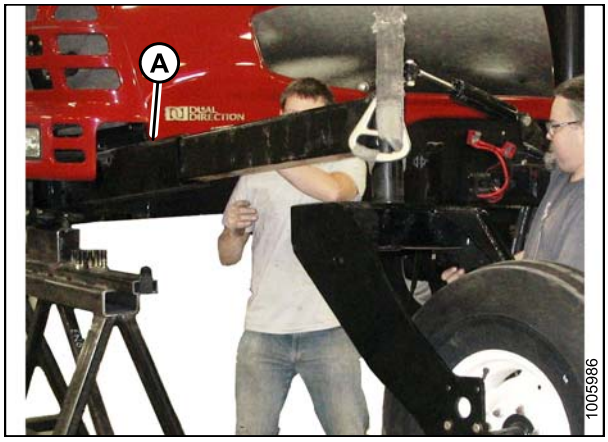

Figure 3.24: Walking Beam

10. Install six 3/4 in. bolts (A) and hardened washers into walking beam and caster beam. Use longer bolts through anti-shimmy bracket (B).
11. Tighten bolts as follows:
    a. Snug up the two bolts underneath beam.
    b. Tighten the four back bolts to 447 N·m (330 ft·lbf).
    c. Tighten bolts underneath beam to 447 N·m (330 ft·lbf).
12. Repeat Steps *7, page 38* through *11, page 39* for left-hand caster.
13. Retighten bolts at five and ten hours of operation.

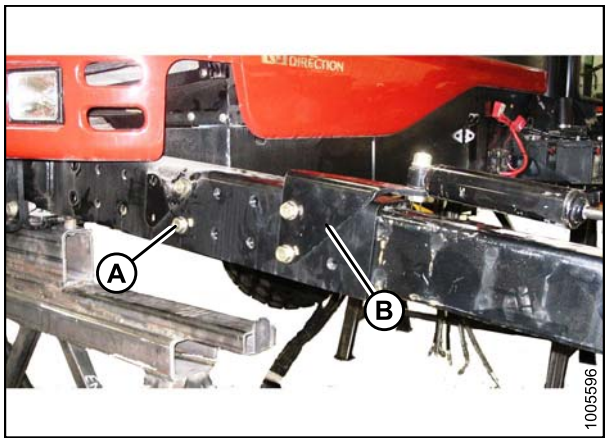

Figure 3.25: Walking Beam

3.6 Installing Hydraulics

The procedure for installing hydraulics is different for each windrower model. Refer to the following procedures according to your specific model:

- *3.6.1 Installing Hydraulics on an M205, page 40*
- *3.6.2 Installing Hydraulics on an M155, page 43*
- *3.6.3 Installing Hydraulics on an M105, page 53*

3.6.1 Installing Hydraulics on an M205

1. Retrieve all capped hoses from inside the frame.
2. Locate the three hoses with capped tees extending from the valve block.
3. Remove caps from fittings with similar colored cable ties and connect hoses (A) to tees. Do **NOT** connect the large case drain hoses from the wheel motors at this time.

   NOTE:
   Remove caps on tee last to minimize oil loss.

4. Position hoses into frame.
5. Locate the two hoses with capped ends and matching colored ties. A union is connected to one of the hoses.
6. Remove caps and connect the two hoses together. Position hoses in frame.
7. Retrieve the four remaining capped hoses coming out of the frame.

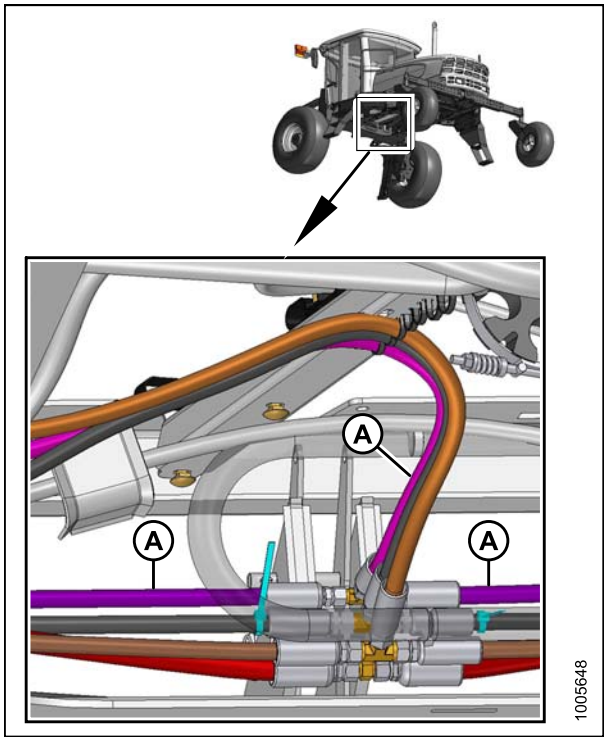

Figure 3.26: Hydraulic Hoses

8. Loosen bolts (A) and move valve block to improve access through the hole in the frame in order to insert wrenches and tighten fittings.
9. Remove caps from hoses and matching valve block fittings (B).
10. Make connections using colored plastic cable ties as a guide. Tighten fittings.
11. Reposition valve block and retighten bolts.

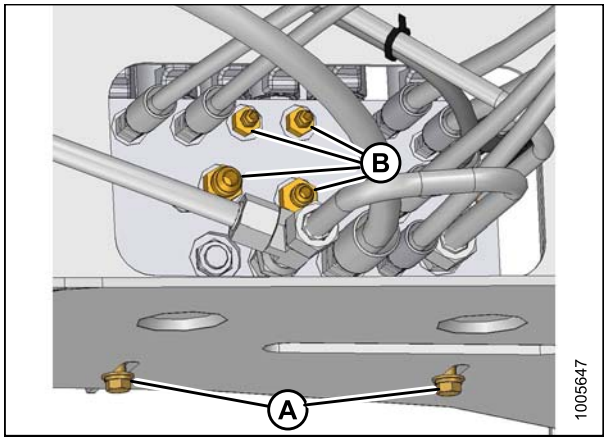

Figure 3.27: Hydraulic Valve and Hoses

12. Position the two smaller hoses (MD #111323) (A) and the two larger hoses (MD #111328, MD #111557) (B) against the support as shown, and secure with plastic ties.

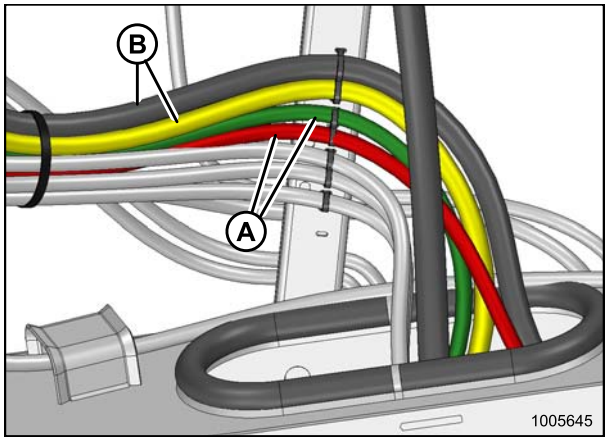

Figure 3.28: Hydraulic Hose Routing

13. Remove clamp (A) from round plastic hose block (case drain hose is preinstalled in block).

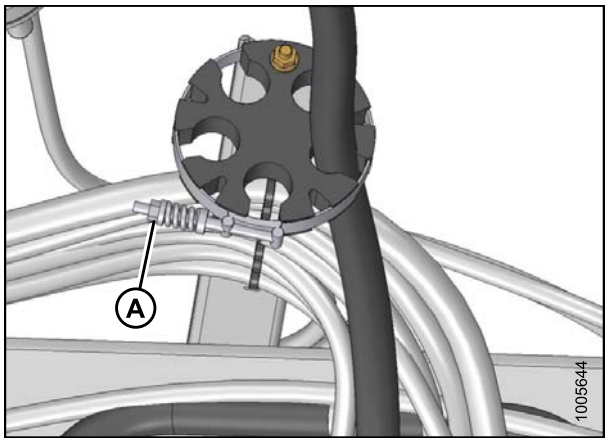

Figure 3.29: Hose Block

NOTE:
Case drain hose (B) is preinstalled in block.

14. Insert two left-hand traction drive hoses (A) into hose block as shown.
15. Insert two right-hand traction drive hoses (C) into hose block as shown.

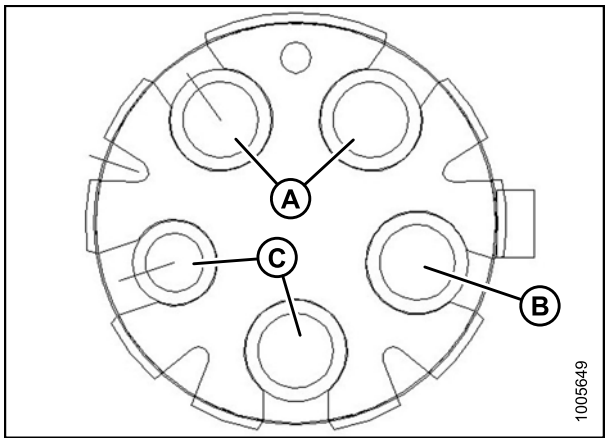

Figure 3.30: Hose Block (View Looking Forward)

16. Reinstall clamp (A).

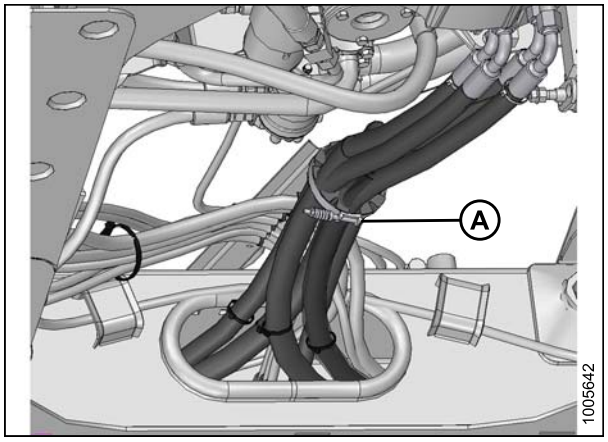

Figure 3.31: Hose Routing

17. Remove caps and attach hoses with short elbows (A) to respective side of pump (either yellow or no tie). Tighten fittings.

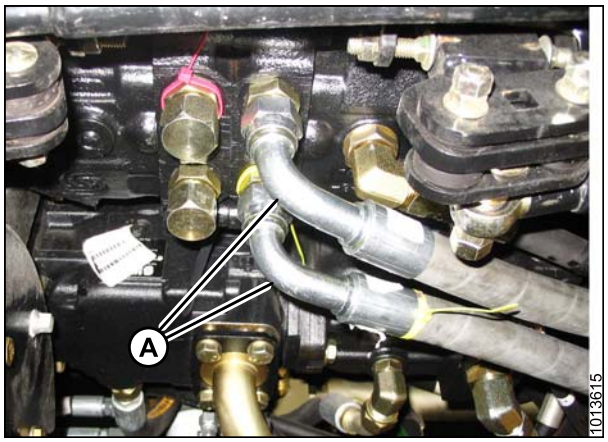

Figure 3.32: Pump

18. Remove caps and attach hoses with long elbows (A) to respective side of pump (either red or no tie). Tighten fittings.

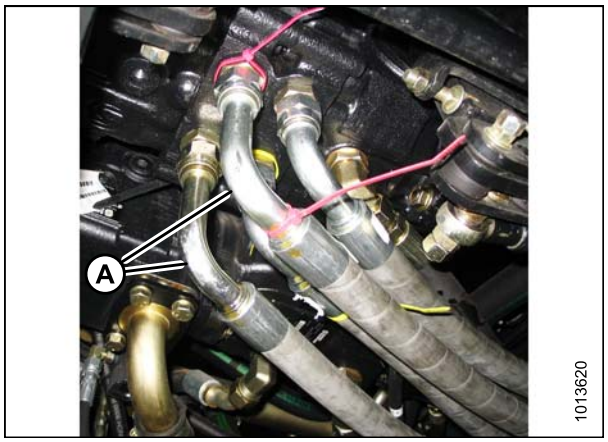

Figure 3.33: Pump

19. Retrieve the two motor case drain hoses (MD #111312) at the front frame and the 22 mm (7/8 in.) tee fitting on the hose (C) from the pump.
20. Remove caps from the hoses (B) only.
21. Remove one cap from tee fitting (A), and quickly attach hose (B) to minimize oil spillage.
22. Remove second cap from tee fitting (A), and quickly connect other hose (B).
23. Tighten fittings.
24. Position hoses into frame.

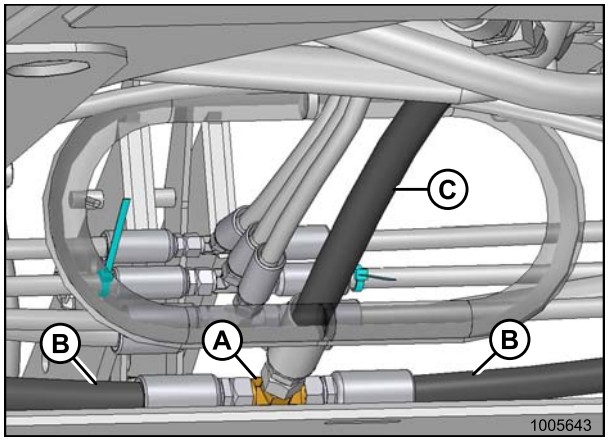

Figure 3.34: Hose Routing

25. Secure hoses with cable ties (A) as required.

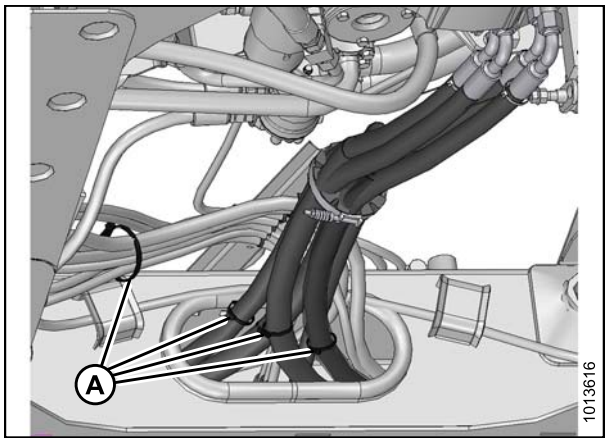

Figure 3.35: Hose Routing

3.6.2 Installing Hydraulics on an M155

1. Locate hose clip (A) under the cab and remove the clip.

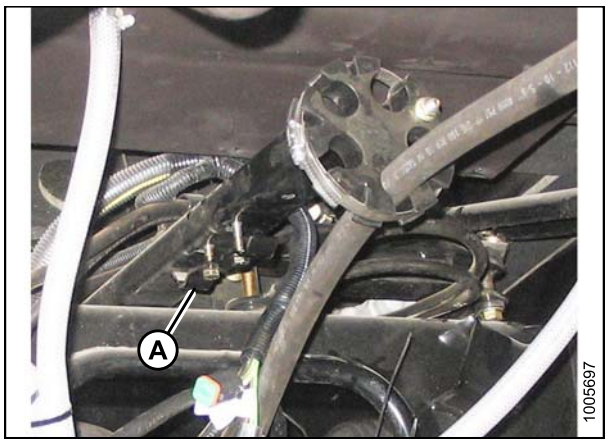

Figure 3.36: Hose Clip

2. Position hose (MD #111323 [orange tie]) (D) and hose (MD #111324 [white tie]) (E) with tee under the center of the clip as shown, and loosely install two bolts and nuts.

   NOTE:
   Part numbers are marked on the hoses.

3. Position remaining hoses under clip as shown and tighten bolts.

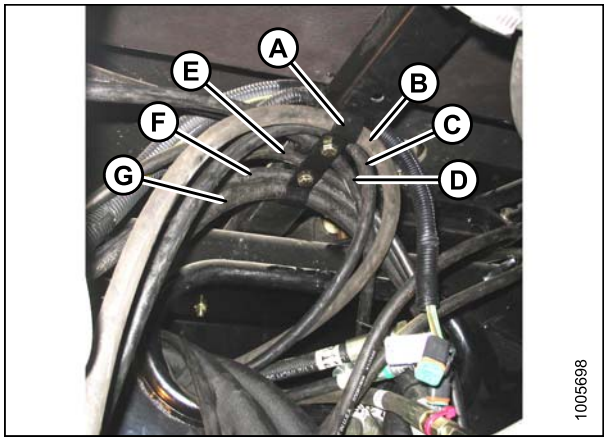

Figure 3.37: Hose Routing (View Looking Forward)

A - Hose Clip
B - Yellow Tie (MD #111557)
C - Blue Tie (MD #111323)
D - Orange Tie (MD #111323)
E - White Tie (MD #111324)
F - Green Tie (MD #111327)
G - White Tie (MD #111328)

4. Locate two hoses (MD #111327 [green ties]) (A) in frame opening and existing tee fitting (green tie) on the hose from the valve block.
5. Remove caps from the hoses (A) only.
6. Remove one cap from tee fitting, and quickly attach hose (A) to minimize oil spillage.
7. Remove second cap from tee fitting, and quickly connect other hose (A).
8. Tighten fittings.
9. Position hoses into frame.

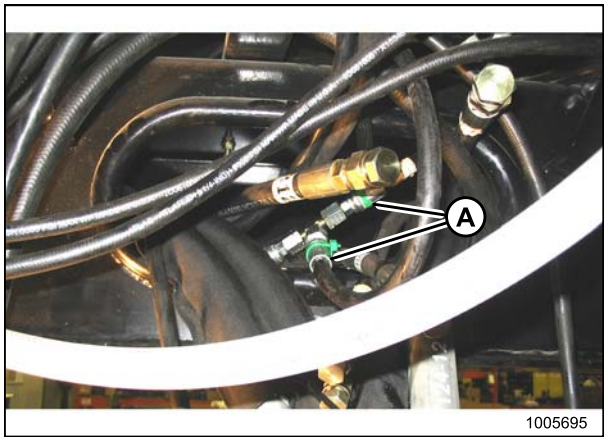

Figure 3.38: Hose Routing

10. Locate two hoses (white ties) inside frame and hose (MD #111324) with existing tee fitting (white tie) (A).
11. Remove caps, make connections, and tighten fittings.
12. Position hoses into frame.

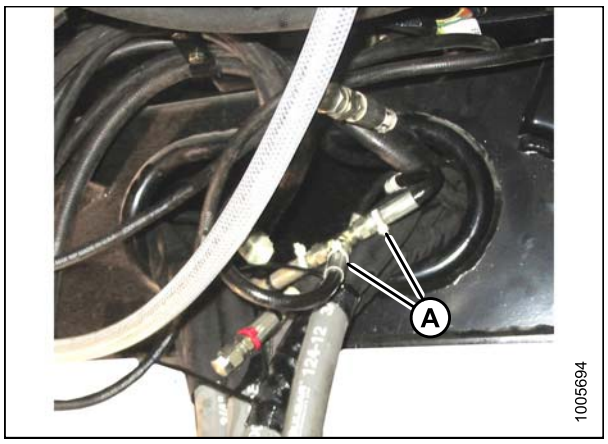

Figure 3.39: Hose Routing

13. Locate two hoses (red ties) (A) inside frame.
14. Route right-hand hose behind bundle.
15. Remove caps, make connection, and tighten fitting.
16. Position hoses into frame.

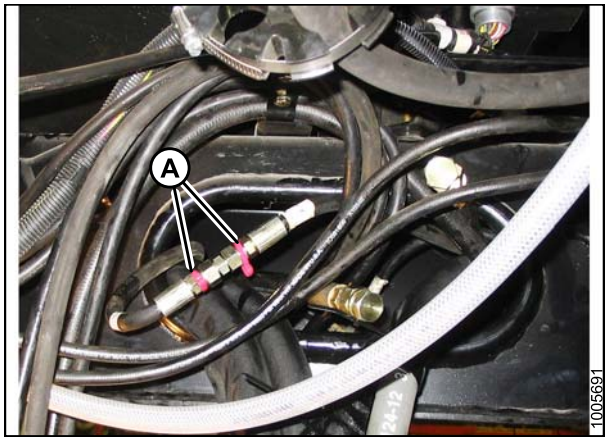

Figure 3.40: Hose Routing

17. Retrieve long hose (MD #119328 [white tie]) (A) and route through the hole in the left-hand frame.

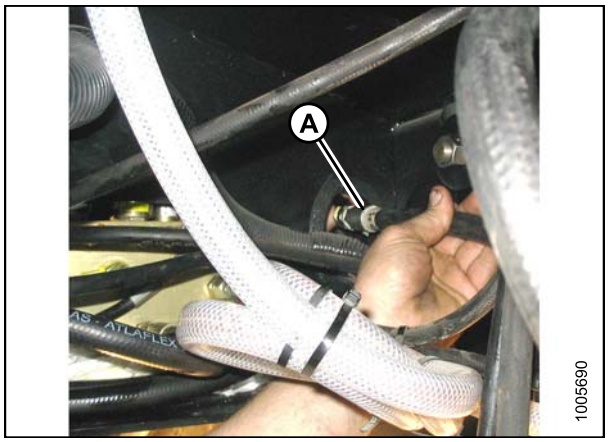

Figure 3.41: Hose Routing

18. Remove caps on hose (A) and valve block fitting (white tie) (B) and make connection. Tighten fitting.

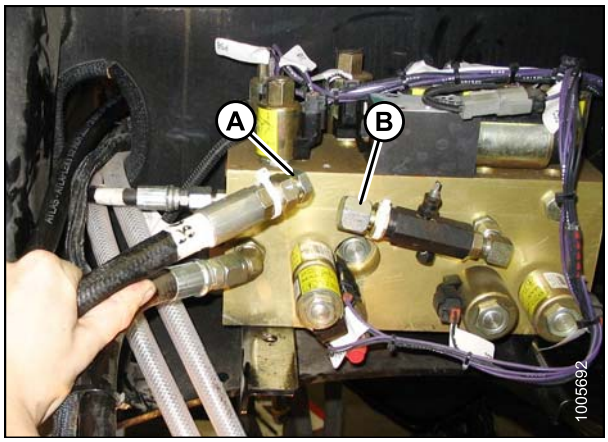

Figure 3.42: Valve Block

19. Remove the caps from three fittings (blue [A], orange [B], and yellow [C] ties) on the valve block from the inboard side of the frame.

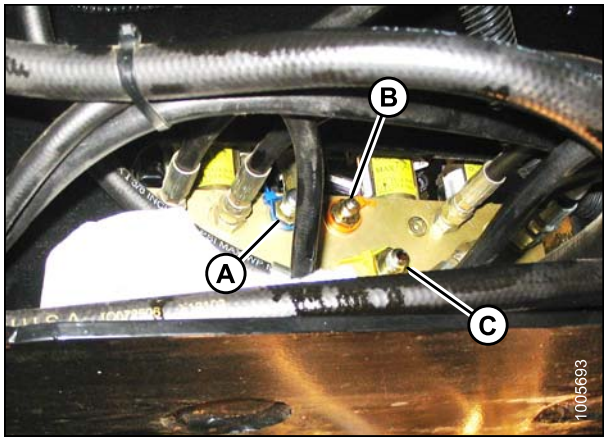

Figure 3.43: Valve Block

20. Loosen bolts (A) and move valve block to improve access through the hole in the frame in order to insert wrenches and tighten fittings.

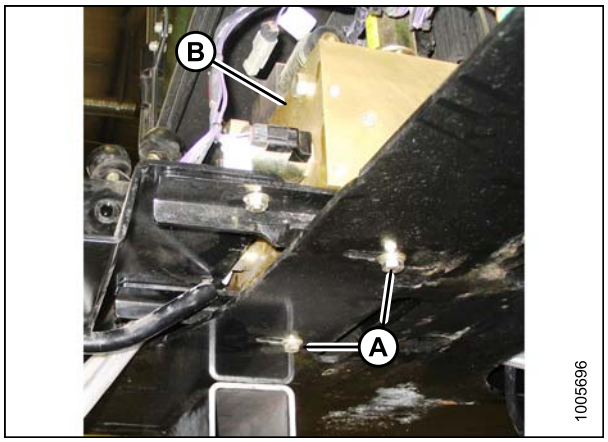

Figure 3.44: Valve Block

21. Retrieve matching hoses (blue [A], orange [B], and yellow [C] ties) and make connections on valve block. Tighten fittings.
22. Reposition valve block and retighten bolts.

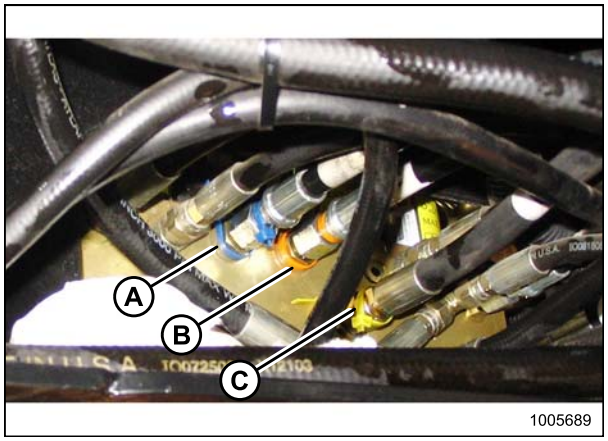

Figure 3.45: Valve Block

23. Remove clamp (A) from round plastic hose block (case drain hose is preinstalled in block).

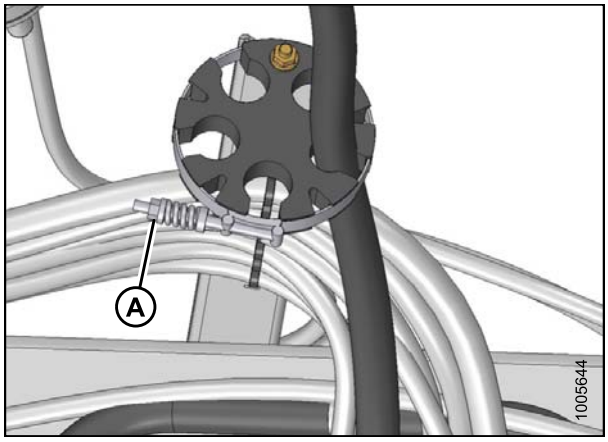

Figure 3.46: Hose Block

NOTE:
Case drain hose (C) is preinstalled in block.

24. Insert two left-hand traction drive hoses (A) into hose block as shown.
25. Insert two right-hand traction drive hoses (B) into hose block as shown.
26. Reinstall clamp.

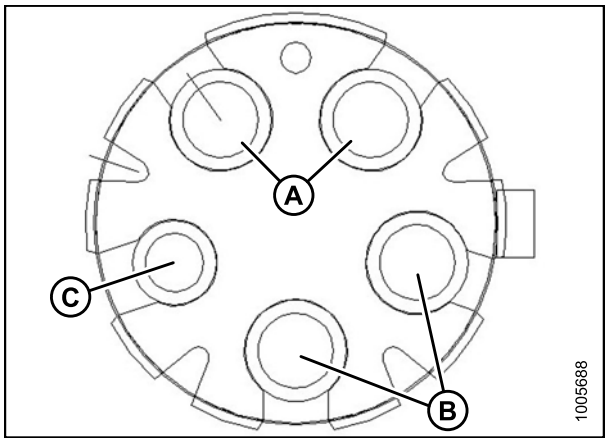

Figure 3.47: Hose Block (View Looking Forward)

27. Remove caps and attach hoses with short elbows (A) to respective side of pump (either yellow or no tie). Tighten fittings.

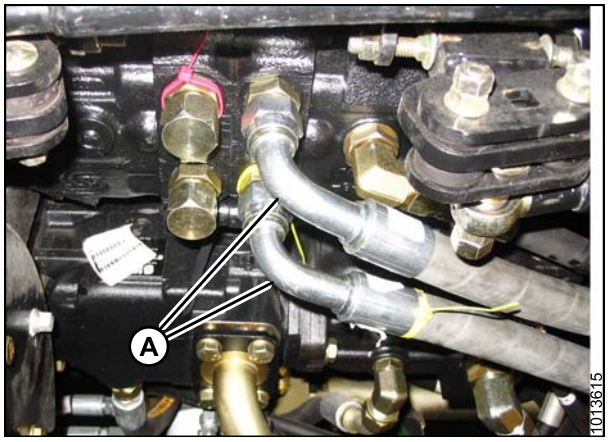

Figure 3.48: Pump

28. Remove caps and attach hoses with long elbows (A) to respective side of pump (either red or no tie). Tighten fittings.

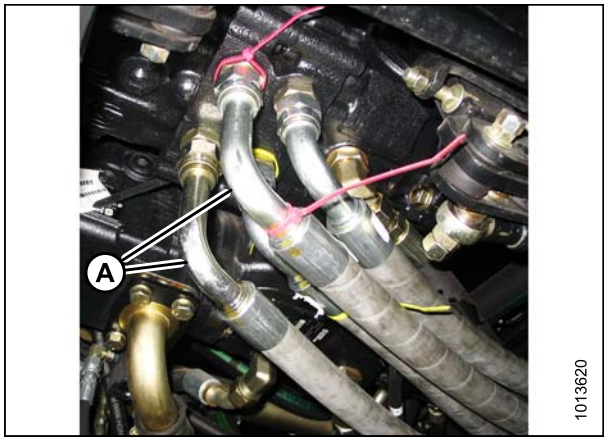

Figure 3.49: Pump

29. Retrieve the two motor case drain hoses (MD #111312) at the front frame and the 7/8 in. tee fitting (B) on the hose from the pump.
30. Remove the caps (A) from the hoses only.

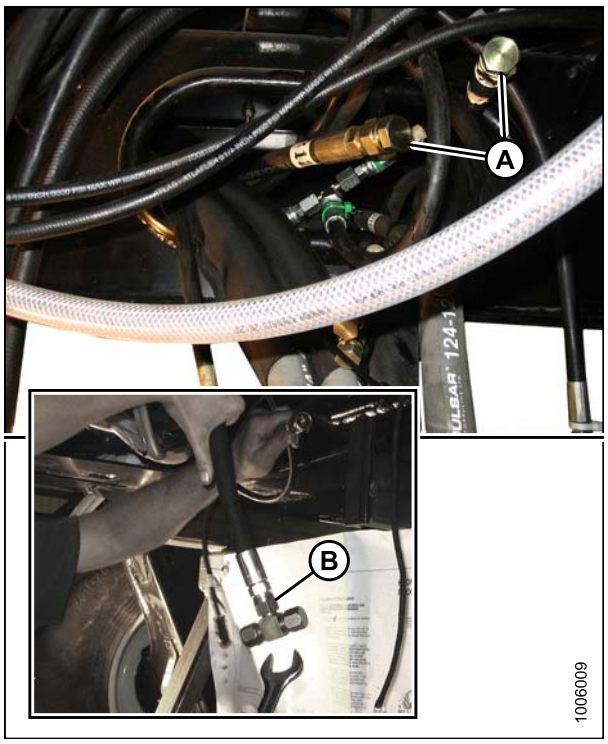

Figure 3.50: Motor Case Drain Hoses

31. Remove one cap from tee fitting (A) and quickly attach hose to minimize oil spillage.
32. Remove second cap from tee (A) and quickly connect other hose.
33. Tighten fittings.

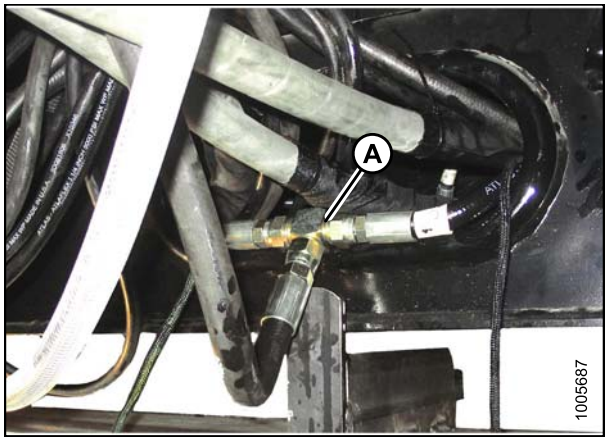

Figure 3.51: Tee Fitting

34. Position hose bundle (A) from the valve blocks on the left-hand side of the frame onto the tire.
35. Note routing of electrical harness.

    IMPORTANT:
    The electrical harness must be routed on the topside of the hose bundle and on the outside of the hose support to prevent chafing of the electrical wires when the windrower is operating with a header.

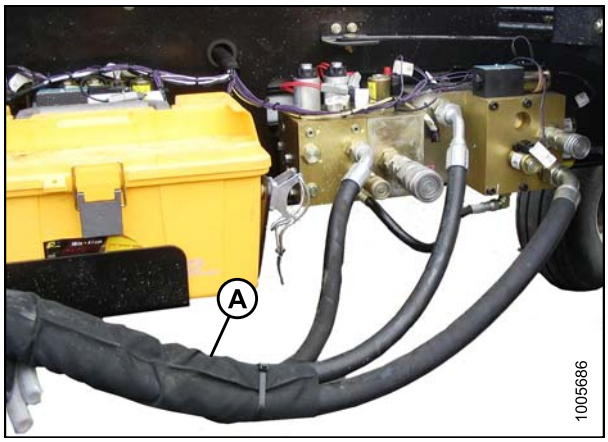

Figure 3.52: Hose Routing

36. Undo strap (A), cut plastic cable ties (B), and move harness (C) away from the hose bundle.

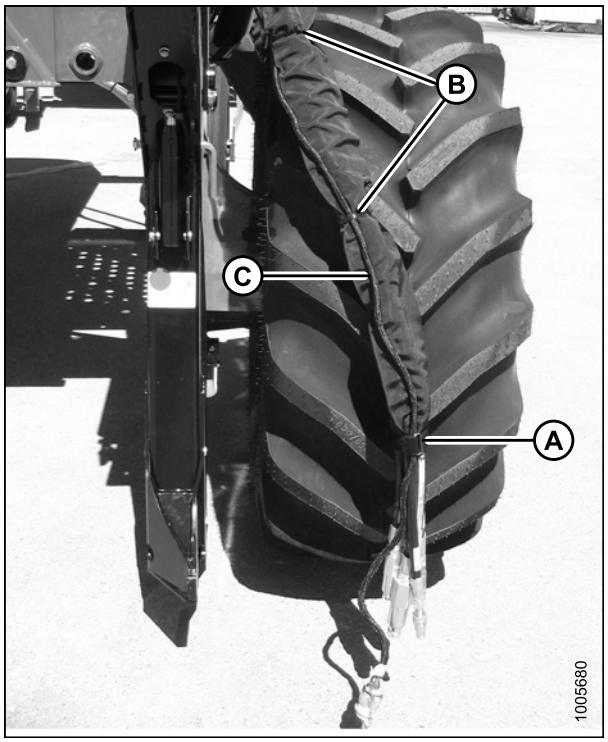

Figure 3.53: Electric Harness and Hose Bundle

37. Route the hose bundle (A) through the hose support and lay hose bundle on the tire.
38. Route the harness along the outside of the hose support and along the hose bundle to the hose ends.

Figure 3.54: Hose Routing

39. Attach harness (A) to hose support with hose clip (B).

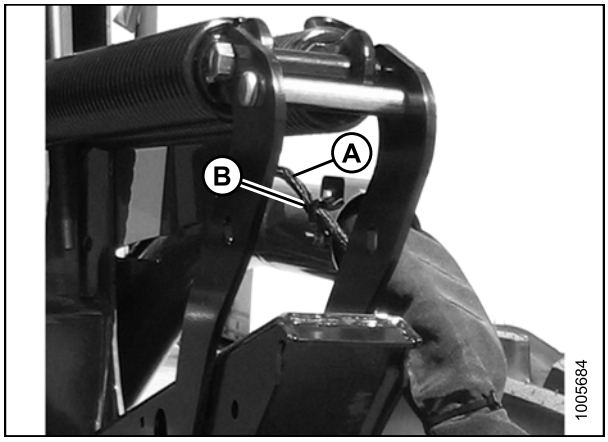

Figure 3.55: Hose Support

40. Secure harness (C) to hose bundle with strap (A) and new plastic cable ties (B). Ensure harness is clear of pinch and friction points.

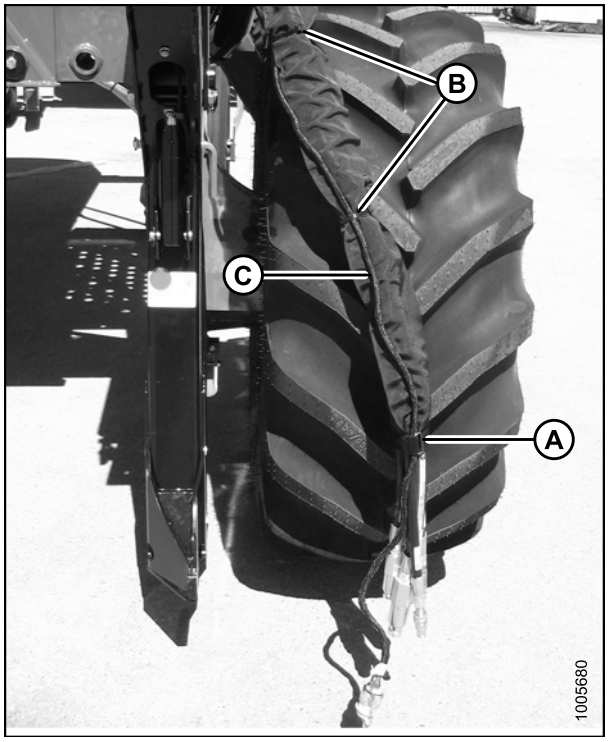

Figure 3.56: Electric Harness and Hose Bundle

41. Disengage and rotate hook (A) to fully up position.
42. Position hose bundle (B) over hose support and under hook.

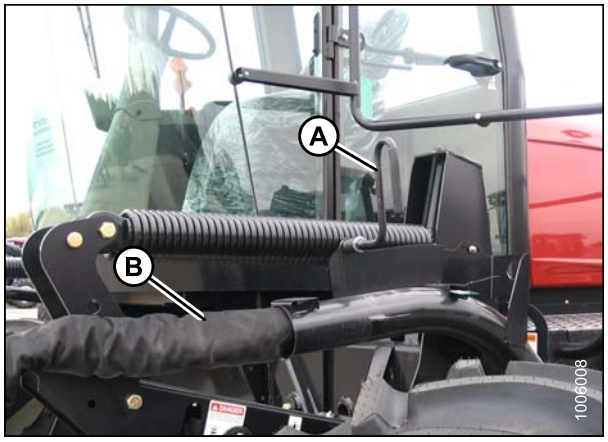

Figure 3.57: Hook Positioning

43. Lower hook (A) and engage in bracket in down position.

Figure 3.58: Hook Positioning

44. Attach the reel hose support tube to the right-hand reel leg with two 3/8 x 1.0 in. carriage bolts (A) and nuts.

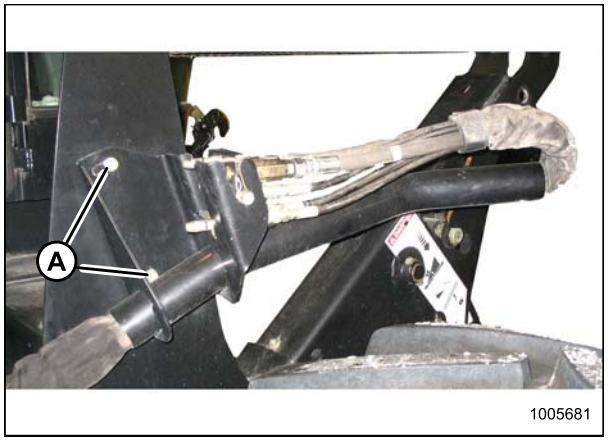

Figure 3.59: Reel Hose Support

3.6.3 Installing Hydraulics on an M105

1. Locate two hoses (MD #111324 [green ties]) (A) in frame opening and existing tee fitting (green tie) on the hose from the valve block.
2. Remove one cap from tee fitting, and quickly attach hose (A) to minimize oil spillage.
3. Remove second cap from tee fitting, and quickly connect other hose (A).
4. Tighten fittings.
5. Position hoses into frame.

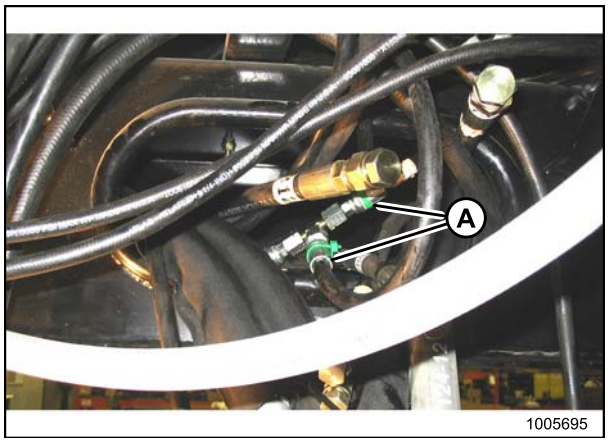

Figure 3.60: Hose Routing

6. Locate two hoses (white ties) inside frame and hose (MD #111324) with existing tee fitting (white tie) (A).
7. Remove caps, make connections, and tighten fittings.
8. Position hoses into frame.

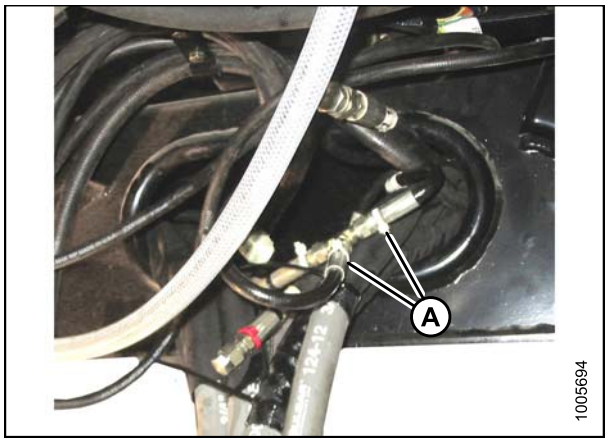

Figure 3.61: Hose Routing

9. Locate two hoses (red ties) (A) inside frame.
10. Route right-hand hose behind bundle.
11. Remove caps, make connection, and tighten fitting.
12. Position hoses into frame.

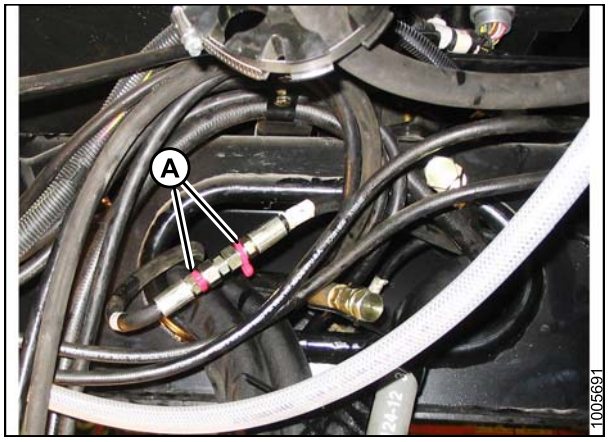

Figure 3.62: Hose Routing

13. Retrieve long hose (MD #119328 [white tie]) (A) and route through the hole in the left-hand frame.

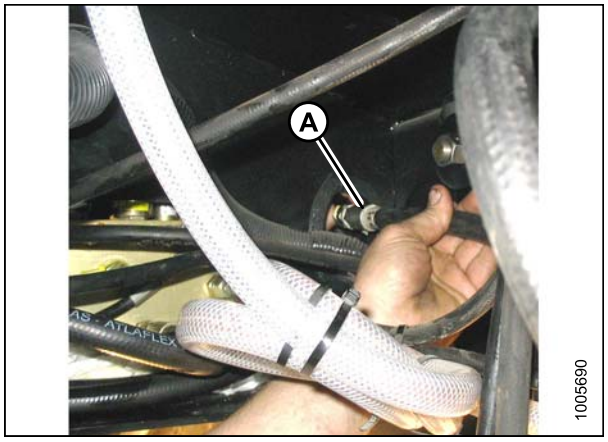

Figure 3.63: Hose Routing

14. Remove caps on hose (A) and valve block fitting (white tie) (B), and make connection. Tighten fitting.

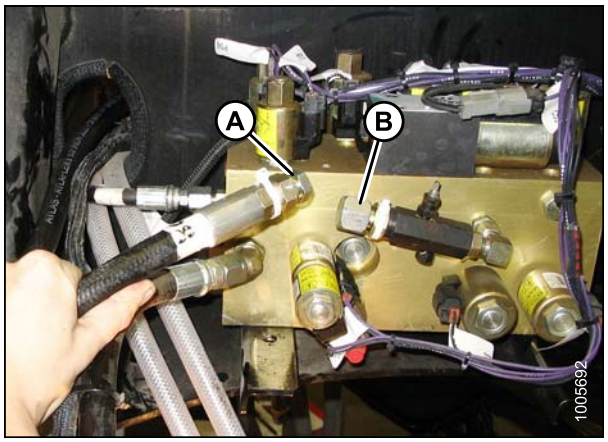

Figure 3.64: Valve Block

15. Remove the cap from the fitting with yellow tie (A) on the valve block from the inboard side of the frame.

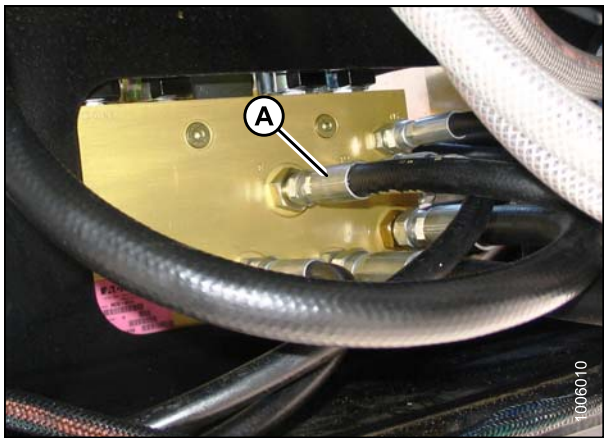

Figure 3.65: Valve Block

16. Loosen bolts (A) and move valve block (B) to improve access through the hole in the frame in order to insert wrenches and tighten fittings.
17. Retrieve matching hose and make connection on valve block. Tighten fitting.
18. Reposition valve block and retighten bolts.

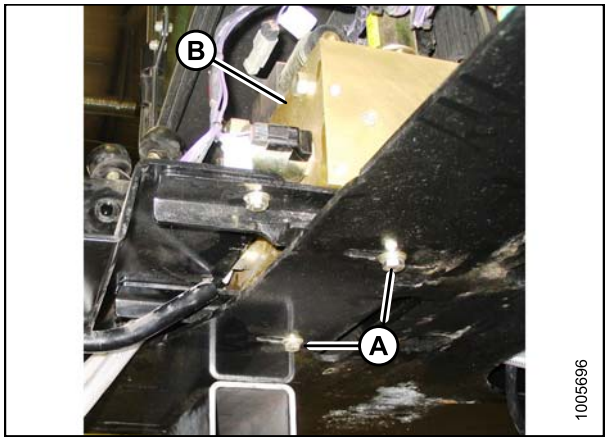

Figure 3.66: Valve Block

19. Connect drive hoses to pump as follows:
    a. Remove caps and attach hose with yellow tie (A) and hose with green tie (B) to matching fittings on top of pump. Tighten fittings.
    b. Remove caps and attach hose with red tie (A) and hose with white tie (B) to matching fittings on bottom of pump. Tighten fittings.

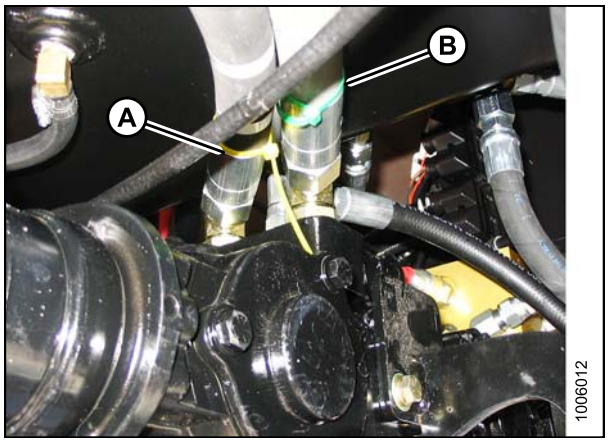

Figure 3.67: Top of Pump

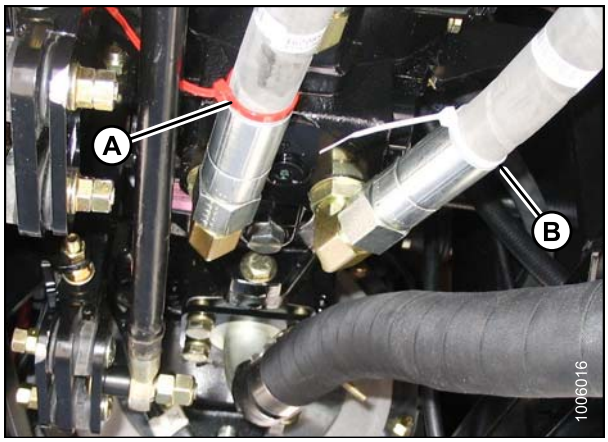

Figure 3.68: Bottom of Pump

20. Retrieve the two motor case drain hoses (MD #111312) at the front frame and the 7/8 in. tee fitting (B) on the hose from the pump.
21. Remove the caps (A) from the hoses only.

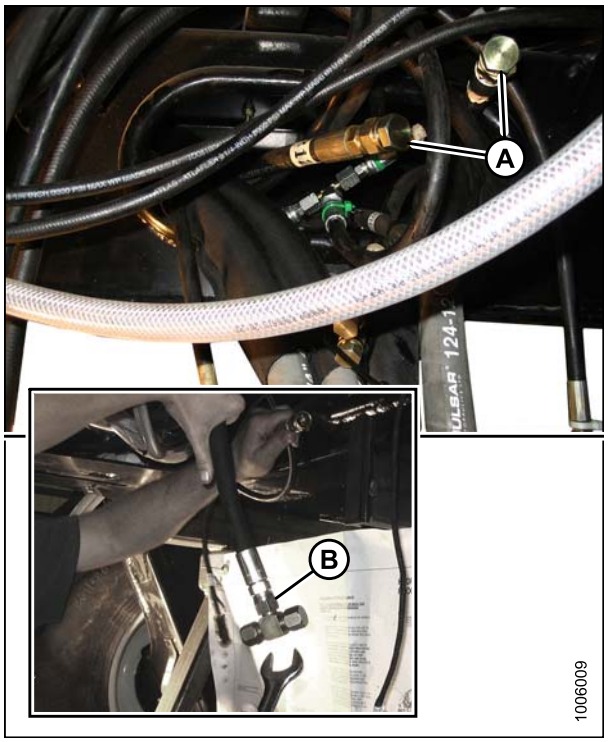

Figure 3.69: Motor Case Drain Hoses

22. Remove one cap from tee fitting (A) and quickly attach hose to minimize oil spillage.
23. Remove second cap from tee fitting (A) and quickly connect other hose.
24. Tighten fittings.

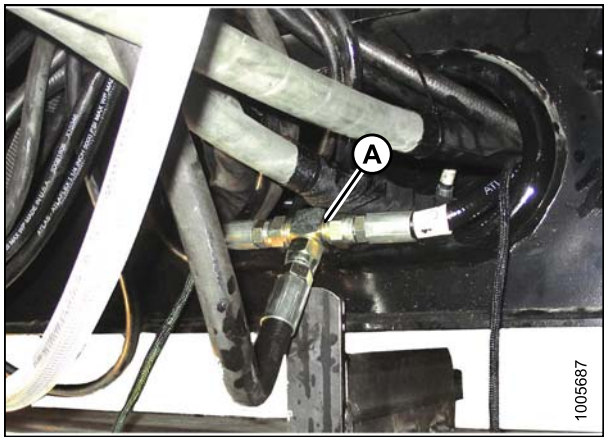

Figure 3.70: Tee Fitting

25. Bundle traction drive hoses and secure with two plastic cable ties (A) at 200 mm (7-3/4 in.) intervals from the frame opening.
26. Bundle smaller hoses and secure with two plastic cable ties (B) at 150 mm (6 in.) intervals from the frame opening.

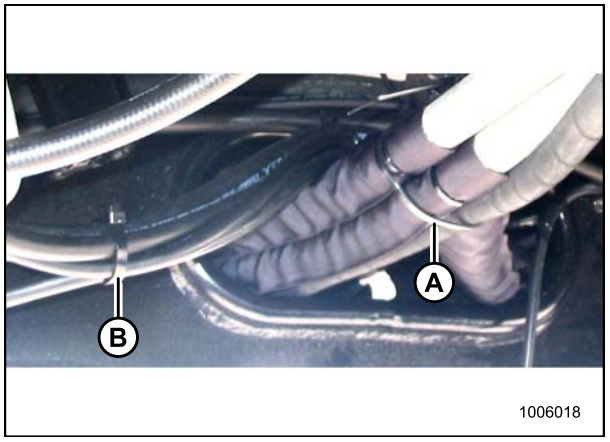

Figure 3.71: Hose Routing

27. Position hose bundle (A) from the valve blocks on the left-hand side of the frame onto the tire.
28. Note routing of electrical harness.

    IMPORTANT:
    The electrical harness must be routed on the topside of the hose bundle and on the outside of the hose support to prevent chafing of the electrical wires when the windrower is operating with a header.

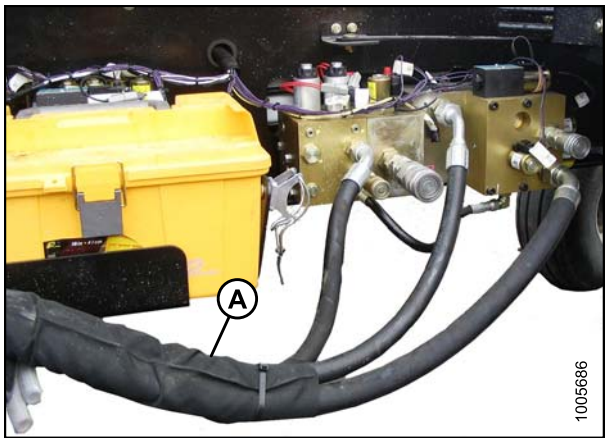

Figure 3.72: Hose Routing

29. Undo strap (A), cut plastic cable ties (B), and move harness (C) away from the hose bundle.

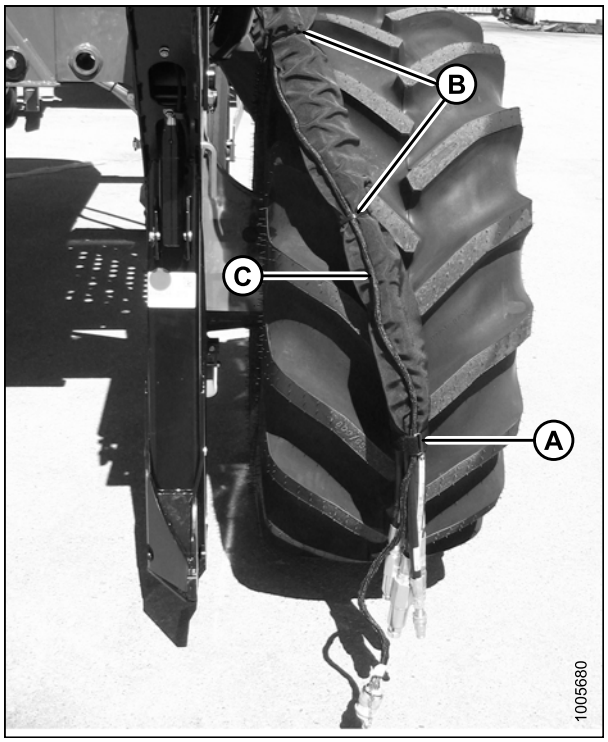

Figure 3.73: Electric Harness and Hose Bundle

30. Route the hose bundle (A) through the hose support and lay on the tire.
31. Route the harness along the outside of the hose support and along the hose bundle to the hose ends.

Figure 3.74: Hose Routing

32. Attach harness (A) to hose support with hose clip (B).

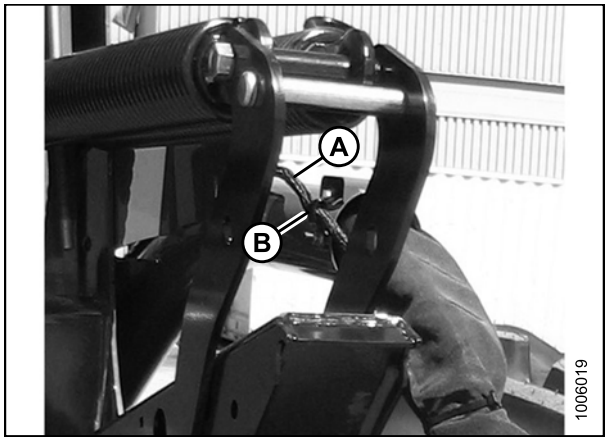

Figure 3.75: Hose Support

33. Secure harness (C) to hose bundle with strap (A) and new plastic cable ties (B). Ensure harness is clear of pinch and friction points.

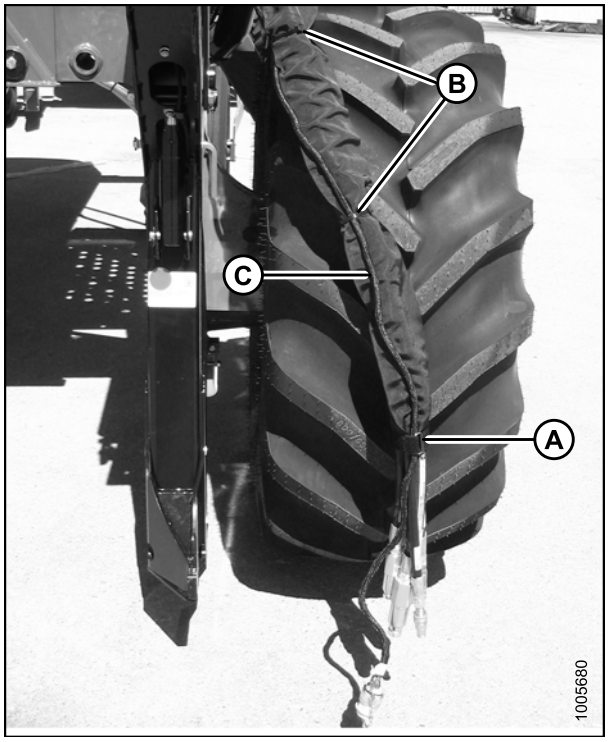

Figure 3.76: Electric Harness and Hose Bundle

34. Disengage and rotate hook (A) to fully up position.
35. Position hose bundle (B) over hose support and under hook.

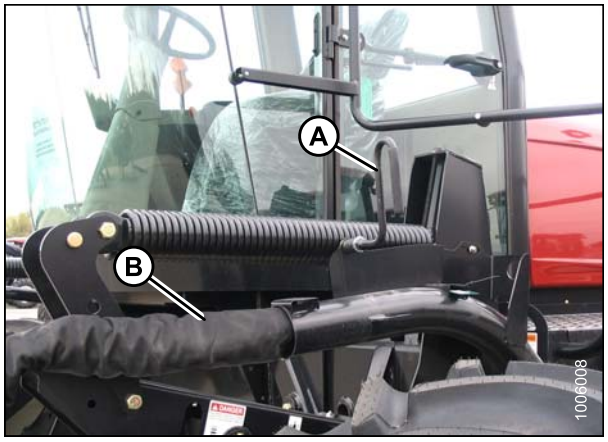

Figure 3.77: Hook Positioning

36. Lower hook (A) and engage in bracket in down position.

Figure 3.78: Hook Positioning

37. Attach the reel hose support tube to the right-hand reel leg with two 3/8 in. x 1.0 in. carriage bolts (A) and nuts.

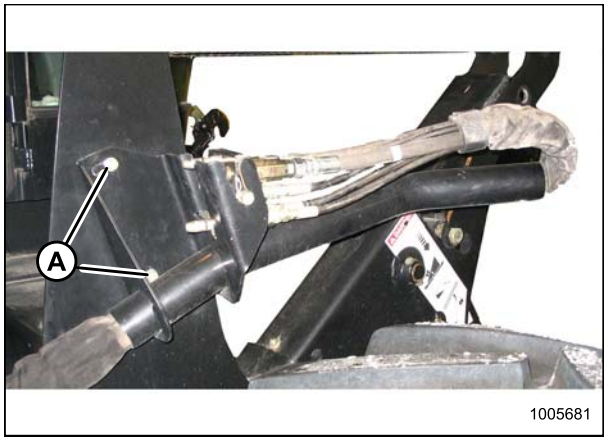

Figure 3.79: Reel Hose Support

3.7 Removing Battery Shipping Shield

NOTE:
This procedure does not apply to the M105.

1. Loosen nut (A) on the battery clamp.
2. Slide shield (B) out from under the battery and discard.
3. Tighten nut (A) on the battery clamp.

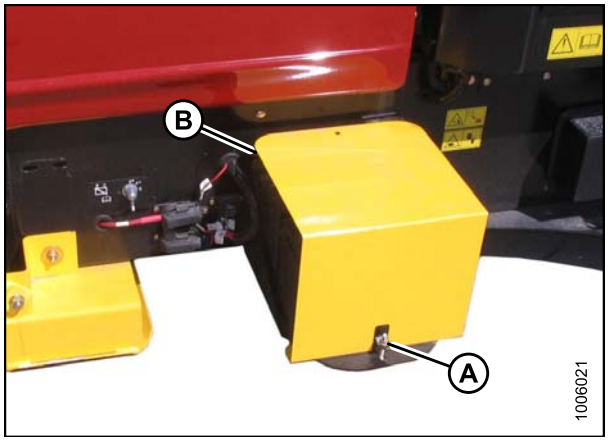

Figure 3.80: Battery Shipping Shield

4. Remove one of the two bolts (A) and nuts, and loosen the other.

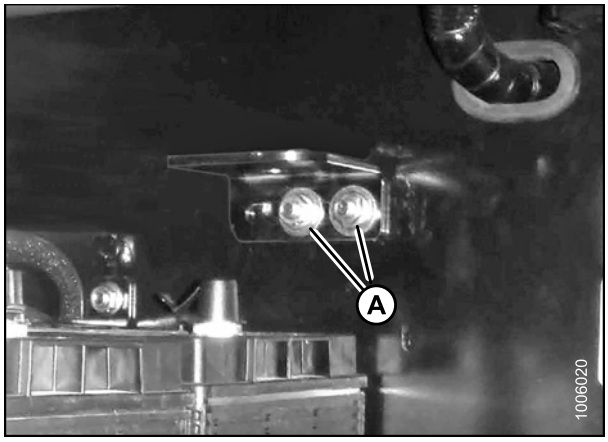

Figure 3.81: Bracket Shipping Position

5. Rotate angle (A) 180°, align holes, and reinstall the bolt (B) and nut. Leave bolts loose.

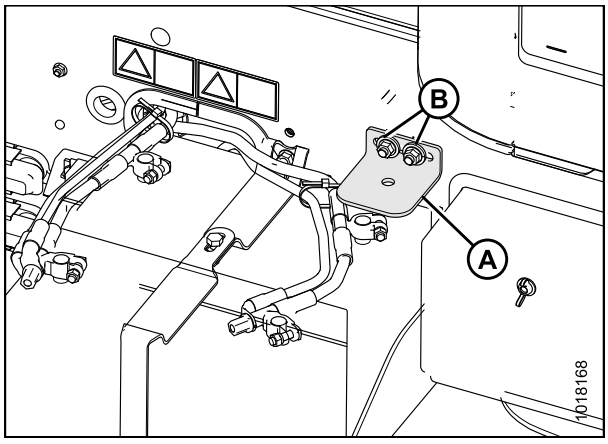

Figure 3.82: Bracket Repositioned

3.8 Unpacking Ignition Keys

The fuse box is mounted on the right (cab-forward) side of the frame under the platform.

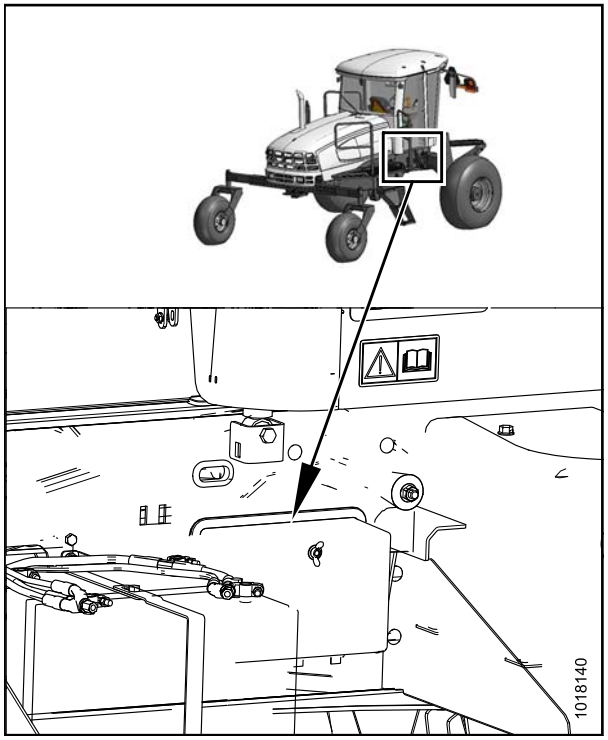

Figure 3.83: Fuse Box Location

1. Remove wing nut (A) from fuse box cover (B) and remove cover.

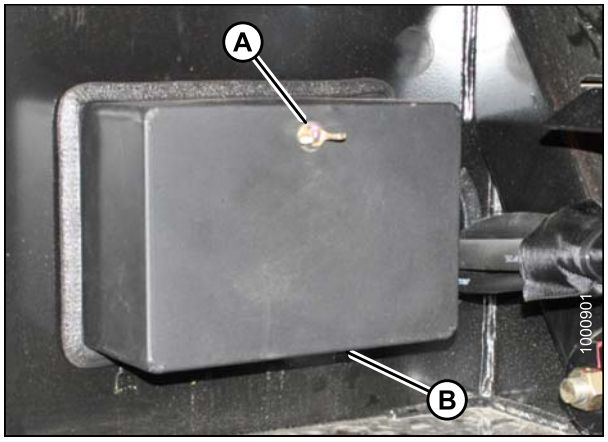

Figure 3.84: Fuse Box

2. Remove tape and keys (A) from inside the cover.
3. Unlock cab doors and place keys on console.
4. Close cab doors.
5. Install fuse box cover (B) and secure with wing nut.

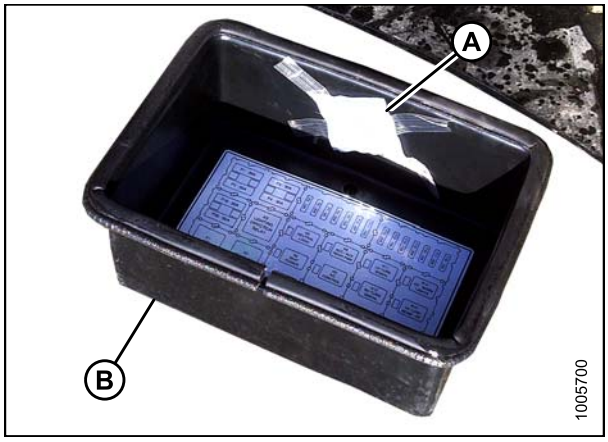

Figure 3.85: Fuse Cover

3.9 Installing Platforms

NOTE:
The M105 has a left-hand platform only, whereas the M155 and M205 have left- and right-hand platforms. The procedure for left-hand installation is shown—right-hand installation is similar.

1. Remove the two 1/2 x 3/4 in. bolts (A) securing the rails to the shipping beam, and remove the rails. Retain hardware.
2. Remove the shipping brackets from the platform assembly. Retain hardware.

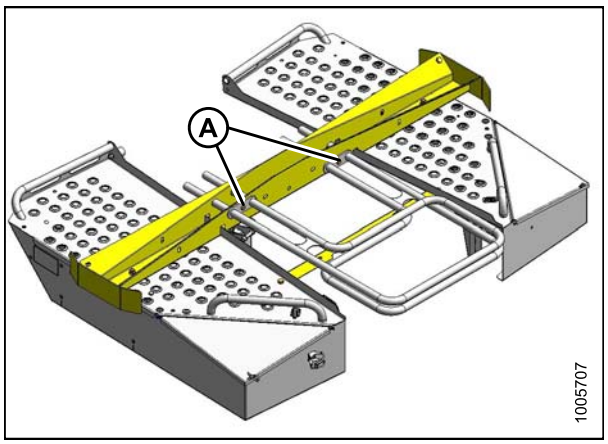

Figure 3.86: M155 and M205 Platform Shipping Assembly

3. Attach one end of a sling to the platform and the other end to a lifting device.

DANGER

To avoid injury or death from fall or swinging of raised load, keep all bystanders clear when lifting.

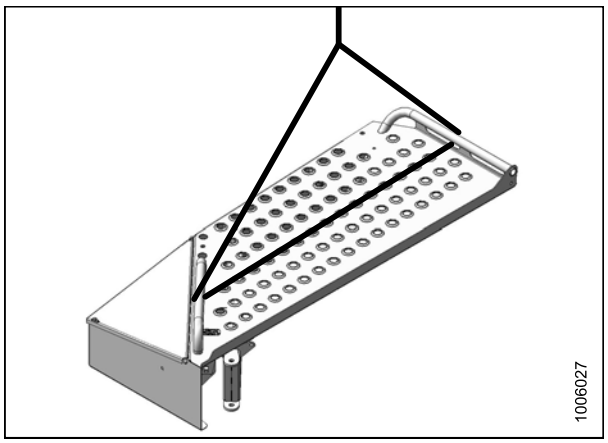

Figure 3.87: Left-Hand Platform

4. Position the platform against the windrower frame.

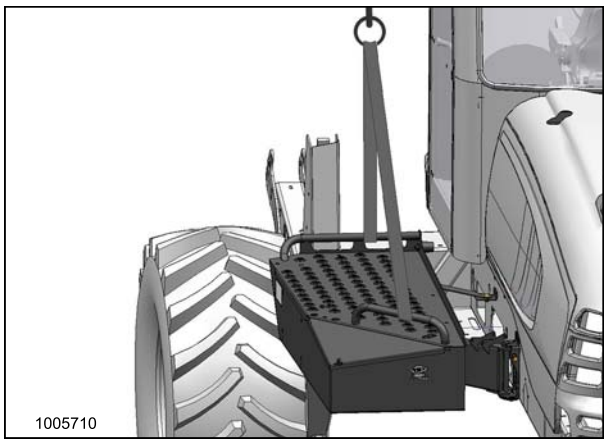

Figure 3.88: Left-Hand Platform

5. Attach the main beam of the platform to the side frame using three 1/2 x 1-1/4 in. long carriage bolts (A). Ensure the bolt heads face inboard, and tighten just enough to permit adjustment.

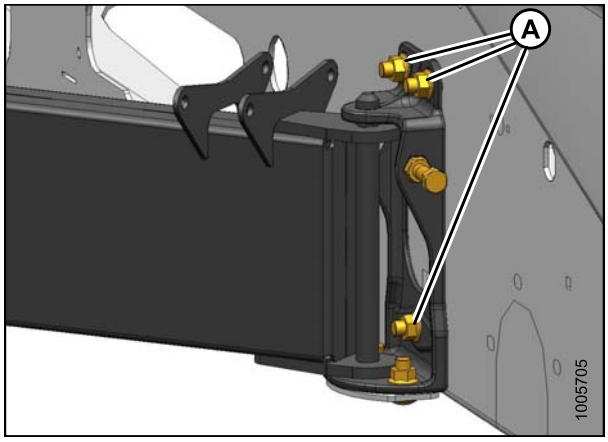

Figure 3.89: Left-Hand Platform – Main Beam

6. Attach the steering arm to the frame with two 3/8 x 3/4 in. long carriage bolts and nuts (A). Ensure the bolt heads face inboard, and tighten bolts.
7. Remove sling.

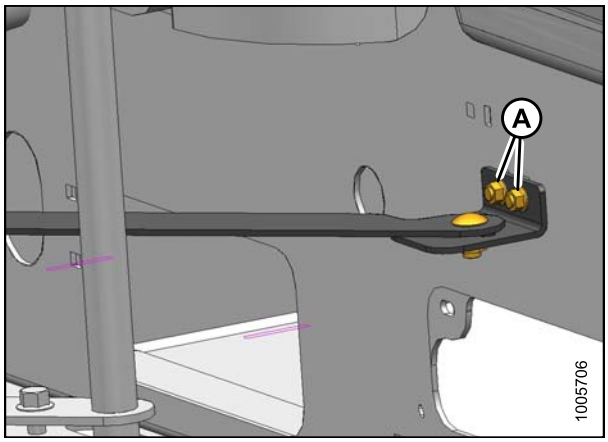

Figure 3.90: Left-Hand Platform – Steering Arm

8. Attach the railings to the platform with 1/2 x 3/4 in. locking bolts (A) provided. Tighten bolts to 102 N·m (75 ft·lbf).

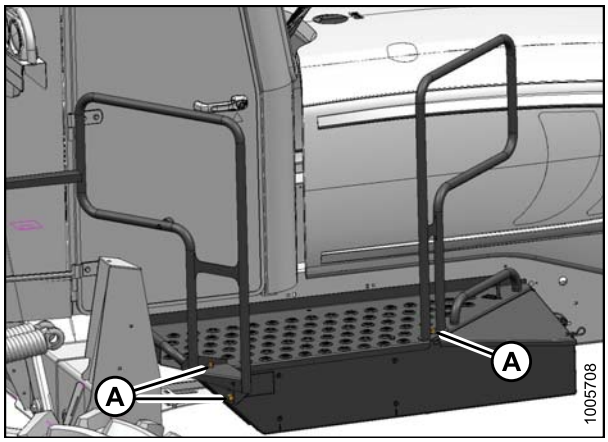

Figure 3.91: Left-Hand Platform – Railings

9. Slowly close the platform and check that the vertical rail tubes are parallel with the cab posts when viewing from the rear.

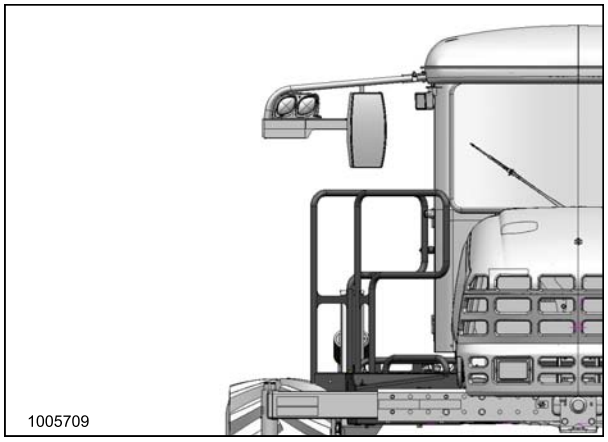

Figure 3.92: Left-Hand Platform

10. Laterally adjust the king pin mounting (A) as required.

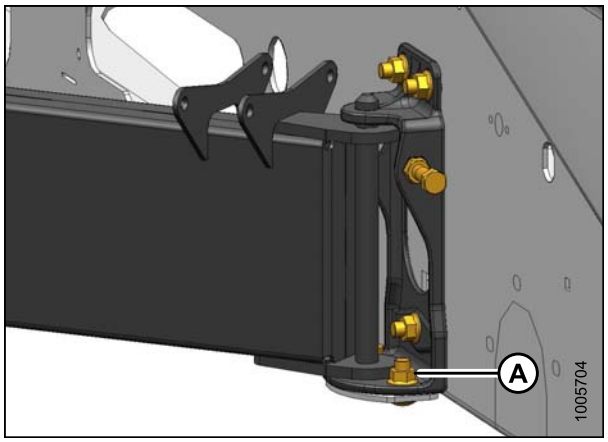

Figure 3.93: Left-Hand Platform – Main Beam

11. Ensure the rubber bumper (A) is contacting the frame.

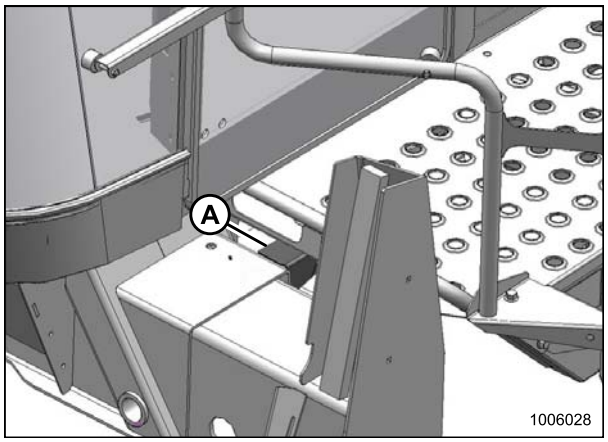

Figure 3.94: Left-Hand Platform – Rubber Bumper

12. Ensure the front of the platform is contacting the guide (A).

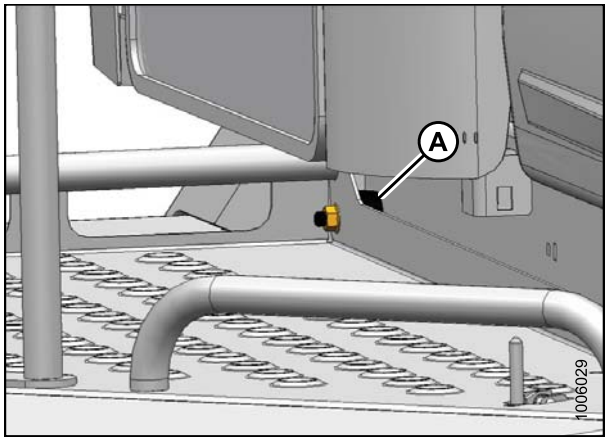

Figure 3.95: Left-Hand Platform – Guide

13. Adjust the platform horizontally with the 1/2 x 2-1/4 in. bolt (A) as required.

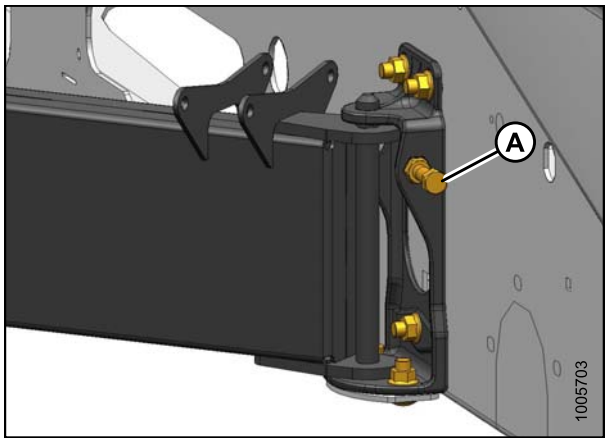

Figure 3.96: Left-Hand Platform – Main Beam

14. Relocate the steering arm (A) into either of the other holes on the bracket (B), if major adjustment is required.
15. Tighten the three main beam attachment bolts to 108 N·m (80 ft·lbf).
16. **M155 and M205 only:** Repeat procedure to install the right-hand platform.

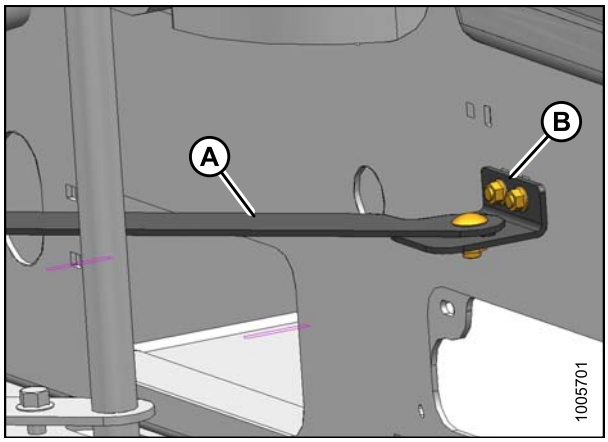

Figure 3.97: Left-Hand Platform – Steering Arm

3.10 Installing Steps

NOTE:
The M105 has a left-hand platform only, whereas the M155 and M205 have left- and right-hand platforms. Procedure for left-hand installation shown—right-hand installation similar.

1. Remove the two existing upper bolts (A).
2. Ensure the two lower bolts (B) are not threaded in fully.

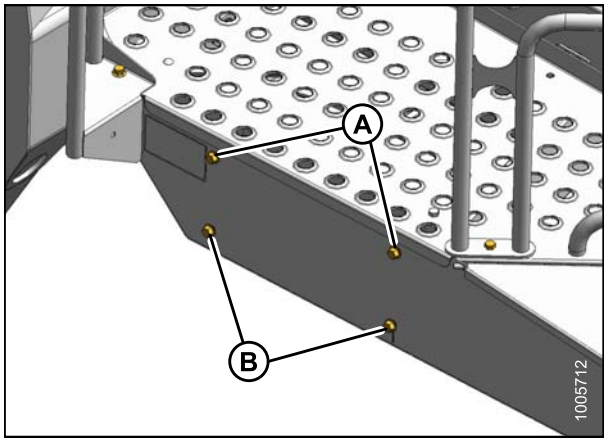

Figure 3.98: Left-Hand Platform

3. Hang step assembly on lower bolts (B) (back off bolts, if necessary).
4. Install two bolts (A) in upper holes of step and platform.
5. Torque all bolts to 20 N·m (15 ft·lbf).
6. **M155 and M205 only:** Repeat for opposite step assembly.

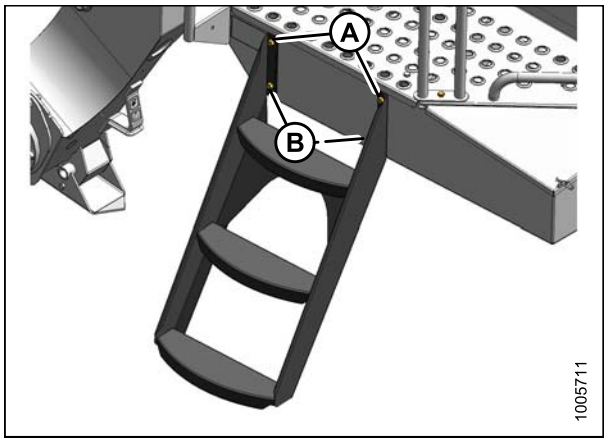

Figure 3.99: Left-Hand Steps Installed

3.11 Installing Exhaust Stack

1. Open the engine compartment hood.
2. Retrieve the exhaust stack (A) and clamp (B) (unpacked in *2.6 Removing Hand Rails and Exhaust Stack, page 20*).
3. Loosen the clamp (B) on the exhaust stack (A).

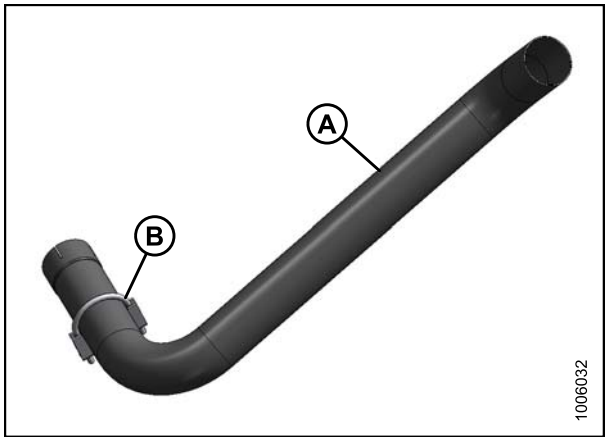

Figure 3.100: Exhaust Stack

4. Remove the covering from the muffler (A), and loosen the clamp (B) on the muffler.

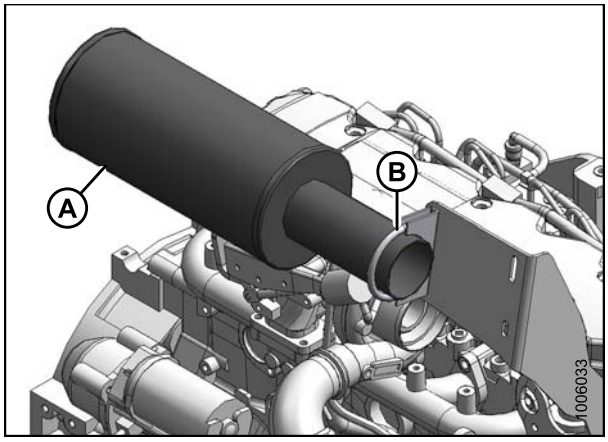

Figure 3.101: Muffler

5. Position the stack (A) into the slot in the exhaust shroud (B), and connect the stack to the muffler.

   NOTE:
   If the shroud (B) interferes with the stack (A), loosen the wing nut (C) on the shroud and move the shroud so the stack can be installed.

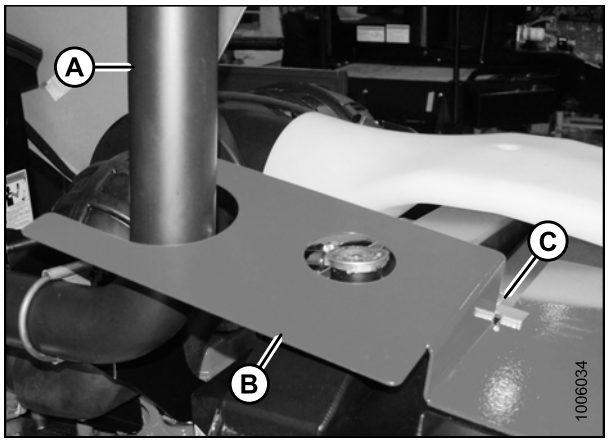

Figure 3.102: Exhaust Shroud

6. Tighten both clamps (A) just enough to permit the stack (B) to move.

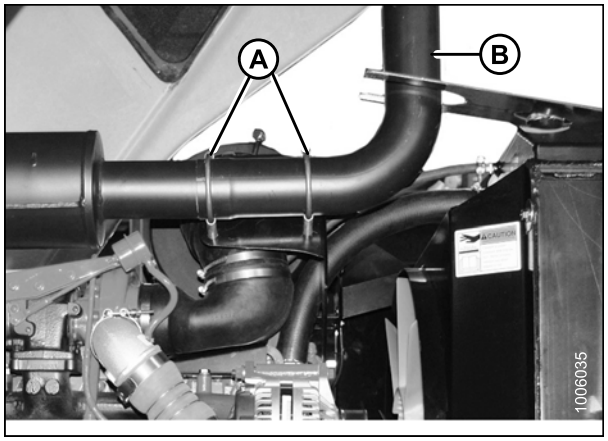

Figure 3.103: Exhaust Stack under Hood

7. Close the hood slowly so the stack (A) enters the hole (B) in the hood. Adjust the position of the stack as required to clear the hole in the hood.

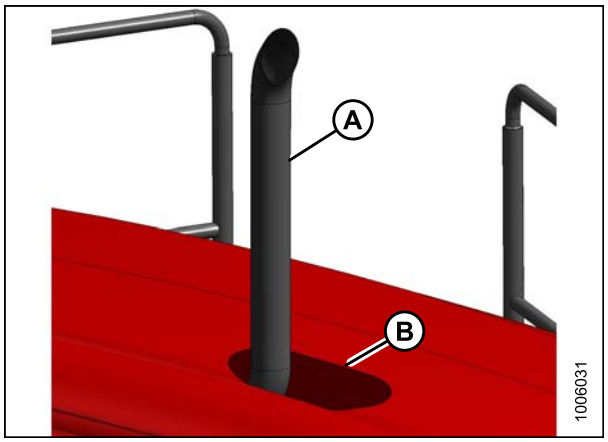

Figure 3.104: Exhaust Stack Installed

8. Raise the hood.
9. Tighten clamps (A).
10. Reposition shroud (B) and tighten wing nut.

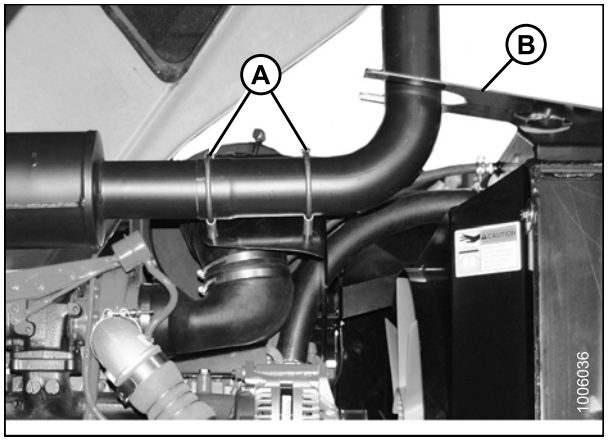

Figure 3.105: Exhaust Stack under Hood

3.12 Positioning Light and Mirror Assemblies

1. Remove the nut and bolt (A) securing the light and mirror assembly in the shipping position.
2. Swing the light and mirror assembly (B) forwards and upwards.

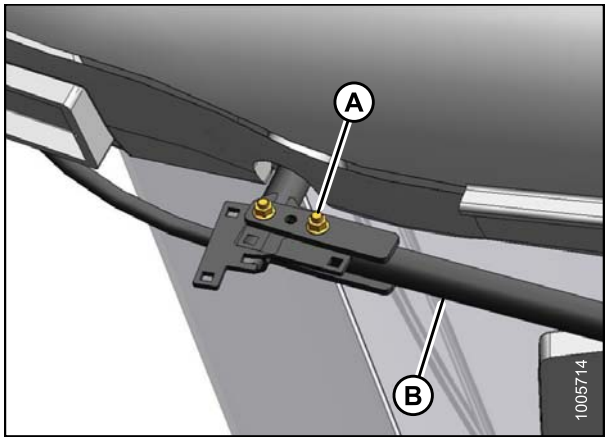

Figure 3.106: Light and Mirror Assembly in Shipping Position

3. Reinstall the bolt (A) and nut in other hole.
4. Repeat for opposite mirror assembly.

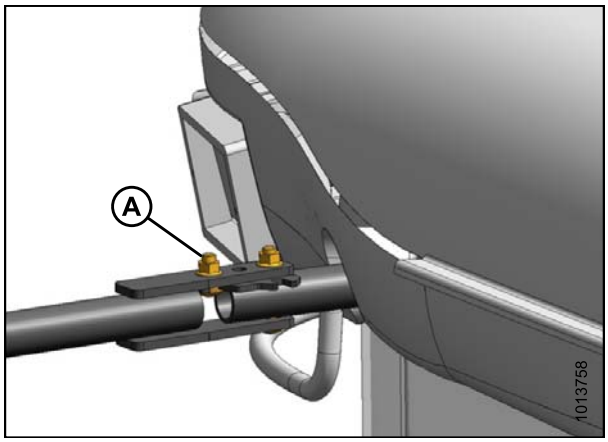

Figure 3.107: Light and Mirror Assembly in Working Position

3.13 Connecting Batteries

The procedure for connecting batteries differs depending on the windrower model. Refer to *3.13.1 Connecting Batteries on an M205 or M155, page 72* or *3.13.2 Connecting Batteries on an M105, page 73*.

