



M Series Self-Propelled Windrower

UNLOADING & ASSEMBLY INSTRUCTIONS for CONTAINER SHIPMENTS



MACDON SELF PROPELLED WINDROWER TRACTOR

INTRODUCTION

This instruction describes the unloading, set-up and pre-delivery requirements for the MacDon M Series Self-Propelled Windrowers. 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.

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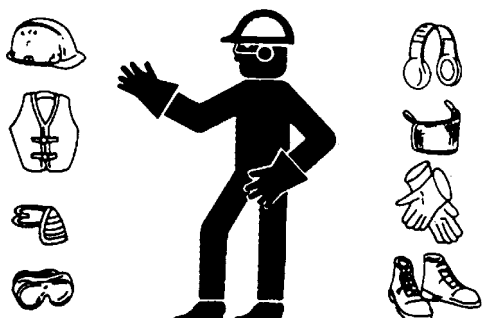
GENERAL SAFETY



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:



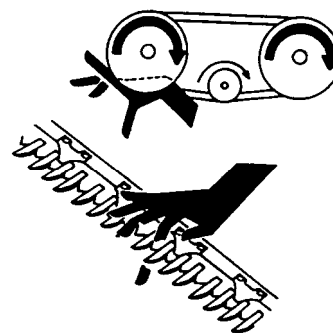
- a hard hat.
- protective shoes with slip resistant soles.
- protective glasses or goggles.
- heavy gloves.
- wet weather gear.
- respirator or filter mask.



- 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.

- **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.**

RECOMMENDED TORQUES

A. GENERAL

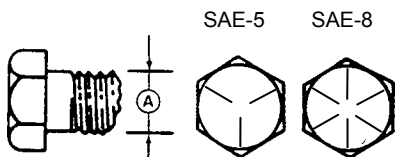
The tables shown below give correct torque values for various bolts and capscrews.

- 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	
	ft·lbf	N·m	ft·lbf	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

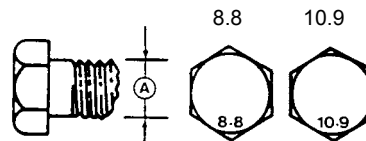
* Torque categories for bolts and capscrews are identified by their head markings.



C. METRIC BOLTS

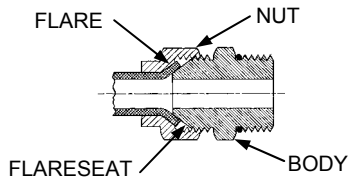
BOLT DIA. "A"	NC BOLT TORQUE*			
	8.8		10.9	
	ft·lbf	N·m	ft·lbf	N·m
M3	0.4	0.5	1.3	1.8
M4	2.2	3	3.3	4.5
M5	4	6	7	9
M6	7	10	11	15
M8	18	25	26	35
M10	37	50	52	70
M12	66	90	92	125
M14	103	140	148	200
M16	166	225	229	310
M20	321	435	450	610
M24	553	750	774	1050
M30	1103	1495	1550	2100
M36	1917	2600	2710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

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



D. HYDRAULIC FITTINGS

FLARE TYPE

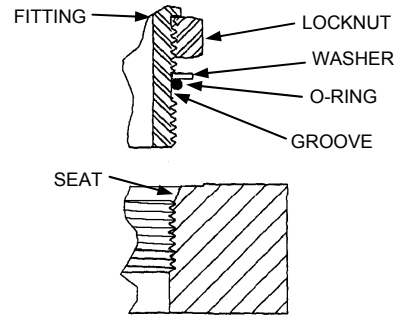


- Check flare and flare seat for defects that might cause leakage.
- Align tube with fitting before tightening.
- Lubricate connection and hand tighten swivel nut until snug.
- To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body and with the second tighten the swivel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

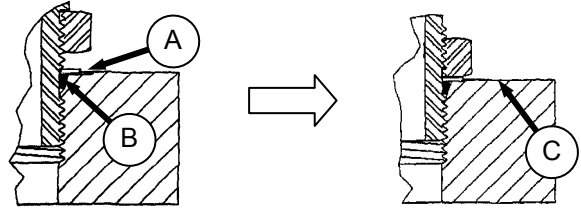
TUBE SIZE O.D. (in.)	NUT SIZE ACROSS FLATS (in.)	TORQUE VALUE*		RECOMMENDED TURNS TO TIGHTEN (AFTER FINGER TIGHTENING)	
		lbf-ft	N·m	Flats	Turns
3/16	7/16	6	8	1	1/6
1/4	9/16	9	12	1	1/6
5/16	5/8	12	16	1	1/6
3/8	11/16	18	24	1	1/6
1/2	7/8	34	46	1	1/6
5/8	1	46	62	1	1/6
3/4	1-1/4	75	102	3/4	1/8
7/8	1-3/8	90	122	3/4	1/8

* The torque values shown are based on lubricated connections as in reassembly.

O-RING TYPE



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



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

THD SIZE (in.)	NUT SIZE ACROSS FLATS (in.)	TORQUE VALUE*		RECOMMENDED TURNS TO TIGHTEN (AFTER FINGER TIGHTENING)	
		lbf-ft	N·m	Flats	Turns
3/8	1/2	6	8	2	1/3
7/16	9/16	9	12	2	1/3
1/2	5/8	12	16	2	1/3
9/16	11/16	18	24	2	1/3
3/4	7/8	34	46	2	1/3
7/8	1	46	62	1-1/2	1/4
1-1/16	1-1/4	75	102	1	1/6
1-3/16	1-3/8	90	122	1	1/6
1-5/16	1-1/2	105	142	3/4	1/8
1-5/8	1-7/8	140	190	3/4	1/8
1-7/8	2-1/8	160	217	1/2	1/12

* The torque values shown are based on lubricated connections as in reassembly.

ACCRONYMS AND ABBREVIATIONS

ENGLISH/METRIC EQUIVALENTS

ENGLISH	FACTOR	SI UNITS (METRIC)
acres	x 0.4047	= hectares (ha)
ft/min	x 0.3048	= meters/min (m/min)
ft/s	x 0.3048	= meters/sec (m/s)
US gal	x 3.7854	= liters (L)
US gal/min (gpm)	x 3.7854	= liters/min (L/min)
hp	x 0.7457	= kilowatts (kW)
in. ³	x 16.3871	= cubic centimeters (cm ³ or cc)
lbf	x 4.4482	= newtons (N)
lbf-in. or in-lbf	x 1.3558	= newton meters (N·m)
lbf-in. or in-lbf	x 0.1129	= newton meters (N·m)
mph	x 1.6063	= kilometers/hour (km/h)
oz.	x 29.5735	= milliliters (ml)
psi	x 6.8948	= kilopascals (kPa)
psi	x .00689	= megapascals (MPa).

DEFINITIONS

TERM	DEFINITION
API	American Petroleum Institute
ASTM	American Society Of Testing And Materials
C	Celsius
Cab Forward	Windrower operation with the operator and cab facing in the direction of travel.
CDM	Cab Display Module
DWA	Double Windrow Attachment
Engine Forward	Windrower operation with the operator and engine facing in the direction of travel.
F	Fahrenheit
ft/min	feet per minute
ft/s	feet per second
gpm	U.S. gallons per minute
GSL	Ground Speed Lever
hp	horsepower
in. ³	cubic inches
lbf	pounds force
lbf-ft or ft-lbf	pound feet or foot pounds
lbf-in. or in-lbf	pound inches or inch pounds
ISC	Integrated Speed Control
mph	miles per hour
N-DETENT	The slot opposite the neutral position on operator's console.
oz.	ounces
psi	pounds per square inch
rpm	revolutions per minute
SAE	Society Of Automotive Engineers
WCM	Windrower Control Module
Windrower	Windrower Tractor with header attached.
Windrower Tractor	Power unit only. (Windrower without the header attached).

UNLOADING AND ASSEMBLY

STEP 1. UNLOAD CONTAINER



CAUTION

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

- Move trailer into position and block trailer wheels.
- Lower trailer storage stands.
- Open container doors and remove all blocking.
- Check container floor for nails or other obstructions and remove if necessary.
- Position platform or ramp at container opening.



- Attach chain/pull strap to slots in support channels as shown.
- Pull tractor from container onto platform.

STEP 2. MOVE TO ASSEMBLY AREA

A. CRANE METHOD



CAUTION

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

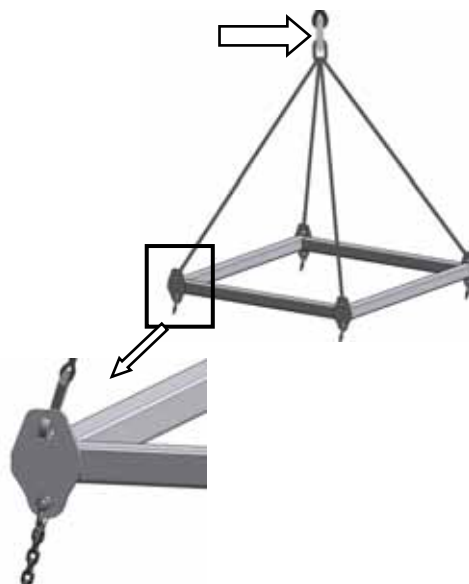


CAUTION

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

LIFTING VEHICLE	
Min. Lifting Capacity	20,000 lb (9072 kg)

CHAIN	
Type	Overhead Lifting Quality (1/2 inch)
Min. Working Load	7100 lb (3221 kg)



- Attach chains or cable to the four lift points on the lifting frame (MacDon Part # 163871) and connect loop ends to crane hook. Use cable or chain with a minimum lifting capacity of 7100 lb (3221 kg).

(continued next page)

UNLOADING AND ASSEMBLY



- b. Attach lifting frame assembly (MacDon Part # 163871) to the four designated lift points on windrower tractor shipping frame.
- c. Lift windrower tractor off platform and move to setup area.



- d. Lower assembly onto 5-6 inch (127-152 mm) blocks as shown.
- e. Remove chains from shipping frame.
- f. Check for shipping damage and missing parts.

B. FORKLIFT METHOD



CAUTION

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



CAUTION

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

LIFTING VEHICLE	
Min. Lifting Capacity *	20,000 lb (9072 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.



WARNING

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



- a. Approach windrower tractor from the hood end, and slide forks underneath lifting framework.
- b. Raise windrower tractor off platform and move to assembly area.

(continued next page)

UNLOADING AND ASSEMBLY



- c. Lower assembly onto 5-6 inch (127-152 mm) blocks as shown.
- d. Check for shipping damage and missing parts.

UNLOADING AND ASSEMBLY

STEP 3. REMOVE WHEEL & STEP ASSEMBLY



- a. Remove shipping wire and bolt securing hose support to shipping frame and remove hose support.
- b. Lay hose support off to the side.



- c. Remove the two $\frac{3}{4}$ in.x16.5 lg. bolts at front frame beam. Retain for reinstallation.



- d. Remove the 1 inch (25.4 mm) pin at the center link.



- e. Remove the four (two per side) carriage bolts at the rear of the wheel/step assembly.



- f. Remove plastic cable tie and shipping wire securing hose bundles to frame.

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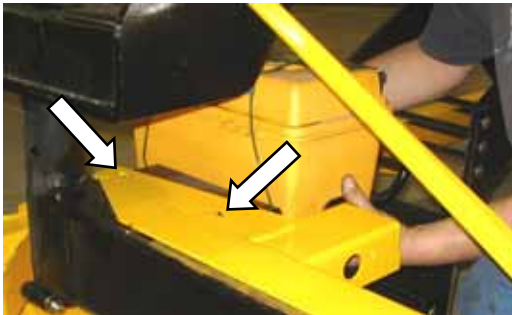
UNLOADING AND ASSEMBLY



- g. Attach a chain to wheel/step assembly and pull away from shipping assembly with lifting device.



- h. Lift center link so that it clears wheel/step assembly frame.



- i. Remove bolts and remove tool box & holder from shipping frame. Loosely install bolts in holder and set aside for later installation.



- j. Reinstall leg bolts, washers, and nuts to secure the lifting plate onto the mainframe.

UNLOADING AND ASSEMBLY

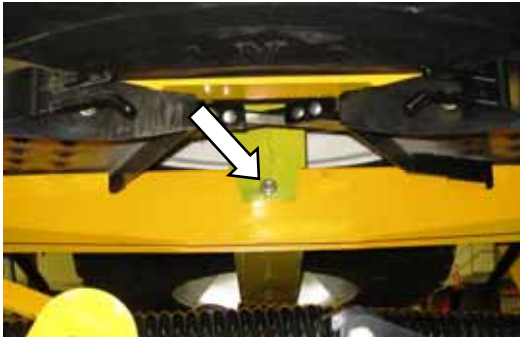
STEP 4. REMOVE DRIVE WHEELS

IMPORTANT

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



- a. Remove the two bolts at front cross member over the hood.



- b. Remove one bolt at rear of hood directly under center of drive wheel.



- c. Attach a lifting device to lift hooks located in the center of each drive wheel.



- d. Carefully lift wheels off frame.

IMPORTANT

Ensure that tire is guided away from cab roof when lifting wheels to prevent damage to the cab. Chain on forward wheel should be snug and loose on the aft wheel.

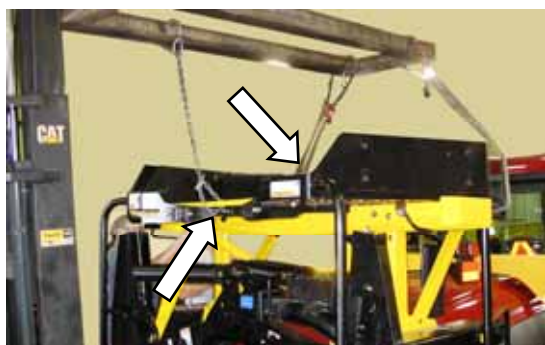
- e. Set wheels aside for later installation.

UNLOADING AND ASSEMBLY

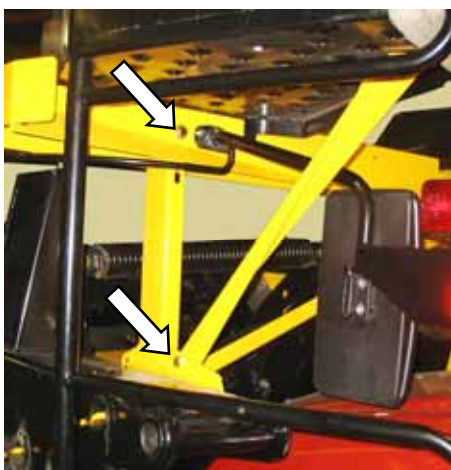
STEP 5. REMOVE PLATFORM/LIGHT ASSEMBLY



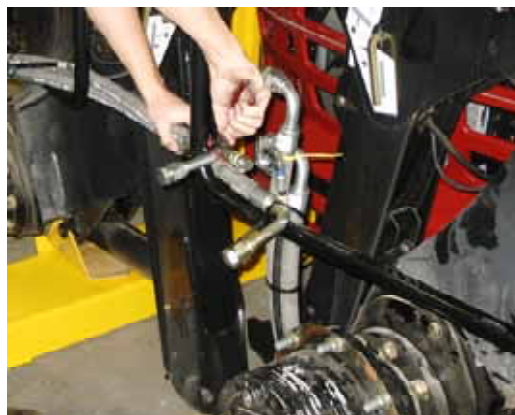
- a. Remove the two support tubes on either side of hood.



- b. Attach slings (to prevent paint damage) to platform at locations shown and to a lifting device with a minimum lifting capacity of 5000 lb (2268 kg) and a lift height of 13 feet (4 m).



- c. Remove two 5/8 in.x5.0 bolts at top of vertical support and two bolts on bottom of support brace.



- d. Cut plastic cable ties and move hose bundle clear of platform.



NOTE

The M100 windrower is equipped with only one platform.

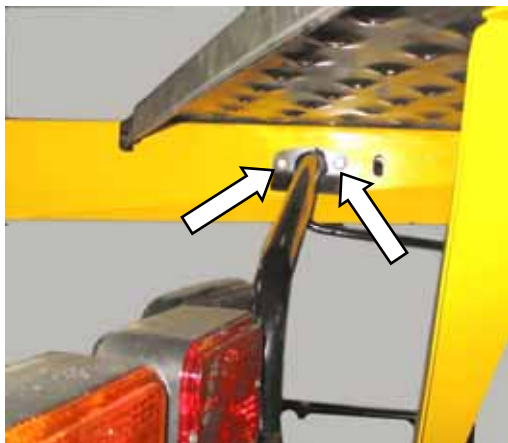
- e. Carefully lift platform/light assembly off frame until rails clear windrower tractor legs.



- f. Back away from windrower tractor and set assembly on a level surface. Protect handrails with foam or cardboard to prevent paint damage.

UNLOADING AND ASSEMBLY

STEP 6. INSTALL LIGHT AND MIRROR ASSEMBLIES



- a. Remove two bolts securing mirror/light assemblies to shipping stand and remove assemblies.
- b. The cab roof must be raised to install the light assemblies. Proceed as follows:



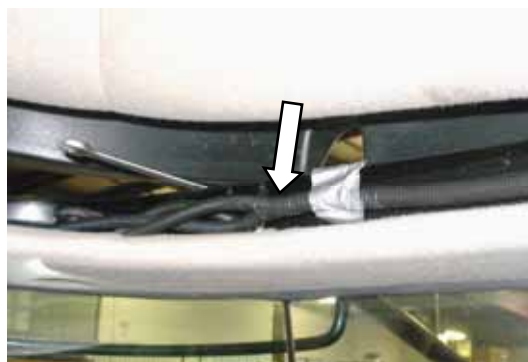
1. Remove plastic covers from six bolt locations in roof.



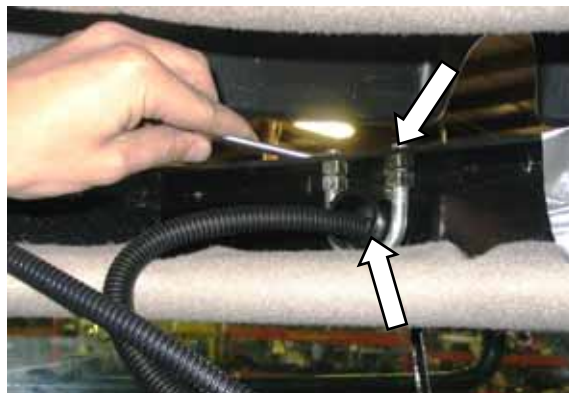
2. Remove nuts and washers at these locations.



3. Lift roof and support with wooden block covered with foam to prevent scuffing of roof.



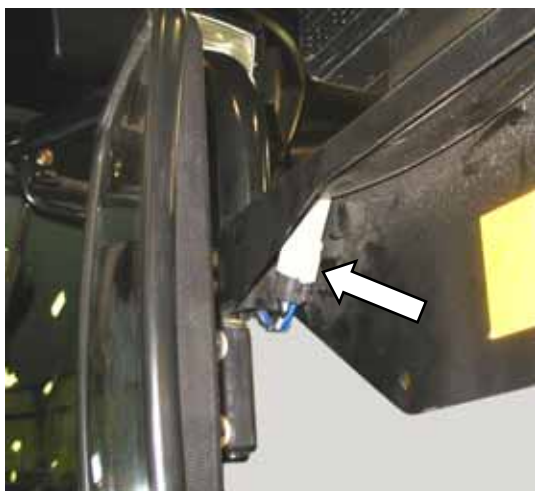
- c. Move existing harness in roof to gain access to mirror/light support clamps. Loosen U-bolt.



- d. Install mirror/light into U-bolt and tighten nuts on U-bolt so that support tube is securely fastened. Tighten jam-nuts located under roof plate.

(continued next page)

UNLOADING AND ASSEMBLY



- e. Thread wiring harness through support tube so that connector is visible at light assembly.
- f. Stuff foam into end of tube to help prevent dust and noise from entering the cab.
- g. Connect harness to connector at light.
- h. Repeat steps c. to g. for opposite light assembly.
- i. Remove roof support and lower roof.

IMPORTANT

Ensure roof bolts clear grommets in frame.



- j. Re-install washers and nuts at the six locations.



- k. Re-install plastic caps.

UNLOADING AND ASSEMBLY

STEP 7. REMOVE LEG ASSEMBLIES

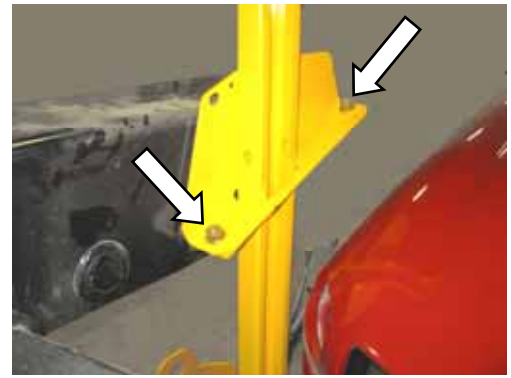
- a. Ensure that lift bar is attached to leg assembly as shown and that clevis pin is installed with head on near side.



- b. Attach chain to lifting bar on leg assembly and hook up to lifting device with a minimum lifting capacity of 5000 lb (2268 kg).



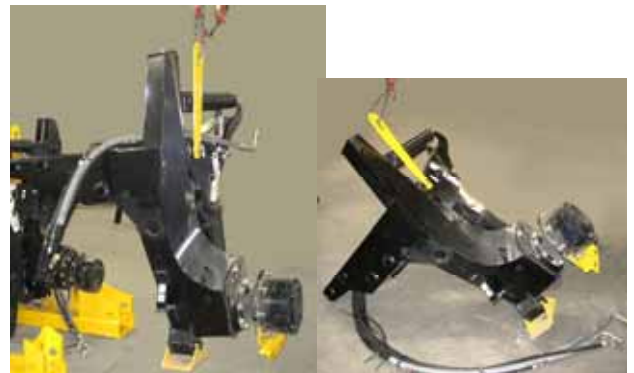
- c. Remove two bolts at lower support channel.



- d. Remove two bolts near top of leg and remove bars from leg.

