MacDon™

R80 Rotary Disc Self-Propelled Windrower Header Unloading & Assembly Instructions

Form # 169079

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MACDON R80 SELF PROPELLED ROTARY DISC HEADER

INTRODUCTION

This instruction describes the unloading, set-up and pre-delivery requirements for the MacDon Model R80 Rotary Disc Self-Propelled Windrower Header. Use the table of contents to guide you to specific areas.

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

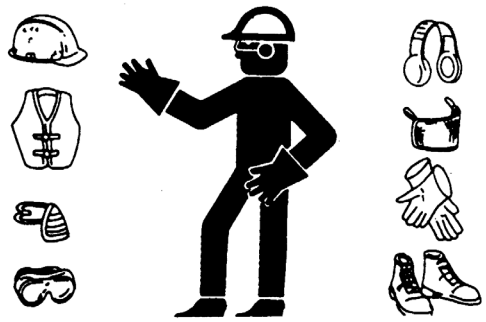
TABLE OF CONTENTS

GENERAL SAFETY

CAUTION

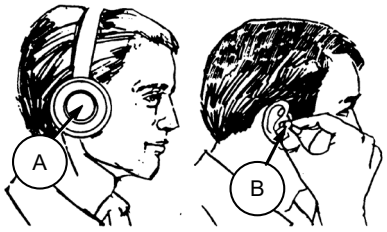
The following are general farm safety precautions that should be part of your operating procedure for all types of machinery.

- **Protect yourself.**



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

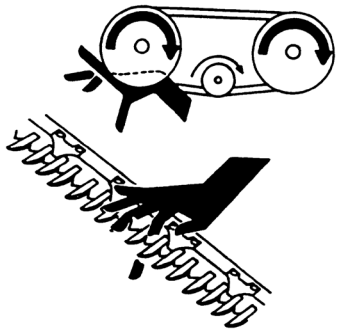
- **You may need:**
  - **a hard hat.**
  - **protective shoes with slip resistant soles.**
  - **protective glasses or goggles.**
  - **heavy gloves.**
  - **wet weather gear.**
  - **respirator or filter mask.**
  - **hearing protection. Be aware that prolonged exposure to loud noise can cause impairment or loss of hearing. Wearing a suitable hearing protective device such as ear muffs (A) or ear plugs (B) protects against objectionable or loud noises.**



- **Provide a first-aid kit for use in case of emergencies.**
- **Keep a fire extinguisher on the machine. Be sure the extinguisher is properly maintained and be familiar with its proper use.**

- **Keep young children away from machinery at all times.**
- **Be aware that accidents often happen when the operator is tired or in a hurry to get finished. Take the time to consider the safest way. Never ignore warning signs of fatigue.**
- **Wear close-fitting clothing and cover long hair. Never wear dangling items such as scarves or bracelets.**
- **Keep hands, feet, clothing and hair away from moving parts. Never attempt to clear obstructions or objects from a machine while the engine is running.**

- **Keep all shields in place. Never alter or remove safety equipment. Make sure driveline guards can rotate independently of the shaft and can telescope freely.**



- **Use only service and repair parts made or approved by the equipment manufacturer. Substituted parts may not meet strength, design, or safety requirements.**
- **Do not modify the machine. Unauthorized modifications may impair the function and/or safety and affect machine life.**

(continued next page)

- **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

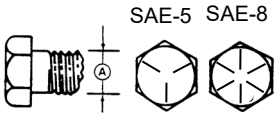
The tables shown below give correct torque values for various bolts and capscrews.

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

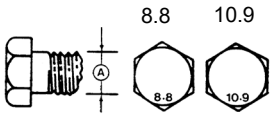
* Torque categories for bolts and capscrews are identified by their head markings.



C. METRIC BOLTS

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

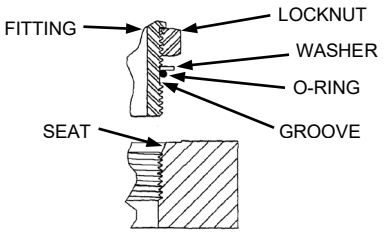
* Torque categories for bolts and capscrews are identified by their head markings.



D. HYDRAULIC FITTINGS

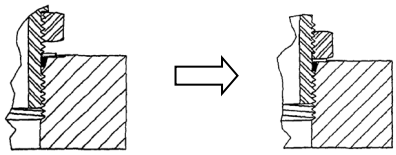
O-RING TYPE

Refer to illustration and proceed as follows:



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

b. On angle fittings, back off the lock nut until washer bottoms out at top of groove.



c. Hand tighten fitting until back up washer or washer face (if straight fitting) bottoms on face and O-ring is seated.

d. Position angle fittings by unscrewing no more than one turn.

e. Tighten straight fittings to torque shown.

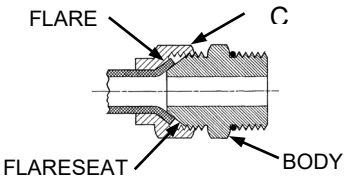
f. Tighten angle fittings to torque shown in the following table while holding body of fitting with a wrench.

THD SIZE (in.)	NUT SIZE ACROSS FLATS (in.)	TORQUE VALUE*		RECOMMENDED TURNS TO TIGHTEN (AFTER FINGER TIGHTENING)	
		lb-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.

FLARE TYPE

Refer to illustration and proceed as follows:



a. Check flare and flare seat for defects that might cause leakage.

b. Align tube with fitting before tightening.

c. Lubricate connection and hand tighten swivel nut until snug.

d. To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body and with the second tighten the swivel nut to the torque shown.

TUBE SIZE O.D. (in.)	NUT SIZE ACROSS FLATS (in.)	TORQUE VALUE*		RECOMMENDED TURNS TO TIGHTEN (AFTER FINGER TIGHTENING)	
		lb-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.

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.ft or ft-lb	x 1.3558	= newton meters (N·m)
lbf.in or in-lb	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).

STEP 1. UNLOAD HEADER

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 *	8000 lb. (3630 kg)
Min. Fork Length	78 inches (1981 mm)

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

IMPORTANT

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

WARNING

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

a. Remove hauler's tie down straps and chains.

b. Approach header from its "underside" and slide forks in underneath lifting framework as far as possible.

IMPORTANT

Take care not to contact the other machine if load is two-wide.

c. Raise header off deck.

d. Back up until unit clears trailer and slowly lower to 6 inches (150 mm) from ground.

e. Take to storage or set-up area.

f. Set machine down securely on level ground.

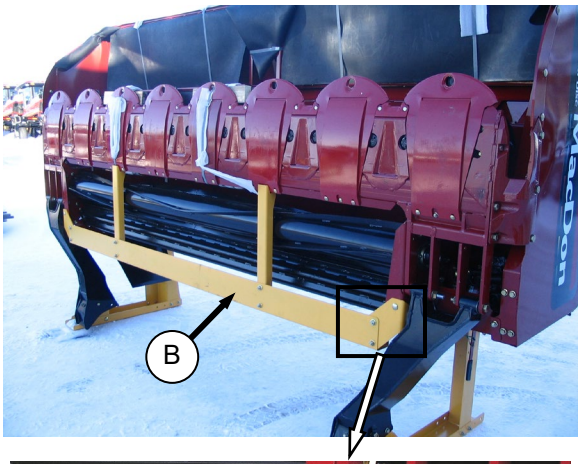
g. If hydraulic motor and hoses are shipped separately on pallet, unload pallet.

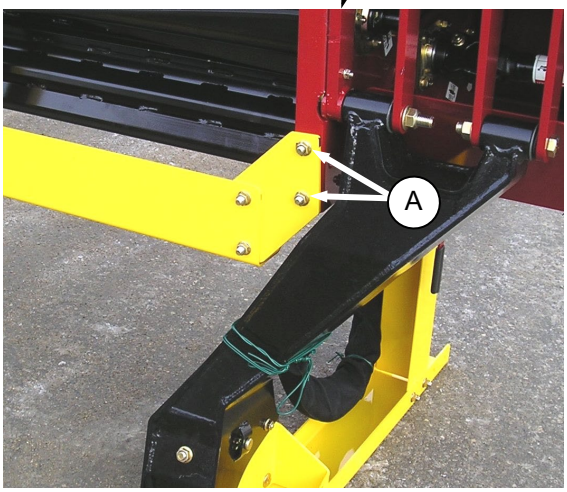
h. Check for shipping damage and missing parts.

STEP 2. REMOVE UNDERSIDE SHIPPING STAND

CAUTION

Keep feet clear when removing final bolts.





a. Remove two bolts (A) on each end of stand and remove shipping stand (B). Discard stand and hardware.

STEP 3. INSTALL GAUGE ROLLERS OR SKID SHOES – 16 FT ONLY

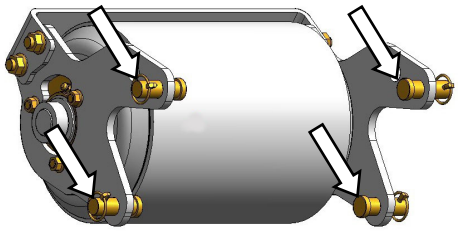
If kits not supplied proceed to STEP 4, LOWER HEADER, otherwise install kit as follows:

NOTE

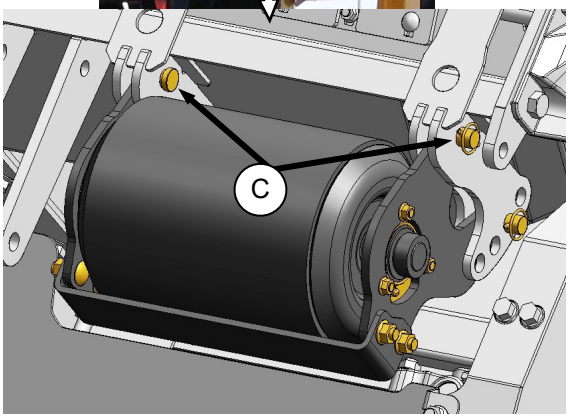
These kits may be installed later in the header assembly sequence but it may be easier prior to laying the header down.

A. GAUGE ROLLERS

a. Unpack gauge roller bundle.



b. Remove four clevis pins from roller assembly.



c. Position gauge roller assembly on frame and secure with two clevis pins (C). Secure pins with lynch pins.

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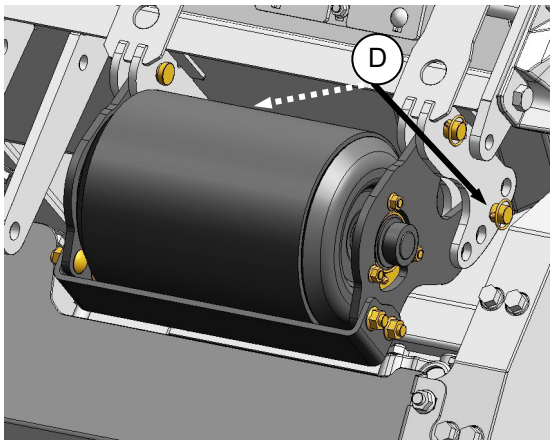
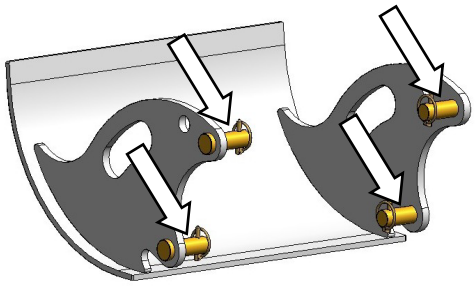


d. Adjust roller assembly to desired height and install two clevis pins (D). Secure with lynch pins.

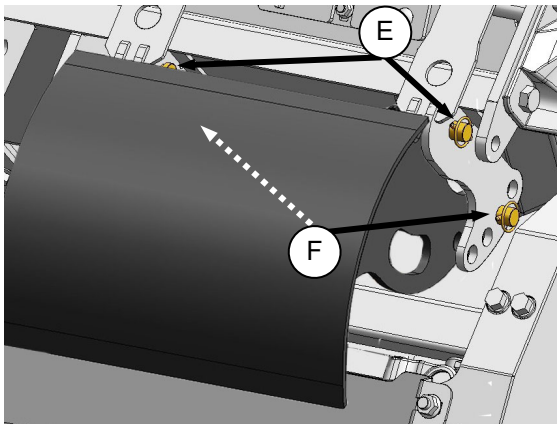
e. Repeat above steps for opposite side. Set both gauge rollers to same position.

B. SKID SHOES

a. Unpack skid shoe bundle.



b. Remove four clevis pins from skid shoe.



c. Position skid shoe on frame and secure with two clevis pins (E). Secure pins with lynch pins.

d. Adjust skid shoe to desired height and install two clevis pins (F). Secure with lynch pins.

e. Repeat above steps for opposite side. Set both skid shoes to same position.

STEP 4. LOWER HEADER

a. Attach either a spreader bar or chain to forks.

CAUTION

Ensure spreader bar or chain is secured to the forks so that it cannot slide off the forks or towards the mast as the header is lowered to the ground.