3.13.1 Connecting Batteries on an M205 or M155

DANGER

To avoid bodily injury or death from 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.

1. Stop engine and remove key from ignition.
2. Open the right-hand (cab-forward) maintenance platform.
3. Ensure the battery main disconnect switch (A) is turned to the POWER OFF position (the battery main disconnect switch is located on the right-hand frame rail beside the batteries).
4. Remove the cable ties securing the battery cables to the battery clamps.

   IMPORTANT:
   Batteries are negative grounded. Always connect red starter cables to the positive (+) terminals of the batteries and black ground cables to the negative (-) terminals of the batteries. Reversed polarity in the batteries or alternator may result in permanent damage to the electrical system.

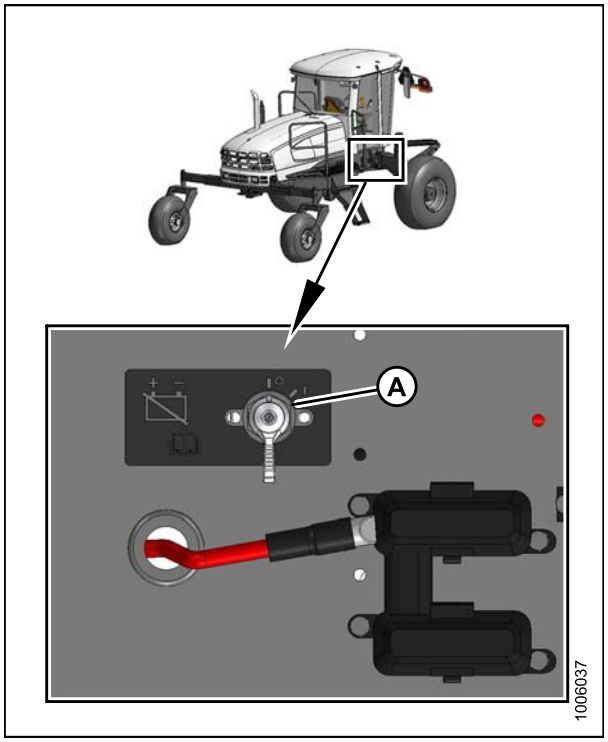

Figure 3.108: Battery Main Disconnect Switch

5. Remove the plastic caps from the battery posts.
6. Attach the red positive (+) cable terminals to the positive posts (A) on the batteries and tighten clamps. Reposition plastic covers onto clamps.
7. Attach the black negative (-) cable terminals to the negative posts (B) on the batteries and tighten clamps. Reposition plastic covers onto clamps.
8. Turn the battery switch to the POWER ON position.
9. Move the right-hand (cab-forward) maintenance platform forward to the closed position.

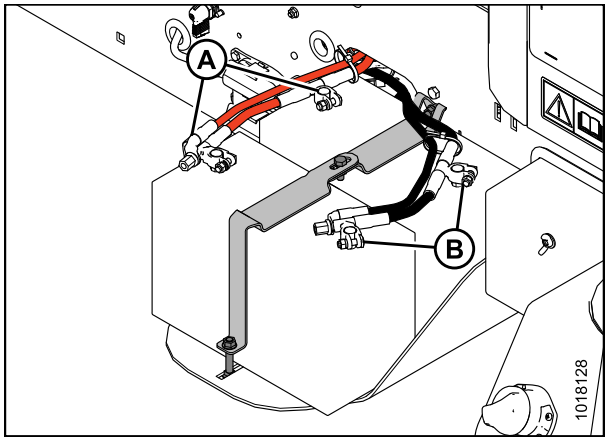

Figure 3.109: Batteries

3.13.2 Connecting Batteries on an M105

DANGER

To avoid bodily injury or death from 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.

1. Open the engine compartment hood to the highest position. For instructions, refer to the windrower operator's manual or the windrower technical manual.
2. Ensure battery switch (A), located on the battery tray, is switched to POWER OFF position.
3. Remove the cable ties securing the battery clamps and cables to the frame.

   IMPORTANT:
   Batteries are negative grounded. Always connect red starter cables to the positive (+) terminals of the batteries and black ground cables to the negative (-) terminals of the batteries. Reversed polarity in the batteries or alternator may result in permanent damage to the electrical system.

   NOTE:
   Ensure that batteries are positioned with the positive posts (C) facing forward.

4. Remove the plastic caps from the battery posts.
5. Attach the red positive (+) cable terminals to the positive posts (C) on the batteries and tighten clamps. Reposition plastic covers onto clamps.
6. Attach the black negative (-) cable terminals to the negative posts (B) on the batteries and tighten clamps. Reposition plastic covers onto clamps.
7. Turn the battery switch to the POWER ON position.
8. Close the engine compartment hood.

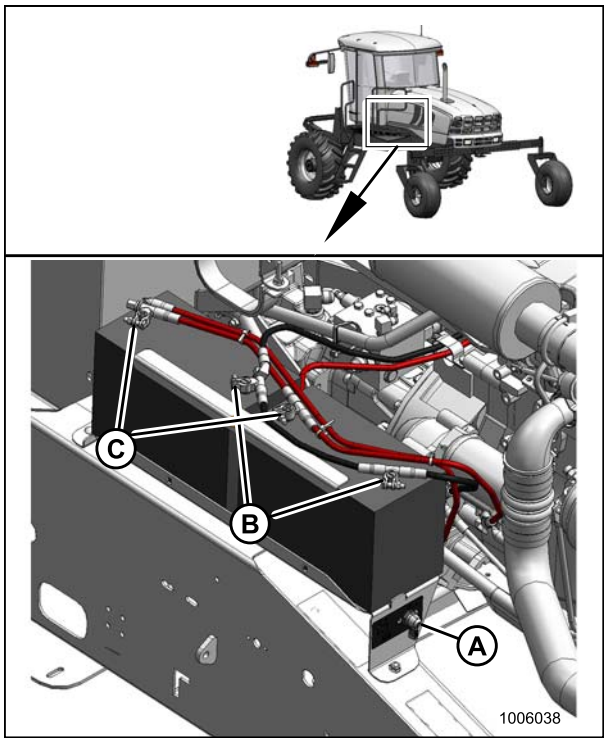

Figure 3.110: Batteries

3.14 Priming Hydraulic System

Air must be removed from the system for the hydraulics to perform properly. The following procedure describes the method for priming the hydraulic system to remove trapped air. Prime the hydraulics after initial installation or if the hydraulic system requires adjustment.

The procedure for priming the hydraulic system is different for each windrower model. Refer to the following procedures according to your specific model:

- *3.14.1 Priming Hydraulic System on an M205, page 75*
- *3.14.2 Priming Hydraulic System on an M155, page 76*
- *3.14.3 Priming Hydraulic System on an M105, page 80*

3.14.1 Priming Hydraulic System on an M205

1. Open the left-hand (cab-forward) platform.
2. Disconnect the brake engage solenoid plug (P44) (A) at the multifunction block on the left-hand side of the windrower.
3. Open the engine compartment hood to the highest position. For instructions, refer to the windrower operator's manual or the windrower technical manual.

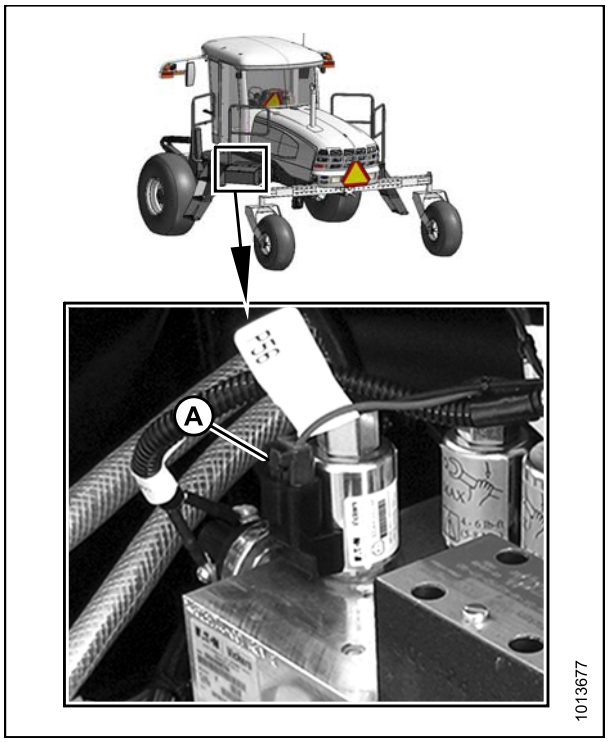

Figure 3.111: Brake Engage Solenoid

4. Remove the hex socket screw (A) using a 4 mm hex key, and remove the engine control module (ECM) connector (B) from the engine. This will prevent the engine from starting during cranking.

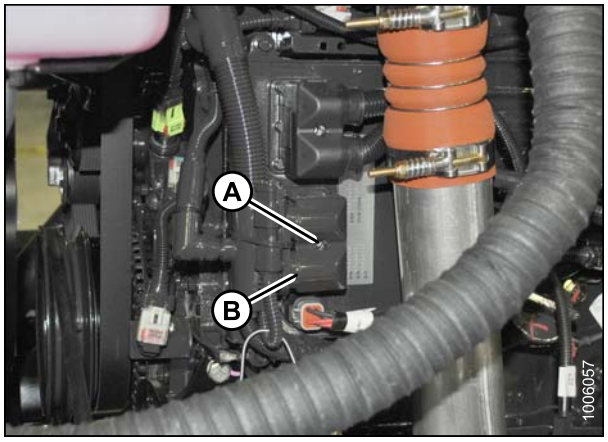

Figure 3.112: Engine Control Module (ECM) Connector

CAUTION

Check to be sure all bystanders have cleared the area.

5. Prime the system by cranking the engine with the starter for 15 seconds.
6. Reinstall the ECM connector (B) using a hex socket screw (A).
7. Reconnect the brake engage solenoid plug (P44).
8. Check hydraulic oil level in reservoir (add SAE 15W-40 oil if necessary). Refer to *5.5 Checking Hydraulic Oil, page 327*.
9. Close the left-hand (cab-forward) platform.

3.14.2 Priming Hydraulic System on an M155

1. Shut down the engine, and remove the key from the ignition.
2. Remove the hydraulic oil reservoir filler cap/dipstick (A).
3. Open the engine compartment hood to the highest position. For instructions, refer to the windrower operator's manual or the windrower technical manual.

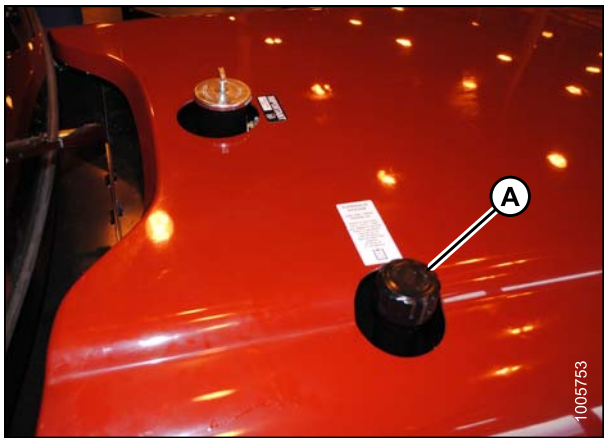

Figure 3.113: Filler Cap/Dipstick

4. From underneath the machine, locate plug (A) on the side of the header drive pump housing.
5. Loosen plug (A) to bleed the pump housing. Retighten the plug once oil starts to run out.

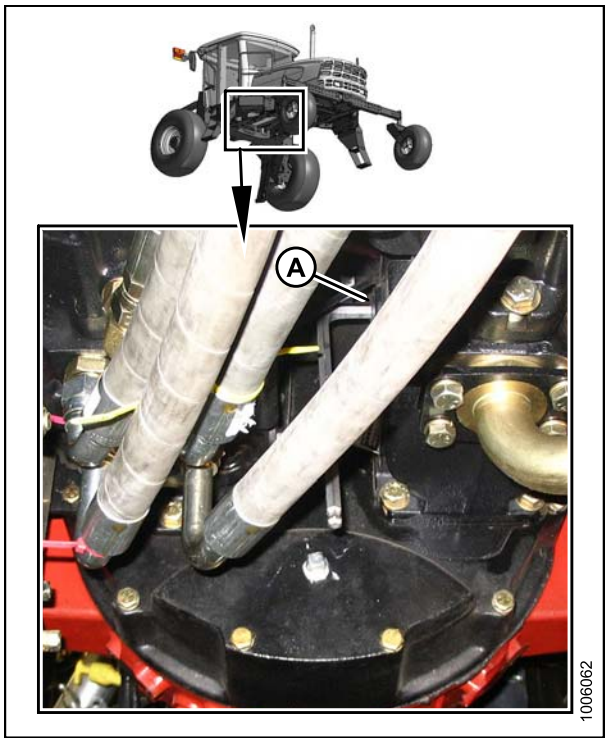

Figure 3.114: Header Drive Pump Housing

6. From above the machine, locate plug (A) on the top of the header drive pump housing.
7. Loosen plug (A) to bleed the pump housing. Retighten the plug once oil starts to run out.

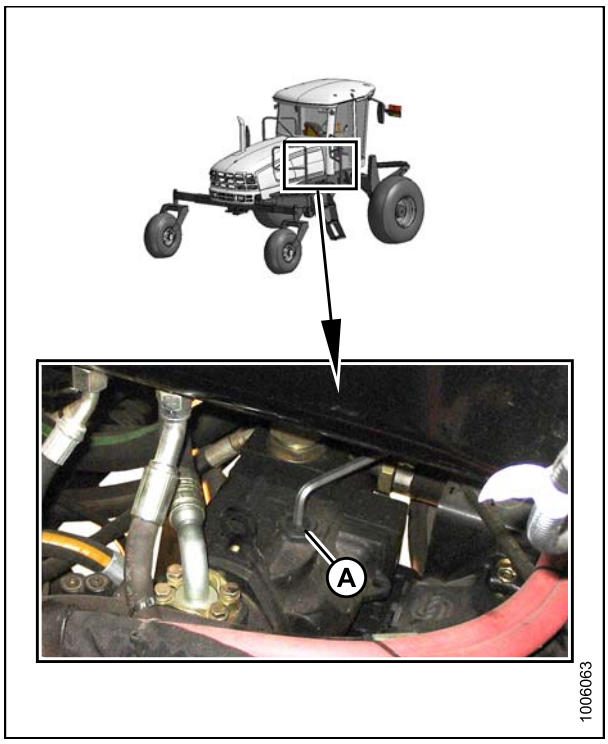

Figure 3.115: Header Drive Pump Housing

8. From above the machine, locate plug (A) on the top of the traction drive pump housing.
9. Loosen plug (A) to bleed the pump housing. Retighten the plug once oil starts to run out.
10. Replace the hydraulic oil reservoir filler cap.

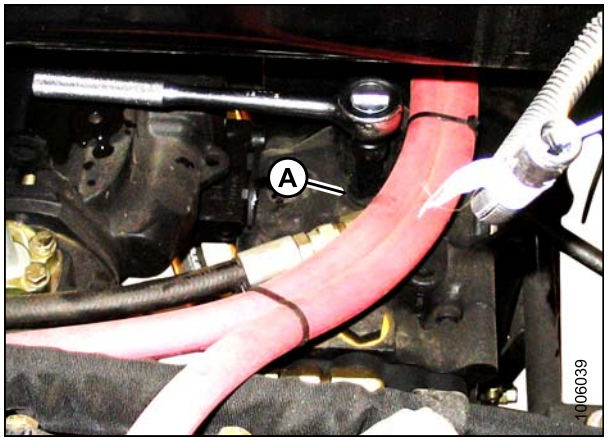

Figure 3.116: Traction Drive Pump Housing

11. Open the left-hand (cab-forward) platform.
12. Disconnect the brake engage solenoid plug (P44) (A) at the multifunction block on the left-hand side of the windrower.

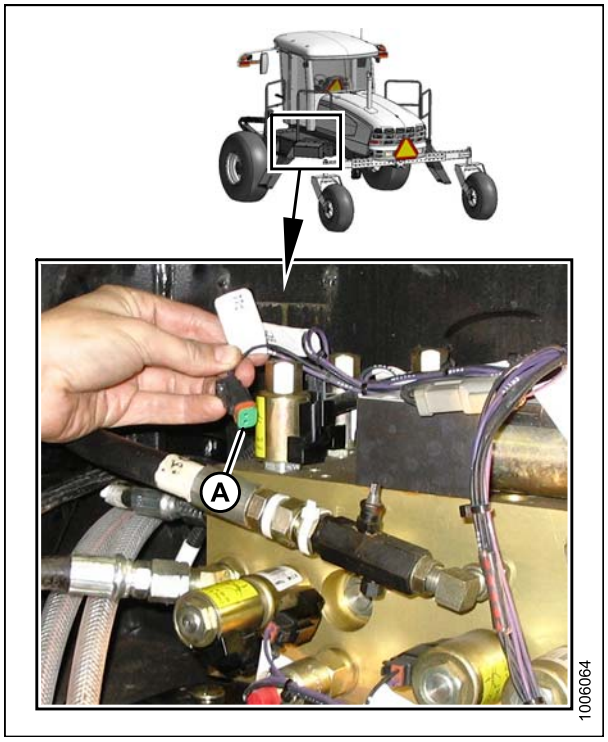

Figure 3.117: Multifunction Control Block

13. Disconnect the electrical connection (A) at the fuel pump on the right side of the engine.

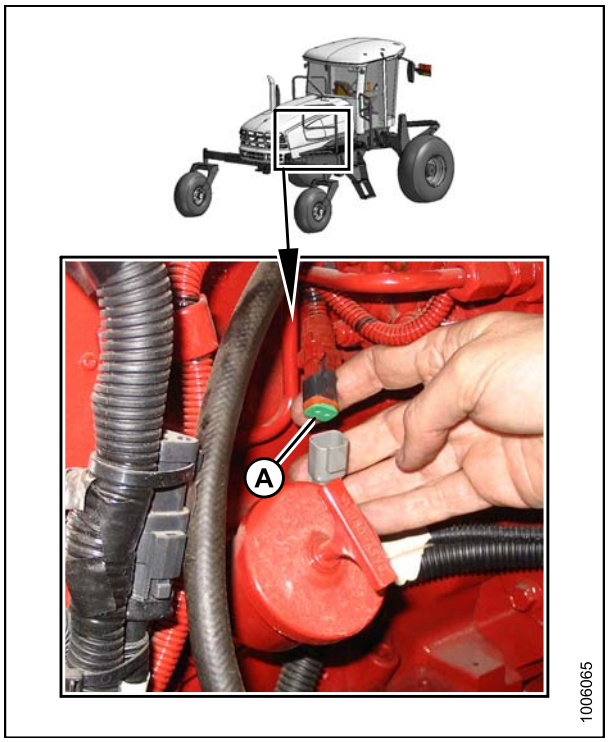

Figure 3.118: Fuel Pump Location

14. Open the maintenance platform on the right-hand (cab-forward) side.
15. Open the circuit breaker/fuse box (A), and remove the engine control module (ECM) ignition fuse (5A) (B).

CAUTION

Check to be sure all bystanders have cleared the area.

16. Prime the system by cranking the engine with the starter for 15 seconds.
17. Reconnect the electrical connection at the fuel pump and at the brake engage solenoid.
18. Reinstall ECM ignition fuse (5A) (B) and the circuit breaker/fuse box (A).
19. Close the engine compartment hood.

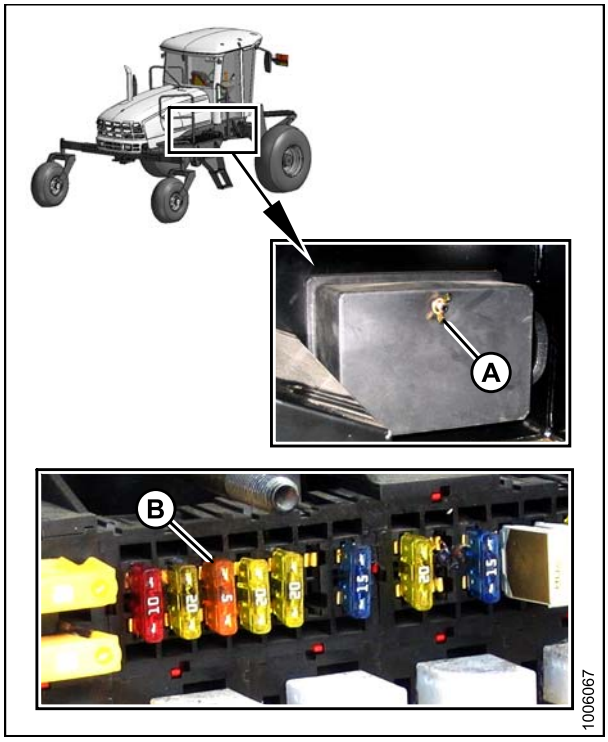

Figure 3.119: Circuit Breaker/Fuse Box

20. Check the hydraulic oil level in the reservoir (remove filler cap/dipstick (A) and add SAE 15W-40 oil if necessary). Refer to *5.5 Checking Hydraulic Oil, page 327*.
21. Close the platforms.

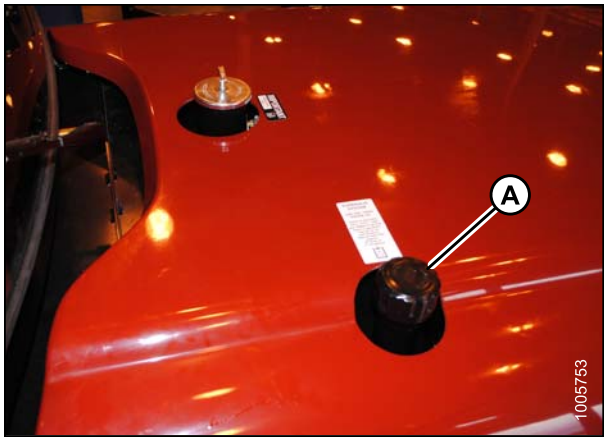

Figure 3.120: Filler Cap/Dipstick

3.14.3 Priming Hydraulic System on an M105

1. Remove the hydraulic oil reservoir filler cap/dipstick (A).
2. Open the engine compartment hood to the highest position. For instructions, refer to the windrower operator's manual or the windrower technical manual.

Figure 3.121: Filler Cap/Dipstick

3. Locate plug (A) on the top of the header drive pump housing from above the machine.
4. Loosen plug (A) to bleed the pump housing. Retighten the plug once oil starts to run out.

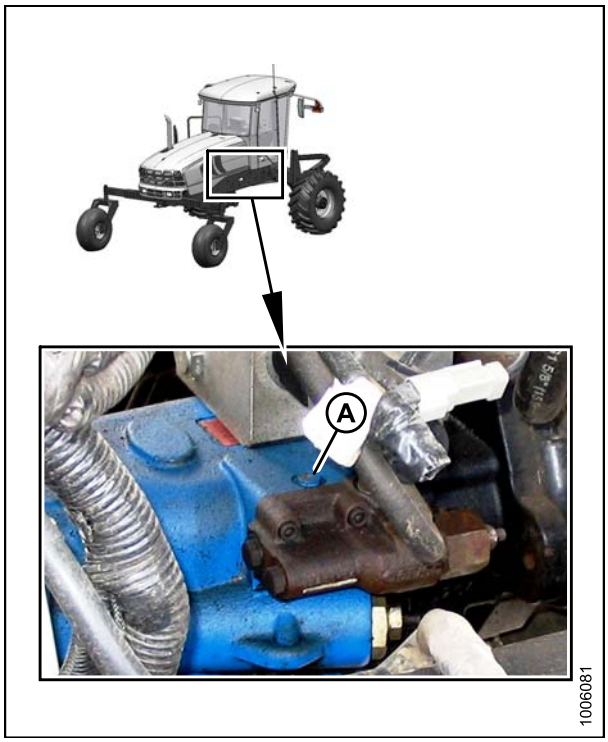

Figure 3.122: Header Drive Pump Housing

5. Locate plug (A) on the top of the traction drive pump housing from above the machine.
6. Loosen plug (A) to bleed the pump housing. Retighten the plug once oil starts to run out.
7. Replace the hydraulic oil reservoir filler cap.

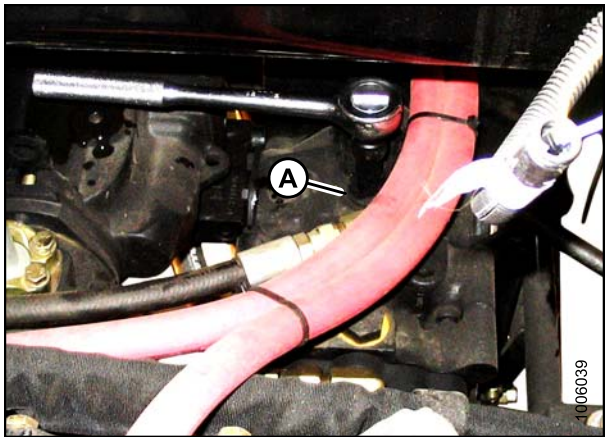

Figure 3.123: Traction Drive Pump Housing

8. Open the left-hand (cab-forward) platform.
9. Disconnect the brake engage solenoid plug (PV3) (A) at the valve block on the left-hand side of the windrower.

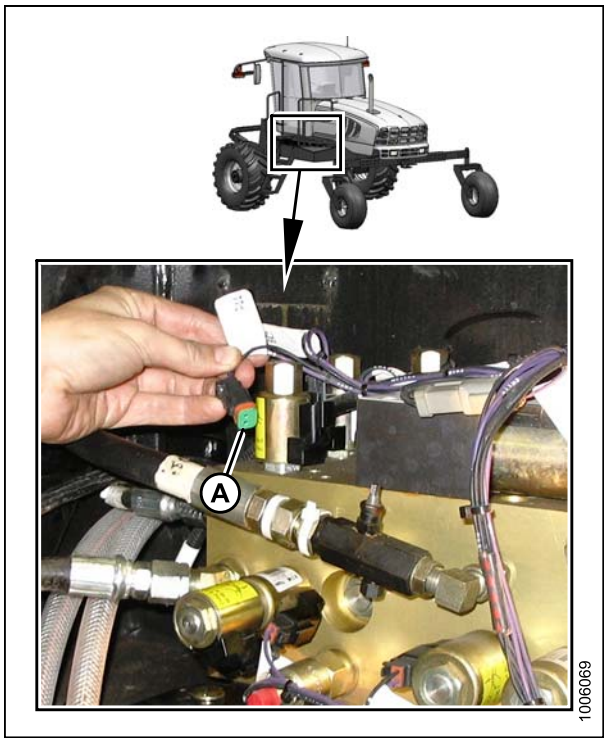

Figure 3.124: Valve Block

10. Disconnect the electrical connection (A) at the fuel pump on the right side of the engine.

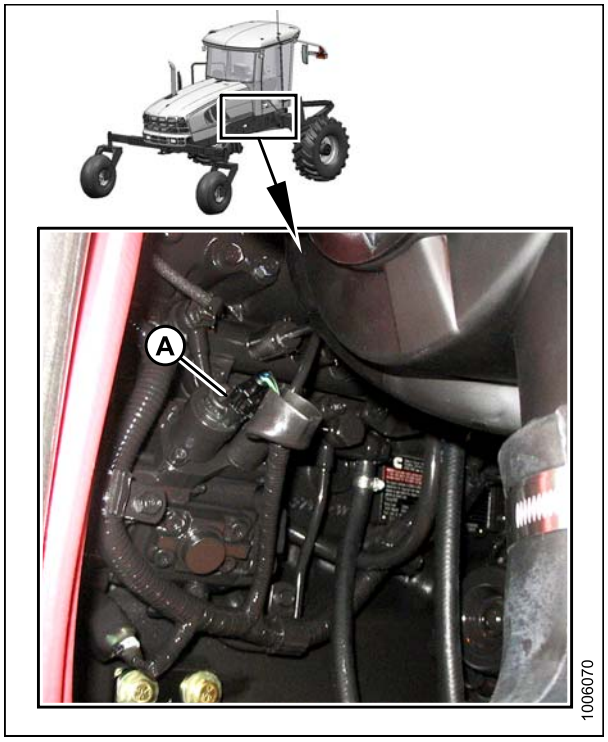

Figure 3.125: Fuel Pump Location

11. Open the circuit breaker/fuse box (A), and remove the engine control module (ECM) ignition fuse (5A) (B).

CAUTION

Check to be sure all bystanders have cleared the area.

12. Prime the system by cranking the engine with the starter for 15 seconds.
13. Reconnect the electrical connection at the fuel pump and at the brake engage solenoid.
14. Reinstall ECM ignition fuse (5A) (B) and the circuit breaker/fuse box (A).
15. Close the engine compartment hood.

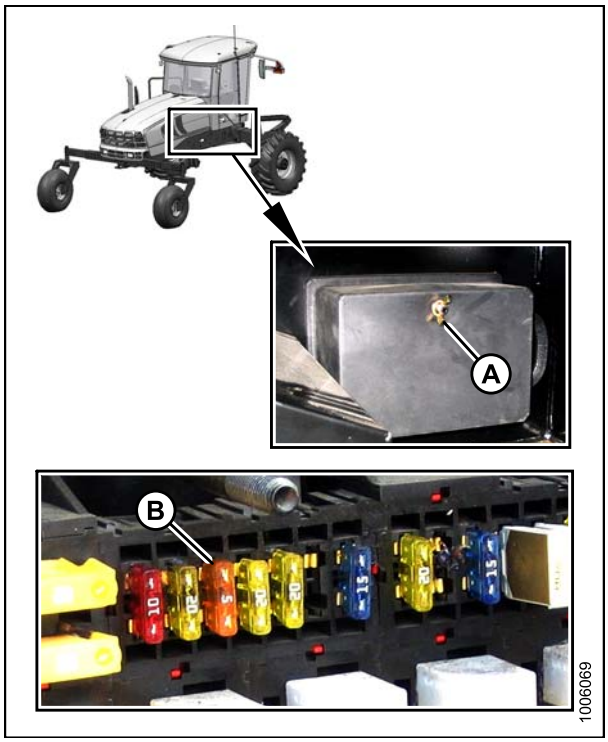

Figure 3.126: Circuit Breaker/Fuse Box

16. Check the hydraulic oil level in the reservoir (remove filler cap/dipstick (A) and add SAE 15W-40 oil if necessary). Refer to *5.5 Checking Hydraulic Oil, page 327*.
17. Close the left-hand (cab-forward) platform.

Figure 3.127: Filler Cap/Dipstick

3.15 Starting Engine

1. Ensure there is sufficient fuel for a 15 minute run.
2. Ensure lock (A) is engaged at the cab-forward or engine-forward position.

Figure 3.128: Operator Console

3. Move the ground speed lever (GSL) (A) into the N-DETENT position.
4. Turn the steering wheel until it locks.
5. Push header drive switch (B) to the OFF position.

CAUTION

Check to be sure all bystanders have cleared the area.

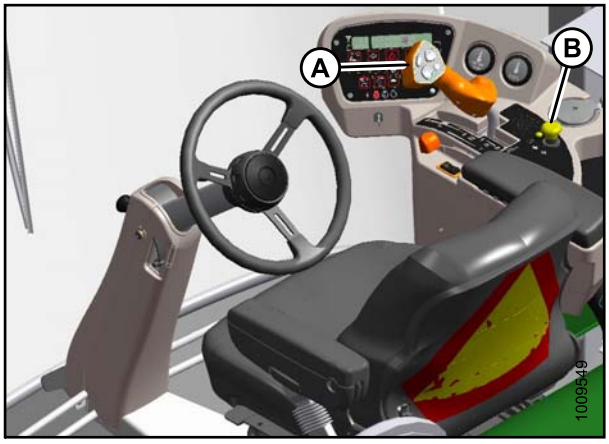

Figure 3.129: M155/M205 Operator Console

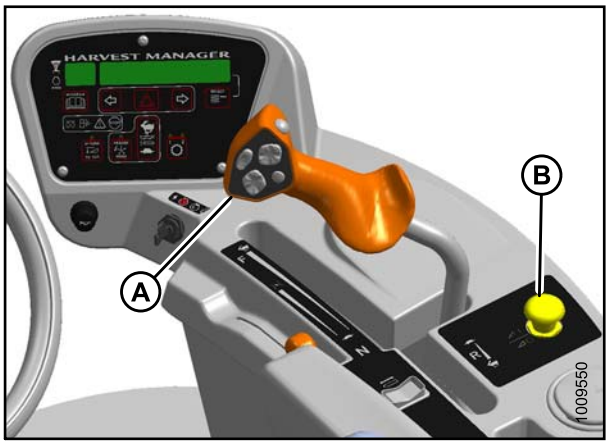

Figure 3.130: M105 Operator Console

Normal Start (All Engines):

6. Follow these steps when starting engine in temperatures above 16°C (60°F):

   a. Move throttle fully back to START position (A).

   b. Sound horn (C) three times.

      NOTE:
      For M155 and M205, horn is located on the headliner.

   c. Turn ignition key (B) to RUN position.

      NOTE:
      A single loud tone will sound, engine warning lights will illuminate, and the cab display module will display “HEADER DISENGAGED” and “IN PARK”.

WARNING

If starter engages with steering wheel unlocked, ground speed lever out of NEUTRAL, or header clutch engaged, do NOT start engine. Refer to the technical manual.

   d. Turn ignition key (B) to START position until engine starts and then release the key. The tone will cease and warning lights will go out.

NOTE:
When starting engine in temperatures below 5°C (40°F), engine will cycle through a period when it appears to labour during engine warm-up. The throttle is nonresponsive while engine is in warm-up mode. Warm-up mode lasts between 30 seconds and 3 minutes depending on the temperature. The throttle will become active after the engine has stabilized and is idling normally.

IMPORTANT:
Do **NOT** operate engine above 1500 rpm until engine temperature gauge is above 40°C (100°F).

Figure 3.131: M155/M205 Operator Console

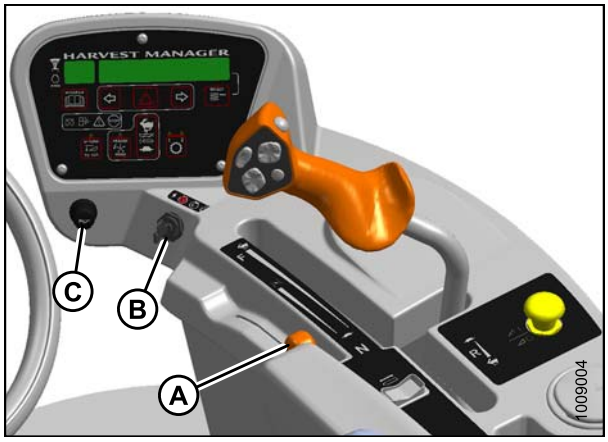

Figure 3.132: M105 Operator Console

IMPORTANT:

- Do **NOT** operate starter for longer than 15 seconds at a time.
- If engine does **NOT** start, wait at least 2 minutes before trying again.
- After the third 15-second crank attempt, allow the starter motor to cool for 10 minutes before further cranking attempts.
- If engine still does **NOT** start, refer to Table *3.1 Engine Start Troubleshooting, page 86*.

Table 3.1 Engine Start Troubleshooting

Problem	Solution
Controls not in NEUTRAL	• Move GSL to NEUTRAL • Move steering wheel to locked position • Disengage header clutch
Operator's station not locked	• Adjust position of operator's station • Ensure lock is engaged
Neutral interlock misadjusted	• Refer to the windrower technical manual
No fuel to engine	• Fill empty fuel tank • Replace clogged filter • Ensure fuel shut off valve is in open position
Old fuel in tank	• Drain tank • Refill with fresh fuel
Water, dirt, or air in fuel system	• Drain, flush, fill, and prime system
Improper type of fuel	• Use proper fuel for operating conditions
Crankcase oil too heavy	• Use recommended oil
Low battery output	• Test the battery • Check battery electrolyte level
Poor battery connection	• Clean and tighten loose connections
Faulty starter	• Refer to the windrower technical manual
Wiring shorted, circuit breaker open	• Check continuity of wiring and breaker (manually reset)
Faulty injectors	• Refer to the windrower technical manual

3.16 Checking Traction Drive

CAUTION

Check to be sure all bystanders have cleared the area.

1. Move the ground speed lever (GSL) (A) out of N-DETENT and slowly move the GSL forwards. Ensure the wheels are rotating in the forward direction and at the same speed.
2. Turn the steering wheel and observe the motion of the drive wheels. Ensure the wheels rotate at different speeds with the slower rotating wheel on the same side of the machine that the steering wheel is turned towards.
3. Turn the steering wheel in the opposite direction and ensure the slower rotating wheel is on the same side of the machine that the steering wheel is turned towards.
4. Move the GSL backwards into reverse. Ensure the wheels are rotating in the reverse direction and at the same speed.
5. Move the GSL forwards into N-DETENT and shut down the engine.

Figure 3.133: M155/M205 Operator Console

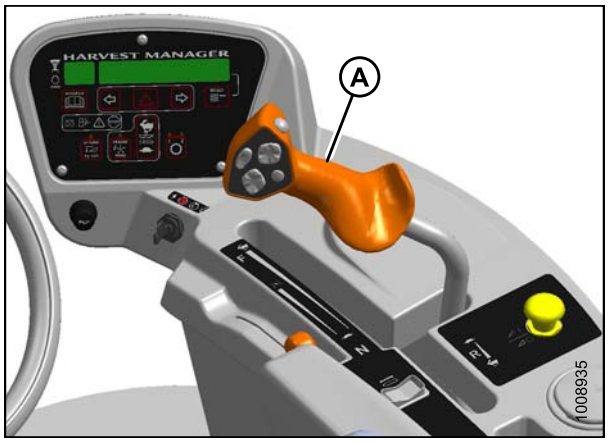

Figure 3.134: M105 Operator Console

3.17 Removing Windrower from Stand

The procedure for removing the windrower from the support stand differs depending on whether you are using a factory-built stand or a field-constructed stand. Refer to the following procedures according to for your specific stand:

- *3.17.1 Removing Windrower from Factory Stand, page 88*
- *3.17.2 Removing Windrower from Field Stand, page 89*

3.17.1 Removing Windrower from Factory Stand

1. Move valve handle (A) upwards to slightly raise the windrower and take load off the lift locks.

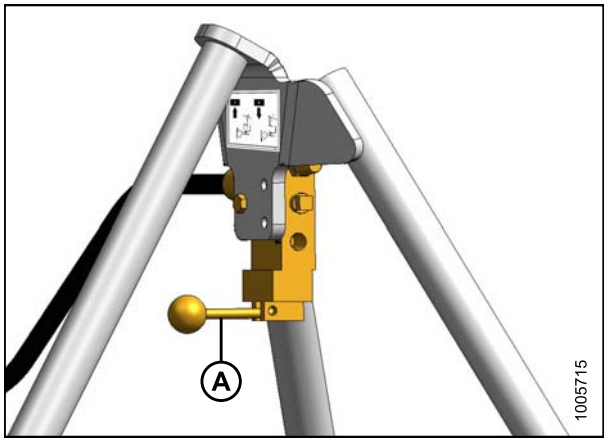

Figure 3.135: Air Control Valve Tripod

2. Release the lift lock mechanisms (three places) and turn keeper to keep the lock in the released position.
3. Move the valve handle downwards to slowly release the pressure from the air bag system and lower the windrower to the ground.

CAUTION

Ensure all three lifts have fully retracted and are clear of the windrower frame before driving windrower ahead.

4. Start the engine and drive the machine straight ahead leaving the shipping support channels supported on the rear support stand.

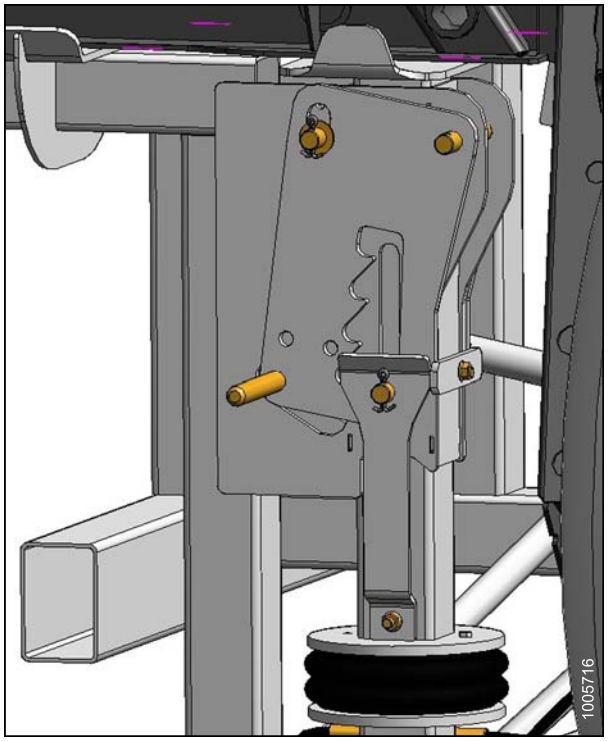

Figure 3.136: Lift System

3.17.2 Removing Windrower from Field Stand

1. Position a jack under the jack point of each drive wheel leg and under the rear hitch.
2. Raise the jacks to take the weight off the stands, and remove the stands.
3. Lower the windrower slowly to the ground, and remove the jacks.

3.18 Installing AM/FM Radio

Windrowers are designed to accept a DIN E style AM/FM radio with a depth (X) of 161 mm and having a 5 mm threaded stud (A) centered on the rear for support. Adjustments are possible if the radio falls outside these parameters.

In order to retain radio settings and preset memory with the battery disconnect turned off, select a radio with non-volatile settings memory.

NOTE:
An approved radio package is available from Radio Engineering Industries (REI) of Omaha, Nebraska.

NOTE:
Configuration for the M105 differs slightly from what is shown, but the installation procedure is the same.

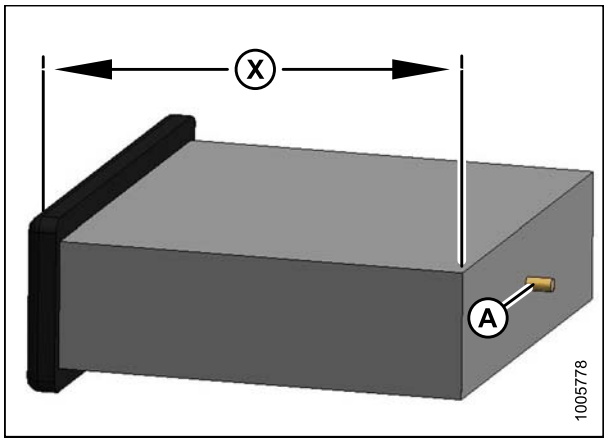

Figure 3.137: Mounting Dimension

1. Ensure the ignition is turned to the OFF position.
2. Remove radio panel by removing four screws (A).

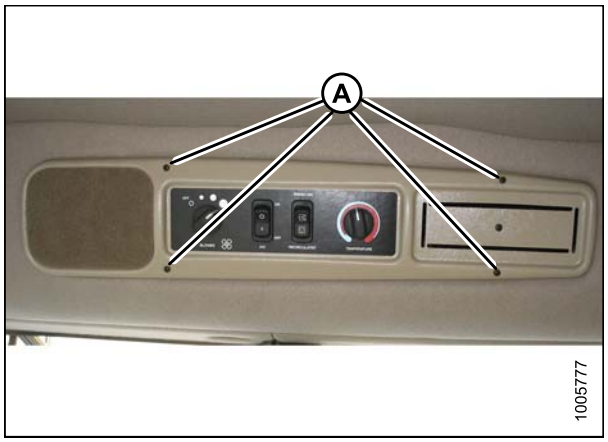

Figure 3.138: Radio Panel

3. Remove screw and nuts (A) and (C) to remove support (B) from panel. Retain nut (C) and lock washer.

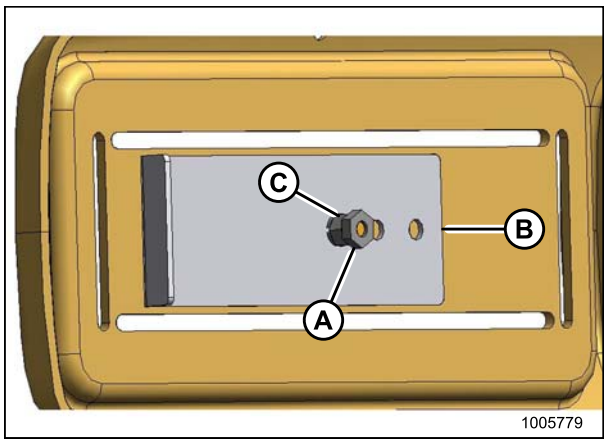

Figure 3.139: Panel Support

4. Remove the cutout by cutting the tabs (A) in the panel. Remove sharp edges from the panel.

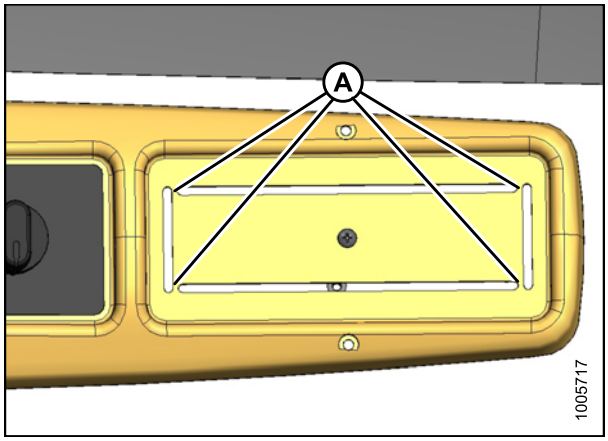

Figure 3.140: Panel

5. Position receptacle (A) (supplied with radio) into opening and secure by bending tabs (B) on receptacle against panel.

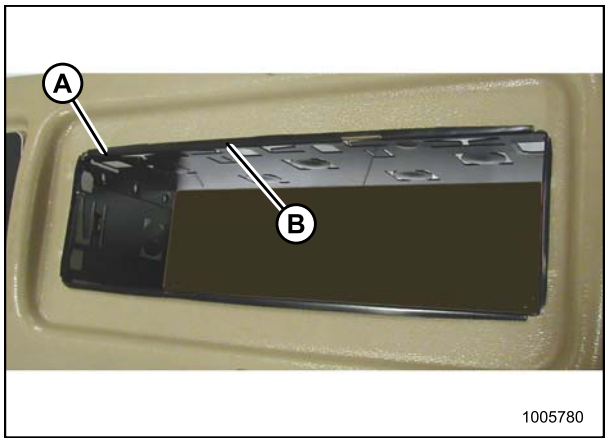

Figure 3.141: Radio Receptacle

6. Insert radio into receptacle and attach radio bezel. Ensure radio locks into position and faceplate (A) is against the panel.

Figure 3.142: Radio Installed

7. Ensure the radio has a six-pin connector (Packard #2977042) and a terminal arrangement as shown at right. This enables the radio to connect to the windrower's six-pin radio connector wiring harness.
8. Attach the following two additional wires from the wiring harness to the radio:
   a. **Circuit 503:** Red live-wire with 1/4 in. female blade terminal provides power for the radio clock/memory if radio is equipped with this feature.
   b. **Circuit 315:** Black ground-wire attaches to the radio body.
9. Plug antenna cable into radio.

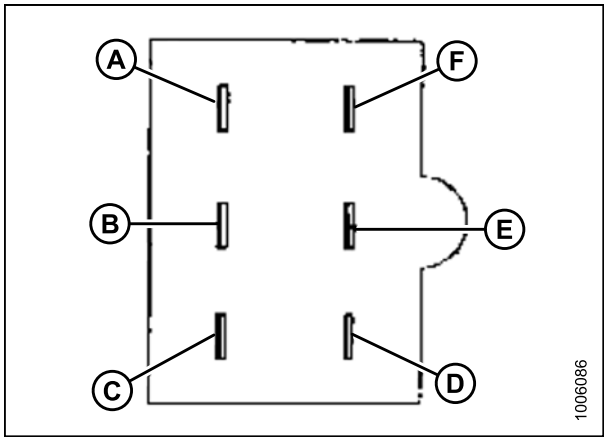

Figure 3.143: Six-Pin Connector Terminal Arrangement

A - Left Speaker Power (+)
B - Left Speaker Ground (–)
C - Radio Ground (–)
D - Right Speaker Ground (–)
E - Right Speaker Power (+)
F - Radio Power (+) (Live when Ignition is ON)

10. Attach stud (supplied with radio) to center rear of radio.
11. Attach support (B) to stud on back of radio chassis with nut (A) and lock washer supplied with the support.

    NOTE:
    Support can be attached to chassis in multiple locations to allow for proper radio mounting.

12. Install radio panel using original screws.

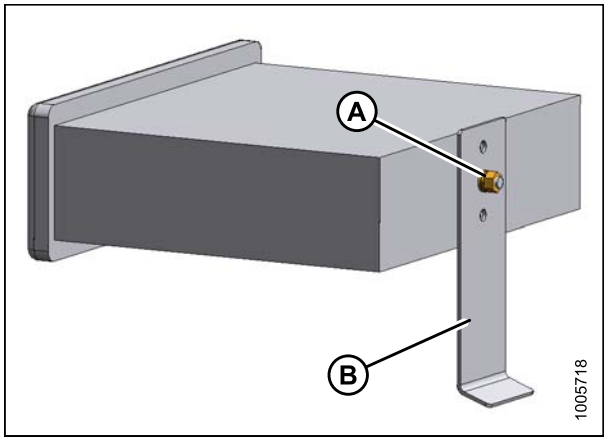

Figure 3.144: Radio and Support

13. Adjust bracket (A) (if necessary) by loosening nuts (B) to allow radio to slide into opening and securely capture support (C).
14. Retrieve antenna from inside cab and remove protective cover from base.

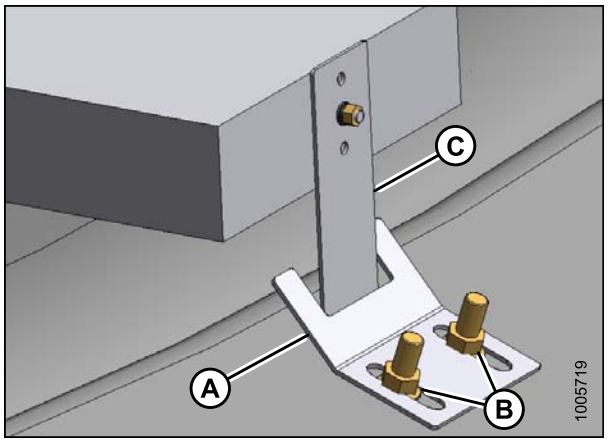

Figure 3.145: Radio and Support

15. Remove protective cover (A) from antenna mount on cab roof and thread antenna onto base until hand tight.

    NOTE:
    Store protective cover in cab and reinstall to protect antenna mount if antenna needs to be removed.

16. Turn the ignition key to ACC, switch radio ON, and check operation in accordance with instructions supplied with the radio.
17. Turn the ignition key to the OFF position.

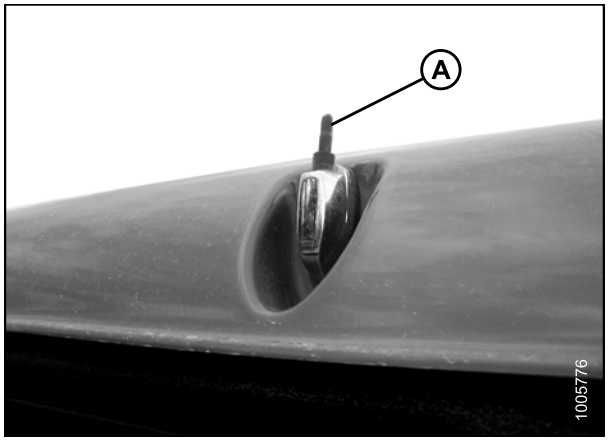

Figure 3.146: Antenna Mount on Cab Roof

3.19 Installing Beacons

1. Retrieve the two beacons from the shipment.
2. Remove the hardware and rubber base from one of the beacons as shown.

Figure 3.147: Beacon Light

3. Feed the connectors from the harness through the center hole in the rubber base.
4. Place the base on the beacon bracket ensuring that the mounting holes in the rubber base line up with the holes in the bracket.

Figure 3.148: Rubber Beacon Base on Mounting Bracket

5. Connect the orange wire (A) from the harness to the red wire (B) in the beacon.
6. Connect the black wire (C) from the harness to the ground terminal in the beacon.

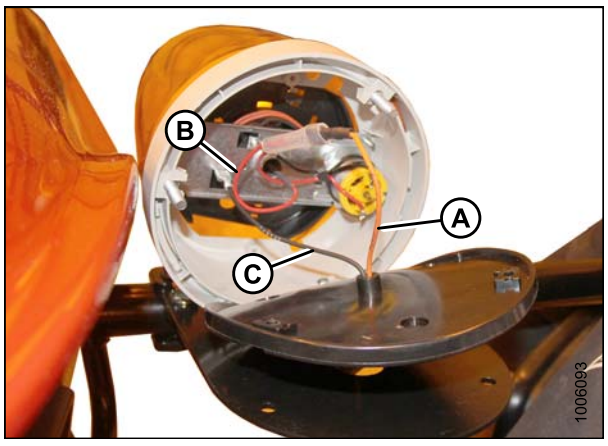

Figure 3.149: Beacon Light Wire Routing

7. Fit the beacon onto the base making sure the beacon is oriented with the point on the lens facing forward (cab-forward) as shown.

Figure 3.150: Beacon Light Orientation

8. Mount the beacon to the base with the lock washers and nuts (A) supplied with the beacon.
9. Install the second beacon on the opposite side of the cab roof.

Figure 3.151: Beacon Light

3.20 Installing the Slow Moving Vehicle (SMV) Sign

1. Install the SMV sign (A) (shipped inside the cab) onto the windrower in accordance with the instructions supplied with the sign. SMV signs must be visible when travelling on the road.

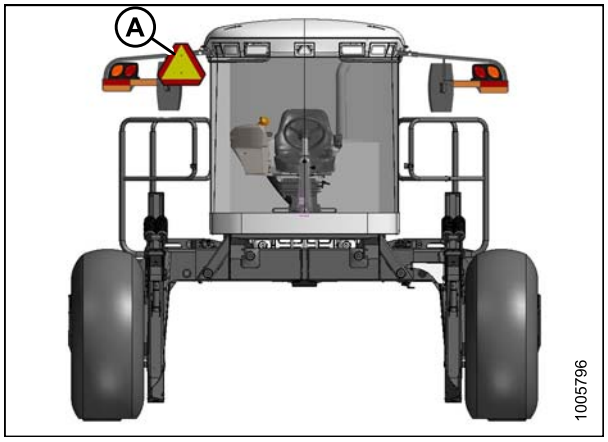

Figure 3.152: Engine-Forward Location

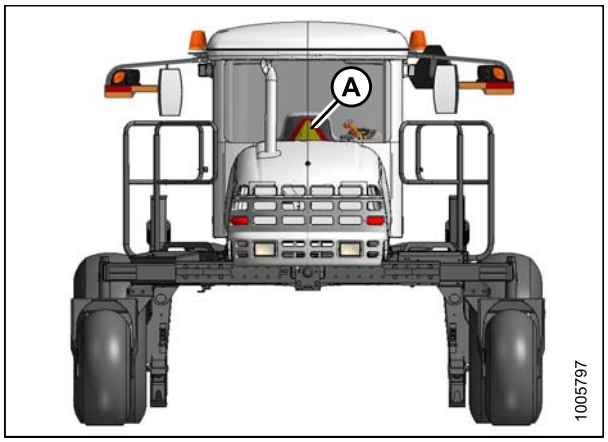

Figure 3.153: Cab-Forward Location

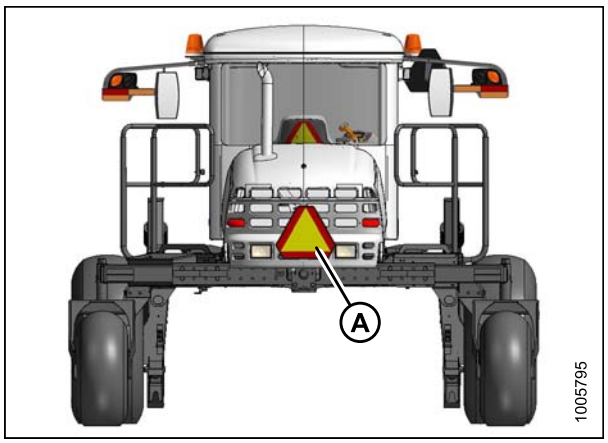

Figure 3.154: Alternate Location (Cab-Forward)

3.21 Attaching Headers

3.21.1 Attaching Header Boots

Header boots are required to attach a D-Series draper header to the windrower. Attach header boots (supplied with header) to windrower lift linkage if not already installed.

CAUTION

To prevent damage to the lift system when lowering header lift linkages without a header or weight box attached to the windrower, ensure the float engagement pin is installed in storage position (B) and NOT in engaged position (A).

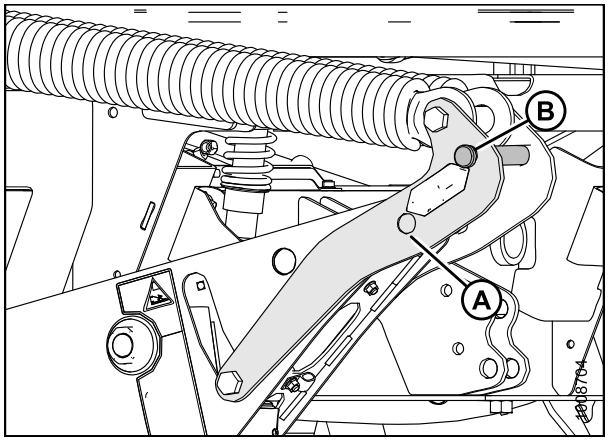

Figure 3.155: Header Float Linkage

1. Remove pin (B) from boot (A).

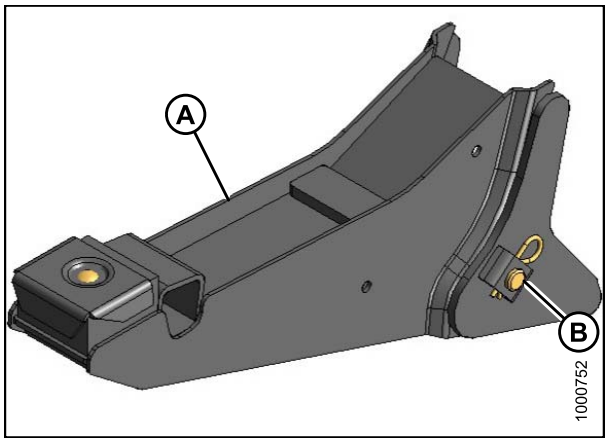

Figure 3.156: Header Boot

2. Position boot (B) onto lift linkage (A) and reinstall pin (C). Pin may be installed from either side of boot.
3. Secure pin (C) with hairpin (D).
4. Repeat for opposite side.

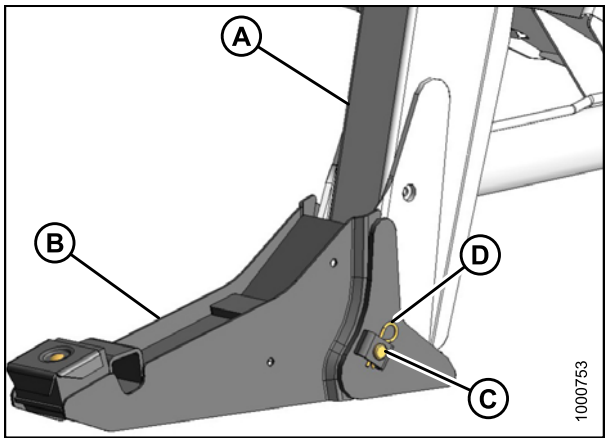

Figure 3.157: Header Boot

3.21.2 Attaching a D-Series Header

D50, D60, and D65 headers can be attached to an M105, M155, or M205 Self-Propelled Windrower. For attachment procedures, refer to the section for your specific windrower model.

M105 Self-Propelled Windrower

To run a D-Series draper header, the M105 Self-Propelled Windrower needs to be equipped with reel drive, reel lift, and reel fore-aft hydraulics.

Windrowers equipped with D-Series hydraulics have four header drive hoses on the left cab-forward side, and up to five reel drive hoses on the right side.

If necessary, obtain the following kits and install them in accordance with instructions supplied with the kits.

Kit Description	Kit Number
Base Draper Drive kit	MD #B5577

Refer to the following procedures according to the center-link installed on the windrower:

- *Attaching a D-Series Header: Hydraulic Center-Link without Self-Alignment, page 104*
- *Attaching a D-Series Header: Mechanical Center-Link, page 110*

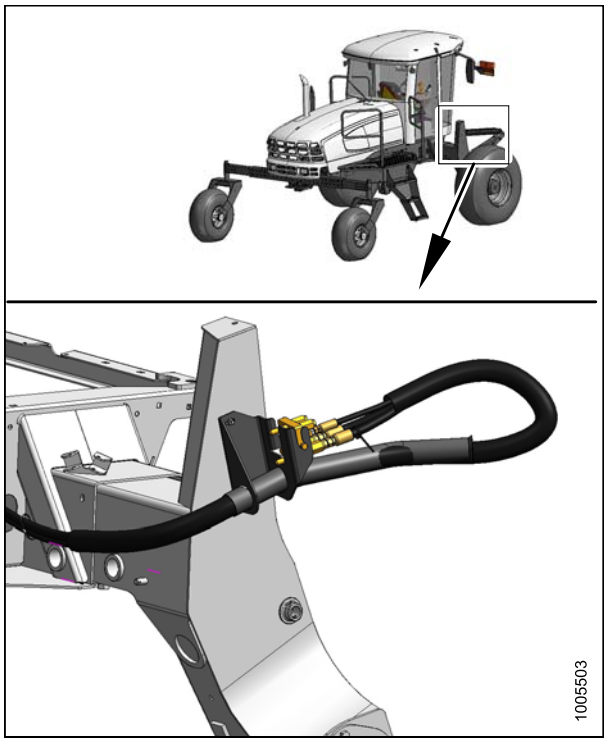

Figure 3.158: M105 Draper Header Reel Hydraulics

M155 Self-Propelled Windrower

The M155 Self-Propelled Windrower is factory-equipped to run a D-Series Draper Header.

If installing an HC10 Hay Conditioner, Reverser kit (MD #B4656) is recommended. If necessary, obtain the recommended kit and install it in accordance with the instructions supplied with the kit.

Refer to the following instructions based on the type of center-link installed on your windrower:

- *Attaching a D-Series Header: Hydraulic Center-Link with Optional Self-Alignment, page 99*
- *Attaching a D-Series Header: Hydraulic Center-Link without Self-Alignment, page 104*
- *Attaching a D-Series Header: Mechanical Center-Link, page 110*

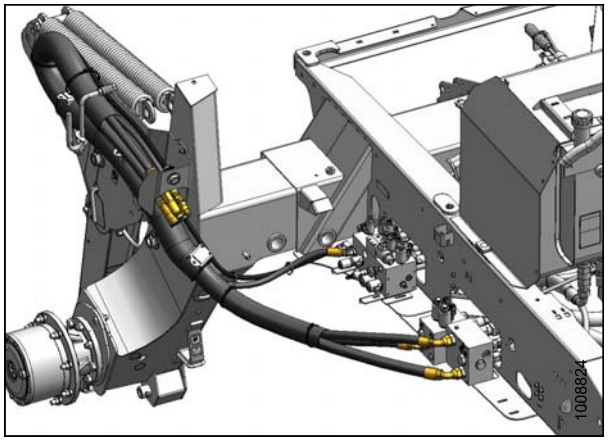

Figure 3.159: M155 Draper Header Hydraulics

M205 Self-Propelled Windrower

To operate a D-Series header, the M205 Self-Propelled Windrower must be equipped with a Draper Drive Basic kit and a Completion kit.

Windrowers equipped with D-Series hydraulics have four header drive hoses on the left cab-forward side and up to five reel drive hoses on the right side.

If necessary, obtain the following kits and install them in accordance with the instructions supplied with the kits.

Kit Description	Kit Number
Base Draper/Auger Drive Kit	MD #B5491
Draper Header Reel Drive Completion Kit	MD #B5496
Hydraulic Couplers Kit	MD #B5497
Hydraulic Union Kit	MD #166844

To attach a D-Series header to an M205, refer to the following:

- *Attaching a D-Series Header: Hydraulic Center-Link with Optional Self-Alignment, page 99*
- *Attaching a D-Series Header: Hydraulic Center-Link without Self-Alignment, page 104*

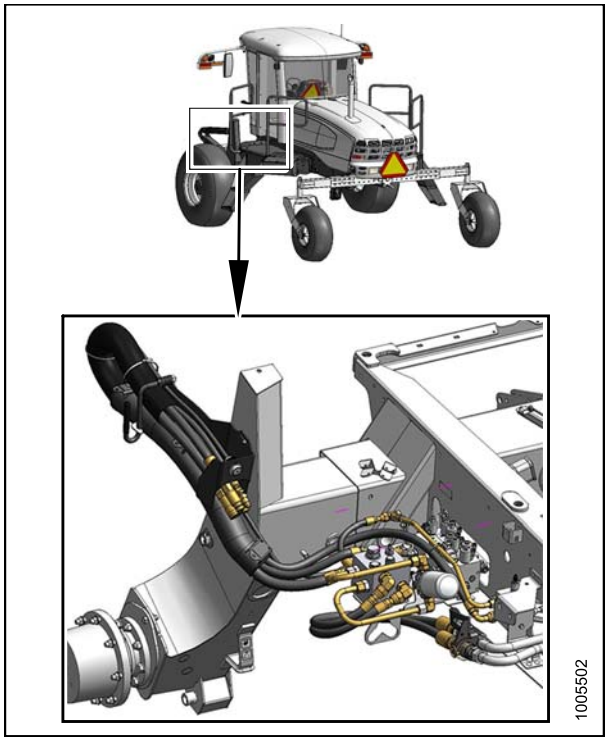

Figure 3.160: M205 Draper Header Drive Hydraulics

Attaching a D-Series Header: Hydraulic Center-Link with Optional Self-Alignment

NOTE:
Draper header boots must be installed onto the windrower lift linkage before starting this procedure. Refer to *3.21.1 Attaching Header Boots, page 97*.

⚠ DANGER

To avoid bodily injury or death from 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.

1. Remove hairpin (A) from pins (B), and remove pins from both header legs.

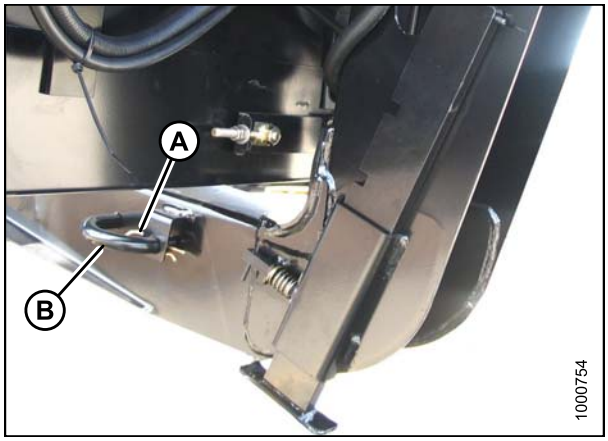

Figure 3.161: Header Leg

CAUTION

Check to be sure all bystanders have cleared the area.

2. Start the engine and activate the HEADER DOWN button (A) on the ground speed lever (GSL) to fully retract header lift cylinders.

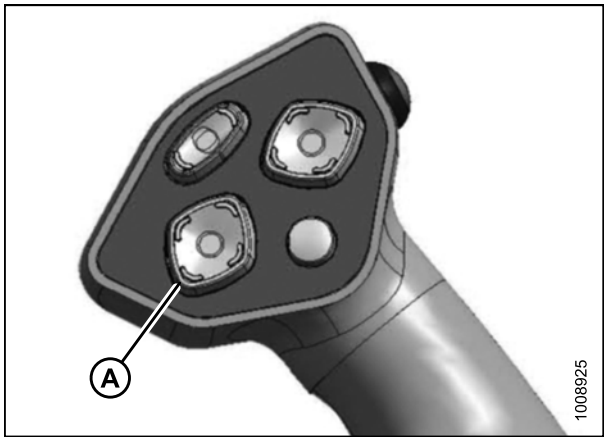

Figure 3.162: Ground Speed Lever

3. Activate the REEL UP switch (A) on the GSL to raise the center-link until the hook is above the attachment pin on the header.

   IMPORTANT:
   If the center-link is too low, it may contact the header as the windrower approaches the header for hookup.

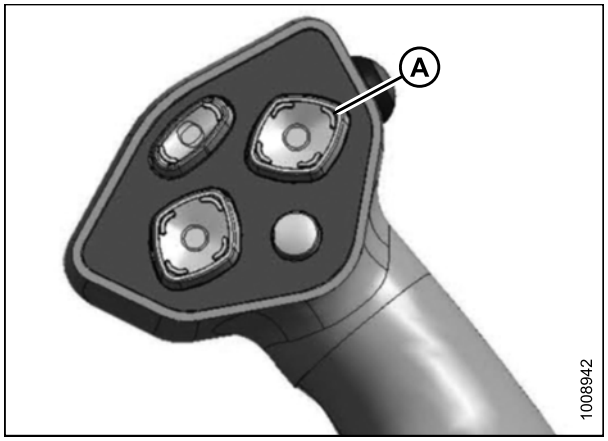

Figure 3.163: Ground Speed Lever

4. Drive the windrower slowly forward until the boots (A) enter the header legs (B). Continue driving slowly forward until lift linkages contact the support plates in the header legs and the header nudges forward.
5. Ensure the lift linkages are properly engaged in the header legs and are contacting the support plates.

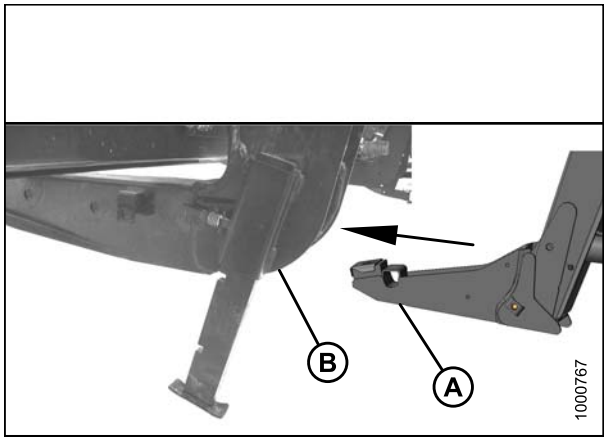

Figure 3.164: Header Leg and Boot

6. Use the following GSL functions to position the center-link hook above the header attachment pin:
   - Reel up (A) to raise the center-link
   - Reel down (B) to lower the center-link
   - Header tilt up (C) to retract the center-link
   - Header tilt down (D) to extend the center-link

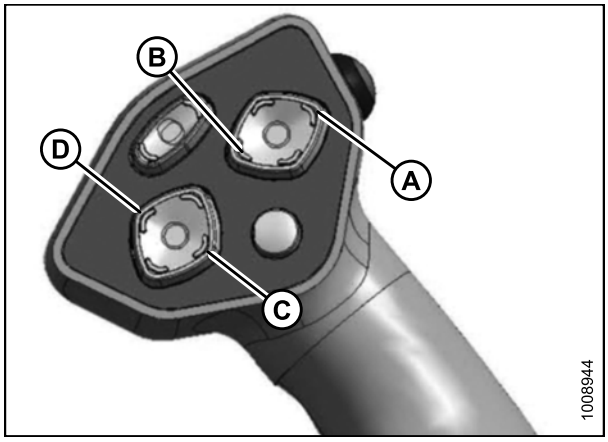

Figure 3.165: Ground Speed Lever

7. Adjust position of the center-link cylinder (A) with the REEL UP, REEL DOWN, AND HEADER TILT switches on the GSL until the hook is above the header attachment pin.

   IMPORTANT:
   Hook release must be down to enable self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

8. Lower center-link (A) onto the header with the REEL DOWN switch on the GSL until it locks into position (hook release [B] is down).
9. Check that center-link is locked onto header by pressing the REEL UP switch on the GSL.

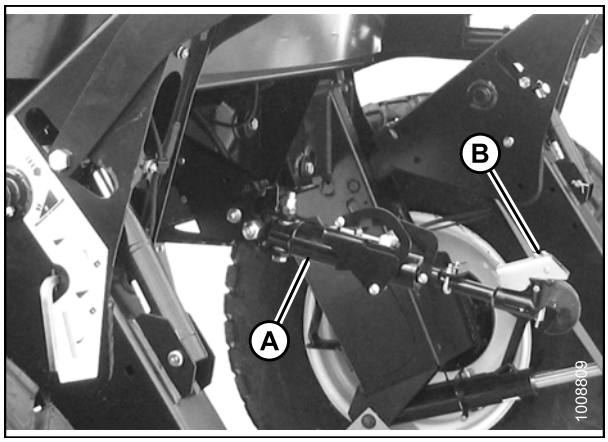

Figure 3.166: Hydraulic Center-Link

CAUTION

Check to be sure all bystanders have cleared the area.

10. Press the HEADER UP switch (A) to raise header to maximum height.

    NOTE:
    If one end of the header does **NOT** fully rise, rephase the lift cylinders as follows:

    a. Press and hold the HEADER UP switch until both cylinders stop moving.

    b. Continue to hold the switch for 3–4 seconds. Cylinders are now phased.

    NOTE:
    It may be necessary to repeat this procedure if there is air in the system.

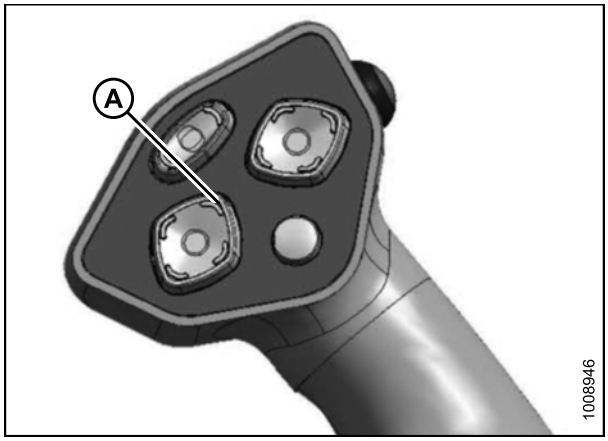

Figure 3.167: Ground Speed Lever

11. Engage safety props on both lift cylinders as follows:
    a. Stop engine and remove key from ignition.
    b. Pull lever (A) and rotate towards the header to release and lower safety prop (B) onto the lift cylinder.
    c. Repeat for opposite lift cylinder.

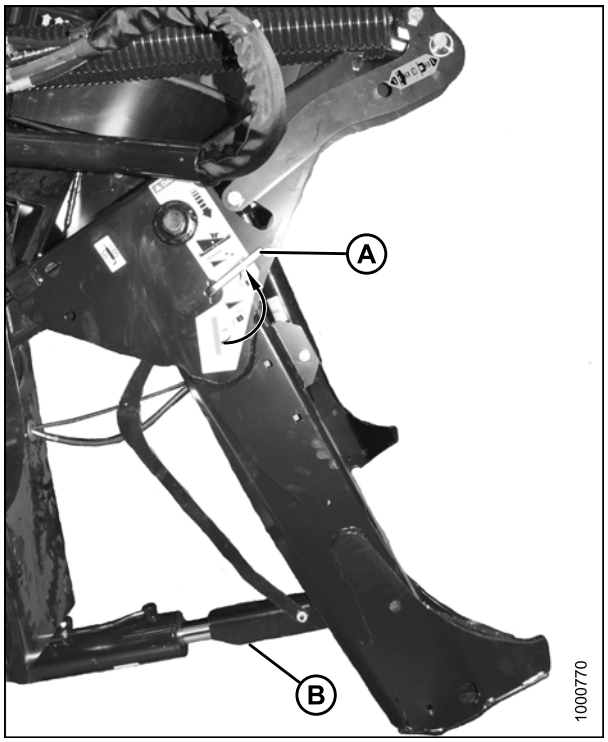

Figure 3.168: Safety Prop

12. Install pin (B) through the header leg (engaging U-bracket in lift linkage) on both sides and secure with hairpin (A).
13. Raise header stand (D) to storage position by pulling spring pin (C) and lifting stand into uppermost position. Release spring pin.

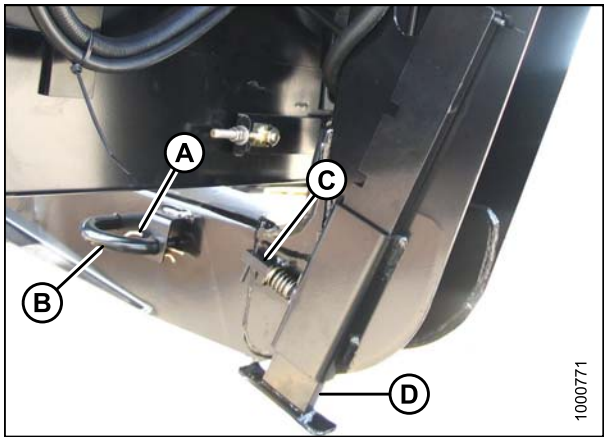

Figure 3.169: Header Leg

14. Remove clevis pin from storage position (B) in linkage and insert into hole (A) to engage float springs. Secure with hairpin.

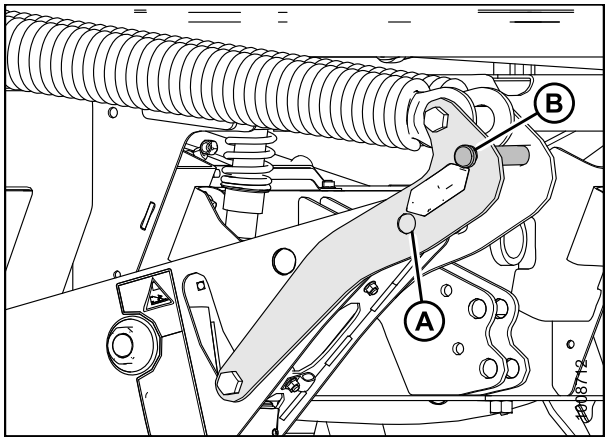

Figure 3.170: Header Float Linkage

15. Disengage safety prop by turning lever (A) downwards to release and lower stop until lever locks into vertical position.
16. Repeat for opposite safety prop.

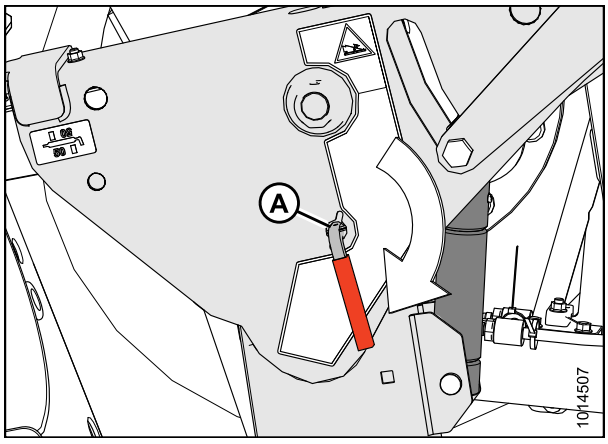

Figure 3.171: Safety Prop

CAUTION

Check to be sure all bystanders have cleared the area.

17. Start the engine and activate the HEADER DOWN switch (A) on the GSL to fully lower the header.
18. Stop engine and remove key from ignition.

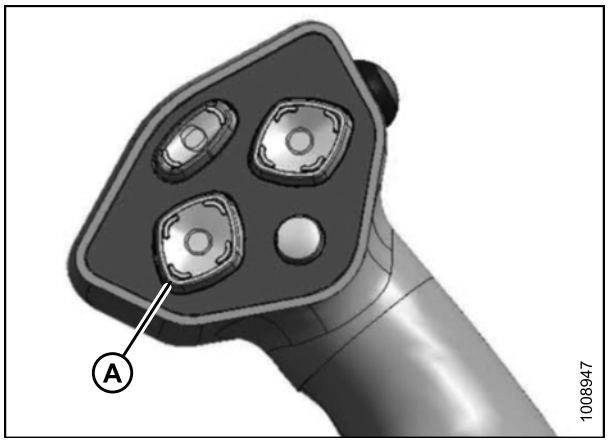

Figure 3.172: Ground Speed Lever

19. Connect header drive hoses (A) and electrical harness (B) to header. Refer to the draper header operator's manual.

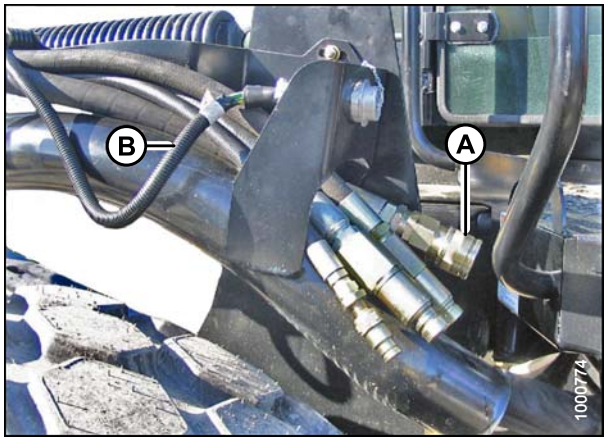

Figure 3.173: Header Drive Hoses and Harness

20. Connect reel hydraulics (A) at right cab-forward side of windrower. Refer to the draper header operator's manual.
21. Start engine and raise and lower the header and the reel a few times to remove trapped air.

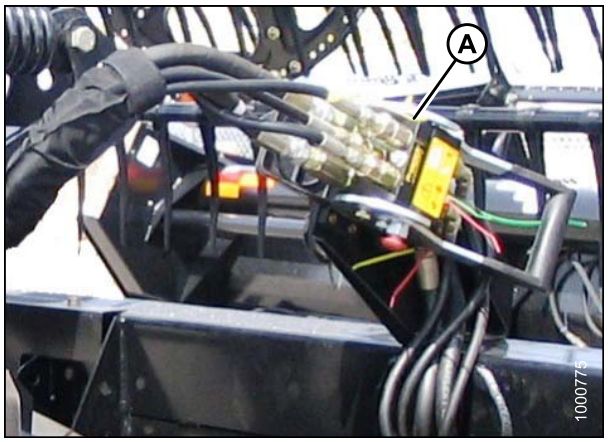

Figure 3.174: Reel Hydraulics

Attaching a D-Series Header: Hydraulic Center-Link without Self-Alignment

NOTE:
Draper header boots must be installed onto the windrower lift linkage before starting this procedure. Refer to *3.21.1 Attaching Header Boots, page 97*.

DANGER

To avoid bodily injury or death from 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.

1. Remove hairpin (A) from pins (B), and remove pins from both header legs.

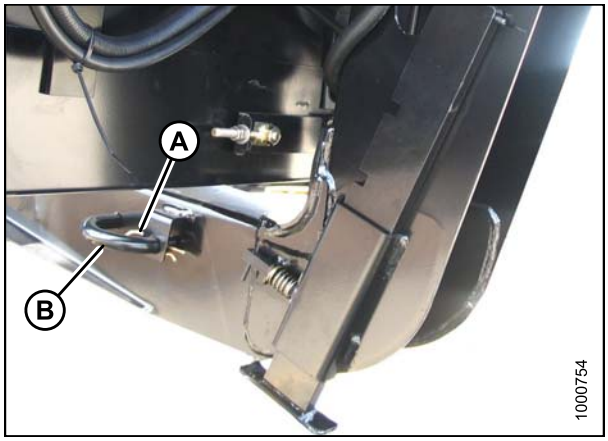

Figure 3.175: Header Leg

CAUTION

Check to be sure all bystanders have cleared the area.

2. Start the engine and activate the HEADER DOWN button (A) on the ground speed lever (GSL) to fully retract header lift cylinders.

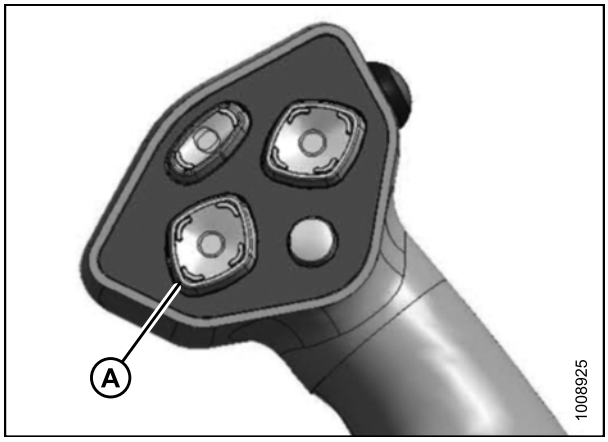

Figure 3.176: Ground Speed Lever

3. Relocate pin (A) in frame linkage as required to raise the center-link (B) until the hook is above the attachment pin on the header.

   IMPORTANT:
   If the center-link is too low, it may contact the header as the windrower approaches the header for hookup.

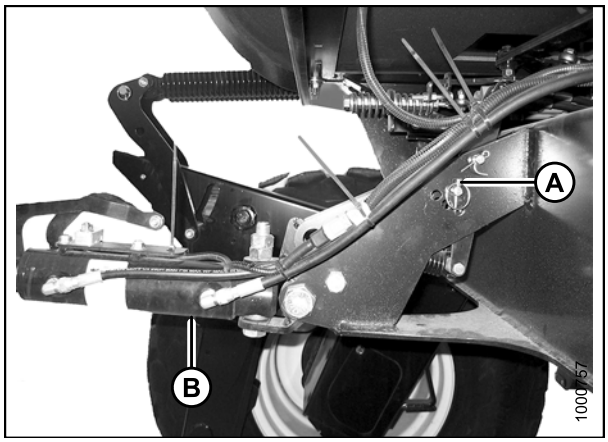

Figure 3.177: Hydraulic Center-Link without Self-Alignment Kit

4. Drive the windrower slowly forward until the boots (A) enter the header legs (B). Continue driving slowly forward until lift linkages contact the support plates in the header legs and the header nudges forward.
5. Ensure the lift linkages are properly engaged in the header legs and are contacting the support plates.

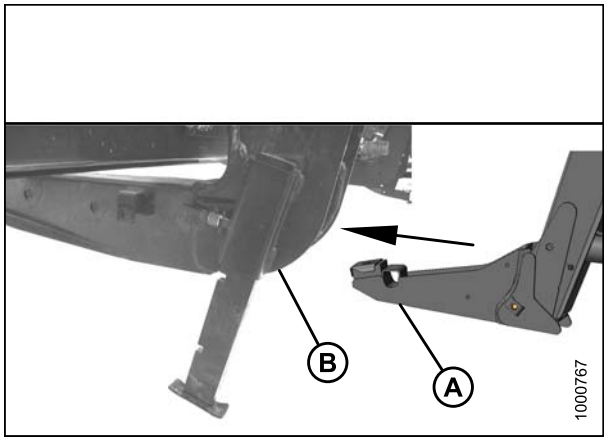

Figure 3.178: Header Leg and Boot

6. Use the following GSL functions to position the center-link hook above the header attachment pin:
   - Header tilt up (A) to retract the center-link
   - Header tilt down (B) to extend the center-link
7. Stop engine and remove key from ignition.

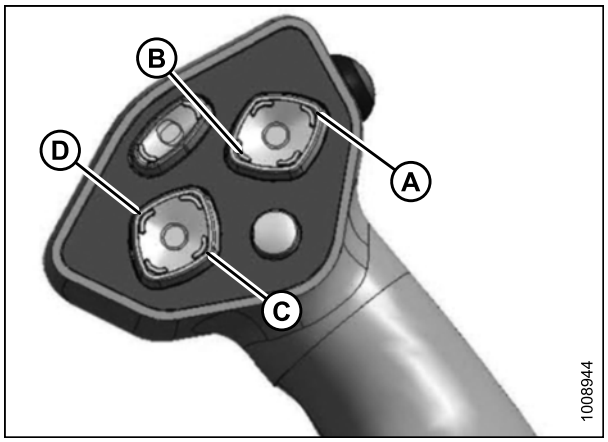

Figure 3.179: Ground Speed Lever

8. Push down on rod end of link cylinder (B) until hook engages and locks onto header pin.

   IMPORTANT:
   Hook release must be down to enable self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

9. Check that center-link (A) is locked onto header by pulling upward on rod end (B) of cylinder.

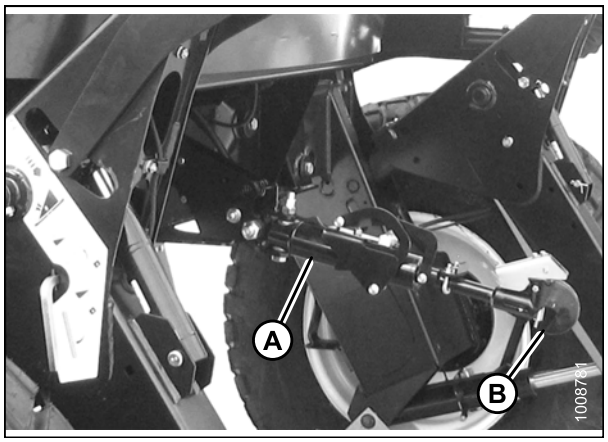

Figure 3.180: Hydraulic Center-Link

CAUTION

Check to be sure all bystanders have cleared the area.

10. Start the engine.
11. Press the HEADER UP switch (A) to raise header to maximum height.

    NOTE:
    If one end of the header does **NOT** fully rise, rephase the lift cylinders as follows:

    a. Press and hold the HEADER UP switch until both cylinders stop moving.

    b. Continue to hold the switch for 3–4 seconds. Cylinders are now phased.

    NOTE:
    It may be necessary to repeat this procedure if there is air in the system.

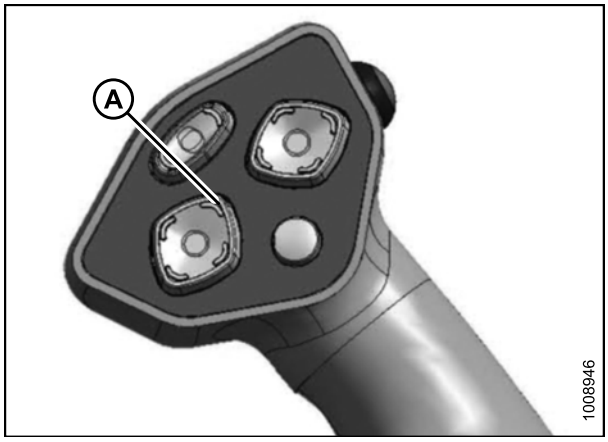

Figure 3.181: Ground Speed Lever

12. Engage safety props on both lift cylinders as follows:

    a. Stop engine and remove key from ignition.

    b. Pull lever (A) and rotate towards the header to release and lower safety prop (B) onto the lift cylinder.

    c. Repeat for opposite lift cylinder.

