

M155 and M205 Self-Propelled Windrower

Unloading and Assembly Instructions (North America)

147961 Revision A

2017 Model Year

Original Instruction

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



1000141

Published in August, 2016

Introduction

This instruction manual describes the unloading, setup, and predelivery requirements for the MacDon M155 and M205 Self-Propelled Windrowers.

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 website (www.macdon.com) or from our Dealer-only site (<https://portal.macdon.com>) (login required).

List of Revisions

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

Summary of Change	Location
Changed measurements formatting so that metric measurements and Celsius temperatures appear first and are followed by imperial measurements and Fahrenheit temperatures in parentheses.	Throughout the entire book.
Updated figure descriptions for clarity.	
Added new topic for battery safety.	1.3 Battery Safety, page 4
Added cross-references for unloading windrowers using one and two forklifts.	2 Unloading the Windrower, page 7
Altered language in the introductory paragraph for the unloading windrower using one forklift instructions.	2.2 Using One Forklift to Unload Windrower, page 9
Updated procedure for repositioning the cab-forward right leg from its shipping configuration to its field configuration. Reordered illustrations to reflect changes in written instructions.	3.1 Repositioning Right Leg, page 11
Added safety message to topic about drive wheel installation.	3.2 Installing Drive Wheel, page 13
Updated procedure for installing drive wheel. Included step for removing shipping stands from lift leg after the installation.	
Removed topic about unpacking ignition keys. Instructions are not relevant for North American U&A.	3 Assembling the Windrower, page 11
Added note to indicate that center link activation is not required for the M205.	4.4.1 Activating the Hydraulic Center-Link on an M155, page 110
Added step for removing banding and blocks from the walking beam after caster wheel repositioning procedure.	3.3 Repositioning Caster Wheels, page 15
Replaced topic about manually connecting batteries with topic about activating the windrower battery using its main power switch.	3.6 Activating the Battery Main Switch, page 19
Added safety message to start of topic.	
Removed redundancy of machine type callout in Step 2 of procedure.	3.7 Starting Engine, page 20
Reorganized information and instructions for starting windrower engine under a variety of conditions and temperatures, including starts in temperatures below 5°C (40°F).	
Reordered topics in chapter for clarity.	3.10 Attaching Headers, page 28
Added kit number information for Hydraulic Union Kit in M205 Self-Propelled Windrower.	3.10.2 Attaching a D-Series Header, page 29

Summary of Change	Location
Updated Figure 3.48 (illustration #1014507) for clarity, emphasizing turning lever.	Attaching a D-Series Header: Hydraulic Center-Link with Optional Self-Alignment, page 30
Updated Figure 3.62 (illustration #1014507) for clarity, emphasizing turning lever.	Attaching a D-Series Header: Hydraulic Center-Link without Self-Alignment, page 35
Updated Figure 3.74 (illustration #1014507) for clarity, emphasizing turning lever.	Attaching a D-Series Header: Mechanical Center-Link, page 41
Updated cross-references for M155 SP Windrower and M205 SP Windrower to reflect changes in topics for attaching A-Series headers.	3.10.3 Attaching an A-Series Header, page 45
Removed topic 'Hydraulic Link with Optional Self-Alignment Kit: M155 and M205', replaced with 'Attaching an A-Series Header: Hydraulic Center-Link with Optional Self-Alignment' topic.	Attaching an A-Series Header: Hydraulic Center-Link with Optional Self-Alignment, page 47
Updated Figure 3.92 (illustration #1014507) for clarity, emphasizing safety prop turning lever.	
Updated Step 5 instructions for accuracy.	Attaching an A-Series Header: Hydraulic Center-Link without Self-Alignment, page 52
Updated Figure 3.102 (illustration #1014507), emphasizing safety prop turning lever.	
Updated Figure 3.120 (illustration #1014507), emphasizing safety prop turning lever.	Attaching an A-Series Header: Mechanical Center-Link, page 58
Updated introduction for 'Attaching an R-Series Header', explaining conditions for attaching R-Series headers to M155 and M205 SP Windrowers.	3.10.4 Attaching an R-Series Header, page 62
Updated Figure 3.136 (illustration #1014507), emphasizing safety prop turning lever.	Attaching an R-Series Header: Hydraulic Center-Link with Optional Self-Alignment, page 63
Added Figure 3.139 (illustration #1014769), providing context for connecting drive hoses and electrical harness to the header.	
Adjusted steps 17 and 18 to reflect M155 and M205 product-specific instructions.	
Updated Step 5 instructions for accuracy.	Attaching an R-Series Header: Hydraulic Center-Link without Self-Alignment, page 69
Updated Figure 3.151 (illustration #1014769), emphasizing safety prop turning lever.	
Adjusted Step 17 and added Step 18 to reflect M155 and M205 product-specific instructions.	
Updated Figure 3.164 (illustration #1014769), emphasizing safety prop turning lever.	Attaching an R-Series Header: Mechanical Center-Link, page 74
Added cross-references for grease specifications and removed Table 3.3.	3.11 Lubricating the Windrower, page 80
Updated note regarding software updates for the cab display module and availability of updates for users.	4.2 Cab Display Options, page 85
Added Figure 4.52 (illustration #1009066) showing the M155 CDM programming buttons.	4.4.1 Activating the Hydraulic Center-Link on an M155, page 110

Summary of Change	Location
Updated Figure 4.55 (replacing illustration #1009519 with illustration #1018151), showing rotary disc hydraulics.	4.4.2 Activating the Rotary Header Drive Hydraulics on an M155, page 110
Changed topic title, and updated note at start of topic.	4.4.3 Setting the Header Knife Speed, page 111
Updated steps 4 and 5, removed Step 6 for procedure accuracy.	
Changed topic title, and updated note at start of topic.	4.4.4 Setting the Knife Overload Speed, page 113
Changed topic title, and updated note at start of topic.	4.4.5 Setting the Rotary Disc Overload Speed, page 115
Updated steps 4, 5, and 6 for procedure accuracy.	
Added note with information for pressure range to Step 4.	4.4.6 Setting the Hydraulic Overload Pressure, page 117
Added Table 4.1 to Step 5, indicating ISC and RPM values. Added related footnotes for table content.	4.4.15 ISC Settings, page 136
Removed note from the beginning of topic stating that windrower must be attached to the windrower for this procedure.	4.7.1 Displaying the Windrower and Engine Error Codes, page 168
Adjusted note at the beginning of the topic. Removed content about optional windrower hydraulic fore-aft kit (MD #B5577) as required for testing reel fore-aft function.	4.8.4 Testing the Reel Fore-Aft Activate Function Using the Cab Display Module (CDM), page 193
Updated recording serial number procedure, added cross-reference for Predelivery Checklist.	5.1 Recording Serial Numbers, page 223
Changed topic title to reflect procedure more accurately.	5.2 Checking and Adding Wheel Drive Lubricant Level, page 224
Updated procedure, and added a cross-reference and note to Step 5.	
Updated procedure, adding Step 5 for maintaining consistent oil levels.	5.5 Checking Hydraulic Oil, page 230
Added Step 2 to procedure with references to system capacity tables for coolant types.	5.7 Checking Engine Coolant, page 232
Replaced Figure 5.14 with illustration showing current gearbox, added Step 2 with cross references to system capacity tables for lubricant types.	5.8 Checking Gearbox Lubricant Level, page 233
Renamed topic for clarity—removed model type redundancy.	5.11.4 Checking Gauges and Cab Display Module (CDM) Display, page 239
Added note to Step 5.	5.11.7 Checking Exterior Lights, page 242
Added subtopic 'Auto Road Light'.	Auto Road Light, page 244
Added subtopic 'Tapered Pipe Thread Fittings'.	6.1.8 Tapered Pipe Thread Fittings, page 261
Added new topic for lubricants, fluids, and system capacities.	6.3 Lubricants, Fluids, and System Capacities, page 266
Updated Table 6.16 M155 System Capacities. Changed gearbox lubricant from 75W-90 to 80W-140 to match the 2017 model year M1-series specs.	

Summary of Change	Location
Added cross-references for sections referencing lubricants, fluids, and system capacities.	3.11 Lubricating the Windrower, page 80
Added new topic for fuel specifications.	6.4 Fuel Specifications, page 268

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1 Safety

1.1 Signal Words

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



DANGER

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



WARNING

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



CAUTION

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

1.2 General Safety

CAUTION

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

Protect yourself.

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

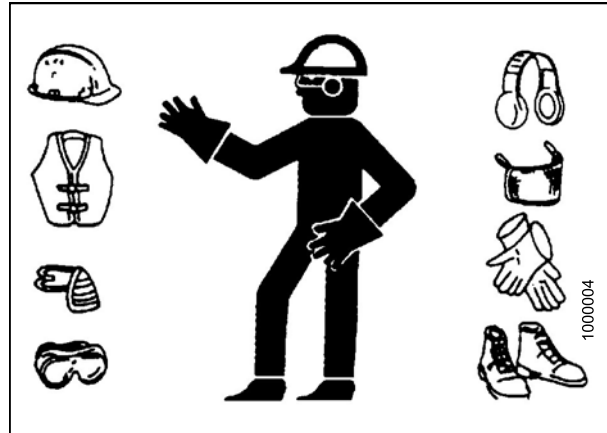


Figure 1.1: Safety Equipment



Figure 1.2: Safety Equipment

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

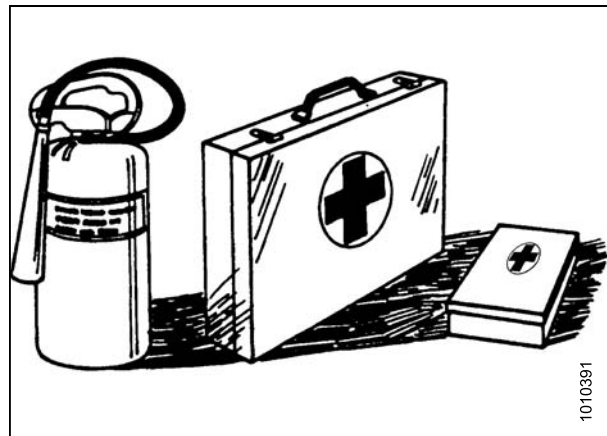


Figure 1.3: Safety Equipment

SAFETY

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



Figure 1.4: Safety around Equipment

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

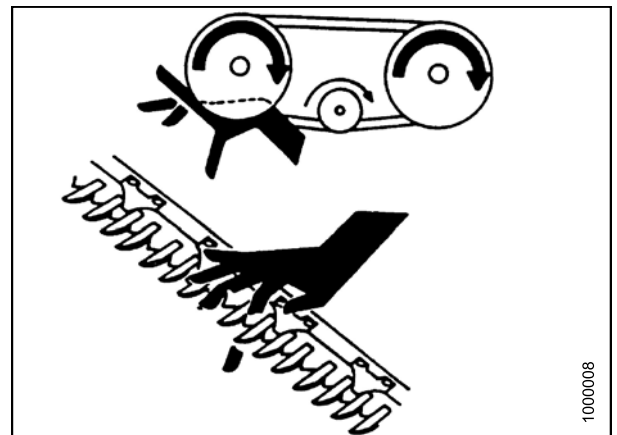


Figure 1.5: Safety around Equipment

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



Figure 1.6: Safety around Equipment

1.3 Battery Safety

WARNING

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

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 the eyes is extremely dangerous. Should this occur, force the eye open, and flood with cool, clean water for five minutes. Call a doctor immediately.
- If electrolyte is spilled or splashed on clothing or the body, neutralize it immediately with a solution of baking soda and water, then rinse with clear water.

WARNING

- To avoid injury from spark or short circuit, disconnect battery ground cable before servicing and part of electrical system.
- Do NOT operate the engine with alternator or battery disconnected. With battery cables disconnected and engine running, a high voltage can be built up if terminals touch the frame. Anyone touching the 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 the terminals because a spark or short circuit will result.
- Keep batteries out of reach of children.



Figure 1.7: Safety around Batteries

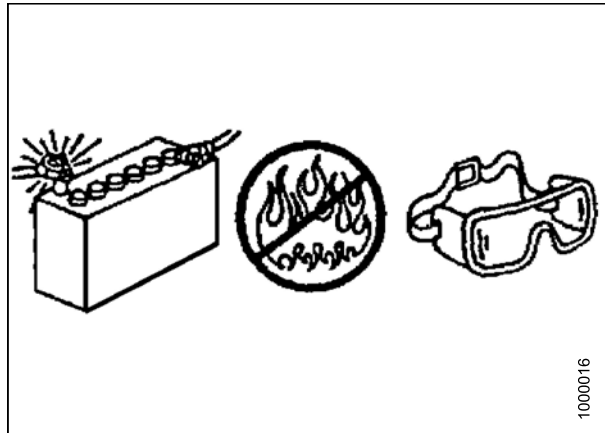


Figure 1.8: Safety around Batteries

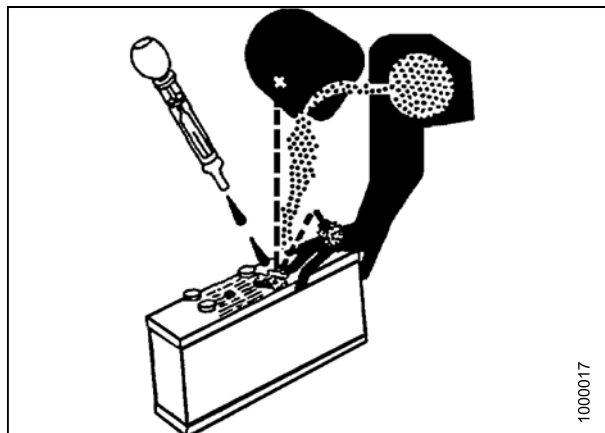


Figure 1.9: Safety around Batteries

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 the repair part also bears the current safety sign.
- Safety signs are available from your MacDon Dealer.

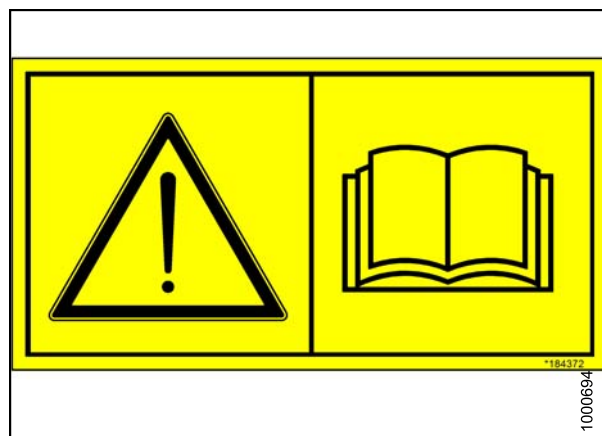


Figure 1.10: Operator's Manual Decal

2 Unloading the Windrower

You can use one or two forklifts to unload the windrower. Refer to [2.1 Using Two Forklifts to Unload Windrower, page 7](#) or [2.2 Using One Forklift to Unload Windrower, page 9](#).

2.1 Using Two Forklifts to Unload Windrower



Figure 2.1: M155 Shown – M205 Similar

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 specified requirements. Using inadequate equipment may result in chain breakage, vehicle tipping, or machine damage.

Table 2.1 Lifting Vehicle Requirements

Minimum Lifting Capacity ¹	2500 kg (5500 lb.)
Minimum Fork Length	1981 mm (78 in.)

IMPORTANT:

Forklifts are normally rated for a load located 610 mm (24 in.) ahead of the back end of the forks. To obtain forklift capacity at 122.2 cm (48 in.), check with your forklift distributor.

1. Move the trailer onto level ground and block the trailer wheels.

1. At 122.2 cm (48 in.) from back end of forks.

UNLOADING THE WINDROWER

2. Set forklift tines to the widest possible setting.
3. Position one forklift on either side of the trailer, and position the forks under the windrower frame.

NOTE:

The windrower's center of gravity is approximately 139.7 cm (55 in.) rearwards from the center of the drive wheel.

4. Lift with both forklifts simultaneously until the windrower is clear of the trailer deck.



WARNING

Ensure the forks are secure before moving the trailer away from the load. Stand clear when lifting.

5. Drive truck slowly forward until trailer deck is clear of windrower.
6. Lower unit slowly to the ground using both forklifts simultaneously. If the ground is soft, place wooden blocks under the front shipping stands.
7. Back off forklifts.
8. Check windrower for shipping damage, and check shipment for missing parts.

2.2 Using One Forklift to Unload Windrower

There are two different methods for unloading a windrower using one forklift. If using a chain to pull the windrower to a ground level that is equal to, or slightly lower than the height of the trailer deck, refer to [2.2.1 Method 1: Pulling from Trailer Deck, page 9](#). If lifting the windrower from the left or right side of the trailer deck, refer to [2.2.2 Method 2: Lifting from Trailer Deck, page 10](#).

2.2.1 Method 1: Pulling from Trailer Deck

CAUTION

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

Table 2.2 Lifting Vehicle Requirements

Minimum Capacity ²	2500 kg (5500 lb.)
-------------------------------	--------------------

IMPORTANT:

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

Table 2.3 Pulling Chain Requirements

Type	Overhead lifting quality (1/2 in.)
Minimum Working Load	2270 kg (5000 lb.)

1. Position the rear of the trailer against an unloading dock that is the same height, or slightly lower than, the trailer deck.
2. Remove shipped parts from underneath the windrower frame.
3. Set forklift tines to the widest possible setting.
4. Drive forklift up to the rear of the windrower and place forks under the rear frame cross member.
5. Install chains between the forklift mast and the jacking brackets on both front legs of the windrower. Chains must be the same length.

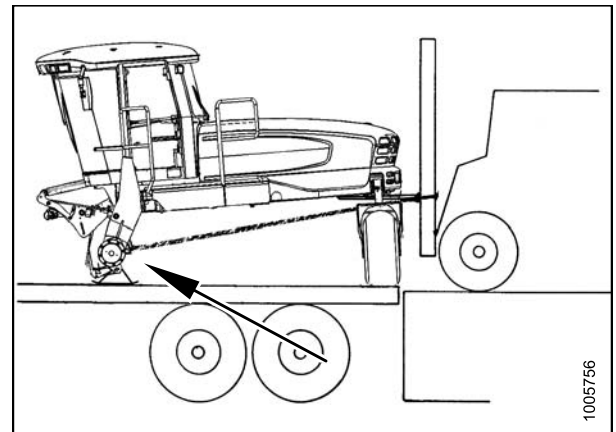


Figure 2.2: Chain Installation Location

CAUTION

The front legs rest on the trailer deck on skid shoes. Ensure there are no obstructions preventing the skid shoes from sliding rearwards, and watch carefully while dragging the unit to ensure the skid shoes do not slide sideways towards the edge of the trailer deck.

6. Drag the windrower rearwards off of carrier.
7. Remove chains and back off the forklift.
8. Check windrower for shipping damage, and check shipment for missing parts.

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

2.2.2 Method 2: Lifting from Trailer Deck

CAUTION

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

Table 2.4 Lifting Vehicle Requirements

Minimum Capacity ³	4994 kg (11,000 lb.)
Minimum Fork Length	198.1 cm (78 in.)

IMPORTANT:

Forklifts are normally rated for a load located 610 mm (24 in.) ahead of the back end of the forks. To obtain forklift capacity at 122.2 cm (48 in.), check with your forklift distributor.

WARNING

Ensure the forks are secure before moving the trailer away from the load. Stand clear when lifting.

1. Move the trailer onto level ground and block the trailer wheels.
2. Set forklift tines to the widest possible setting.
3. Position forklift on left or right side of trailer, and position forks (A) under windrower frame.

NOTE:

The windrower's center of gravity is approximately 139.7 cm (55 in.) rearwards from the center of the drive wheel.



Figure 2.3: Windrowers on Trailer

WARNING

Ensure the forks extend beyond the far side of the frame.

4. Lift until windrower is clear of the trailer deck.
5. Back forklift slowly away from trailer until the windrower is clear of the trailer deck.
6. Lower unit slowly to the ground. If the ground is soft, place wooden blocks under the front shipping stands.
7. Back off forklift.
8. Check windrower for shipping damage, and check shipment for missing parts.

3. At 122.2 cm (48 in.) from back end of forks.

3 Assembling the Windrower

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

3.1 Repositioning Right Leg

The right cab-forward leg requires repositioning from shipping to field configuration.

1. Remove two bolts (A), washers, and nuts from frame.

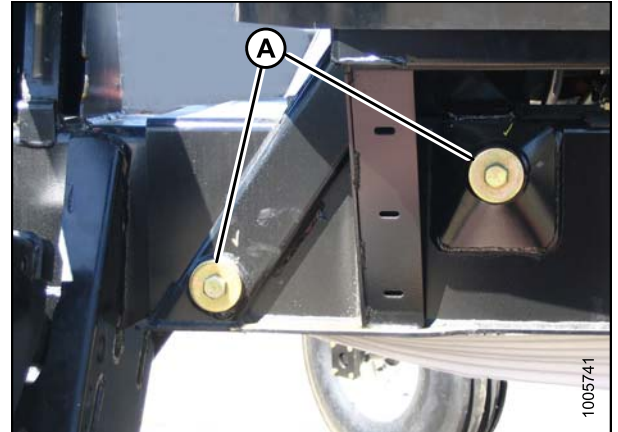


Figure 3.1: Windrower Frame

2. Support the front of the windrower with a stand (A) (or equivalent) so the right leg is off the ground.
3. Position jack (B) under the right leg and slightly raise the jack to take some weight off the leg.

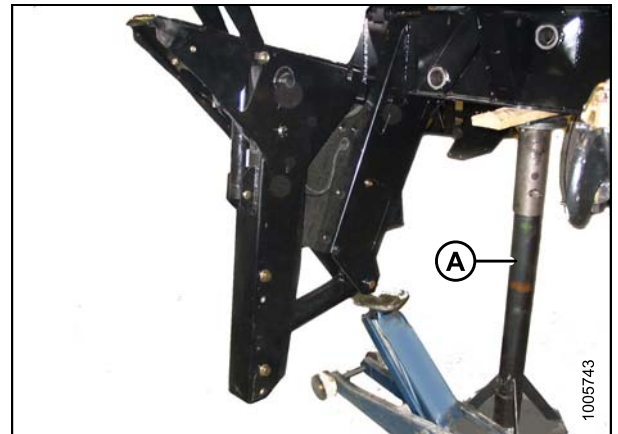


Figure 3.2: Right Leg

4. Adjust jack height until pin (A) is loose. Extract pin from front of frame with a slide hammer or tool (MD #B5442) (B) (due to limited space in front of tank). Instructions are included with the tool.

IMPORTANT:

Removing the pins will be difficult if the jack is not properly positioned to take the weight off the leg.

5. Repeat for second pin.



Figure 3.3: Windrower Frame

ASSEMBLING THE WINDROWER

6. Move leg outwards to expose one hole (A).
7. Reinstall pins and secure with bolts (B), washers, and nuts. Torque nuts to 136 N·m (100 ft·lbf).
8. Lower jack and remove it from the right-hand leg.

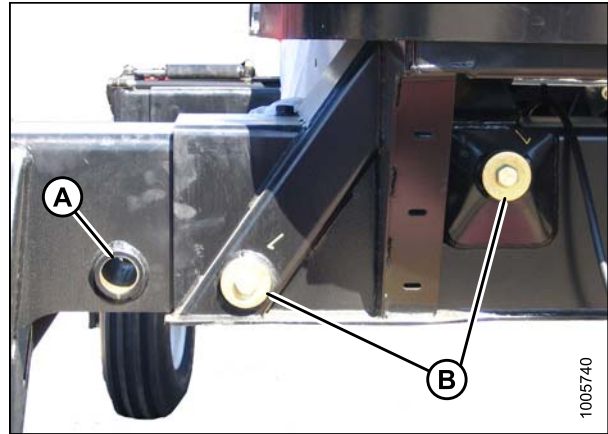


Figure 3.4: Windrower Frame

3.2 Installing Drive Wheel

CAUTION

Use a suitable lifting device capable of supporting a minimum of 907 kg (2000 lb.) to lift the wheel assembly away from the windrower.

1. Support the front of the windrower off the ground using stand (A).
2. Remove shipping stand (B) from lift leg. Repeat at the opposite side.

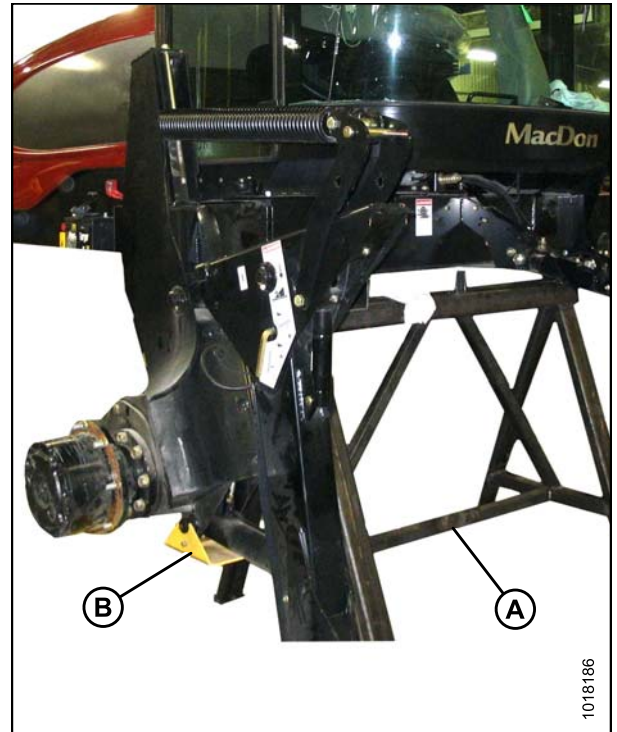


Figure 3.5: Windrower on Stand

3. Position drive wheel (A) against the wheel drive hub (B) so the air valve (C) is on the outside and the tire tread (D) points in cab-forward direction.

NOTE:

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

4. Lift wheel onto hub using a suitable lifting device.
5. Remove the lifting device.

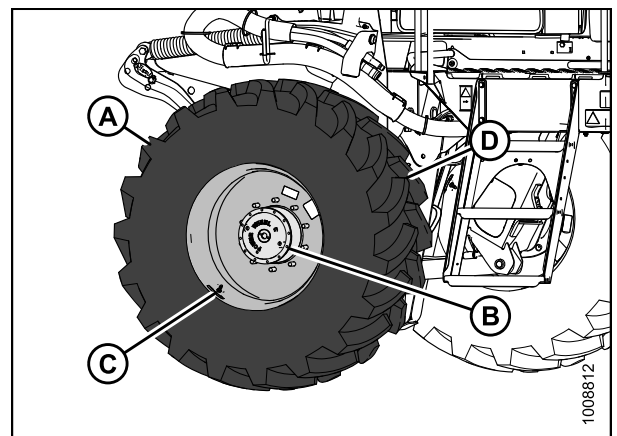


Figure 3.6: Drive Wheel

ASSEMBLING THE WINDROWER

6. 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.

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

IMPORTANT:

Use only manufacturer specified nuts (MD #205397).

8. Repeat tightening sequence two additional times ensuring the specified torque of 510 N·m (375 ft·lbf) is achieved each time.
9. Repeat torque procedure every hour until two consecutive checks confirm there is no movement of the nuts.

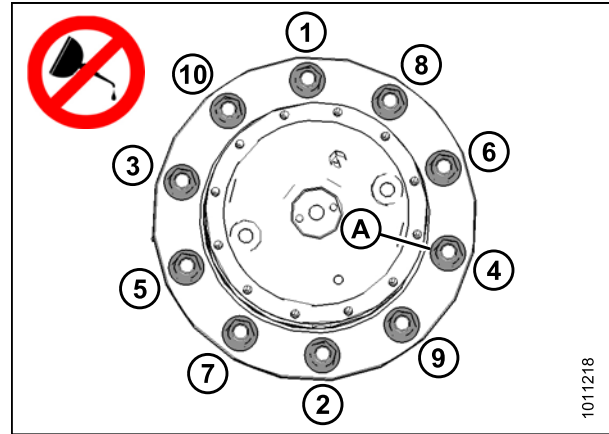


Figure 3.7: Drive Wheel Nuts

3.3 Repositioning Caster Wheels

As an option, the rear casters can be adjusted to a narrow tread width which allows for loading and shipping without having to remove them.

A **narrow tread** width is better suited for smaller headers because it allows more space to the uncut crop and provides more maneuverability around poles, irrigation inlets, and other obstacles.

A **wider tread** width is preferable for reducing run-over in heavy crops that produce large windrows.

1. Raise the rear of the windrower slightly using a jack or other lifting device under the frame at location (A) until most of the weight is off the casters.

NOTE:

Lifting device must have a lifting capacity of at least 2270 kg (5000 lb.).

2. Remove six bolts (B) (four on backside and two on underside) and washers from left and right sides of walking beam.

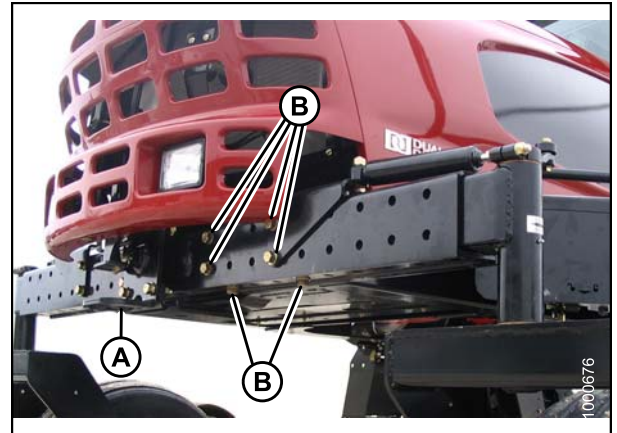


Figure 3.8: Walking Beam

3. Slide left and right side extensions equal distances in the outboard direction, and align holes at the preferred locations.

NOTE:

Rotate the caster so the wheel is parallel to the axle to assist with axle movement.



Figure 3.9: Walking Beam

ASSEMBLING THE WINDROWER

4. Ensure caster wheels are positioned at equal distances from the center of the windrower.

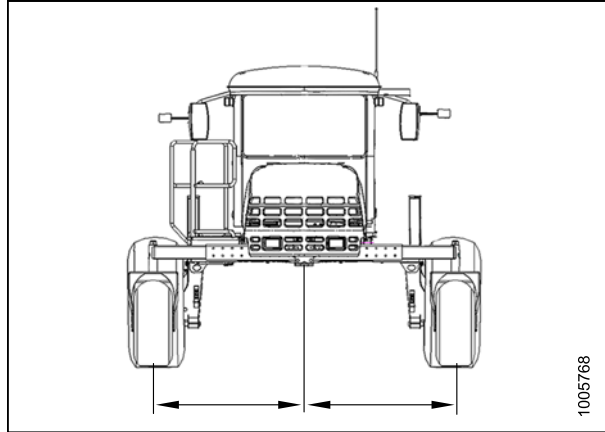


Figure 3.10: Widest Tread Width Shown

5. Position bracket (A) as shown.
6. Install two 3/4 in. x 2-3/4 in. hex head bolts (B) at the back outboard location, and install two 3/4 in. x 2-1/4 in. hex head bolts (C) at the back inboard location.
7. Install two 3/4 in. x 2-1/4 in. hex head bolts (D) to the underside. Tighten bolts snug.
8. Torque all bolts (B and C) at the back location to 447 N·m (330 ft·lbf).
9. Torque all bolts (D) on the underside to 447 N·m (330 ft·lbf).
10. Lower windrower to the ground.

IMPORTANT:

Torque all bolts to 447 N·m (330 ft·lbf) after the first 5 and 10 hours of operation.

11. Remove banding and wooden blocks from center of walking beam.

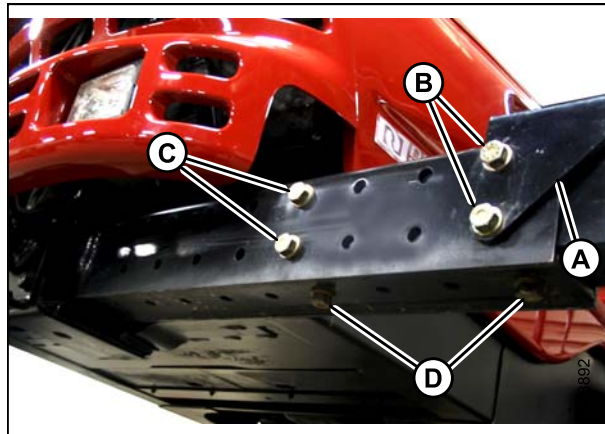


Figure 3.11: Walking Beam

3.4 Installing Steps

NOTE:

Procedure for left-hand installation shown—right-hand installation similar.

1. Remove two bolts (A) securing steps to platform and remove steps.
2. Remove bolt (B) and retain for reinstallation.

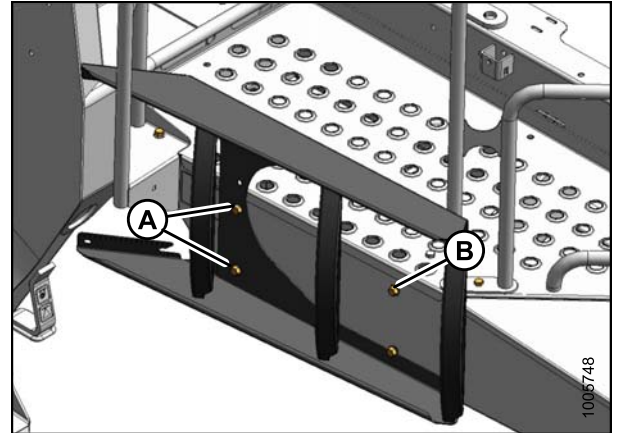


Figure 3.12: Left-Hand Steps in Shipping Position

3. Install bolt (A) into lower hole of platform. Do **NOT** fully thread in bolt.

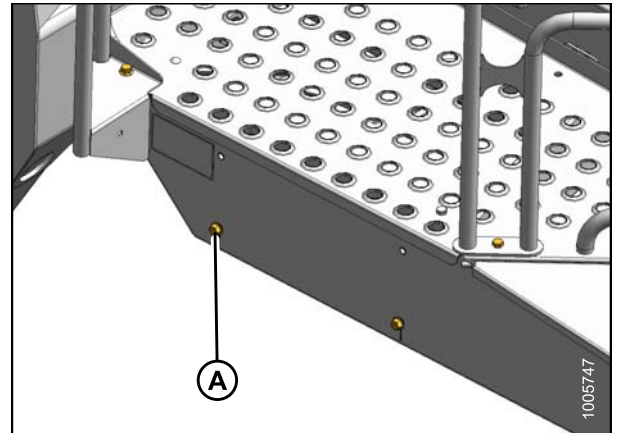


Figure 3.13: Left-Hand Platform

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

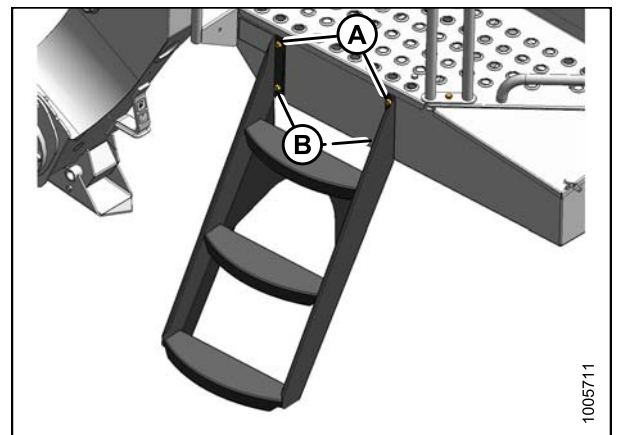


Figure 3.14: Left-Hand Steps Installed

3.5 Installing Center-Link on the M155

The M155 windrower may have a mechanical center-link (standard) or a hydraulic center-link (optional). Refer to [3.5.1 Installing Mechanical Center-Link on the M155, page 18](#) or [3.5.2 Installing Hydraulic Center-Link on the M155 \(Optional\), page 18](#).

3.5.1 Installing Mechanical Center-Link on the M155

1. Remove clevis pin from center-link (A).
2. Position center-link (A) between mounting brackets on front frame, and attach at lower hole location (B).
3. Install clevis pin and secure with hair pin.

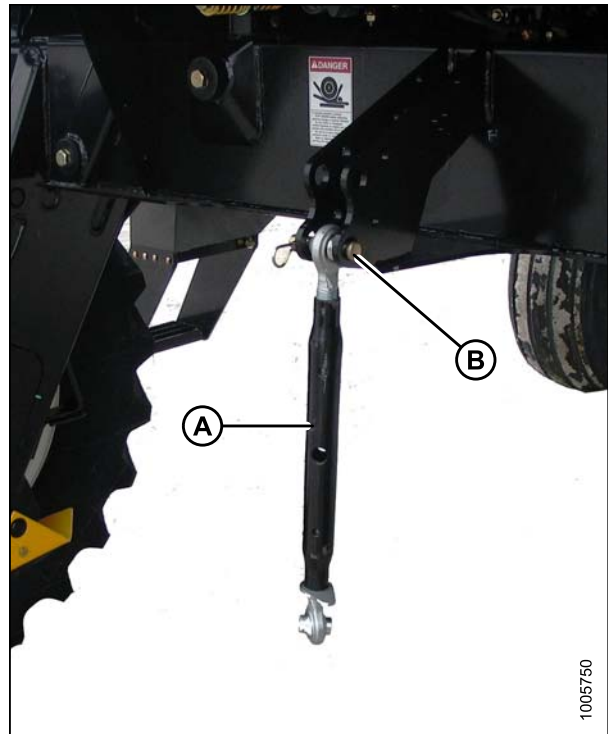


Figure 3.15: Mechanical Center-Link

3.5.2 Installing Hydraulic Center-Link on the M155 (Optional)

The hydraulic center-link (A) may be supplied in a separate kit that is included with the shipment. Refer to the installation instructions provided in the kit.

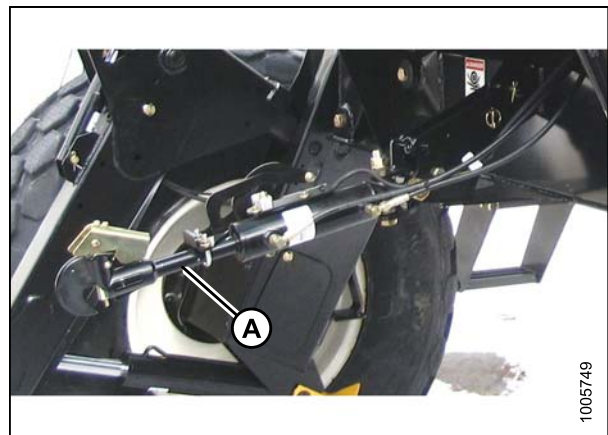


Figure 3.16: Hydraulic Center-Link

3.6 Activating the Battery Main Switch

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 right-hand (cab-forward) maintenance platform.
2. Turn the battery switch (A) to the POWER ON position.
3. Move the right-hand (cab-forward) maintenance platform forward to the closed position.

IMPORTANT:

Turn the battery switch (A) to the POWER OFF position if the machine will be stored for a week or more.

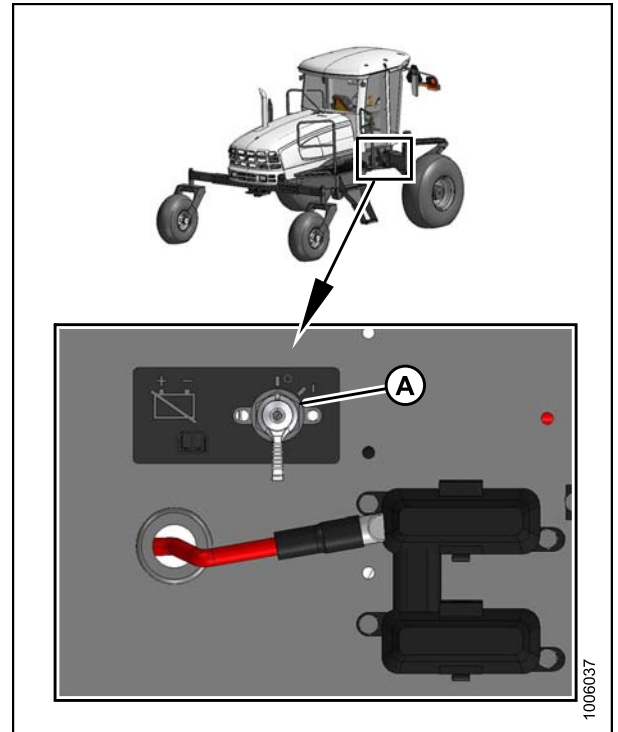


Figure 3.17: Battery Main Disconnect Switch

3.7 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 3.18: 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 3.19: Operator Console

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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 three times.
 - 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).

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 22.



Figure 3.20: Operator Console

ASSEMBLING THE WINDROWER

Table 3.1 Engine Start Troubleshooting

Problem	Solution
Controls not in NEUTRAL	<ul style="list-style-type: none"> • Move GSL to NEUTRAL • Move steering wheel to locked position • Disengage header clutch
Operator's station not locked	<ul style="list-style-type: none"> • Adjust position of operator's station • Ensure lock is engaged
Neutral interlock misadjusted	<ul style="list-style-type: none"> • Refer to the windrower technical manual
No fuel to engine	<ul style="list-style-type: none"> • Fill empty fuel tank • Replace clogged filter • Ensure fuel shut off valve is in open position
Old fuel in tank	<ul style="list-style-type: none"> • Drain tank • Refill with fresh fuel
Water, dirt, or air in fuel system	<ul style="list-style-type: none"> • Drain, flush, fill, and prime system
Improper type of fuel	<ul style="list-style-type: none"> • Use proper fuel for operating conditions
Crankcase oil too heavy	<ul style="list-style-type: none"> • Use recommended oil
Low battery output	<ul style="list-style-type: none"> • Test the battery • Check battery electrolyte level
Poor battery connection	<ul style="list-style-type: none"> • Clean and tighten loose connections
Faulty starter	<ul style="list-style-type: none"> • Refer to the windrower technical manual
Wiring shorted, circuit breaker open	<ul style="list-style-type: none"> • Check continuity of wiring and breaker (manually reset)
Faulty injectors	<ul style="list-style-type: none"> • Refer to the windrower technical manual

3.8 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.

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

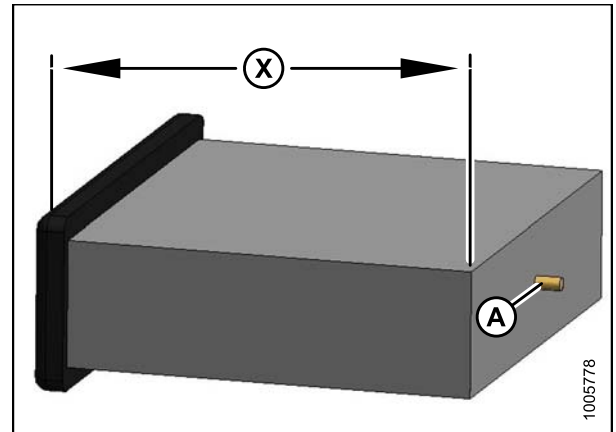


Figure 3.21: Mounting Dimension

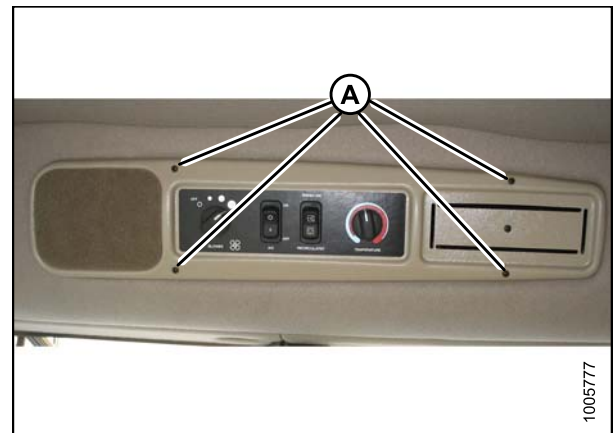


Figure 3.22: Radio Panel

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

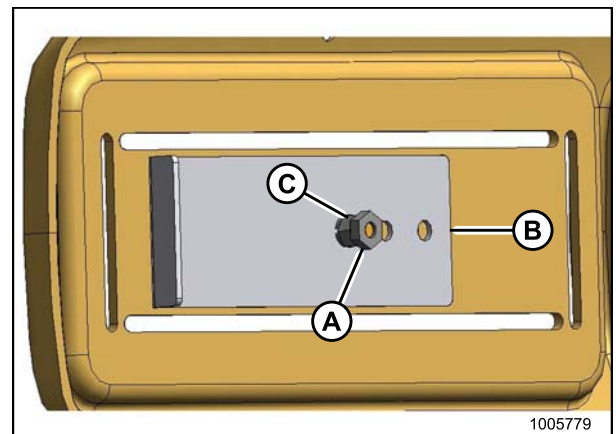


Figure 3.23: Panel Support

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

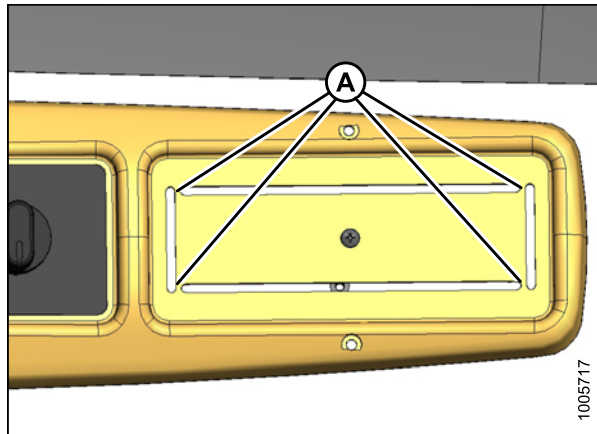


Figure 3.24: Panel

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

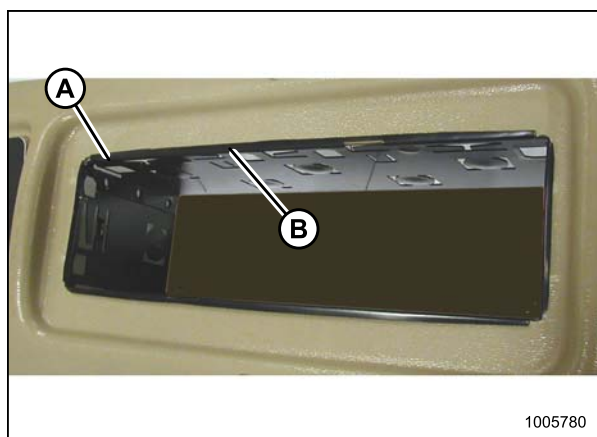


Figure 3.25: Radio Receptacle

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



Figure 3.26: Radio Installed

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8. 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.
9. 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.
10. Plug antenna cable into radio.

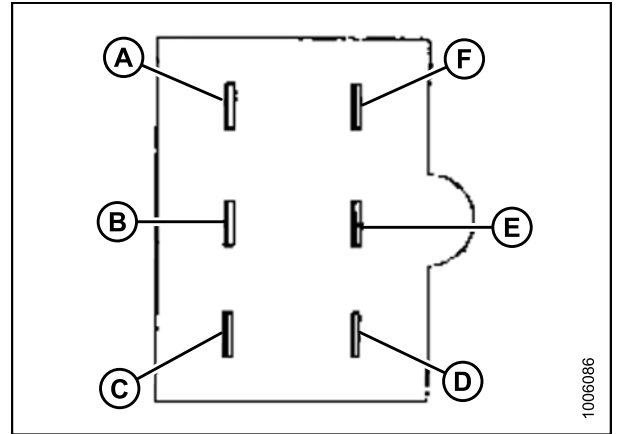


Figure 3.27: Six-Pin Connector Terminal Arrangement

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)

11. Attach stud (supplied with radio) to center rear of radio.
12. 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.

13. Install radio panel using original screws.

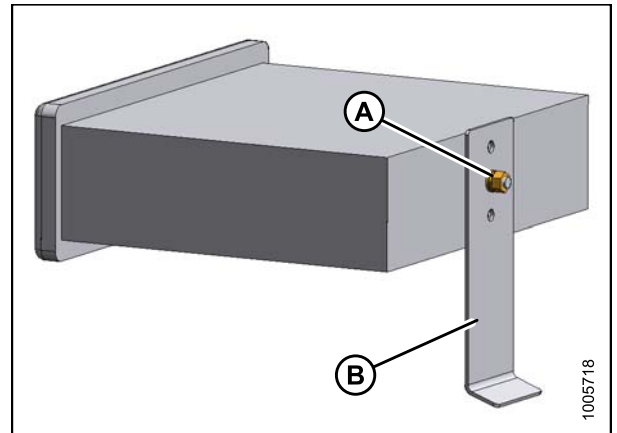


Figure 3.28: Radio and Support

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

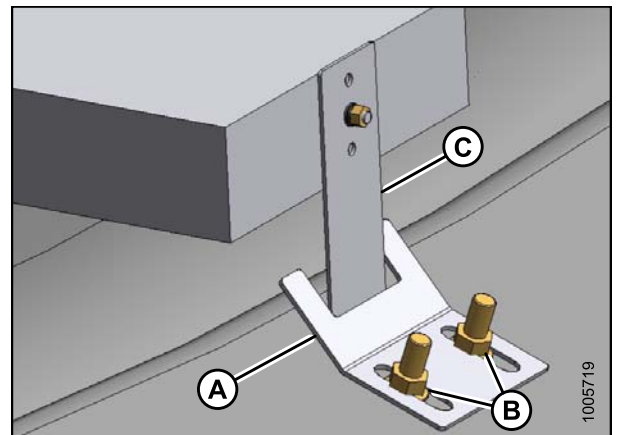


Figure 3.29: Radio and Support

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16. 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.

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

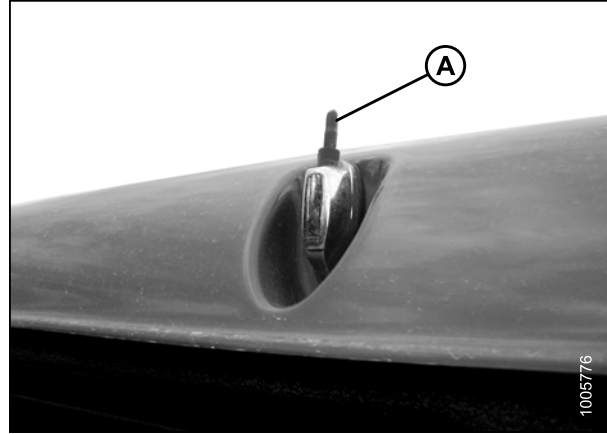


Figure 3.30: Antenna Mount on Cab Roof

3.9 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.

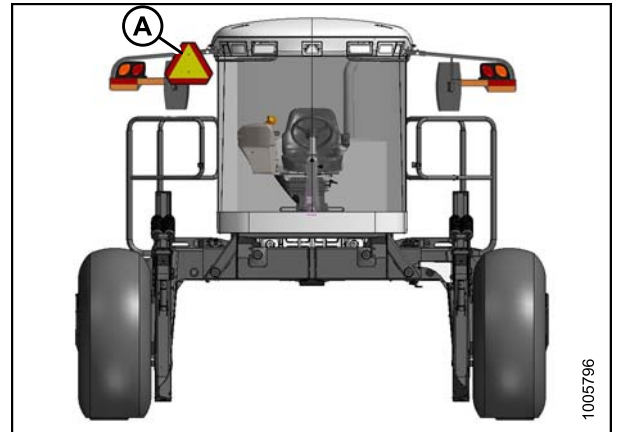


Figure 3.31: Engine-Forward Location

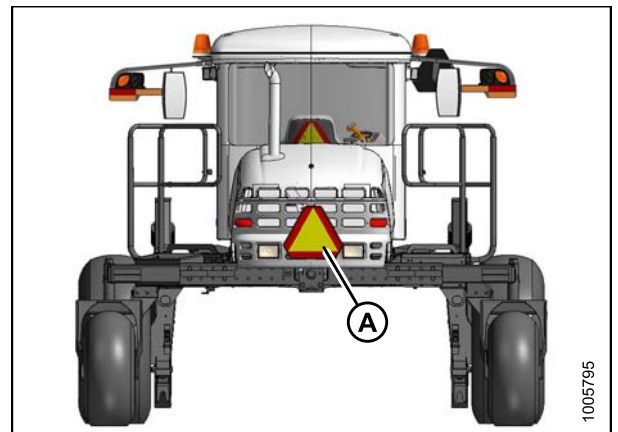


Figure 3.32: Cab-Forward Location

3.10 Attaching Headers

3.10.1 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).

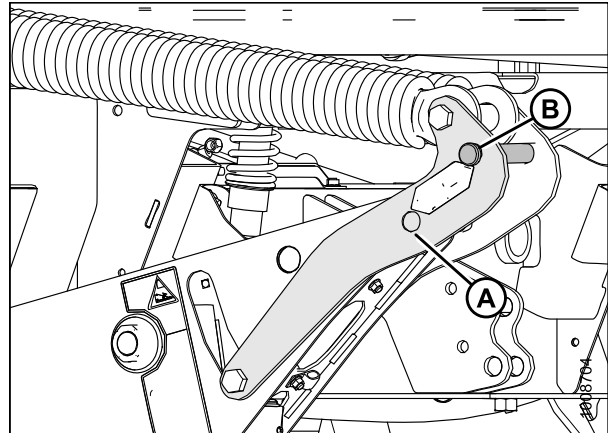


Figure 3.33: Header Float Linkage

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

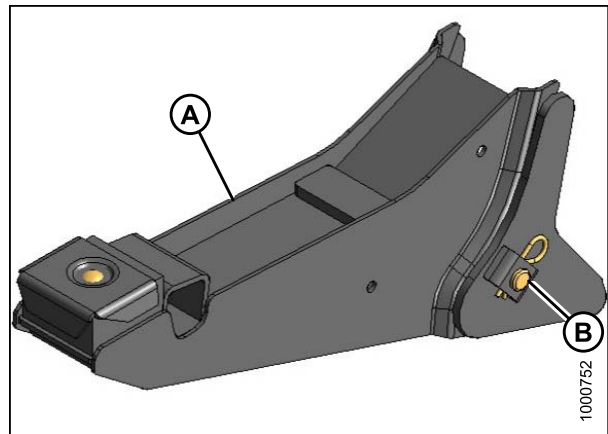


Figure 3.34: Header Boot

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.

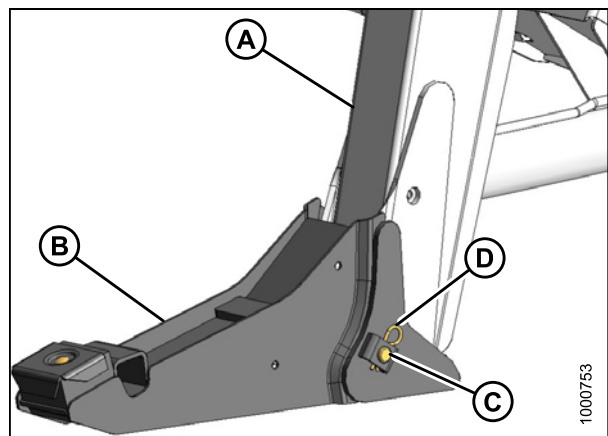


Figure 3.35: Header Boot

3.10.2 Attaching a D-Series Header

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

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 30](#)
- [Attaching a D-Series Header: Hydraulic Center-Link without Self-Alignment, page 35](#)
- [Attaching a D-Series Header: Mechanical Center-Link, page 41](#)

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

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 30](#)
- [Attaching a D-Series Header: Hydraulic Center-Link without Self-Alignment, page 35](#)

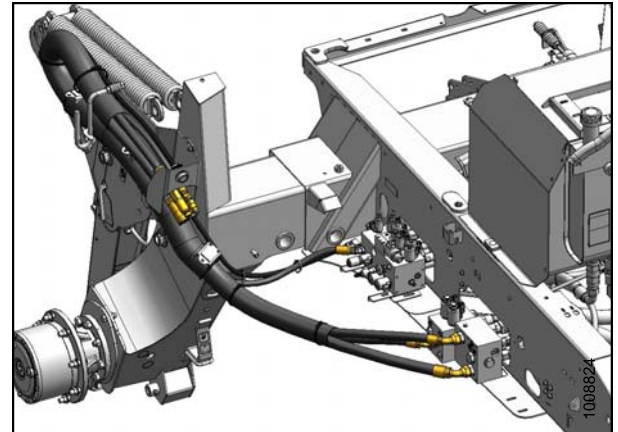


Figure 3.36: M155 Draper Header Hydraulics

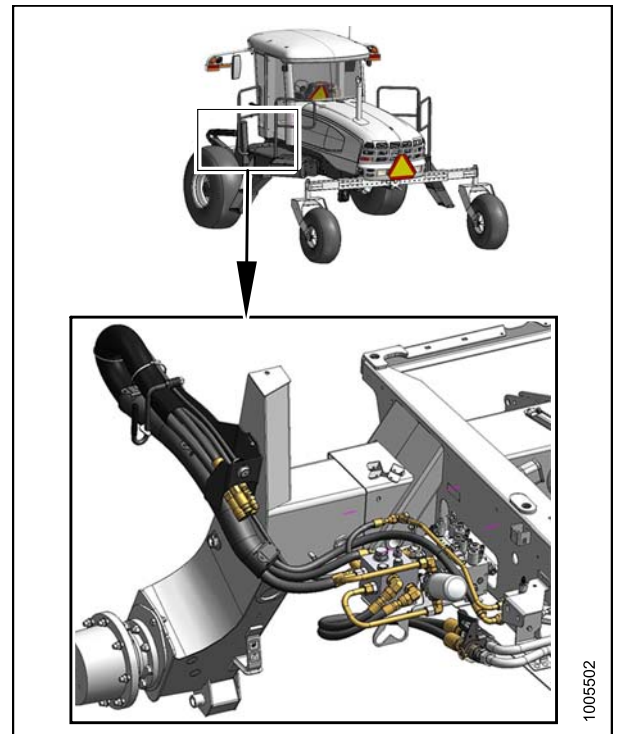


Figure 3.37: M205 Draper Header Drive Hydraulics

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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 [3.10.1 Attaching Header Boots, page 28](#).



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.

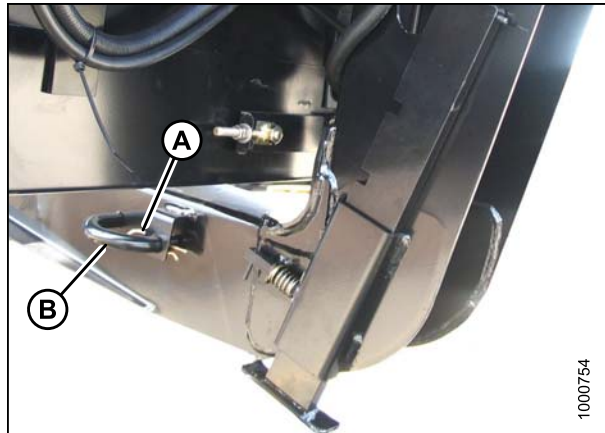


Figure 3.38: Header Leg



CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT:

Before starting engine, remove protective cover from exhaust stack.

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

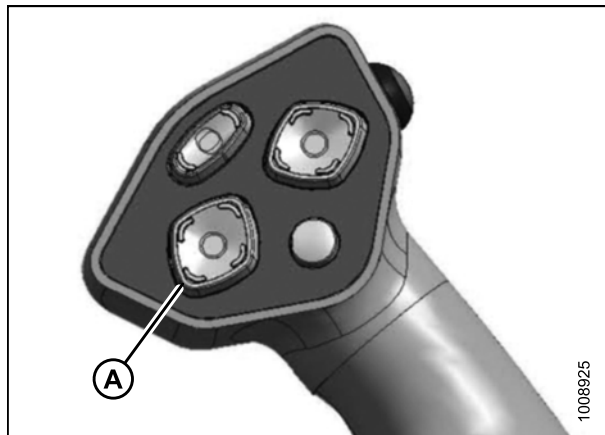


Figure 3.39: Ground Speed Lever

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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.

