

**MacDon™**

**M155 Self-Propelled Windrower**

**UNLOADING AND ASSEMBLY  
INSTRUCTIONS**

**for**

**NORTH AMERICAN SHIPMENTS**

Published: June, 2011

Form 169540

Revision A

# INTRODUCTION

This instructional manual describes the unloading, set-up and pre-delivery requirements for the MacDon M155 Self-Propelled Windrower.

Use the Table of Contents to guide you to specific areas. Retain this instruction for future reference.

**CAREFULLY READ ALL THE MATERIAL PROVIDED BEFORE ATTEMPTING TO UNLOAD, ASSEMBLE, OR USE THE MACHINE.**



**MACDON M155 SELF-PROPELLED WINDROWER**

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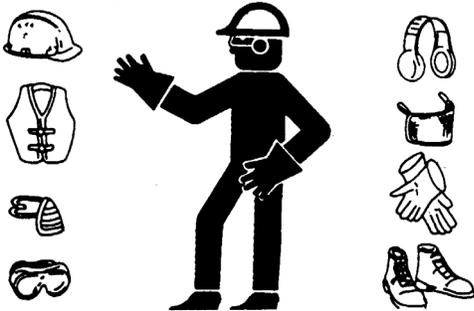
## GENERAL SAFETY



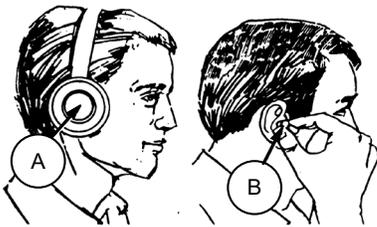
### CAUTION

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

- Protect yourself.
- When assembling, operating and servicing machinery, wear all the protective clothing and personal safety devices that **COULD** be necessary for the job at hand. Don't take chances.
- You may need:



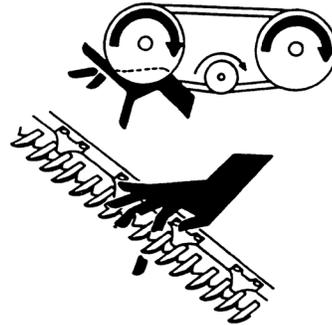
- a hard hat.
- protective shoes with slip resistant soles.
- protective glasses or goggles.
- heavy gloves.
- wet weather gear.
- respirator or filter mask.



- hearing protection. Be aware that prolonged exposure to loud noise can cause impairment or loss of hearing. Wearing a suitable hearing protective device such as ear muffs (A) or ear plugs (B) protects against objectionable or loud noises.



- Provide a first-aid kit for use in case of emergencies.
- Keep a fire extinguisher on the machine. Be sure the extinguisher is properly maintained and be familiar with its proper use.
- Keep young children away from machinery at all times.
- Be aware that accidents often happen when the Operator is tired or in a hurry to get finished. Take the time to consider the safest way. Never ignore warning signs of fatigue.
- Wear close-fitting clothing and cover long hair. Never wear dangling items such as scarves or bracelets.
- 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.



- 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.
- Do not modify the machine. Unauthorized modifications may impair the function and/or safety and affect machine life.

(continued next page)

## SAFETY

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



- Keep the area used for servicing machinery 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.
- Use adequate light for the job at hand.
- Keep machinery clean. 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.

# GENERAL

## RECOMMENDED TORQUES

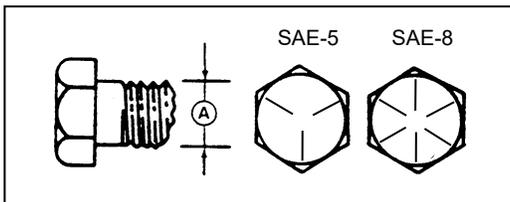
### A. GENERAL

- Tighten all bolts to the torques specified in chart unless otherwise noted throughout this manual.
- Check tightness of bolts periodically, using bolt torque chart as a guide.
- Replace hardware with the same strength bolt.
- Torque figures are valid for non-greased or non-oiled threads and heads unless otherwise specified. Do not grease or oil bolts or capscrews unless specified in this manual.
- When using locking elements, increase torque values by 5%.

### B. SAE BOLTS

BOLT DIA. "A" in.	NC BOLT TORQUE*			
	SAE-5		SAE-8	
	lbf-ft	N·m	lbf-ft	N·m
1/4	9	12	11	15
5/16	18	24	25	34
3/8	32	43	41	56
7/16	50	68	70	95
1/2	75	102	105	142
9/16	110	149	149	202
5/8	150	203	200	271
3/4	265	359	365	495
7/8	420	569	600	813
1	640	867	890	1205

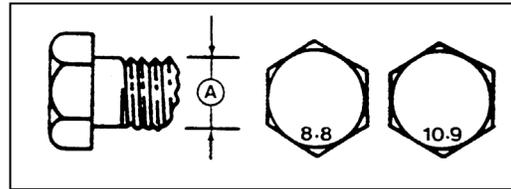
\* Torque categories for bolts and capscrews are identified by their head markings.



### C. METRIC BOLTS

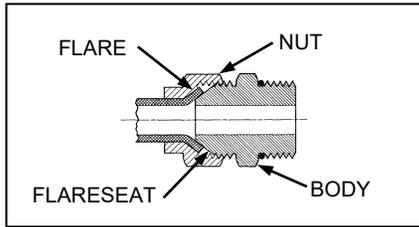
BOLT DIA. "A"	STD COARSE BOLT TORQUE*			
	8.8		10.9	
	lbf-ft	N·m	lbf-ft	N·m
M3	0.4	0.5	1.3	1.8
M4	2.2	3	3.3	4.5
M5	4	6	7	9
M6	7	10	11	15
M8	18	25	26	35
M10	37	50	52	70
M12	66	90	92	125
M14	103	140	148	200
M16	166	225	229	310
M20	321	435	450	610
M24	553	750	774	1050
M30	1103	1495	1550	2100
M36	1917	2600	2710	3675

\* Torque categories for bolts and capscrews are identified by their head markings.



## GENERAL

### D. FLARE TYPE HYDRAULIC FITTINGS

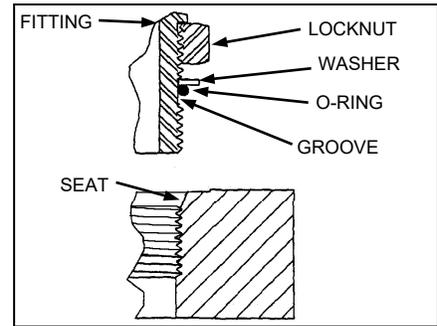


- a. Check flare and flare seat for defects that might cause leakage.
- b. Align tube with fitting before tightening.
- c. Lubricate connection and hand-tighten swivel nut until snug.
- d. To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body, and with the second, tighten the swivel nut to the torque shown.

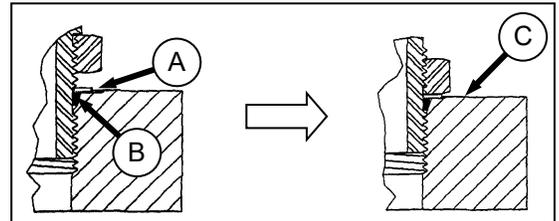
SAE NO.	TUBE SIZE O.D. (in.)	THD SIZE (in.)	NUT SIZE ACROSS FLATS (in.)	TORQUE VALUE*		RECOMMENDED TURNS TO TIGHTEN (AFTER FINGER TIGHTENING)	
				ft·lbf	N·m	Flats	Turns
3	3/16	3/8	7/16	6	8	1	1/6
4	1/4	7/16	9/16	9	12	1	1/6
5	5/16	1/2	5/8	12	16	1	1/6
6	3/8	9/16	11/16	18	24	1	1/6
8	1/2	3/4	7/8	34	46	1	1/6
10	5/8	7/8	1	46	62	1	1/6
12	3/4	1-1/16	1-1/4	75	102	3/4	1/8
14	7/8	1-3/8	1-3/8	90	122	3/4	1/8
16	1	1-5/16	1-1/2	105	142	3/4	1/8

\* The torque values shown are based on lubricated connections as in re-assembly.

### E. O-RING BOSS (ORB) HYDRAULIC FITTINGS



- a. Inspect O-ring and seat for dirt or obvious defects.



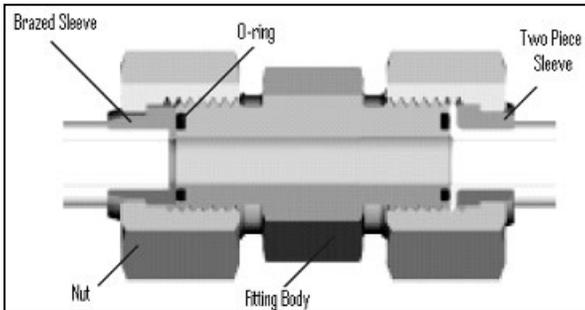
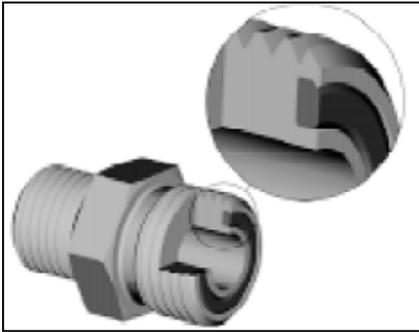
- b. On angle fittings, back off the lock nut until washer (A) bottoms out at top of groove (B) in fitting.
- c. Hand-tighten fitting until back up washer (A) or washer face (if straight fitting) bottoms on part face (C) and O-ring is seated.
- d. Position angle fittings by unscrewing no more than one turn.
- e. Tighten straight fittings to torque shown.
- f. Tighten angle fittings to torque shown in the following table while holding body of fitting with a wrench.

SAE NO.	THD SIZE (in.)	NUT SIZE ACROSS FLATS (in.)	TORQUE VALUE*		RECOMMENDED TURNS TO TIGHTEN (AFTER FINGER TIGHTENING)	
			ft·lbf	N·m	Flats	Turns
3	3/8	1/2	6	8	2	1/3
4	7/16	9/16	9	12	2	1/3
5	1/2	5/8	12	16	2	1/3
6	9/16	11/16	18	24	2	1/3
8	3/4	7/8	34	46	2	1/3
10	7/8	1	46	62	1-1/2	1/4
12	1-1/16	1-1/4	75	102	1	1/6
14	1-3/16	1-3/8	90	122	1	1/6
16	1-5/16	1-1/2	105	142	3/4	1/8
20	1-5/8	1-7/8	140	190	3/4	1/8
24	1-7/8	2-1/8	160	217	1/2	1/12

\* The torque values shown are based on lubricated connections as in re-assembly.

## GENERAL

### F. O-RING FACE SEAL (ORFS) HYDRAULIC FITTINGS



- a. Check components to ensure that the sealing surfaces and fitting threads are free of burrs, nicks, and scratches, or any foreign material.
- b. Apply lubricant (typically Petroleum Jelly) to O-ring and threads. If O-ring is not already installed, install O-ring.
- c. Align the tube or hose assembly. Ensure that flat face of the mating flange comes in full contact with O-ring.
- d. Thread tube or hose nut until hand-tight. The nut should turn freely until it is bottomed out. Torque fitting further to the specified number of F.F.F.T ("Flats From Finger Tight"), or to a given torque value in the table shown in the opposite column.

**NOTE**

*If available, always hold the hex on the fitting body to prevent unwanted rotation of fitting body and hose when tightening the fitting nut.*

- e. When assembling unions or two hoses together, three wrenches will be required.

SAE NO.	THD SIZE (in.)	TUBE O.D. (in.)	TORQUE VALUE*		RECOMMENDED TURNS TO TIGHTEN (AFTER FINGER TIGHTENING)**	
			ft-lbf	N·m	Tube Nuts	Swivel & Hose
3	***	3/16	---	---	---	---
4	9/16	1/4	11 - 12	14 - 16	1/4 -1/2	1/2 - 3/4
5	***	5/16	---	---	---	---
6	11/16	3/8	18 - 20	24 - 27	1/4 -1/2	1/2 - 3/4
8	13/16	1/2	32 - 35	43 - 47		
10	1	5/8	45 - 51	60 - 68		
12	1-3/16	3/4	67 - 71	90 - 95		1/3 -1/2
14	1-3/16	7/8	67 - 71	90 - 95		
16	1-7/16	1	93 - 100	125 - 135		
20	1-	1-1/4	126 - 141	170 - 190		
24	2	1-1/2	148 - 167	200 - 225		
32	2-1/2	2	---	---	---	---

\* Torque values and angles shown are based on lubricated connection, as in re-assembly.

\*\* Always default to the torque value for evaluation of adequate torque

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

**GENERAL**

**CONVERSION CHART**

QUANTITY	INCH-POUND UNITS		FACTOR	SI UNITS (METRIC)	
	UNIT NAME	ABBR.		UNIT NAME	ABBR.
<b>Area</b>	acres	acres	x 0.4047 =	hectares	ha
<b>Flow</b>	gallons per minute (US) gallons per minute (Imp)	gpm (US) gpm	x 3.7854 = x 4.5460 =	liters per minute	L/min
<b>Force</b>	pounds force	lbf	x 4.4482 =	Newtons	N
<b>Length</b>	inch	in.	x 25.4 =	millimeters	mm
	foot	ft	x 0.305 =	meters	m
<b>Power</b>	horsepower	hp	x 0.7457 =	kilowatts	kW
<b>Pressure</b>	pounds per square inch	psi	x 6.8948 =	kilopascals	kPa
			x .00689 =	megapascals	MPa
<b>Torque</b>	pound feet or foot pounds	lbf·ft or ft·lbf	x 1.3558 =	newton meters	N·m
	pound inches or inch pounds	lbf·in. or in·lbf	x 0.1129 =		
<b>Temperature</b>	degrees Fahrenheit	°F	(°F - 32) x 0.56 =	Celsius	°C
<b>Velocity</b>	feet per minute	ft/min	x 0.3048 =	meters per minute	m/min
	feet per second	ft/s	x 0.3048 =	meters per second	m/s
	miles per hour	mph	x 1.6063 =	kilometers per hour	km/h
<b>Volume</b>	ounces	oz.	x 29.5735 =	milliliters	ml
	cubic inches	in. <sup>3</sup>	x 16.3871 =	cubic centimeters	cm <sup>3</sup> or cc
	quarts (US) quarts (Imperial)	US qt. qt.	x 0.96464 x 1.1365	liters	L
	gallons (US) gallons (Imperial)	US gal. gal.	x 3.7854 = x 4.5460 =		
<b>Weight</b>	pounds	lb	x 0.4536 =	kilograms	kg

## GENERAL

### DEFINITIONS

<b>TERM</b>	<b>DEFINITION</b>
<b>API</b>	American Petroleum Institute
<b>ASTM</b>	American Society of Testing And Materials
<b>Cab-Forward</b>	Windrower operation with the Operator and cab facing in the direction of travel.
<b>CDM</b>	Cab Display Module
<b>DWA</b>	Double Windrow Attachment
<b>Engine-Forward</b>	Windrower operation with the Operator and engine facing in the direction of travel.
<b>ISC</b>	Intermediate Speed Control
<b>N-DETENT</b>	The slot opposite the neutral position on Operator's console.
<b>rpm</b>	revolutions per minute
<b>SAE</b>	Society Of Automotive Engineers
<b>WCM</b>	Windrower Control Module
<b>Windrower</b>	Windrower with header attached.
<b>Windrower Tractor</b>	Power unit only. (Windrower without the header attached)

## UNLOADING AND ASSEMBLY

### STEP 1. UNLOAD WINDROWER



#### CAUTION

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

#### A. TWO FORKLIFT METHOD



#### CAUTION

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

LIFTING VEHICLE	
Minimum Capacity *	5500 lb (2500 kg)
Minimum Fork Length	78 in. (1981 mm)

\* At 48 inches (1220 mm) from back end of forks.

#### IMPORTANT

Forklifts are normally rated for a load located 24 inches (610 mm) ahead of back end of the forks.

To obtain the forklift capacity at 48 inches (1220 mm), check with your forklift distributor.

- Move trailer into position, and block trailer wheels.
- Set forklift tines to the widest possible setting.



- Position one forklift on either side of trailer, and position forks under windrower frame.

#### NOTE

*Windrower center of gravity is approximately 55 inches (1397 mm) rearward of drive wheel center.*

- Lift with both forklifts simultaneously until Windrower is clear of trailer bed.



#### WARNING

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

- Drive the truck slowly forward until trailer bed is clear of Windrower.
- Lower unit slowly and simultaneously with both forklifts to the ground. If ground is soft, place wooden blocks under front shipping stands.
- Back off forklifts.
- Check windrower for shipping damage, and check shipment for missing parts.

## UNLOADING AND ASSEMBLY

### B. SINGLE FORKLIFT METHODS

There are two methods that can be used.

#### I. METHOD 1



### CAUTION

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

LIFTING VEHICLE	
Minimum Capacity *	5500 lb (2500 kg)

\* At 48 inches (1220 mm) from back end of forks.

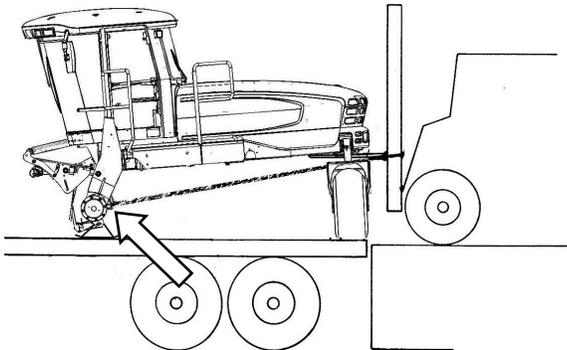
#### IMPORTANT

Forklifts are normally rated for a load located 24 inches (610 mm) ahead of back end of the forks.

To obtain the forklift capacity at 48 inches (1220 mm), check with your forklift distributor.

CHAIN	
Type	Overhead Lifting Quality (1/2 inch)
Minimum Working Load	5000 lb (2270 kg)

- a. Position rear of trailer against unloading dock that is the same height or slightly lower than the trailer bed.
- b. Remove shipped parts from under windrower frame.
- c. Set forklift tines to widest possible setting.



- d. Position forklift up to rear of windrower, and place forks under the rear frame cross member.
- e. Install chains from forklift mast to jacking brackets on both front legs of windrower.

- f. Chains must be the same length.



### CAUTION

The front legs rest on the trailer bed on skid shoes. Ensure there are no obstructions to prevent rearward sliding of the skid shoes and watch carefully that as unit is dragged, the skid shoes are not sliding sideways towards the edge of the trailer bed.

- g. Drag windrower rearward off of carrier.
- h. Remove chains, and back off the forklift.
- i. Check Windrower for shipping damage, and check shipment for missing parts.

#### II. METHOD 2



### CAUTION

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

LIFTING VEHICLE	
Minimum Capacity *	11000 lb (4994 kg)
Minimum Fork Length	78 in. (1981 mm)

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

#### IMPORTANT

Forklifts are normally rated for a load located 24 inches (610 mm) ahead of back end of the forks.

To obtain the forklift capacity at 48 inches (1220 mm), check with your forklift distributor.



### WARNING

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

- a. Move trailer into position, and block trailer wheels.
- b. Set forklift tines to the widest possible setting.

*(continued next page)*

## UNLOADING AND ASSEMBLY



- c. Position forklift on left or right side of trailer, and position forks under windrower frame.

### NOTE

*Windrower center of gravity is approximately 55 inches (1397 mm) rearward of drive wheel center.*



### WARNING

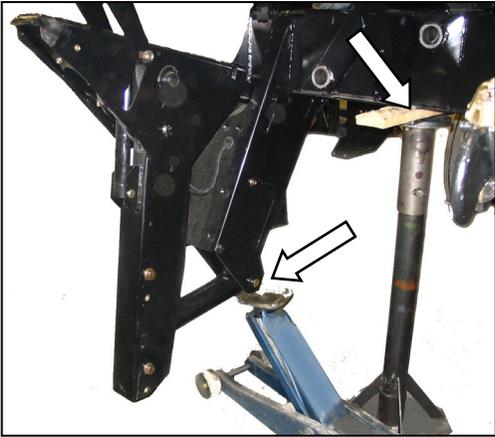
**Ensure forks project beyond far side of frame.**

- d. Lift until Windrower is clear of trailer bed.
- e. Slowly back forklift away from trailer until windrower is clear of trailer.
- f. Lower unit slowly to the ground. If ground is soft, place wooden blocks under front shipping stands.
- g. Back off forklift.
- h. Check Windrower for shipping damage, and check shipment for missing parts.