NOTE

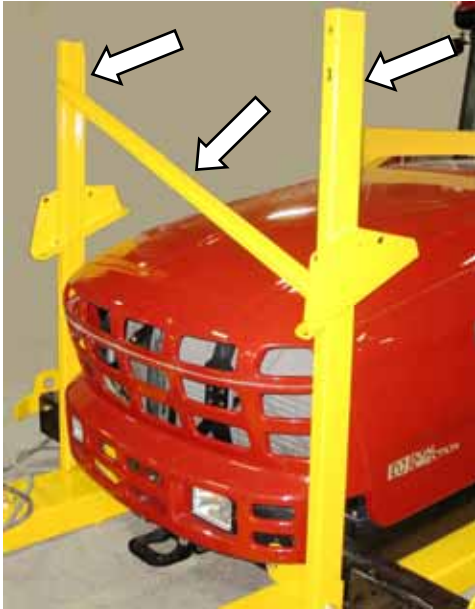
Insert cardboard or foam between leg assembly and hood to prevent damage to hood.



- e. Lift off leg assembly and set securely on level ground.
- f. Repeat above steps for second leg assembly.

UNLOADING AND ASSEMBLY

STEP 8. REMOVE WHEEL & PLATFORM SUPPORT



- a. Remove cross brace, and the two upright supports from frame.



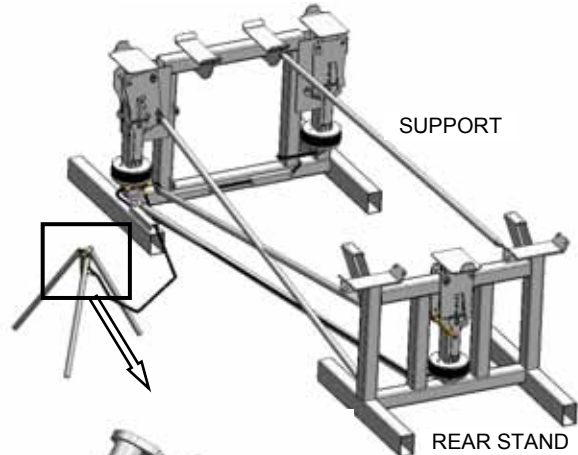
- b. Remove the cross member over the hood and the two uprights on either side.

STEP 9. ASSEMBLE WINDROWER TRACTOR SUPPORT STAND

Special stands for assembling the windrower tractor are available from the factory. If this stand is not available, an equivalent support system can be used. The stand must be capable of holding a 20,000 lb (9072 kg) load.

Assemble factory stand as follows:

FORWARD STAND



- Remove all shipping materials from stand.
- Arrange forward and rear stands on level ground so that attachment lugs on each stand face each other.
- Attach four support tubes to stands as shown with hardware provided and tighten.
- Set up air control valve tripod. Remove plug on valve and install a 100 psi (689 kPa) air line.
- The stand is now operational. Instructions for use are given in the appropriate sections.



WARNING

Use stand only as instructed in this manual.
Do not use stand for any other purpose.

Do not pressurize air bags beyond 120 psi (827 kPa).

UNLOADING AND ASSEMBLY

STEP 10. LIFT WINDROWER TRACTOR ONTO STAND



CAUTION

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



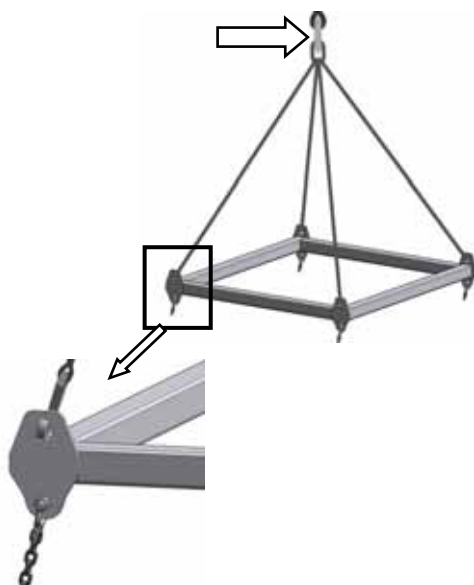
CAUTION

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

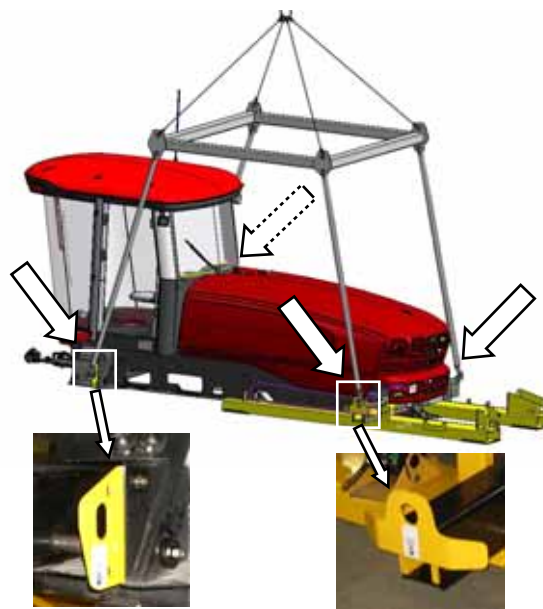
A. CRANE METHOD

LIFTING VEHICLE	
Crane	Min. Lifting Capacity
	20000 lb (9072 kg)

CHAIN	
Type	Overhead Lifting Quality (1/2 inch)
Min. Working Load	7100 lb (3221 kg)



- a. Attach four chains or cables to the four lift points on the lifting frame (MacDon Part # 163871) and connect loop ends to crane hook. Use cable or chain with a minimum lifting capacity of 7100 lb (3221 kg).



- b. Attach the lifting frame to the four designated lift points on windrower tractor shipping frame as shown.



CAUTION

Stand clear when lifting, as machine may swing.



- c. Lift windrower tractor onto stand.
d. Remove chains from shipping frame and set lifting frame assembly clear of work area.

UNLOADING AND ASSEMBLY

B. FORKLIFT METHOD

LIFTING VEHICLE	
Min. Lifting Capacity *	20,000 lb (9072 kg)

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



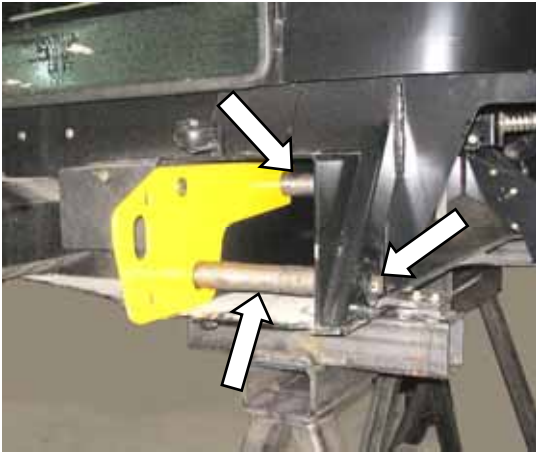
- a. Approach windrower tractor from aft end and slide forks fully into shipping support channels.



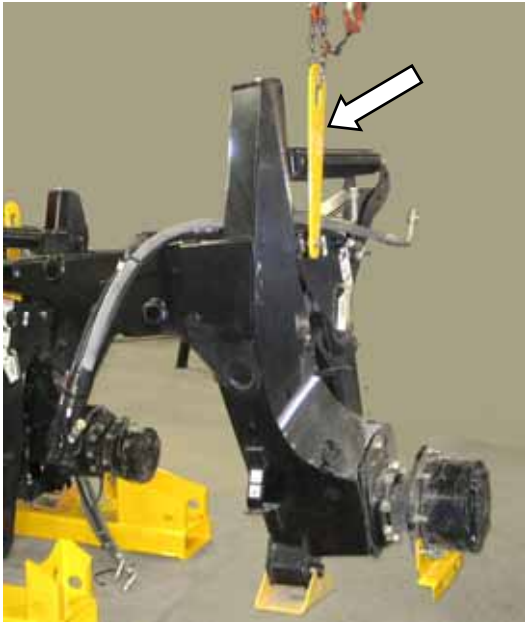
- b. Raise windrower tractor and place onto stand.
- c. Back away forklift.

UNLOADING AND ASSEMBLY

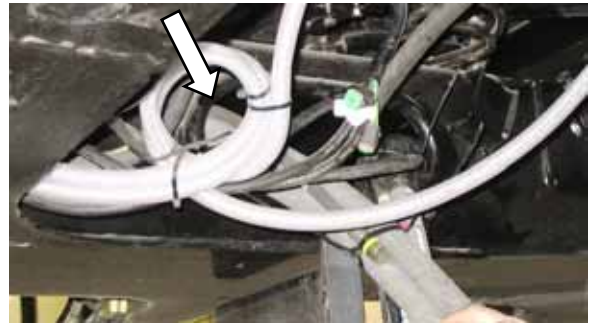
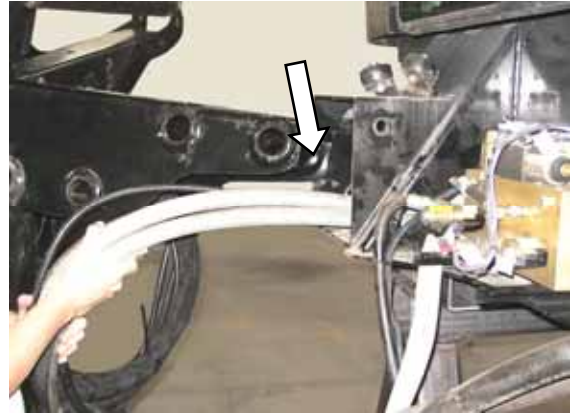
STEP 11. INSTALL LEGS



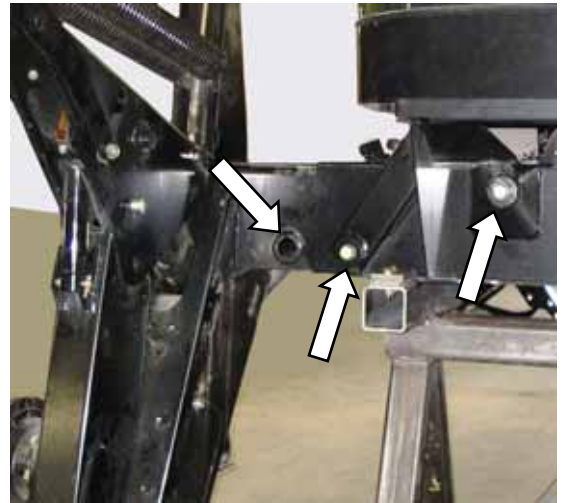
- a. Remove front leg bolts and pins and set aside for re-installation. Remove carriage bolt and remove lifting plate.



- b. Attach front leg to lifting device with lifting bar.
c. Position leg at frame.



- d. Feed hydraulic hose bundle into frame and through hole at center of frame.



- e. Insert leg into frame and line up holes in frame and leg at the first position (widest tread with one exposed hole).
f. Insert pins and secure with $\frac{3}{4}$ in.x16.5 lg. bolts, washers, and nuts. Torque to 100 ft·lbf (136 N·m).
g. Repeat above steps for other leg.

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UNLOADING AND ASSEMBLY

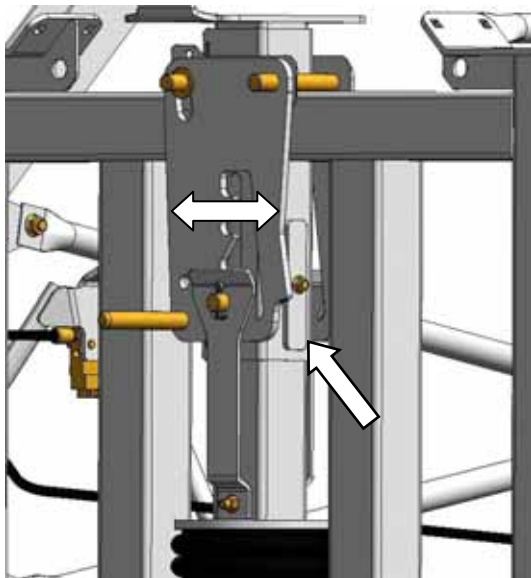


- h. Slightly lift the header lift arms with lifting device, and remove lifting bars from legs. Relocate spring locking pins to front of lift arms.

UNLOADING AND ASSEMBLY

STEP 12. INSTALL FRONT WHEELS

- a. If factory stand is being used, proceed as follows, otherwise proceed to step b:

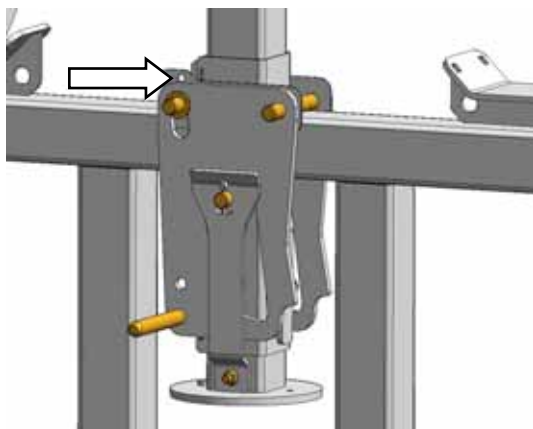


1. Ensure that the three (one at rear, two at front) lift locks are activated on lift mechanism.

NOTE

Lock is activated when keeper is vertical and latch is free to move back and forth.

2. Pressurize air bag system (100 psi air pressure required) and raise windrower tractor to maximum height (approximately 7 inches (178 mm)) above stand.



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

NOTE

Lock is engaged when witness hole above pin is exposed.

4. Release pressure so that locks support weight of windrower tractor.



- b. Remove shipping supports on drive wheel hubs and remove wheel lug nuts.
c. Position wheel against hub so that that air valves are on outside and tire tread point forward. For "Turf" tires (diamond tread), be sure arrow on sidewall points in forward rotation.



- d. Lift wheel on hub with lifting device. Lower lifting device.
e. Rotate wheel to align holes with studs and push wheel onto studs.

(continued next page)

UNLOADING AND ASSEMBLY

- f. Install wheel nuts and tighten to 175-200 ft·lbf (237-271 N·m) using the tightening sequence as shown.



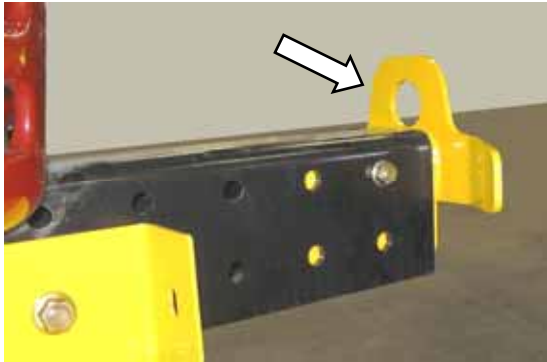
NOTE

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

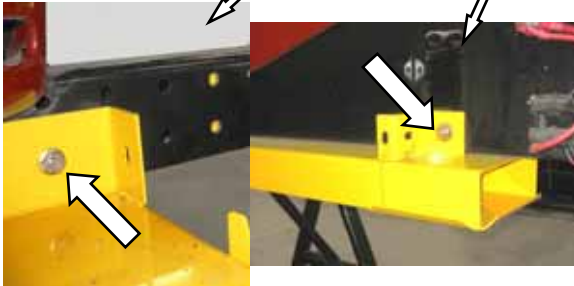
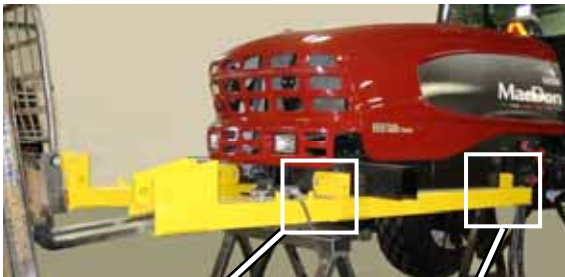
- g. Repeat sequence three times.

UNLOADING AND ASSEMBLY

STEP 13. INSTALL CASTER WHEELS



- a. Remove the two guide plates from ends of walking beam.



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

NOTE

Shipping frame does not need to be removed if air bag lifting stand is used. Ensure bolts are removed prior to moving windrower tractor off stand.

- c. Repeat above for opposite shipping frame channel.



- d. Remove tie bar between the two caster wheels.



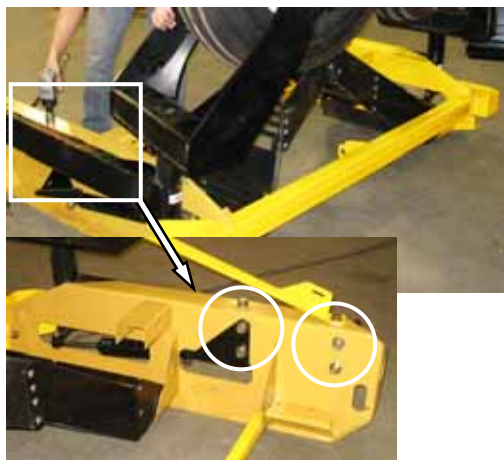
- e. Remove the two braces from caster wheels and frame.



- f. Attach a chain to RH caster and support caster with lifting device.

(continued next page)

UNLOADING AND ASSEMBLY



- k. Tighten bolts as follows:
 - 1. Snug up the two bolts underneath beam.
 - 2. Tighten the four back bolts to 330 ft·lbf (447 N·m).
 - 3. Tighten bolts underneath beam to 330 ft·lbf (447 N·m).
- l. Repeat above steps g. to k. for LH caster.
- m. Retorque bolts at 5 and 10 hours of operation.

- g. Remove six bolts securing caster to shipping frame. Retain bolts for attaching caster to walking beam.



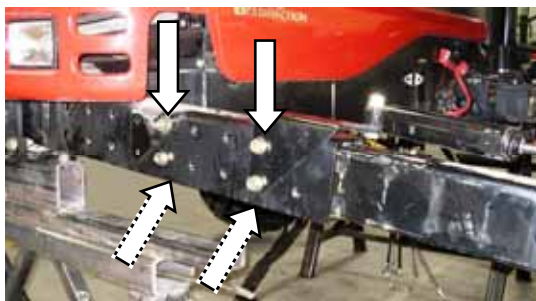
CAUTION

Stand clear when lifting, as caster may swing.

- h. Lift caster assembly off shipping frame and position at end of walking beam.



- i. Insert RH caster extension into walking beam and position for desired tread.



- j. Install six $\frac{3}{4}$ in. bolts and hardened washers into walking beam and caster beam. Use longer bolts through anti-shimmy bracket.

UNLOADING AND ASSEMBLY

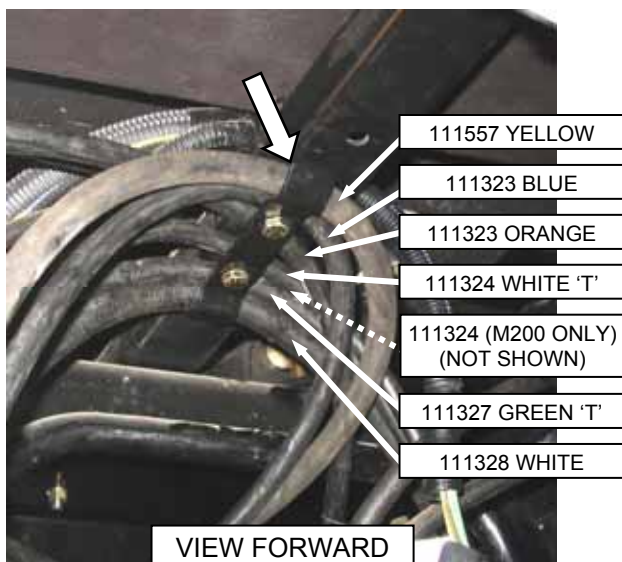
STEP 14. INSTALL HYDRAULICS

A. M150, M200

- a. The hydraulic hoses under the cab may require proper placement under the existing clip. If necessary, proceed as follows:



1. Locate hose clip under the cab and remove clip.



2. Position the two hoses 111323 (orange tie) and 111324 with tee (white ties), (three if M200) as shown under the center of the clip and loosely install two bolts and nuts. Part numbers are located on hoses.
3. Position remaining hoses under clip as shown and tighten bolts.

- b. Connect hoses as follows using coloured plastic cable ties as a guide.



1. Locate two hoses 111327 (green ties) in frame opening, and existing tee fitting (green tie).
2. Remove caps on green lines and tee, and make connections. Tighten fittings.

NOTE

Remove caps on tee last to minimize oil loss.

3. Position hoses into frame.



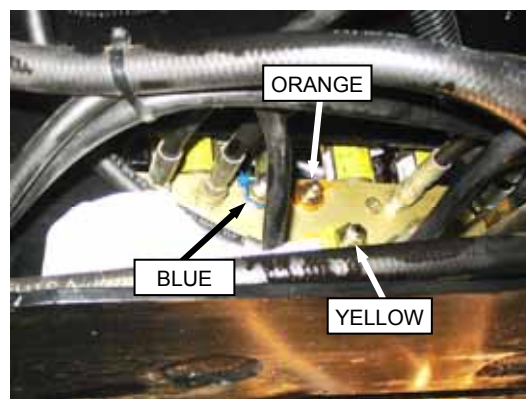
4. Locate two hoses (white ties) inside frame and hose 111324 with tee (white tie).
5. Remove caps, make connections, and tighten fittings.
6. Push hoses into frame.

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UNLOADING AND ASSEMBLY



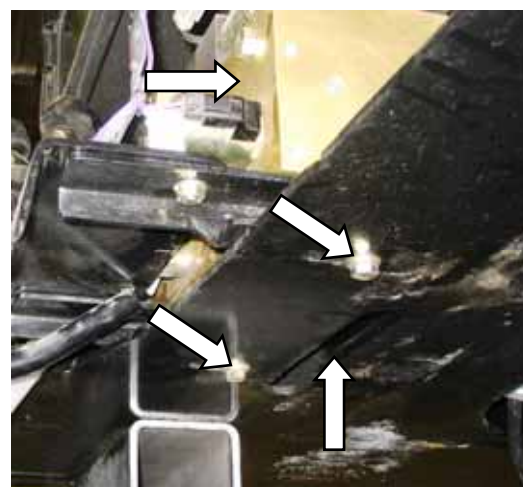
7. Locate two hoses (red ties) inside frame.
8. Route RH hose behind bundle.
9. Remove caps, make connection and tighten fitting.
10. Push hose into frame.



13. Remove the caps from three fittings (blue, orange, and yellow ties) on the valve block from inboard side of frame.



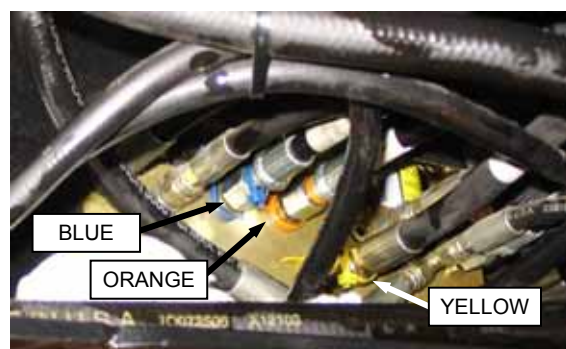
11. Retrieve long hose 119328 (white tie) and route through hole in LH frame.