Chain Type	Overhead Lifting Quality (1/2 Inch)
Min. Working Load	5000 lb. (2270 kg)

b. Drive lifting vehicle to approach header from its "underside".

c. Attach chain hooks to hooks on either side of header.

CAUTION

Stand clear when lowering the header.

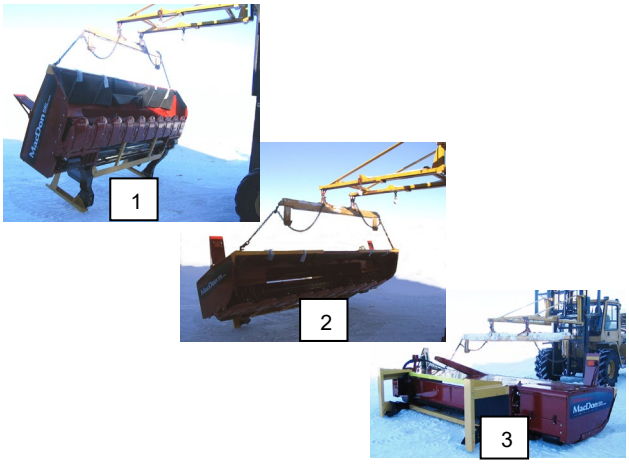
NOTE

Do not lift at hooks when unloading from trailer. This procedure is only for laying the machine over into working position.

IMPORTANT

Chain length must be sufficient to provide a minimum 4 feet (1.2 m) vertical chain height.

d. Raise forks until lift chains are fully tensioned.



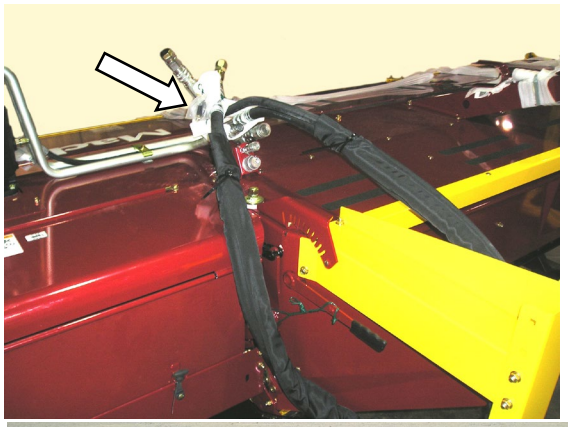
e. Back up SLOWLY while simultaneously lowering machine until cutterbar rests on ground.

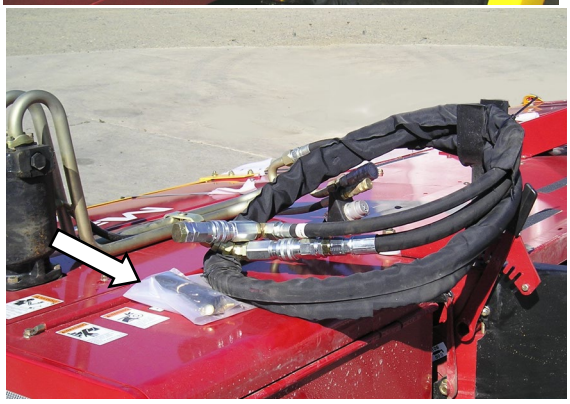
f. Remove chain from header.

STEP 5. REMOVE SHIPPING STANDS

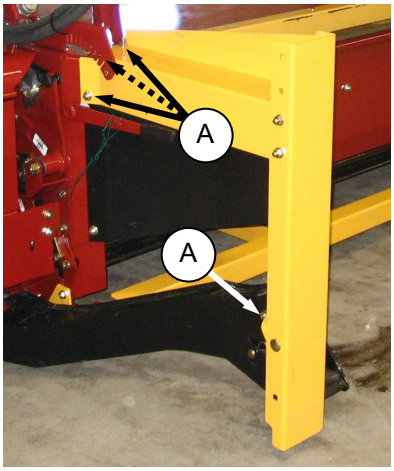
NOTE

Step a. is only applicable to 16 ft header. 13 ft headers are shipped without the motor installed.

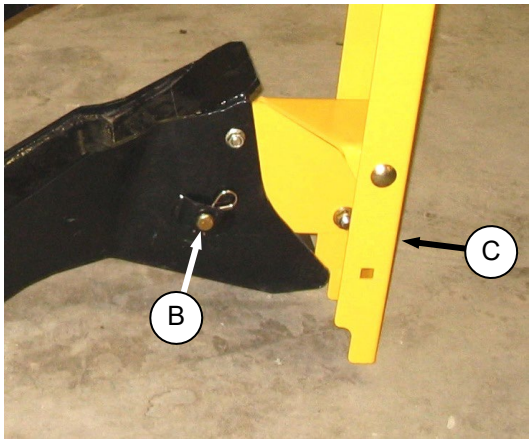




a. Untie hose bundle and relocate on top of header as shown. Remove bag of Velcro straps from hose end and set aside for installation in STEP 12. CONNECT HYDRAULICS.



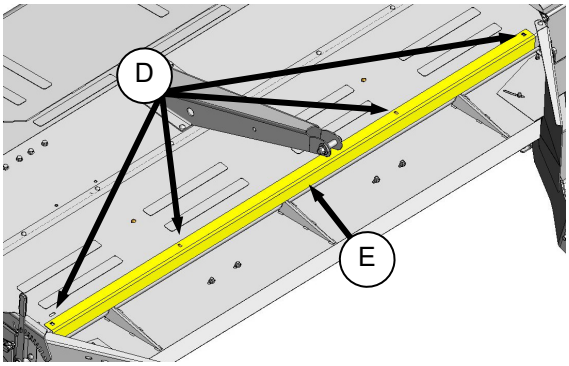
b. Remove four bolts (A) from shipping stand.



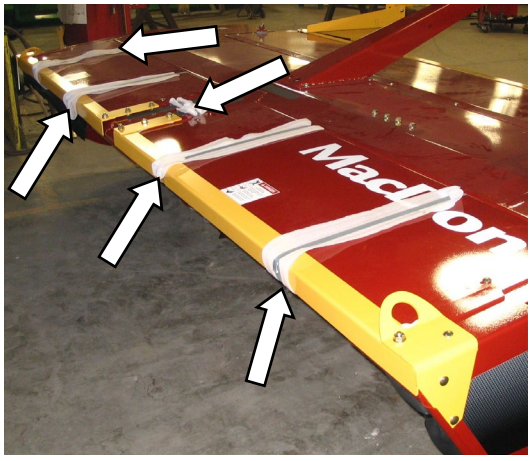
c. Remove hairpin from pin (B).

d. Hold shipping stand (C), remove pin (B), and remove stand. Re-insert pin (B) in header boot. Discard stand and hardware.

e. Repeat above steps for opposite shipping stand.



f. Remove four bolts (D) in angle (E) and remove angle. Discard angle and hardware.



g. Cut all banding at cutterbar doors.

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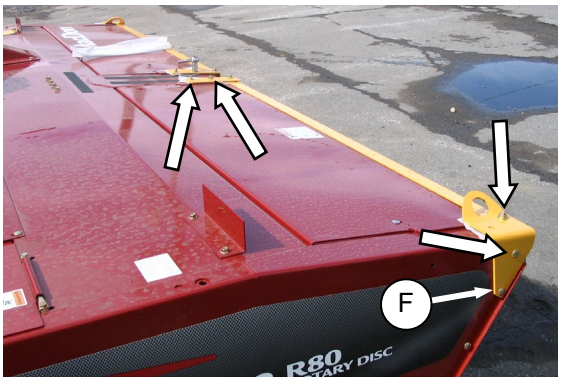


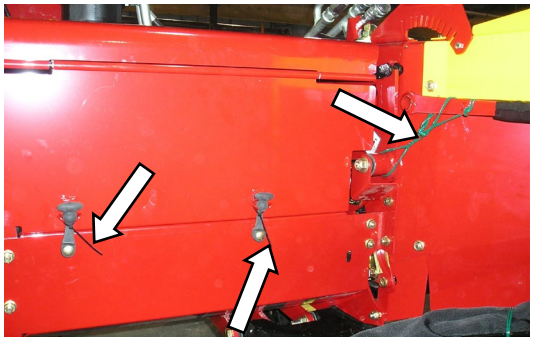
h. Remove five bolts and nuts on each door and remove front angles and lift hooks. Retain lower side bolt (F) for re-installation at same location after hook is removed.

WARNING

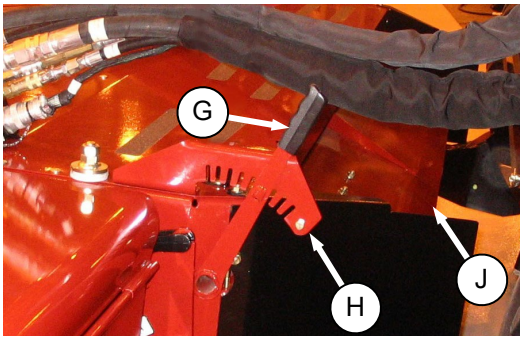
Ensure cutterbar completely clear of foreign objects. These objects can be ejected with considerable force when the machine is started and may result in serious injury or machine damage.

i. Open cutterbar doors and check cutterbar area for debris and foreign objects. Ensure all material is removed.

j. Close cutterbar doors. Ensure that curtains hang properly and completely enclose cutterbar area. Minor creases in curtains will eventually straighten out.

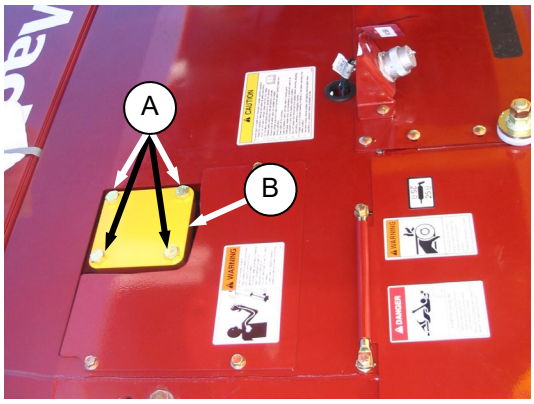


k. Cut shipping wire and plastic cable ties securing crop deflector lever and drive shield latches.



l. Move crop deflector lever (G) upward from shipping position and pull lever slightly away from bracket (H) so that pin engages slots in bracket. Release it at the center position to lock crop deflector (J) in desired position.

STEP 6. INSTALL MOTOR – 13 FT ONLY

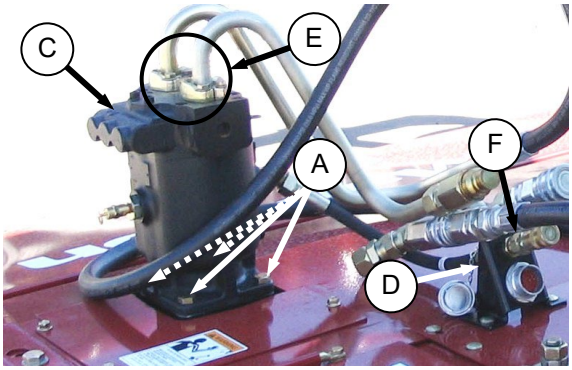


a. Remove four bolts (A) and remove plate (B) from gearbox. Retain bolts for re-installation and discard plate.

b. Attach a sling to motor and the other end to lifting device. Motor and lines weigh approximately 150 lb (68 kg).

IMPORTANT

Do not lift motor with hydraulic lines.



c. Position motor (C) onto gearbox opening as shown and remove sling.

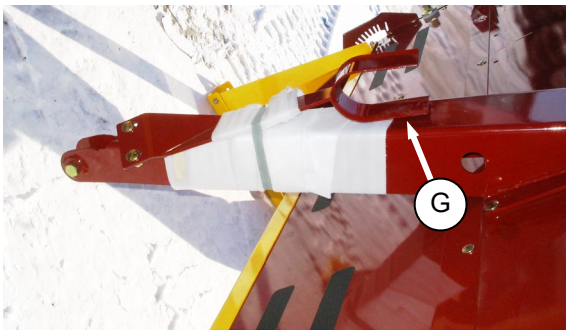
NOTE

Hydraulic lines may require repositioning to clear bracket (D). Loosen bolts (E) and move lines as required. Tighten bolts (E) to 32 ft-lbf (43 N·m).

d. Install four bolts (A) to secure motor to gearbox. Torque bolts to 103 ft-lbf (140 N·m).

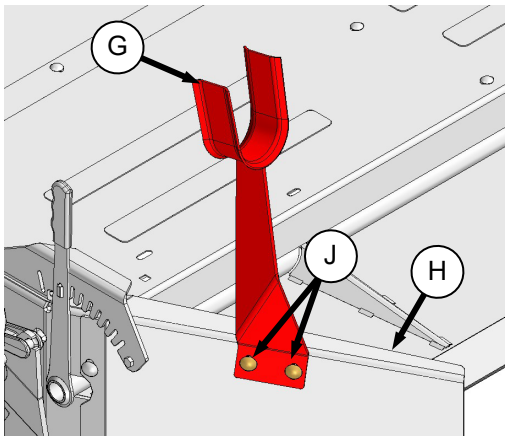
e. Install case drain hose (F) into bracket (D).