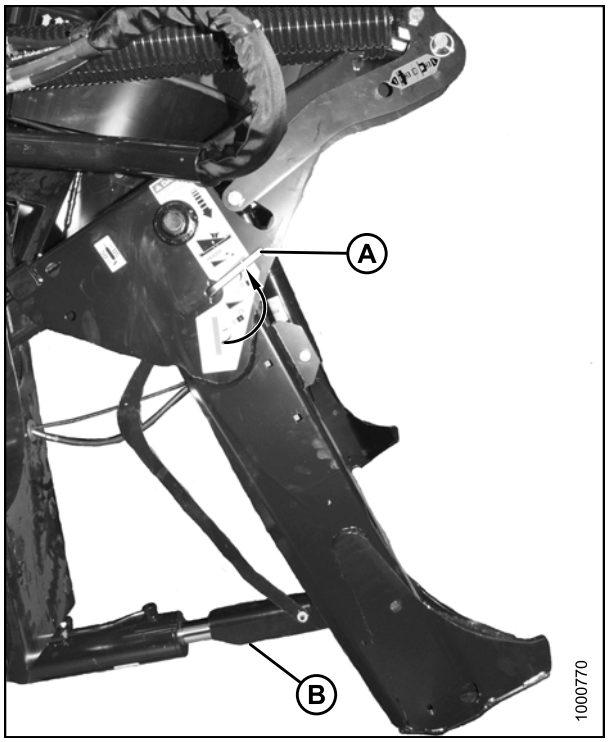

Figure 3.182: Safety Prop

13. Install pin (B) through the header leg (engaging U-bracket in lift linkage) on both sides and secure with hairpin (A).
14. Raise header stand (D) to storage position by pulling spring pin (C) and lifting stand into uppermost position. Release spring pin.

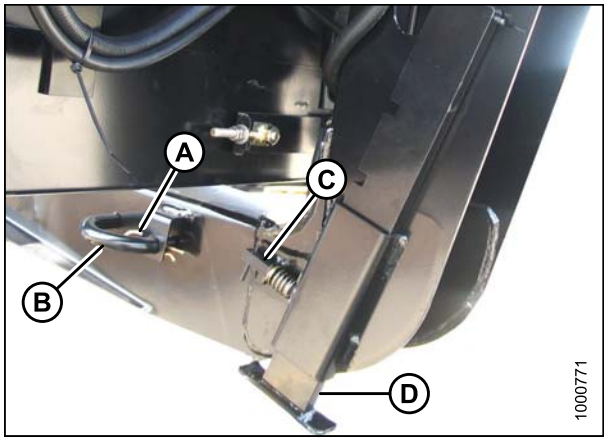

Figure 3.183: Header Leg

15. Remove clevis pin from storage position (B) in linkage and insert into hole (A) to engage float springs. Secure with hairpin.

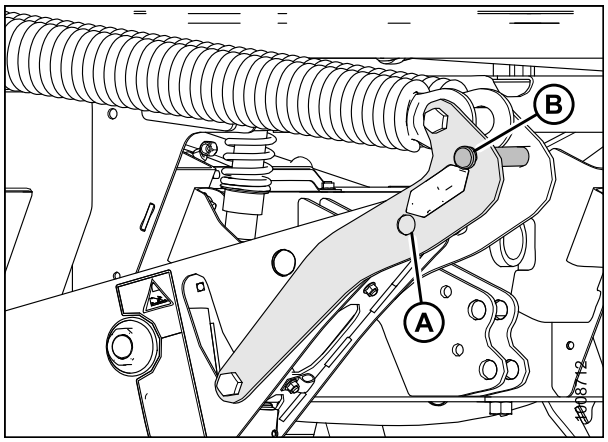

Figure 3.184: Header Float Linkage

16. Disengage safety prop by turning lever (A) downwards to release and lower stop until lever locks into vertical position.
17. Repeat for opposite safety prop.

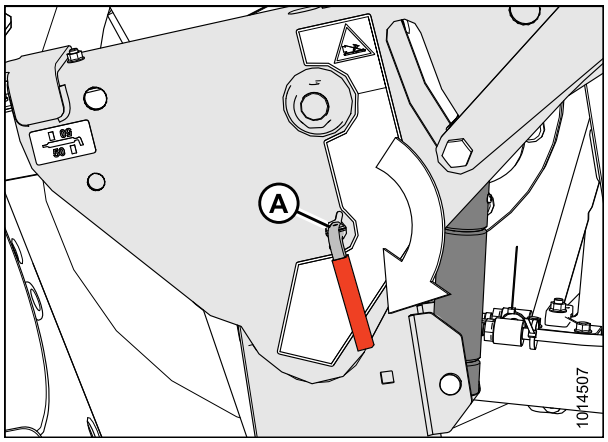

Figure 3.185: Safety Prop

CAUTION

Check to be sure all bystanders have cleared the area.

18. Start the engine and activate the HEADER DOWN switch (A) on the GSL to fully lower the header.
19. Stop engine and remove key from ignition.

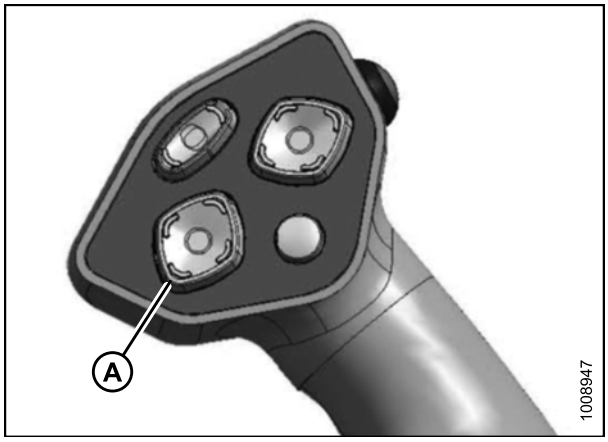

Figure 3.186: Ground Speed Lever

20. Connect header drive hoses (A) and electrical harness (B) to header. Refer to the draper header operator's manual.

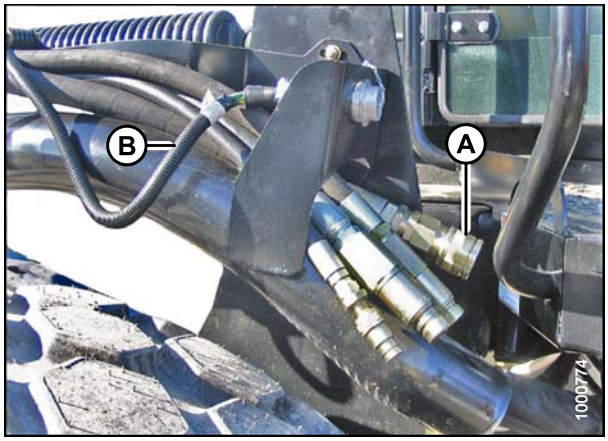

Figure 3.187: Header Drive Hoses and Harness

21. Connect reel hydraulics (A) at right cab-forward side of windrower. Refer to the draper header operator's manual.
22. Start engine and raise and lower the header and the reel a few times to remove trapped air.

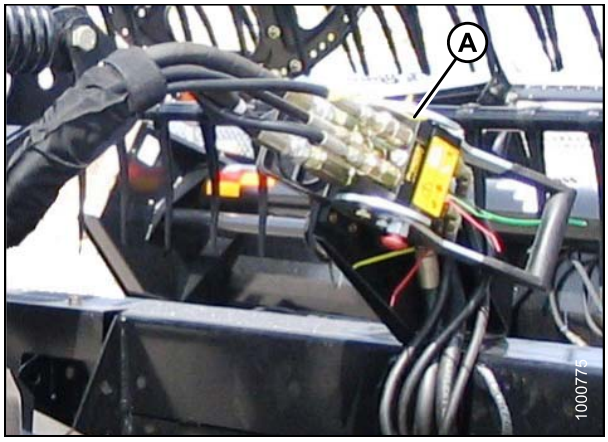

Figure 3.188: Reel Hydraulics

Attaching a D-Series Header: Mechanical Center-Link

NOTE:
Draper header boots must be installed onto the windrower lift linkage before starting this procedure. Refer to *3.21.1 Attaching Header Boots, page 97*.

DANGER

To avoid bodily injury or death from 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.

1. Remove hairpin (A) from pins (B), and remove pins from both header legs.

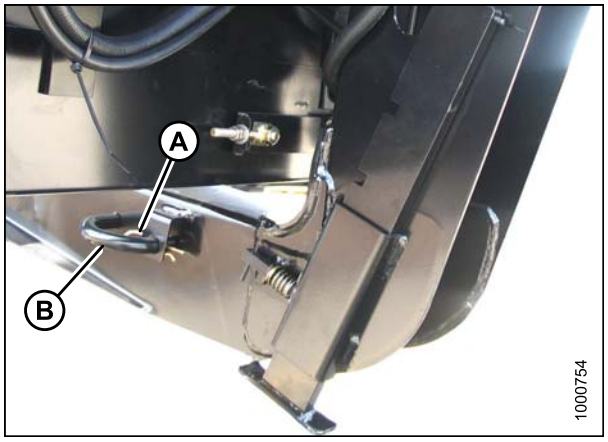

Figure 3.189: Header Leg

CAUTION

Check to be sure all bystanders have cleared the area.

2. Start the engine and activate the HEADER DOWN button (A) on the ground speed lever (GSL) to fully retract header lift cylinders.

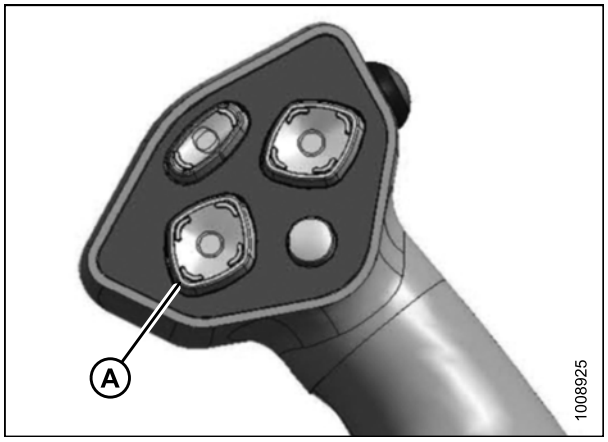

Figure 3.190: Ground Speed Lever

3. Drive the windrower slowly forward until the boots (A) enter the header legs (B). Continue driving slowly forward until lift linkages contact the support plates in the header legs and the header nudges forward.
4. Ensure the lift linkages are properly engaged in the header legs and are contacting the support plates.

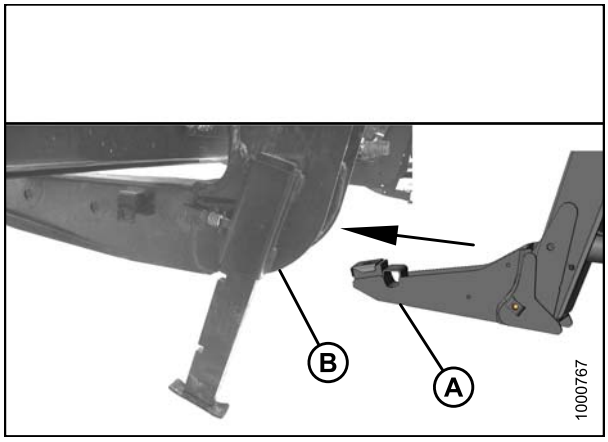

Figure 3.191: Header Leg and Boot

5. Stop engine and remove key from ignition.
6. Loosen nut (A) and rotate barrel (B) to adjust length until the link is aligned with the header bracket.
7. Install clevis pin (C) and secure with cotter pin (D).
8. Adjust length of link to achieve proper header angle by rotating barrel (B). Tighten nut (A) against barrel (a slight tap with a hammer is sufficient).

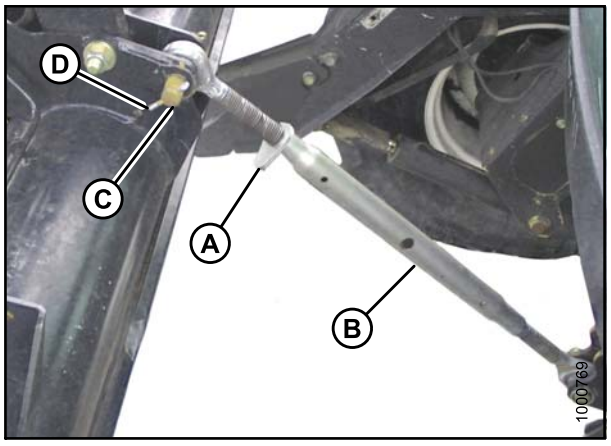

Figure 3.192: Mechanical Center-Link

CAUTION

Check to be sure all bystanders have cleared the area.

9. Start the engine.
10. Press the HEADER UP switch (A) to raise header to maximum height.

NOTE:
If one end of the header does **NOT** fully rise, rephase the lift cylinders as follows:

a. Press and hold the HEADER UP switch until both cylinders stop moving.

b. Continue to hold the switch for 3–4 seconds. Cylinders are now phased.

NOTE:
It may be necessary to repeat this procedure if there is air in the system.

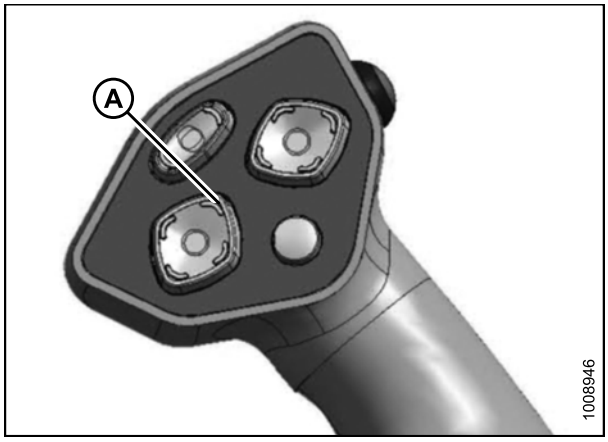

Figure 3.193: Ground Speed Lever

11. Engage safety props on both lift cylinders as follows:
    a. Stop engine and remove key from ignition.
    b. Pull lever (A) and rotate towards the header to release and lower safety prop (B) onto the lift cylinder.
    c. Repeat for opposite lift cylinder.

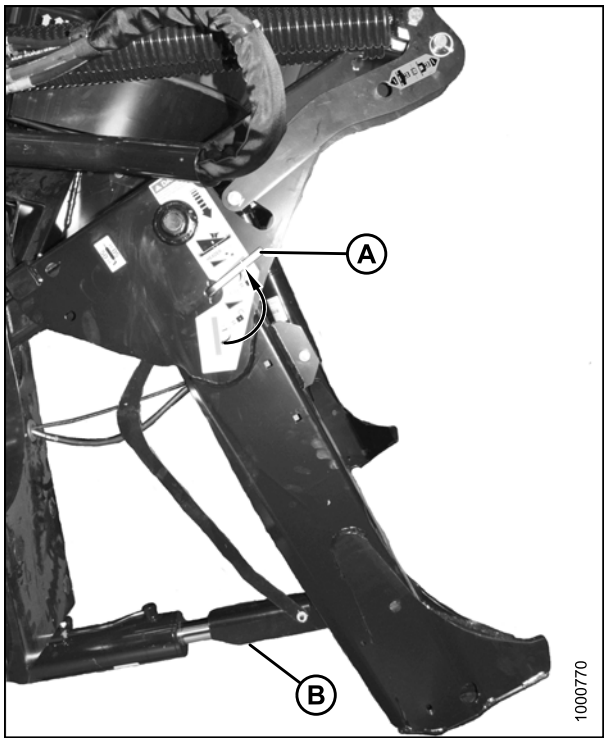

Figure 3.194: Safety Prop

12. Install pin (B) through the header leg (engaging U-bracket in lift linkage) on both sides and secure with hairpin (A).
13. Raise header stand (D) to storage position by pulling spring pin (C) and lifting stand into uppermost position. Release spring pin.

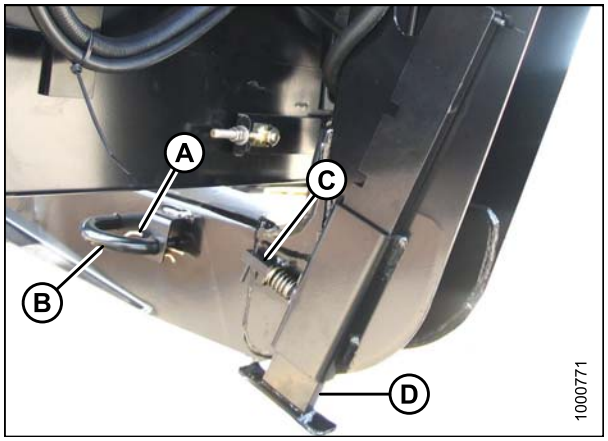

Figure 3.195: Header Leg

14. Remove clevis pin from storage position (B) in linkage and insert into hole (A) to engage float springs. Secure with hairpin.

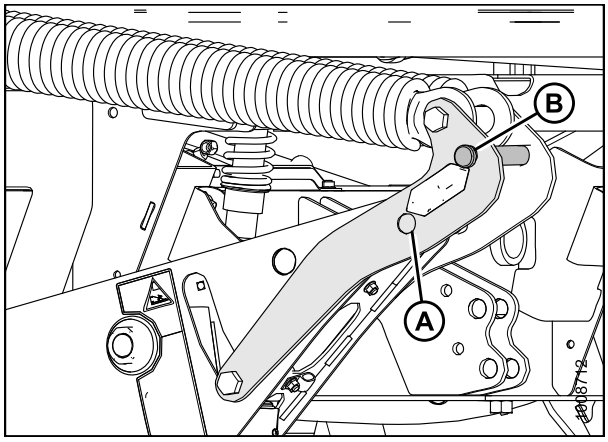

Figure 3.196: Header Float Linkage

15. Disengage safety prop by turning lever (A) downwards to release and lower stop until lever locks into vertical position.
16. Repeat for opposite safety prop.

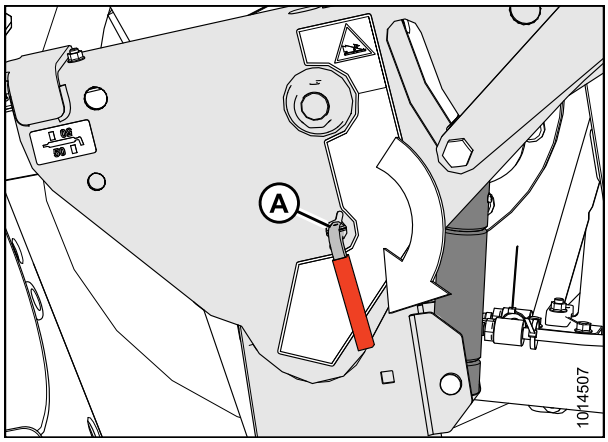

Figure 3.197: Safety Prop

CAUTION

Check to be sure all bystanders have cleared the area.

17. Start the engine and activate the HEADER DOWN switch (A) on the GSL to fully lower the header.
18. Stop engine and remove key from ignition.

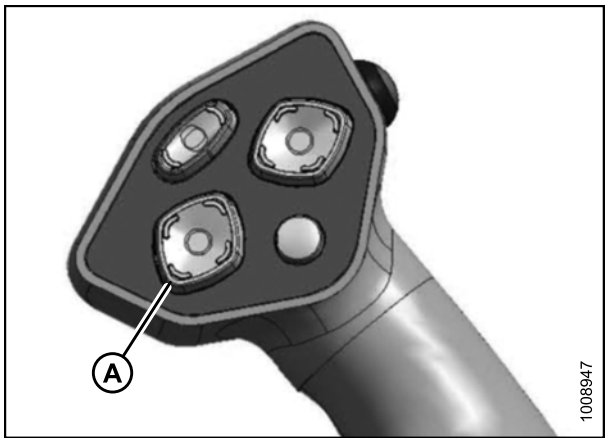

Figure 3.198: Ground Speed Lever

19. Connect header drive hoses (A) and electrical harness (B) to header. Refer to the draper header operator's manual.

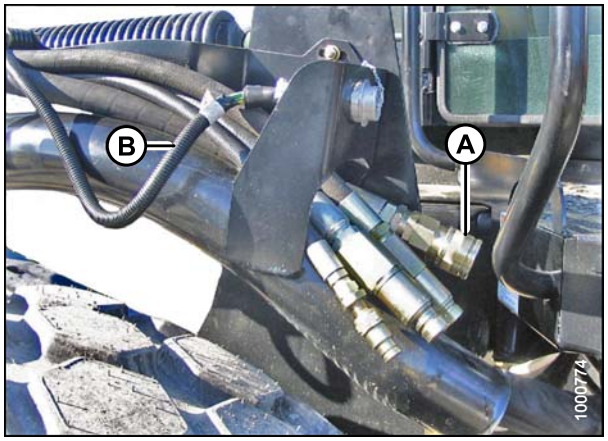

Figure 3.199: Header Drive Hoses and Harness

20. Connect reel hydraulics (A) at right cab-forward side of windrower. Refer to the draper header operator's manual.
21. Start engine and raise and lower the header and the reel a few times to remove trapped air.

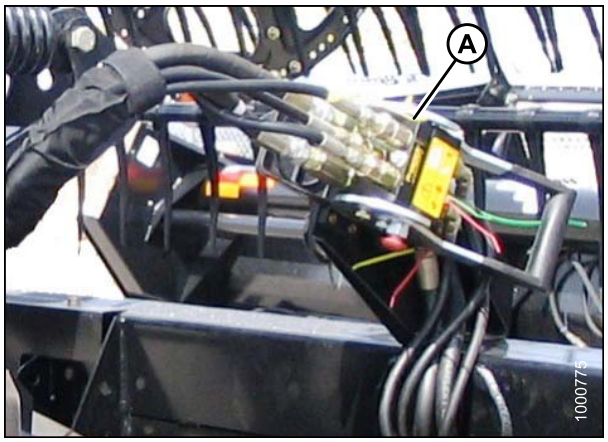

Figure 3.200: Reel Hydraulics

3.21.3 Attaching an A-Series Header

A30-D, A30-S, and A40-D headers can be attached to an M105, M155, or M205 Self-Propelled Windrower. For attachment procedure, refer to the section for your specific windrower model.

M105 Self-Propelled Windrower

The M105 Self-Propelled Windrower is factory-equipped to run an A-Series Auger Header.

Windrowers equipped with A-Series hydraulics have four header drive hoses on the left cab-forward side.

The attachment procedure varies depending on the type of center-link installed on the windrower. Refer to the following instructions based on the type of link installed on your windrower:

- *Attaching an A-Series Header: Hydraulic Center-Link without Self-Alignment, page 121*
- *Attaching an A-Series Header: Mechanical Center-Link, page 127*

Figure 3.201: M105 and A40-D Auger Header

M155 Self-Propelled Windrower

The M155 Self-Propelled Windrower is factory-equipped to run an A-Series Auger Header.

Windrowers equipped with A-Series hydraulics have four header-drive hoses on the left-hand side.

The attachment procedure varies depending on the type of center-link installed on the windrower. Refer to the following instructions based on the type of center-link installed on your windrower:

- *Attaching an A-Series Header: Hydraulic Center-Link with Optional Self-Alignment, page 116*
- *Attaching an A-Series Header: Hydraulic Center-Link without Self-Alignment, page 121*
- *Attaching an A-Series Header: Mechanical Center-Link, page 127*

Figure 3.202: M155 and A40-D Auger Header

M205 Self-Propelled Windrower

To operate an A-Series Auger Header, the M205 Self-Propelled Windrower must be equipped with an Auger Drive Basic kit and a Completion kit.

Windrowers equipped with A-Series hydraulics have four header drive hoses on the left-hand side.

If necessary, obtain the following kits and install them in accordance with the instructions supplied with the kits:

Kit Description	Kit Number
Base Draper/Auger Drive Kit	MD #B5491
Draper Conditioner/Auger Header Reverser Completion Kit	MD #B5492
Hydraulic Coupler Kit	MD #B5497

Refer to the following procedures according to the center-link installed on your windrower:

- *Attaching an A-Series Header: Hydraulic Center-Link with Optional Self-Alignment, page 116*
- *Attaching an A-Series Header: Hydraulic Center-Link without Self-Alignment, page 121*

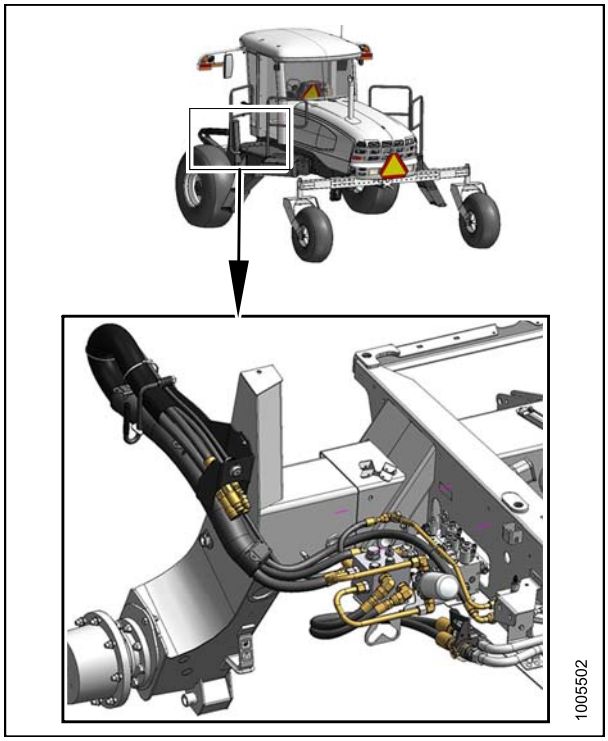

Figure 3.203: M205 Auger Header Drive Hydraulics

Attaching an A-Series Header: Hydraulic Center-Link with Optional Self-Alignment

DANGER

To avoid bodily injury or death from 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.

1. Remove hairpin (A) from clevis pin (B) and remove clevis pin from the header boots (C) on both sides of the header.

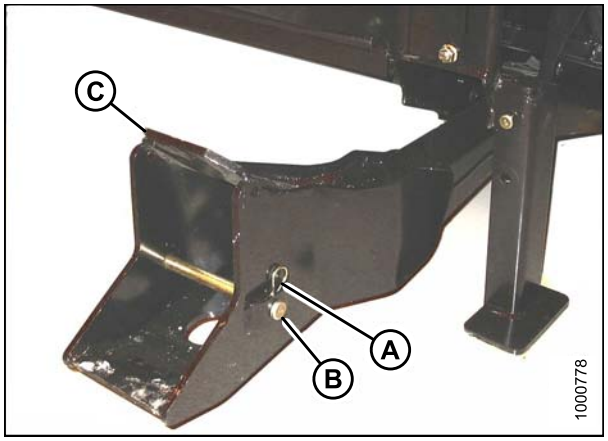

Figure 3.204: Header Boot

CAUTION

To prevent damage to the lift system when lowering header lift linkages without a header or weight box attached to the windrower, ensure the float engagement pin is installed in storage position (B) and NOT in engaged position (A).

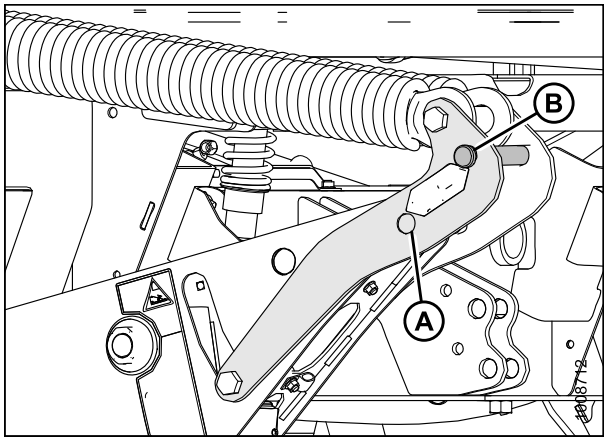

Figure 3.205: Header Float Linkage

CAUTION

Check to be sure all bystanders have cleared the area.

2. Start the engine and activate the HEADER DOWN button (A) on the ground speed lever (GSL) to fully retract header lift cylinders.

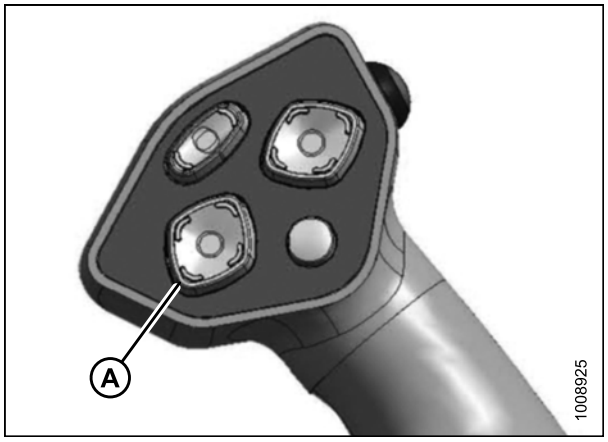

Figure 3.206: Ground Speed Lever

3. Activate the REEL UP switch (A) on the GSL to raise the center-link until the hook is above the attachment pin on the header.

   IMPORTANT:
   If the center-link is too low, it may contact the header as the windrower approaches the header for hookup.

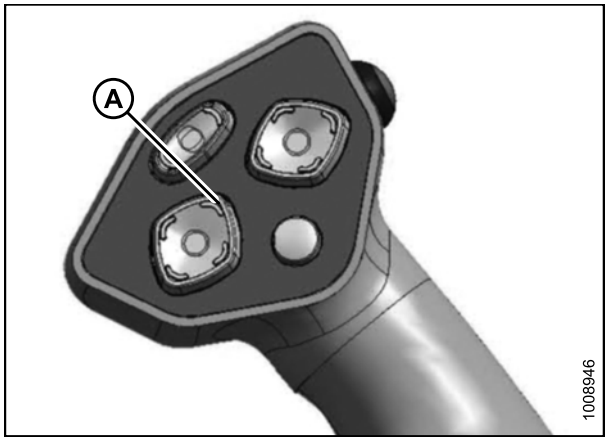

Figure 3.207: Ground Speed Lever

4. Drive the windrower slowly forward until the windrower feet (A) enter the header boots (B). Continue driving slowly forward until the feet engage the boots and the header nudges forward.

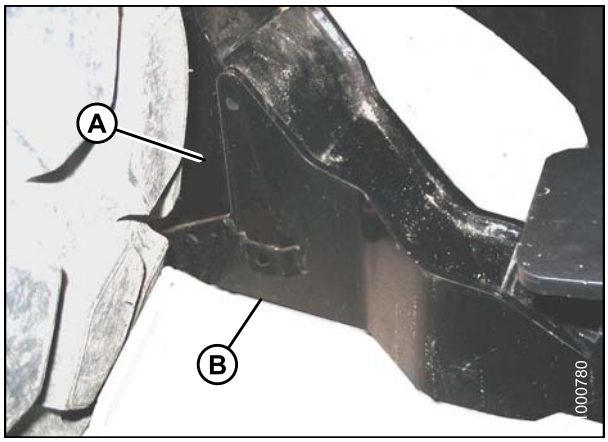

Figure 3.208: Header Boot

5. Use the following GSL functions to position the center-link hook above the header attachment pin:
   - Reel up (A) to raise the center-link
   - Reel down (B) to lower the center-link
   - Header tilt up (C) to retract the center-link
   - Header tilt down (D) to extend the center-link

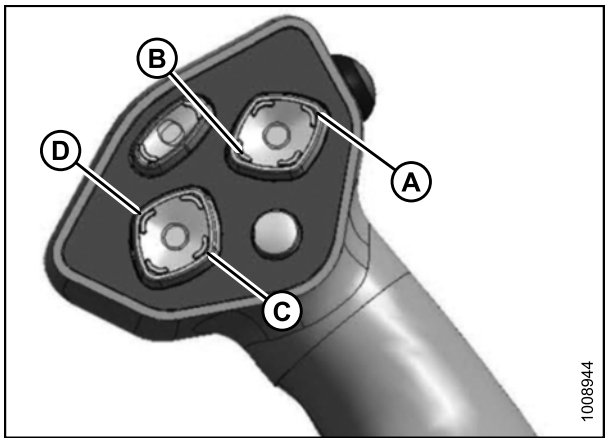

Figure 3.209: Ground Speed Lever

6. Adjust position of the center-link cylinder (A) with the REEL UP and REEL DOWN switches on the GSL until the hook is positioned above the header attachment pin.

   IMPORTANT:
   Hook release must be down to enable self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

7. Lower center-link (A) onto the header with REEL DOWN switch until it locks into position (hook release [B] is down).
8. Check that center-link is locked onto header by pressing the REEL UP switch on the GSL.

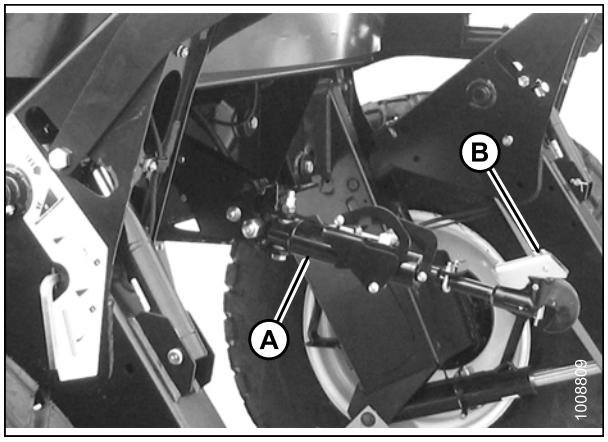

Figure 3.210: Hydraulic Center-Link

CAUTION

Check to be sure all bystanders have cleared the area.

9. Press the HEADER UP switch (A) to raise header to maximum height.

   NOTE:
   If one end of the header does **NOT** fully rise, rephase the lift cylinders as follows:

   a. Press and hold the HEADER UP switch until both cylinders stop moving.

   b. Continue to hold the switch for 3–4 seconds. Cylinders are now phased.

   NOTE:
   It may be necessary to repeat this procedure if there is air in the system.

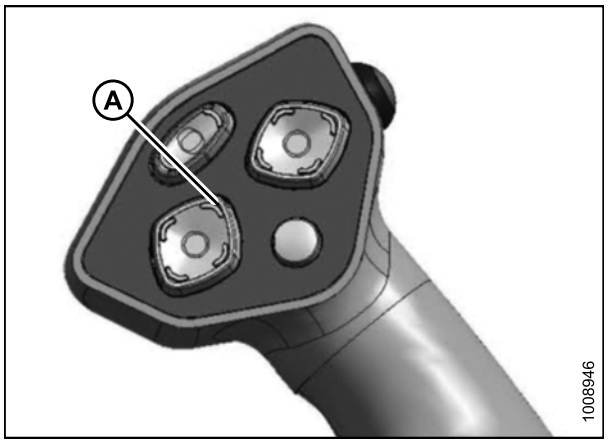

Figure 3.211: Ground Speed Lever

10. Engage safety props on both lift cylinders as follows:
    a. Stop engine and remove key from ignition.
    b. Pull lever (A) and rotate towards the header to release and lower safety prop (B) onto the lift cylinder.
    c. Repeat for opposite lift cylinder.

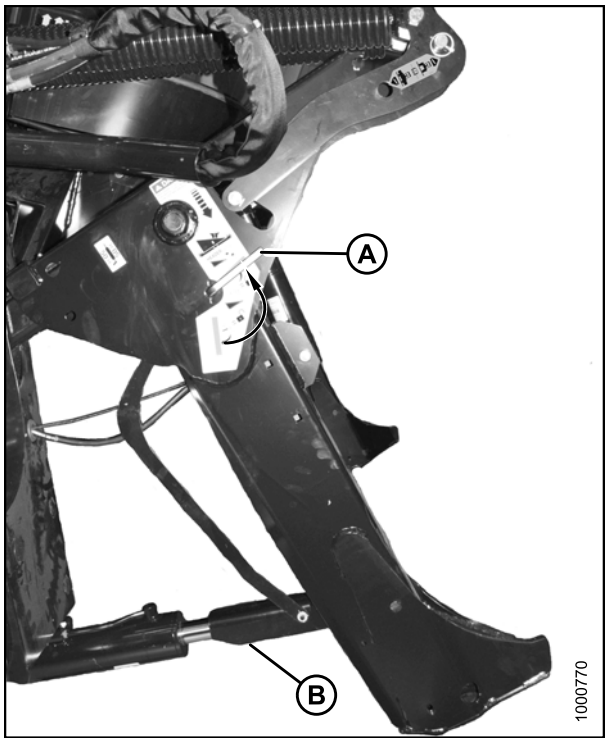

Figure 3.212: Safety Prop

11. Install clevis pin (A) through boot and foot and secure with hairpin. Repeat for opposite boot.

    IMPORTANT:
    Ensure clevis pin (A) is fully inserted and hairpin is installed behind bracket.

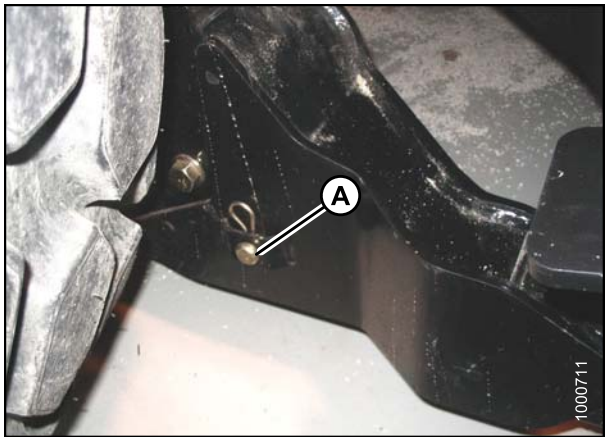

Figure 3.213: Header Boot

12. Remove lynch pin from clevis pin (A) in stand (B).
13. Hold stand (B) and remove pin (A).
14. Move stand (B) to storage position by inverting and relocating onto bracket as shown. Reinsert clevis pin (A) and secure with lynch pin.

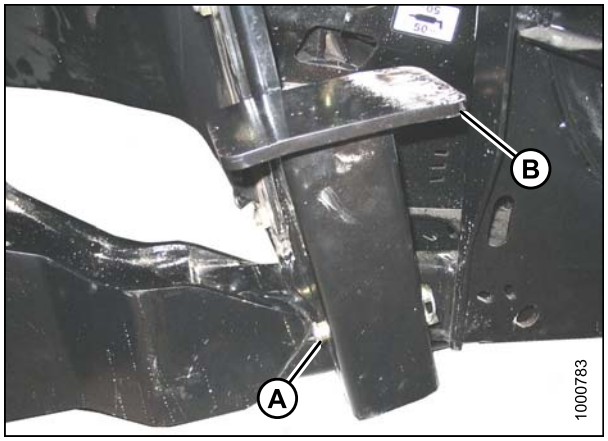

Figure 3.214: Header Stand

15. Remove clevis pin from storage position (B) in linkage and insert into hole (A) to engage float springs. Secure with hairpin.

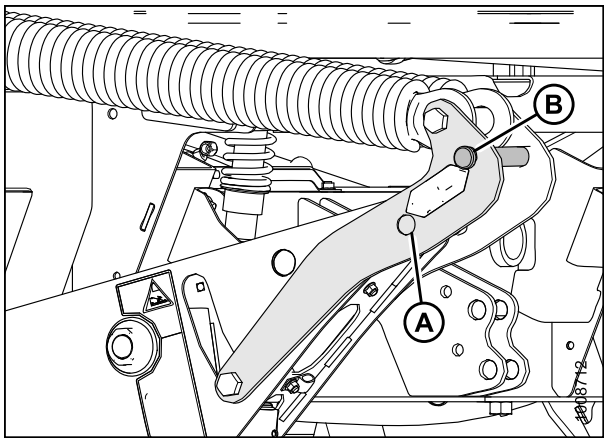

Figure 3.215: Header Float Linkage

16. Disengage safety prop by turning lever (A) downwards to release and lower stop until lever locks into vertical position.
17. Repeat for opposite safety prop.

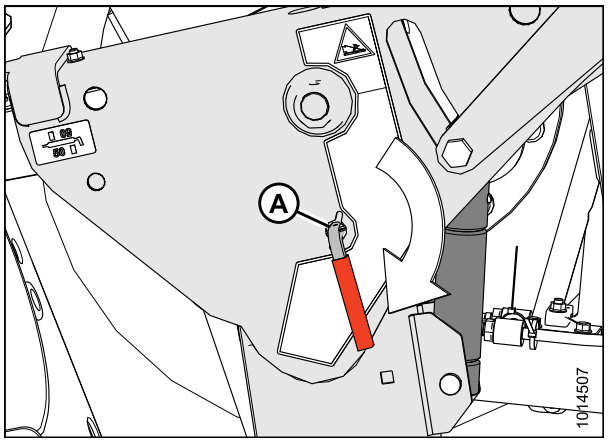

Figure 3.216: Safety Prop

CAUTION

Check to be sure all bystanders have cleared the area.

18. Start the engine and activate the HEADER DOWN switch (A) on the GSL to fully lower the header.
19. Stop engine and remove key from ignition.

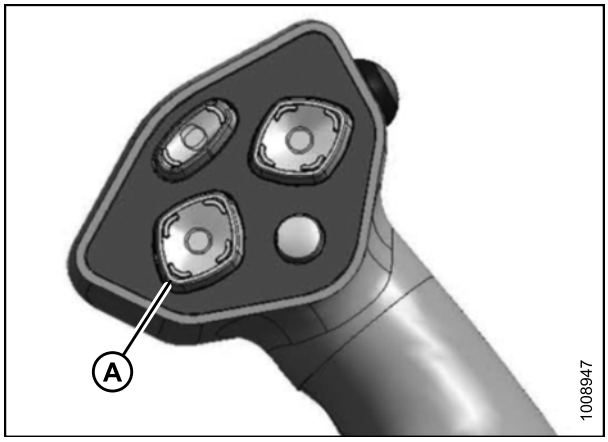

Figure 3.217: Ground Speed Lever

20. Connect header drive hoses (A) and electrical harness (B) to header. Refer to the auger header operator's manual.

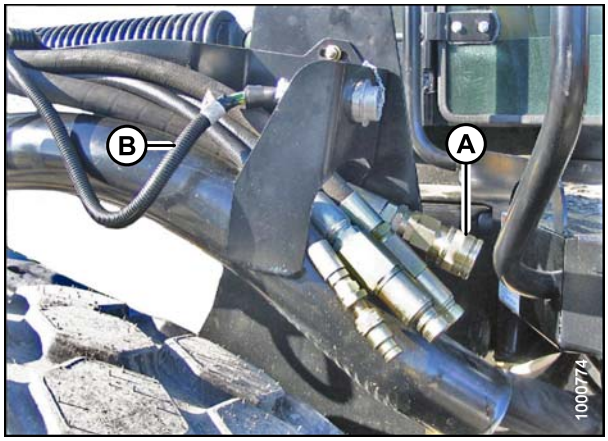

Figure 3.218: Header Drive Hoses and Harness

Attaching an A-Series Header: Hydraulic Center-Link without Self-Alignment

DANGER

To avoid bodily injury or death from 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.

1. Remove hairpin (A) from clevis pin (B) and remove clevis pin from the header boots (C) on both sides of the header.

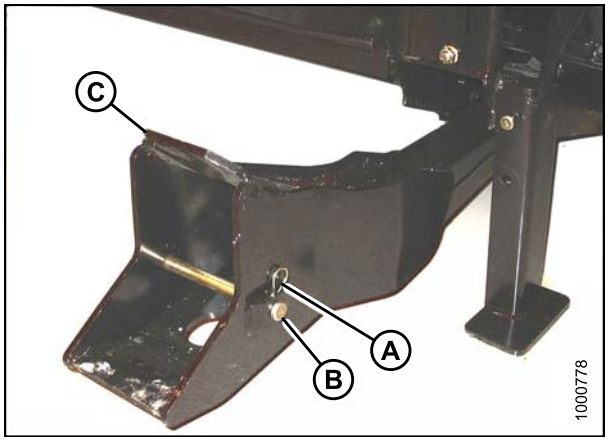

Figure 3.219: Header Boot

CAUTION

To prevent damage to the lift system when lowering header lift linkages without a header or weight box attached to the windrower, ensure the float engagement pin is installed in storage position (B) and NOT in engaged position (A).

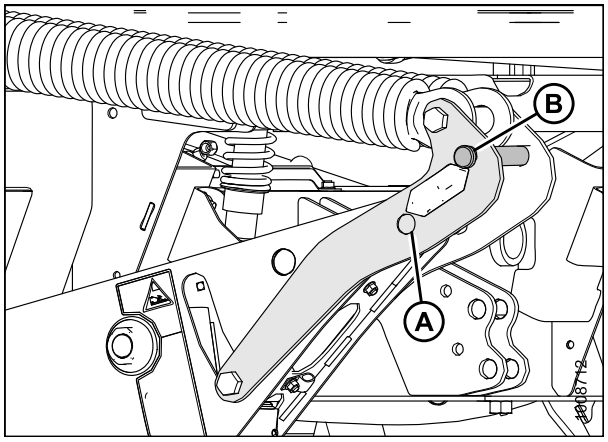

Figure 3.220: Header Float Linkage

CAUTION

Check to be sure all bystanders have cleared the area.

2. Start the engine and activate the HEADER DOWN button (A) on the ground speed lever (GSL) to fully retract header lift cylinders.

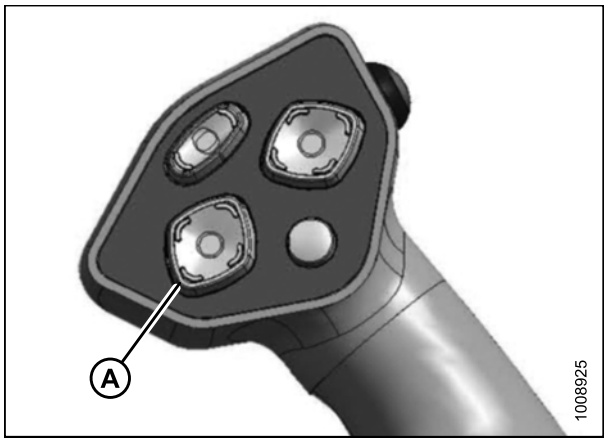

Figure 3.221: Ground Speed Lever

3. Relocate pin (A) in frame linkage as required to raise the center-link (B) until the hook is above the attachment pin on the header.

   IMPORTANT:
   If the center-link is too low, it may contact the header as the windrower approaches the header for hookup.

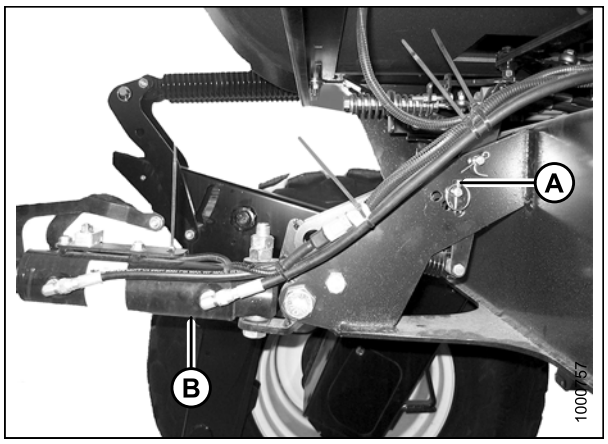

Figure 3.222: Hydraulic Center-Link without Self-Alignment Kit

4. Drive the windrower slowly forward until the windrower feet (A) enter the header boots (B). Continue driving slowly forward until the feet engage the boots and the header nudges forward.

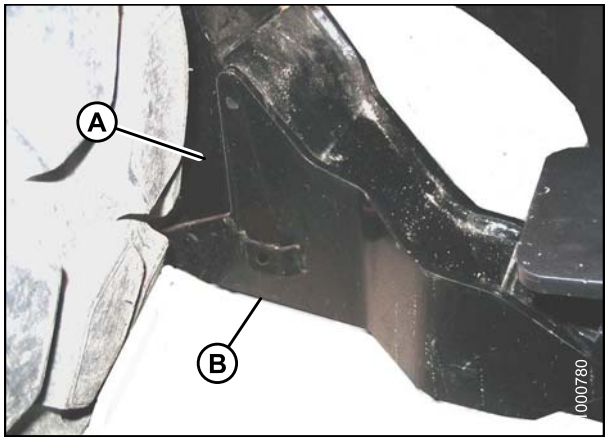

Figure 3.223: Header Boot

5. Use the following ground speed lever functions to position the center-link hook above the header attachment pin:
   - Header tilt up (A) to retract center-link
   - Header tilt down (B) to extend center-link
6. Stop engine and remove key from ignition.

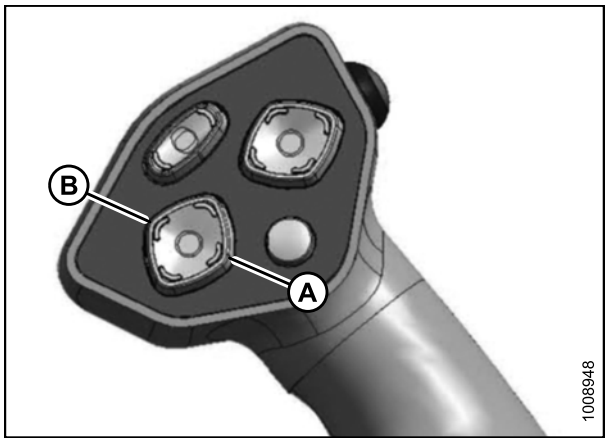

Figure 3.224: Ground Speed Lever

7. Push down on rod end of link cylinder (B) until hook engages and locks onto header pin.

   IMPORTANT:
   Hook release must be down to enable self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

8. Check that center-link (A) is locked onto header by pulling upward on rod end (B) of cylinder.

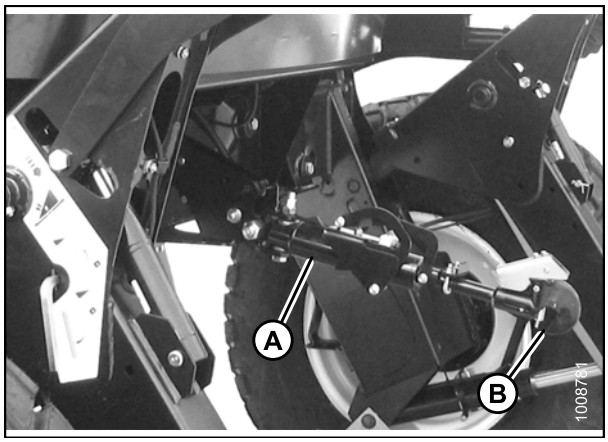

Figure 3.225: Hydraulic Center-Link

CAUTION

Check to be sure all bystanders have cleared the area.

9. Start the engine.
10. Press the HEADER UP switch (A) to raise header to maximum height.

    NOTE:
    If one end of the header does **NOT** fully rise, rephase the lift cylinders as follows:

    a. Press and hold the HEADER UP switch until both cylinders stop moving.

    b. Continue to hold the switch for 3–4 seconds. Cylinders are now phased.

    NOTE:
    It may be necessary to repeat this procedure if there is air in the system.

11. Engage safety props on both lift cylinders as follows:

    a. Stop engine and remove key from ignition.

    b. Pull lever (A) and rotate towards the header to release and lower safety prop (B) onto the lift cylinder.

    c. Repeat for opposite lift cylinder.

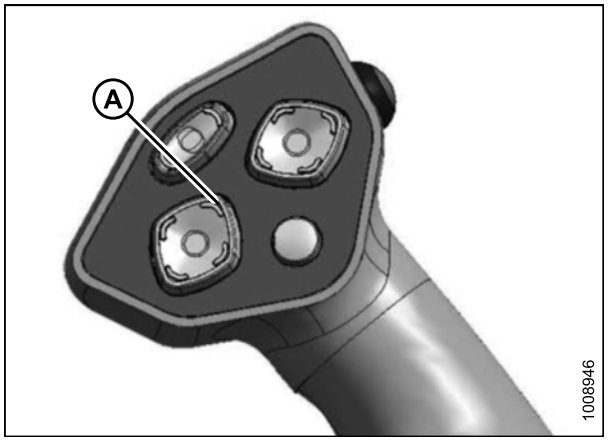

Figure 3.226: Ground Speed Lever

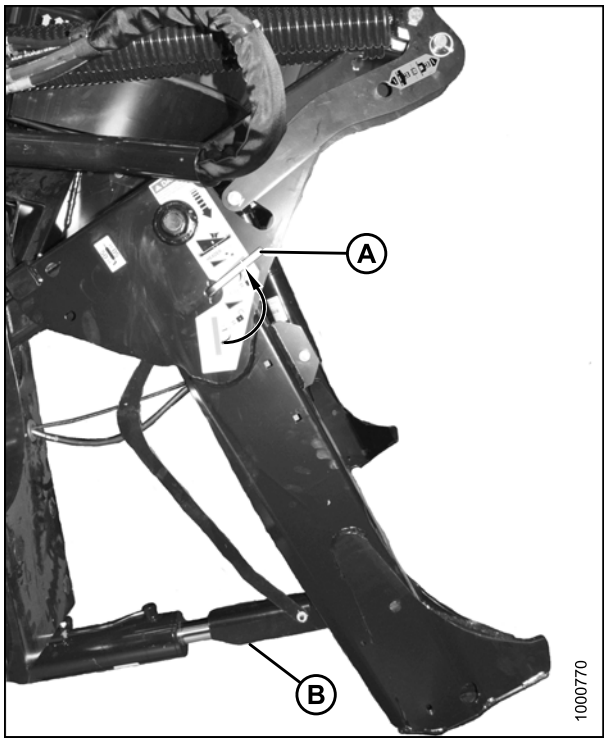

Figure 3.227: Safety Prop

12. Install clevis pin (A) through boot and foot and secure with hairpin. Repeat for opposite boot.

    IMPORTANT:
    Ensure clevis pin (A) is fully inserted and hairpin is installed behind bracket.

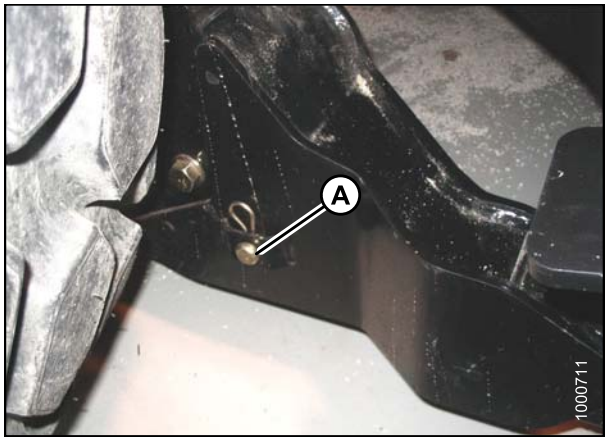

Figure 3.228: Header Boot

13. Remove lynch pin from clevis pin (A) in stand (B).
14. Hold stand (B) and remove pin (A).
15. Move stand (B) to storage position by inverting and relocating onto bracket as shown. Reinsert clevis pin (A) and secure with lynch pin.

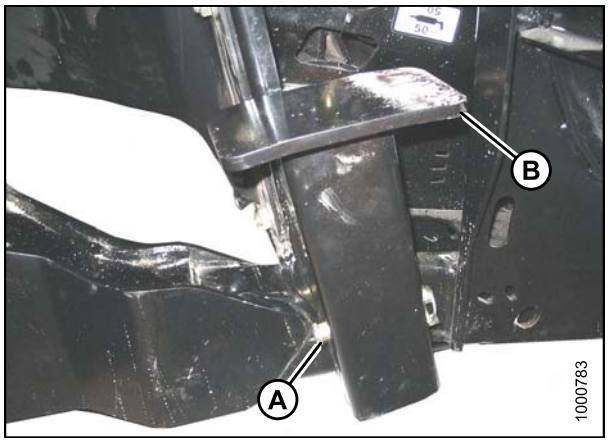

Figure 3.229: Header Stand

16. Remove clevis pin from storage position (B) in linkage and insert into hole (A) to engage float springs. Secure with hairpin.

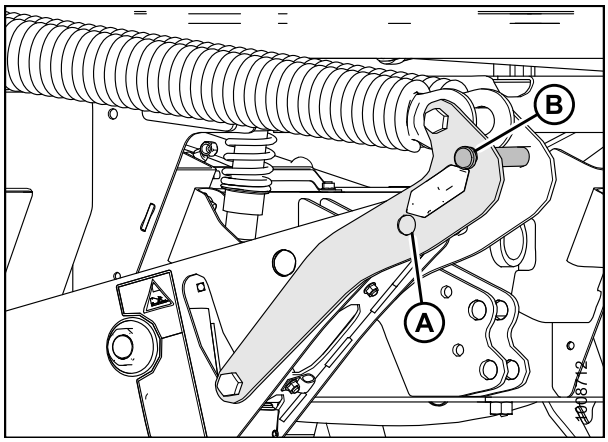

Figure 3.230: Header Float Linkage

17. Disengage safety prop by turning lever (A) downwards to release and lower stop until lever locks into vertical position.
18. Repeat for opposite safety prop.

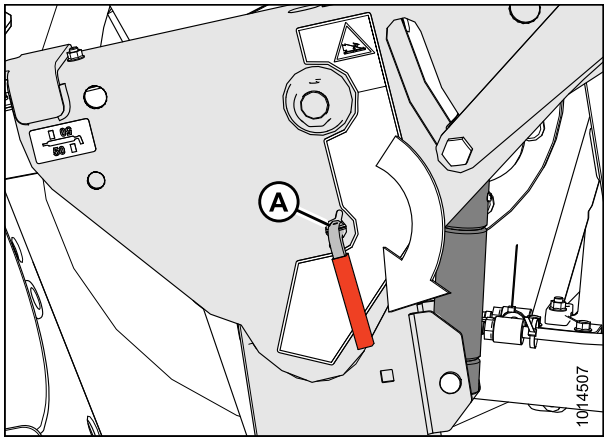

Figure 3.231: Safety Prop

CAUTION

Check to be sure all bystanders have cleared the area.

19. Start the engine and activate the HEADER DOWN switch (A) on the GSL to fully lower the header.
20. Stop engine and remove key from ignition.

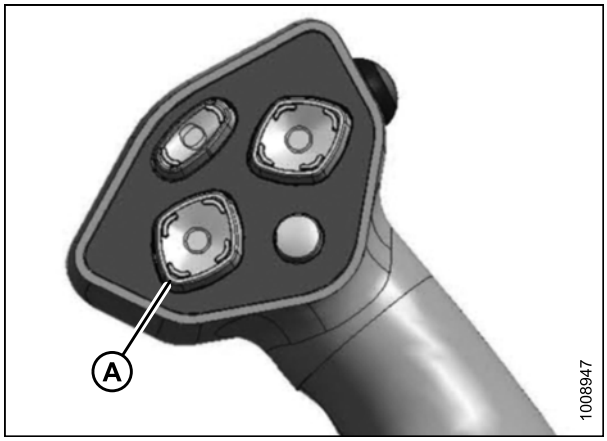

Figure 3.232: Ground Speed Lever

21. Connect header drive hoses (A) and electrical harness (B) to header. Refer to the auger header operator's manual.

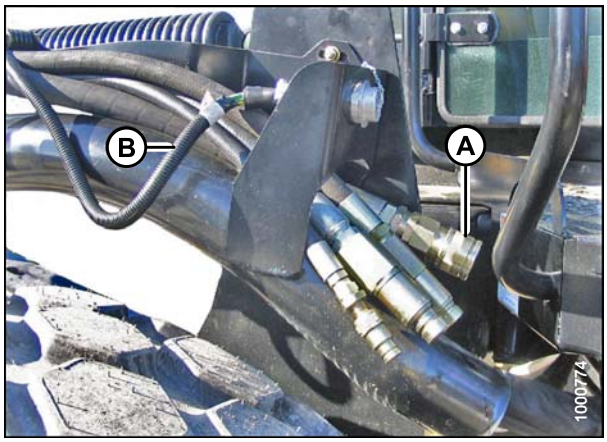

Figure 3.233: Header Drive Hoses and Harness

Attaching an A-Series Header: Mechanical Center-Link

DANGER

To avoid bodily injury or death from 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.

1. Remove hairpin (A) from clevis pin (B) and remove clevis pin from the header boots (C) on both sides of the header.

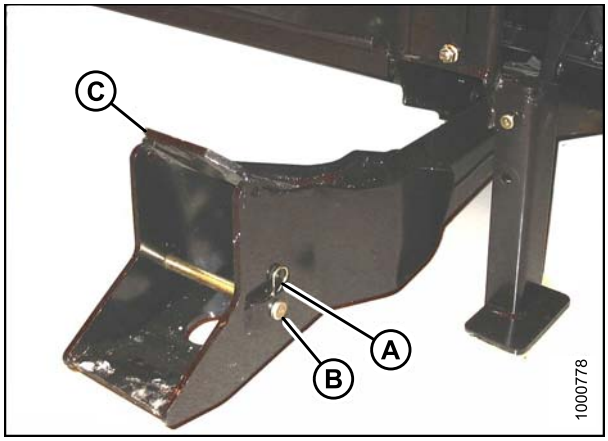

Figure 3.234: Header Boot

CAUTION

To prevent damage to the lift system when lowering header lift linkages without a header or weight box attached to the windrower, ensure the float engagement pin is installed in storage position (B) and NOT in engaged position (A).

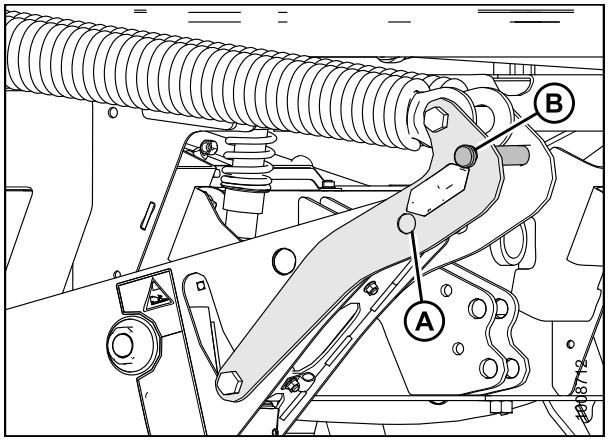

Figure 3.235: Header Float Linkage

CAUTION

Check to be sure all bystanders have cleared the area.

2. Start the engine and activate the HEADER DOWN button (A) on the ground speed lever (GSL) to fully retract header lift cylinders.

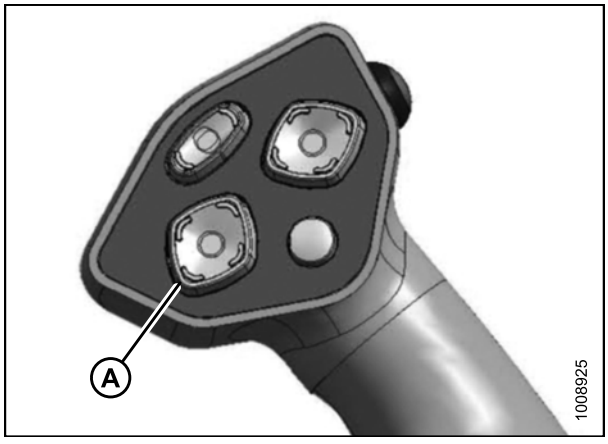

Figure 3.236: Ground Speed Lever

3. Drive the windrower slowly forward until the windrower feet (A) enter the header boots (B). Continue driving slowly forward until the feet engage the boots and the header nudges forward.

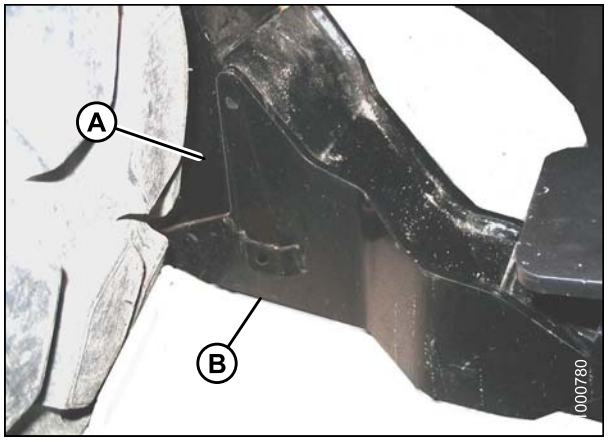

Figure 3.237: Header Boot

4. Stop engine and remove key from ignition.
5. Loosen nut (A) and rotate barrel (B) to adjust length until the link is aligned with the header bracket.
6. Install clevis pin (C) and secure with cotter pin (D).
7. Adjust length of link to achieve proper header angle by rotating barrel (B). Tighten nut (A) against barrel (a slight tap with a hammer is sufficient).

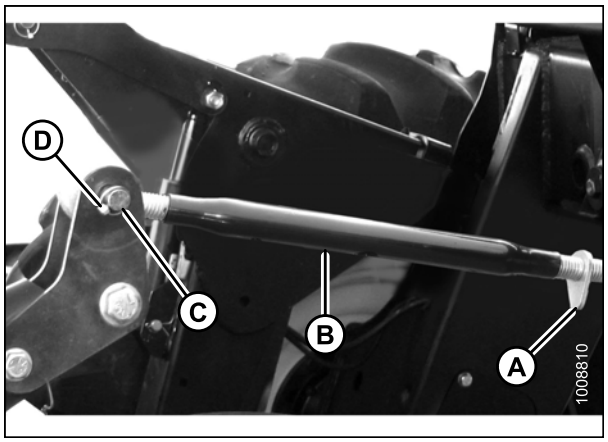

Figure 3.238: Mechanical Center-Link

CAUTION

Check to be sure all bystanders have cleared the area.

8. Start the engine.
9. Press the HEADER UP switch (A) to raise header to maximum height.

NOTE:
If one end of the header does **NOT** fully rise, rephase the lift cylinders as follows:

a. Press and hold the HEADER UP switch until both cylinders stop moving.

b. Continue to hold the switch for 3–4 seconds. Cylinders are now phased.

NOTE:
It may be necessary to repeat this procedure if there is air in the system.

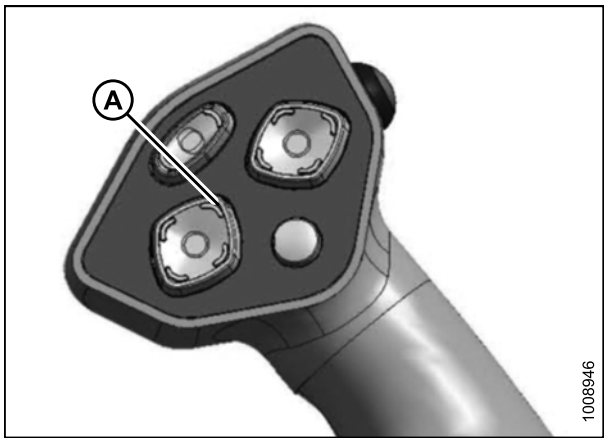

Figure 3.239: Ground Speed Lever

10. Engage safety props on both lift cylinders as follows:
    a. Stop engine and remove key from ignition.
    b. Pull lever (A) and rotate towards the header to release and lower safety prop (B) onto the lift cylinder.
    c. Repeat for opposite lift cylinder.

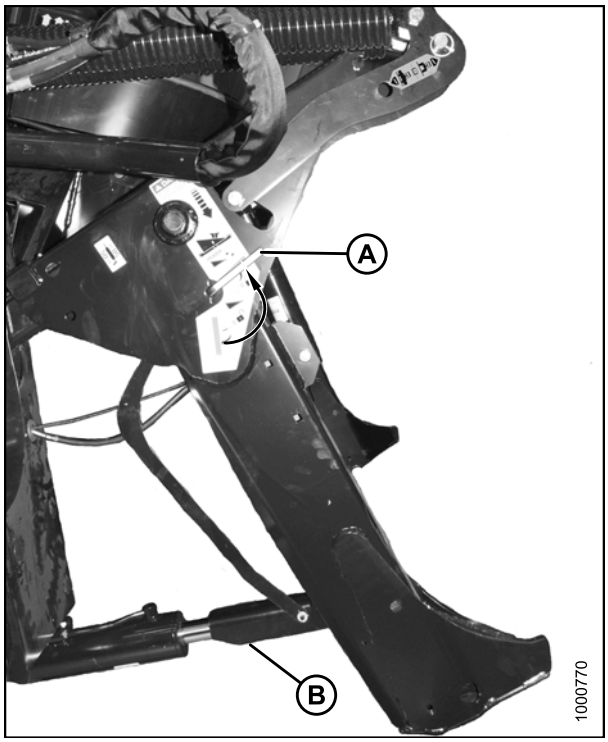

Figure 3.240: Safety Prop

11. Install clevis pin (A) through boot and foot and secure with hairpin. Repeat for opposite boot.

    IMPORTANT:
    Ensure clevis pin (A) is fully inserted and hairpin is installed behind bracket.

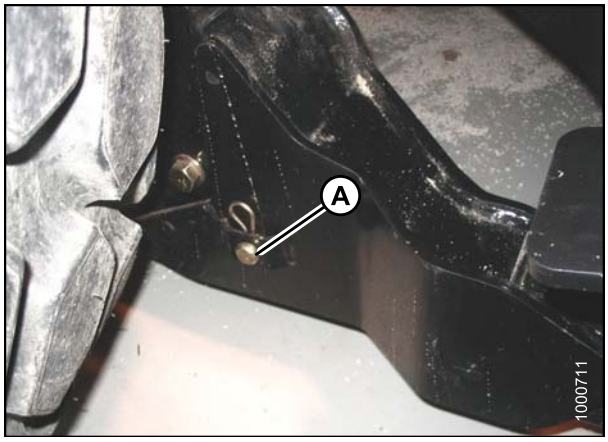

Figure 3.241: Header Boot

12. Remove lynch pin from clevis pin (A) in stand (B).
13. Hold stand (B) and remove pin (A).
14. Move stand (B) to storage position by inverting and relocating onto bracket as shown. Reinsert clevis pin (A) and secure with lynch pin.

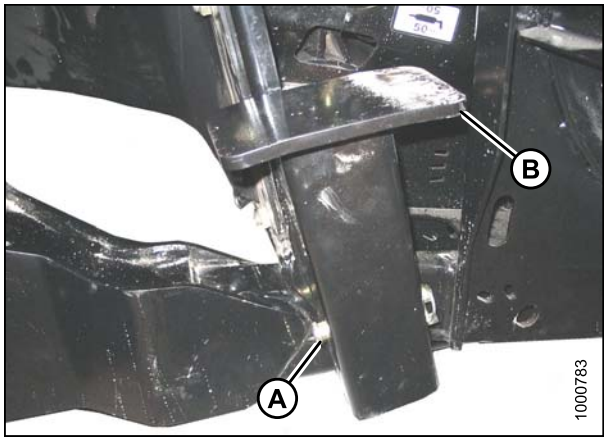

Figure 3.242: Header Stand

15. Remove clevis pin from storage position (B) in linkage and insert into hole (A) to engage float springs. Secure with hairpin.

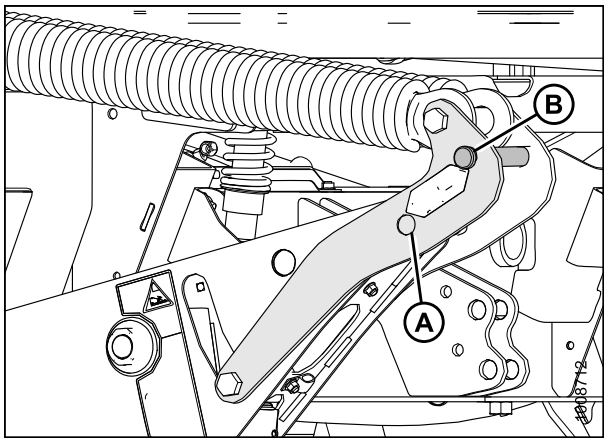

Figure 3.243: Header Float Linkage

16. Disengage safety prop by turning lever (A) downwards to release and lower stop until lever locks into vertical position.
17. Repeat for opposite safety prop.

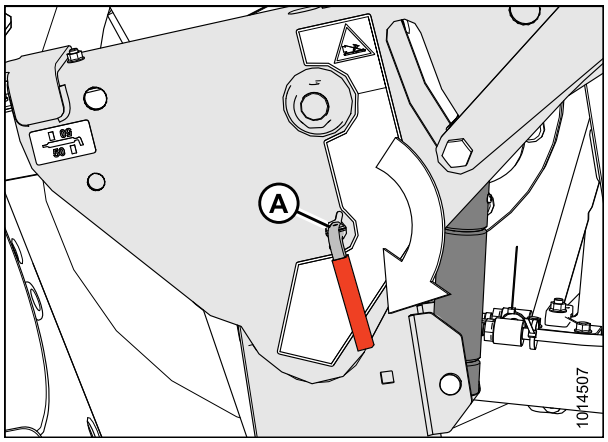

Figure 3.244: Safety Prop

CAUTION

Check to be sure all bystanders have cleared the area.

18. Start the engine and activate the HEADER DOWN switch (A) on the GSL to fully lower the header.
19. Stop engine and remove key from ignition.

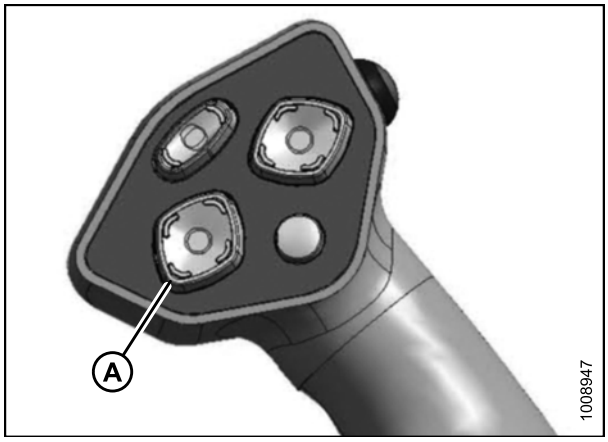

Figure 3.245: Ground Speed Lever

20. Connect header drive hoses (A) and electrical harness (B) to header. Refer to the draper header operator's manual.

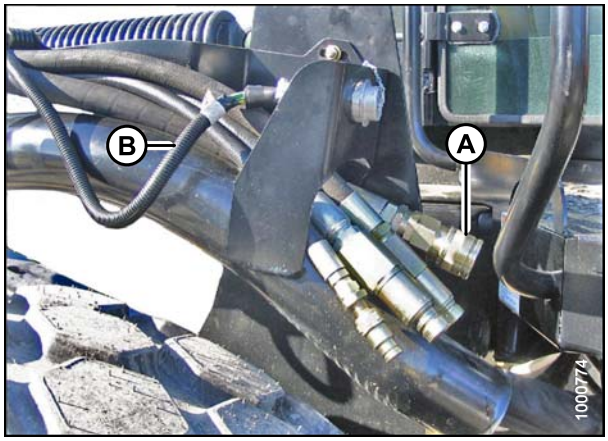

Figure 3.246: Header Drive Hoses and Harness

3.21.4 Attaching an R-Series Header

Only a 13-foot R-Series Rotary Disc Header (R80 and R85) can be attached to an M155 Self-Propelled Windrower. Certain 13- and 16-foot R-Series Rotary Disc Headers can be attached to an M205 Self-Propelled Windrower. The M105 Self-Propelled Windrower can **NOT** operate an R-Series header. For attachment procedure, refer to the section for your specific windrower model.

NOTE:
The 18.4 x 26 drive tire (MD #B5447) is recommended on the M155 and M205 Self-Propelled Windrower when operated with a 13-foot R-Series Rotary Disc Header. These drive tires are reversible and should be mounted inset at 3792 mm (149.3 in.) to provide maximum clearance to uncut crop. Mounting these tires outset or mounting all other drive tire options will result in windrower tires slightly wider than the header width. This may cause some uncut crop to be trampled by tires in turns and corners during windrower operation, and may leave some uncut strips of crop in the windrower's next pass.

M155 Self-Propelled Windrower

The M155 Self-Propelled Windrower can operate 13-foot R80 and R85 Rotary Disc Headers **only**. These headers are shipped without the motor or hoses installed, so a separate motor, hose bundle, and hydraulic valve kit is required to operate the header.

If necessary, obtain the following kits and install them in accordance with the instructions supplied with the kits.

Table 3.2 Rotary Disc Header Bundles

Kit Description	Kit Number
Hydraulic Drive kit	MD #B5510
Hydraulic Valve kit	MD #B4657

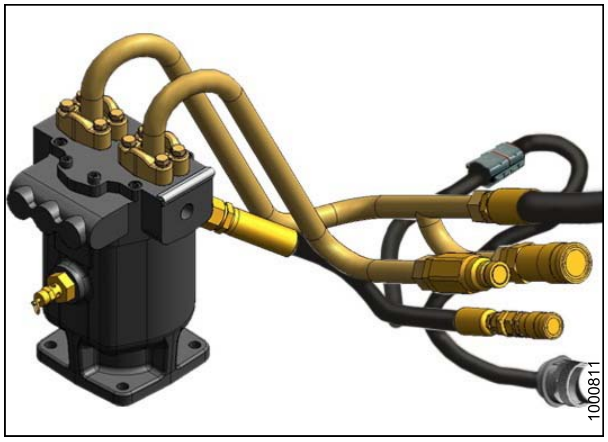

Figure 3.247: M155 Hydraulic Drive Kit (MD #B5510)

Refer to the following instructions based on the type of center-link installed on your windrower:

- *Attaching an R-Series HeaderHydraulic Center-Link with Optional Self-Alignment, page 133*
- *Attaching an R-Series Header: Hydraulic Center-Link without Self-Alignment, page 138*
- *Attaching an R-Series Header: Mechanical Center-Link, page 144*

M205 Self-Propelled Windrower

The M205 Self-Propelled Windrower is factory-equipped with hydraulics and connections to run the R-Series Rotary Disc Headers.

The R85 16-foot header is factory-equipped with the hydraulic connections for attachment to the windrower.

The R85 13-foot header and the R80 13- and 16-foot headers are shipped without the motor and hoses installed and the installation of a separate motor and hose bundle is necessary.

If required, obtain Hydraulic Drive kit (MD #B5456) and install it in accordance with the instructions supplied with the kit.

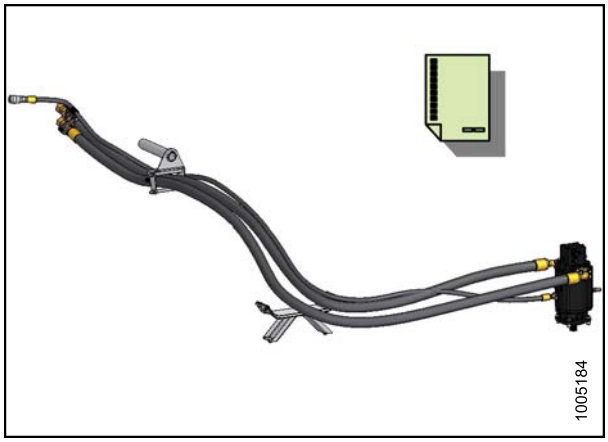

Figure 3.248: M205 Hydraulic Drive Kit (MD #B5456)

Refer to the following instructions based on the type of center-link installed on your windrower:

- *Attaching an R-Series HeaderHydraulic Center-Link with Optional Self-Alignment, page 133*
- *Attaching an R-Series Header: Hydraulic Center-Link without Self-Alignment, page 138*

Attaching an R-Series HeaderHydraulic Center-Link with Optional Self-Alignment

DANGER

To avoid bodily injury or death from 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.

1. Remove hairpin (B) from clevis pin (A) and remove clevis pin from the header boots (C) on both sides of the header.

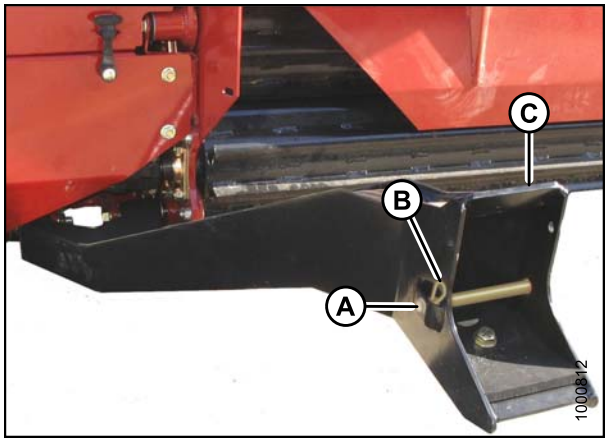

Figure 3.249: Header Boot

CAUTION

To prevent damage to the lift system when lowering header lift linkages without a header or weight box attached to the windrower, ensure the float engagement pin is installed in storage position (B) and NOT in engaged position (A).

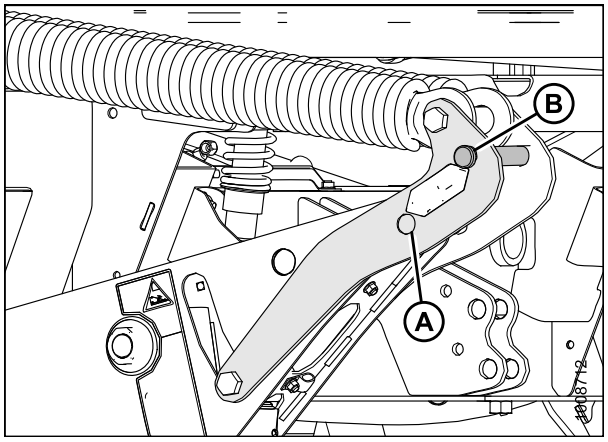

Figure 3.250: Header Float Linkage

CAUTION

Check to be sure all bystanders have cleared the area.

2. Start the engine and activate the HEADER DOWN button (A) on the ground speed lever (GSL) to fully retract header lift cylinders.

   IMPORTANT:
   If the center-link is too low, it may contact the header as the windrower approaches the header for hookup.

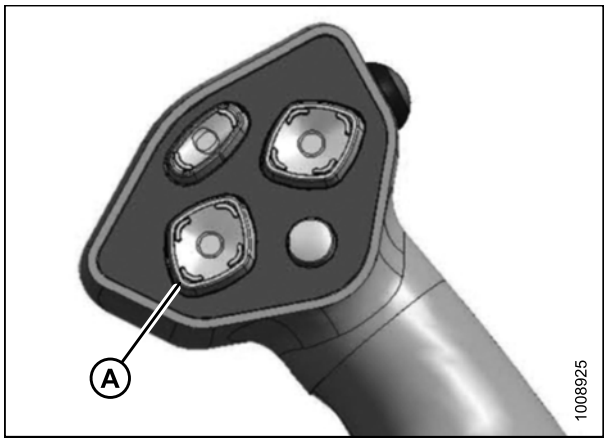

Figure 3.251: Ground Speed Lever

3. Activate the REEL UP switch (A) on the GSL to raise the center-link until the hook is above the attachment pin on the header.

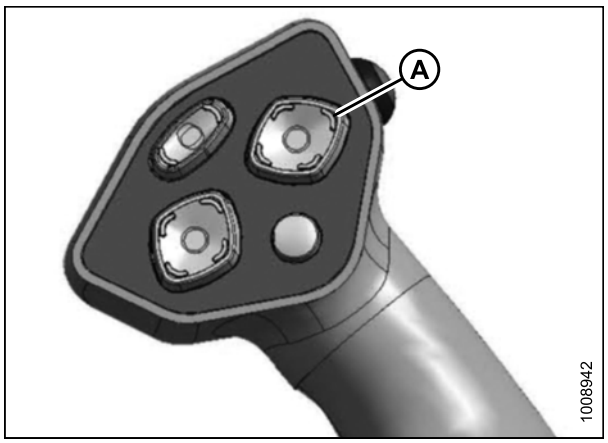

Figure 3.252: Ground Speed Lever

4. Drive the windrower slowly forward until the windrower feet (A) enter the header boots (B). Continue driving slowly forward until the feet engage the boots and the header nudges forward.

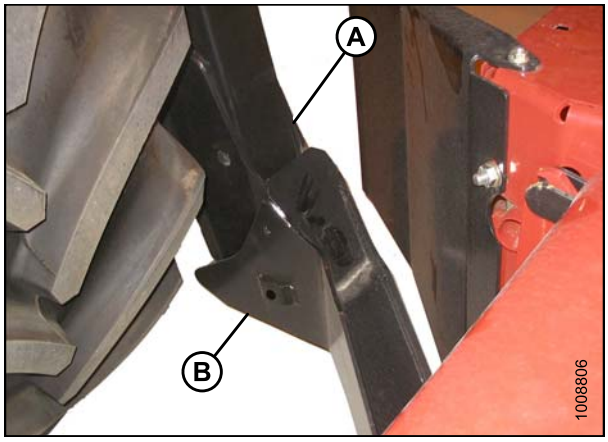

Figure 3.253: Header Boot

5. Use the following GSL functions to position the center-link hook above the header attachment pin:
   - Reel up (A) to raise the center-link
   - Reel down (B) to lower the center-link
   - Header tilt up (C) to retract the center-link
   - Header tilt down (D) to extend the center-link

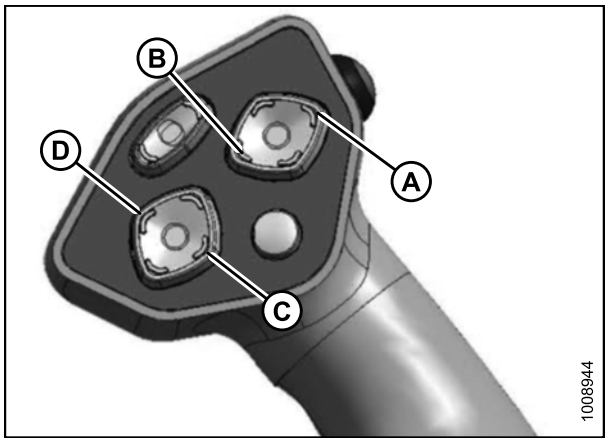

Figure 3.254: Ground Speed Lever

6. Adjust position of the center-link cylinder (A) with the REEL UP and REEL DOWN switches on the GSL until the hook is positioned above the header attachment pin.

   IMPORTANT:
   Hook release must be down to enable self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

7. Lower center-link (A) onto the header with REEL DOWN switch until it locks into position (hook release [B] is down).
8. Check that center-link is locked onto header by pressing the REEL UP switch on the GSL.

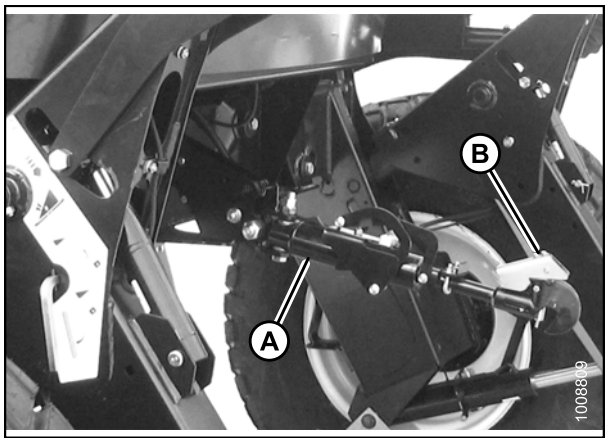

Figure 3.255: Hydraulic Center-Link

CAUTION

Check to be sure all bystanders have cleared the area.

9. Press the HEADER UP switch (A) to raise header to maximum height.

   NOTE:
   If one end of the header does **NOT** fully rise, rephase the lift cylinders as follows:

   a. Press and hold the HEADER UP switch until both cylinders stop moving.

   b. Continue to hold the switch for 3–4 seconds. Cylinders are now phased.

   NOTE:
   It may be necessary to repeat this procedure if there is air in the system.

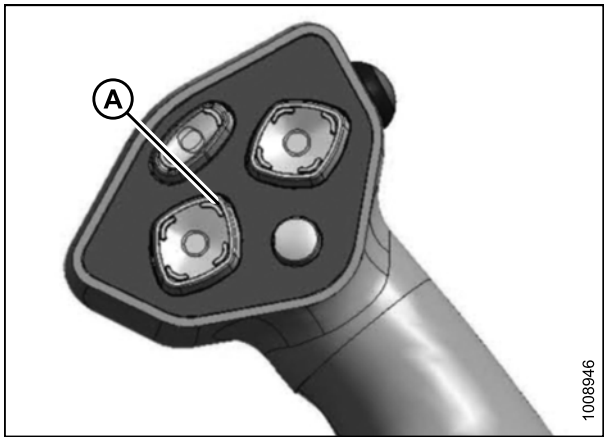

Figure 3.256: Ground Speed Lever

10. Engage safety props on both lift cylinders as follows:

    a. Stop engine and remove key from ignition.

    b. Pull lever (A) and rotate towards the header to release and lower safety prop (B) onto the lift cylinder.

    c. Repeat for opposite lift cylinder.

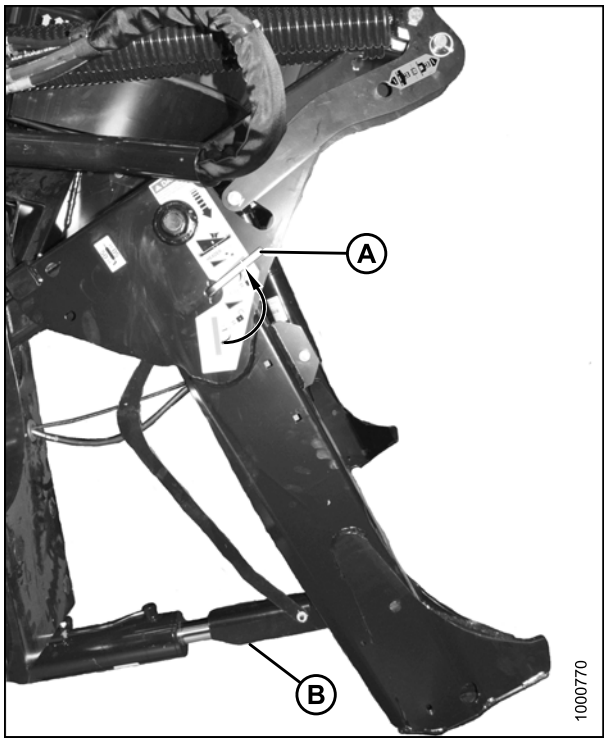

Figure 3.257: Safety Prop

11. Install clevis pin (A) through boot and foot, and secure with hairpin (B). Repeat for opposite side.

    IMPORTANT:
    Ensure clevis pin (A) is fully inserted and hairpin is installed behind bracket.

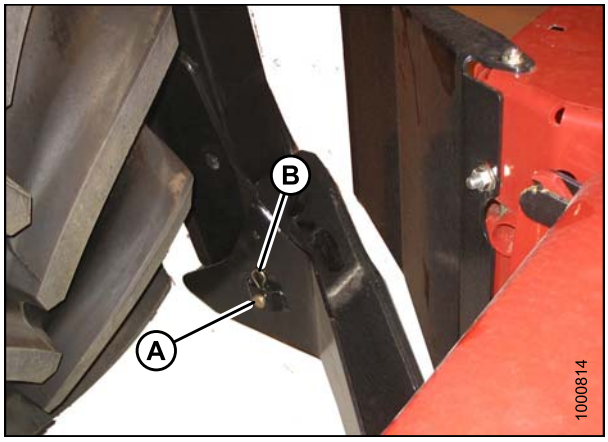

Figure 3.258: Header Boot

12. Remove clevis pin from storage position (B) in linkage and insert into hole (A) to engage float springs. Secure with hairpin.