## UNLOADING AND ASSEMBLY

### STEP 2. RE-POSITION RH LEG

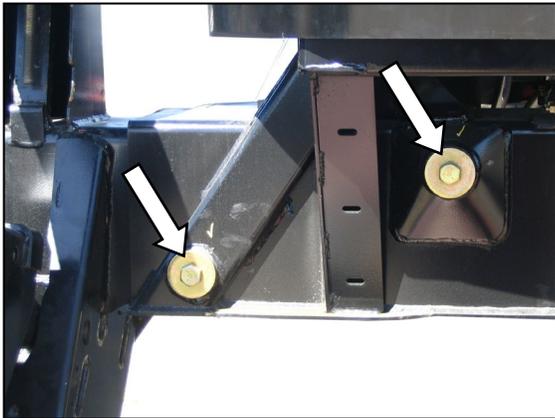
Only the right cab-forward leg requires re-positioning from shipping to field configuration.



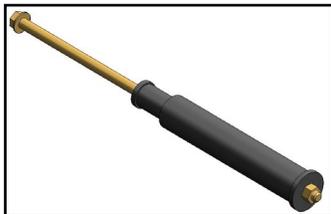
- Support the front of the Windrower with stand (or equivalent) so that the RH leg is off the ground.
- Position jack under RH leg, and raise jack slightly to take some weight off leg.

#### IMPORTANT

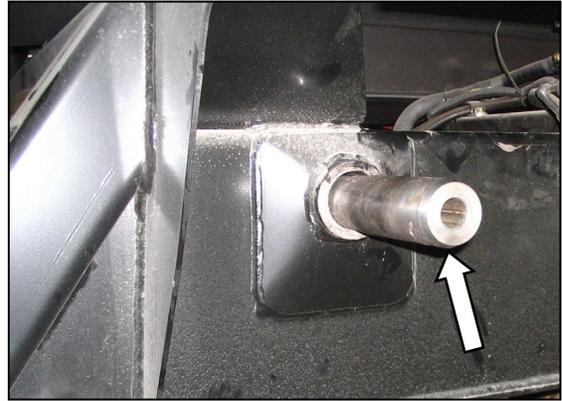
Removal of pins will be difficult if jack is not positioned to take weight off leg.



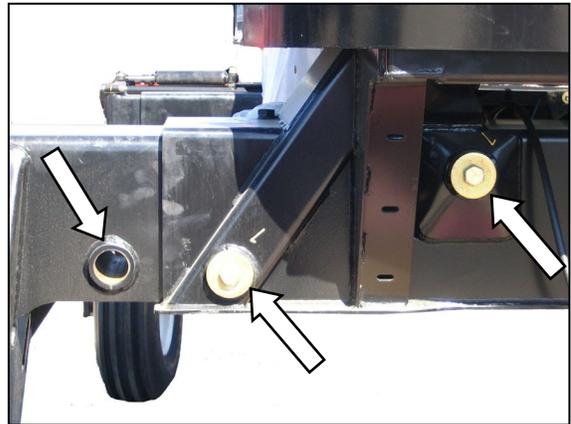
- Remove two bolts, washers, and nuts from frame.



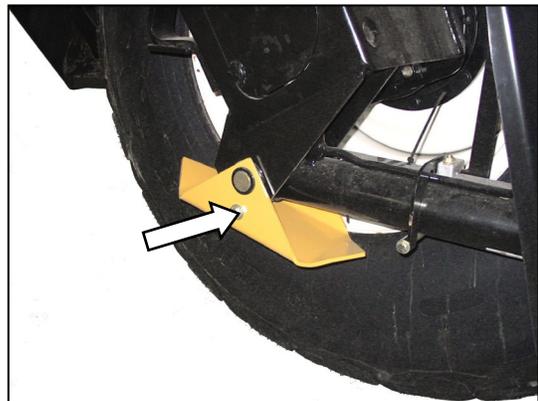
TOOL 163841



- Adjust jack height while observing pin position in bore. When pin is loosest, tap out pin with hammer or use tool to extract pin.



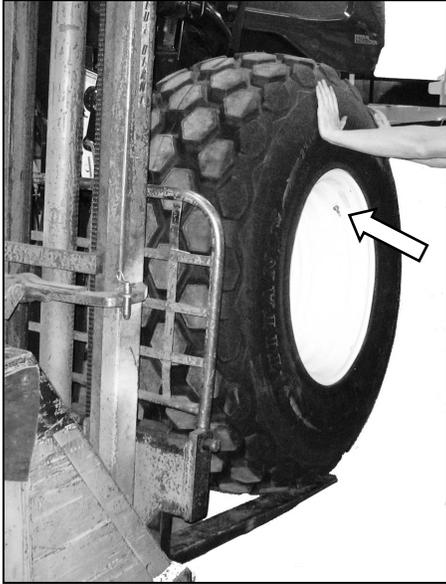
- Repeat above step for second pin.



- Move leg out to expose one hole.
- Re-install pins, and secure with bolts, washers, and nuts (not shown). Torque nuts to 100 ft·lbf (136 N·m).
- Remove bolt and shipping skids from legs.

## UNLOADING AND ASSEMBLY

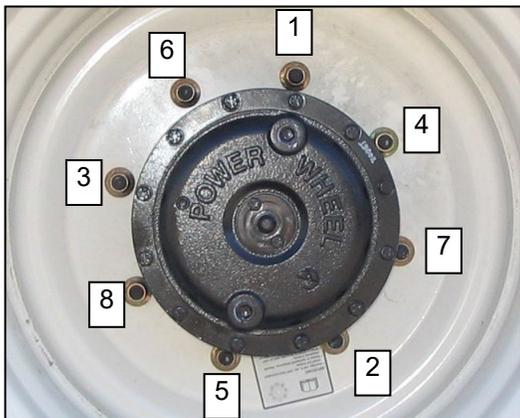
### STEP 3. INSTALL FRONT WHEELS



- a. Position wheel against hub, so that that air valves are on outside, and tire tread points "forward".

For "Turf" tires (diamond tread), be sure arrow on sidewall points in forward rotation.

- b. Lift wheel on hub with a forklift (or equivalent). Lower forklift.
- c. Rotate wheel to align holes with studs, and push wheel onto studs.



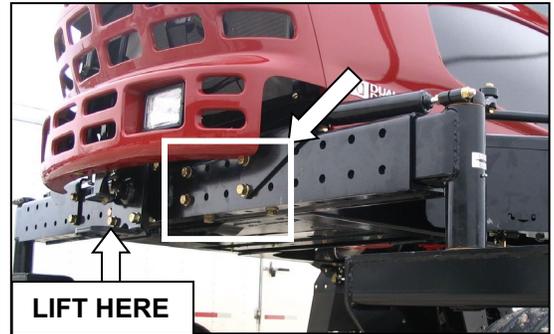
- d. Install wheel nuts, and tighten to 220 ft·lbf (300 N·m) using the tightening sequence as shown above.

#### NOTE

*To avoid damage to wheel disks, do not over-tighten wheel nuts.*

- e. Repeat sequence three times.

### STEP 4. RE-POSITION CASTER WHEELS



- a. Raise rear of windrower slightly so that most of the weight is off the casters, using a jack or other lifting device under the frame where shown.

#### NOTE

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

- b. Remove six bolts (four on backside, two on underside), and washers from left and right side of walking beam.



- c. Slide extensions outboard equal amounts, and align holes at desired location.

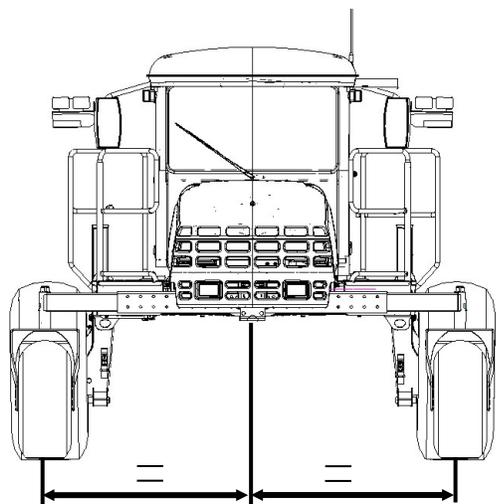
#### NOTE

*Use the caster wheels to assist in moving the axle by rotating the caster so that wheel is parallel to the axle.*

*(continued next page)*

## UNLOADING AND ASSEMBLY

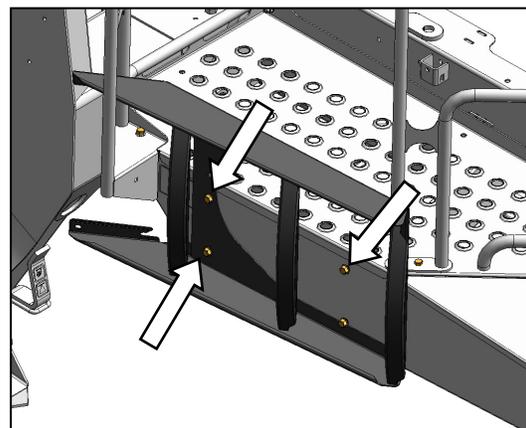
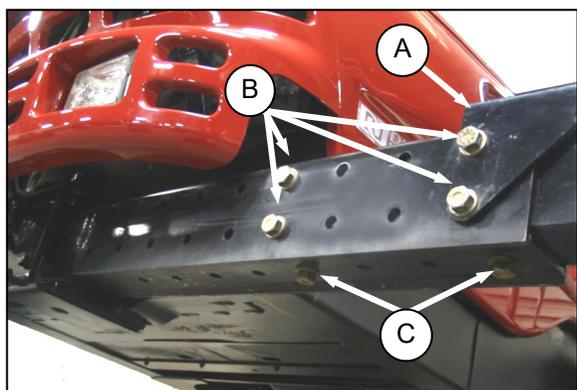
### STEP 5. INSTALL STEPS



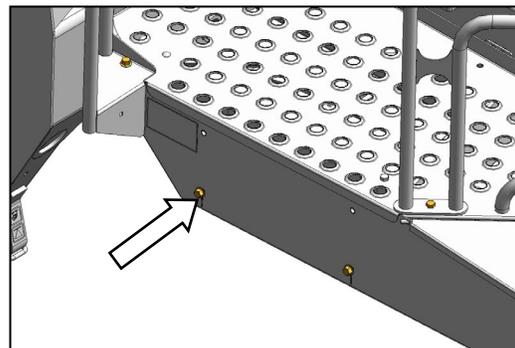
WIDEST TREAD WIDTH SHOWN

#### IMPORTANT

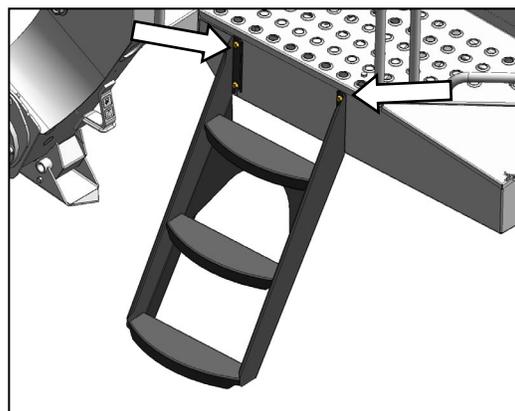
Caster wheels must be equi-distant from center of windrower.



- Remove two bolts securing steps to platform, and remove steps.
- Remove the one existing upper bolt.



- Re-install one bolt in lower hole in platform. Do not thread in fully.
- Hang step assembly on bolts. Back off bolts if required.



- Position bracket (A), and install bolts (B). The two shorter bolts are installed at the back inboard locations.
- Install bottom bolts (C).
- Tighten bolts as follows:
  - Snug bottom bolts (C).
  - Tighten and torque back bolts (B) to 330 ft·lbf (447 N·m).
  - Tighten and torque bottom bolts (C) to 330 ft·lbf (447 N·m).
- Lower windrower to ground.

#### IMPORTANT

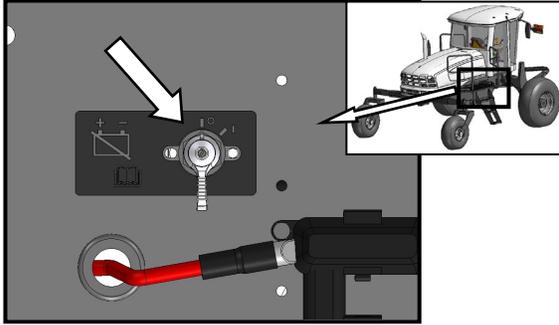
Re-torque bolts after first 5, and 10 hours of operation.

- Install two remaining bolts in upper holes in step, and tighten.
- Tighten upper bolts installed in step a.
- Repeat for other step assembly.

## UNLOADING AND ASSEMBLY

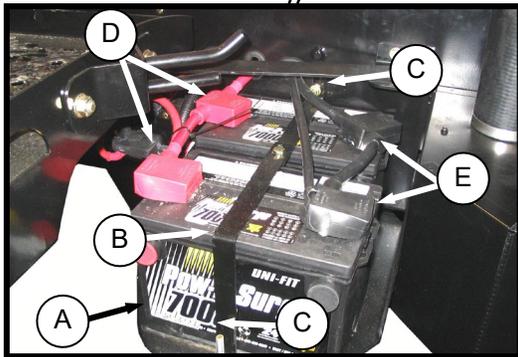
### STEP 6. INSTALL BATTERIES

- a. Open right hand (cab-forward) maintenance platform.



- b. A battery main disconnect switch is located on the RH frame rail, behind the maintenance platform and can be accessed by moving the platform. Ensure switch is switched to power OFF position.
- c. Remove cable ties securing battery clamps and cables to frame.
- d. Position new batteries on holder (A). Batteries should meet this specification:

RATING	GROUP	CCA	VOLT	MAX. DIMENSION
Heavy Duty, Off-Road, Vibration Resistant	BCI 31A	750	12	13 x 6.81 x 9.44 in. (330 x 173 x 240 mm)



- e. Install clamp (B) with bolts (C) provided, and tighten securely.

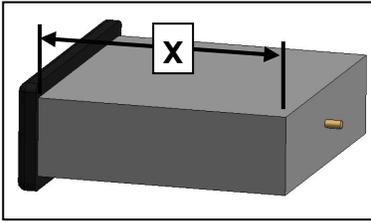
### IMPORTANT

BATTERY IS NEGATIVE GROUNDED. Always connect starter cable to the positive (+) terminal of battery and battery ground cable to negative (-) terminal of battery. Reversed polarity in battery or alternator may result in permanent damage to electrical system.

- f. Attach positive (red) cable terminals (D) to positive post on batteries, and tighten. Re-position plastic covers onto clamps.
- g. Attach negative (black) cable terminals (E) to negative post on batteries, and tighten clamps.
- h. Switch battery switch to ON.
- i. Move platform back to closed position.

## UNLOADING AND ASSEMBLY

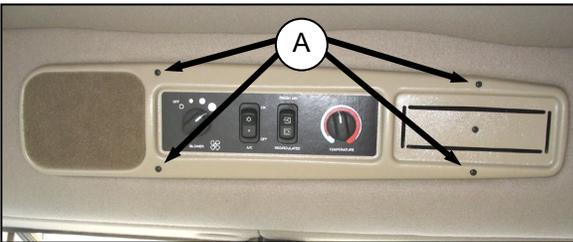
### STEP 7. INSTALL AM/FM RADIO



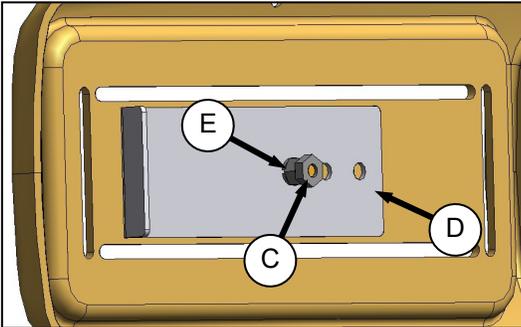
Provision has been made for installation of AM/FM radio. The mounting is designed to fit a DIN E style radio with a depth of **X** = 161 mm, and having a 5 mm threaded stud centered on the rear for support.

Adjustments can be made should the radio fall outside these parameters.

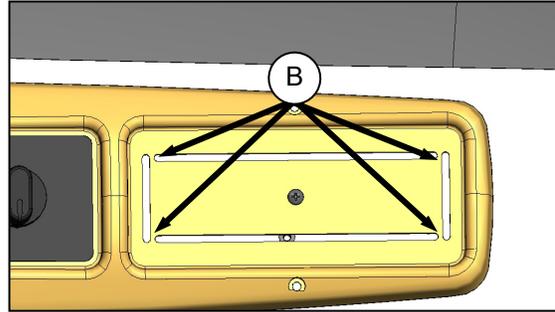
- a. Ensure the battery disconnect switch is turned to the OFF position, and the ignition is turned to the OFF position.



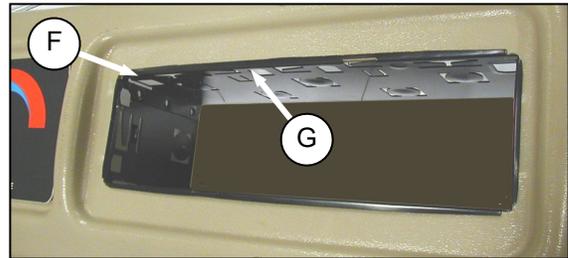
- b. Remove radio panel by removing four screws (A).



- c. Remove screw and nut (C) to remove support (D) from panel. Retain metric nut (E) and lockwasher.

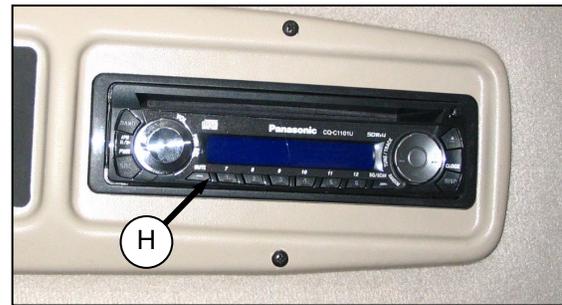


- d. Remove the cut-out by cutting the tabs (B) in the



panel. Remove sharp edges on panel.

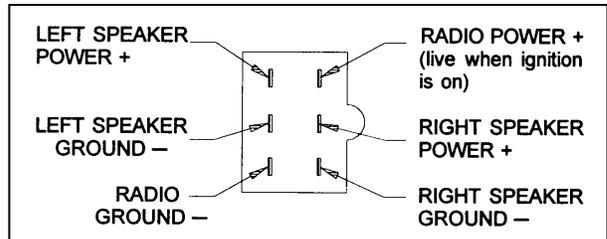
- e. Locate receptacle (F) (supplied with radio) in opening, and secure by bending tabs (G) on



receptacle against panel.

- f. Insert radio into receptacle, and attach radio bezel. Ensure radio locks into position, and faceplate (H) is against the panel.
- g. A six-pin connector for the radio is included in the wiring harness.

In order to mate properly with this connector, the radio must have a six-pin connector (Packard #2977042), and have a terminal arrangement as



follows:

## UNLOADING AND ASSEMBLY

*(continued next page)*

## UNLOADING AND ASSEMBLY

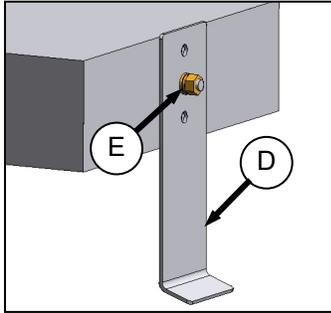
- h. Attach two additional wires in the wiring harness to the radio:
  - 1. **Circuit 503** - Red with 1/4 in. female blade terminal. This is a live wire provided for powering a radio clock/memory, if these exist on your radio.
  - 2. **Circuit 315** - Black ground wire attaches to radio body.
- i. Plug cable from antenna into radio.

### NOTE

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

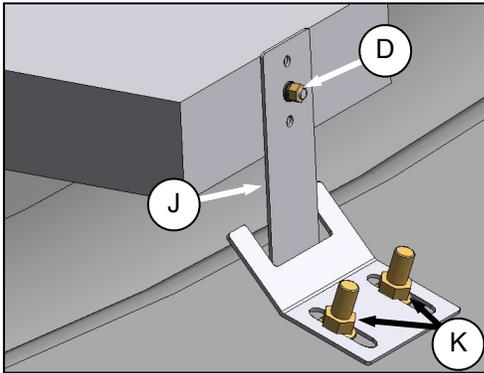
- j. Attach stud (supplied with radio) to center rear of radio.

- k. Attach support (D) to stud on back of radio chassis with lock washer and metric nut (E) that was supplied with the support.



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

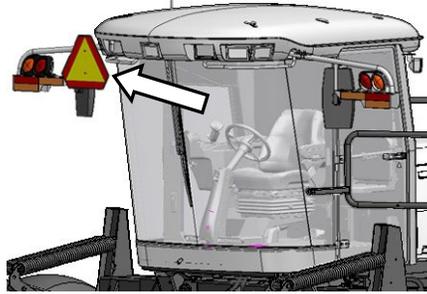
- l. Re-install radio panel with original screws.