STEP 7. INSTALL HOSE SUPPORT



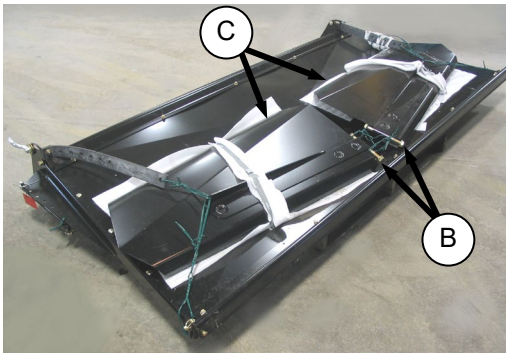
a. Retrieve hose support (G) from center mast.

b. Remove carriage bolts in support.

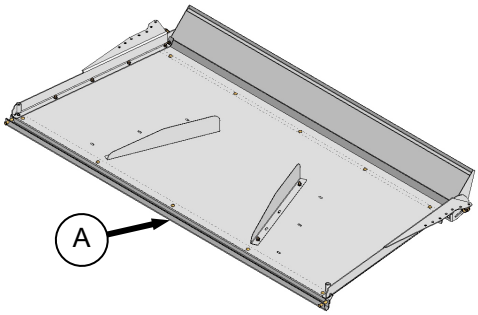


c. Attach support (G) to deflector (H) with the two carriage bolts and nuts (J).

STEP 8. ASSEMBLE FORMING SHIELD

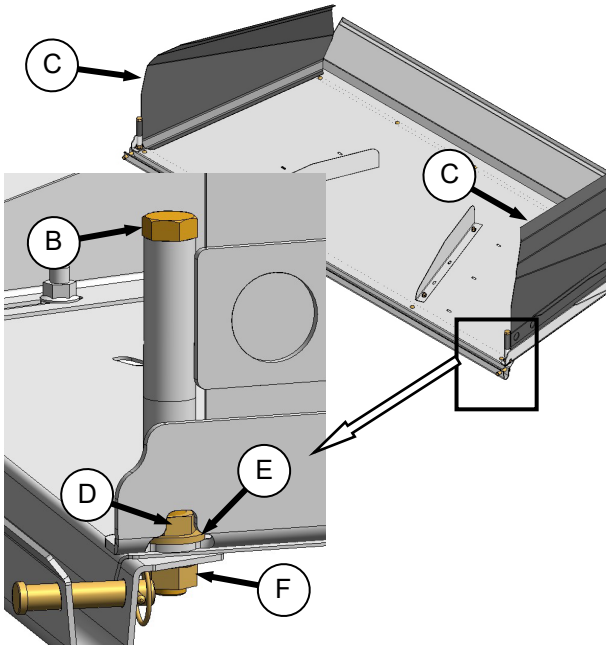


a. Unpack and remove shipping material.



b. Lay cover (A) upside down on a flat surface.

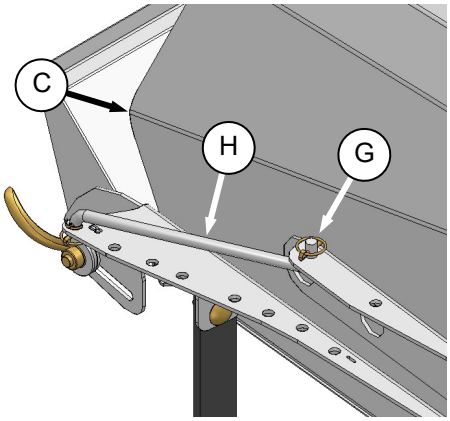
c. Remove bolts (B) from side deflectors (C).



d. Assemble side deflectors (C) to cover (A) with bolts (B), jam-nut (D), washer (E), and nut (F) from previous step.

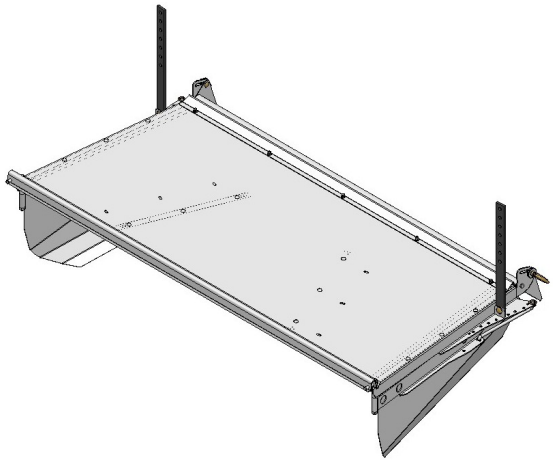
e. Tighten flange nut (F) enough to hold deflectors (C) in position, but still allow deflectors to move.

f. Tighten jam nut (D) against cover while holding bolt (B).



g. Remove lynch pin (G) from adjuster rod (H) and locate rod in hole in side deflector (C). Secure with lynch pin (G).

h. Repeat for other deflector.

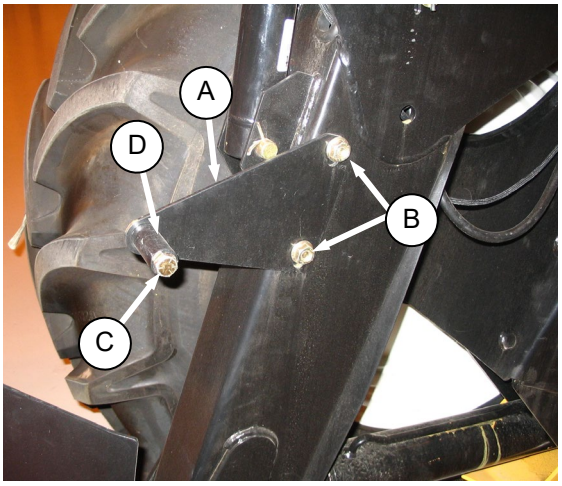


i. Invert forming shield to installation position as shown.

STEP 9. INSTALL FORMING SHIELD

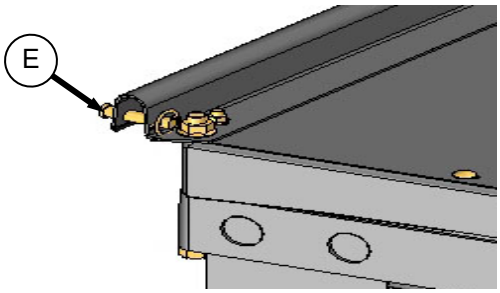
a. Remove the header from the tractor if attached for ease of installation of the forming shield.

b. Retrieve plate (A) and hardware from forming shield bundle.

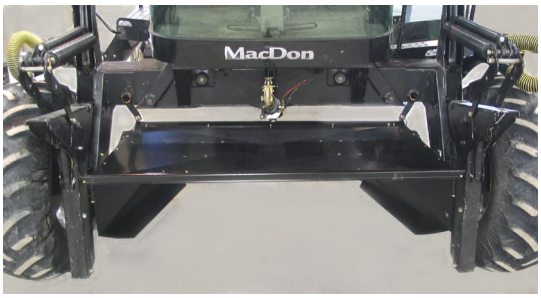


c. Attach plate (A) to tractor leg with two ½ x 5.0 hex bolts (B) and nuts. Repeat for opposite leg. Hardware is supplied with forming shield bundle.

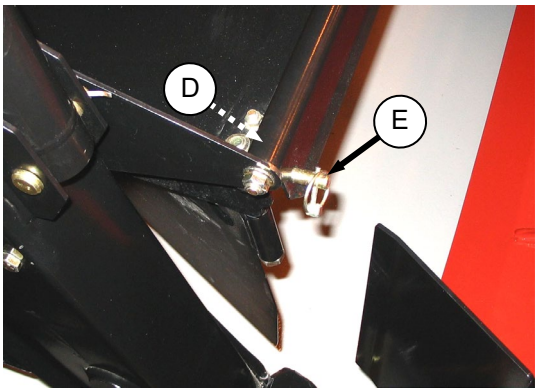
d. Install a ½ x 3.25 hex bolt (C) with spacer (D), and nut on each plate. Hardware is supplied with forming shield kit.



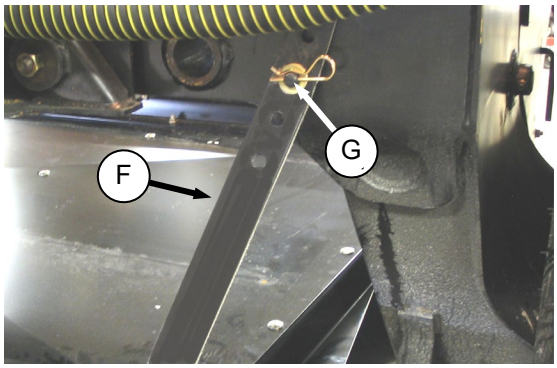
e. Remove the two clevis pins (E) from forming shield forward end.



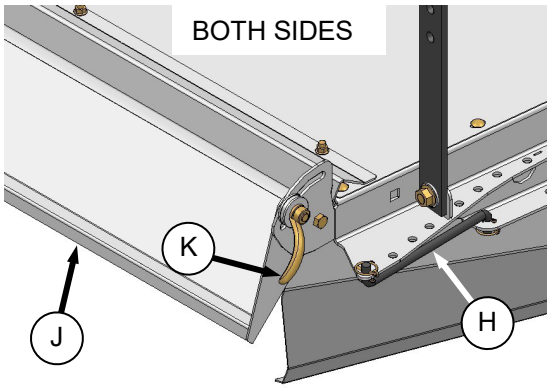
f. Position forming shield under the tractor frame.



g. Locate forming shield onto spacers (D) on tractor leg and secure with clevis pins (E) and lynch pin.



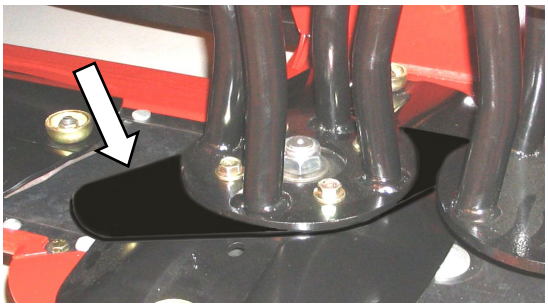
h. Lift the aft end of the forming shield and attach straps (F) to pins (G) on tractor frame. Install washer and hairpin to secure strap. Use the middle hole and adjust height to suit the crop.



i. Set forming shield side deflectors to desired width by repositioning adjuster bars (H). Use same hole location on both sides.

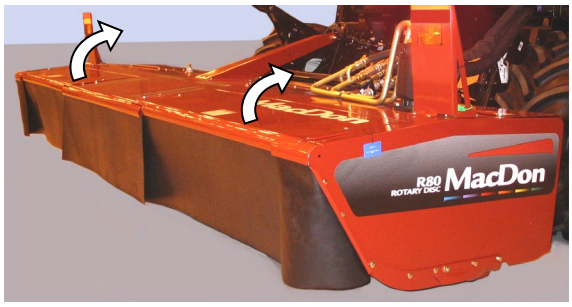
j. Adjust fluffer shield (J) to middle position. Loosen handles (K) if required.

STEP 10. INSTALL TALL CROP FEED PLATES

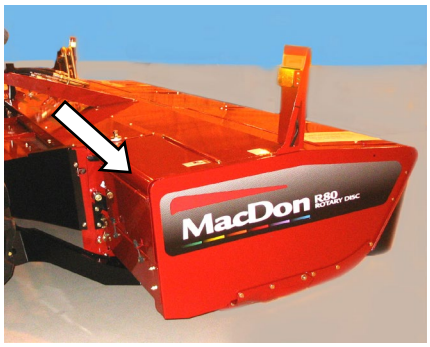


The tall crop feed plates assist the feeding of tall crops into the conditioner by encouraging material flow from behind the hourglass deflectors. They will degrade the cutting performance of the cutterbar if they are used in medium to light alfalfa, and so should not be installed in those types of crops. The feed plates are designed for installation on the two inboard hourglass deflectors and only on 16 ft headers. They are stored inside the RH side drive compartment.

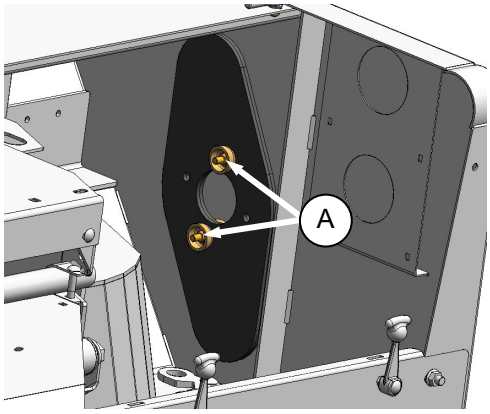
Proceed to STEP 11. ATTACH HEADER TO TRACTOR if Tall Crop Feed Plates will not be installed, otherwise proceed as follows:



a. Open cutterbar doors.



b. Open RH side drive compartment shield.