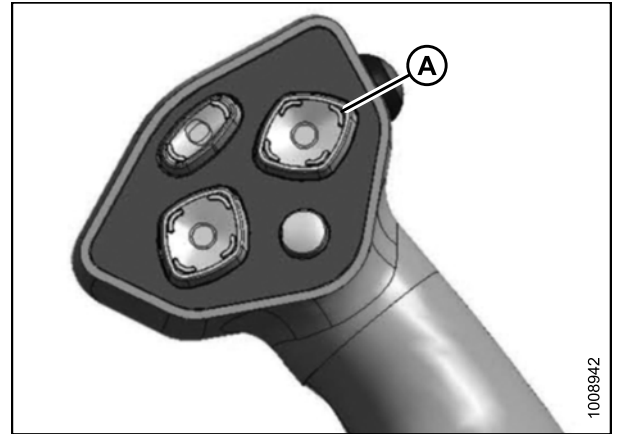


Figure 3.40: Ground Speed Lever

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.

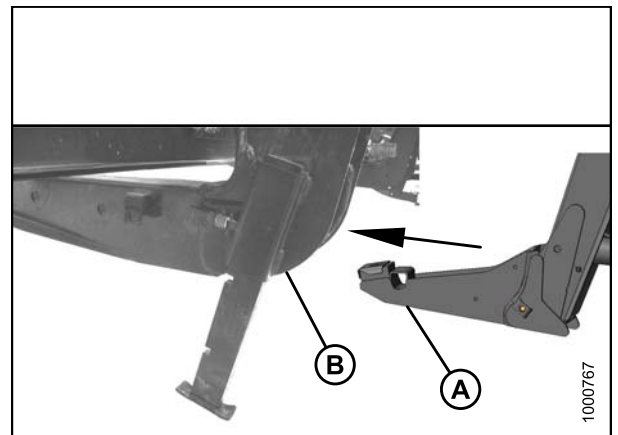


Figure 3.41: Header Leg and Boot

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

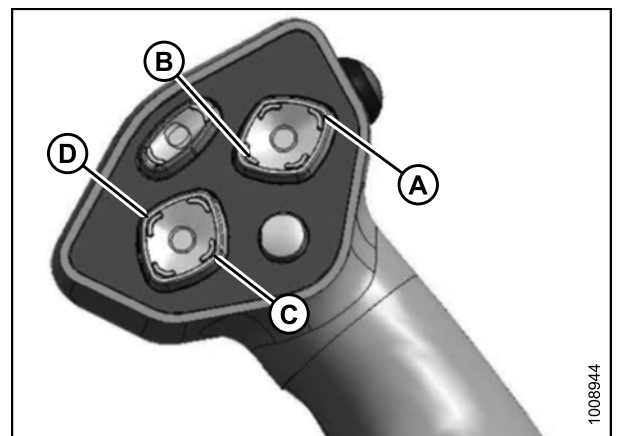


Figure 3.42: Ground Speed Lever

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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.

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.

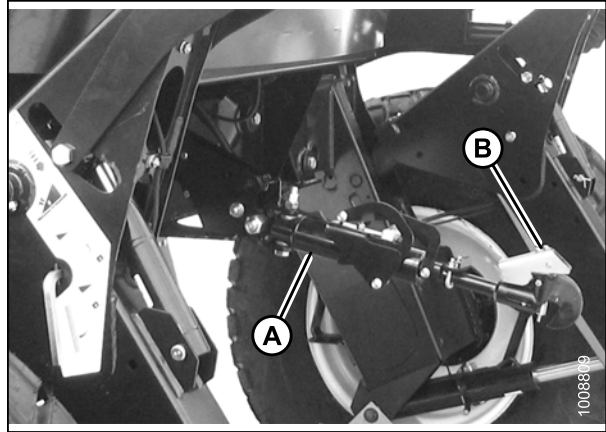


Figure 3.43: Hydraulic Center-Link

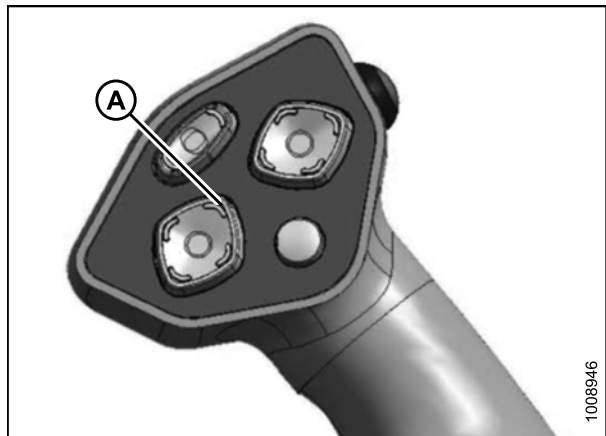


Figure 3.44: Ground Speed Lever

ASSEMBLING THE WINDROWER

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.

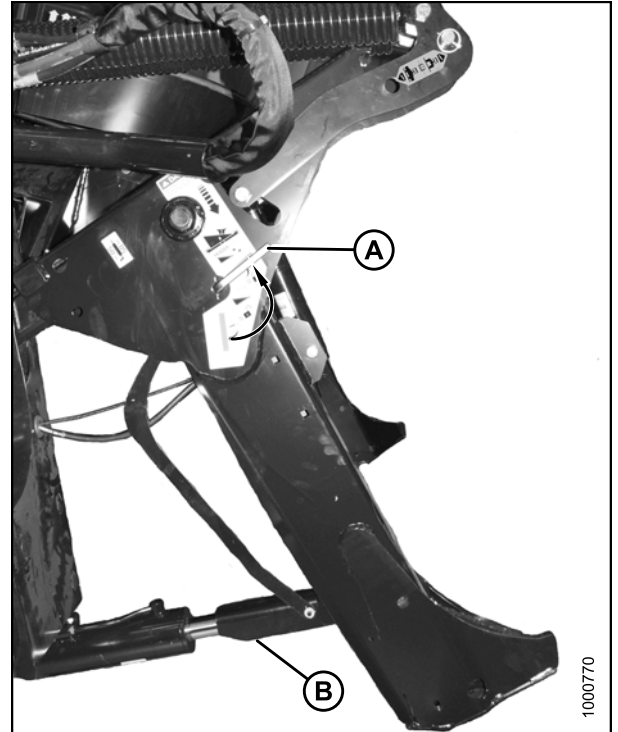


Figure 3.45: Safety Prop

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.

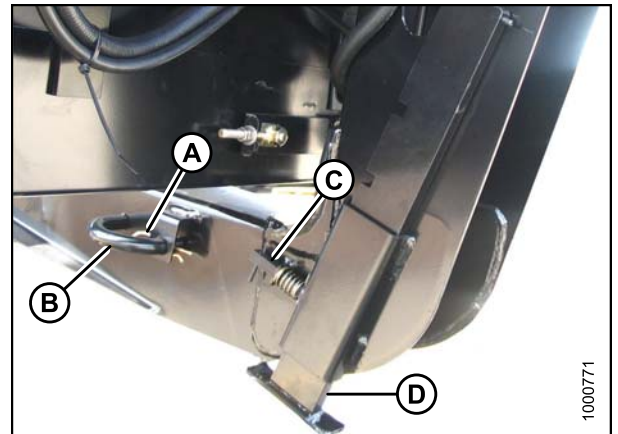


Figure 3.46: Header Leg

ASSEMBLING THE WINDROWER

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

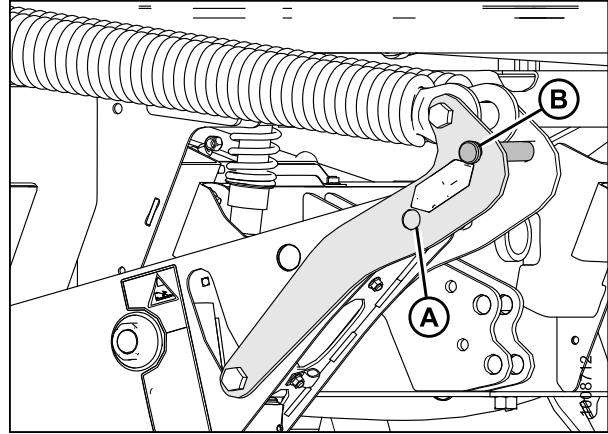


Figure 3.47: Header Float Linkage

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.

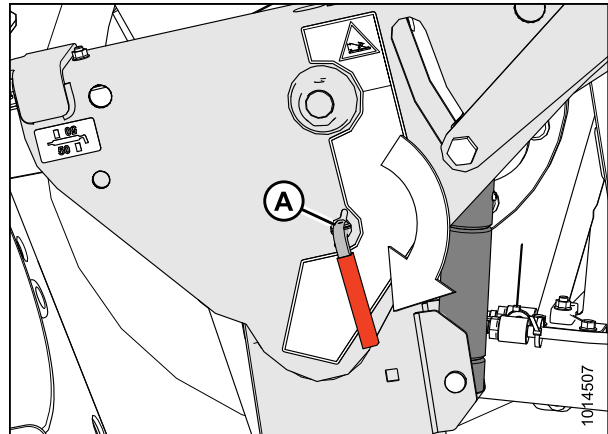


Figure 3.48: Safety Prop

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.

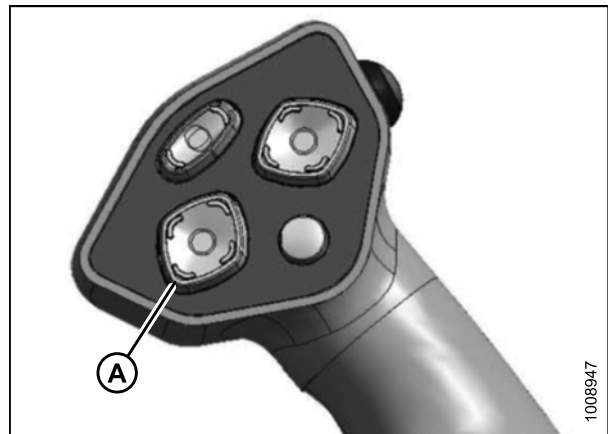


Figure 3.49: Ground Speed Lever

ASSEMBLING THE WINDROWER

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

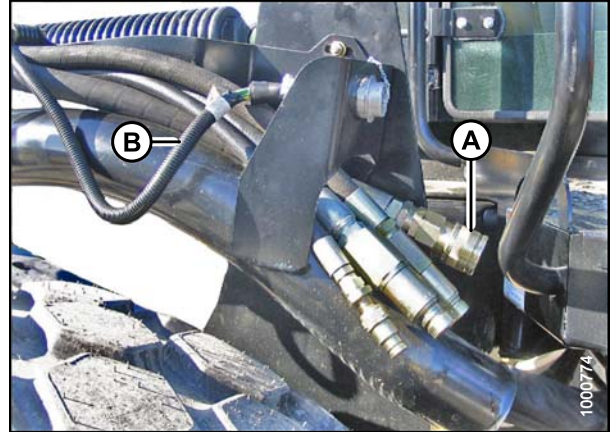


Figure 3.50: Header Drive Hoses and Harness

20. Connect reel hydraulics (A) at right cab-forward side of windrower. Refer to the draper header operator's manual.

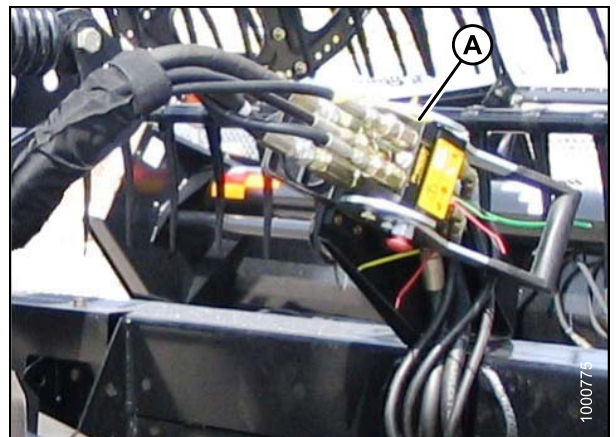


Figure 3.51: Reel Hydraulics

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 [3.10.1 Attaching Header Boots, page 28](#).

⚠ 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.

ASSEMBLING THE WINDROWER

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

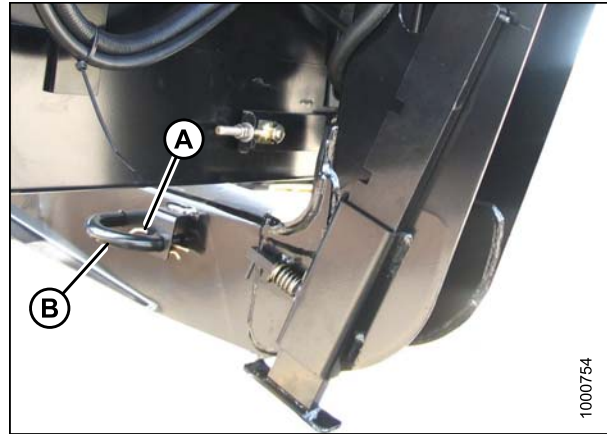


Figure 3.52: Header Leg

CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT:

Before starting engine, remove protective cover from exhaust stack.

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

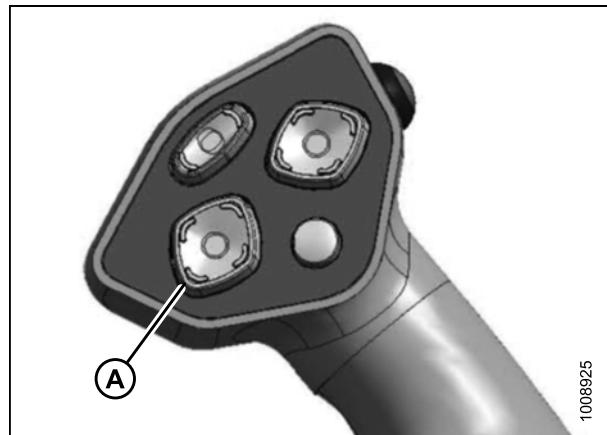


Figure 3.53: Ground Speed Lever

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.

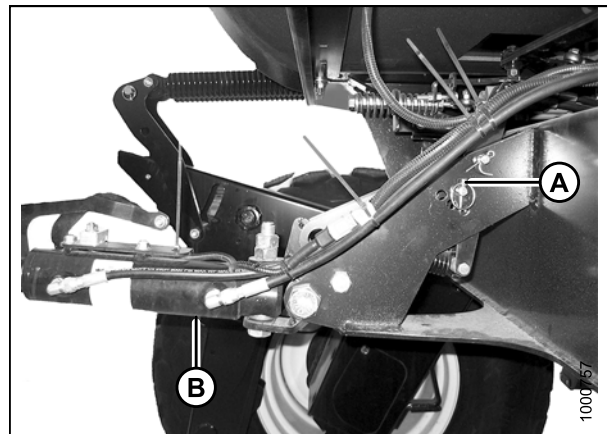


Figure 3.54: Hydraulic Center-Link without Self-Alignment Kit

ASSEMBLING THE WINDROWER

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.

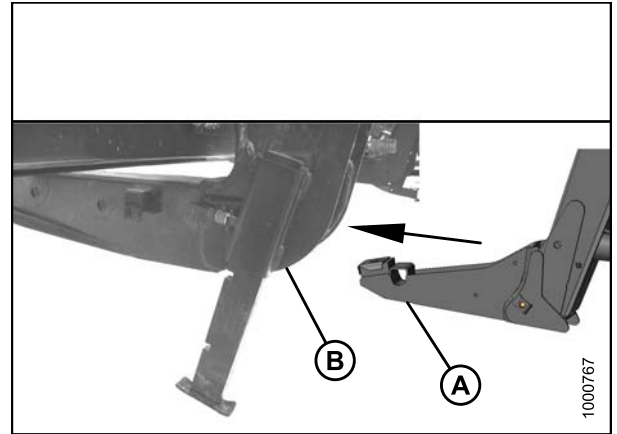


Figure 3.55: Header Leg and Boot

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.

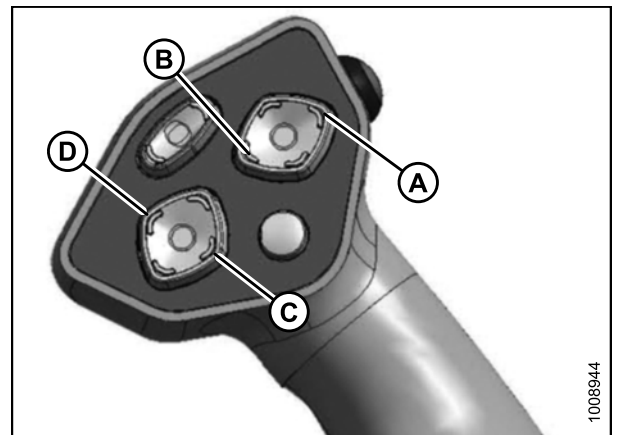


Figure 3.56: Ground Speed Lever

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.

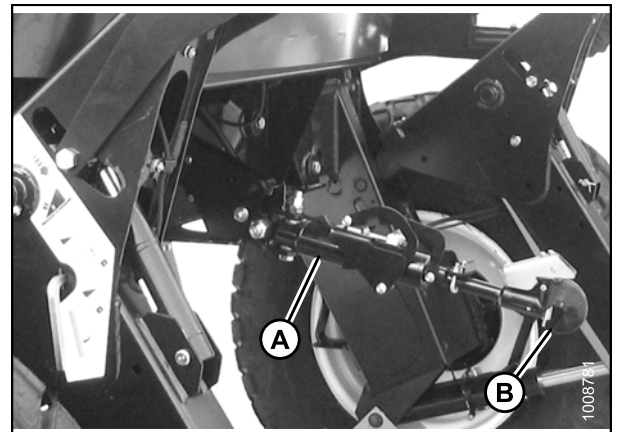


Figure 3.57: Hydraulic Center-Link

ASSEMBLING THE WINDROWER

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.

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.

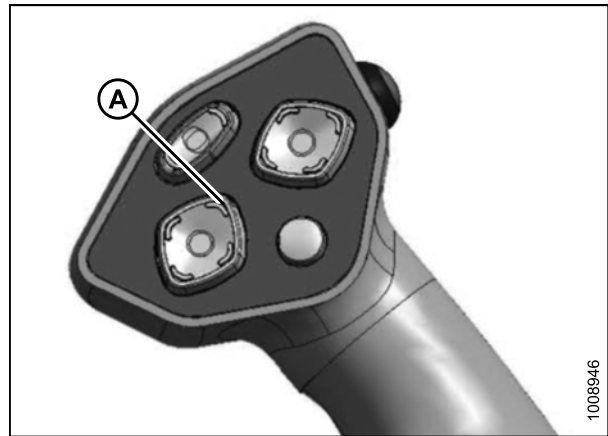


Figure 3.58: Ground Speed Lever

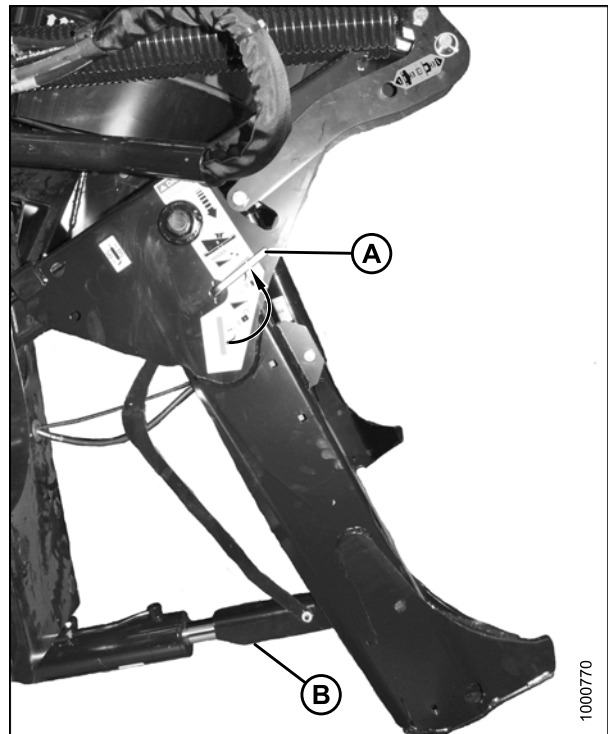


Figure 3.59: Safety Prop

ASSEMBLING THE WINDROWER

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.

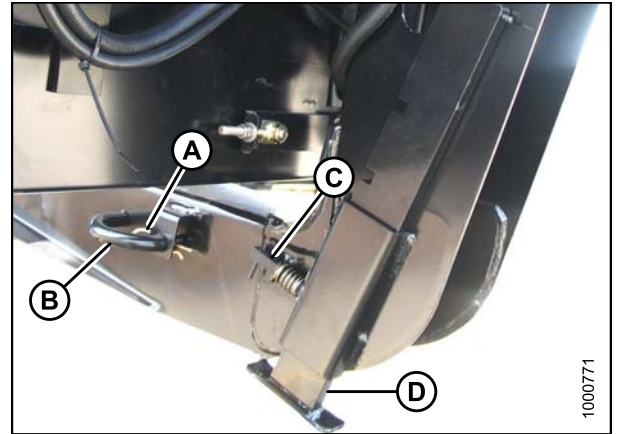


Figure 3.60: Header Leg

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

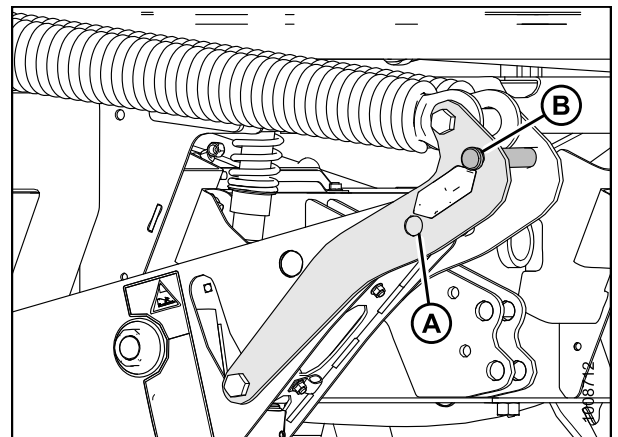


Figure 3.61: Header Float Linkage

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.

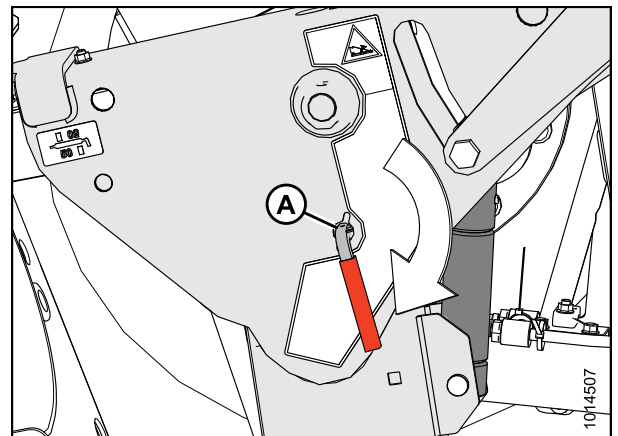


Figure 3.62: Safety Prop

ASSEMBLING THE WINDROWER

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.

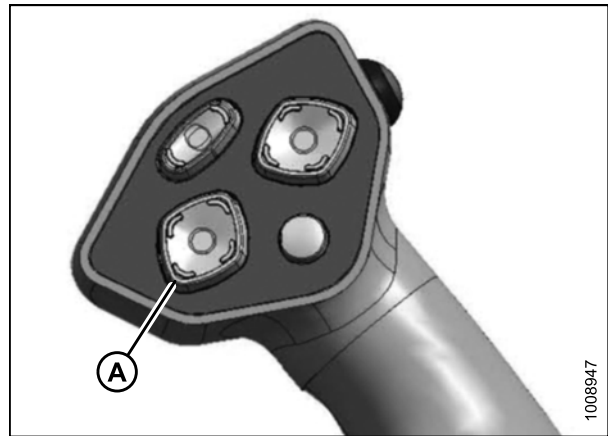


Figure 3.63: Ground Speed Lever

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

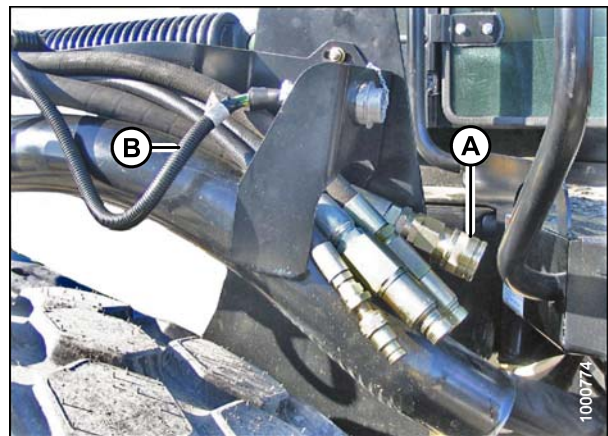


Figure 3.64: Header Drive Hoses and Harness

21. Connect reel hydraulics (A) at right cab-forward side of windrower. Refer to the draper header operator's manual.

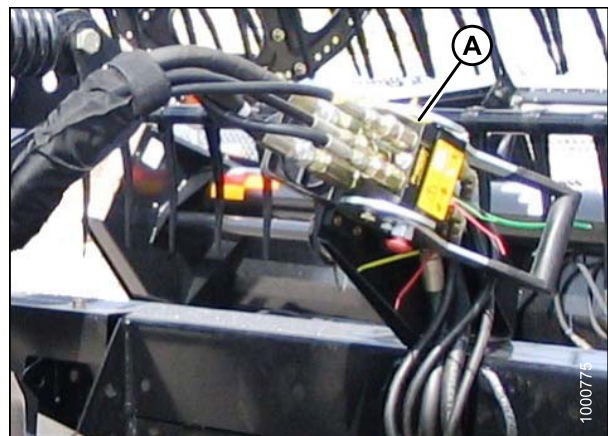


Figure 3.65: Reel Hydraulics

ASSEMBLING THE WINDROWER

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 [3.10.1 Attaching Header Boots, page 28](#).

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.

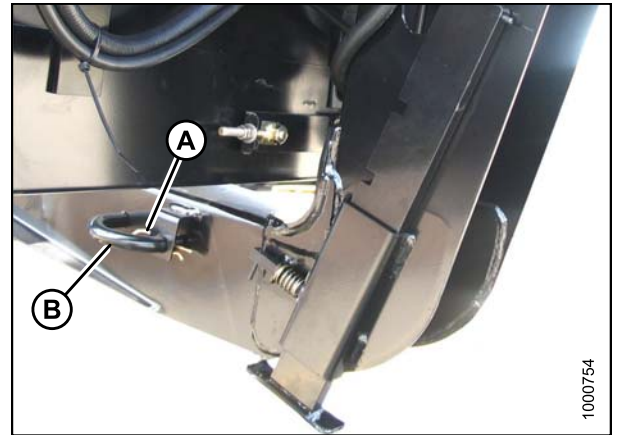


Figure 3.66: Header Leg

CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT:

Before starting engine, remove protective cover from exhaust stack.

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

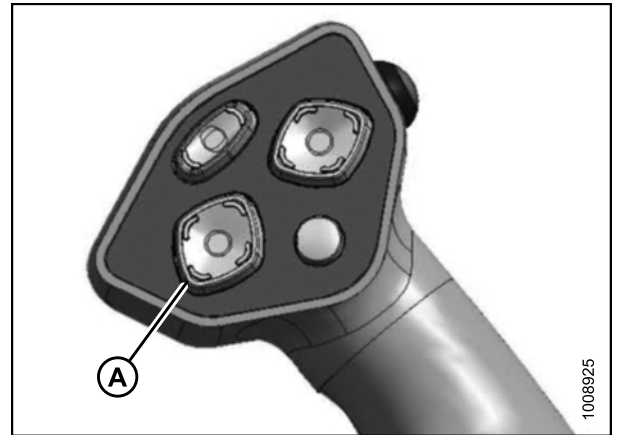


Figure 3.67: Ground Speed Lever

ASSEMBLING THE WINDROWER

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.

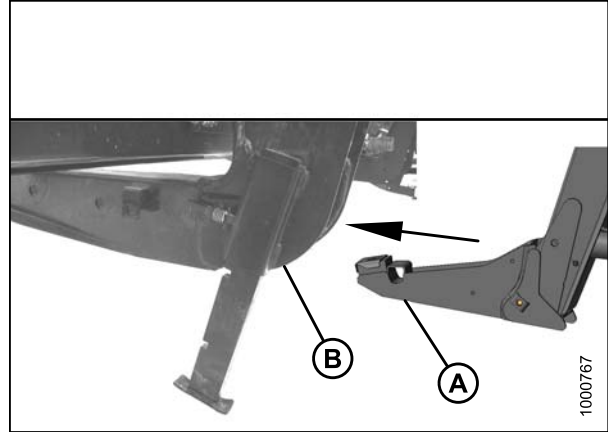


Figure 3.68: Header Leg and Boot

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).

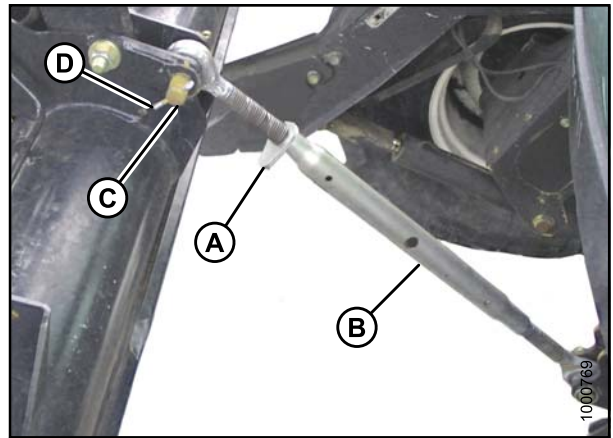


Figure 3.69: Mechanical Center-Link

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.

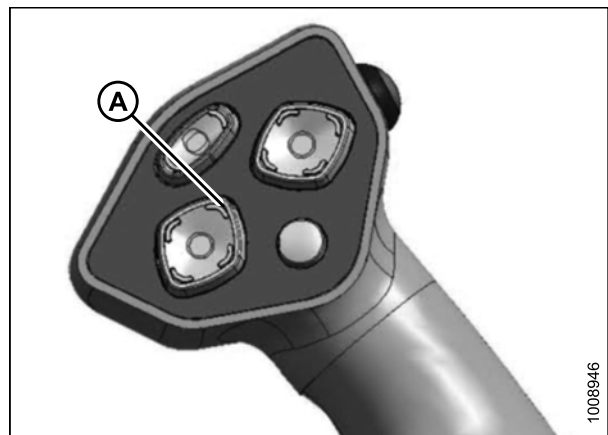


Figure 3.70: Ground Speed Lever

ASSEMBLING THE WINDROWER

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.

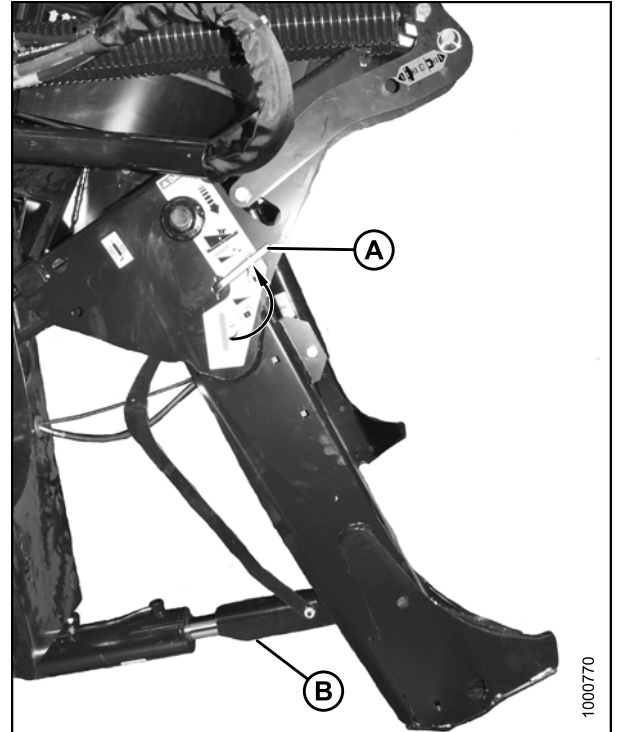


Figure 3.71: Safety Prop

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.

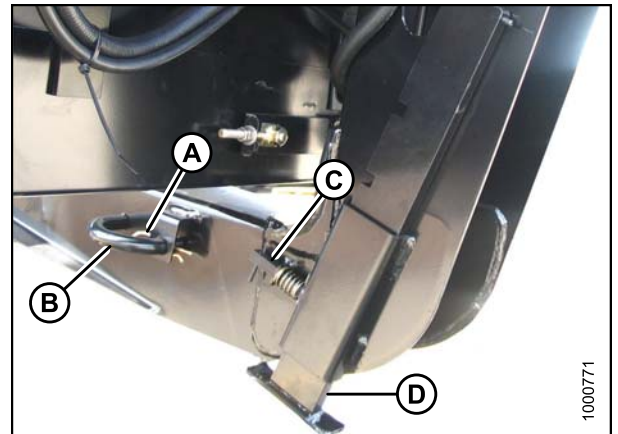


Figure 3.72: Header Leg

ASSEMBLING THE WINDROWER

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

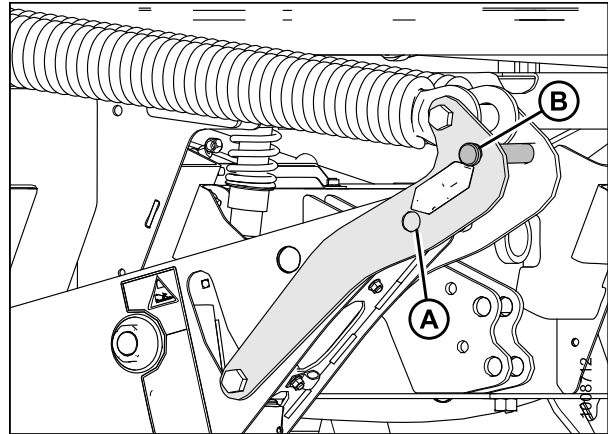


Figure 3.73: Header Float Linkage

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.

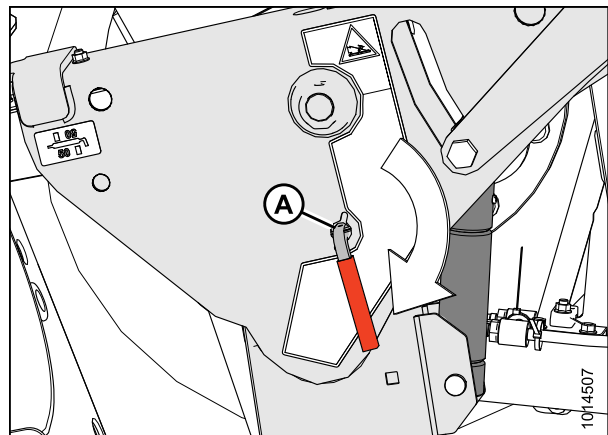


Figure 3.74: Safety Prop

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.

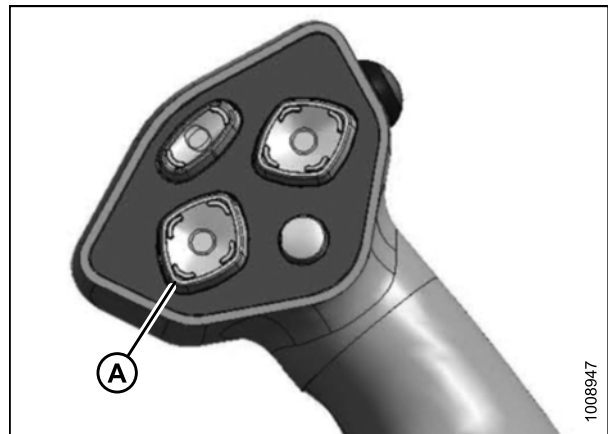


Figure 3.75: Ground Speed Lever

ASSEMBLING THE WINDROWER

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

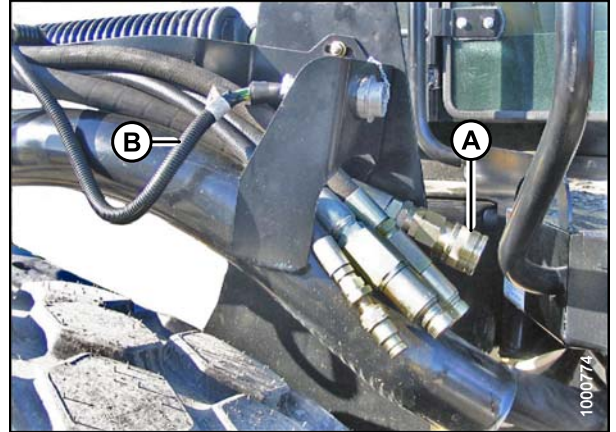


Figure 3.76: Header Drive Hoses and Harness

20. Connect reel hydraulics (A) at right cab-forward side of windrower. Refer to the draper header operator's manual.

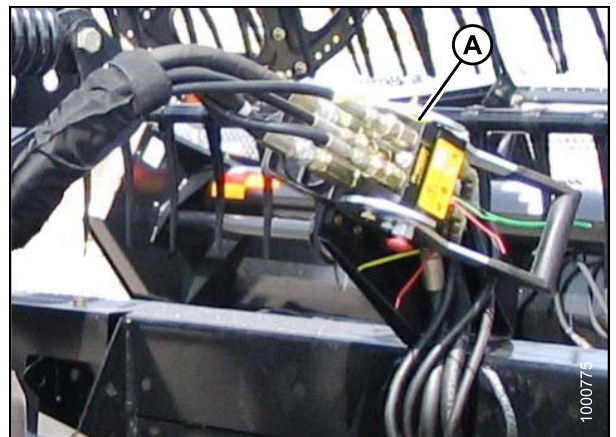


Figure 3.77: Reel Hydraulics

3.10.3 Attaching an A-Series Header

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

M155 Self-Propelled Windrower

ASSEMBLING THE 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 47](#)
- [Attaching an A-Series Header: Hydraulic Center-Link without Self-Alignment, page 52](#)
- [Attaching an A-Series Header: Mechanical Center-Link, page 58](#)

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 47](#)
- [Attaching an A-Series Header: Hydraulic Center-Link without Self-Alignment, page 52](#)



Figure 3.78: M155 and A40-D Auger Header

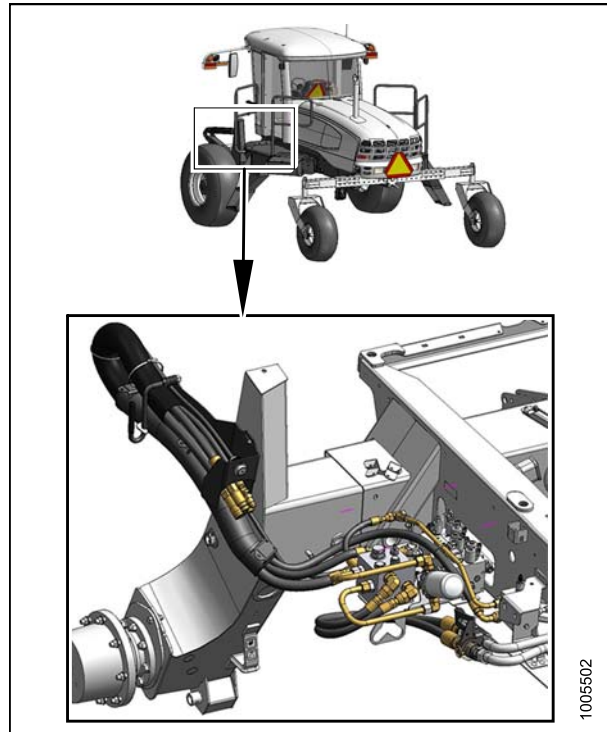


Figure 3.79: M205 Auger Header Drive Hydraulics

ASSEMBLING THE WINDROWER

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.

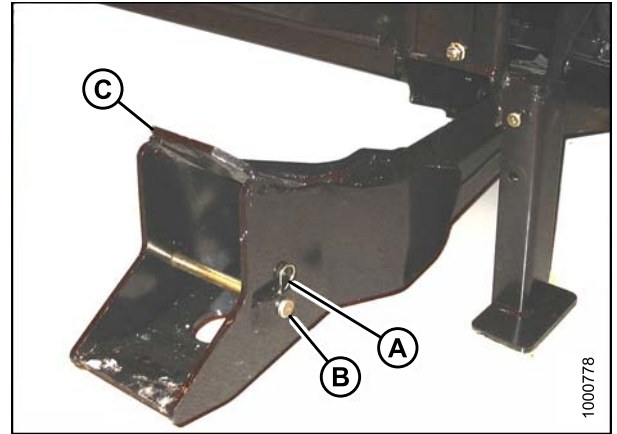


Figure 3.80: Header Boot

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).

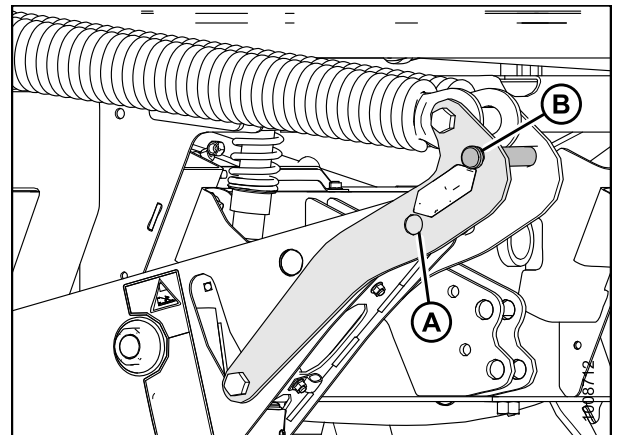


Figure 3.81: Header Float Linkage

CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT:

Before starting engine, remove protective cover from exhaust stack.

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

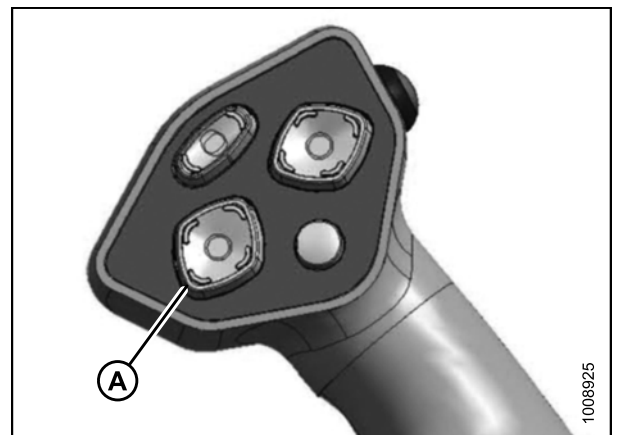


Figure 3.82: Ground Speed Lever

ASSEMBLING THE WINDROWER

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.

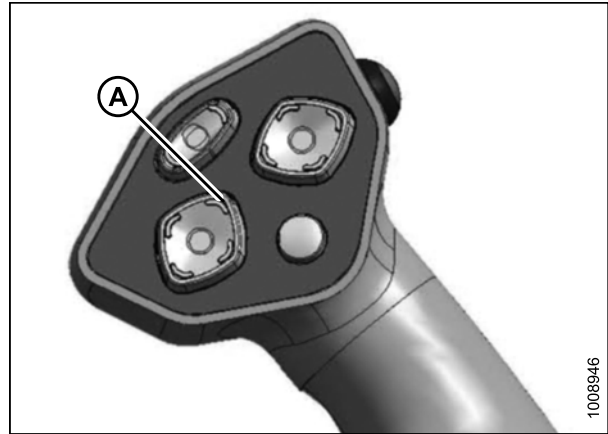


Figure 3.83: Ground Speed Lever

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.

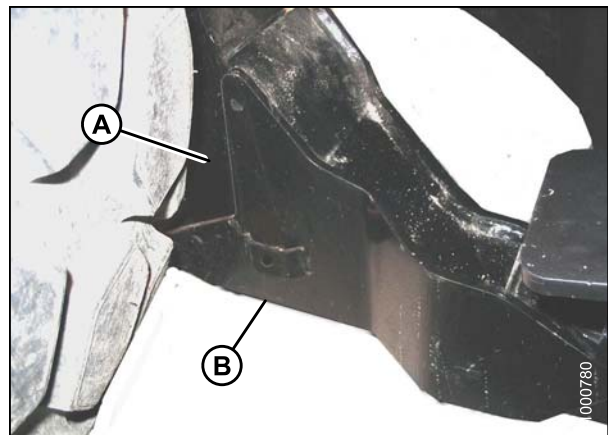


Figure 3.84: Header Boot

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

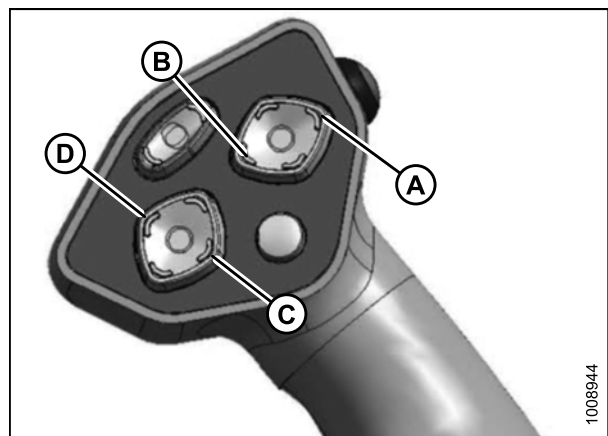


Figure 3.85: Ground Speed Lever

ASSEMBLING THE WINDROWER

- 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.

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

CAUTION

Check to be sure all bystanders have cleared the area.

- 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:

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

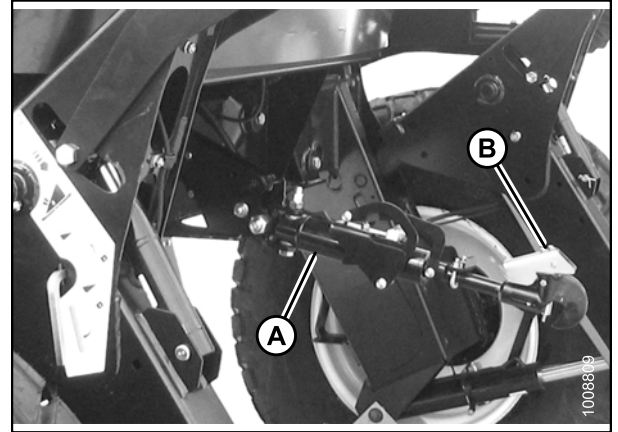


Figure 3.86: Hydraulic Center-Link

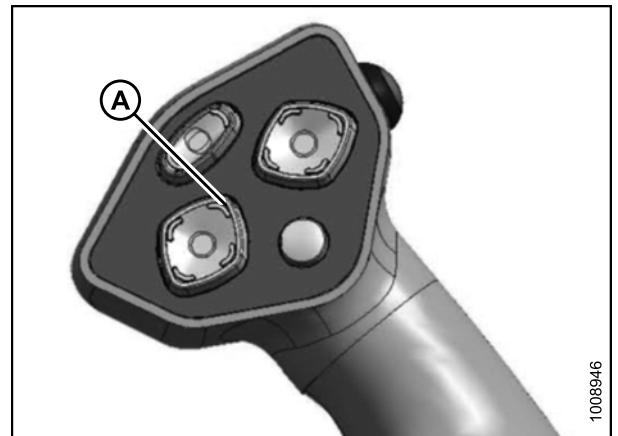


Figure 3.87: Ground Speed Lever

ASSEMBLING THE WINDROWER

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.

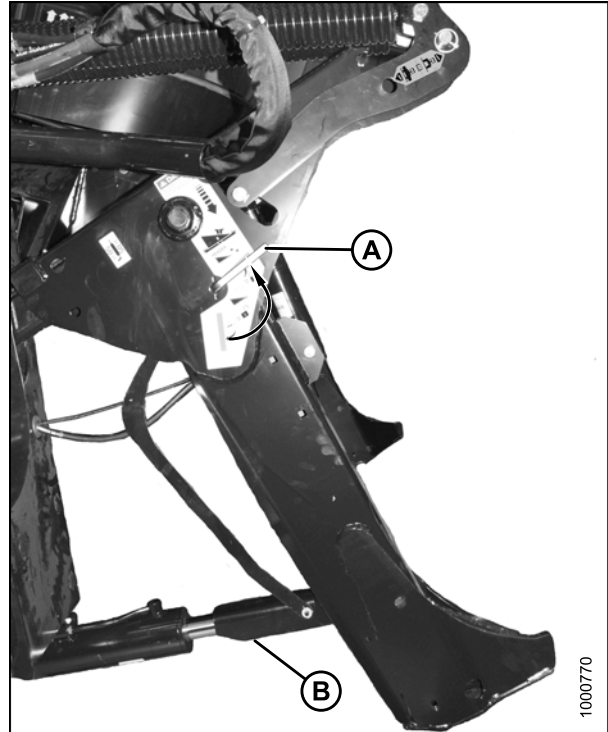


Figure 3.88: Safety Prop

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.

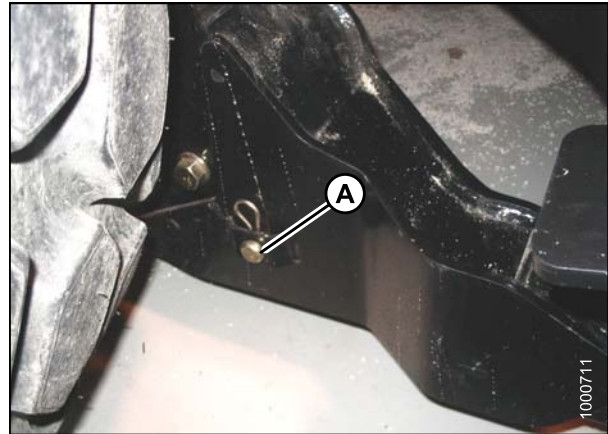


Figure 3.89: Header Boot

ASSEMBLING THE WINDROWER

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.

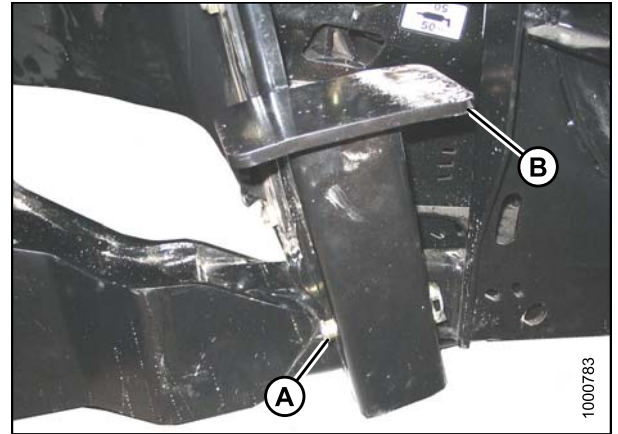


Figure 3.90: Header Stand

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

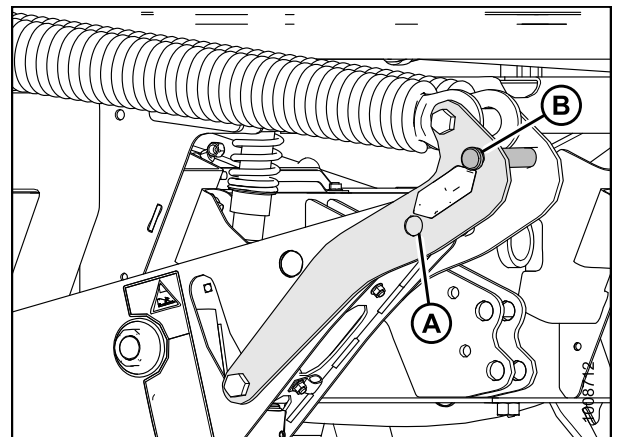


Figure 3.91: Header Float Linkage

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.

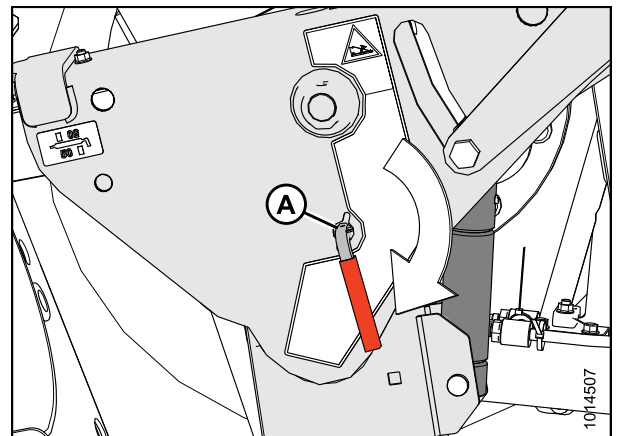


Figure 3.92: Safety Prop

ASSEMBLING THE WINDROWER

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.

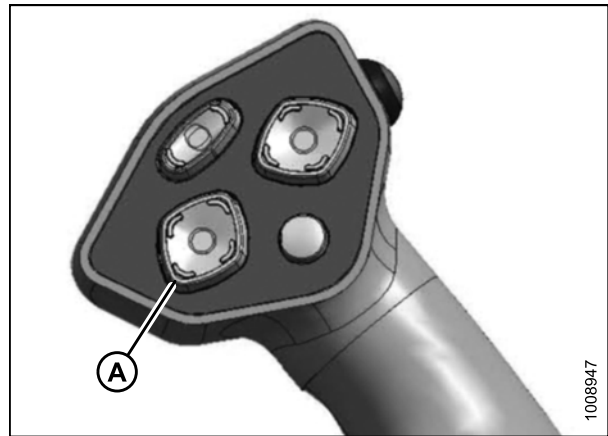


Figure 3.93: Ground Speed Lever

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

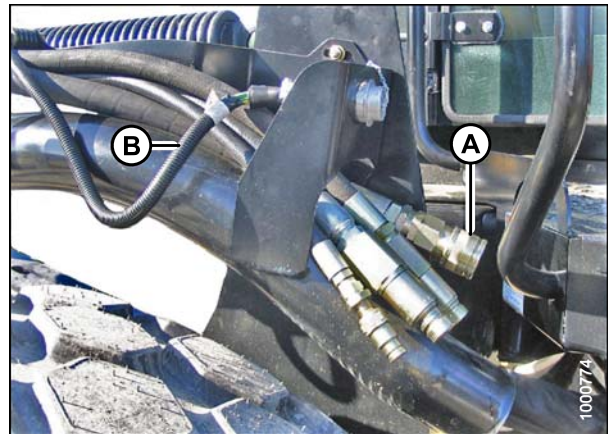


Figure 3.94: Header Drive Hoses and Harness

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.

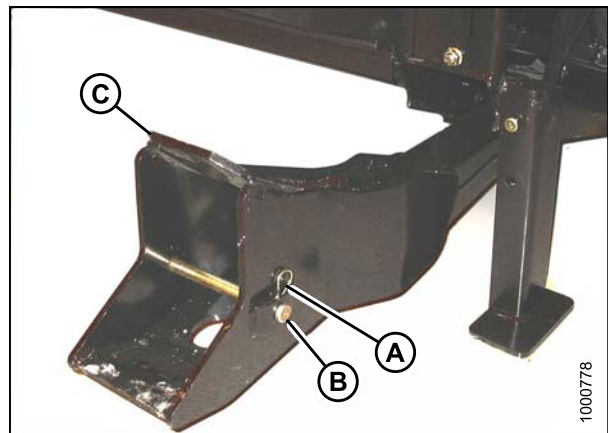


Figure 3.95: Header Boot

ASSEMBLING THE WINDROWER

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).

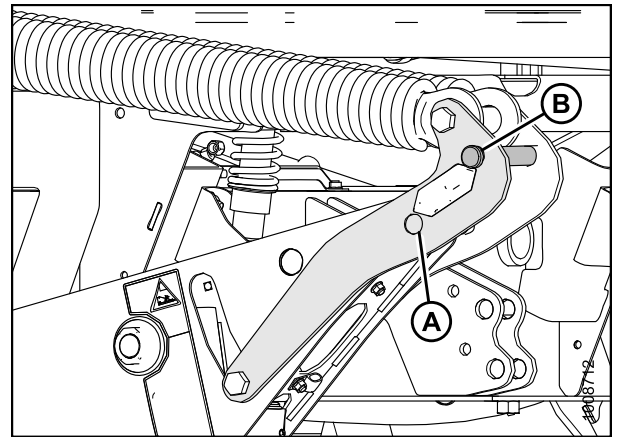


Figure 3.96: Header Float Linkage

CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT:

Before starting engine, remove protective cover from exhaust stack.

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

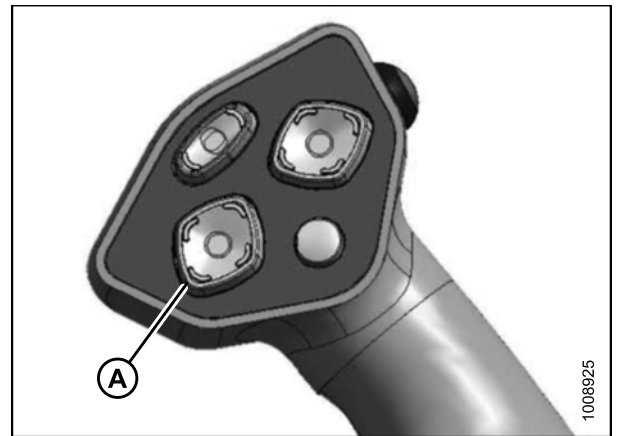


Figure 3.97: Ground Speed Lever

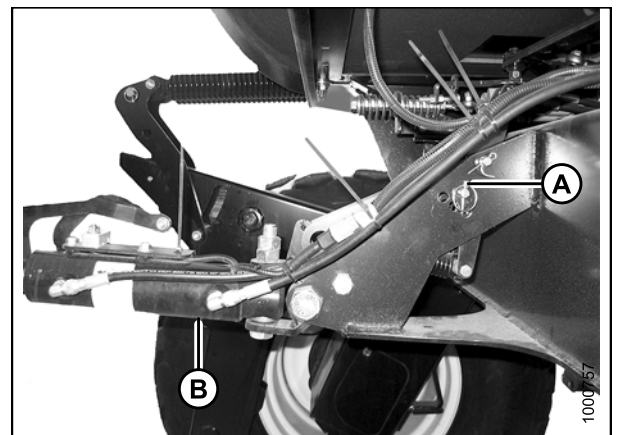


Figure 3.98: Hydraulic Center-Link without Self-Alignment Kit

ASSEMBLING THE WINDROWER

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.

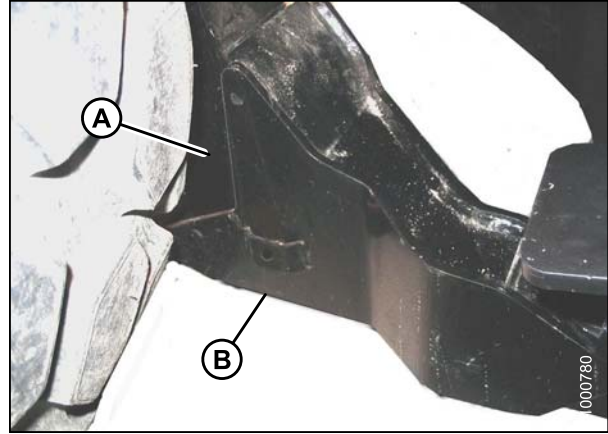


Figure 3.99: Header Boot

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.

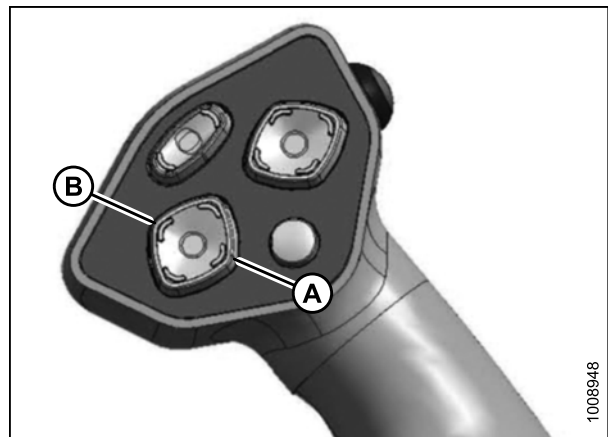


Figure 3.100: Ground Speed Lever

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.