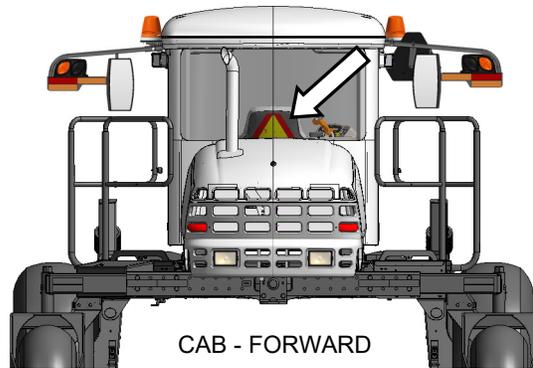
- m. Adjust bracket (J) if necessary by loosening nuts (K) to allow radio to slide into opening, and securely capture support (D).
- n. Turn battery disconnect switch to ON position.
- o. Turn ignition key to ACC, switch on the radio, and check operation in accordance with instructions supplied with the radio.

## STEP 8. INSTALL SLOW MOVING VEHICLE (SMV) SIGN

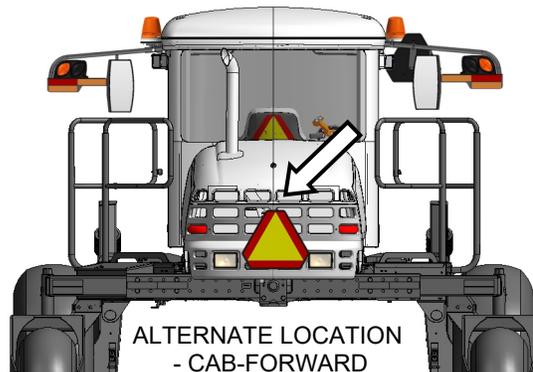
- a. Install SMV sign (shipped in cab) on windrower in accordance with instructions supplied with the sign.
- b. The SMV signs must be visible when travelling on the road.



ENGINE - FORWARD



CAB - FORWARD

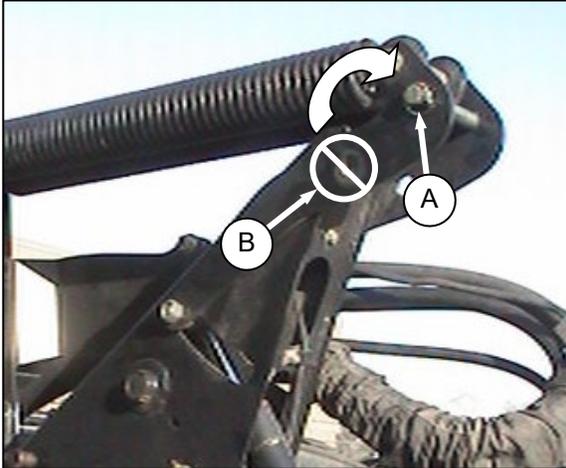


ALTERNATE LOCATION  
- CAB-FORWARD

## UNLOADING AND ASSEMBLY

### STEP 9. ATTACH HEADER

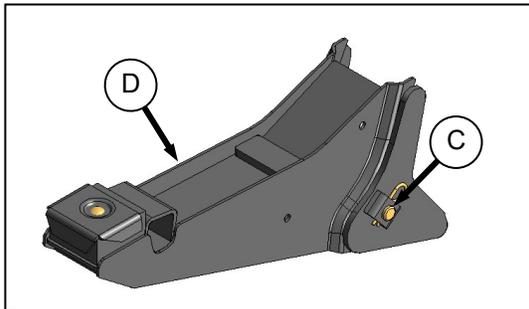
#### A. HEADER ATTACHMENT - D SERIES



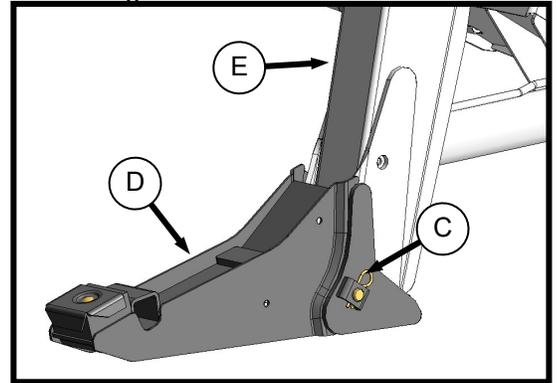
#### IMPORTANT

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

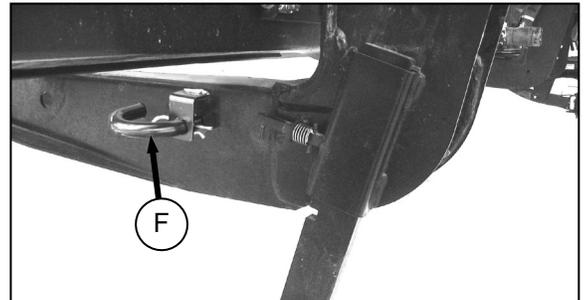
- a. If not installed, attach draper header boots (supplied with header) to windrower lift linkage as follows:



1. Remove pin (C) from boot (D).



2. Locate boot (D) on lift linkage (E) and re-install pin (C). Pin may be installed from either side of boot.  
3. Secure pin (C) with hairpin.  
4. Repeat for opposite side.



- b. Remove hairpin on pins (F), and remove pins from header legs.

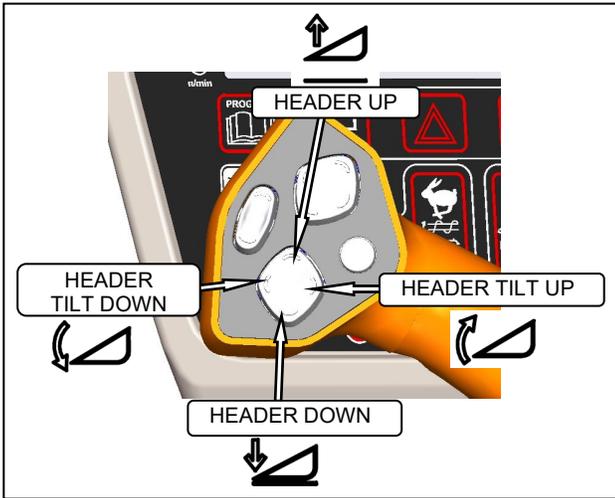


#### CAUTION

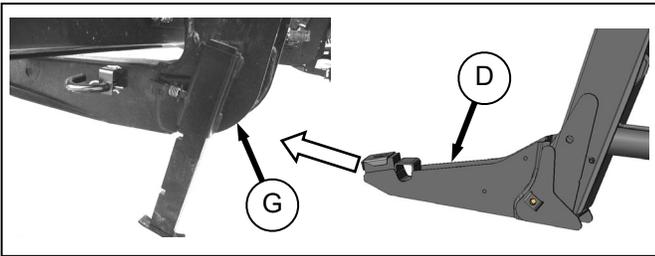
Check to be sure all bystanders have cleared the area.

*(continued next page)*

## UNLOADING AND ASSEMBLY

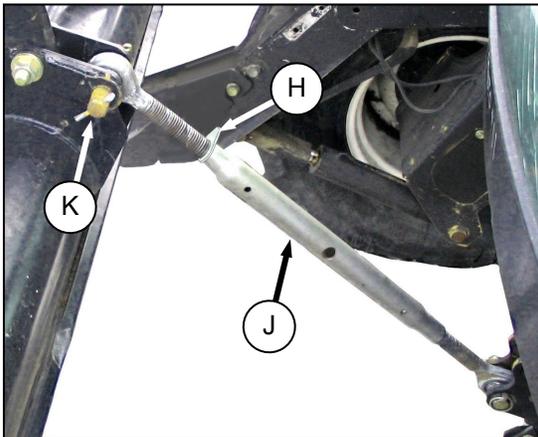


- c. Start engine, and activate **HEADER DOWN** button on the GSL to fully retract header lift cylinders.



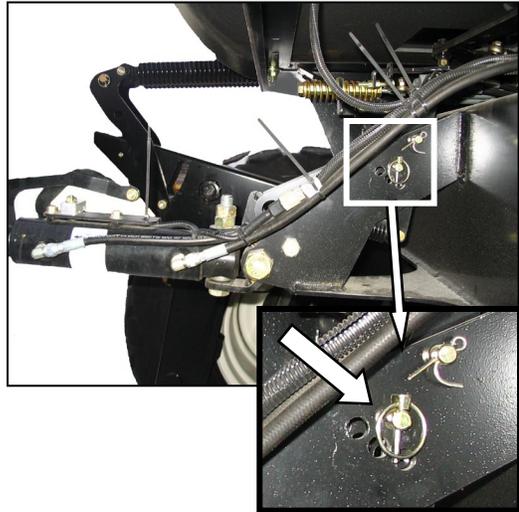
- d. Slowly drive windrower forward so that boots (D) enter header legs (G). Continue to drive slowly forward until lift linkages contact support plates in the header legs, and header nudges forward.
- e. Check that linkages are properly engaged in header legs, contacting support plates.
- f. Connect center-link as follows:

### MECHANICAL LINK

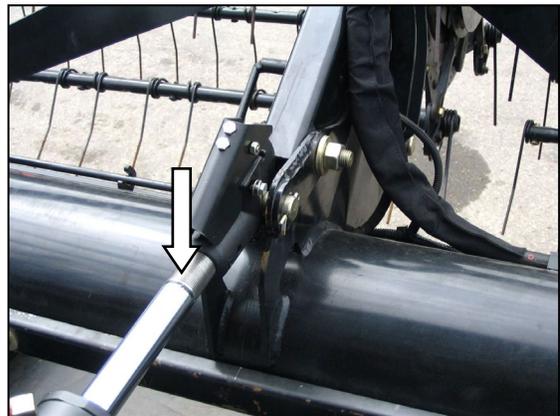


1. Loosen nut (H), and rotate barrel (J) to adjust length so that link lines up with header bracket.
2. Install pin (K), and secure with cotter pin.
3. Adjust link to required length for proper header angle by rotating barrel (J). Tighten nut (H) against barrel. A slight tap with a hammer is sufficient.
4. Proceed to step g. on next page.

### HYDRAULIC LINK WITHOUT SELF-ALIGNMENT KIT (OPTION)



1. Re-locate the pin at the frame linkage as required to position the hook over the header pin.
2. Activate **HEADER TILT** cylinder switches on GSL to extend or retract center-link cylinder so that the hook lines up with the header attachment pin.



3. Push down on rod end of link cylinder until hook engages pin on header, and is locked.

*(continued next page)*

## UNLOADING AND ASSEMBLY

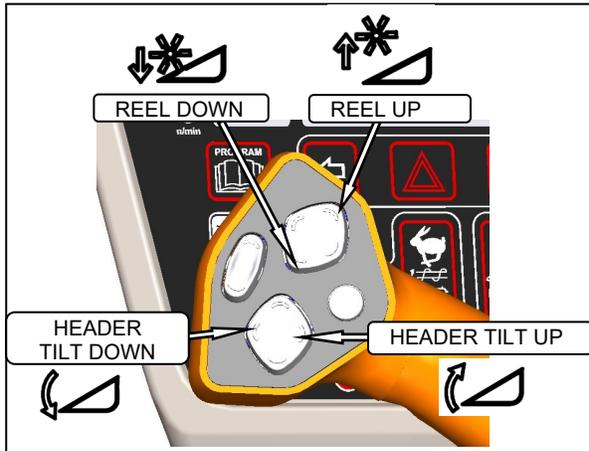


### IMPORTANT

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.

4. Check that center-link is locked onto header by pulling upward on rod end of cylinder.
5. Proceed to step g. in next column.

### HYDRAULIC LINK WITH OPTIONAL SELF-ALIGNMENT KIT



1. Adjust the position of the center-link cylinder with the REEL UP and REEL DOWN switches, and HEADER TILT switches on the GSL to position the hook 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.

2. Lower the center-link onto the header with REEL DOWN switch until it locks into position (handle is down).

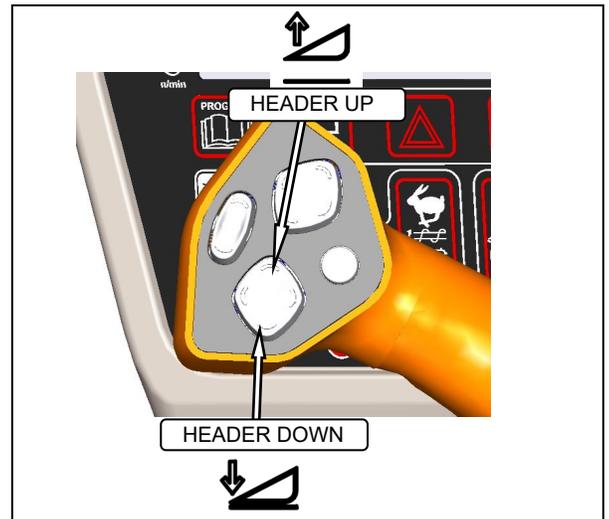
- g. Raise the header fully with the HEADER UP switch on the GSL. Stop engine, and remove key.



### DANGER

To avoid bodily injury from fall of raised header, always engage header lift cylinder stops when working on or around raised header, and before going under header for any reason.

- h. Cylinder stops are located on both header lift cylinders on the windrower. Engage lift cylinder stops on both lift cylinders as follows, and then proceed to step i. on next page.



1. Press HEADER UP switch to raise header to maximum height.

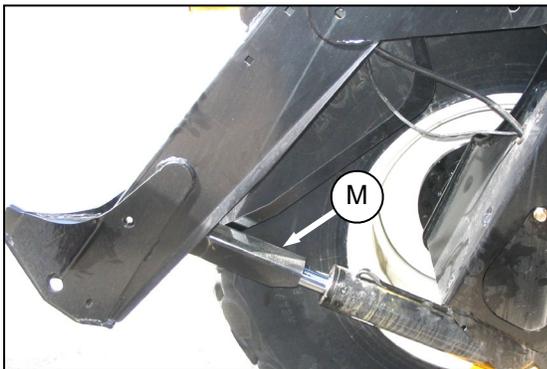
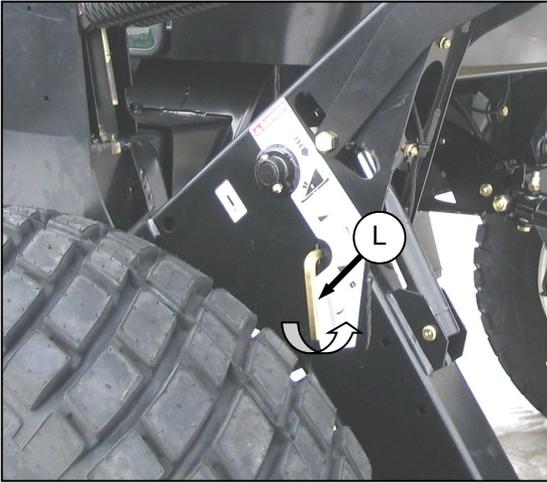
### NOTE

If one end of the header does not raise fully, the lift cylinders require re-phasing. If re-phasing is needed, proceed as follows:

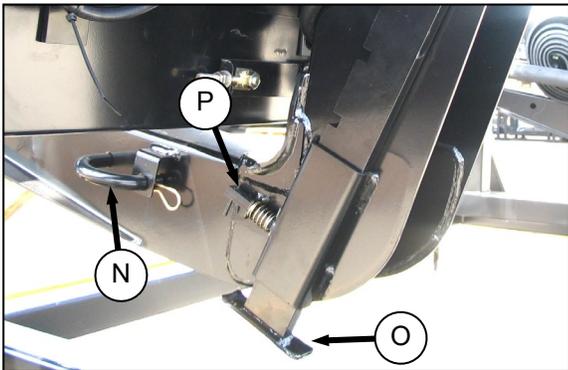
- i) Press and hold the HEADER UP switch until both cylinders stop moving.
- ii) Continue to hold the switch for 3 - 4 seconds.
- iii) Cylinders are phased.

*(continued next page)*

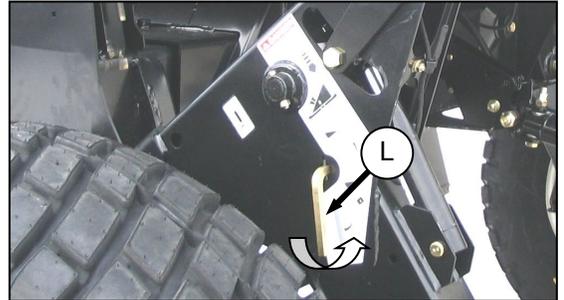
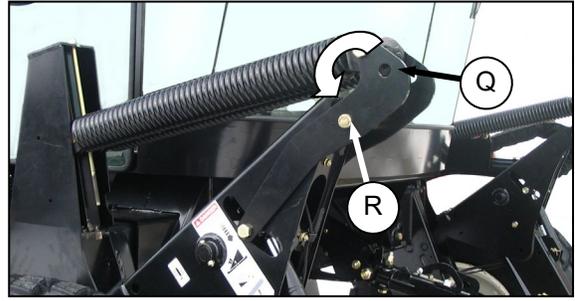
## UNLOADING AND ASSEMBLY



2. Pull lever (L), and rotate toward header to release and lower cylinder stop (M) onto cylinder.
3. Repeat for both lift cylinders.



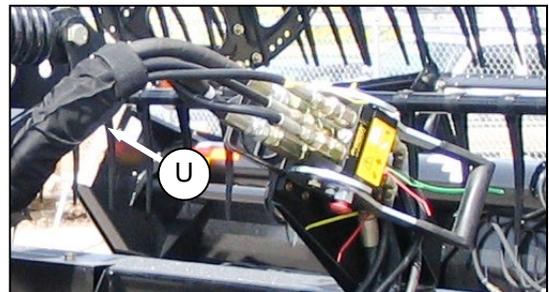
- i. Install pin (N) through header leg, (engaging U-bracket in lift linkage) on both sides, and secure with hairpin.
- j. Raise header stand (O) to "storage position" by pulling pin (P), and lifting stand into "uppermost" position. Release pin (P).
- k. Remove pin from "storage position" (Q) in linkage, and insert in hole (R) to engage float springs. Secure with hairpin. (shown top of next column).



- l. Disengage lift cylinder stops by turning lever (L) away from header to release and lower stop until lever locks into "vertical" position. Repeat for both lift cylinder stops.
- m. Start engine, and activate HEADER LIFT cylinders (switch on GSL) to lower header fully. Stop engine, and remove key.



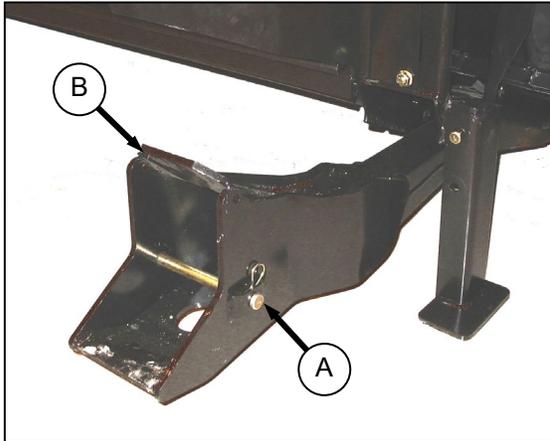
- n. Connect header drive hoses (S) and electrical harness (T) to header. Refer to the Draper Header Operator's Manual.



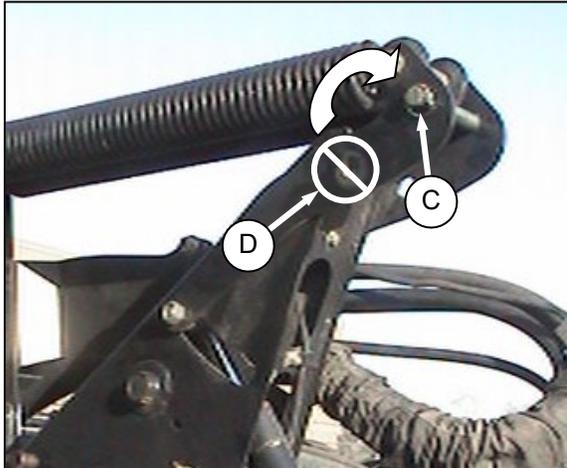
- o. Connect reel hydraulics (U) at RH side of windrower. Refer to the Draper Header Operator's Manual.

## UNLOADING AND ASSEMBLY

### B. HEADER ATTACHMENT - A SERIES



- a. Remove hairpin from pin (A), and remove pin from left and right header boots (B) on header.



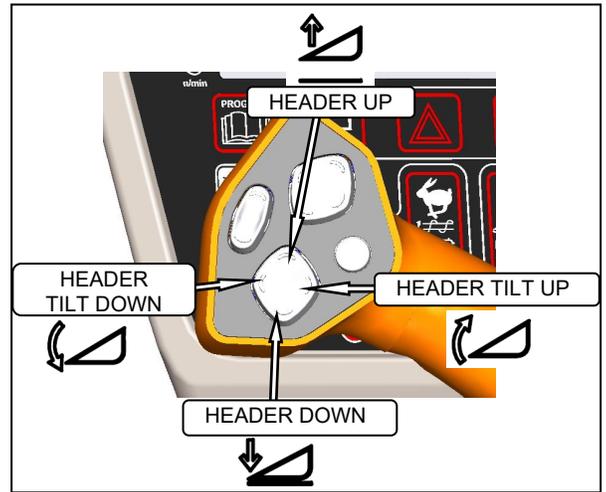
#### IMPORTANT

To prevent damage to the lift system when lowering header lift linkages without a header or weight box attached to windrower, ensure that float engagement pin is installed in storage location (C), and not installed at hole location (D).