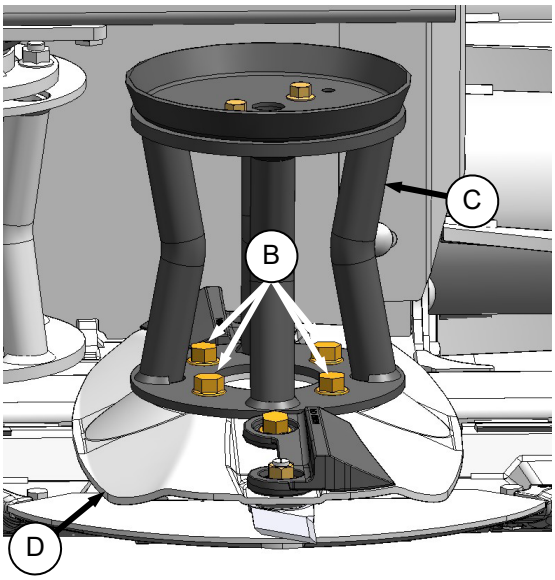


c. Remove nuts (A) securing four nut guards and two feed plates to side of compartment and remove guards and plates.

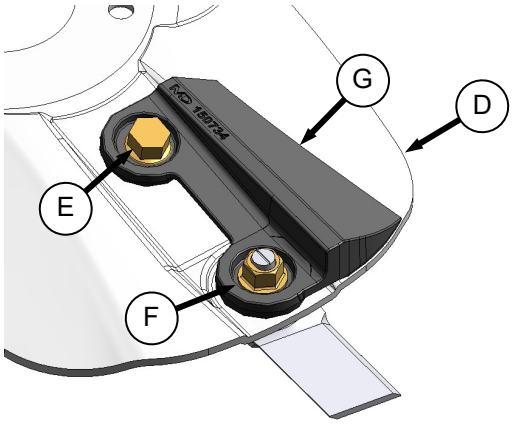
CAUTION

Exercise caution when working around the blades. Blades are sharp and can cause serious injury. Wear gloves when handling blades.

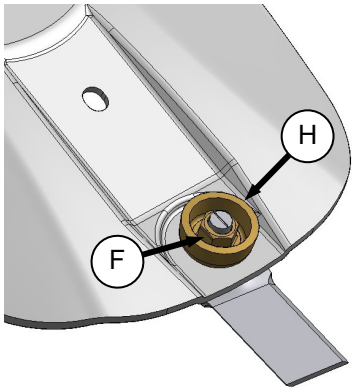
d. Place a block of wood between discs to prevent deflector from turning.



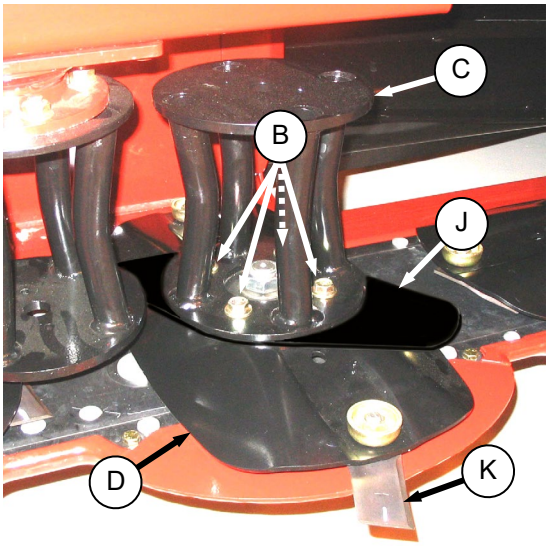
e. Remove four bolts (B) and remove inboard hourglass driven deflector (C) and disc assembly (D) from cutterbar.



f. Remove bolts and nuts (E), and nuts (F) and remove both accelerators (G) from disc (D). Do not remove cutterblade bolts. Retain accelerators and hardware.



g. Install nut guards (H) on disc with nuts (F) on cutterblade bolts. Tighten nuts to 100 ft-lbf (135 N·m).



h. Locate disc (D) onto cutterbar in original position.

i. Locate feed plate (J) on the disc (D) ensuring that hole in feed plate registers on disc. Position plate approximately as shown and align holes.

IMPORTANT

Feed plate should be located so that when holes are aligned, it is closer to the cutter blade leading edge (K) than the trailing edge.

j. Re-position deflector (C) and align holes.

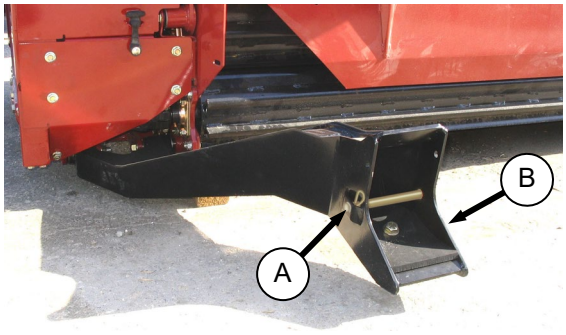
k. Re-install bolts (B) and tighten to 66 ft-lbf (90 N·m).

l. Repeat above steps for opposite side.

m. Manually rotate discs to check for interference of feed plate and adjacent parts.

STEP 11. ATTACH HEADER TO TRACTOR

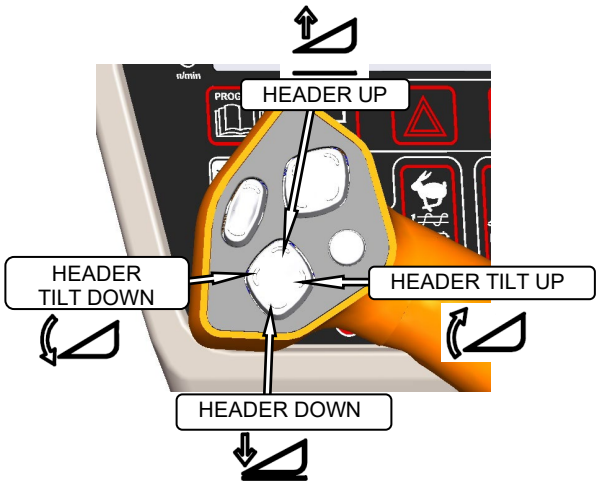
Refer to M Series Unloading & Assembly Instructions, Form #169018, or M150 & M200 Self-Propelled Windrower Operator's Manual, Form #169017 for tractor operating instructions.



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

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.

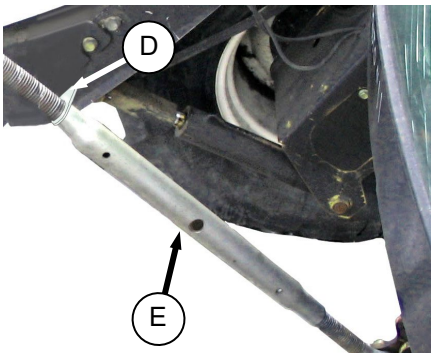
d. Connect center link as follows:

MECHANICAL LINK – M150

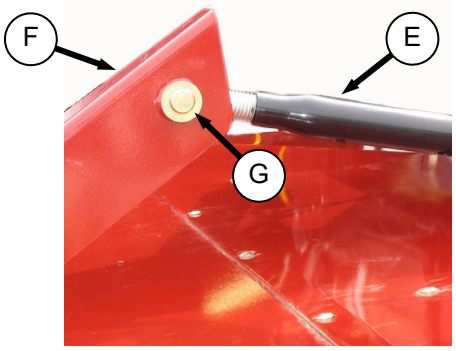
DANGER

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 mounting hole in center mast (F).

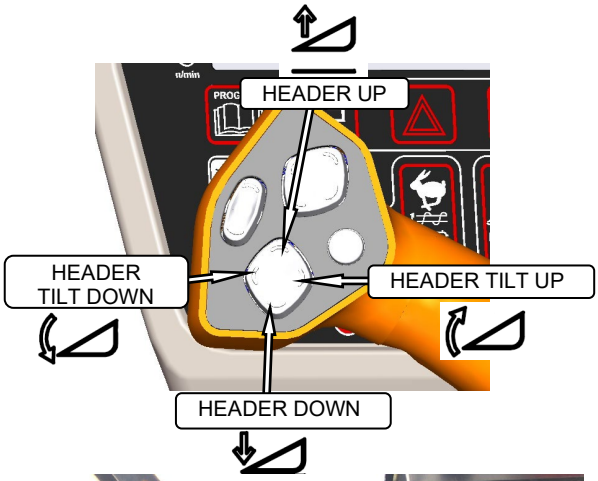


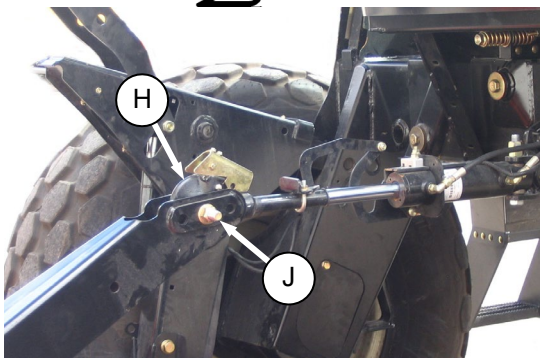
3. Install clevis pin (G) and secure with cotter pin.

(continued next page)

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 – M200 STD, M150 OPTION





1. Activate header tilt cylinder switches on GSL to position center link hook (H) so that it can connect to pin (J) in center mast.

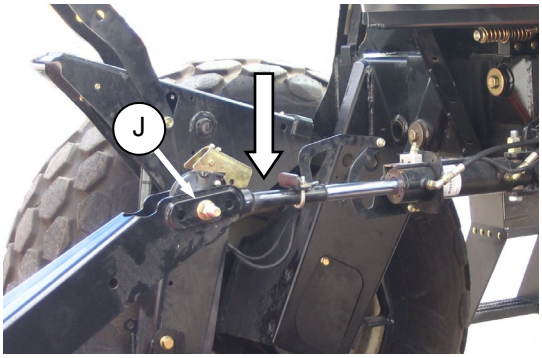
NOTE

If optional auto-connect system is installed, activate link lift cylinder from in the cab to lower center link onto header and proceed to step f.

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.

2. Stop engine and remove key.



3. Push down on rod end of center link until hook engages pin (J) in center mast and is locked.

CAUTION

Check to be sure all bystanders have cleared the area.

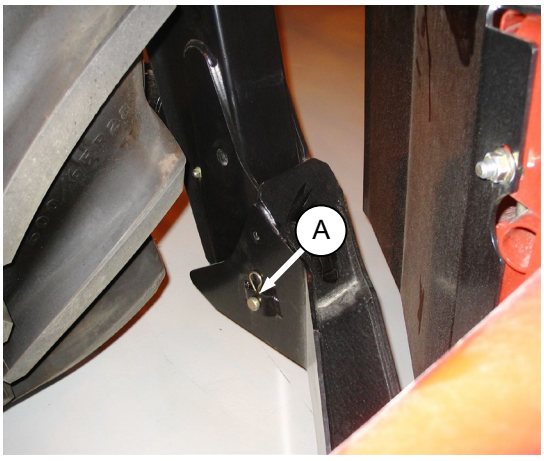
e. Start engine.

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.

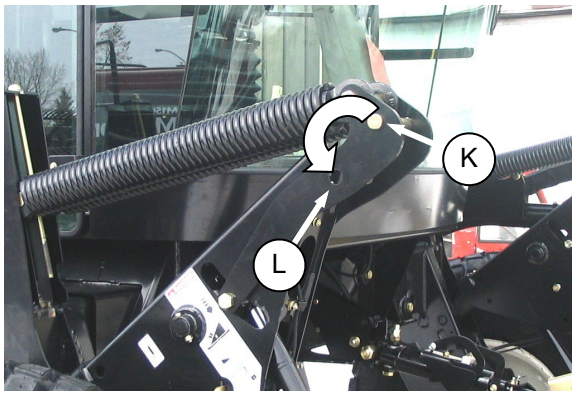


h. Install pin (A) through each boot and foot and secure with hairpin.

IMPORTANT

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

(continued next page)



i. Remove pin (K) from storage position in linkages on both sides and insert in hole (L) to engage float springs. Secure with hairpin.

j. Disengage lift cylinder stops.

CAUTION

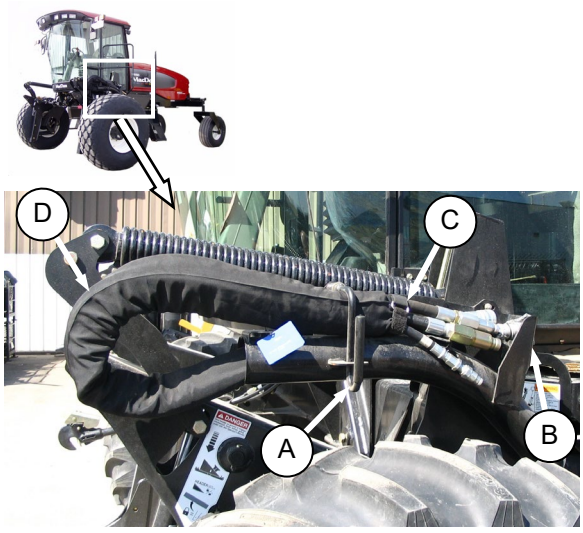
Check to be sure all bystanders have cleared the area.