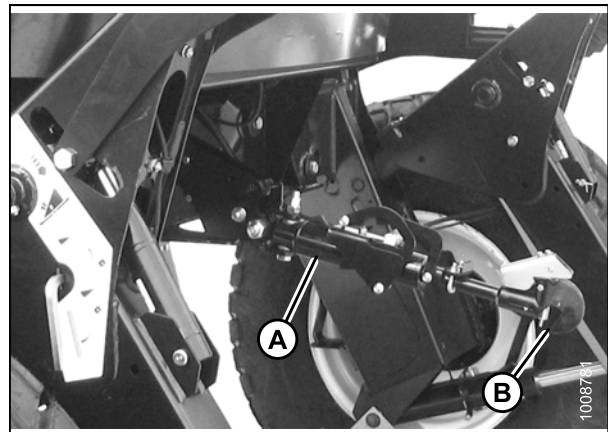


Figure 3.101: Hydraulic Center-Link

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.

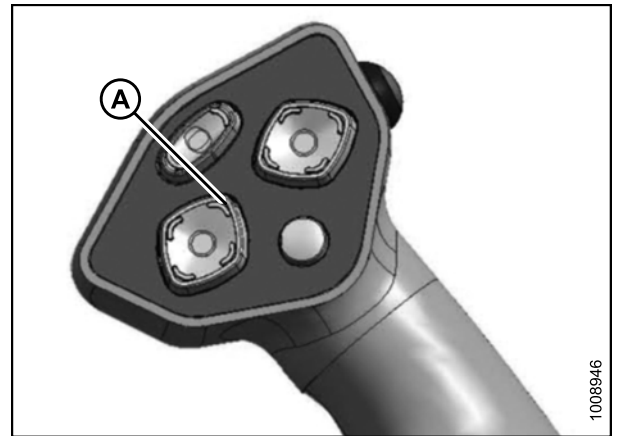


Figure 3.102: Ground Speed Lever

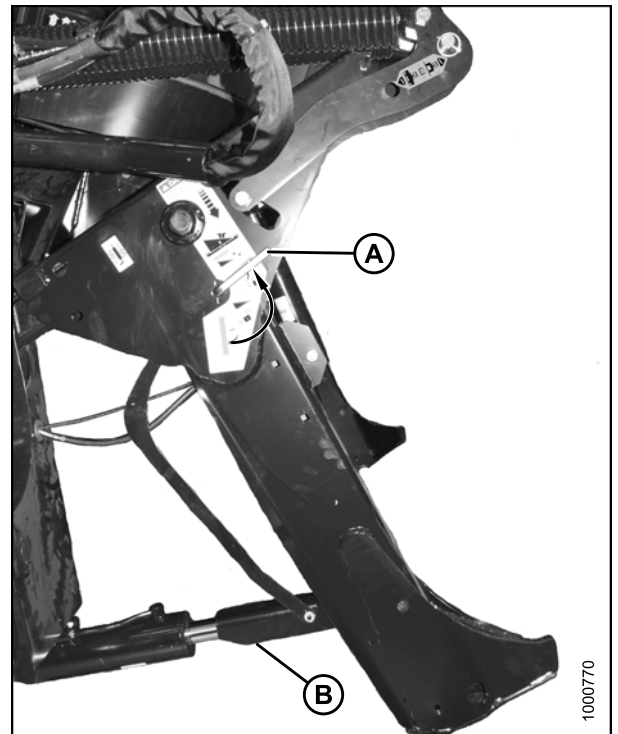


Figure 3.103: Safety Prop

ASSEMBLING THE WINDROWER

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.

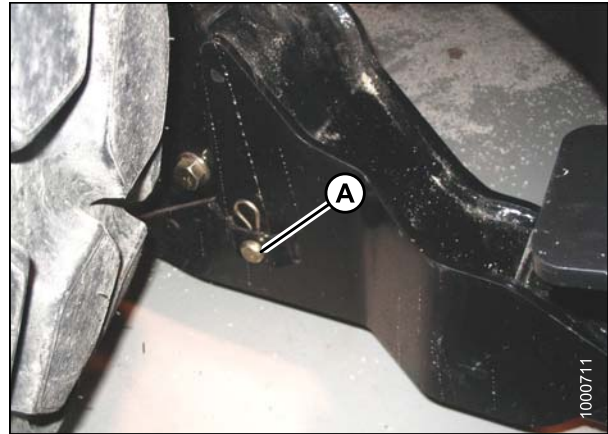


Figure 3.104: Header Boot

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.

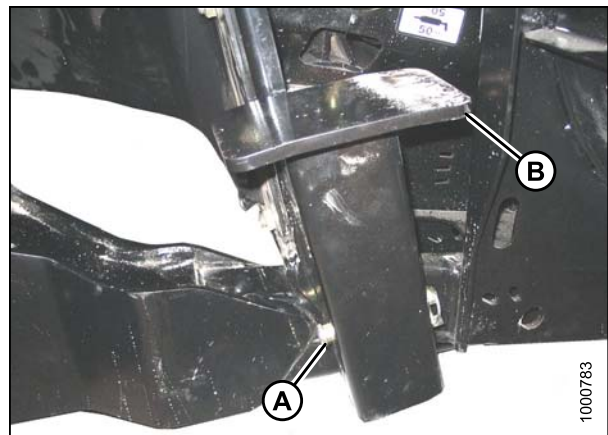


Figure 3.105: Header Stand

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

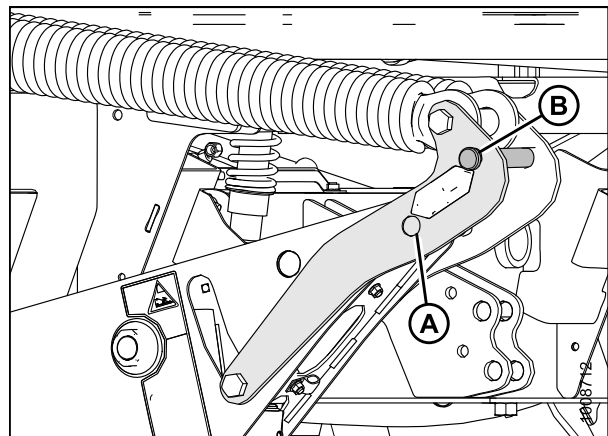


Figure 3.106: Header Float Linkage

ASSEMBLING THE WINDROWER

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.

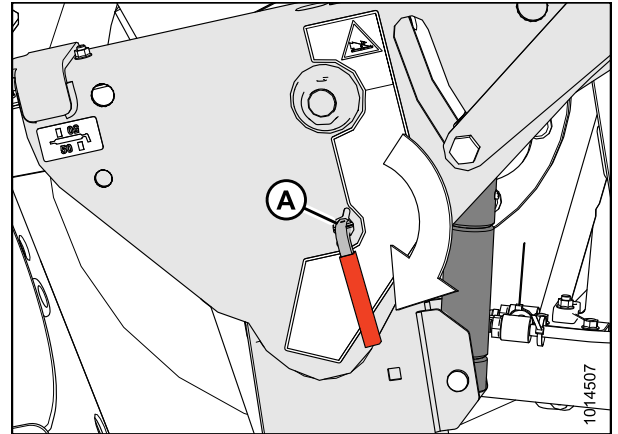


Figure 3.107: Safety Prop

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.

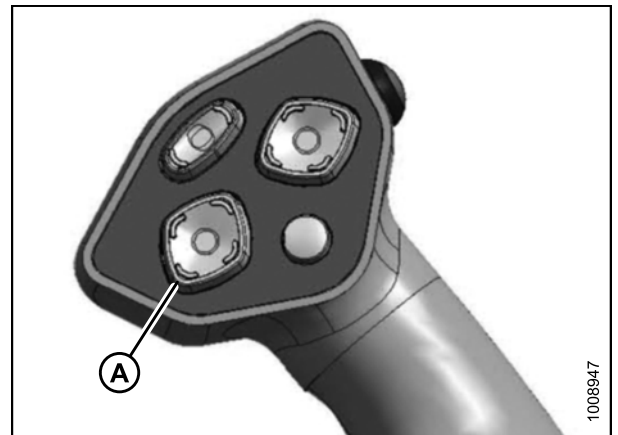


Figure 3.108: Ground Speed Lever

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

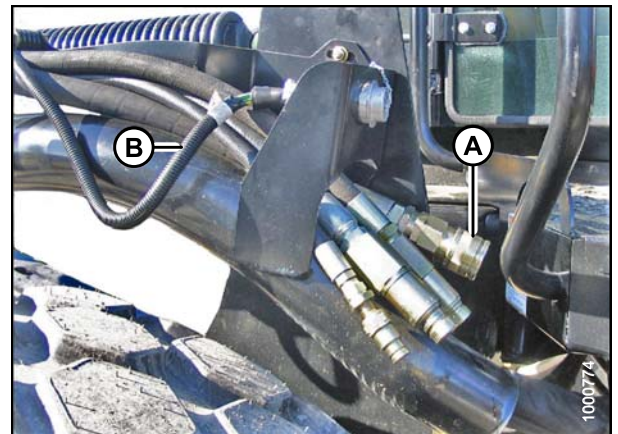


Figure 3.109: Header Drive Hoses and Harness

ASSEMBLING THE WINDROWER

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.

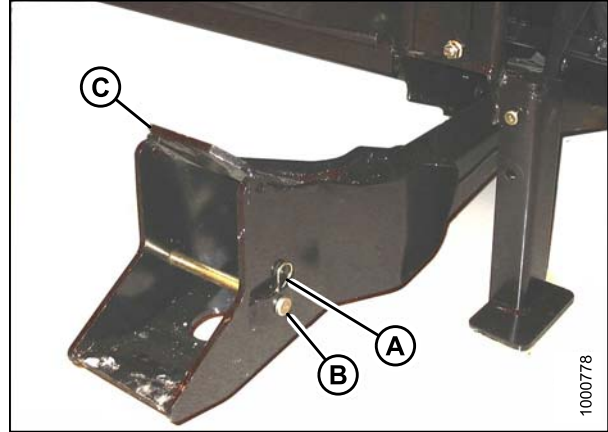


Figure 3.110: Header Boot

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).

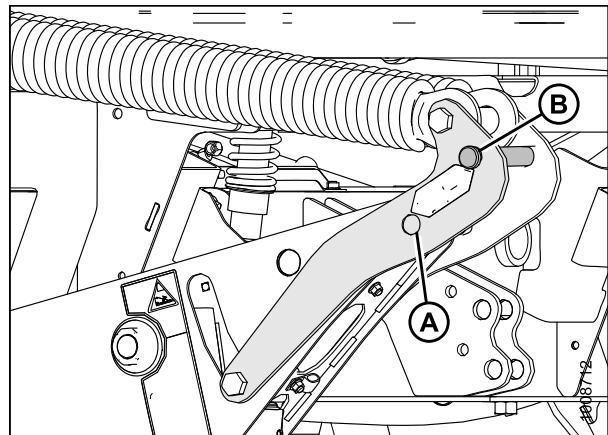


Figure 3.111: Header Float Linkage

CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT:

Before starting engine, remove protective cover from exhaust stack.

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

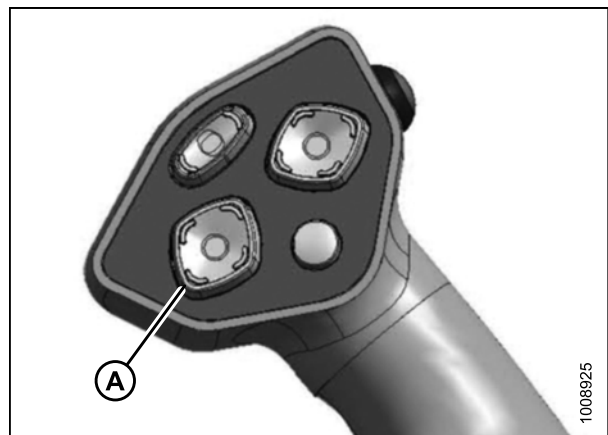


Figure 3.112: Ground Speed Lever

ASSEMBLING THE WINDROWER

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.

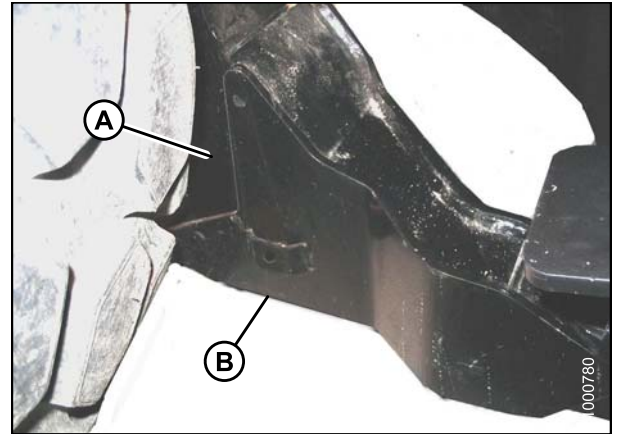


Figure 3.113: Header Boot

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).

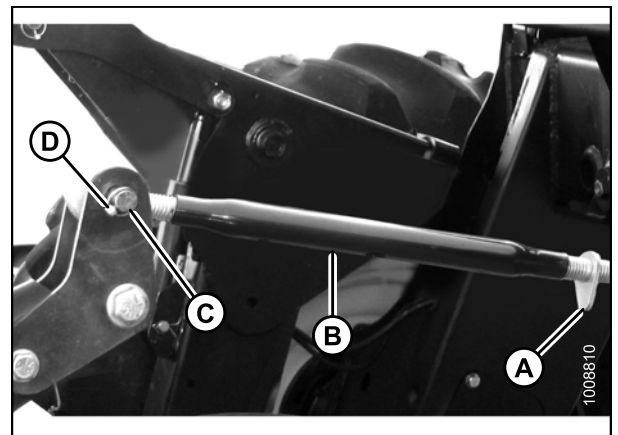


Figure 3.114: Mechanical Center-Link

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.

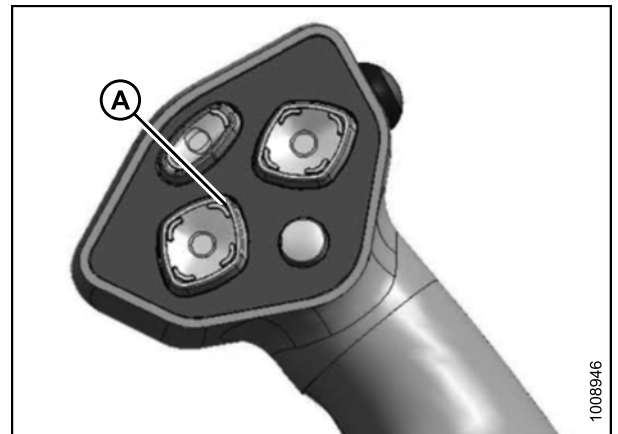


Figure 3.115: Ground Speed Lever

ASSEMBLING THE WINDROWER

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.

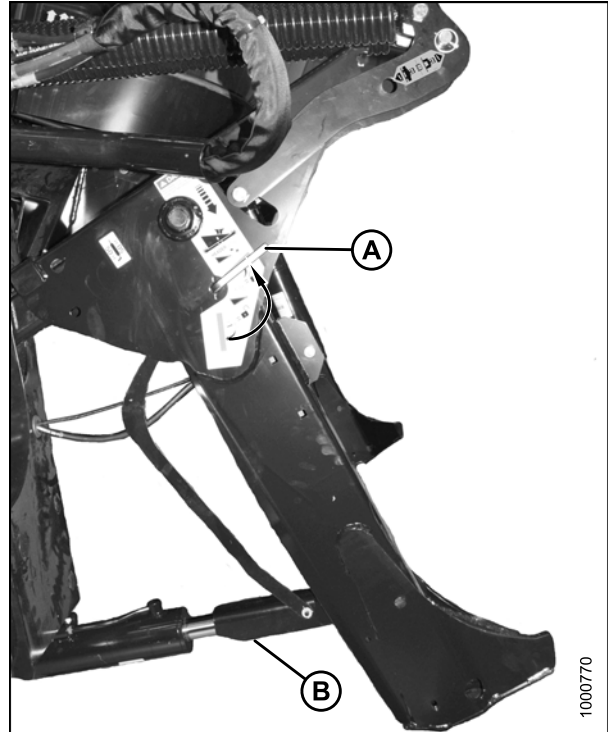


Figure 3.116: Safety Prop

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.

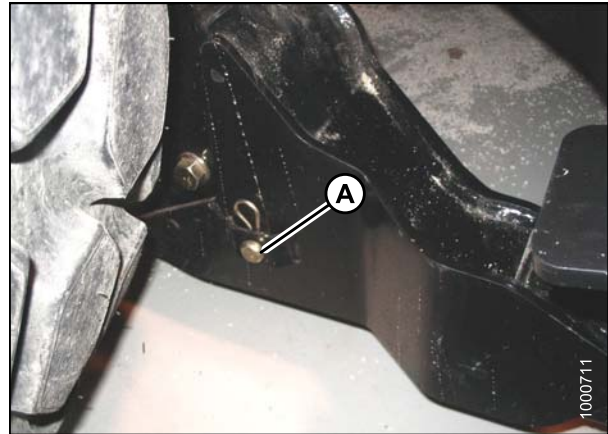


Figure 3.117: Header Boot

ASSEMBLING THE WINDROWER

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.

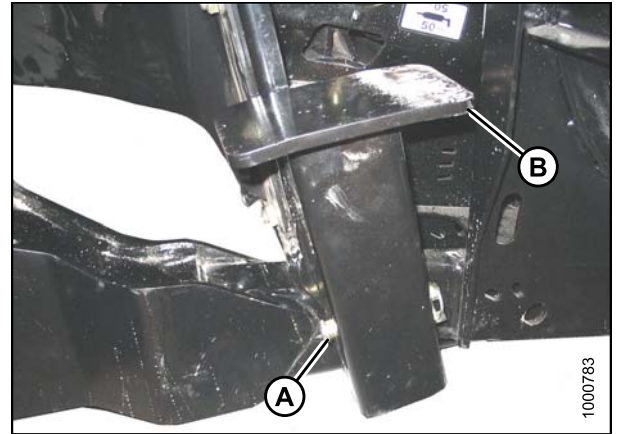


Figure 3.118: Header Stand

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

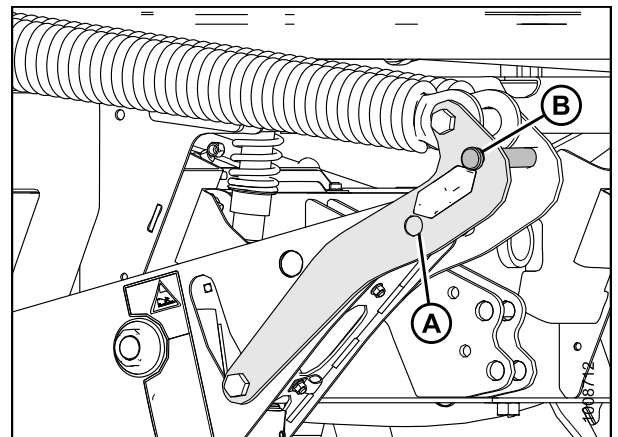


Figure 3.119: Header Float Linkage

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.

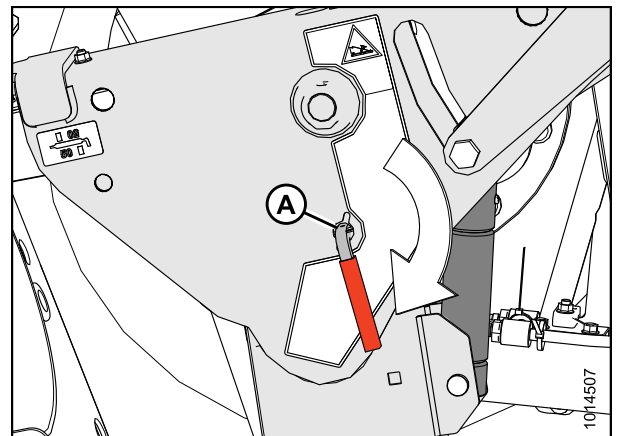


Figure 3.120: Safety Prop

ASSEMBLING THE WINDROWER

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.

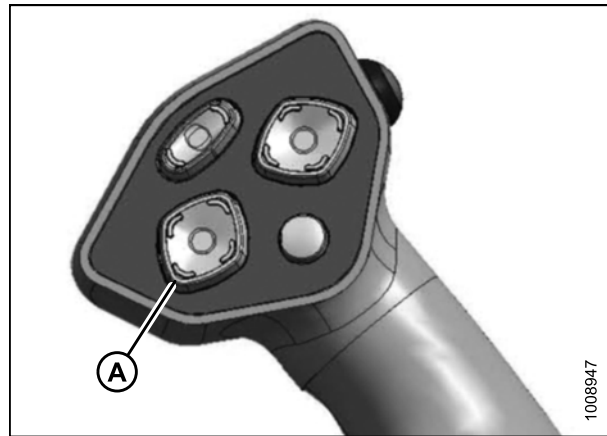


Figure 3.121: Ground Speed Lever

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

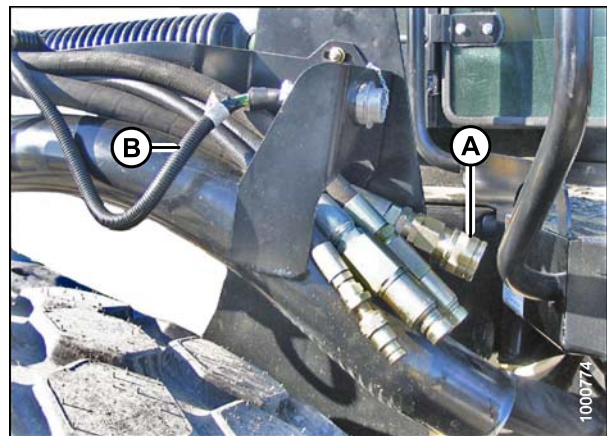


Figure 3.122: Header Drive Hoses and Harness

3.10.4 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.

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 and 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

ASSEMBLING THE 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

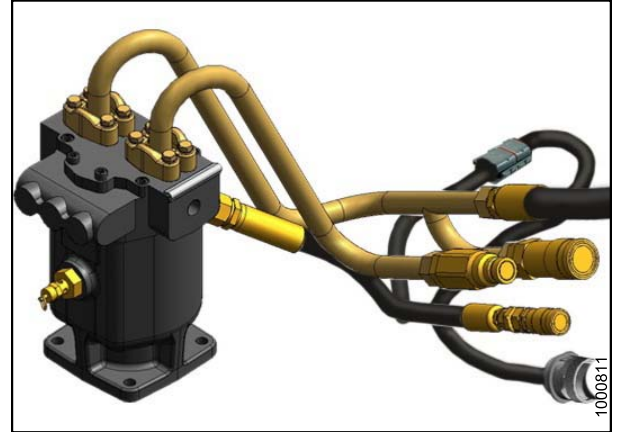


Figure 3.123: M155 Hydraulic Drive Kit (MD #B5510)

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

- [Attaching an R-Series Header: Hydraulic Center-Link with Optional Self-Alignment, page 63](#)
- [Attaching an R-Series Header: Hydraulic Center-Link without Self-Alignment, page 69](#)
- [Attaching an R-Series Header: Mechanical Center-Link, page 74](#)

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.

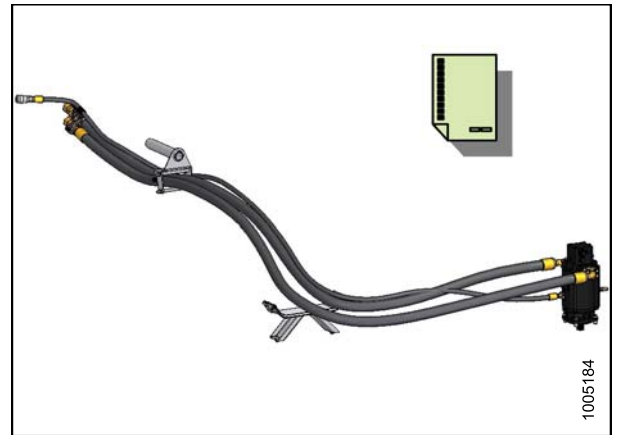


Figure 3.124: M205 Hydraulic Drive Kit (MD #B5456)

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

- [Attaching an R-Series Header: Hydraulic Center-Link with Optional Self-Alignment, page 63](#)
- [Attaching an R-Series Header: Hydraulic Center-Link without Self-Alignment, page 69](#)

Attaching an R-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.

ASSEMBLING THE WINDROWER

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

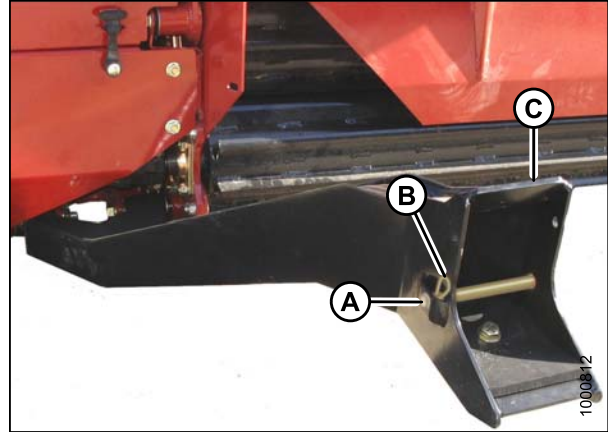


Figure 3.125: Header Boot

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).

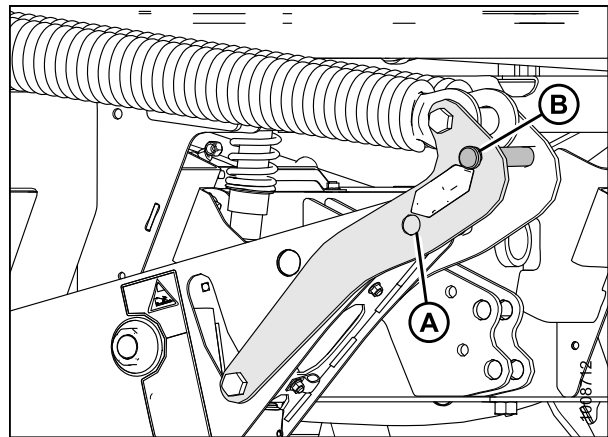


Figure 3.126: Header Float Linkage

CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT:

Before starting engine, remove protective cover from exhaust stack.

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.

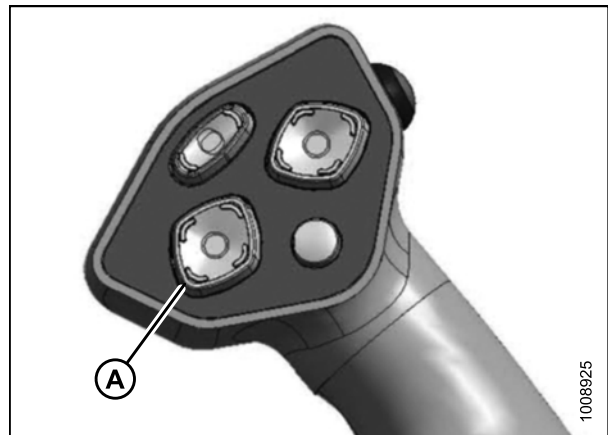


Figure 3.127: Ground Speed Lever

ASSEMBLING THE WINDROWER

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.

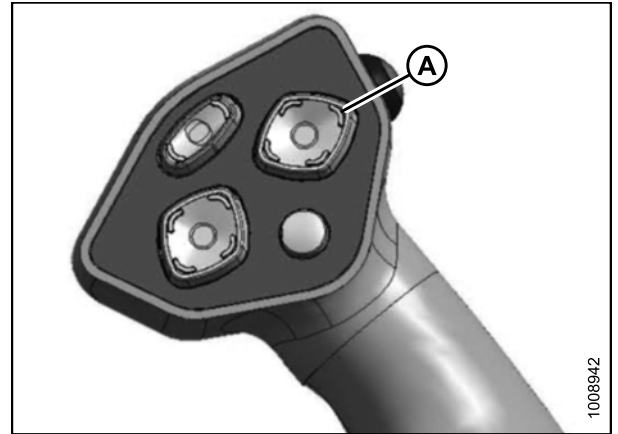


Figure 3.128: Ground Speed Lever

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.

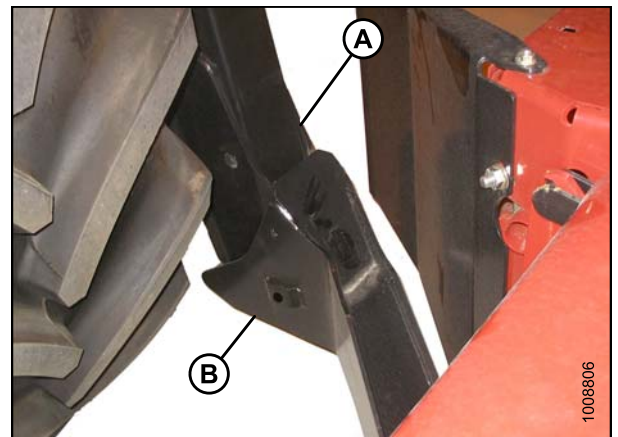


Figure 3.129: Header Boot

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

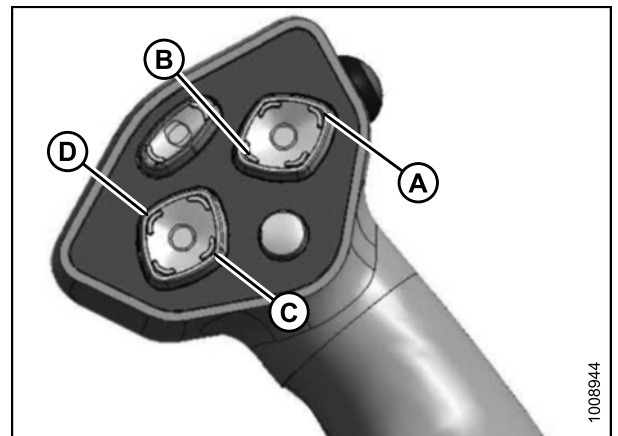


Figure 3.130: Ground Speed Lever

ASSEMBLING THE WINDROWER

- 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.

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

CAUTION

Check to be sure all bystanders have cleared the area.

- 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:

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

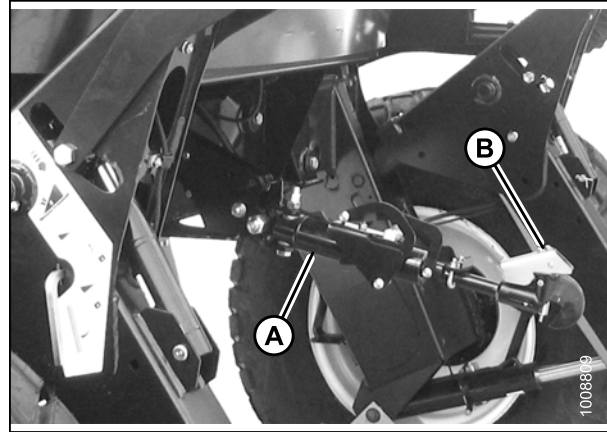


Figure 3.131: Hydraulic Center-Link



Figure 3.132: Ground Speed Lever

ASSEMBLING THE WINDROWER

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.

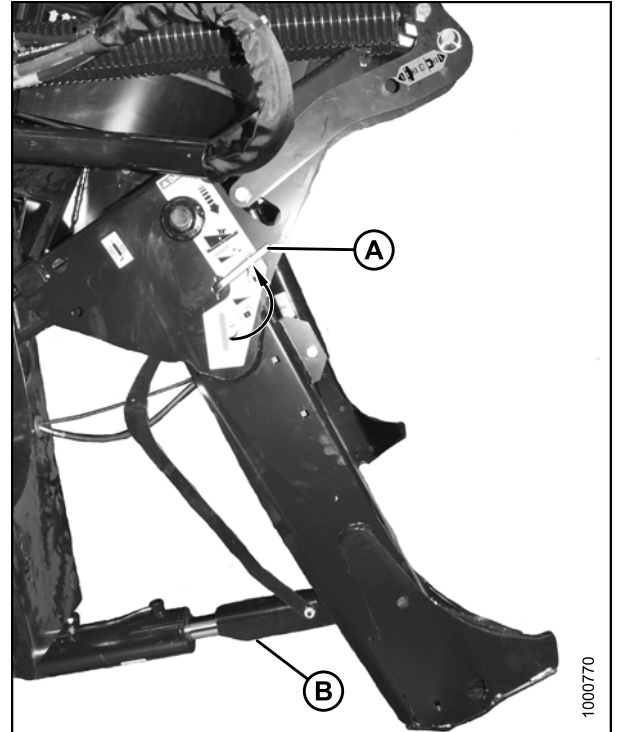


Figure 3.133: Safety Prop

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.

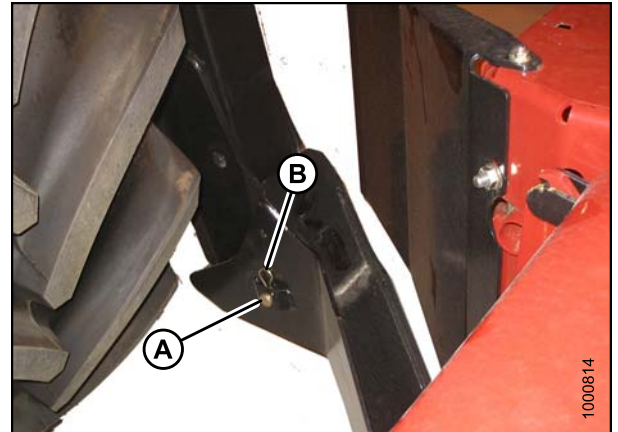


Figure 3.134: Header Boot

ASSEMBLING THE WINDROWER

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

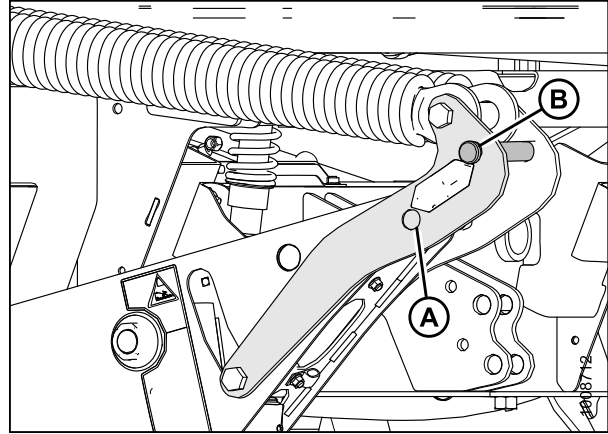


Figure 3.135: Header Float Linkage

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.

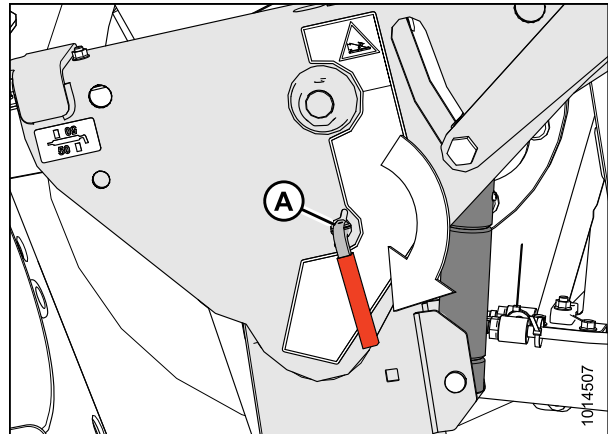


Figure 3.136: Safety Prop

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.

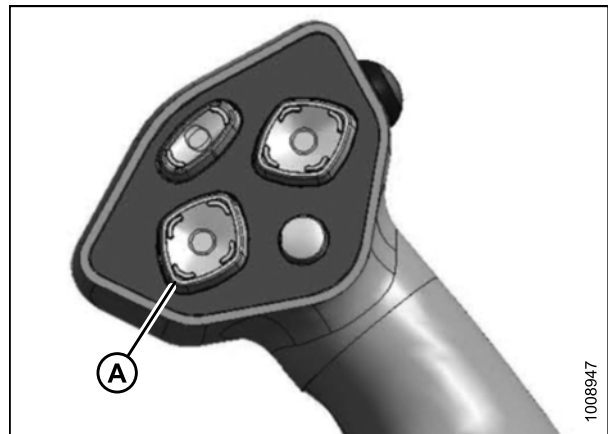


Figure 3.137: Ground Speed Lever

ASSEMBLING THE WINDROWER

17. **For the M155 only:** Connect header drive hoses (A) and electrical harness (B) to header. Refer to the rotary disc header operator's manual.

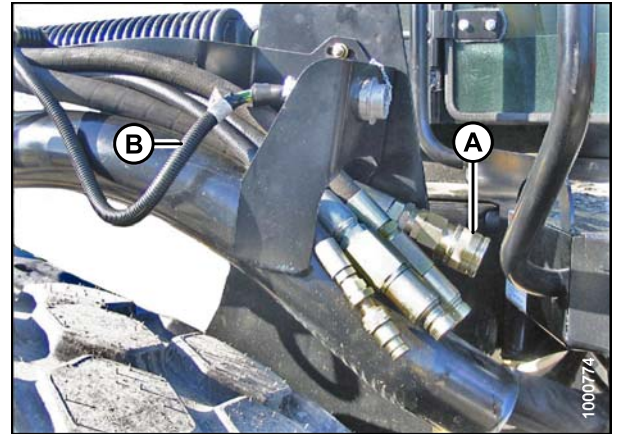


Figure 3.138: Header Drive Hoses and Harness

18. **For the M205 only:** Connect the header drive hoses and electrical harness (A) to the header. Refer to the rotary disc header operator's manual.



Figure 3.139: 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.

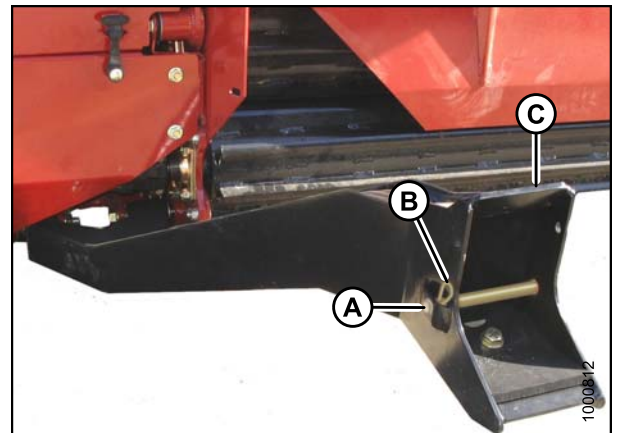


Figure 3.140: Header Boot

ASSEMBLING THE WINDROWER

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).

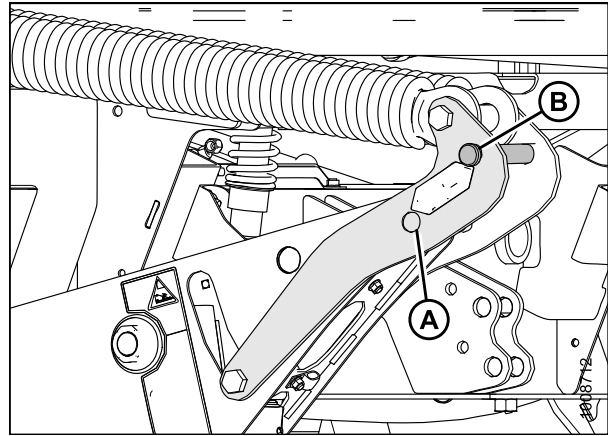


Figure 3.141: Header Float Linkage

CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT:

Before starting engine, remove protective cover from exhaust stack.

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

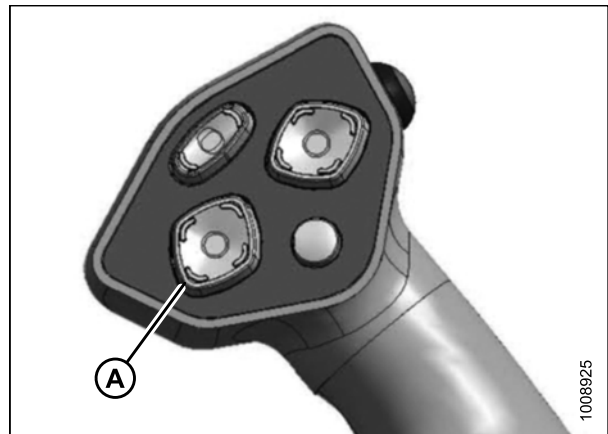


Figure 3.142: Ground Speed Lever

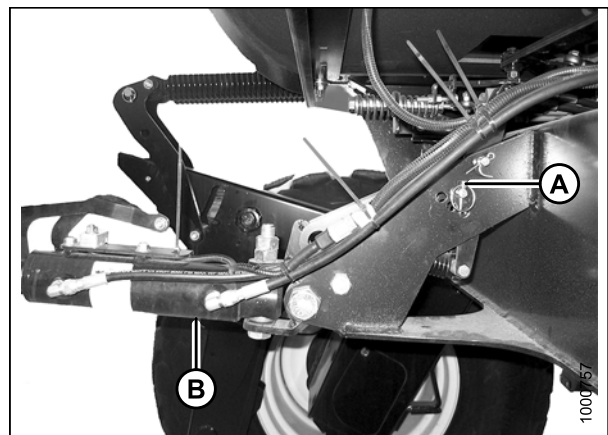


Figure 3.143: Hydraulic Center-Link without Self-Alignment Kit

ASSEMBLING THE WINDROWER

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.

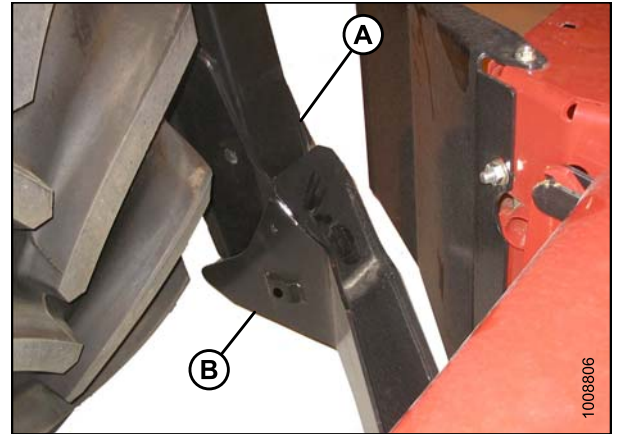


Figure 3.144: Header Boot

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.

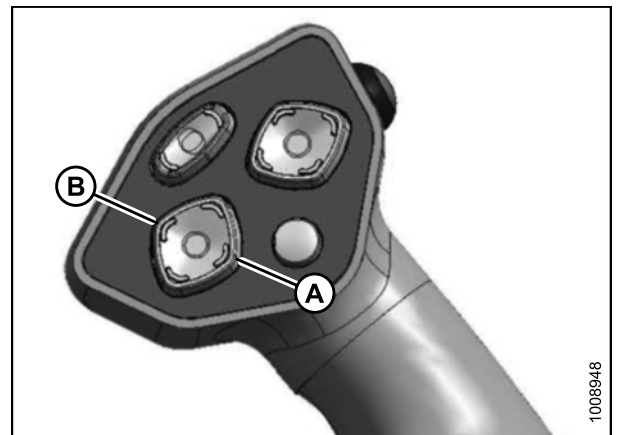


Figure 3.145: Ground Speed Lever

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.

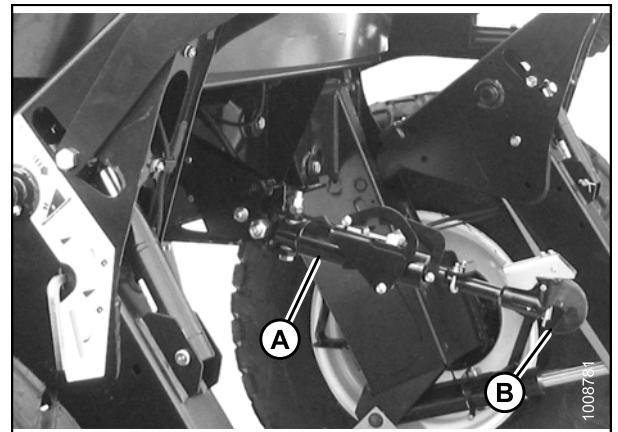


Figure 3.146: Hydraulic Center-Link

ASSEMBLING THE WINDROWER

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.

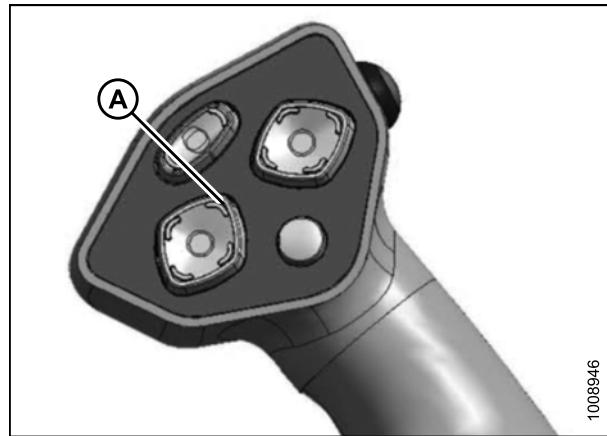


Figure 3.147: Ground Speed Lever

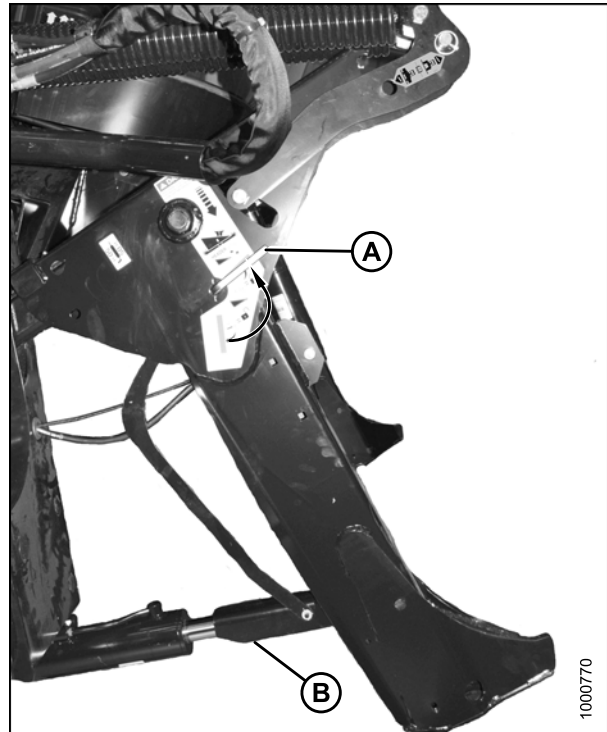


Figure 3.148: Safety Prop

ASSEMBLING THE WINDROWER

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.

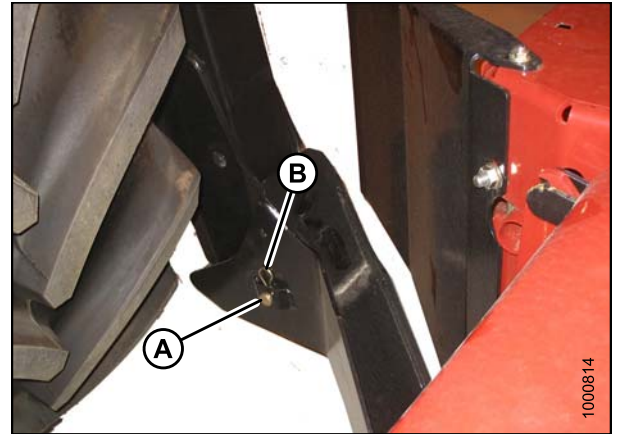


Figure 3.149: Header Boot

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

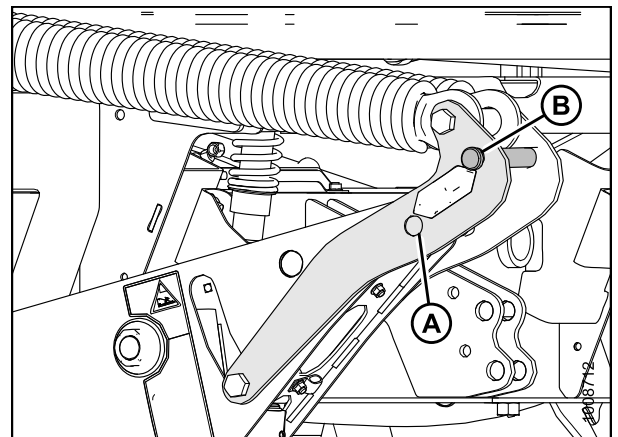


Figure 3.150: Header Float Linkage

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.

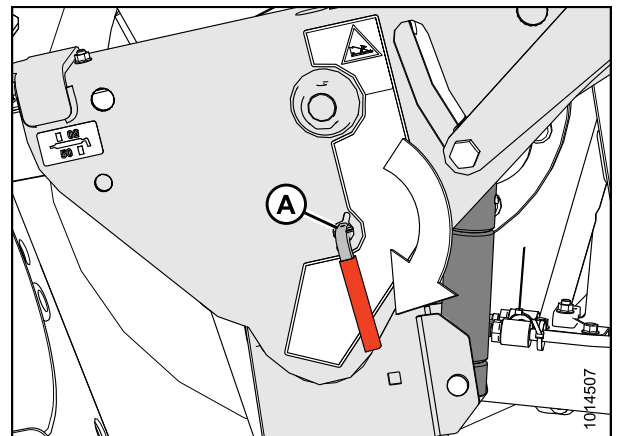


Figure 3.151: Safety Prop

ASSEMBLING THE WINDROWER

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.

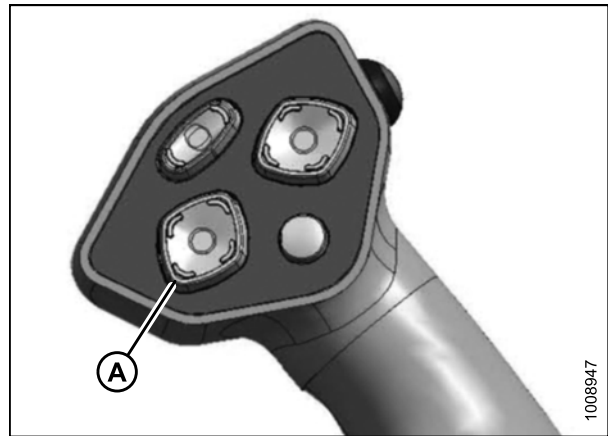


Figure 3.152: Ground Speed Lever

18. **For the M155 only:** Connect header drive hoses (A) and electrical harness (B) to header. Refer to the rotary disc header operator's manual.

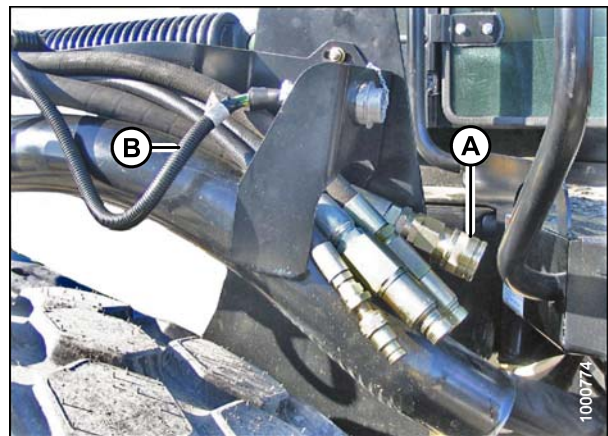


Figure 3.153: Header Drive Hoses and Harness

19. **For the M205 only:** Connect the header drive hoses and electrical harness (A) to the header. Refer to the rotary disc header operator's manual.



Figure 3.154: 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.

ASSEMBLING THE WINDROWER

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

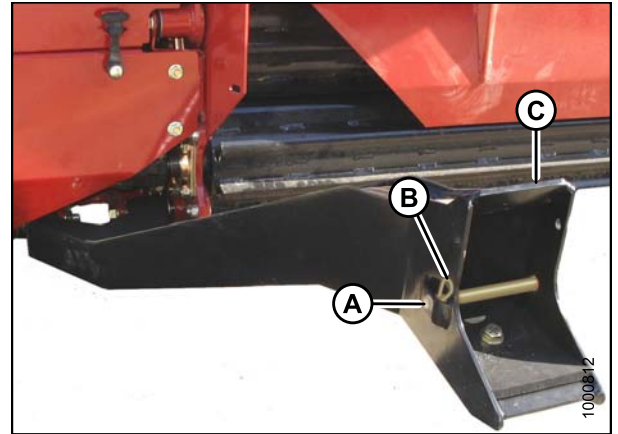


Figure 3.155: Header Boot

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).

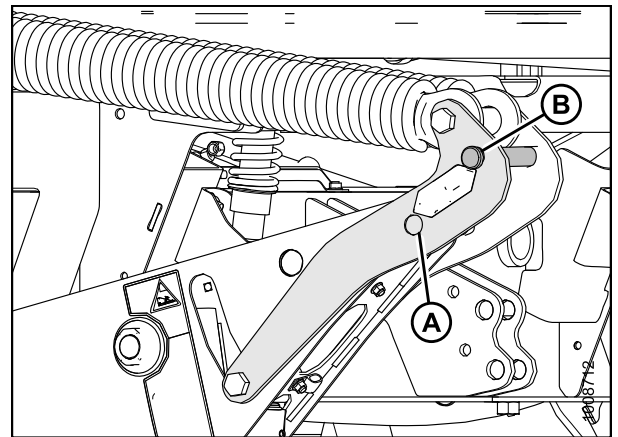


Figure 3.156: Header Float Linkage

CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT:

Before starting engine, remove protective cover from exhaust stack.

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

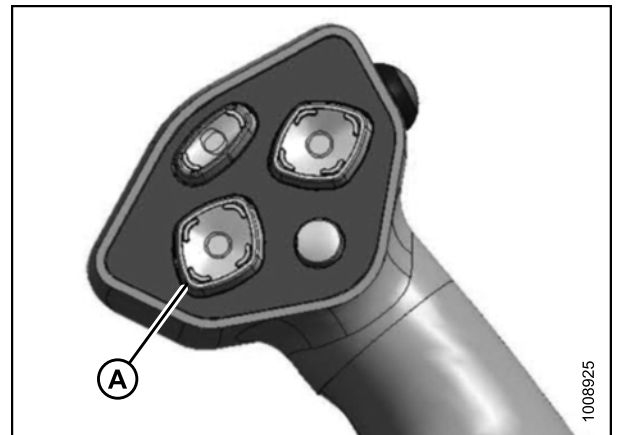


Figure 3.157: Ground Speed Lever

ASSEMBLING THE WINDROWER

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.

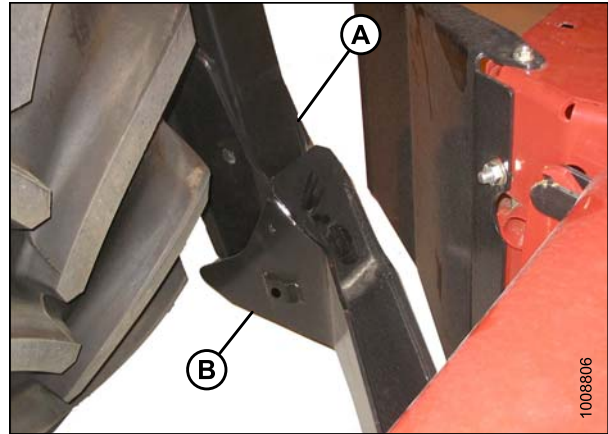


Figure 3.158: Header Boot

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).

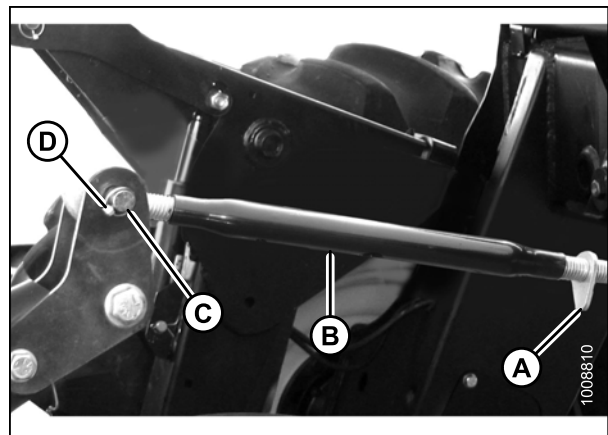


Figure 3.159: Mechanical Center-Link

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 3.160: Ground Speed Lever

ASSEMBLING THE WINDROWER

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.

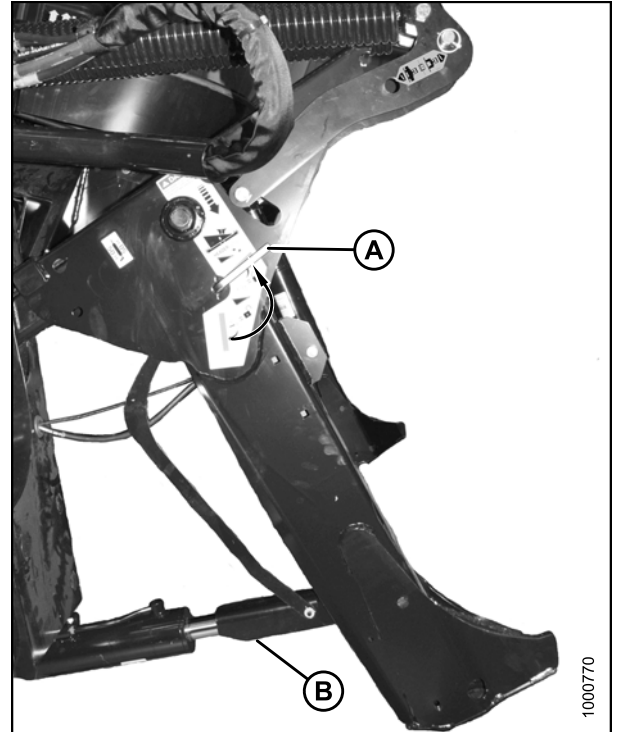


Figure 3.161: Safety Prop

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.

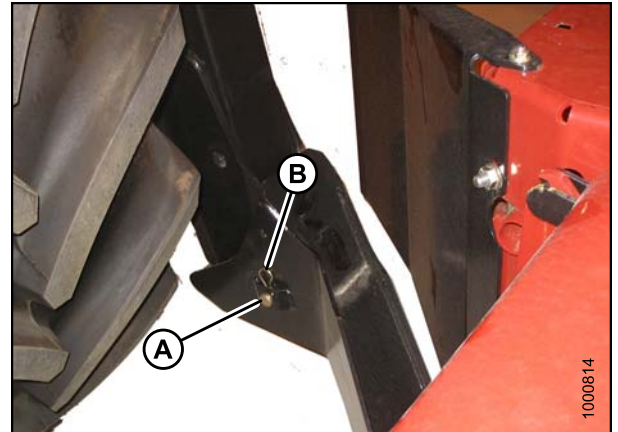


Figure 3.162: Header Boot

ASSEMBLING THE WINDROWER

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

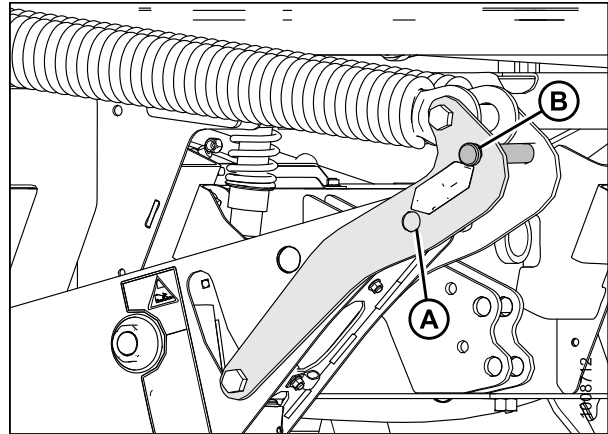


Figure 3.163: Header Float Linkage

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.

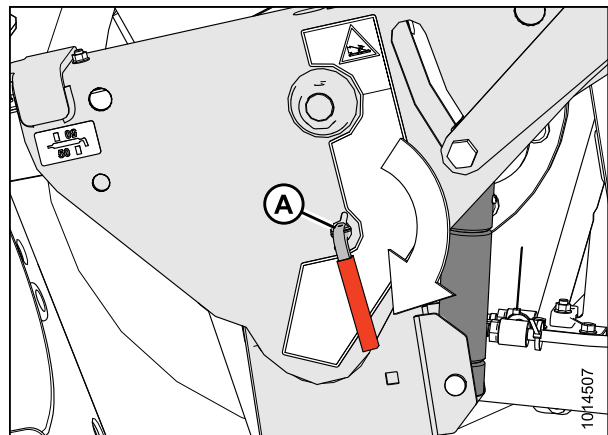


Figure 3.164: Safety Prop

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.