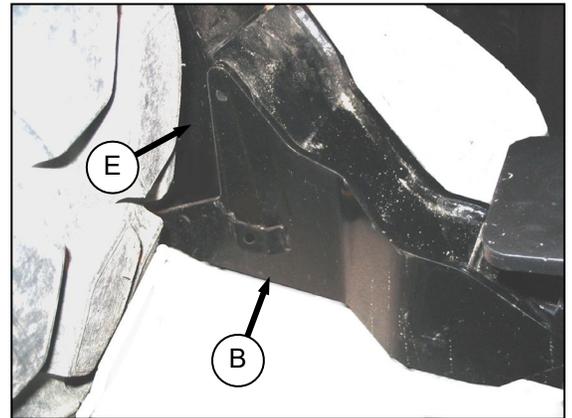


### CAUTION

Check to be sure all bystanders have cleared the area.



- b. Start engine, and activate HEADER DOWN button on the GSL to fully retract header lift cylinders.



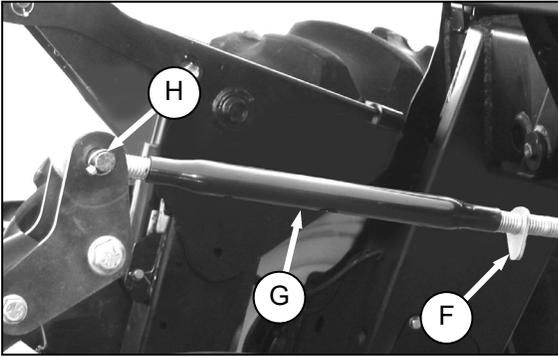
- c. Slowly drive windrower forward so that feet (E) on windrower enter boots (B) on the header. Continue to drive slowly forward until feet engage the boots, and header nudges forward.

*(continued next page)*

## UNLOADING AND ASSEMBLY

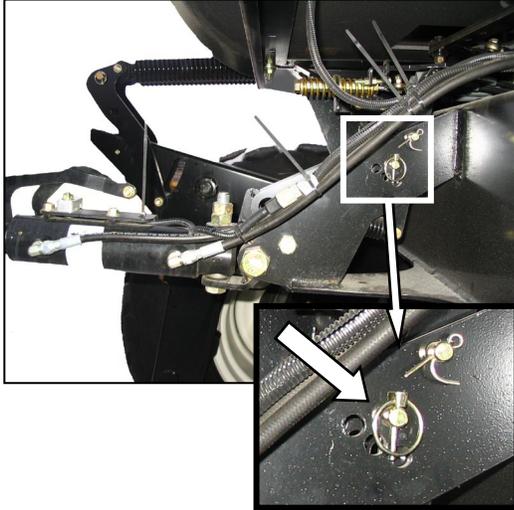
d. Connect center-link as follows:

### MECHANICAL LINK

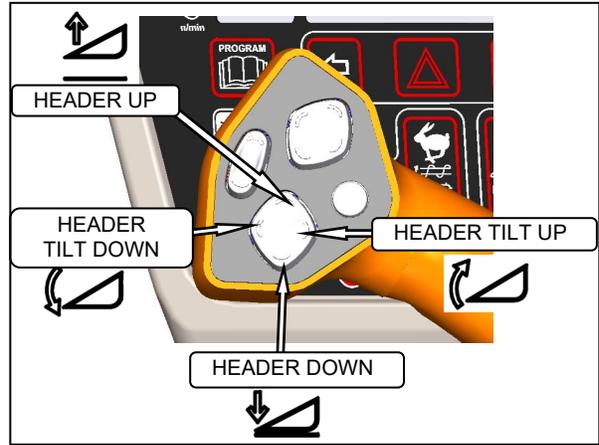


1. Loosen nut (F), and rotate barrel (G), to adjust length so that other end lines up with header bracket.
2. Install pin (H), and secure with cotter pins.
3. Adjust link to required length for proper header angle by rotating barrel (G). Tighten nut (F) against barrel. A slight tap with a hammer is sufficient.
4. Proceed to step e. on next page.

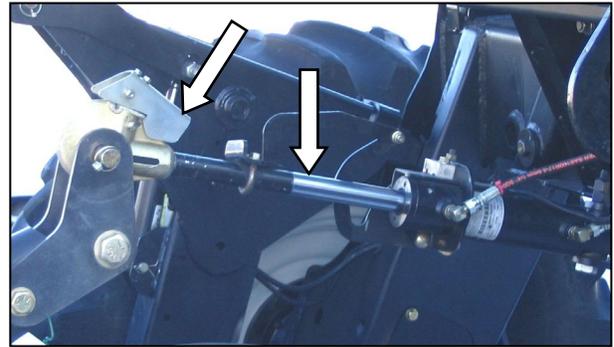
### HYDRAULIC LINK WITHOUT SELF-ALIGNMENT KIT (OPTION)



1. Re-locate the pin at the frame linkage as required to position the hook over the header pin.



2. Activate HEADER TILT cylinder switches on GSL to extend or retract center-link cylinder so that the hook lines up with the header attachment pin.



3. Push down on rod end of link cylinder until hook engages pin on header and is locked.

#### **IMPORTANT**

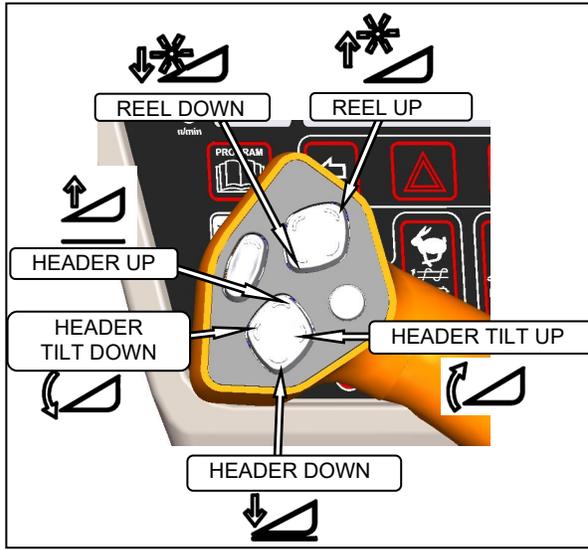
Hook release must be down to enable self-locking mechanism. If the release is open ("up"), manually push it down after hook engages header pin.

4. Check that center-link is locked onto header by pulling upward on rod end of cylinder.
5. Proceed to step e. on next page.

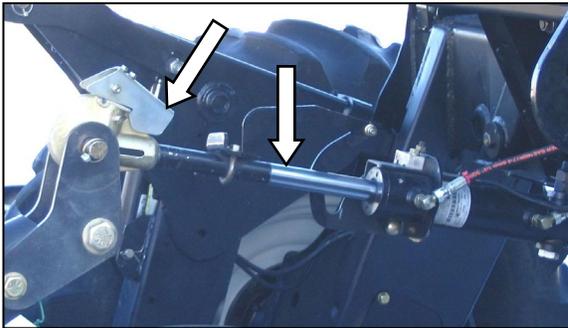
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## UNLOADING AND ASSEMBLY

### HYDRAULIC LINK WITH OPTIONAL SELF-ALIGNMENT KIT



1. Adjust the position of the center-link cylinder with the REEL UP and REEL DOWN switches, and HEADER TILT switches on the GSL to position the hook 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.
2. Lower the center-link onto the header with REEL DOWN switch until it locks into position (handle is "down").

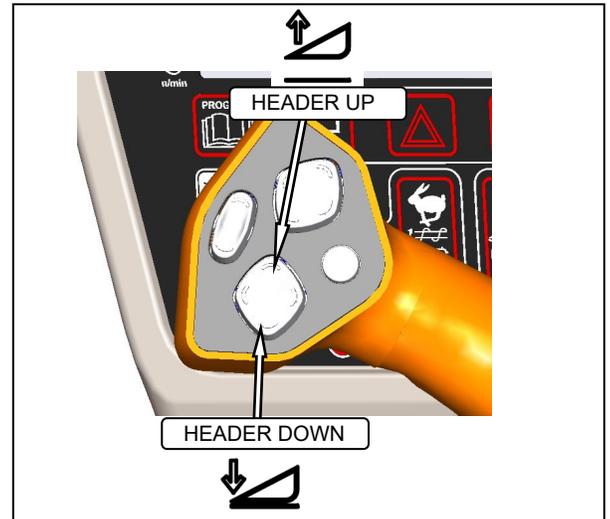
- e. Raise the header fully with the HEADER UP switch on the GSL. Stop engine, and remove key.



#### DANGER

To avoid bodily injury from fall of raised header, always engage header lift cylinder stops when working on or around raised header, and before going under header for any reason.

- f. Cylinder stops are located on both header lift cylinders on the windrower. Engage lift cylinder stops on both lift cylinders as follows, and proceed to step g. on next page.



1. Press HEADER UP switch to raise header to maximum height.

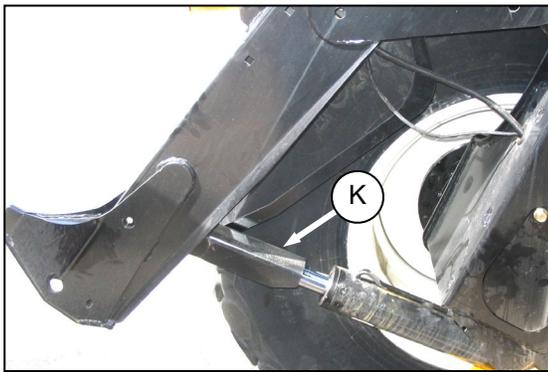
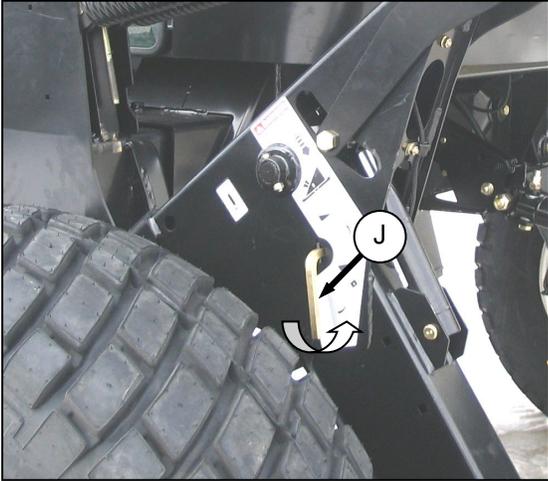
#### NOTE

If one end of the header does not raise fully, the lift cylinders require re-phasing. If re-phasing is needed, proceed as follows:

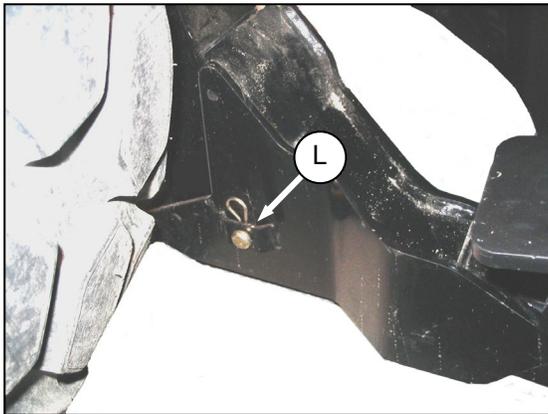
- i. Press and hold the HEADER UP switch until both cylinders stop moving.
- ii. Continue to hold the switch for 3 - 4 seconds.
- iii. Cylinders are phased.

*(continued next page)*

## UNLOADING AND ASSEMBLY



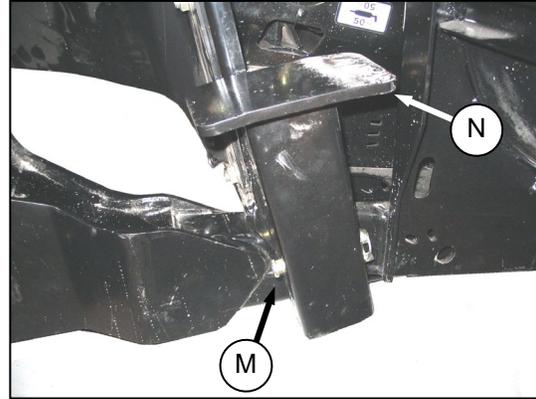
2. Pull lever (J), and rotate toward header to release and lower cylinder stop (K) onto cylinder.
3. Repeat for both lift cylinders.



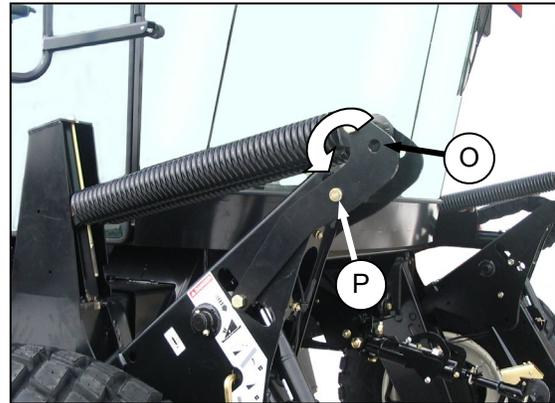
- g. Install pin (L) through each boot and foot, and secure with hairpin.

### IMPORTANT

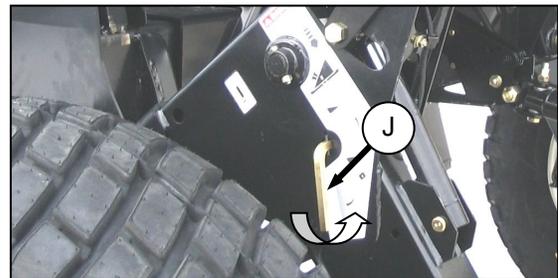
Ensure pin (L) is fully inserted, and hairpin is installed behind bracket.



- h. Remove lynch pin from pin (M) in stand (N).
- i. Hold stand (N), and remove pin (M).
- j. Re-position stand to “storage position” by inverting stand, and re-locating on bracket as shown. Re-insert pin (M), and secure with lynch pin.



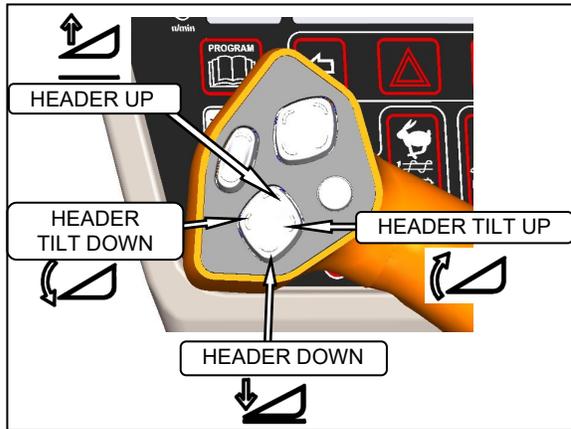
- k. Remove pin (O) from “storage position” in linkage, and insert in hole (P) to engage float springs. Secure with lynch pin.



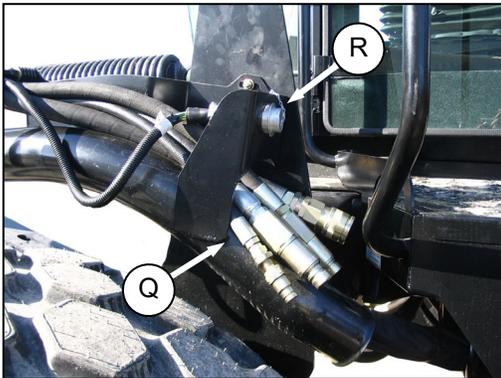
- l. Disengage lift cylinder stops by turning lever (J) “away” from header to raise stop until lever locks into “vertical” position. Repeat for both lift cylinder stops.

*(continued next page)*

## UNLOADING AND ASSEMBLY



- m. Start engine, and activate HEADER DOWN switch on GSL to lower header fully.
- n. Stop engine and remove key.



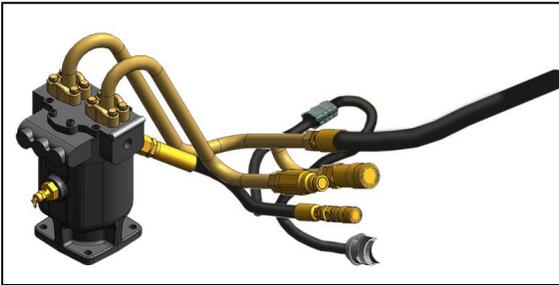
- o. Connect header drive hydraulics (Q) and electrical harness (R) to header. Refer to Auger Header Operator's Manual.

## UNLOADING AND ASSEMBLY

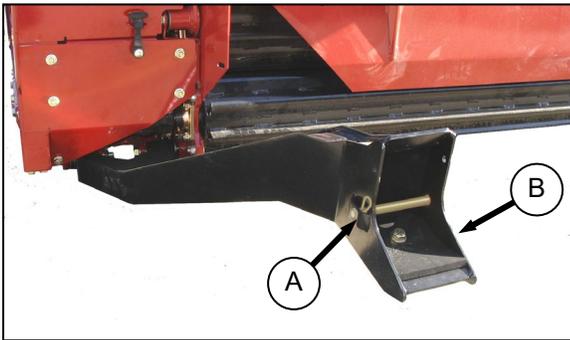
### C. HEADER ATTACHMENT - R SERIES 13 FT



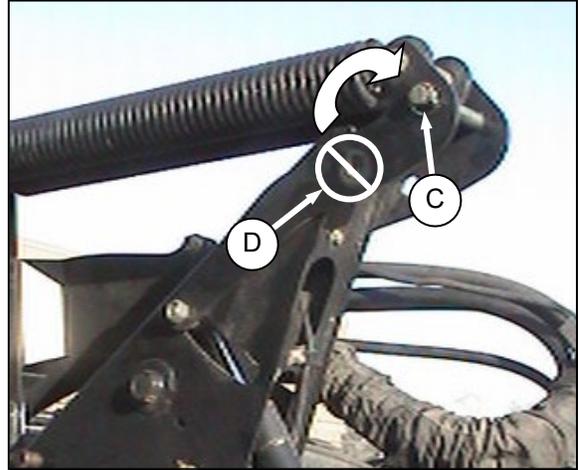
The R80 and R85 13 FT headers are shipped without the motor and hoses installed, and the installation of a separate motor and hose bundle is necessary.



If required, obtain kit B5510 from your Dealer, and install it in accordance with the instructions supplied with the kit.



- a. Remove hairpin from pin (A), and remove pin from on left and right header boots (B) on header.



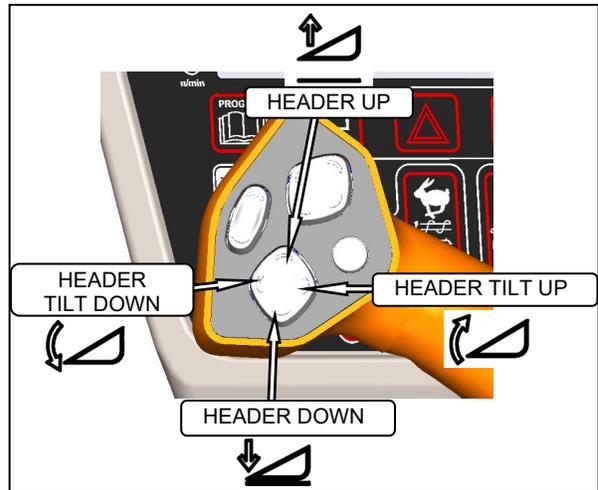
#### IMPORTANT

To prevent damage to the lift system when lowering header lift linkages without a header or weight box attached to windrower, ensure that float engagement pin is installed in storage location (C), and not installed at hole location (D).



#### CAUTION

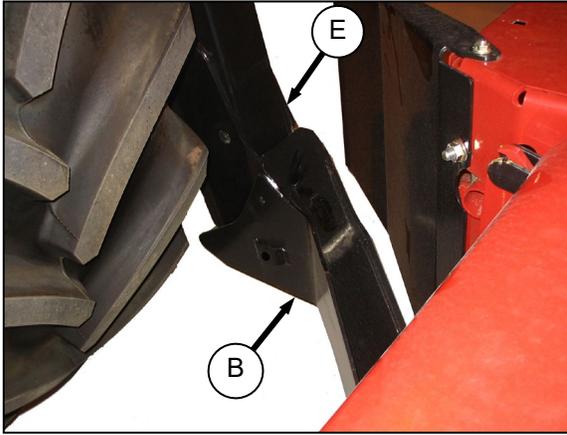
Check to be sure all bystanders have cleared the area.



- b. Start engine, and activate HEADER DOWN button on the GSL to fully retract header lift cylinders.