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

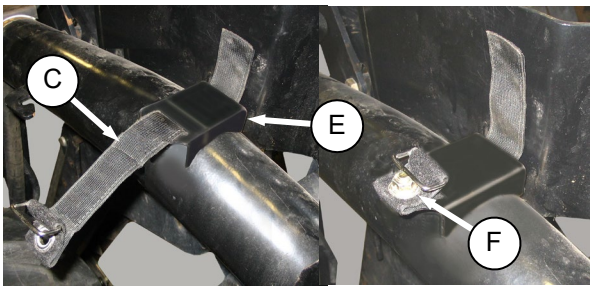
STEP 12. CONNECT HYDRAULICS

A. M200 – 13 FT & 16 FT

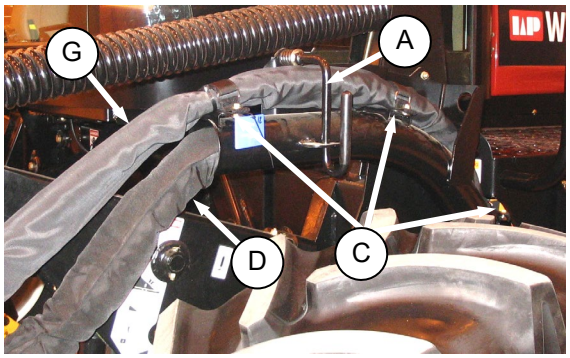
I. TRACTOR CONNECTIONS



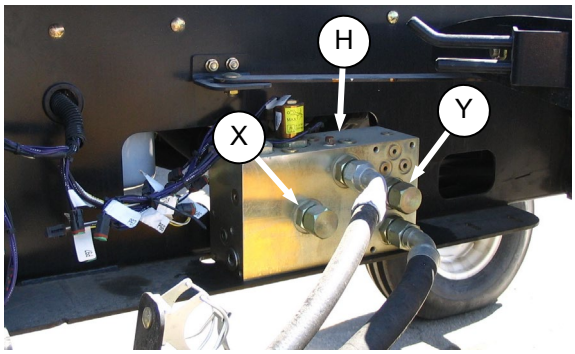
a. Disengage and rotate lever (A) counter-clockwise to fully up position.
b. Remove cap (B) securing electrical connector to frame.
c. Undo Velcro strap (C) if installed and move hose bundle (D) from tractor to header.
d. Move tractor left side platform to open position.
e. Install Velcro straps as follows if not already installed.
   1. Retrieve package of three Velcro straps from STEP 5.



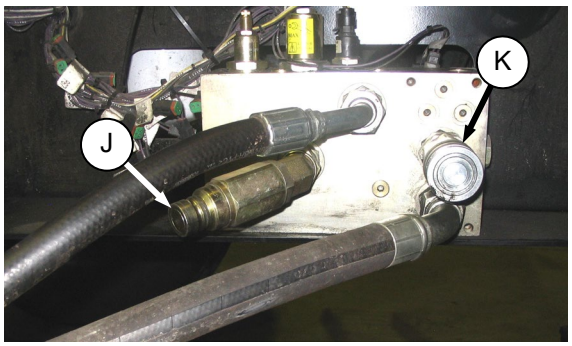
   2. Locate Velcro strap (C) through slot and under bracket (E) on hose support.
   3. Attach strap to bracket with ½ inch carriage bolt (F) and locking nut. Install bolt from under bracket.



f. Route header return and pressure hose bundle (G) from header to tractor, and locate bundle above existing hose bundle (D) as shown.
g. Secure with three straps (C).
h. Lower and lock lever (A).
i. Route header hose bundle (G) to valve block (H).
j. Disconnect fittings at bundle (G) hose ends.



k. Remove fittings at ports (X) and (Y) on valve (H).

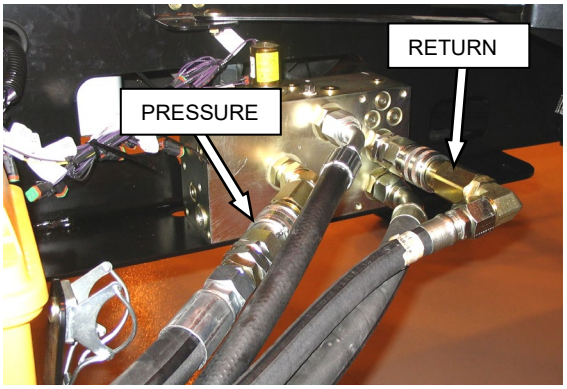


l. Install male 45 degree fitting (J) from hose in port (X), and female straight fitting (K) from hose in port (Y).

NOTE

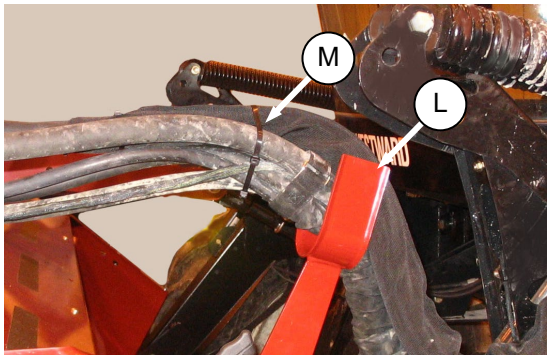
Male fitting (J) may need to be disassembled prior to installing on valve block.

(continued next page)



m. Connect hoses from header to fittings as shown.

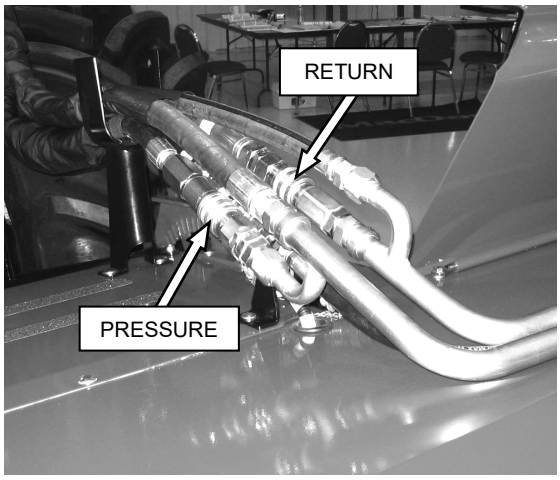
n. Move tractor platform to closed position.

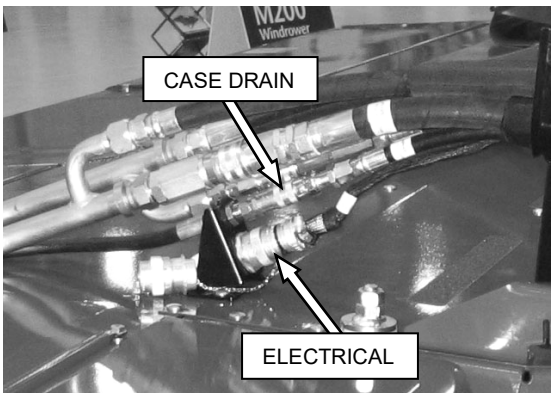


o. Position hoses in support (L) on header and install plastic ties (M) around hose bundle.

II. HEADER CONNECTIONS

a. Remove caps and plugs from hoses and lines.



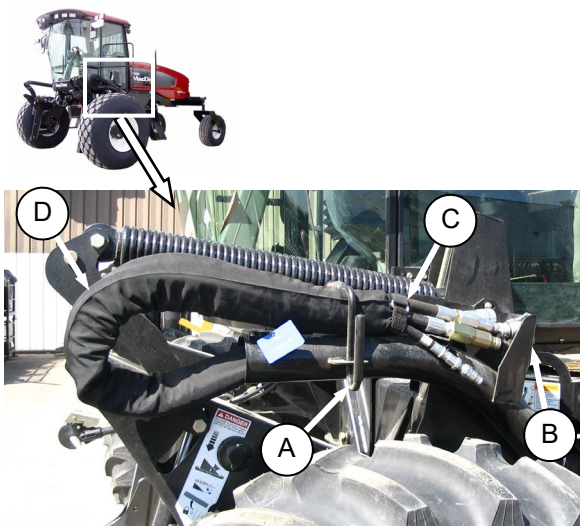


b. Connect the three hoses from tractor to the fittings on the header as shown.

c. Assemble electrical connector as shown.

B. M150 - 13 FT

I. TRACTOR CONNECTIONS



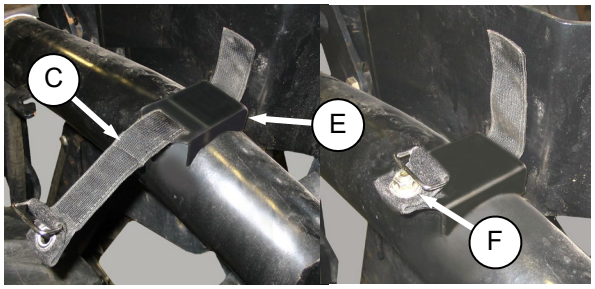
a. Disengage and rotate lever (A) counter-clockwise to fully up position.

b. Remove cap (B) securing electrical connector to frame.

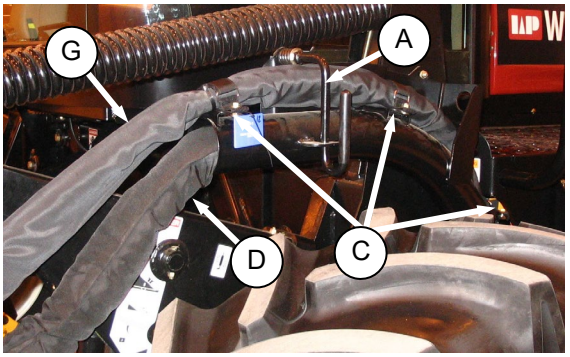
c. Undo Velcro strap (C) if installed and move hose bundle (D) from tractor to header.

d. Move tractor left side platform to open position.

e. Install Velcro straps as follows if not already installed.



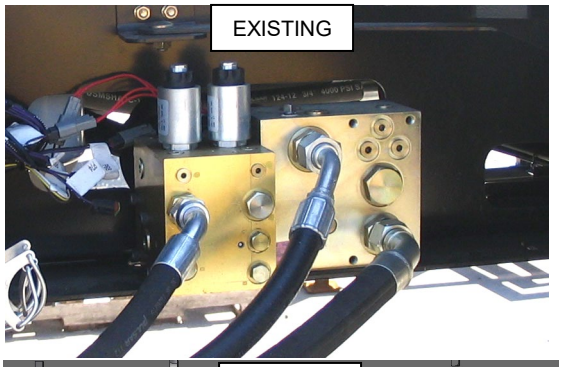
1. Retrieve package of three Velcro straps from STEP 5.
2. Locate Velcro strap (C) through slot and under bracket (E) on hose support.
3. Attach strap to bracket with ½ inch carriage bolt (F) and locking nut. Install bolt from under bracket.

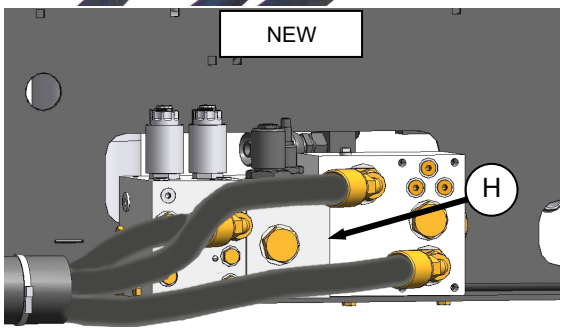


f. Route header pressure hose (G) from header to tractor, and locate bundle above existing hose bundle (D) as shown.

g. Secure with three straps (C).

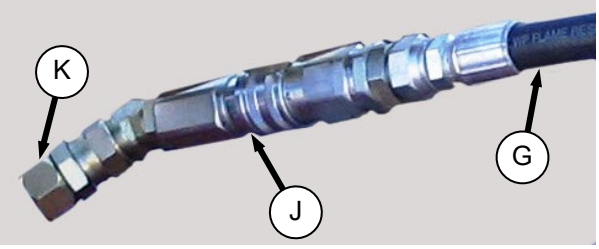
h. Lower and lock lever (A).





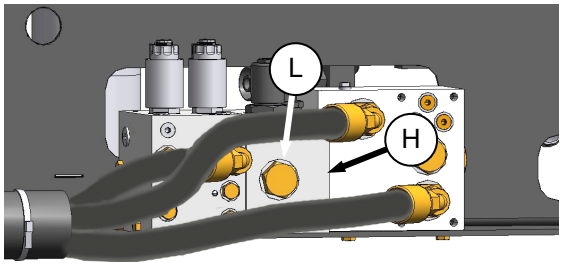
i. Install valve block (H) that is supplied with the tractor (ref. B4657). Refer to installation instructions supplied in the kit.