14. Loosen bolts and move valve block to improve access through hole in frame for wrenches when tightening fittings.



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



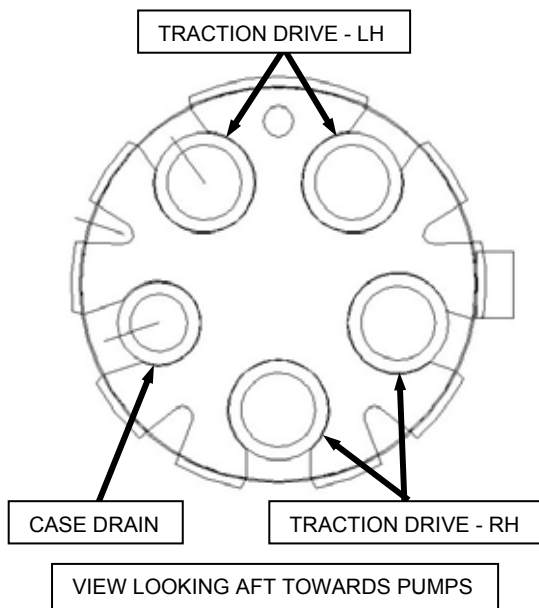
15. Retrieve matching hoses and make connections on valve block. Tighten fittings.
16. Reposition valve block and re-tighten bolts.

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UNLOADING AND ASSEMBLY

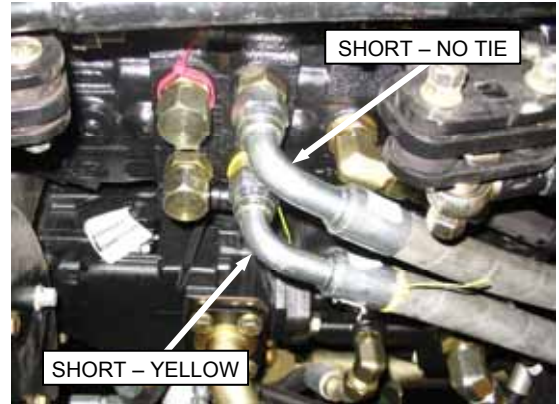


- c. Remove clamp from round plastic hose block.

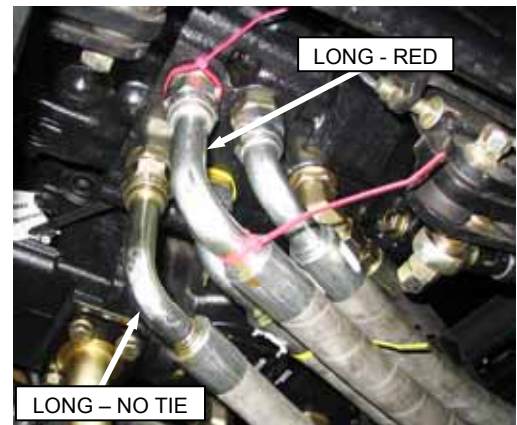


- d. Insert four traction drive hoses and one case drain hose into slots in block as shown and re-install clamp.

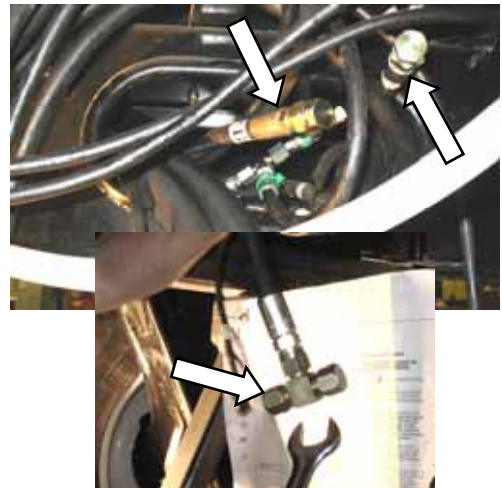
- e. Connect drive hoses to pump as follows:



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



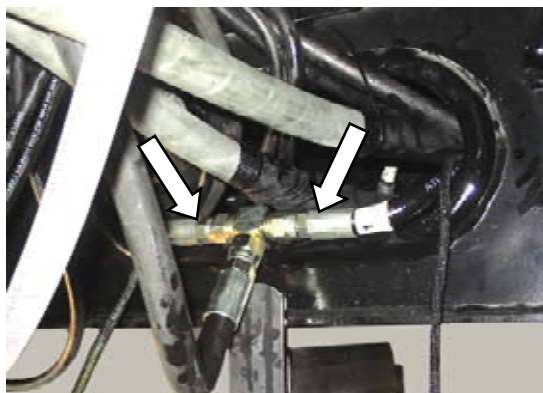
2. Remove caps and attach hoses with long elbows to respective side of pump (either red or no tie). Tighten fittings.



- f. Retrieve the two motor case drain hoses (111312) at front frame, and the 7/8 in. tee fitting on the hose from the pump.
g. Remove caps from the hoses only.

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UNLOADING AND ASSEMBLY



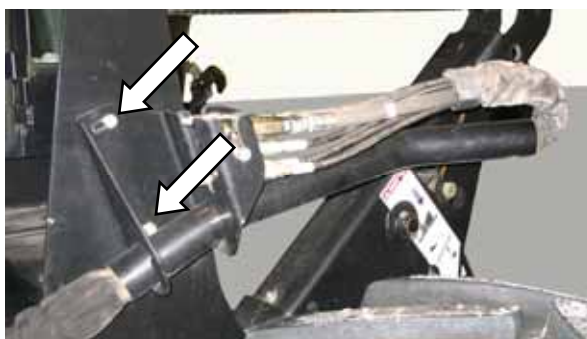
- h. Remove one cap on tee fitting and quickly attach hose to minimize oil spillage.
- i. Remove second cap from tee and quickly connect other hose.
- j. Tighten fittings.



- k. Locate hose bundle from valve blocks on LH side of frame. Route hose ends with electrical harness through hose support.



- l. Disengage hook and rotate to up position. Position hose bundle over hose support and locate under hook. Rotate hook and re-engage in bracket.



- m. Attach reel hose support tube to the RH reel leg with two 3/8 in.x1.0 carriage bolts and nuts.

UNLOADING AND ASSEMBLY

B. M100

- a. Connect hoses as follows using coloured plastic cable ties as a guide.



1. Locate two hoses 111324 (green ties) in frame opening, and existing tee fitting (green tie) on the hose from the valve block.
2. Remove caps on green lines and tee, and make connections. Tighten fittings.

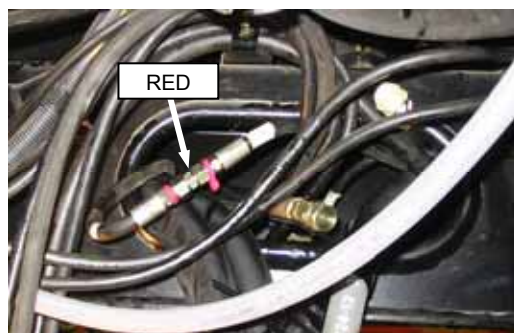
NOTE

Remove caps on tee last to minimize oil loss.

3. Position hoses into frame.



4. Locate two hoses (white ties) inside frame and hose 111324 with tee (white tie).
5. Remove caps, make connections, and tighten fittings.
6. Push hoses into frame.



7. Locate two hoses (red ties) inside frame.
8. Route RH hose behind bundle.
9. Remove caps, make connection and tighten fitting.
10. Push hose into frame.



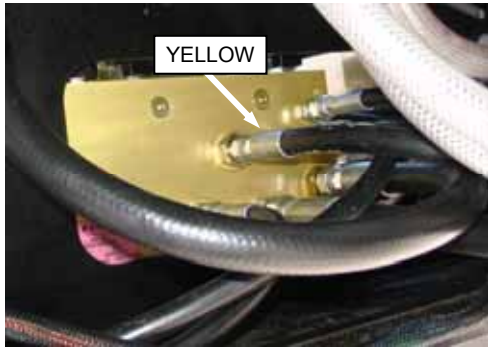
11. Retrieve long hose 119328 (white tie) and route through hole in LH frame.



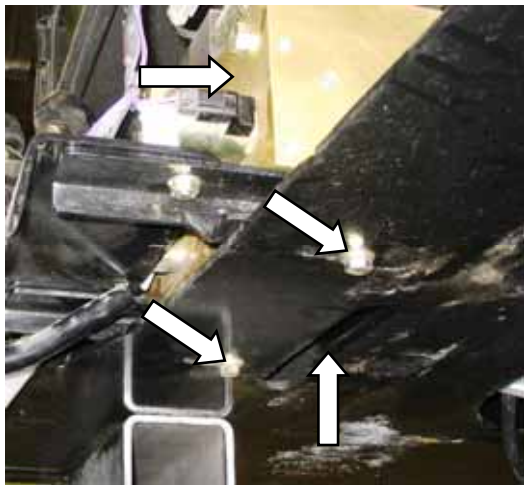
12. Remove caps on hose and valve block fitting (white tie) and make connection. Tighten fitting.

(continued next page)

UNLOADING AND ASSEMBLY



13. Remove the cap from fitting with yellow tie on the valve block from inboard side of frame.



14. Loosen bolts and move valve block to improve access through hole in frame for wrenches when tightening fittings.
15. Retrieve matching hose and make connection on valve block. Tighten fitting.
16. Reposition valve block and re-tighten bolts.

- b. Connect drive hoses to pump as follows:



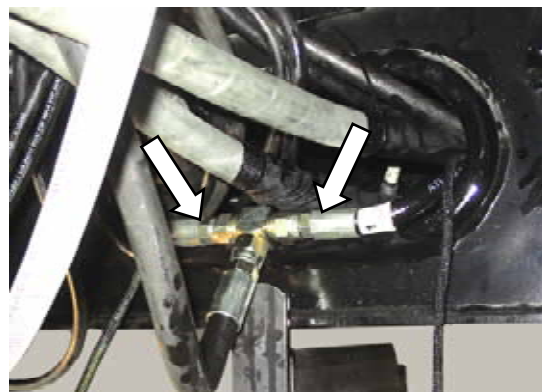
1. Remove caps and attach hoses (green and yellow ties) to matching fittings on top of pump. Tighten fittings.



2. Remove caps and attach hoses (red and white ties) to matching fittings on bottom of pump. Tighten fittings.



- c. Retrieve the two motor case drain hoses (111312) at front frame, and the 7/8 in. tee fitting on the hose from the pump.
- d. Remove caps from the hoses only.



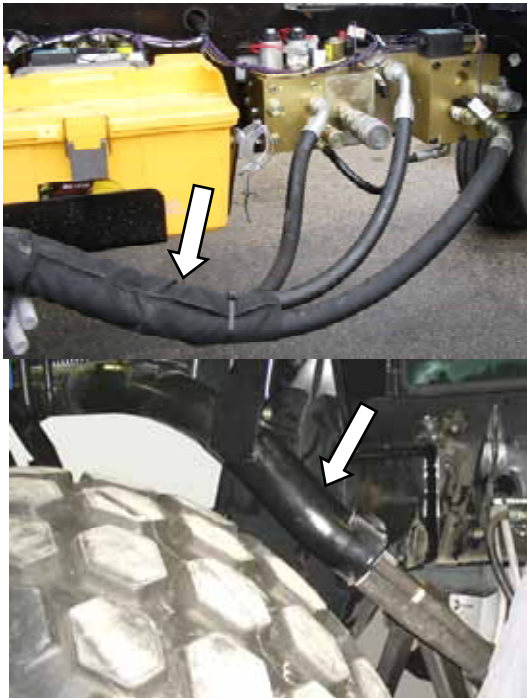
- e. Remove one cap on tee fitting and quickly attach hose to minimize oil spillage.
- f. Remove second cap from tee and quickly connect other hose.
- g. Tighten fittings.

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UNLOADING AND ASSEMBLY



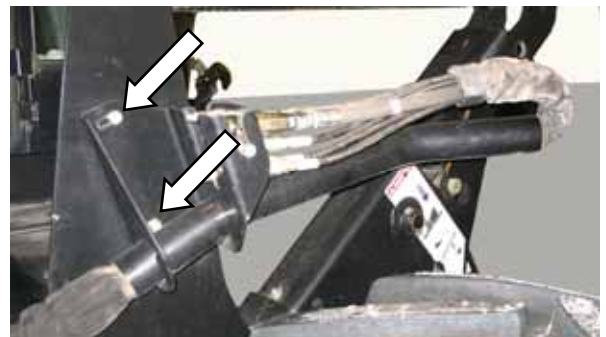
- h. Bundle traction drive hoses and secure with two plastic cable ties at 7-3/4 inch (200 mm) intervals from frame opening.
- i. Bundle smaller hoses and secure with two plastic cable ties at 6 inch (150 mm) intervals from frame opening.
- j. Attach hose supports to tractor frame as follows:



- 1. Locate hose bundle from valve blocks on LH side of frame. Route hose ends with electrical harness through hose support.



- 2. Disengage hook and rotate to up position. Position hose bundle over hose support and locate under hook. Rotate hook and re-engage in bracket.



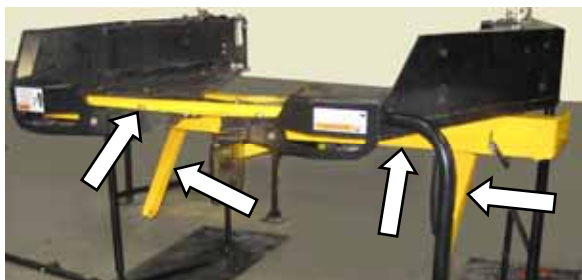
- 3. Attach reel hose support tube to the RH reel leg with two 3/8 in.x1.0 carriage bolts and nuts.

UNLOADING AND ASSEMBLY

STEP 15. INSTALL PLATFORMS

NOTE

The following procedure is applicable to the M150 and M200 machines with LH and RH platforms. The M100 has a LH platform only. RH installation is shown, LH installation is opposite.



- a. Remove shipping brackets from platform assembly. Retain hardware.



- b. Position platform so that the base is on the floor.
c. Attach a sling to platform and other end to lifting device.

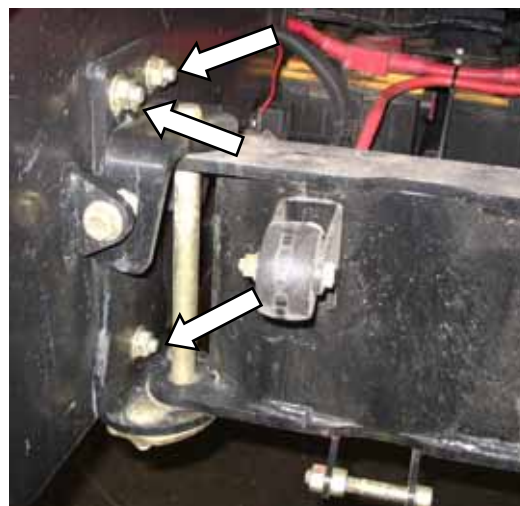


CAUTION

Stand clear when lifting, as platform may swing.



- d. Position platform against windrower tractor frame



- e. Attach main beam of platform to side frame with three 1/2 in.x1.25 lg. carriage bolts. Bolt heads face inboard. Tighten just enough for adjustment.



- f. Attach steering arm to frame with two 3/8 in.x0.75 lg. carriage bolts and nuts. Bolt heads face inboard. Tighten bolts.

(continued next page)

UNLOADING AND ASSEMBLY



- g. Check that vertical rail tubes are parallel with cab posts when viewing from the rear. Laterally adjust king pin mounting as required.



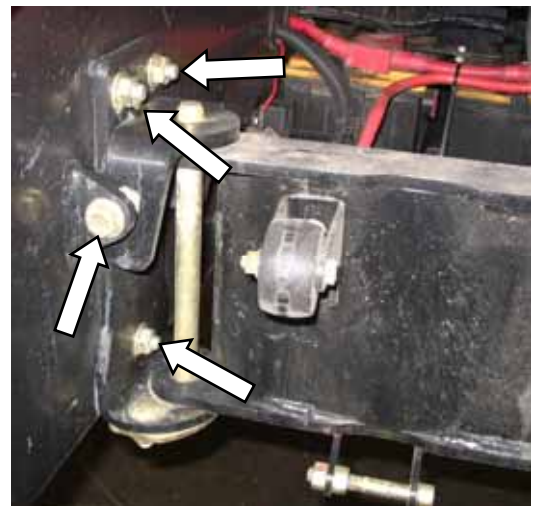
- h. Slowly close platform to check that front fork engages laterally into the wheels.



- i. Relocate steering arm into either of the other holes on the bracket if major adjustment is required.



- j. Move fork on platform for small adjustments by loosening bolts, moving fork, and re-tightening bolts.

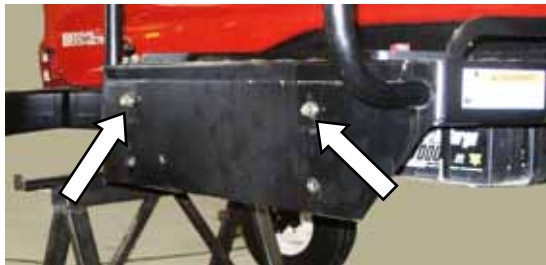


- k. Adjust platform horizontally with the $\frac{1}{2}$ in.x2.25 bolt so that fork precisely engages the rollers.
l. Tighten the three attachment bolts to 80 ft·lbf (108 N·m).

UNLOADING AND ASSEMBLY

STEP 16. INSTALL STEPS

The following procedure is applicable to the M150 and M200 machines with LH and RH platforms. The M100 has a LH platform only. RH installation is shown, LH installation is opposite.



- a. Install two ½ in.x1.0 hex bolts in upper holes in platform. Do not thread in fully.



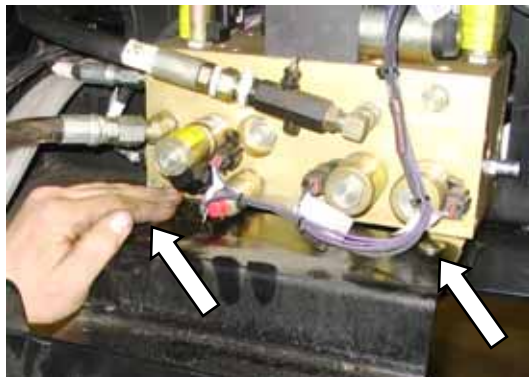
- b. Remove step assemblies from shipping frame. Retain hardware.
c. Hang step assembly on bolts. Both step assemblies are the same.



- d. Install two ½ in.x1.0 lg. hex bolts in lower holes in step and tighten.
e. Tighten upper bolts.
f. Repeat for other step assembly.

STEP 17. INSTALL TOOLBOX

- a. Open maintenance platform on LH side.



- b. Attach toolbox holder to brackets on the frame with two 3/8 in.x0.75 lg. carriage bolts and nuts.



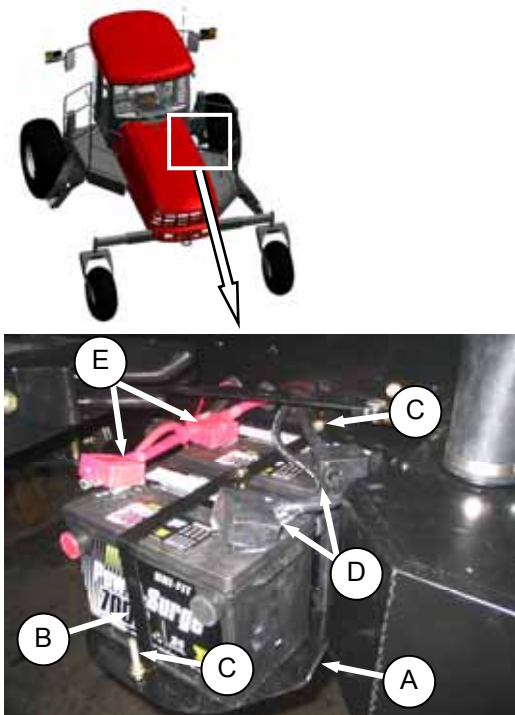
- c. Locate toolbox in holder.
d. Position hose bundle in hook on tool box holder. Note provision for grease gun holder.

UNLOADING AND ASSEMBLY

STEP 18. INSTALL BATTERIES

A. M150, M200

- Open right hand (cab forward) maintenance platform.



- Remove cable ties securing battery clamps and cables to frame.

RATING	GROUP	CCA	VOLT	MAX. DIMENSION
Heavy Duty, Off-Road, Vibration Resistant	BCI 29H or 31A	750	12	13.25x7.37x9.44 in. (337x188x240 mm)

- Position new batteries on holder (A) with positive posts closest to platform.
- Install strap (B) with bolts (C) provided and tighten securely.

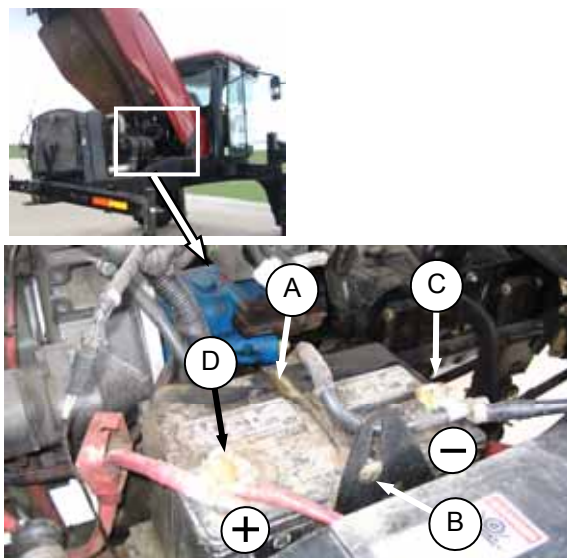
IMPORTANT

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.

- Attach negative (black) cable clamps (D) to negative post on batteries and tighten clamps.
- Attach positive (red) cable clamps (E) to positive post on batteries and tighten. Reposition plastic covers onto clamps.
- Move platform back to closed position.

B. M100

- Open engine compartment hood to highest position.



- Remove cable ties securing battery clamps and cables to frame.