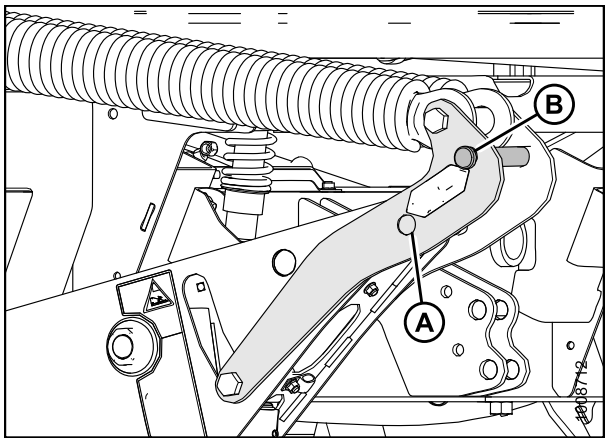

Figure 3.259: Header Float Linkage

13. Disengage safety prop by turning lever (A) downwards to release and lower stop until lever locks into vertical position.
14. Repeat for opposite safety prop.

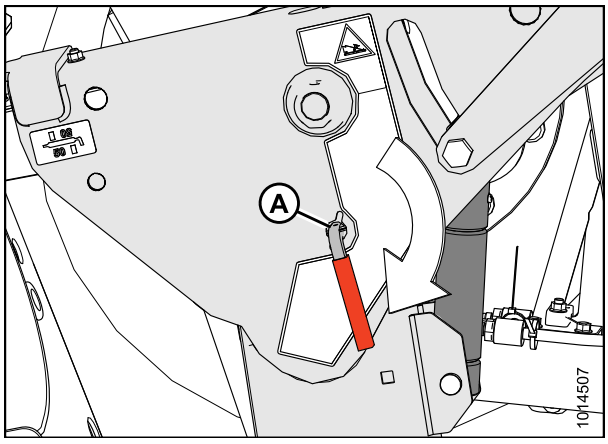

Figure 3.260: Safety Prop

CAUTION

Check to be sure all bystanders have cleared the area.

15. Start the engine and activate the HEADER DOWN switch (A) on the GSL to fully lower the header.
16. Stop engine and remove key from ignition.

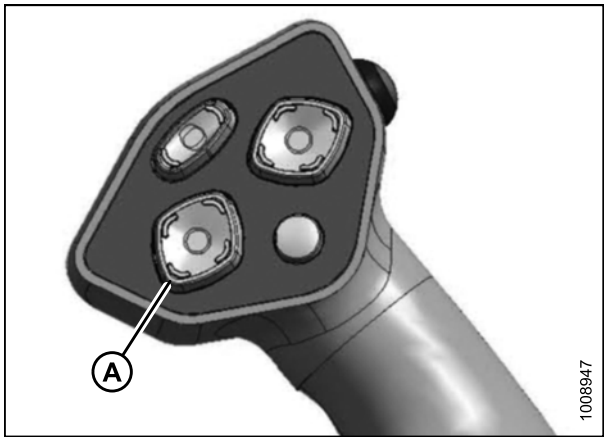

Figure 3.261: Ground Speed Lever

17. Connect header drive hoses (A) and electrical harness (B) to header. Refer to the rotary disc header operator's manual.

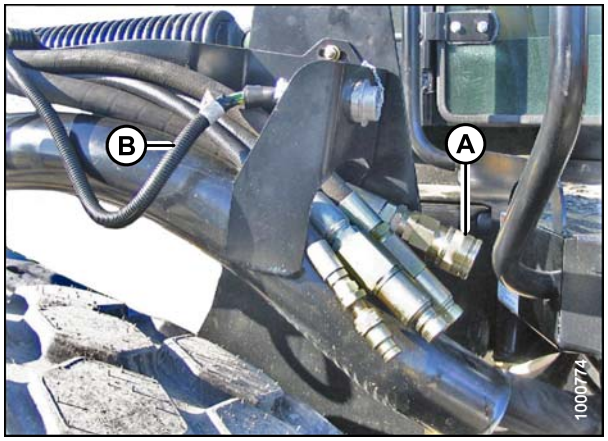

Figure 3.262: Header Drive Hoses and Harness

18. Connect the header drive hoses and electrical harness (A) to the header. Refer to the rotary disc header operator's manual.

Figure 3.263: Header Connections

Attaching an R-Series Header: Hydraulic Center-Link without Self-Alignment

DANGER

To avoid bodily injury or death from 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.

1. Remove hairpin (B) from clevis pin (A) and remove clevis pin from the header boots (C) on both sides of the header.

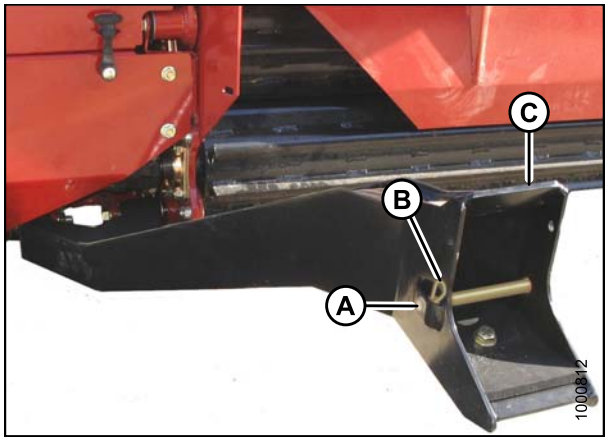

Figure 3.264: Header Boot

CAUTION

To prevent damage to the lift system when lowering header lift linkages without a header or weight box attached to the windrower, ensure the float engagement pin is installed in storage position (B) and NOT in engaged position (A).

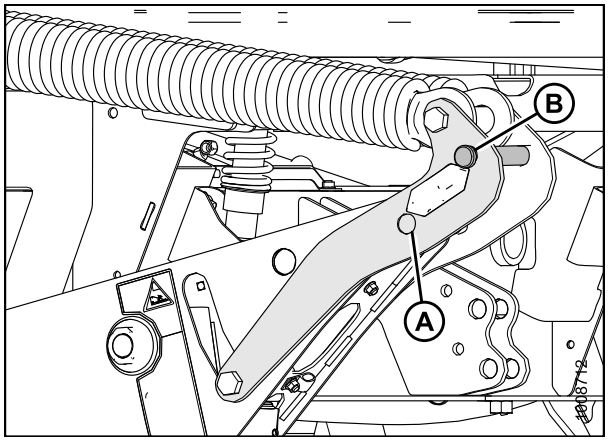

Figure 3.265: Header Float Linkage

CAUTION

Check to be sure all bystanders have cleared the area.

2. Start the engine and activate the HEADER DOWN button (A) on the ground speed lever (GSL) to fully retract header lift cylinders.

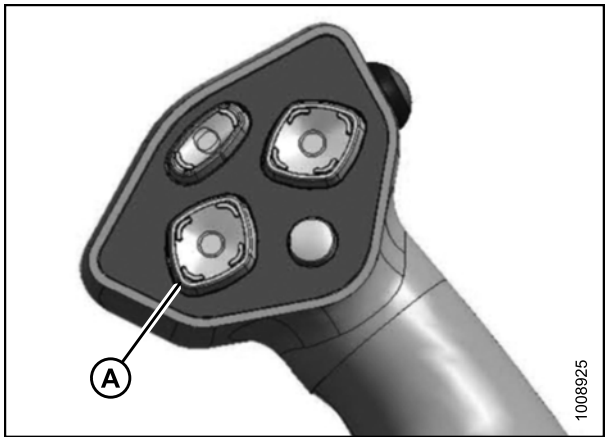

Figure 3.266: Ground Speed Lever

3. Relocate pin (A) in frame linkage as required to raise the center-link (B) until the hook is above the attachment pin on the header.

   IMPORTANT:
   If the center-link is too low, it may contact the header as the windrower approaches the header for hookup.

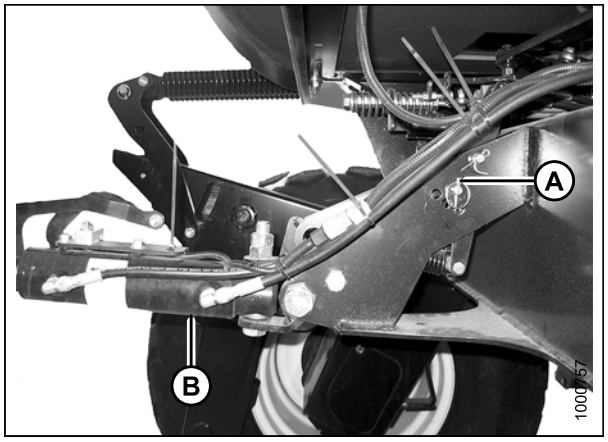

Figure 3.267: Hydraulic Center-Link without Self-Alignment Kit

4. Drive the windrower slowly forward until the windrower feet (A) enter the header boots (B). Continue driving slowly forward until the feet engage the boots and the header nudges forward.

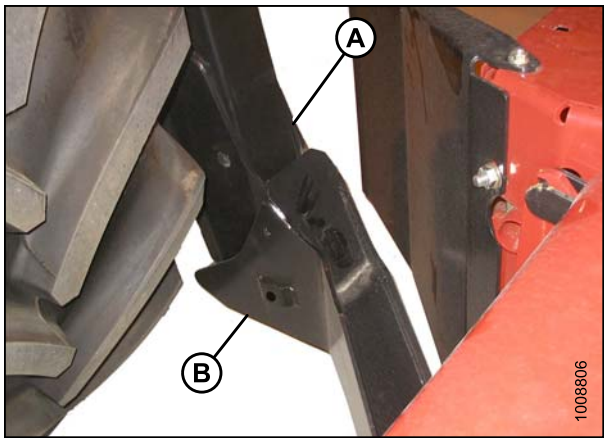

Figure 3.268: Header Boot

5. Use the following GSL functions to position the center-link hook above the header attachment pin:
   - Header tilt up (A) to retract the center-link
   - Header tilt down (B) to extend the center-link
6. Stop engine and remove key from ignition.

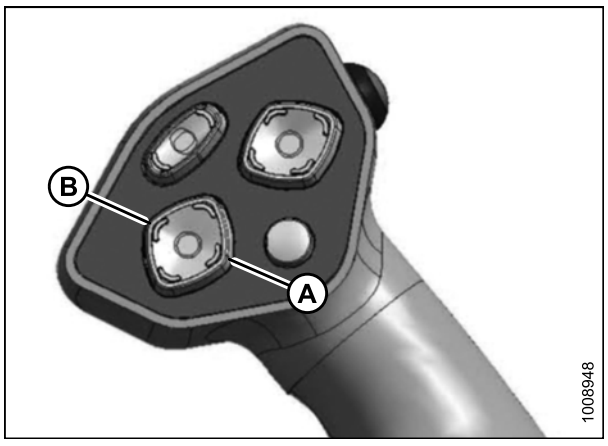

Figure 3.269: Ground Speed Lever

7. Push down on rod end of link cylinder (B) until hook engages and locks onto header pin.

   IMPORTANT:
   Hook release must be down to enable self-locking mechanism. If the release is open (up), manually push it down after hook engages header pin.

8. Check that center-link (A) is locked onto header by pulling upward on rod end (B) of cylinder.

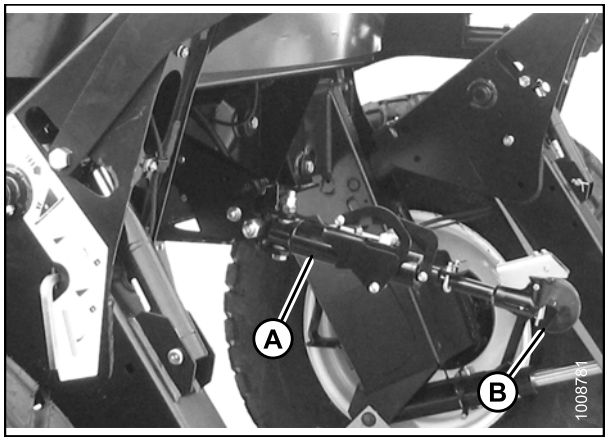

Figure 3.270: Hydraulic Center-Link

CAUTION

Check to be sure all bystanders have cleared the area.

9. Start the engine.
10. Press the HEADER UP switch (A) to raise header to maximum height.

    NOTE:
    If one end of the header does **NOT** fully rise, rephase the lift cylinders as follows:

    a. Press and hold the HEADER UP switch until both cylinders stop moving.

    b. Continue to hold the switch for 3–4 seconds. Cylinders are now phased.

    NOTE:
    It may be necessary to repeat this procedure if there is air in the system.

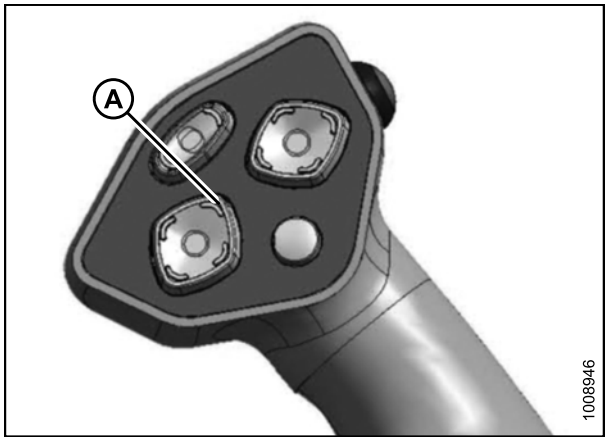

Figure 3.271: Ground Speed Lever

11. Engage safety props on both lift cylinders as follows:
    a. Stop engine and remove key from ignition.
    b. Pull lever (A) and rotate towards the header to release and lower safety prop (B) onto the lift cylinder.
    c. Repeat for opposite lift cylinder.

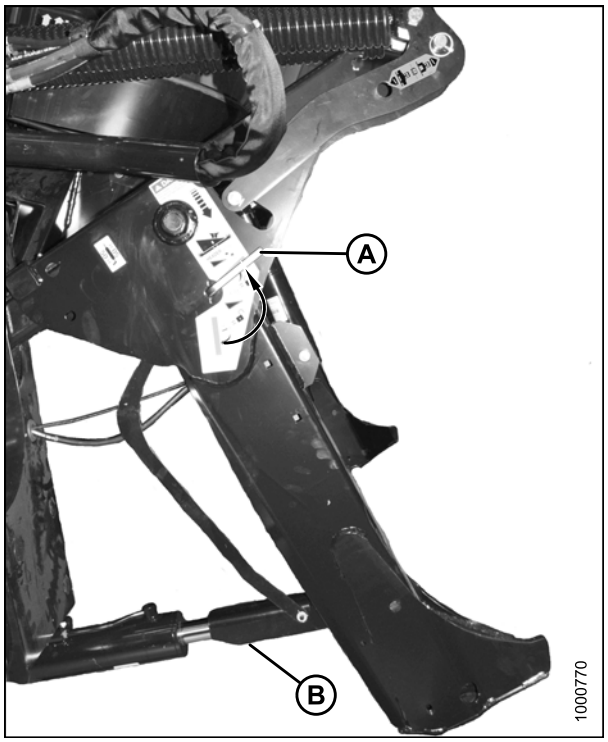

Figure 3.272: Safety Prop

12. Install clevis pin (A) through boot and foot, and secure with hairpin (B). Repeat for opposite side.

    IMPORTANT:
    Ensure clevis pin (A) is fully inserted and hairpin is installed behind bracket.

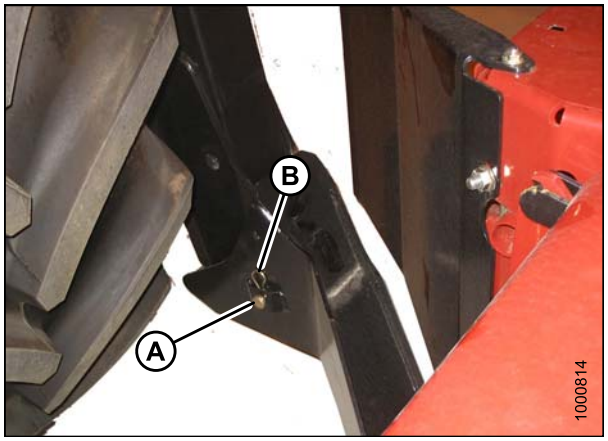

Figure 3.273: Header Boot

13. Remove clevis pin from storage position (B) in linkage and insert into hole (A) to engage float springs. Secure with hairpin.

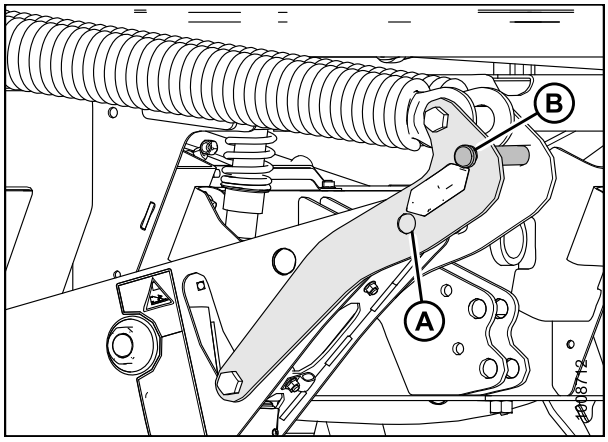

Figure 3.274: Header Float Linkage

14. Disengage safety prop by turning lever (A) downwards to release and lower stop until lever locks into vertical position.
15. Repeat for opposite safety prop.

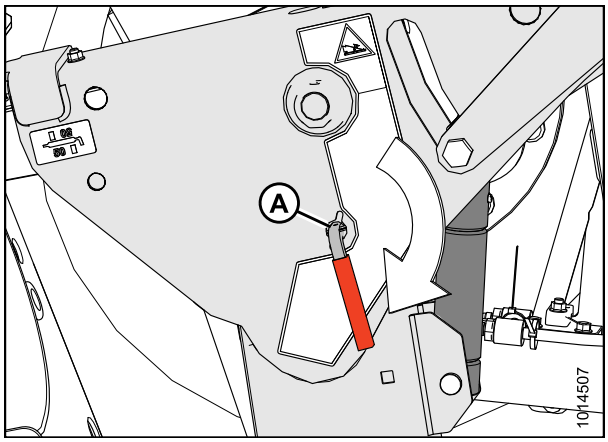

Figure 3.275: Safety Prop

CAUTION

Check to be sure all bystanders have cleared the area.

16. Start the engine and activate the HEADER DOWN switch (A) on the GSL to fully lower the header.
17. Stop engine and remove key from ignition.

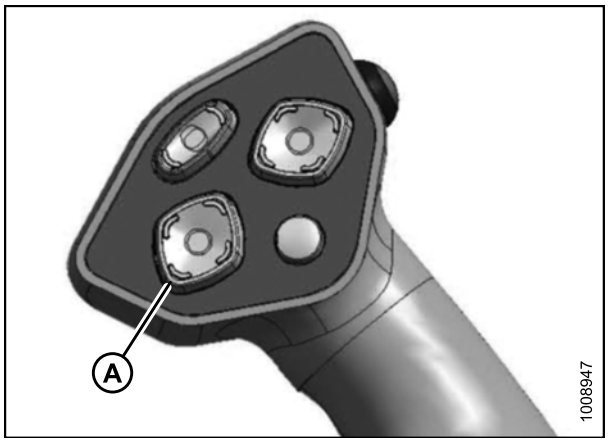

Figure 3.276: Ground Speed Lever

18. Connect header drive hoses (A) and electrical harness (B) to header. Refer to the rotary disc header operator's manual.

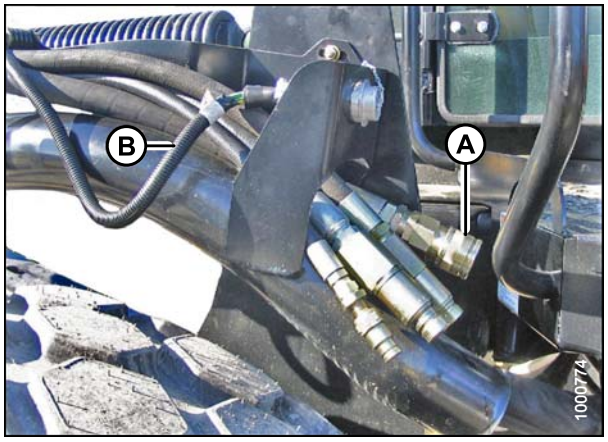

Figure 3.277: Header Drive Hoses and Harness

19. Connect the header drive hoses and electrical harness (A) to the header. Refer to the rotary disc header operator's manual.

Figure 3.278: Header Connections

Attaching an R-Series Header: Mechanical Center-Link

DANGER

To avoid bodily injury or death from 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.

1. Remove hairpin (B) from clevis pin (A) and remove clevis pin from the header boots (C) on both sides of the header.

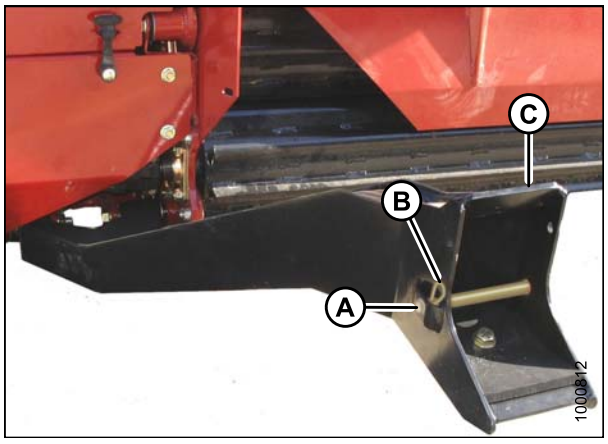

Figure 3.279: Header Boot

CAUTION

To prevent damage to the lift system when lowering header lift linkages without a header or weight box attached to the windrower, ensure the float engagement pin is installed in storage position (B) and NOT in engaged position (A).

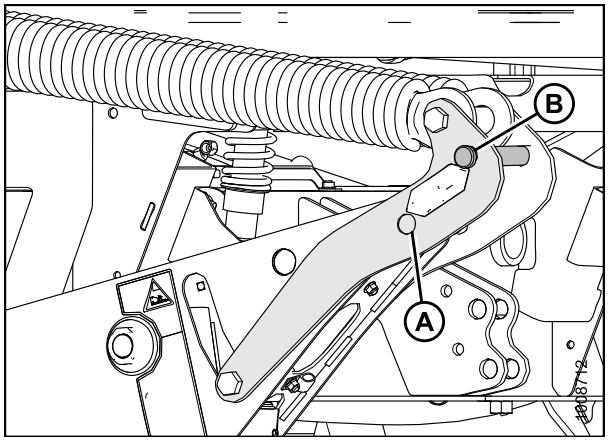

Figure 3.280: Header Float Linkage

CAUTION

Check to be sure all bystanders have cleared the area.

2. Start the engine and activate the HEADER DOWN button (A) on the ground speed lever (GSL) to fully retract header lift cylinders.

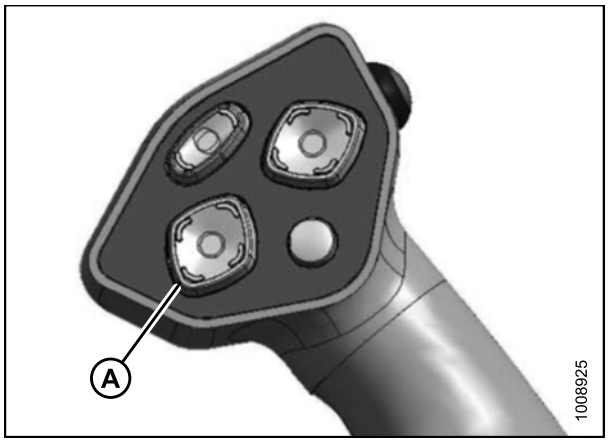

Figure 3.281: Ground Speed Lever

3. Drive the windrower slowly forward until the windrower feet (A) enter the header boots (B). Continue driving slowly forward until the feet engage the boots and the header nudges forward.

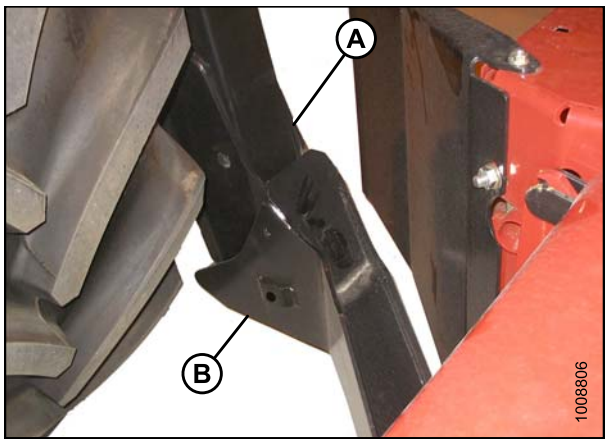

Figure 3.282: Header Boot

4. Stop engine and remove key from ignition.
5. Loosen nut (A) and rotate barrel (B) to adjust length until the link is aligned with the header bracket.
6. Install clevis pin (C) and secure with cotter pin (D).
7. Adjust length of link to achieve proper header angle by rotating barrel (B). Tighten nut (A) against barrel (a slight tap with a hammer is sufficient).

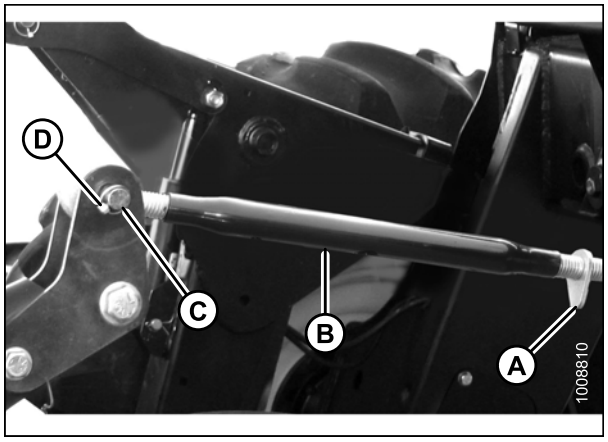

Figure 3.283: Mechanical Center-Link

CAUTION

Check to be sure all bystanders have cleared the area.

8. Start the engine.
9. Press the HEADER UP switch (A) to raise header to maximum height.

NOTE:
If one end of the header does **NOT** fully rise, rephase the lift cylinders as follows:

a. Press and hold the HEADER UP switch until both cylinders stop moving.

b. Continue to hold the switch for 3–4 seconds. Cylinders are now phased.

NOTE:
It may be necessary to repeat this procedure if there is air in the system.

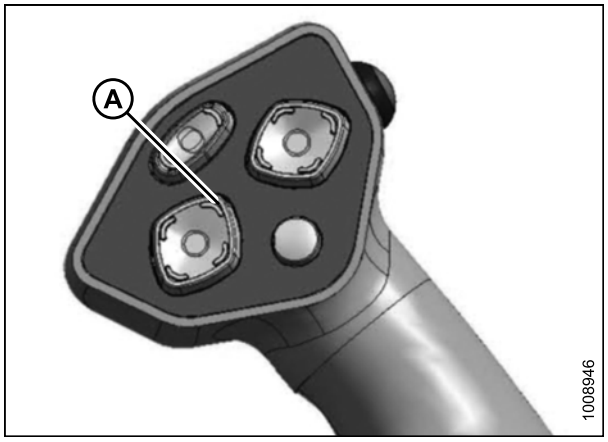

Figure 3.284: Ground Speed Lever

10. Engage safety props on both lift cylinders as follows:
    a. Stop engine and remove key from ignition.
    b. Pull lever (A) and rotate towards the header to release and lower safety prop (B) onto the lift cylinder.
    c. Repeat for opposite lift cylinder.

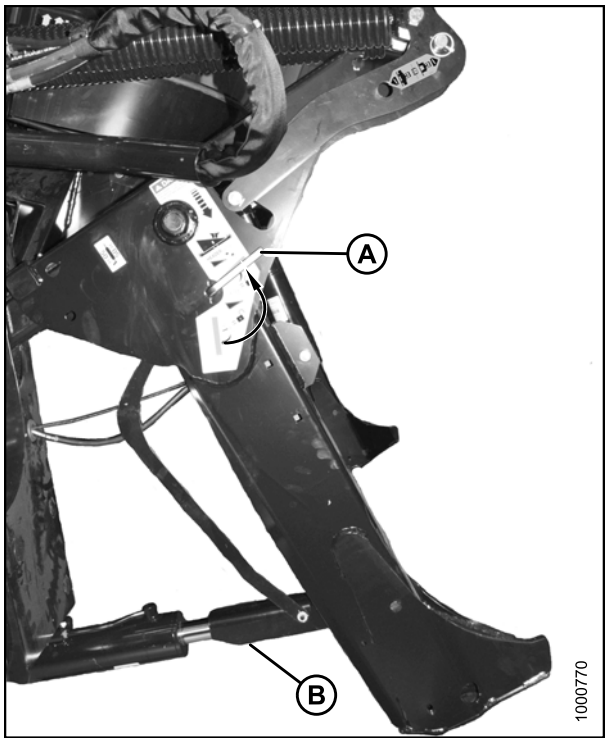

Figure 3.285: Safety Prop

11. Install clevis pin (A) through boot and foot, and secure with hairpin (B). Repeat for opposite side.

    IMPORTANT:
    Ensure clevis pin (A) is fully inserted and hairpin is installed behind bracket.

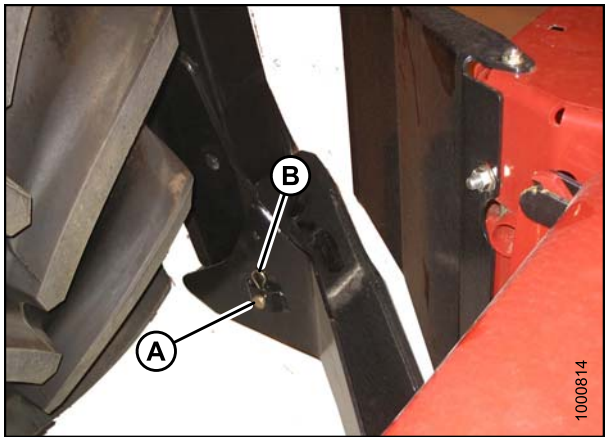

Figure 3.286: Header Boot

12. Remove clevis pin from storage position (B) in linkage and insert into hole (A) to engage float springs. Secure with hairpin.

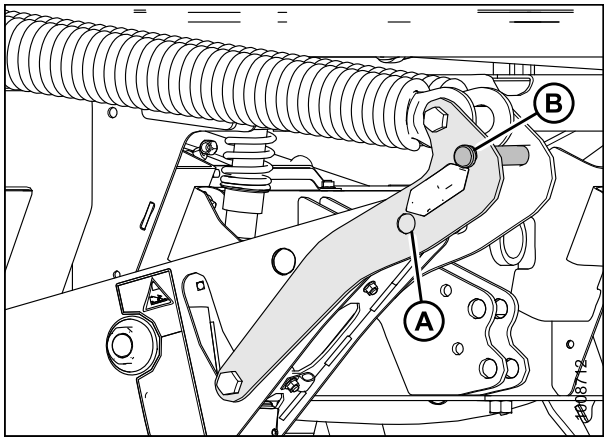

Figure 3.287: Header Float Linkage

13. Disengage safety prop by turning lever (A) downwards to release and lower stop until lever locks into vertical position.
14. Repeat for opposite safety prop.

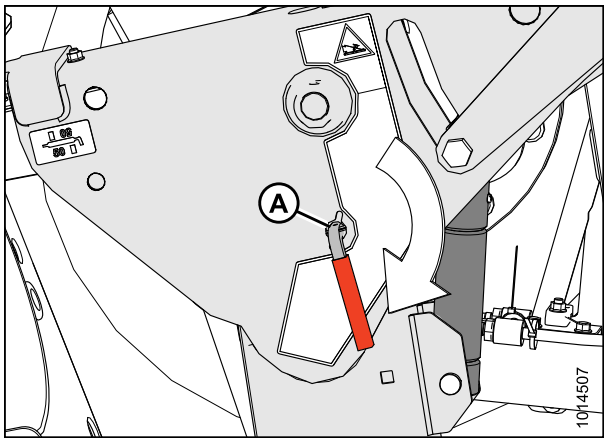

Figure 3.288: Safety Prop

CAUTION

Check to be sure all bystanders have cleared the area.

15. Start the engine and activate the HEADER DOWN switch (A) on the GSL to fully lower the header.
16. Stop engine and remove key from ignition.

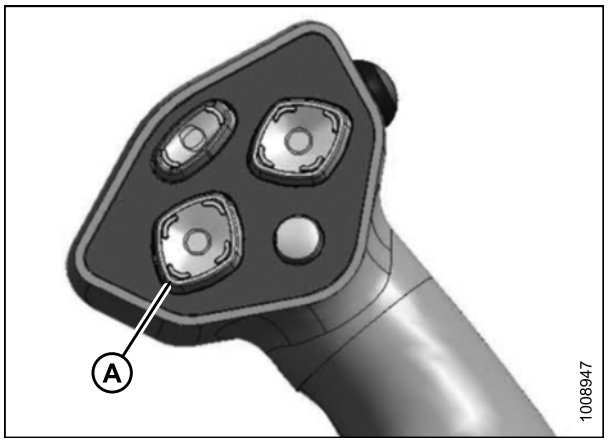

Figure 3.289: Ground Speed Lever

17. Connect header drive hoses (A) and electrical harness (B) to header. Refer to the rotary disc header operator's manual.

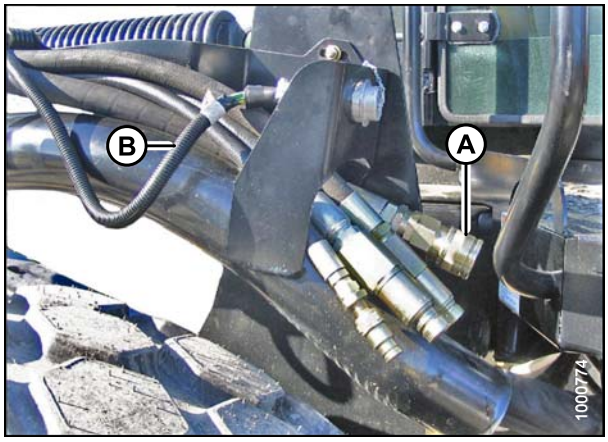

Figure 3.290: Header Drive Hoses and Harness

3.22 Lubricating the Windrower

For grease specification, refer to *6.4 Lubricants, Fluids, and System Capacities, page 374*.

3.22.1 Lubrication Procedure

DANGER

To avoid bodily injury or death from 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.

1. Wipe grease fitting with a clean cloth before greasing to avoid injecting dirt and grit.
2. Inject grease through fitting with grease gun until grease overflows fitting. Do **NOT** overgrease wheel bearings.
3. Leave excess grease on fitting to keep out dirt.
4. Replace any loose or broken fittings immediately.
5. Remove and thoroughly clean any fitting that will not take grease. Also clean lubricant passageway. Replace fitting, if necessary.

3.22.2 Lubrication Points

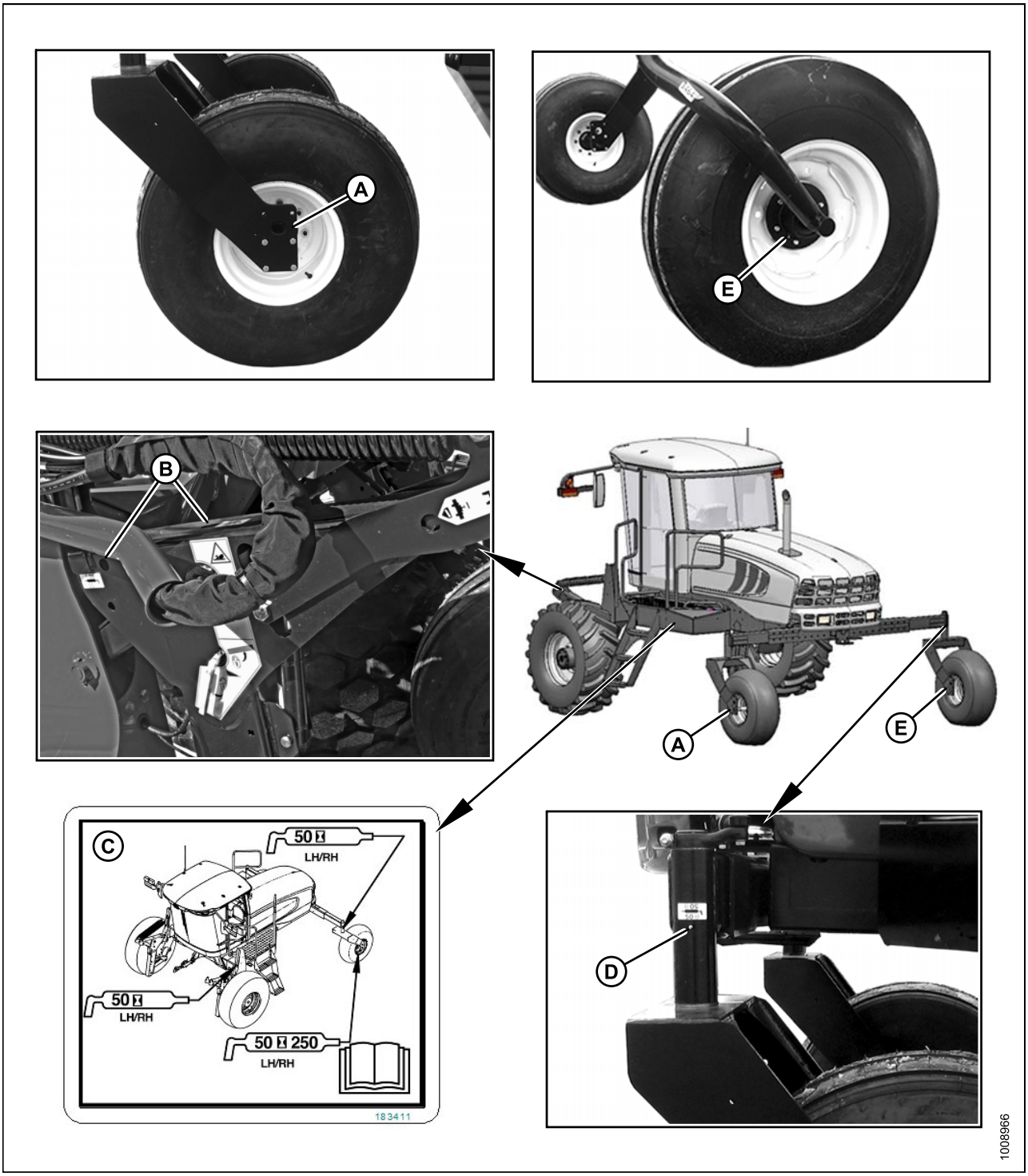

Figure 3.291: Lubrication Points

A - Forked Caster Wheel Bearing (Two Places) (Outer – Both Wheels)
B - Top-Link (2 Places) (Both Sides)
C - Lubrication Decal (MD #183411)
D - Caster Pivot (Both Sides)
E - Forked/Formed Caster Wheel Bearing (Two Places) (Inner – Both Wheels) (50 Hrs/250 Hrs)

4 Cab Display Module (CDM)

Although the other procedures in this manual are intended to be followed in the order in which they are listed, the sections in this chapter can be referred to in any order according to your specific requirements.

4.1 Cab Display Module (CDM) Programming

Figure 4.1: M105 CDM

A - Side Display
B - Main Display
C - Select Switch
D - Menu Item Scroll Forward
E - Menu Item Scroll Backward
F - Program Switch

Figure 4.2: M155/M205 CDM

A - Side Display **B - Main Display** **C - Select Switch**
D - Menu Item Scroll Forward **E - Menu Item Scroll Backward** **F - Program Switch**

Side Display: Displays software revision status.

- Upper line – C### (CDM)
- Lower line – M### X### (WCM)

Main Display: Displays menu item and selection[5].

- Upper line – Menu item
- Lower line – Selection

Select Switch: Places monitor into Program Mode with PROGRAM switch. Press to accept menu item and advance to next item.

Menu Item Scroll Forward: Displays value under menu item.

- Push to scroll forward
- Hold down for fast scroll[6]

Menu Item Scroll Backward: Displays value under menu item.

- Push to scroll backward
- Hold down for fast scroll[6]

Program Switch: Places monitor into program mode. Press while pressing select switch.

5. The current selection is flashing.
6. Fast scroll applies only when changing KNIFE SPEED, OVERLOAD PRESSURE, and TIRE SIZE.

NOTE:
The following menus are available when ignition key is set to RUN:

- WINDROWER SETUP
- CAB DISPLAY SETUP
- DIAGNOSTIC MODE

The CALIBRATE SENSORS menu is available only when engine is running.

4.2 Cab Display Options

The display and sound features of the cab display module (CDM) can be adjusted to suit each particular Operator.

NOTE:
The procedures listed in this section are current for cab display module (CDM) software version C315 (for the M105 and M205) or C500 (for the M155) and windrower control module (WCM) X109 (for the M205) or M221 (for the M155). The WCM is supplied preloaded with the latest released version of the operating software. Any subsequent updates will be made available via internet download from the MacDon Dealer Portal *(https://portal.macdon.com)*.

NOTE:
Screens may appear differently if running newer or older versions of software, and not all features are available on every machine.

4.2.1 Setting the Cab Display Language

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

Figure 4.3: M105 CDM Programming Buttons

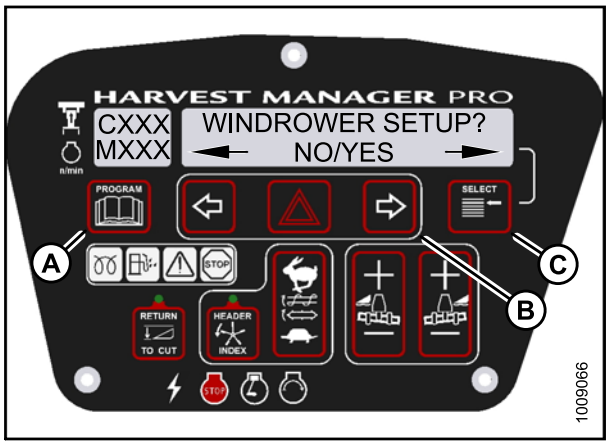

Figure 4.4: M155 CDM Programming Buttons

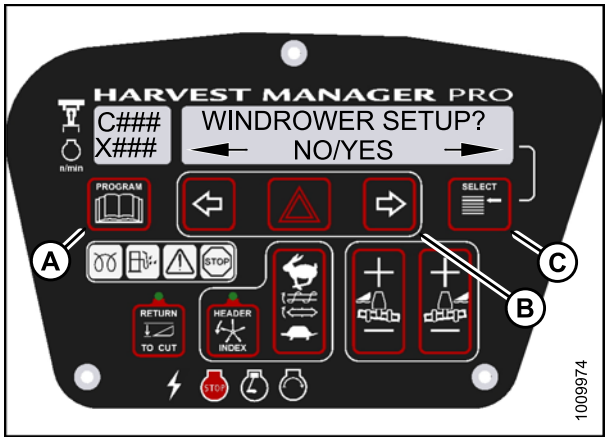

Figure 4.5: M205 CDM Programming Buttons

3. Press SELECT (B) until CAB DISPLAY SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

Figure 4.6: M105 Cab Display Setup

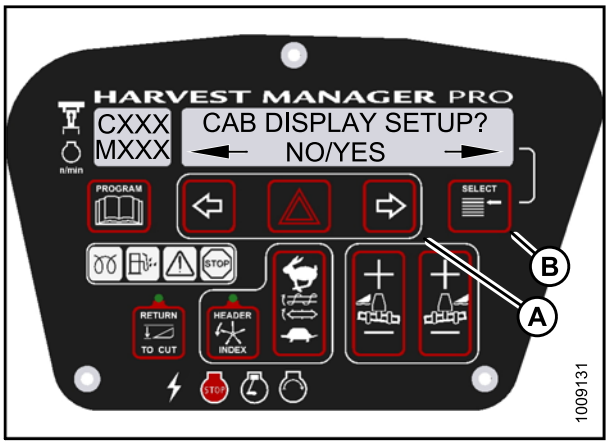

Figure 4.7: M155 Cab Display Setup

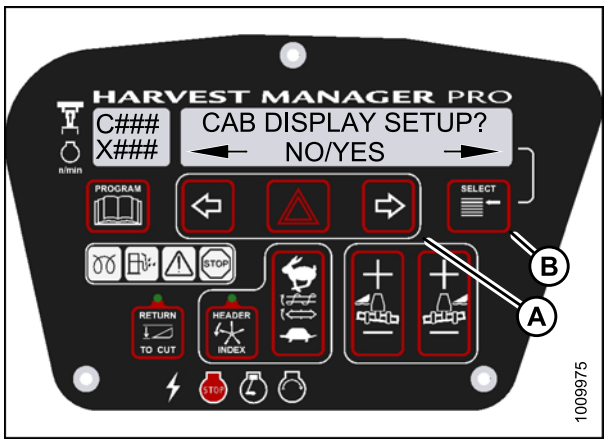

Figure 4.8: M205 CDM Programming Buttons

4. Press right (C) arrow select YES. Press SELECT (D).
   - DISPLAY LANGUAGE? is displayed on the upper line.
   - Default language is displayed on the lower line.
5. Press left (B) or right (C) arrow to select preferred language.

   NOTE:
   English, Russian, and Spanish language options are available on windrowers. Not all language options are available on all windrowers.

6. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next CAB DISPLAY SETUP? action.

Figure 4.9: M105 Display Language

Figure 4.10: M155 Display Language

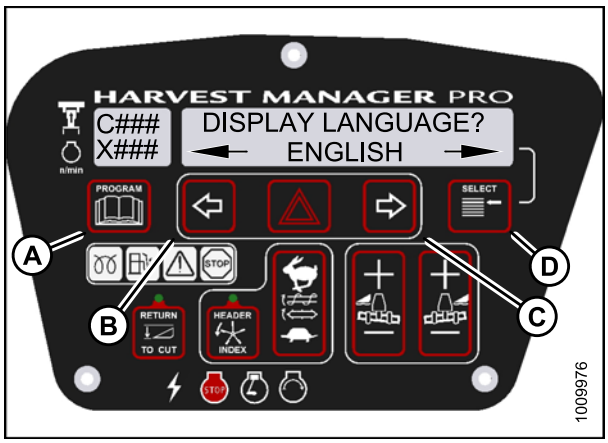

Figure 4.11: M205 CDM Programming Buttons

4.2.2 Changing the Windrower Display Units

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

Figure 4.12: M105 CDM Programming Buttons

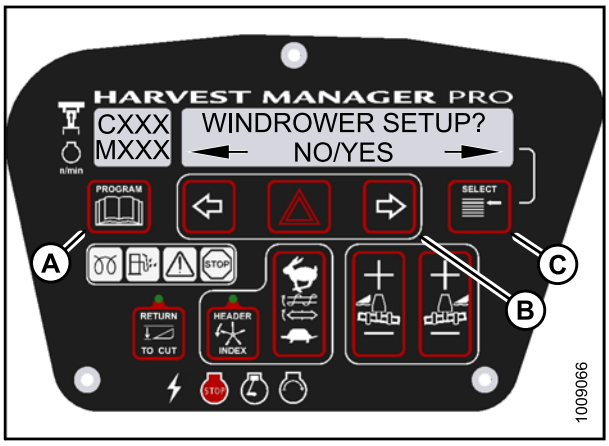

Figure 4.13: M155 CDM Programming Buttons

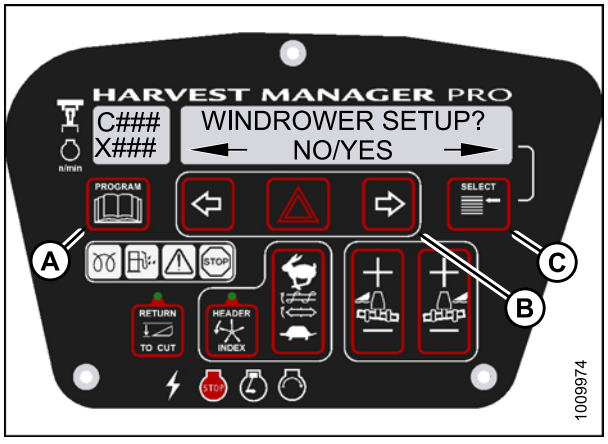

Figure 4.14: M205 CDM Programming Buttons

3. Press SELECT (B) until CAB DISPLAY SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select YES. Press SELECT (B).
   - DISPLAY LANGUAGE? is displayed on the upper line.

Figure 4.15: M105 Cab Display Setup

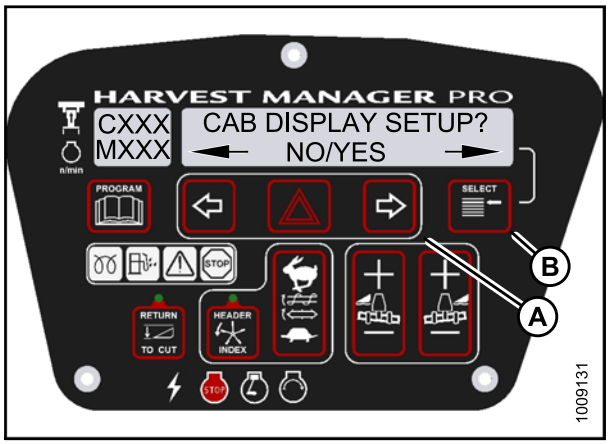

Figure 4.16: M155 Cab Display Setup

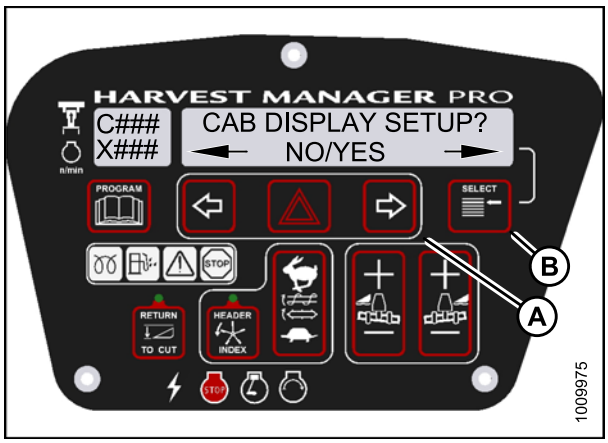

Figure 4.17: M205 Cab Display Setup

5. Press SELECT (D) until DISPLAY UNITS? is displayed on the upper line.
   - Default setting is displayed on the lower line.
6. Press left (B) or right (C) arrow to select either METRIC or IMPERIAL speed display.
7. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next CAB DISPLAY SETUP? action.

Figure 4.18: M105 Display Units

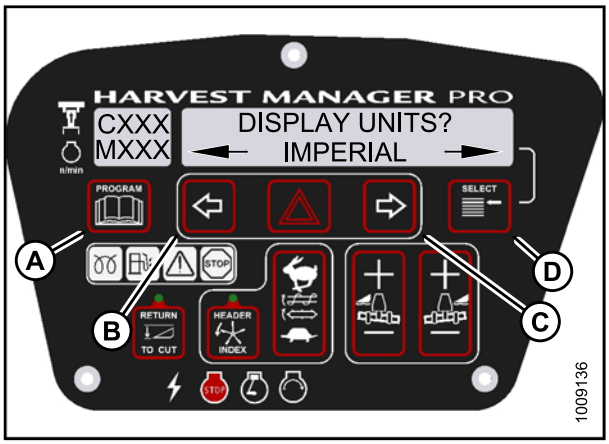

Figure 4.19: M155 Display Units

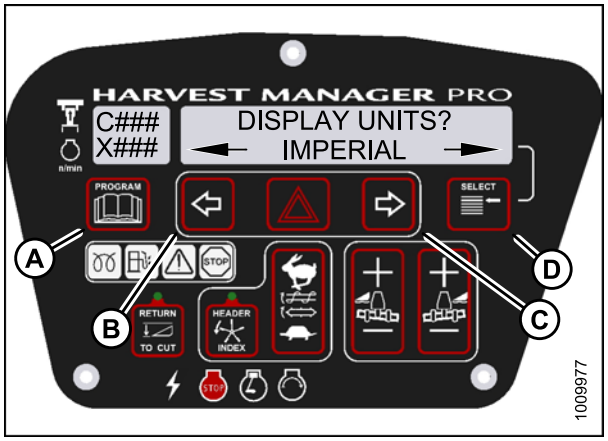

Figure 4.20: M205 Display Units

4.2.3 Adjusting the Cab Display Buzzer Volume

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

Figure 4.21: M105 CDM Programming Buttons

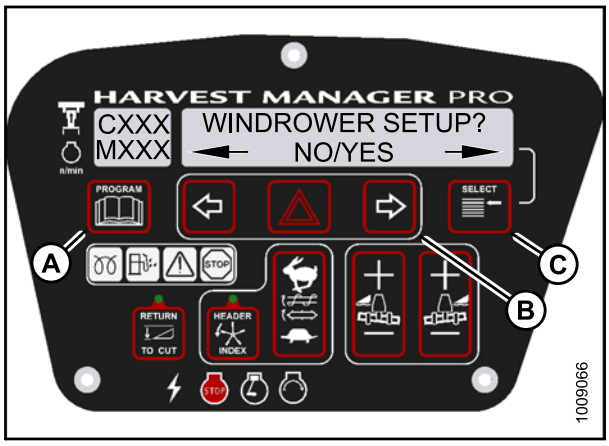

Figure 4.22: M155 CDM Programming Buttons

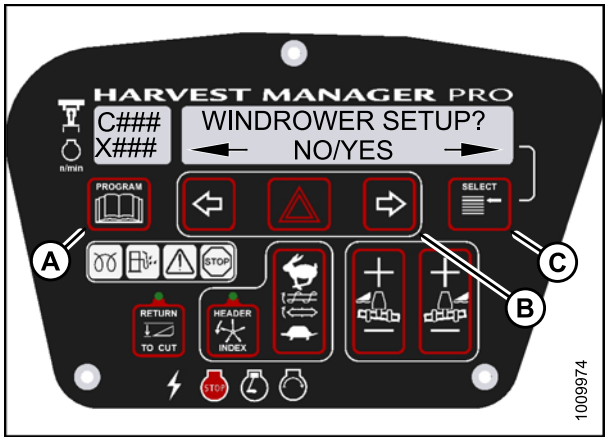

Figure 4.23: M205 CDM Programming Buttons

3. Press SELECT (B) until CAB DISPLAY SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select YES. Press SELECT (B).
   - DISPLAY LANGUAGE? is displayed on the upper line.

Figure 4.24: M105 Cab Display Setup

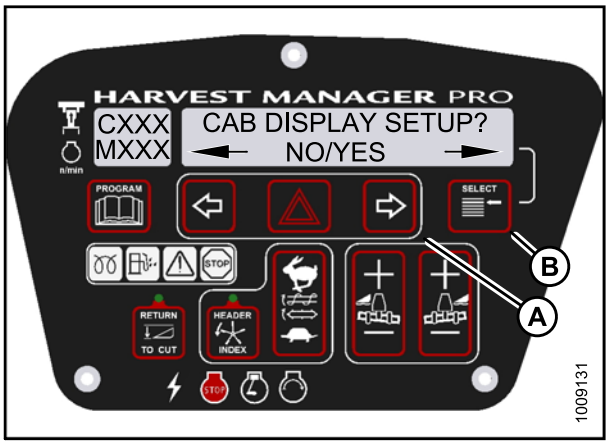

Figure 4.25: M155 Cab Display Setup

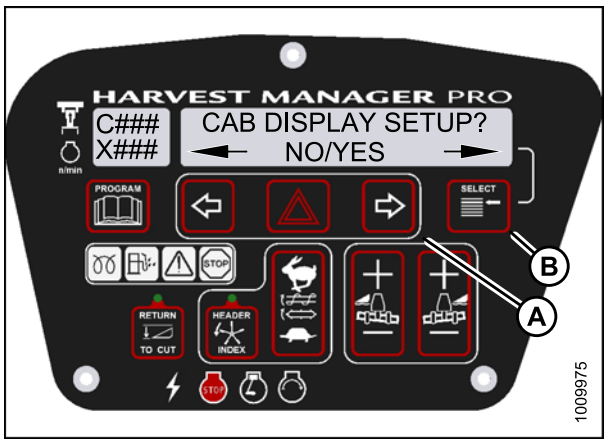

Figure 4.26: M205 Cab Display Setup

5. Press SELECT (D) until BUZZER VOLUME is displayed on the upper line.
   - Previous setting is displayed on the lower line.
6. Press left (B) or right (C) arrows to adjust buzzer volume.
7. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next CAB DISPLAY SETUP? action.

Figure 4.27: M105 Buzzer Volume

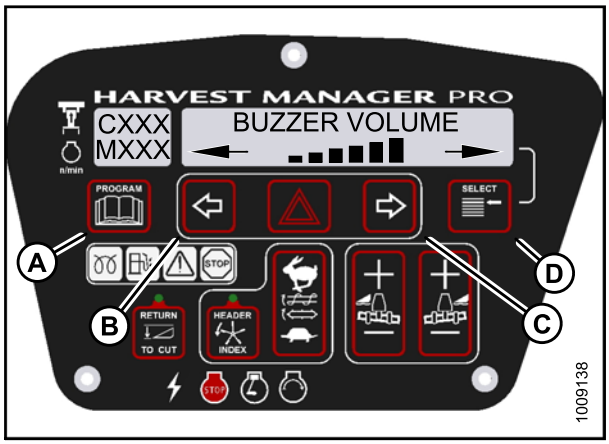

Figure 4.28: M155 Buzzer Volume

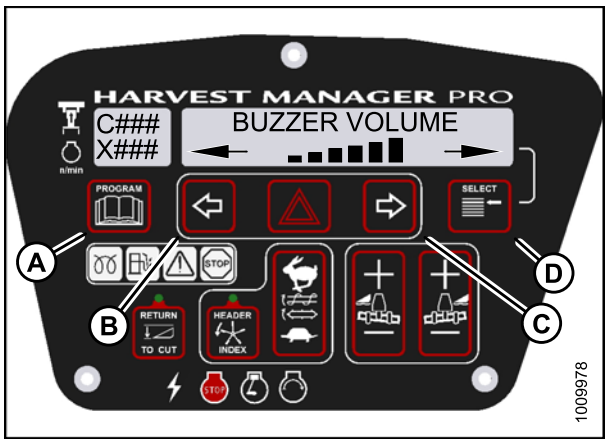

Figure 4.29: M205 Buzzer Volume

4.2.4 Adjusting the Cab Display Backlighting

The backlighting feature brightens the display screen helping you read the cab display module (CDM) in low light situations.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

Figure 4.30: M105 CDM Programming Buttons

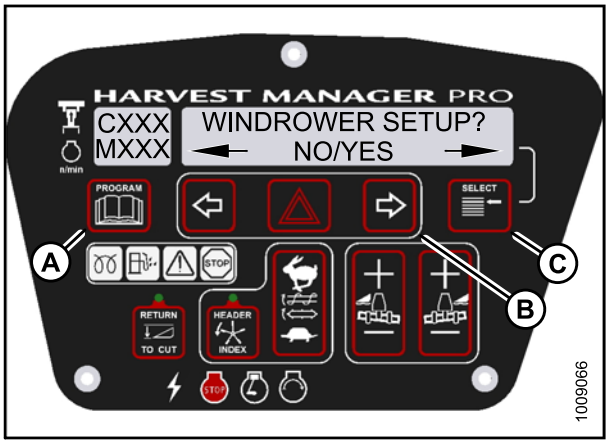

Figure 4.31: M155 CDM Programming Buttons

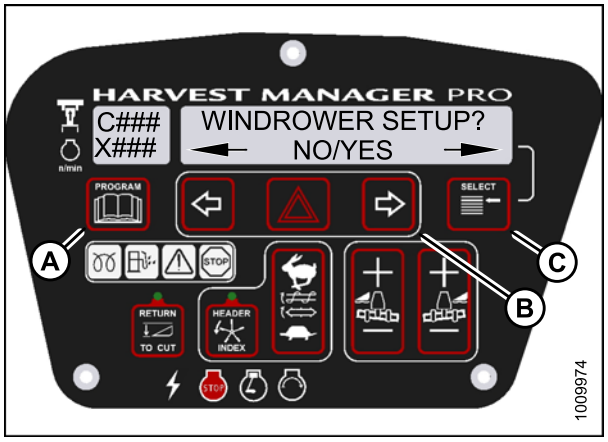

Figure 4.32: M205 CDM Programming Buttons

3. Press SELECT (B) until CAB DISPLAY SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select YES. Press SELECT (B).
   - DISPLAY LANGUAGE? is displayed on the upper line.

Figure 4.33: M105 Cab Display Setup

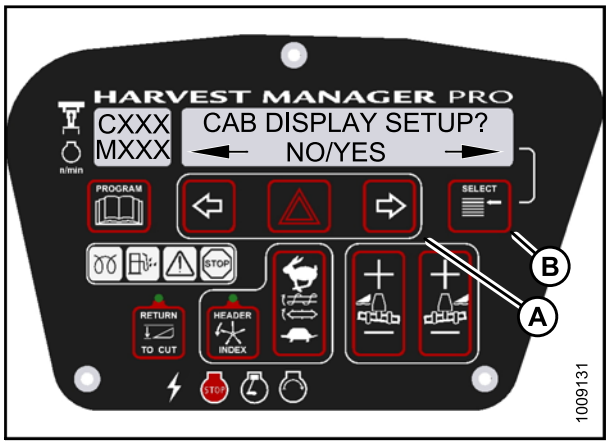

Figure 4.34: M155 Cab Display Setup

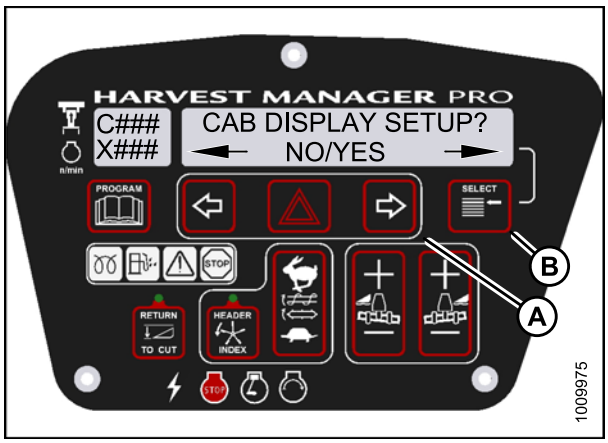

Figure 4.35: M205 Cab Display Setup

5. Press SELECT (D) until BACKLIGHTING is displayed on the upper line.
   - Default setting is displayed on the lower line.
6. Press left (B) or right (C) arrows to adjust display backlighting.
7. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next CAB DISPLAY SETUP? action.

Figure 4.36: M105 Backlighting

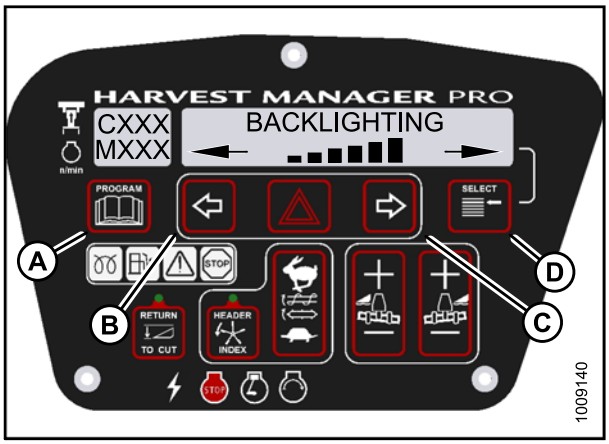

Figure 4.37: M155 Backlighting

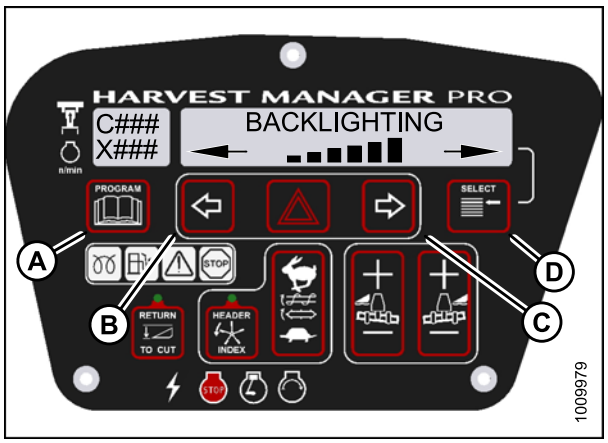

Figure 4.38: M205 Backlighting

4.2.5 Adjusting the Cab Display Contrast

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

Figure 4.39: M105 CDM Programming Buttons

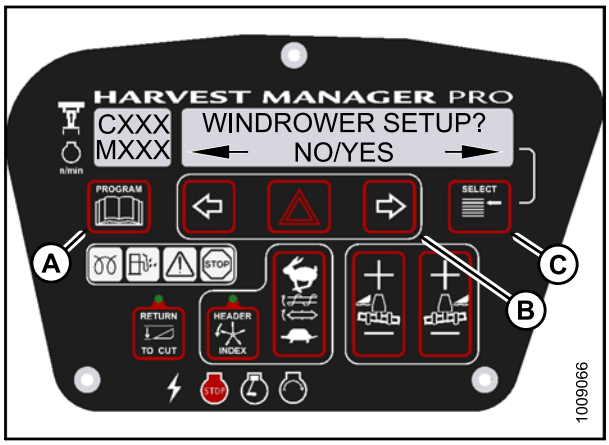

Figure 4.40: M155 CDM Programming Buttons

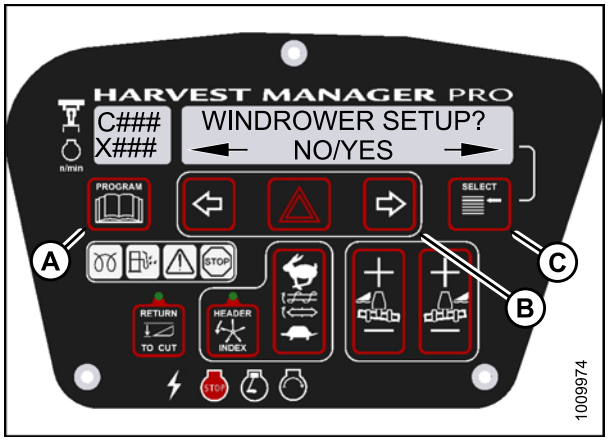

Figure 4.41: M205 CDM Programming Buttons

3. Press SELECT (B) until CAB DISPLAY SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select YES. Press SELECT (B).
   - DISPLAY LANGUAGE? is displayed on the upper line.

Figure 4.42: M105 Cab Display Setup

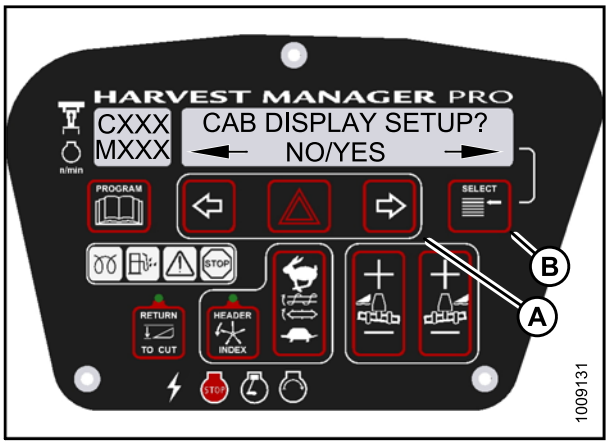

Figure 4.43: M155 Cab Display Setup

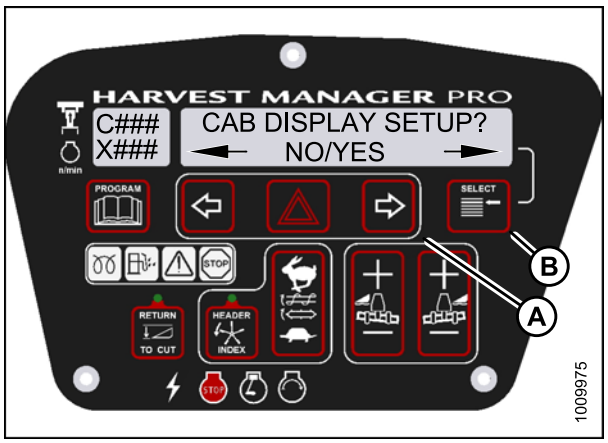

Figure 4.44: M205 Cab Display Setup

5. Press SELECT (D) until DISPLAY CONTRAST is displayed on the upper line.
   - Default setting is displayed on the lower line.
6. Press left (B) or right (C) arrows to adjust display contrast.
7. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next CAB DISPLAY SETUP? action.

Figure 4.45: M105 Display Contrast

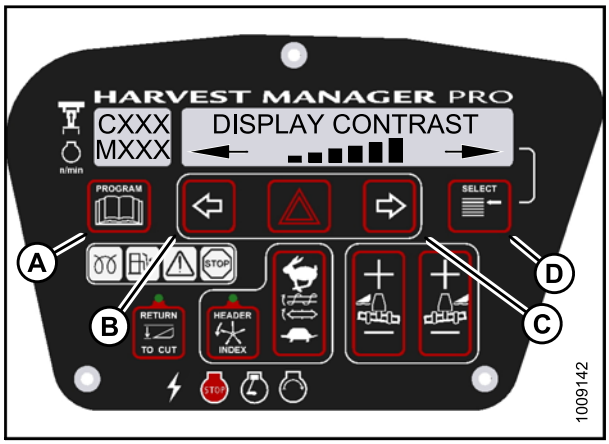

Figure 4.46: M155 Display Contrast

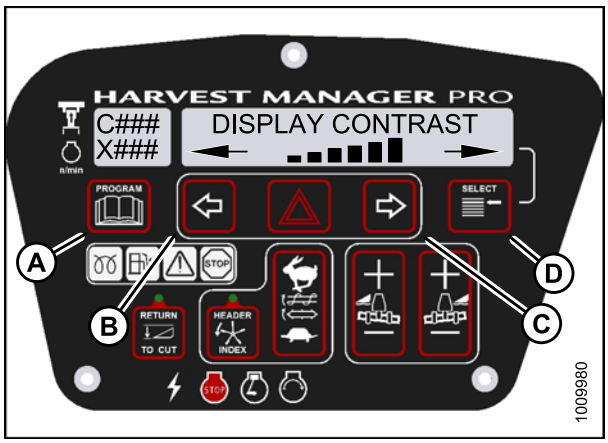

Figure 4.47: M205 Display Contrast

4.3 Calibrating the Header Sensors

Sensor calibration programs the windrower control module (WCM) with settings for the attached header.

4.3.1 Calibrating the Header Height Sensor

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.
- The engine **MUST** be running to perform this procedure.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
3. Press SELECT (C) until CALIBRATE SENSORS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

Figure 4.48: M105 CDM Programming Buttons

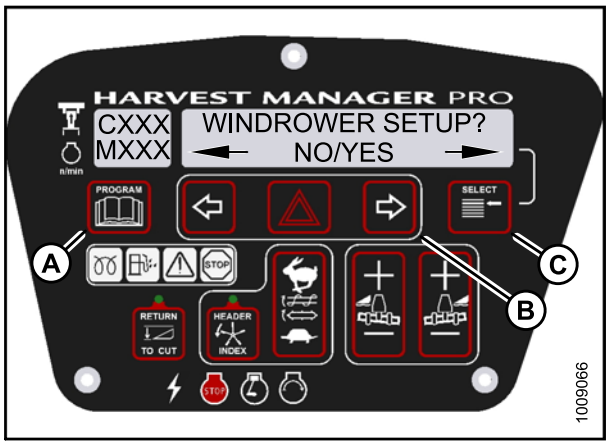

Figure 4.49: M155 CDM Programming Buttons

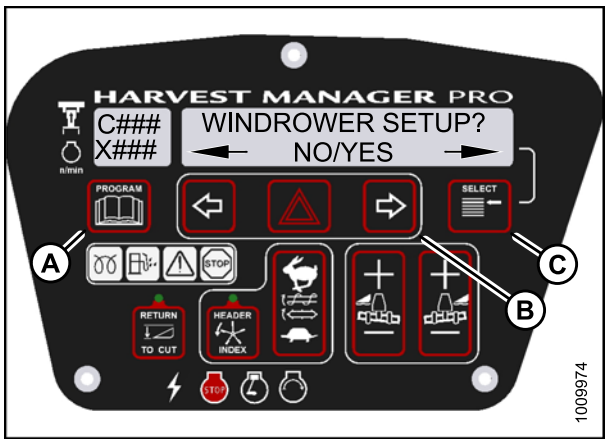

Figure 4.50: M205 CDM Programming Buttons

4. Press right (B) arrow to select YES. Press SELECT (C).
   - TO CALIBRATE SELECT is displayed in upper line.
5. Press left (A) or right (B) arrow until HEADER HEIGHT is displayed on the lower line. Press SELECT (C).
   - CALIBRATING HEIGHT is displayed on the upper line.
   - RAISE HEADER HOLD is displayed on the lower line.

Figure 4.51: M105 Header Height Calibration

Figure 4.52: M155 Header Height Calibration

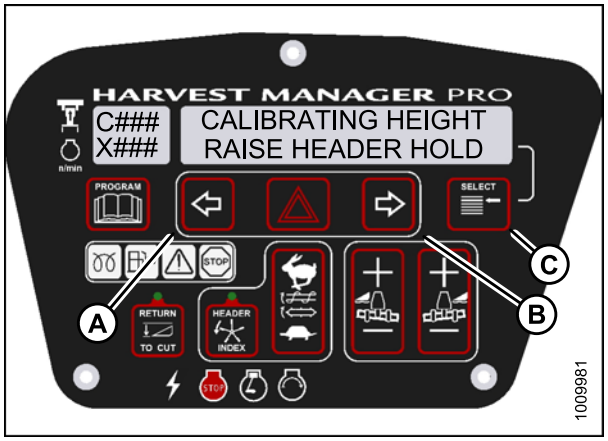

Figure 4.53: M205 Header Height Calibration

CAUTION

Check to be sure all bystanders have cleared the area.

6. Press and hold the HEADER UP (C) button on the ground speed lever (GSL).
   - CALIBRATING HEIGHT is displayed on the upper line.
   - RAISE HEADER HOLD is displayed on the lower line.

   NOTE:
   The word HOLD will flash during calibration. RAISE HEADER DONE will display on the lower line once calibration is complete.

7. Release the HEADER UP (C) button.
   - HEIGHT SENSOR CAL is displayed on the upper line.
   - PRESS LOWER HEADER is displayed on the lower line.

8. Press and hold HEADER DOWN (A) button on GSL.

   NOTE:
   The word HOLD will flash during calibration. HT SENSOR COMPLETE will display on the lower line once calibration is complete.

9. Release HEADER DOWN (A) button.
   - TO CALIBRATE SELECT is displayed on the upper line.
   - HEADER HEIGHT is displayed on the lower line.

10. Press right arrow to select next header sensor calibration or STOP & EXIT. Press SELECT.
    Refer to *4.3.2 Calibrating the Header Tilt Sensor, page 176* or *4.3.3 Calibrating the Header Float Sensors, page 180*.

11. Press PROGRAM to exit Programming Mode.

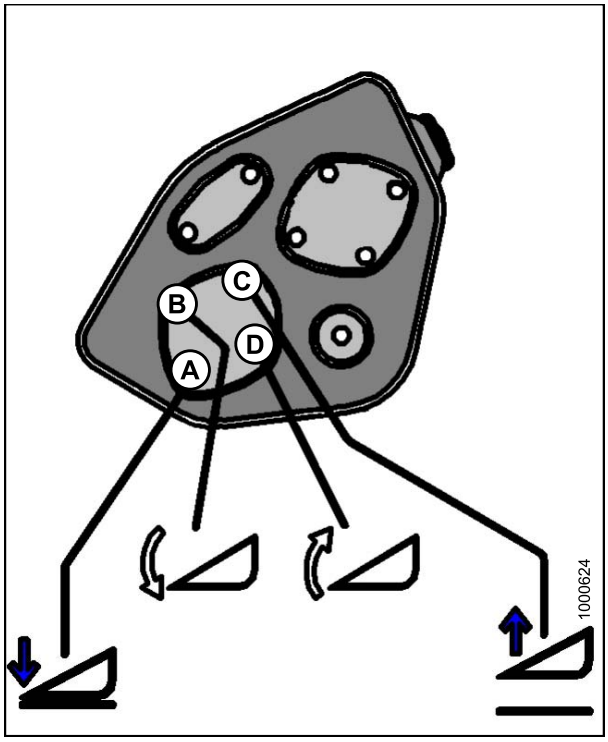

Figure 4.54: Header Height Controls on Ground Speed Lever

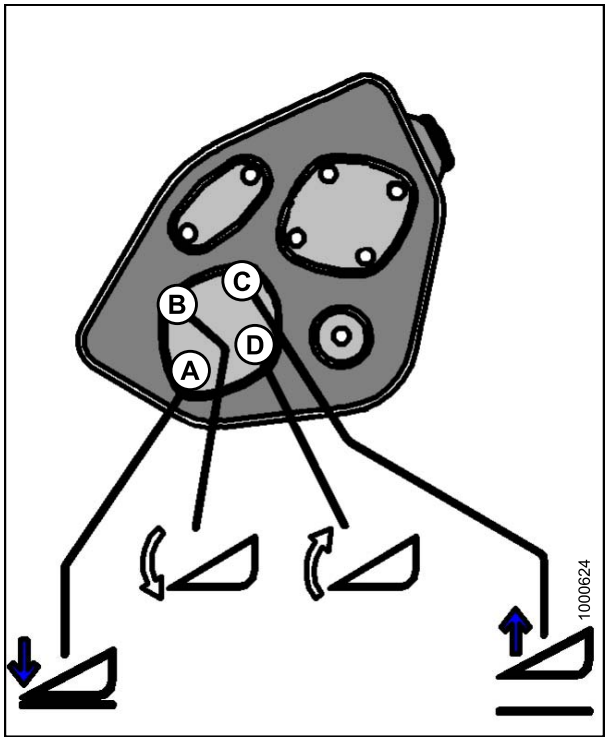

Figure 4.55: Header Height Controls on Ground Speed Lever

4.3.2 Calibrating the Header Tilt Sensor

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.
- This procedure requires installation of the optional Hydraulic Center-Link (MD #B4650) and optional Auxiliary Valve (MD #B5269).
- Displaying center-link position on cab display module (CDM) requires installation of the optional Expansion Module (MD #B4666). For more information, refer to the windrower operator's manual or the windrower technical manual.
- The engine **MUST** be running to perform this procedure.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
3. Press SELECT (C) until CALIBRATE SENSORS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

Figure 4.56: M105 CDM Programming Buttons

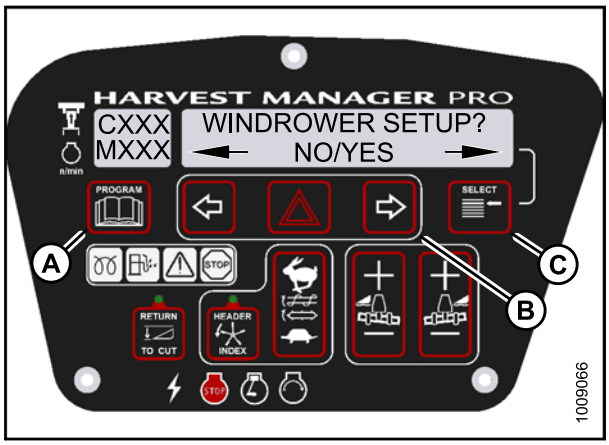

Figure 4.57: M155 CDM Programming Buttons

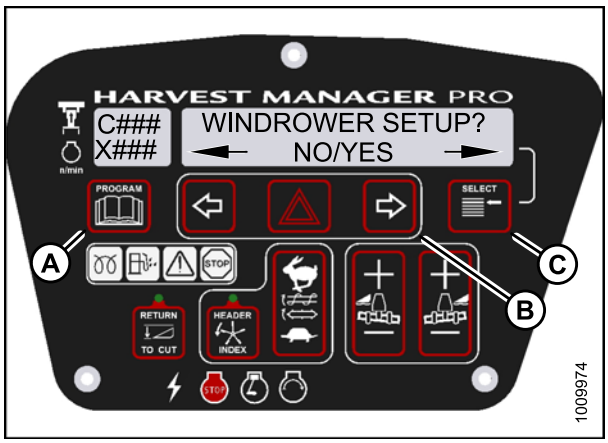

Figure 4.58: M205 CDM Programming Buttons

4. Press right (B) arrow to select YES. Press SELECT (C).
   - TO CALIBRATE SELECT is displayed in upper line.
5. Press left (A) or right (B) arrow until HEADER TILT is displayed on the lower line. Press SELECT (C).
   - HDR TILT SENSOR CAL is displayed on the upper line.
   - EXTEND TILT TO START is displayed on the lower line.

Figure 4.59: M105 Header Tilt

Figure 4.60: M155 Header Tilt

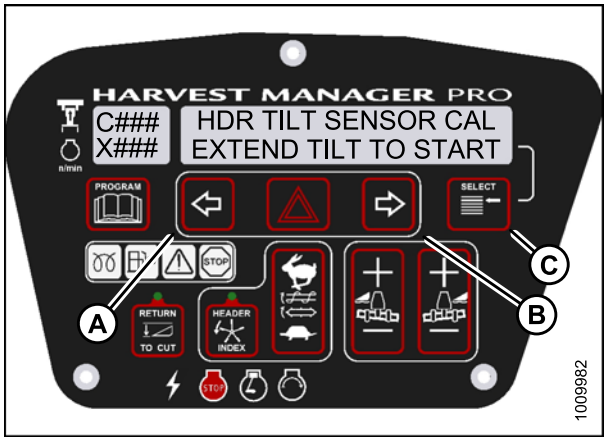

Figure 4.61: M205 Header Tilt

CAUTION

Check to be sure all bystanders have cleared the area.

6. Press and hold the HEADER TILT EXTEND (B) button on the ground speed lever (GSL).
   - CALIBRATING TILT is displayed on the upper line.
   - EXTEND TILT HOLD is displayed on the lower line.

   NOTE:
   The word HOLD will flash during calibration. HEADER TILT DONE will display on the lower line once calibration is complete.

7. Release the HEADER TILT EXTEND (B) button.
   - HEADER TILT SENSOR CAL is displayed on upper line.
   - PRESS RETRACT TILT is displayed on the lower line.

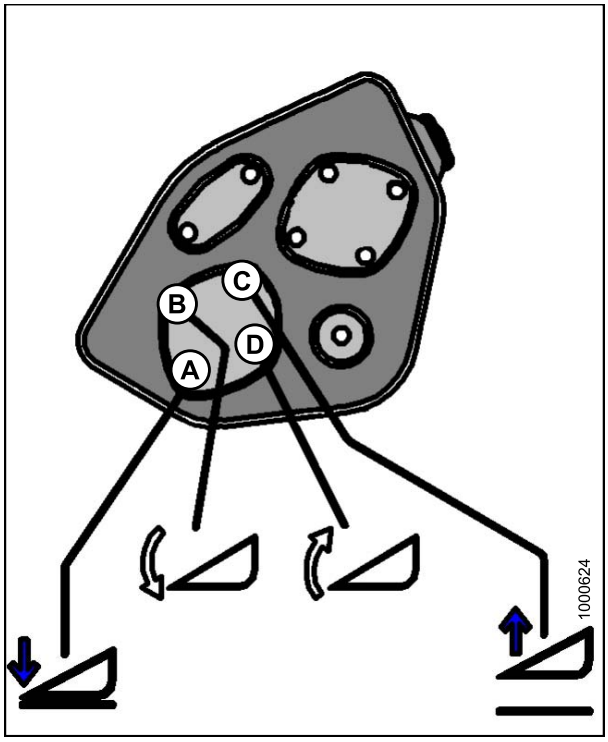

Figure 4.62: Header Tilt Controls on Ground Speed Lever

8. Press and hold HEADER TILT RETRACT (D) button on GSL.
   - CALIBRATING TILT is displayed on the upper line.
   - RETRACT TILT HOLD is displayed on the lower line.

   NOTE:
   The word HOLD will flash during calibration. HEADER TILT COMPLETE will display on the lower line once calibration is complete.

9. Release HEADER TILT RETRACT (D) button.
   - TO CALIBRATE SELECT is displayed on the upper line.
   - HEADER TILT is displayed on the lower line.
10. Press right arrow to select next header sensor calibration or STOP & EXIT. Press SELECT.
    Refer to *4.3.1 Calibrating the Header Height Sensor, page 172* or *4.3.3 Calibrating the Header Float Sensors, page 180*.
11. Press PROGRAM to exit Programming Mode.

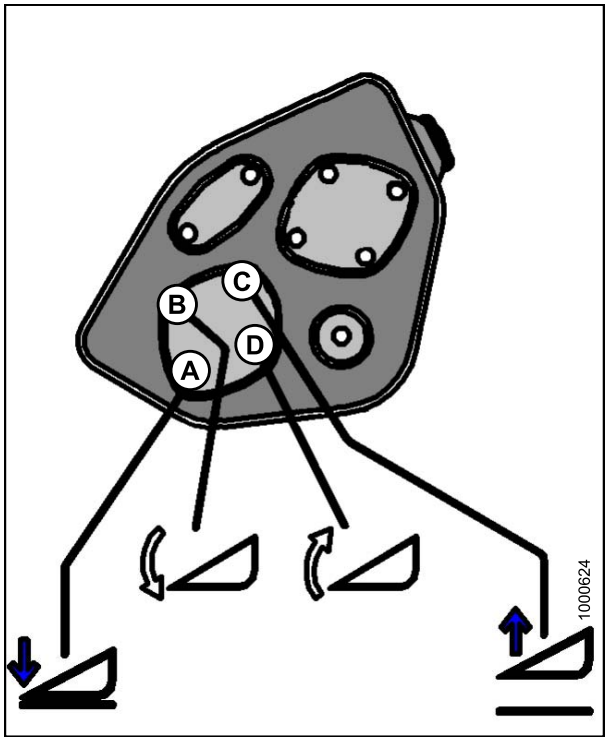

Figure 4.63: Header Tilt Controls on Ground Speed Lever

4.3.3 Calibrating the Header Float Sensors

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.
- The Operator can use the left or right FLOAT buttons on the cab display module (CDM) to perform this procedure.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
3. Press SELECT (C) until CALIBRATE SENSORS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

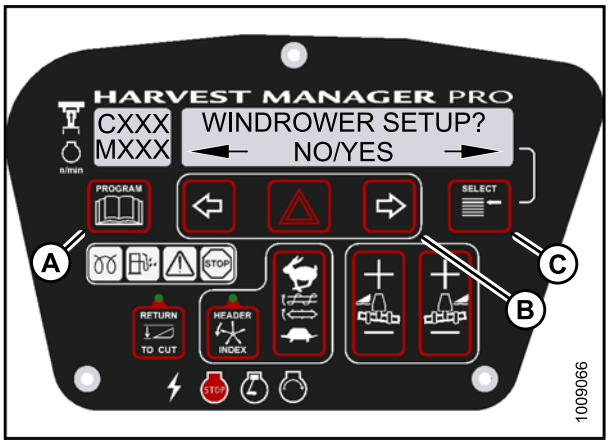

Figure 4.64: M155 CDM Programming Buttons

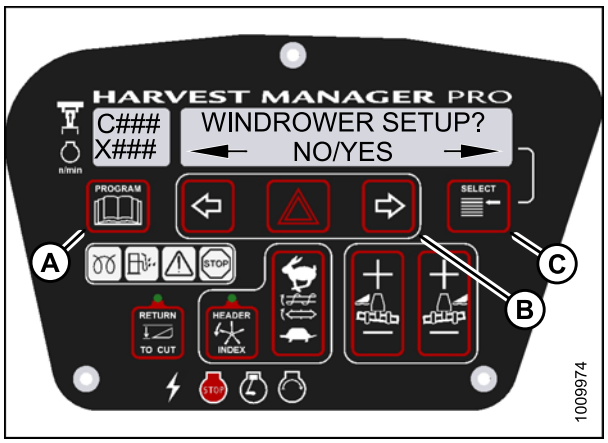

Figure 4.65: M205 CDM Programming Buttons

4. Press right (B) arrow to select YES. Press SELECT (C).
   - TO CALIBRATE SELECT is displayed in upper line.
5. Press left (A) or right (B) arrow until HEADER FLOAT is displayed on the lower line. Press SELECT (C).
   - CALIBRATING FLOAT is displayed on the upper line.
   - PRESS FLOAT + TO START is displayed on the lower line.

CAUTION

Check to be sure all bystanders have cleared the area.

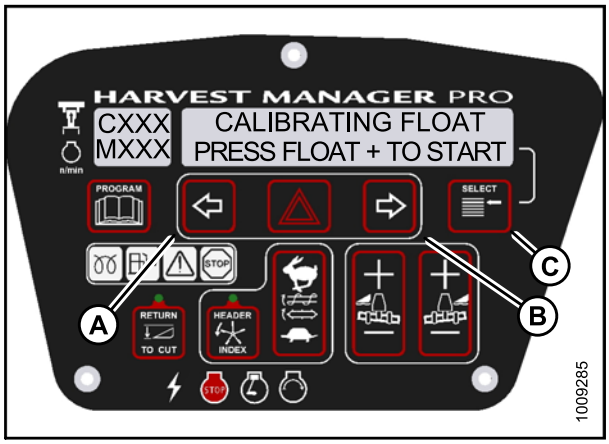

Figure 4.66: M155 Header Float

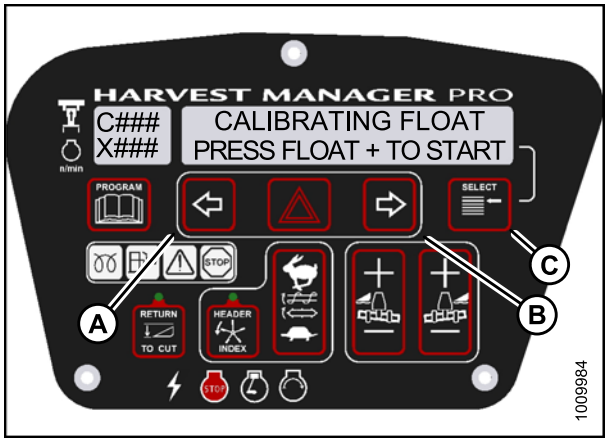

Figure 4.67: M205 Header Float

6. Press and hold FLOAT + button (A) on the CDM.
   - CALIBRATING FLOAT is displayed on the upper line.
   - FLOAT (+) HOLD is displayed on the lower line.

   NOTE:
   The word HOLD will flash during calibration. FLOAT (+) DONE will display on the lower line once calibration is complete.

7. Release the FLOAT + button (A).
   - CALIBRATING FLOAT is displayed on the upper line.
   - FLOAT (-) HOLD is displayed on the lower line.