(continued next page)

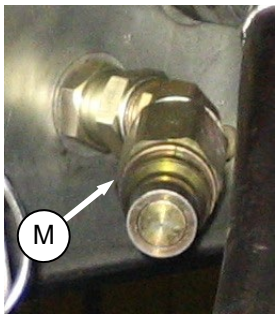


j. Disconnect quick-disconnect (J) at end of header hose (G).

k. Remove cap (K) on fitting assembly.



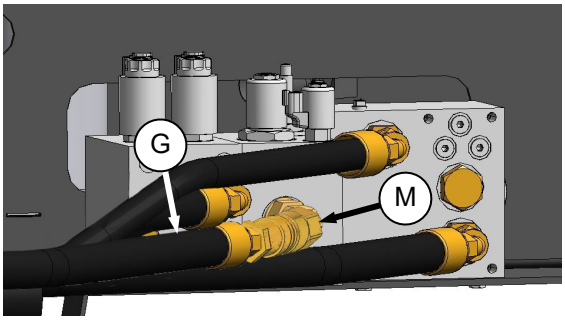
l. Remove plug (L) from valve (H).



m. Install fitting assembly (M) onto valve block (H) at this location.

NOTE

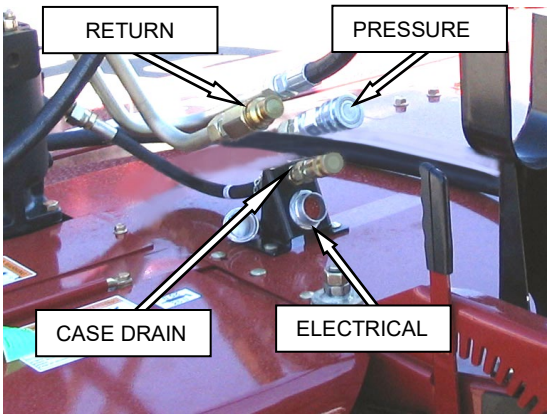
Adjacent hoses may need to be loosened and moved to allow installation of fitting. If necessary, disassemble quick disconnect and 45 degree fitting, and then reassemble after fitting is installed onto valve block.



n. Connect hose (G) from header to fitting (M).

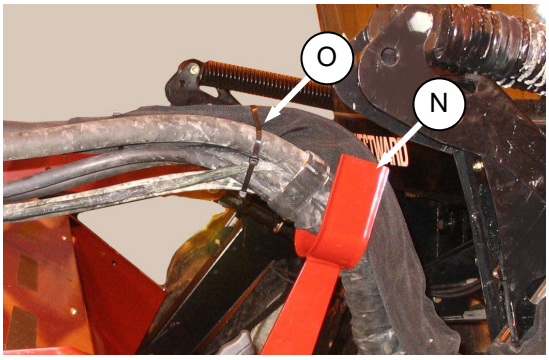
II. HEADER CONNECTIONS

a. Remove caps and plugs from hoses and lines.



b. Connect the three hoses from tractor to the fittings on the header as shown.

c. Connect harness from tractor to electrical connector.



d. Position hoses in support (N) on header and install plastic ties (O) around hose bundles.

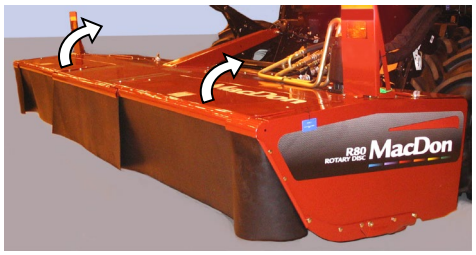
e. Move tractor platform to closed position.

STEP 13. INSTALL OPTIONS

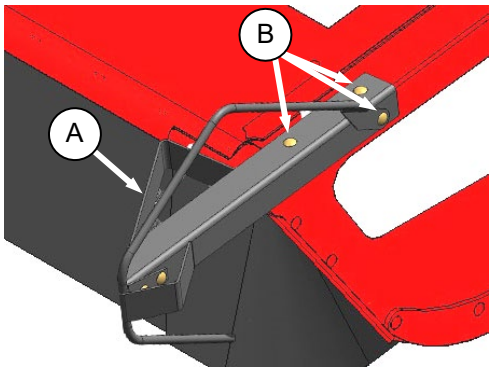
A. TALL CROP DIVIDER KIT

If kit not supplied, proceed to B. SHOE LIFT KIT. Otherwise, proceed as follows:

a. Unpack kit.



b. Open cutterbar doors.



c. Locate LH divider (A) on header LH front corner and install with three bolts (B) and nuts supplied with kit in existing holes. Tighten hardware.

d. Repeat for RH side.

e. Lower cutterbar doors.

B. SHOE LIFT KIT

If kit not supplied, proceed to C. DOUBLE WINDROW ATTACHMENT. Otherwise, proceed as follows:

a. Unpack kit.

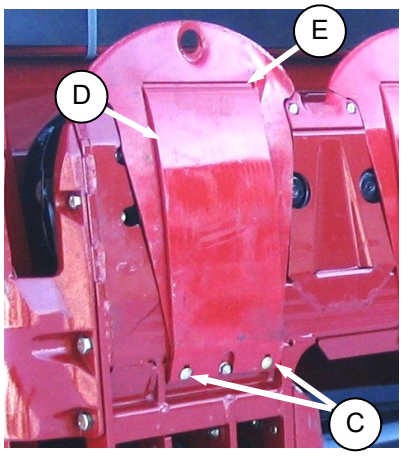
WARNING

To avoid bodily injury or death from unexpected start-up or fall of raised machine, stop engine, remove key and engage lift cylinder stops before going under machine to adjust skid shoes or for any reason.

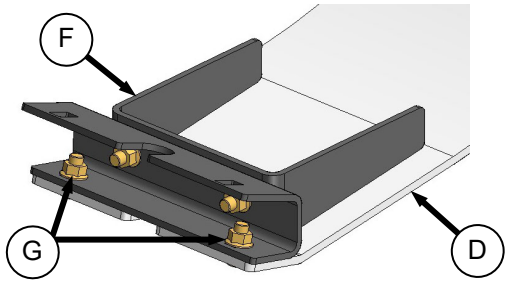
b. Start tractor and raise header fully.

c. Stop engine, remove key, and engage lift cylinder stops.

d. Install a lift on each of the two end skid shoes, and on two additional shoes at equi-distant locations as follows:



1. Remove two bolts (C), pivot the skid shoe (D), and remove from slot (E) in rock guard.



2. Attach shoe lift (F) to skid shoe as shown with hardware (G) supplied in kit. Tighten bolts.
3. Position skid shoe (D) joggled end in rock guard slot (E) and locate aft end with lift (F) against rock guard. Secure with existing bolts (C).

C. DOUBLE WINDROW ATTACHMENT

If kit is not supplied, proceed to STEP 14. LUBRICATE THE HEADER. Otherwise, the installation can be completed at the discretion of the operator or the dealer.

STEP 14. LUBRICATE THE HEADER

WARNING

To avoid bodily injury or death from unexpected start-up or fall of raised machine, stop engine, remove key and engage lift cylinder stops before going under machine for any reason.

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.

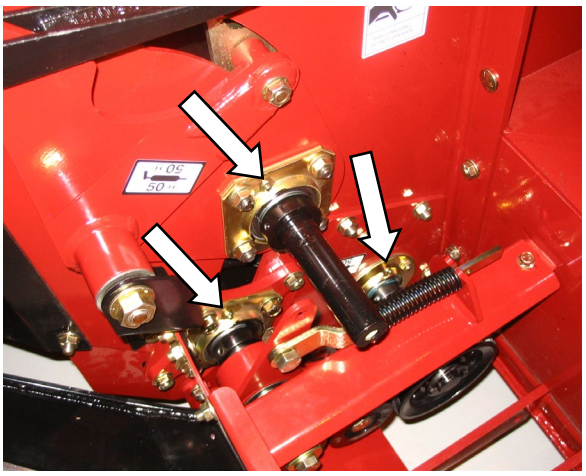
e. If fitting will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.

f. Refer to the illustrations on following pages for lubrication points.

(continued next page)

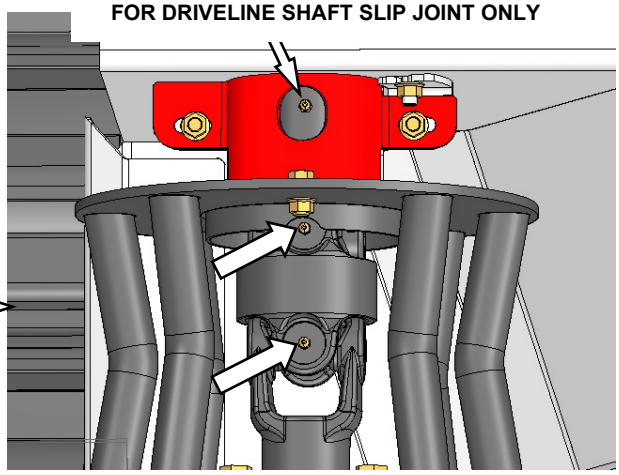
13 FT

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



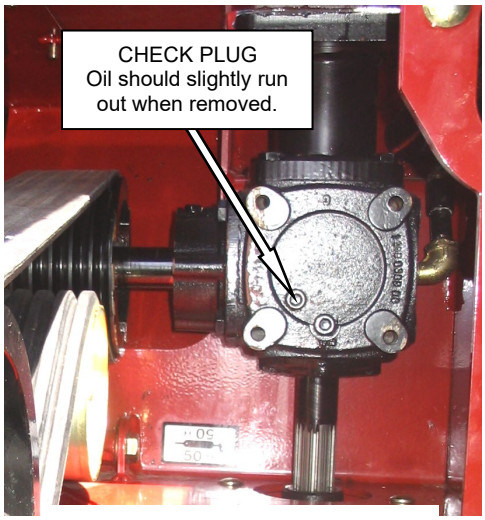
ROLL SHAFT BEARINGS (3 PLCS)

10% MOLY GREASE IS RECOMMENDED FOR DRIVELINE SHAFT SLIP JOINT ONLY

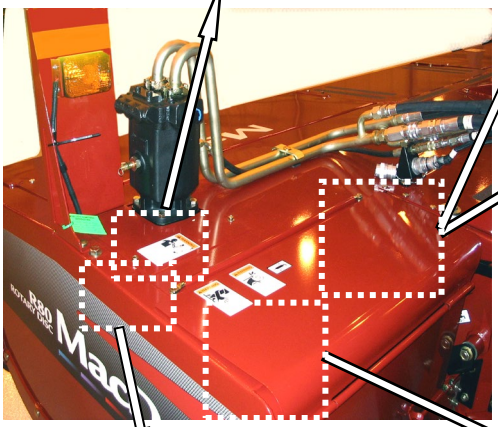


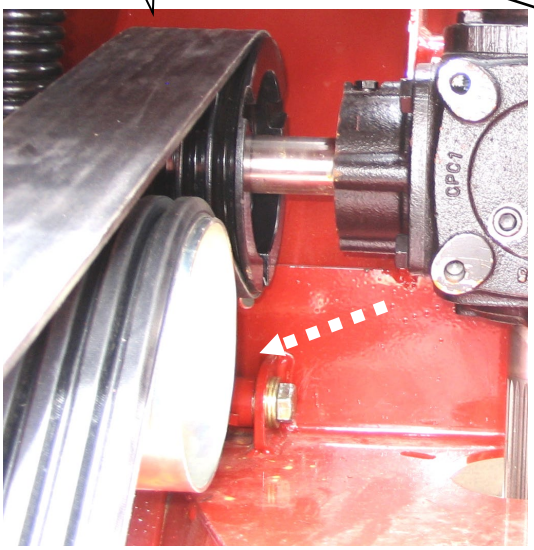
DRIVELINE UNIVERSALS (2 PLCS)
DRIVESHAFT (1 PLC)

LUBRICATE HEADER – 13 FT (Cont'd)