*(continued next page)*

## UNLOADING AND ASSEMBLY

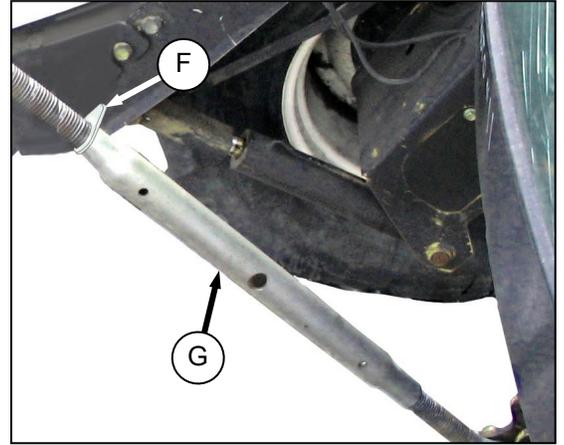


- c. Slowly drive windrower forward so that feet (E) on windrower enter boots (B) on the header.

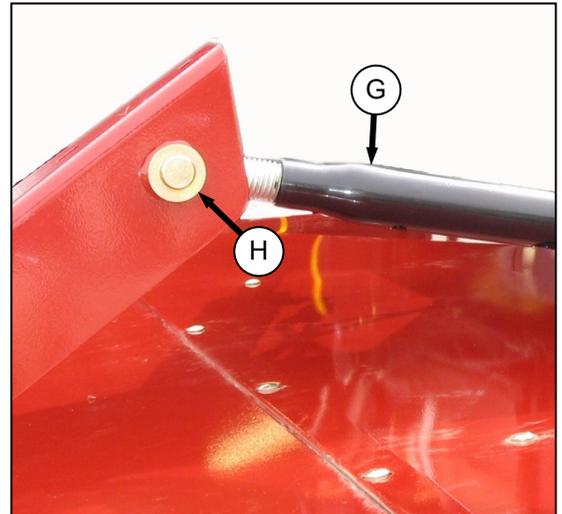
Continue to drive slowly forward until feet engage the boots, and header nudges forward.

- d. Connect center-link as follows:

### MECHANICAL LINK



1. Loosen nut (F), and rotate barrel (G), to adjust length so that other end lines up with header

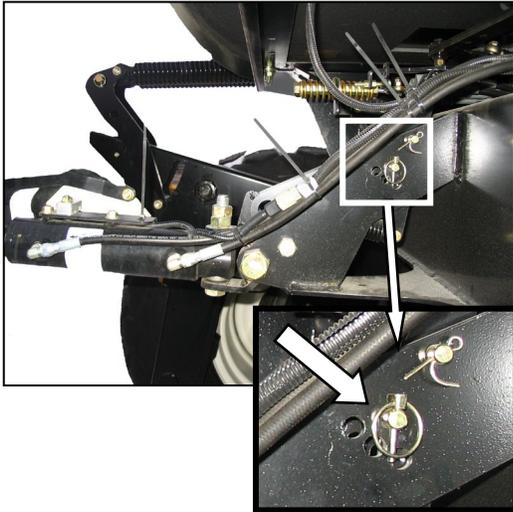


- bracket.
2. Install clevis pin (H), and secure with cotter pin.
3. Adjust link to required length for proper header angle by rotating barrel (G). Tighten nut (F) against barrel. A slight tap with a hammer is sufficient.
4. Proceed to step e. on next page.

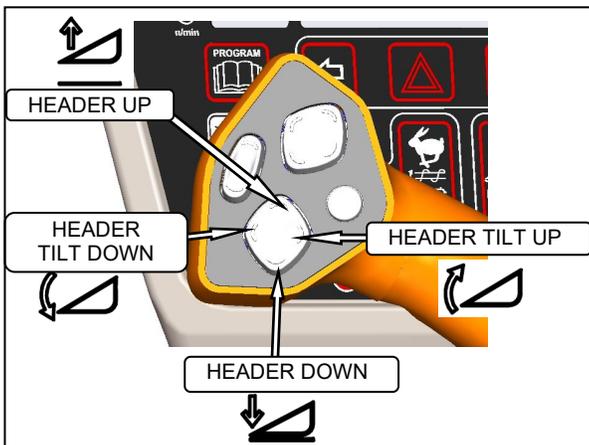
*(continued next page)*

## UNLOADING AND ASSEMBLY

### HYDRAULIC LINK WITHOUT SELF-ALIGNMENT KIT (OPTION)



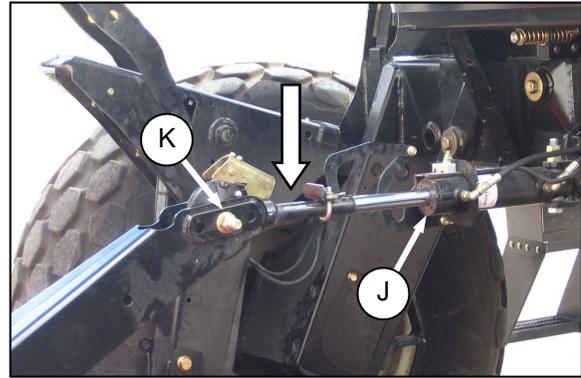
1. Re-locate the pin at the frame linkage as required to position the hook over the header



2. Use HEADER TILT cylinder switches on GSL to extend or retract center-link cylinder so that the hook lines up with 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.



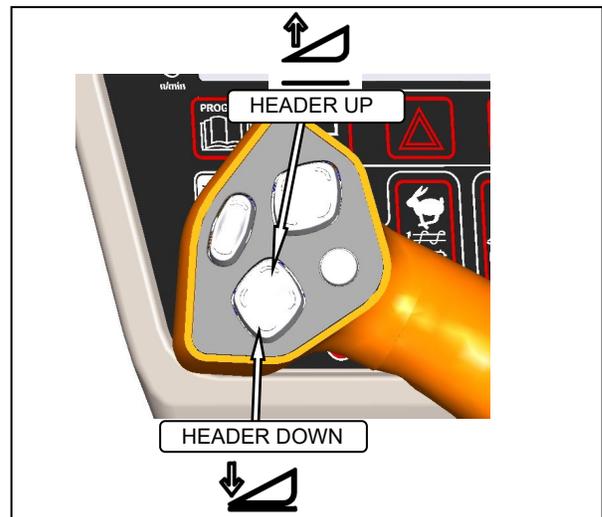
3. Push down on rod end of link cylinder (J) until hook engages pin (K) on header and is locked.
  4. Check that center-link is locked onto header by pulling upward on rod end of cylinder.
- e. Raise the header fully with the HEADER UP switch on the GSL. Stop engine, and remove key.



### DANGER

To avoid bodily injury from fall of raised header, always engage header lift cylinder stops when working on or around raised header, and before going under header for any reason.

- f. Cylinder stops are located on both header lift cylinders on the windrower. Engage lift cylinder stops on both lift cylinders as follows, and proceed to step g. when completed.



1. Press HEADER UP switch to raise header to maximum height.

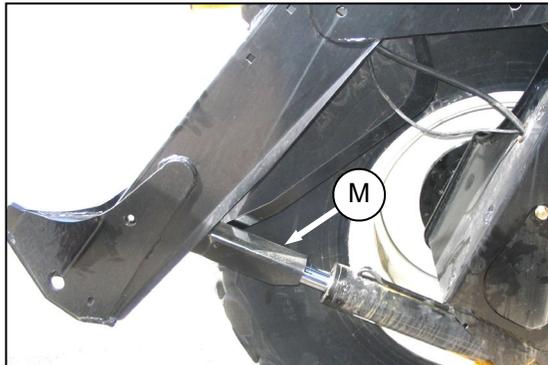
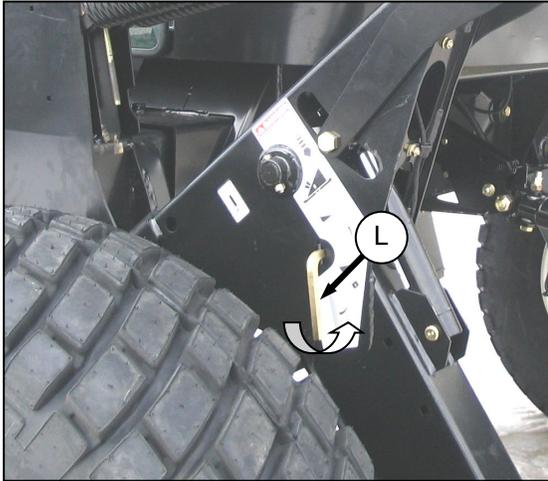
*(continued next page)*

## UNLOADING AND ASSEMBLY

### NOTE

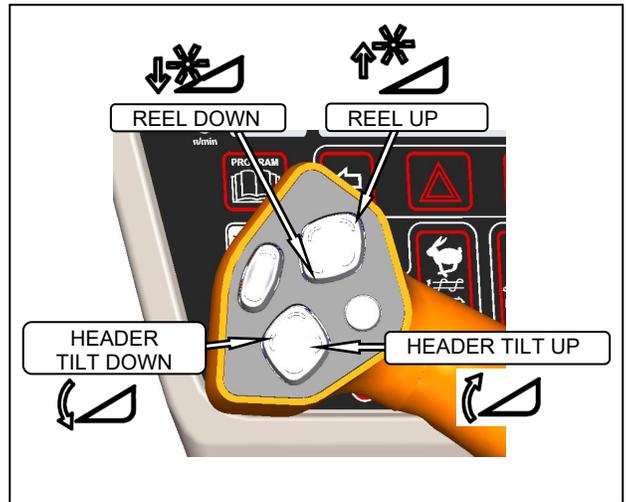
If one end of the header does not raise fully, the lift cylinders require re-phasing. If re-phasing is needed, proceed as follows:

- i. Press and hold the HEADER UP switch until both cylinders stop moving.
- ii. Continue to hold the switch for 3 - 4 seconds.
- iii. Cylinders are phased.



2. Pull lever (L), and rotate toward header to release and lower cylinder stop (M) onto cylinder.
3. Repeat for both lift cylinders.

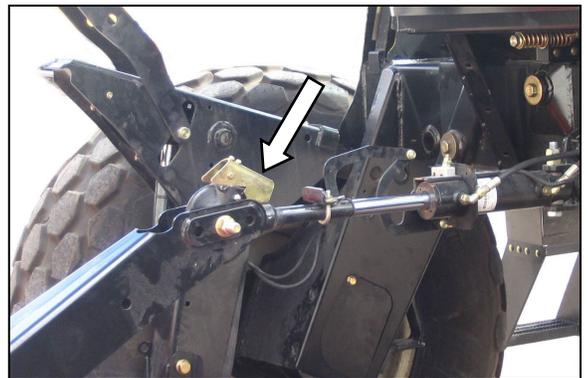
### HYDRAULIC LINK WITH OPTIONAL SELF-ALIGNMENT KIT



1. Adjust the position of the center-link cylinder with the REEL UP and REEL DOWN switches, and HEADER TILT switches on the GSL to position the hook above the header attachment pin.

### IMPORTANT

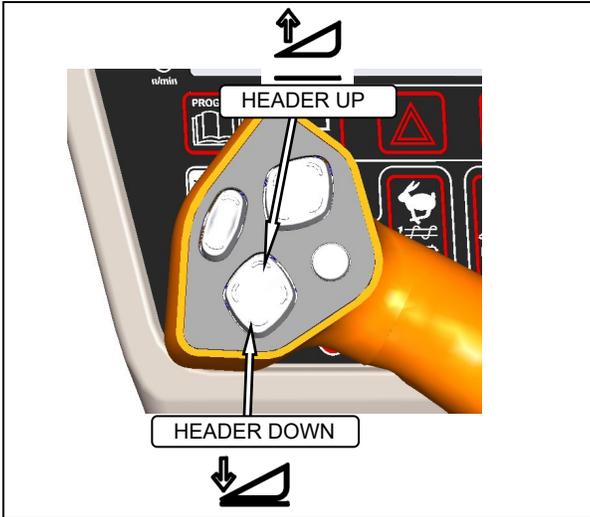
Hook release must be down to enable self-locking mechanism. If the release is open ("up"), manually push it down after hook engages header pin.



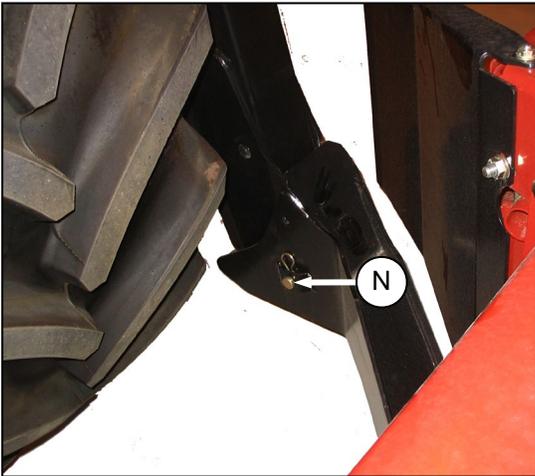
2. Push the REEL DOWN switch on the GSL to lower the center-link onto the header until it locks into position (handle is "down").

(continued next page)

## UNLOADING AND ASSEMBLY



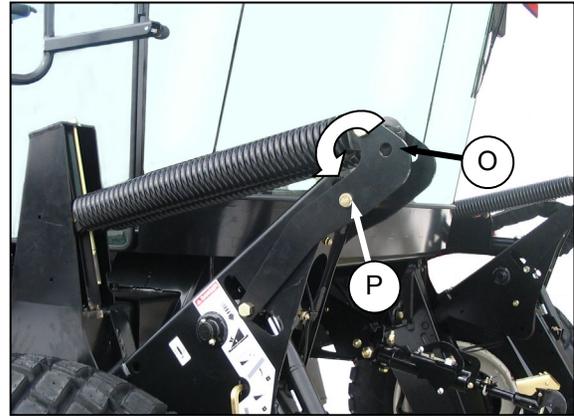
- g. Raise the header fully with the HEADER UP switch on the GSL. Stop engine, and remove key.



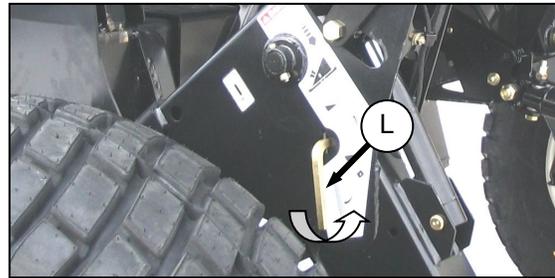
- h. Install pin (N) through each boot and foot, and secure with hairpin.

### IMPORTANT

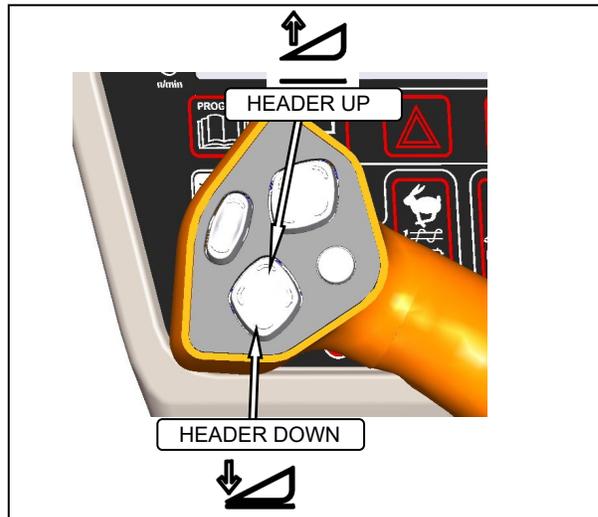
Ensure pin (N) is fully inserted, and hairpin is installed behind bracket.



- i. Remove pin (O) from “storage position” in linkage, and insert in hole (P) to engage float springs. Secure with hairpin.



- j. Disengage lift cylinder stops by turning lever (L) away from header to release and lower stop until lever locks into “vertical” position. Repeat for both lift cylinder stops.



- k. Start engine, and activate HEADER DOWN switch on GSL to lower header fully. Stop engine, and remove key.
- l. Connect header drive hydraulics and electrical harness to header. Refer to your Rotary Disc Header Operator's Manual.

## UNLOADING AND ASSEMBLY

### STEP 10. LUBRICATE MACHINE

#### Recommended Lubricant

SPEC	DESCRIPTION	USE
SAE Multi-Purpose	High Temperature Extreme Pressure (EP2) Performance With 1% Max Molybdenum Disulphide (NLGI Grade 2) Lithium Base	As Required Unless Otherwise Specified

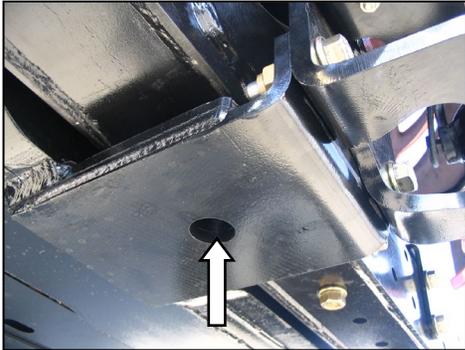
- a. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.
- b. Inject grease through fitting with grease gun until grease overflows fitting, except where noted.
- c. Leave excess grease on fitting to keep out dirt.
- d. Replace any loose or broken fittings immediately.
- e. If fitting will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.
- f. Refer to the following illustrations to identify the locations that require lubrication.

*(continued next page)*

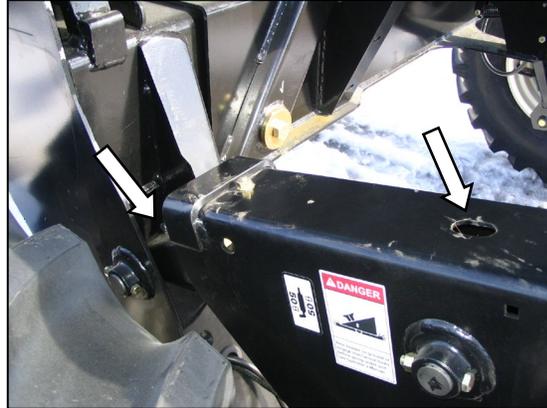
# UNLOADING AND ASSEMBLY

## Lubrication Points

High Temperature Extreme Pressure (EP2) Performance With 1% Max Molybdenum Disulphide (NLGI Grade 2). Lithium Base



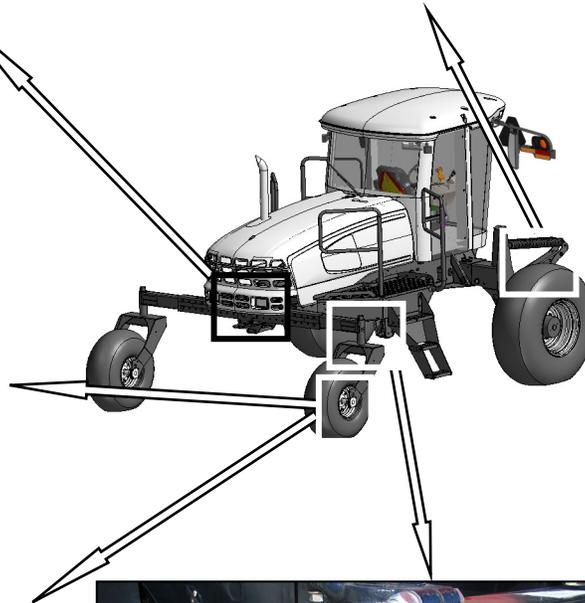
WALKING BEAM PIVOT)



TOP LINK - TWO FITTINGS (BOTH SIDES)



FORMED CASTER WHEEL BEARING 1 PLACE (BOTH WHEELS)



FORKED CASTER SPINDLE BEARINGS TWO PLACES (BOTH WHEELS)



CASTER PIVOT (BOTH SIDES)

## UNLOADING AND ASSEMBLY

### STEP 11. PROGRAM CAB DISPLAY MODULE (CDM)

The monitoring system requires programming for each header, and the **header must be attached to the windrower** so that the CDM recognizes the type of header.

Programming the system may be accomplished with or without the engine running. If the engine is running, the transmission must be in Neutral. If the engine is not running, the ignition must be ON.

Exit programming mode at any time by pressing the PROGRAM switch, or by turning ignition OFF.

The system only needs to be programmed once for each header. The Operator may make changes later on to a particular setting to suit windrowing conditions or modifications to the machine. Most functions have been pre-programmed at the factory, but can be changed by the Operator if required.

The following functions can be programmed by the Dealer provided he has the applicable information from the Operator, and the header is installed:

**DWA INSTALLED**  
**HDR CUT WIDTH**  
**HAY CONDITIONER INSTALLED**  
**CALIBRATE SENSORS**

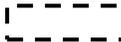
Proceed as follows to program the CDM:

#### IMPORTANT

Header must be attached to the windrower so that the CDM can detect the type of header (Header ID), and adjust the programming mode accordingly.