RATING	GROUP	CCA	VOLT	MAX. DIMENSION
Heavy Duty, Off-Road, Vibration Resistant	BCI 29H or 31A	750	12	13.25x7.37x9.44 in. (337x188x240 mm)

- Position new battery on holder with positive post closest to rear.
- Install strap (A) with bolt (B) 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.

- Attach negative (black) cable clamp (C) to negative post on battery and tighten clamp.
- Attach positive (red) cable clamp (D) to positive post on battery and tighten. Position plastic covers onto clamps.
- Close engine hood.

UNLOADING AND ASSEMBLY

STEP 19. PRIME HYDRAULIC SYSTEM

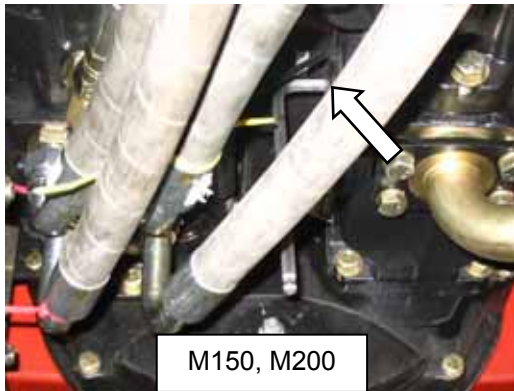
IMPORTANT

It is extremely important that this procedure is done prior to engine cranking. Pumps are damaged very quickly without oil in the housings. Header drive pumps are bled independently with two bleed ports and traction drive pumps have a common bleed port.

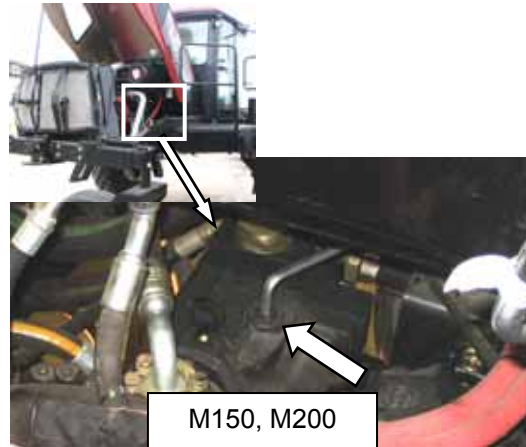
- a. Open engine compartment hood fully.



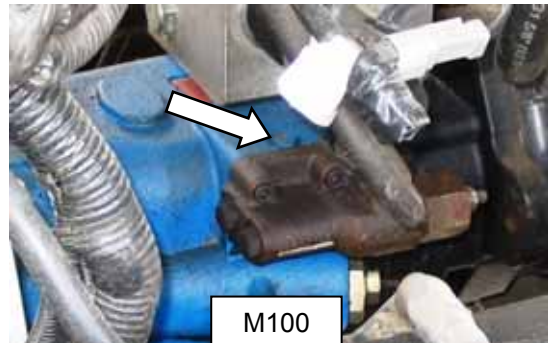
- b. Turn hydraulic oil reservoir filler cap counterclockwise to loosen bung, and remove dipstick.



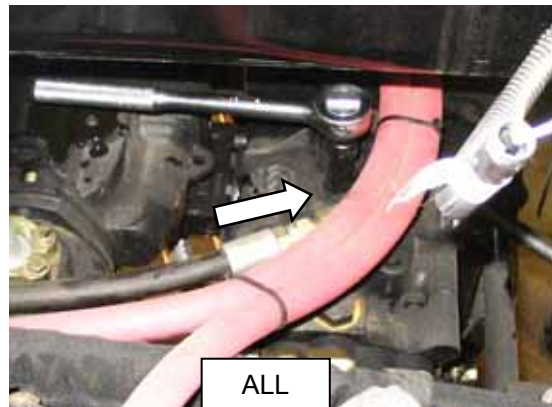
- c. M150, M200 - Locate plug on SIDE of HEADER drive pump housing from underneath machine and loosen plug to bleed pump housing. Re-tighten plug once oil starts to run out.



- d. M150, M200 - Locate plug on TOP of HEADER drive pump housing from above and loosen plug to bleed pump housing. Re-tighten plug once oil starts to run out.



- e. M100 - Locate plug on TOP of HEADER drive pump housing and loosen plug to bleed pump housing. Re-tighten plug once oil starts to run out.

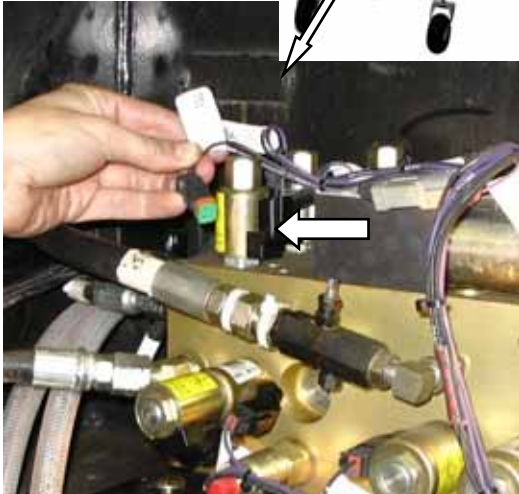


- f. ALL - Locate plug on TOP of TRACTION drive pump housing from above and loosen plug to bleed pump housing. Re-tighten plug once oil starts to run out.
- g. Replace hydraulic oil reservoir filler cap.

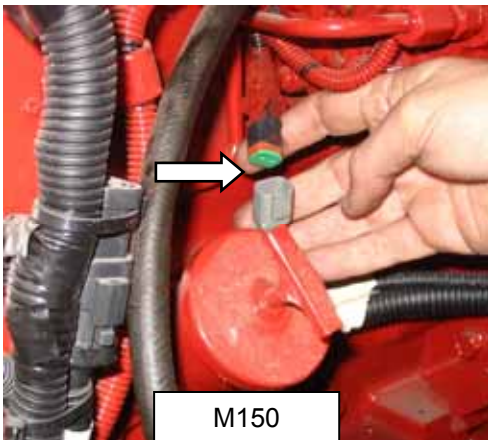
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UNLOADING AND ASSEMBLY

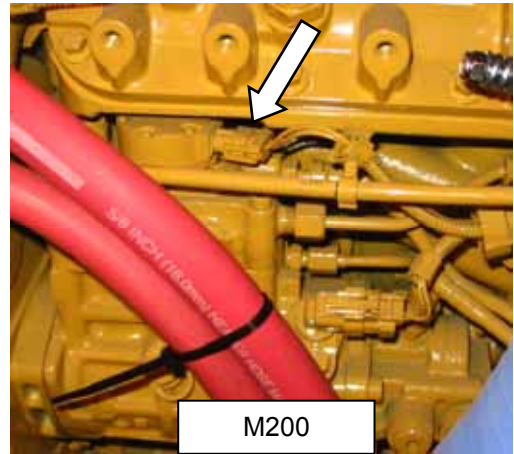
- h. Open maintenance platform on LH side.



- i. Disconnect brake engage solenoid (plug P44) at valve block on LH side of windrower tractor.



- j. Disconnect electrical connection at fuel pump.



- k. Open maintenance platform on RH side (M150, M200).



- l. Open circuit breaker/fuse box and remove ECM ignition fuse (5A).



CAUTION

Check to be sure all bystanders have cleared the area.

- m. Crank engine with starter for 15 seconds.
n. Re-connect electrical connection at fuel pump and at brake engage solenoid.
o. Re-install ECM ignition fuse.

(continued next page)

UNLOADING AND ASSEMBLY



- p. Check hydraulic oil level in reservoir. Add SAE15W-40 oil if necessary.

UNLOADING AND ASSEMBLY

STEP 20. START ENGINE

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



- Lock (A) should be engaged at cab forward or engine forward position (M150 and M200 only).
- Move GSL (B) into N-DETENT.
- Turn steering wheel until it locks.



- Push header drive switch (C) to off.
- Normal Start (All Engines) - engine temperature above 60°F (16°C):
 - Set throttle (D) to start position (E) – fully back.



CAUTION

Check to be sure all bystanders have cleared the area.

- Turn ignition key (F) to RUN position.
- Single loud tone sounds, engine warning lights illuminate.

- Turn ignition key (F) to START position until engine starts and then release key. Tone ceases and warning lights go out.

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 motor to cool for 10 minutes before further cranking attempts. If engine still does not start, refer to the following table:

PROBLEM	SOLUTION
Controls Not In Neutral.	Move GSL to neutral. Move steering wheel to locked position. Disengage header clutch.
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.
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.

- Cold Start (See Specific Engine) - engine temperature below 40°F (5°C).

M200 – CAT ENGINE – Cold Start

- Perform steps a. to e.
- Set throttle (D) to start position (E) – fully back (low idle).
- Turn key to RUN.
- Single loud tone sounds, engine warning lights illuminate and CDM displays HEADER DISENGAGED or DISENGAGE HEADER and IN PARK.
- Glow plug light on CDM will cycle on/off/on after 2 seconds for a pre-set length of time. The operating period for the glow plug light will change depending engine temperature.

(continued next page)

UNLOADING AND ASSEMBLY



CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT

If engine fails to start within 30 seconds, cease cranking and wait two minutes to allow the starting motor to cool before attempting to re-start the engine.

- When glow plug light goes out, turn key to START and crank engine until it starts. Leave throttle at IDLE.
- Engine will cycle through a period where it appears to labour.

M150 – CUMMINS ENGINE – Cold Start

NOTE

This engine is not equipped with cold start assist system.

- Follow procedure for Normal Start.
- 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.

M100 – CUMMINS ENGINE –Cold Start

- Perform steps a. to e. on previous page.



- Set throttle to start position (G) – fully back (low idle).
- Turn ignition key (H) to RUN.
- Single loud tone sounds, engine warning lights illuminate and CDM displays HEADER DISENGAGED or DISENGAGE HEADER and IN PARK.
- Grid heater light on CDM will cycle on/off/on after 2 seconds for a pre-set length of time. The operating period for the grid heater light will change depending engine temperature.



CAUTION

Check to be sure all bystanders have cleared the area.

IMPORTANT

If engine fails to start within 30 seconds, cease cranking and wait two minutes to allow the starting motor to cool before attempting to re-start the engine.

- When grid heater light goes out, turn key to START and crank engine until it starts. Leave throttle at IDLE.
- Engine will cycle through a period where it appears to labour.

IMPORTANT

Do not operate engine above 1500 rpm until engine temperature gauge is above 100°F (38°C).

UNLOADING AND ASSEMBLY

STEP 21. CHECK TRACTION DRIVE



CAUTION

Check to be sure all bystanders have cleared the area.



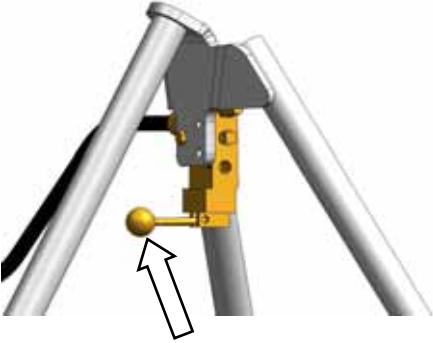
M150, M200 SHOWN – M100 SIMILAR

- With engine running, move GSL out of N-DETENT and slowly move GSL forward.
- Drive wheels should be rotating in the forward direction and at the same speed.
- Turn steering wheel and observe motion of drive wheels. They should rotate at different speeds, with the slower rotating wheel on the same side of the machine that the steering wheel was turned toward.
- Repeat above for opposite direction.
- Move GSL back into reverse. Drive wheels should be rotating in the reverse direction and at the same speed.
- Move GSL back into N-DETENT and shutdown engine.

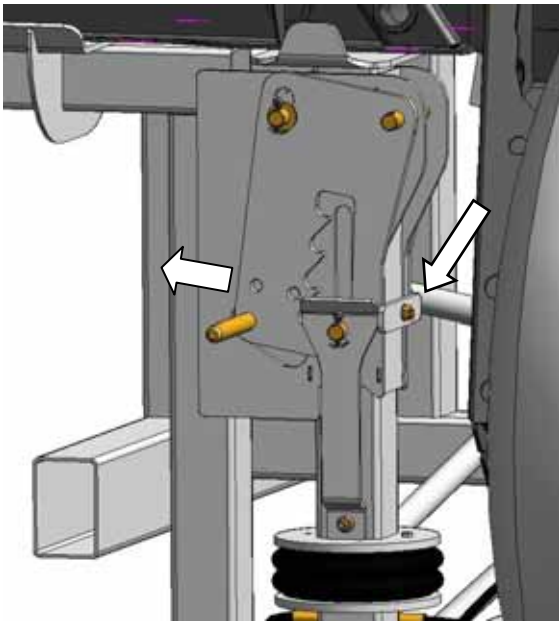
UNLOADING AND ASSEMBLY

STEP 22. REMOVE WINDROWER TRACTOR FROM STAND

A. FACTORY STAND



- a. Open valve on air supply control to raise windrower tractor slightly and take load off lift locks.



- b. Release lift lock mechanism (3 places) and turn keeper to keep lock in released position.
- c. Lower machine to ground by slowly releasing pressure to air bag system.



CAUTION

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

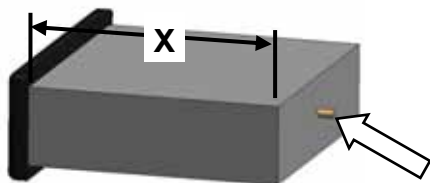
- d. Start engine and drive machine straight ahead leaving shipping support channels supported on rear support stand.

B. FIELD CONSTRUCTED STAND

- a. Position a jack under the jack point of each drive wheel leg and another under the rear hitch.
- b. Raise jacks to take weight off stands, and remove stands.
- c. Slowly lower tractor to ground and remove jacks.

UNLOADING AND ASSEMBLY

STEP 23. INSTALL AM/FM RADIO

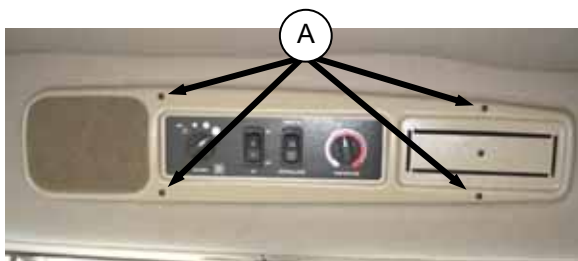


Provision has been made for installation of AM/FM radio. The mounting is designed to fit a DIN E style radio with a depth $X=161$ mm and having a 5 mm threaded stud centered on the rear for support. Provision has been made for adjustments should the radio fall outside these parameters.

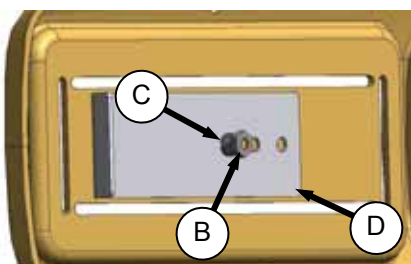
NOTE

M100 configuration is slightly different but the installation procedure is the same.

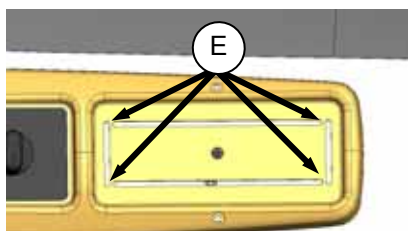
- a. Ensure the ignition is turned to the OFF position.



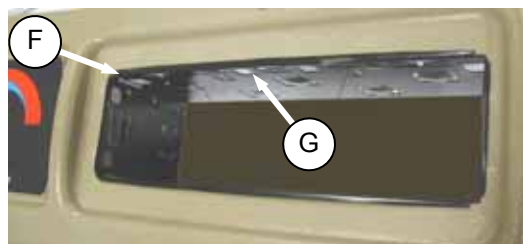
- b. Remove radio panel by removing four screws (A).



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



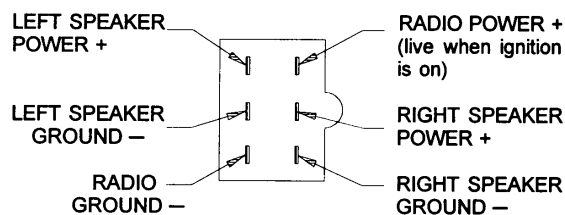
- d. Remove the cut-out by cutting the tabs (E) in the panel. Remove sharp edges on panel.



- 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:



- 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

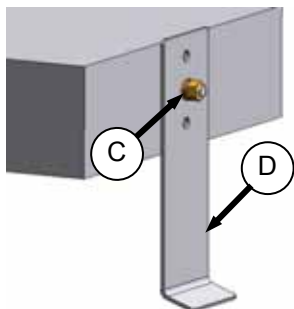
An approved radio package is available from Radio Engineering Industries (REI) of Omaha, Nebraska.

(continued next page)

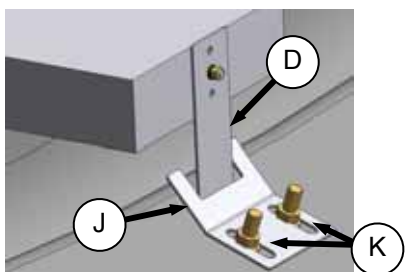
UNLOADING AND ASSEMBLY

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 (C) that was supplied with the support. Support can be attached to chassis in multiple locations to allow for proper mounting of radio.



l. Reinstall 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 ignition key to ACC, switch on the radio and check operation in accordance with instructions supplied with the radio.

UNLOADING AND ASSEMBLY

STEP 24. INSTALL BEACONS

- a. Retrieve the two beacons from shipment.



- b. Remove hardware and rubber base from one of the beacons as shown.



- c. Feed connectors from harness through center hole in rubber base and place base on beacon bracket, making sure mounting holes in rubber base line up with holes in bracket.



- d. Connect orange wire from harness to the red wire in beacon. Black harness wire connects to ground terminal in beacon.



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



- f. Mount beacon to base with lockwashers and nuts supplied with beacon.
g. Similarly install other beacon on opposite side of cab roof.

UNLOADING AND ASSEMBLY

STEP 25. ATTACH HEADER

A. HEADER ATTACHMENT - D SERIES

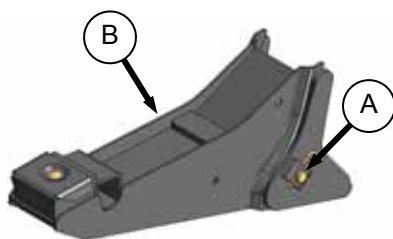


- a. If not installed, attach draper header boots (supplied with header) to tractor lift linkage as follows:

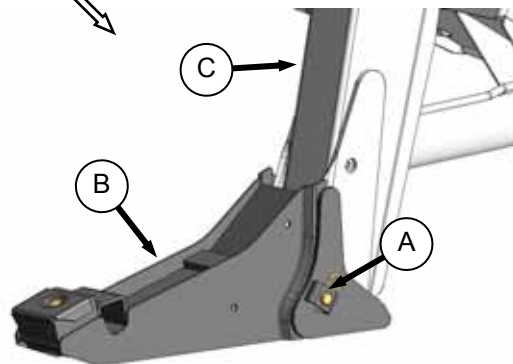


DANGER

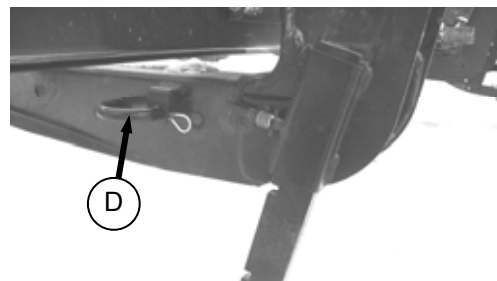
Stop engine and remove key from ignition before leaving operator's seat for any reason. A child or even a pet could engage an idling machine.



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



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

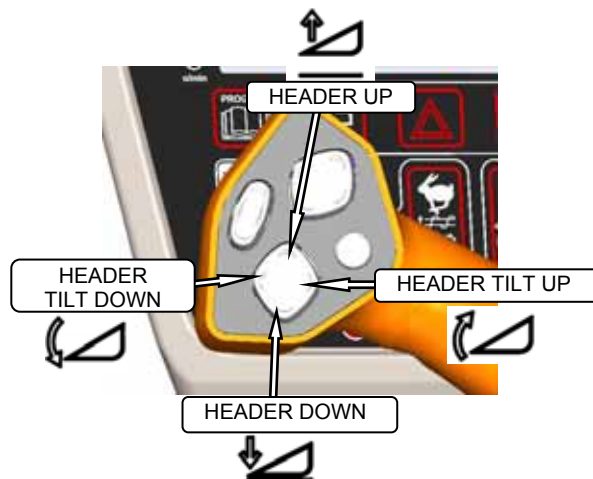


- b. Remove hairpin on pins (D) and remove pins from header legs.

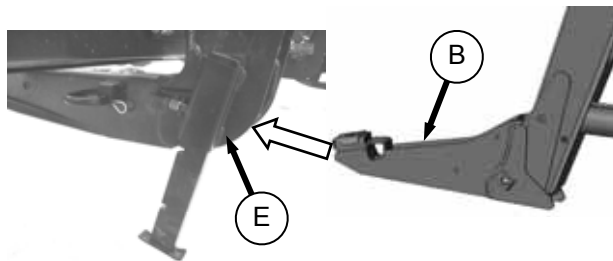


CAUTION

Check to be sure all bystanders have cleared the area.



- c. Start the engine and activate header down button on the GSL to fully retract header lift cylinders.



- d. Slowly drive tractor forward so that boots (B) enter header legs (E). Continue to drive slowly forward until linkages contact support plates in the lower header legs, and header nudges forward.
e. Check that linkages are properly engaged in header legs, contacting support plates.

(continued next page)

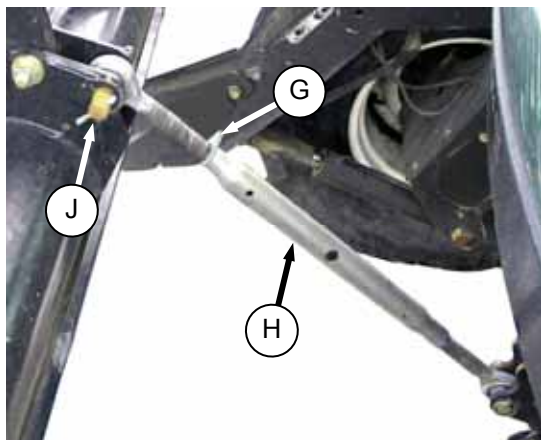
UNLOADING AND ASSEMBLY

- f. Connect center link as follows:
MECHANICAL LINK – M100, M150



DANGER

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.