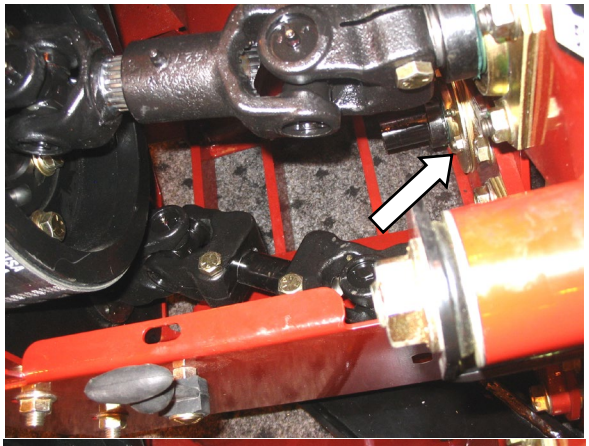
GEARBOX OIL LEVEL

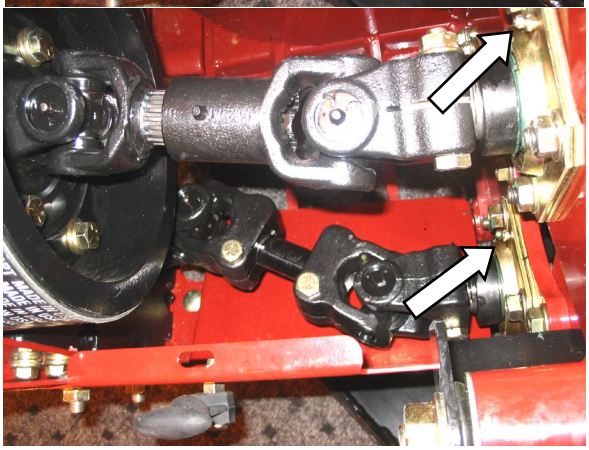




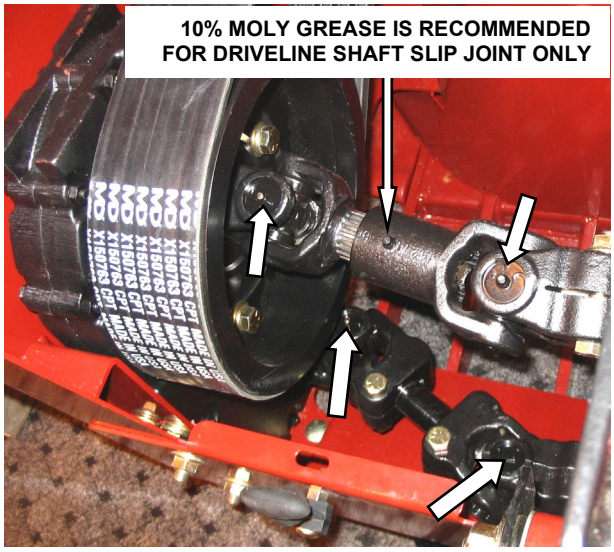
BELT TENSIONER PIVOT (1 PLC)

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





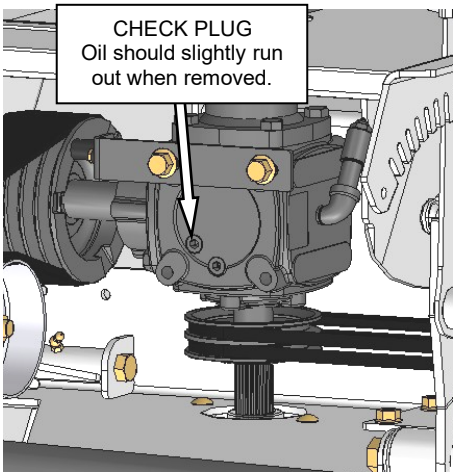
ROLL SHAFT BEARINGS (3 PLCS)



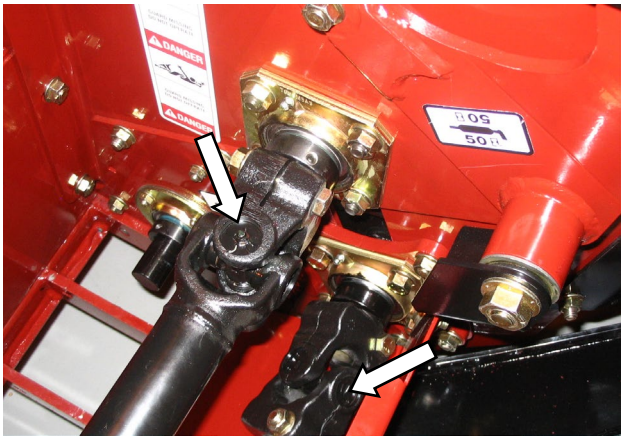
DRIVELINE UNIVERSALS (4 PLCS)
DRIVELINE SHAFT (1 PLC)

LUBRICATE HEADER – 16 FT

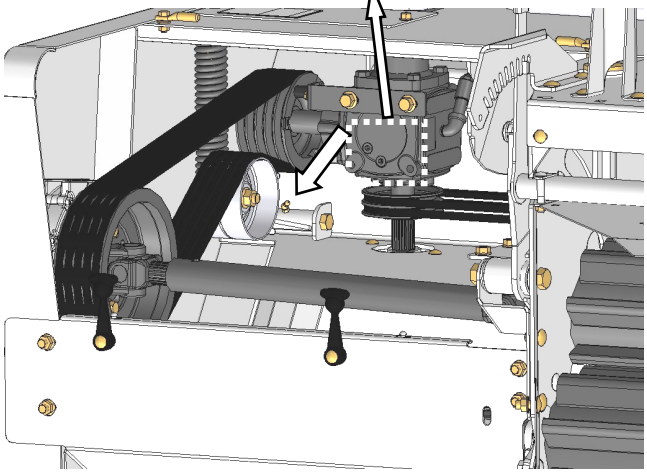
High Temp. Extreme Pressure (EP2) Performance With 1% Max Molybdenum Disulphide (NLGI Grade 2).Lithium Base



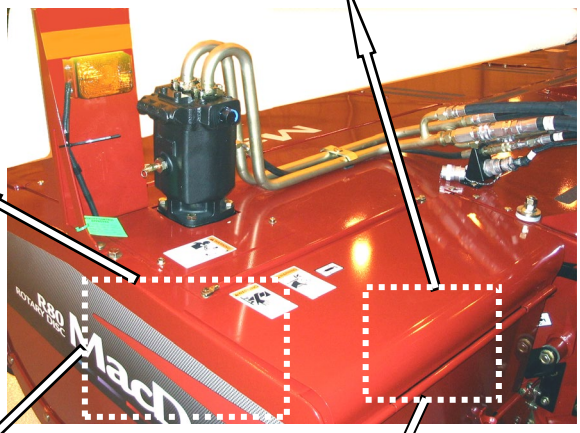
GEARBOX OIL LEVEL



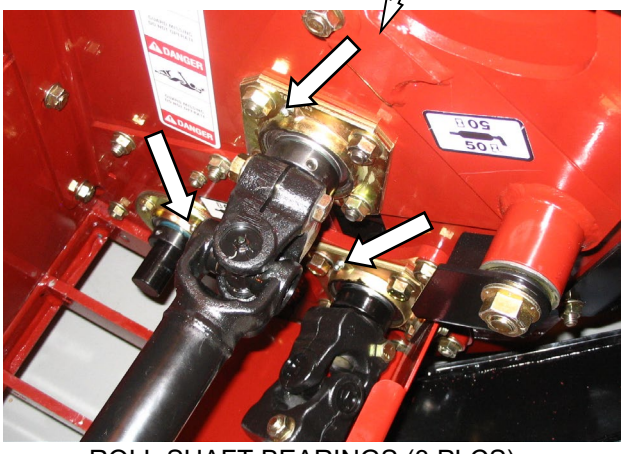
DRIVELINE UNIVERSALS (2 PLCS)



BELT TENSIONER PIVOT (1 PLC)



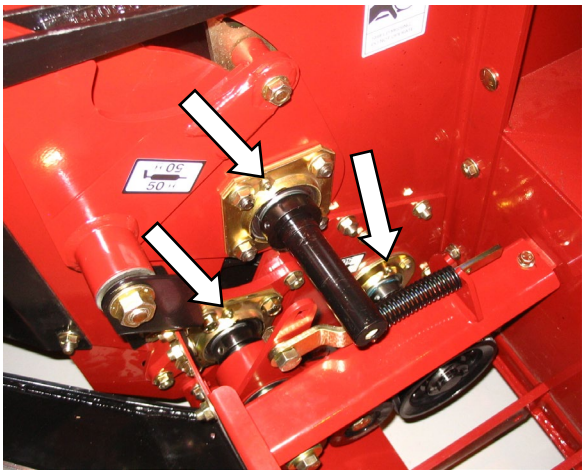
DRIVELINE UNIVERSALS (2 PLCS)
DRIVELINE SHAFT (1 PLC)



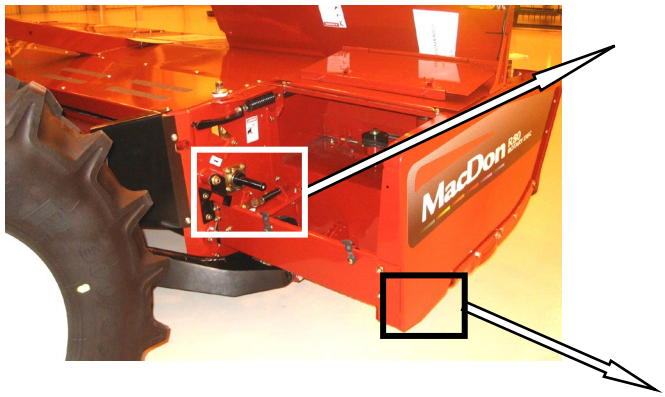
ROLL SHAFT BEARINGS (3 PLCS)

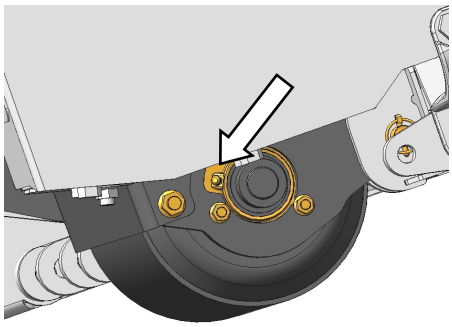
LUBRICATE HEADER – 16 FT (Cont'd)

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

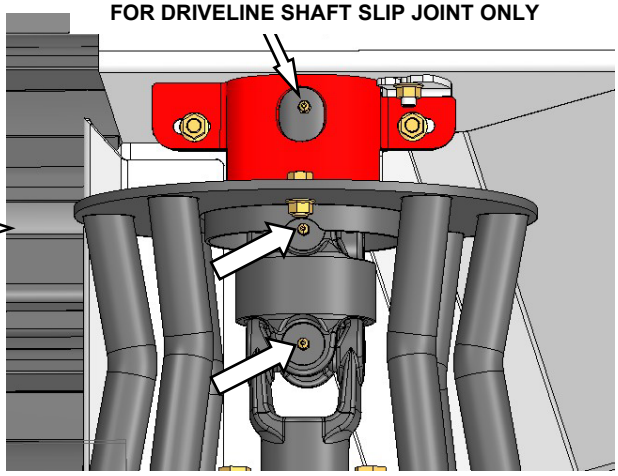


ROLL SHAFT BEARINGS (3 PLCS)





OPTIONAL GAUGE ROLL BEARINGS (2 PLCS)
BOTH SIDES



DRIVELINE UNIVERSALS (2 PLCS)
DRIVESHAFT (1 PLC)
(BOTH SIDES)

STEP 15. PERFORM PRE-DELIVERY CHECKS

WARNING

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

IMPORTANT

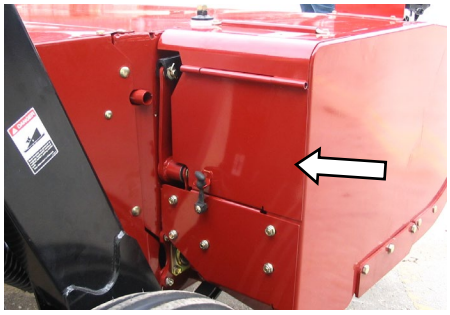
To avoid machine damage, check that no shipping dunnage has fallen down between auger and pans.

a. 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.

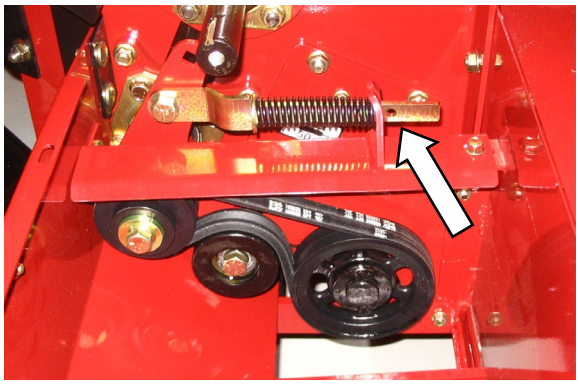
b. The completed checklist should be retained either by the operator or the dealer.

A. DRIVE BELTS

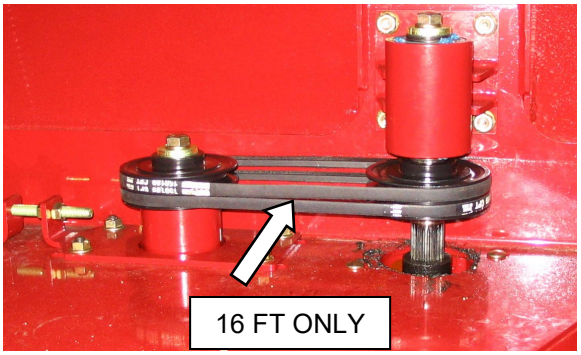
Drive belt tensions have been properly set at the factory and should not require any further adjustment. Check as follows:



a. Open RH drive shield.