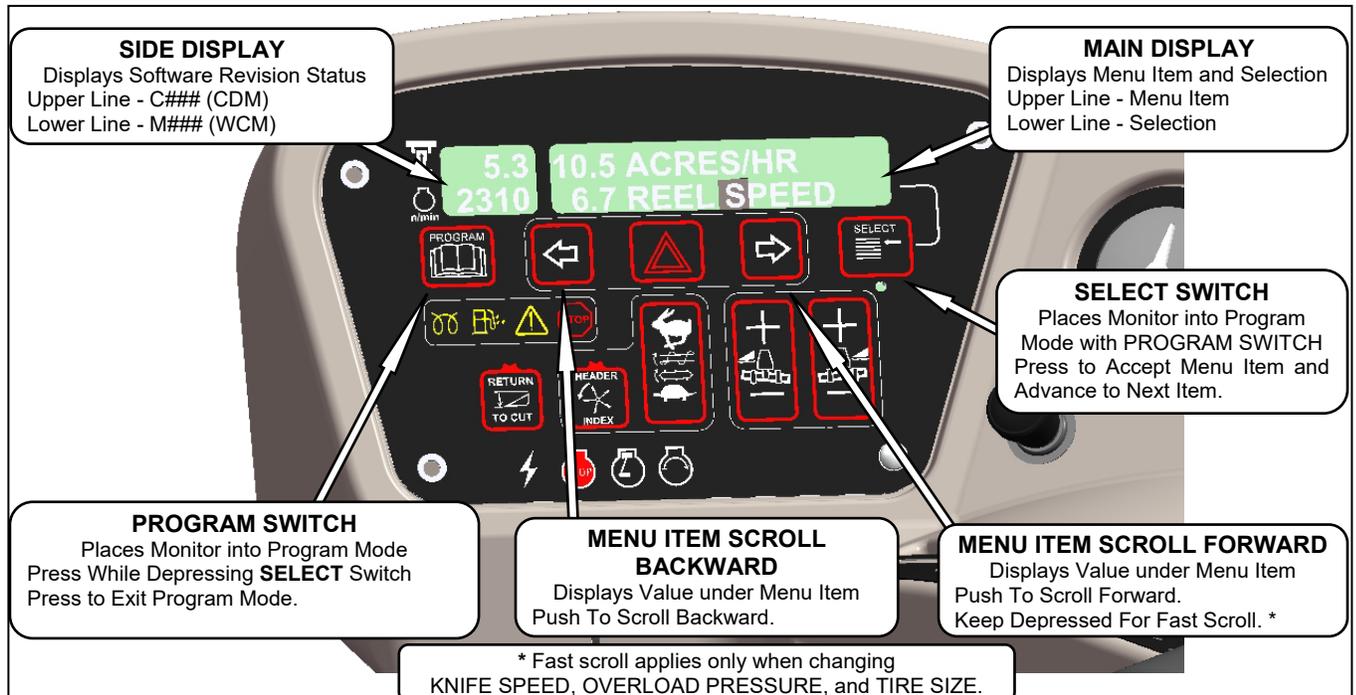
- Turn ignition key to RUN, or start the engine.
- Press PROGRAM and SELECT switches together on CDM to enter programming mode. Header ID code is displayed.
- Press SELECT. TRACTOR SETUP? is displayed.
- Press . SET KNIFE SPEED? is displayed.
- Press SELECT until DWA INSTALLED? is displayed.
- Press  or .
- Press SELECT to advance to the next L1 item.
- Press PROGRAM to exit programming mode.
- Refer to Detailed Programming Instructions on following pages.

#### NOTE

The functions requiring programming are highlighted with  in the Programming Instructions.

#### NOTE

If necessary, refer to the M155 Windrower Operator's Manual for programming CDM to specific crop types and conditions.





# UNLOADING AND ASSEMBLY

L1 **C x x x || PRESS HAZARD TO SET**  
 L2 **M x x x || ISC RPM OFF** ← →  
  
 L1 **C x x x || PRESS HAZARD TO SET**  
 L2 **M x x x || ISC RPM 2 2 0 0** ← →  
  
 L1 **C x x x || PRESS HAZARD TO SET**  
 L2 **M x x x || ISC RPM 2 0 0 0** ← →  
  
 L1 **C x x x || PRESS HAZARD TO SET**  
 L2 **M x x x || ISC RPM 1 8 0 0** ← →  
  
 L1 **C x x x || EXIT ENGINE ISC?**  
 L2 **M x x x ||** ← **NO / YES** →

This is used to set the Intermediate Speed Control function for the engine. The default or last selected rpm will be displayed first and will be flashing.

The "arrow" keys are used to cycle between the selections. When "SELECT" is pressed the program goes to the EXIT ENGINE ISC? menu selection.

if "NO" then jump to:  
**PRESS HAZARD TO SET**

L1 **C x x x || SET CONTROL LOCKS?**  
 L2 **M x x x ||** ← **NO / YES** →

if "NO" then jump to:  
**VIEW CONTROL LOCKS?**

L1 **C x x x || HEADER TILT**  
 L2 **M x x x ||** ← **ENABLED / LOCKED** →  
  
 L1 **C x x x || HEADER FLOAT**  
 L2 **M x x x ||** ← **ENABLED / LOCKED** →  
  
 L1 **C x x x || REEL FORE / AFT**  
 L2 **M x x x ||** ← **ENABLED / LOCKED** →  
  
 L1 **C x x x || DRAPER SPEED**  
 L2 **M x x x ||** ← **ENABLED / LOCKED** →  
  
 L1 **C x x x || AUGER SPEED**  
 L2 **M x x x ||** ← **ENABLED / LOCKED** →  
  
 L1 **C x x x || KNIFE SPEED**  
 L2 **M x x x ||** ← **ENABLED / LOCKED** →  
  
 L1 **C x x x || DISK SPEED**  
 L2 **M x x x ||** ← **ENABLED / LOCKED** →  
  
 L1 **C x x x || REEL SPEED**  
 L2 **M x x x ||** ← **ENABLED / LOCKED** →  
  
 L1 **C x x x || EXIT CONTROL LOCKS?**  
 L2 **M x x x ||** ← **NO / YES** →

This menu allows the operator to selectively "lock out" the control functions for the various header functions. The default or selected "status" for each item will flash.

The "arrow" keys are used to ENABLE or LOCK OUT each function. Pressing "SELECT" will go to the next L1 menu item.

if "NO" then jump to:  
**HEADER TILT**

L1 **C x x x || VIEW CONTROL LOCKS?**  
 L2 **M x x x ||** ← **NO / YES** →

if "NO" then jump to:  
**EXIT TRACTOR SETUP?**

L1 **C x x x || HEADER TILT** ← →  
 L2 **M x x x || 5 7 5 . 1 HRS ENABLED**  
 L2 **M x x x || 6 4 8 . 6 HRS LOCKED**  
  
 L1 **C x x x || HEADER FLOAT** ← →  
 L2 **M x x x || 5 7 5 . 1 HRS ENABLED**  
 L2 **M x x x || 6 4 8 . 6 HRS LOCKED**  
  
 L1 **C x x x || REEL FORE / AFT** ← →  
 L2 **M x x x || 5 7 5 . 1 HRS ENABLED**  
 L2 **M x x x || 6 4 8 . 6 HRS LOCKED**  
  
 L1 **C x x x || DRAPER SPEED** ← →  
 L2 **M x x x || 5 7 5 . 1 HRS ENABLED**  
 L2 **M x x x || 6 4 8 . 6 HRS LOCKED**  
  
 L1 **C x x x || AUGER SPEED** ← →  
 L2 **M x x x || 5 7 5 . 1 HRS ENABLED**  
 L2 **M x x x || 6 4 8 . 6 HRS LOCKED**

When the control lock outs are viewed the lower display line (L2) will show the engine hours and either ENABLED or LOCKED to indicate the present status along with the engine hours at which time the function was either ENABLED or LOCKED.

Using the "arrow" keys allows the operator to select the various functions. Pressing "SELECT" will go to the EXIT VIEW LOCKOUTS? menu selection.

*(continued next page)*

# UNLOADING AND ASSEMBLY

L1 C x x x || KNIFE SPEED    ← →  
 L2 M x x x ||    5 7 5 . 1 HRS ENABLED  
 L2 M x x x ||    6 4 8 . 6 HRS LOCKED

L1 C x x x || DISK SPEED    ← →  
 L2 M x x x ||    5 7 5 . 1 HRS ENABLED  
 L2 M x x x ||    6 4 8 . 6 HRS LOCKED

L1 C x x x || REEL SPEED    ← →  
 L2 M x x x ||    5 7 5 . 1 HRS ENABLED  
 L2 M x x x ||    6 4 8 . 6 HRS LOCKED

L1 C x x x || EXIT VIEW LOCKOUTS?  
 L2 M x x x || ←    NO / YES    →

if "NO" then jump to:  
 HEADER TILT    ← →

L1 C x x x || EXIT TRACTOR SETUP?  
 L2 M x x x || ←    NO / YES    →

if "NO" then jump to:  
 SET KNIFE SPEED?    ← →

L1 C x x x || CAB DISPLAY SETUP?  
 L2 M x x x || ←    NO / YES    →

if "NO" then jump to:  
 CALIBRATE SENSORS?    ← →

L1 C x x x || DISPLAY LANGUAGE?  
 L2 M x x x || ←    ENGLISH    →  
 L2 M x x x || ←    ESPANOL    →

Use the "arrow" keys to change the default language. Pressing "SELECT" goes to the next L1 menu selection.

L1 C x x x || DISPLAY UNITS?  
 L2 M x x x || ←    IMPERIAL    →  
 L2 M x x x || ←    METRIC    →

The "arrow" keys are used to select between IMPERIAL or METRIC. The default value will be displayed first.

L1 C x x x || CDM BUZZER VOLUME  
 L2 M x x x || ←    █ █ █ █ █ █ █ █    →

The "arrow" keys are used to change the CDM buzzer volume, CDM backlighting or the CDM contrast, with the bar graph indicating the relative level for each item. When "SELECT" is pressed the program goes to the EXIT DISPLAY SETUP? menu selection.

L1 C x x x || CDM BACKLIGHTING  
 L2 M x x x || ←    █ █ █ █ █ █ █ █    →

L1 C x x x || CDM CONTRAST  
 L2 M x x x || ←    █ █ █ █ █ █ █ █    →

L1 C x x x || EXIT DISPLAY SETUP?  
 L2 M x x x || ←    NO / YES    →

if "NO" then jump to:  
 DISPLAY LANGUAGE?    ← →

L1 C x x x || CALIBRATE SENSORS?  
 L2 M x x x || ←    NO / YES    →

if "NO" then jump to:  
 DIAGNOSTIC MODE?    ← →

L1 C x x x || TO CALIBRATE SELECT  
 L2 M x x x || ←    HEADER HEIGHT    →  
 L2 M x x x || ←    HEADER TILT    →  
 L2 M x x x || ←    HEADER FLOAT    →  
 L2 M x x x || EXIT CAL? ← NO / YES →

The operator can select any of the three items requiring calibration (or exit the CAL menu) by using the turn signal switches to cycle through the choices. Pressing SELECT will take the operator to the calibration menu for that particular sensor.

L1 C x x x || HEIGHT SENSOR CAL  
 L2 M x x x || RAISE HDR TO START

The display will indicate the sensor being calibrated. The operator will be prompted to raise the header and HOLD will flash until the system has completed reading in the signal with the header fully raised. HOLD will change to DONE (with buzzer).

L1 C x x x || CALIBRATING HEIGHT  
 L2 M x x x || RAISE HEADER HOLD  
 L2 M x x x || HEADER RAISE DONE

When the header raise is done, the CDM will prompt the user to lower the header. COMPLETE (with buzzer) will flash on the screen for 2 seconds when the calibration is finished.

L1 C x x x || CALIBRATING HEIGHT  
 L2 M x x x || LOWER HEADER HOLD  
 L2 M x x x || HT SENSOR COMPLETE

L1 C x x x || TO CALIBRATE SELECT  
 L2 M x x x || ←    HEADER HEIGHT    →  
 L2 M x x x || ←    HEADER TILT    →  
 L2 M x x x || ←    HEADER FLOAT    →  
 L2 M x x x || EXIT CAL? ← NO / YES →

The operator can select any of the three items requiring calibration (or exit the CAL menu) by using the turn signal switches to cycle through the choices. Pressing SELECT will take the operator to the calibration menu for that particular sensor.

*(continued next page)*

# UNLOADING AND ASSEMBLY

L1	C x x x    HDR TILT SENSOR CAL
L2	M x x x    EXTEND TLT TO START
L1	C x x x    CALIBRATING TILT
L2	M x x x    EXTEND TILT HOLD
L2	M x x x    EXTEND TILT DONE
L1	C x x x    CALIBRATING TILT
L2	M x x x    RETRACT TILT HOLD
L2	M x x x    HDR TILT COMPLETE
L1	C x x x    TO CALIBRATE SELECT
L2	M x x x    ← HEADER HEIGHT →
L2	M x x x    ← HEADER TILT →
L2	M x x x    ← HEADER FLOAT →
L2	M x x x    EXIT CAL? ← NO / YES →
L1	C x x x    CALIBRATING FLOAT
L2	M x x x    PRESS FLT+ TO START
L1	C x x x    CALIBRATING FLOAT
L2	M x x x    FLOAT (+) HOLD
L2	M x x x    FLOAT (+) DONE
L1	C x x x    CALIBRATING FLOAT
L2	M x x x    FLOAT (-) HOLD
L2	M x x x    HDR FLOAT COMPLETE

The display will indicate the sensor being calibrated. The operator will be prompted to extend the header tilt and HOLD will flash until the system has completed reading in the signal with the header tilt fully extended. HOLD will change to DONE (with buzzer).

When the header tilt extend is done, the CDM will prompt the user to press the header tilt retract. COMPLETE (with buzzer) will flash on the screen for 2 seconds when the calibration is finished.

The operator can select any of the three items requiring calibration (or exit the CAL menu) by using the turn signal switches to cycle through the choices. Pressing SELECT will take the operator to the calibration menu for that particular sensor.

The display will indicate the sensor being calibrated. The operator will be prompted to press the float (+) and HOLD will flash until the system has completed reading in the signal with the header float fully extended. HOLD will change to DONE (with buzzer).

When the header float (+) is done, the CDM will prompt the user to press the header float (-). COMPLETE (with buzzer) will flash on the screen for 2 seconds when the calibration is finished.

L1	C x x x    DIAGNOSTIC MODE?
L2	M x x x    ← NO / YES →

if "NO" then jump to:  
TRACTOR SETUP?

L1	C x x x    VIEW ERROR CODES?
L2	M x x x    ← NO / YES →

if "NO" then jump to:  
ENTER SENSOR SETUP?

L1	C x x x    VIEW TRACTOR CODES?
L2	M x x x    ← NO / YES →

if "NO" then jump to:  
VIEW ENGINE CODES?

L1	1    1 2 3 4 . 5 HRS 1 2 3 ← →
L2	E 4 7    SENSOR VOLTS LOW

The last 10 distinct error codes are stored along with the code #, Exxx, engine hours and number of occurrences. The "arrow" keys are used to cycle between codes.

L1	2    1 2 3 0 . 5 HRS 1 2 3 ← →
L2	E 7 1    LOW HYDRAULIC OIL

if "NO" then jump to the first error code logged.

L1	C x x x    EXIT TRACTOR CODES?
L2	M x x x    ← NO / YES →

L1	C x x x    VIEW ENGINE CODES?
L2	M x x x    ← NO / YES →

if "NO" then jump to:  
ENTER SENSOR SETUP?

L1	1    1 2 3 4 . 5 HRS 1 2 3 ← →
L2	4 4 9    FUEL PRESSURE HIGH

The last 10 distinct error codes are stored.

L1	C x x x    EXIT ENGINE CODES?
L2	M x x x    ← NO / YES →

if "NO" then jump to the first engine error code logged.

L1	C x x x    EXIT ERROR CODES?
L2	M x x x    ← NO / YES →

if "NO" then jump to:  
VIEW TRACTOR CODES?

(continued next page)

# UNLOADING AND ASSEMBLY

L1	C x x x    ENTER SENSOR SETUP?		If "NO" then jump to:	
L2	M x x x    <input type="left"/> NO / YES <input type="right"/>		READ SENSOR INPUTS?	

L1	C x x x    KNIFE SPEED SENSOR		<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>The operator can select each sensor and selectively enable or disable the sensor. This can be used to disable a failed sensor to eliminate false or erratic display readings.</p> <p>When "SELECT" is pressed the program goes to the EXIT SENSOR SETUP? menu selection.</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>NOTE: The oil temp. readout applies to the M155 model with the Sensata oil temp. sensor.</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">If "NO" then jump to:</p> <p style="text-align: center;">KNIFE SPEED SENSOR</p> </div>
L2	M x x x    <input type="left"/> ENABLE / DISABLE <input type="right"/>		
L1	C x x x    REEL SPEED SENSOR		
L2	M x x x    <input type="left"/> ENABLE / DISABLE <input type="right"/>		
L1	C x x x    HEADER HT SENSOR		
L2	M x x x    <input type="left"/> ENABLE / DISABLE <input type="right"/>		
L1	C x x x    HEADER TILT SENSOR		
L2	M x x x    <input type="left"/> ENABLE / DISABLE <input type="right"/>		
L1	C x x x    HEADER FLOAT SENSOR		
L2	M x x x    <input type="left"/> ENABLE / DISABLE <input type="right"/>		
L1	C x x x    OVERLOAD PRESSURE		
L2	M x x x    <input type="left"/> ENABLE / DISABLE <input type="right"/>		
L1	C x x x    HYD OIL TEMP SENSOR		
L2	M x x x    <input type="left"/> ENABLE / DISABLE <input type="right"/>		
L1	C x x x    EXIT SENSOR SETUP?		If "NO" then jump to:
L2	M x x x    <input type="left"/> NO / YES <input type="right"/>		KNIFE SPEED SENSOR

L1	C x x x    READ SENSOR INPUTS?		If "NO" then jump to:	
L2	M x x x    <input type="left"/> NO / YES <input type="right"/>		ACTIVATE FUNCTIONS?	

L1	C x x x    SENSOR INPUT <input type="left"/> <input type="right"/>		<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>For diagnostic purposes each sensors input signal can be read. This helps in determining how each sensor is operating and if the proper output voltages are being received by the control system.</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>NOTE: The oil temp. readout applies to the M155 model with the Sensata oil temp. sensor.</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>When "SELECT" is pressed the program goes to the EXIT READ SENSORS? menu</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">If "NO" then jump to:</p> <p style="text-align: center;">SENSOR INPUT <input type="left"/> <input type="right"/> HDR HEIGHT 3 . 5 9 V</p> </div>
L2	M x x x    HDR HEIGHT 3 . 5 9 V		
L1	C x x x    SENSOR INPUT <input type="left"/> <input type="right"/>		
L2	M x x x    HDR ANGLE 1 . 8 4 V		
L1	C x x x    SENSOR INPUT <input type="left"/> <input type="right"/>		
L2	M x x x    2 . 4 5 V FLOAT 2 . 8 4 V		
L1	C x x x    SENSOR INPUT <input type="left"/> <input type="right"/>		
L2	M x x x    KNIFE SPEED 1 2 3 H Z		
L1	C x x x    SENSOR INPUT <input type="left"/> <input type="right"/>		
L2	M x x x    REEL SPEED 1 2 3 H Z		
L1	C x x x    SENSOR INPUT <input type="left"/> <input type="right"/>		
L2	M x x x    WHEEL SPEED 1 2 3 H Z		
L1	C x x x    SENSOR INPUT <input type="left"/> <input type="right"/>		
L2	M x x x    HYD OIL TEMP 1 . 0 0 V		
L1	C x x x    EXIT READ SENSORS?		If "NO" then jump to:
L2	M x x x    <input type="left"/> NO / YES <input type="right"/>		SENSOR INPUT <input type="left"/> <input type="right"/> HDR HEIGHT 3 . 5 9 V

L1	C x x x    SENSOR INPUT <input type="left"/> <input type="right"/>		<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>If a sensor has been disabled "SENSOR" will be flashing in the area where the input reading would have been.</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>NOTE: The oil temp. readout applies to the M155 model with the Sensata oil temp. sensor.</p> </div>
L2	M x x x    HDR HEIGHT SENSOR		
L1	C x x x    SENSOR INPUT <input type="left"/> <input type="right"/>		
L2	M x x x    HDR ANGLE SENSOR		
L1	C x x x    SENSOR INPUT <input type="left"/> <input type="right"/>		
L2	M x x x    2 . 4 5 V FLOAT SENSOR		
L1	C x x x    SENSOR INPUT <input type="left"/> <input type="right"/>		
L2	M x x x    KNIFE SPEED SENSOR		
L1	C x x x    SENSOR INPUT <input type="left"/> <input type="right"/>		
L2	M x x x    REEL SPEED SENSOR		
L1	C x x x    SENSOR INPUT <input type="left"/> <input type="right"/>		
L2	M x x x    HYD OIL TEMP SENSOR		

*(continued next page)*

# UNLOADING AND ASSEMBLY

L1	C x x x	ACTIVATE FUNCTIONS?	if "NO" then jump to:
L2	M x x x	← NO / YES →	FORCE HEADER TYPE?