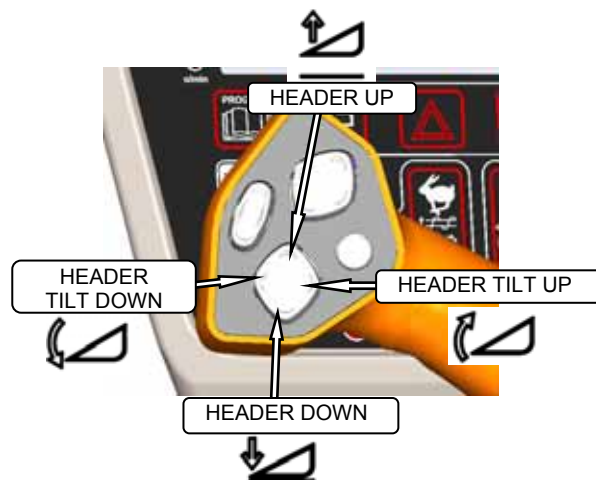


1. Loosen nut (G) and rotate barrel (H) to adjust length so that link lines up with header bracket.
2. Install pin (J) and secure with cotter pin.
3. Adjust link to required length for proper header angle by rotating barrel (H). Tighten nut (G) against barrel. A slight tap with a hammer is sufficient.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

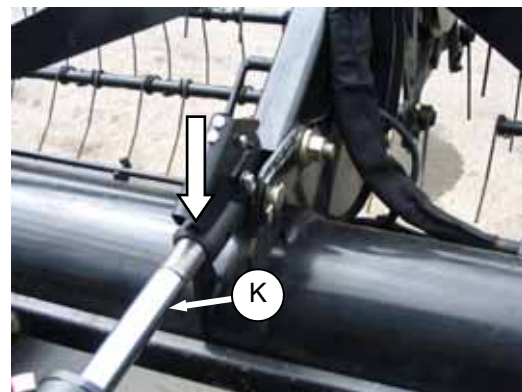
HYDRAULIC LINK WITHOUT SELF-ALIGNMENT KIT – M200 STD, M150 OPTION



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.

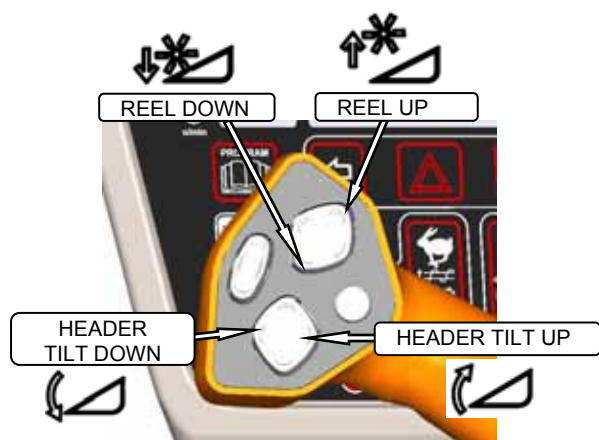


3. Push down on rod end of link cylinder (K) until hook engages pin on header and is locked.
4. Check that center link is locked onto header by pulling upward on rod end of cylinder.
5. Proceed to step g.

(continued next page)

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.



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



CAUTION

Check to be sure all bystanders have cleared the area.

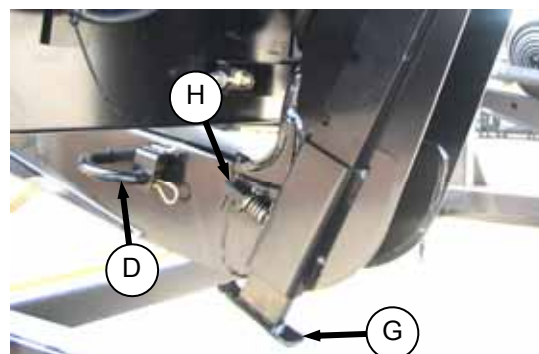
- g. Start engine.
- h. Raise the header fully with the header up switch on the GSL. Stop engine and remove key.



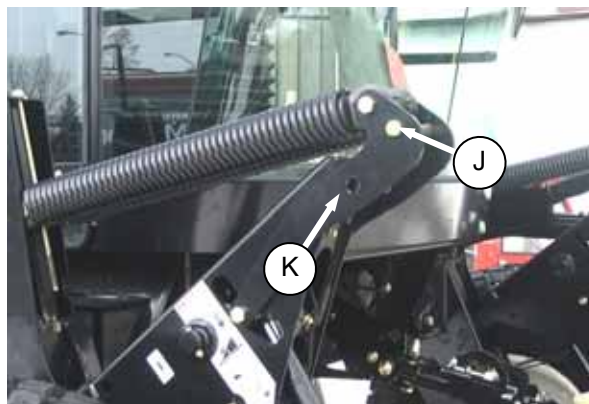
DANGER

To avoid bodily injury from fall of raised header, always engage header lift cylinder stops when working on or around raised header.

- i. Engage lift cylinder stops on both lift cylinders.



- j. Install pin (D) through header leg, (engaging U-bracket in header leg) on both sides.
- k. Raise header stand (G) to storage position by pulling pin (H) and lifting stand into uppermost position. Release pin (H).



- l. Remove pin (J) from storage position in linkages on both sides and insert in hole (K) to engage float springs. Secure with hairpin.
- m. Disengage lift cylinder stops.



CAUTION

Check to be sure all bystanders have cleared the area.

- n. Start engine and activate header lift cylinders (switch on GSL) to lower header fully.



DANGER

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.

- o. Stop engine and remove key.

UNLOADING AND ASSEMBLY



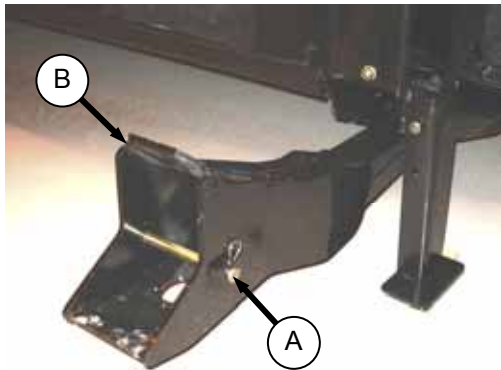
- p. Connect header drive and reel hydraulics, and electrical harness to header.

NOTE

Refer to the Draper Header Operator's Manual for instructions on attaching the hydraulics and electrical to the header.

UNLOADING AND ASSEMBLY

B. HEADER ATTACHMENT – A SERIES

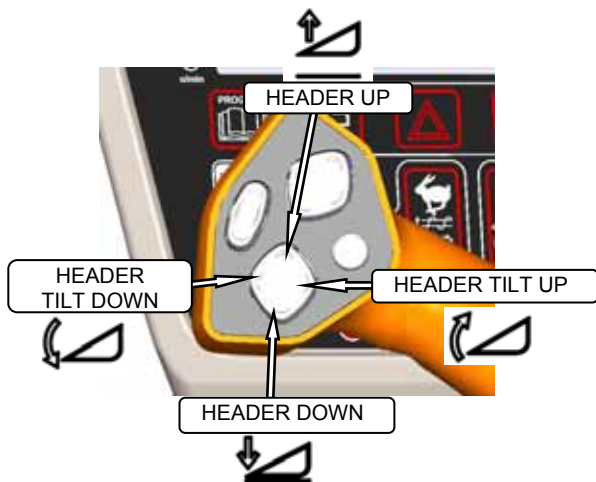


- a. Remove hairpin from pin (A), and remove pin from on left and right header boots (B) on header.

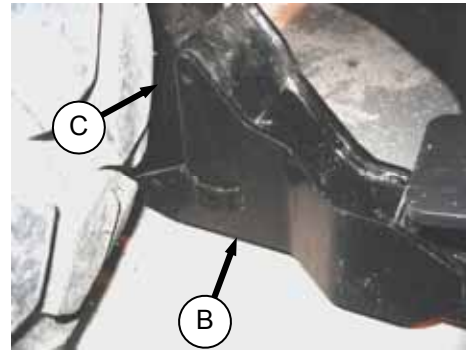


CAUTION

Check to be sure all bystanders have cleared the area.



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



- c. Slowly drive tractor forward so that feet (C) on tractor 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:

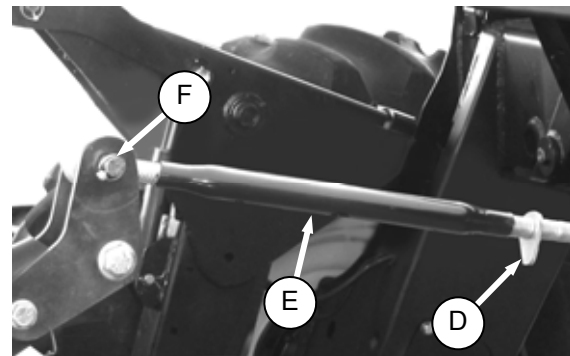
MECHANICAL LINK – M100, M150



DANGER

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.

1. Stop engine and remove key.



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

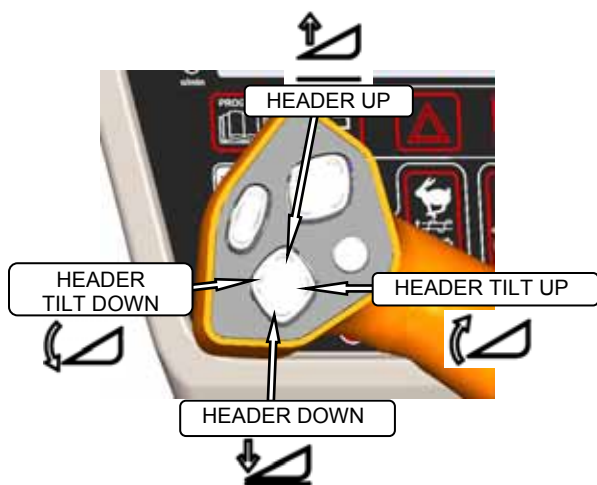
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UNLOADING AND ASSEMBLY

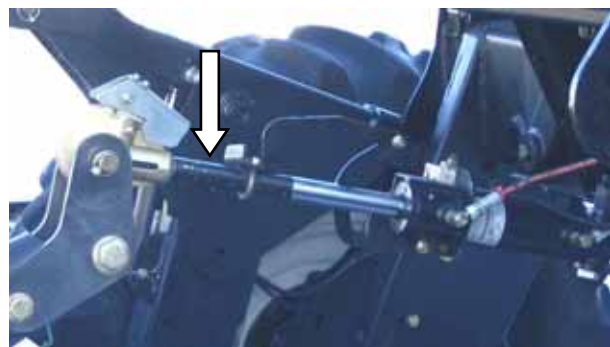
HYDRAULIC LINK – M200 STD, M100, M150 OPTION



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

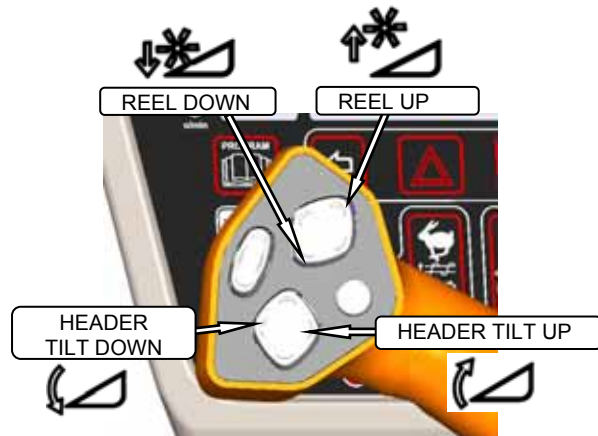


2. Activate HEADER TILT cylinder switches on GSL to extend or retract center link cylinder so that the hook lines up with the header attachment pin.



3. Push down on rod end of link cylinder until hook engages pin on header and is locked.
4. Check that center link is locked onto header by pulling upward on rod end of cylinder.
5. Proceed to step e.

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



CAUTION

Check to be sure all bystanders have cleared the area.

- e. Start engine.
- f. Raise the header fully with the header up switch on the GSL. Stop engine and remove key.

(continued next page)

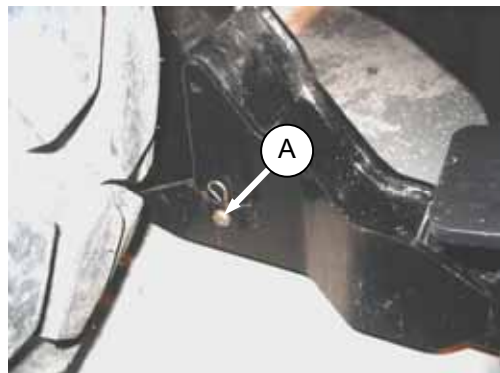
UNLOADING AND ASSEMBLY



DANGER

To avoid bodily injury from fall of raised header, always engage header lift cylinder stops when working on or around raised header.

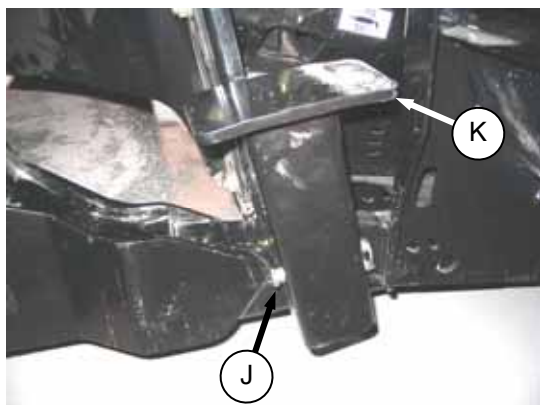
- g. Engage lift cylinder stops on both lift cylinders.



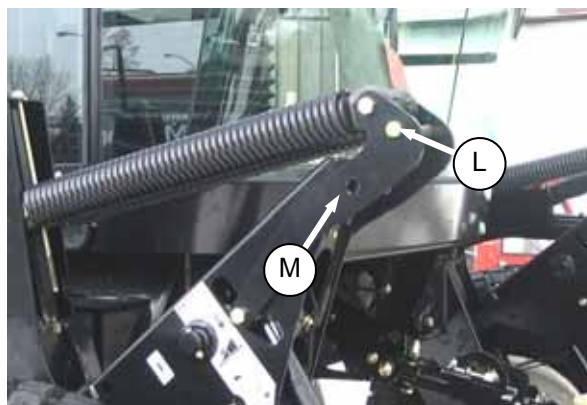
- h. Install pin (A) through each boot and foot and secure with hairpin.

IMPORTANT

Ensure pin (A) is fully inserted and hairpin is installed behind bracket on boot.



- i. Remove lynch pin from pin (J) in stand (K).
j. Hold stand and remove pin (J).
k. Reposition stand to storage position by inverting stand and re-locating on bracket as shown. Reinsert pin (J) and secure with lynch pin.



- l. Remove pin (L) from storage position in linkages on both sides and insert in hole (M) to engage float springs. Secure with lynch pin.
m. Disengage lift cylinder stops.



CAUTION

Check to be sure all bystanders have cleared the area.

- n. Start engine, and activate header lift cylinder switch on GSL to lower header fully. Stop engine and remove key.



DANGER

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.



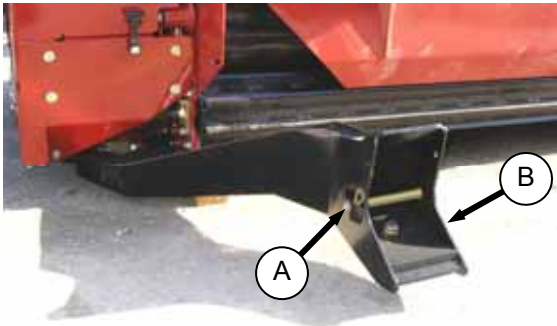
- o. Connect header drive hydraulics and electrical harness to header.

NOTE

Refer to the Auger Header Operator's Manual for instructions on attaching the hydraulics and electrical to the auger header.

UNLOADING AND ASSEMBLY

C. HEADER ATTACHMENT – R SERIES (M150, M200 ONLY)

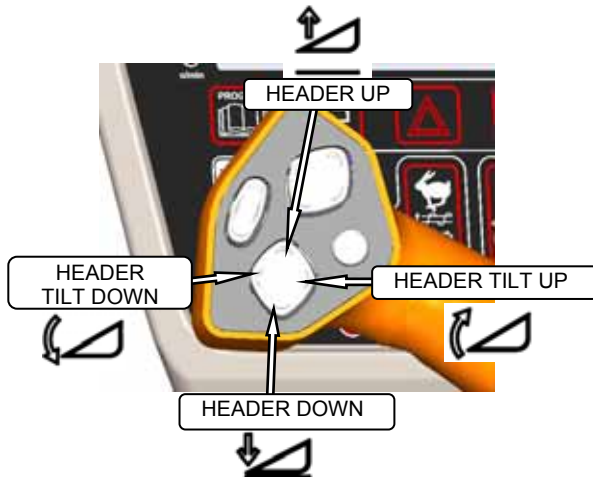


- a. Remove hairpin from pin (A), and remove pin from on left and right header boots (B) on header.

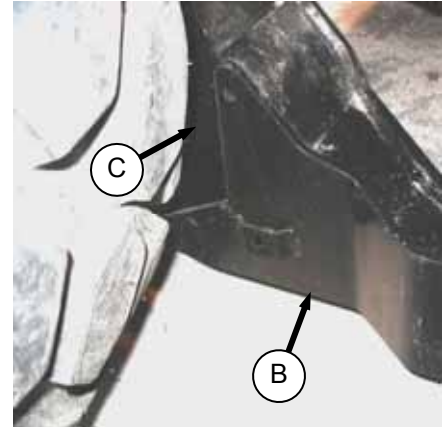


CAUTION

Check to be sure all bystanders have cleared the area.



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



- c. Slowly drive windrower tractor forward so that feet (C) on tractor 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:

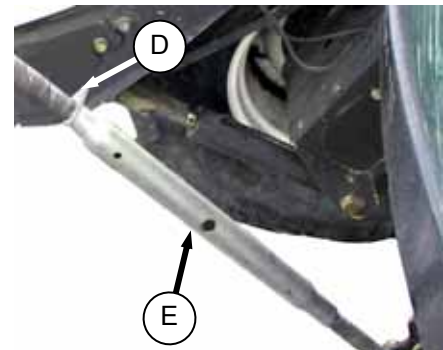
MECHANICAL LINK - M150



DANGER

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.

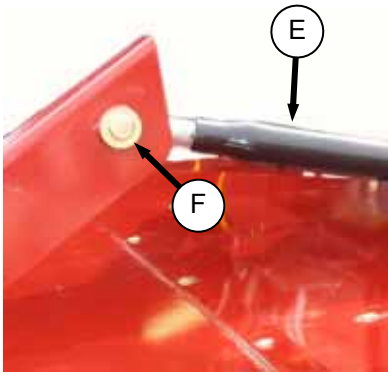
1. Stop engine and remove key.



2. Loosen nut (D) and rotate barrel (E) to adjust length so that other end lines up with header bracket.

(continued next page)

UNLOADING AND ASSEMBLY

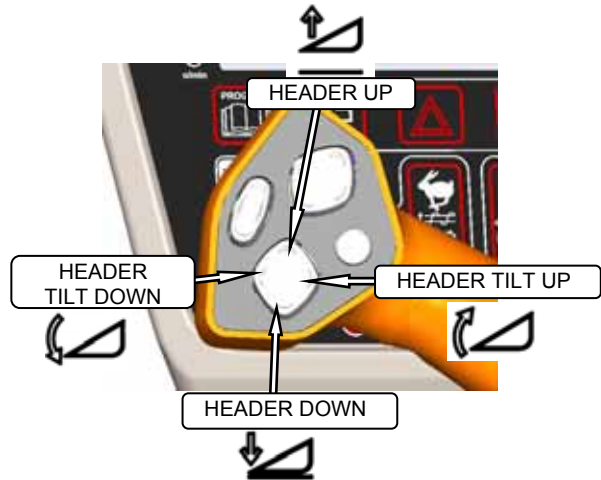


3. Install clevis pin (F) and secure with cotter pin.
4. Adjust link to required length for proper header angle by rotating barrel (E). Tighten nut (D) against barrel. A slight tap with a hammer is sufficient.
5. Proceed to step e.

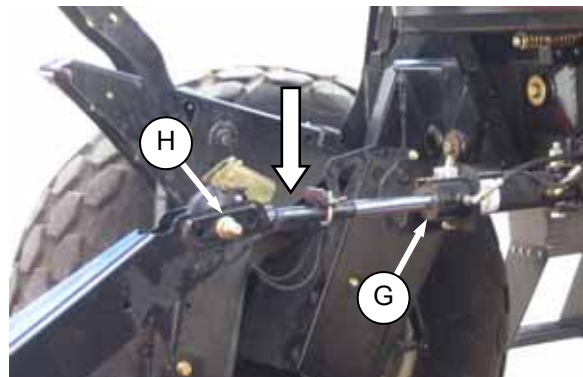
HYDRAULIC LINK WITHOUT SELF-ALIGNMENT KIT – M200 STD, M150 OPTION



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.

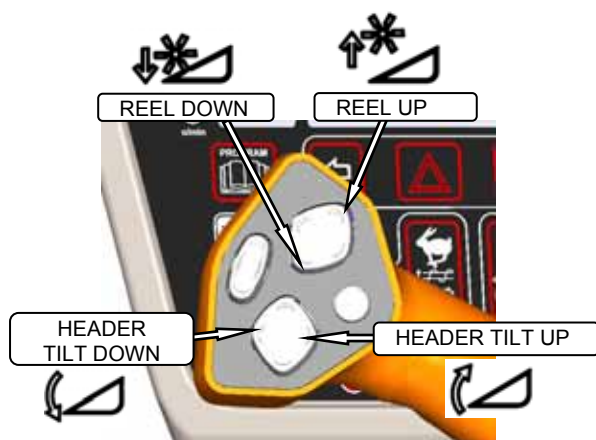


3. Push down on rod end of link cylinder (G) until hook engages pin (H) on header and is locked.
4. Check that center link is locked onto header by pulling upward on rod end of cylinder.
5. Proceed to step e.