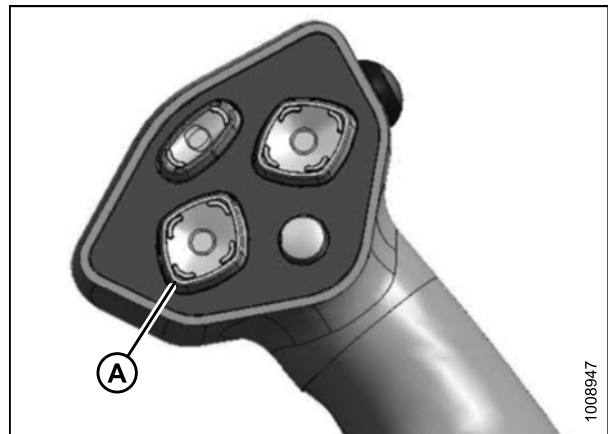


Figure 3.165: Ground Speed Lever

ASSEMBLING THE WINDROWER

17. **For the M155 only:** Connect header drive hoses (A) and electrical harness (B) to header. Refer to the rotary disc header operator's manual.

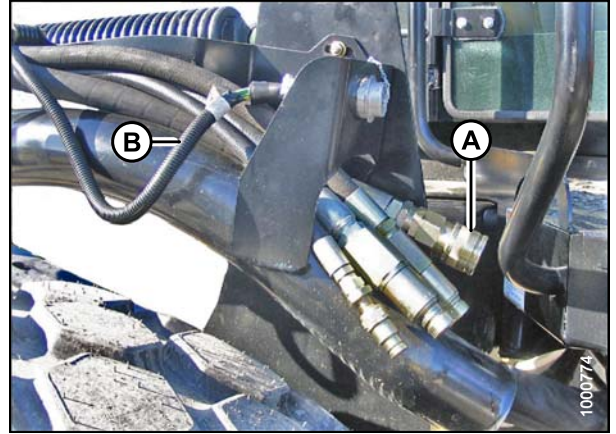


Figure 3.166: Header Drive Hoses and Harness

3.11 Lubricating the Windrower

For grease specification, refer to [6.3 Lubricants, Fluids, and System Capacities, page 266](#).

3.11.1 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.

3.11.2 Lubrication Points

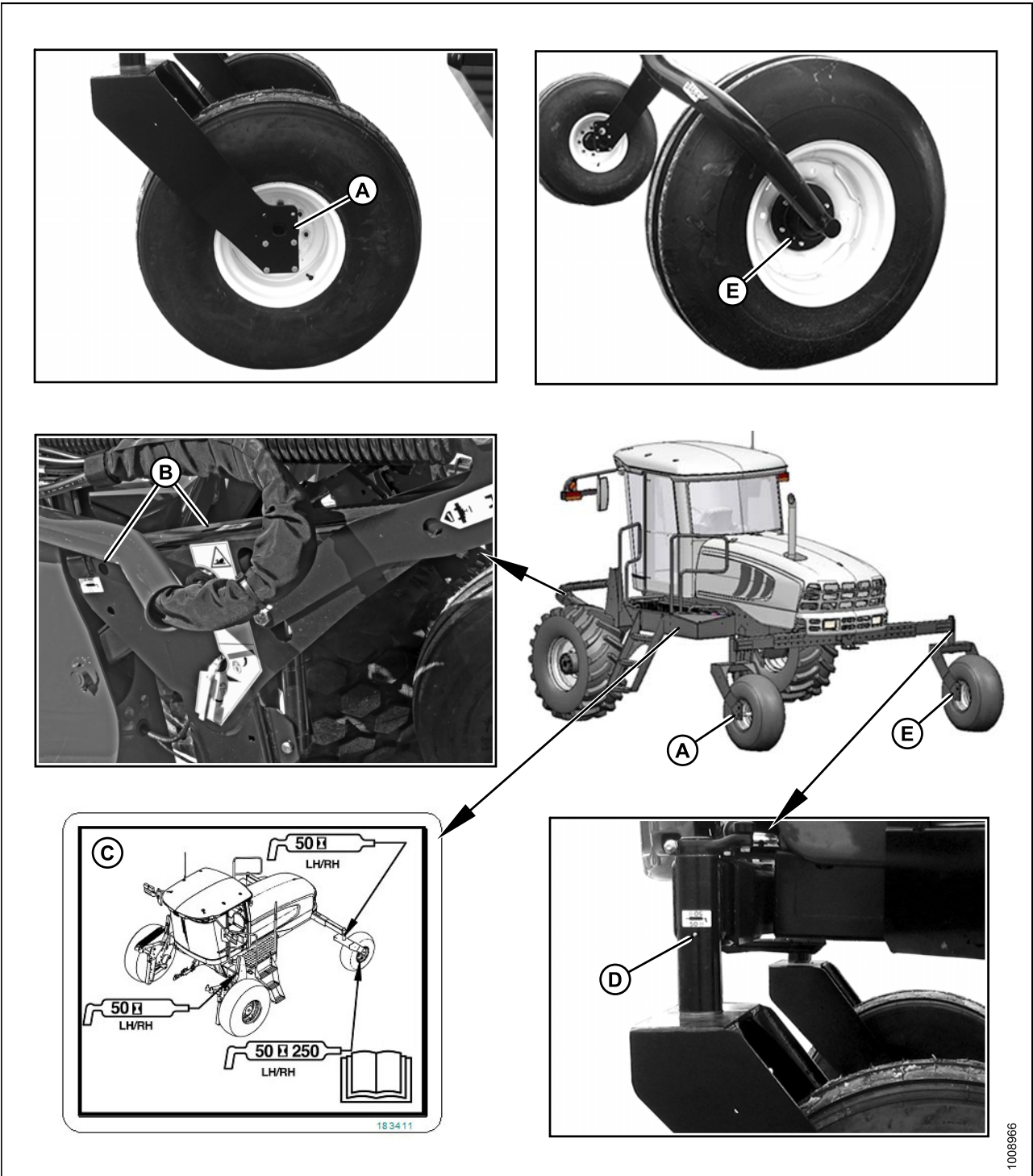


Figure 3.167: Lubrication Points

- 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: CDM

A - Side Display
D - Menu Item Scroll Forward

B - Main Display
E - Menu Item Scroll Backward

C - Select Switch
F - Program Switch

Side Display: Displays software revision status.

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

Main Display: Displays menu item and selection⁴.

- 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 scroll⁵

4. The current selection is flashing.

5. Fast scroll applies only when changing KNIFE SPEED, OVERLOAD PRESSURE, and TIRE SIZE.

CAB DISPLAY MODULE (CDM)

Menu Item Scroll Backward: Displays value under menu item.

- Push to scroll backward
- Hold down for fast scroll⁵

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

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 C500 and windrower control module (WCM) X109M221. 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.

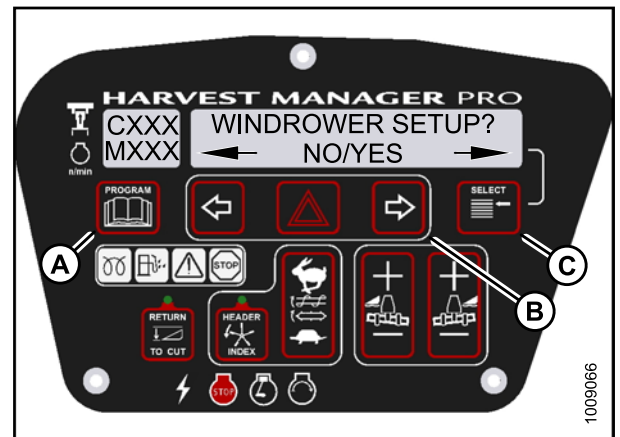


Figure 4.2: M155 CDM Programming Buttons

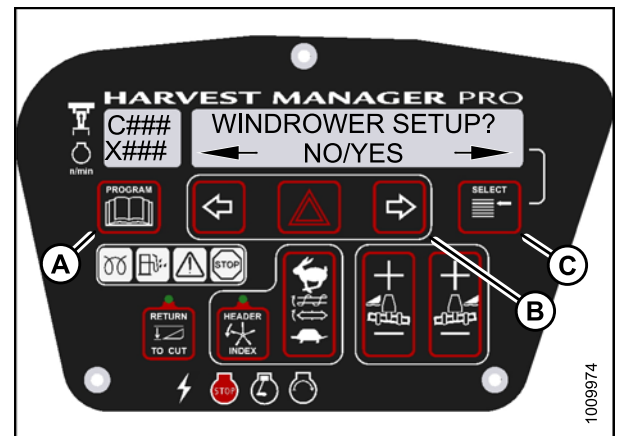


Figure 4.3: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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

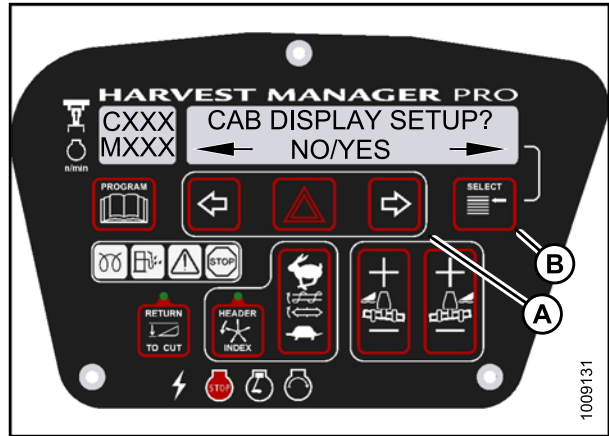


Figure 4.4: M155 Cab Display Setup

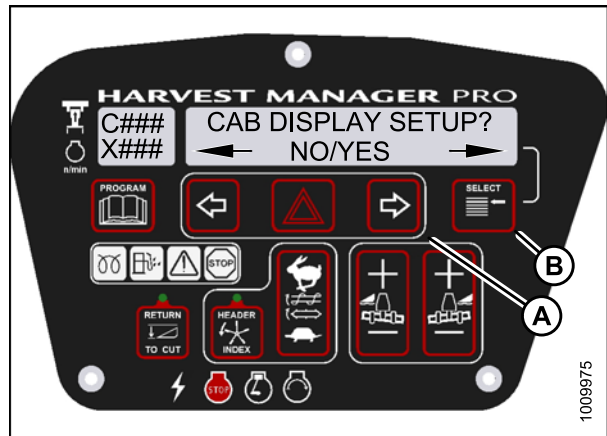


Figure 4.5: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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.

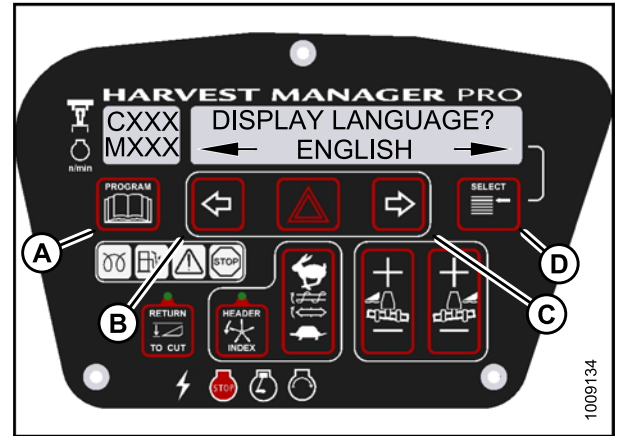


Figure 4.6: M155 Display Language

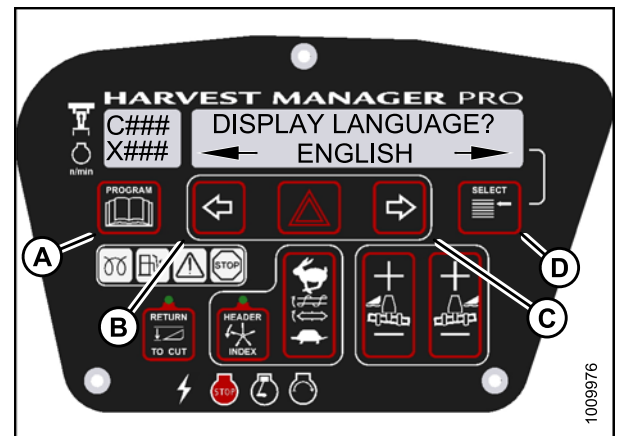


Figure 4.7: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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.

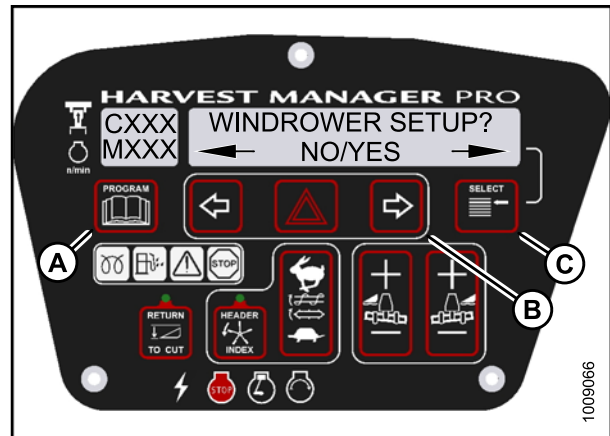


Figure 4.8: M155 CDM Programming Buttons

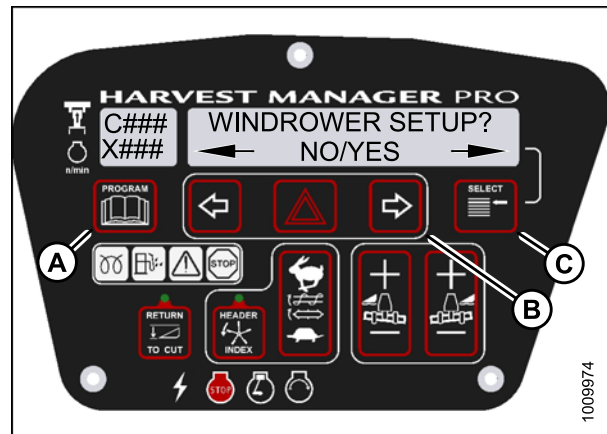


Figure 4.9: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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.

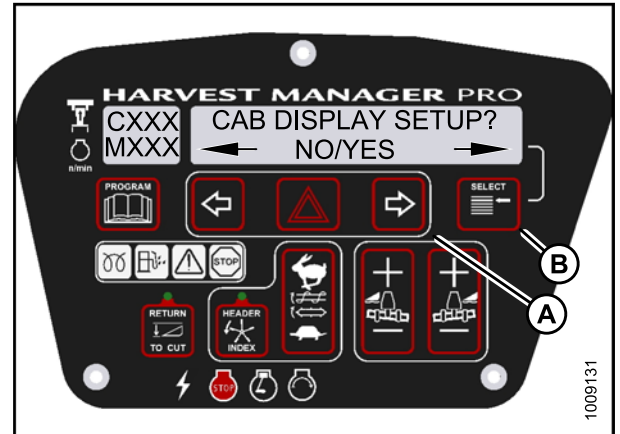


Figure 4.10: M155 Cab Display Setup

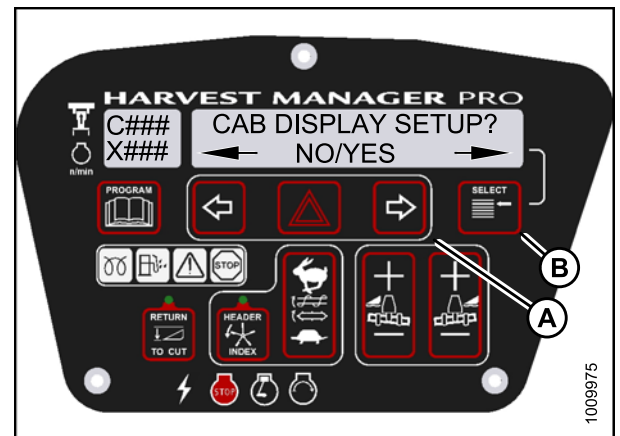


Figure 4.11: M205 Cab Display Setup

CAB DISPLAY MODULE (CDM)

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.

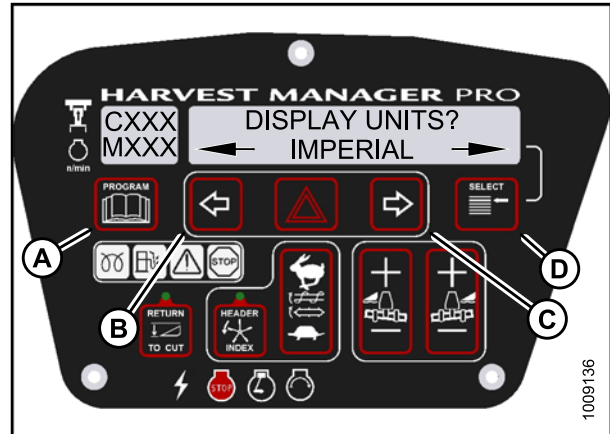


Figure 4.12: M155 Display Units

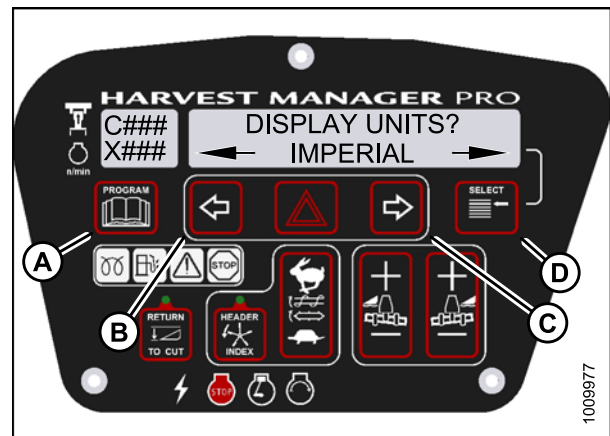


Figure 4.13: M205 Display Units

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.

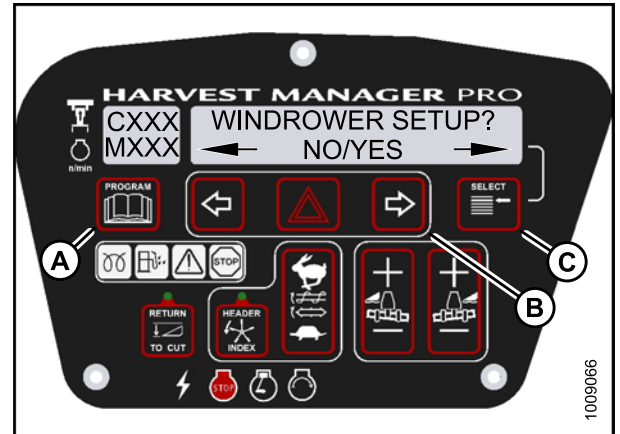


Figure 4.14: M155 CDM Programming Buttons

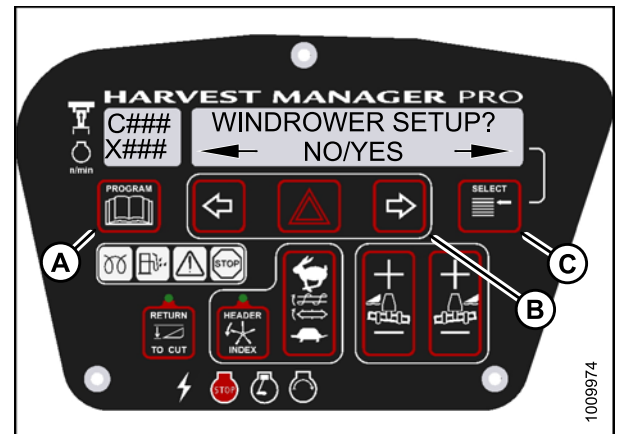


Figure 4.15: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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.

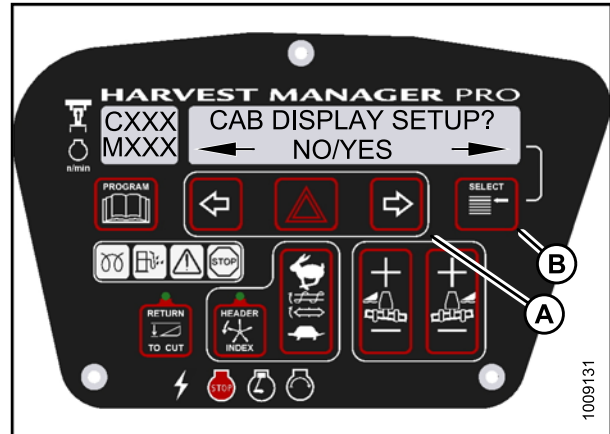


Figure 4.16: M155 Cab Display Setup

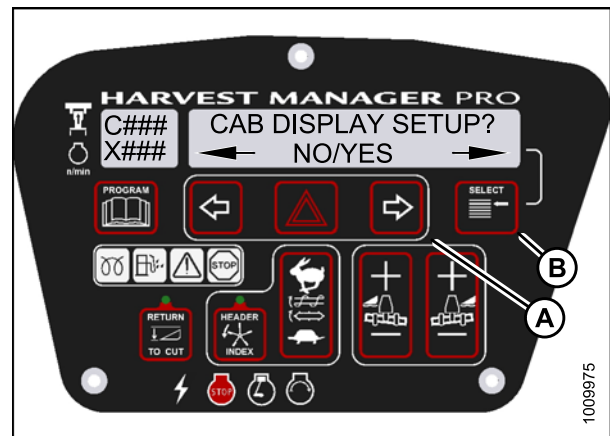


Figure 4.17: M205 Cab Display Setup

CAB DISPLAY MODULE (CDM)

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.

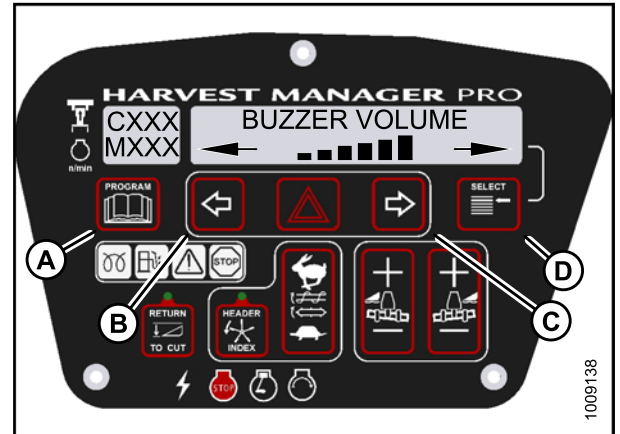


Figure 4.18: M155 Buzzer Volume

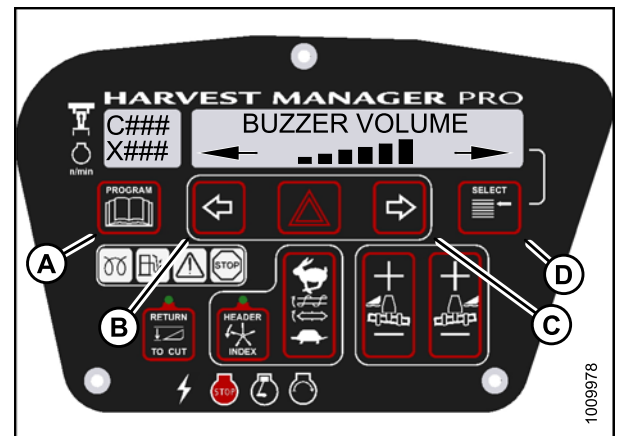


Figure 4.19: M205 Buzzer Volume

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.

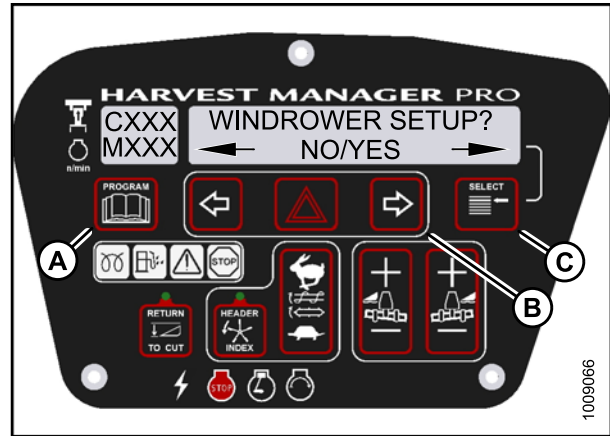


Figure 4.20: M155 CDM Programming Buttons

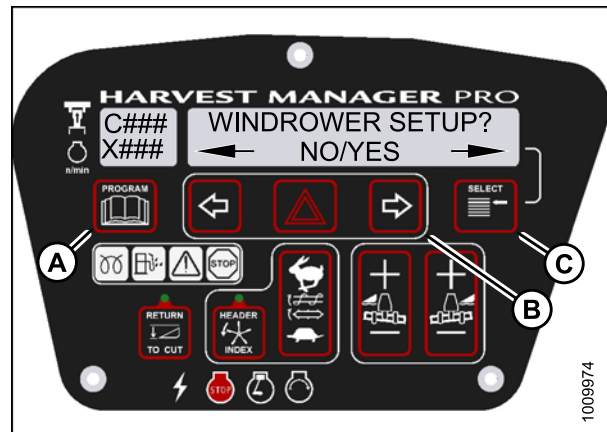


Figure 4.21: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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.

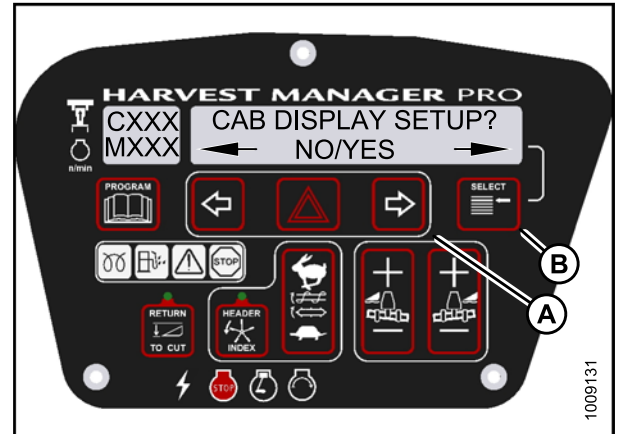


Figure 4.22: M155 Cab Display Setup

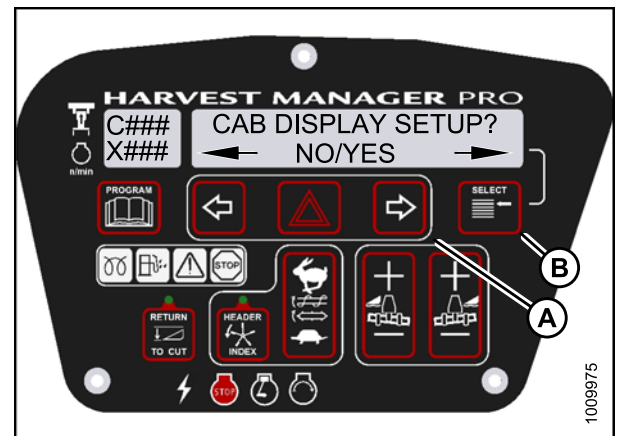


Figure 4.23: M205 Cab Display Setup

CAB DISPLAY MODULE (CDM)

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.

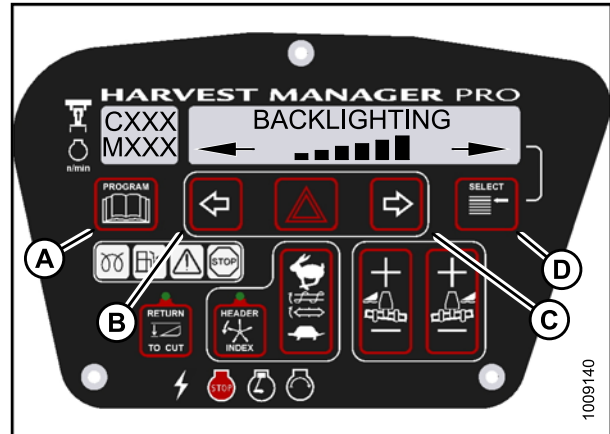


Figure 4.24: M155 Backlighting

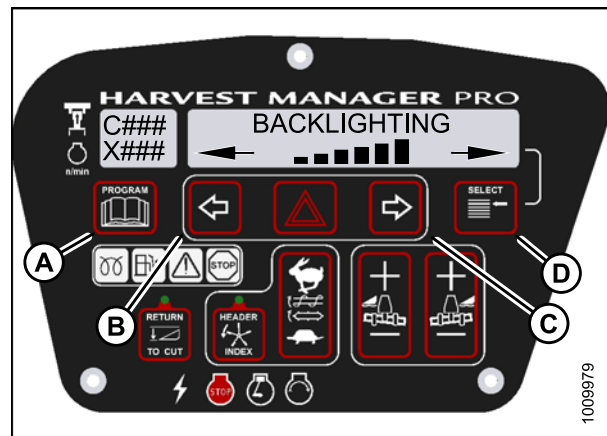


Figure 4.25: M205 Backlighting

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.

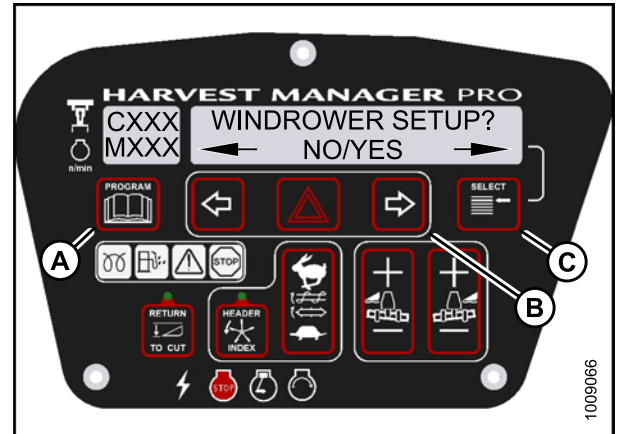


Figure 4.26: M155 CDM Programming Buttons

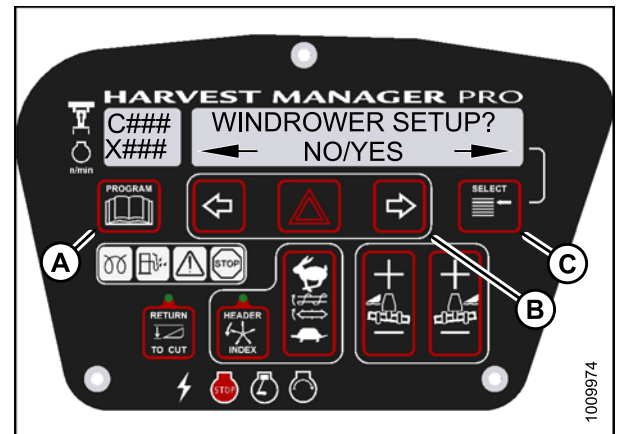


Figure 4.27: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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.

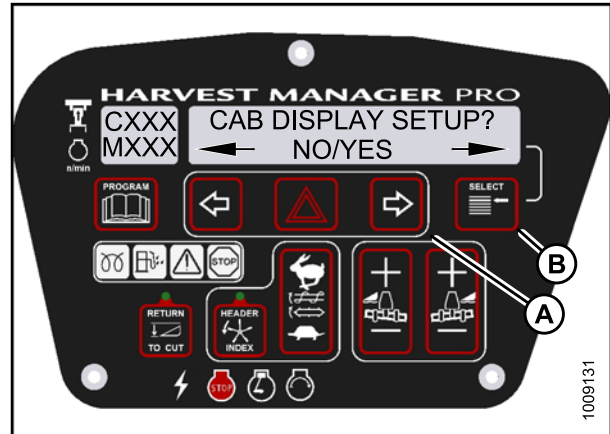


Figure 4.28: M155 Cab Display Setup

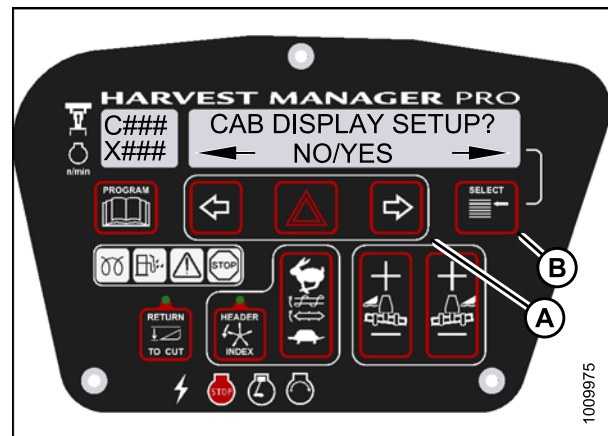


Figure 4.29: M205 Cab Display Setup

CAB DISPLAY MODULE (CDM)

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.

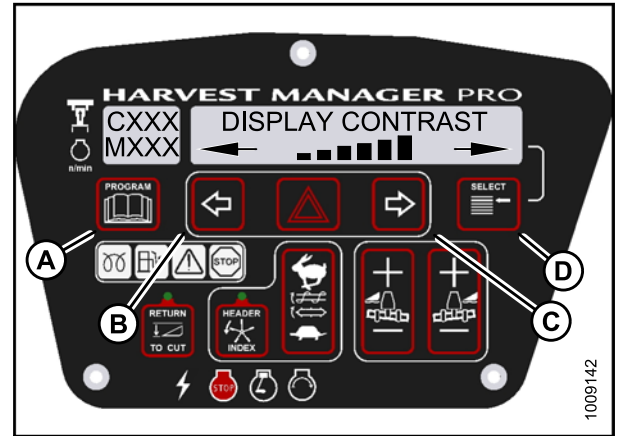


Figure 4.30: M155 Display Contrast

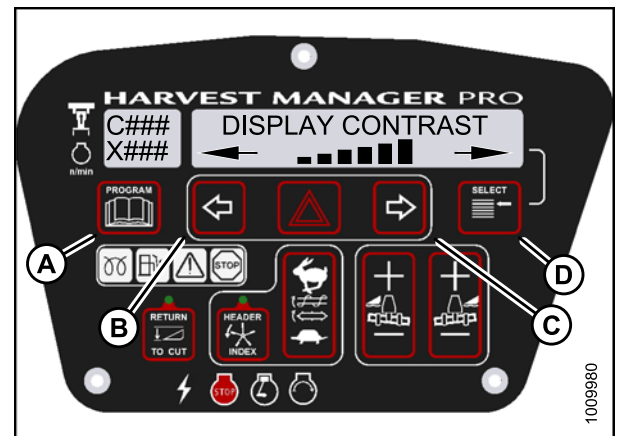


Figure 4.31: M205 Display Contrast

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.

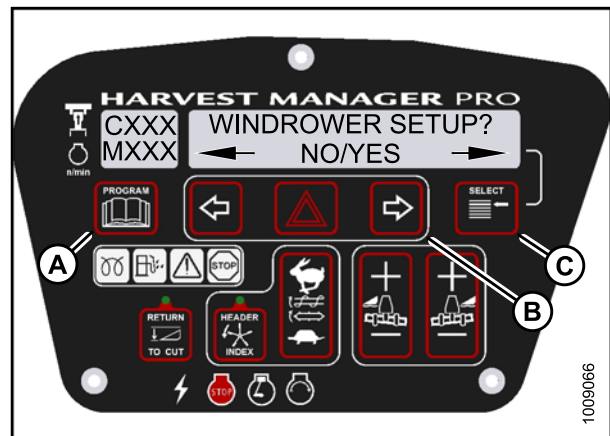


Figure 4.32: M155 CDM Programming Buttons

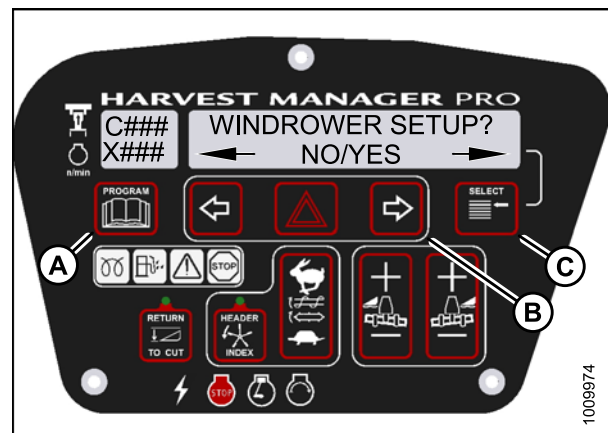


Figure 4.33: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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 4.34: M155 Header Height Calibration

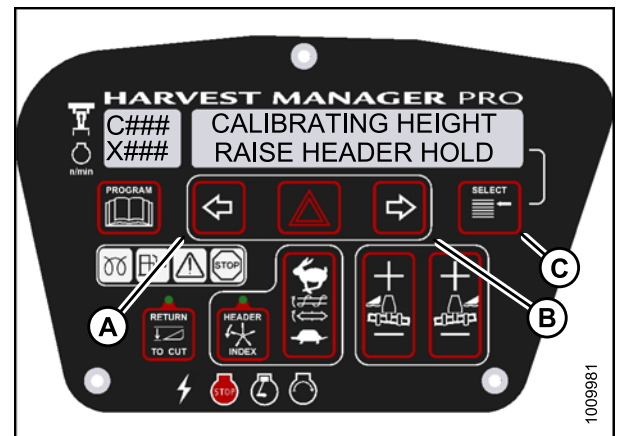


Figure 4.35: M205 Header Height Calibration

⚠ 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 103](#) or [4.3.3 Calibrating the Header Float Sensors, page 106](#).
11. Press PROGRAM to exit Programming Mode.

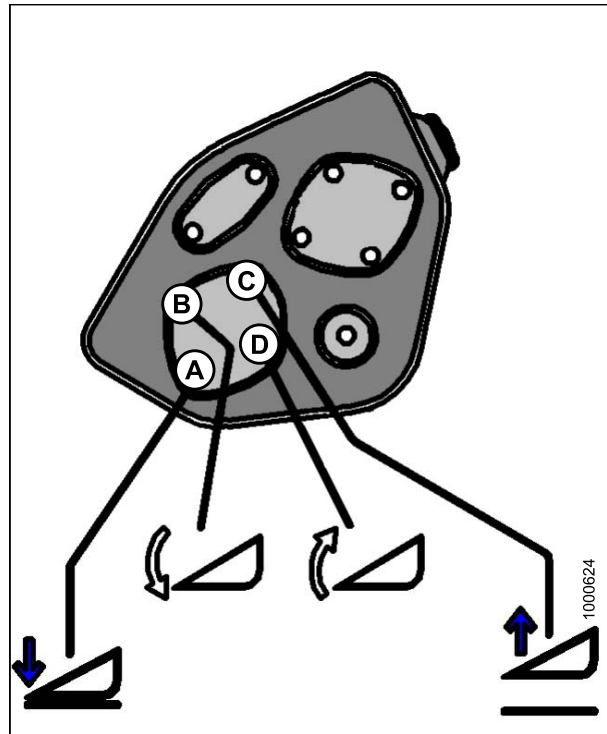


Figure 4.36: Header Height Controls on Ground Speed Lever

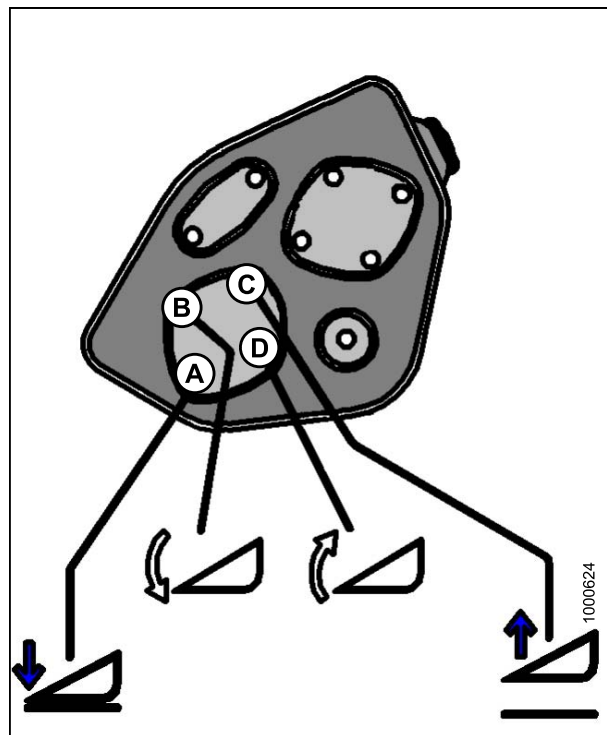


Figure 4.37: Header Height Controls on Ground Speed Lever

CAB DISPLAY MODULE (CDM)

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 4.40: M155 Header Tilt

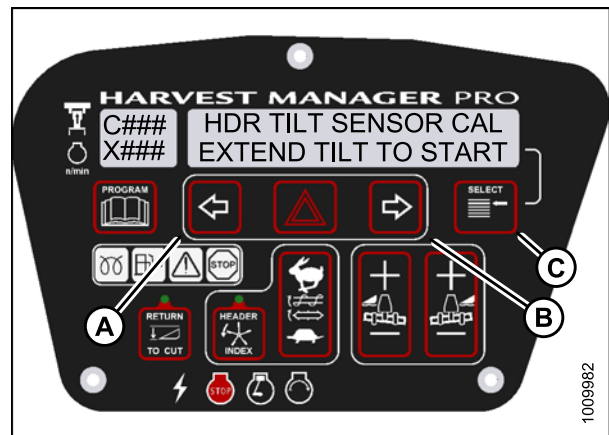


Figure 4.41: M205 Header Tilt

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.

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 100](#) or [4.3.3 Calibrating the Header Float Sensors, page 106](#).
11. Press PROGRAM to exit Programming Mode.

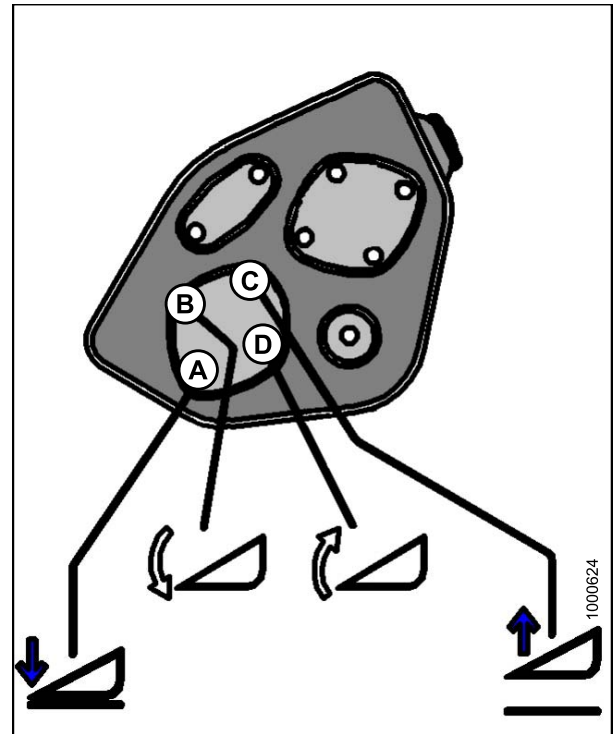


Figure 4.42: Header Tilt Controls on Ground Speed Lever

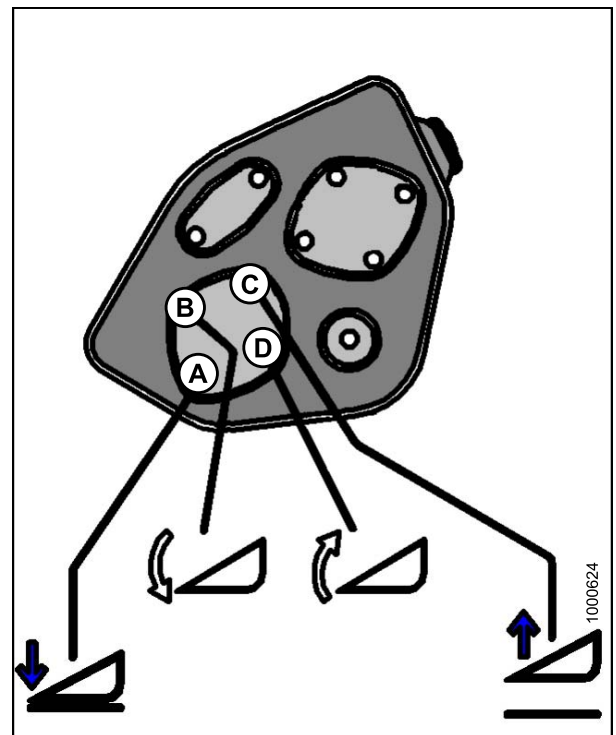


Figure 4.43: Header Tilt Controls on Ground Speed Lever

CAB DISPLAY MODULE (CDM)

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.

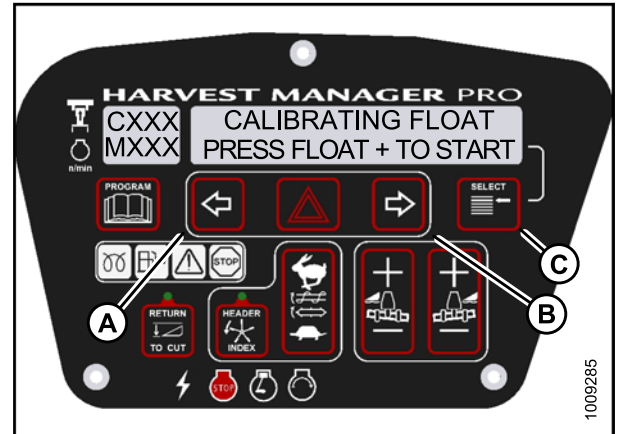


Figure 4.46: M155 Header Float

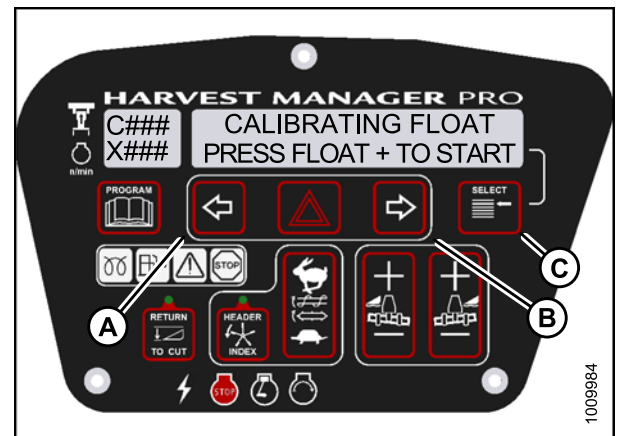


Figure 4.47: M205 Header Float

CAB DISPLAY MODULE (CDM)

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 4.48: M155 Positive Header Float

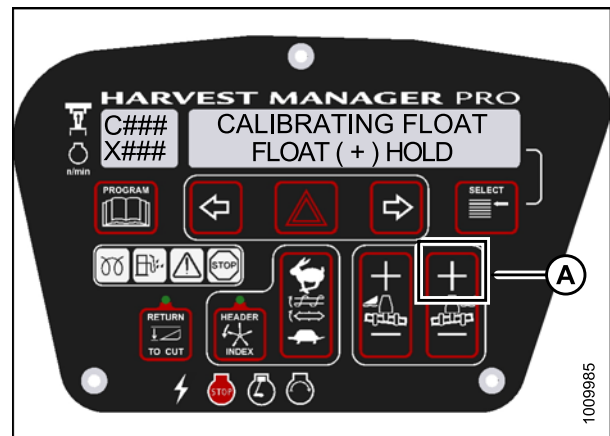


Figure 4.49: M205 Positive Header Float

CAB DISPLAY MODULE (CDM)

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 4.50: M155 Negative Header Float

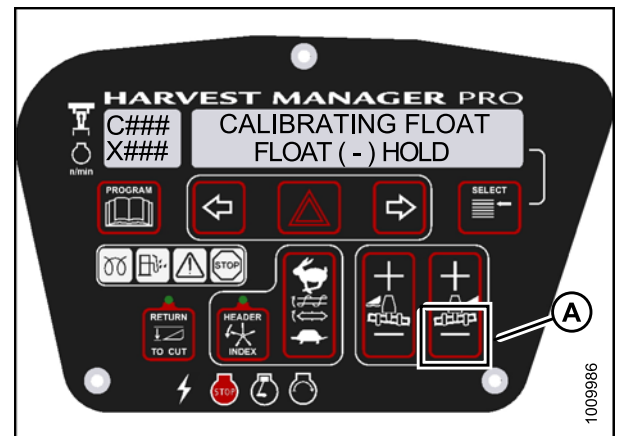


Figure 4.51: M205 Negative Header Float

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 100](#) or [4.3.2 Calibrating the Header Tilt Sensor, page 103](#).
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 Activating the Hydraulic Center-Link on an M155

NOTE:

- This procedure requires installation of the optional Hydraulic Center-Link (MD #B4650). For more information, refer to [3.5.2 Installing Hydraulic Center-Link on the M155 \(Optional\)](#), page 18. Center link activation is not required on the M205.

- Turn ignition key to RUN, or start the engine. Refer to [3.7 Starting Engine](#), page 20.
- 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.
- Press right (B) arrow to select YES. Press SELECT (C).
 - SET KNIFE SPEED? is displayed on the upper line.

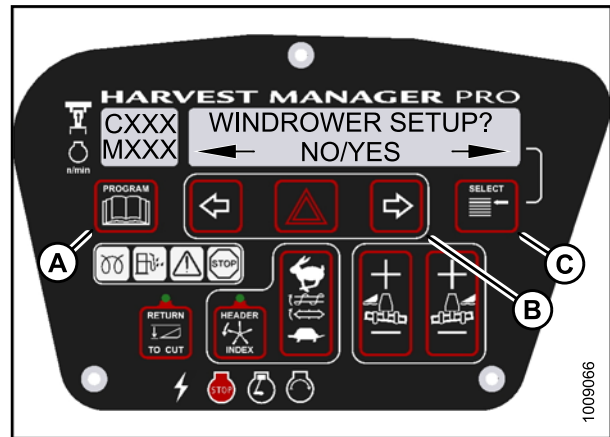


Figure 4.52: M155 CDM Programming Buttons

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

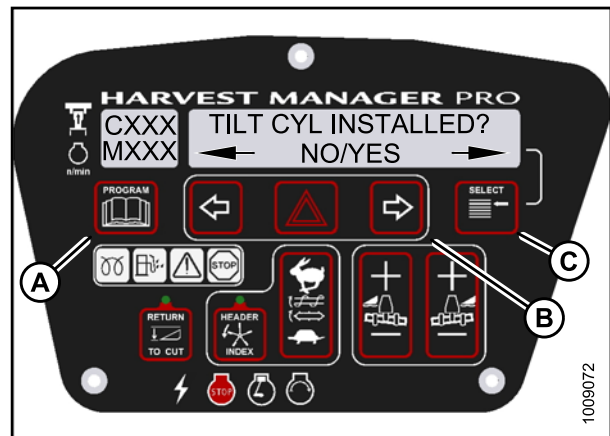


Figure 4.53: M155 Hydraulic Center-Link

4.4.2 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.

CAB DISPLAY MODULE (CDM)

1. Turn ignition key to RUN, or start the engine. Refer to [3.7 Starting Engine, page 20](#).
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.

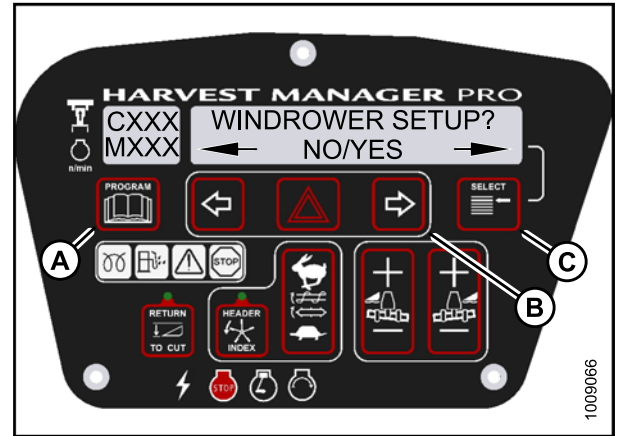


Figure 4.54: CDM Programming Buttons

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 4.55: Rotary Disc Hydraulics

4.4.3 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.

CAB DISPLAY MODULE (CDM)

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.

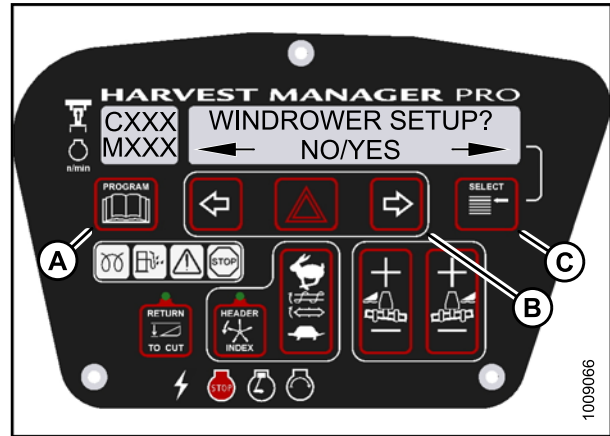


Figure 4.56: M155 CDM Programming Buttons

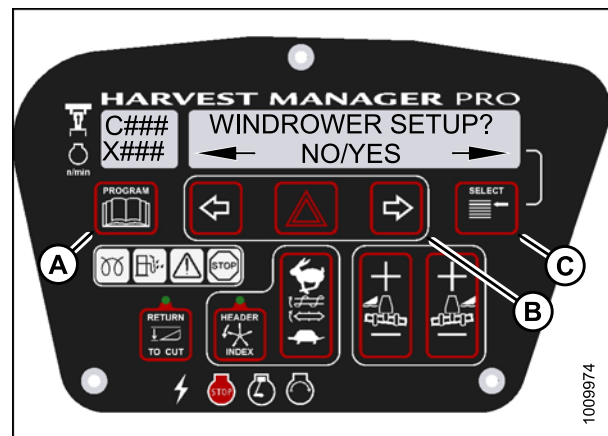


Figure 4.57: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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.

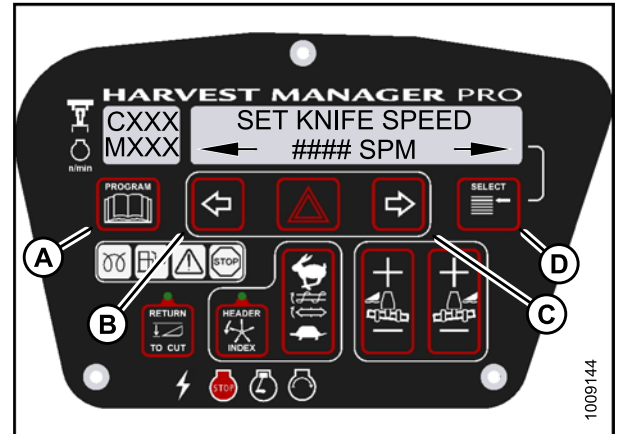


Figure 4.58: M155 Knife Speed

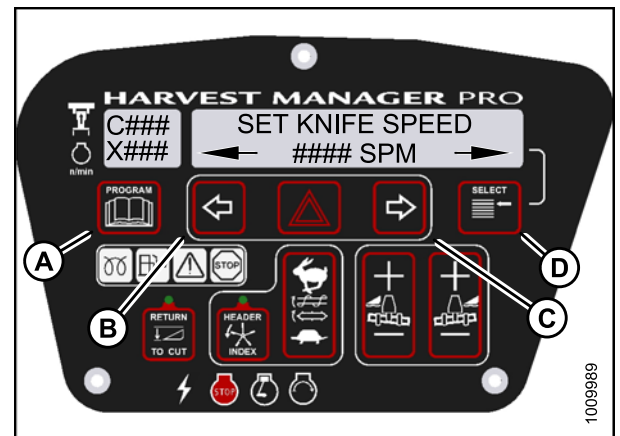


Figure 4.59: M205 Knife Speed

4.4.4 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.

CAB DISPLAY MODULE (CDM)

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.

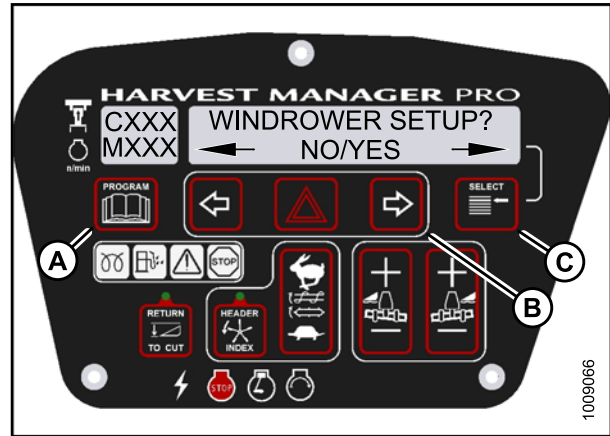


Figure 4.60: M155 CDM Programming Buttons

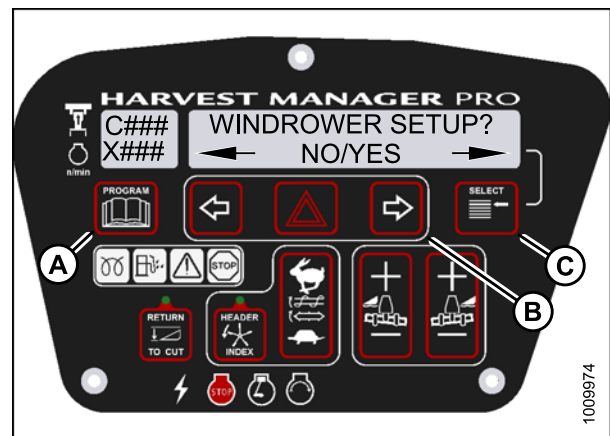


Figure 4.61: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

- 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.

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

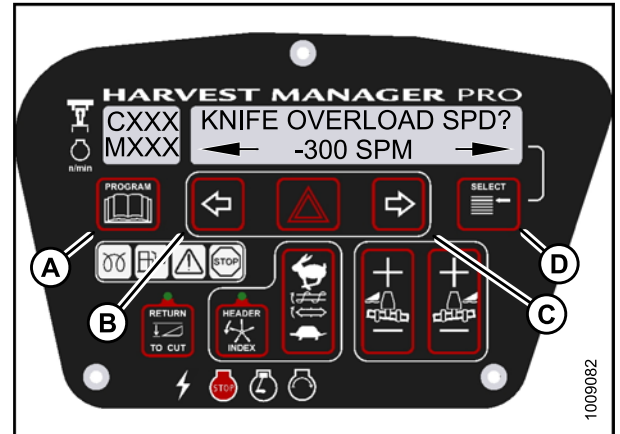


Figure 4.62: M155 Knife Overload Speed

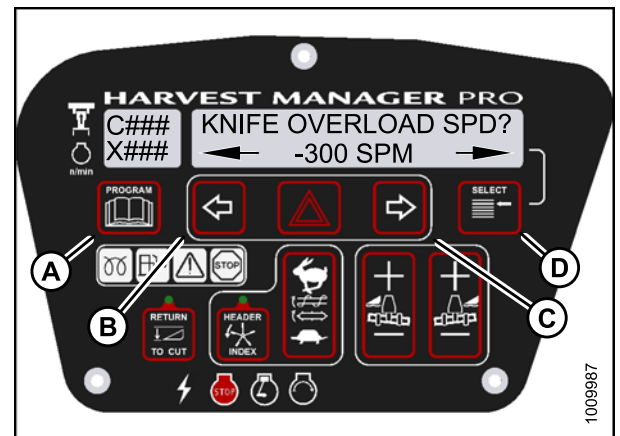


Figure 4.63: M205 Knife Overload Speed

4.4.5 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.

CAB DISPLAY MODULE (CDM)

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.