L1	C x x x	ACTIVATE FUNCTIONS?	For diagnostic purposes each header function can be activated by using the "arrow" keys on the CDM. When "SELECT" is pressed the program will go to the next function that can be activated.  If a disk header is detected then the nomenclature should read: DISC DRIVE instead of KNIFE DRIVE.  PWM OPERATION: If the HAZARD switch is pressed instead of the TURN SIGNAL switch the GSL will operate the PWM valve (HAZARD sw must be held) and the PWM value will reset to zero when released.  The DWA menu selection should only be available if the DWA INSTALLED? is set to YES.
L2	M x x x	← HEADER DOWN / UP →	

L1	C x x x	ACTIVATE FUNCTIONS?	ACTIVATE HYD PURGE - This is to allow the operator to purge the air from a new or changed pump system.  Pressing and holding the right hand "arrow" button activates a predetermined timed purge cycle. Releasing pressure on the switch or a completed cycle (timed out) will jump to the PURGE CYCLE ENDED menu selection.
L2	M x x x	← REEL DOWN / UP →	

L1	C x x x	ACTIVATE FUNCTIONS?	if "NO" then jump to: HEADER ← DOWN / UP →
L2	M x x x	← HDR TILT IN / OUT →	

L1	C x x x	ACTIVATE FUNCTIONS?	if "NO" then jump to: EXIT DIAGNOSTICS?
L2	M x x x	← KNIFE DRIVE ON →	

L1	C x x x	ACTIVATE FUNCTIONS?	This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.
L2	M x x x	← DRAPER / AUGER ON →	

L1	C x x x	ACTIVATE FUNCTIONS?	if "NO" then jump to: FORCE HEADER TYPE?
L2	M x x x	← REEL ← FORE / AFT →	

L1	C x x x	ACTIVATE FUNCTIONS?	if "NO" then jump to: DIAGNOSTIC MODE?
L2	M x x x	← DWA DRIVE ON →	

L1	C x x x	ACTIVATE HYD PURGE?	This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.
L2	M x x x	← NO / YES →	

L1	C x x x	TO ACTIVATE PURGE	This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.
L2	M x x x	← PRESS AND HOLD →	

L1	C x x x	PURGE CYCLE STARTED	This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.
L2	M x x x	← PRESS AND HOLD →	

L1	C x x x	PURGE CYCLE ENDED	This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.
L2	M x x x	← NO EXIT YES →	

L1	C x x x	PURGE CYCLE ENDED	This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.
L2	M x x x	← NO EXIT YES →	

L1	C x x x	EXIT FUNCTION MENU?	This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.
L2	M x x x	← NO / YES →	

L1	C x x x	FORCE HEADER TYPE?	This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.
L2	M x x x	← NO / YES →	

L1	C x x x	SELECT HEADER TYPE	This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.
L2	M x x x	← DISC HEADER →	

L2	M x x x	← SK AUGER →	This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.
L2	M x x x	← DK AUGER →	

L2	M x x x	← GRASS SEED →	This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.
L2	M x x x	← 20 FT SK DRAPER →	

L2	M x x x	← 25 FT SK DRAPER →	This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.
L2	M x x x	← 30 FT SK DRAPER →	

L2	M x x x	← 35 FT SK DRAPER →	This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.
L2	M x x x	← 15 FT DK DRAPER →	

L2	M x x x	← 20 FT DK DRAPER →	This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.
L2	M x x x	← 25 FT DK DRAPER →	

L2	M x x x	← 30 FT DK DRAPER →	This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.
L2	M x x x	← 35 FT DK DRAPER →	

L2	M x x x	← 40 FT DK DRAPER →	This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.
L1	C x x x	EXIT HEADER TYPE?	

L2	M x x x	← NO / YES →	This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.
L1	C x x x	EXIT DIAGNOSTICS?	

L2	M x x x	← NO / YES →	This allows the operator to select or "force" a header ID configuration if a "NO HEADER" ID is being read by the control system. The header type will revert back to "NO HEADER" every time the ignition is cycled. When "SELECT" is pressed the program goes to the EXIT HEADER TYPE? menu selection.
L2	M x x x	← NO / YES →	

END

## PRE-DELIVERY CHECKS

### STEP 12. PERFORM PRE-DELIVERY CHECKS



#### WARNING

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

- a. Perform the final checks and adjustments as listed on the "Pre-Delivery Checklist" (yellow sheet attached to back of this instruction) to ensure the machine is field-ready. Refer to the pages for detailed instructions as indicated on the Checklist.
- b. The completed Checklist should be retained either by the Operator or the Dealer.

#### NOTE

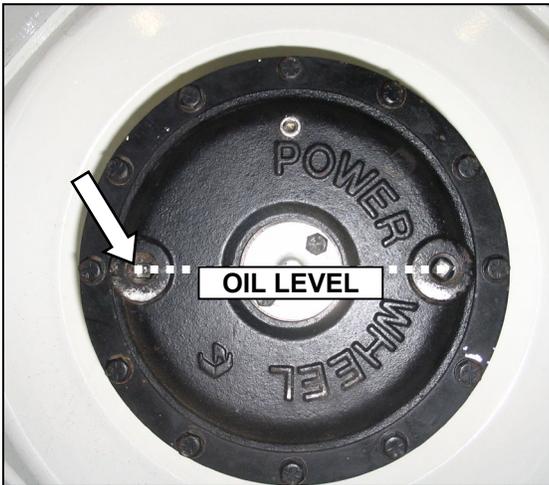
*The majority of checks and adjustments are performed during the set-up procedures. The following additional inspections should be performed after the set-up is complete.*

#### A. SERIAL NUMBERS

- a. Record windrower and engine serial numbers on Checklist.



#### B. FINAL DRIVE LUBRICANT LEVEL



- a. Rotate wheel so that one of the plugs is horizontally aligned with the center of the hub.
- b. Remove the plug. The oil should be visible through the hole or slightly running out.

#### C. TIRE PRESSURES AND BALLAST REQUIREMENTS

##### I. TIRE PRESSURES

Measure tire pressure with a gauge.

TIRE TYPE	SIZE	PRESSURE
Bar	18.4-26	32 psi (221 kPa)
	600-65R28	26 psi (179 kPa)
Turf	18.4-26	35 psi (241 kPa)
	23.1-26	20 psi (138 kPa)
	580/70R26	24 psi (165 kPa)

All Rear Tire Pressures are 10 psi (60 kPa)

##### II. BALLAST REQUIREMENTS

- Fluid ballasting of rear caster tires is recommended to provide adequate machine stability when using large headers on the Windrower.
- The stability of machine varies with different attachments, windrower options, terrain and Operator's driving technique.
- Ballast capability per tire is at a maximum fill of 75%, or when fluid is level with valve stem when the stem is positioned at the "12 o'clock" position.
- Fluid can be added to any level up to maximum fill, and always add an equal amount of fluid on both sides.

TIRE SIZE	FLUID PER TIRE AT 75% FILL	TOTAL WEIGHT * OF BOTH TIRES
7.5X16 (A)	10 US Gal (38 L)	200 lb (91 L)
10X16 (B)	18 US Gal (69L)	380 lb (170 L)
16.5X16.1 (C)	41 US Gal (158L)	830 lb (377 L)

\* Weights are given for typical calcium chloride and water mixtures. Weight is reduced by 20% if only water is used (for areas that do not require anti-freeze protection).

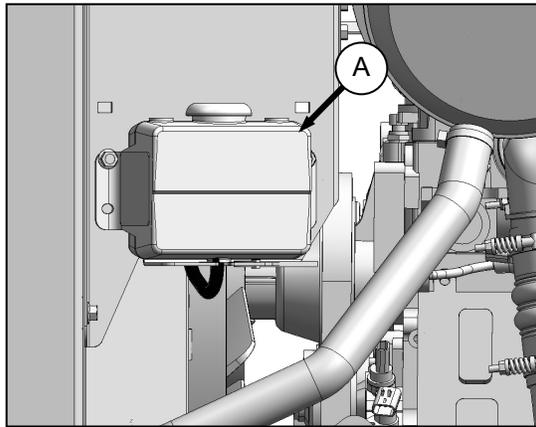
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## PRE-DELIVERY CHECKS

HEADER DESCRIPTION		RECOMMENDED BALLAST				RECOMMENDED TIRE SIZE
		LEVEL GROUND		HILLS		
TYPE	SIZE	PER TIRE	BOTH TIRES	PER TIRE	BOTH TIRES	
		U.S. Gal. (Liters)	lb (kg) *	U.S. Gal. (Liters)	lb (kg) *	
A Series	All Options	0	0	0	0	A,B,C
R Series	13 FT ONLY	0	0	0	0	A,B,C
D Series	25 FT and Down	0	0	0	0	A,B,C
	30 FT Single or Split Reel without Conditioner.	0	0	10 (38)	200 (91)	A,B,C
	35 FT Single Reel					
	30 FT Split Reel. Steel Fingers & Conditioner.	18 (69)	380 (170)	30 (115)	630 (288)	Level Ground - B, C Hills - C
	35 FT Split Reel (5 or 6 Bat)					
	40 FT	30 (115)	630 (288)	41 (158)	830 (377)	C

*\* If only water is used, increase volume of water by 20% (up to maximum allowable fill per tire) to compensate.*

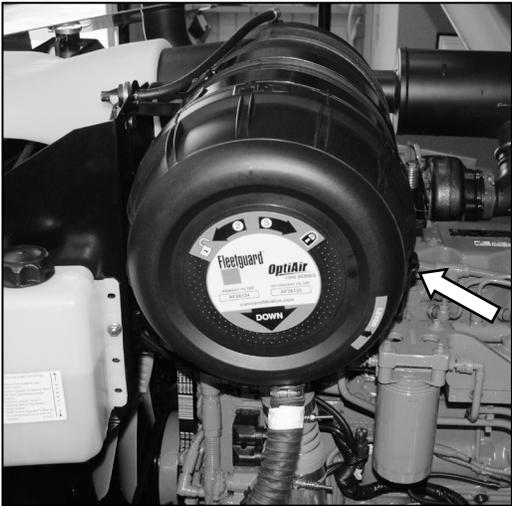
### D. ENGINE COOLANT



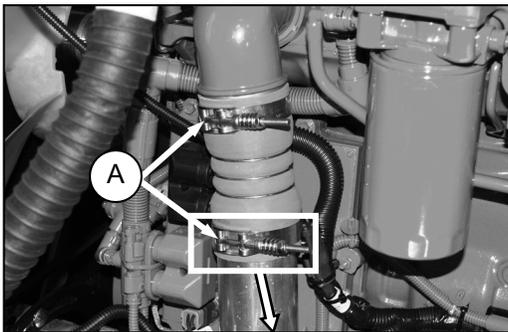
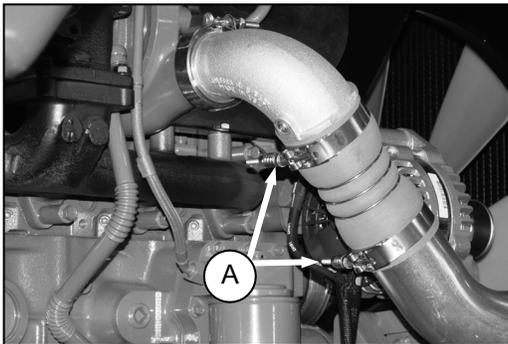
- a. Check the coolant level in the coolant recovery tank (A). Tank should be at least one-half full.
- b. Check coolant concentration in the radiator. Coolant shall be good for temperatures of -30°F (-34°C).

## PRE-DELIVERY CHECKS

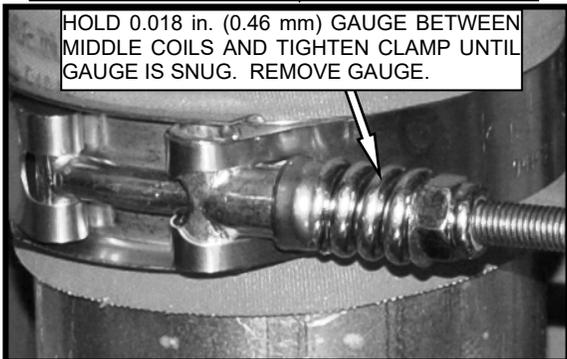
### E. AIR CLEANER



- Check that air cleaner cap is firmly attached, and that all clamps are secure.



HOLD 0.018 in. (0.46 mm) GAUGE BETWEEN MIDDLE COILS AND TIGHTEN CLAMP UNTIL GAUGE IS SNUG. REMOVE GAUGE.

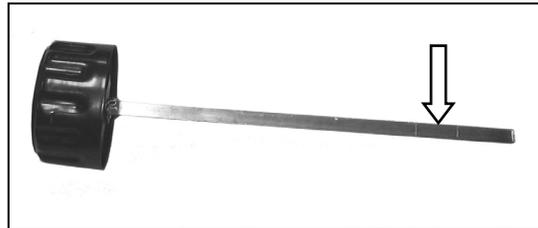


- Check spring clamps (A) on charge air cooling duct connections (at turbocharger outlet, engine intake, and inside cooling box).

### F. HYDRAULIC OIL LEVEL



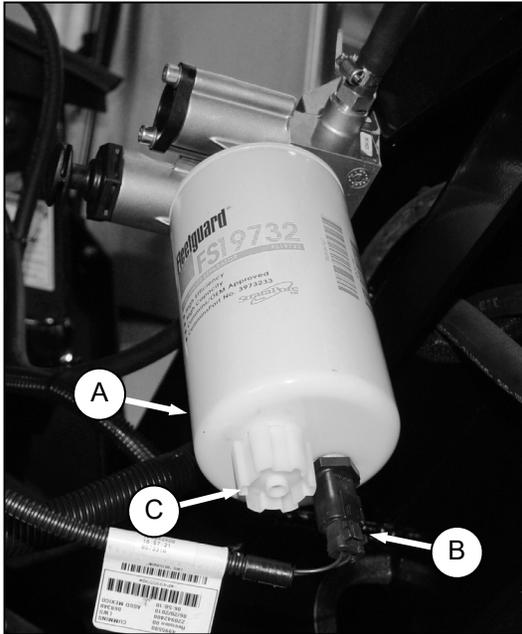
- Turn filler cap counter-clockwise to unlock cap, and remove dipstick.



- Check that level is between LOW and FULL marks.
- Re-install dipstick, and turn clockwise to lock cap.

## PRE-DELIVERY CHECKS

### G. FUEL SEPARATOR

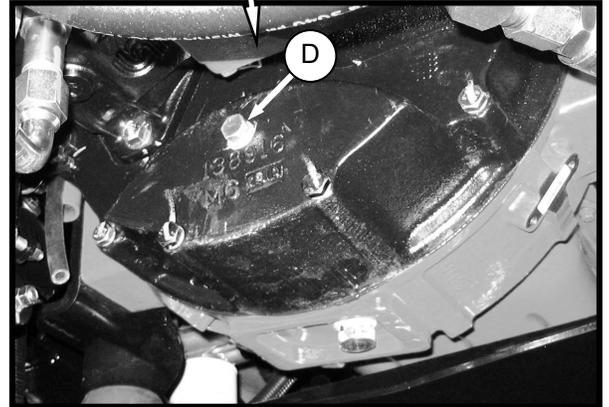


A fuel water separator is incorporated into the primary fuel filter (A). The separator is equipped with a sensor (B) that detects water in the fuel, and alerts the Operator on the CDM, and a drain (C).

Drain the water and sediment as follows from the separator daily, or at any time the CDM Water in Fuel (WIF) light illuminates.

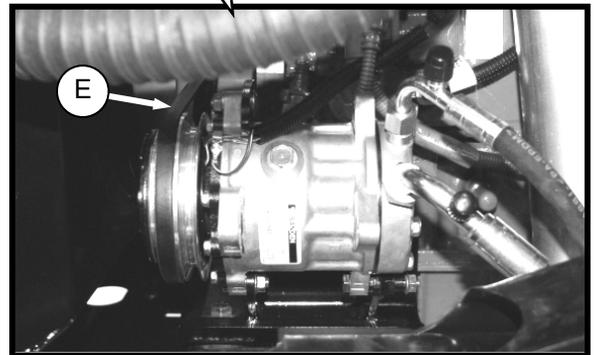
- Place a container under filter drain (C).
- Turn drain valve by hand  $1\frac{1}{2}$  to 2 turns counter clockwise, until draining occurs.
- Drain the filter sump of water and sediment until clear fuel is visible. Clean as necessary.
- Turn the valve clockwise to close the drain (C).
- Safely dispose of fluid.

### H. GEAR BOX LUBRICANT LEVEL



- Remove plug (D). The lubricant should be visible through the hole, or slightly running out.
- Replace plug, and tighten.

### I. A/C COMPRESSOR BELT



- Tension on A/C compressor belt (E) should be such that a force of 8 to 12 lbf (35 - 55 N) deflects the belt  $\frac{3}{16}$  inch (5 mm) at mid-span.

## PRE-DELIVERY CHECKS

### J. PERFORM SAFETY SYSTEM CHECKS

Ensure battery main disconnect switch is switched to power ON position. Refer to Section J. OPERATIONAL CHECKS.



#### CAUTION

**Check to be sure all bystanders have cleared the area.**

A properly functioning system should operate as follows:

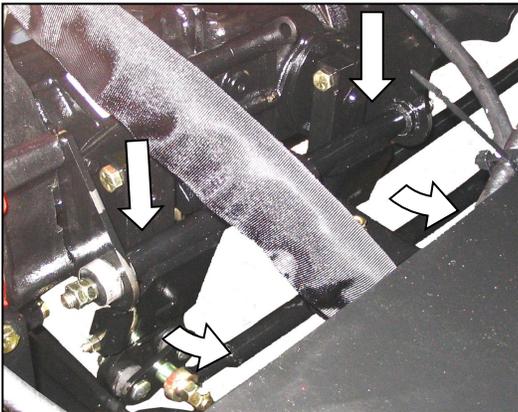
- The starter should engage ONLY when the GSL is in N-DETENT, steering wheel locked in the CENTER position, and the HEADER DRIVE switch is in the OFF position.
- Under the above conditions, the brake should engage, and the machine should not move after engine start-up.
- The steering wheel should not lock with the engine running, and the GSL is out of the N-DETENT.
- The machine should not move with the engine running, and with the steering wheel still centered, when the GSL is pulled straight out of N-DETENT (not in forward or reverse).

If the system does not function as described above, refer to the Technical Service Manual.

- a. With the engine shut down and the HEADER DRIVE switch engaged, try to start the engine. The CDM will display "HEADER ENGAGED" on the upper line, and "DISENGAGE HEADER" on the lower line.

If the engine turns over, the system requires adjustment. Refer to the Technical Service Manual.

- b. With the engine shut down, do the following:
1. Open engine compartment hood.



2. Pry the steering interlock away from pintle arms by inserting a wedge or pry bar between one of the interlock channels and pintle arm.
3. Insert a wood block approximately 3/4 inch (19 mm) thick between the other channel and pintle arm, so that the interlock channel is clear of the pintle arm.
4. Turn the steering wheel off-center, and move the GSL in N-DETENT.
5. Try to start the engine. The CDM will flash "CENTER STEERING", accompanied by a short beep with each flash, and the engine should not turn over.
6. If the engine turns over, the system requires adjustment. Refer to the Technical Service Manual.
7. Remove key.
8. Remove wood block inserted at step 3 above, and close hood.



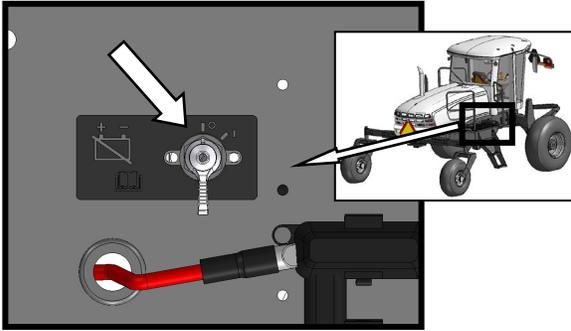
#### CAUTION

**Check to be sure all bystanders have cleared the area.**

- c. With the engine shut down, steering wheel centered, and the GSL in NEUTRAL, but not in N-DETENT:
1. Try to start the engine. The CDM will flash "CENTER STEERING" on the upper line, and "PLACE GSL INTO N" on the lower line accompanied by a short beep with each flash, and the engine should not turn over.
- If the engine turns over, the system requires adjustment. Refer to the Technical Service Manual.
- d. With the engine shut down, steering wheel centered, GSL in N-DETENT, and Operator's station not locked:
1. Try to start the engine. Engine will crank but will not start. The CDM will display "SEAT BASE NOT LOCKED".
  2. If engine starts, the system requires adjustment. Refer to the Technical Service Manual.

## PRE-DELIVERY CHECKS

### K. OPERATIONAL CHECKS



A battery main disconnect switch is located on the RH frame rail, behind the maintenance platform, and can be accessed by moving the platform. Ensure switch is switched to POWER ON position.