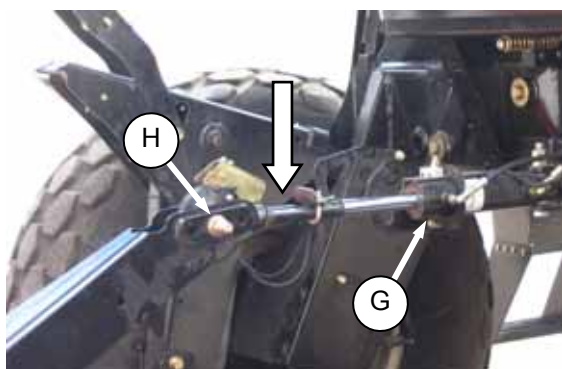
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UNLOADING AND ASSEMBLY

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.



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



CAUTION

Check to be sure all bystanders have cleared the area.

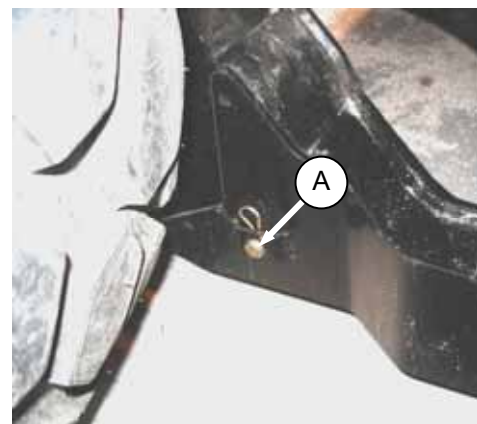
- e. Start engine.
- f. Raise the header fully with the header up switch on the GSL. Stop engine and remove key.



DANGER

To avoid bodily injury from fall of raised header, always engage header lift cylinder stops when working on or around raised header.

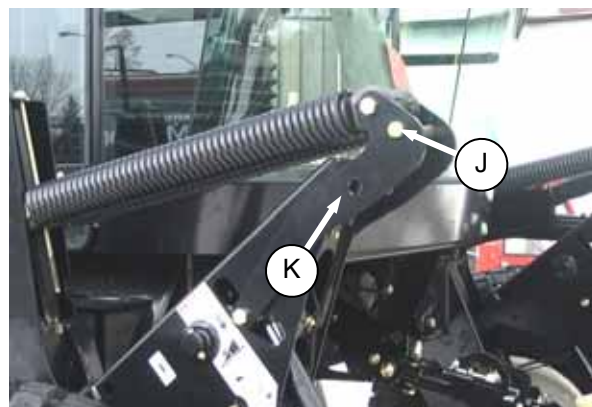
- g. Engage lift cylinder stops on both lift cylinders.



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

IMPORTANT

Ensure pin (A) is fully inserted and hairpin is installed behind bracket on boot.



- i. Remove pin (J) from storage position in linkages on both sides and insert in hole (K) to engage float springs. Secure with hairpin.
- j. Disengage lift cylinder stops.



CAUTION

Check to be sure all bystanders have cleared the area.

- k. Start engine, and activate header lift cylinder switch on GSL to lower header fully. Stop engine and remove key.

(continued next page)

UNLOADING AND ASSEMBLY



DANGER

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.



- I. Connect header drive hydraulics and electrical harness to header.

NOTE

Refer to the Rotary Header Operator's Manual for instructions on attaching the hydraulics and electrical to the rotary header.

UNLOADING AND ASSEMBLY

STEP 26. LUBRICATE MACHINE

Recommended Lubricant

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

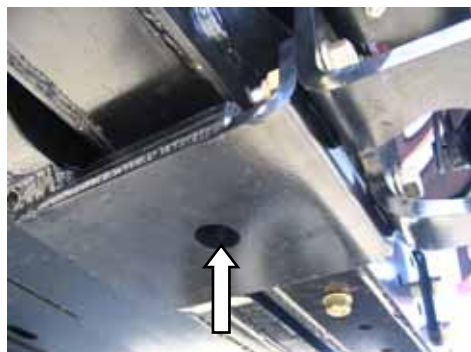
- a. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.
- b. Inject grease through fitting with grease gun until grease overflows fitting, except where noted.
- c. Leave excess grease on fitting to keep out dirt.
- d. Replace any loose or broken fittings immediately.
- 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 for identifying the various locations that require lubrication.

(continued next page)

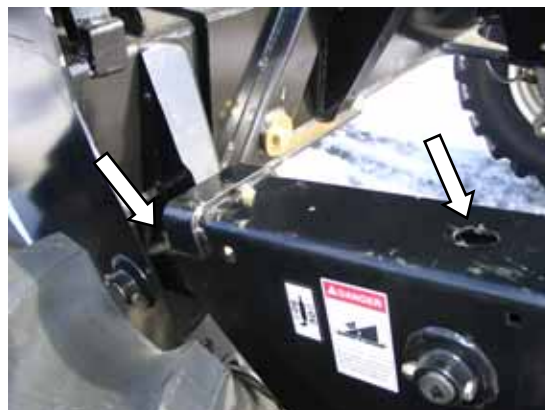
UNLOADING AND ASSEMBLY

Lubrication Points (continued)

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



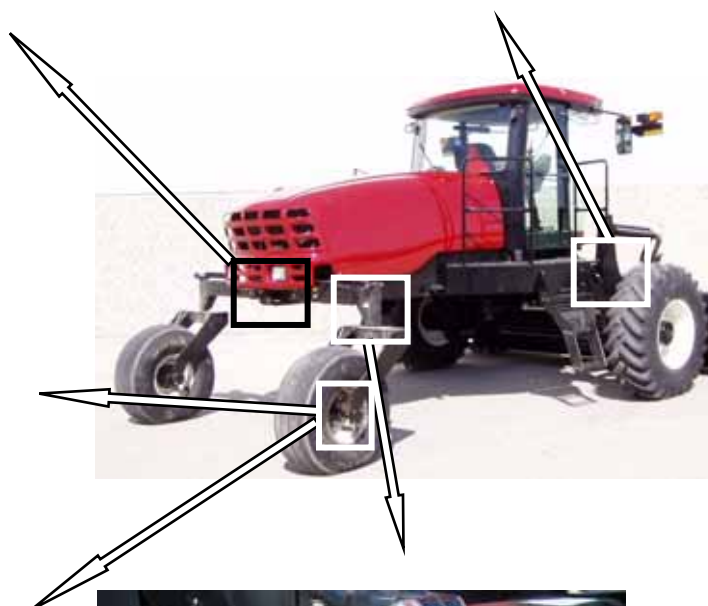
WALKING BEAM PIVOT)



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 27. PROGRAM CDM

The monitoring system requires programming for each header and the header must be attached to the windrower tractor. 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 off the ignition.

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 (M150, M200 ONLY)**
- **HDR CUT WIDTH**
- **HAY CONDITIONER INSTALLED**
- **CALIBRATE SENSORS**

Proceed as follows to program the CDM:

IMPORTANT

Header must be attached to the tractor. See STEP 9.

- a. Turn ignition key to RUN, or start the engine. Refer to STEP 12.J. II START ENGINE.
- b. Press PROGRAM and SELECT on CDM to enter programming mode. Header ID code is displayed.
- c. Press SELECT. TRACTOR SETUP? is displayed.
- d. Press . SET KNIFE SPEED? is displayed.
- e. Press SELECT until DWA INSTALLED? is displayed.
- f. Press  or .
- g. Press SELECT to advance to the next L1 item.
- h. Press PROGRAM to exit programming mode.
- i. Refer to:

A. M150, M200 Detailed Programming Instructions, or

B. M100 Detailed Programming Instructions on following pages.

NOTE

The functions requiring programming are hi-lited.

NOTE

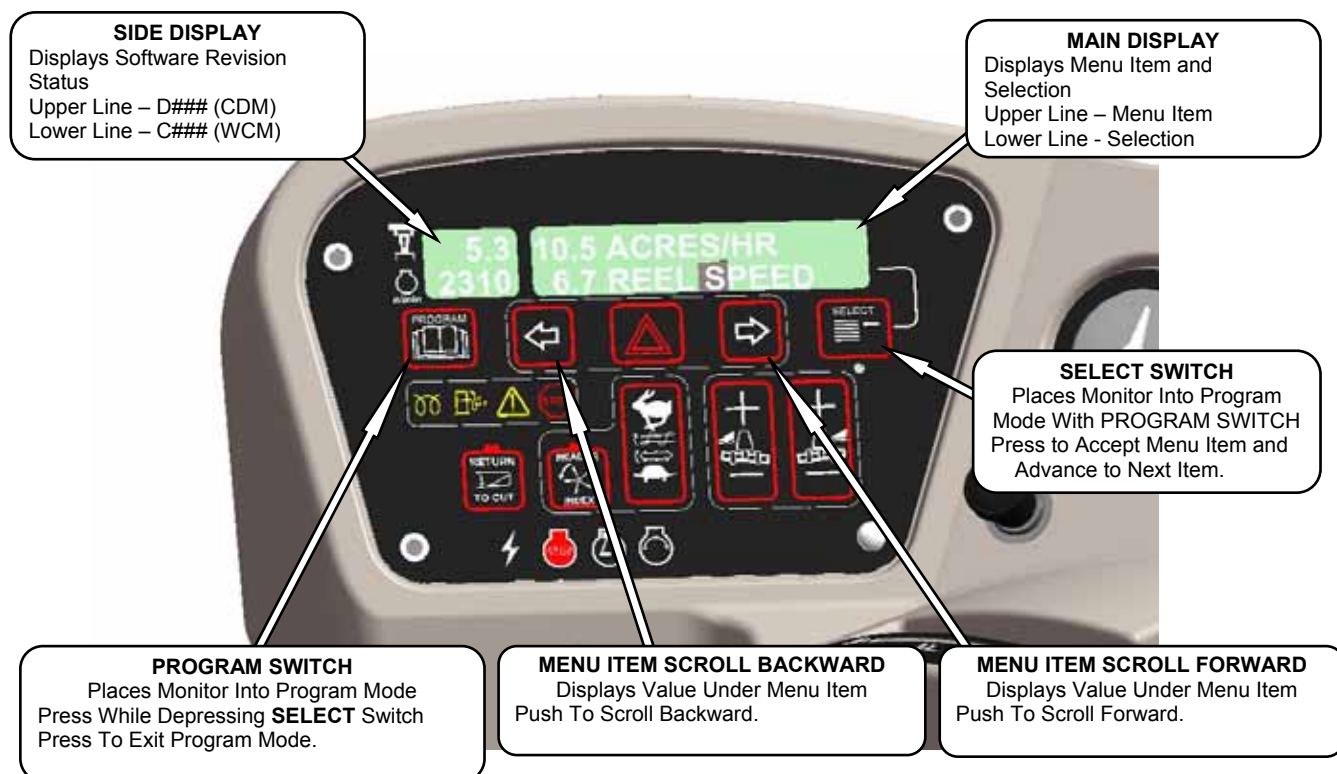
If necessary, refer to the M Series Windrower Operator's Manual for programming CDM to specific crop types and conditions.

UNLOADING AND ASSEMBLY

A. M150, M200 DETAILED PROGRAMMING INSTRUCTIONS

(Key On / Engine Running or Not / Header Disengaged).

(Press **PROGRAM** and **SELECT** on CDM to enter programming mode).



(continued next page)

UNLOADING AND ASSEMBLY

Programming Menu Flow Chart

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(continued next page)

UNLOADING AND ASSEMBLY

L1	C x x x SET CONTROL LOCKS?	If "NO" then jump to:
L2	M x x x <input type="checkbox"/> NO / YES <input type="checkbox"/>	VIEW CONTROL LOCKS?

YES ↓	L1	C x x x HEADER TILT	This menu allows the operator to selectably "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.
	L2	M x x x <input type="checkbox"/> ENABLED / LOCKED <input type="checkbox"/>	
	L1	C x x x HEADER FLOAT	
	L2	M x x x <input type="checkbox"/> ENABLED / LOCKED <input type="checkbox"/>	
	L1	C x x x REEL FORE / AFT	
	L2	M x x x <input type="checkbox"/> ENABLED / LOCKED <input type="checkbox"/>	
	L1	C x x x DRAPER SPEED	
	L2	M x x x <input type="checkbox"/> ENABLED / LOCKED <input type="checkbox"/>	
	L1	C x x x AUGER SPEED	
	L2	M x x x <input type="checkbox"/> ENABLED / LOCKED <input type="checkbox"/>	
	L1	C x x x KNIFE SPEED	
	L2	M x x x <input type="checkbox"/> ENABLED / LOCKED <input type="checkbox"/>	
	L1	C x x x DISK SPEED	
	L2	M x x x <input type="checkbox"/> ENABLED / LOCKED <input type="checkbox"/>	
L1	C x x x REEL SPEED	If "NO" then jump to: HEADER TILT	
L2	M x x x <input type="checkbox"/> ENABLED / LOCKED <input type="checkbox"/>		

L1	C x x x VIEW CONTROL LOCKS?	If "NO" then jump to:
L2	M x x x <input type="checkbox"/> NO / YES <input type="checkbox"/>	EXIT TRACTOR SETUP?

YES ↓	L1	C x x x HEADER TILT	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.
	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	
	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?	If "NO" then jump to:	
L2	M x x x <input type="checkbox"/> NO / YES <input type="checkbox"/>	HEADER TILT	

L1	C x x x EXIT TRACTOR SETUP?	If "NO" then jump to:
L2	M x x x <input type="checkbox"/> NO / YES <input type="checkbox"/>	SET KNIFE SPEED?

(continued next page)

UNLOADING AND ASSEMBLY

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UNLOADING AND ASSEMBLY

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UNLOADING AND ASSEMBLY

L1	C x x x	SENSOR INPUT		↔
L2	M x x x	HDR HEIGHT		SENSOR
L1	C x x x	SENSOR INPUT		↔
L2	M x x x	HDR ANGLE		SENSOR
L1	C x x x	SENSOR INPUT		↔
L2	M x x x	2.45 V FLOAT		SENSOR
L1	C x x x	SENSOR INPUT		↔
L2	M x x x	KNIFE SPEED		SENSOR
L1	C x x x	SENSOR INPUT		↔
L2	M x x x	REEL SPEED		SENSOR

If a sensor has been disabled "SENSOR" will be flashing in the area where the input reading would have been.

L1	C x x x	ACTIVATE FUNCTIONS?	
L2	M x x x	↔	NO / YES

If "NO" then jump to:	
FORCE	HEADER TYPE?

YES
↓

L1	C x x x	ACTIVATE FUNCTIONS?			
L2	M x x x	HEADER	↔	DOWN / UP	↔
L1	C x x x	ACTIVATE FUNCTIONS?			
L2	M x x x	REEL	↔	DOWN / UP	↔
L1	C x x x	ACTIVATE FUNCTIONS?			
L2	M x x x	HDR TILT	↔	IN / OUT	↔
L1	C x x x	ACTIVATE FUNCTIONS?			
L2	M x x x	KNIFE DRIVE		ON	↔
L1	C x x x	ACTIVATE FUNCTIONS?			
L2	M x x x	DRAPER / AUGER		ON	↔
L1	C x x x	ACTIVATE FUNCTIONS?			
L2	M x x x	REEL	↔	FORE / AFT	↔
L1	C x x x	ACTIVATE FUNCTIONS?			
L2	M x x x	DWA DRIVE		ON	↔
L1	C x x x	ACTIVATE HYD PURGE?			
L2	M x x x	↔		NO / YES	↔
L1	C x x x	TO ACTIVATE PURGE			
L2	M x x x	PRESS AND HOLD		↔	
L1	C x x x	PURGE CYCLE STARTED			
L2	M x x x	PRESS AND HOLD		↔	
L1	C x x x	PURGE CYCLE ENDED			
L2	M x x x				
L1	C x x x	PURGE CYCLE ENDED			
L2	M x x x	↔	NO	EXIT	YES
L1	C x x x	EXIT FUNCTION MENU?			
L2	M x x x	↔		NO / YES	↔

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.

The DWA menu selection should only be available if the DWA INSTALLED? is set to YES.

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.

If "NO" then jump to:			
HEADER	↔	DOWN / UP	↔

L1	C x x x	FORCE HEADER TYPE?	
L2	M x x x	↔	NO / YES

If "NO" then jump to:	
EXIT	DIAGNOSTICS?

YES
↓

L1	C x x x	SELECT HEADER TYPE		
L2	M x x x	↔	DISK HEADER	↔
L2	M x x x	↔	SK AUGER	↔
L2	M x x x	↔	DK AUGER	↔
L2	M x x x	↔	GRASS SEED	↔
L2	M x x x	↔	2.0 FT SK DRAPER	↔
L2	M x x x	↔	2.5 FT SK DRAPER	↔
L2	M x x x	↔	3.0 FT SK DRAPER	↔
L2	M x x x	↔	3.5 FT SK DRAPER	↔
L2	M x x x	↔	1.5 FT DK DRAPER	↔
L2	M x x x	↔	2.0 FT DK DRAPER	↔
L2	M x x x	↔	2.5 FT DK DRAPER	↔
L2	M x x x	↔	3.0 FT DK DRAPER	↔
L2	M x x x	↔	3.5 FT DK DRAPER	↔
L2	M x x x	↔	4.0 FT DK DRAPER	↔
L1	C x x x	EXIT HEADER TYPE?		
L2	M x x x	↔	NO / YES	↔
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.

If "NO" then jump to:	
FORCE	HEADER TYPE?

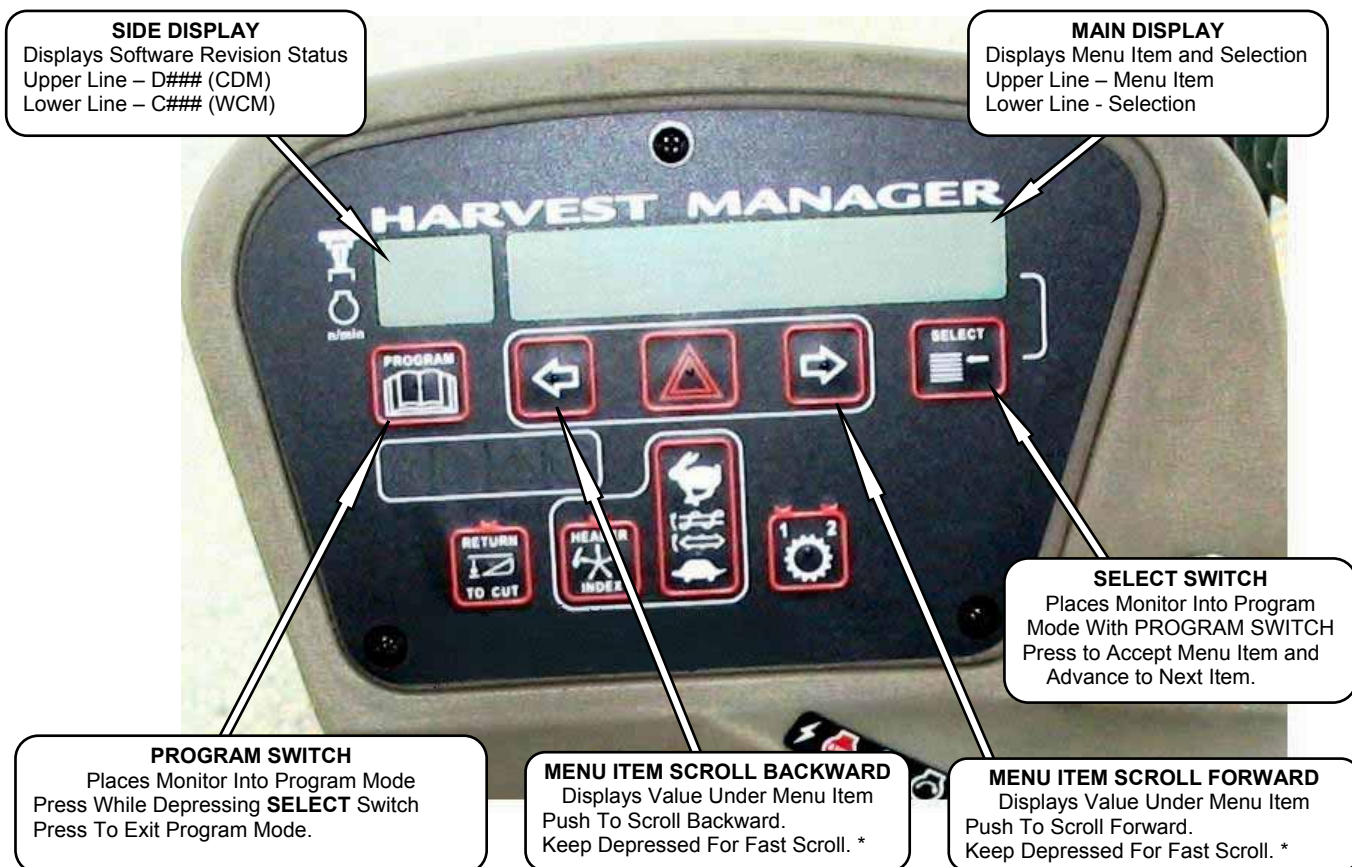
If "NO" then jump to:	
DIAGNOSTIC	MODE?

UNLOADING AND ASSEMBLY

B. M100 DETAILED PROGRAMMING INSTRUCTIONS

(Key On / Engine Running or Not / Header Disengaged).

(Press **PROGRAM** and **SELECT** on CDM to enter programming mode).