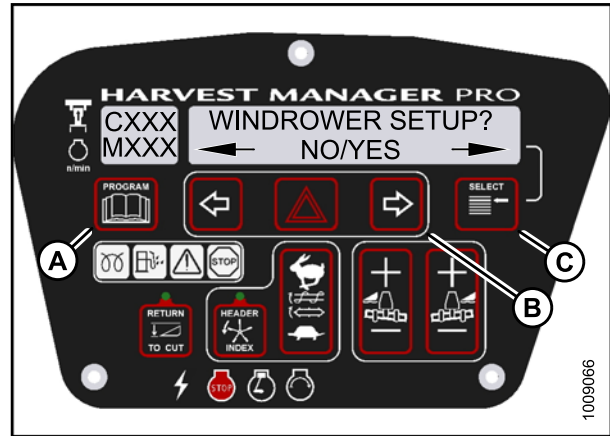


Figure 4.64: M155 CDM Programming Buttons

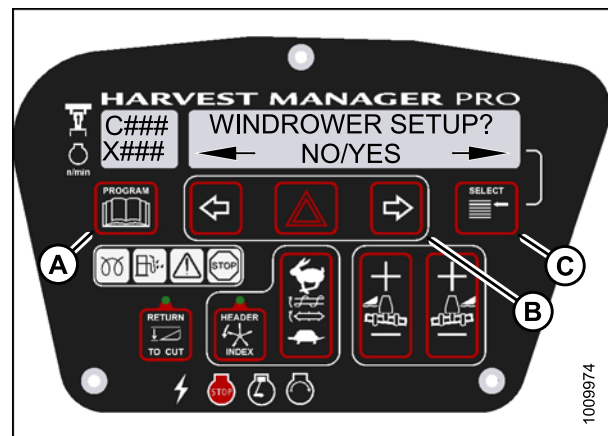


Figure 4.65: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

- 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.

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

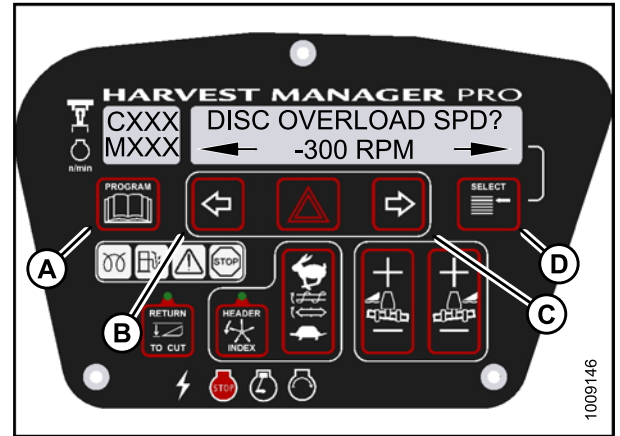


Figure 4.66: M155 Disc Overload Speed

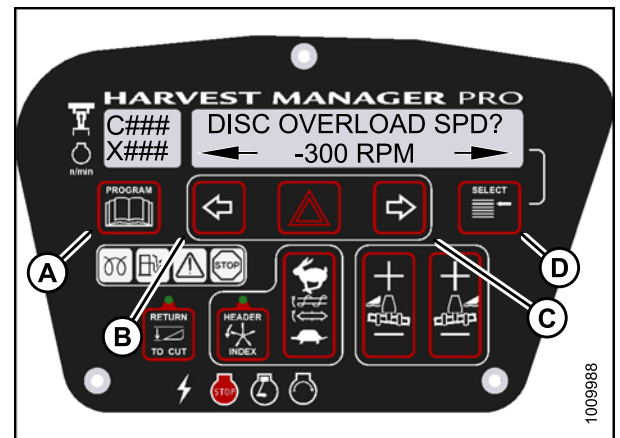


Figure 4.67: M205 Disc Overload Speed

4.4.6 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 171](#).

CAB DISPLAY MODULE (CDM)

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.

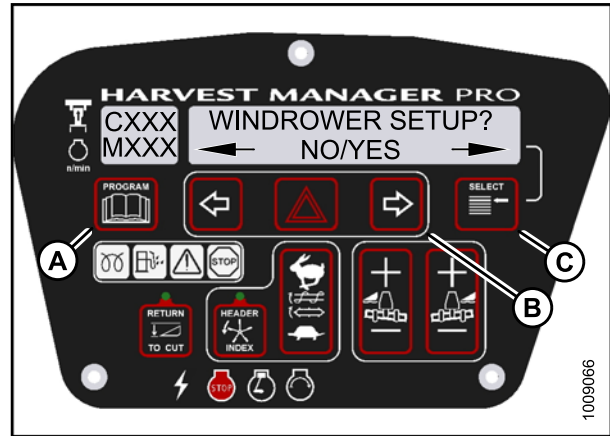


Figure 4.68: M155 CDM Programming Buttons

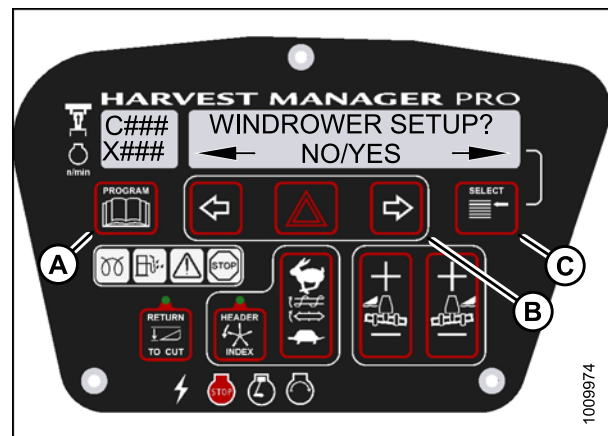


Figure 4.69: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

- 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).

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

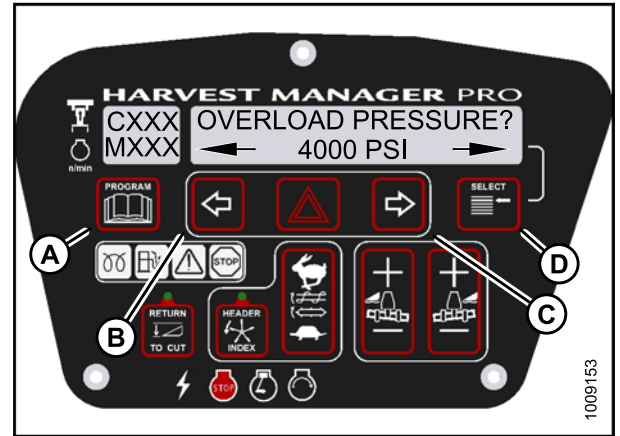


Figure 4.70: M155 Hydraulic Overload Pressure

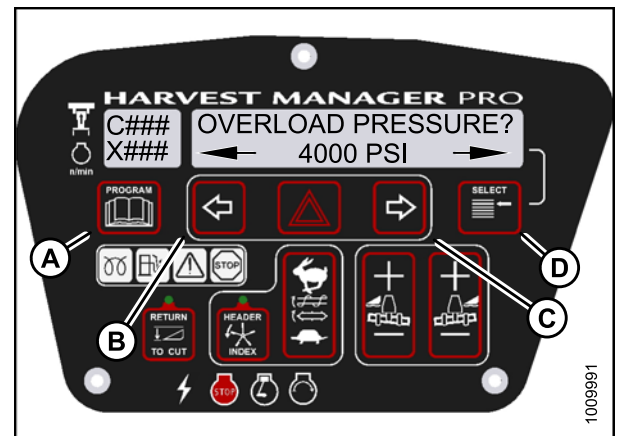


Figure 4.71: M205 Hydraulic Overload Pressure

4.4.7 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.

CAB DISPLAY MODULE (CDM)

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.

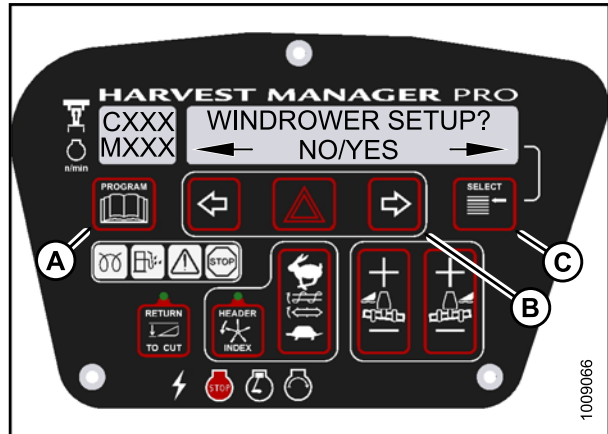


Figure 4.72: M155 CDM Programming Buttons

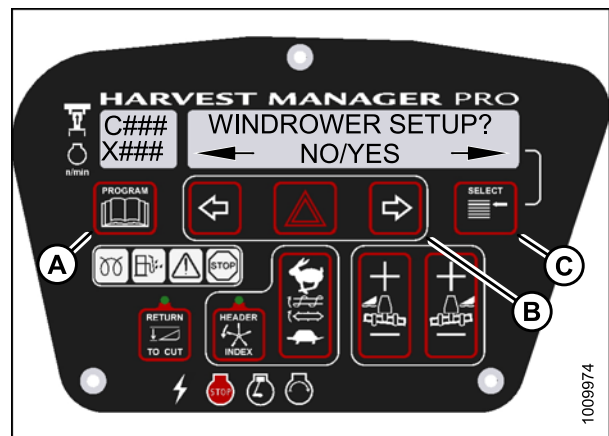


Figure 4.73: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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.

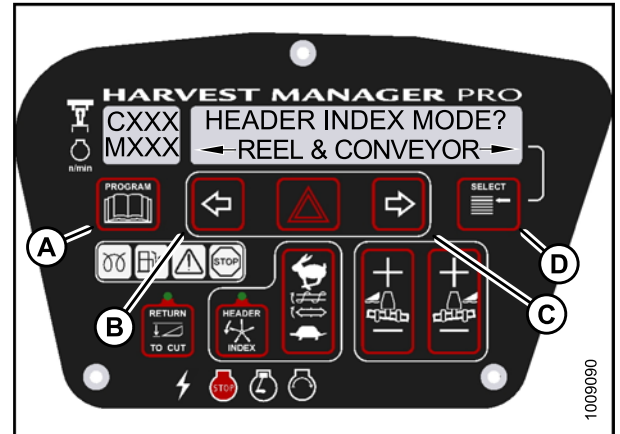


Figure 4.74: M155 Header Index Mode

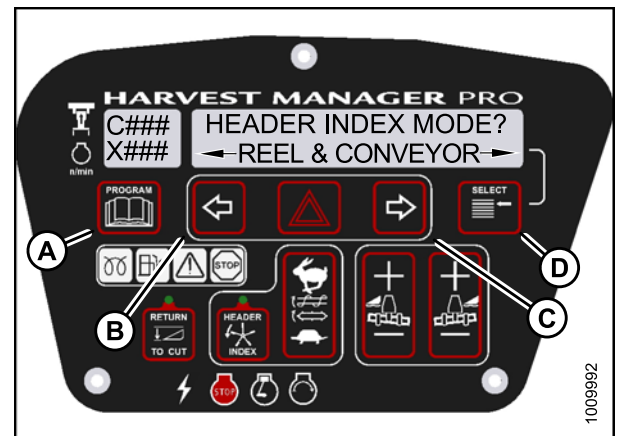


Figure 4.75: M205 Header Index Mode

4.4.8 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. For more information, refer to [3.10 Attaching Headers](#), [page 28](#).

CAB DISPLAY MODULE (CDM)

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.

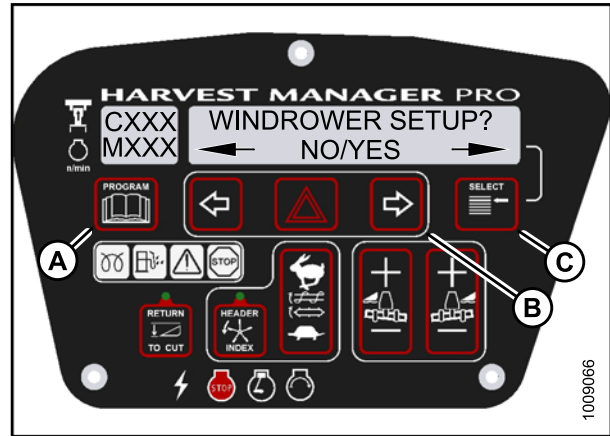


Figure 4.76: M155 CDM Programming Buttons

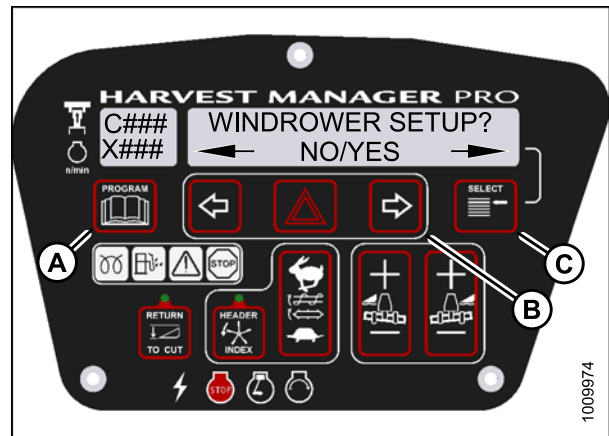


Figure 4.77: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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.
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.

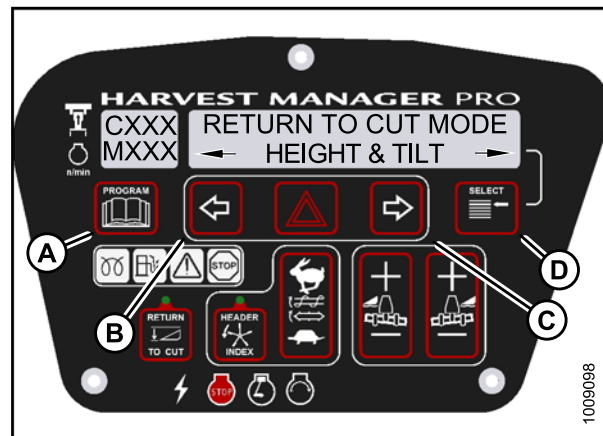


Figure 4.78: M155 Return to Cut Mode

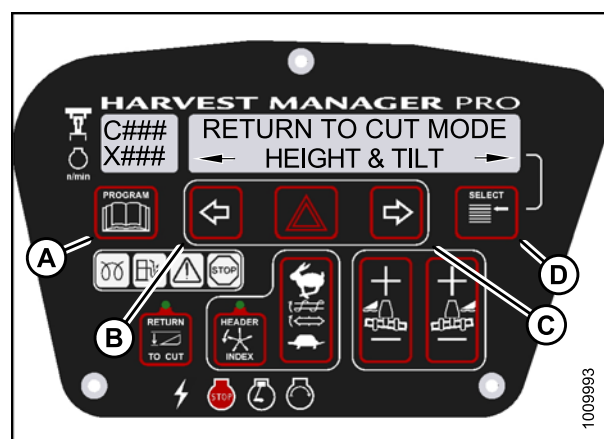


Figure 4.79: M205 Return to Cut Mode

4.4.9 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.

CAB DISPLAY MODULE (CDM)

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.

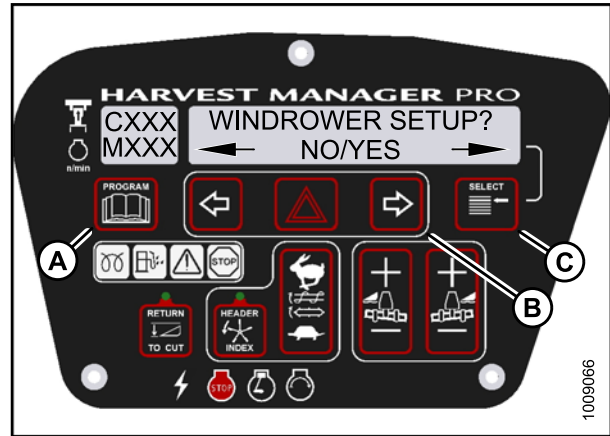


Figure 4.80: M155 CDM Programming Buttons

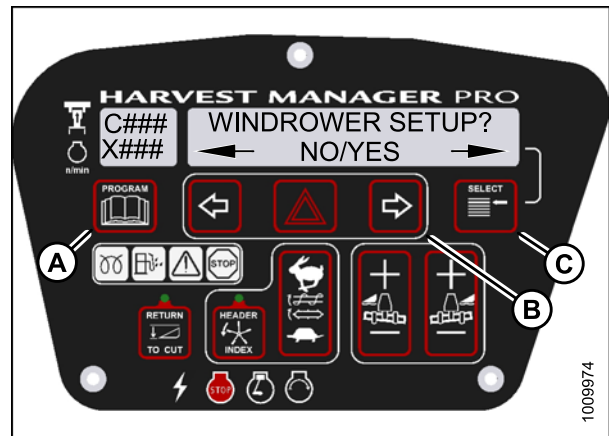


Figure 4.81: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

4. Press SELECT (D) until 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.

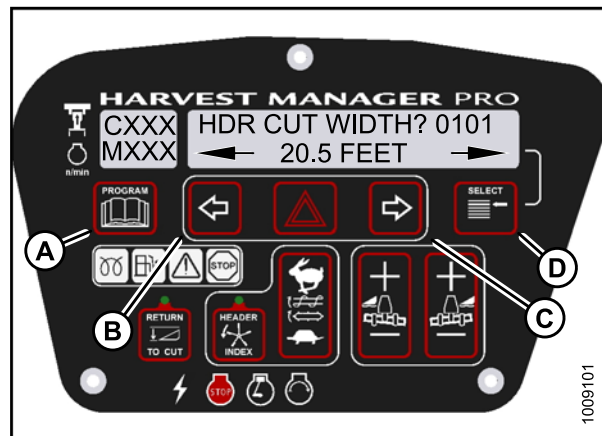


Figure 4.82: M155 Header Cut Width

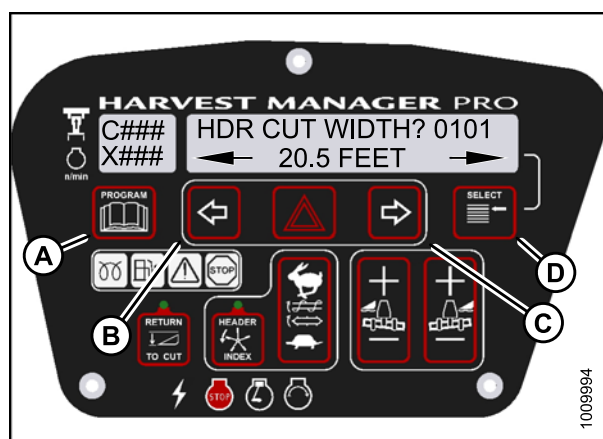


Figure 4.83: M205 Header Cut Width

4.4.10 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).

CAB DISPLAY MODULE (CDM)

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.

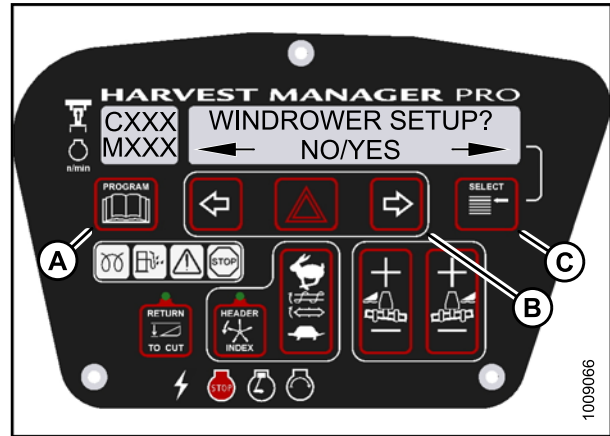


Figure 4.84: M155 CDM Programming Buttons

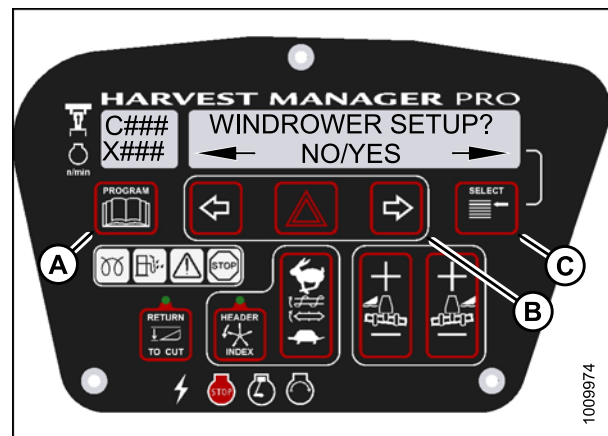


Figure 4.85: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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 4.86: M155 DWA Controls

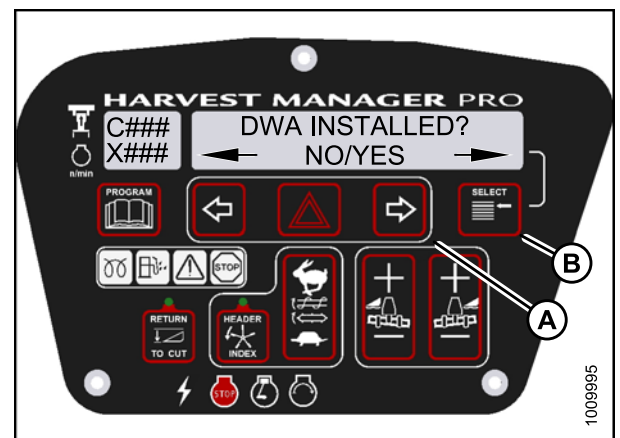


Figure 4.87: M205 DWA Controls

CAB DISPLAY MODULE (CDM)

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.

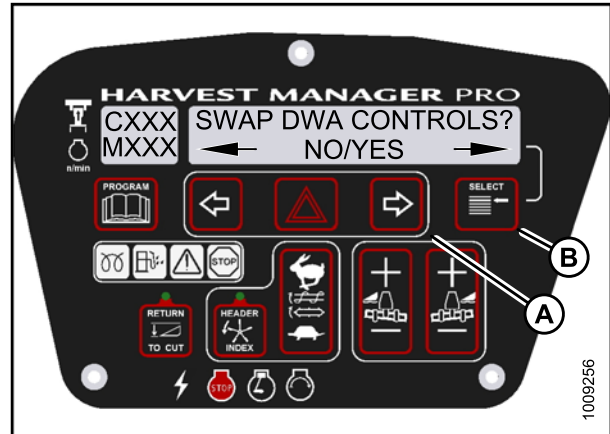


Figure 4.88: M155 DWA Controls

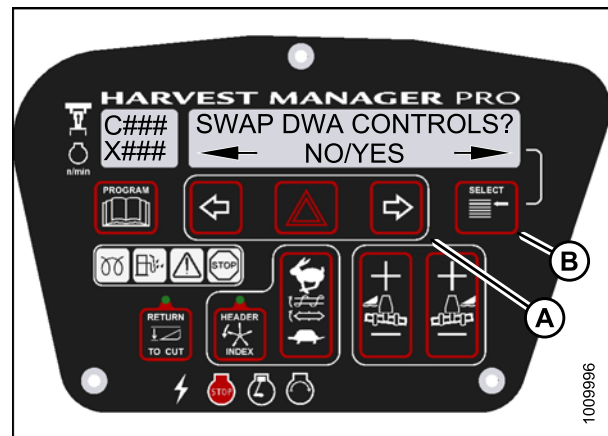


Figure 4.89: M205 DWA Controls

CAB DISPLAY MODULE (CDM)

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.

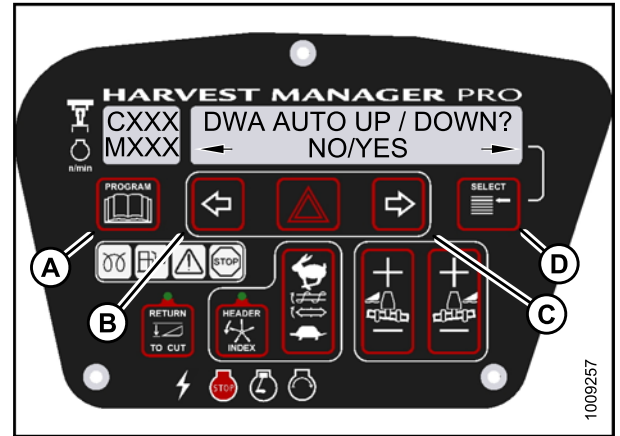


Figure 4.90: M155 DWA Auto Up/Down

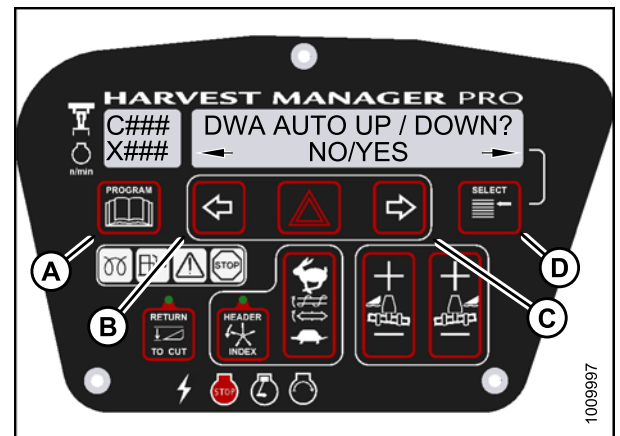


Figure 4.91: M205 DWA Auto Up/Down

4.4.11 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.

CAB DISPLAY MODULE (CDM)

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.

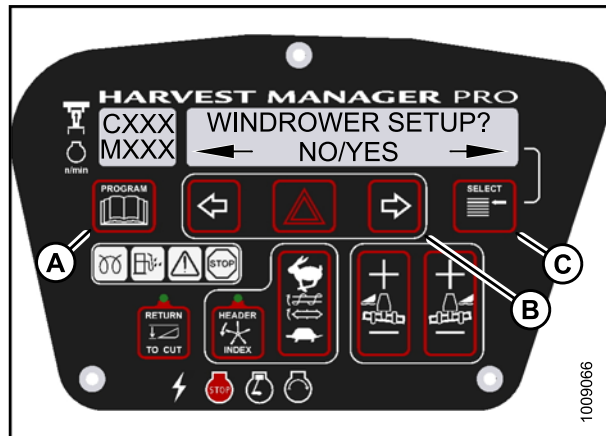


Figure 4.92: M155 CDM Programming Buttons

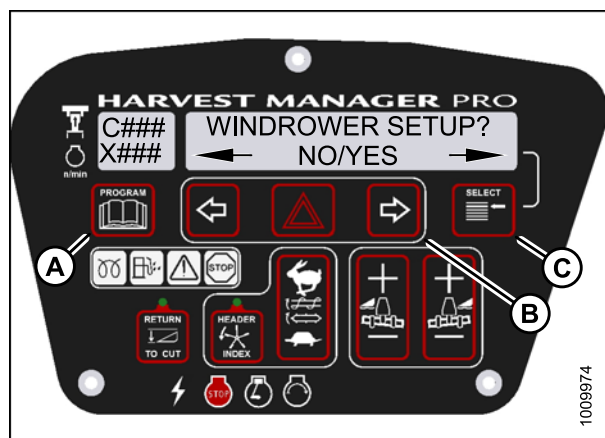


Figure 4.93: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

- 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.

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

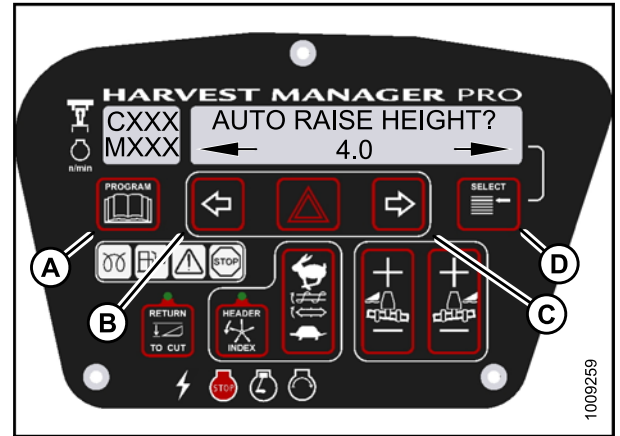


Figure 4.94: M155 Auto Raise Height

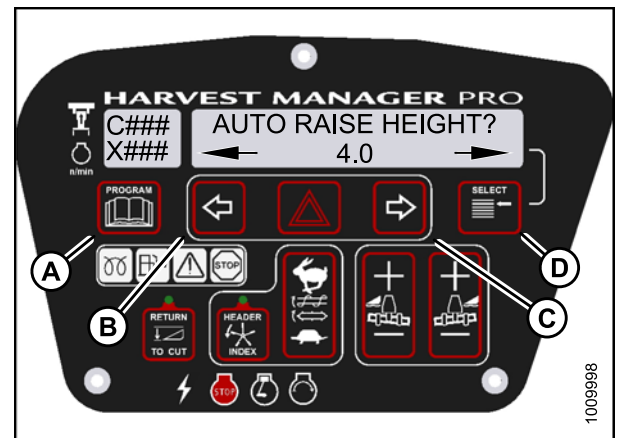


Figure 4.95: M205 Auto Raise Height

4.4.12 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. For more information, refer to [3.10 Attaching Headers](#), page 28.

CAB DISPLAY MODULE (CDM)

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.

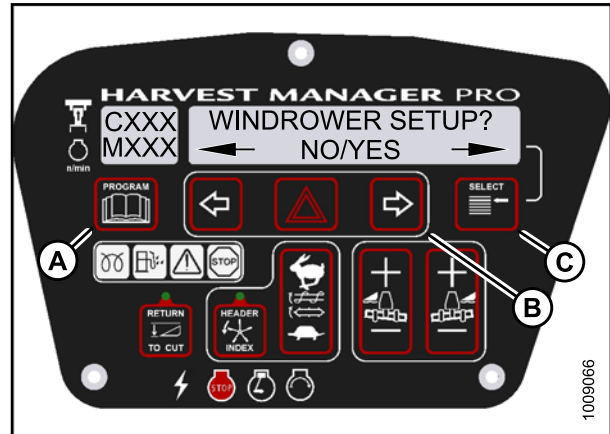


Figure 4.96: M155 CDM Programming Buttons Shown – M205 Similar

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.

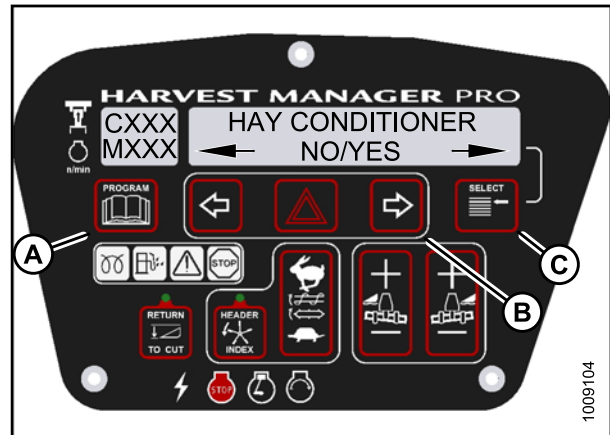


Figure 4.97: M155 Hay Conditioner Shown – M205 Similar

4.4.13 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. For more information, refer to [3.10 Attaching Headers, page 28](#).

CAB DISPLAY MODULE (CDM)

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.

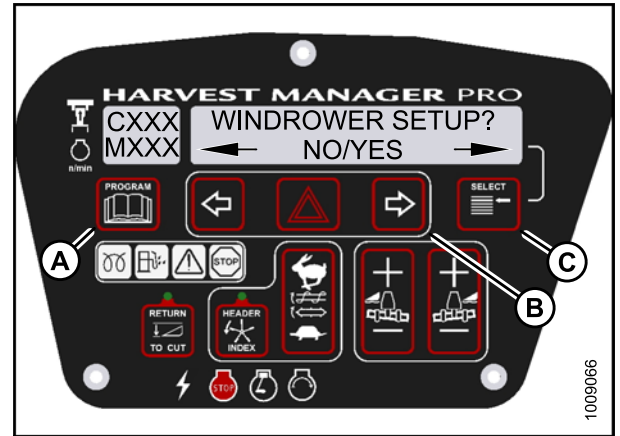


Figure 4.98: M155 CDM Programming Buttons

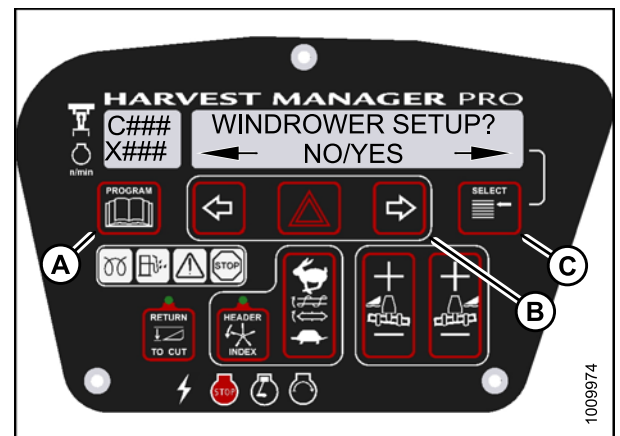


Figure 4.99: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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 4.100: M155 Reel Speed Display

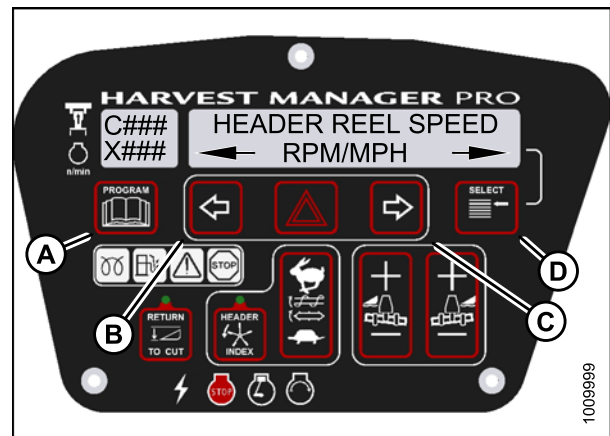


Figure 4.101: M205 Reel Speed Display

4.4.14 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.

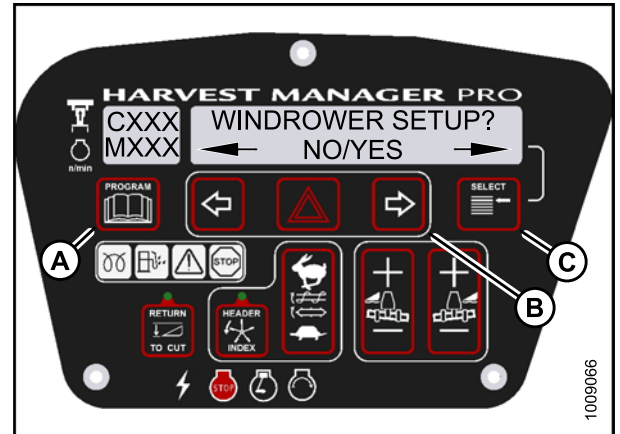


Figure 4.102: M155 CDM Programming Buttons

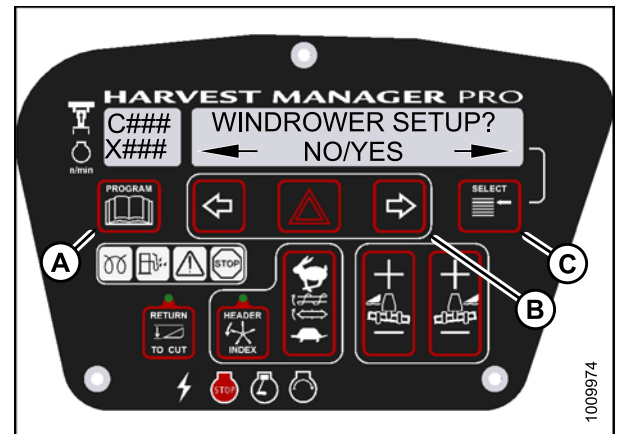


Figure 4.103: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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

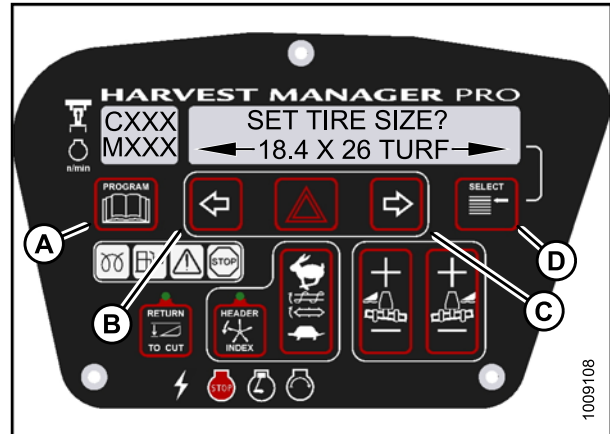


Figure 4.104: M155 Tire Size

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.

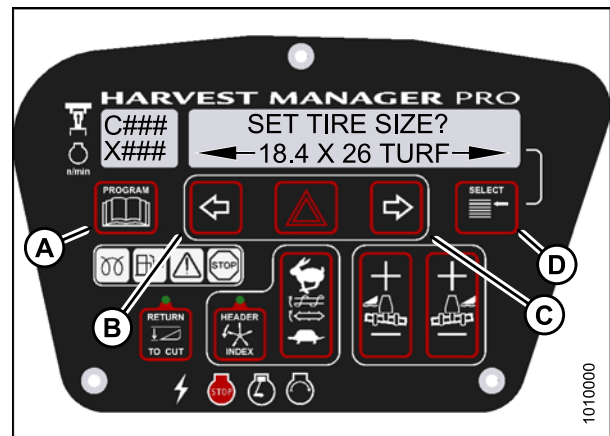


Figure 4.105: M205 Tire Size

4.4.15 Setting the Engine Intermediate Speed Control (ISC) RPM

NOTE:

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

CAB DISPLAY MODULE (CDM)

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.

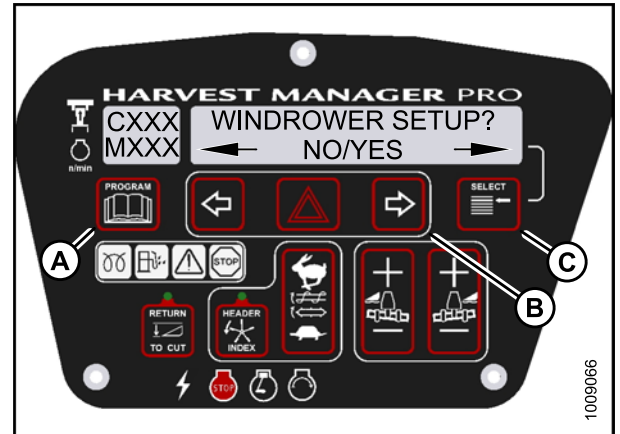


Figure 4.106: M155 CDM Programming Buttons

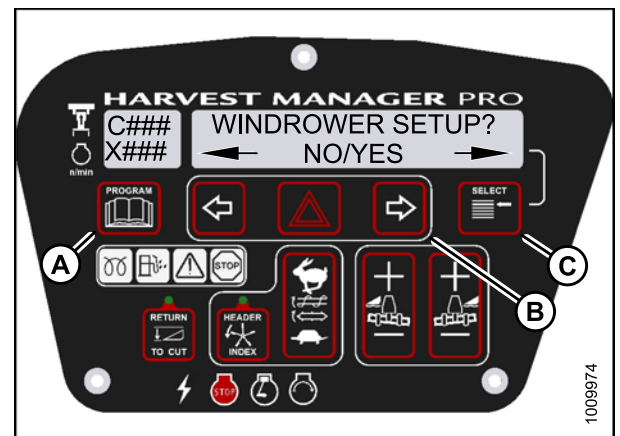


Figure 4.107: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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 ⁶	1	2	3
High Idle (M155) ⁷	2200 ⁸	2000	1800
High Idle (M205)	2000	1800	1600

NOTE:

The previously selected ISC rpm will be flashing.



Figure 4.108: M155 Engine ISC RPM

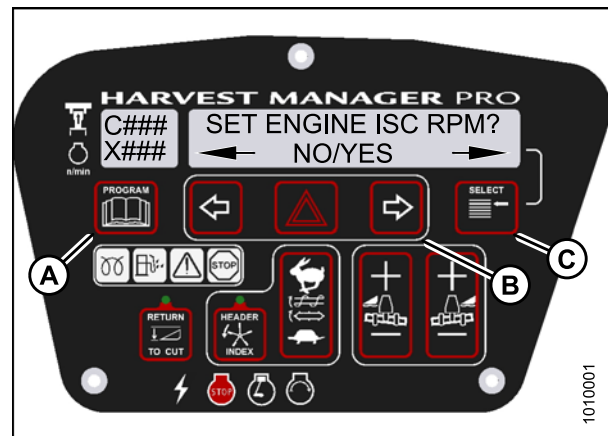


Figure 4.109: M205 Engine ISC RPM

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

CAB DISPLAY MODULE (CDM)

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.

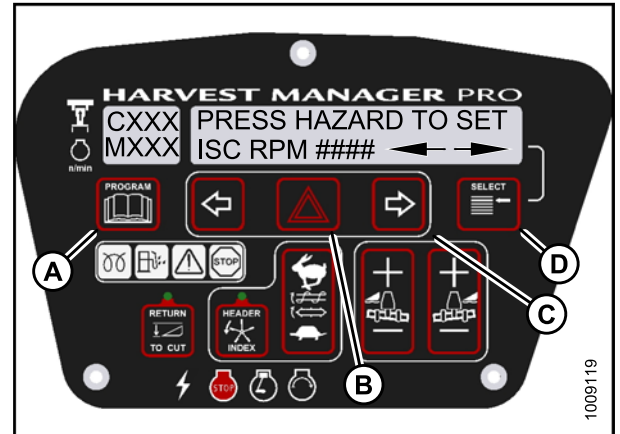


Figure 4.110: M155 ISC RPM

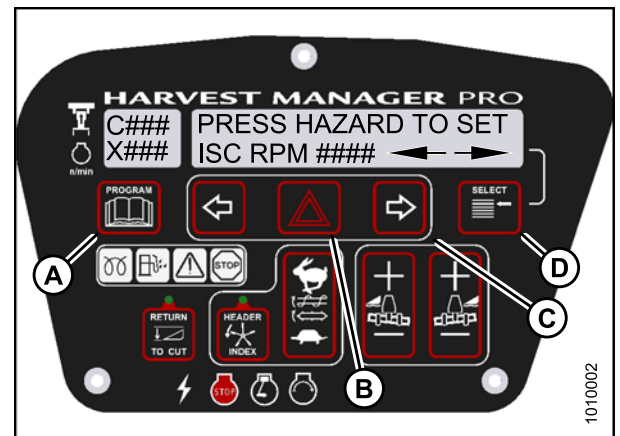


Figure 4.111: M205 ISC RPM

CAB DISPLAY MODULE (CDM)

4.4.16 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 4.112: M155 Cab Display Module (CDM)



Figure 4.113: 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.

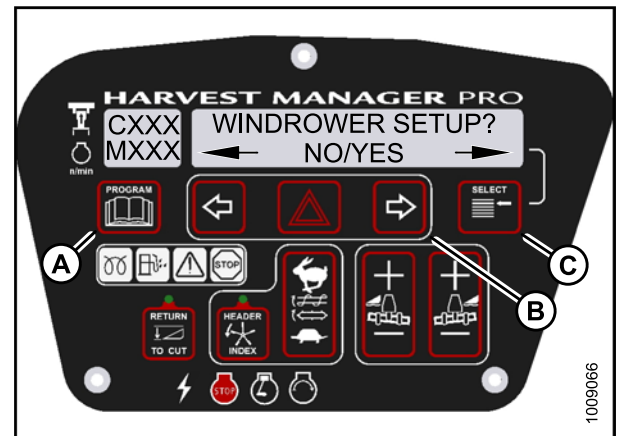


Figure 4.114: M155 CDM Programming Buttons

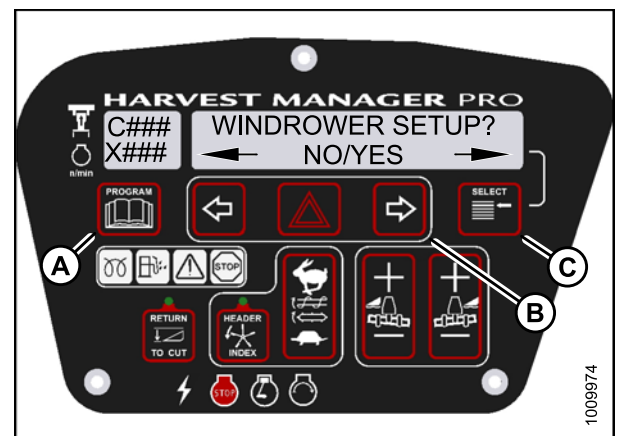


Figure 4.115: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

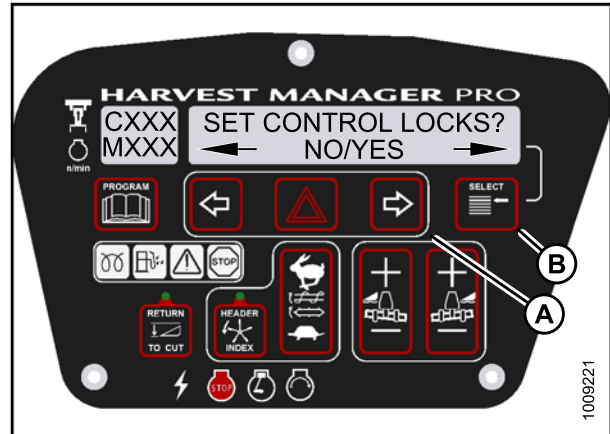


Figure 4.116: M155 Control Locks

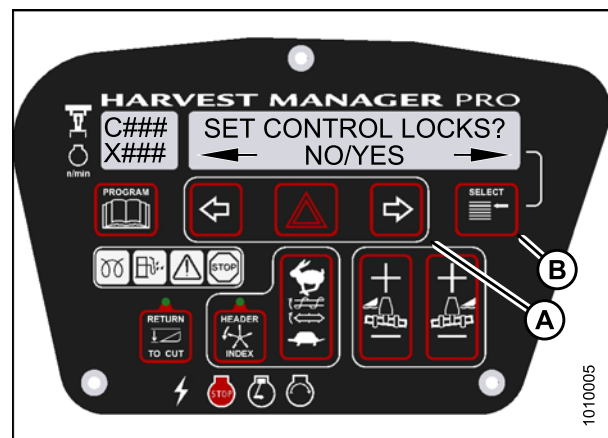


Figure 4.117: M205 Control Locks

CAB DISPLAY MODULE (CDM)

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.

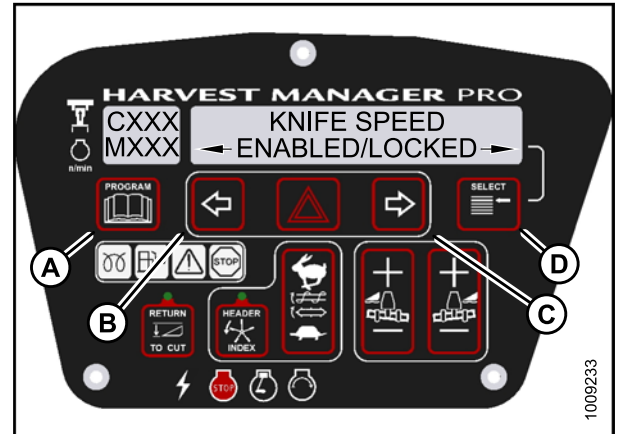


Figure 4.118: M155 Knife Speed Control Lock

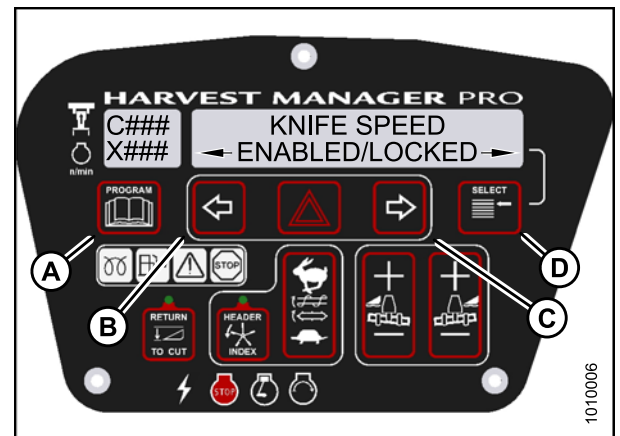


Figure 4.119: M205 Knife Speed Control Lock

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.

CAB DISPLAY MODULE (CDM)

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.

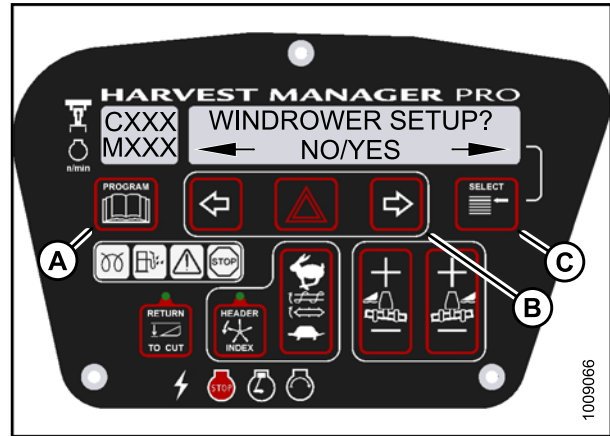


Figure 4.120: M155 CDM Programming Buttons

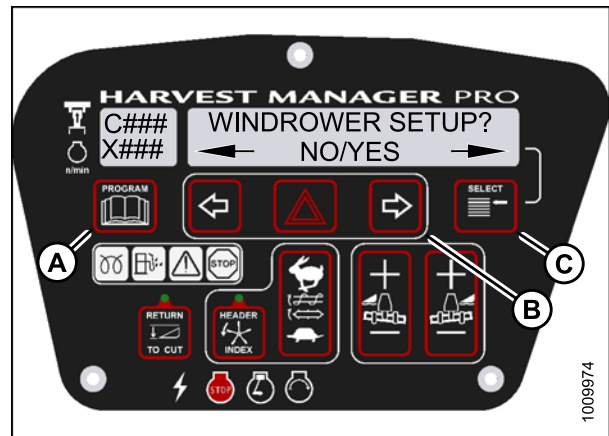


Figure 4.121: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

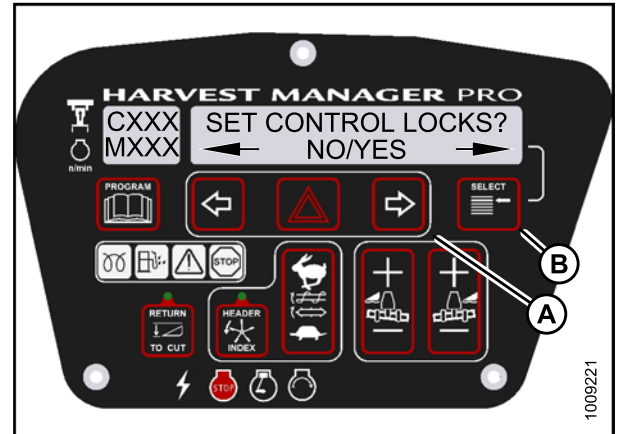


Figure 4.122: M155 Control Locks

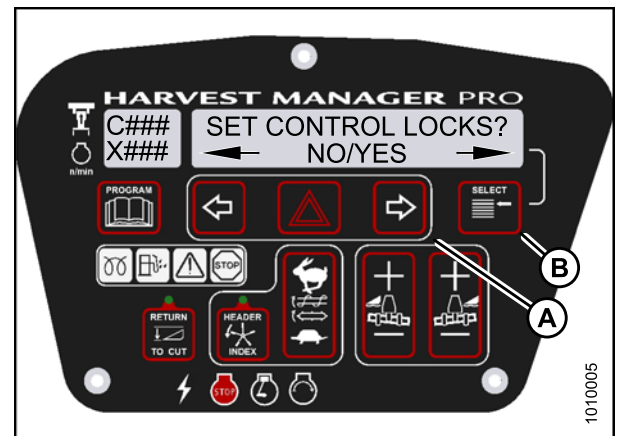


Figure 4.123: M205 Control Locks

CAB DISPLAY MODULE (CDM)

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.

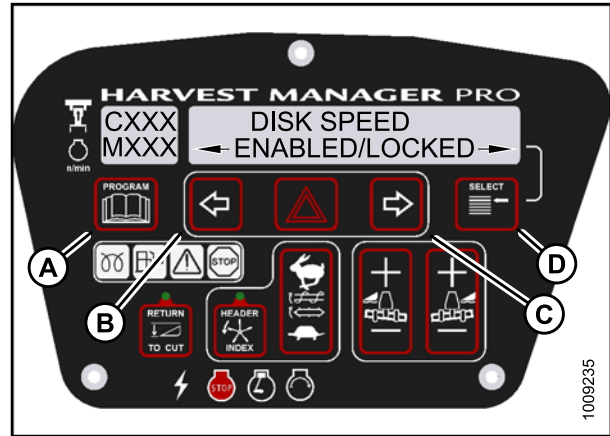


Figure 4.124: M155 Disc Speed Control Lock

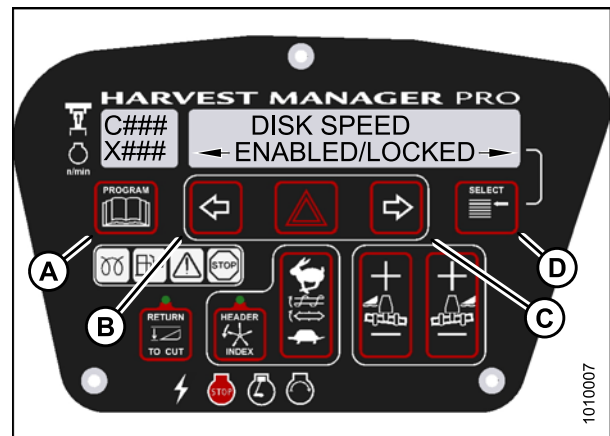


Figure 4.125: M205 Disc Speed Control Lock

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. For more information, refer to [3.10 Attaching Headers](#), page 28.

CAB DISPLAY MODULE (CDM)

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.

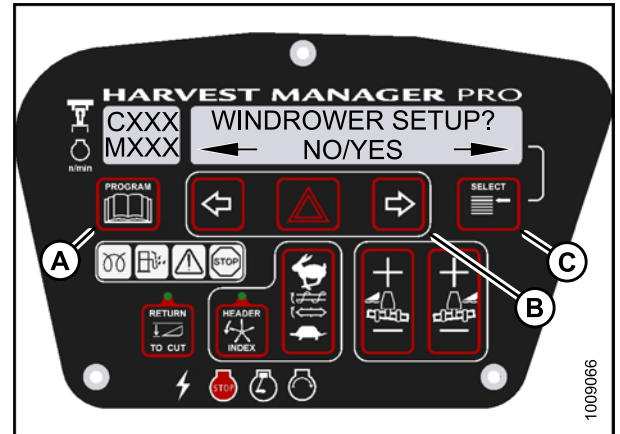


Figure 4.126: M155 CDM Programming Buttons

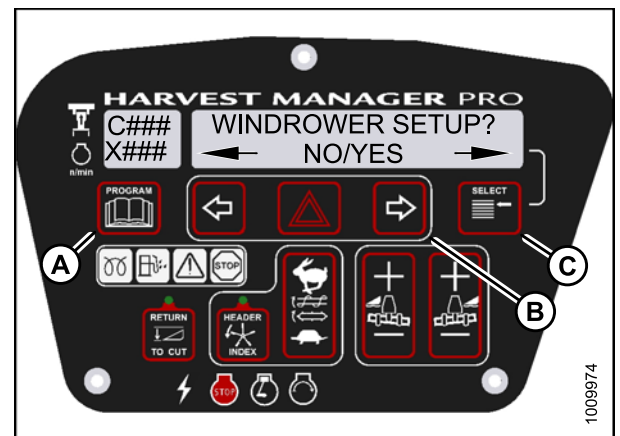


Figure 4.127: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

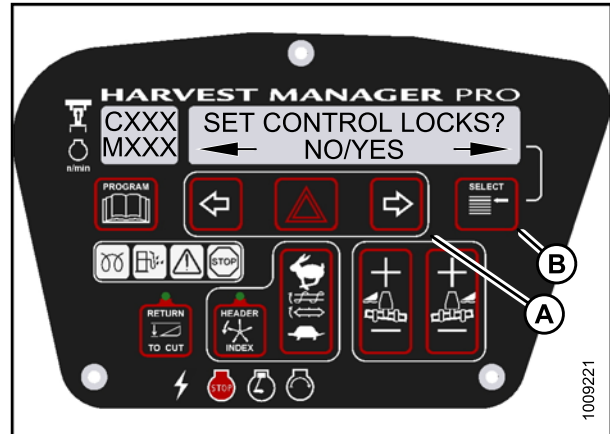


Figure 4.128: M155 Control Locks

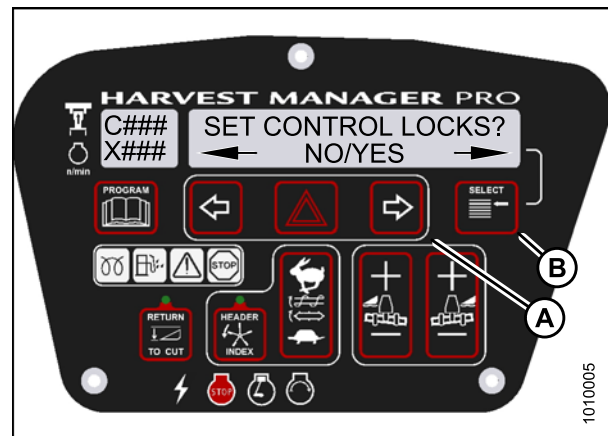


Figure 4.129: M205 Control Locks

CAB DISPLAY MODULE (CDM)

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.

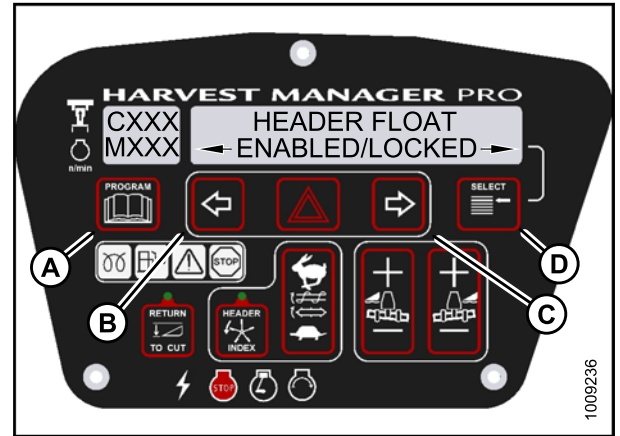


Figure 4.130: M155 Header Float Control Lock

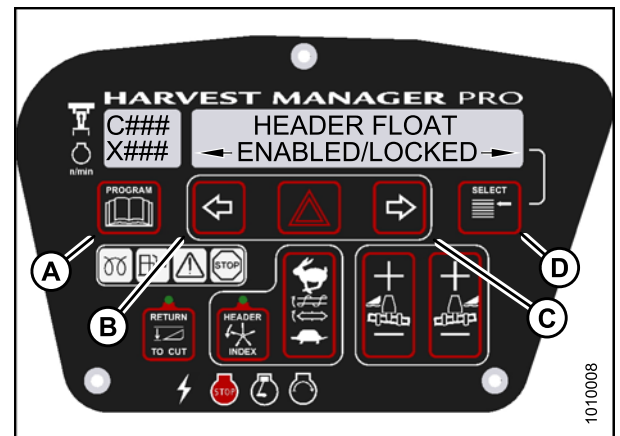


Figure 4.131: M205 Header Float Control Lock

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.

CAB DISPLAY MODULE (CDM)

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.