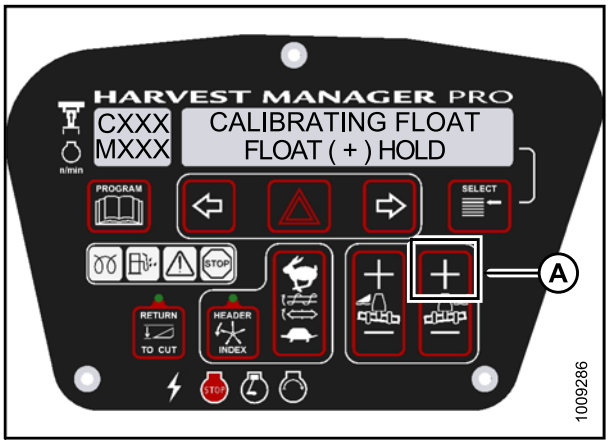

Figure 4.68: M155 Positive Header Float

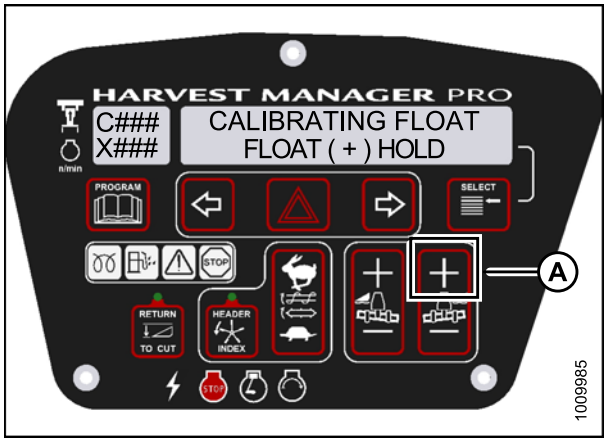

Figure 4.69: M205 Positive Header Float

8. Press and hold FLOAT - button (A) on CDM.
   - CALIBRATING FLOAT is displayed on the upper line.
   - FLOAT (-) HOLD is displayed on the lower line.

   NOTE:
   The word HOLD will flash during calibration. HDR FLOAT COMPLETE will display on the lower line once calibration is complete.

9. Release FLOAT - button (A).
   - TO CALIBRATE SELECT is displayed on the upper line.
   - HEADER FLOAT is displayed on the lower line.

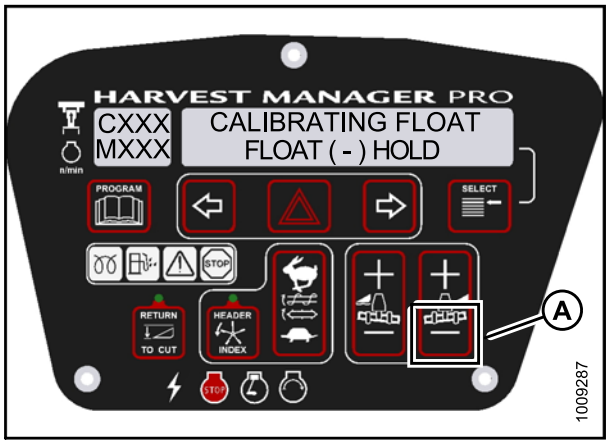

Figure 4.70: M155 Negative Header Float

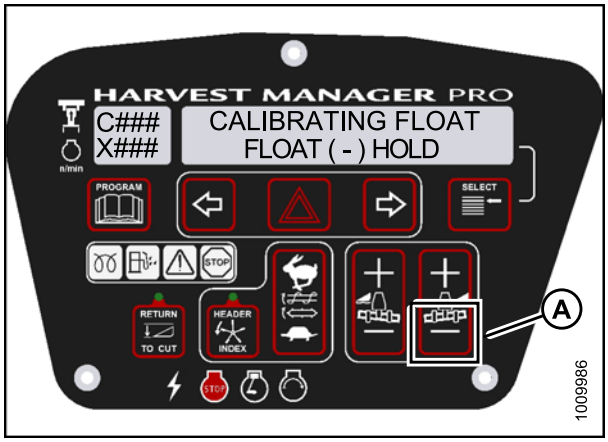

Figure 4.71: M205 Negative Header Float

10. Press right arrow to select next header sensor calibration or STOP & EXIT. Press SELECT
    Refer to *4.3.1 Calibrating the Header Height Sensor, page 172* or *4.3.2 Calibrating the Header Tilt Sensor, page 176*.
11. Press PROGRAM to exit Programming Mode.

4.4 Programming the Windrower

The windrower can be programmed to meet changing crop conditions, activate newly added options, indicate a change of header type, or increase your comfort level.

4.4.1 Selecting Header Type

The M105 must be programmed when a new header is attached to allow the CDM to adjust its programming accordingly and display the proper information to the Operator; however, the windrower control module (WCM) will automatically read a header ID when a new header is attached to an M155 or M205.

NOTE:

- Displaying draper or A40 header reel or knife speed requires installation of the optional Expansion Module (MD #B4666). For more information, refer to the windrower operator's manual or the windrower technical manual.
- The A30 Header reel speed is not displayed on the CDM.

1. Turn ignition key to RUN, or start the engine. Refer to *3.15 Starting Engine, page 84*.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

Figure 4.72: Cab Display Module Programming Buttons

3. Press right (C) arrow to select YES. Press SELECT (D).
   - SELECT HEADER TYPE? is displayed on the upper line.
   - Previously installed header flashes on the lower line.

   NOTE:
   The default header type is DRAPER.

4. Press left (B) or right (C) arrow to cycle header type on lower line.
   Select header type from the following:
   - DRAPER
   - A30 AUGER
   - A40 AUGER

   NOTE:
   Knife drive pump may require adjustment after changing header type.

5. Press SELECT.
6. Press PROGRAM to exit Programming Mode or press SELECT to proceed to next WINDROWER SETUP action.

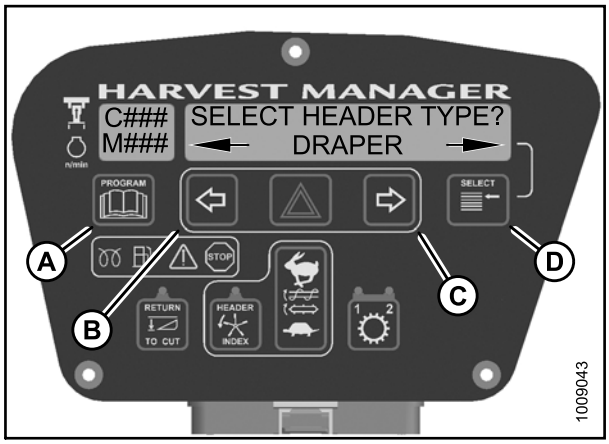

Figure 4.73: Header Type

4.4.2 Activating the Hydraulic Center-Link on an M105 and M155

NOTE:

- This procedure requires installation of the optional Hydraulic Center-Link (MD #B4650) and optional Auxiliary Valve (MD #B5269).
- Displaying center-link position on cab display module (CDM) requires installation of the optional Expansion Module (MD #B4666). For more information, refer to the windrower operator's manual or the windrower technical manual.

1. Turn ignition key to RUN, or start the engine. Refer to *3.15 Starting Engine, page 84*.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.
   - SELECT HEADER TYPE? is displayed on the upper line.

Figure 4.74: M105 CDM Programming Buttons

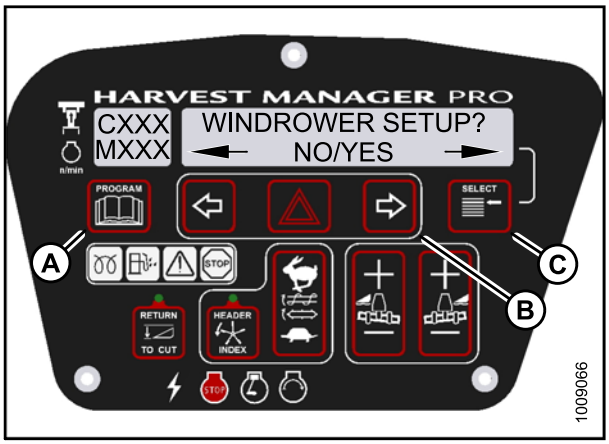

Figure 4.75: M155 CDM Programming Buttons

4. Press SELECT (C) until TILT CYL INSTALLED? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right (B) arrow to select YES. Press SELECT (C).
6. Press PROGRAM (A) to exit Programming Mode or press SELECT (C) to proceed to next WINDROWER SETUP action.

Figure 4.76: M105 Hydraulic Center-Link

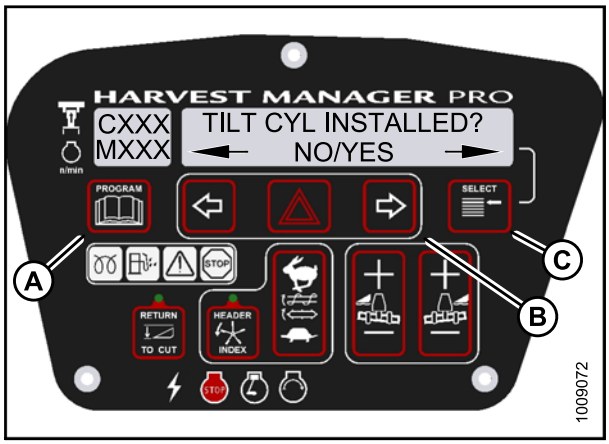

Figure 4.77: M155 Hydraulic Center-Link

4.4.3 Activating the Reel Fore-Aft Function on an M105

NOTE:
Reel fore-aft activation requires installation of the Windrower Optional Hydraulic Fore-Aft Kit (MD #B5577). For more information, refer to the windrower operator's manual or the windrower technical manual.

1. Turn ignition key to RUN, or start the engine. Refer to *3.15 Starting Engine, page 84*.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right arrow (B) to select YES. Press SELECT (C).
   - SET HEADER TYPE? is displayed on the upper line.

Figure 4.78: CDM Programming Buttons

4. Press SELECT (C) until REEL FORE / AFT? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right (B) arrow to select YES. Press SELECT (C).
6. Press PROGRAM (A) to exit Programming Mode or press SELECT (C) to proceed to next WINDROWER SETUP action.

Figure 4.79: Reel Fore-Aft

4.4.4 Activating the Rotary Header Drive Hydraulics on an M155

NOTE:
This procedure requires installation of the optional Rotary Header Drive Hydraulics (MD #B5510). For more information, refer to the rotary disc header operator's manual.

1. Turn ignition key to RUN, or start the engine. Refer to *3.15 Starting Engine, page 84*.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

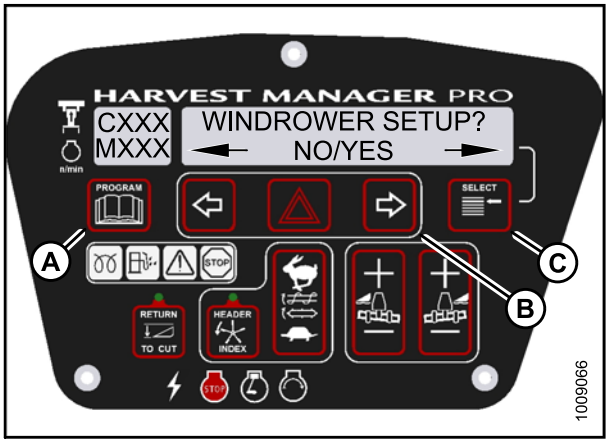

Figure 4.80: CDM Programming Buttons

4. Press SELECT (C) until DISC BLK INSTALLED? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right (B) arrow to select YES. Press SELECT (C).
6. Press PROGRAM (A) to exit Programming Mode or press SELECT (C) to proceed to next WINDROWER SETUP action.

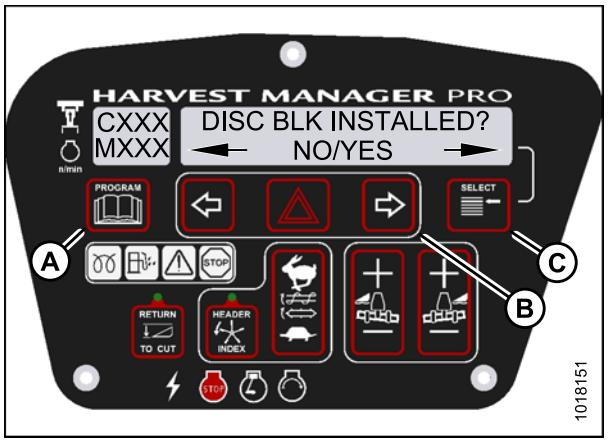

Figure 4.81: Rotary Disc Hydraulics

4.4.5 Setting the Header Knife Speed

NOTE:
The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header. For more information, refer to *5.11.13 Setting and Adjusting Knife Speed, page 351* to determine proper knife speed.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed.
   - The current knife speed is displayed on the lower line.

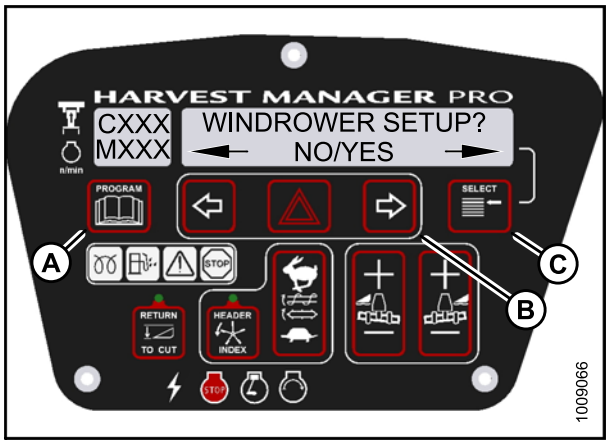

Figure 4.82: M155 CDM Programming Buttons

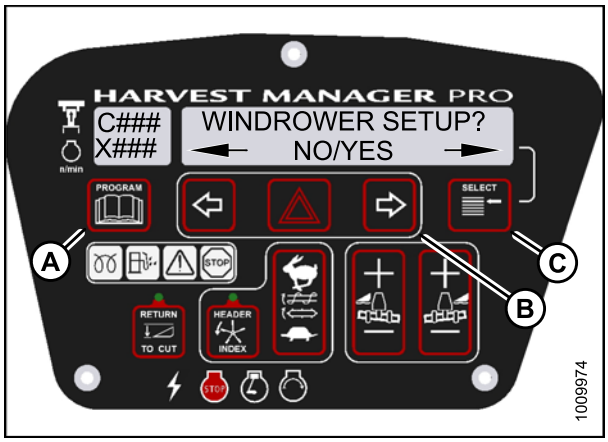

Figure 4.83: M205 CDM Programming Buttons

4. Press left (B) or right (C) arrows to select knife speed. Press SELECT (D).
5. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

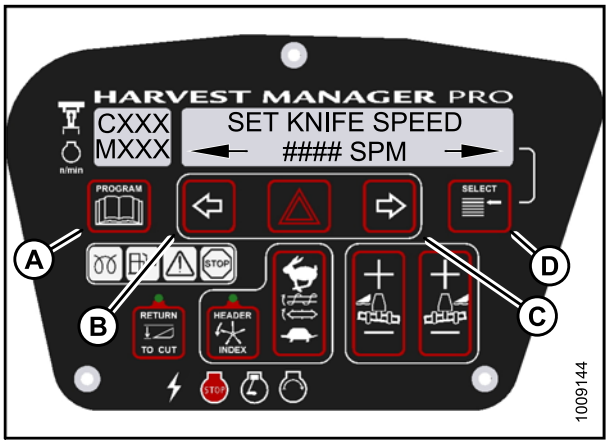

Figure 4.84: M155 Knife Speed

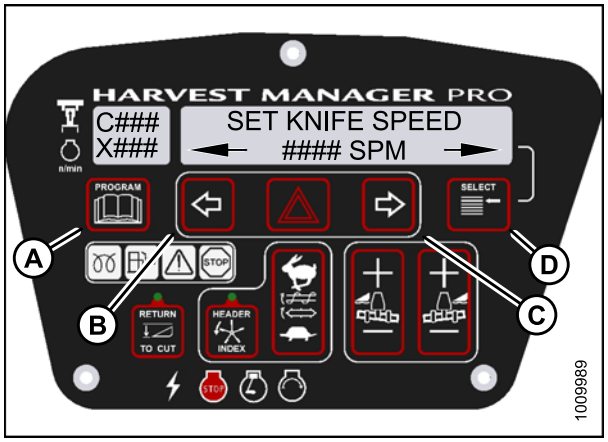

Figure 4.85: M205 Knife Speed

4.4.6 Setting the Knife Overload Speed

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.
- The recommended knife overload speed is 75% of knife speed. For more information, refer to *5.11.13 Setting and Adjusting Knife Speed, page 351* to determine proper overload speed.
- Displaying knife drive speed on cab display module (CDM) requires installation of the optional Expansion Module (MD #B4666). For more information, refer to the windrower operator's manual or the windrower technical manual.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed.
   - SELECT HEADER TYPE? is displayed.

Figure 4.86: M105 CDM Programming Buttons

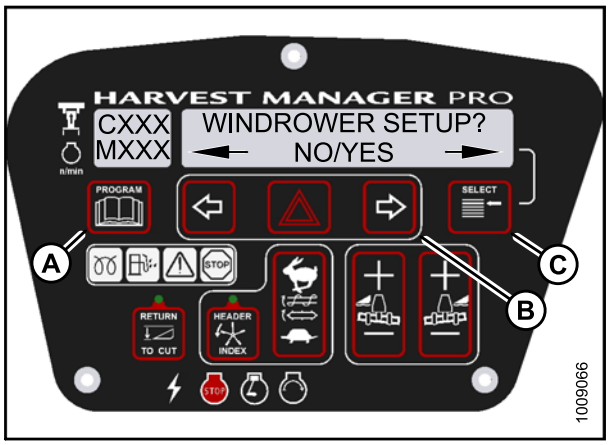

Figure 4.87: M155 CDM Programming Buttons

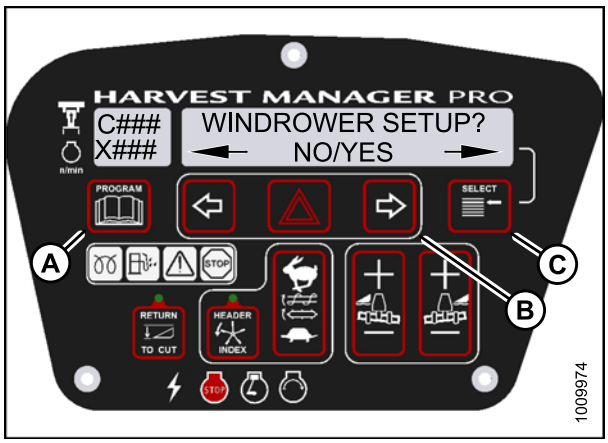

Figure 4.88: M205 CDM Programming Buttons

4. Press SELECT (D) until KNIFE OVERLOAD SPD? is displayed on the upper line.
   - Current overload speed is displayed on the lower line.

   NOTE:
   Default setting is -300 spm. Range is -500 to -100 spm. For more information, refer to *5.11.13 Setting and Adjusting Knife Speed, page 351* to determine proper overload speed.

5. Press left (B) or right (C) arrows to set knife overload speed. Press SELECT (D).
6. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

Figure 4.89: M105 Knife Overload Speed

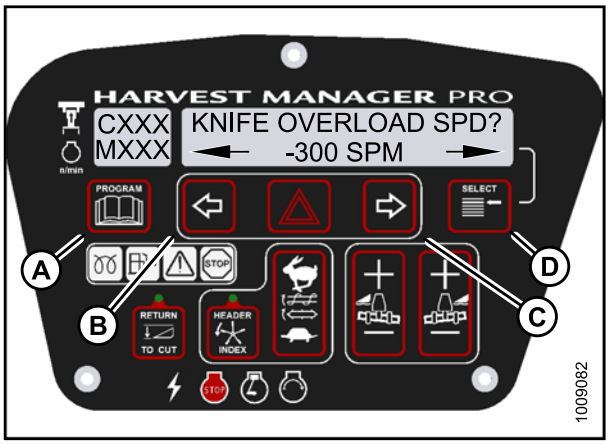

Figure 4.90: M155 Knife Overload Speed

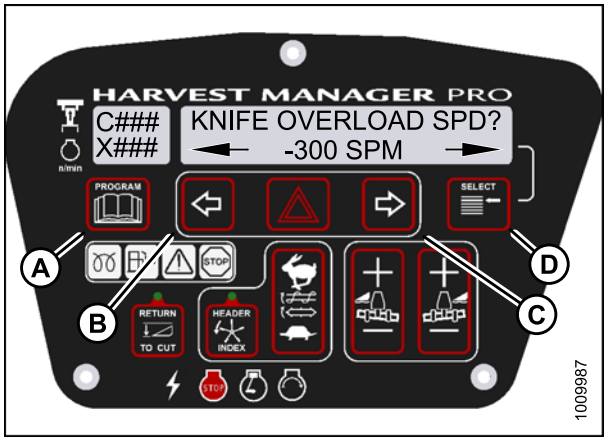

Figure 4.91: M205 Knife Overload Speed

4.4.7 Setting the Rotary Disc Overload Speed

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.
- The recommended disc overload speed is 75% of disc speed. For more information refer to the rotary disc header operator's manual to determine proper overload speed.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line. NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed.

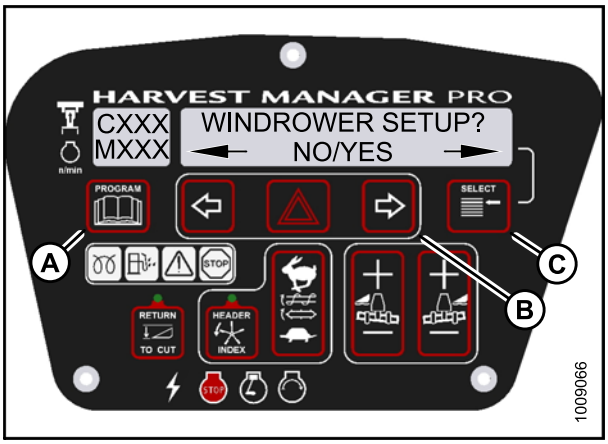

Figure 4.92: M155 CDM Programming Buttons

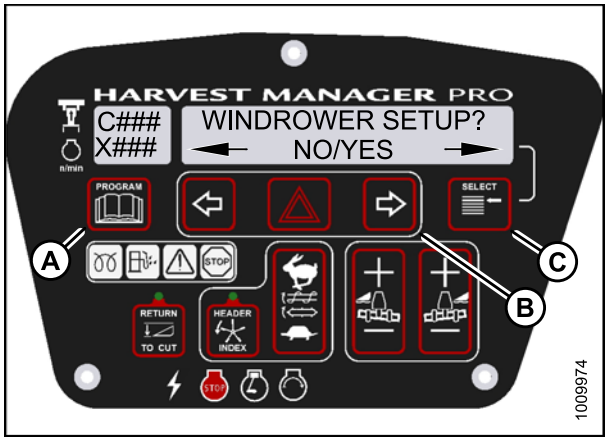

Figure 4.93: M205 CDM Programming Buttons

4. Press SELECT (D) until DISK OVERLOAD SPD? is displayed on the upper line.
   - The current overload speed is displayed on the lower line.

   NOTE:
   Default setting is -300 rpm. Range is -500 to -100 rpm.

5. Press left (B) or right (C) arrows to set disc overload speed. Press SELECT (D).
6. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

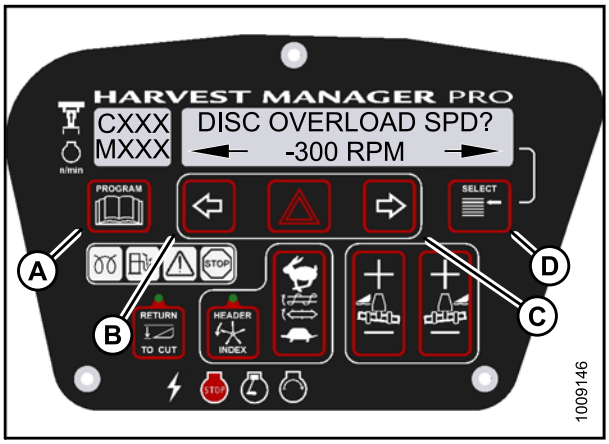

Figure 4.94: M155 Disc Overload Speed

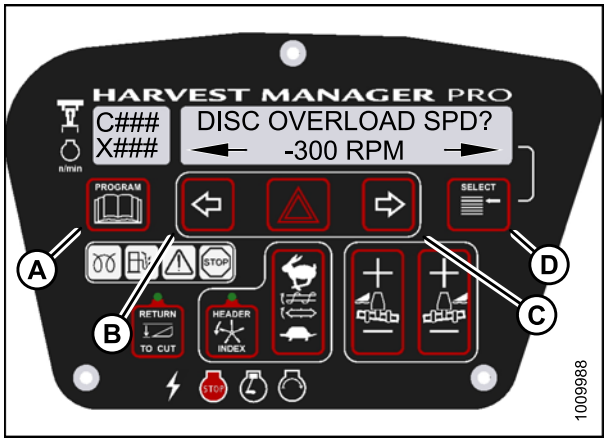

Figure 4.95: M205 Disc Overload Speed

4.4.8 Setting the Hydraulic Overload Pressure

NOTE:

- This procedure requires installation of the optional pressure sensor (MD #B5574). For overload pressure values, refer to pressure sensor installation instructions (MD #169031).
- To enable sensor, refer to *4.7.2 Switching the Installed Header Sensors ON or OFF, page 256*.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed.

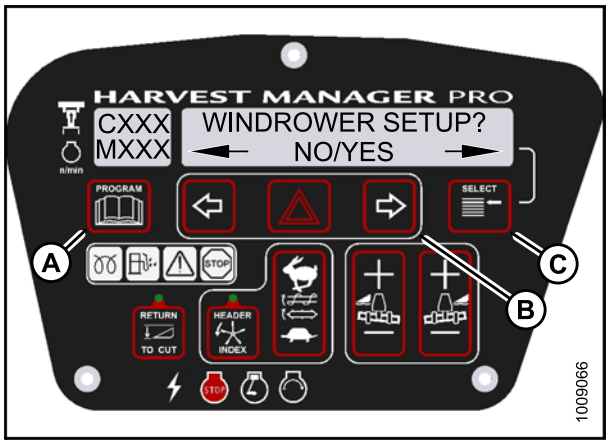

Figure 4.96: M155 CDM Programming Buttons

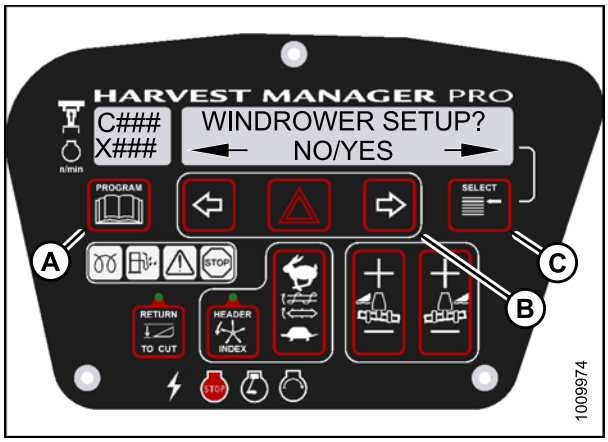

Figure 4.97: M205 CDM Programming Buttons

4. Press SELECT (D) until OVERLOAD PRESSURE? is displayed on the upper line.
   - The current overload pressure is displayed on lower line.

   NOTE:
   Pressure range is 17,237–34,474 kPa (2500–5000 psi).

5. Press left (B) or right (C) arrows to set hydraulic overload pressure. Press SELECT (D).
6. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

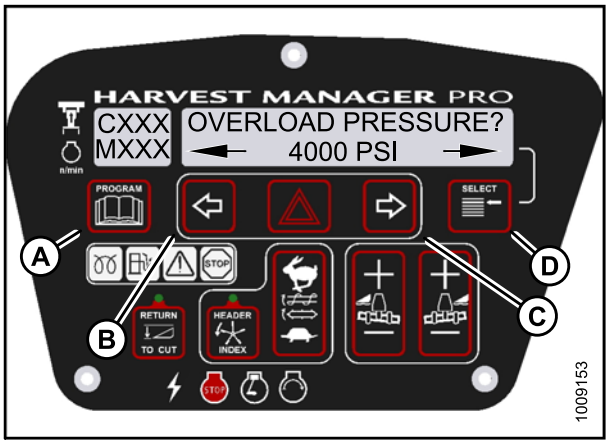

Figure 4.98: M155 Hydraulic Overload Pressure

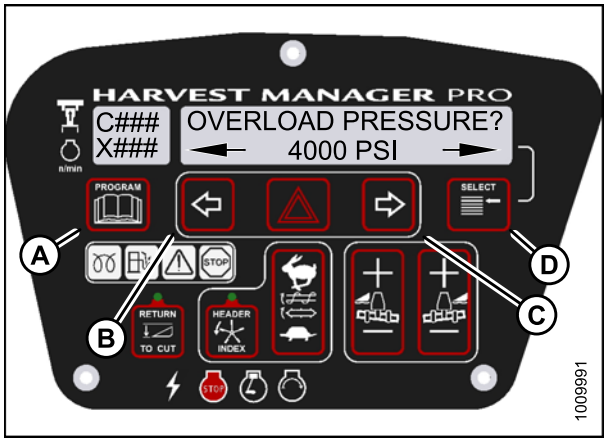

Figure 4.99: M205 Hydraulic Overload Pressure

4.4.9 Setting the Header Index Mode

Header Index feature is not applicable to rotary headers.

NOTE:
The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

NOTE:

- For M105 Self-Propelled Windrowers, the header **MUST** be attached to the windrower to perform this procedure. This menu is suppressed if the A30 Header is attached.
- For M105 Self-Propelled Windrowers, displaying reel speed on cab display module (CDM) requires installations of the optional Expansion Module (MD #B4666). For more information, refer to the windrower operator's manual or the windrower technical manual.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.
   - SELECT HEADER TYPE? is displayed on the upper line.

Figure 4.100: M105 CDM Programming Buttons

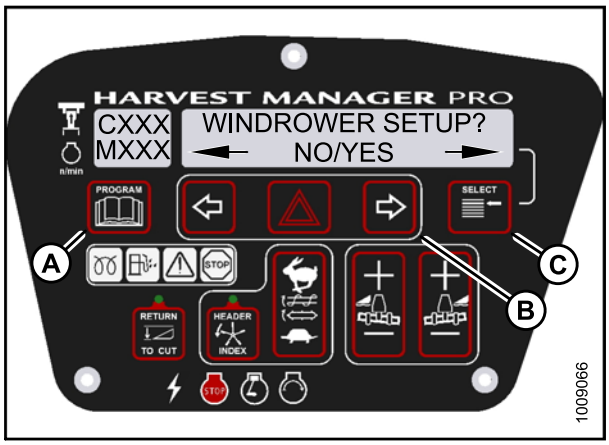

Figure 4.101: M155 CDM Programming Buttons

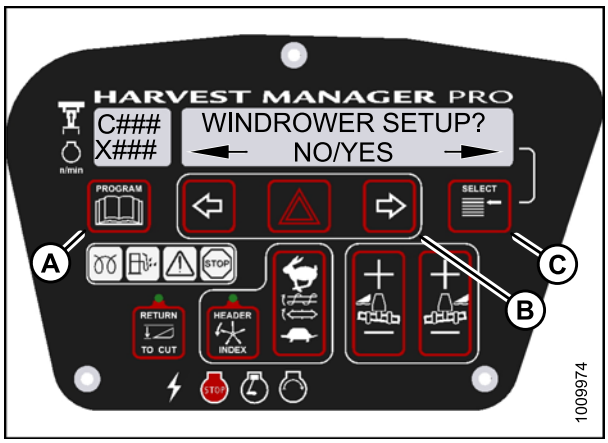

Figure 4.102: M205 CDM Programming Buttons

4. Press SELECT (D) until HEADER INDEX MODE? is displayed on the upper line.
   - REEL & CONVEYOR or REEL ONLY is displayed on the lower line.
5. Press left (B) or right (C) arrows to set header index mode. Press SELECT (D).
6. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

Figure 4.103: M105 Header Index Mode

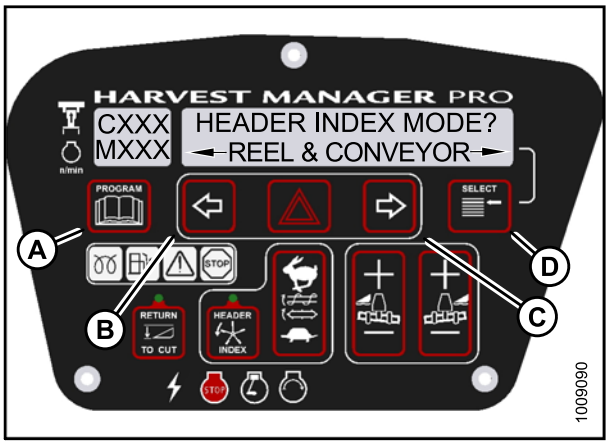

Figure 4.104: M155 Header Index Mode

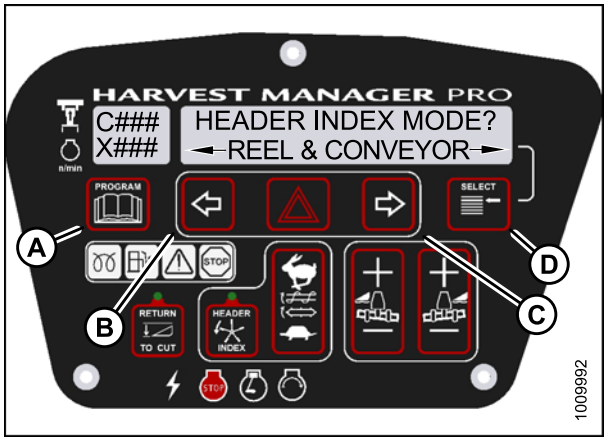

Figure 4.105: M205 Header Index Mode

4.4.10 Setting the Return to Cut Mode

NOTE:
The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

NOTE:
The header **MUST** be attached to the windrower to perform this procedure.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed.
   - SELECT HEADER TYPE? is displayed.

Figure 4.106: M105 CDM Programming Buttons

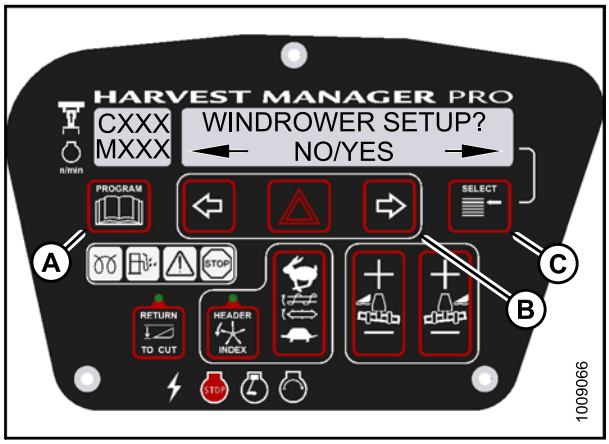

Figure 4.107: M155 CDM Programming Buttons

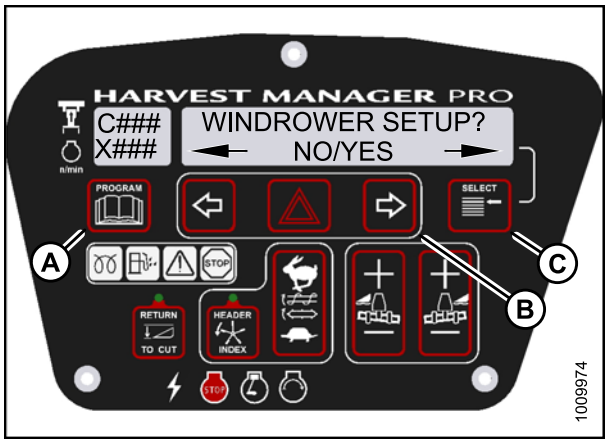

Figure 4.108: M205 CDM Programming Buttons

4. Press SELECT (D) until RETURN TO CUT MODE? is displayed on the upper line.
   - HEIGHT & TILT or HEIGHT ONLY will be displayed on the lower line.

   NOTE:
   RETURN TO CUT MODE will display HEIGHT ONLY unless the optional Expansion Module (MD #B4666) is installed. For more information, refer to the windrower operator's manual or the windrower technical manual.

5. Press left (B) or right (C) arrows to select return to cut mode. Press SELECT (D).

6. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

Figure 4.109: M105 Return to Cut Mode

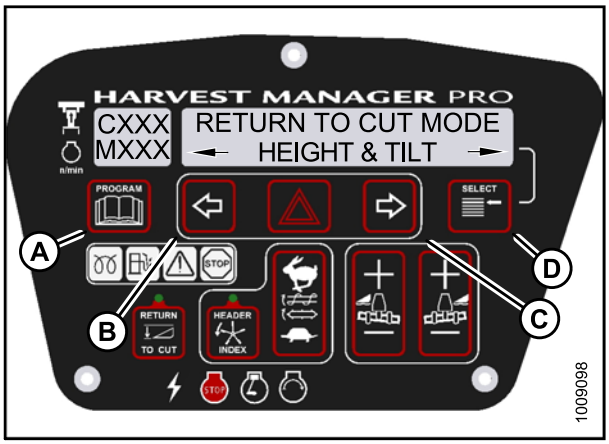

Figure 4.110: M155 Return to Cut Mode

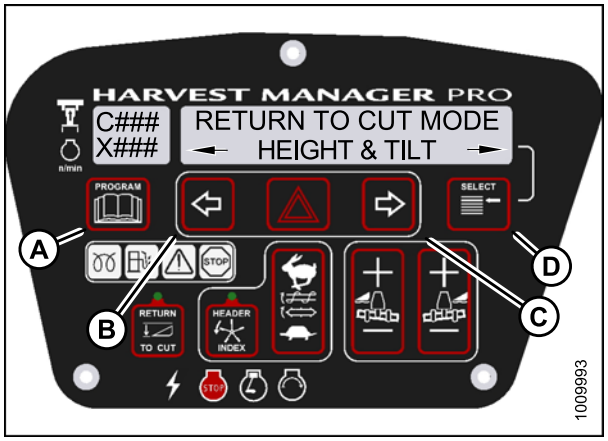

Figure 4.111: M205 Return to Cut Mode

4.4.11 Setting the Header Cut Width

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.
- Header cut width is less than actual header width to accurately measure number of acres cut.
- The headers sends an electrical signal to the windrower to produce a header ID; however, the cut width will always default to the smallest header size available for each header type. For example, A-Series Auger Headers come in 14-, 16-, and 18-foot sizes, but the cut width will automatically default to the smallest 14-foot size and will need to be changed to your specific header's size.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed.
   - SELECT HEADER TYPE? is displayed.

Figure 4.112: M105 CDM Programming Buttons

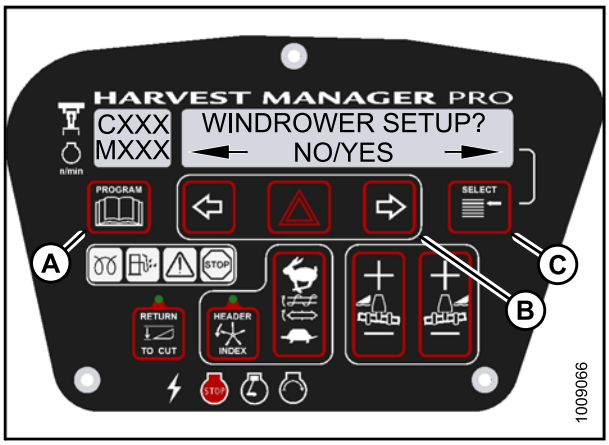

Figure 4.113: M155 CDM Programming Buttons

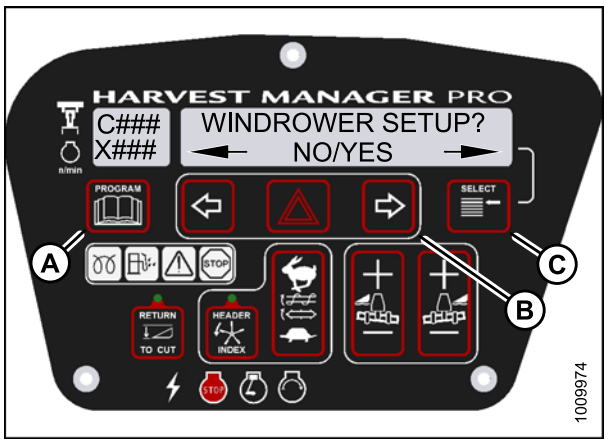

Figure 4.114: M205 CDM Programming Buttons

4. Press SELECT (D) until HEADER CUT WIDTH?HDR CUT WIDTH? #### is displayed on the upper line.
   - Previous cutting width is displayed on the lower line.
5. Press left (B) or right (C) arrows to change the headers cut width. Press SELECT (D).
6. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

Figure 4.115: M105 Header Cut Width

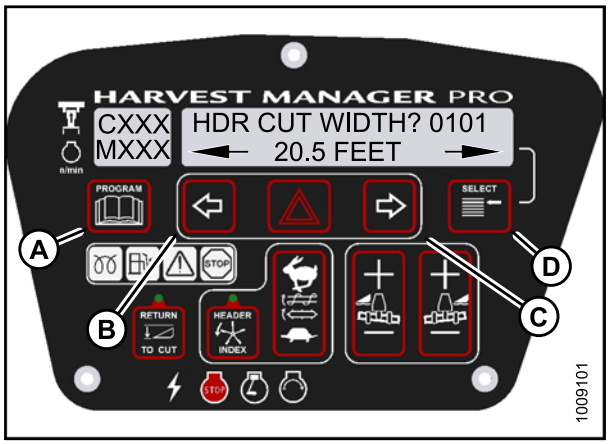

Figure 4.116: M155 Header Cut Width

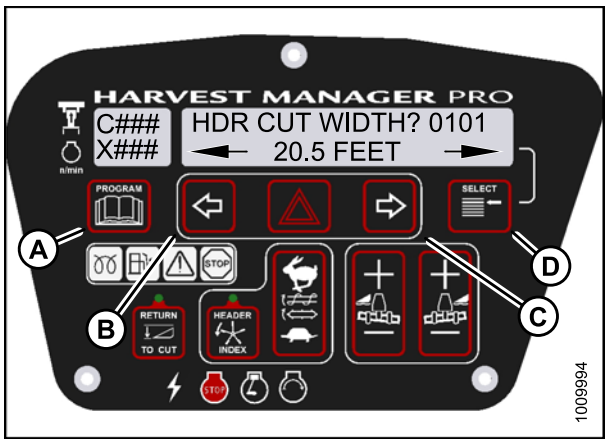

Figure 4.117: M205 Header Cut Width

4.4.12 Activating the Double Windrow Attachment (DWA)

NOTE:

- Follow this procedure if installing the DWA; however, refer to the DWA manual if you require additional installation instructions.
- Follow this procedure if installing a drive manifold (MD #139508).

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

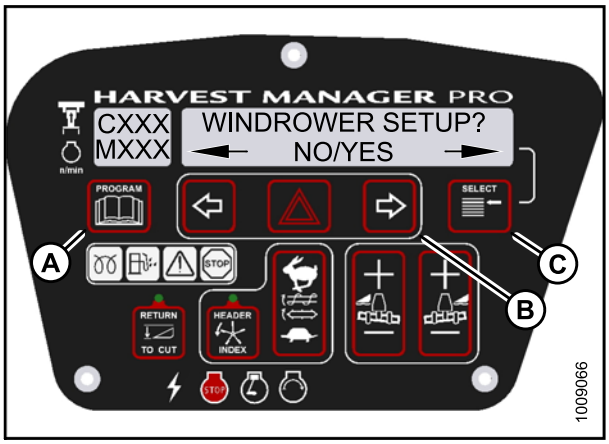

Figure 4.118: M155 CDM Programming Buttons

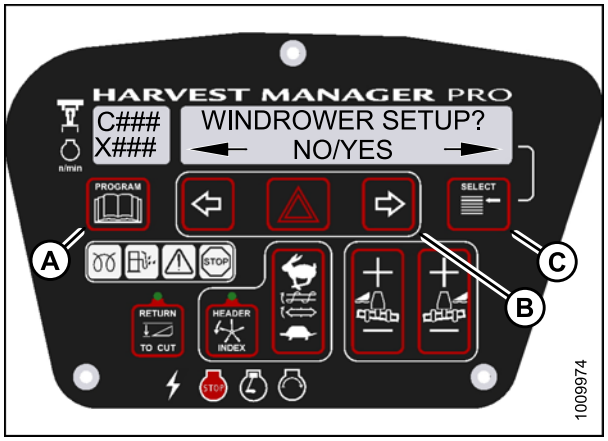

Figure 4.119: M205 CDM Programming Buttons

4. Press SELECT (B) until DWA INSTALLED? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right (A) arrow to select YES. Press SELECT (B).

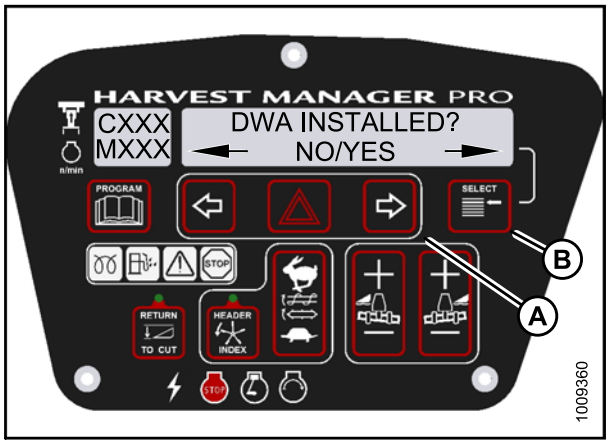

Figure 4.120: M155 DWA Controls

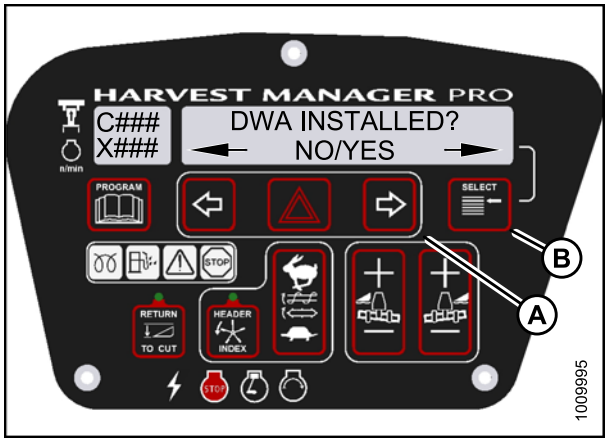

Figure 4.121: M205 DWA Controls

6. SWAP DWA CONTROLS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

   NOTE:
   This step swaps the DWA controls from the console switch to the ground speed lever (GSL) reel fore-aft buttons.

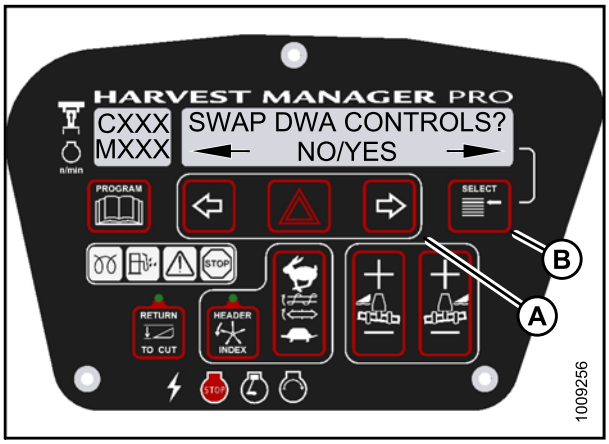

Figure 4.122: M155 DWA Controls

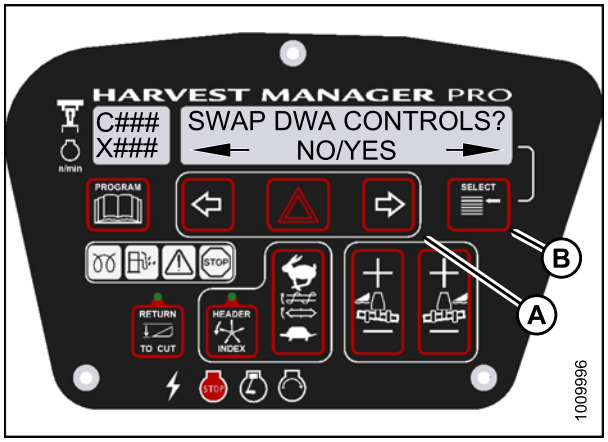

Figure 4.123: M205 DWA Controls

7. Press right (C) arrow to select YES. Press SELECT (D).
   - DWA AUTO UP/DOWN? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

   NOTE:
   If the Operator selects YES, the DWA Auto-Up function will be activated by the GSL Reel Fore-Aft button.

8. Press right (C) arrow to select YES. Press SELECT (D).
9. Press PROGRAM to exit Programming Mode or press SELECT to proceed to next WINDROWER SETUP action.

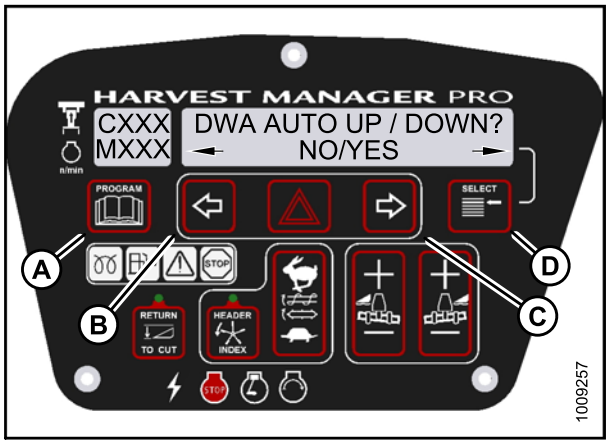

Figure 4.124: M155 DWA Auto Up/Down

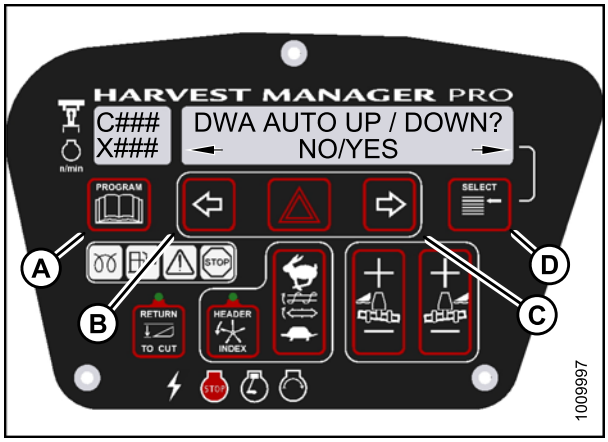

Figure 4.125: M205 DWA Auto Up/Down

4.4.13 Setting the Auto Raise Height

NOTE:
The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

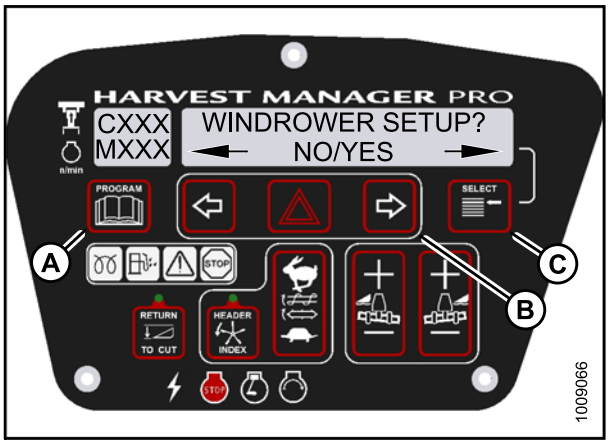

Figure 4.126: M155 CDM Programming Buttons

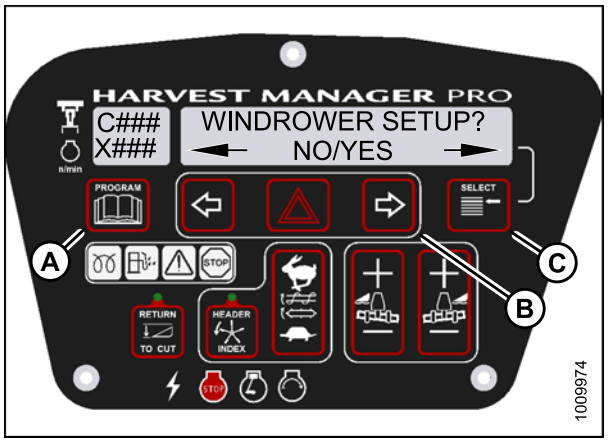

Figure 4.127: M205 CDM Programming Buttons

4. Press SELECT (D) until AUTO RAISE HEIGHT? is displayed on the upper line.
   - Last measurement is displayed on the lower line.

   NOTE:
   The auto raise height ranges from 4.0 (minimum) to 9.5 (maximum), in 0.5 increments. A setting of 10 disables the auto raise function.

5. Press left (B) arrow or right (C) arrow to change auto-raise height.
6. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

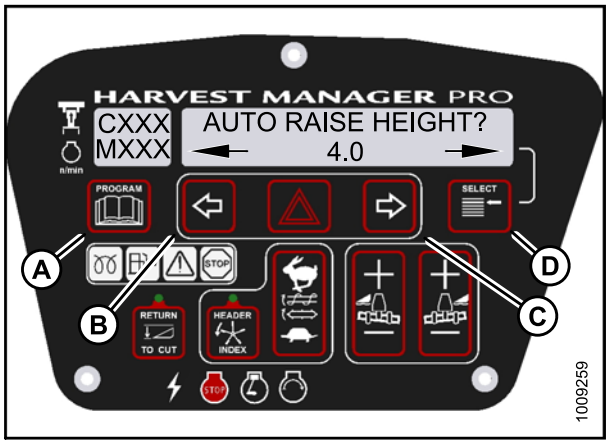

Figure 4.128: M155 Auto Raise Height

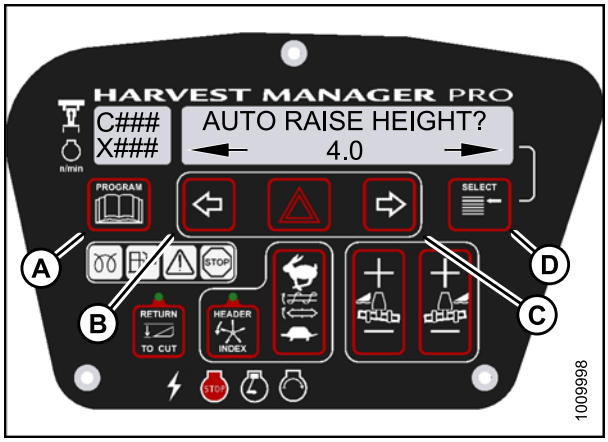

Figure 4.129: M205 Auto Raise Height

4.4.14 Activating the Hay Conditioner

NOTE:

- This procedure is for draper headers only.
- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.
   - SELECT HEADER TYPE? is displayed on the upper line.

Figure 4.130: M105 CDM Programming Buttons

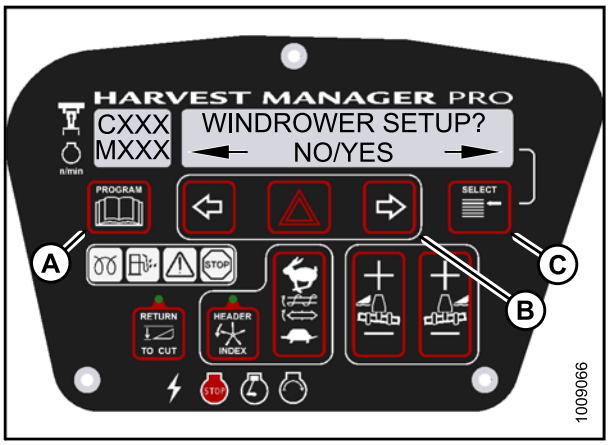

Figure 4.131: M155 CDM Programming Buttons Shown – M205 Similar

4. Press SELECT (C) until HAY CONDITIONER? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right (B) arrow to select YES. Press SELECT (C).
6. Press PROGRAM (A) to exit Programming Mode or press SELECT (C) to proceed to next WINDROWER SETUP action.

Figure 4.132: M105 Hay Conditioner

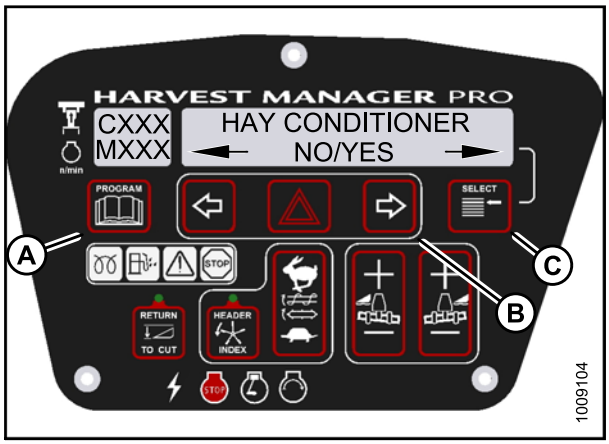

Figure 4.133: M155 Hay Conditioner Shown – M205 Similar

4.4.15 Displaying Reel Speed

NOTE:

- This procedure is for draper and auger headers. It does not apply to rotary disc headers.
- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on CDM to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

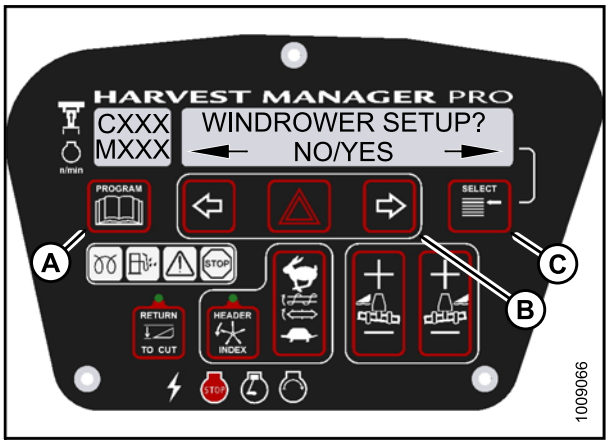

Figure 4.134: M155 CDM Programming Buttons

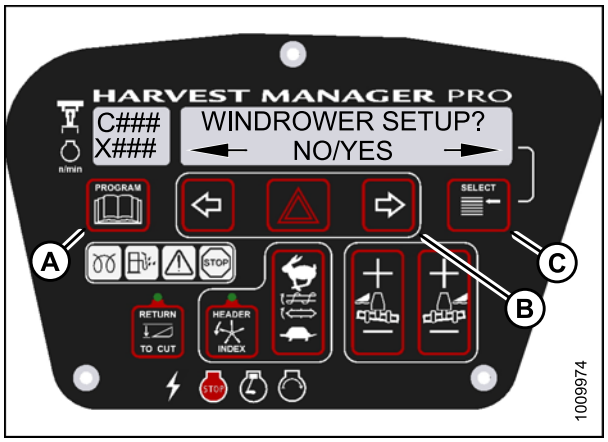

Figure 4.135: M205 CDM Programming Buttons

4. Press SELECT (D) until HEADER REEL SPEED? is displayed on the upper line.
   - RPM/MPH or RPM/KPH is displayed on the lower line.
5. Press left (B) or right (C) arrow to select either Imperial or Metric units. Press SELECT (D).
6. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

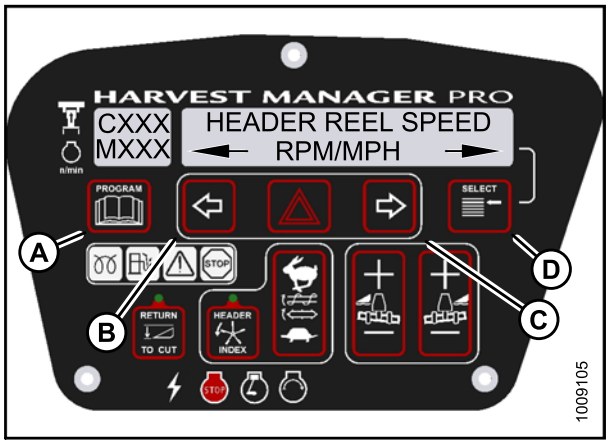

Figure 4.136: M155 Reel Speed Display

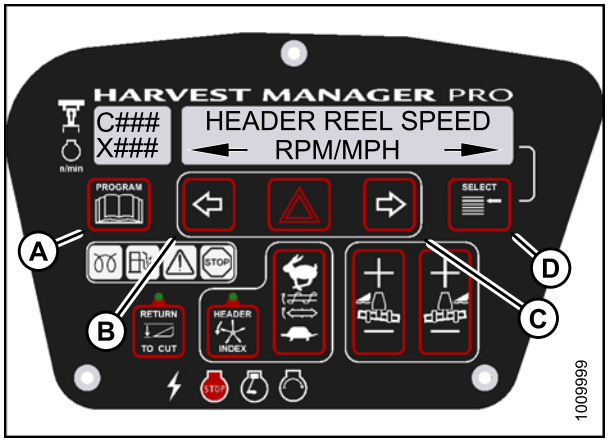

Figure 4.137: M205 Reel Speed Display

4.4.16 Displaying the Speed of the Auger Header Reel

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SELECT HEADER TYPE? is displayed on the upper line.

Figure 4.138: CDM Programming Buttons

4. Press SELECT (D) until AUGER HDR REEL SPD? is displayed on the upper line.
   - RPM/MPH is displayed on the lower line.
5. Press left (B) or right (C) arrow to select either Imperial (mph) or Metric (km/h) units. Press SELECT (D).
6. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

Figure 4.139: Auger Reel Speed

4.4.17 Setting the Windrower's Tire Size

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.
   - SELECT HEADER TYPE? is displayed on the upper line.

Figure 4.140: M105 CDM Programming Buttons

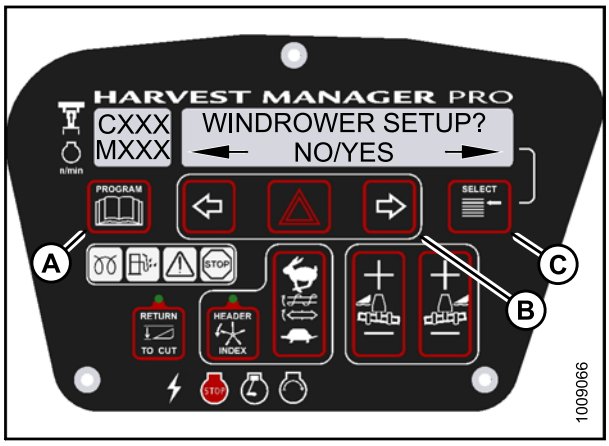

Figure 4.141: M155 CDM Programming Buttons

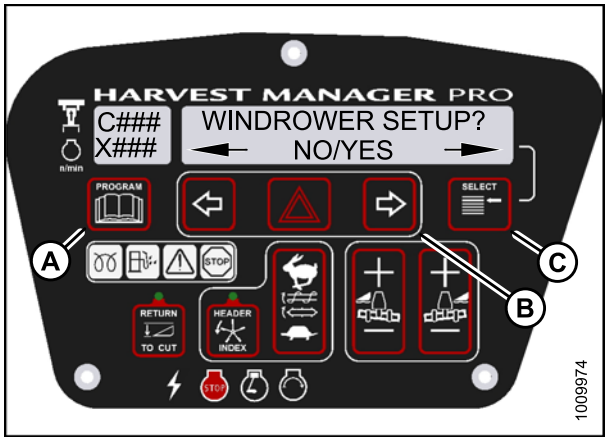

Figure 4.142: M205 CDM Programming Buttons

4. Press SELECT (D) until SET TIRE SIZE? is displayed on the upper line.
   - Currently installed tire size is displayed on the lower line.

   NOTE:
   The following tire sizes are available:
   - 18.4 x 26 TURF
   - 18.4 x 26 BAR
   - 23.1 x 26 TURF
   - 600 – 65 R28

5. Press left (B) or right (C) arrow and select tire size. Press SELECT (D).
6. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

Figure 4.143: M105 Tire Size

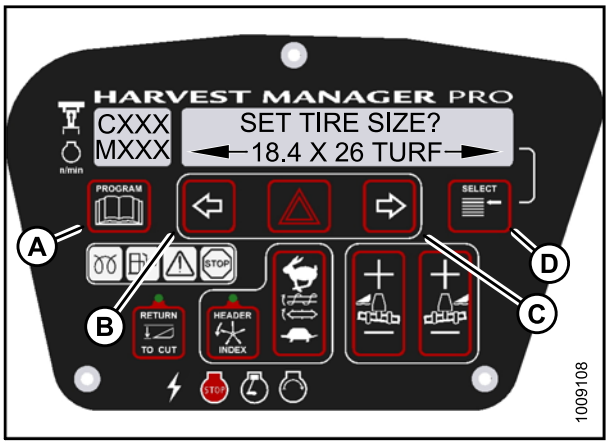

Figure 4.144: M155 Tire Size

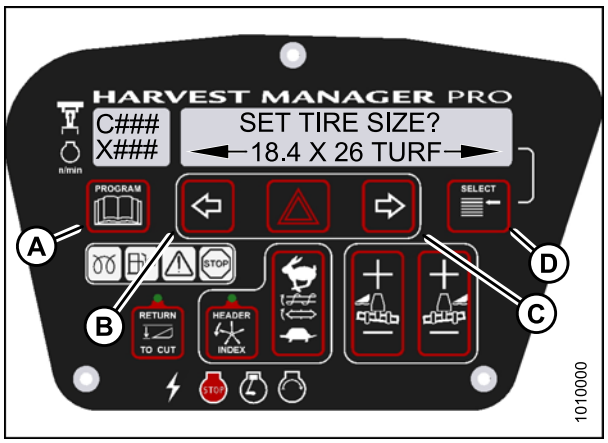

Figure 4.145: M205 Tire Size

4.4.18 Setting the Engine Intermediate Speed Control (ISC) RPM on an M105

The ISC sets the engine speed when the header is engaged.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SELECT HEADER TYPE? is displayed on the upper line.

Figure 4.146: CDM Programming Buttons

4. Press SELECT (C) until SET ENGINE ISC RPM? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right (B) arrow to select YES. Press SELECT (C).
   - PRESS HAZARD TO SET is displayed on the upper line.
   - ISC RPM ON is displayed on the lower line.

Figure 4.147: Engine ISC RPM

NOTE:
Previous ISC selection is flashing.

6. Press right (C) arrow to cycle between ON and OFF. Press HAZARD (B) to set.

NOTE:
Choosing ON sets the Engine ISC to 2300 rpm.

7. Press SELECT (D).
   - EXIT ENGINE ISC? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
8. Press right (C) arrow to select YES. Press SELECT (D).
9. Press PROGRAM (A) to exit Programming Mode.

Figure 4.148: ISC RPM

4.4.19 Setting the Engine Intermediate Speed Control (ISC) RPM on an M155/M205

NOTE:
The engine **MUST** be running to perform this procedure.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

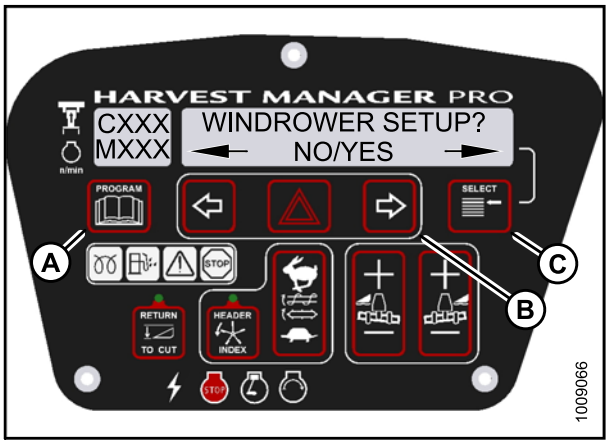

Figure 4.149: M155 CDM Programming Buttons

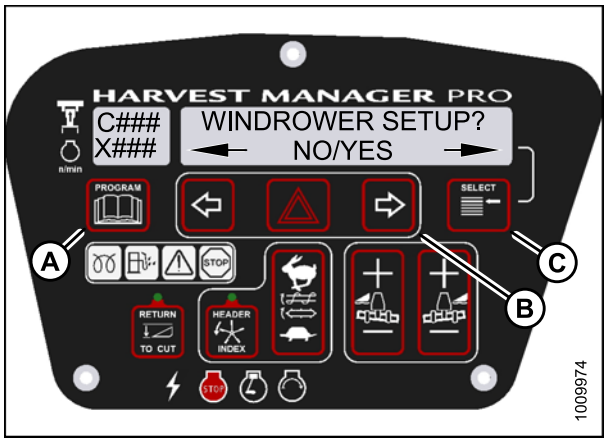

Figure 4.150: M205 CDM Programming Buttons

4. Press SELECT (C) until SET ENGINE ISC RPM? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right (B) arrow to select YES. Press SELECT (C).
   - PRESS HAZARD TO SET is displayed on the upper line.
   - ISC RPM #### is displayed on the lower line.

Table 4.1 ISC Settings

ISC and RPM			
Off[7]	1	2	3
High Idle (M155)[8]	2200[9]	2000	1800
High Idle (M205)	2000	1800	1600

NOTE:
The previously selected ISC rpm will be flashing.

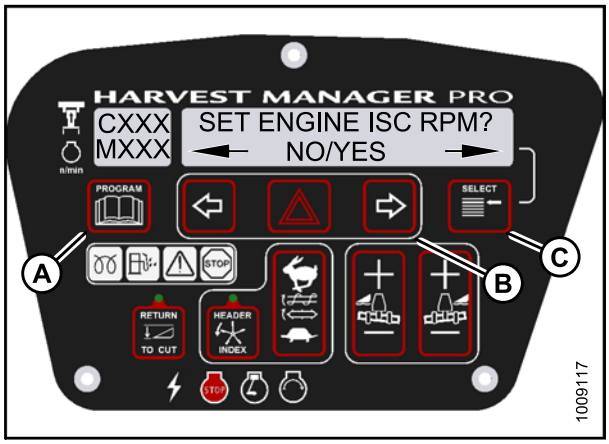

Figure 4.151: M155 Engine ISC RPM

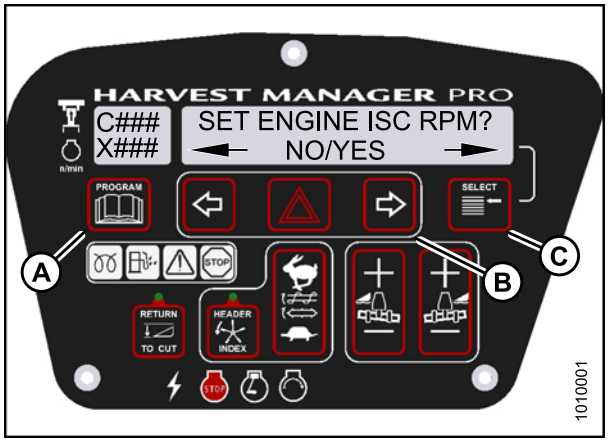

Figure 4.152: M205 Engine ISC RPM

7. Off is always used when the header is not engaged.
8. Off does not appear on menu selection but is used when the header is not engaged.
9. Default Setting

6. Press right (C) arrow to cycle between rpm options. Press HAZARD (B) to set.
7. Press Select (D).
   - EXIT ENGINE ISC? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
8. Press right (C) arrow to select YES. Press SELECT (D).
9. Press PROGRAM (A) to exit Programming Mode.

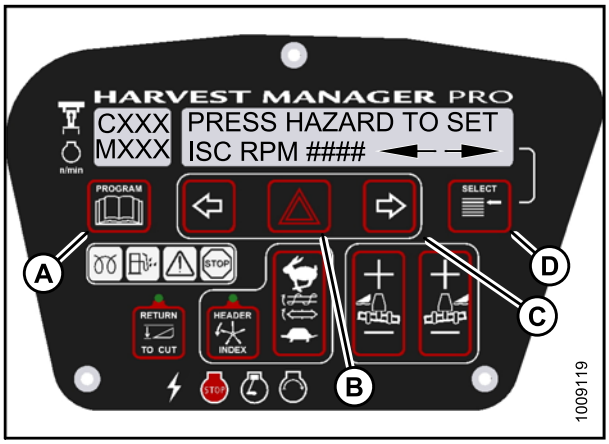

Figure 4.153: M155 ISC RPM

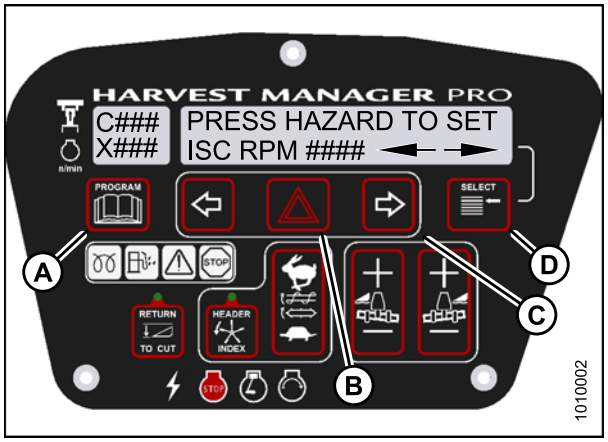

Figure 4.154: M205 ISC RPM

4.4.20 Clearing Sub-Acres

1. With the key in the ON position, and the operator's station in cab-forward mode, press SELECT until the cab display module (CDM) displays sub-acres on the bottom line. Then press and hold the PROGRAM (A) button on the CDM until the sub-acres are cleared.

Figure 4.155: M105 Cab Display Module (CDM)

Figure 4.156: M155 Cab Display Module (CDM)

Figure 4.157: M205 Cab Display Module (CDM)

4.5 Activating Cab Display Lockouts

You can lock some of the header functions controlled by the cab display module (CDM) to prevent accidental changes to header settings. You can use this feature to keep header settings constant when several different Operators use the windrower.

NOTE:
FUNCTION LOCKED flashes on CDM when locked header function switch is pressed.

4.5.1 Activating Knife Speed Control Lockout

NOTE:
The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

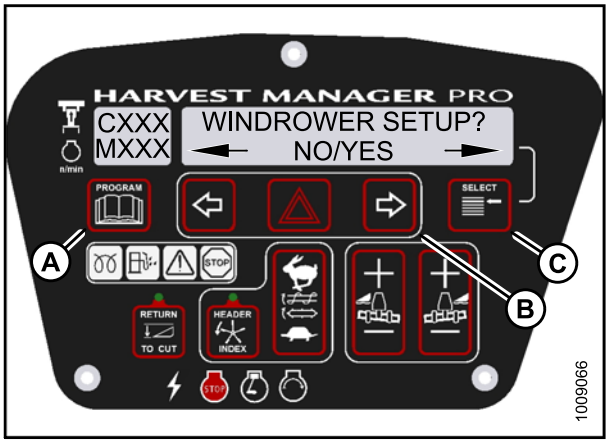

Figure 4.158: M155 CDM Programming Buttons

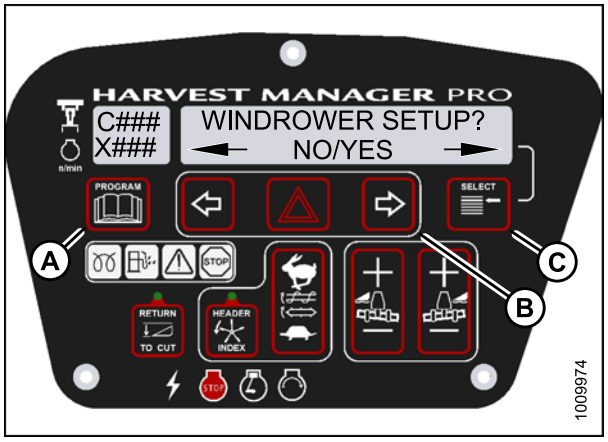

Figure 4.159: M205 CDM Programming Buttons

4. Press SELECT (B) until SET CONTROL LOCKS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right (A) arrow to select YES. Press SELECT (B).

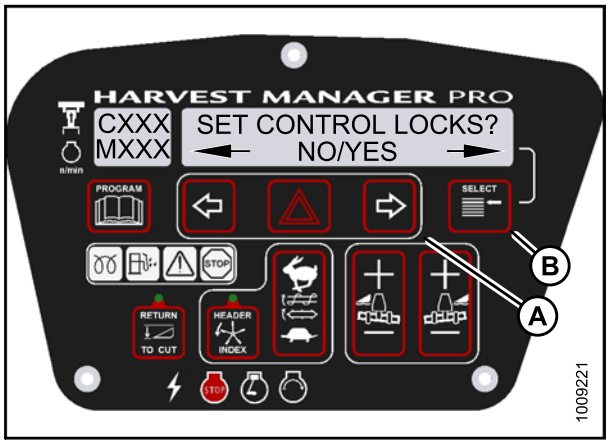

Figure 4.160: M155 Control Locks

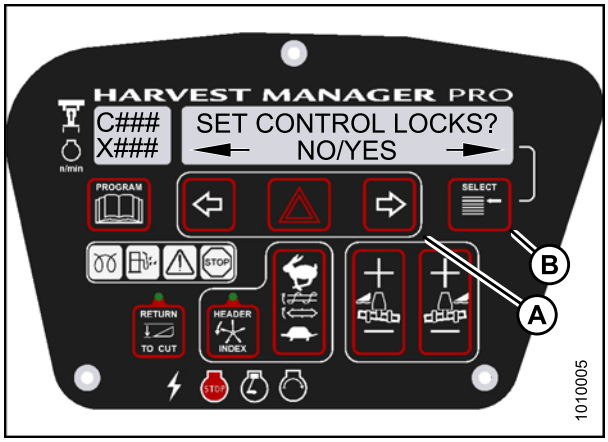

Figure 4.161: M205 Control Locks

6. Press SELECT (D) until KNIFE SPEED is displayed on the upper line.
   - ENABLED/LOCKED is displayed on the lower line.
7. Press left arrow (B) to enable KNIFE SPEED control switch, or press right arrow (C) to lock KNIFE SPEED control switch.
8. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

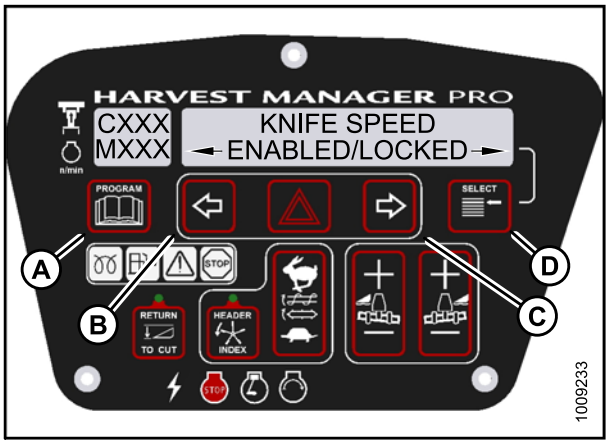

Figure 4.162: M155 Knife Speed Control Lock

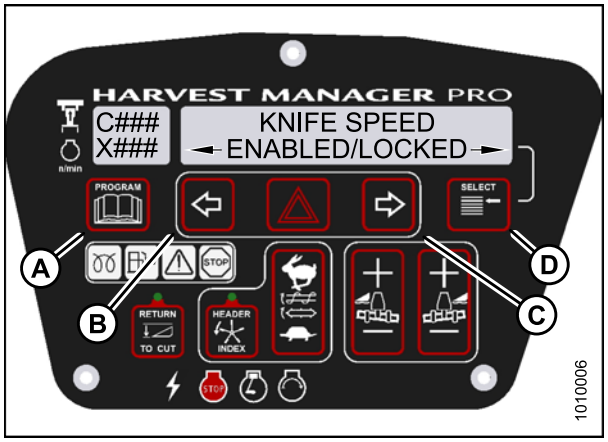

Figure 4.163: M205 Knife Speed Control Lock

4.5.2 Activating Rotary Disc Speed Control Lockout

NOTE:

- This procedure is for rotary disc headers only.
- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

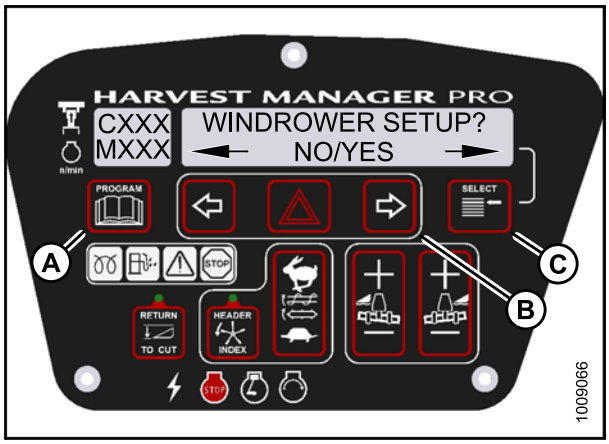

Figure 4.164: M155 CDM Programming Buttons

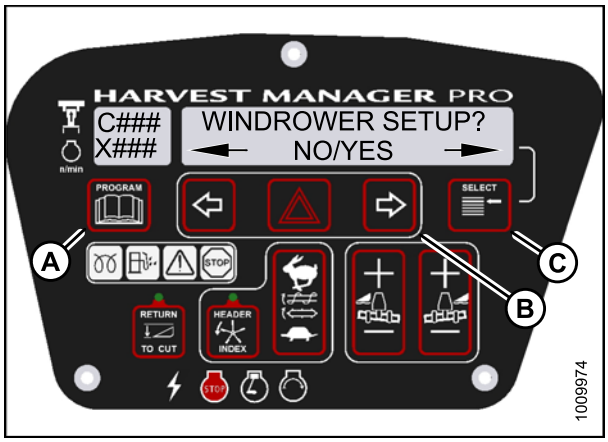

Figure 4.165: M205 CDM Programming Buttons

4. Press SELECT (B) until SET CONTROL LOCKS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right (A) arrow to select YES. Press SELECT (B).

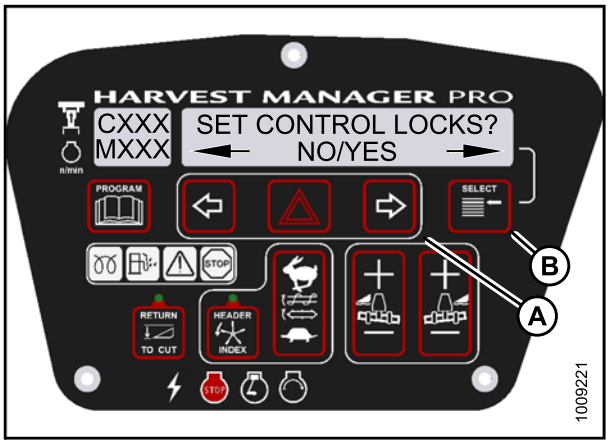

Figure 4.166: M155 Control Locks

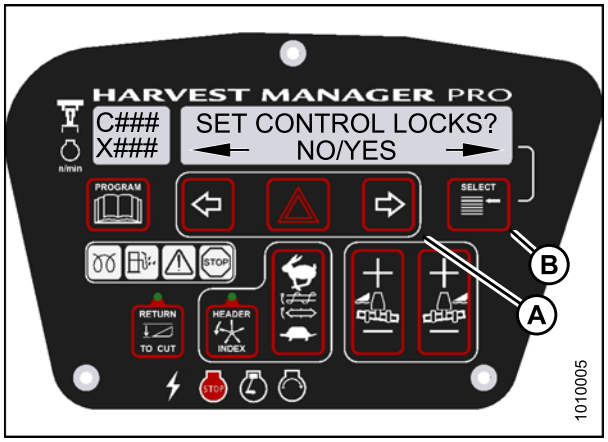

Figure 4.167: M205 Control Locks

6. Press SELECT (D) until DISK SPEED is displayed on the upper line.
   - ENABLED/LOCKED is displayed on the lower line.
7. Press left arrow (B) to enable DISK SPEED control switch, or press right arrow (C) to lock DISK SPEED control switch.
8. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

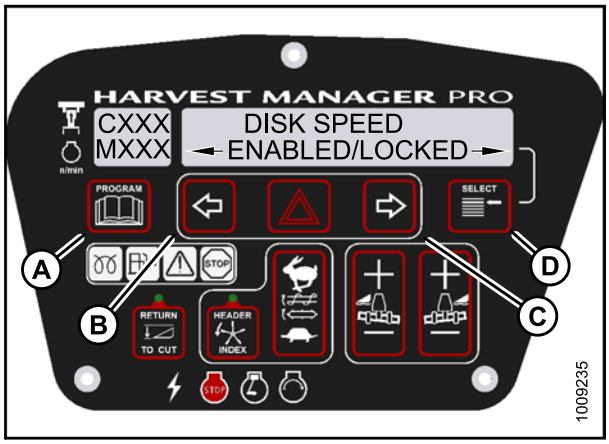

Figure 4.168: M155 Disc Speed Control Lock

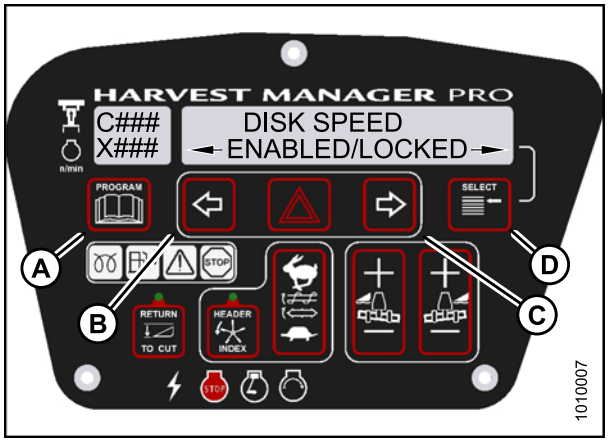

Figure 4.169: M205 Disc Speed Control Lock

4.5.3 Activating the Header Float Control Lockout

NOTE:
The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.

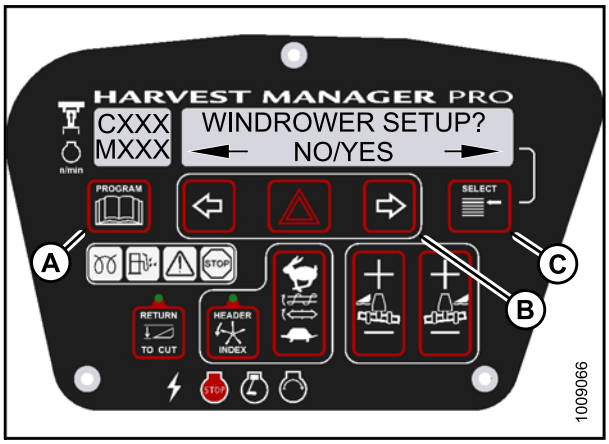

Figure 4.170: M155 CDM Programming Buttons

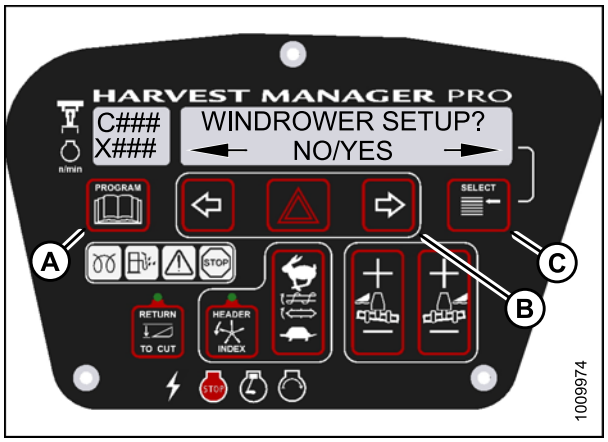

Figure 4.171: M205 CDM Programming Buttons

4. Press SELECT (B) until SET CONTROL LOCKS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right (A) arrow to select YES. Press SELECT (B).

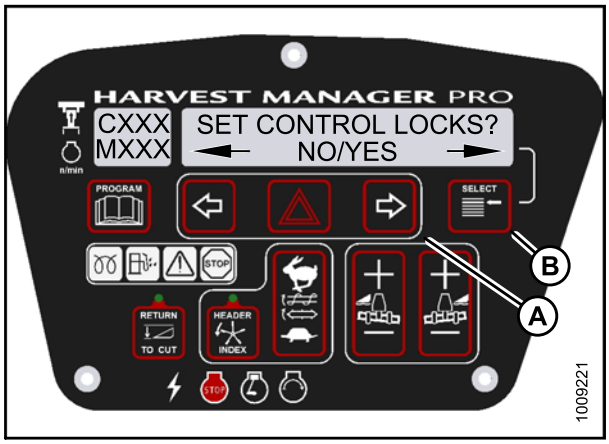

Figure 4.172: M155 Control Locks

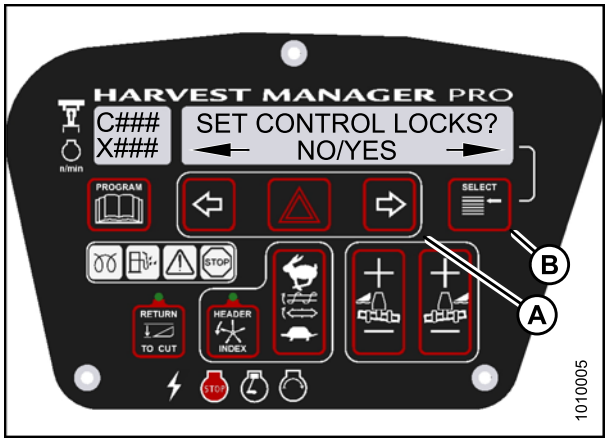

Figure 4.173: M205 Control Locks

6. Press SELECT (D) until HEADER FLOAT is displayed on the upper line.
   - ENABLED/LOCKED is displayed on the lower line.
7. Press left arrow (B) to enable HEADER FLOAT control switch, or press right arrow (C) to lock HEADER FLOAT control switch.
8. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

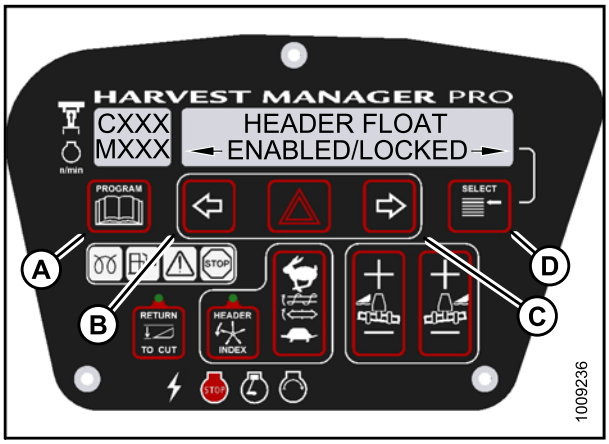

Figure 4.174: M155 Header Float Control Lock

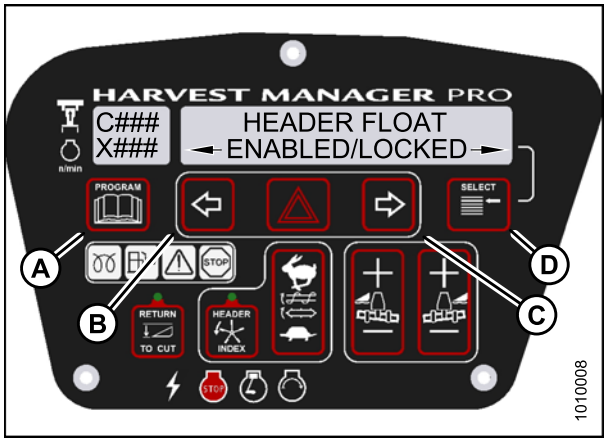

Figure 4.175: M205 Header Float Control Lock

4.5.4 Activating the Draper Speed Control Lockout

NOTE:

- This procedure is for draper headers only.
- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.
   - SELECT HEADER TYPE? is displayed on the upper line.