(continued next page)

UNLOADING AND ASSEMBLY

Programming Menu Flow Chart

L1		D 1 1 5 TRACTOR SETUP?																If "NO" then jump to:															
L2		C 1 1 4																C A B D I S P L A Y S E T U P ?															
YES	L1	D 1 1 5 HEADER INDEX MODE?																<p>When in the programming mode the header ID will be shown on the top line of the CDM using the last 4 display positions.</p> <p>Pressing "SELECT" will go to the next line 1 (L1) selection. The turn signal "arrow" keys are used to change the values. Pressing "PROGRAM" at any time cancels the programming mode / menus and returns back to the main operating display.</p>															
	L2	C 1 1 4 REEL & CONVEYOR																															
	L2	C 1 1 4 REEL ONLY																															
L1	L1	D 1 1 5 RETURN TO CUT MODE?																<p>NO is the initial default. If "NO" then jump to:</p> <p>TILT CYL INSTALLED?</p>															
	L2	C 1 1 4 HEIGHT & TILT																															
	L2	C 1 1 4 HEIGHT ONLY																															
L1	L1	D 1 1 5 HEADER AUTO RAISE?																<p>The auto raise setting can be changed from 4.0 (minimum) to 10.0 (maximum) in 0.5 increments.</p> <p>Default is NO</p>															
	L2	C 1 1 4 NO / YES																															
	L2	C 1 1 4																															
L1	L1	D 1 1 5 AUTO RAISE SETTING?																<p>Use the "arrow" keys to set the header cut width. The header ID appears at the RHS.</p> <p>DRAPER HEADER ONLY. Default will be flashing. Use "arrow" keys to select.</p> <p>AUGER HEADER ONLY</p> <p>For IMPERIAL display.</p> <p>For METRIC display.</p>															
	L2	C 1 1 4 4 . 0 MIN																															
	L2	C 1 1 4 10 . 0 MAX																															
L1	L1	D 1 1 5 TILT CYL INSTALLED?																<p>Pressing "SELECT" will go to the next line 1 (L1) menu selection. The turn signal "arrow" keys are used to change the values.</p>															
	L2	C 1 1 4 NO / YES																															
	L2	C 1 1 4																															
L1	L1	D 1 1 5 HDR CUT WIDTH? 0 1 0 1																<p>If "NO" then jump to:</p> <p>SET CONTROL LOCKS?</p>															
	L2	C 1 1 4 20 . 5 FEET																															
	L2	C 1 1 4																															
L1	L1	D 1 1 5 HAY CONDITIONER?																<p>Pressing "SELECT" will go to the next line 1 (L1) menu selection. The turn signal "arrow" keys are used to change the values.</p>															
	L2	C 1 1 4 NO / YES																															
	L2	C 1 1 4																															
L1	L1	D 1 1 5 AUGER HDR REEL SPD																<p>Pressing "SELECT" will go to the next line 1 (L1) menu selection. The turn signal "arrow" keys are used to change the values.</p>															
	L2	C 1 1 4 RPM / MPH																															
	L2	C 1 1 4 RPM / KPH																															
L1	L1	D 1 1 5 SET TIRE SIZE?																<p>Pressing "SELECT" will go to the next line 1 (L1) menu selection. The turn signal "arrow" keys are used to change the values.</p>															
	L2	C 1 1 4 18 . 4 X 26 TURF																															
	L2	C 1 1 4 18 . 4 X 26 BAR																															
L1	L1	D 1 1 5 SET ENGINE ISC RPM?																<p>Pressing "SELECT" will go to the next line 1 (L1) menu selection. The turn signal "arrow" keys are used to change the values.</p>															
	L2	C 1 1 4 NO / YES																															
	L2	C 1 1 4																															
YES	L1	D 1 1 5 PRESS HAZARD TO SET																<p>Sets the engine Intermediate Speed Control. The default / last selected rpm will be displayed and flashing. The "arrow" keys are used to cycle between the selections.</p> <p>When "SELECT" is pressed the program goes to the EXIT ENGINE ISC? menu.</p> <p>If "NO" then jump to:</p> <p>PRESS HAZARD TO SET</p>															
	L2	C 1 1 4 ISC RPM OFF																															
	L2	C 1 1 4 ISC RPM 2400																															
L1	L1	D 1 1 5 PRESS HAZARD TO SET																<p>When "SELECT" is pressed the program goes to the EXIT ENGINE ISC? menu.</p> <p>If "NO" then jump to:</p> <p>PRESS HAZARD TO SET</p>															
	L2	C 1 1 4 ISC RPM 2400																															
	L2	C 1 1 4																															
L1	L1	D 1 1 5 EXIT ENGINE ISC?																<p>When "SELECT" is pressed the program goes to the EXIT ENGINE ISC? menu.</p> <p>If "NO" then jump to:</p> <p>PRESS HAZARD TO SET</p>															
	L2	C 1 1 4 NO / YES																															
	L2	C 1 1 4																															
L1	L1	D 1 1 5 SET CONTROL LOCKS?																<p>When "SELECT" is pressed the program goes to the EXIT ENGINE ISC? menu.</p> <p>If "NO" then jump to:</p> <p>VIEW CONTROL LOCKS?</p>															
	L2	C 1 1 4 NO / YES																															
	L2	C 1 1 4																															
YES	L1	D 1 1 5 HEADER TILT																<p>This menu allows the operator to selectably "lock out" the control functions for the various header functions. The default or selected "status" for each item will flash.</p> <p>The "arrow" keys are used to ENABLE or LOCK OUT each function. Pressing "SELECT" will go to the next L1 menu item.</p> <p>If "NO" then jump to:</p> <p>HEADER TILT</p>															
	L2	C 1 1 4 ENABLED / LOCKED																															
	L2	C 1 1 4																															
L1	L1	D 1 1 5 REEL FORE / AFT																<p>This menu allows the operator to selectably "lock out" the control functions for the various header functions. The default or selected "status" for each item will flash.</p> <p>The "arrow" keys are used to ENABLE or LOCK OUT each function. Pressing "SELECT" will go to the next L1 menu item.</p> <p>If "NO" then jump to:</p> <p>HEADER TILT</p>															
	L2	C 1 1 4 ENABLED / LOCKED																															
	L2	C 1 1 4																															
L1	L1	D 1 1 5 DRAPER SPEED																<p>This menu allows the operator to selectably "lock out" the control functions for the various header functions. The default or selected "status" for each item will flash.</p> <p>The "arrow" keys are used to ENABLE or LOCK OUT each function. Pressing "SELECT" will go to the next L1 menu item.</p> <p>If "NO" then jump to:</p> <p>HEADER TILT</p>															
	L2	C 1 1 4 ENABLED / LOCKED																															
	L2	C 1 1 4																															
L1	L1	D 1 1 5 AUGER SPEED																<p>This menu allows the operator to selectably "lock out" the control functions for the various header functions. The default or selected "status" for each item will flash.</p> <p>The "arrow" keys are used to ENABLE or LOCK OUT each function. Pressing "SELECT" will go to the next L1 menu item.</p> <p>If "NO" then jump to:</p> <p>HEADER TILT</p>															
	L2	C 1 1 4 ENABLED / LOCKED																															
	L2	C 1 1 4																															
L1	L1	D 1 1 5 REEL SPEED																<p>This menu allows the operator to selectably "lock out" the control functions for the various header functions. The default or selected "status" for each item will flash.</p> <p>The "arrow" keys are used to ENABLE or LOCK OUT each function. Pressing "SELECT" will go to the next L1 menu item.</p> <p>If "NO" then jump to:</p> <p>HEADER TILT</p>															
	L2	C 1 1 4 ENABLED / LOCKED																															
	L2	C 1 1 4																															
L1	L1	D 1 1 5 EXIT CONTROL LOCKS?																<p>This menu allows the operator to selectably "lock out" the control functions for the various header functions. The default or selected "status" for each item will flash.</p> <p>The "arrow" keys are used to ENABLE or LOCK OUT each function. Pressing "SELECT" will go to the next L1 menu item.</p> <p>If "NO" then jump to:</p> <p>HEADER TILT</p>															
	L2	C 1 1 4 NO / YES																															
	L2	C 1 1 4																															

(continued next page)

UNLOADING AND ASSEMBLY

L1	D 1 1 5	VIEW CONTROL LOCKS?	If "NO" then jump to:
L2	C 1 1 4	NO / YES	EXIT TRACTOR SETUP?

YES →

L1	D 1 1 5	HEADER TILT	↔
L2	C 1 1 4	5 7 5 . 1 HRS	ENABLED
L2	C 1 1 4	6 4 8 . 6 HRS	LOCKED

L1	D 1 1 5	REEL FORE / AFT	↔
L2	C 1 1 4	5 7 5 . 1 HRS	ENABLED
L2	C 1 1 4	6 4 8 . 6 HRS	LOCKED

L1	D 1 1 5	DRAPER SPEED	↔
L2	C 1 1 4	5 7 5 . 1 HRS	ENABLED
L2	C 1 1 4	6 4 8 . 6 HRS	LOCKED

L1	D 1 1 5	AUGER SPEED	↔
L2	C 1 1 4	5 7 5 . 1 HRS	ENABLED
L2	C 1 1 4	6 4 8 . 6 HRS	LOCKED

L1	D 1 1 5	REEL SPEED	↔
L2	C 1 1 4	5 7 5 . 1 HRS	ENABLED
L2	C 1 1 4	6 4 8 . 6 HRS	LOCKED

L1	D 1 1 5	EXIT VIEW LOCKOUTS?	
L2	C 1 1 4	NO / YES	↔

L1	D 1 1 5	EXIT TRACTOR SETUP?	
L2	C 1 1 4	NO / YES	↔

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.

L1	D 1 1 5	CAB DISPLAY SETUP?	If "NO" then jump to:
L2	C 1 1 4	NO / YES	CALIBRATE SENSORS?

YES →

L1	D 1 1 5	DISPLAY LANGUAGE?	
L2	C 1 1 4	ENGLISH	↔
L2	C 1 1 4	ESPAÑOL	↔

L1	D 1 1 5	DISPLAY UNITS?	
L2	C 1 1 4	IMPERIAL	↔
L2	C 1 1 4	METRIC	↔

L1	D 1 1 5	CDM BUZZER VOLUME	
L2	C 1 1 4	□ □ □ □ □ □ □ □	↔

L1	D 1 1 5	CDM BACKLIGHTING	
L2	C 1 1 4	□ □ □ □ □ □ □ □	↔

L1	D 1 1 5	CDM CONTRAST	
L2	C 1 1 4	□ □ □ □ □ □ □ □	↔

L1	D 1 1 5	EXIT DISPLAY SETUP?	
L2	C 1 1 4	NO / YES	↔

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

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

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	D 1 1 5	CALIBRATE SENSORS?	If "NO" then jump to:
L2	C 1 1 4	NO / YES	DIAGNOSTIC MODE?

YES →

L1	D 1 1 5	TO CALIBRATE SELECT	
L2	C 1 1 4	HEADER HEIGHT	↔
L2	C 1 1 4	HEADER TILT	↔
L2	C 1 1 4	EXIT CAL?	← NO / YES →

L1	D 1 1 5	HEIGHT SENSOR CAL	
L2	C 1 1 4	RAISE HDR TO START	

L1	D 1 1 5	CALIBRATING HEIGHT	
L2	C 1 1 4	RAISE HEADER HOLD	
L2	C 1 1 4	HEADER RAISE DONE	

L1	D 1 1 5	CALIBRATING HEIGHT	
L2	C 1 1 4	LOWER HEADER HOLD	
L2	C 1 1 4	HT SENSOR COMPLETE	

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 or to the next main menu.

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) when the reading is completed.

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.

(continued next page)

UNLOADING AND ASSEMBLY

```

L1 D 1 1 5 || TO CALIBRATE SELECT
L2 C 1 1 4 || ← HEADER HEIGHT →
L2 C 1 1 4 || ← HEADER TILT →
L2 C 1 1 4 || EXIT CAL? ← NO / YES →

L1 D 1 1 5 || HDR TILT SENSOR CAL
L2 C 1 1 4 || EXTEND TLT TO START

L1 D 1 1 5 || CALIBRATING TILT
L2 C 1 1 4 || EXTEND TILT HOLD
L2 C 1 1 4 || EXTEND TILT DONE

L1 D 1 1 5 || CALIBRATING TILT
L2 C 1 1 4 || RETRACT TILT HOLD
L2 C 1 1 4 || HDR TILT COMPLETE

L1 D 1 1 5 || TO CALIBRATE SELECT
L2 C 1 1 4 || ← HEADER HEIGHT →
L2 C 1 1 4 || ← HEADER TILT →
L2 C 1 1 4 || 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 or to the next main menu.

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 reading is completed.

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.

Select any of the sensors 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. NO is the default for EXIT CAL?. If "NO" then jump to:

TO CALIBRATE SELECT

```

L1 D 1 1 5 || DIAGNOSTIC MODE?
L2 C 1 1 4 || ← NO / YES →

```

If "NO" then jump to:

TRACTOR SETUP?

YES →

```

L1 D 1 1 5 || VIEW ERROR CODES?
L2 C 1 1 4 || ← NO / YES →

```

If "NO" then jump to:

ENTER SENSOR SETUP?

YES →

```

L1 D 1 1 5 || VIEW TRACTOR CODES?
L2 C 1 1 4 || ← 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 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 D 1 1 5 || EXIT TRACTOR CODES?
L2 C 1 1 4 || ← NO / YES →

```

If "NO" then jump to:

ENTER SENSOR SETUP?

```

L1 D 1 1 5 || VIEW ENGINE CODES?
L2 C 1 1 4 || ← NO / YES →

```

The last 10 distinct error codes are stored.

```

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

```

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

```

L1 D 1 1 5 || EXIT ENGINE CODES?
L2 C 1 1 4 || ← NO / YES →

```

If "NO" then jump to:

VIEW TRACTOR CODES?

```

L1 D 1 1 5 || EXIT ERROR CODES?
L2 C 1 1 4 || ← NO / YES →

```

```

L1 D 1 1 5 || ENTER SENSOR SETUP?
L2 C 1 1 4 || ← NO / YES →

```

If "NO" then jump to:

READ SENSOR INPUTS?

YES →

```

L1 D 1 1 5 || KNIFE SPEED SENSOR
L2 C 1 1 4 || ← ENABLE / DISABLE →

```

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.

When "SELECT" is pressed the program goes to the EXIT SENSOR SETUP? menu selection.