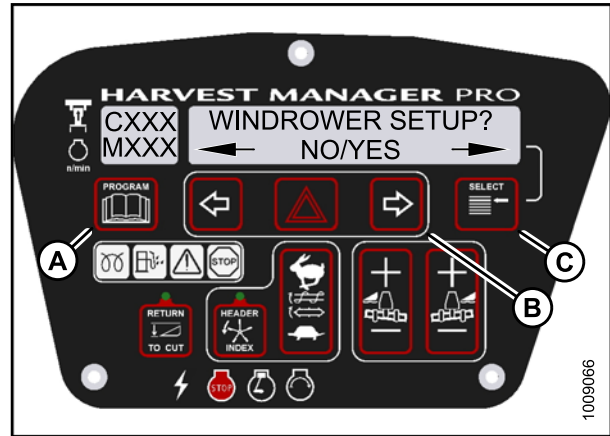


Figure 4.132: M155 CDM Programming Buttons

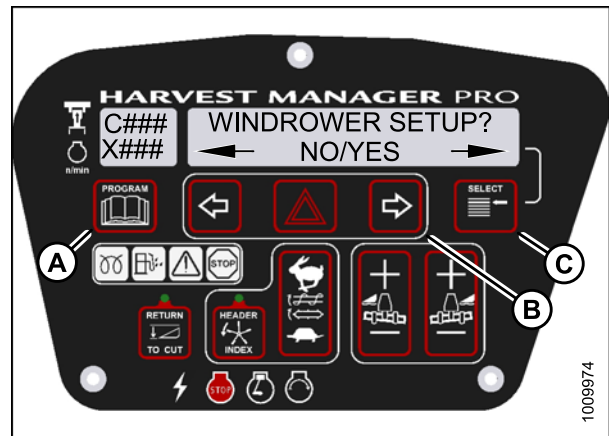


Figure 4.133: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

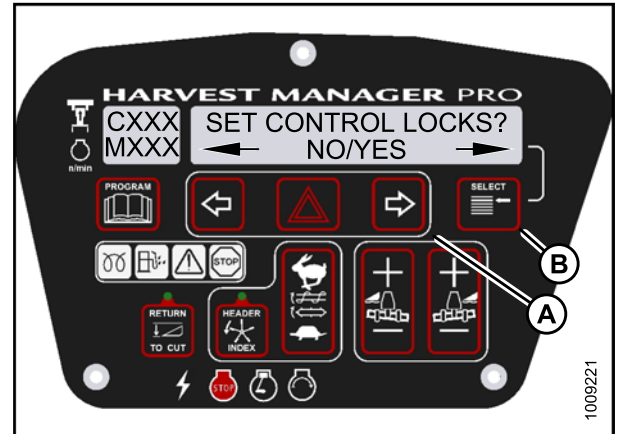


Figure 4.134: M155 Control Locks

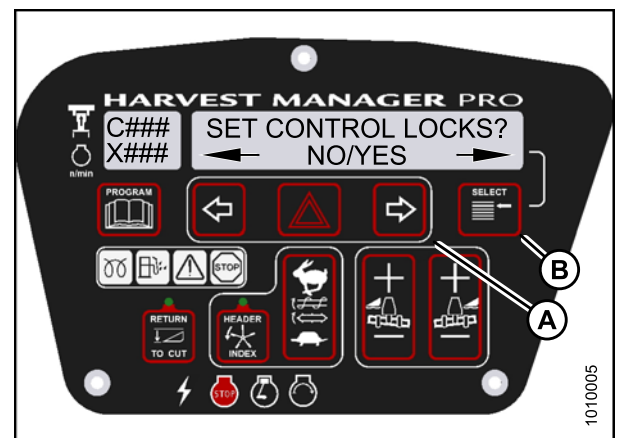


Figure 4.135: M205 Control Locks

CAB DISPLAY MODULE (CDM)

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.

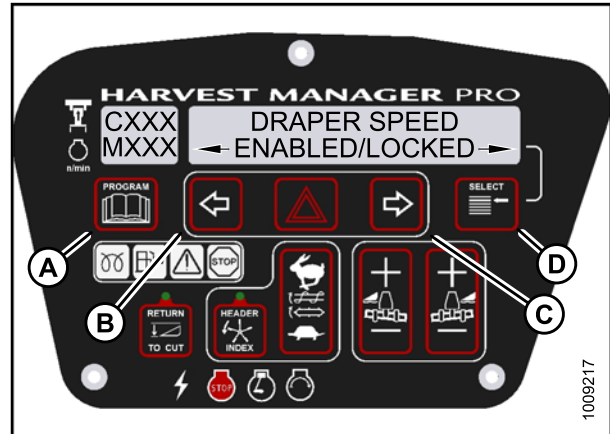


Figure 4.136: M155 Draper Control Lock

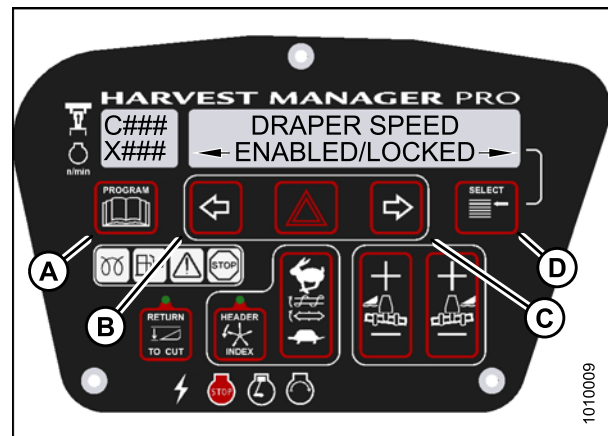


Figure 4.137: M205 Draper Control Lock

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.

CAB DISPLAY MODULE (CDM)

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.

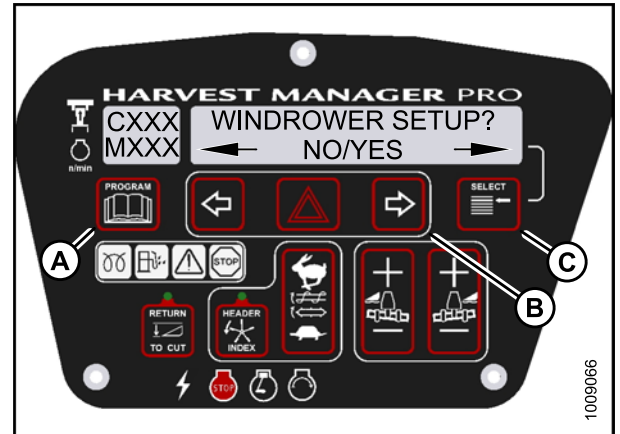


Figure 4.138: M155 CDM Programming Buttons

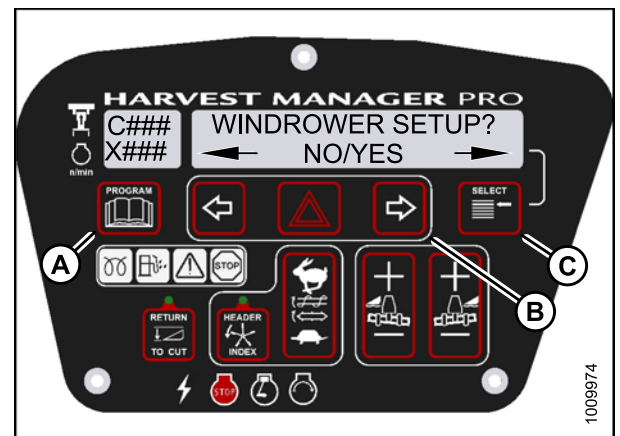


Figure 4.139: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

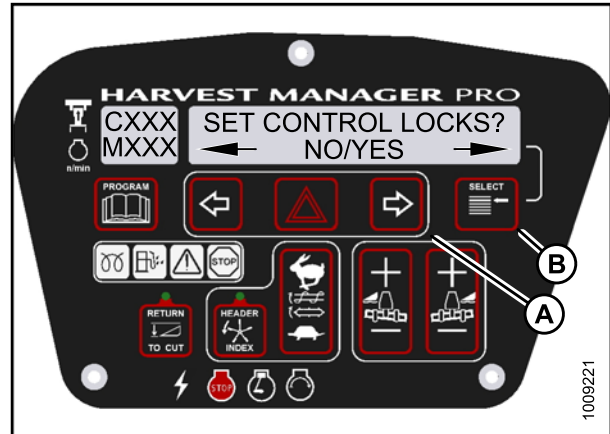


Figure 4.140: M155 Control Locks

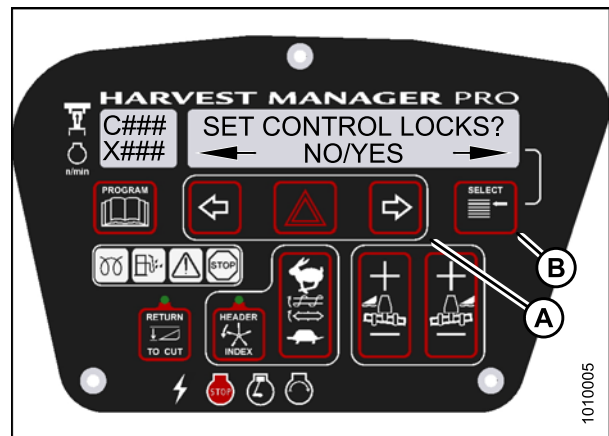


Figure 4.141: M205 Control Locks

CAB DISPLAY MODULE (CDM)

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.

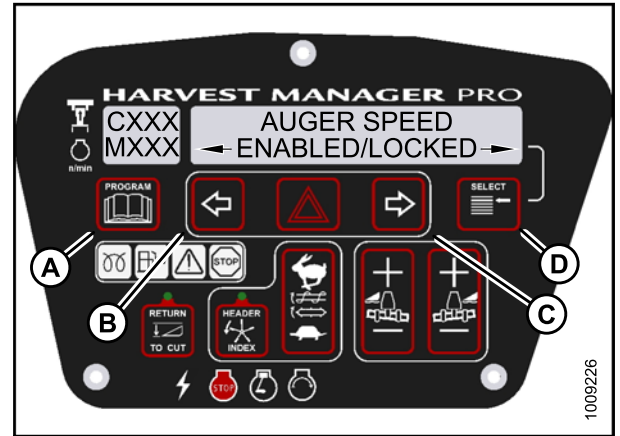


Figure 4.142: M155 Auger Control Lock

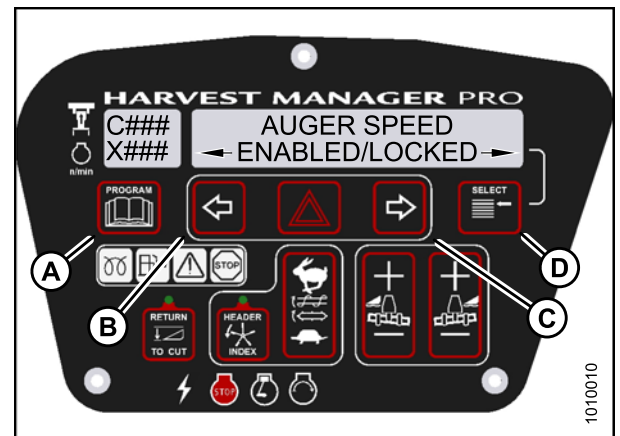


Figure 4.143: M205 Auger Control Lock

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.

CAB DISPLAY MODULE (CDM)

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.

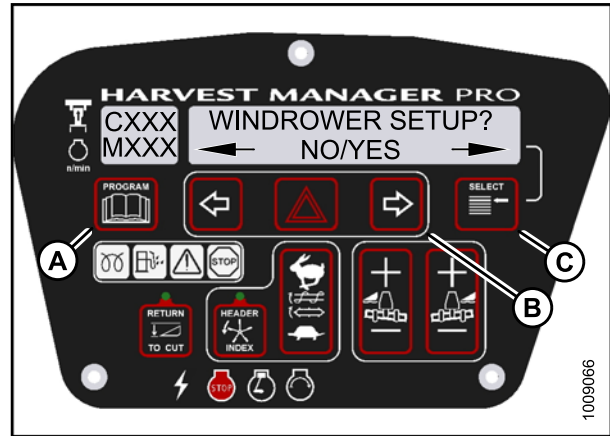


Figure 4.144: M155 CDM Programming Buttons

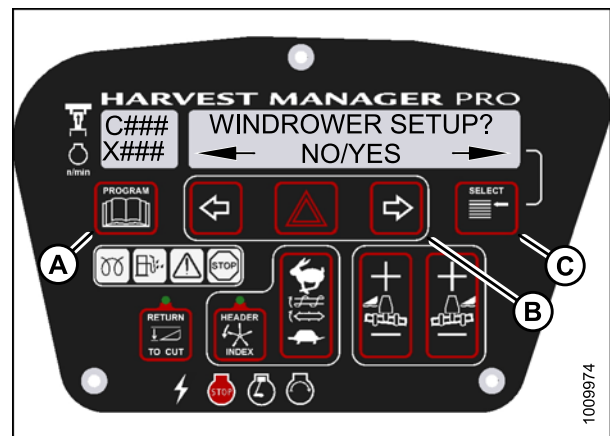


Figure 4.145: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

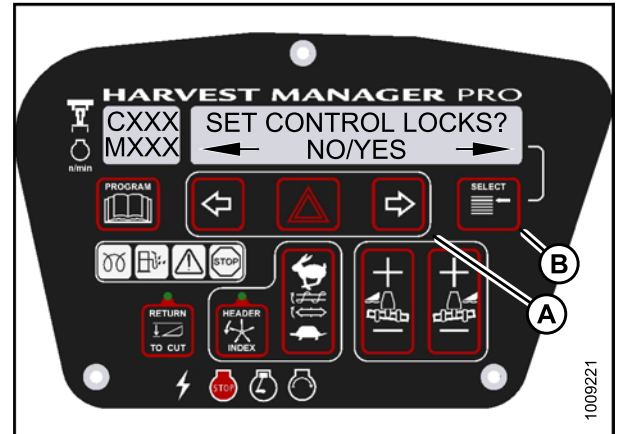


Figure 4.146: M155 Control Locks

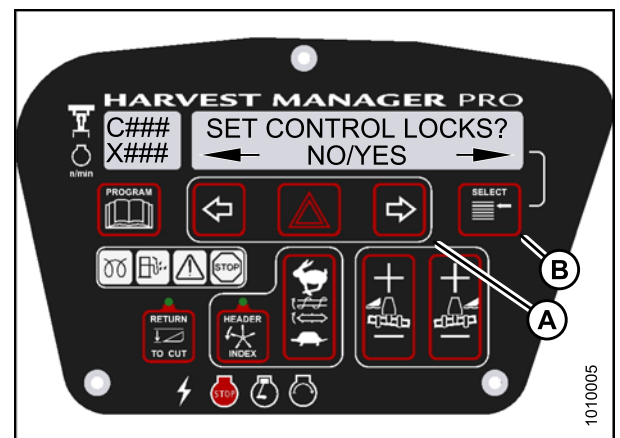


Figure 4.147: M205 Control Locks

CAB DISPLAY MODULE (CDM)

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.

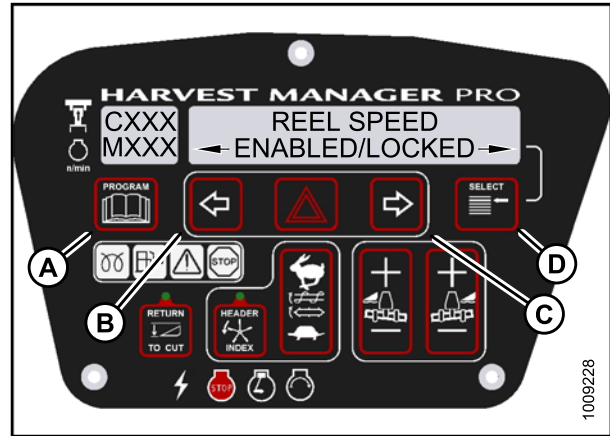


Figure 4.148: M155 Reel Speed Control Lock

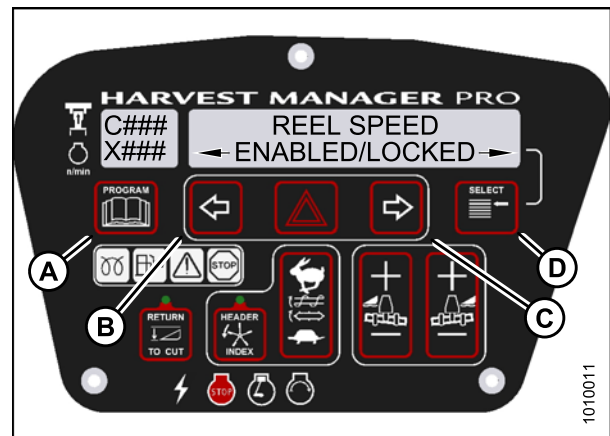


Figure 4.149: M205 Reel Speed Control Lock

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.

CAB DISPLAY MODULE (CDM)

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.

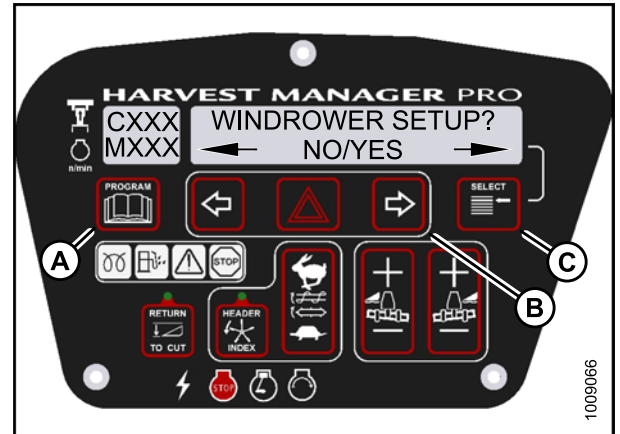


Figure 4.150: M155 CDM Programming Buttons

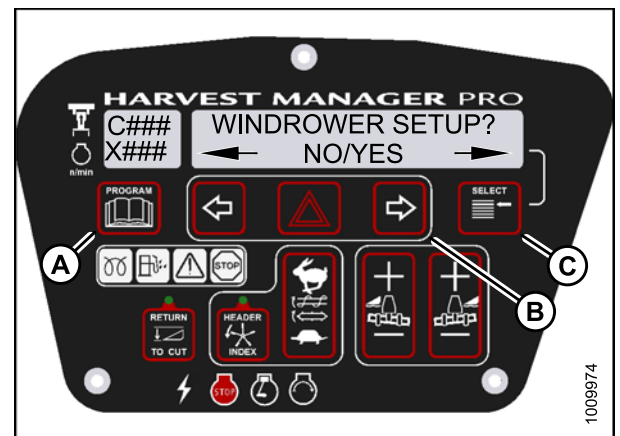


Figure 4.151: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

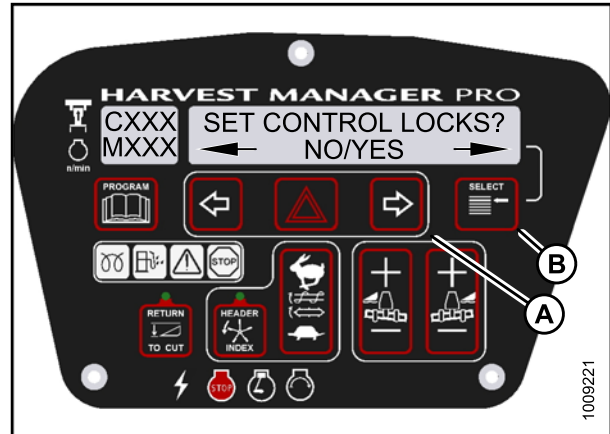


Figure 4.152: M155 Control Locks

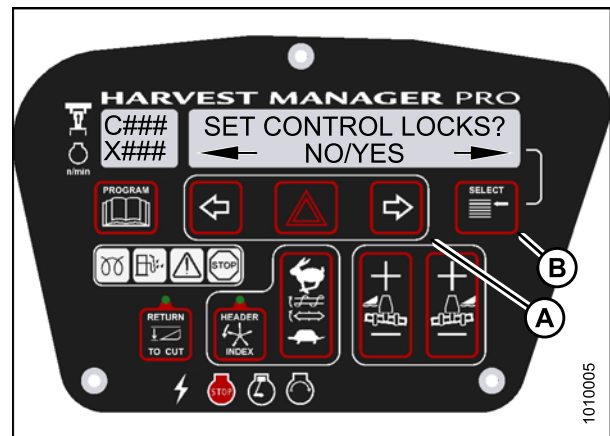


Figure 4.153: M205 Control Locks

CAB DISPLAY MODULE (CDM)

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.

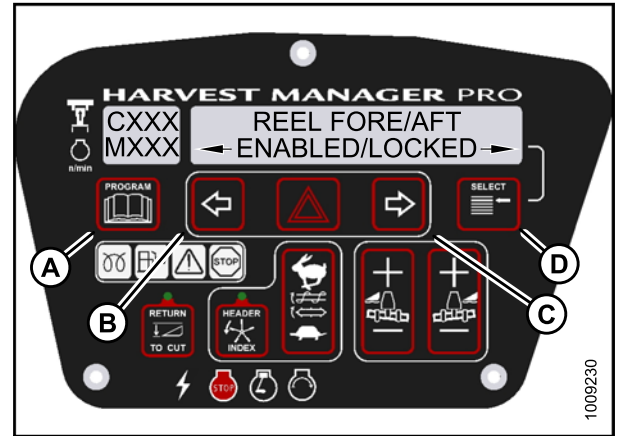


Figure 4.154: M155 Reel Fore-Aft Control Lock

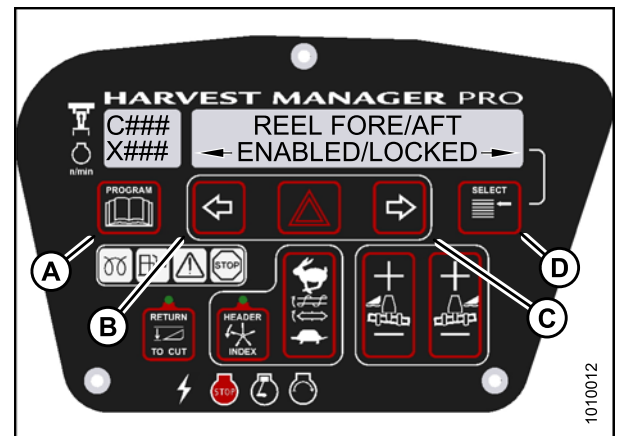


Figure 4.155: M205 Reel Fore-Aft Control Lock

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). For more information, refer to [3.5.2 Installing Hydraulic Center-Link on the M155 \(Optional\)](#), page 18.

CAB DISPLAY MODULE (CDM)

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.

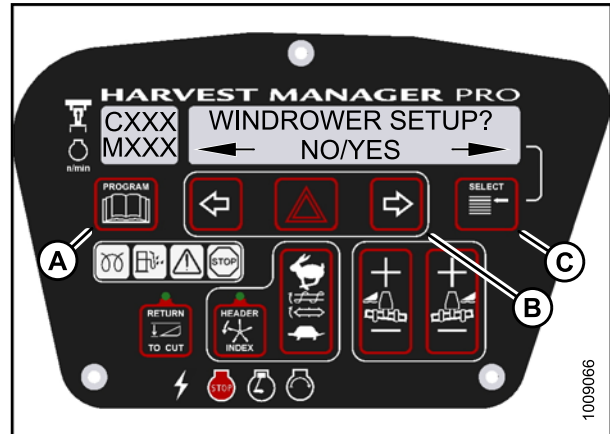


Figure 4.156: M155 CDM Programming Buttons

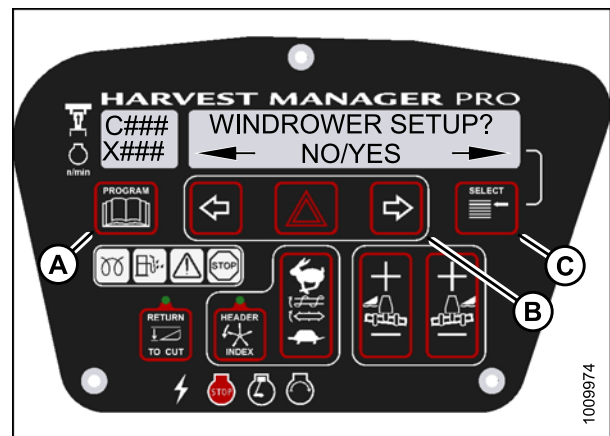


Figure 4.157: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

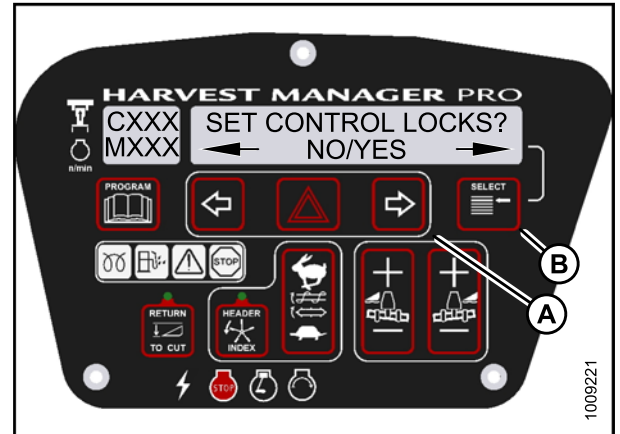


Figure 4.158: M155 Control Locks

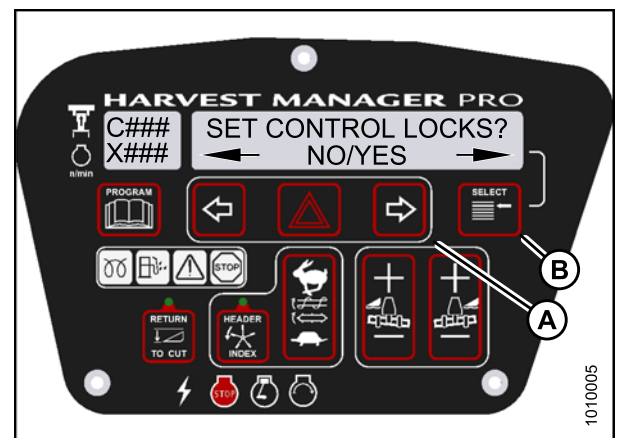


Figure 4.159: M205 Control Locks

CAB DISPLAY MODULE (CDM)

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.

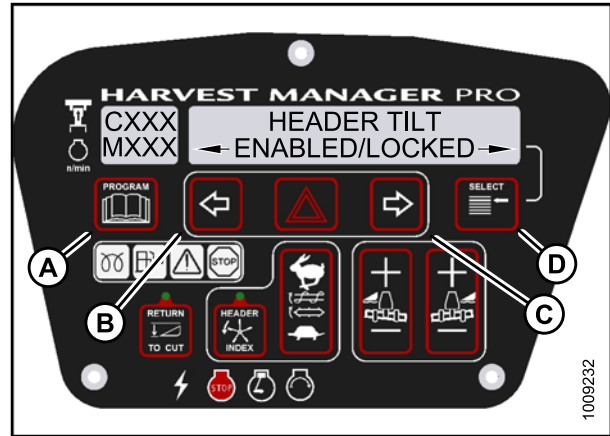


Figure 4.160: M155 Header Tilt Control Lock

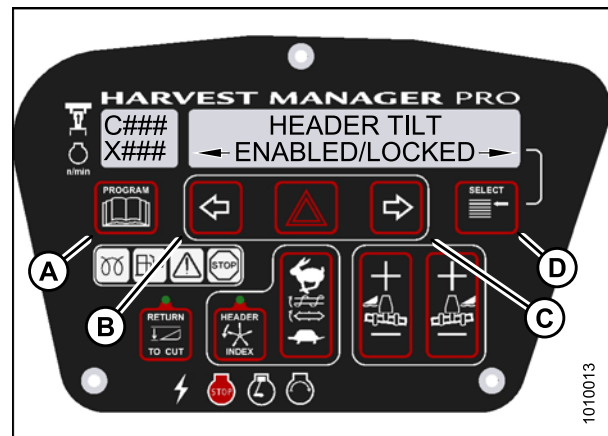


Figure 4.161: M205 Header Tilt Control Lock

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 header tilt control lock requires installation of the optional Hydraulic Center-Link (MD #B4650). For more information, refer to [3.5.2 Installing Hydraulic Center-Link on the M155 \(Optional\)](#), page 18.
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.

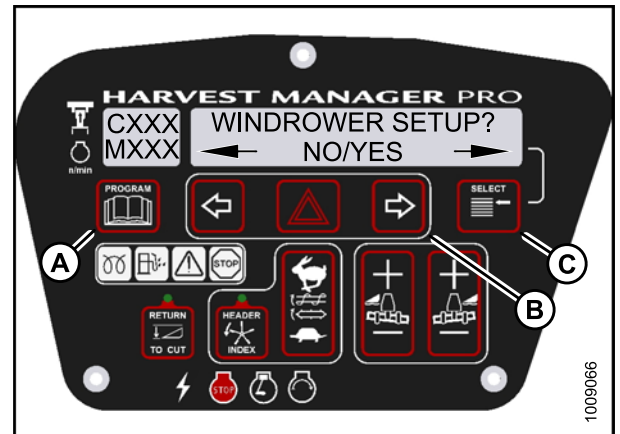


Figure 4.162: M155 CDM Programming Buttons

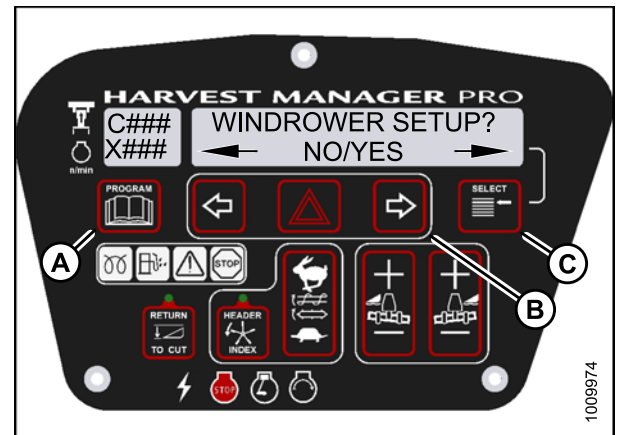


Figure 4.163: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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). 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.

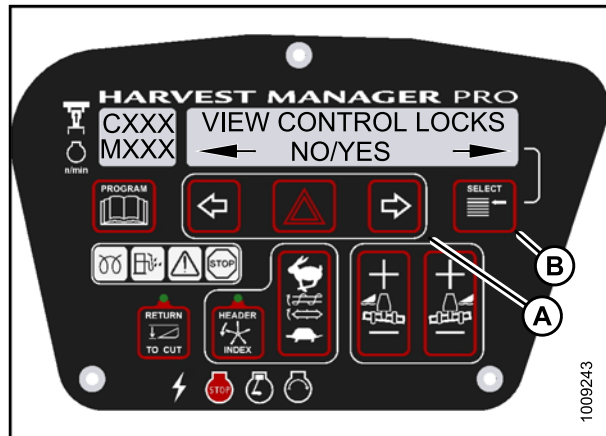


Figure 4.164: M155 Control Locks

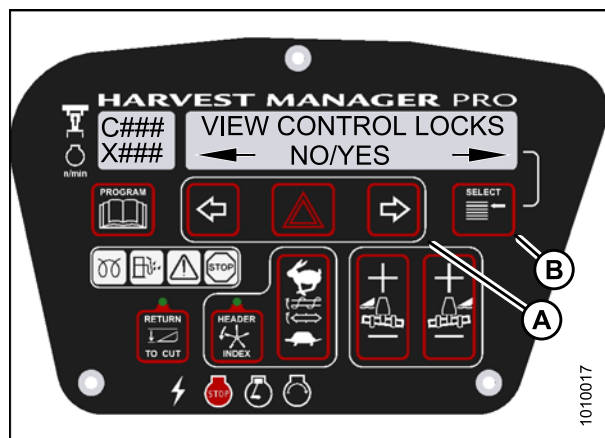


Figure 4.165: M205 Control Locks

CAB DISPLAY MODULE (CDM)

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.

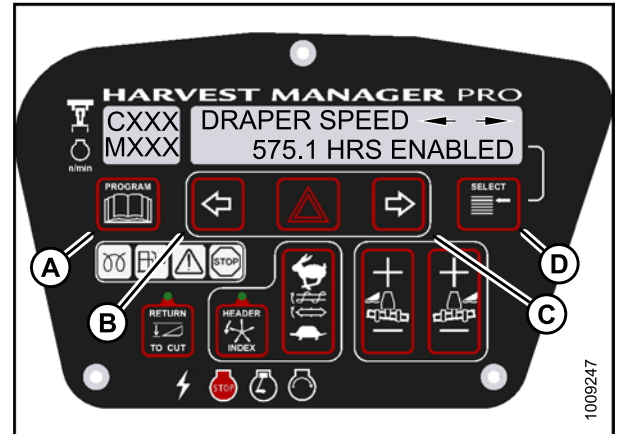


Figure 4.166: M155 Control Locks

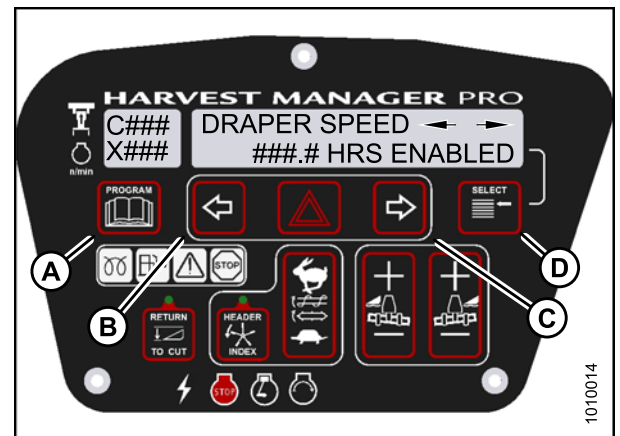


Figure 4.167: M205 Control Locks

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.



CAB DISPLAY MODULE (CDM)

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.

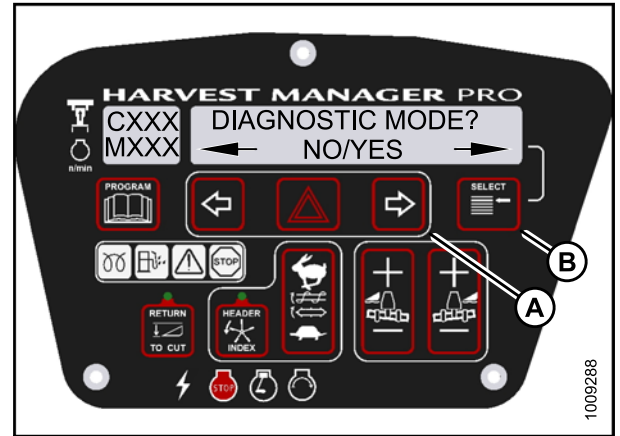


Figure 4.170: M155 Diagnostic Functions

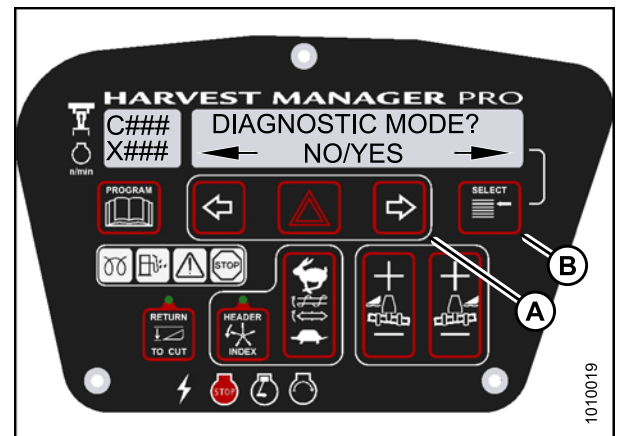


Figure 4.171: M205 Diagnostic Functions

CAB DISPLAY MODULE (CDM)

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 windrower error codes until EXIT WINDROWER CODES is displayed.
9. 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.

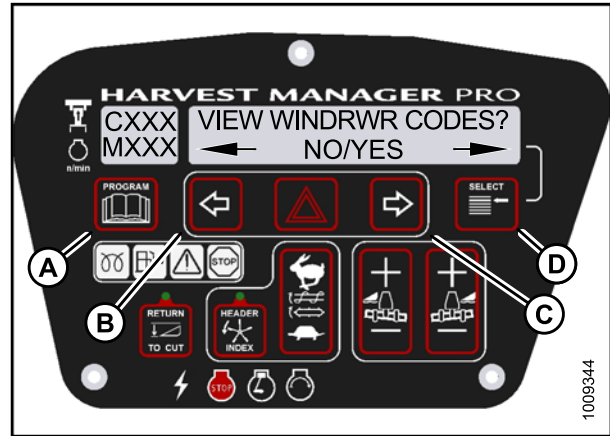


Figure 4.172: M155 Windrower Codes

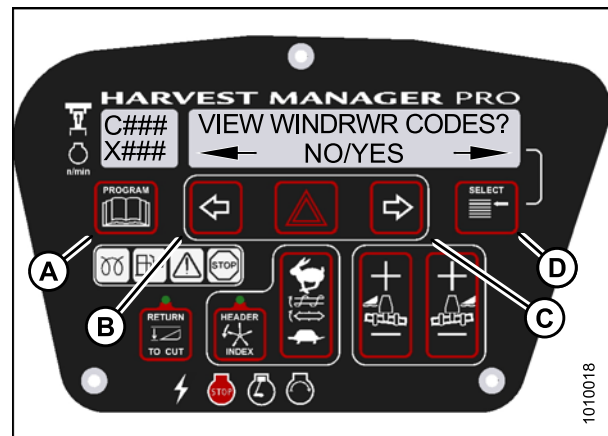


Figure 4.173: M205 Windrower Codes

CAB DISPLAY MODULE (CDM)

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

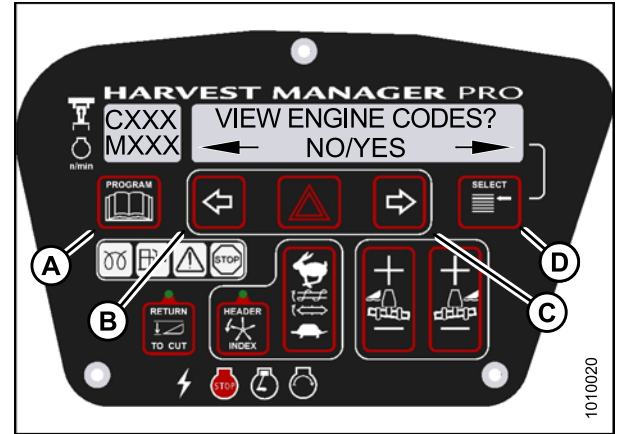


Figure 4.174: M155 Engine Codes

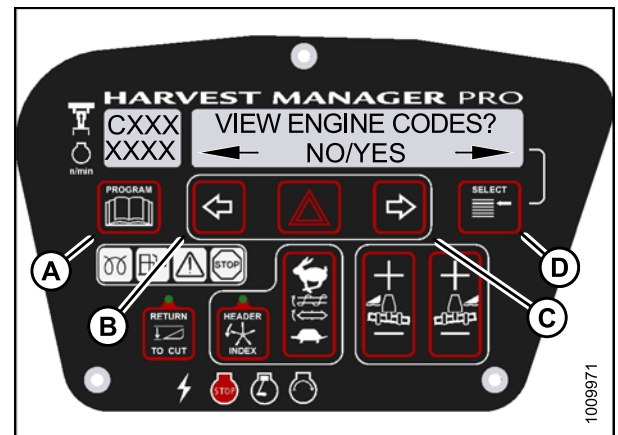


Figure 4.175: M205 Engine Codes

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.
- Disabled sensors flash the word SENSOR on CDM during regular operation.

CAB DISPLAY MODULE (CDM)

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.

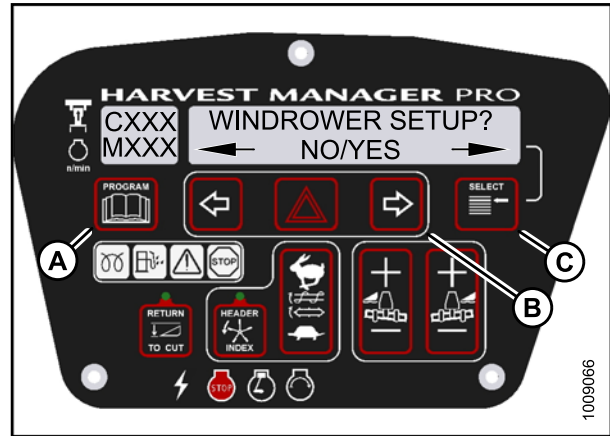


Figure 4.176: M155 CDM Programming Buttons

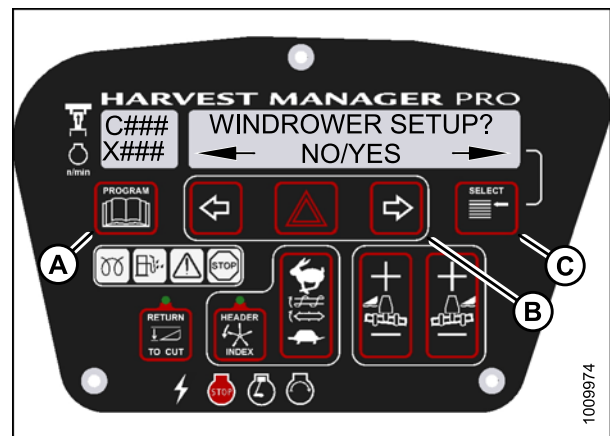


Figure 4.177: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).
 - KNIFE SPEED SENSOR is displayed on the lower line.
 - ENABLE/DISABLE is displayed on the lower line.

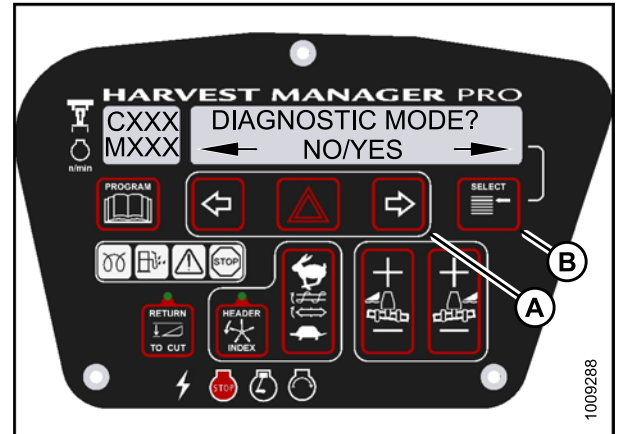


Figure 4.178: M155 Diagnostic Functions

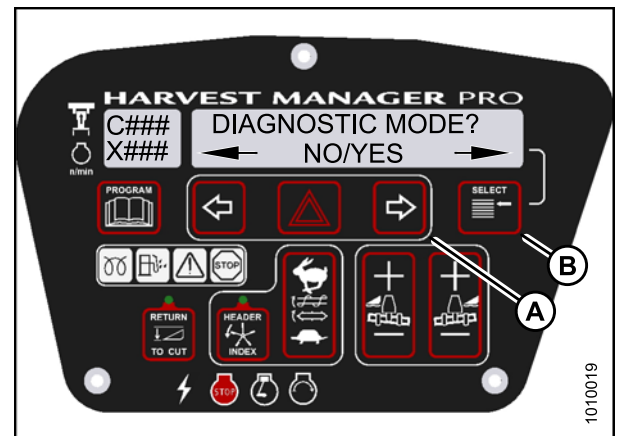


Figure 4.179: M205 Diagnostic Functions

CAB DISPLAY MODULE (CDM)

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 PRESSURE⁹
- HYD OIL TEMP SENSOR

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

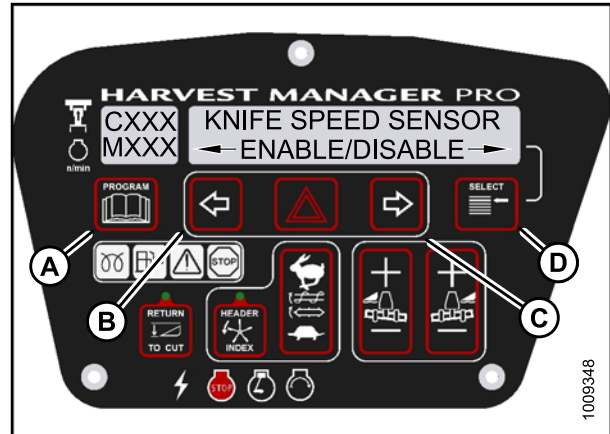


Figure 4.180: M155 Header Sensors

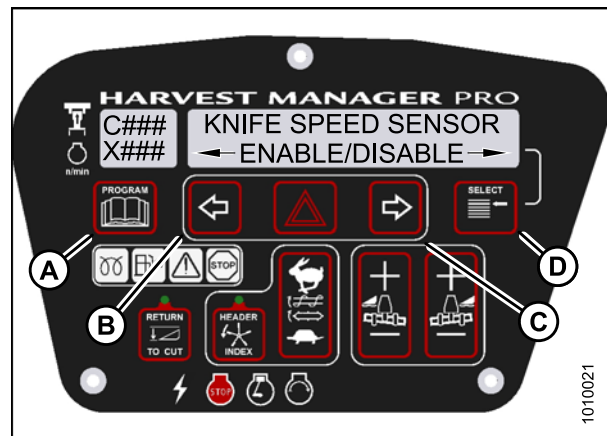


Figure 4.181: M205 Header Sensors

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.

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.

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

CAB DISPLAY MODULE (CDM)

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.

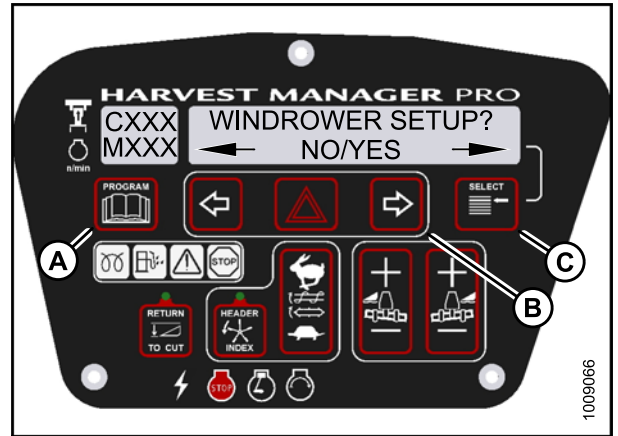


Figure 4.182: M155 CDM Programming Buttons

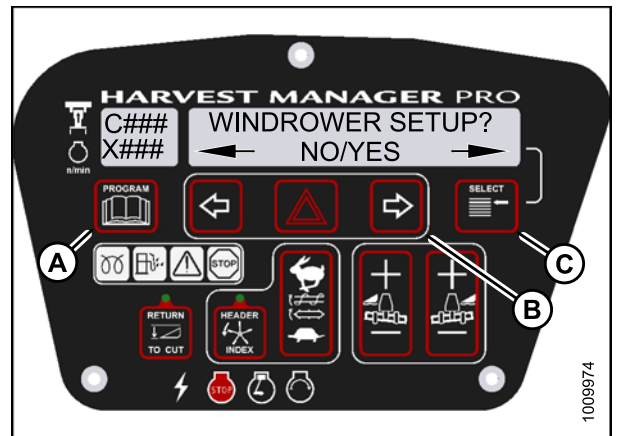


Figure 4.183: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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.

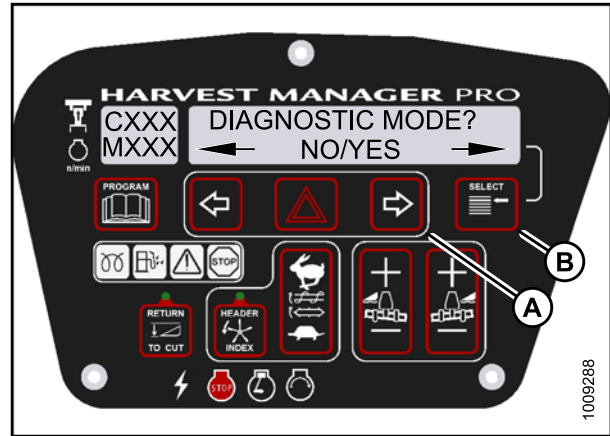


Figure 4.184: M155 Diagnostic Functions

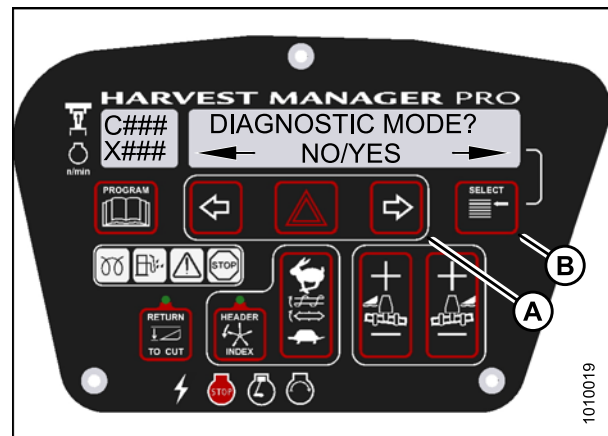


Figure 4.185: M205 Diagnostic Functions

CAB DISPLAY MODULE (CDM)

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.

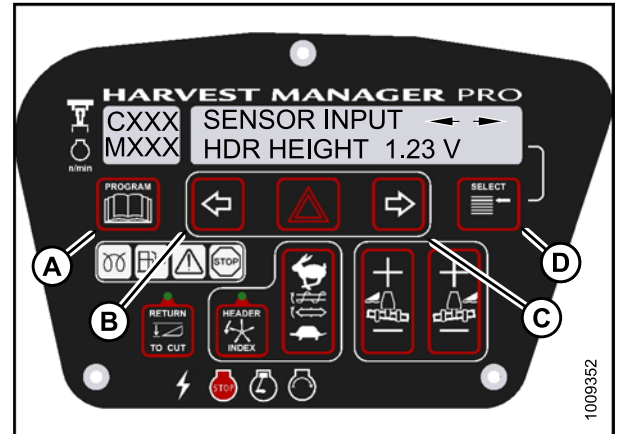


Figure 4.186: M155 Header Sensors

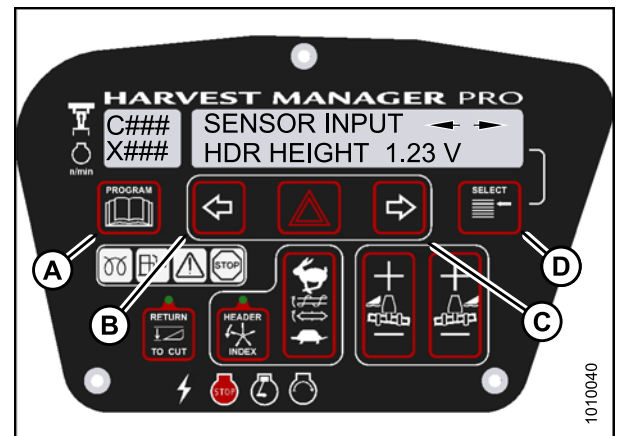


Figure 4.187: M205 Header Sensors

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.

CAB DISPLAY MODULE (CDM)

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.

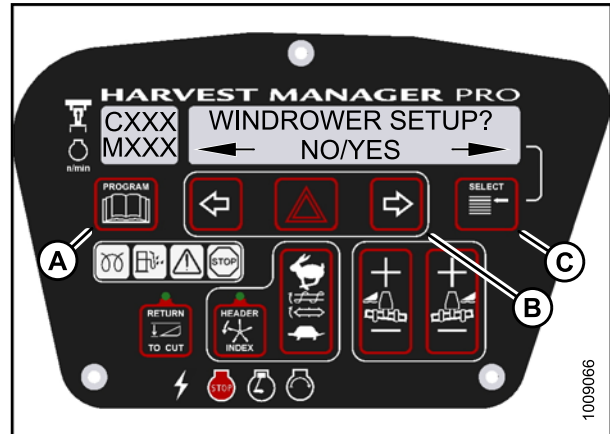


Figure 4.188: M155 CDM Programming Buttons

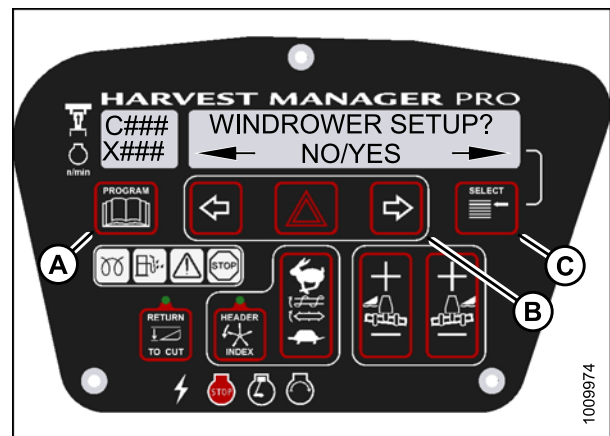


Figure 4.189: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

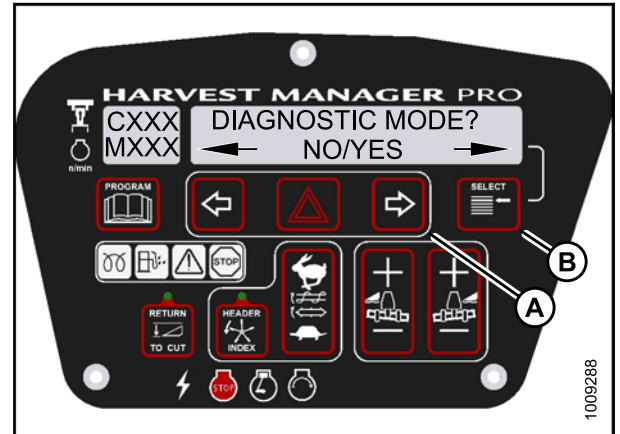


Figure 4.190: M155 Diagnostic Functions

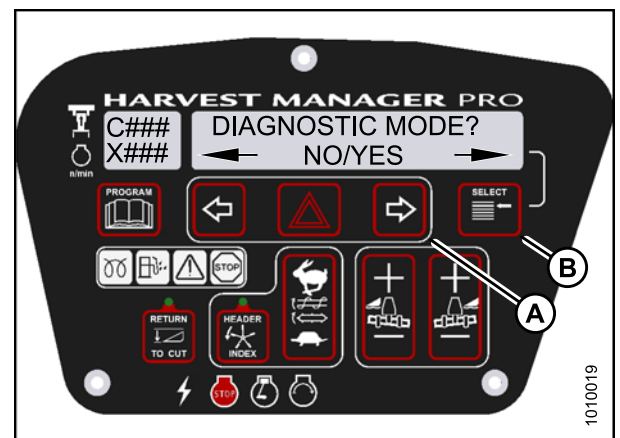


Figure 4.191: M205 Diagnostic Functions

CAB DISPLAY MODULE (CDM)

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.

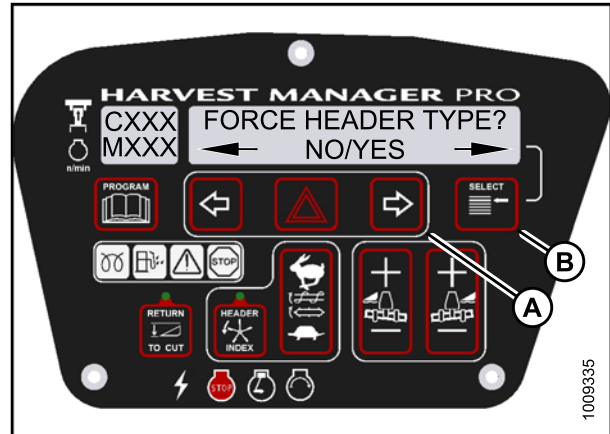


Figure 4.192: Header Type

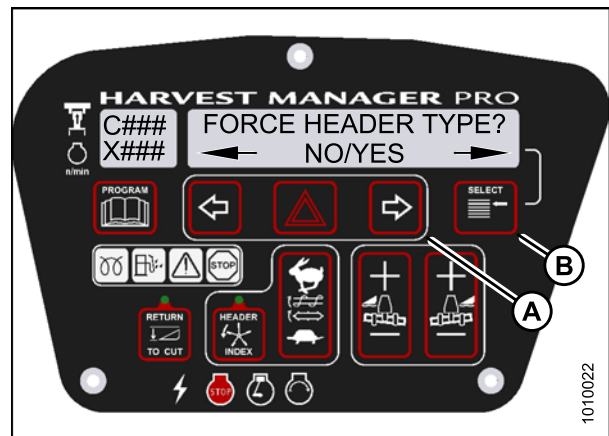


Figure 4.193: M205 Header Type

CAB DISPLAY MODULE (CDM)

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 4.194: M155 Header Type

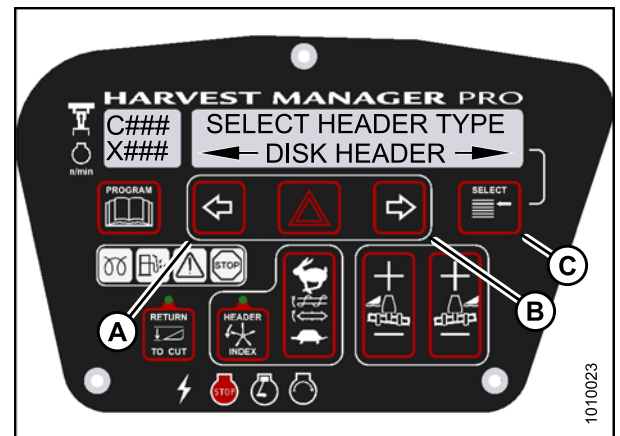


Figure 4.195: M205 Header Type

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.

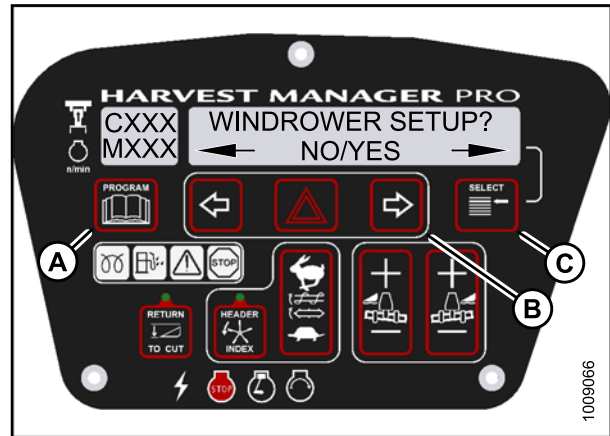


Figure 4.196: M155 CDM Programming Buttons

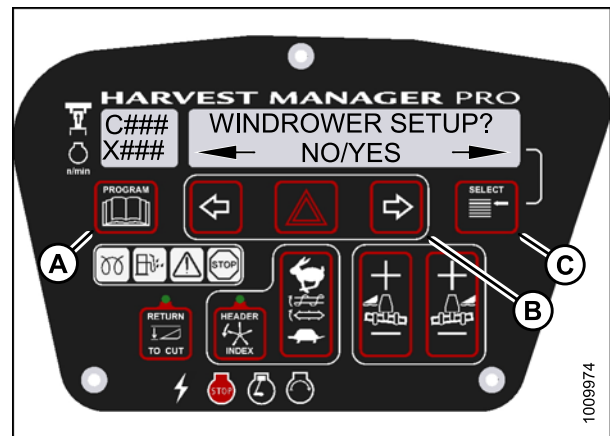


Figure 4.197: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

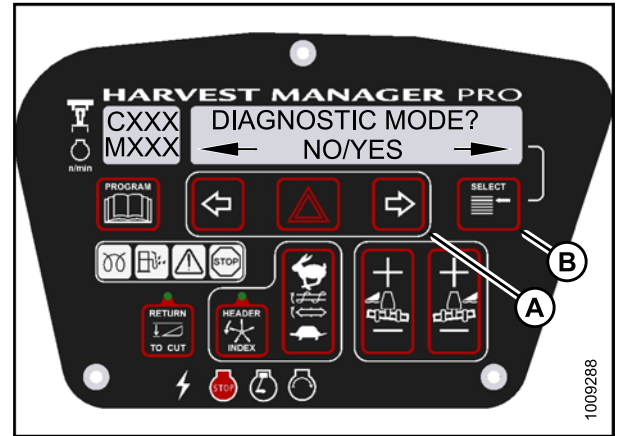


Figure 4.198: M155 Diagnostic Functions

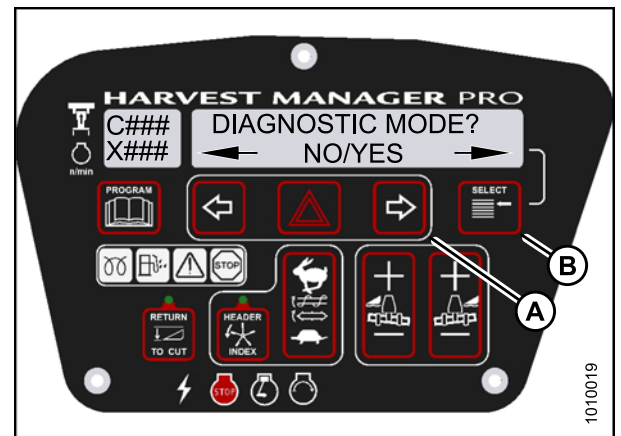


Figure 4.199: M205 Diagnostic Functions

CAB DISPLAY MODULE (CDM)

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 4.200: M155 Functions

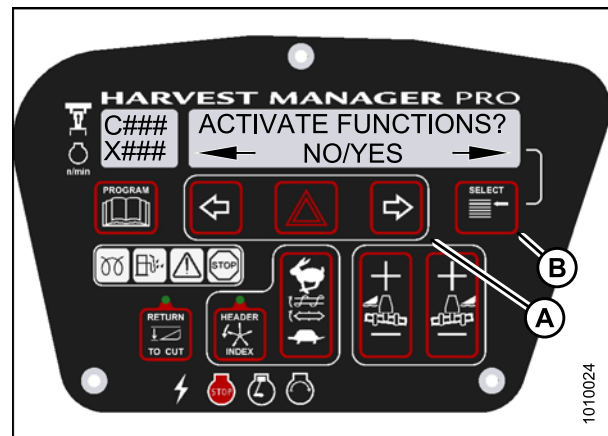


Figure 4.201: M205 Functions

CAB DISPLAY MODULE (CDM)

CAUTION

Check to be sure all bystanders have cleared the area.