Figure 4.176: M105 CDM Programming Buttons

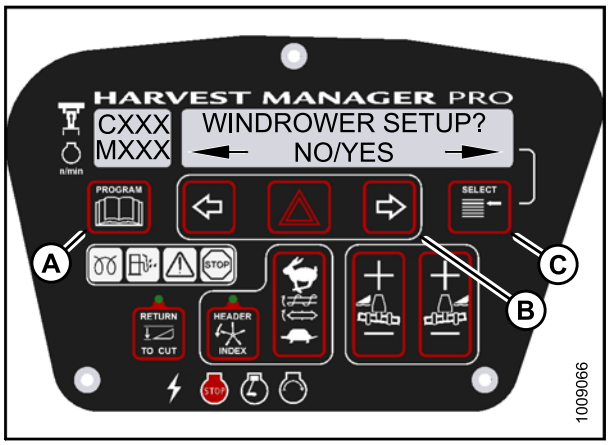

Figure 4.177: M155 CDM Programming Buttons

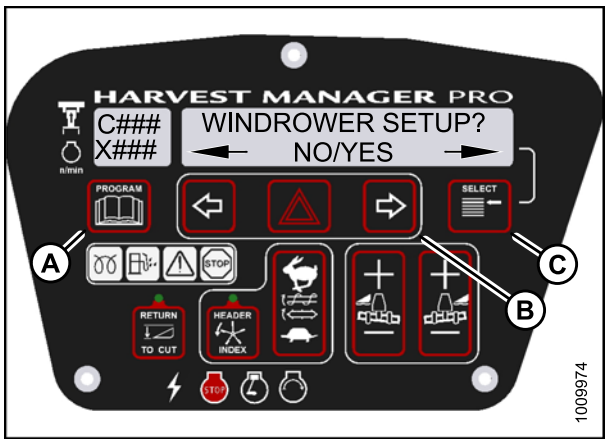

Figure 4.178: M205 CDM Programming Buttons

4. Press SELECT (B) until SET CONTROL LOCKS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right (A) arrow to select YES. Press SELECT (B).

Figure 4.179: M105 Control Locks

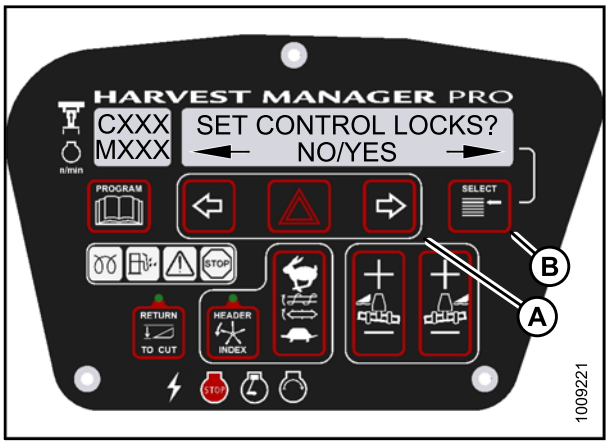

Figure 4.180: M155 Control Locks

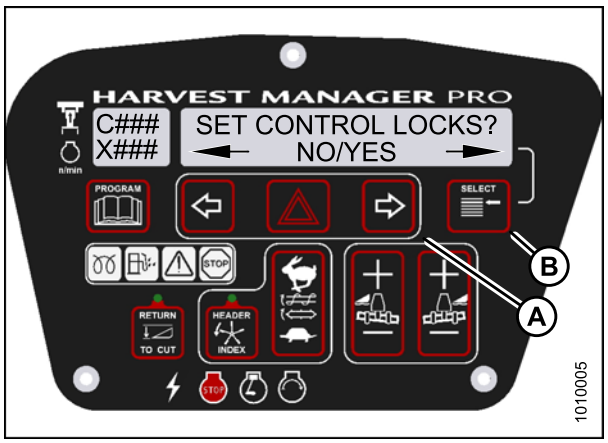

Figure 4.181: M205 Control Locks

6. Press SELECT (D) until DRAPER SPEED is displayed on the upper line.
   - ENABLED/LOCKED is displayed on the lower line.
7. Press left arrow (B) to enable DRAPER SPEED control switch, or press right arrow (C) to lock DRAPER SPEED control switch.
8. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next WINDROWER SETUP action.

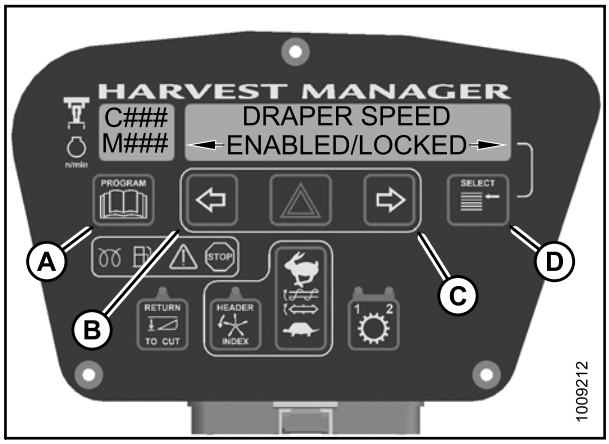

Figure 4.182: M105 Draper Control Lock

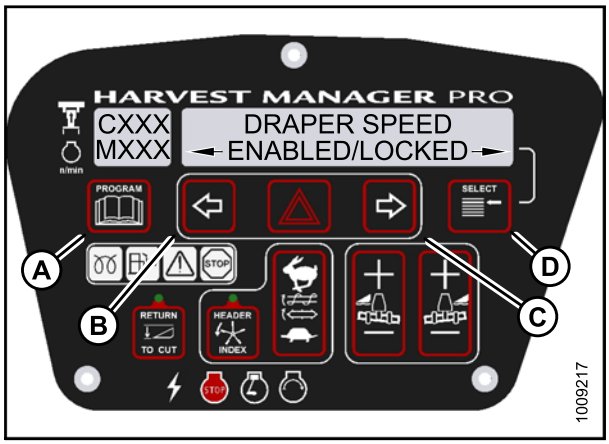

Figure 4.183: M155 Draper Control Lock

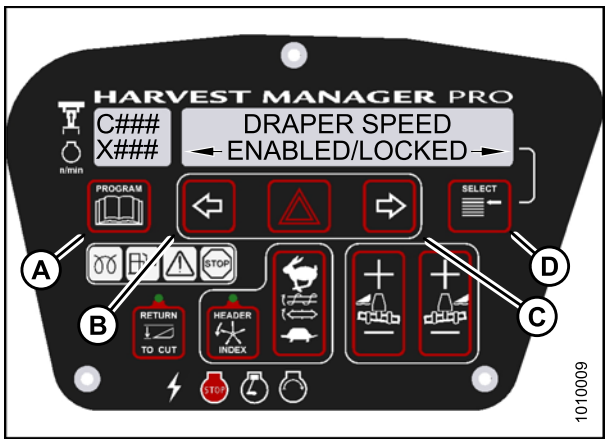

Figure 4.184: M205 Draper Control Lock

4.5.5 Activating the Auger Speed Control Lockout

NOTE:

- This procedure is for A40-D Headers only.
- An auger header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.
   - SELECT HEADER TYPE? is displayed on the upper line.

Figure 4.185: M105 CDM Programming Buttons

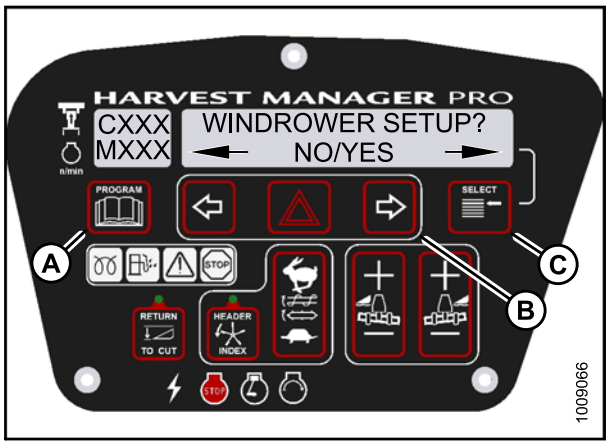

Figure 4.186: M155 CDM Programming Buttons

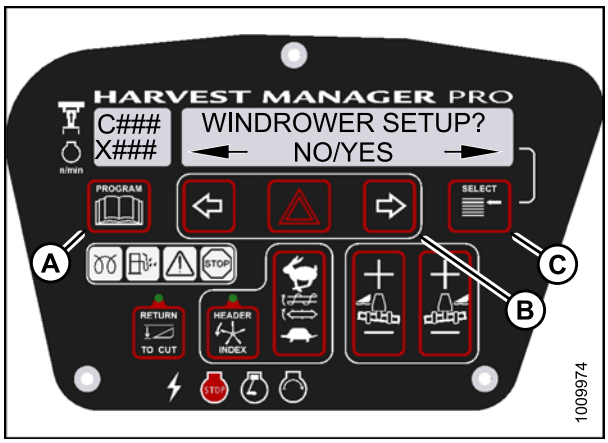

Figure 4.187: M205 CDM Programming Buttons

4. Press SELECT (B) until SET CONTROL LOCKS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right (A) arrow to select YES. Press SELECT (B).

Figure 4.188: M105 Control Locks

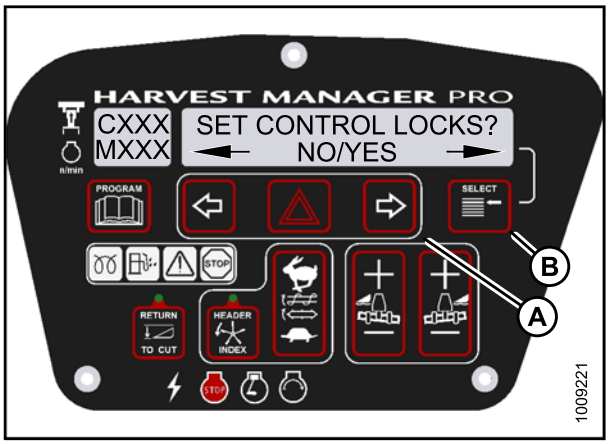

Figure 4.189: M155 Control Locks

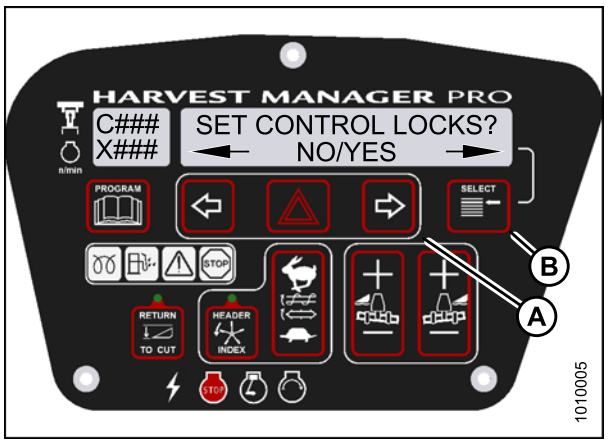

Figure 4.190: M205 Control Locks

6. Press SELECT (D) until AUGER SPEED is displayed on the upper line.
   - ENABLED/LOCKED is displayed on the lower line.
7. Press left (B) arrow to enable AUGER SPEED control switch.
   Press right (C) arrow to lock AUGER SPEED control switch.
8. Press PROGRAM (A) to exit Programming Mode, or press SELECT (D) to proceed to next WINDROWER SETUP action.

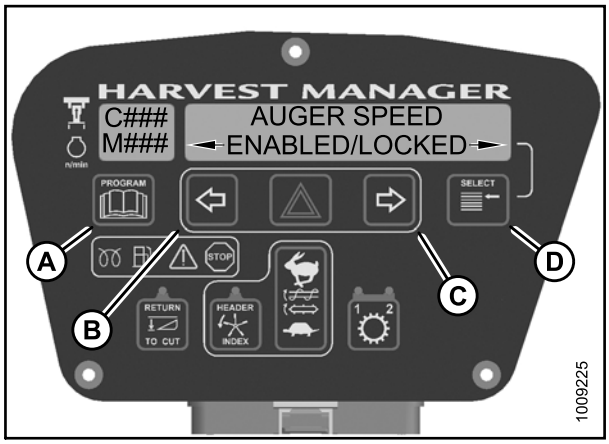

Figure 4.191: M105 Auger Control Lock

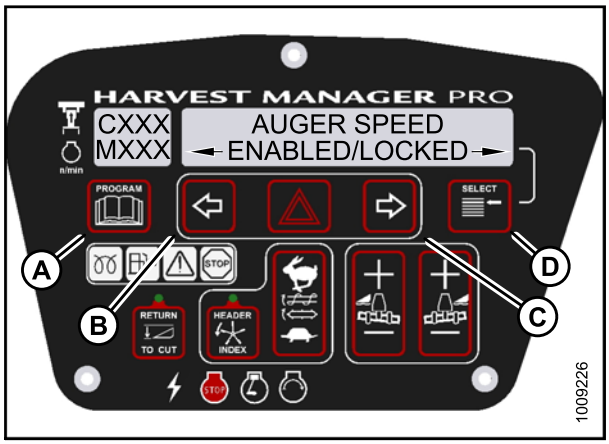

Figure 4.192: M155 Auger Control Lock

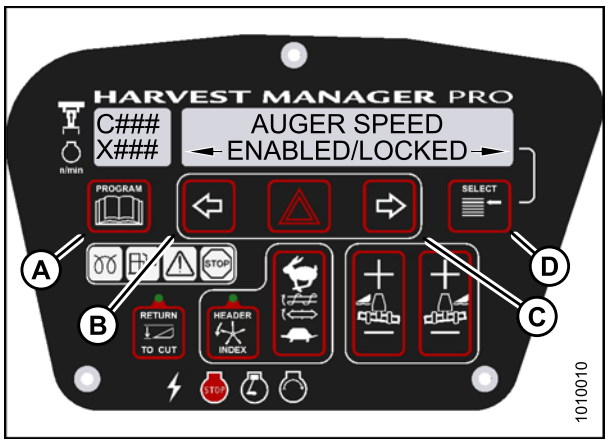

Figure 4.193: M205 Auger Control Lock

4.5.6 Activating the Reel Speed Control Lockout

NOTE:
The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

NOTE:
Reel Speed Control Lock is displayed with installation of the optional Expansion Module (MD #B4666). For more information, refer to the windrower operator's manual or the windrower technical manual.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.
   - SELECT HEADER TYPE? is displayed on the upper line.

Figure 4.194: M105 CDM Programming Buttons

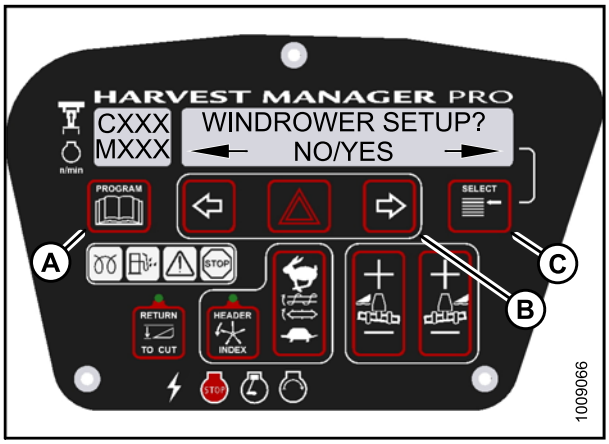

Figure 4.195: M155 CDM Programming Buttons

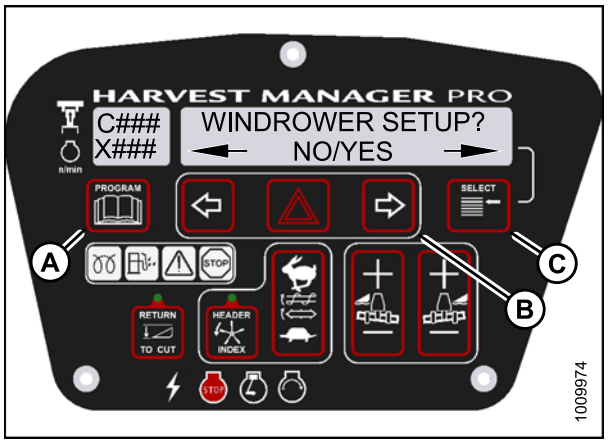

Figure 4.196: M205 CDM Programming Buttons

4. Press SELECT (B) until SET CONTROL LOCKS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right (A) arrow to select YES. Press SELECT (B).

Figure 4.197: M105 Control Locks

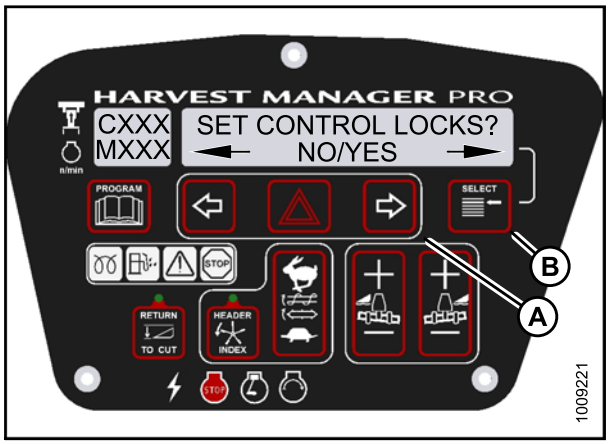

Figure 4.198: M155 Control Locks

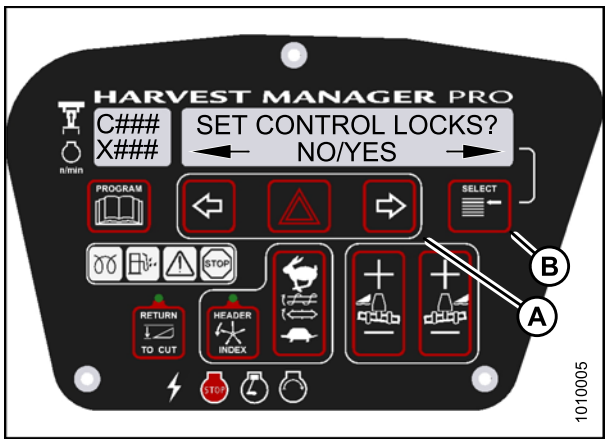

Figure 4.199: M205 Control Locks

6. Press SELECT (D) until REEL SPEED is displayed on the upper line.
   - ENABLED/LOCKED is displayed on the lower line.
7. Press left (B) arrow to enable REEL SPEED control switch.
   Press right (C) arrow to lock REEL SPEED control switch.
8. Press PROGRAM (A) to exit Programming Mode, or press SELECT (D) to proceed to next WINDROWER SETUP action.

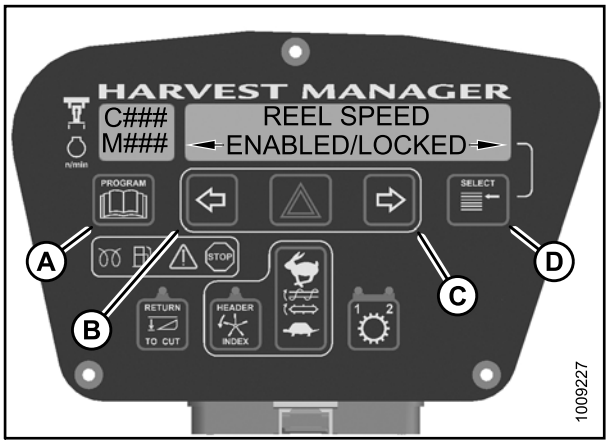

Figure 4.200: M105 Reel Speed Control Lock

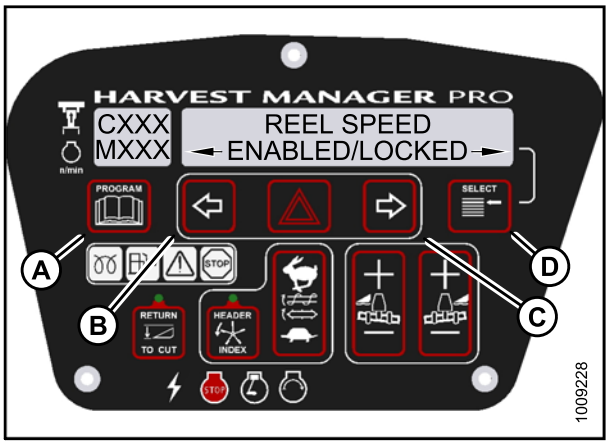

Figure 4.201: M155 Reel Speed Control Lock

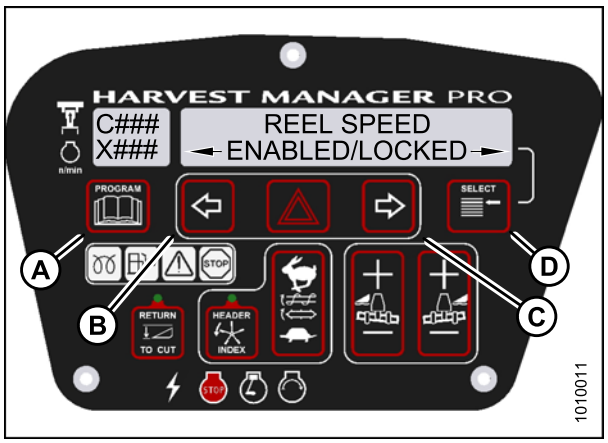

Figure 4.202: M205 Reel Speed Control Lock

4.5.7 Activating the Reel Fore-Aft Control Lockout

NOTE:

- This procedure is for draper headers only.
- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.
- The Reel Fore-Aft option requires installation of the optional Windrower Hydraulic Fore-Aft Kit (MD #B5577). For more information, refer to the windrower operator's manual or the windrower technical manual.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.
   - SELECT HEADER TYPE? is displayed on the upper line.

Figure 4.203: M105 CDM Programming Buttons

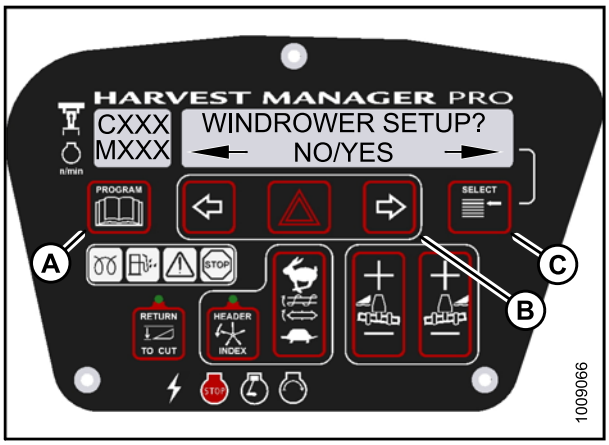

Figure 4.204: M155 CDM Programming Buttons

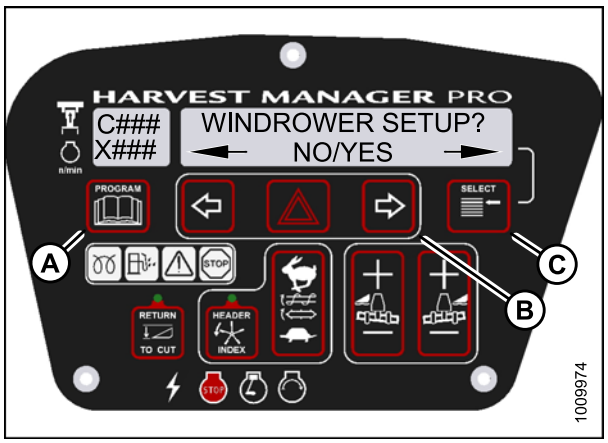

Figure 4.205: M205 CDM Programming Buttons

4. Press SELECT (B) until SET CONTROL LOCKS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right (A) arrow to select YES. Press SELECT (B).

Figure 4.206: M105 Control Locks

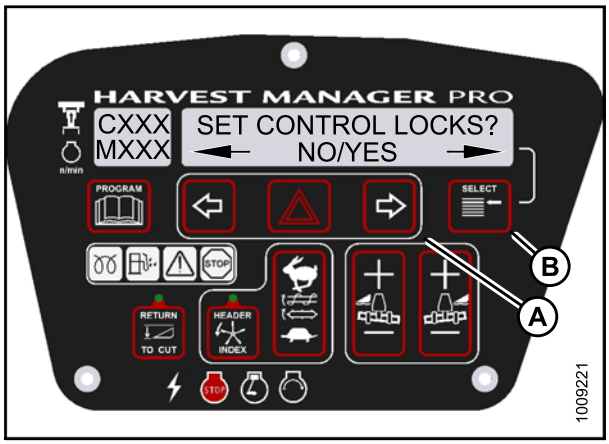

Figure 4.207: M155 Control Locks

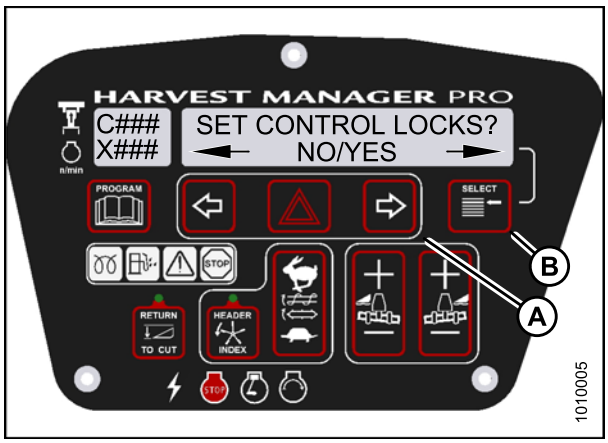

Figure 4.208: M205 Control Locks

6. Press SELECT (D) until REEL FORE/AFT is displayed on the upper line.
   - ENABLED/LOCKED is displayed on the lower line.
7. Press left (B) arrow to enable REEL FORE/AFT control switch.
   Press right (C) arrow to lock REEL FORE/AFT control switch.
8. Press PROGRAM (A) to exit Programming Mode, or press SELECT (D) to proceed to next WINDROWER SETUP action.

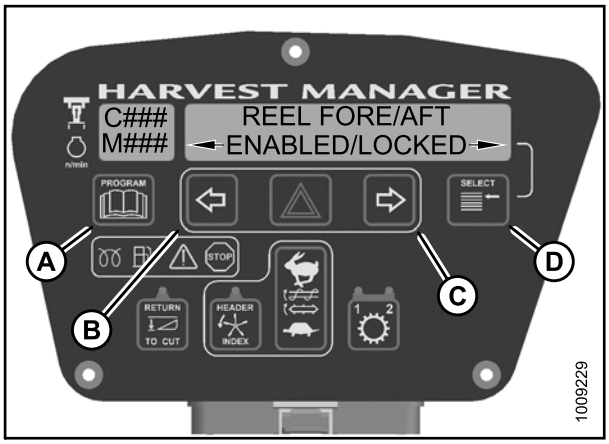

Figure 4.209: M105 Reel Fore-Aft Control Lock

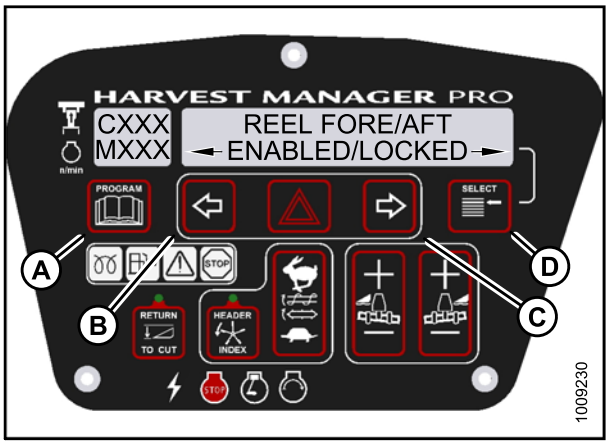

Figure 4.210: M155 Reel Fore-Aft Control Lock

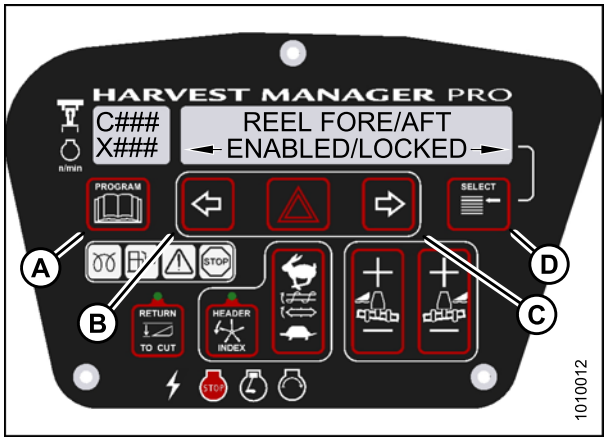

Figure 4.211: M205 Reel Fore-Aft Control Lock

4.5.8 Activating the Header Tilt Control Lockout

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.
- This procedure requires installation of the optional Hydraulic Center-Link (MD #B4650) and optional Auxiliary Valve (MD #B5269).
- Displaying center-link position on cab display module (CDM) requires installation of the optional Expansion Module (MD #B4666). For more information, refer to the windrower operator's manual or the windrower technical manual.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.
   - SELECT HEADER TYPE? is displayed on the upper line.

Figure 4.212: M105 CDM Programming Buttons

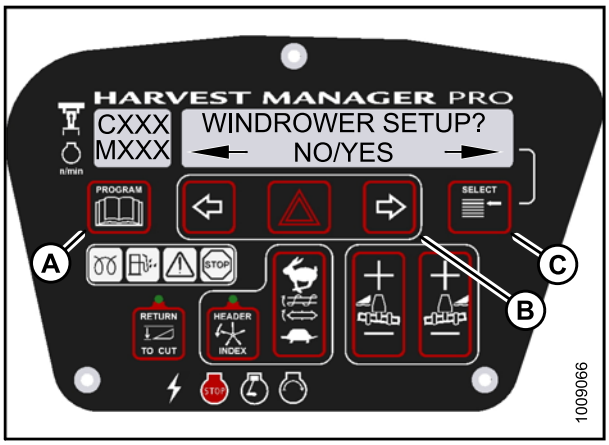

Figure 4.213: M155 CDM Programming Buttons

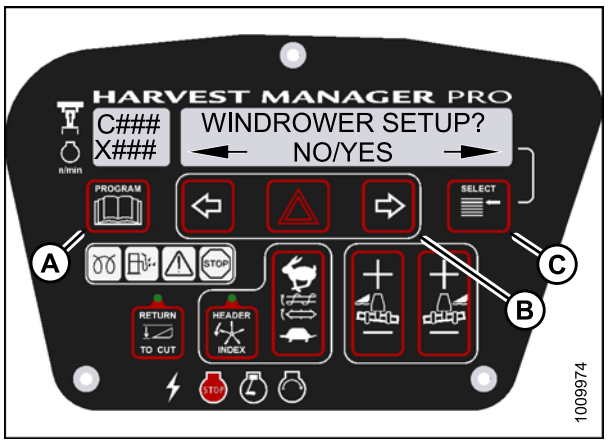

Figure 4.214: M205 CDM Programming Buttons

4. Press SELECT (B) until SET CONTROL LOCKS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right (A) arrow to select YES. Press SELECT (B).

Figure 4.215: M105 Control Locks

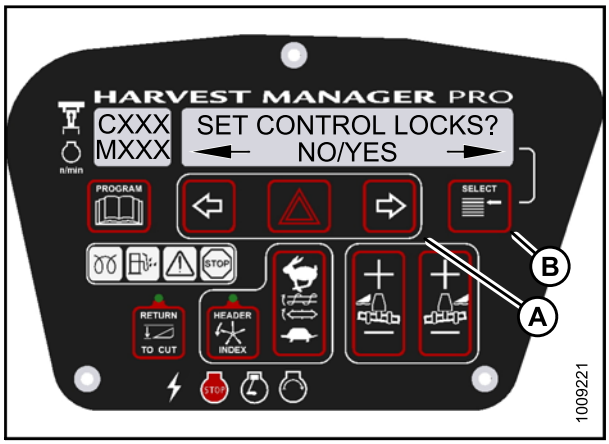

Figure 4.216: M155 Control Locks

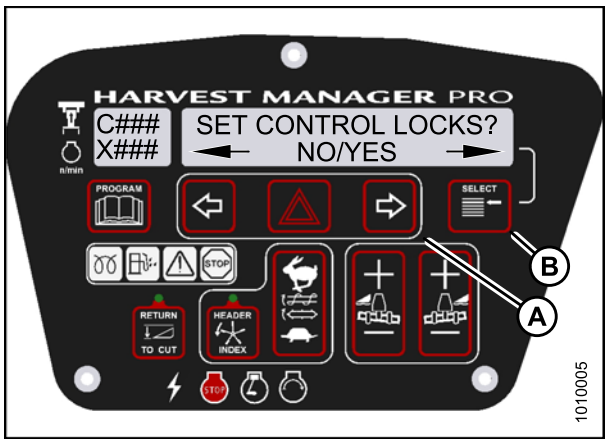

Figure 4.217: M205 Control Locks

6. Press SELECT (D) until HEADER TILT is displayed on the upper line.
   - ENABLED/LOCKED is displayed on the lower line.
7. Press left (B) arrow to enable HEADER TILT control switch.
   Press right (C) arrow to lock HEADER TILT control switch.
8. Press PROGRAM (A) to exit Programming Mode, or press SELECT (D) to proceed to next WINDROWER SETUP action.

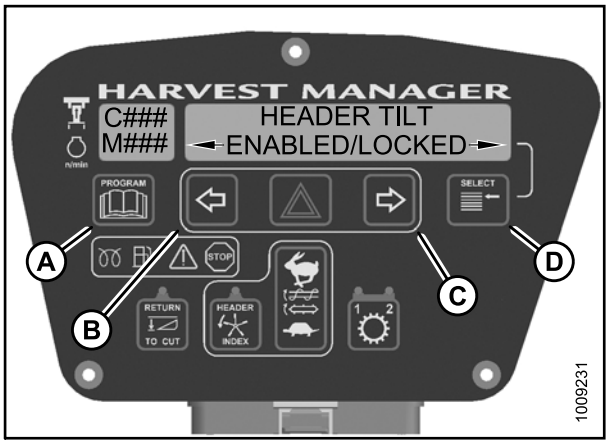

Figure 4.218: M105 Header Tilt Control Lock

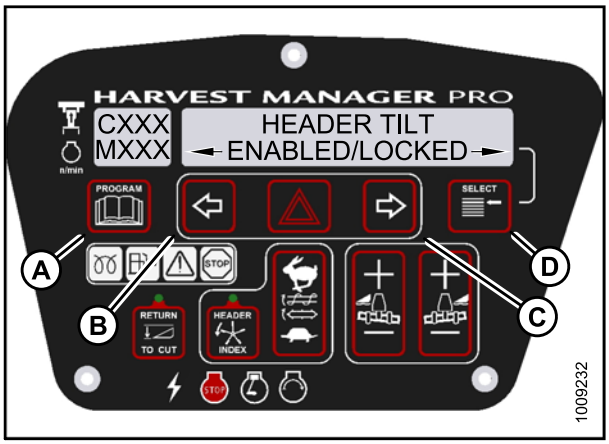

Figure 4.219: M155 Header Tilt Control Lock

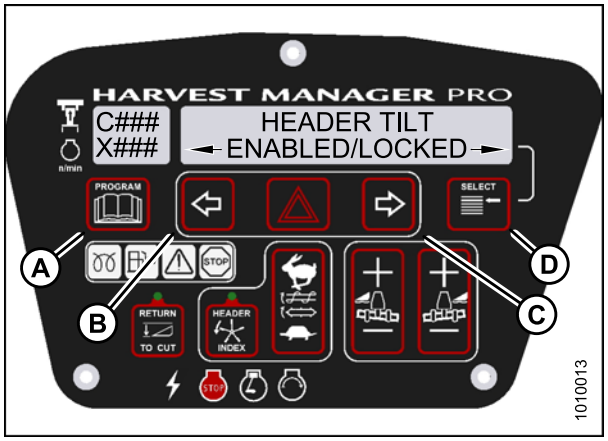

Figure 4.220: M205 Header Tilt Control Lock

4.6 Displaying Activated Cab Display Lockouts

Displaying the activated control locks allows you to quickly determine which controls are locked on the cab display module (CDM).

NOTE:

- Displaying auger and reel speed control locks requires installation of the optional Expansion Module (MD #B4666). For more information, refer to the windrower operator's manual or the windrower technical manual.
- Displaying reel fore-aft control lock requires installation of the optional windrower Hydraulic Fore-Aft kit (MD #B5577). For more information, refer to the windrower operator's manual or the windrower technical manual.
- Displaying header tilt control lock requires installation of the optional Hydraulic Center-Link (MD #B4650) and optional Auxiliary Valve (MD #B5269).

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press right (B) arrow to select YES. Press SELECT (C).
   - SET KNIFE SPEED? is displayed on the upper line.
   - SELECT HEADER TYPE? is displayed on the upper line.

Figure 4.221: M105 CDM Programming Buttons

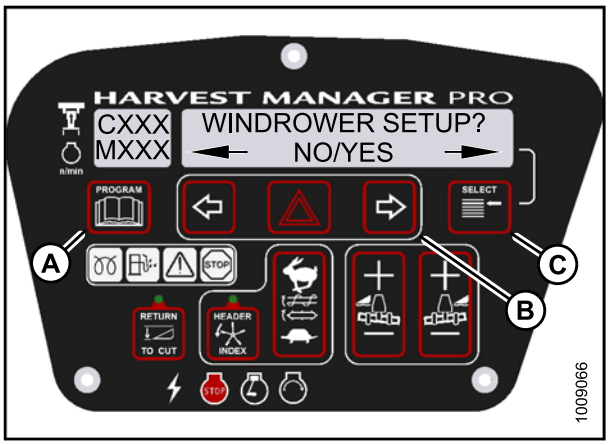

Figure 4.222: M155 CDM Programming Buttons

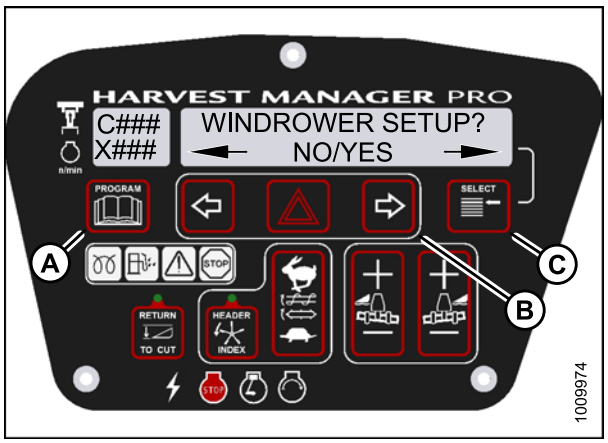

Figure 4.223: M205 CDM Programming Buttons

4. Press SELECT (B) until VIEW CONTROL LOCKS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
5. Press right (A) arrow to select YES. Press SELECT (B). DRAPER SPEED is displayed on the upper line.
   - The control switch status is displayed on the lower line. The hours displayed indicate when a switch was enabled or locked.

   HEADER TILT is displayed on the upper line.
   - The control switch status is displayed on the lower line. The hours displayed indicate when a switch was enabled or locked.

Figure 4.224: M105 Control Locks

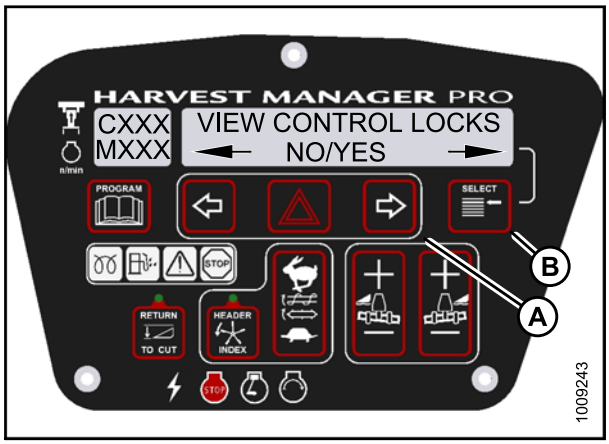

Figure 4.225: M155 Control Locks

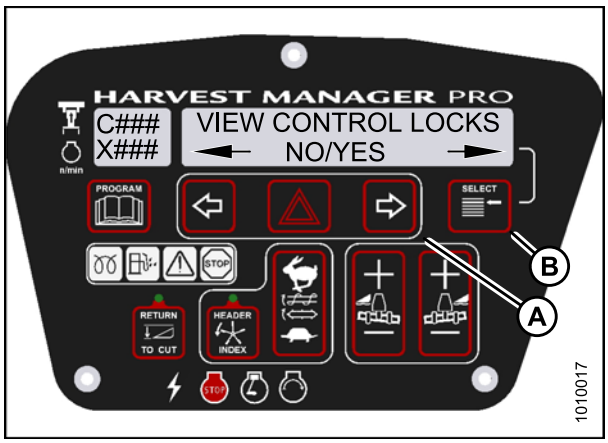

Figure 4.226: M205 Control Locks

6. Press left (B) or right (C) arrow to cycle between control switch lock outs. The displayed control switches are as follows:
   - HEADER TILT
   - HEADER FLOAT
   - REEL FORE/AFT
   - DRAPER SPEED
   - AUGER SPEED
   - KNIFE SPEED
   - DISK SPEED
   - REEL SPEED

   NOTE:
   Not all control locks apply to every header.

7. Press SELECT.
   - EXIT VIEW LOCKOUTS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
8. Press right to select YES.
9. Press PROGRAM to exit Programming Mode or press SELECT to proceed to next WINDROWER SETUP action.

Figure 4.227: M105 Control Locks

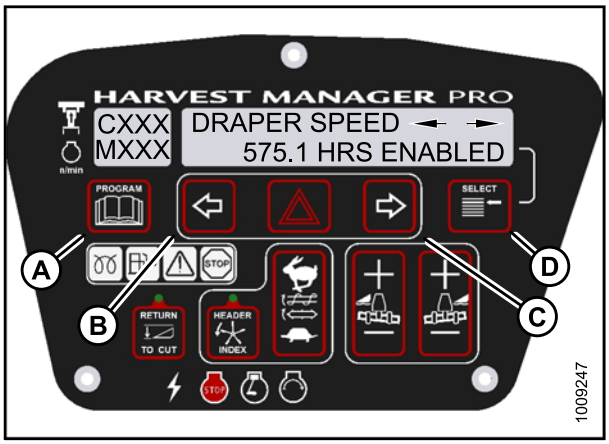

Figure 4.228: M155 Control Locks

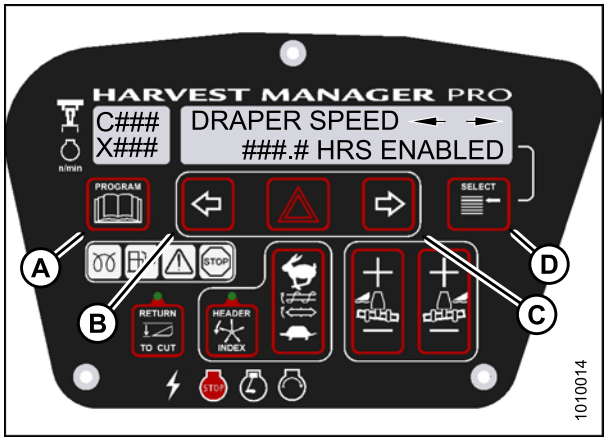

Figure 4.229: M205 Control Locks

4.7 Troubleshooting Windrower Problems

4.7.1 Displaying the Windrower and Engine Error Codes

NOTE:
The header **MUST** be attached to the windrower to perform this procedure.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode. Press SELECT (C).
   - WINDROWER SETUP? is displayed on the upper line.
3. Press SELECT (C) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.

Figure 4.230: M105 CDM Programming Buttons

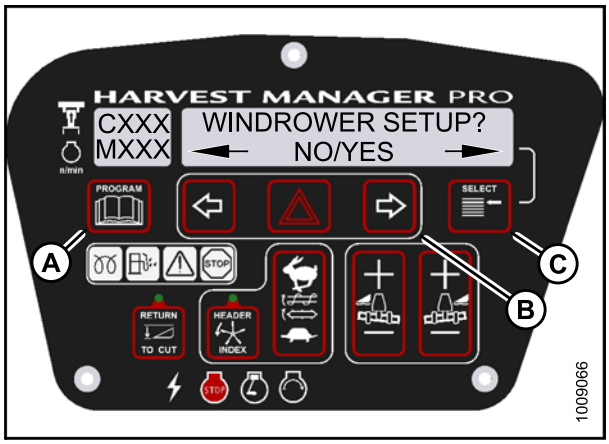

Figure 4.231: M155 CDM Programming Buttons

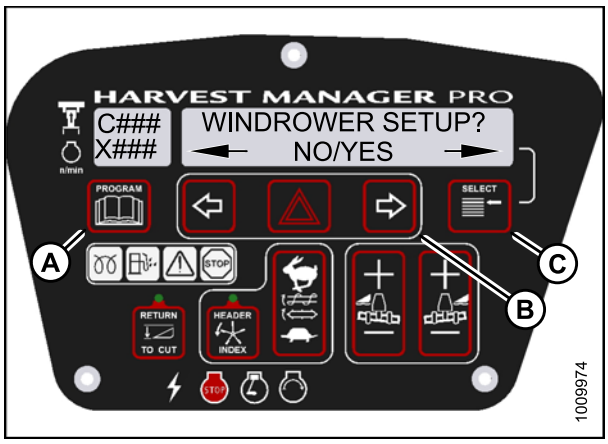

Figure 4.232: M205 CDM Programming Buttons

4. Press right (A) arrow to select YES. Press SELECT (B).
5. VIEW ERROR CODES? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right (A) arrow to select YES. Press SELECT (B).
   - VIEW WINDRWR CODES? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

Figure 4.233: M105 Diagnostic Functions

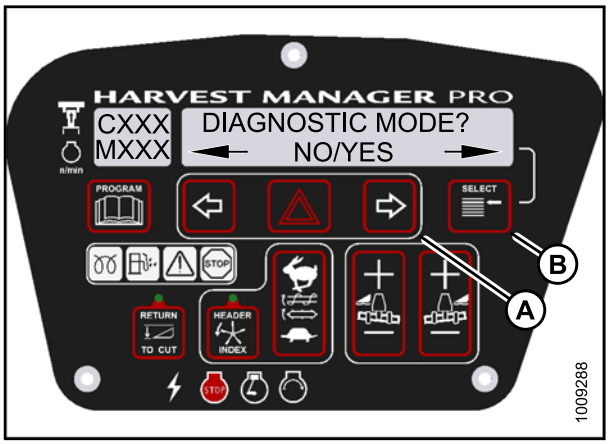

Figure 4.234: M155 Diagnostic Functions

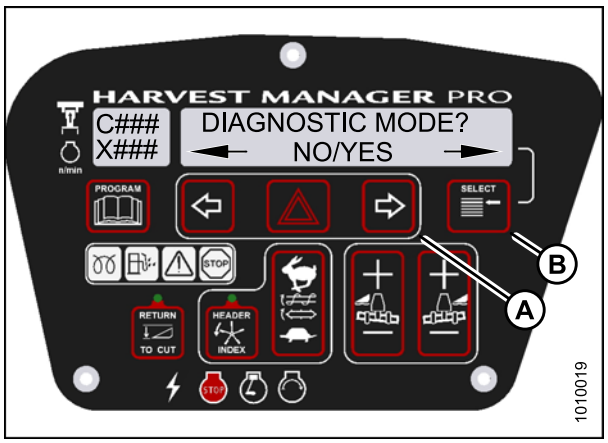

Figure 4.235: M205 Diagnostic Functions

7. Press right (C) arrow to select YES. Press SELECT (D).
   - The most recent error code will be displayed.
8. Press and left (B) or right (C) arrow to cycle through the last ten recorded errors until EXIT WINDRWR CODES is displayed.
9. Press right (C) arrow to select YES. Press SELECT (D).
10. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next DIAGNOSTIC MODE.

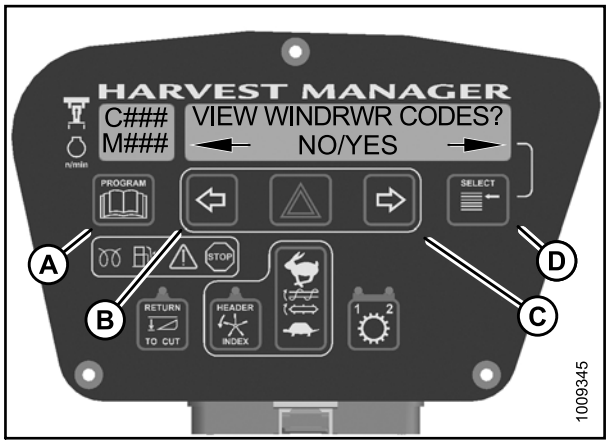

Figure 4.236: M105 Windrower Codes

11. Press right (C) arrow to select YES. Press SELECT (D).
    - The most recent error code will be displayed.
12. Press and left (B) or right (C) arrow to cycle through the last ten recorded windrower error codes until EXIT WINDROWER CODES is displayed.
13. Press right (C) arrow to select YES. Press SELECT (D).
    - VIEW ENGINE CODES is displayed on the upper line.
    - NO/YES is displayed on the lower line.

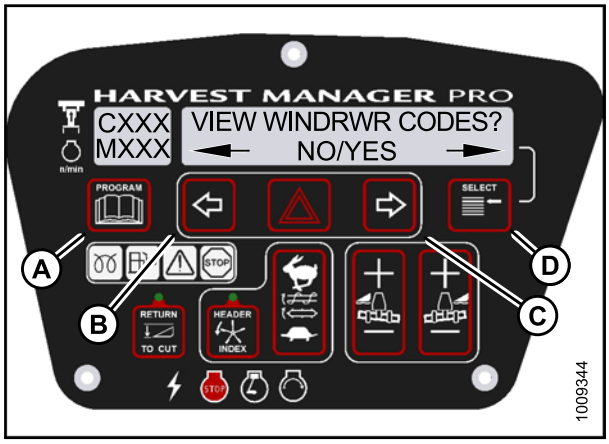

Figure 4.237: M155 Windrower Codes

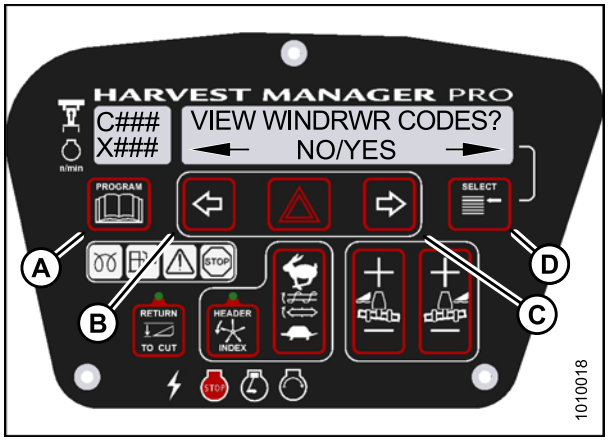

Figure 4.238: M205 Windrower Codes

14. Press right (C) arrow to select YES. Press SELECT (D).
15. Press left (B) or right (C) arrow to cycle through the last ten recorded engine error codes until EXIT ENGINE CODES is displayed.
16. Press right (C) arrow to select YES. Press SELECT (D).
17. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next DIAGNOSTIC MODE.

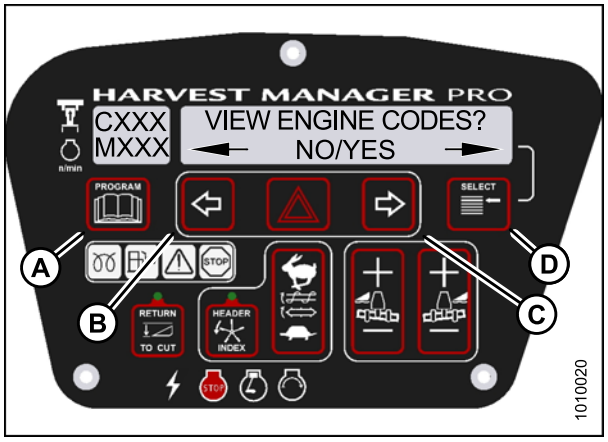

Figure 4.239: M155 Engine Codes

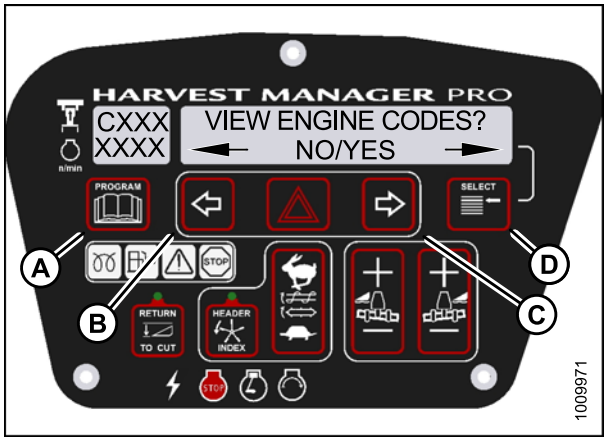

Figure 4.240: M205 Engine Codes

4.7.2 Switching the Installed Header Sensors ON or OFF

You can selectively enable or disable header sensors in the event of a malfunction or as part of a troubleshooting routine.

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.
- Displaying knife, reel, and center-link readings require installation of the optional Expansion Module (MD #B4666). For more information, refer to the windrower operator's manual or the windrower technical manual.
- Disabled sensors flash the word SENSOR on CDM during regular operation.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
3. Press SELECT (C) until DIAGNOSTIC MODE? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
4. Press right (B) arrow to select YES. Press SELECT (C).
   - VIEW ERROR CODES? is displayed on the upper line.

Figure 4.241: M105 CDM Programming Buttons

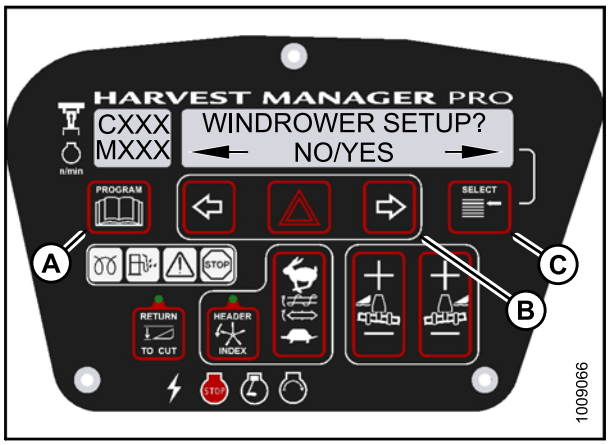

Figure 4.242: M155 CDM Programming Buttons

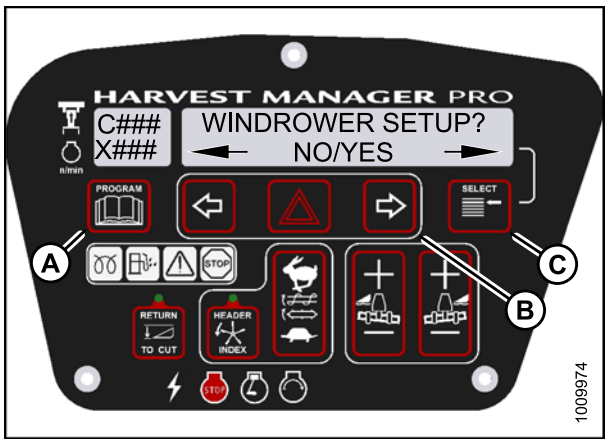

Figure 4.243: M205 CDM Programming Buttons

5. Press SELECT (B) until ENTER SENSOR SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right (A) arrow to select YES. Press SELECT (B).
   - HEADER HT SENSOR is displayed on the upper line.
   - KNIFE SPEED SENSOR is displayed on the lower line.
   - ENABLE/DISABLE is displayed on the lower line.

Figure 4.244: M105 Diagnostic Functions

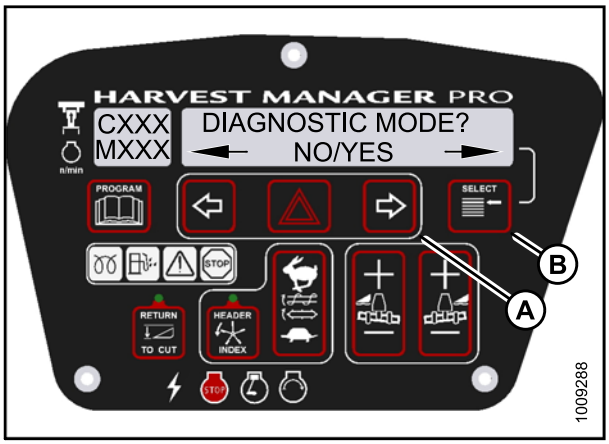

Figure 4.245: M155 Diagnostic Functions

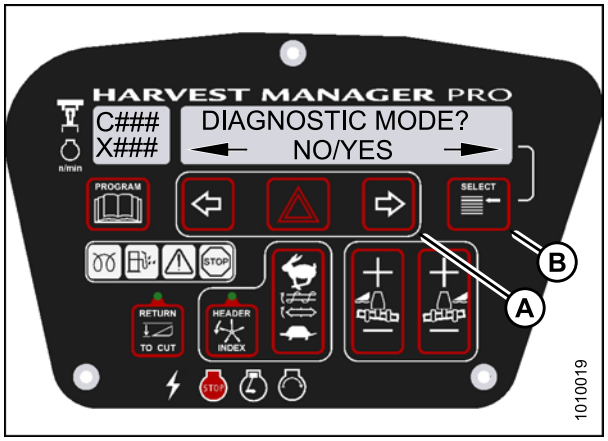

Figure 4.246: M205 Diagnostic Functions

7. Press left (B) arrow to enable a sensor. Press right (C) arrow to disable sensor. Press SELECT (D) to confirm selection and move on to next sensor.
   The following sensors are available:
   - HEADER HT SENSOR
   - HEADER TILT SENSOR
   - KNIFE SPEED SENSOR
   - REEL SPEED SENSOR
   - HEADER FLOAT SENSOR
   - OVERLOAD PRESSURE[10]
   - HYD OIL TEMP SENSOR

   When sensors have been modified, press SELECT (D) to display the EXIT SENSOR SETUP? selection.

Figure 4.247: M105 Header Sensors

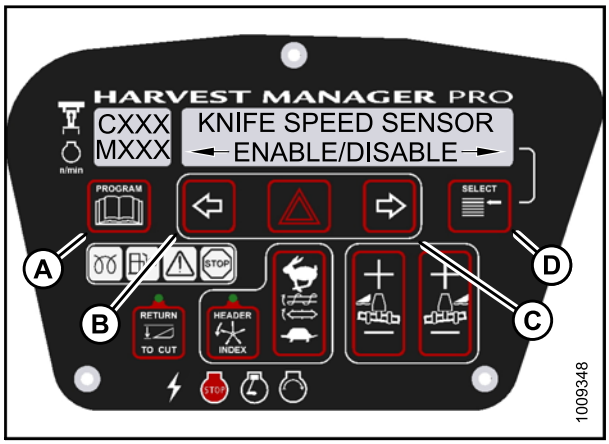

Figure 4.248: M155 Header Sensors

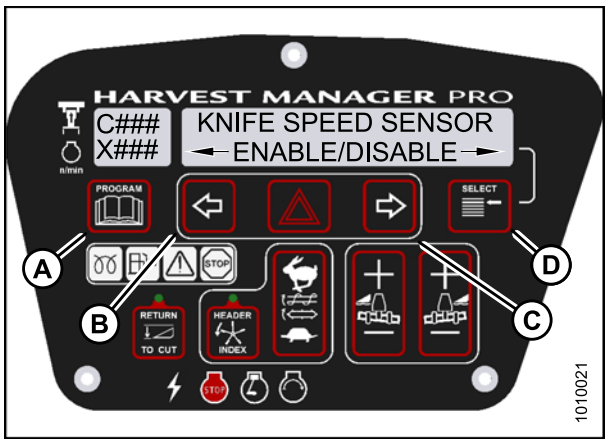

Figure 4.249: M205 Header Sensors

8. Press right arrow to select YES. Press SELECT.
9. Press PROGRAM to exit Programming Mode or press SELECT to proceed to next DIAGNOSTIC MODE.

10. Requires installation of optional pressure sensor (MD #B5574).

4.7.3 Displaying Header Sensor Input Signals

You can display individual sensor input signals in the event of a malfunction or as part of a troubleshooting routine.

NOTE:
The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.

NOTE:

- For the M105 Self-Propelled Windrower, the header **MUST** be attached to the windrower to perform this procedure.
- For the M105 Self-Propelled Windrower, displaying knife, reel, and center-link readings require installation of the optional Expansion Module (MD #B4666). For more information, refer to the windrower operator's manual or the windrower technical manual.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

Figure 4.250: M105 CDM Programming Buttons

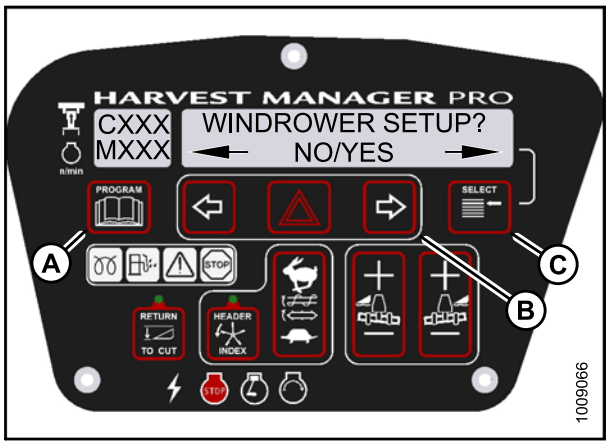

Figure 4.251: M155 CDM Programming Buttons

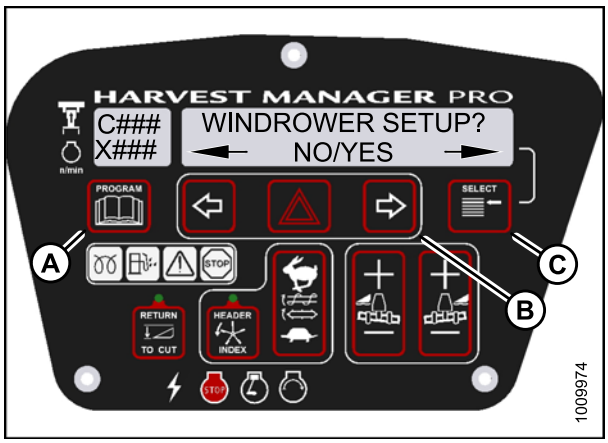

Figure 4.252: M205 CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select YES. Press SELECT (B).
   - VIEW ERROR CODES? is displayed on the upper line.
5. Press SELECT (B) until READ SENSOR SETUP? is displayed on the upper line.
   - NO/YES is displayed on the lower line.

Figure 4.253: M105 Diagnostic Functions

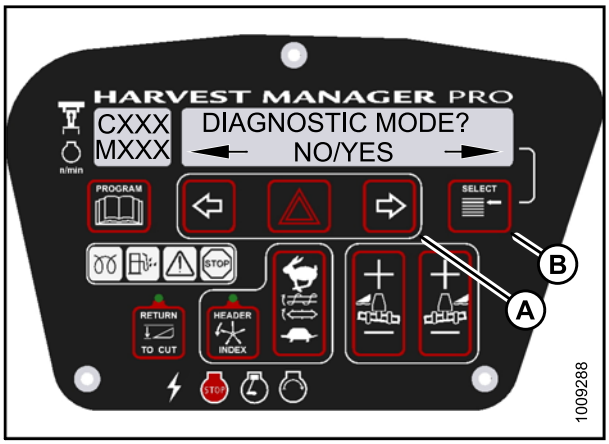

Figure 4.254: M155 Diagnostic Functions

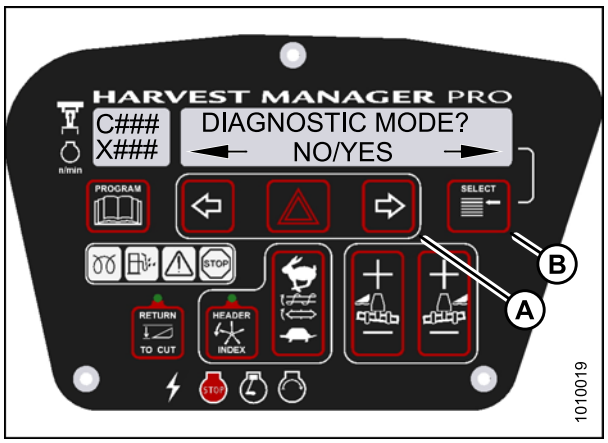

Figure 4.255: M205 Diagnostic Functions

6. Press right (C) arrow to select YES. Press SELECT (D).
   - SENSOR INPUT is displayed on the upper line.
   - HDR HEIGHT 1.23 V is displayed on the lower line.
7. Press left (B) or right (C) arrow to cycle between individual sensor readers.
8. Press SELECT (D) to skip to EXIT READ SENSORS? selection.

Figure 4.256: M105 Header Sensors

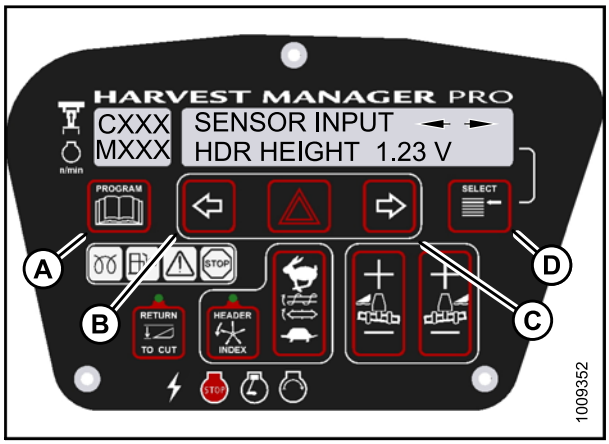

Figure 4.257: M155 Header Sensors

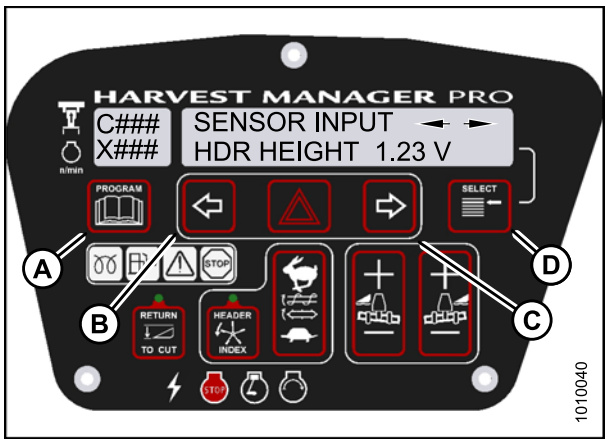

Figure 4.258: M205 Header Sensors

9. Press right arrow to select YES. Press SELECT.
10. Press PROGRAM to exit Programming Mode or press SELECT to proceed to next DIAGNOSTIC MODE.

4.7.4 Forcing a Header ID

The header must be attached to the windrower to troubleshoot certain issues. If damage has occurred to the header wiring or no header is available, you can force the windrower control module (WCM) to read a header ID. The WCM reverts to reading NO HEADER each time the engine ignition is cycled.

IMPORTANT:
Forcing a Header ID that is different from the attached header can damage the windrower and header. Doing so can lead to vibration, belt failures, and other over-speeding related problems.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.

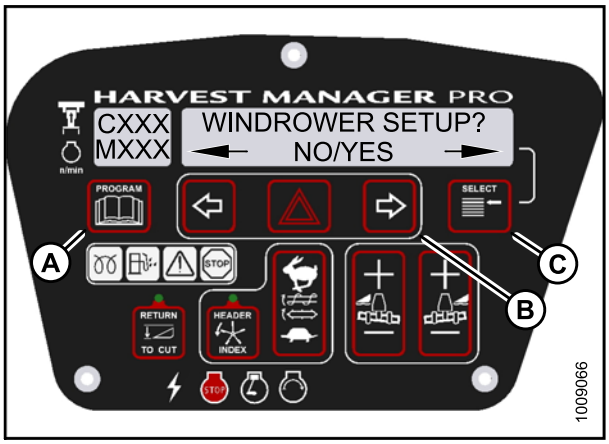

Figure 4.259: M155 CDM Programming Buttons

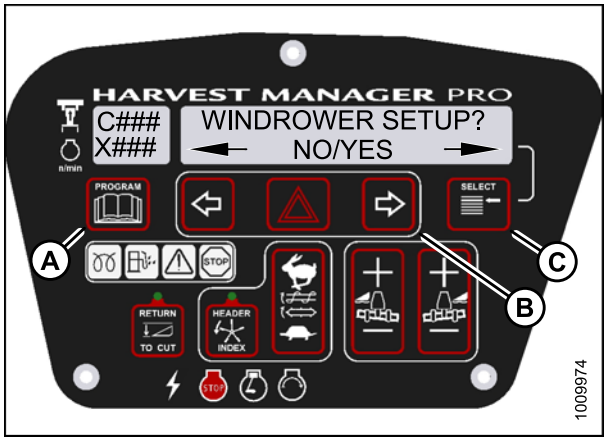

Figure 4.260: M205 CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select YES. Press SELECT (B).

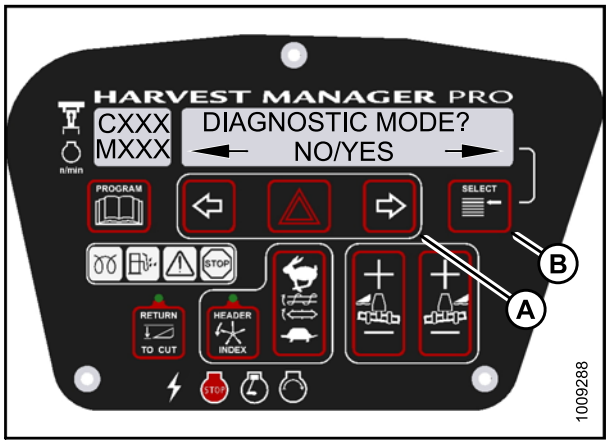

Figure 4.261: M155 Diagnostic Functions

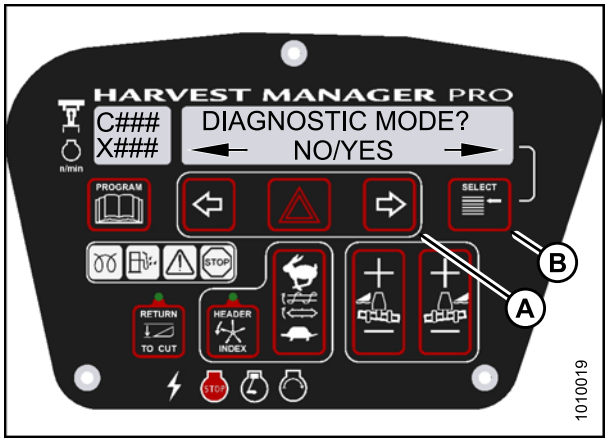

Figure 4.262: M205 Diagnostic Functions

5. Press SELECT (B) until FORCE HEADER TYPE? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right (A) arrow to select YES. Press SELECT (B).
   - SELECT HEADER TYPE is displayed on the upper line.
   - DISK HEADER is displayed on the lower line.

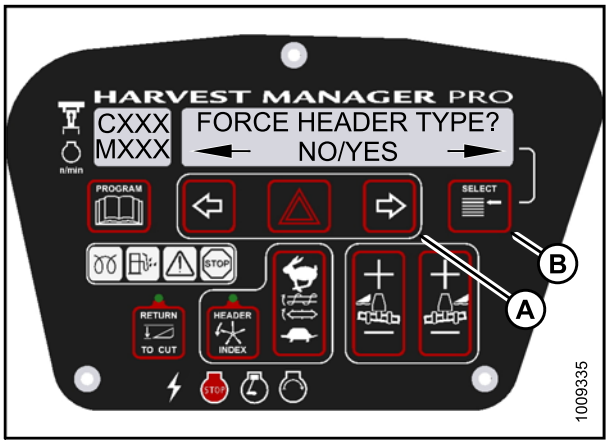

Figure 4.263: M155 Header Type

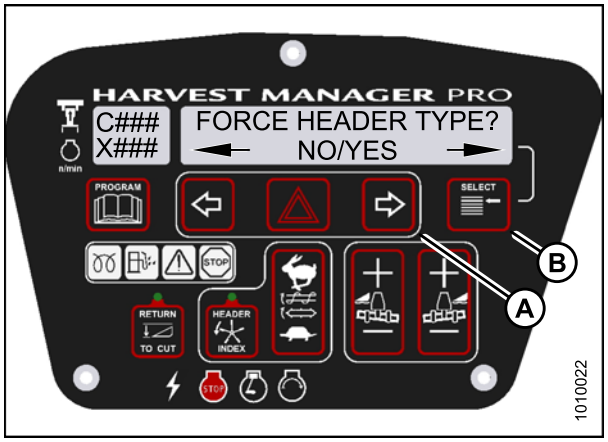

Figure 4.264: M205 Header Type

7. Press left (A) or right (B) arrow to cycle through list of header types.
8. When desired header type is displayed press SELECT (C).
   - EXIT FORCE HEADER? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
9. Press right arrow (B) to select YES. Press SELECT (C). Proceed to next DIAGNOSTIC MODE or press PROGRAM to exit programming mode.

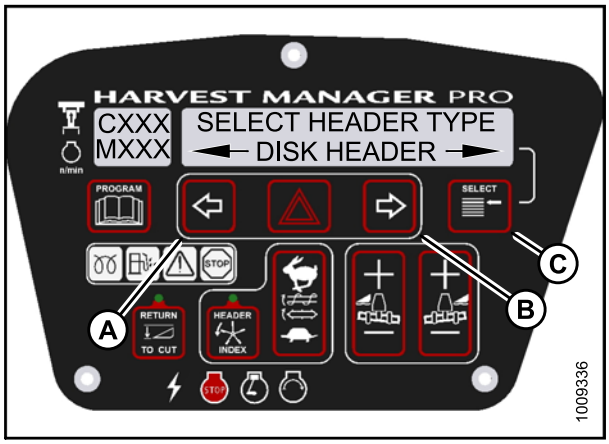

Figure 4.265: M155 Header Type

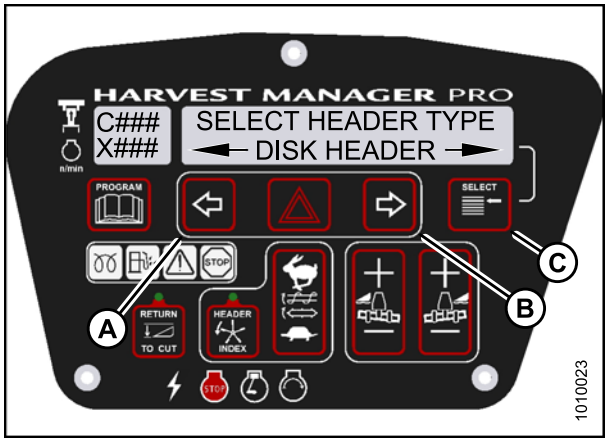

Figure 4.266: M205 Header Type

4.8 Troubleshooting Header Problems

You can test individual parts of the header as part of a troubleshooting routine.

4.8.1 Testing the Header Up/Down Activate Function Using the Cab Display Module (CDM)

NOTE:

- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.
- The engine **MUST** be running to perform this procedure.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode. Press SELECT (C).
   - WINDROWER SETUP? is displayed on the upper line.

Figure 4.267: M105 CDM Programming Buttons

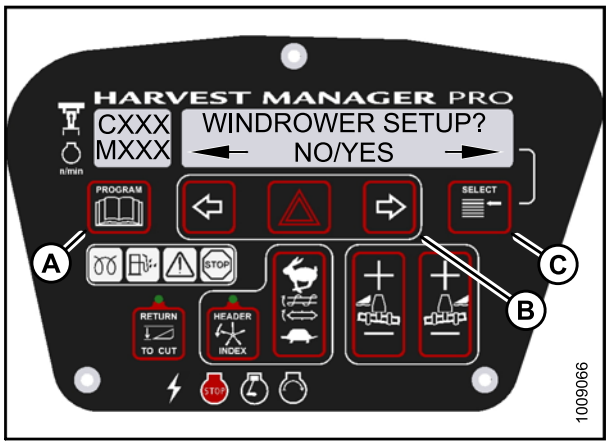

Figure 4.268: M155 CDM Programming Buttons

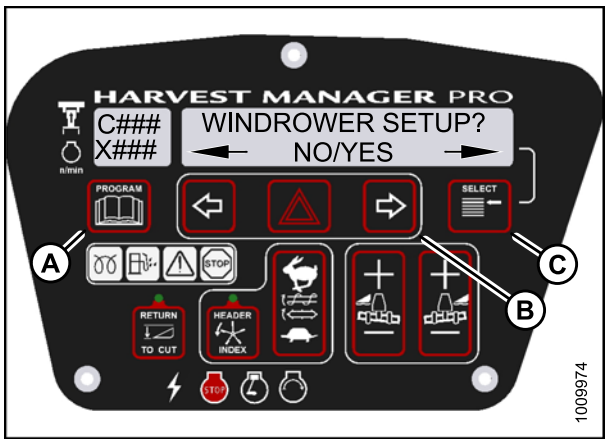

Figure 4.269: M205 CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select YES. Press SELECT (B).

Figure 4.270: M105 Diagnostic Functions

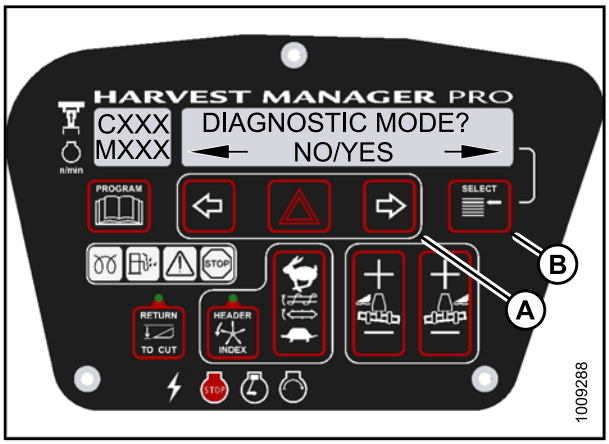

Figure 4.271: M155 Diagnostic Functions

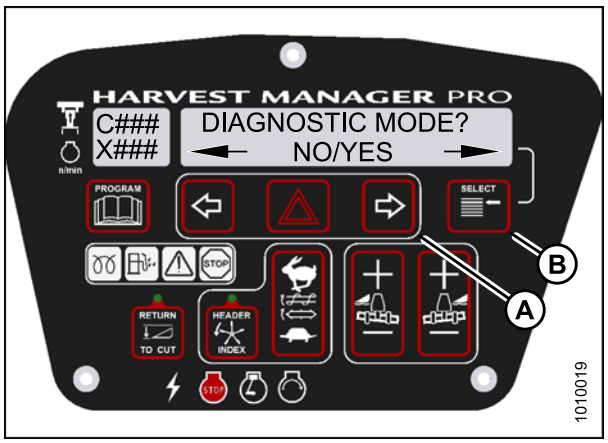

Figure 4.272: M205 Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right (A) arrow to select YES. Press SELECT (B).

Figure 4.273: M105 Functions

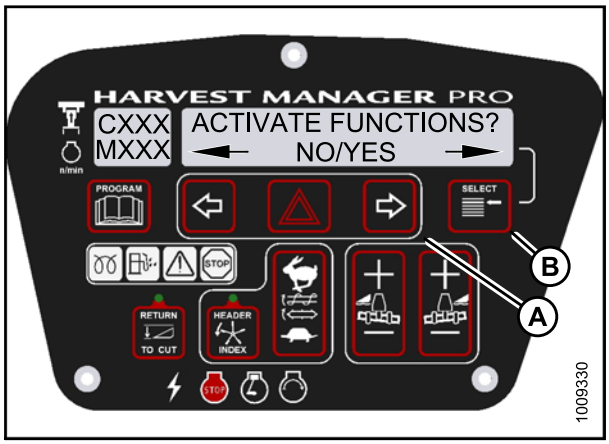

Figure 4.274: M155 Functions

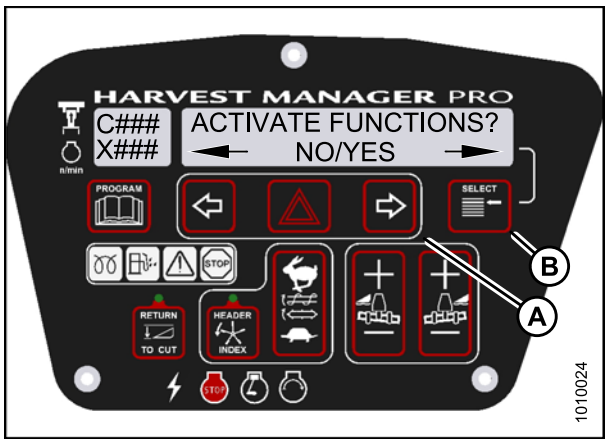

Figure 4.275: M205 Functions

CAUTION

Check to be sure all bystanders have cleared the area.

7. Press SELECT (D) until HEADER DOWN/UP is displayed on the lower line.
8. Press SELECT (D) until ACTIVATE HEADER HT is displayed on the upper line.
   - DOWN/UP is displayed on the lower line.
9. Press and hold left (B) arrow to lower header, or press and hold right (C) arrow to raise header. Verify header is functioning properly.
10. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next ACTIVATE FUNCTION.

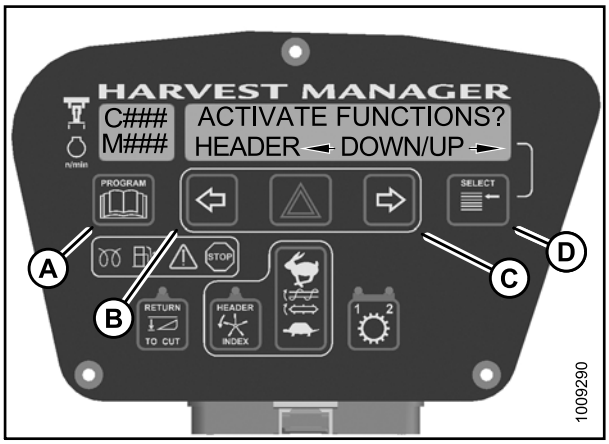

Figure 4.276: M105 Header Height

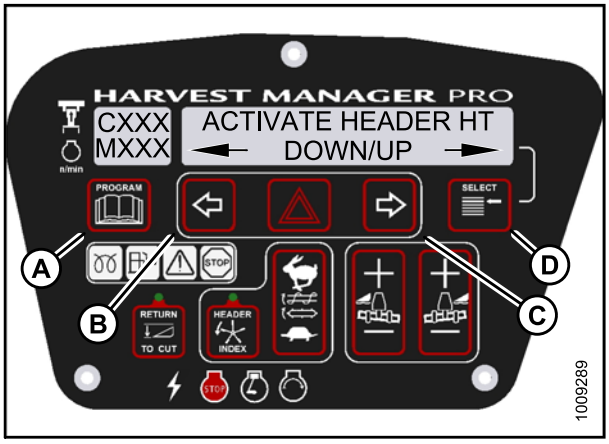

Figure 4.277: M155 Header Height

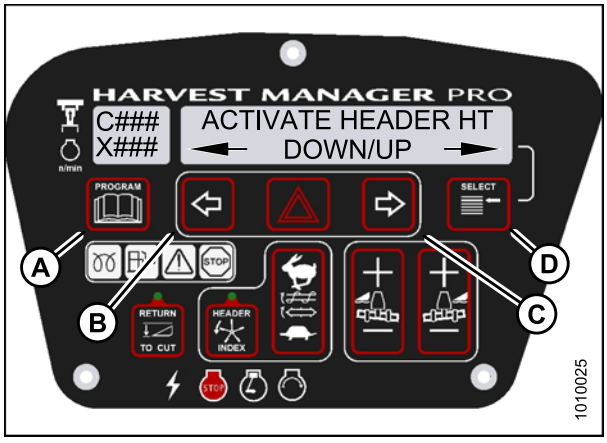

Figure 4.278: M205 Header Height

4.8.2 Testing the Reel Up/Down Activate Function Using the Cab Display Module (CDM)

NOTE:

- This procedure is for draper headers only.
- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header..

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode. Press SELECT (C).
   - WINDROWER SETUP? is displayed on the upper line.

Figure 4.279: M105 CDM Programming Buttons

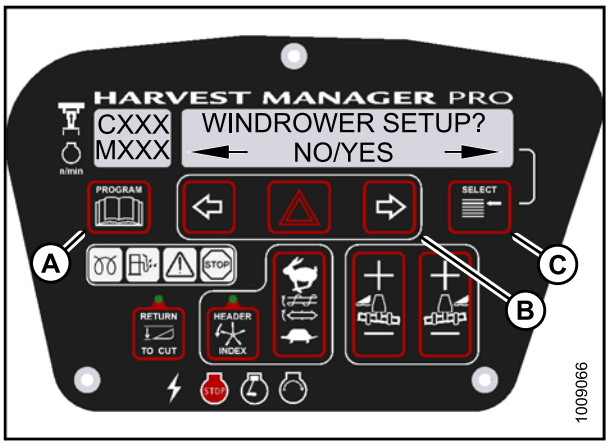

Figure 4.280: M155 CDM Programming Buttons

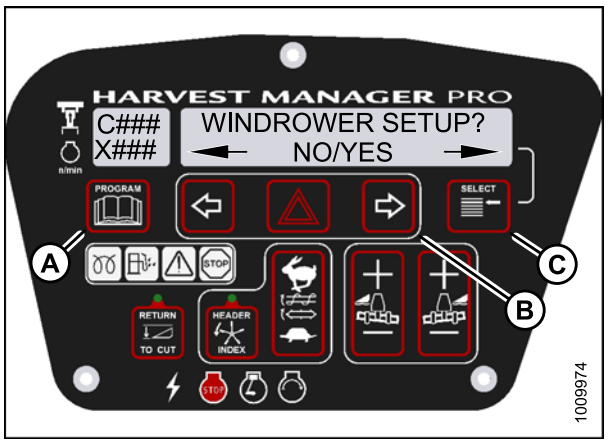

Figure 4.281: M205 CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select YES. Press SELECT (B).

Figure 4.282: M105 Diagnostic Functions

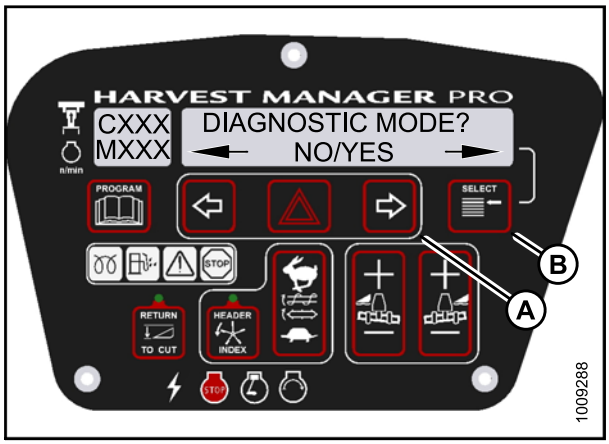

Figure 4.283: M155 Diagnostic Functions

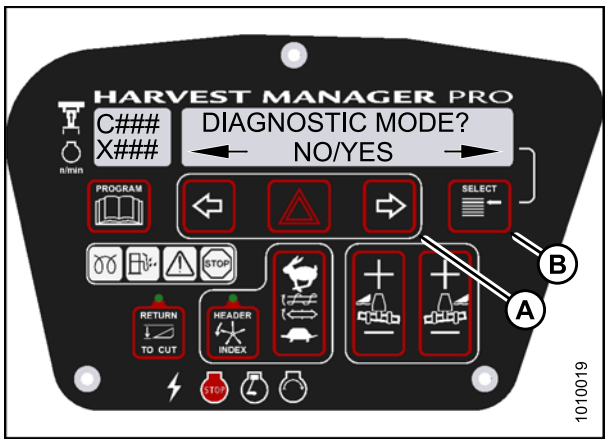

Figure 4.284: M205 Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right (A) arrow to select YES. Press SELECT (B).
7. Press SELECT (D) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
8. Press right (C) arrow to select YES. Press SELECT (D).

Figure 4.285: M105 Functions

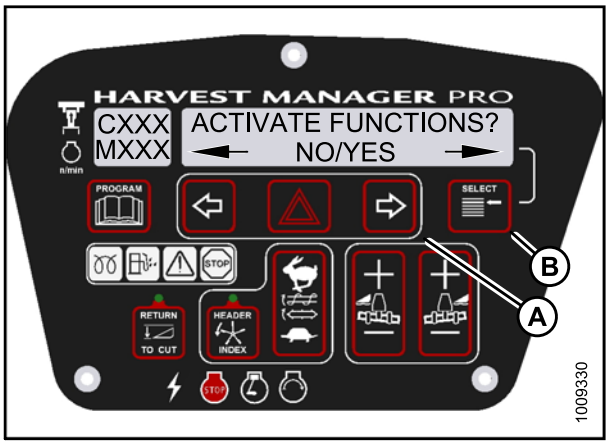

Figure 4.286: M155 Functions

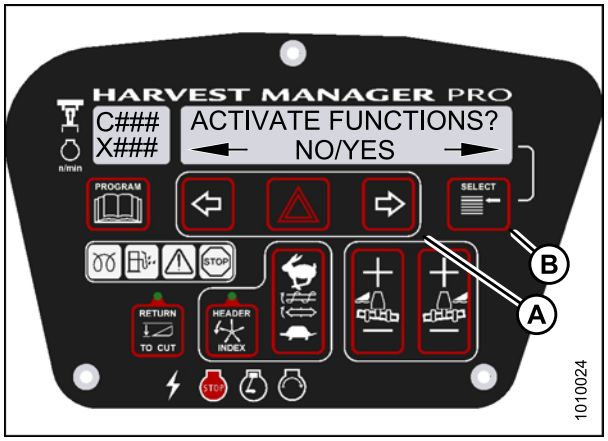

Figure 4.287: M205 Functions

CAUTION

Check to be sure all bystanders have cleared the area.