```

L1 D 1 1 5 || REEL SPEED SENSOR
L2 C 1 1 4 || ← ENABLE / DISABLE →

```

If "NO" then jump to:

KNIFE SPEED SENSOR

```

L1 D 1 1 5 || HEADER HT SENSOR
L2 C 1 1 4 || ← ENABLE / DISABLE →

```

```

L1 D 1 1 5 || HEADER TILT SENSOR
L2 C 1 1 4 || ← ENABLE / DISABLE →

```

```

L1 D 1 1 5 || EXIT SENSOR SETUP?
L2 C 1 1 4 || ← NO / YES →

```

(continued next page)

UNLOADING AND ASSEMBLY

L1		D 1 1 5 READ SENSOR INPUTS?	If "NO" then jump to:
L2		C 1 1 4 <input type="button" value="←"/> NO / YES <input type="button" value="→"/>	ACTIVATE FUNCTIONS?

YES ↓		L1 D 1 1 5 SENSOR INPUT <input type="button" value="←"/> <input type="button" value="→"/>	<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>
		L2 C 1 1 4 HDR HEIGHT 3 . 5 9 V	
		L1 D 1 1 5 SENSOR INPUT <input type="button" value="←"/> <input type="button" value="→"/>	
		L2 C 1 1 4 HDR ANGLE 1 . 8 4 V	
		L1 D 1 1 5 SENSOR INPUT <input type="button" value="←"/> <input type="button" value="→"/>	
		L2 C 1 1 4 KNIFE SPEED 1 2 3 HZ	
		L1 D 1 1 5 SENSOR INPUT <input type="button" value="←"/> <input type="button" value="→"/>	<p>Add a selection to be able to read in the wheel speed frequency.</p>
		L2 C 1 1 4 REEL SPEED 1 2 3 HZ	
		L1 D 1 1 5 SENSOR INPUT <input type="button" value="←"/> <input type="button" value="→"/>	
		L2 C 1 1 4 WHEEL SPEED 1 2 3 HZ	
		L1 D 1 1 5 EXIT READ SENSORS?	
		L2 C 1 1 4 <input type="button" value="←"/> NO / YES <input type="button" value="→"/>	
		L1 D 1 1 5 SENSOR INPUT <input type="button" value="←"/> <input type="button" value="→"/>	<p>If "NO" then jump to: SENSOR INPUT <input type="button" value="←"/> <input type="button" value="→"/> HDR HEIGHT 3 . 5 9 V</p>
		L2 C 1 1 4 HDR HEIGHT SENSOR	
		L1 D 1 1 5 SENSOR INPUT <input type="button" value="←"/> <input type="button" value="→"/>	
		L2 C 1 1 4 HDR ANGLE SENSOR	
		L1 D 1 1 5 SENSOR INPUT <input type="button" value="←"/> <input type="button" value="→"/>	
		L2 C 1 1 4 KNIFE SPEED SENSOR	
		L1 D 1 1 5 SENSOR INPUT <input type="button" value="←"/> <input type="button" value="→"/>	<p>If a sensor has been disabled "SENSOR" will be flashing in the area where the input reading would have been.</p>
		L2 C 1 1 4 REEL SPEED SENSOR	

L1		D 1 1 5 ACTIVATE FUNCTIONS?	If "NO" then jump to:
L2		C 1 1 4 <input type="button" value="←"/> NO / YES <input type="button" value="→"/>	FORCE HEADER TYPE?

YES ↓		L1 D 1 1 5 ACTIVATE FUNCTIONS?	<p>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.</p>
		L2 C 1 1 4 HEADER <input type="button" value="←"/> DOWN / UP <input type="button" value="→"/>	
		L1 D 1 1 5 ACTIVATE FUNCTIONS?	
		L2 C 1 1 4 REEL <input type="button" value="←"/> DOWN / UP <input type="button" value="→"/>	
		L1 D 1 1 5 ACTIVATE FUNCTIONS?	
		L2 C 1 1 4 HDR TILT <input type="button" value="←"/> IN / OUT <input type="button" value="→"/>	
		L1 D 1 1 5 ACTIVATE FUNCTIONS?	<p>If a disk header is detected then the nomeclature should read: DISC DRIVE instead of KNIFE DRIVE.</p>
		L2 C 1 1 4 KNIFE DRIVE ON <input type="button" value="→"/>	
		L1 D 1 1 5 ACTIVATE FUNCTIONS?	
		L2 C 1 1 4 DRAPER / AUGER ON <input type="button" value="→"/>	
		L1 D 1 1 5 ACTIVATE FUNCTIONS?	
		L2 C 1 1 4 REEL <input type="button" value="←"/> FORE / AFT <input type="button" value="→"/>	
		L1 D 1 1 5 ACTIVATE PUMP DRVS?	<p>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.</p>
		L2 C 1 1 4 <input type="button" value="←"/> NO / YES <input type="button" value="→"/>	
		L1 D 1 1 5 ACTIVATE PUMP DRVS?	
		L2 C 1 1 4 <input type="button" value="←"/> CANCEL <input type="button" value="→"/> START <input type="button" value="→"/>	
		L1 D 1 1 5 PURGE CYCLE STARTED	
		L2 C 1 1 4 <input type="button" value="←"/> CANCEL <input type="button" value="→"/> WAIT	
		L1 D 1 1 5 PURGE CYCLE ENDED	<p>ACTIVATE PUMP DRIVES - This is to allow the operator to purge the air from a new or changed pump system.</p>
		L2 C 1 1 4 <input type="button" value="←"/> NO <input type="button" value="→"/> EXIT <input type="button" value="→"/> YES <input type="button" value="→"/>	
		L1 D 1 1 5 EXIT FUNCTION MENU?	
		L2 C 1 1 4 <input type="button" value="←"/> NO / YES <input type="button" value="→"/>	
		L1 D 1 1 5 EXIT FUNCTION MENU?	
		L2 C 1 1 4 <input type="button" value="←"/> NO / YES <input type="button" value="→"/>	
		L1 D 1 1 5 EXIT FUNCTION MENU?	<p>Depending upon which program is installed, pressing the START activates a predetermined timed purge cycle. Pressing CANCEL or a completed cycle will jump to the PURGE CYCLE ENDED menu selection.</p>
		L2 C 1 1 4 <input type="button" value="←"/> NO / YES <input type="button" value="→"/>	
		L1 D 1 1 5 EXIT FUNCTION MENU?	
		L2 C 1 1 4 <input type="button" value="←"/> NO / YES <input type="button" value="→"/>	
		L1 D 1 1 5 EXIT FUNCTION MENU?	
		L2 C 1 1 4 <input type="button" value="←"/> NO / YES <input type="button" value="→"/>	
		L1 D 1 1 5 EXIT FUNCTION MENU?	<p>If "NO" then jump to: HEADER <input type="button" value="←"/> DOWN / UP <input type="button" value="→"/></p>
		L2 C 1 1 4 <input type="button" value="←"/> NO / YES <input type="button" value="→"/>	
		L1 D 1 1 5 EXIT FUNCTION MENU?	
		L2 C 1 1 4 <input type="button" value="←"/> NO / YES <input type="button" value="→"/>	
		L1 D 1 1 5 EXIT FUNCTION MENU?	
		L2 C 1 1 4 <input type="button" value="←"/> NO / YES <input type="button" value="→"/>	

(continued next page)

UNLOADING AND ASSEMBLY

L1		D 1 1 5	FORCE	HEADER	TYPE ?		If "NO" then jump to:
L2		C 1 1 4	←		NO / YES	→	EXIT
							D I A G N O S T I C S ?

L1		D 1 1 5	SELECT	HEADER	TYPE	
L2		C 1 1 4	←	SK	AUGER	→
L2		C 1 1 4	←	DK	AUGER	→
L2		C 1 1 4	←	GRASS	SEED	→
L2		C 1 1 4	←	2 0	FT SK	DRAPER →
L2		C 1 1 4	←	2 5	FT SK	DRAPER →
L2		C 1 1 4	←	3 0	FT SK	DRAPER →
L2		C 1 1 4	←	3 5	FT SK	DRAPER →
L2		C 1 1 4	←	1 5	FT DK	DRAPER →
L2		C 1 1 4	←	2 0	FT DK	DRAPER →
L2		C 1 1 4	←	2 5	FT DK	DRAPER →
L2		C 1 1 4	←	3 0	FT DK	DRAPER →
L2		C 1 1 4	←	3 5	FT DK	DRAPER →
L2		C 1 1 4	←	4 0	FT DK	DRAPER →

L1		D 1 1 5	EXIT	HEADER	TYPE ?	
L2		C 1 1 4	←		NO / YES	→

L1		D 1 1 5	EXIT	D I A G N O S T I C S ?	
L2		C 1 1 4	←		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.

	If "NO" then jump to:
	FORCE HEADER TYPE ?

	If "NO" then jump to:
	DIAGNOSTIC MODE ?

UNLOADING AND ASSEMBLY

STEP 28. PERFORM HYDRAULIC PURGE

The purge cycle allows for low flow and pressure staging of the pumps when running up a new windrower tractor with all the lines and filters empty. This has been performed at the factory but is recommended that it be repeated when the tractor has been disassembled for shipping and then reassembled. The header must be attached to the windrower tractor.

- Start the engine. Refer to STEP 20.
- Ensure the M100 and M150 Windrower Tractor CDM is programmed for either the A Series auger header, or the D Series draper header. Program the M200 Windrower Tractor CDM for the R Series rotary header.

IMPORTANT

Do not engage the header drive.



- Simultaneously press the PROGRAM and SELECT buttons to bring up the TRACTOR SETUP screen.



- Push the SELECT button several times until the DIAGNOSTIC MODE screen is displayed.

- Highlight YES with the ARROW buttons and then press the SELECT button.



- Press SELECT until the ACTIVATE FUNCTIONS screen appears.
- Highlight YES with the ARROW buttons and press SELECT.



- Press SELECT until ACTIVATE HYD PURGE is displayed.
- Highlight YES with the ARROW buttons and press SELECT. A TO ACTIVATE PURGE message appears.

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UNLOADING AND ASSEMBLY



- j. Press and hold the right ARROW button to activate and run the purge cycle until the purge is complete (approximately 1 minute). Release the ARROW button at any time to stop the cycle.
- k. Message PURGE CYCLE ENDED appears when cycle is complete. Release the ARROW button.



- l. Press PROGRAM button to return to operating screens.

PRE-DELIVERY CHECKS

STEP 29. PERFORM PRE-DELIVERY CHECKS



WARNING

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

- Perform the final checks and adjustments as listed on the "Pre-Delivery Checklist" (yellow sheet) to ensure the machine is field-ready. Refer to the following pages for detailed instructions as indicated on the checklist.
- The completed checklist should be retained either by the operator or the dealer.

A. FINAL DRIVE LUBRICANT LEVEL



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

B. TIRE PRESSURES

Measure tire pressure with a gauge.

Bar – 32 psi (221 kPa)
Turf – 20 psi (138 kPa)
Caster – 10 psi (69 kPa)

C. ENGINE COOLANT



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

D. AIR CLEANER



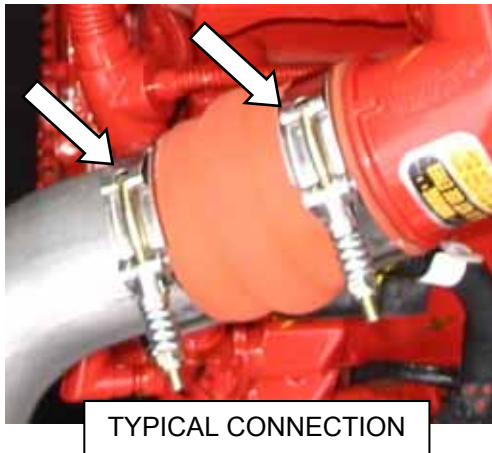
- Check that air cleaner cap is firmly attached and that all clamps are secure.

(continued next page)

PRE-DELIVERY CHECKS



- b. Check spring clamp at back of air cleaner (M150, M200).

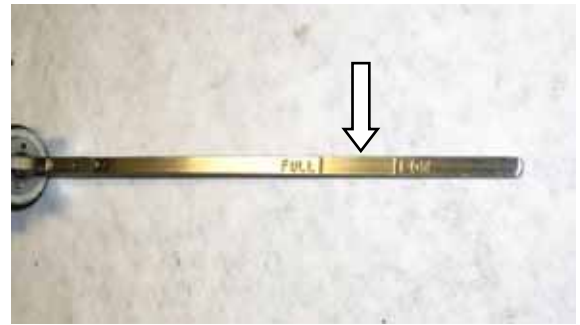


- c. Check spring clamps on charge air cooling duct connections (at turbocharger outlet, engine intake and inside cooling box).

E. HYDRAULIC OIL LEVEL



- a. Turn filler cap counterclockwise to loosen bung, and remove dipstick.



- b. Check that level is between LOW and FULL marks.
c. Reinstall filler cap and turn clockwise to tighten bung.

F. FUEL SEPARATOR



- a. Turn drain valve by hand 1½ to 2 turns counterclockwise until draining occurs.
b. Drain the filter sump of water and sediment until clear fuel is visible. Clean as necessary.
c. Turn the valve clockwise to close the drain.

PRE-DELIVERY CHECKS

G. GEAR BOX LUBRICANT LEVEL (M150, M200)

IMPORTANT

Do not add oil to M100 gearbox.

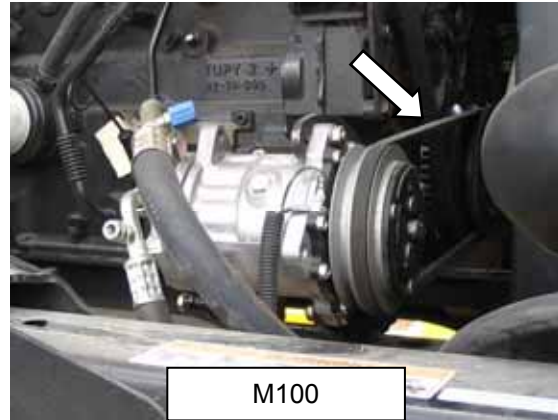


- Remove plug. The lubricant should be visible through the hole or slightly running out.
- Replace plug and tighten.

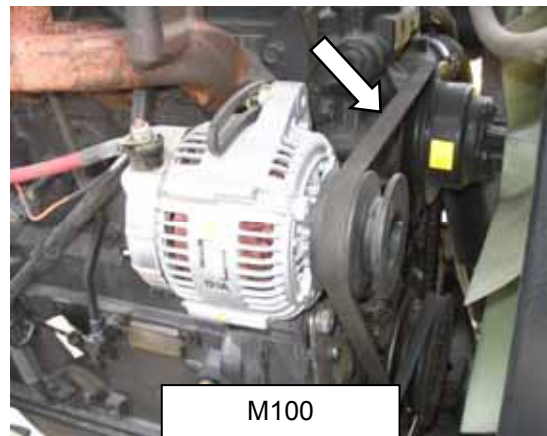
H. A/C COMPRESSOR BELT



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



I. FAN BELT (M100)



- Tension on fan belt should be such that a force of 22 lbf (100 N) deflects belt (B) 5/16 to 1/2 inch (8 to 12 mm) at mid-span.

NOTE

The M150 and M200 engines utilize an automatic belt tightening system.

PRE-DELIVERY CHECKS

J. PERFORM SAFETY SYSTEM 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, see your windrower dealer.

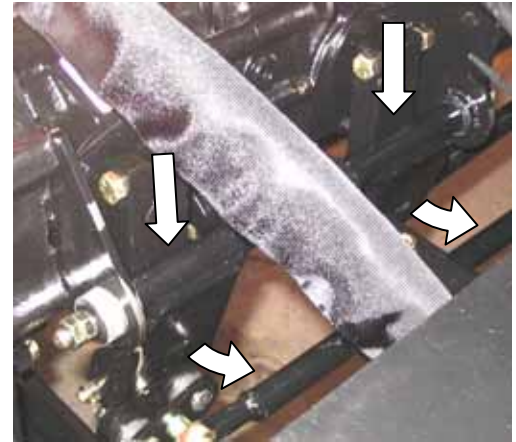
- a. With the engine shut down and the header drive switch engaged, try to start the engine. The CDM will display "HEADER ENGAGED" on the upper line, and "DISENGAGE HEADER" on the lower line. If the engine turns over, the system requires adjustment. See your dealer.



WARNING

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

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



- c. Pry the steering interlock away from pintle arms by inserting a wedge or pry bar between one of the interlock channels and pintle arm.

1. Insert a wood block approximately $\frac{3}{4}$ inch (19 mm) thick between the other channel and pintle arm so that the interlock channel is clear of the pintle arm.



CAUTION

Check to be sure all bystanders have cleared the area.

2. Turn the steering wheel off center, and move the GSL in N-DETENT.
3. 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. If the engine turns over, the system requires adjustment. See your dealer.
4. Remove key.
5. Remove wood block inserted at step 3 above and close hood.
- d. 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. See your dealer.

PRE-DELIVERY CHECKS

K. OPERATIONAL CHECKS

I. ENGINE WARNING LIGHTS

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

II. START ENGINE

- Check fuel level and if required add sufficient fuel for a 15 minute run.
- Start engine. Refer to STEP 20.

III. GAUGES AND CDM DISPLAY

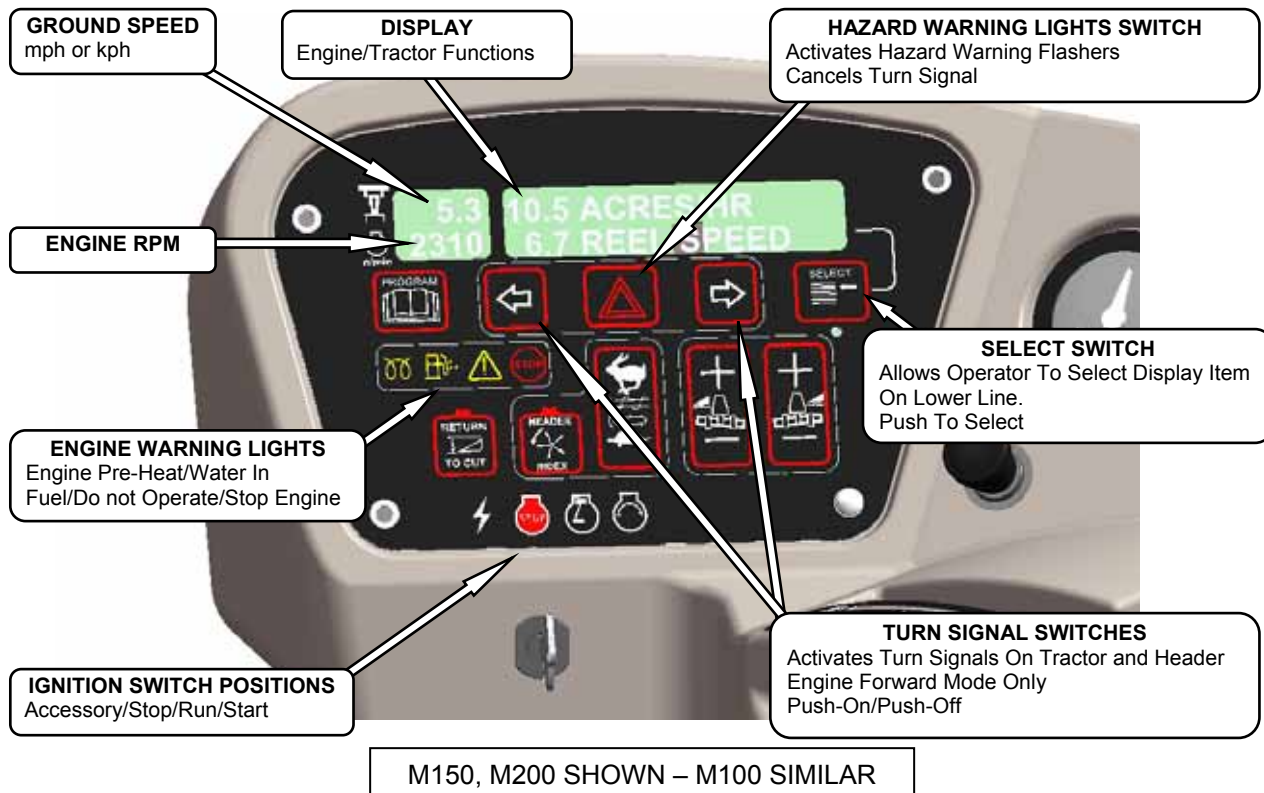


- Check engine temperature gauge and fuel gauge are working.
- Check CDM display is working by pushing SELECT on CDM or SELECT button on GSL.

IV. ENGINE SPEED

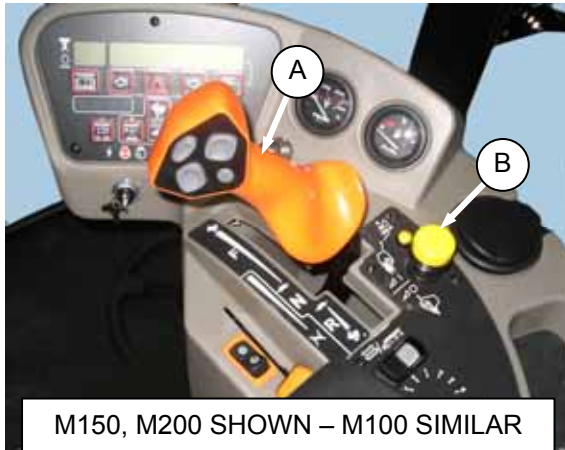
- Check engine rpm on CDM.

	IDLE	MAX RPM (No Load)
M100	1100	2630-2650
M150	1100	2270-2330
M200	1100	2250-2300



PRE-DELIVERY CHECKS

V. OPERATOR'S PRESENCE SYSTEM CHECKS



- a. With the windrower engine running, place the GSL (A) in Neutral and turn the 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 (B).
 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 your dealer.

NOTE

To restart the header, move the header engage switch (B) to "OFF" position and back to the "ON" position again.

- c. With the engine running, position the GSL (A) in Neutral and in N-DETENT (M150, M200);
 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 the windrower moving at less than 3 mph;
 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. Refer to Technical Service Manual.
- e. With the windrower moving at more than 3 mph;
 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. Refer to Technical Service Manual.

PRE-DELIVERY CHECKS

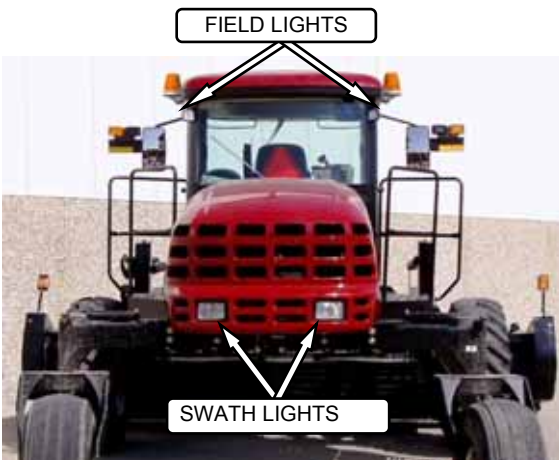
VI. FIELD LIGHTS

M150 and M200 shown, M100 similar.

- Ensure operator's seat is in cab forward mode (M150, M200).
- Switch on field lights and check that all lights as shown are functioning.
- Turn off lights.



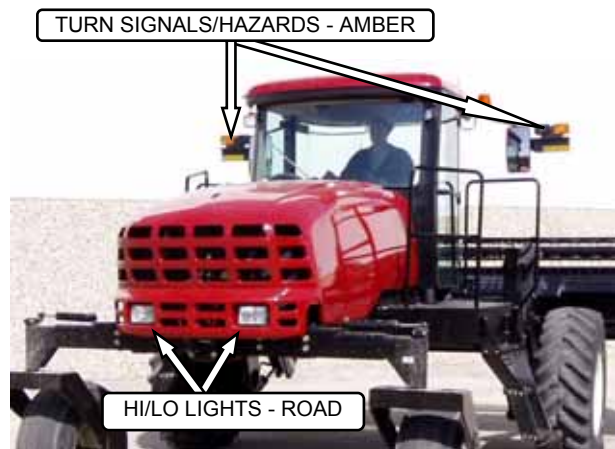
FRONT



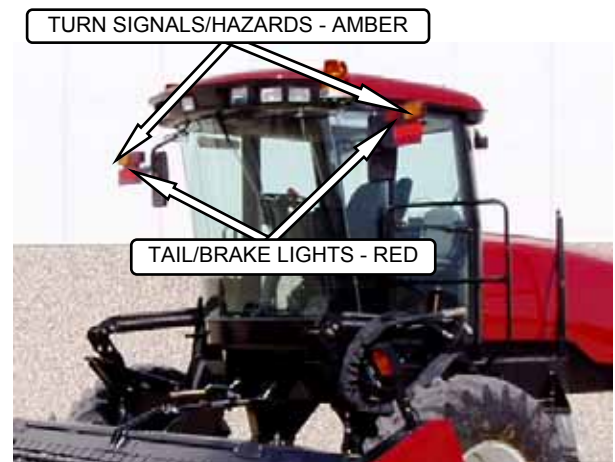
REAR

VII. ROAD LIGHTS (M150, M200)

- Rotate operator's seat to engine forward mode.
- Switch on road lights and check that all lights shown are functioning.
- Activate hi/lo switch.
- Activate turn signals and hazard warning lights with switches on CDM.



FRONT – ENG FWD



REAR – ENG FWD

(continued next page)

PRE-DELIVERY CHECKS

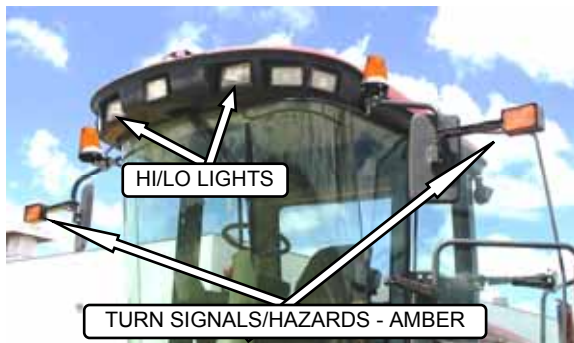
- e. Switch on beacons and check that they are working properly.



PRE-DELIVERY CHECKS

VIII. ROAD LIGHTS (M100)

- Switch on road lights and check that all lights shown are functioning.
- Activate hi/lo switch.
- Activate turn signals and hazard warning lights with switches on CDM.



FRONT



REAR



- Switch on beacons and check that they are working properly.

IX. INTERIOR LIGHTS

- Switch lights on and off with switches on each light. Overhead ambient light only works with road/field light switch on.
- Check gauge lights (M150, M200).



M150, M200 SHOWN - M100 SIMILAR

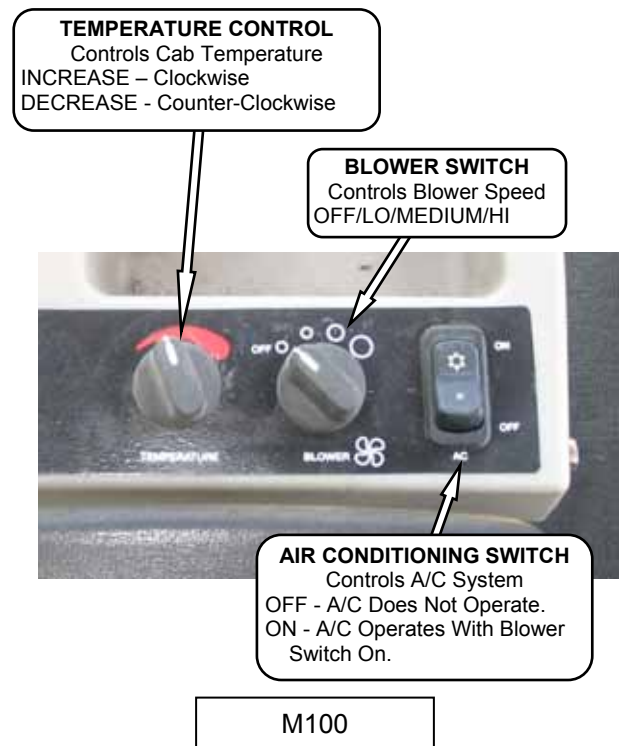
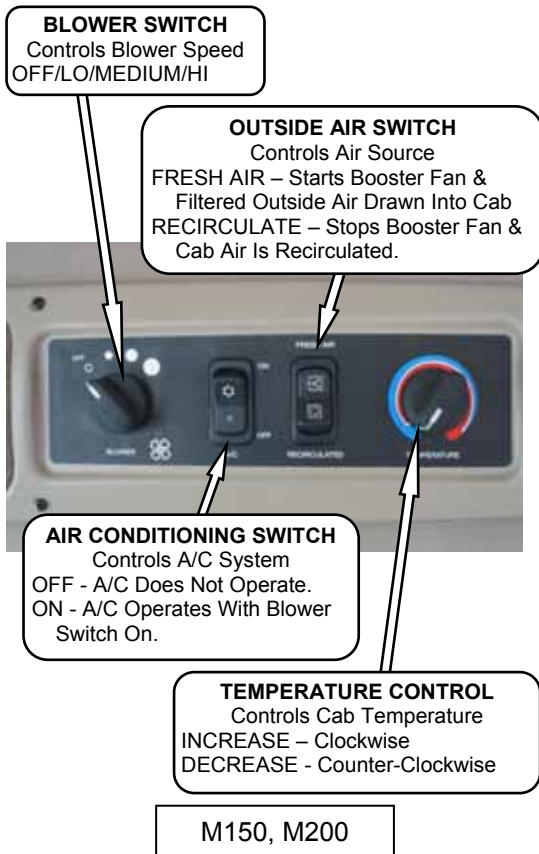
PRE-DELIVERY CHECKS

X. A/C AND HEATER

IMPORTANT

To distribute the oil throughout the A/C system, perform the following steps whenever the machine is first started after storage for more than one week.

- 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.



PRE-DELIVERY CHECKS

L. MANUALS



- a. The following manuals should be stored in the manual storage case behind the operator's seat:

WINDROWER TRACTOR	OPERATOR'S MANUAL	PARTS CATALOG
M100	#169304	#169305
M150, M200	#169017	#169016

M. CAB INTERIOR

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

NOTES



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Printed in Canada

M Series Self-Propelled Windrower Tractor Pre-Delivery Checklist - Export

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 Tractor 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.	5
	Check tire air pressures and adjust as required.	76
	Check final drive hub lubricant level.	76
	Check engine coolant level and strength at reserve tank.	76
	Check air cleaner and clamps.	76
	Check hydraulic oil level and check for leaks along lines.	77
	Check fuel separator for water & foreign material. Drain and clean as necessary. Add fuel.	77
	Check gear box lubricant level (M150, M200).	78
	Check tension of A/C compressor belt.	78
	Check tension of fan belt (M100).	78
	Check machine completely lubricated.	59
	Check neutral interlock system.	79
	Check engine oil pressure indicator light at Cab Display Module.	80
START ENGINE AND RUN TO OPERATING TEMPERATURE		80
	Check Cab Display Module for operation.	80
	Check operator's presence system.	81
	Check alternator charge rate on Cab Display Module.	80
	Check fuel gauge/indicator for operation.	80
	Check air conditioning functioning properly.	85
	Check heater functioning properly.	85
	Check instrument console gauge lights (M150, M200).	80
	Check maximum (no load) engine speed at Cab Display Module (M100 – 2630-2650 rpm) (M150 – 2270-2330 rpm) (M200 – 2250-2300 rpm).	80
	Check exterior lights for operation.	82-84
	Check interior lights for operation.	84
	Complete the Header Pre-Delivery Checklist.	-
	Check that manuals are with the tractor.	86
	Check plastic coverings from cab interior removed.	86

Date Checked: _____

Checked by: _____