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

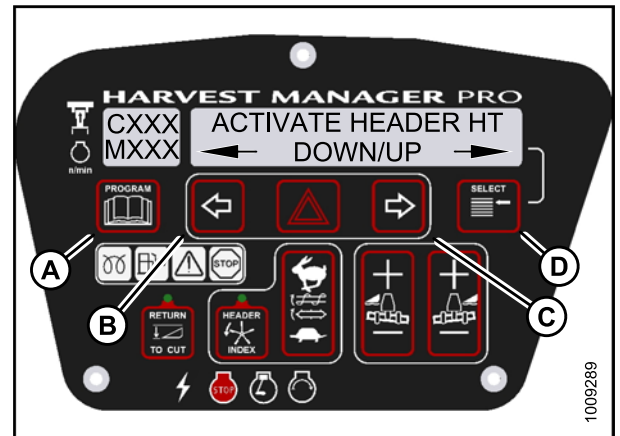


Figure 4.202: M155 Header Height

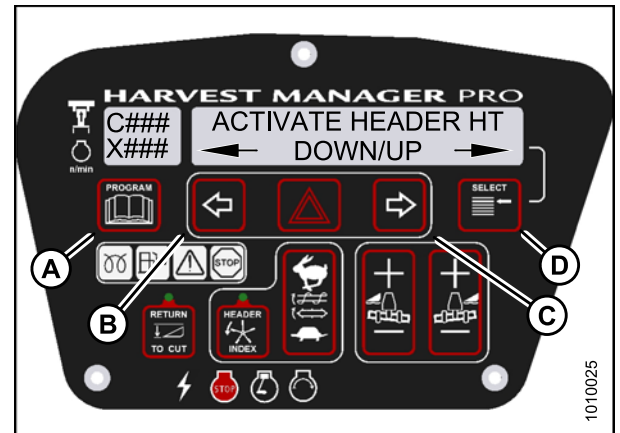


Figure 4.203: M205 Header Height

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. For more information, refer to [3.5.2 Installing Hydraulic Center-Link on the M155 \(Optional\)](#), page 18.

CAB DISPLAY MODULE (CDM)

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.

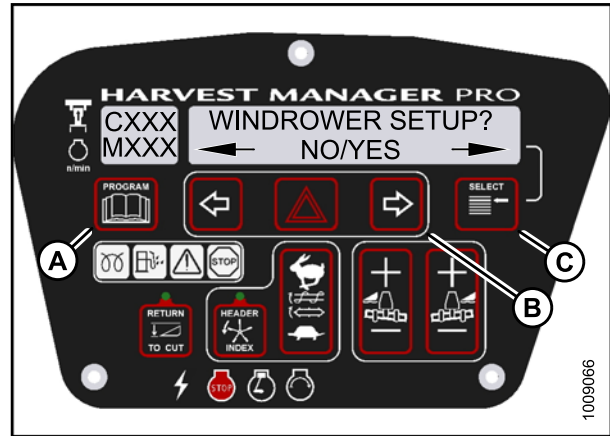


Figure 4.204: M155 CDM Programming Buttons

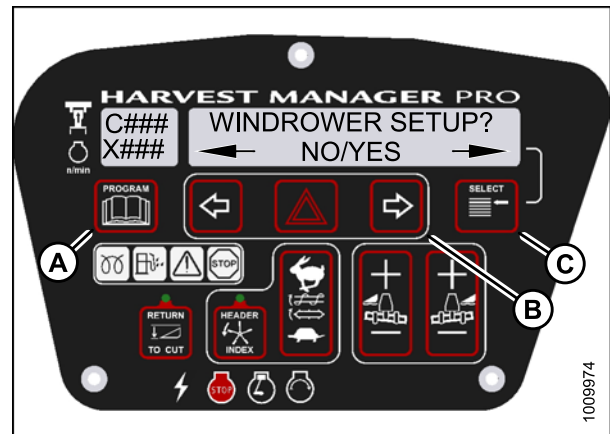


Figure 4.205: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

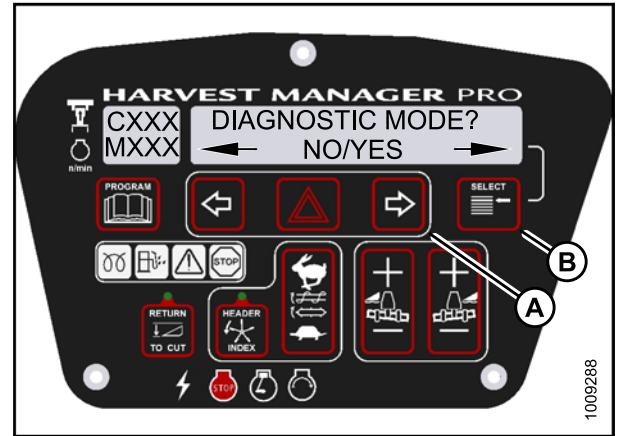


Figure 4.206: M155 Diagnostic Functions

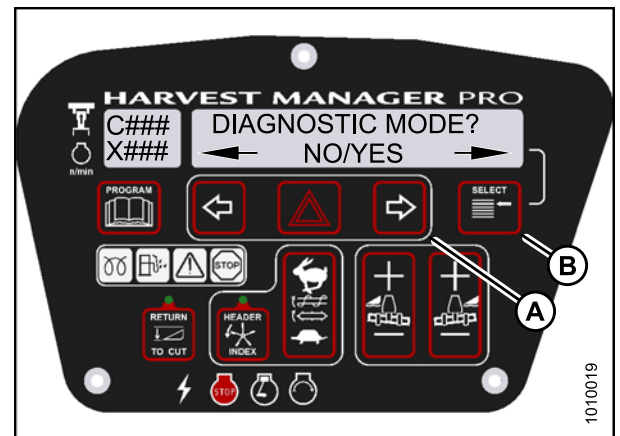


Figure 4.207: M205 Diagnostic Functions

CAB DISPLAY MODULE (CDM)

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



Figure 4.208: M155 Functions

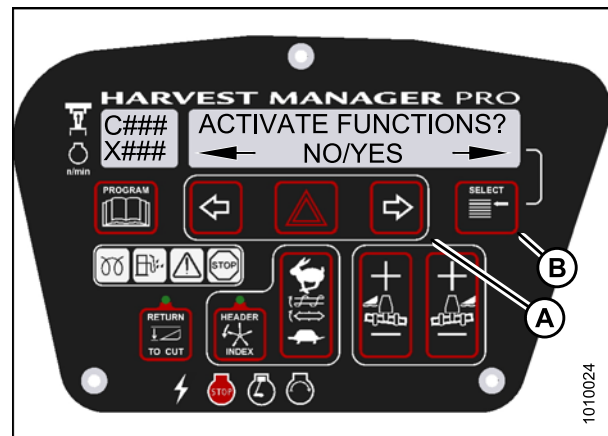


Figure 4.209: M205 Functions

CAUTION

Check to be sure all bystanders have cleared the area.

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

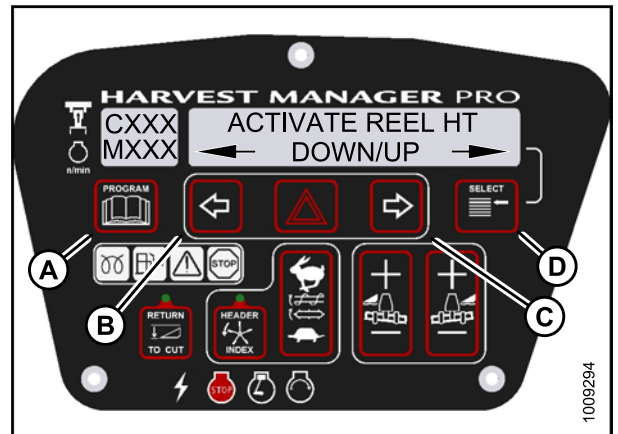


Figure 4.210: M155 Reel Height

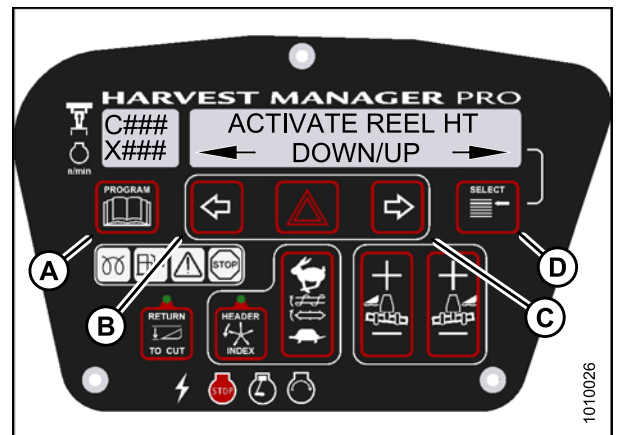


Figure 4.211: M205 Reel Height

4.8.3 Testing the Header Tilt 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.
- This procedure requires installation of the optional Hydraulic Center-Link (MD #B4650). For more information, refer to [3.5.2 Installing Hydraulic Center-Link on the M155 \(Optional\)](#), page 18.
- The engine **MUST** be running to perform this procedure.

CAB DISPLAY MODULE (CDM)

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.

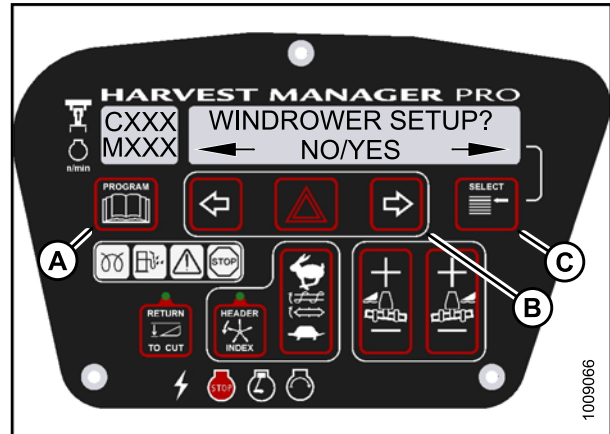


Figure 4.212: M155 CDM Programming Buttons

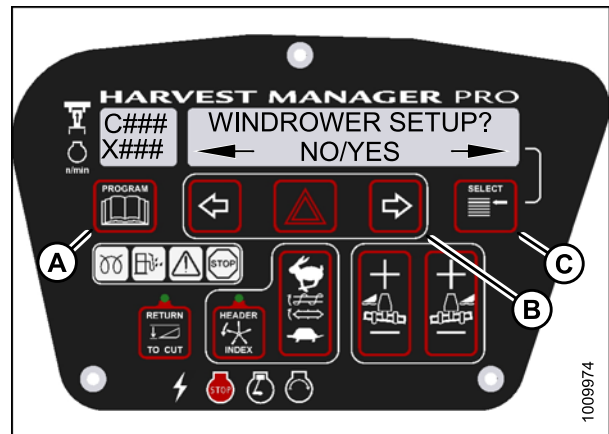


Figure 4.213: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

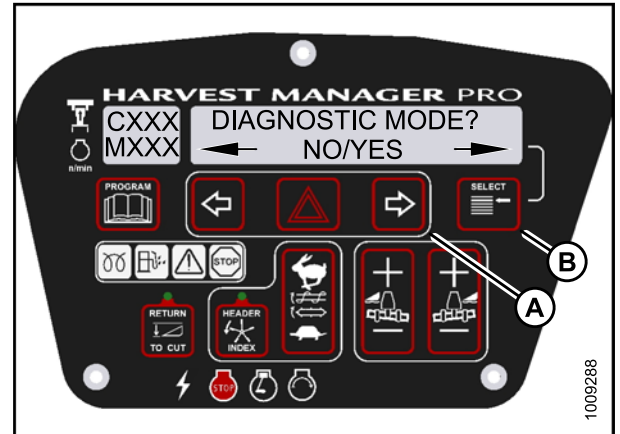


Figure 4.214: M155 Diagnostic Functions

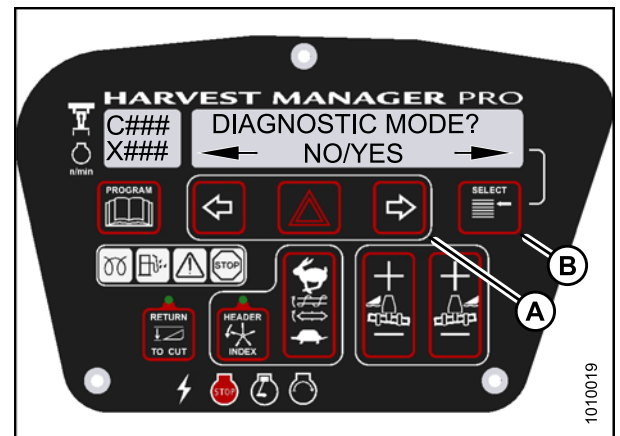


Figure 4.215: M205 Diagnostic Functions

CAB DISPLAY MODULE (CDM)

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



Figure 4.216: M155 Functions

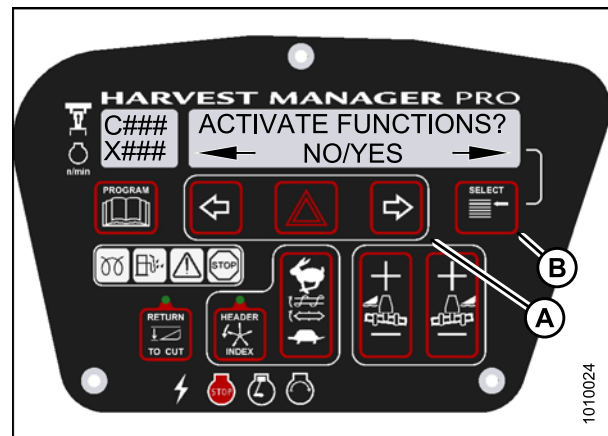


Figure 4.217: M205 Functions

CAUTION

Check to be sure all bystanders have cleared the area.

7. Press SELECT (D) until ACTIVATE HDR TILT is displayed on the upper line.
 • IN/OUT is displayed on the lower line.
8. 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.**
9. Press PROGRAM (A) to exit Programming Mode or press SELECT (D) to proceed to next ACTIVATE FUNCTION.

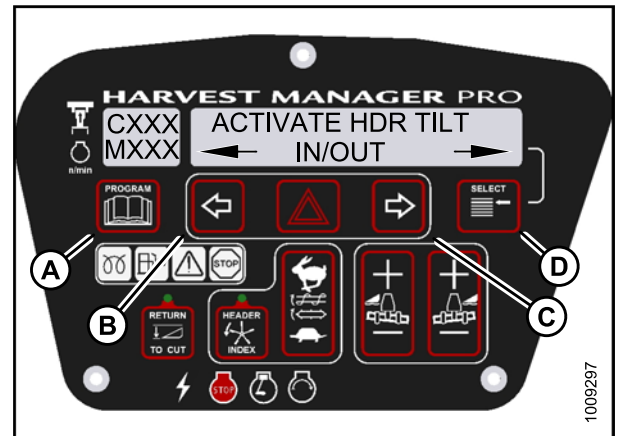


Figure 4.218: M155 Header Tilt Angle

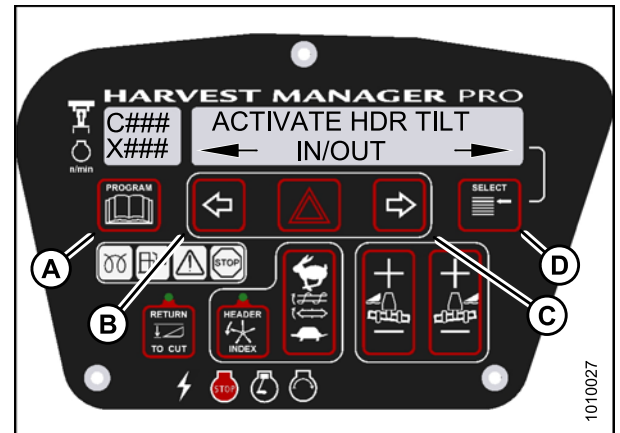


Figure 4.219: M205 Header Tilt Angle

4.8.4 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. For more information, refer to [3.10 Attaching Headers, page 28](#).
- The engine **MUST** be running to perform this procedure.

CAB DISPLAY MODULE (CDM)

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.

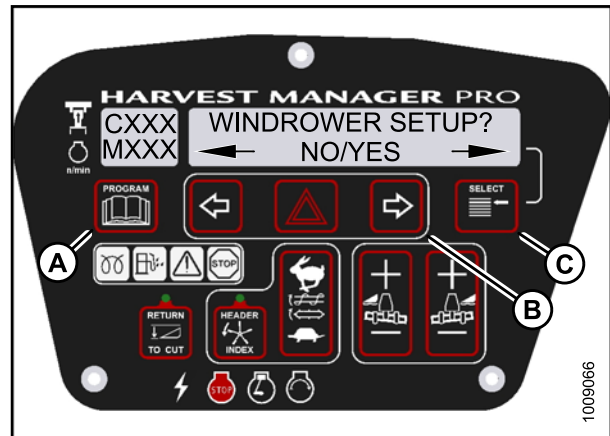


Figure 4.220: M155 CDM Programming Buttons

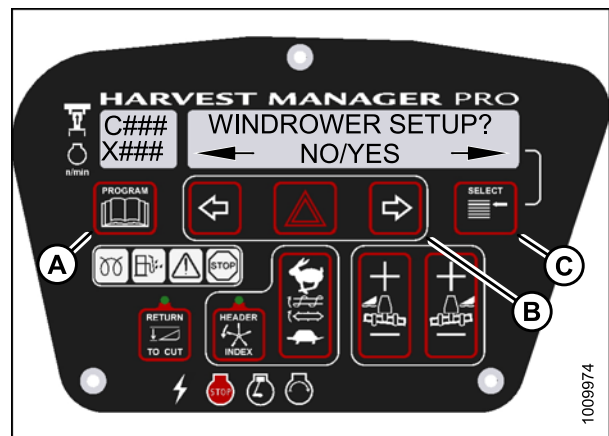


Figure 4.221: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

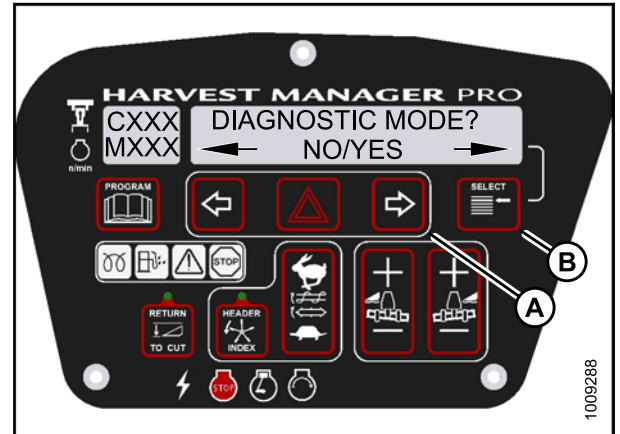


Figure 4.222: M155 Diagnostic Functions

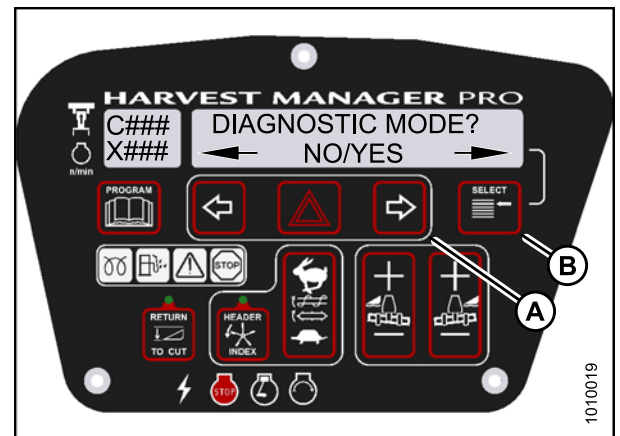


Figure 4.223: M205 Diagnostic Functions

CAB DISPLAY MODULE (CDM)

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



CAUTION

Check to be sure all bystanders have cleared the area.



Figure 4.224: M155 Functions

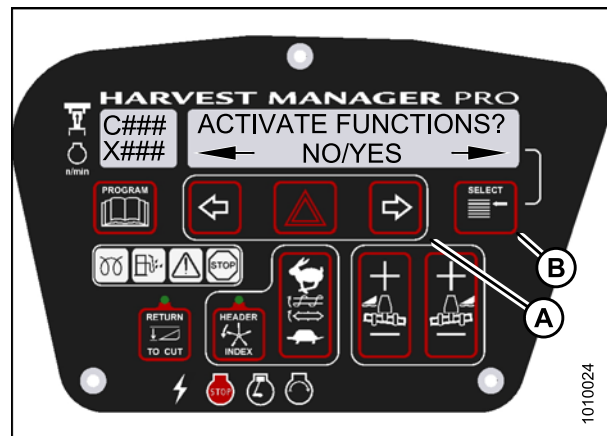


Figure 4.225: M205 Functions

CAB DISPLAY MODULE (CDM)

7. Press SELECT (D) until ACTIVATE REEL F/A is displayed on the upper line.
 - FORE/AFT is displayed on the lower line.
8. 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.

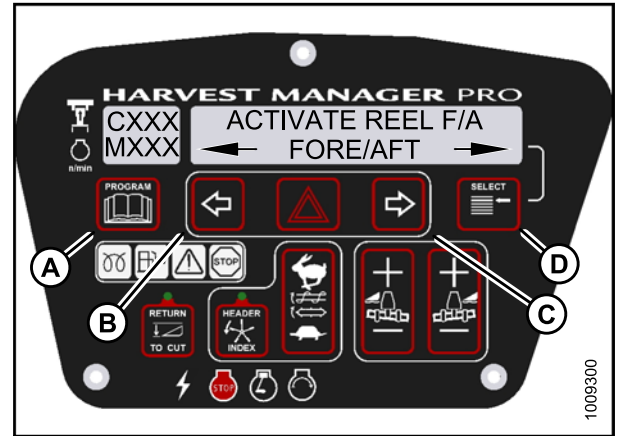


Figure 4.226: M155 Reel Fore-Aft

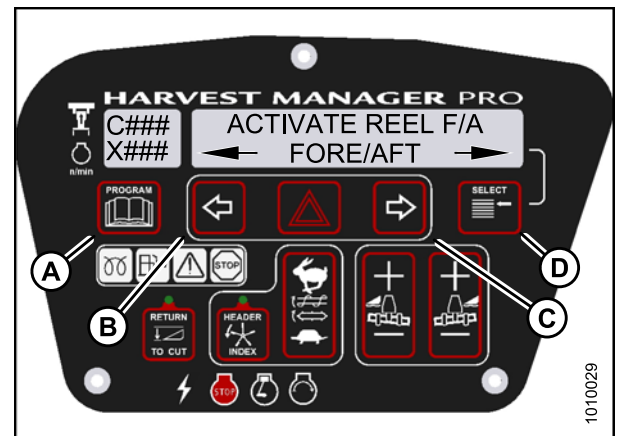


Figure 4.227: M205 Reel Fore-Aft

4.8.5 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.

CAB DISPLAY MODULE (CDM)

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.

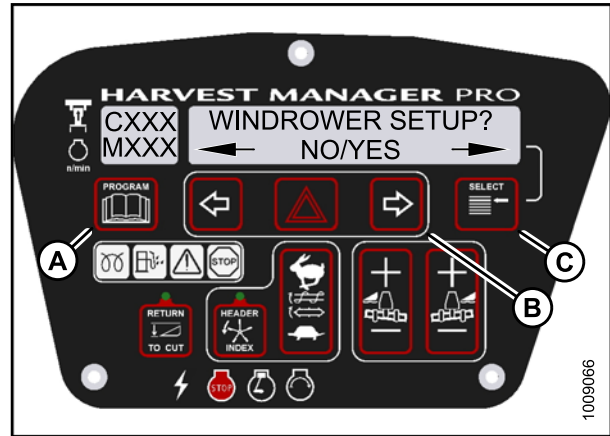


Figure 4.228: M155 CDM Programming Buttons

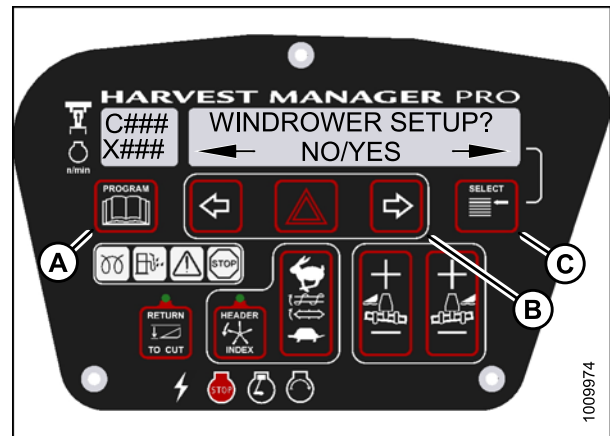


Figure 4.229: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

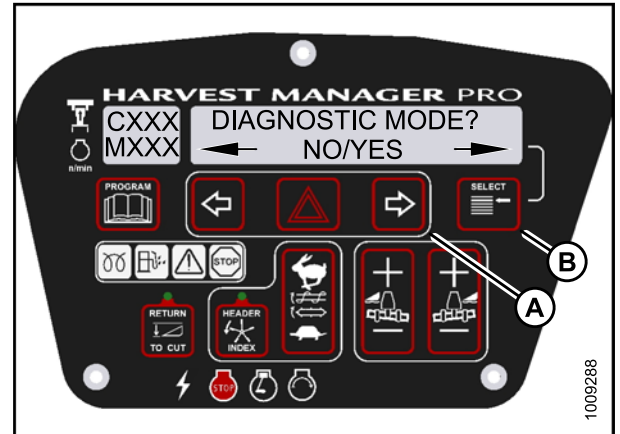


Figure 4.230: M155 Diagnostic Functions

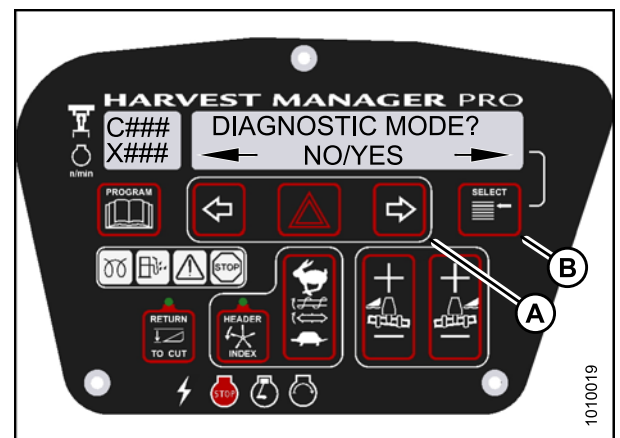


Figure 4.231: M205 Diagnostic Functions

CAB DISPLAY MODULE (CDM)

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.
 - DOWN/UP is displayed on the lower line.



Figure 4.232: M155 Functions

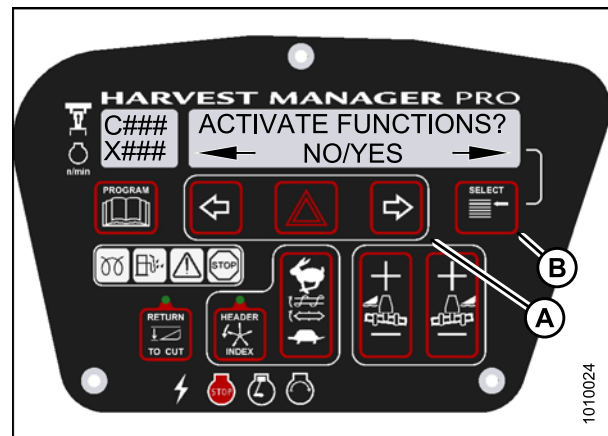


Figure 4.233: M205 Functions

CAB DISPLAY MODULE (CDM)

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 4.234: M155 Hydraulic Purge



Figure 4.235: M205 Hydraulic Purge

CAB DISPLAY MODULE (CDM)

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 4.236: M155 Hydraulic Purge Cycle



Figure 4.237: M205 Hydraulic Purge Cycle

4.8.6 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.

CAB DISPLAY MODULE (CDM)

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.

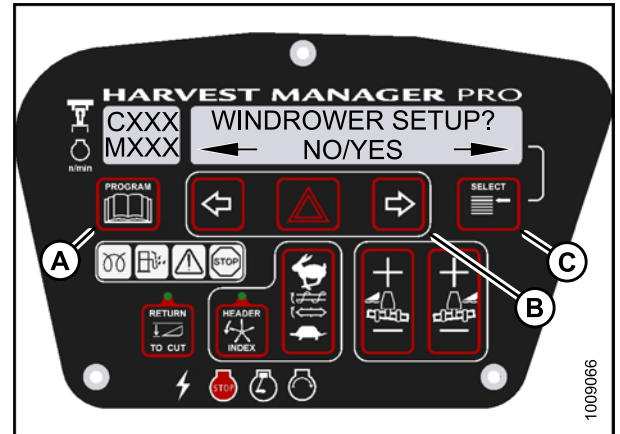


Figure 4.238: M155 CDM Programming Buttons

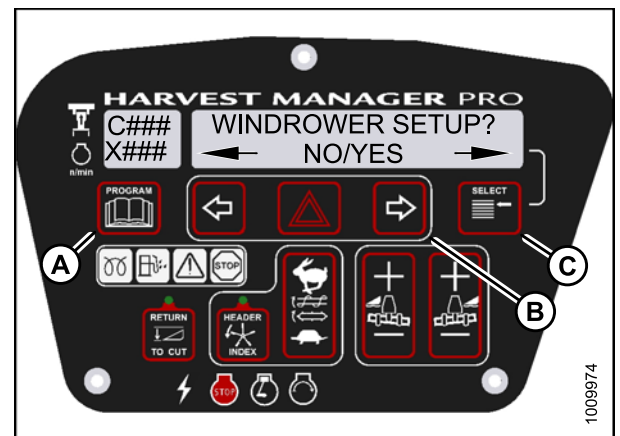


Figure 4.239: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

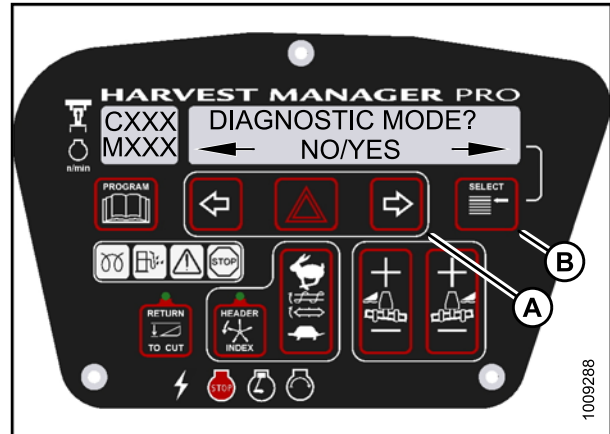


Figure 4.240: M155 Diagnostic Functions

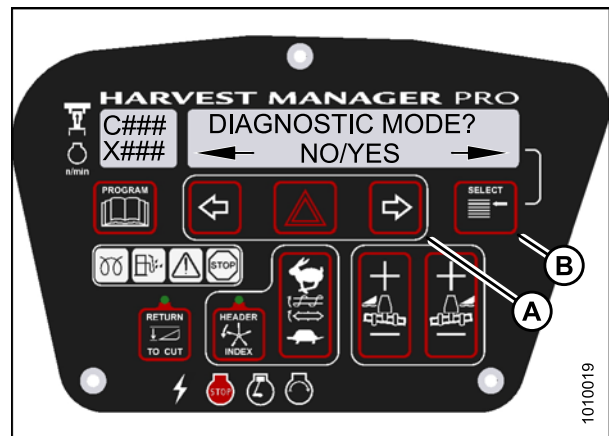


Figure 4.241: M205 Diagnostic Functions

CAB DISPLAY MODULE (CDM)

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 4.242: M155 Functions

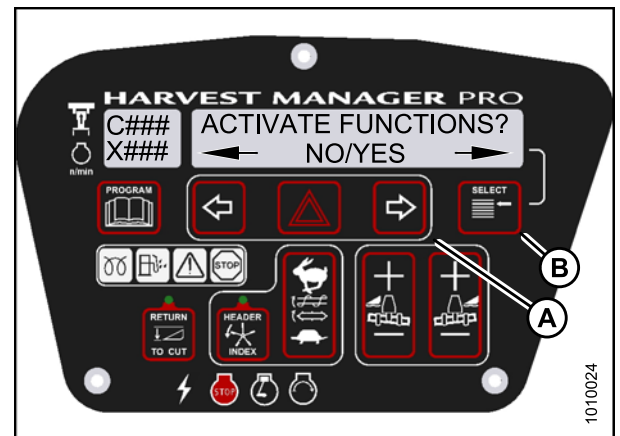


Figure 4.243: M205 Functions

CAB DISPLAY MODULE (CDM)

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.

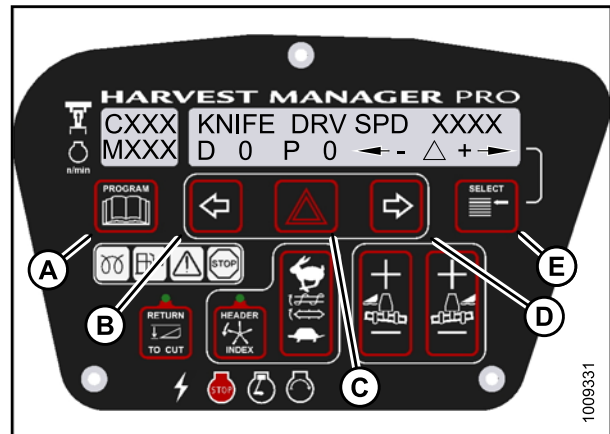


Figure 4.244: M155 Knife Drive

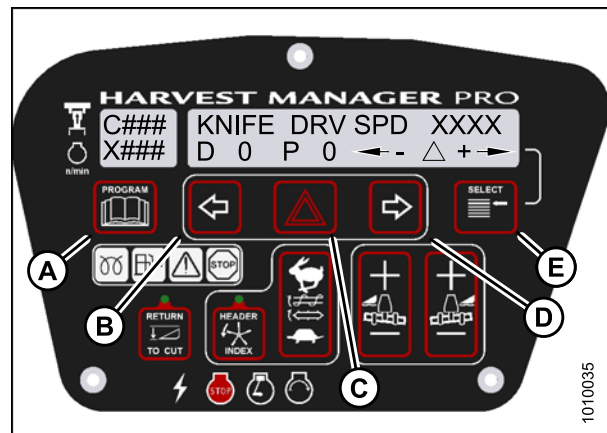


Figure 4.245: M205 Knife Drive

10. Press PROGRAM (A) to exit Programming Mode or press SELECT (E) to proceed to next ACTIVATE FUNCTION.

4.8.7 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.

CAB DISPLAY MODULE (CDM)

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.

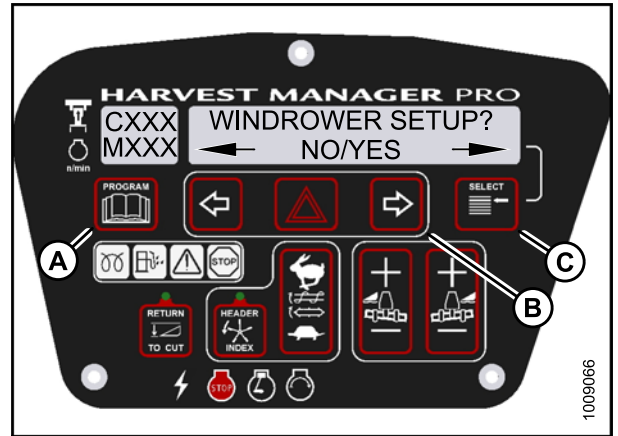


Figure 4.246: M155 CDM Programming Buttons

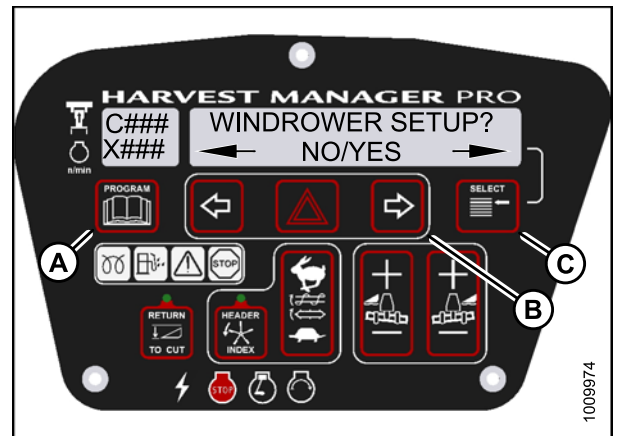


Figure 4.247: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

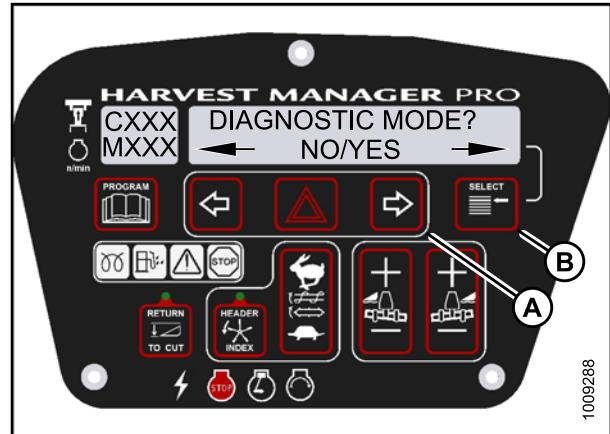


Figure 4.248: M155 Diagnostic Functions

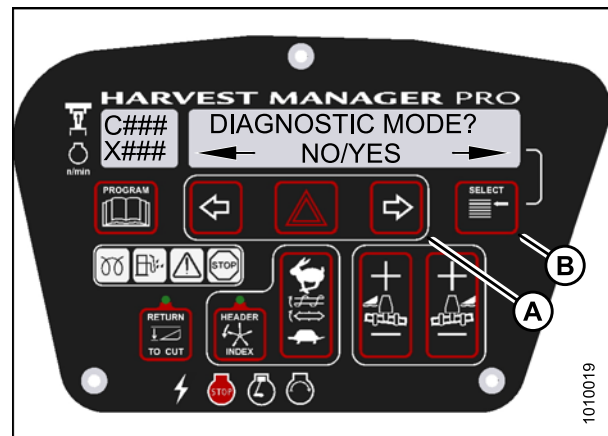


Figure 4.249: M205 Diagnostic Functions

CAB DISPLAY MODULE (CDM)

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.

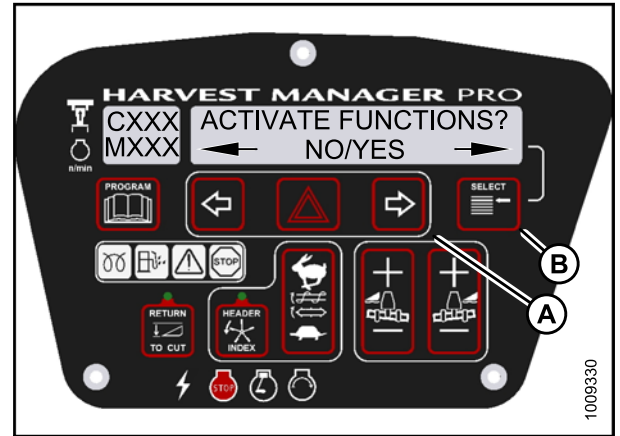


Figure 4.250: M155 Functions

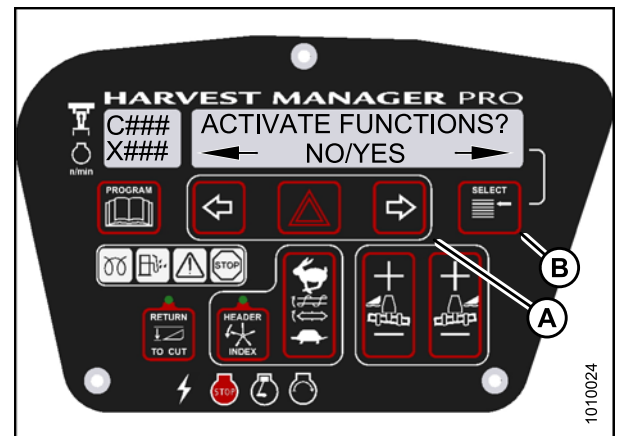


Figure 4.251: M205 Functions

CAB DISPLAY MODULE (CDM)

CAUTION

Check to be sure all bystanders have cleared the area.

- Press SELECT (B) until DRAPER DRV SPD XXXX is displayed on the upper line.

IMPORTANT:

Do **NOT** over-speed the drapers.

- 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.

- Release the HAZARD (C) button. The drapers will stop.

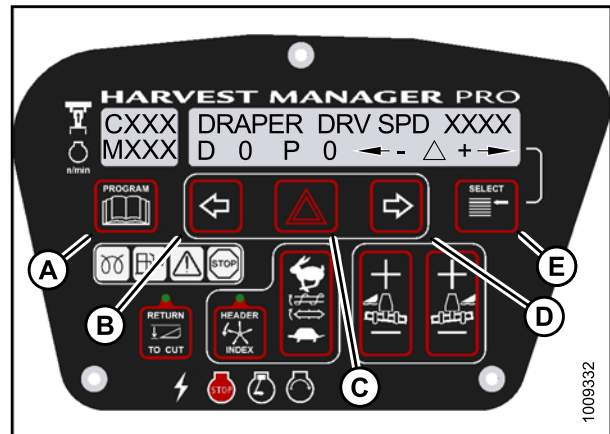


Figure 4.252: M155 Draper Drive

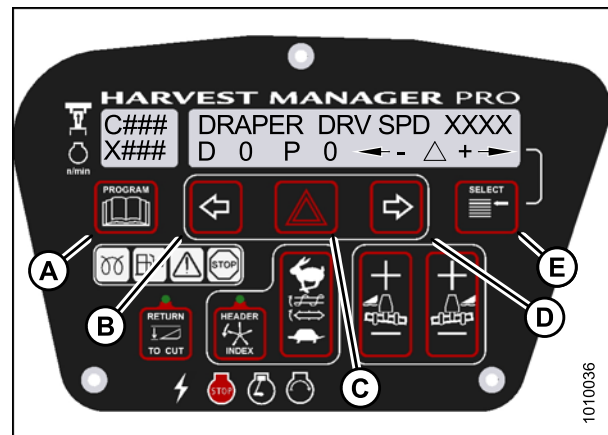


Figure 4.253: M205 Draper Drive

- Press PROGRAM (A) to exit Programming Mode or press SELECT (E) to proceed to next ACTIVATE FUNCTION.

4.8.8 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. For more information, refer to [3.10 Attaching Headers](#), page 28.
- This procedure does not apply to rotary disc headers.
- The engine **MUST** be running to perform this procedure.

CAB DISPLAY MODULE (CDM)

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.

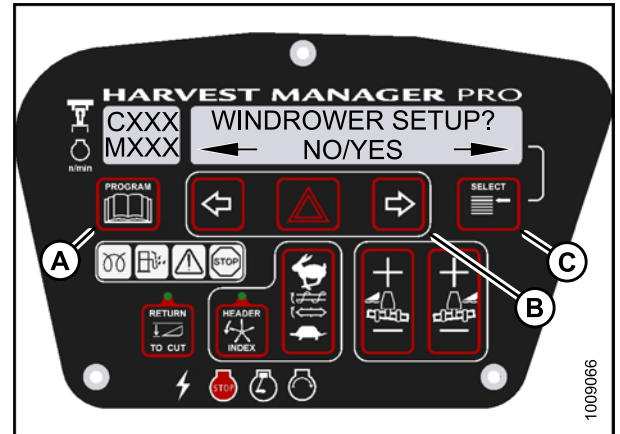


Figure 4.254: M155 CDM Programming Buttons

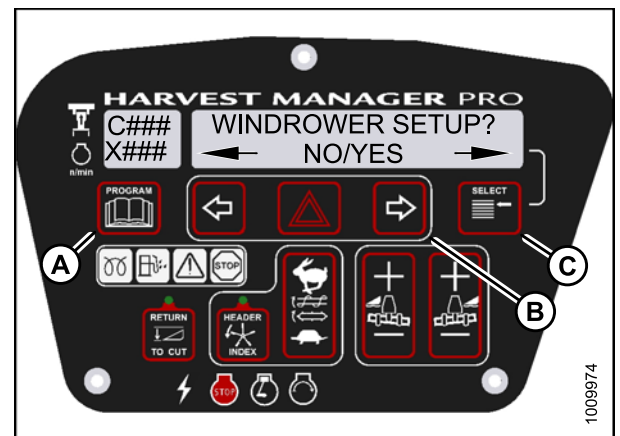


Figure 4.255: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

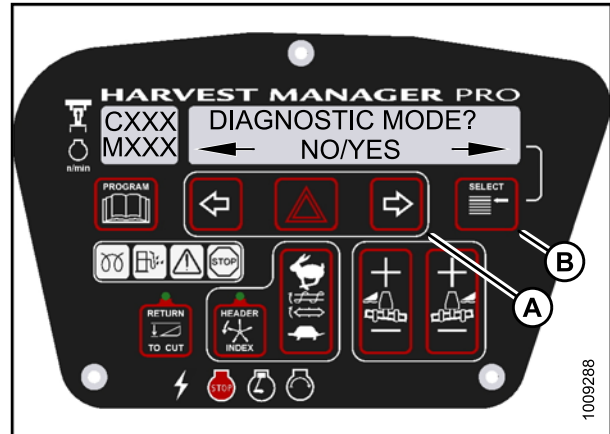


Figure 4.256: M155 Diagnostic Functions

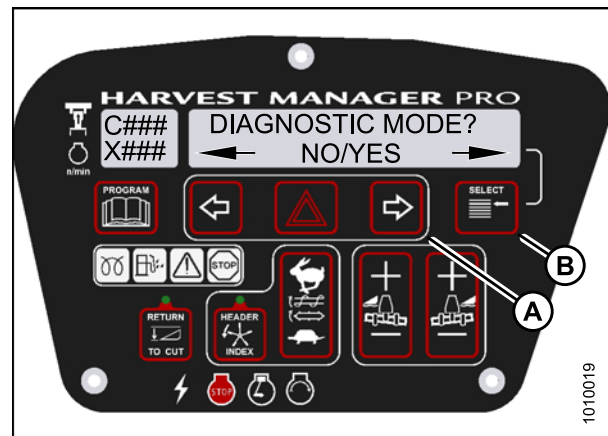


Figure 4.257: M205 Diagnostic Functions

CAB DISPLAY MODULE (CDM)

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 4.258: M155 Functions

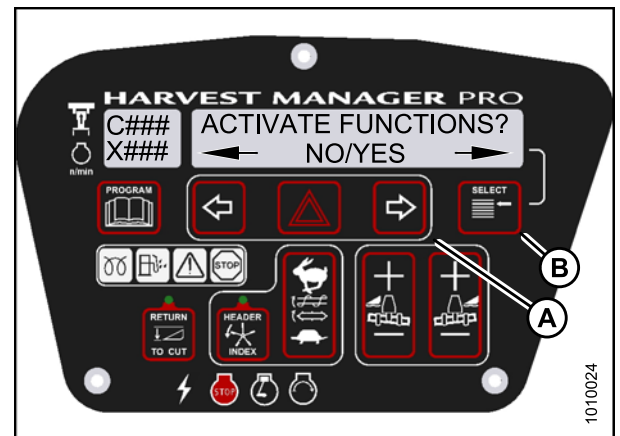


Figure 4.259: M205 Functions

CAB DISPLAY MODULE (CDM)

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.

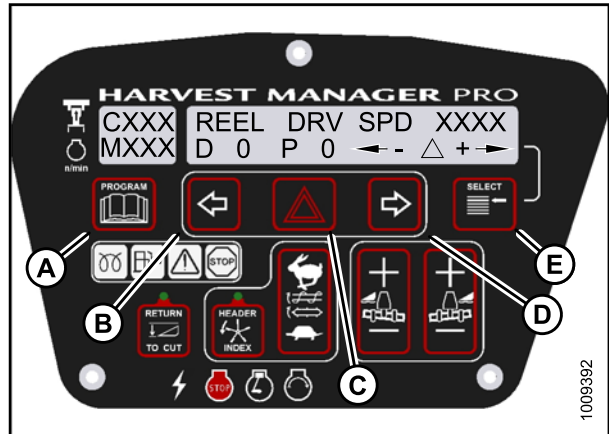


Figure 4.260: M155 Reel Drive

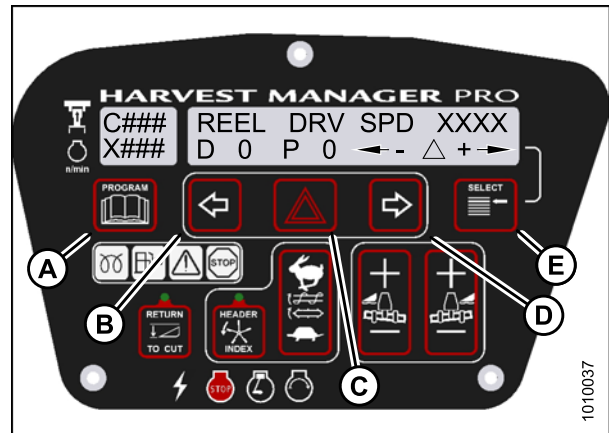


Figure 4.261: M205 Reel Drive

10. Press PROGRAM (A) to exit Programming Mode or press SELECT (E) to proceed to next ACTIVATE FUNCTION.

4.8.9 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.

CAB DISPLAY MODULE (CDM)

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.

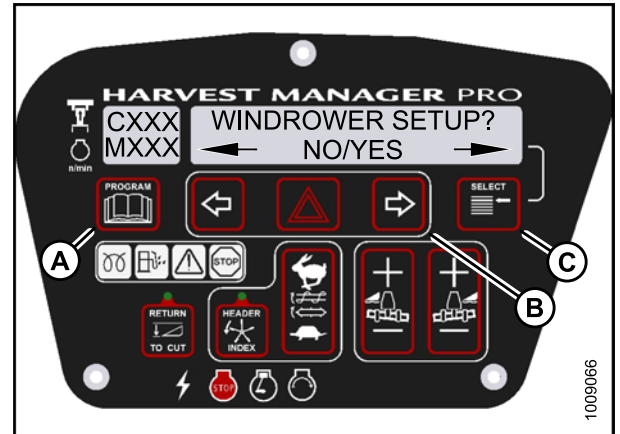


Figure 4.262: M155 CDM Programming Buttons

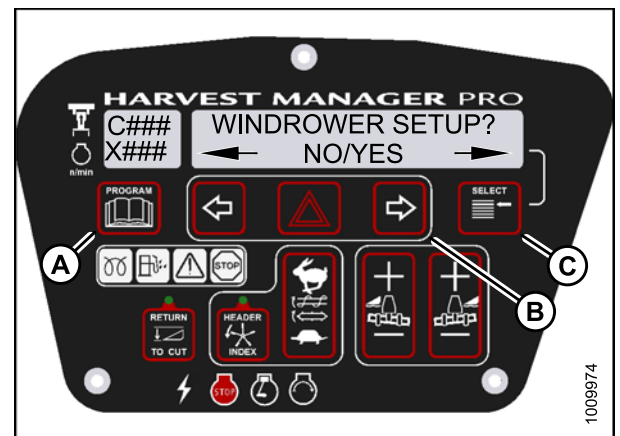


Figure 4.263: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

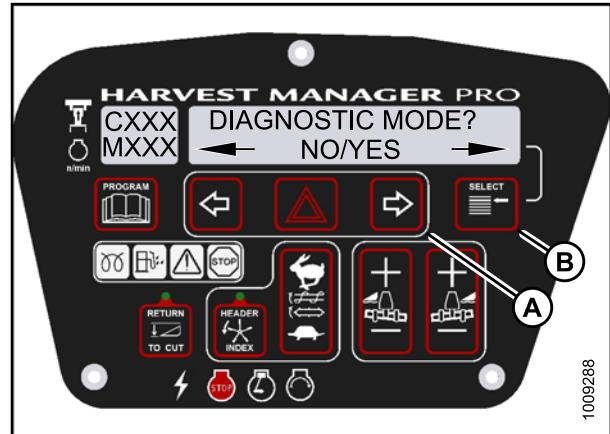


Figure 4.264: M155 Diagnostic Functions

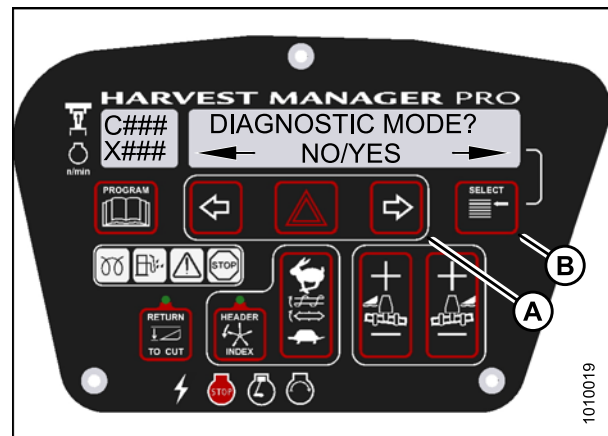


Figure 4.265: M205 Diagnostic Functions

CAB DISPLAY MODULE (CDM)

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.

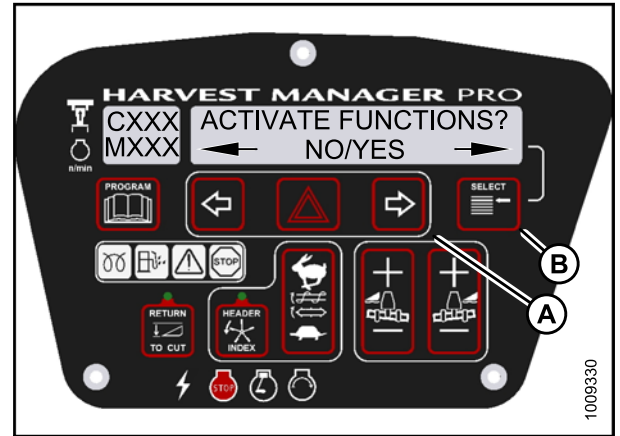


Figure 4.266: M155 Functions

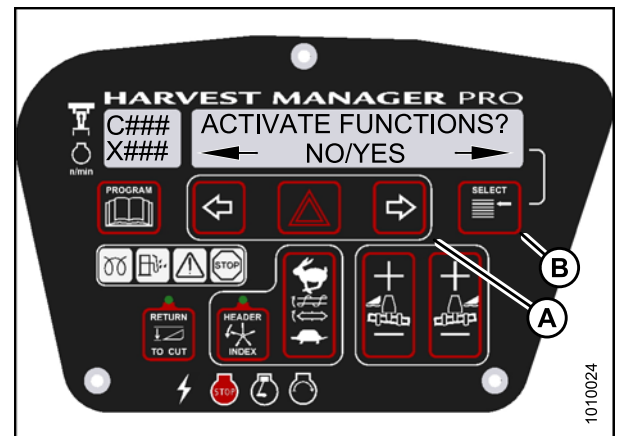


Figure 4.267: M205 Functions

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.

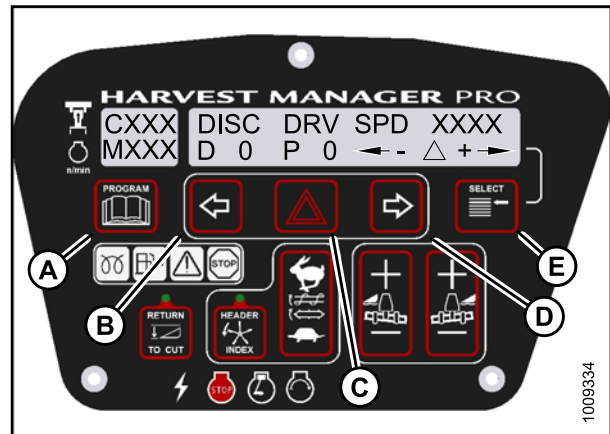


Figure 4.268: M155 Disc Drive

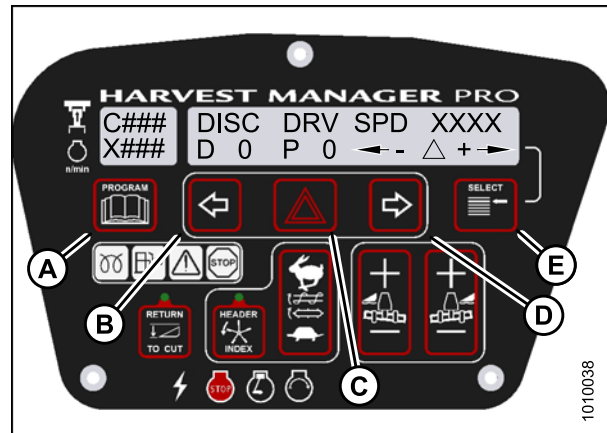


Figure 4.269: M205 Disc Drive

10. Press PROGRAM to exit Programming Mode or press SELECT to proceed to next ACTIVATE FUNCTION.

4.8.10 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 [4.4.10 Activating the Double Windrow Attachment \(DWA\), page 125](#).
- Engine **MUST** be running to perform this procedure.

CAB DISPLAY MODULE (CDM)

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.

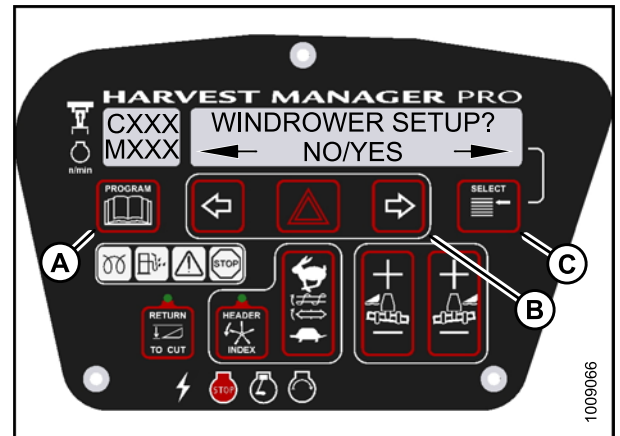


Figure 4.270: M155 CDM Programming Buttons

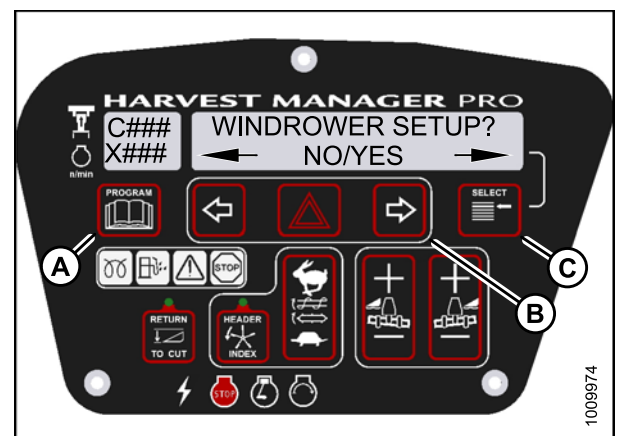


Figure 4.271: M205 CDM Programming Buttons

CAB DISPLAY MODULE (CDM)

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).