9. Press SELECT (D) until REEL DOWN/UP is displayed on the lower line.
10. Press SELECT (D) until ACTIVATE REEL HT is displayed on the upper line.
    - DOWN/UP is displayed on the lower line.
11. Press and hold left (B) arrow to **lower** reel. Press and hold right (C) arrow to **raise** reel.
    Verify reel is functioning properly.
12. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next ACTIVATE FUNCTION.

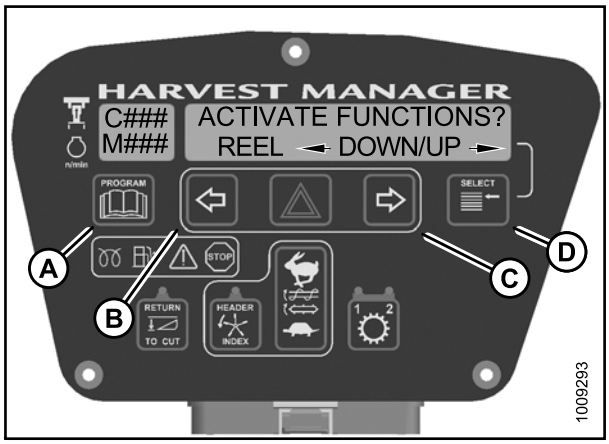

Figure 4.288: M105 Reel Height

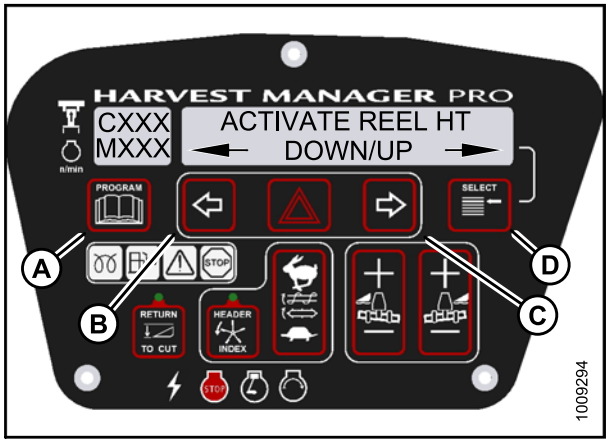

Figure 4.289: M155 Reel Height

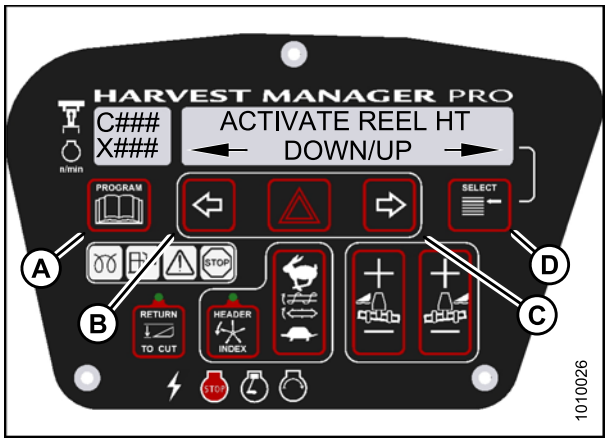

Figure 4.290: M205 Reel Height

4.8.3 Testing the Header Tilt Activate Function Using the Cab Display Module (CDM)

NOTE:

- Displaying center-link position on cab display module (CDM) requires installation of the optional Expansion Module (MD #B4666). For more information, refer to the windrower operator's manual or the windrower technical manual.
- The header **MUST** be attached to the windrower to perform this procedure. The cab display module (CDM) automatically adjusts its programming for each header.
- This procedure requires installation of the optional Hydraulic Center-Link (MD #B4650) and optional Auxiliary Valve (MD #B5269).
- The engine **MUST** be running to perform this procedure.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.

Figure 4.291: M105 CDM Programming Buttons

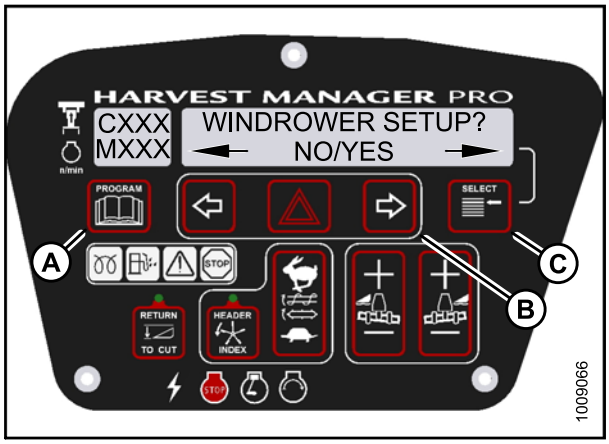

Figure 4.292: M155 CDM Programming Buttons

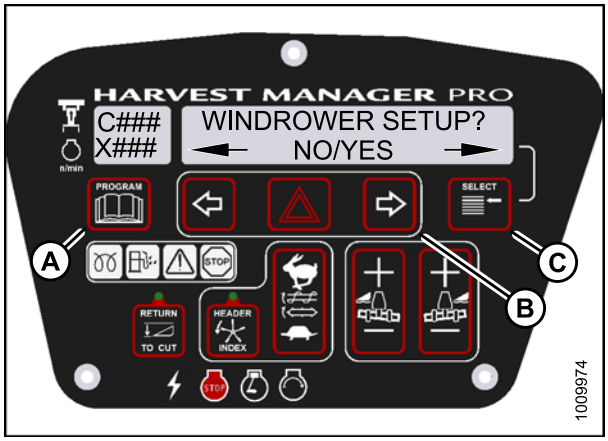

Figure 4.293: M205 CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select YES. Press SELECT (B).

Figure 4.294: M105 Diagnostic Functions

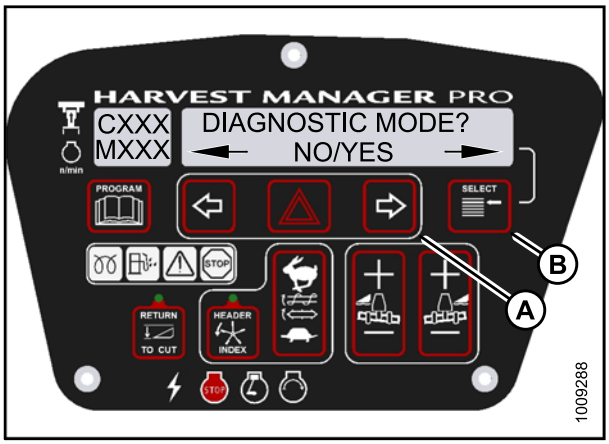

Figure 4.295: M155 Diagnostic Functions

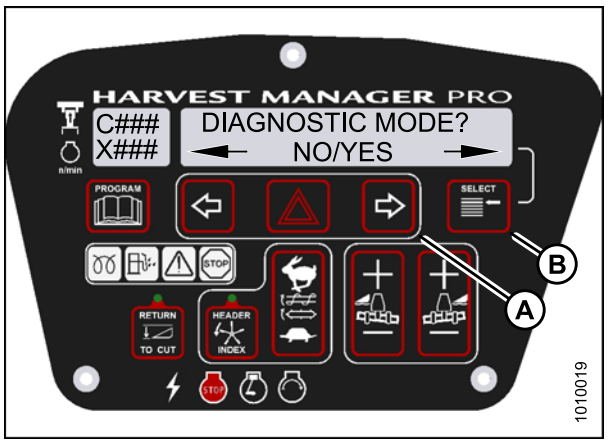

Figure 4.296: M205 Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right (A) arrow to select YES. Press SELECT (B).
7. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
8. Press right (A) arrow to select YES. Press SELECT (B).

Figure 4.297: M105 Functions

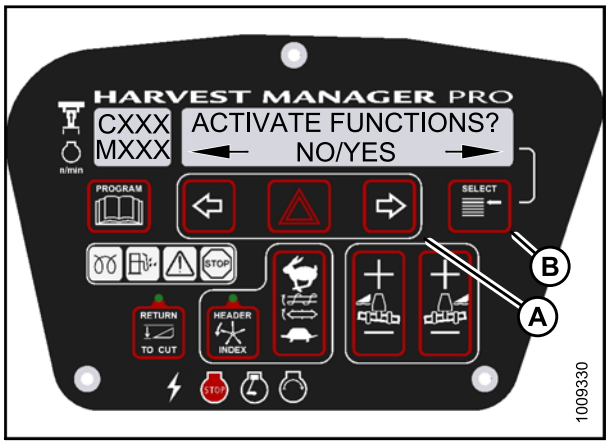

Figure 4.298: M155 Functions

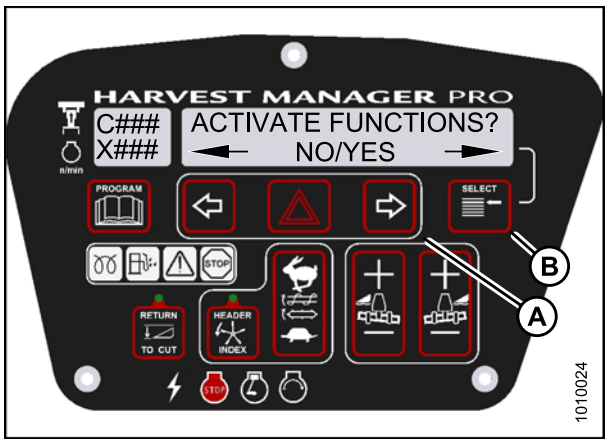

Figure 4.299: M205 Functions

CAUTION

Check to be sure all bystanders have cleared the area.

9. Press SELECT (D) until HDR TILT IN/OUT is displayed on the lower line.
10. Press SELECT (D) until ACTIVATE HDR TILT is displayed on the upper line.
    - IN/OUT is displayed on the lower line.
11. Press and hold left (B) arrow to **decrease** header tilt. Press and hold right (C) arrow to **increase** header tilt. **Verify header is functioning properly.**
12. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next ACTIVATE FUNCTION.

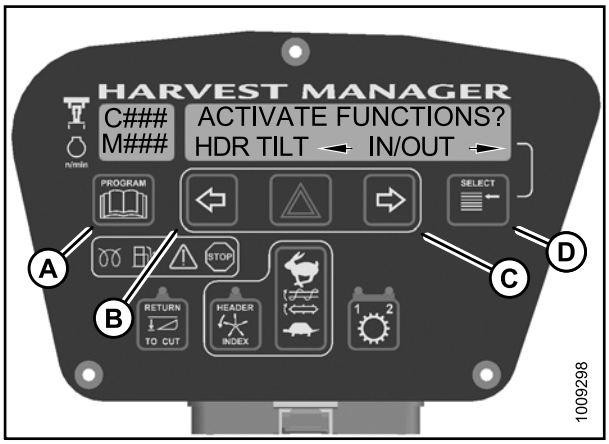

Figure 4.300: M105 Header Tilt Angle

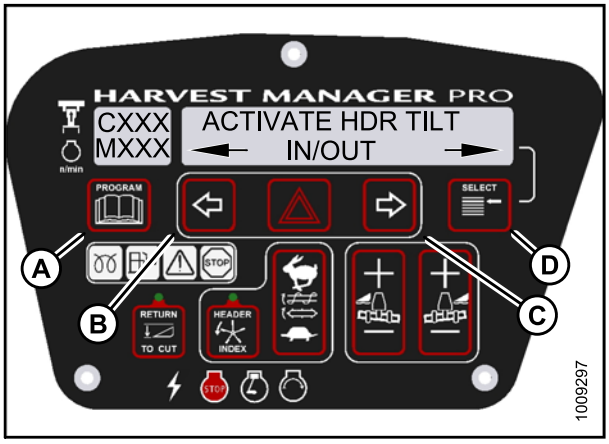

Figure 4.301: M155 Header Tilt Angle

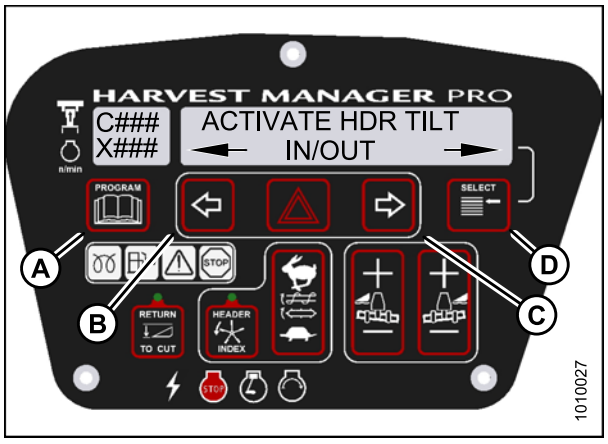

Figure 4.302: M205 Header Tilt Angle

4.8.4 Testing the Knife Drive Circuit Activate Function Using the Cab Display Module (CDM) on an M105

NOTE:

- The header **MUST** be attached to windrower to perform this procedure.
- The engine **MUST** be running to perform this procedure.
- Displaying knife drive speed on cab display module (CDM) requires installation of the optional Expansion Module (MD #B4666). For more information, refer to the windrower operator's manual or the windrower technical manual.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.

Figure 4.303: CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select Yes. Press SELECT (B).

Figure 4.304: Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right (A) arrow to select YES. Press SELECT (B).

Figure 4.305: Activate Functions

CAUTION

Check to be sure all bystanders have cleared the area.

7. Press SELECT (C) until KNIFE DRIVE ON is displayed on the lower line.
8. Press and hold right (B) arrow to activate knife drive. **Verify knife is functioning properly.**
9. Release right (B) arrow to deactivate knife drive.
10. Press PROGRAM (A) to exit Programming Mode or press SELECT (C) to proceed to next ACTIVATE FUNCTION.

Figure 4.306: Knife Drive

4.8.5 Testing the Draper or Auger Drive Circuit Activate Function Using the Cab Display Module (CDM) on an M105

NOTE:

- The header **MUST** be attached to windrower to perform this procedure.
- The engine **MUST** be running to perform this procedure.

1. Start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.

Figure 4.307: CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select YES. Press SELECT (B).

⚠ CAUTION

Check to be sure all bystanders have cleared the area.

Figure 4.308: Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right (A) arrow to select YES. Press SELECT (B).

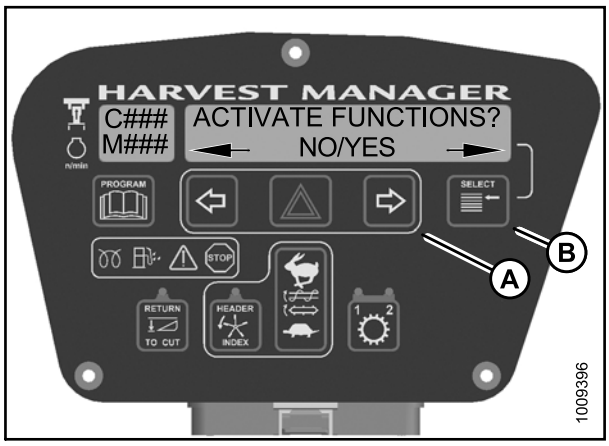

Figure 4.309: Activate Functions

7. Press SELECT (C) until DRAPER/AUGER DRIVE ON appears on the lower line.
8. Press and hold right (B) arrow to activate draper/auger. **Verify draper/auger is functioning properly.**
9. Release right (B) arrow to deactivate draper/auger.
10. Press PROGRAM (A) to exit Programming Mode or press SELECT (C) to proceed to next ACTIVATE FUNCTION.

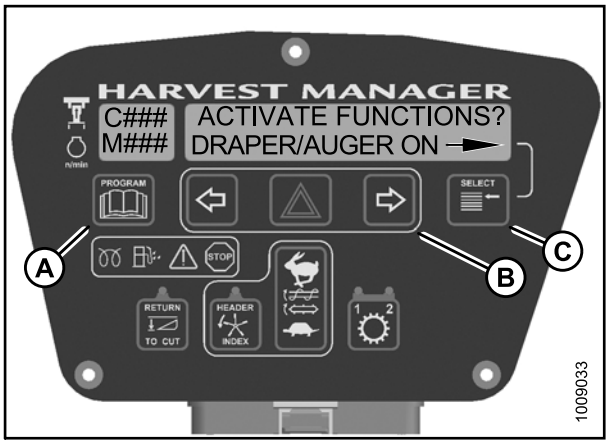

Figure 4.310: Draper/Auger

4.8.6 Testing the Reel Drive Circuit Activate Function Using the Cab Display Module (CDM) on an M105

NOTE:

- The header **MUST** be attached to windrower to perform this procedure.
- The engine **MUST** be running to perform this procedure.
- An A40 or Draper Header is required to perform this procedure.
- Displaying reel speed on cab display module (CDM) requires installation of optional Expansion Module (MD #B4666). For more information, refer to the windrower operator's manual or the windrower technical manual.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.

Figure 4.311: CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select Yes. Press SELECT (B).

Figure 4.312: Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right (A) arrow to select YES. Press SELECT (B).

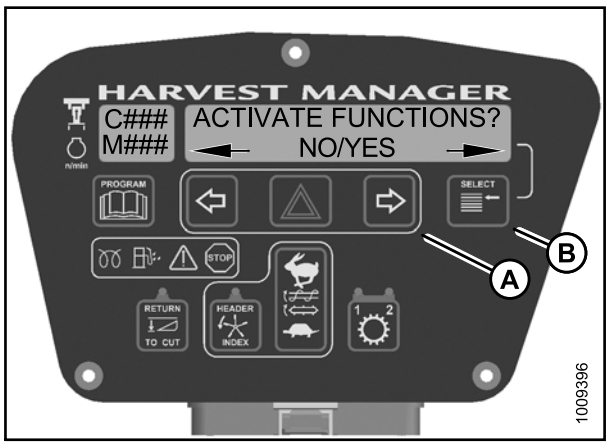

Figure 4.313: Functions

CAUTION

Check to be sure all bystanders have cleared the area.

7. Press SELECT (C) until REEL DRIVE ON appears on the lower line.
8. Press and hold right (B) arrow to activate reel drive. **Verify reel is functioning properly.**
9. Release right (B) arrow to deactivate reel drive.
10. Press PROGRAM (A) to exit Programming Mode or press SELECT (C) to proceed to next ACTIVATE FUNCTION.

Figure 4.314: Reel Drive

4.8.7 Testing the Reel Fore-Aft Activate Function Using the Cab Display Module (CDM)

NOTE:

- The reel fore-aft function requires the completion kit for draper header reel drive (MD #5496).
- The header **MUST** be attached to windrower to perform this procedure.
- The engine **MUST** be running to perform this procedure.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.

Figure 4.315: M105 CDM Programming Buttons

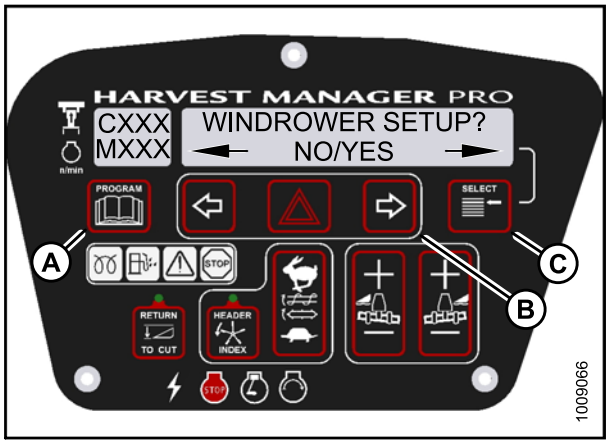

Figure 4.316: M155 CDM Programming Buttons

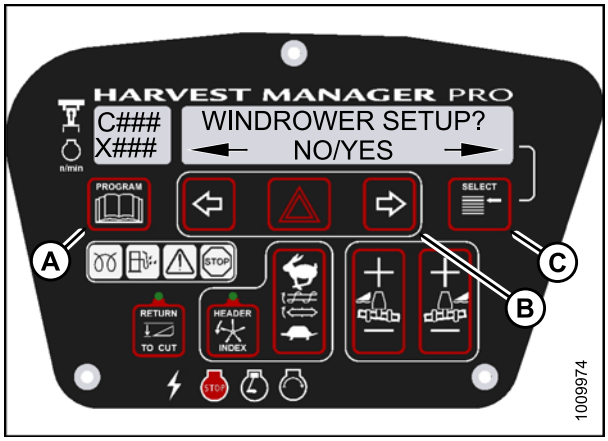

Figure 4.317: M205 CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select YES. Press SELECT (B).

Figure 4.318: M105 Diagnostic Functions

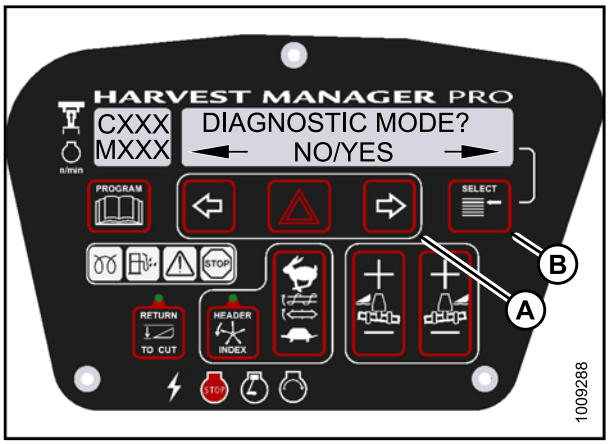

Figure 4.319: M155 Diagnostic Functions

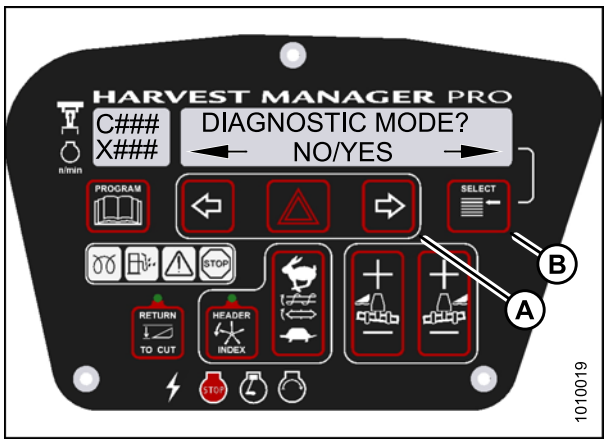

Figure 4.320: M205 Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right (A) arrow to select YES. Press SELECT (B).
7. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
8. Press right (A) arrow to select YES. Press SELECT (B).

CAUTION

Check to be sure all bystanders have cleared the area.

Figure 4.321: M105 Functions

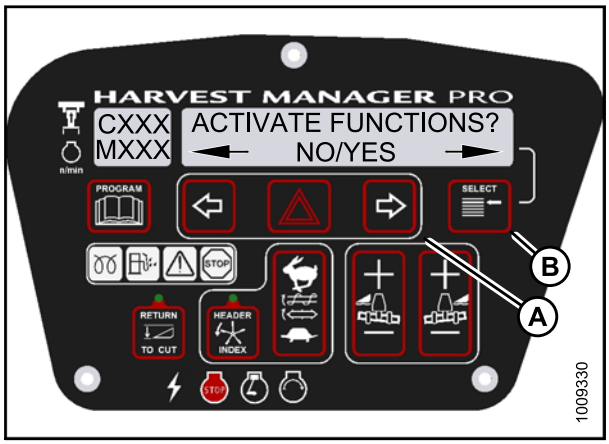

Figure 4.322: M155 Functions

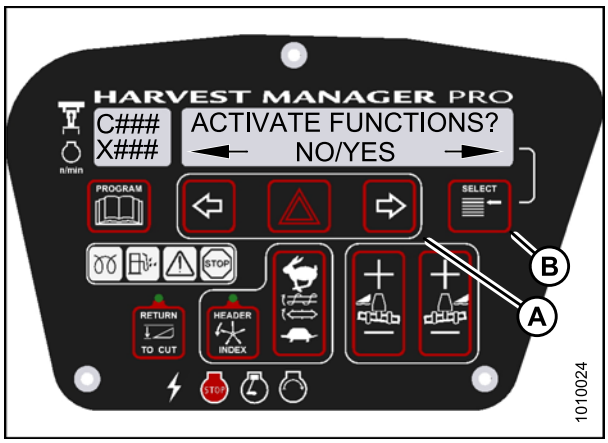

Figure 4.323: M205 Functions

9. Press SELECT (D) until REEL AFT/FORE is displayed on the lower line.
10. Press and hold left arrow (B) to move reel backward, or press and hold right arrow (C) to move reel forward. Verify reel fore-aft is functioning properly.
11. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next ACTIVATE FUNCTION.

Figure 4.324: M105 Reel Fore-Aft

12. Press SELECT (D) until ACTIVATE REEL F/A is displayed on the upper line.
    - FORE/AFT is displayed on the lower line.
13. Verify reel fore-aft is functioning properly.
    a. Press and hold left (B) arrow to move reel **forward**. Press and hold right (C) arrow to move reel **backward**.
    b. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next ACTIVATE FUNCTION.

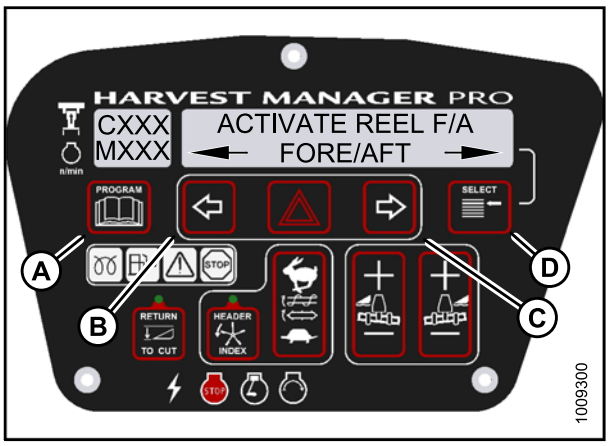

Figure 4.325: M155 Reel Fore-Aft

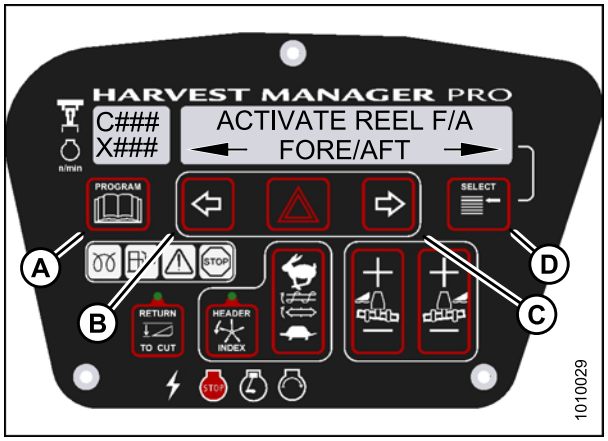

Figure 4.326: M205 Reel Fore-Aft

4.8.8 Activating the Hydraulic Purge Using the Cab Display Module (CDM)

The hydraulic purge removes air from the hydraulic pump system after it has been repaired or changed.

NOTE:
Engine **MUST** be running to perform this procedure.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.

Figure 4.327: M105 CDM Programming Buttons

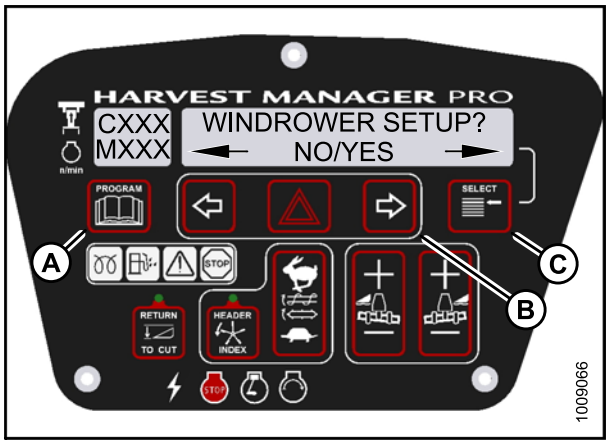

Figure 4.328: M155 CDM Programming Buttons

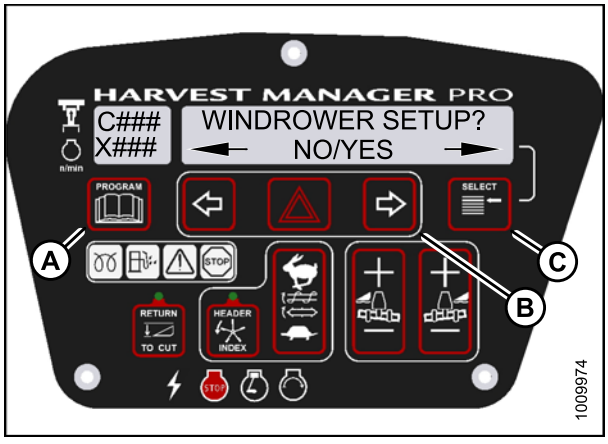

Figure 4.329: M205 CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select YES. Press SELECT (B).

Figure 4.330: M105 Diagnostic Functions

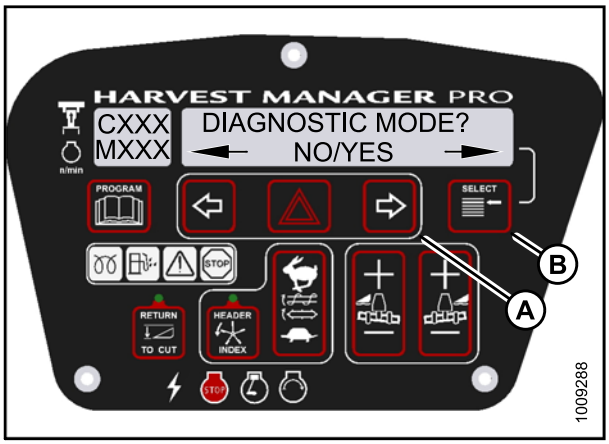

Figure 4.331: M155 Diagnostic Functions

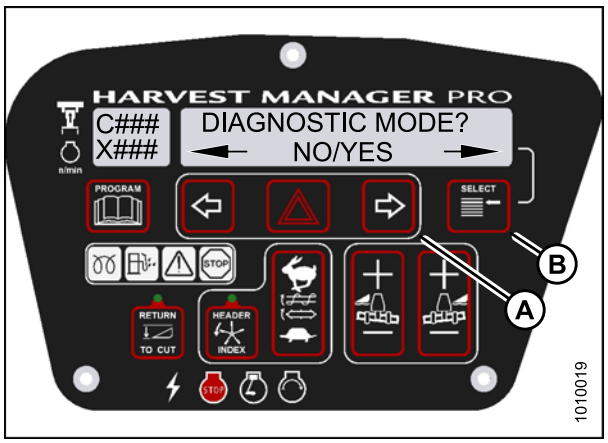

Figure 4.332: M205 Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right (A) arrow to select YES. Press SELECT (B).
   - HEADER DOWN/UP is displayed on the lower line.
   - ACTIVATE HEADER HT is displayed on the upper line.
   - DOWN/UP is displayed on the lower line.

Figure 4.333: M105 Functions

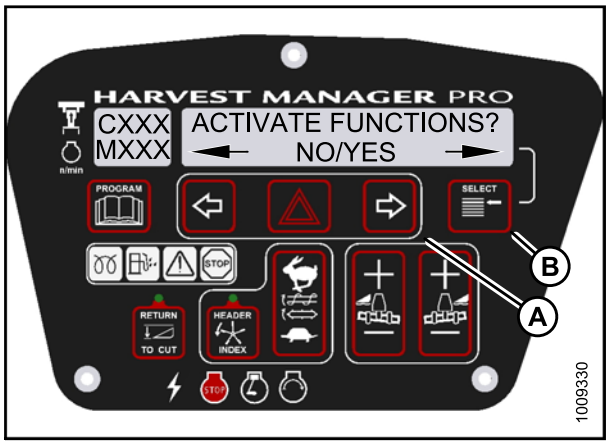

Figure 4.334: M155 Functions

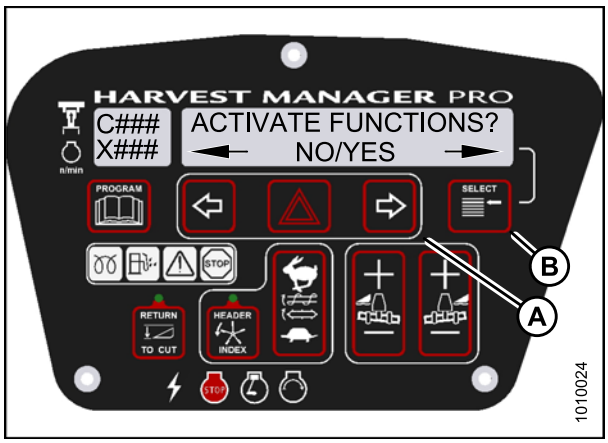

Figure 4.335: M205 Functions

7. Press SELECT (B) until ACTIVATE HYD PURGE? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
8. Press right (A) arrow to select YES. Press SELECT (B).
   - TO ACTIVATE PURGE is displayed on the upper line.
   - PRESS AND HOLD is displayed on the lower line.

CAUTION

Check to be sure all bystanders have cleared the area.

Figure 4.336: M105 Hydraulic Purge

Figure 4.337: M155 Hydraulic Purge

Figure 4.338: M205 Hydraulic Purge

NOTE:
Holding the right arrow (A) activates a timed purge cycle. The CDM will jump to the exit menu if the arrow is released before the end of the timed cycle.

9. Press and hold right (A) arrow to activate purge cycle.
   - PURGE CYCLE STARTED will display on the upper line.
10. When PURGE CYCLE ENDED is displayed release right (A) arrow.
    - NO EXIT YES is displayed on the lower line.
11. Press right arrow to select YES. Press SELECT.
12. Press PROGRAM to exit Programming Mode or press SELECT to proceed to next ACTIVATE FUNCTION.

Figure 4.339: M105 Hydraulic Purge Cycle

Figure 4.340: M155 Hydraulic Purge Cycle

Figure 4.341: M205 Hydraulic Purge Cycle

4.8.9 Testing the Knife Drive Circuit Using the Cab Display Module (CDM)

IMPORTANT:
Do not over-speed a drive. Over-speeding can lead to vibration, belt failures, or other over-speeding related problems.

NOTE:

- The header **MUST** be attached to windrower to follow this procedure.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode. Press SELECT (C).
   - WINDROWER SETUP? is displayed on the upper line.

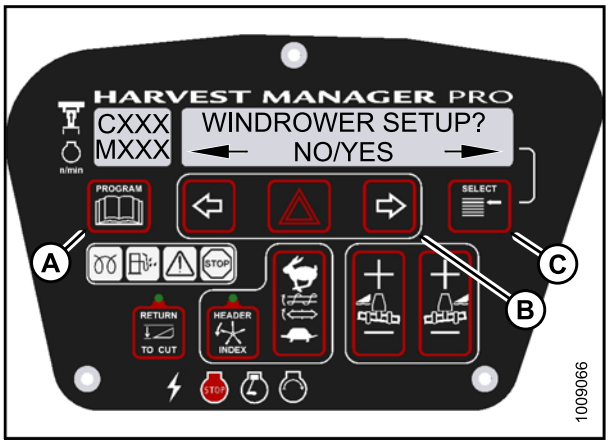

Figure 4.342: M155 CDM Programming Buttons

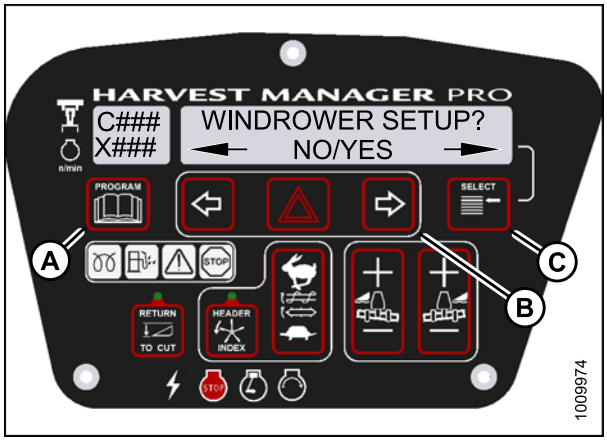

Figure 4.343: M205 CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select YES. Press SELECT (B).

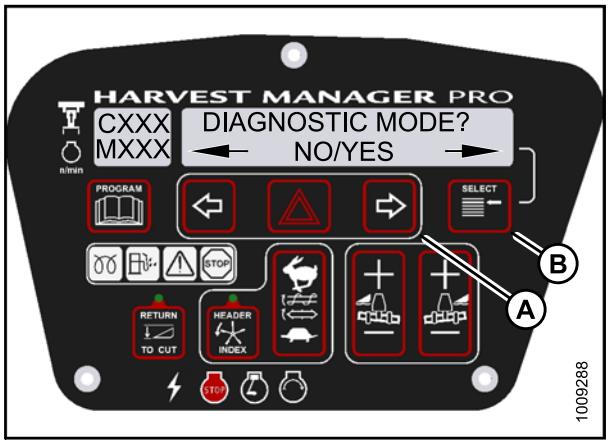

Figure 4.344: M155 Diagnostic Functions

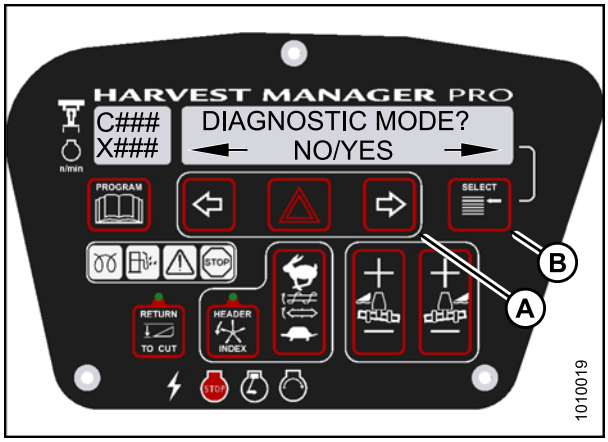

Figure 4.345: M205 Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right (A) arrow to select YES. Press SELECT (B).
   - ACTIVATE HEADER HT is displayed on the upper line.

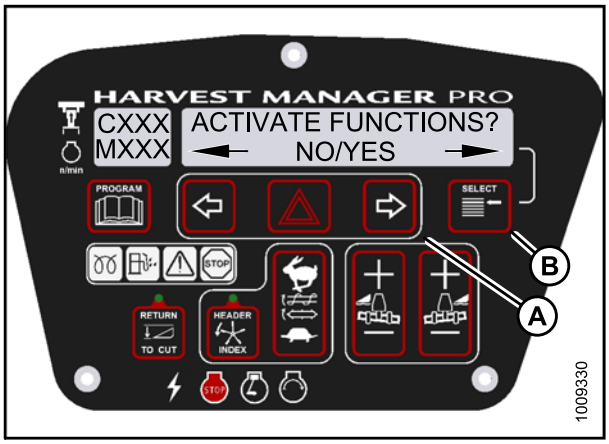

Figure 4.346: M155 Functions

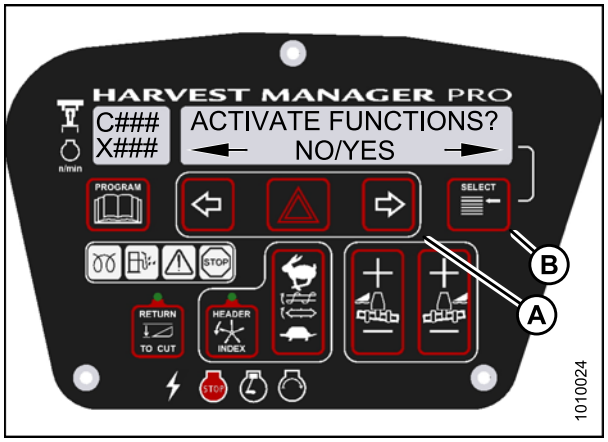

Figure 4.347: M205 Functions

CAUTION

Check to be sure all bystanders have cleared the area.

7. Press SELECT (E) until KNIFE DRIVE SPD XXXX is displayed on the upper line.

   IMPORTANT:
   Do **NOT** over-speed the knife drive.

8. Press and hold HAZARD (C) button.
   - Press left (B) arrow to **decrease** knife speed.
   - Press right (D) arrow to **increase** knife speed.

   Verify the knife drive is functioning properly.

9. Release the HAZARD (C) button. The knife will stop.
10. Press PROGRAM (A) to exit Programming Mode or press SELECT (E) to proceed to next ACTIVATE FUNCTION.

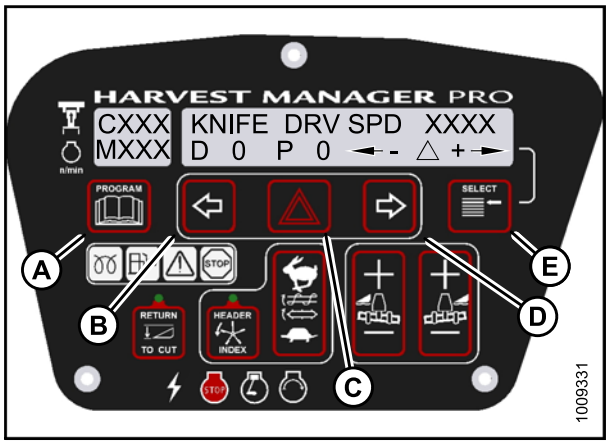

Figure 4.348: M155 Knife Drive

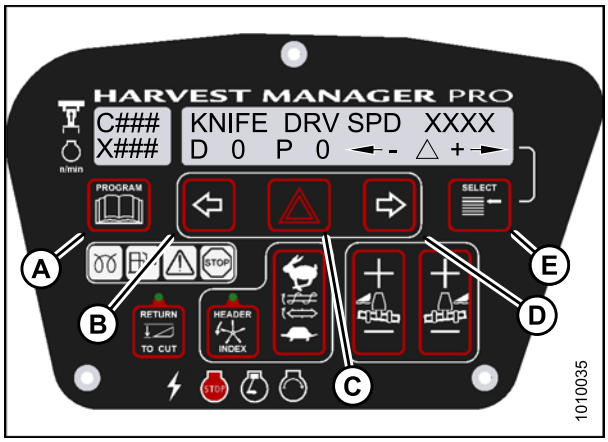

Figure 4.349: M205 Knife Drive

4.8.10 Testing the Draper Drive Circuit Activate Function Using the Cab Display Module (CDM)

IMPORTANT:
Do not over-speed a drive. Over-speeding can lead to vibration, belt failures, or other over-speeding related problems.

NOTE:

- A draper header **MUST** be attached to windrower to follow this procedure.
- The engine **MUST** be running to perform this procedure.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.

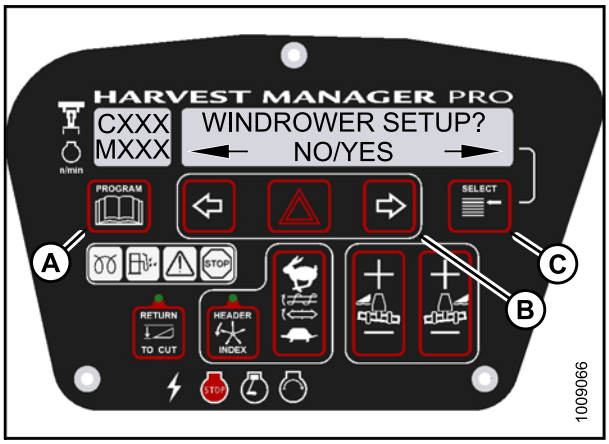

Figure 4.350: M155 CDM Programming Buttons

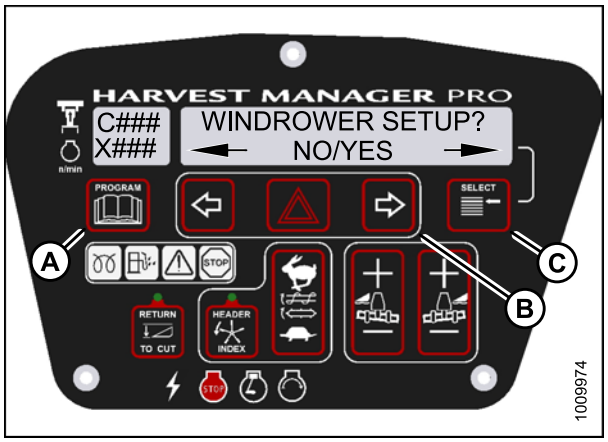

Figure 4.351: M205 CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select YES. Press SELECT (B).

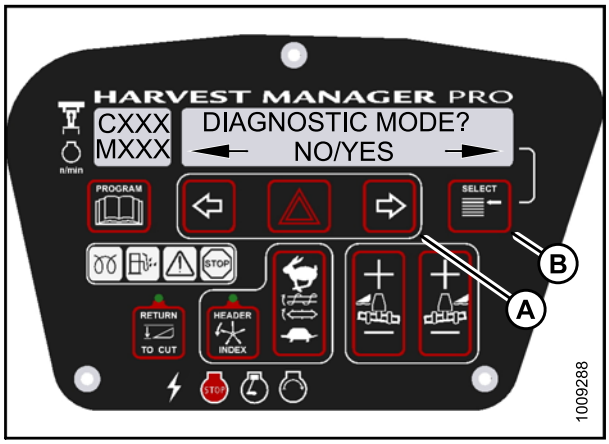

Figure 4.352: M155 Diagnostic Functions

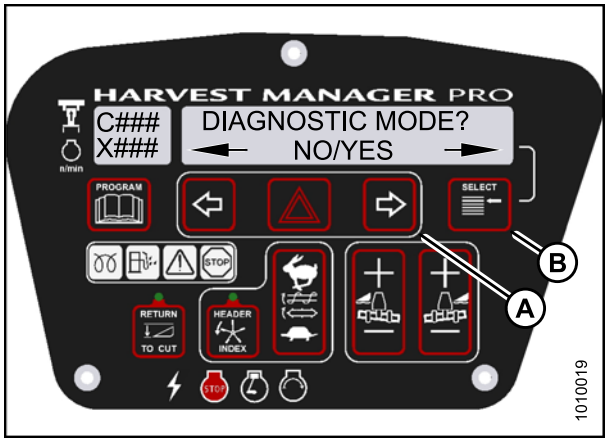

Figure 4.353: M205 Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right (A) arrow to select YES. Press SELECT (B).
   - ACTIVATE HEADER HT is displayed on the upper line.

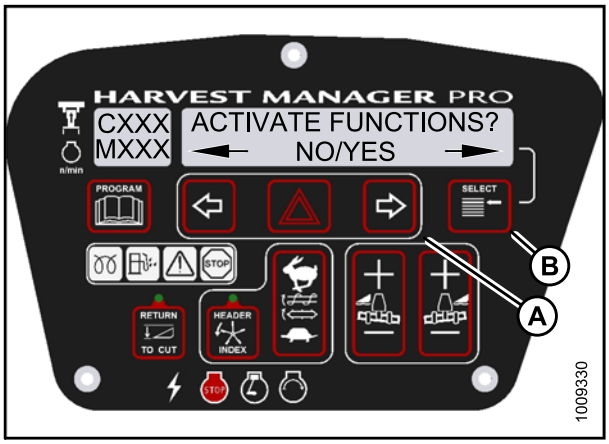

Figure 4.354: M155 Functions

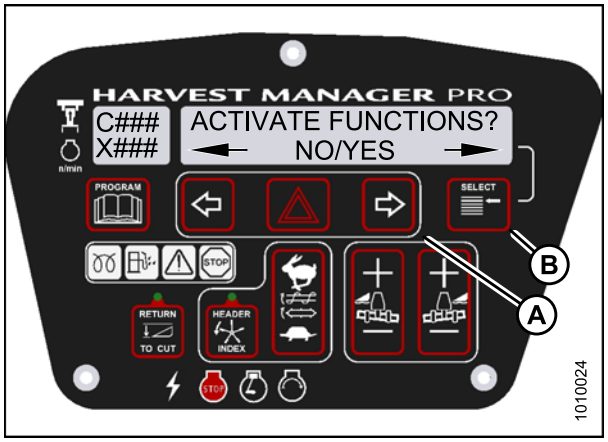

Figure 4.355: M205 Functions

CAUTION

Check to be sure all bystanders have cleared the area.

7. Press SELECT (B) until DRAPER DRV SPD XXXX is displayed on the upper line.

   IMPORTANT:
   Do **NOT** over-speed the drapers.

8. Press and hold HAZARD (C) button.
   - Press left (B) arrow to **decrease** draper speed.
   - Press right (D) arrow to **increase** draper speed.

   Verify the draper drive is functioning properly.

9. Release the HAZARD (C) button. The drapers will stop.

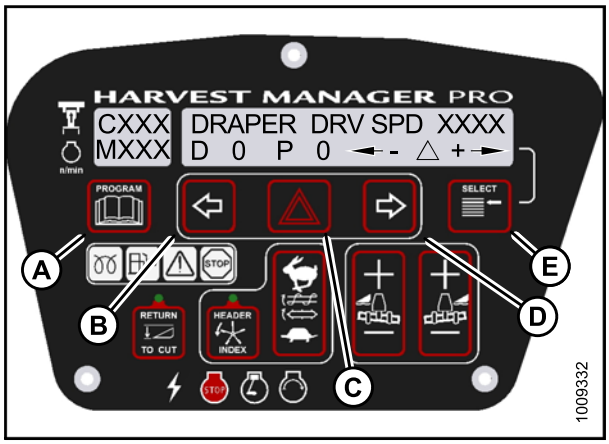

Figure 4.356: M155 Draper Drive

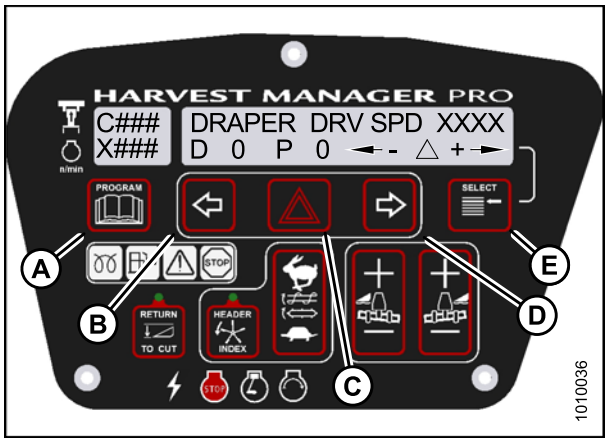

Figure 4.357: M205 Draper Drive

10. Press PROGRAM (A) to exit Programming Mode or press SELECT (E) to proceed to next ACTIVATE FUNCTION.

4.8.11 Testing the Reel Drive Circuit Activate Function Using the Cab Display Module (CDM)

IMPORTANT:
Do not over-speed a drive. Over-speeding can lead to vibration, belt failures, or other over-speeding related problems.

NOTE:

- The header **MUST** be attached to windrower to follow this procedure.
- This procedure does not apply to rotary disc headers.
- The engine **MUST** be running to perform this procedure.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.

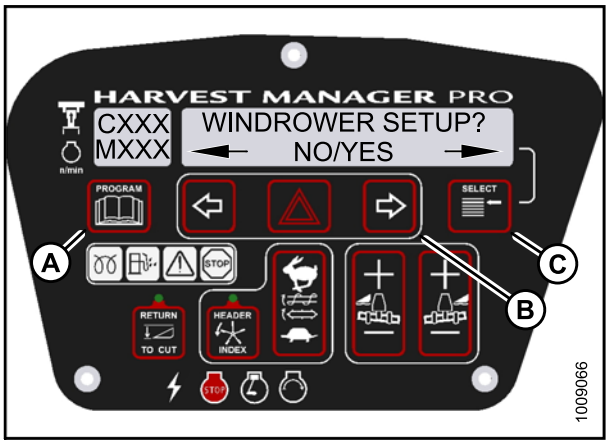

Figure 4.358: M155 CDM Programming Buttons

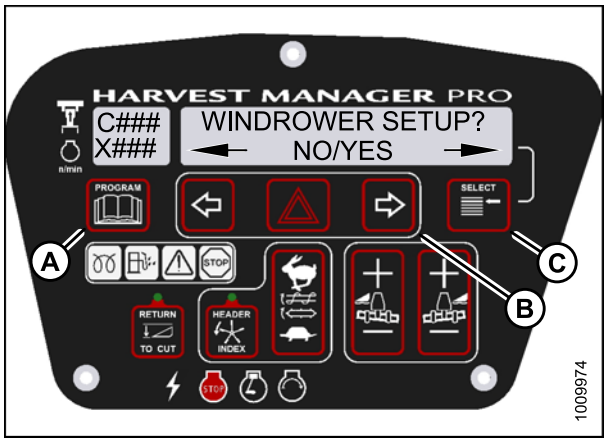

Figure 4.359: M205 CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select YES. Press SELECT (B).

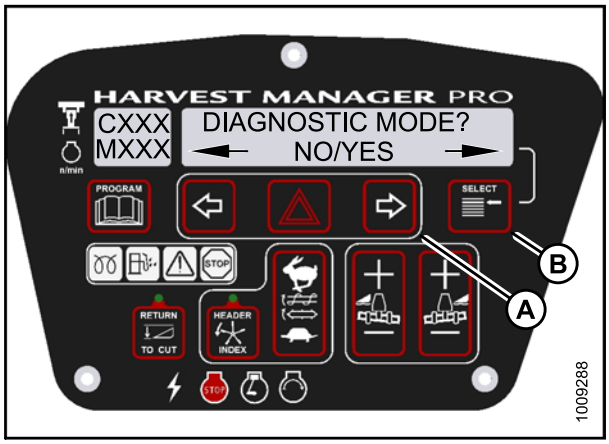

Figure 4.360: M155 Diagnostic Functions

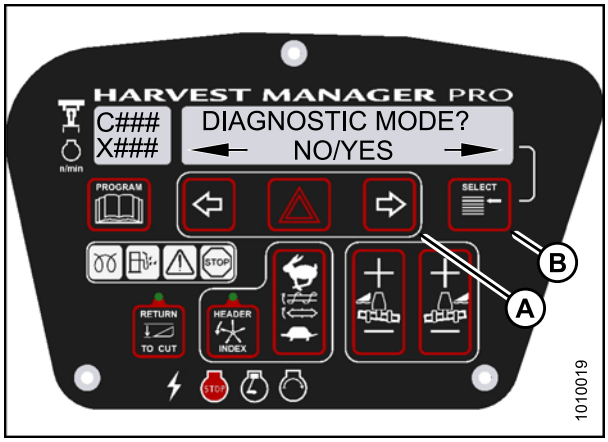

Figure 4.361: M205 Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right (A) arrow to select YES. Press SELECT (B).
   - ACTIVATE HEADER HT is displayed on the upper line.

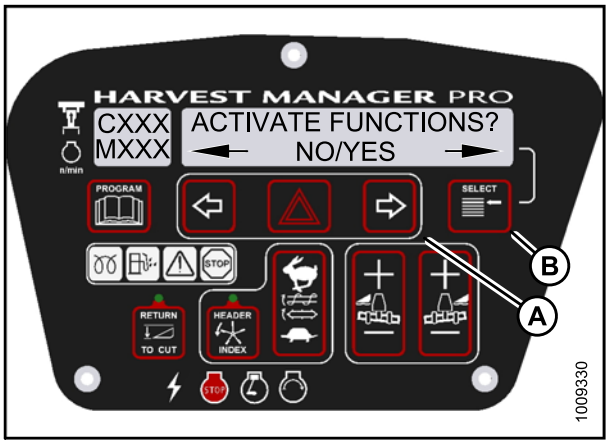

Figure 4.362: M155 Functions

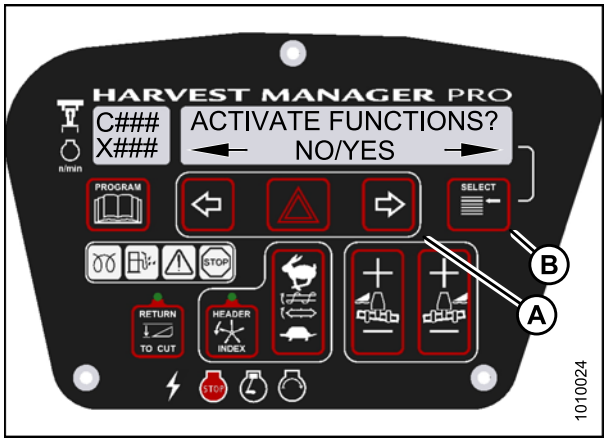

Figure 4.363: M205 Functions

CAUTION

Check to be sure all bystanders have cleared the area.

7. Press SELECT (E) until REEL DRV SPD XXXX is displayed on the upper line.

   IMPORTANT:
   Do **NOT** over-speed the reel.

8. Press and hold HAZARD (C) button.
   - Press left (B) arrow to **decrease** reel speed.
   - Press right (D) arrow to **increase** reel speed.

   Verify the reel drive is functioning properly.

9. Release the HAZARD (C) button. The reel will stop.

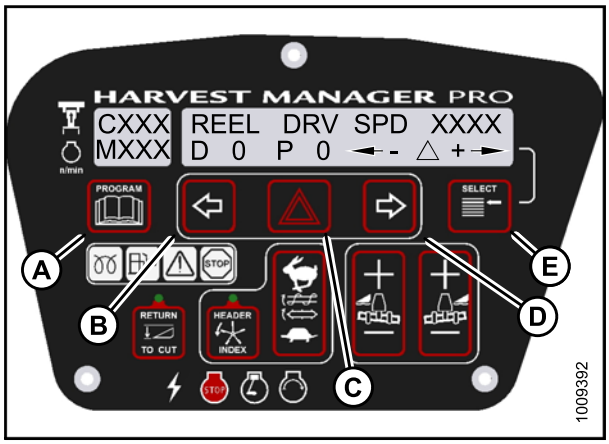

Figure 4.364: M155 Reel Drive

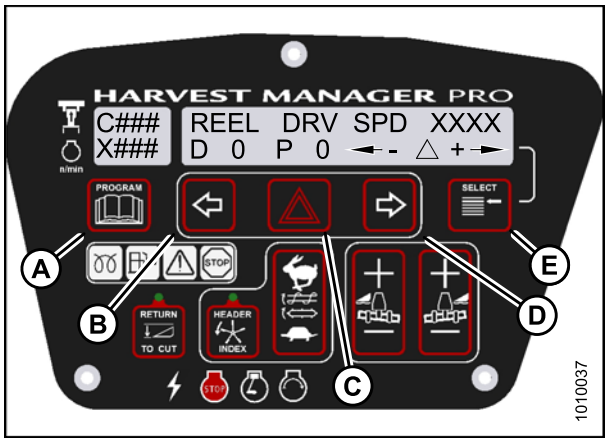

Figure 4.365: M205 Reel Drive

10. Press PROGRAM (A) to exit Programming Mode or press SELECT (E) to proceed to next ACTIVATE FUNCTION.

4.8.12 Testing the Rotary Disc Drive Circuit Activate Function Using the Cab Display Module (CDM)

IMPORTANT:
Do not over-speed a drive. Over-speeding can lead to vibration, belt failures, or other over-speeding related problems.

NOTE:

- A rotary disc header **MUST** be attached to windrower to follow this procedure.
- The engine **MUST** be running to perform this procedure.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode.
   - WINDROWER SETUP? is displayed on the upper line.

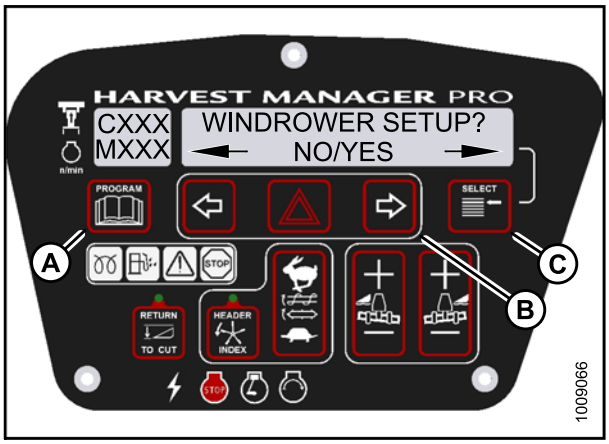

Figure 4.366: M155 CDM Programming Buttons

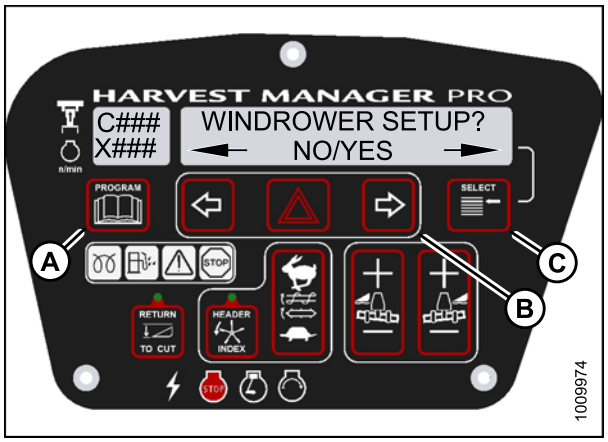

Figure 4.367: M205 CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select YES. Press SELECT (B).

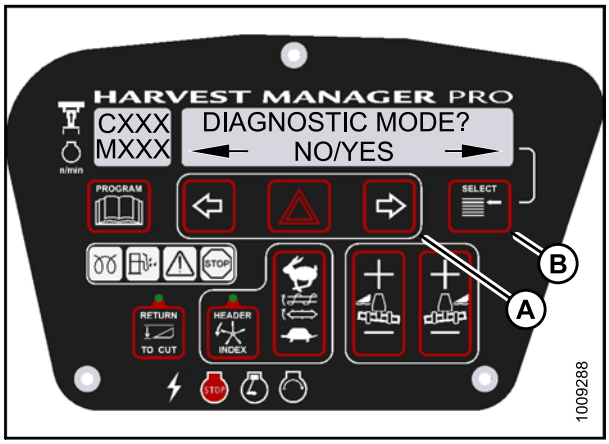

Figure 4.368: M155 Diagnostic Functions

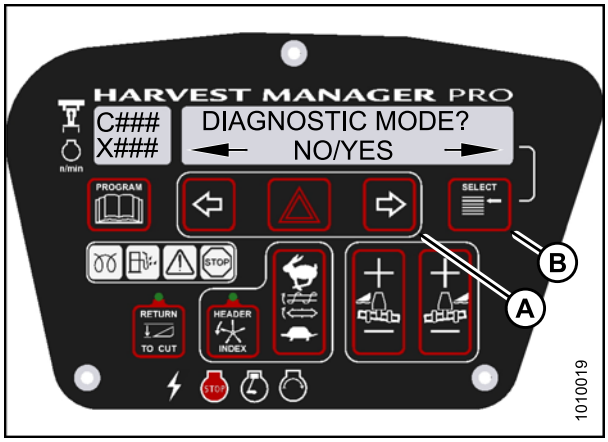

Figure 4.369: M205 Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right (A) arrow to select YES. Press SELECT (B).
   - ACTIVATE HEADER HT is displayed on the upper line.

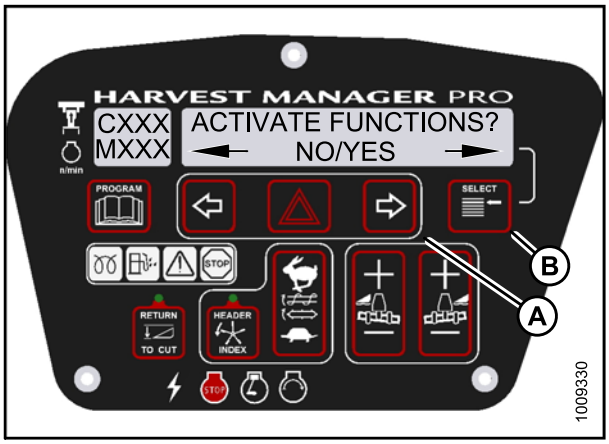

Figure 4.370: M155 Functions

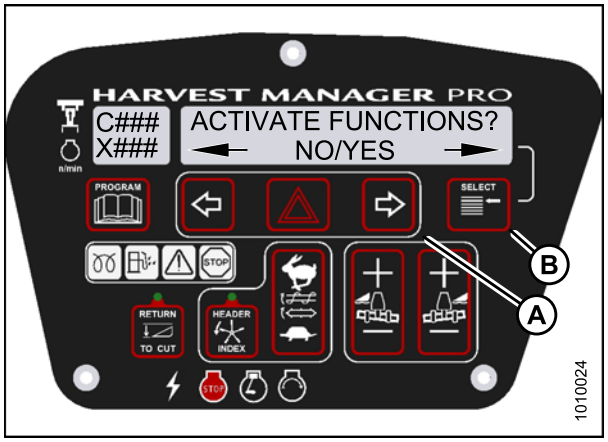

Figure 4.371: M205 Functions

CAUTION

Check to be sure all bystanders have cleared the area.

7. Press SELECT (E) until DISC DRV SPD XXXX is displayed on the upper line.

   IMPORTANT:
   Do **NOT** over-speed the disc drive.

8. Press and hold HAZARD (C) button.
   - Press left (B) arrow to **decrease** disc speed.
   - Press right (D) arrow to **increase** disc speed.

   Verify the disc drive is functioning properly.

9. Release the HAZARD (C) button. The disc drive will stop.

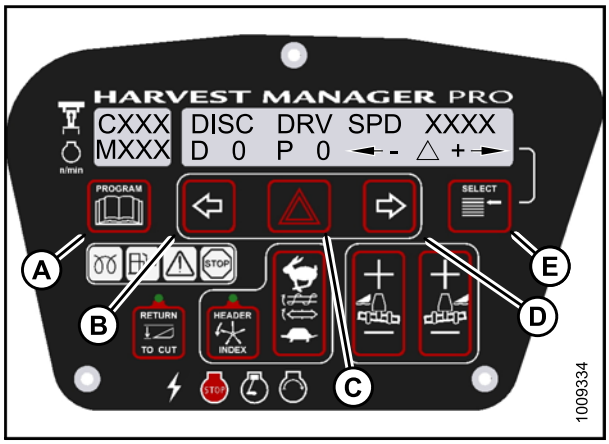

Figure 4.372: M155 Disc Drive

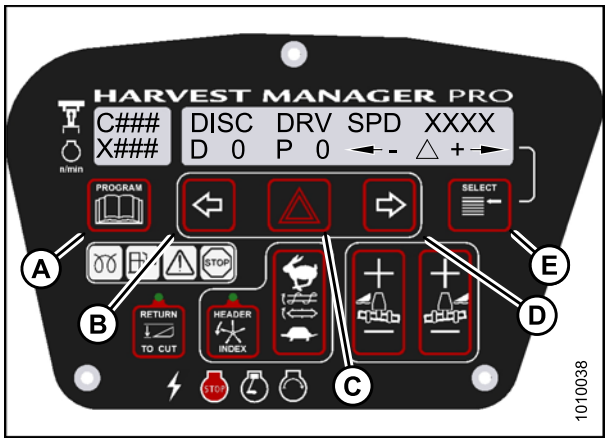

Figure 4.373: M205 Disc Drive

10. Press PROGRAM to exit Programming Mode or press SELECT to proceed to next ACTIVATE FUNCTION.

4.8.13 Testing the Double Windrower Attachment (DWA) Drive Activate Function Using the Cab Display Module (CDM)

IMPORTANT:
Do not over-speed a drive. Over-speeding can lead to vibration, belt failures, or other over-speeding related problems.

NOTE:

- DWA must be attached to windrower and activated under the WINDROWER SETUP menu. For more information, refer to *4.4.12 Activating the Double Windrow Attachment (DWA), page 204*.
- Engine **MUST** be running to perform this procedure.

1. Turn ignition key to RUN, or start the engine.
2. Press PROGRAM (A) and SELECT (C) on cab display module (CDM) to enter Programming Mode. Press SELECT (C).
   - WINDROWER SETUP? is displayed on the upper line.

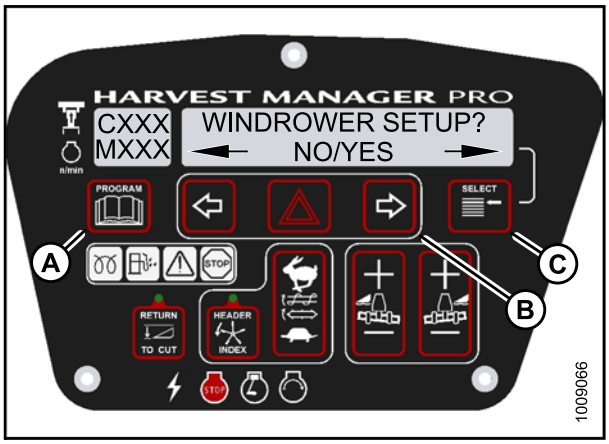

Figure 4.374: M155 CDM Programming Buttons

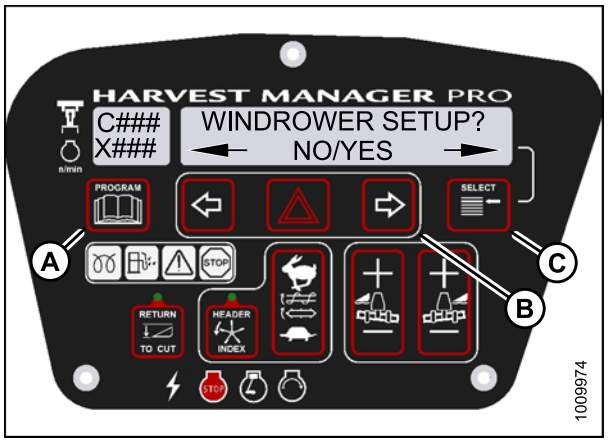

Figure 4.375: M205 CDM Programming Buttons

3. Press SELECT (B) until DIAGNOSTIC MODE? is displayed in upper line.
   - NO/YES is displayed on the lower line.
4. Press right (A) arrow to select YES. Press SELECT (B).

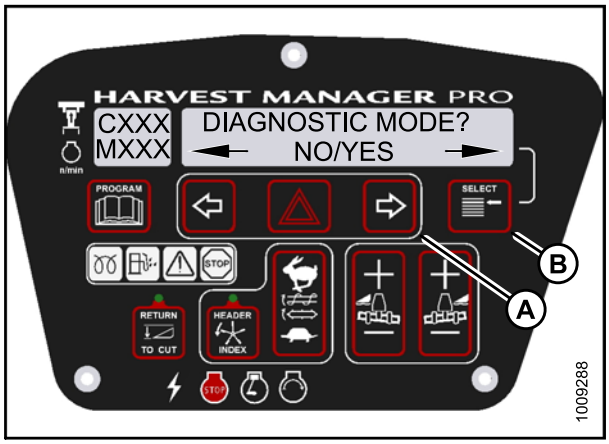

Figure 4.376: M155 Diagnostic Functions

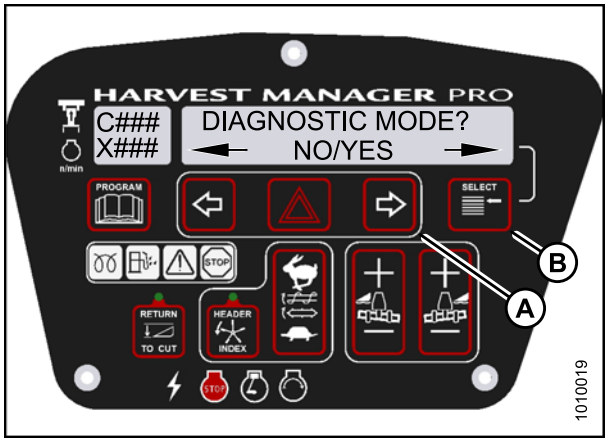

Figure 4.377: M205 Diagnostic Functions

5. Press SELECT (B) until ACTIVATE FUNCTIONS? is displayed on the upper line.
   - NO/YES is displayed on the lower line.
6. Press right (A) arrow to select YES. Press SELECT (B).
   - ACTIVATE HEADER HT is displayed on the upper line.

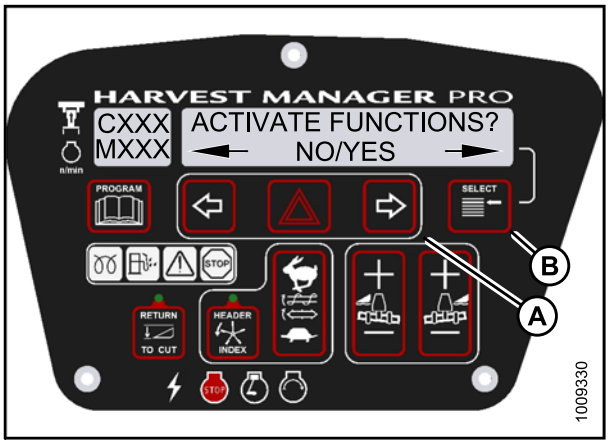

Figure 4.378: M155 Functions

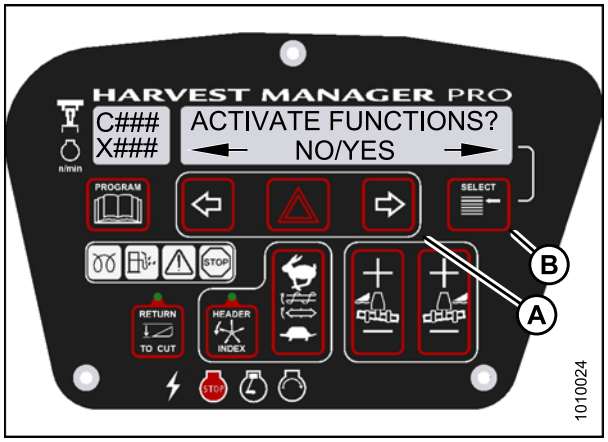

Figure 4.379: M205 Functions

7. Press SELECT (E) until ACTIVATE DWA DRV is displayed on the upper line.

CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT:
Do **NOT** over-speed the DWA drive.

8. Press and hold HAZARD (C) button.
   - Press left (B) arrow to decrease DWA drive speed.
   - Press right (D) arrow to increase DWA drive speed.

   Verify the DWA drive is functioning properly.
9. Release the HAZARD (C) button. The DWA drive will stop.
10. Press PROGRAM (A) to exit Programming Mode or press SELECT (E) to proceed to next ACTIVATE FUNCTION.

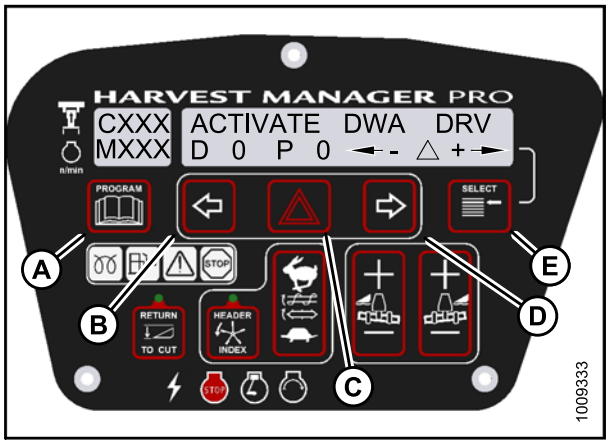

Figure 4.380: M155 DWA Drive

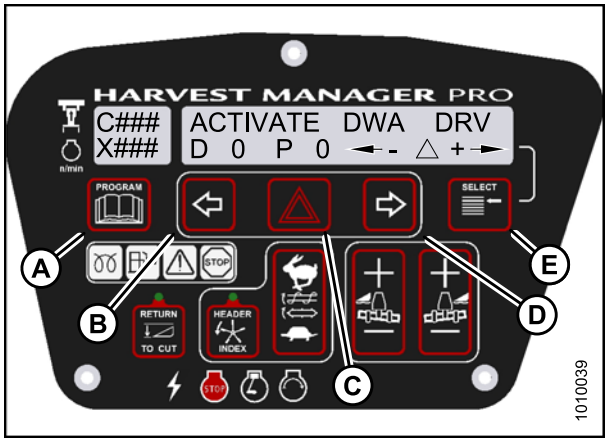

Figure 4.381: M205 DWA Drive

5 Performing Predelivery Checks

Perform all procedures in this chapter in the order in which they are listed.

IMPORTANT:
The machine is factory-set and should not require further adjustments; however, perform the following checks to ensure your machine operates at maximum performance. Adjustments should be made only if absolutely necessary and in accordance with the instructions in this manual.

5.1 Recording Serial Numbers

Record the windrower and engine serial numbers on the *Predelivery Checklist, page 379*.

1. The windrower serial number plate (A) is located on the left side of the main frame near the walking beam as shown.

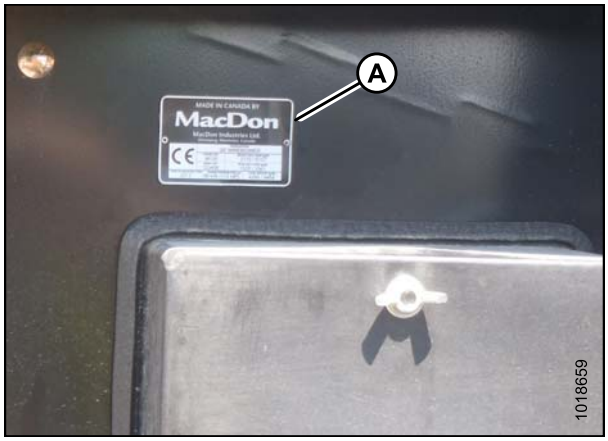

Figure 5.1: M105 Serial Number Location

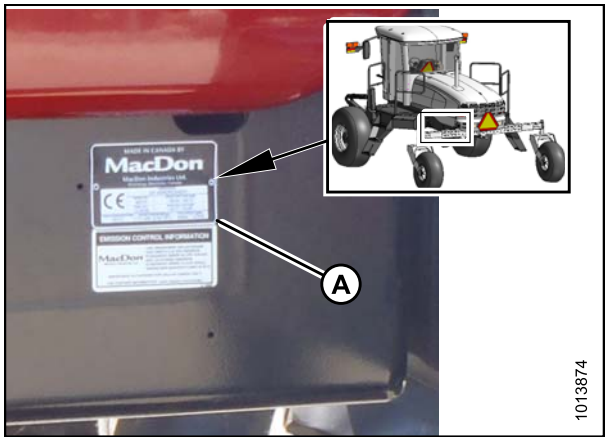

Figure 5.2: M155/M205 Serial Number Location

2. The engine serial number plate (A) is located on top of the engine cylinder head cover as shown.

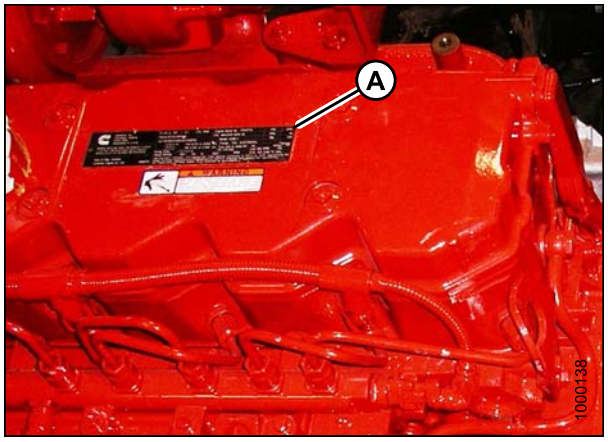

Figure 5.3: Engine Serial Number Location

5.2 Checking and Adding Wheel Drive Lubricant Level

1. Park the windrower on level ground.
2. Position windrower so plugs (A and B) are horizontally aligned with the center (C) of the hub.
3. Stop the engine, and remove the key.
4. Remove plug (A or B). The lubricant should be visible through the port or running out slightly.
5. If lubricant needs to be added, remove the second plug (B), and add lubricant until lubricant runs out from the other port (A). For lubricant specifications, refer to *6.4 Lubricants, Fluids, and System Capacities, page 374*.

   NOTE:
   The type of lubricant used after the first lubricant change is different from the factory supplied lubricant.
6. Reinstall plugs and tighten.

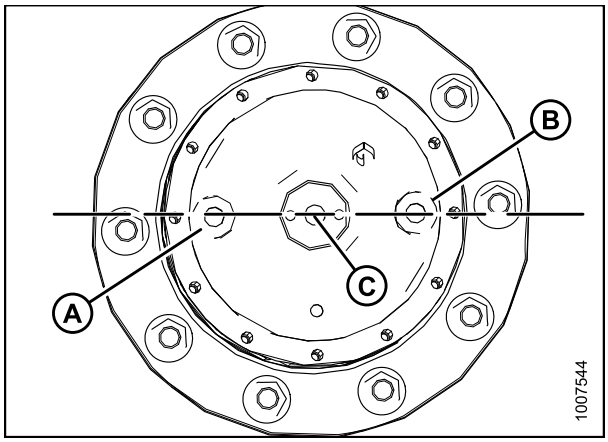

Figure 5.4: Drive Wheel Hub

5.3 Checking Tire Pressures and Adding Tire Ballast

5.3.1 Checking Tire Pressures

Check tire pressures with a gauge.

- Bar: 221 kPa (32 psi).
- Turf: 138 kPa (20 psi).
- Caster: 69 kPa (10 psi).

5.3.2 Adding Tire Ballast

When using large headers on windrower, adding fluid ballast to rear caster tires will improve machine stability.

Machine stability is also affected by different attachments, windrower options, terrains, and driving techniques.

Ballast capability per tire is at a maximum fill of 75% or when fluid is level with valve stem when stem is positioned at 12 o'clock position.

Always add an equal amount of fluid on both sides. Fluid can be added to any level up to maximum fill.

Table 5.1 Fluid per Tire

Tire Size	Fluid per Tire at 75% Fill liters (U.S. Gal.)	Total Weight of Both Tires kg (lb.)[11]
7.5 x 16	38 (10)	91 (200)
10 x 16	69 (18)	170 (380)
16.5 x 16.1	158 (41)	377 (830)

11. Weights given are for typical calcium chloride and water mixtures. Weight is reduced by 20% if only water is used (for areas that do not require antifreeze protection).

Table 5.2 Recommended Ballast

Header Description		Recommended Tire Size	Recommended Ballast			
			Level Ground		Hills	
Type	Size		Per Tire liters (U.S. Gal.)	Both Tires kg (lb.)[12]	Per Tire liters (U.S. Gal.)	Both Tires kg (lb.)[12]
A-Series (all options)	All	7.5 x 16 10 x 16 16.5 x 16.1	0	0	0	0
D-Series	25 ft. and less	7.5 x 16 10 x 16 16.5 x 16.1	0	0	0	0
	30 ft. single reel or double reel (without conditioner) 35 ft. single reel		69 (18)	170 (380)	115 (30)	288 (630)
	30 ft. double reel (with steel fingers and conditioner) 35 ft. double reel (5- or 6-bat)	Level ground: 10 x 16 16.5 x 16.1 Hills: 16.5 x 16.1	115 (30)	288 (630)	158 (41)	377 (830)
	40 ft.	16.5 x 16.1				
R-Series (all options)	13 ft. and 16 ft.	7.5 x 16 10 x 16 16.5 x 16.1	0	0	0	0

12. If only water is used, increase volume of water by 20% (up to maximum allowable fill per tire) to compensate.

5.4 Checking Engine Air Intake

DANGER

To avoid bodily injury or death from 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.

1. Ensure air cleaner cap is firmly attached and latches (A) and clamps (B) are secure.

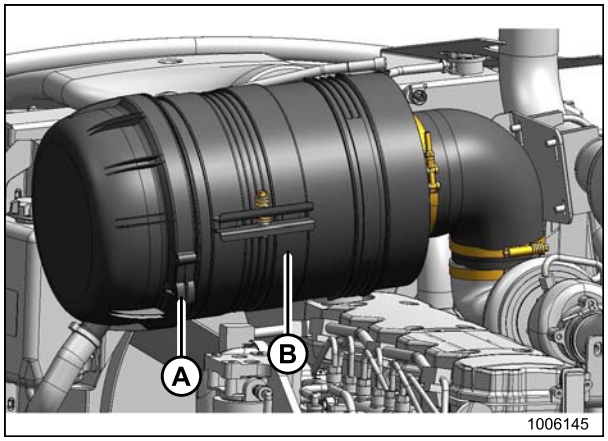

Figure 5.5: M205 Air Intake System

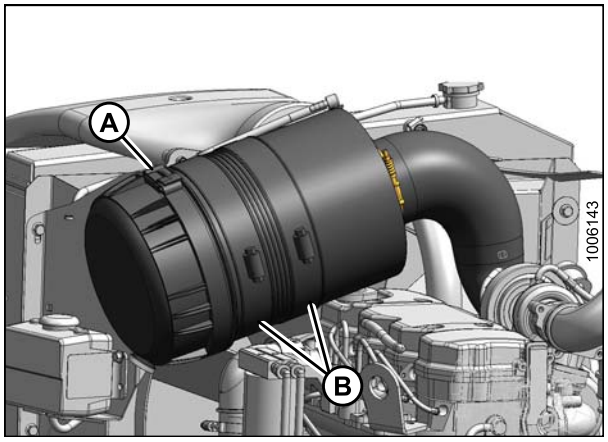

Figure 5.6: M105/M155 Air Intake System

2. **M105 and M155 only:** Check the constant torque spring clamp (A) at the back of the air cleaner. Hold a 0.46 mm (0.018 in.) gauge between the middle coils, tighten the clamp until the gauge is snug, and remove the gauge.

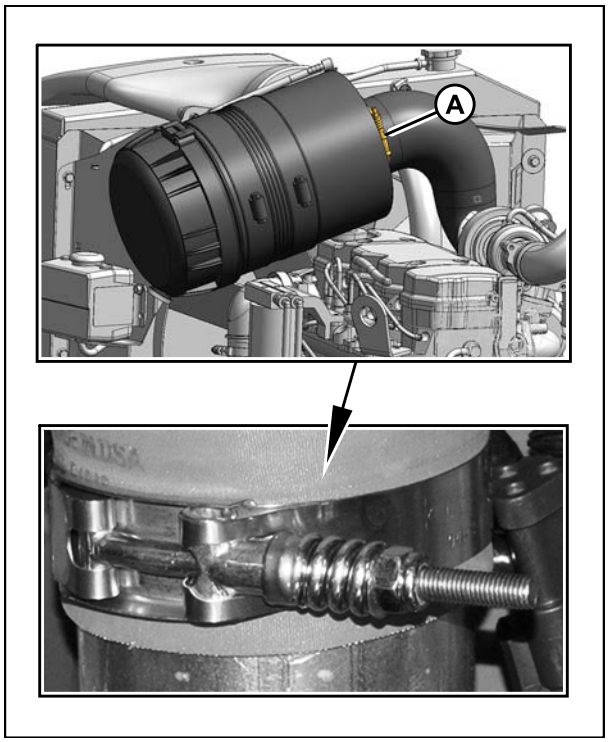

Figure 5.7: M105/M155 Air Intake System

3. **M205 only:** Check the constant torque clamps (A) on the charge air cooling duct connection at the turbocharger inlet. Tighten constant torque clamps to achieve a gap (B) of 4 mm +/- 0.5 mm (0.157 in. +/- 0.02 in.).

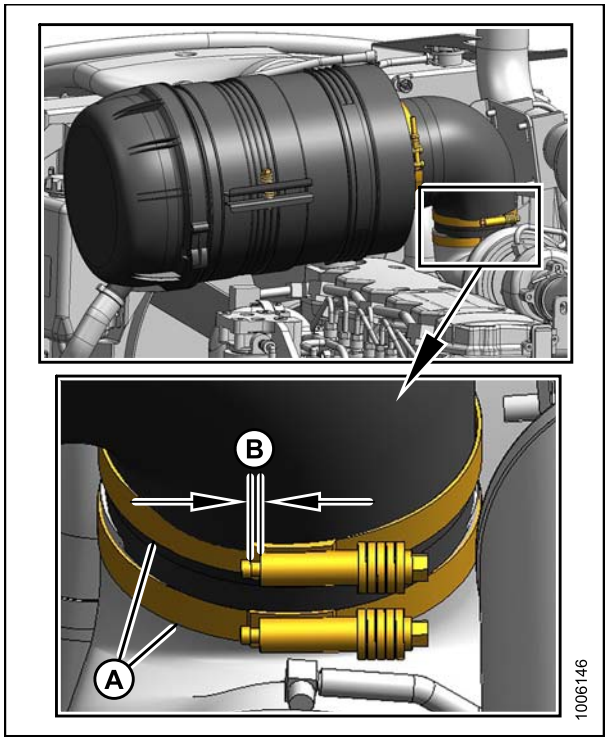

Figure 5.8: M205 Air Intake System

4. Check the constant torque clamps (A) on the charge air cooling duct connections at turbocharger outlet and engine air intake. Hold a 0.46 mm (0.018 in.) gauge between the middle coils, tighten the clamp until the gauge is snug, and remove the gauge.

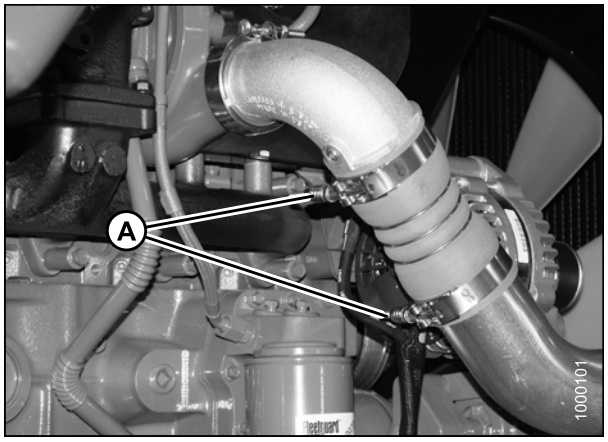

Figure 5.9: M205 Air Intake System

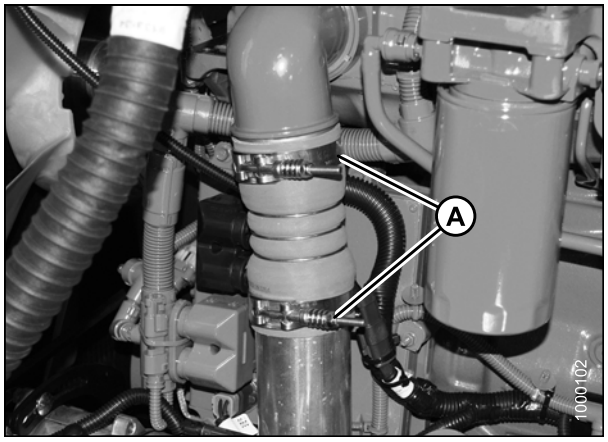

Figure 5.10: M205 Air Intake System

5.5 Checking Hydraulic Oil

DANGER

To avoid bodily injury or death from 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.

1. **For M105:** Clean cap (A) and surrounding area.
2. **For M105:** Turn filler cap (A) counterclockwise to unlock cap and remove dipstick.

Figure 5.11: Engine Hood

3. **For M155 and M205:** Clean cap (A) and surrounding area.
4. **For M155 and M205:** Turn filler cap (A) counterclockwise to unlock cap and remove dipstick.