#### I. ENGINE WARNING LIGHTS

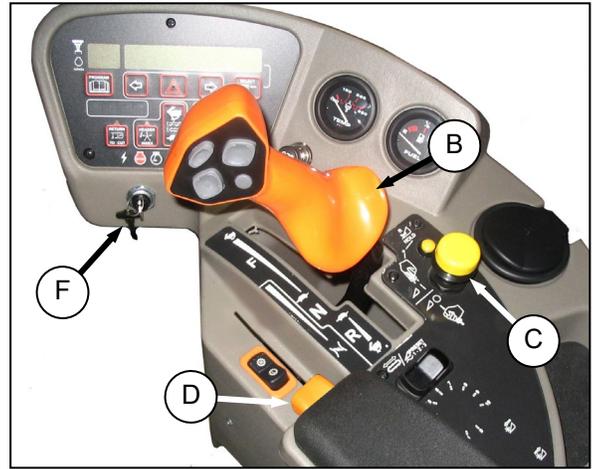
- Turn ignition key to RUN position.
- Single loud tone sounds, and engine warning lights illuminate briefly.

#### II. START ENGINE

- Check fuel level, and if required add sufficient fuel for a 15 minute run.



- Operator's station lock (A) must be engaged at cab-forward or engine-forward position.
- Move GSL (B) into N-DETENT.
- Turn steering wheel until it locks.



- Push HEADER DRIVE switch (C) to OFF.
- Normal Start** - engine temperature above 60°F (16°C):
  - Set throttle (D) to start position - "fully back".
  - Sound horn three times.
  - Turn ignition key (F) to RUN position.
  - Single loud tone sounds, engine warning lights illuminate briefly as a self-test, and CDM displays "HEADER DISENGAGED" and "IN PARK".



### CAUTION

**Check to be sure all bystanders have cleared the area.**

*Turn ignition key to START position until engine starts, and then release key. CDM displays programmed header data for 5 seconds if attached, and then returns to previous display.*

#### IMPORTANT

Do not operate starter for longer than 15 seconds at a time.

If engine does not start, wait at least two minutes before trying again.

After the third 15 second crank attempt, allow starter to cool for 10 minutes before further cranking attempts.

If engine still does not start, refer to the table on the following page:

*(continued next page)*

## PRE-DELIVERY CHECKS

PROBLEM	SOLUTION
Controls not in NEUTRAL.	Move GSL to NEUTRAL. Move steering wheel to locked position. Disengage header clutch.
Operator's station not locked.	Adjust position of Operator's station. Ensure lock is engaged.
Neutral interlock misadjusted.	Contact MacDon Dealer.
No fuel to engine.	Fill empty fuel tank. Replace clogged filter.
Old fuel in tank.	Drain tank, refill with fresh fuel.
Water, dirt or air in fuel system.	Drain, flush, fill and prime system.
Improper type of fuel.	Use proper fuel for operating conditions.
Crankcase oil too heavy.	Use recommended oil.
Low battery output.	Have battery tested. Check battery electrolyte level.
Battery disconnect switch is OFF.	Turn battery switch ON.
Poor battery connection.	Clean and tighten loose connections.
Faulty starter.	Contact MacDon Dealer.
Wiring shorted, circuit breaker open.	Check continuity of wiring and breaker (manual reset).
Faulty injectors.	Contact MacDon Dealer.

- g. **Cold Start** - engine temperature below 40°F (5°C).



### CAUTION

**Check to be sure all bystanders have cleared the area.**

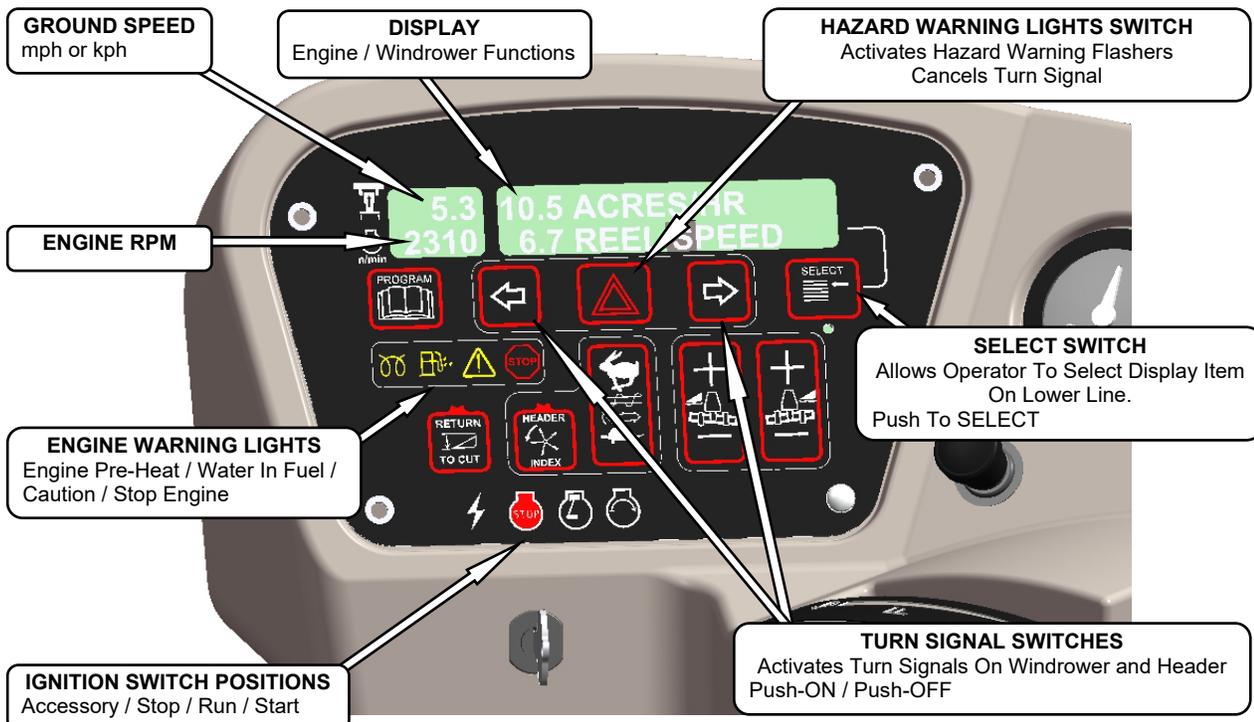
1. Follow procedure for Normal Start.
2. Engine will cycle through a period where it appears to labour until engine warms up.

#### NOTE

*Throttle is non-responsive during this time as engine is in "WARM UP" mode. This mode will last from 30 seconds to 3 minutes depending on temperature. After engine has stabilized and idling normally, throttle becomes active.*

#### IMPORTANT

Do not operate engine above 1500 rpm until engine temperature gauge is above 100°F (37°C).

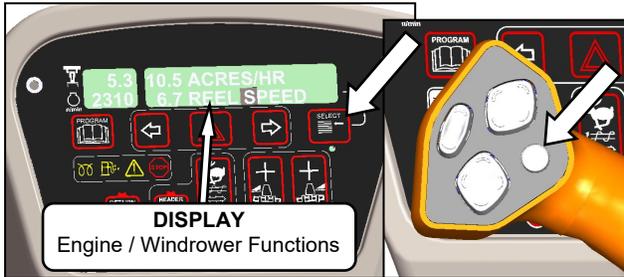


## PRE-DELIVERY CHECKS

### III. GAUGES AND CDM DISPLAY



- a. Check engine temperature gauge and fuel gauge are working.



- b. Check CDM display is working, by pushing SELECT on CDM, or SELECT button on GSL.

### IV. ELECTRICAL

- a. Push the SELECT button on GSL, or SELECT switch on CDM to display VOLTS. The display indicates the condition of the battery and alternator. Refer to table below.

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 with single loud tone. Repeats every 30 minutes until condition fixed.

### V. ENGINE SPEED

IDLE	MAX RPM (No Load)
1075 - 1150	2320 - 2350

- a. Check engine idle and maximum rpm on CDM.

### VI. OPERATOR'S PRESENCE SYSTEM CHECKS

- a. With the windrower engine running, place the GSL in NEUTRAL and turn steering wheel until it locks.



#### CAUTION

Check to be sure all bystanders have cleared the area.

- b. With everyone clear of the machine, engage header drive switch.
1. After header drives are running, stand up out of the seat. In approximately 5 seconds, the header should shut off.

If not, the Operator Presence System requires adjustment. See Technical Service Manual.

#### NOTE

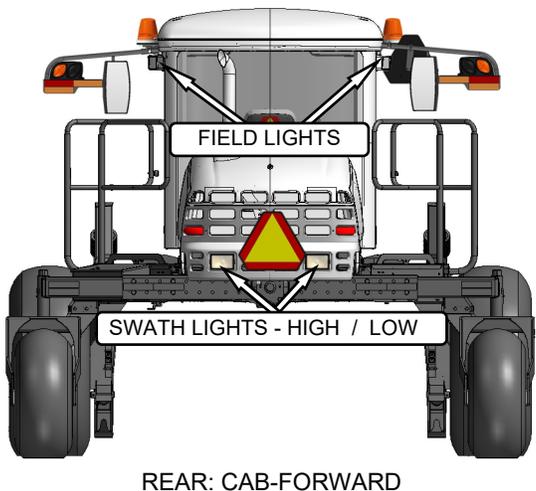
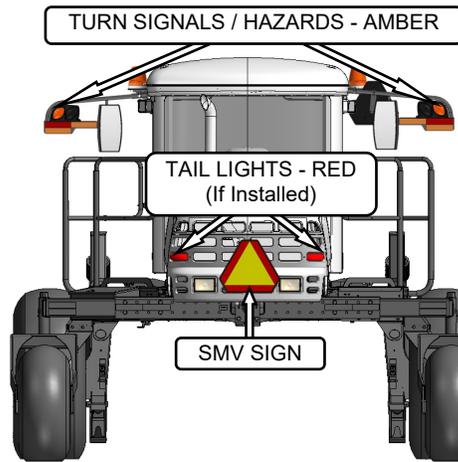
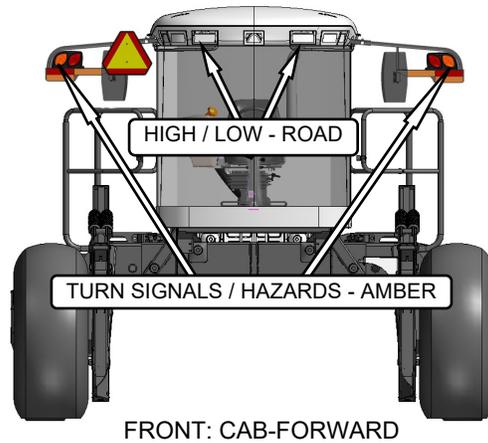
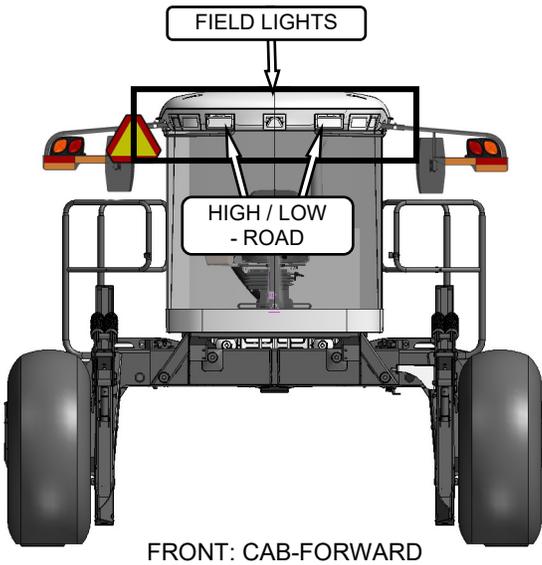
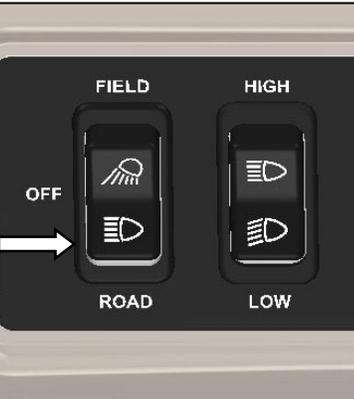
To re-start the header, move the header engage switch to OFF position, and back to the ON position again.

- c. With the engine running, position the GSL in NEUTRAL and in N-DETENT;
1. Swivel the Operator's station, but do not lock into position.
  2. Move 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".
  3. Swivel and lock the Operator's station, and the display should return to normal.
  4. If the engine does not shut down, the seat position switches require adjustment. Refer to Technical Service Manual.
- d. With windrower moving **at less** than 5 mph (8 km/h):
1. Stand up out of the seat.
  2. The CDM will flash "NO OPERATOR" on the upper line, and "ENGINE SHUTDOWN 5...4...3...2...1...0" on the lower line accompanied by a steady tone. At "0", the engine shuts down.
  3. If the engine does not shut down, the Operator Presence System requires adjustment. See Technical Service Manual.
- e. With windrower moving **at more** than 5 mph (8 km/h):
1. Stand up out of the seat.
  2. The CDM beeps once, and displays "NO OPERATOR" on the lower line.
  3. If not, the Operator Presence System requires adjustment. See Technical Service Manual.

## PRE-DELIVERY CHECKS

### VII. EXTERIOR LIGHTS

- Ensure Operator's seat is locked in cab-forward mode.
- Switch FIELD lights ON, and check that all lights are functioning as shown below.



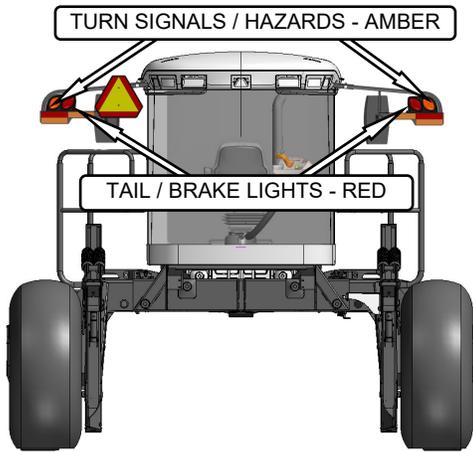
- Switch ROAD lights ON, and check that all lights are functioning as shown below.

- Activate HIGH/LOW switch, and check lights.
- Activate turn signals and hazard warning lights with switches on CDM, and check lights.
- Turn lights OFF.

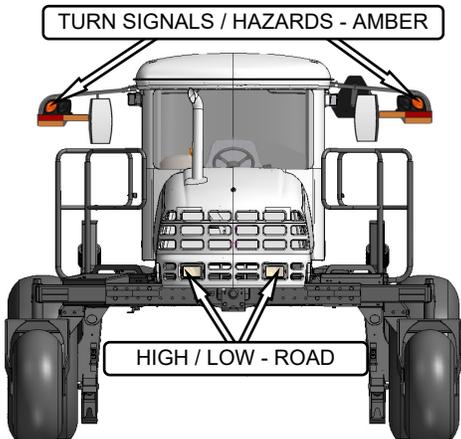
*(continued next page)*

## PRE-DELIVERY CHECKS

- g. Rotate Operator's seat to engine-forward mode.
- h. Switch ROAD lights ON, and check that all lights are functioning as shown below.



REAR: ENGINE-FORWARD



FRONT: ENGINE-FORWARD

- i. Activate HIGH/LOW switch, and check lights.
- j. Activate turn signals and hazard warning lights with switches on CDM, and check lights.

## VIII. BEACON (If Installed)



- a. Turn ignition ON, and activate beacon switch.
- b. Check beacons are working.

## IX. HORN



Push HORN button, and listen for horn.

## PRE-DELIVERY CHECKS

### X. INTERIOR LIGHTS



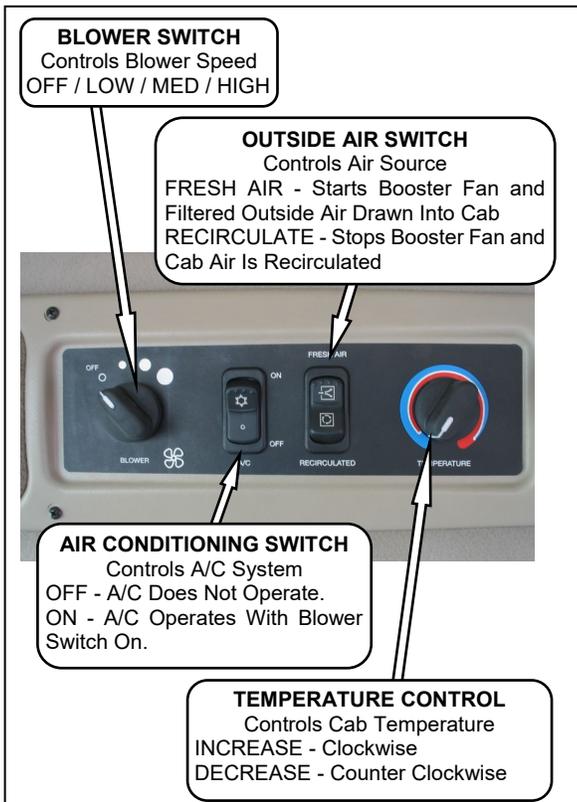
Switch lights ON and OFF with switches on each light. Interior lights only work with ROAD or FIELD light switch ON.

### L. MANUALS



The following items should be stored in the manual storage case behind the Operator's seat:

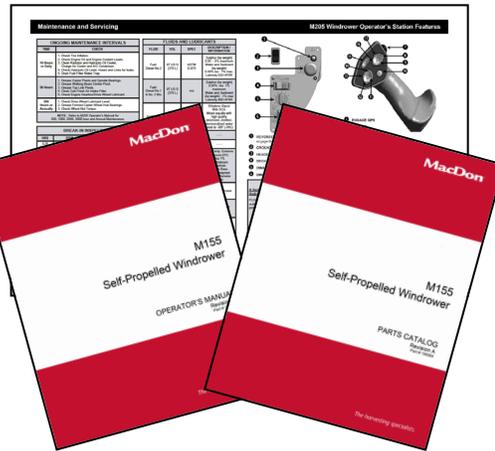
### XI. A/C AND HEATER



#### IMPORTANT

To distribute the oil throughout the system, perform the following steps.

- With the engine running, turn blower switch to the "first" position, turn temperature control switch to MAXIMUM heating, and A/C control to OFF.
- Click A/C switch from OFF to ON for one second, then back to OFF for 5 to 10 seconds. Repeat this step ten times.



- M155 Self-Propelled Windrower PARTS CATALOG. See below.
- M155 Self-Propelled Windrower OPERATOR'S MANUAL. See below.
- M155 Windrower Quick Card - 169565.
- Warranty Documents.
- Engine Manual - 166240.

WINDROWER	OPERATOR'S MANUAL	PARTS CATALOG
MacDon	169563	169564
Premier	169566	169567
Westward	169568	169569

### M. CAB INTERIOR

Remove plastic coverings from Cab Display Module and seats, after pre-delivery check is complete.

## M155 Self-Propelled Windrower Pre-Delivery Checklist

Perform these checks and adjustments prior to delivery to your customer. The completed Checklist should be retained either by the Operator or the Dealer.



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

Windrower Serial Number: \_\_\_\_\_ Engine Serial Number: \_\_\_\_\_

✓	ITEM	PAGE
	Check for shipping damage or missing parts. Be sure all shipping dunnage is removed.	---
	Check for loose hardware. Tighten to required torque.	6
	Check tire air pressures, and adjust as required.	43
	Check final drive hub lubricant level.	43
	Check engine coolant level and strength at reserve tank.	44
	Check air cleaner and clamps.	45
	Check hydraulic oil level, and check for leaks along lines.	45
	Check fuel separator for water and foreign material. Drain and clean as necessary. Add fuel.	46
	Check gear box lubricant level.	46
	Check tension of A/C compressor belt.	46
	Check machine completely lubricated.	34
	Check neutral interlock system.	47
	Check horn operation.	52
	Check engine warning lights on Cab Display Module (CDM).	48
<b>START ENGINE AND RUN TO OPERATING TEMPERATURE</b>		<b>48</b>
	Check Cab Display Module (CDM) for operation.	50
	Check Operator's Presence System.	50
	Check alternator charge rate at instrument console.	50
	Check fuel gauge for operation.	50
	Check air conditioning functioning properly.	53
	Check heater functioning properly.	53
	Check instrument console gauge lights and interior lights for operation.	53
	Check maximum (no load) engine speed at Cab Display Module (CDM). (2320 - 2350 rpm)	50
	Check exterior lights for operation.	51
	Check hazard and signal lights for operation.	52
	Check beacons for operation (if installed).	52
	Complete the Header Pre-Delivery Checklist.	---
	Check that manuals are with the Windrower.	53
	Check that plastic coverings from cab interior have been removed.	53

Date Checked: \_\_\_\_\_

Checked by: \_\_\_\_\_

# MacDon™

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Printed in Canada