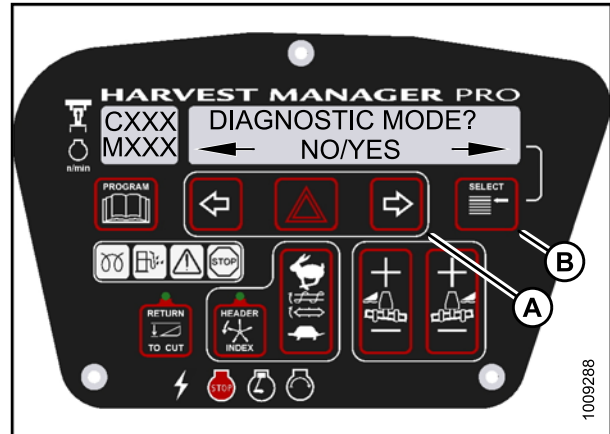


Figure 4.272: M155 Diagnostic Functions

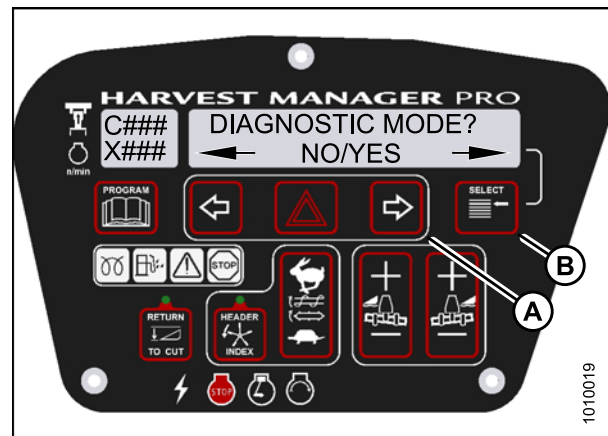


Figure 4.273: M205 Diagnostic Functions

CAB DISPLAY MODULE (CDM)

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.

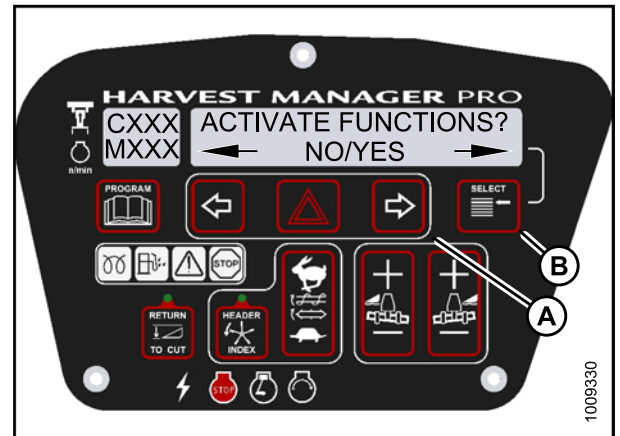


Figure 4.274: M155 Functions

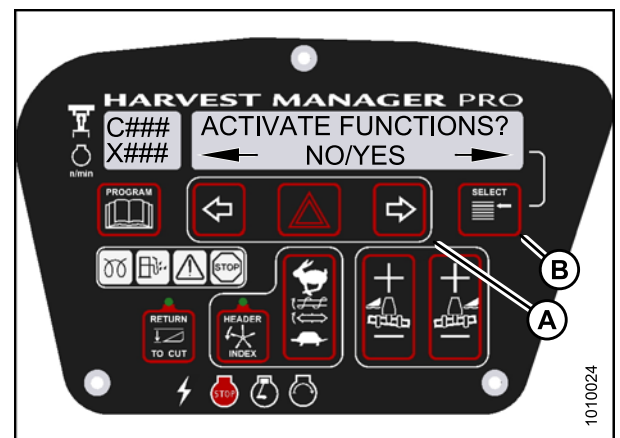


Figure 4.275: M205 Functions

CAB DISPLAY MODULE (CDM)

- 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.

- 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.

- Release the HAZARD (C) button. The DWA drive will stop.
- Press PROGRAM (A) to exit Programming Mode or press SELECT (E) to proceed to next ACTIVATE FUNCTION.

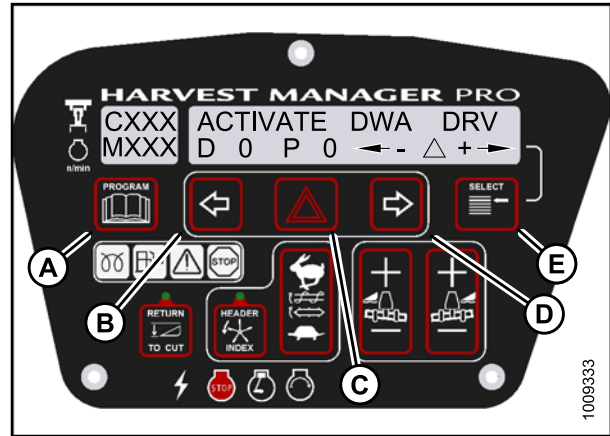


Figure 4.276: M155 DWA Drive

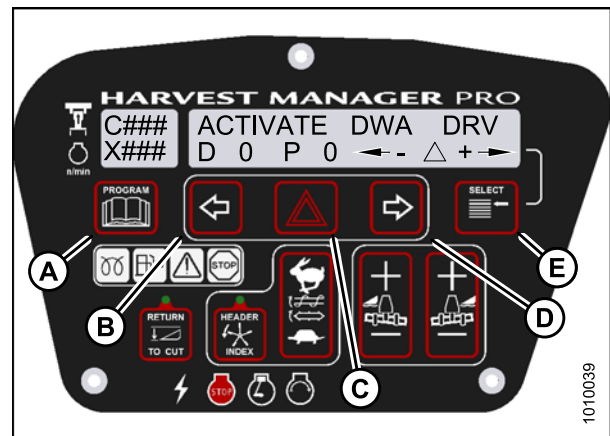


Figure 4.277: M205 DWA Drive

5 Performing Predelivery Checks

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

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.

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 269](#).

1. The windrower serial number plate (A) is located on the left side of the main frame near the walking beam as shown.

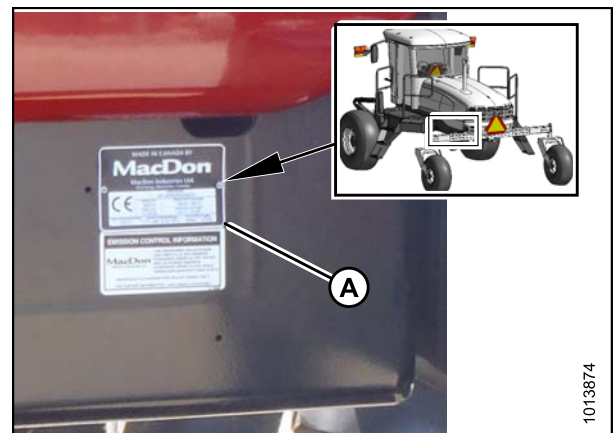


Figure 5.1: M155/M205 Serial Number Location

2. The engine serial number plate (A) is located on top of the engine cylinder head cover as shown.

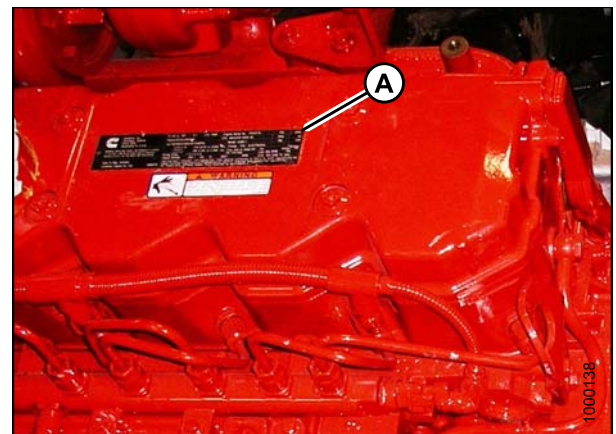


Figure 5.2: Engine Serial Number Location

5.2 Checking and Adding Wheel Drive Lubricant Level

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. 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 [6.3 Lubricants, Fluids, and System Capacities, page 266](#).

NOTE:

The type of lubricant used after the first lubricant change is different from the factory supplied lubricant.

6. Reinstall plugs and tighten.

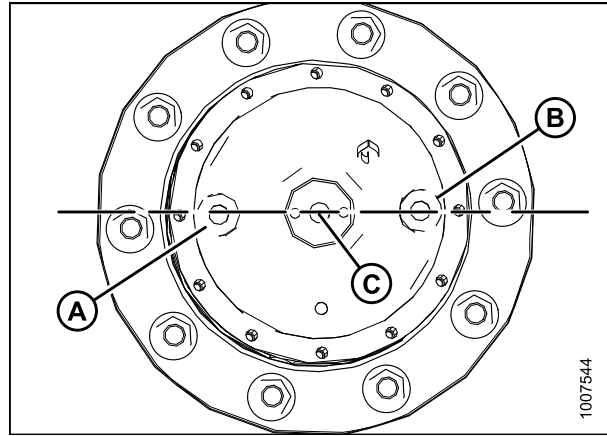


Figure 5.3: Drive Wheel Hub

5.3 Checking Tire Pressures and Adding Tire Ballast

5.3.1 Checking Tire Pressures

Check tire pressures with a gauge.

Table 5.1 Tire Pressures

Tire Type	Size	Pressure
Bar	18.4–26	221 kPa (32 psi)
	600/65R28	179 kPa (26 psi)
Turf	18.4–26	241 kPa (35 psi)
	23.1–26	138 kPa (20 psi)
	580/70R26	165 kPa (24 psi)
Rear Caster	All	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 5.2 Fluid per Tire

Tire Size	Fluid per Tire at 75% Fill liters (U.S. Gal.)	Total Weight of Both Tires kg (lb.) ¹⁰
7.5 x 16	38 (10)	91 (200)
10 x 16	69 (18)	170 (380)
16.5 x 16.1	158 (41)	377 (830)

10. 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).

PERFORMING PREDELIVERY CHECKS

Table 5.3 Recommended Ballast

Header Description		Recommended Tire Size	Recommended Ballast			
			Level Ground		Hills	
Type	Size		Per Tire liters (U.S. Gal.)	Both Tires kg (lb.) ¹¹	Per Tire liters (U.S. Gal.)	Both Tires kg (lb.) ¹¹
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)		69 (18)	170 (380)	115 (30)	288 (630)
	35 ft. single reel	Level ground: 10 x 16 16.5 x 16.1 Hills: 16.5 x 16.1	115 (30)	288 (630)	158 (41)	377 (830)
	30 ft. double reel (with steel fingers and conditioner)					
	35 ft. double reel (5- or 6-bat)					
	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

11. 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.

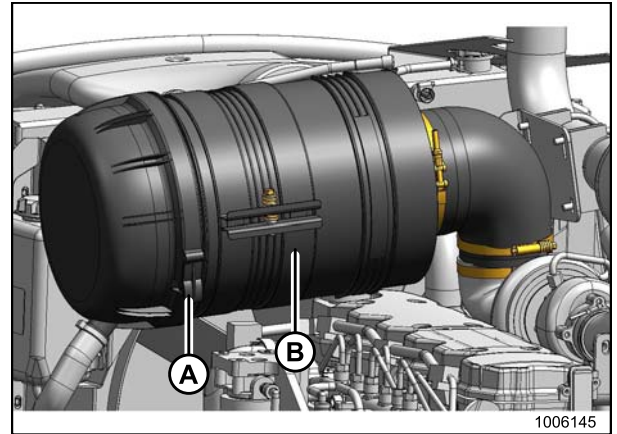


Figure 5.4: M205 Air Intake System

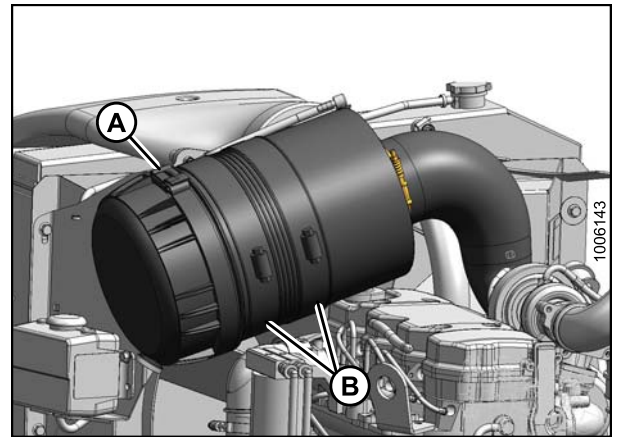


Figure 5.5: M155 Air Intake System

PERFORMING PREDELIVERY CHECKS

2. **M155 only:** Check the constant torque spring clamp (A) at the back of the air cleaner. Hold an 0.46 mm (0.018 in.) gauge between the middle coils, tighten the clamp until the gauge is snug, and remove the gauge.

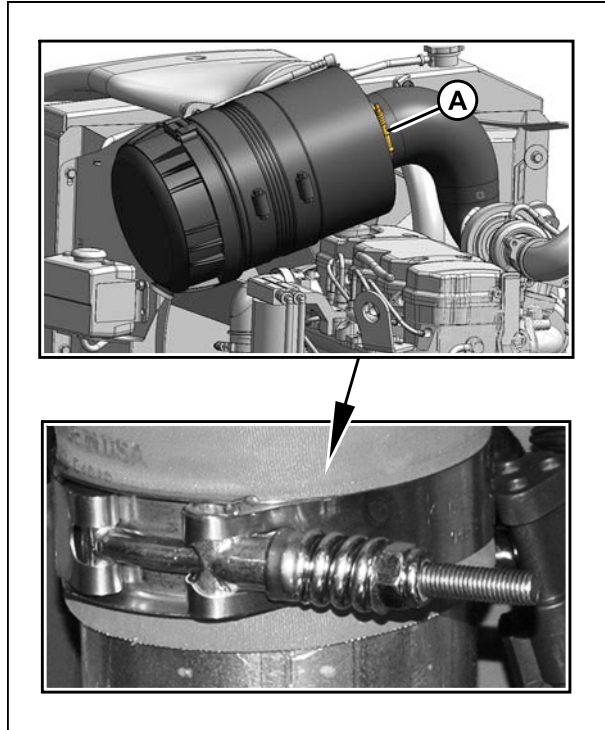


Figure 5.6: M155 Air Intake System

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.).

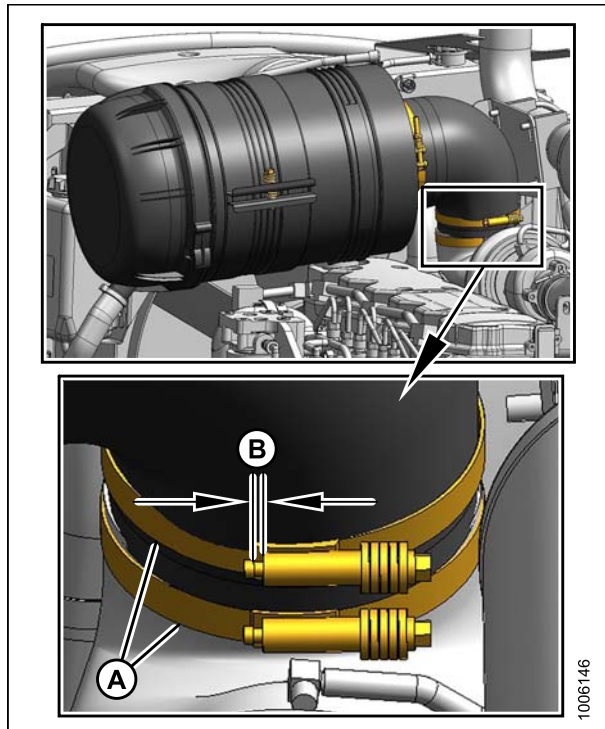


Figure 5.7: M205 Air Intake System

PERFORMING PREDELIVERY CHECKS

4. Check the constant torque clamps (A) on the charge air cooling duct connections at turbocharger outlet and engine air intake. Hold an 0.46 mm (0.018 in.) gauge between the middle coils, tighten the clamp until the gauge is snug, and remove the gauge.

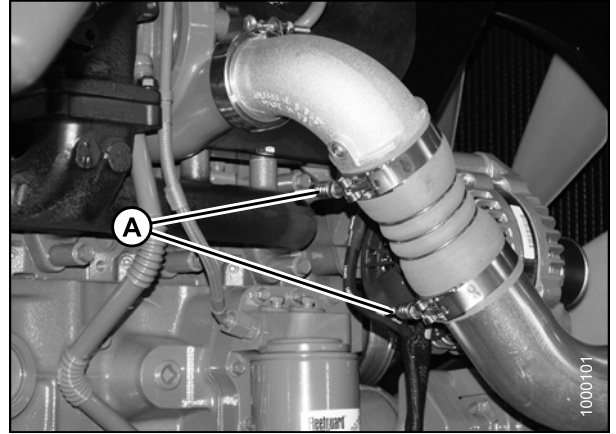


Figure 5.8: M205 Air Intake System

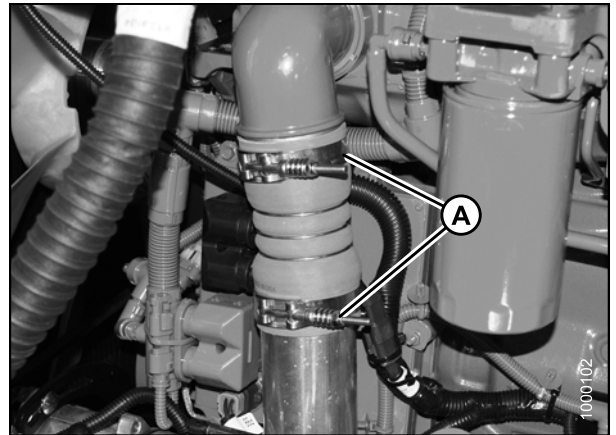


Figure 5.9: M205 Air Intake System

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.

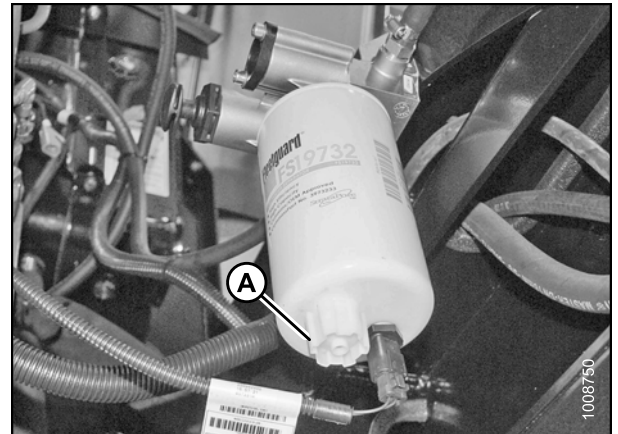


Figure 5.12: Fuel Filter

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. Refer to [6.16 M155 System Capacities, page 266](#) for M155 coolant type and [6.17 M205 System Capacities, page 267](#) for M205 coolant type.
3. Ensure coolant concentration in the radiator is rated for temperatures of -34°C (-30°F).

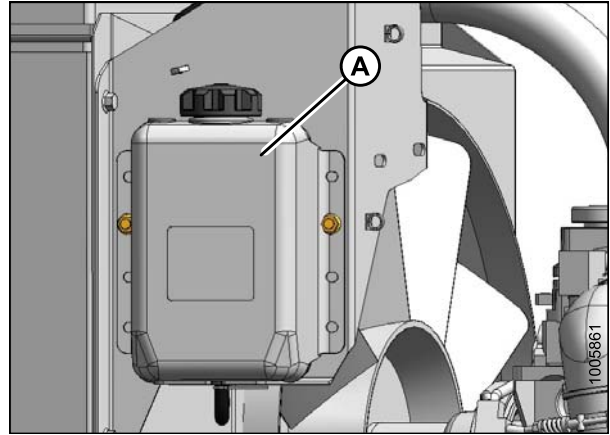


Figure 5.13: M155/M205 Coolant Recovery Tank

5.8 Checking Gearbox Lubricant Level

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. Refer to [6.16 M155 System Capacities, page 266](#) for M155 gearbox lubricant type and [6.17 M205 System Capacities, page 267](#) for M205 gearbox lubricant type.
3. Replace plug (A) and tighten.

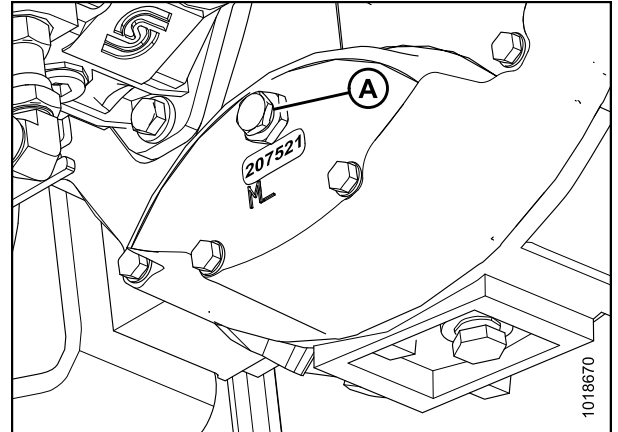


Figure 5.14: Gearbox

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 5.15: 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 237](#).

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.

PERFORMING PREDELIVERY CHECKS

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.

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.

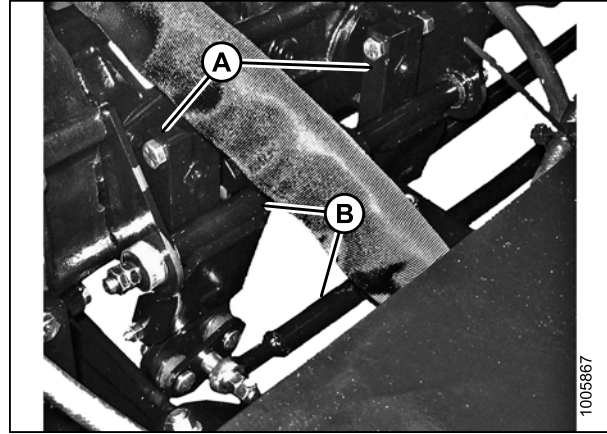


Figure 5.16: Pintle Arms

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.

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.

Ensure the battery disconnect switch (A) is in the POWER ON position.

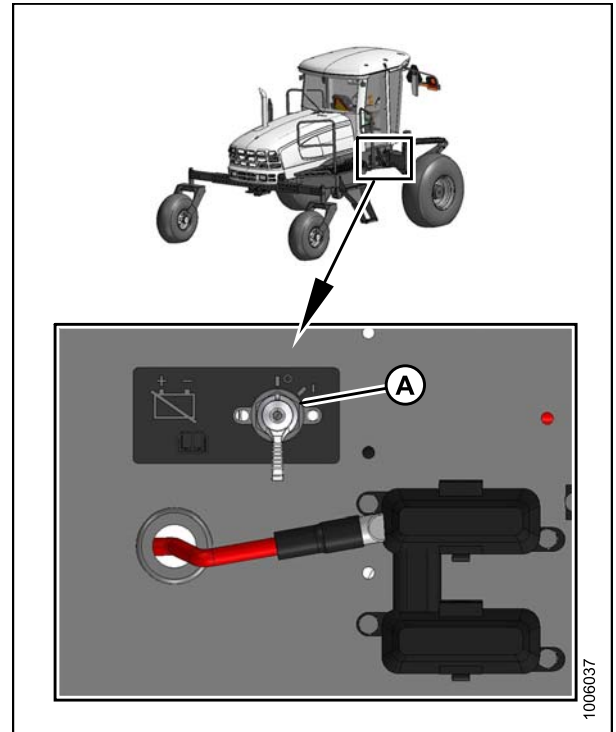


Figure 5.17: Battery Switch

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 5.18: M155/M205 Operator Console

5.11.2 Checking Windrower Startup

CAUTION

Check to be sure all bystanders have cleared the area.

1. Start the engine. For instructions, refer to [3.7 Starting Engine, page 20](#).

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 5.19: M155/M205 Operator Console

5.11.3 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 cab display module (CDM) (A) and compare to value in table.

Table 5.4 Engine Speed

Model	Idle	Maximum rpm (No Load)
M155	1075–1150	2320–2350
M205		2250–2340



Figure 5.20: M155/M205 Cab Display Module (CDM)

5.11.4 Checking Gauges and Cab Display Module (CDM) Display

1. Ensure the engine temperature gauge (A) and fuel gauge (B) are working.
2. Turn on the exterior lights and ensure the gauge lights are working properly.
3. 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 5.21: M155/M205 Temperature and Fuel Gauges

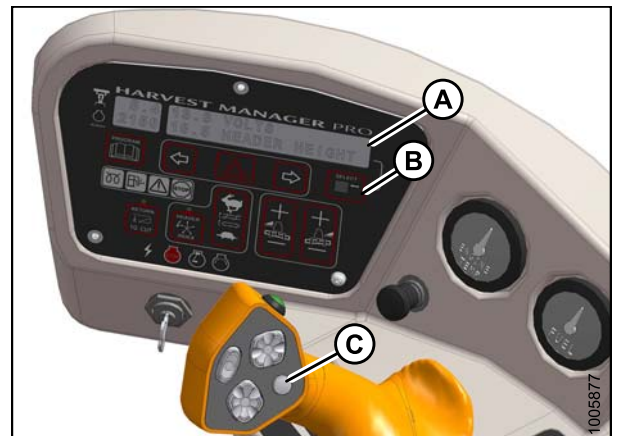


Figure 5.22: M155/M205 CDM

5.11.5 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 5.5 Battery and Alternator Condition, page 240](#).

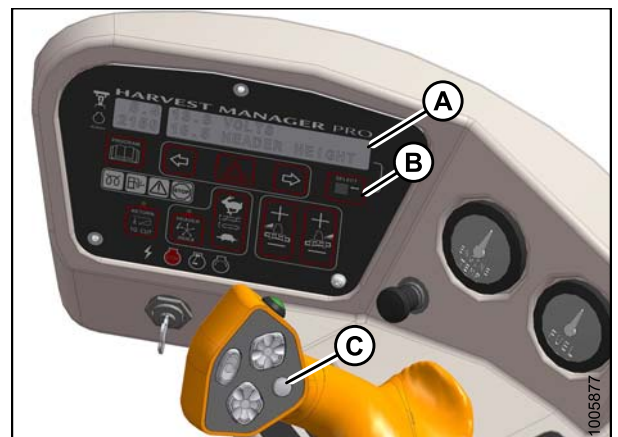


Figure 5.23: M155/M205 Cab Display Module (CDM)

PERFORMING PREDELIVERY CHECKS

Table 5.5 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.

5.11.6 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.



Figure 5.24: M155/M205 Operator Console

NOTE:

To restart the header, move the header drive switch (B) to the OFF position and then back to the ON position.

5. Start the engine and position the GSL in NEUTRAL and 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 shut down 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.
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.

PERFORMING PREDELIVERY CHECKS

- 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.

5.11.7 Checking Exterior Lights

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.

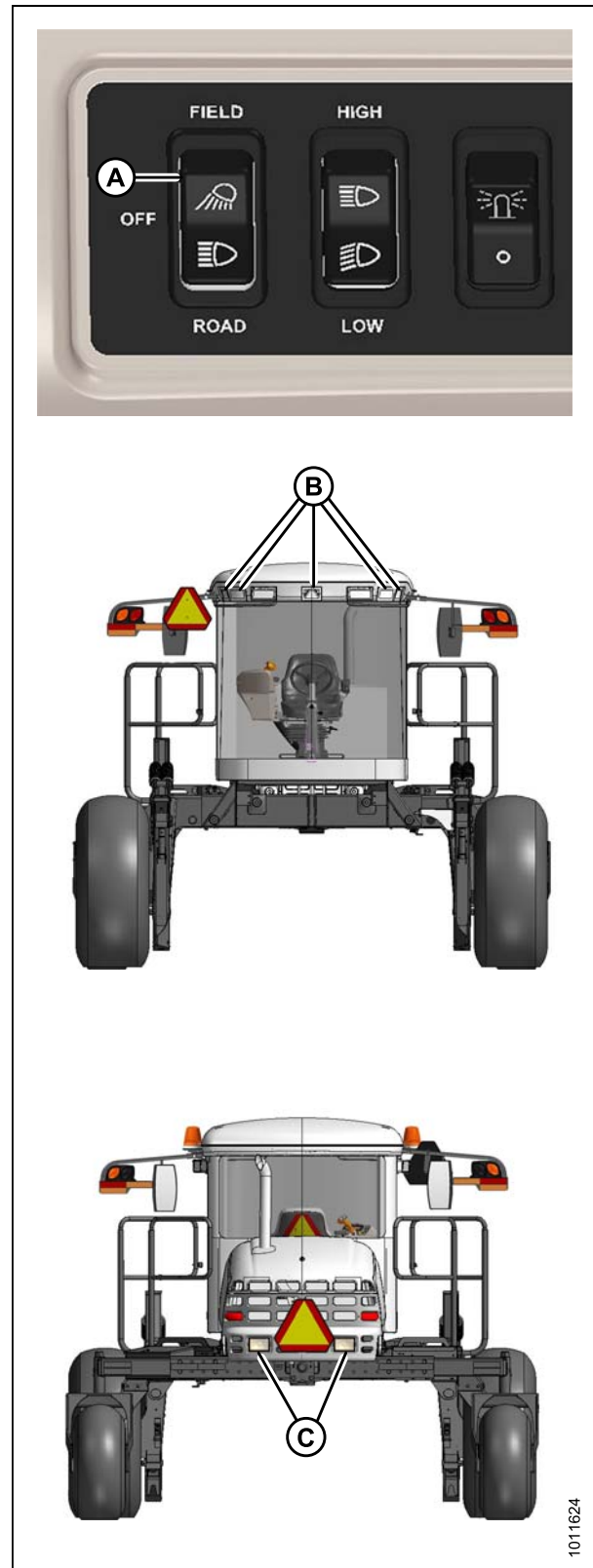


Figure 5.25: M155/M205 Exterior Lights – Cab Forward

PERFORMING PREDELIVERY CHECKS

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.

IMPORTANT:

Optional red tail lighting and marking kit must be installed so that road travel in the cab-forward mode complies with road travel regulations. See your MacDon Dealer. If you do not have the optional tail light kit installed, you will be prompted with LH or RH stop lamp (E134 or E135) warning displayed in the cab display module (CDM) with engine running and cab-forward mode.

6. Turn OFF lights.

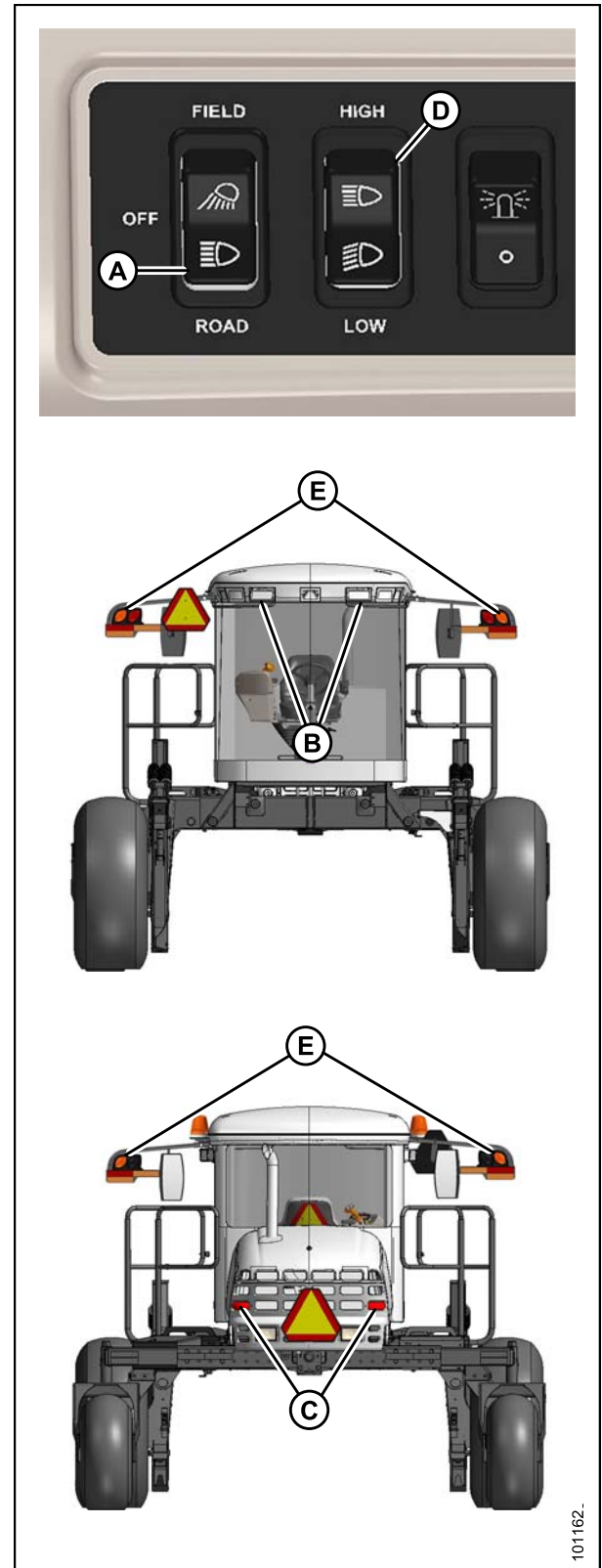


Figure 5.26: M155/M205 Exterior Lights – Cab Forward

PERFORMING PREDELIVERY CHECKS

7. Turn beacon switch (A) to the ON position and ensure the amber beacons (B) are functioning.

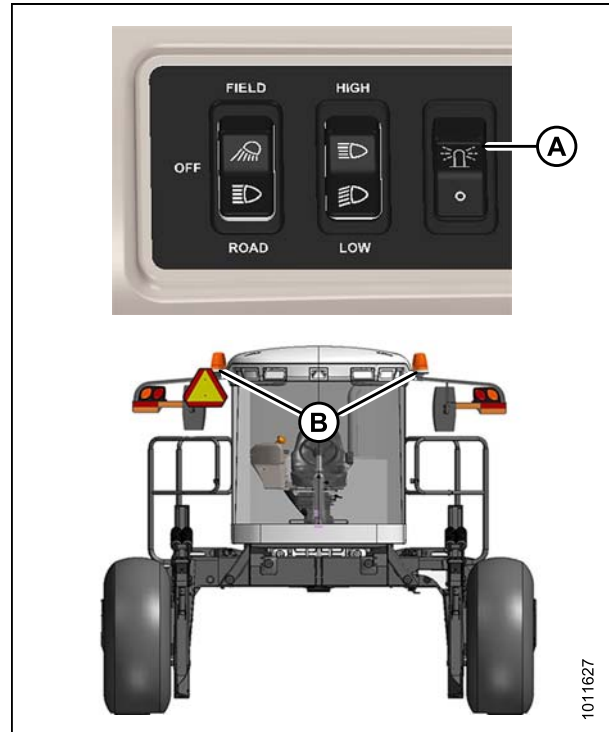


Figure 5.27: M155/M205 Exterior Lights – Beacons

Auto Road Light

The beacon and hazard lights are included in the auto road light feature. The beacon and hazard lights will turn on when this feature is activated, and can only be turned off by engaging the header drive.

This feature will activate when:

- Windrower is in cab- or engine-forward mode
- Engine is running
- Header is disengaged
- Transmission is in either mid or high range

Moving the ground speed lever (GSL) out of neutral (brake off) will switch the white lights from field/work lights to road lights, if the switch is in the field/road lights position.

5.11.8 Checking Horn

1. Push HORN button (A) and listen for horn.

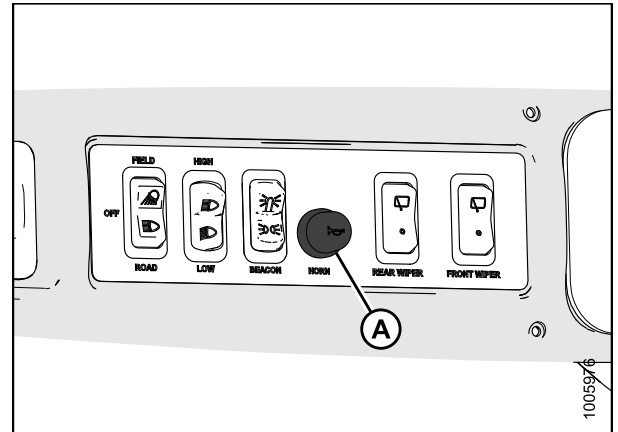


Figure 5.28: M155/M205 Horn Button

5.11.9 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.

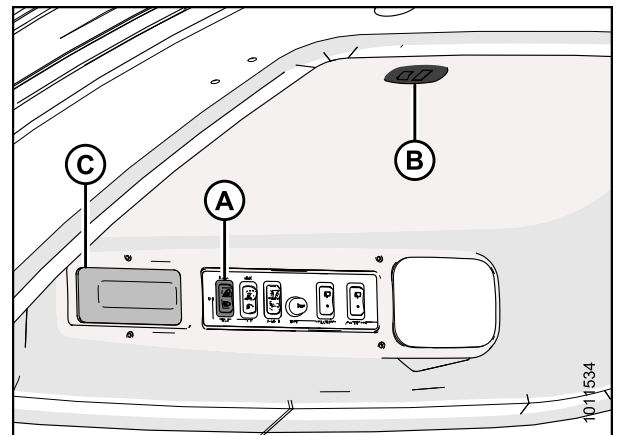


Figure 5.29: Interior Lights

5.11.10 Checking Air Conditioning (A/C) and Heater



Figure 5.30: 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.

5.12 Checking Manuals

Manuals are stored in the manual storage case (A) behind the operator's seat.

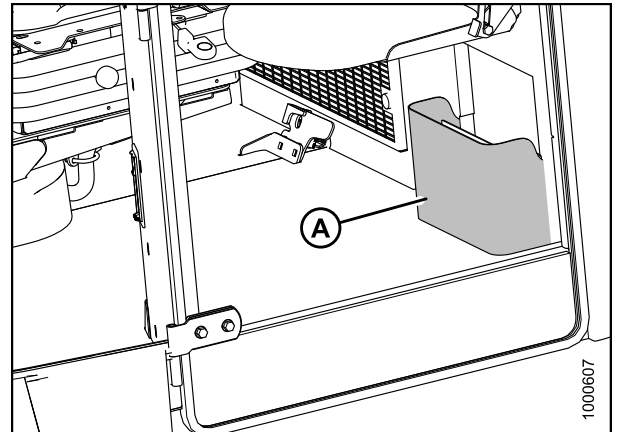


Figure 5.31: Manual Storage Case

1. Ensure the following manuals are included with the windrower:

- Operator's Manual
- Parts Catalog
- Quick Card
- Engine Manual



Figure 5.32: 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.

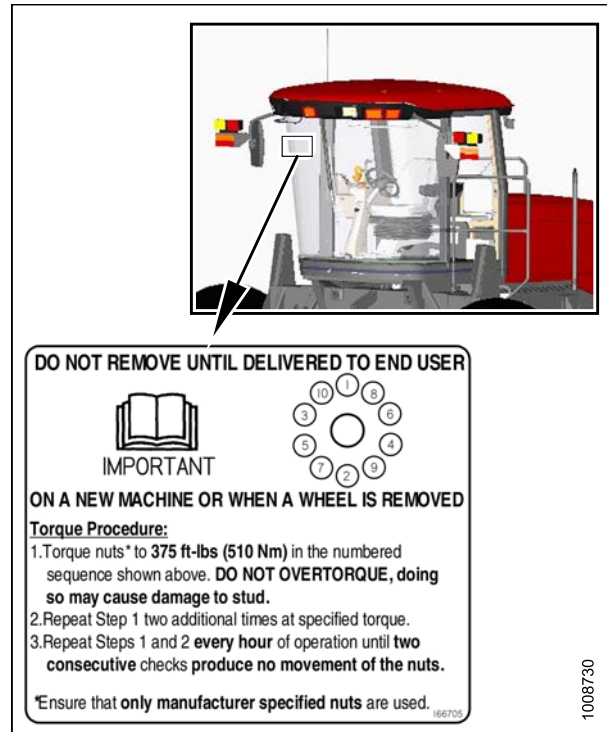


Figure 5.33: Windshield Decal (MD #166705)

6 Reference

6.1 Torque Specifications

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

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

6.1.1 SAE Bolt Torque Specifications

Torque values shown in the 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

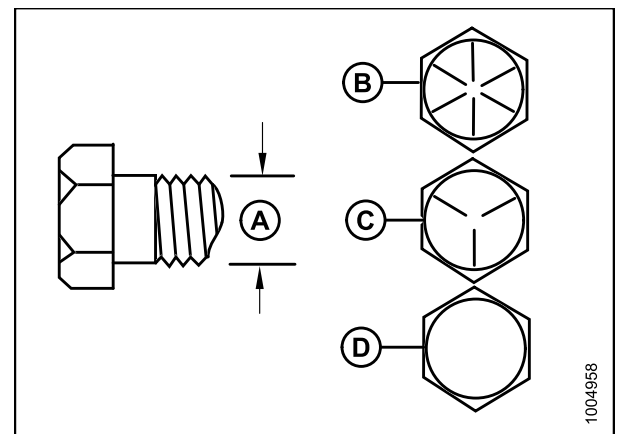


Figure 6.1: Bolt Grades

A - Nominal Size
C - SAE-5

B - SAE-8
D - SAE-2

REFERENCE

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

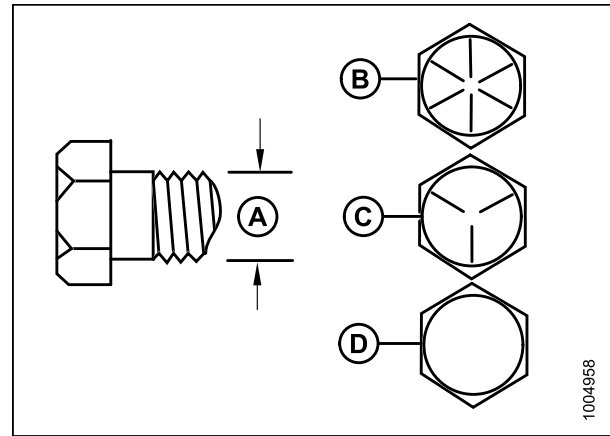


Figure 6.2: Bolt Grades

A - Nominal Size
C - SAE-5

B - SAE-8
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

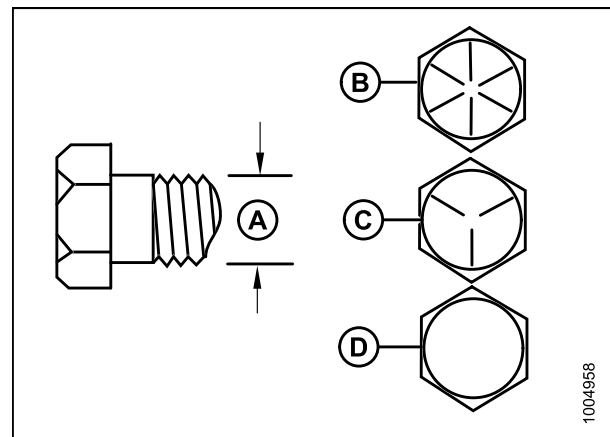


Figure 6.3: Bolt Grades

A - Nominal Size
C - SAE-5

B - SAE-8
D - SAE-2

REFERENCE

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

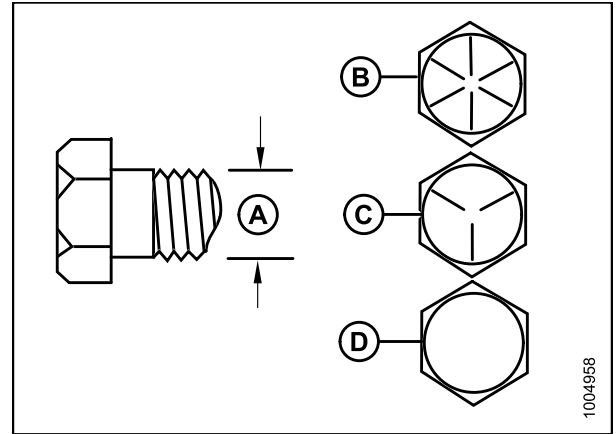


Figure 6.4: Bolt Grades

A - Nominal Size
C - SAE-5

B - SAE-8
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

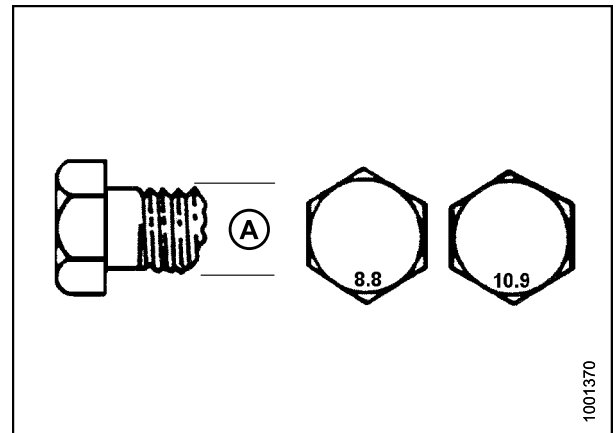


Figure 6.5: Bolt Grades

REFERENCE

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

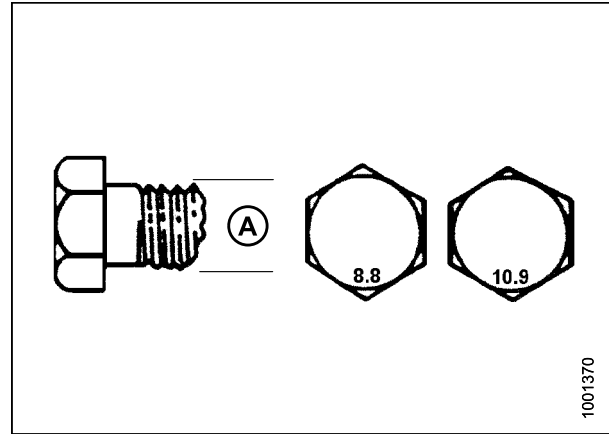


Figure 6.6: Bolt Grades

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

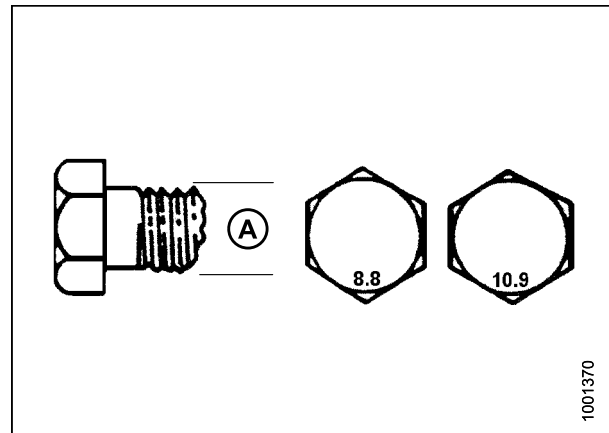


Figure 6.7: Bolt Grades

REFERENCE

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

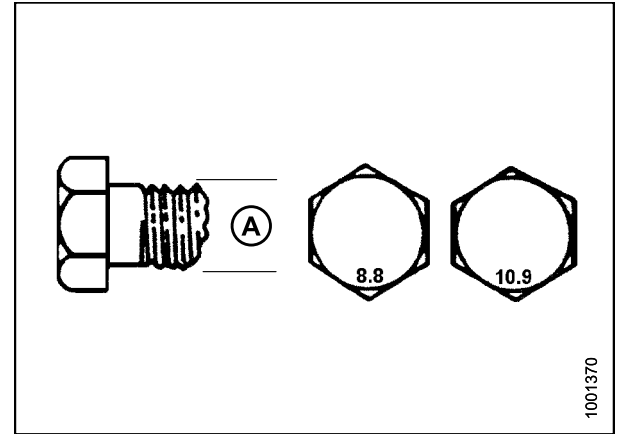


Figure 6.8: Bolt Grades

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	–	–	–	–

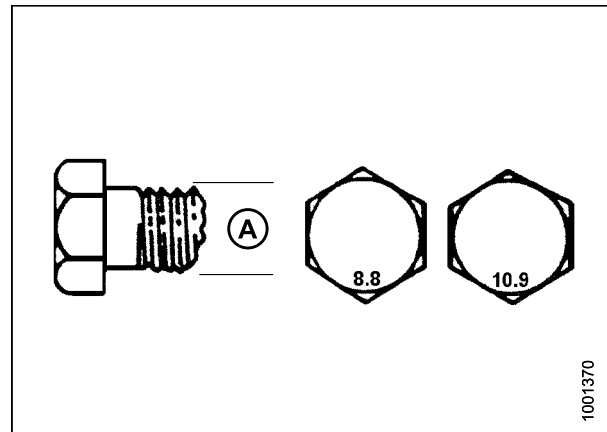


Figure 6.9: Bolt Grades

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 255](#).
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.

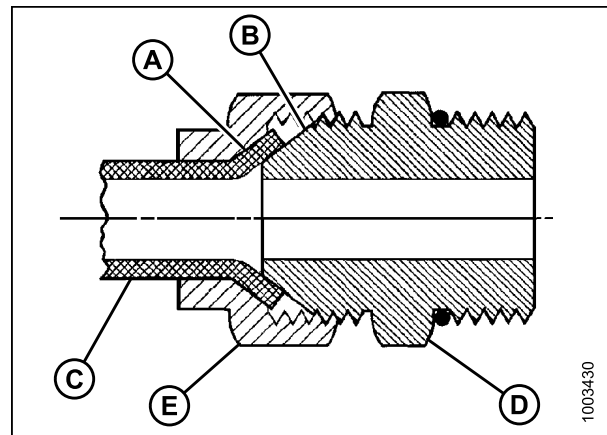


Figure 6.10: Hydraulic Fitting

REFERENCE

Table 6.10 Flare-Type Hydraulic Tube Fittings

SAE Dash Size	Thread Size (in.)	Torque Value ¹²		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

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

REFERENCE

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).

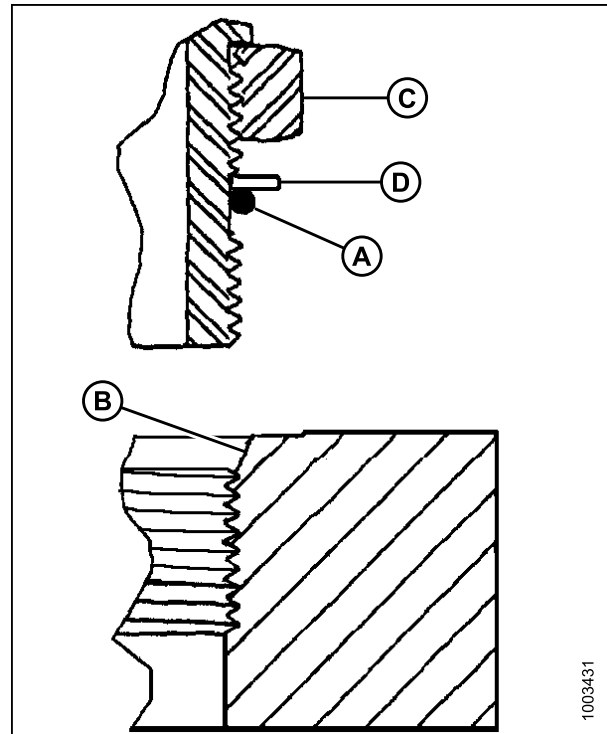


Figure 6.11: Hydraulic Fitting

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.

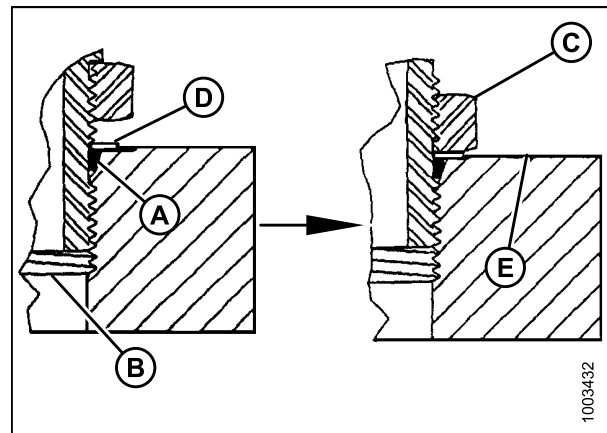


Figure 6.12: Hydraulic Fitting

Table 6.11 O-Ring Boss (ORB) Hydraulic Fittings (Adjustable)

SAE Dash Size	Thread Size (in.)	Torque Value ¹³	
		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

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

REFERENCE

SAE Dash Size	Thread Size (in.)	Torque Value ¹³	
		N·m	ft·lbf (*in·lbf)
-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

REFERENCE

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 258.
6. Check final condition of fitting.

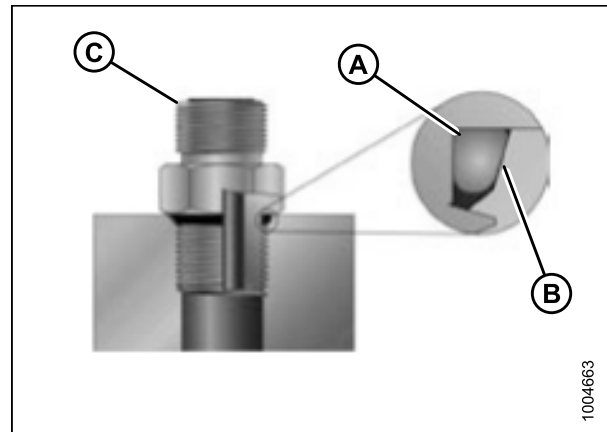


Figure 6.13: Hydraulic Fitting

Table 6.12 O-Ring Boss (ORB) Hydraulic Fittings (Non-Adjustable)

SAE Dash Size	Thread Size (in.)	Torque Value ¹⁴	
		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

14. 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 , page 259.

NOTE:

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

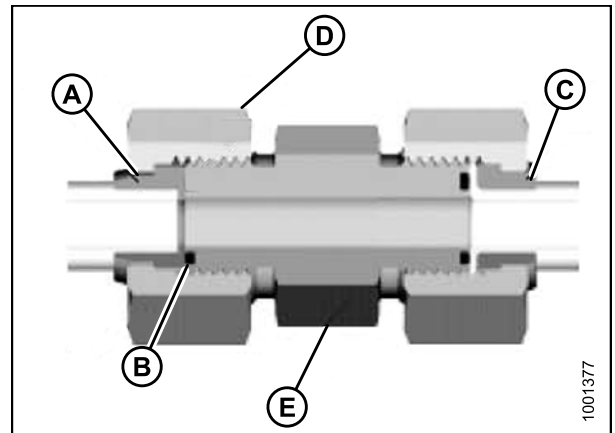


Figure 6.15: Hydraulic Fitting

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

Table 6.13 O-Ring Face Seal (ORFS) Hydraulic Fittings

SAE Dash Size
Thread Size (in.)
Tube O.D. (in.)
Torque Value ¹⁵
N·m
ft·lbf
-3
Note ¹⁶
3/16
—
—
-4
9/16

15. Torque values and angles shown are based on lubricated connection as in reassembly.
 16. O-ring face seal type end not defined for this tube size.

REFERENCE

1/4
25–28
18–21
-5
Note¹⁶
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
Note¹⁶
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

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 261](#). Make sure that tube end of a shaped connector (typically 45° or 90°) is aligned to receive incoming tube or hose assembly. Always finish alignment of fitting in tightening direction. Never back off (loosen) pipe threaded connectors to achieve alignment.
5. Clean all residue and any excess thread conditioner with appropriate cleaner.
6. Assess final condition of fitting. Pay special attention to possibility of cracks to port opening.
7. Mark final position of fitting. If a fitting leaks, disassemble fitting and check for damage.

NOTE:

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

Table 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

REFERENCE

2.1 Conversion Chart

Table 6.15 Conversion Chart

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

REFERENCE

6.2 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

REFERENCE

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-drawer 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 further 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

REFERENCE

Term	Definition
Windrower	Power unit of a self-propelled header
WCM	Windrower control module

6.3 Lubricants, Fluids, and System Capacities

CAUTION

To avoid injury or death, do not allow ANY machine fluids to enter the body.

Table 6.16 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 ¹⁷ ; refer to 6.4 Fuel Specifications, page 268 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 ¹⁸ , API service class GL-5, fully synthetic gear lubricant, (SAE J2360 preferred)	2.1 liters (2.2 US quarts)
	Wheel drive ¹⁹	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) ²⁰
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 ²¹	Air conditioning system	R134A	2.27 kg (5 lb.)
Air conditioning refrigerant oil ²²	Air conditioning system total capacity	PAG SP-15	240 cc (8.1 fl. oz.)

17. Optional when operating temperature is below 0°C (32°F).

18. SAE 75W-140 may be substituted for SAE 80W-140 if necessary.

19. SAE 85W-140 API Service Class GL-5. Extreme Pressure Gear Lubricant is used before initial change.

20. Equal parts with water, high quality, soft, de-ionized or distilled water as recommended by Supplier.

21. 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.

22. New compressor (MD #203013) comes filled. If installing on 2014 and prior, refer to Service Bulletin 1254.

REFERENCE

Table 6.17 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 ²³ ; refer to 6.4 Fuel Specifications, page 268 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 ²⁴		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) ²⁵
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 ²⁶	Air conditioning system total capacity	PAG SP-15	240 cc (8.1 fl. oz.)

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.

23. Optional when operating temperature is below 0°C (32°F).

24. SAE 85W-140 API Service Class GL-5. Extreme Pressure Gear Lubricant is used before initial change.

25. Equal parts with water, high quality, soft, de-ionized or distilled water as recommended by supplier.

26. New compressor (MD #203013) comes filled. If installing on 2014 and prior, refer to Service Bulletin 1254.

6.4 Fuel Specifications

Table 6.18 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 ²⁷	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.

²⁷. 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 M155 and M205 Self-Propelled Windrower Predelivery Checklist

✓	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 249
	Check tire air pressures and adjust as required.	5.3.1 Checking Tire Pressures, page 225
	Check wheel drive hub lubricant level.	5.2 Checking and Adding Wheel Drive Lubricant Level, page 224
	Check engine coolant level and strength at reserve tank.	5.7 Checking Engine Coolant, page 232
	Check air cleaner and clamps.	5.4 Checking Engine Air Intake, page 227
	Check hydraulic oil level and check for leaks along lines.	5.5 Checking Hydraulic Oil, page 230
	Check fuel separator for water and foreign material, drain and clean as necessary, and add fuel.	5.6 Checking Fuel Separator, page 231
	Check gear box lubricant level.	5.8 Checking Gearbox Lubricant Level, page 233
	Check tension of A/C compressor belt.	5.9 Checking Air Conditioning (A/C) Compressor Belts, page 234
	Check that machine is completely lubricated.	3.11 Lubricating the Windrower, page 80
	Check neutral interlock system.	5.10 Checking Safety System, page 235
	Check horn operation.	5.11.8 Checking Horn, page 245
	Check engine oil pressure indicator light at cab display module (CDM).	5.11.1 Checking Engine Warning Lights, page 237
	Start engine and run to operating temperature.	5.11.2 Checking Windrower Startup, page 238
	Check CDM for operation.	5.11.4 Checking Gauges and Cab Display Module (CDM) Display, page 239
	Check Operator's Presence System.	5.11.6 Checking Operator's Presence System, page 240
	Check alternator charge rate at instrument console.	5.11.5 Checking Electrical System, page 239
	Check that air conditioning is functioning properly.	5.11.10 Checking Air Conditioning (A/C) and Heater, page 246

PREDELIVERY CHECKLIST

✓	Item	Reference
	Check that heater is functioning properly.	5.11.10 Checking Air Conditioning (A/C) and Heater, page 246
	Check that instrument console gauge lights and interior lights are functioning properly.	5.11.4 Checking Gauges and Cab Display Module (CDM) Display, page 239 and, 5.11.9 Checking Interior Lights, page 245
	Check maximum (no load) engine speed at CDM.	5.11.3 Checking Engine Speed, page 238
	Check that exterior lights are functioning properly.	5.11.7 Checking Exterior Lights, page 242
	Check that hazard and signal lights are functioning properly.	5.11.7 Checking Exterior Lights, page 242
	Check that beacons are functioning properly (if installed).	5.11.7 Checking Exterior Lights, page 242
	Complete the header's Predelivery Checklist (if applicable).	—
	Check that manuals are in the windrower manual case.	5.12 Checking Manuals, page 247
	Check that plastic coverings from cab interior have been removed.	5.13 Performing Final Steps, page 248

Date Checked:

Checked by:

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Printed in Canada