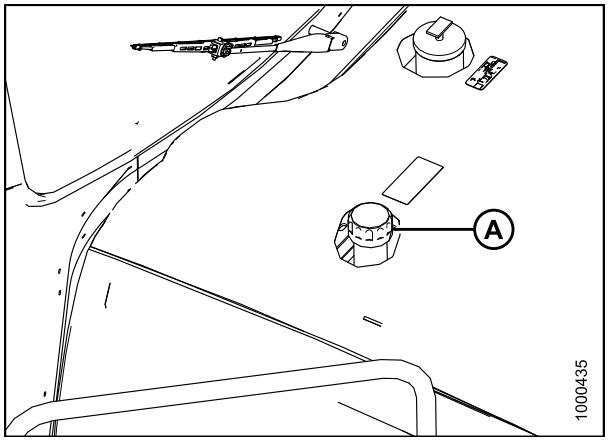

Figure 5.12: Engine Hood

5. Ensure hydraulic oil level is between the low (L) and full (H) marks.
6. If necessary, add oil to maintain a level between the low (L) and full (H) marks. Refer to the windrower operator's manual for specifications.
7. Reinstall dipstick and filler cap, and turn clockwise to tighten/lock.

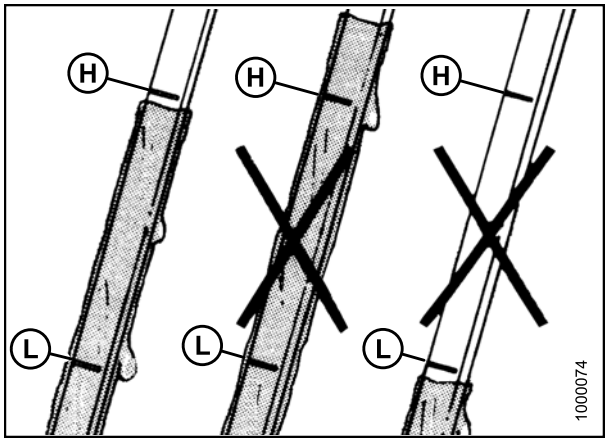

Figure 5.13: Hydraulic Oil Levels

5.6 Checking Fuel Separator

1. Place a container under the filter drain (A).
2. Turn drain valve (A) by hand 1-1/2 to 2 turns counterclockwise until fuel begins draining.
3. Drain the filter sump of water and sediment until clear fuel is visible. Clean as necessary.
4. Turn the drain valve (A) by hand 1-1/2 to 2 turns clockwise until tight.
5. Dispose of fluid in container in a safe manner.

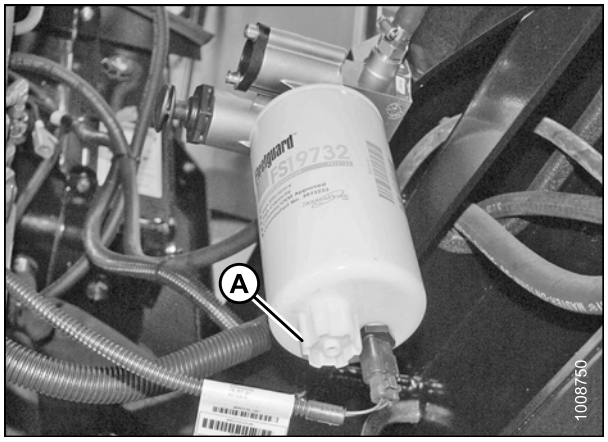

Figure 5.14: Fuel Filter

5.7 Checking Engine Coolant

1. Check the coolant level in the coolant recovery tank (A). Tank should be at least half full.
2. If necessary, add coolant. Refer to windrower operator's manual for procedure specifications.
3. Ensure coolant concentration in the radiator is rated for temperatures of -34°C (-30°F).

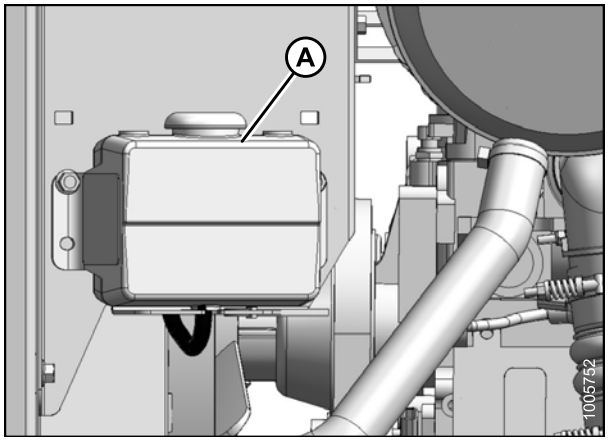

Figure 5.15: M105 Coolant Recovery Tank

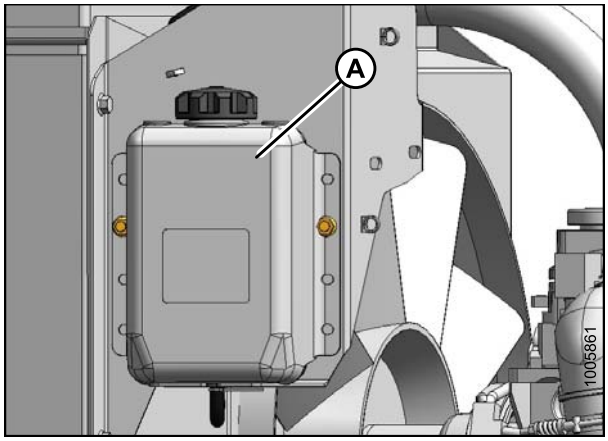

Figure 5.16: M155/M205 Coolant Recovery Tank

5.8 Checking Gearbox Lubricant Level on an M155/M205

1. Remove plug (A) and ensure lubricant is visible or slightly running out.
2. If lubricant is required, add gearbox oil. Refer to the windrower operator's manual for procedure specifications.
3. Replace plug (A) and tighten.

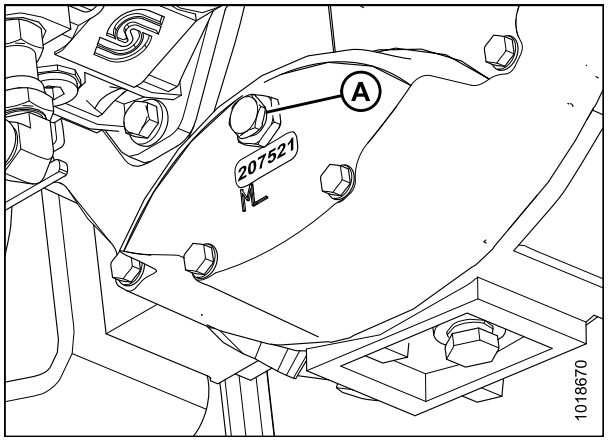

Figure 5.17: Gearbox

5.9 Checking Air Conditioning (A/C) Compressor Belts

1. Ensure A/C compressor belt (A) is tensioned so that a force of 35–55 N (8–12 lbf) on belt deflects belt 5 mm (3/16 in.) at mid-span.

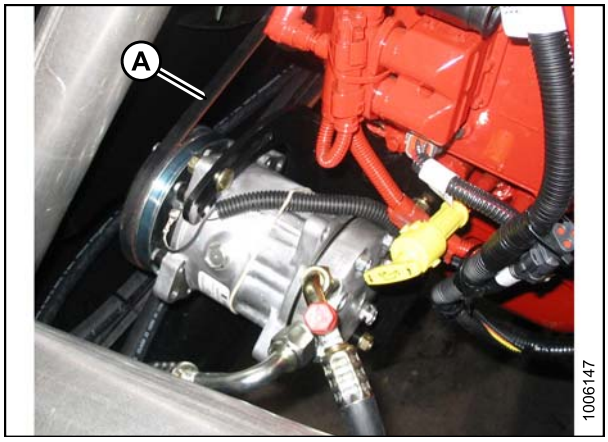

Figure 5.18: A/C Compressor Belt

5.10 Checking Safety System

Ensure the battery disconnect switch is in the POWER ON position. Refer to *5.11 Performing Operational Checks, page 334*.

A properly functioning system should operate as follows:

- The starter should engage **only** when the ground speed lever (GSL) is in N-DETENT, the steering wheel is locked in the center position, and the header drive switch is in the OFF position. The brake should engage and the machine should NOT move after engine start-up.
- The steering wheel should **NOT** lock with the engine running and the GSL out of N-DETENT.
- The machine should **NOT** move with the engine running and with the steering wheel centered when the GSL is pulled straight out of N-DETENT (not in forward or reverse).

IMPORTANT:
If the safety system does not function as described, refer to the windrower technical manual.

DANGER

To avoid bodily injury or death from 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.

CAUTION

Check to be sure all bystanders have cleared the area.

Perform the following procedures to ensure the safety system is operating properly:

1. Shut down the engine and engage header drive switch. Try starting the engine and confirm the cab display module (CDM) displays HEADER ENGAGED on the upper line and DISENGAGE HEADER on the lower line.

   IMPORTANT:
   If the engine turns over, the safety system requires adjustment. Refer to the windrower technical manual for adjustment procedures.

2. Shut down the engine and perform the following safety system checks:

   a. Open engine compartment hood.

   b. Pry the steering interlock away from pintle arms (A) by inserting a wedge or pry bar between one of the interlock channels (B) and pintle arm.

   c. Insert a wooden block approximately 19 mm (3/4 in.) thick between the opposite channel and the pintle arm so the interlock channel is clear of the pintle arm.

   d. Turn the steering wheel off-center and move the GSL to N-DETENT.

   e. Try starting the engine and confirm the CDM flashes CENTER STEERING accompanied by a short beep with each flash. The engine should **NOT** turn over.

      IMPORTANT:
      If the engine turns over, the safety system requires adjustment. Refer to the windrower technical manual for adjustment procedures.

   f. Remove key from ignition.

   g. Remove wooden block and close hood.

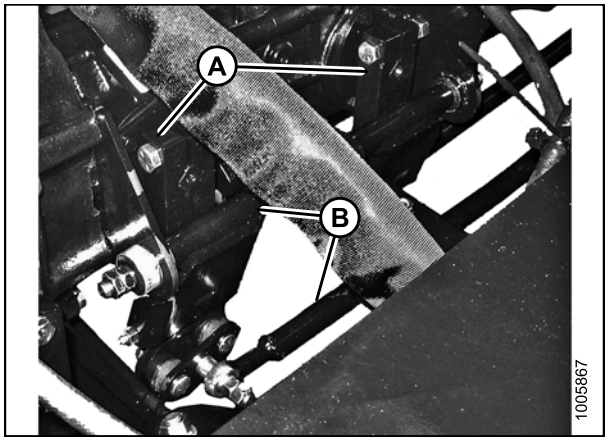

Figure 5.19: Pintle Arms

3. Shut down the engine and center the steering wheel. Place the GSL in NEUTRAL but not in N-DETENT. Try starting the engine and confirm the CDM flashes CENTER STEERING on the upper line and PLACE GSL INTO N on the lower line accompanied by a short beep with each flash. The engine should NOT turn over.

   IMPORTANT:
   If the engine turns over, the safety system requires adjustment. Refer to the windrower technical manual for adjustment procedures.

4. Shut down the engine and center the steering wheel. Place the GSL in N-DETENT and ensure the operator's station is **NOT** locked. Try starting the engine and confirm that the engine cranks but does NOT start, and the CDM displays SEAT BASE NOT LOCKED.

   IMPORTANT:
   If the engine starts, the safety system requires adjustment. Refer to the windrower technical manual for adjustment procedures.

5.11 Performing Operational Checks

DANGER

To avoid bodily injury or death from 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.

M205, M155: The battery disconnect switch (A) is located on the right-hand (cab-forward) frame rail behind the maintenance platform and can be accessed by moving the platform rearwards.

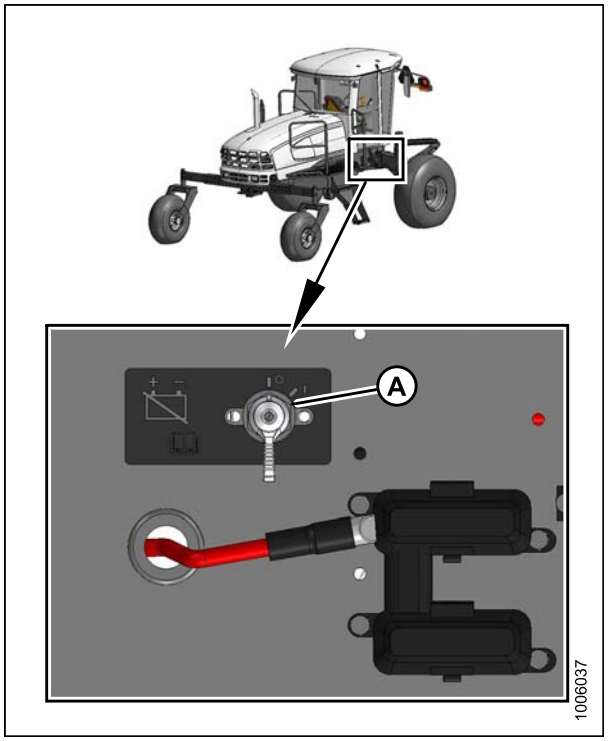

Figure 5.20: Battery Switch

M105: The battery disconnect switch (A) is located on the left-hand frame rail on the battery tray and can be accessed by raising the engine compartment hood.

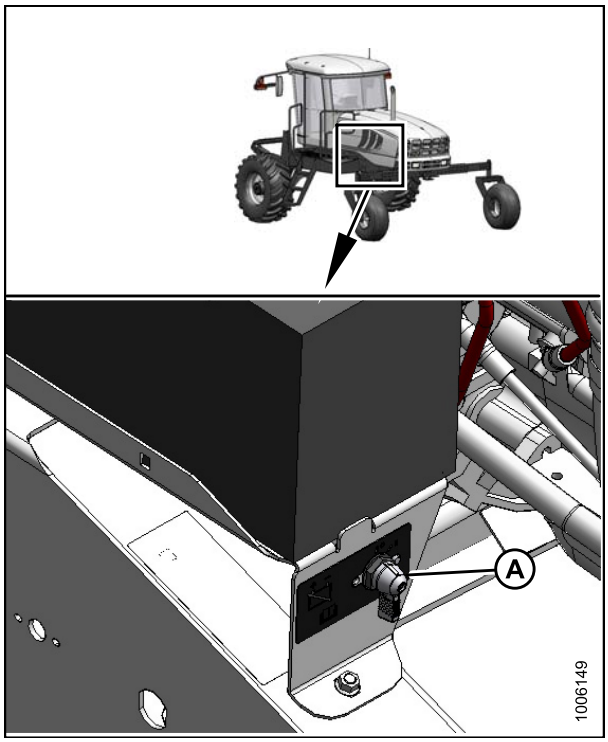

Figure 5.21: M105 Battery Switch

5.11.1 Checking Engine Warning Lights

1. Turn ignition key (A) to RUN position. A single loud tone will be audible and the engine warning lights (B) will illuminate.
2. Turn ignition key (A) to OFF position.

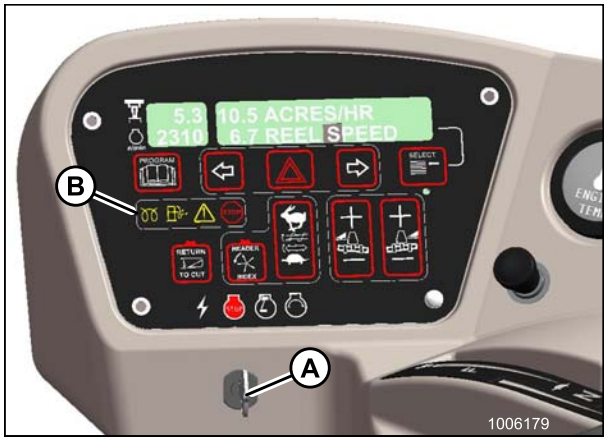

Figure 5.22: M155/M205 Operator Console

Figure 5.23: M105 Operator Console

5.11.2 Checking Fuel Level on an M105

1. Turn the ignition key (A) to the RUN position.
2. Check the fuel level by pressing the selector switch (B) on the cab display module (CDM) until the FUEL LEVEL is displayed at (C). If required, add sufficient fuel for a 15 minute run.

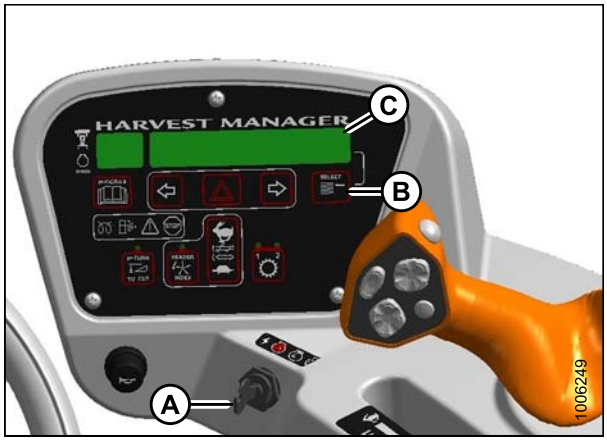

Figure 5.24: Cab Display Module (CDM)

5.11.3 Checking Windrower Startup

CAUTION

Check to be sure all bystanders have cleared the area.

1. Start the engine. For instructions, refer to *3.15 Starting Engine, page 84*.

   NOTE:
   The brakes should engage and the machine should not move after engine start-up.

2. Ensure the steering wheel is centered. Move ground speed lever (GSL) (A) straight out of N-DETENT (neither forward nor reverse). The machine should not move.
3. Check that the steering wheel is free to move.

   IMPORTANT:
   If the machine does not function as described, the system requires adjustment. Refer to the windrower technical manual.

Figure 5.25: M155/M205 Operator Console

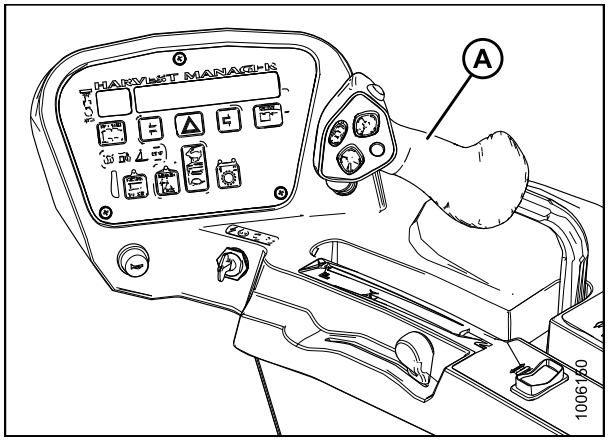

Figure 5.26: M105 Operator Console

5.11.4 Checking Engine Speed

1. Move throttle to idle position.
2. Check engine speed on cab display module (CDM) (A) and compare to value in table.
3. Move throttle to maximum rpm position.
4. Check engine speed on CDM (A) and compare to value in table.

Table 5.3 Engine Speed

Model	Idle	Maximum rpm (No Load)
M105	1100	2270–2330
M155		2320–2350
M205		2250–2340

Figure 5.27: M105 Cab Display Module (CDM)

Figure 5.28: M155/M205 Cab Display Module (CDM)

5.11.5 Checking Gauges and Cab Display Module (CDM) Display

1. **M205 and M155 only:** Ensure the engine temperature gauge (A) and fuel gauge (B) are working.

Figure 5.29: M155/M205 Temperature and Fuel Gauges

2. Ensure the CDM display (A) is working by pushing the SELECT (B) button on the CDM or the SELECT (C) button on the ground speed lever (GSL).

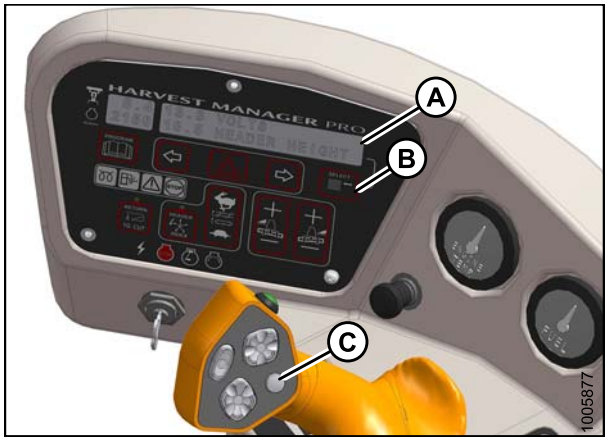

Figure 5.30: M155/M205 CDM

Figure 5.31: M105 CDM

5.11.6 Checking Cab Display Module (CDM) Display on an M105

1. Ensure the CDM display (A) is working by pushing SELECT (B) on CDM, or SELECT button (C) on ground speed lever (GSL).

Figure 5.32: Cab Display Module (CDM)

5.11.7 Checking Electrical System

1. Push the SELECT button (C) on the ground speed lever (GSL) or the SELECT button (B) on the cab display module (CDM) until the CDM display (A) displays VOLTS. The display indicates the condition of the battery and alternator. Refer to Table *5.4 Battery and Alternator Condition, page 340*.

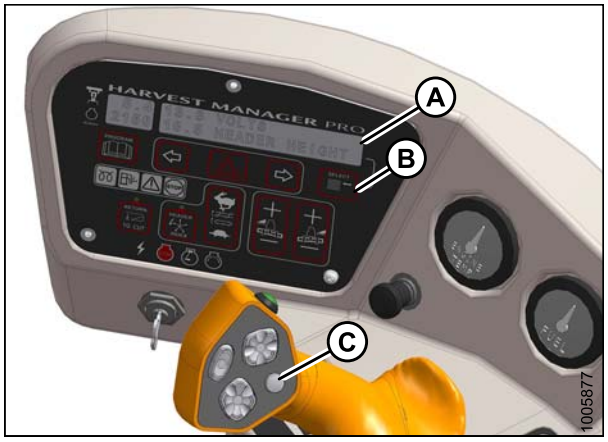

Figure 5.33: M155/M205 Cab Display Module (CDM)

Figure 5.34: M105 Cab Display Module (CDM)

Table 5.4 Battery and Alternator Condition

Ignition	Engine	Reading	Indicated Condition
ON	Running	13.8–15.0	Normal
		>16.0 (see note)	Regulator out of adjustment
		<12.5 (see note)	Alternator not working or Regulator out of adjustment
	Shut down	12.0	Battery normal

NOTE:
Display flashes voltage reading accompanied by a single loud tone every 30 minutes until condition is fixed.

5.11.8 Checking Operator's Presence System

CAUTION

Check to be sure all bystanders have cleared the area.

1. Start the engine.
2. Place the ground speed lever (GSL) (A) in NEUTRAL and turn the steering wheel until it locks.
3. Engage header drive switch (B).
4. Stand up from the operator's seat. The header should shut off after approximately 5 seconds. If the header does not shut off, the Operator Presence System requires adjustment. Refer to the technical manual.

   NOTE:
   To restart the header, move the header drive switch (B) to the OFF position and then back to the ON position.

Figure 5.35: M155/M205 Operator Console

5. **M155 and M205 Only:** Start the engine and position the GSL (A) in NEUTRAL and in N-DETENT.
   a. Swivel the operator's station but do **NOT** lock into position.
   b. Move the GSL out of N-DETENT. The engine should shutdown and the lower display will flash LOCK SEAT BASE —> CENTER STEERING WHEEL —> NOT IN NEUTRAL.
   c. Swivel and lock the operator's station and the display should return to normal.
   d. If the engine does not shut down, the seat position switches require adjustment. Refer to the technical manual.

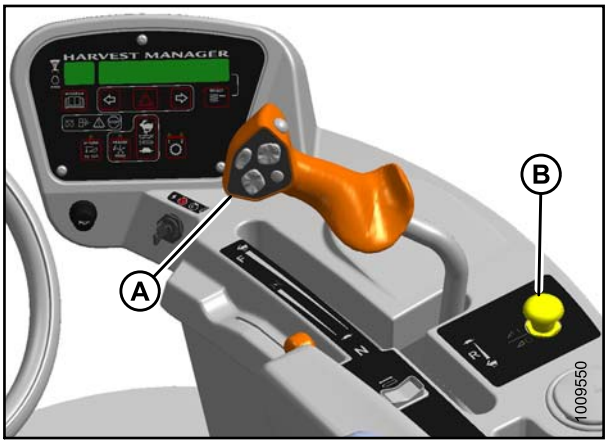

Figure 5.36: M105 Operator Console

6. Start the engine and drive the windrower at a speed **less than** 8 km/h (5 mph):
   a. Stand up from the operator's seat.
   b. Ensure the CDM flashes NO OPERATOR on the upper line and ENGINE SHUTDOWN 5…4…3…2…1…0 on the lower line accompanied by a steady tone. When the CDM display reaches 0, the engine will shut down.
   c. If the engine does not shut down, the Operator Presence System requires adjustment. Refer to the technical manual.
7. Start the engine and drive the windrower at a speed **more than** 8 km/h (5 mph):
   a. Stand up from the operator's seat.
   b. The CDM beeps once and displays NO OPERATOR on the lower line.
   c. If the CDM does not beep and display message, the Operator Presence System requires adjustment. Refer to the technical manual.

5.11.9 Checking Exterior Lights

The procedure for checking the exterior lights differs depending on the windrower model. Refer to *Checking Exterior Lights on an M155/M205, page 343* or *Checking Exterior Lights on an M105, page 346*.

Checking Exterior Lights on an M155/M205

1. Rotate the operator's seat to cab-forward mode.
2. Turn field light switch (A) to the ON position and ensure the front field lights (B) and rear swath lights (C) are functioning.

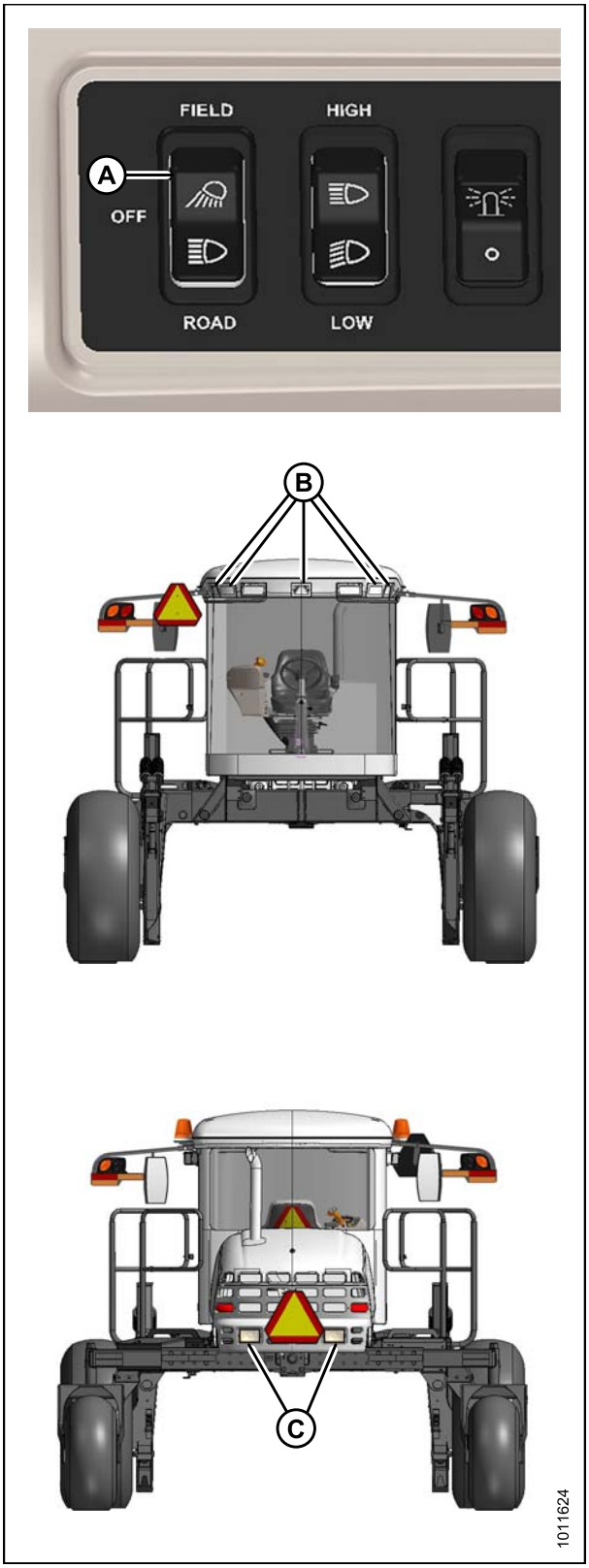

Figure 5.37: M155/M205 Exterior Lights – Cab Forward

3. Turn the road light switch (A) to the ON position and ensure the front road lights (B) and rear red tail/brake lights (C) (if equipped) are functioning.
4. Activate the high/low switch (D) and check lights.
5. Activate the amber turn signal/hazard warning lights (E) using switches on the cab display module (CDM) and check lights.
6. Turn off lights.

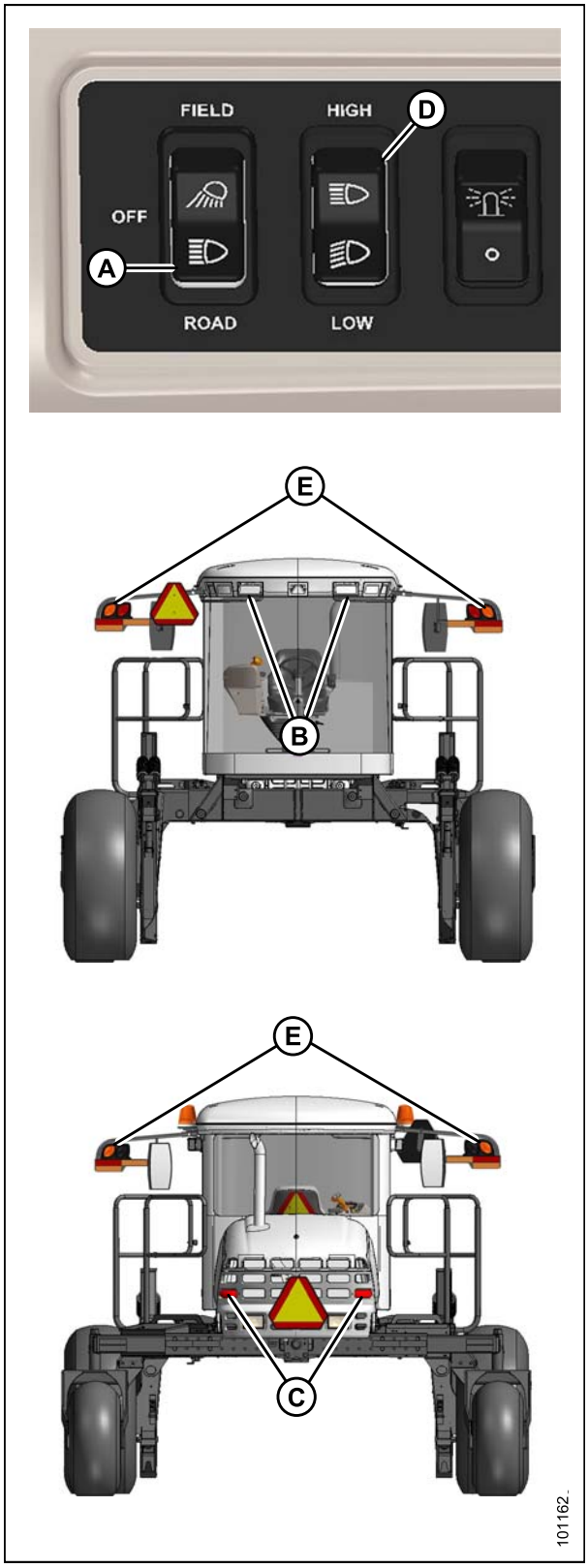

Figure 5.38: M155/M205 Exterior Lights – Cab Forward

7. Turn beacon switch (A) to the ON position and ensure the amber beacons (B) are functioning.

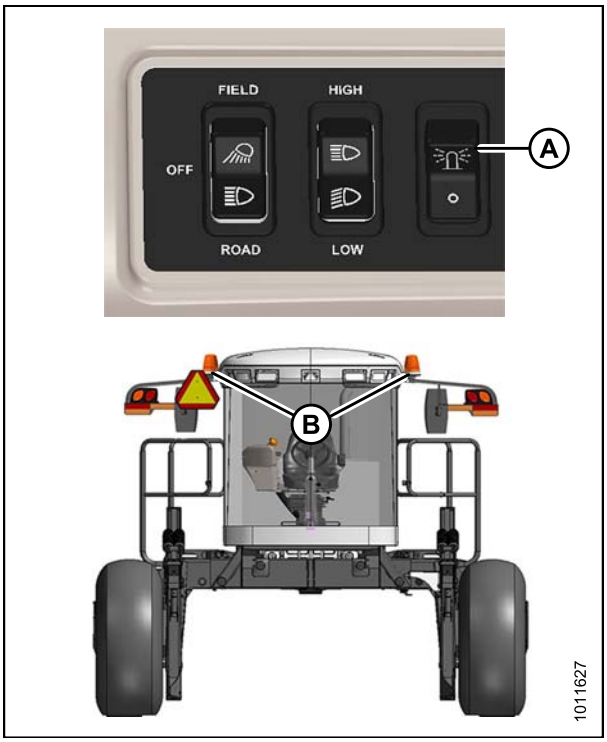

Figure 5.39: M155/M205 Exterior Lights – Beacons

Checking Exterior Lights on an M105

1. Turn field light switch (A) to the ON position and ensure the field lights (B) and rear swath lights (C) are functioning.

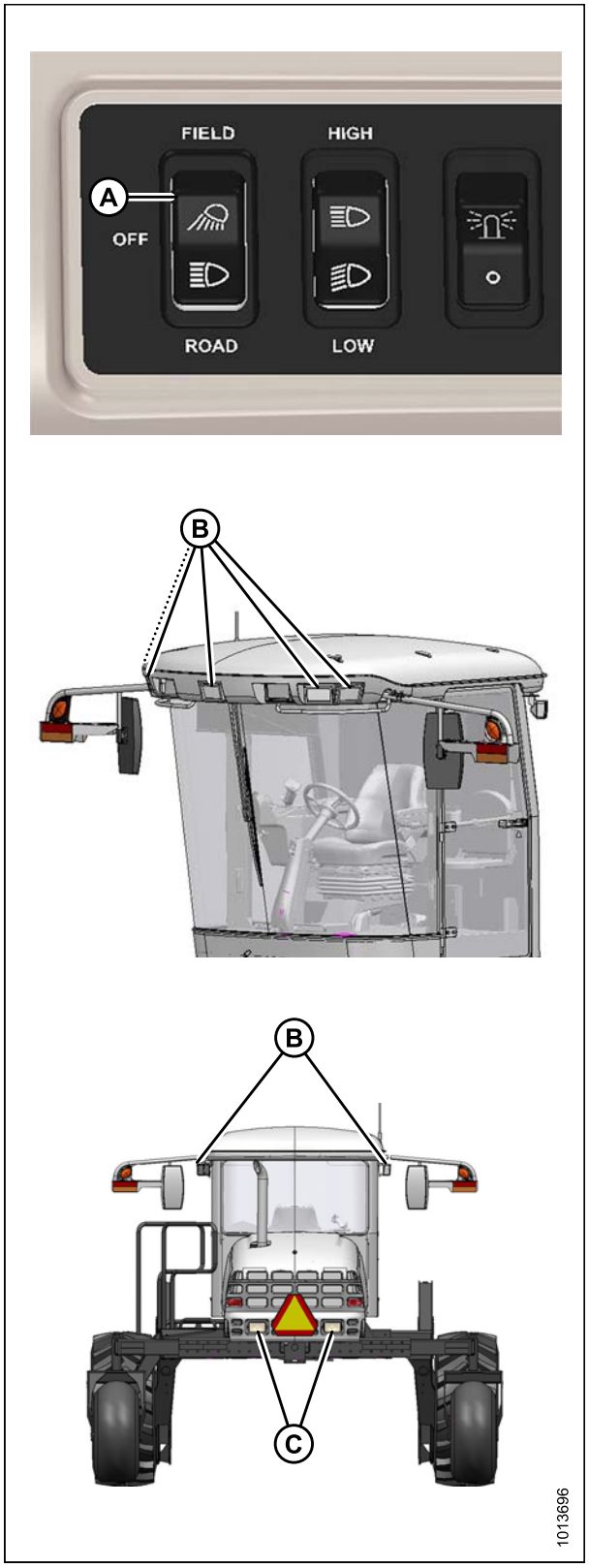

Figure 5.40: M105 Exterior Lights

2. Turn the road light switch (A) to the ON position and ensure the front road lights (B) and rear red tail/brake lights (C) (if equipped) are functioning.
3. Activate the high/low switch (D) and check lights.
4. Activate the amber turn signal/hazard warning lights (E) using switches on the cab display module (CDM) and check lights.
5. Turn off lights.

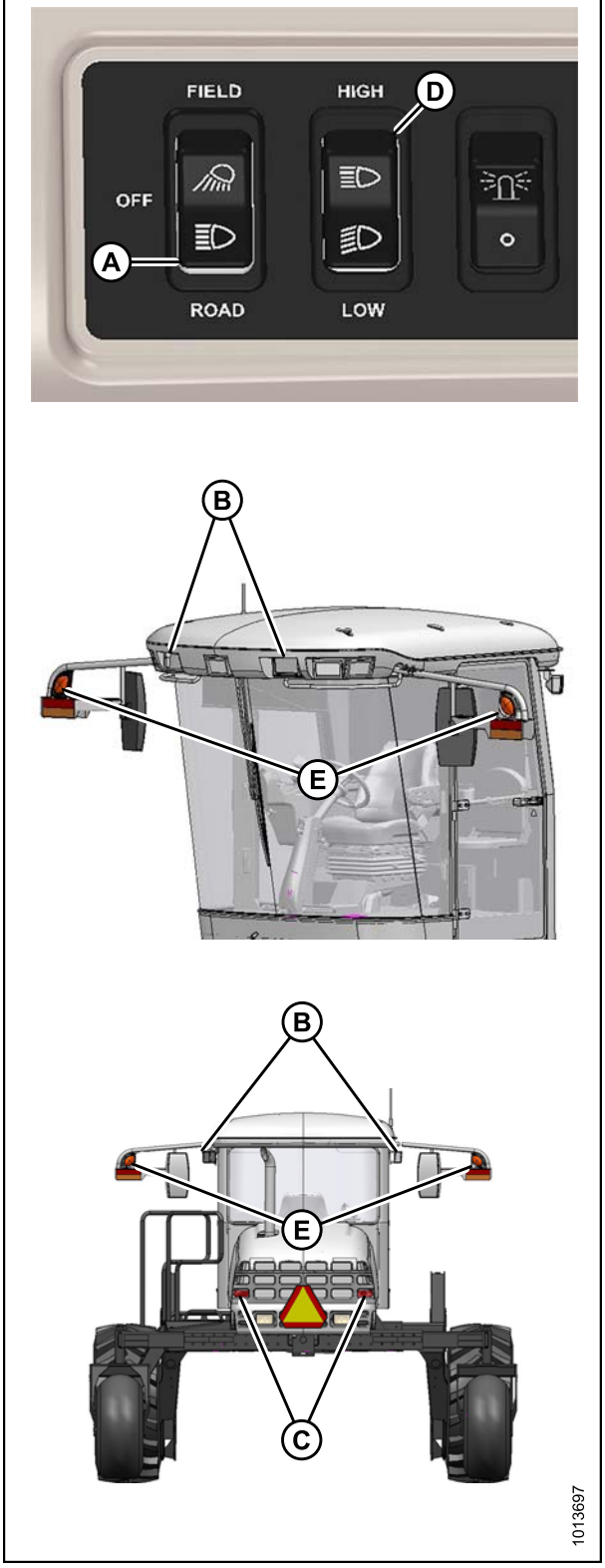

Figure 5.41: M105 Exterior Lights

6. Turn beacon switch (A) to the ON position and ensure the amber beacons (B) are functioning.

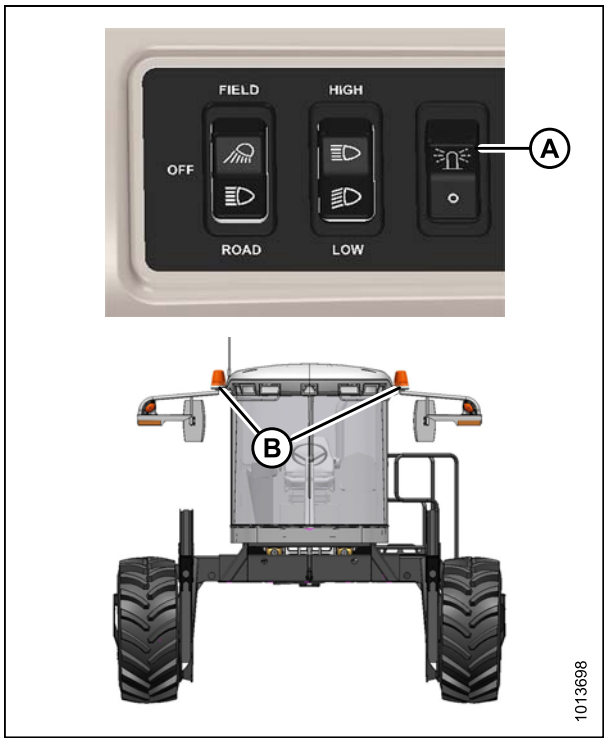

Figure 5.42: M105 Exterior Lights

5.11.10 Checking Horn

1. Push HORN button (A) and listen for horn.

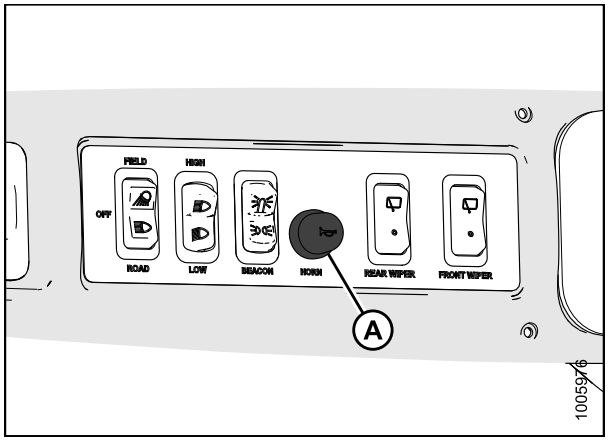

Figure 5.43: M155/M205 Horn Button

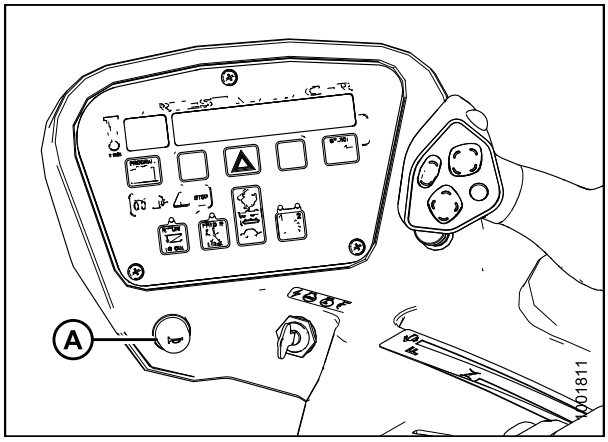

Figure 5.44: M105 Horn Button

5.11.11 Checking Interior Lights

1. Switch road and field lights ON and OFF using switch (A).

   NOTE:
   Ambient light in roof liner (B) and interior light (C) work only when road or field lights (A) are switched ON.

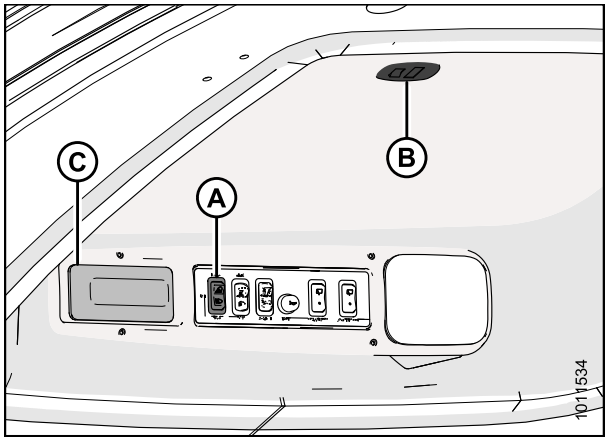

Figure 5.45: Interior Lights

5.11.12 Checking Air Conditioning (A/C) and Heater

Figure 5.46: M155/M205 A/C and Heater Controls

- **Blower switch (A)**: Controls blower speed. Switch settings are OFF, LO, MEDIUM, and HI.
- **Air conditioning switch (B)**: Controls A/C system. When set to ON, A/C operates if blower switch (A) is switched ON. When set to OFF, the A/C system does not operate.
- **Outside air switch (C)**: Controls air source. When set to FRESH AIR, booster fan starts and draws filtered outside air into the cab. When set to RECIRCULATED, booster fan stops and air inside cab is recirculated.
- **Temperature control (D)**: Controls cab temperature. Turn knob clockwise to increase temperature, and turn knob counterclockwise to decrease temperature.

IMPORTANT:
To distribute oil throughout the A/C system, perform the following steps after starting a machine that has been stored for more than one week:

1. Start engine and turn blower switch (A) to the first position, turn temperature control (D) to maximum heating, and turn A/C switch (B) to OFF.
2. Turn A/C switch (B) from OFF to ON position for 1 second, then back to OFF for 5 to 10 seconds. Repeat this step ten times.

Figure 5.47: M105 A/C and Heater Controls

- **Temperature control (A)**: Controls cab temperature. Turn knob clockwise to increase temperature, and turn knob counterclockwise to decrease temperature.
- **Blower switch (B)**: Controls blower speed. Switch settings are OFF, LO, MEDIUM, and HI.
- **Air conditioning switch (C)**: Controls A/C system. When set to ON, A/C operates if blower switch (B) is switched ON. When set to OFF, the A/C system does not operate.

IMPORTANT:
To distribute oil throughout the A/C system, perform the following steps after starting a machine that has been stored for more than one week:

3. Start engine and turn blower switch (B) to the first position, turn temperature control (A) to maximum heating, and turn A/C switch (C) to OFF position.
4. Turn A/C switch (C) from OFF to ON position for one second, then back to OFF for 5 to 10 seconds. Repeat this step ten times.

5.11.13 Setting and Adjusting Knife Speed

The knife speed is set by making manual adjustments to the knife drive pump and has been pre-set at the lowest knife rpm. For optimum performance, adjust the knife speed according to the type and size of header you are installing. Refer to Table *5.5 Knife Speed Setting, page 352*.

NOTE:
Set the knife speed within the ranges specified for each header.

Table 5.5 Knife Speed Setting

Header Description		Knife Speed			
Type	Size (ft.)	Minimum		Maximum	
		rpm[13]	spm[14]	rpm[13]	spm[14]
Draper (Double Knife)	15	750	1500	950	1900
	20 and 25	700	1400	850	1700
	30	600	1200	700	1600
	35	600	1200	650	1400
Draper (Single Knife)	20 and 25	600	1200	750	1500
	30	600	1200	700	1400
	35	550	1100	650	1300
Grass Seed	All	700	1400	975	1950
Auger A40-D	All	700	1400	975	1950
Auger A30-D	All	775	1550	925	1850
Auger A30-S	All	625	1250	775	1550

Setting Knife Speed

CAUTION

Check to be sure all bystanders have cleared the area.

1. Start the engine. Refer to *3.15 Starting Engine, page 84*.
2. Move the throttle to adjust the engine speed to IDLE.
3. Set the Intermediate Speed Control (ISC) to OFF. Refer to *4 Cab Display Module (CDM), page 153*.
4. Engage the header drive switch (A), and pull up on the black ring at the base of the switch.

   NOTE:
   A slight delay between activating the header drive switch and achieving operating speed is normal.

5. Run the engine at maximum rpm.

   NOTE:
   To disengage the header drive, push down the header drive switch (A).

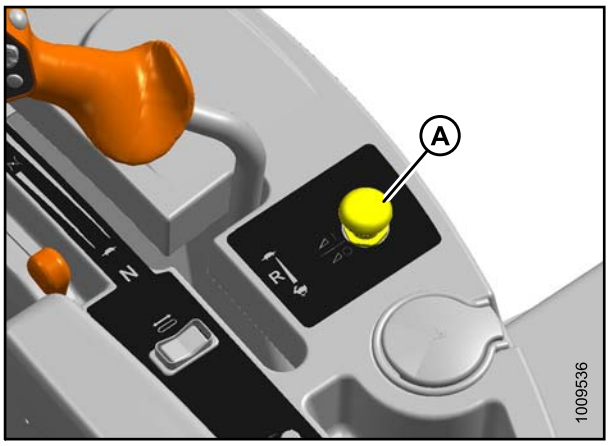

Figure 5.48: Header Drive Switch

13. Speed of knife drive box pulley
14. Strokes per minute of knife (rpm x 2)

6. Press the selector button (A) on the ground speed lever (GSL) until the CDM (B) displays the knife speed in strokes per minute (spm). This indicates that the optional sensors expansion module (MD #B4666) is installed.

   NOTE:
   If the knife speed is not displayed, the module is **NOT** installed. Refer to Step *6., page 354*.

7. Compare the reading to Table *5.5 Knife Speed Setting, page 352*.
8. Adjust the knife speed if required. Refer to *Adjusting Knife Speed, page 353*.

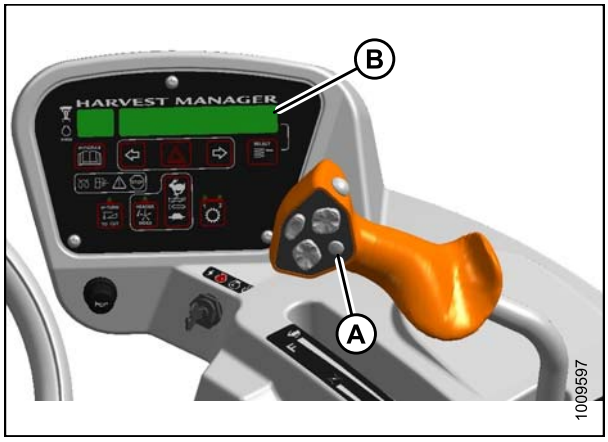

Figure 5.49: M105 Operator Console

Adjusting Knife Speed

DANGER

To avoid bodily injury or death from 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.

For windrowers equipped with the optional sensors expansion module (MD #B4666):

1. Shut down the engine and open the engine compartment hood.
2. Loosen jam nut (A).

   NOTE:
   Remove the protective cover from adjuster screw (B) if necessary.

3. Turn adjuster screw (B) clockwise to decrease knife speed or counterclockwise to increase knife speed.

   NOTE:
   One turn of adjuster screw (B) will change the knife speed by approximately 116 strokes per minute (spm) or the knife drive box pulley speed by 58 revolutions per minute (rpm).

4. Tighten jam nut (A).
5. Close the engine compartment hood, start the engine, and recheck the knife speed.

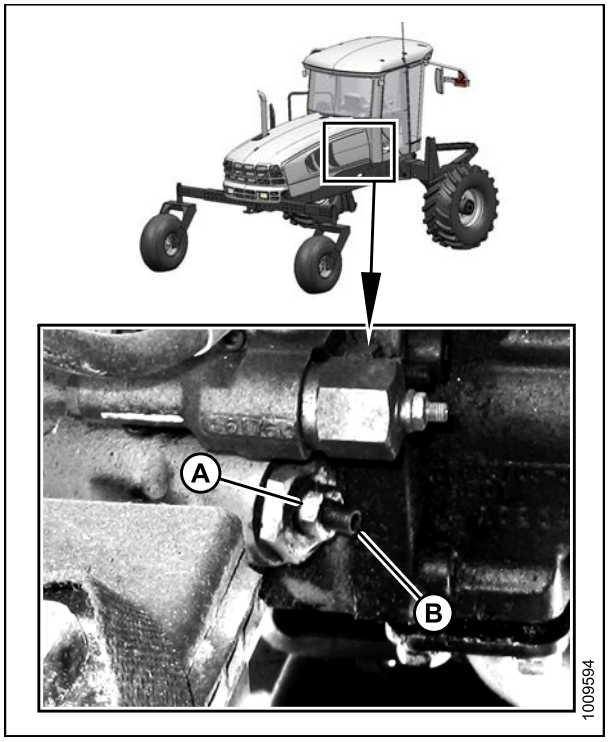

Figure 5.50: Knife Speed Adjuster Screw

For windrowers NOT equipped with the optional sensors expansion module (MD #B4666):

6. Check the knife drive box pulley (A) speed with a hand-held tachometer.
7. Multiply the rpm reading by two to obtain the knife speed in strokes per minute (SPM).
8. Compare the reading to Table *5.5 Knife Speed Setting, page 352*.
9. Adjust the knife speed if required. Refer to Step *1., page 353* to Step *5., page 353*.

Figure 5.51: Knife Drive Box Pulley

5.12 Checking Manuals

Manuals are stored in the manual storage case (A) behind the operator's seat.

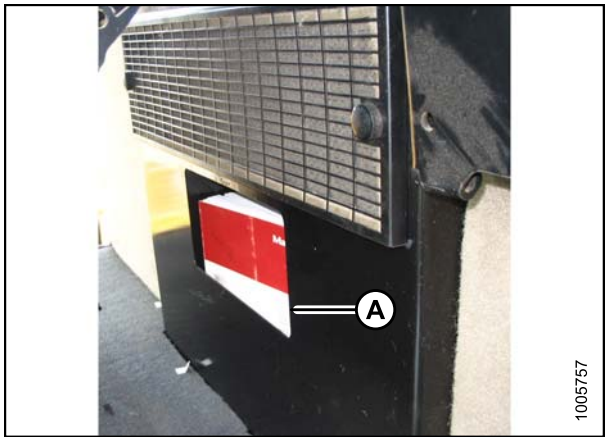

Figure 5.52: M105 Manual Storage Case

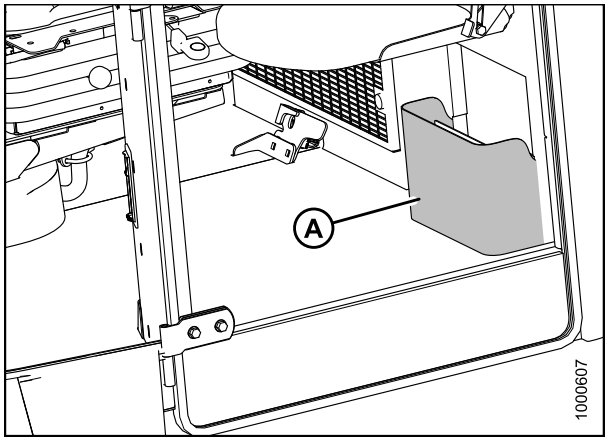

Figure 5.53: M155/M205 Manual Storage Case

1. Ensure the following manuals are included with the windrower:
   - Operator's Manual
   - Parts Catalog
   - Quick Card
   - Engine Manual

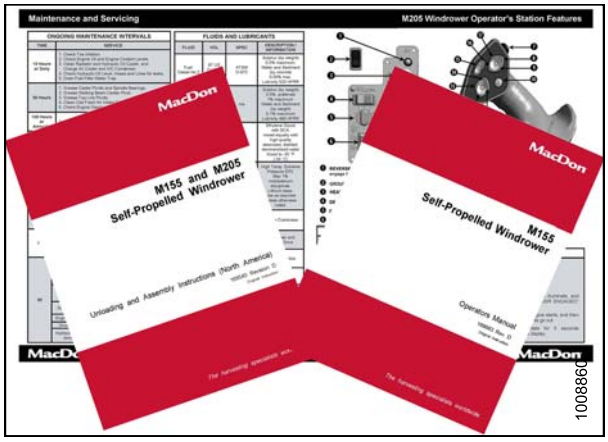

Figure 5.54: Manuals and Quick Card

5.13 Performing Final Steps

1. Remove plastic covering from cab display module (CDM), and seats after predelivery checks are complete.
2. Locate bag inside the cab containing the GPS mount kit, and install kit in accordance with the instructions in the kit. If not installing kit, label bag (GPS Completion kit) and place kit in toolbox for safekeeping.
3. Remove decal (MD #166705) from windshield only **AFTER** machine is delivered to the end user.

Figure 5.55: Windshield Decal (MD #166705)

6 Reference

6.1 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.

6.1.1 SAE Bolt Torque 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 6.1 SAE Grade 5 Bolt and Grade 5 Free Spinning Nut

Nominal Size (A)	Torque (N·m)		Torque (ft·lbf) (*in·lbf)	
	Min.	Max.	Min.	Max.
1/4-20	11.9	13.2	*106	*117
5/16-18	24.6	27.1	*218	*241
3/8-16	44	48	32	36
7/16-14	70	77	52	57
1/2-13	106	118	79	87
9/16-12	153	170	114	126
5/8-11	212	234	157	173
3/4-10	380	420	281	311
7/8-9	606	669	449	496
1-8	825	912	611	676

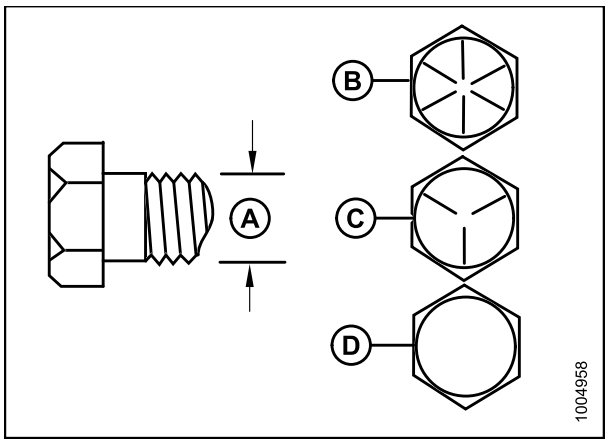

Figure 6.1: Bolt Grades

A - Nominal Size
B - SAE-8
C - SAE-5
D - SAE-2

Table 6.2 SAE Grade 5 Bolt and Grade F Distorted Thread Nut

Nominal Size (A)	Torque (N·m)		Torque (ft·lbf) (*in·lbf)	
	Min.	Max.	Min.	Max.
1/4-20	8.1	9	*72	*80
5/16-18	16.7	18.5	*149	*164
3/8-16	30	33	22	24
7/16-14	48	53	35	39
1/2-13	73	80	54	59
9/16-12	105	116	77	86
5/8-11	144	160	107	118
3/4-10	259	286	192	212
7/8-9	413	456	306	338
1-8	619	684	459	507

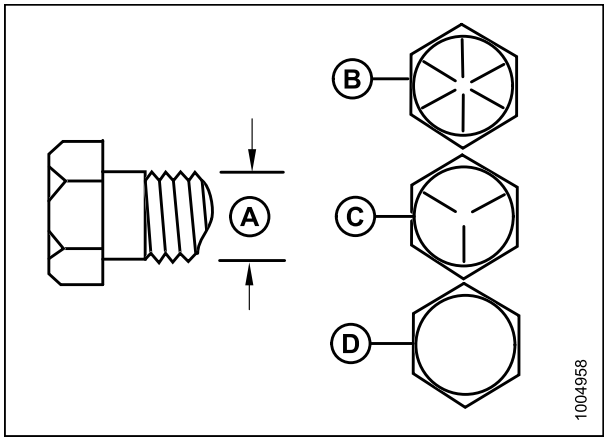

Figure 6.2: Bolt Grades

A - Nominal Size **B - SAE-8**
C - SAE-5 **D - SAE-2**

Table 6.3 SAE Grade 8 Bolt and Grade G Distorted Thread Nut

Nominal Size (A)	Torque (N·m)		Torque (ft·lbf) (*in·lbf)	
	Min.	Max.	Min.	Max.
1/4-20	16.8	18.6	*150	*165
5/16-18	24	26	18	19
3/8-16	42	46	31	34
7/16-14	67	74	50	55
1/2-13	102	113	76	84
9/16-12	148	163	109	121
5/8-11	204	225	151	167
3/4-10	362	400	268	296
7/8-9	583	644	432	477
1-8	874	966	647	716

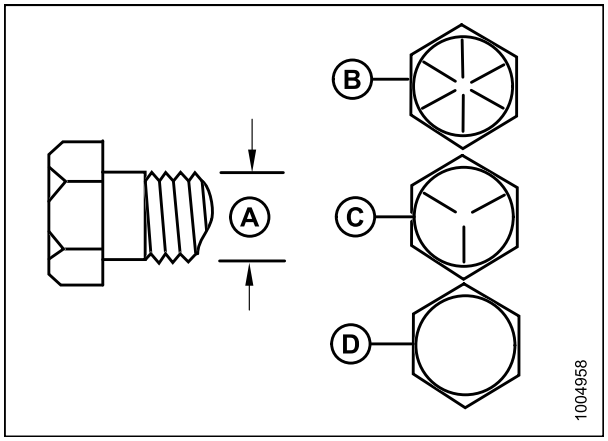

Figure 6.3: Bolt Grades

A - Nominal Size **B - SAE-8**
C - SAE-5 **D - SAE-2**

Table 6.4 SAE Grade 8 Bolt and Grade 8 Free Spinning Nut

Nominal Size (A)	Torque (N·m)		Torque (ft·lbf) (*in·lbf)	
	Min.	Max.	Min.	Max.
1/4-20	16.8	18.6	*150	*165
5/16-18	35	38	26	28
3/8-16	61	68	46	50
7/16-14	98	109	73	81
1/2-13	150	166	111	123
9/16-12	217	239	160	177
5/8-11	299	330	221	345
3/4-10	531	587	393	435
7/8-9	855	945	633	700
1-8	1165	1288	863	954

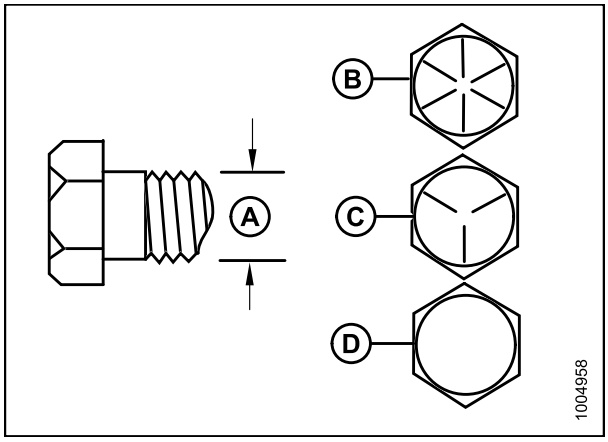

Figure 6.4: Bolt Grades

A - Nominal Size **B - SAE-8**
C - SAE-5 **D - SAE-2**

6.1.2 Metric Bolt Specifications

Table 6.5 Metric Class 8.8 Bolts and Class 9 Free Spinning Nut

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

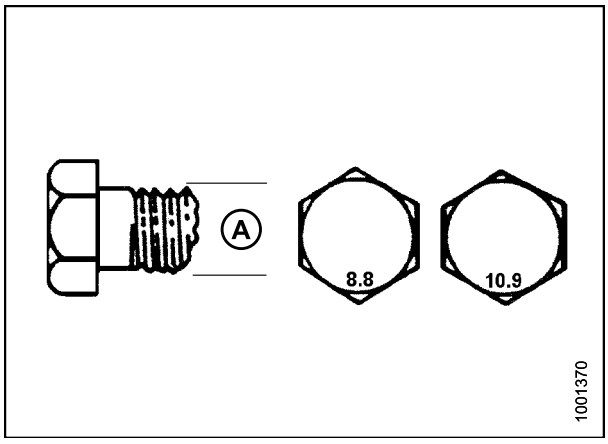

Figure 6.5: Bolt Grades

Table 6.6 Metric Class 8.8 Bolts and Class 9 Distorted Thread Nut

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

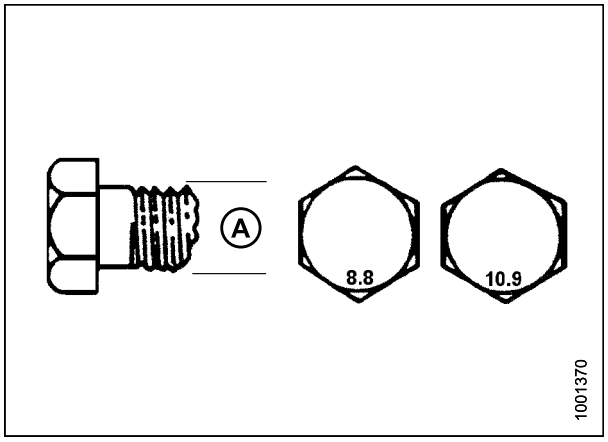

Figure 6.6: Bolt Grades

Table 6.7 Metric Class 10.9 Bolts and Class 10 Free Spinning Nut

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

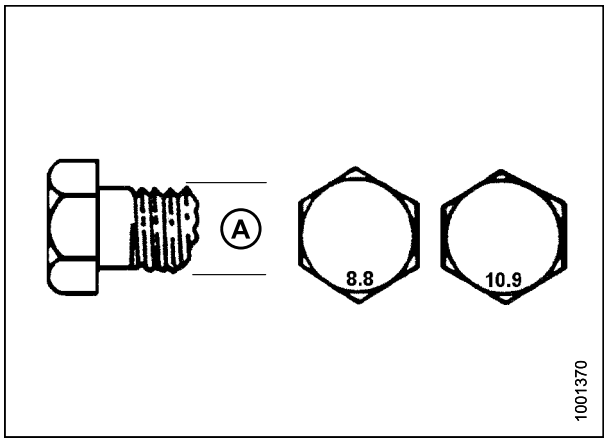

Figure 6.7: Bolt Grades

Table 6.8 Metric Class 10.9 Bolts and Class 10 Distorted Thread Nut

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

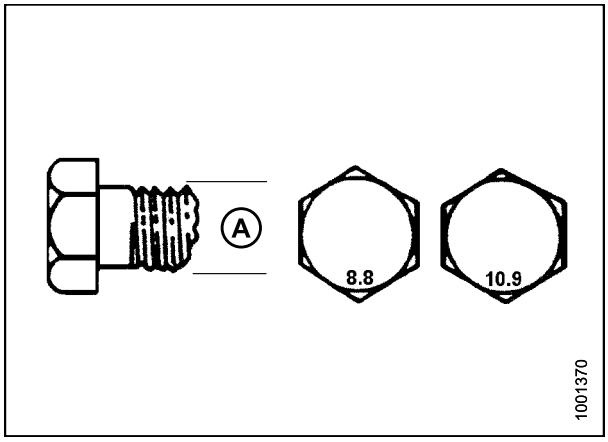

Figure 6.8: Bolt Grades

6.1.3 Metric Bolt Specifications Bolting into Cast Aluminum

Table 6.9 Metric Bolt Bolting into Cast Aluminum

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

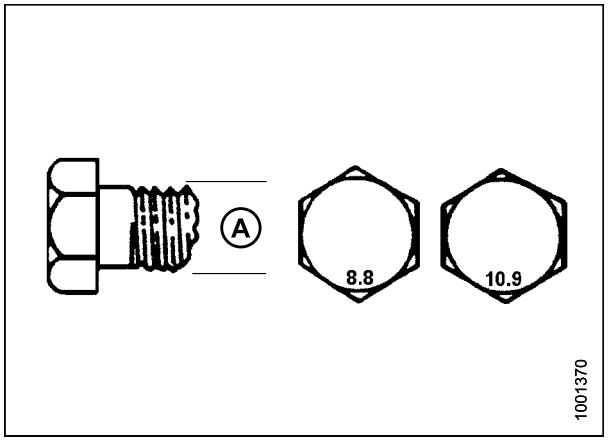

Figure 6.9: Bolt Grades

6.1.4 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 *6.10 Flare-Type Hydraulic Tube Fittings, page 363*.
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.

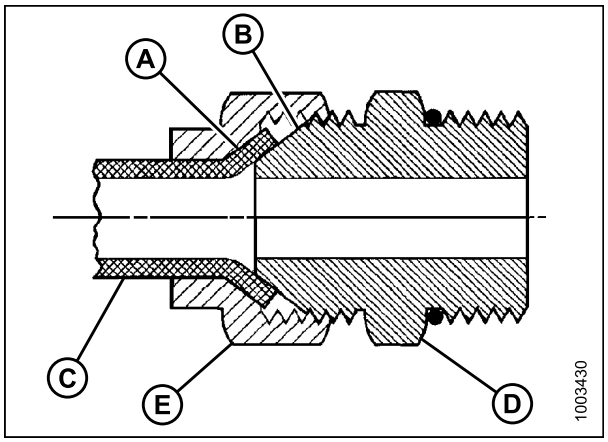

Figure 6.10: Hydraulic Fitting

Table 6.10 Flare-Type Hydraulic Tube Fittings

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

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

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

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

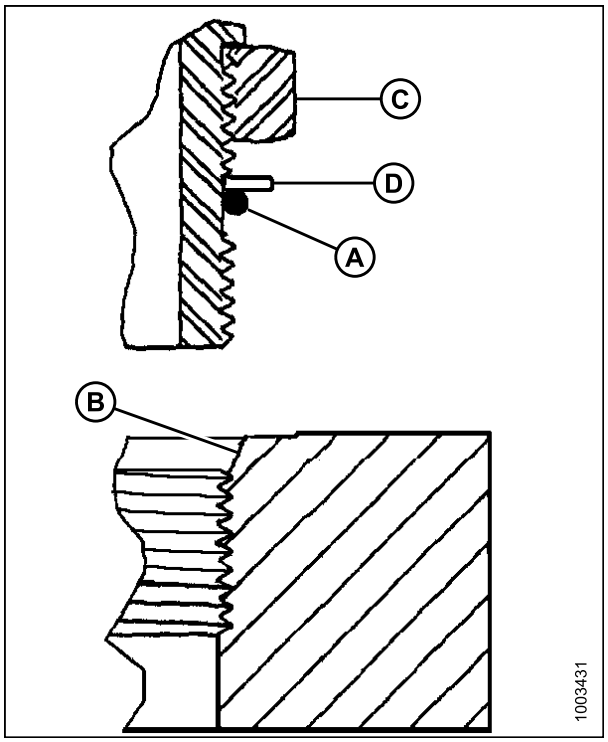

Figure 6.11: Hydraulic Fitting

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

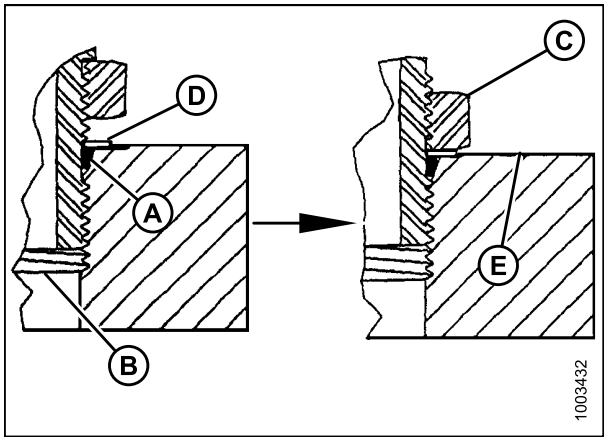

Figure 6.12: Hydraulic Fitting

Table 6.11 O-Ring Boss (ORB) Hydraulic Fittings (Adjustable)

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

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

6.1.6 O-Ring Boss (ORB) Hydraulic Fittings (Non-Adjustable)

1. Inspect O-ring (A) and seat (B) for dirt or obvious defects.
2. Check that O-ring (A) is **NOT** on threads and adjust if necessary.
3. Apply hydraulic system oil to O-ring.
4. Install fitting (C) into port until fitting is hand tight.
5. Torque fitting (C) according to values in Table *6.12 O-Ring Boss (ORB) Hydraulic Fittings (Non-Adjustable), page 366*.
6. Check final condition of fitting.

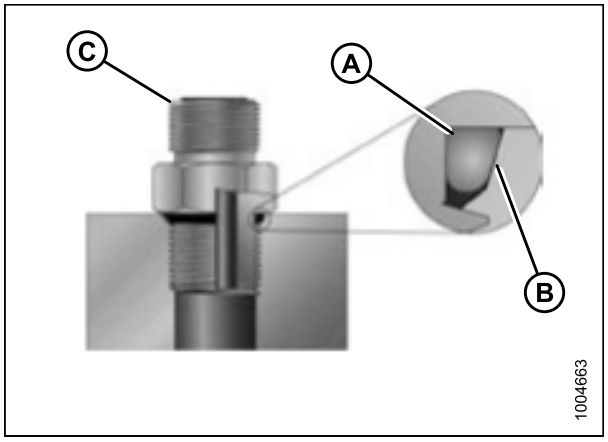

Figure 6.13: Hydraulic Fitting

Table 6.12 O-Ring Boss (ORB) Hydraulic Fittings (Non-Adjustable)

SAE Dash Size	Thread Size (in.)	Torque Value[17]	
		N·m	ft·lbf (*in·lbf)
-2	5/16–24	6–7	*53–62
-3	3/8–24	12–13	*106–115
-4	7/16–20	19–21	14–15
-5	1/2–20	21–33	15–24
-6	9/16–18	26–29	19–21
-8	3/4–16	46–50	34–37
-10	7/8–14	75–82	55–60
-12	1-1/16–12	120–132	88–97
-14	1-3/8–12	153–168	113–124
-16	1-5/16–12	176–193	130–142
-20	1-5/8–12	221–243	163–179
-24	1-7/8–12	270–298	199–220
-32	2-1/2–12	332–365	245–269

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

6.1.7 O-Ring Face Seal (ORFS) Hydraulic Fittings

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

Figure 6.14: Hydraulic Fitting

2. Apply hydraulic system oil to O-ring (B).
3. Align tube or hose assembly so that flat face of sleeve (A) or (C) comes in full contact with O-ring (B).
4. Thread tube or hose nut (D) until hand-tight. The nut should turn freely until it is bottomed out.
5. Torque fittings according to values in Table *6.13 O-Ring Face Seal (ORFS) Hydraulic Fittings, page 368*.

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

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

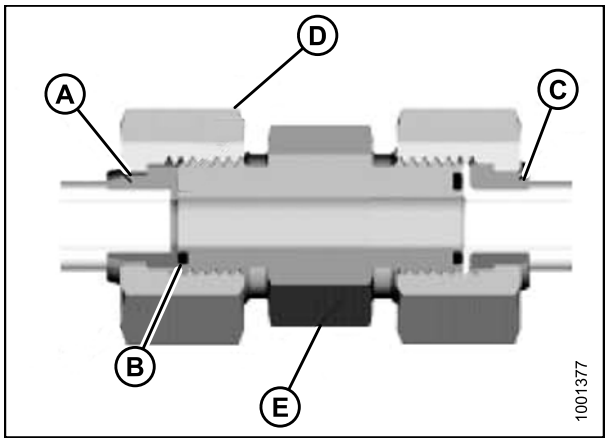

Figure 6.15: Hydraulic Fitting

Table 6.13 O-Ring Face Seal (ORFS) Hydraulic Fittings

SAE Dash Size	Thread Size (in.)	Tube O.D. (in.)	Torque Value[18]	
			N·m	ft·lbf
-3	Note[19]	3/16	–	–
-4	9/16	1/4	25–28	18–21
-5	Note[19]	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[19]	7/8	–	–
-16	1-7/16	1	150–165	111–122
-20	1-11/16	1-1/4	205–226	151–167
-24	1–2	1-1/2	315–347	232–256
-32	2-1/2	2	510–561	376–414

18. Torque values and angles shown are based on lubricated connection as in reassembly.
19. O-ring face seal type end not defined for this tube size.

6.1.8 Tapered Pipe Thread Fittings

Assemble pipe fittings as follows:

1. Check components to ensure that fitting and port threads are free of burrs, nicks and scratches, or any form of contamination.
2. Apply pipe thread sealant (paste type) to external pipe threads.
3. Thread fitting into port until hand-tight.
4. Torque connector to appropriate torque angle. The Turns From Finger Tight (TFFT) values are shown in Table *6.14 Hydraulic Fitting Pipe Thread, page 369*. Make sure that tube end of a shaped connector (typically 45º or 90º) is aligned to receive incoming tube or hose assembly. Always finish alignment of fitting in tightening direction. Never back off (loosen) pipe threaded connectors to achieve alignment.
5. Clean all residue and any excess thread conditioner with appropriate cleaner.
6. Assess final condition of fitting. Pay special attention to possibility of cracks to port opening.
7. Mark final position of fitting. If a fitting leaks, disassemble fitting and check for damage.

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

Table 6.14 Hydraulic Fitting Pipe Thread

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

6.2 Conversion Chart

Table 6.15 Conversion Chart

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

6.3 Definitions

The following terms and acronyms may be used in this manual.

Term	Definition
A-Series header	MacDon A30-D and A40-D auger headers
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
Cab-forward	Windrower operation with Operator and cab facing in direction of travel
CDM	Cab display module on a self-propelled windrower
Center-link	A hydraulic cylinder or manually adjustable turnbuckle type link between header and machine to which it is attached: It is used to change header angle
CGVW	Combined vehicle gross weight
D-Series header	MacDon D50, D60, and D65 rigid draper headers
DK	Double knife
DKD	Double-knife drive
DDD	Double-draper drive
DWA	Double Windrow Attachment
ECM	Engine control module
Engine-forward	Windrower operation with Operator and engine facing in direction of travel
Finger tight	Finger tight is a reference position where sealing surfaces or components are making contact with each other and fitting has been tightened to a point where fitting is no longer loose
FFFT	Flats from finger tight
GSL	Ground speed lever
GSS	Grass Seed Special
GVW	Gross vehicle weight
Hard joint	A joint made with the use of a fastener where joining materials are highly incompressible
Header	A machine that cuts and lays crop into a windrow and is attached to a self-propelled windrower
Hex key	A hex key or Allen key (also known by various other synonyms) is a tool of hexagonal cross-section used to drive bolts and screws that have a hexagonal socket in head (internal-wrenching hexagon drive)
HDS	Hydraulic deck shift
hp	Horsepower
ISC	Intermediate Speed Control
JIC	Joint Industrial Council: A standards body that developed standard sizing and shape for original 37° flared fitting

Term	Definition
Knife	A cutting device which uses a reciprocating cutter (also called a sickle)
MDS	Mechanical deck shift
n/a	Not applicable
Nut	An internally threaded fastener that is designed to be paired with a bolt
N-DETENT	The slot opposite the NEUTRAL position on operator's console
NPT	National Pipe Thread: A style of fitting used for low pressure port openings Threads on NPT fittings are uniquely tapered for an interference fit
ORB	O-ring boss: A style of fitting commonly used in port opening on manifolds, pumps, and motors
ORFS	O-ring face seal: A style of fitting commonly used for connecting hoses and tubes This style of fitting is also commonly called ORS, which stands for O-ring seal
rpm	Revolutions per minute
R-Series header	MacDon R80 and R85 rotary disc headers
RoHS (Reduction of Hazardous Substances)	A directive by the European Union to restrict 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 mating parts
SDD	Single-draper drive
Self-Propelled (SP) Windrower	Self-propelled machine consisting of a power unit with a header
SK	Single knife
SKD	Single-knife drive
Soft joint	A joint made with use of a fastener where 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.)
TFFT	Turns from finger tight
Torque	The product of a force X lever arm length, usually measured in Newton-meters (N·m) or foot-pounds (ft·lbf)
Torque angle	A tightening procedure where fitting is assembled to a precondition (finger tight) and then nut is turned farther a number of degrees or a number of flats to achieve its final position
Torque-tension	The relationship between assembly torque applied to a piece of hardware and axial load it induces in bolt or screw
ULSD	Ultra low sulphur diesel
UCA	Upper cross auger
Washer	A thin cylinder with a hole or slot located in the center that is to be used as a spacer, load distribution element, or a locking mechanism

Term	Definition
Windrower	Power unit of a self-propelled header
WCM	Windrower control module

6.4 Lubricants, Fluids, and System Capacities

CAUTION

To avoid injury or death, do not allow ANY machine fluids to enter the body.

Table 6.16 M105 System Capacities

Lubricant/Fluid	Location	Description	Capacity
Grease	As required unless otherwise specified	SAE multi-purpose High temperature extreme pressure (EP2) performance With 1% Max Molybdenum disulphide (NLGI Grade 2) Lithium base.	
Diesel fuel	Fuel tank	Diesel grade No.2, or Diesel grade No.1 and 2 mix[20]; refer to *6.5 Fuel Specifications, page 378* for more information.	367 liters (97 US gallons)
Hydraulic oil	Hydraulic reservoir	SAE 15W-40 compliant with SAE specs for API class CJ-4 engine oil which meets or exceeds CES 20081 and API performance classification CJ-4.	44 liters (11.5 US gallons)
Gear lubricant	Wheel drive[21]	SAE 75W-90, API service class GL-5. Fully synthetic gear lubricant, (SAE J2360 preferred).	1.4 liters (1.5 US quarts)
Antifreeze	Engine cooling system	ASTM D-6210 and Fleetguard ES Compleat® See last page of this section	27.5 liters (7.3 US gallons)[22]
Engine oil	Engine oil pan	SAE 15W-40 compliant with SAE specs for API class SJ and CH-4 engine oil.	11.9 liters (12.6 US quarts)[23]
Air conditioning refrigerant[24]	Air conditioning system	R134A	2.27 kg (5 lb.)
Air conditioning refrigerant oil[25]	Air conditioning system total capacity	PAG SP-15	240 cc (8.1 fl. oz.)
Receiver drier (MD #183273)	Air conditioning system	PAG SP-15	60 cc (2 fl. oz.)
Condenser (MD #138983)	Air conditioning system	PAG SP-15	30 cc (1 fl. oz.)

20. Optional when operating temperature is below 0°C (32°F).
21. SAE 85W-140 API Service Class GL-5. Extreme Pressure Gear Lubricant is used before initial change.
22. Equal parts with water, high quality, soft, de-ionized or distilled water as recommended by supplier.
23. Includes filter
24. For prior models who have not upgraded to 5 lb. of refrigerant order Kit MD #183180, which includes high pressure switch and decal to advise of systems 5 lb. charge requirement. Refer to Service Bulletin 1254.
25. New compressor (MD #203013) comes filled. If installing on 2014 and prior, refer to Service Bulletin 1254.

Lubricant/Fluid	Location	Description	Capacity
Evaporator (MD #160130)	Air conditioning system	PAG SP-15	60 cc (2 fl. oz.)
Hoses	Air conditioning system	PAG SP-15	30 cc (1 fl. oz.)

Table 6.17 M155 System Capacities

Lubricant/Fluid	Location	Description	Capacity
Grease	As required unless otherwise specified	SAE multi-purpose high temperature extreme pressure (EP2) performance with 1% max Molybdenum Disulphide (NLGI Grade 2) lithium base	
Diesel fuel	Fuel tank	Diesel Grade No.2, or Diesel Grade No.1 and 2 mix[26]; refer to *6.5 Fuel Specifications, page 378* for more information	378 liters (97 US gallons)
Hydraulic oil	Hydraulic reservoir	SAE 15W-40 compliant with SAE specs for API class SJ and CH-4 engine oil.	65 liters (17.2 US gallons)
Gear lubricant	Gearbox	SAE 80W-140[27], API service class GL-5. Fully synthetic gear lubricant, (SAE J2360 preferred)	2.1 liters (2.2 US quarts)
	Wheel drive[28]	SAE 75W-90, API service class GL-5. Fully synthetic gear lubricant, (SAE J2360 preferred)	1.4 liters (1.5 US quarts)
Antifreeze	Engine cooling system	ASTM D-6210 and Fleetguard ES Compleat® See last page of this section	27.5 liters (7.3 US gallons)[29]
Engine oil	Engine oil pan	SAE 15W-40 compliant with SAE specs for API class SJ and CH-4 engine oil	11 liters (11.6 US quarts)
Air conditioning refrigerant[30]	Air conditioning system	R134A	2.27 kg (5 lb.)
Air conditioning refrigerant oil[31]	Air conditioning system total capacity	PAG SP-15	240 cc (8.1 fl. oz.)

26. Optional when operating temperature is below 0°C (32°F).
27. SAE 75W-140 may be substituted for SAE 80W-140 if necessary.
28. SAE 85W-140 API Service Class GL-5. Extreme Pressure Gear Lubricant is used before initial change.
29. Equal parts with water, high quality, soft, de-ionized or distilled water as recommended by Supplier.
30. For prior models who have not upgraded to 2.27 kg (5 lb.) of refrigerant order Kit MD #183180, which includes decal to advise of systems 2.27 kg (5 lb.) charge requirement. Refer to Service Bulletin 1254.
31. New compressor (MD #203013) comes filled. If installing on 2014 and prior, refer to Service Bulletin 1254.

Table 6.18 M205 System Capacities

Lubricant/Fluid	Location	Description	Capacity
Grease	As required unless otherwise specified	SAE multi-purpose high temperature extreme pressure (EP2) performance with 1% max Molybdenum Disulphide (NLGI Grade 2) lithium base	
Diesel fuel	Fuel tank	Diesel Grade No.2, or Diesel Grade No.1 and 2 mix[32]; refer to *6.5 Fuel Specifications, page 378* for more information	378 liters (97 US gallons)
Hydraulic oil	Hydraulic reservoir	SAE 15W-40 compliant with SAE specs for API class SJ and CH-4 engine oil	65 liters (17.2 US gallons)
Gear lubricant	Gearbox	SAE 80W-140, API service class GL-5. Fully synthetic gear lubricant, (SAE J2360 preferred)	2.1 liters (2.2 US quarts)
	Wheel drive[33]	SAE 75W-90, API service class GL-5. Fully synthetic gear lubricant, (SAE J2360 preferred)	1.4 liters (1.5 US quarts)
Antifreeze	Engine cooling system	ASTM D-6210 and Fleetguard ES Compleat® See below	31 liters (8.2 US gallons)[34]
Engine oil	Engine oil pan	SAE 15W-40 compliant with SAE specs for API class SJ and CH-4 engine oil	14.2 liters (15.0 US quarts)
Air conditioning refrigerant	Air conditioning system	R134A	2.27 kg (5 lb.)
Air conditioning refrigerant oil[35]	Air conditioning system total capacity	PAG SP-15	240 cc (8.1 fl. oz.)

32. Optional when operating temperature is below 0°C (32°F).
33. SAE 85W-140 API Service Class GL-5. Extreme Pressure Gear Lubricant is used before initial change.
34. Equal parts with water, high quality, soft, de-ionized or distilled water as recommended by supplier.
35. New compressor (MD #203013) comes filled. If installing on 2014 and prior, refer to Service Bulletin 1254.

If Fleetguard ES Compleat® is unavailable, use a coolant concentrate or prediluted coolant intended for use with heavy duty diesel engines and with a minimum of the following chemical and physical properties:

- Provides cylinder cavitation protection according to fleet study run at or above 60% load capacity.
- Protects the cooling system metals (cast iron, aluminum alloys, and copper alloys such as brass) from corrosion.

The additive package must be part of one of the following coolant mixtures:

- Ethylene glycol or propylene glycol base prediluted (40–60%) heavy duty coolant.
- Ethylene glycol or propylene glycol base heavy duty coolant concentrate in a 40–60% mixture of concentrate with quality water.

Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate.

IMPORTANT:
Do **NOT** use cooling system sealing additives or antifreeze that contains sealing additives.

6.5 Fuel Specifications

Table 6.19 Fuel Specification

Fuel	Specification	Sulphur (by weight)	Water and Sediment (by volume)	Cetane No.	Lubricity
Grade no. 2	ASTM D975	0.5% maximum	0.05% maximum	40°C (104°F) minimum	520 Microns
Grade no.1 and 2 mix[36]	n/a	1% maximum 0.5% maximum preferred	0.1% maximum	45–55°C (113–131°F) cold weather / high altitude	460 Microns

In extreme situations, when available fuels are of poor quality or problems exist which are peculiar to certain operations, additives can be used. However, the engine manufacturer recommends consultation with the fuel supplier or engine manufacturer before using fuel additives. Situations where additives are useful include:

- A cetane improver additive can be used with low cetane fuels.
- A wax crystal modifier can help with fuels with high cold filter plugging points (CFPP).
- An anti-icer can help prevent ice formation in wet fuel during cold weather.
- An antioxidant or storage stability additive can help with fuel system deposits and poor storage stability.
- A lubricity enhancer can be used to increase the lubricity of fuels so that they meet the requirements given in the table on the previous page. Diesel fuel conditioner is available from your Dealer.

36. Optional when operating temperature is below 0°C (32°F).

Predelivery Checklist

Perform these checks and adjustments prior to delivery to your Customer. 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.

Windrower Serial Number: **Engine Serial Number:**

Table 1 M-Series Self-Propelled Windrower Predelivery Checklist – Export

✓	Item	Reference
	Check for shipping damage or missing parts. Be sure all shipping dunnage is removed.	—
	Check for loose hardware. Tighten to required torque.	*6 Reference, page 357*
	Check tire air pressures and adjust as required.	*5.3.1 Checking Tire Pressures, page 322*
	Check final drive hub lubricant level.	*5.2 Checking and Adding Wheel Drive Lubricant Level, page 321*
	Check engine coolant level and strength at reserve tank.	*5.7 Checking Engine Coolant, page 329*
	Check air cleaner and clamps.	*5.4 Checking Engine Air Intake, page 324*
	Check hydraulic oil level and check for leaks along lines.	*5.5 Checking Hydraulic Oil, page 327*
	Check fuel separator for water and foreign material. Drain and clean as necessary. Add fuel.	*5.6 Checking Fuel Separator, page 328*
	Check gearbox lubricant level (M155 and M205).	*5.8 Checking Gearbox Lubricant Level on an M155/M205, page 330*
	Check tension of air conditioning compressor belt.	*5.9 Checking Air Conditioning (A/C) Compressor Belts, page 331*
	Check that machine is completely lubricated.	*3.22 Lubricating the Windrower, page 150*
	Check neutral interlock system.	*5.10 Checking Safety System, page 332*
	Check engine oil pressure indicator light at cab display module (CDM).	*5.11.1 Checking Engine Warning Lights, page 336*
Start engine and run to operating temperature.		*5.11.3 Checking Windrower Startup, page 337*
	Check CDM for operation.	*5.11.5 Checking Gauges and Cab Display Module (CDM) Display, page 338*
	Check Operator’s Presence System.	*5.11.8 Checking Operator's Presence System, page 341*
	Check alternator charge rate on CDM.	*5.11.7 Checking Electrical System, page 340*
	Check fuel gauge/indicator for operation.	*5.11.5 Checking Gauges and Cab Display Module (CDM) Display, page 338*
	Check that air conditioning is functioning properly.	*5.11.12 Checking Air Conditioning (A/C) and Heater, page 350*

PREDELIVERY CHECKLIST

✓	Item	Reference
	Check that heater is functioning properly.	*5.11.12 Checking Air Conditioning (A/C) and Heater, page 350*
	Check instrument console gauge lights (M155 and M205).	*5.11.5 Checking Gauges and Cab Display Module (CDM) Display, page 338*
	Check maximum (no load) engine speed at CDM.	*5.11.4 Checking Engine Speed, page 338*
	Check that exterior lights are functioning properly.	*5.11.9 Checking Exterior Lights, page 342* *Checking Exterior Lights on an M155/M205, page 343*
	Check that interior lights are functioning properly.	*5.11.11 Checking Interior Lights, page 349*
	Complete the header's Predelivery Checklist.	—
	Check that manuals are in the windrower manual case.	*5.12 Checking Manuals, page 355*
	Check that plastic coverings from cab interior have been removed.	*5.13 Performing Final Steps, page 356*

Date Checked: **Checked by:**

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