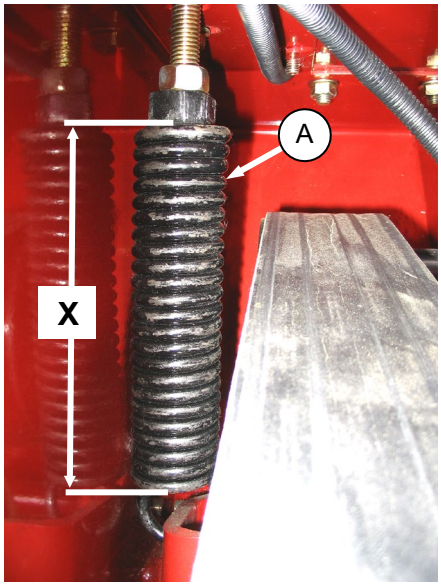


b. Lifting roll drive belt tension is factory adjusted. Hole in tensioner member should be visible.



c. Apply force of 51 lbf (22 N) to each deflector drive belt at mid-span. Deflection of each belt should be 0.12 in. (3 mm).

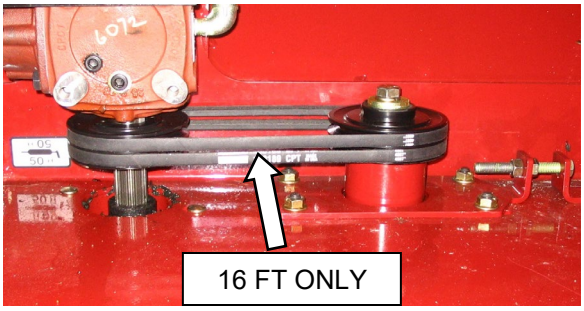
d. Open LH drive shield.



e. Measure the length '**X**' of the spring (A) as shown. It should be within the dimensions in the following table.

NUMBER OF VISIBLE COILS	MEASUREMENT '**X**'
23	7.75-8.15 inches (197-207 mm)
24	8.11-8.5 inches (206-216 mm)

(continued next page)



f. Apply force of 51 lbf (22 N) to each deflector drive belt at mid-span. Deflection of each belt should be 0.12 in. (3 mm).

B. HEADER FLOTATION

a. Set the float fine adjustment to mid-range with the tractor float adjustment system in the cab. Refer to the M Series Self-Propelled Windrower Operator's Manual, Form #169017.

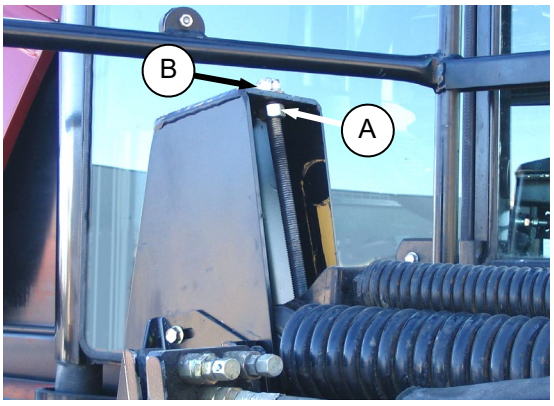
b. Check float by grasping the divider rod and lifting. The force to lift should be 75-85 lbf (335-380 N) and should be approximately the same at both ends.

c. Perform the following steps to adjust the float if necessary:

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. Raise the header fully, shut down the engine, and remove the key.



2. Loosen nut (A) on linkage spring drawbolt.
3. Turn drawbolt (B) clockwise to increase float (makes header lighter) or counterclockwise to decrease float (makes header heavier).
4. Tighten nut (A) to lock drawbolt.
5. Recheck the float.

C. CHECK LEVEL OF HEADER

a. Park windrower on level ground and raise header approximately 6 inches (150 mm) off ground.

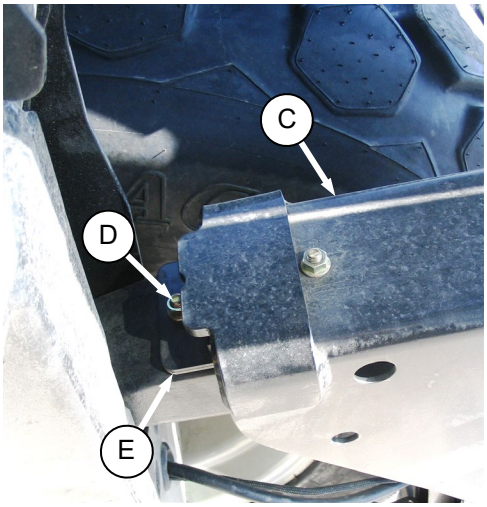
b. Check that clearances between header and ground at each end of the header are approximately the same.

IMPORTANT

The header float springs are not used to level the header.

c. If header needs levelling, proceed as follows:

1. Place wooden blocks under header cutterbar and legs.



2. Lower header onto blocks so that linkage (C) lifts at tractor leg and off of shims.

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.

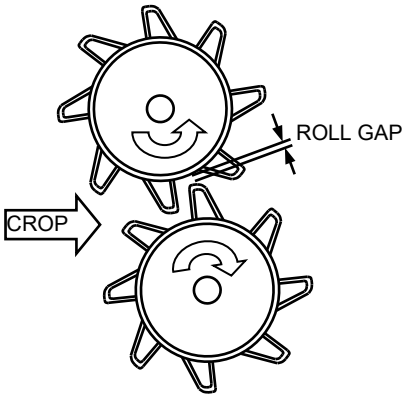
3. Shut down the engine and remove the key.
4. On the high side linkage, remove nut, washer and bolt (D) that attaches shims (E) to link.
5. Remove one or both shims (E) and reinstall the hardware (D).
6. Check level of header.
7. If additional levelling is required, install the removed shim on the opposite linkage.

NOTE

Float does not require adjustment after levelling header.

D. CONDITIONER ROLLS

I. ROLL GAP

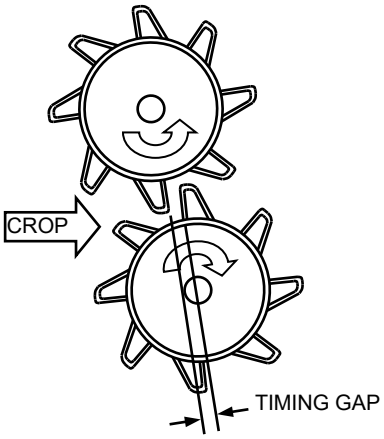


a. The amount of thread protruding through jam nut should equal roll gap. Factory setting should be 0.12 in. (3 mm).

II. ROLL TIMING

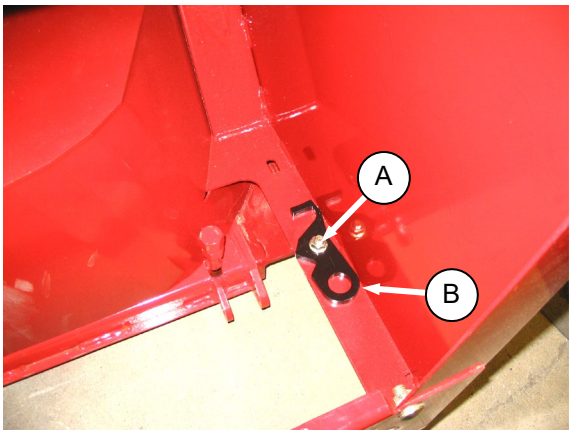
DANGER

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.



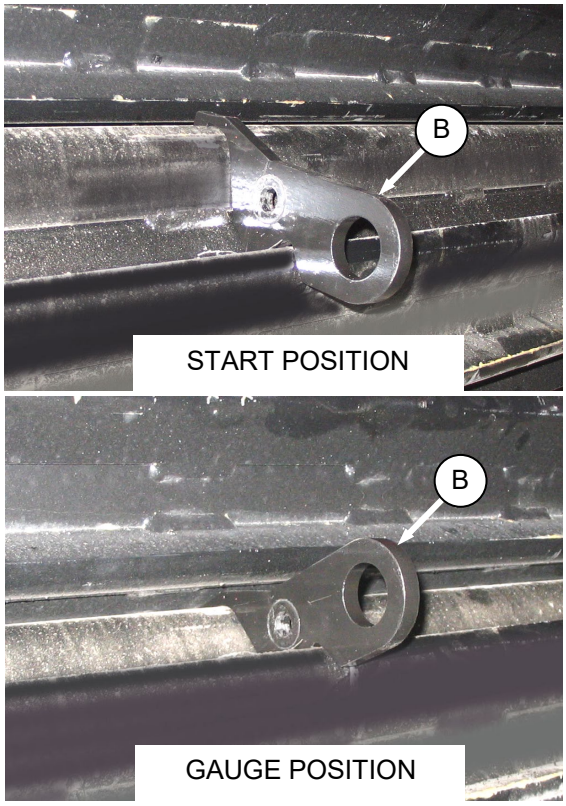
a. Lower header to ground, shut down tractor and remove key.

b. Open drive shields.



c. Remove bolt (A) and nut, and remove gauge (B) from inside panel at RH end of header.

(continued next page)

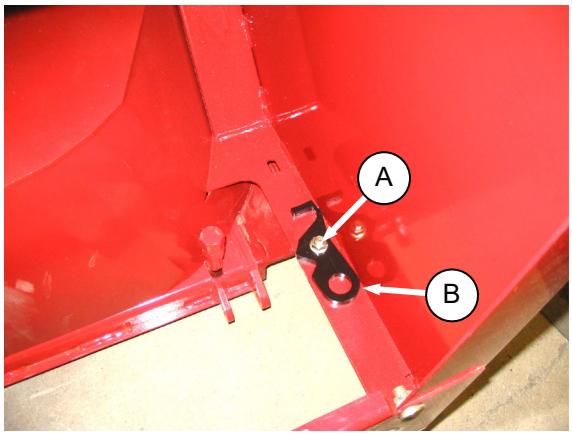


d. From the rear of the header, locate gauge at centre of rolls as shown and manually turn rolls to limits of gauge. Rolls will engage the gauge if timing is correct.

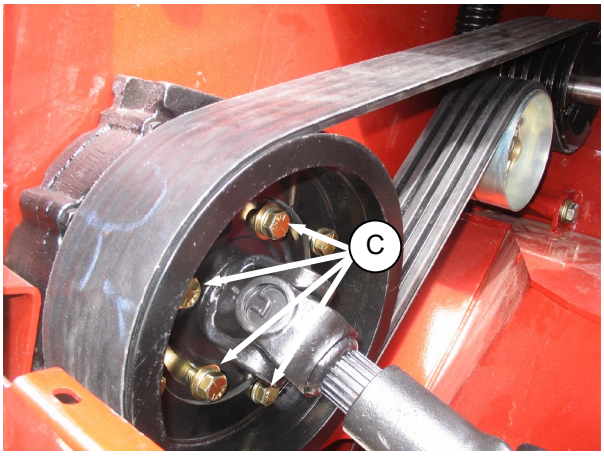
e. Manually turn rolls to release gauge.

WARNING

Remove gauge from rolls and return it to storage location before starting machine.



f. Replace gauge in header with bolt (A) and nut.



g. Check timing flange bolts (C) are tight.

h. Close drive shields.

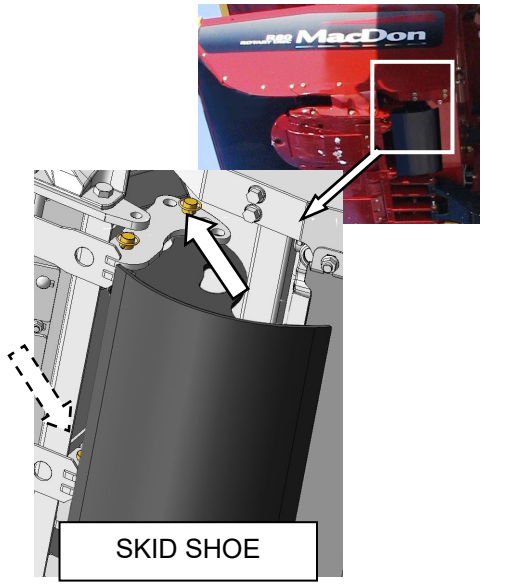
E. GAUGE ROLLERS OR SKID SHOES

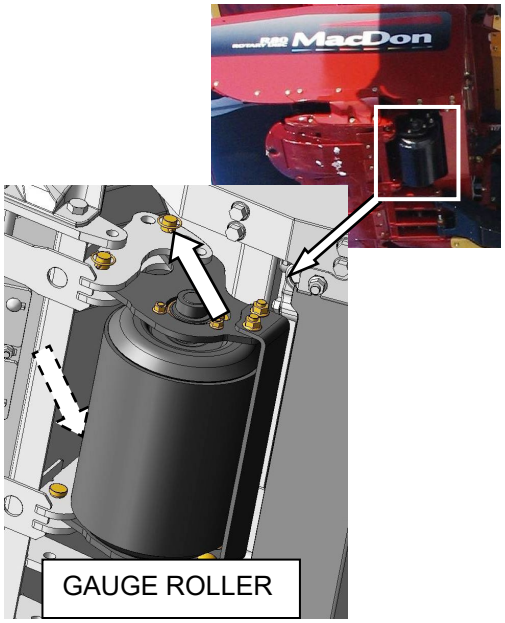
WARNING

To avoid bodily injury or death from unexpected start-up or fall of raised machine, stop engine, remove key and engage lift cylinder stops before going under machine to adjust skid shoes or for any reason.

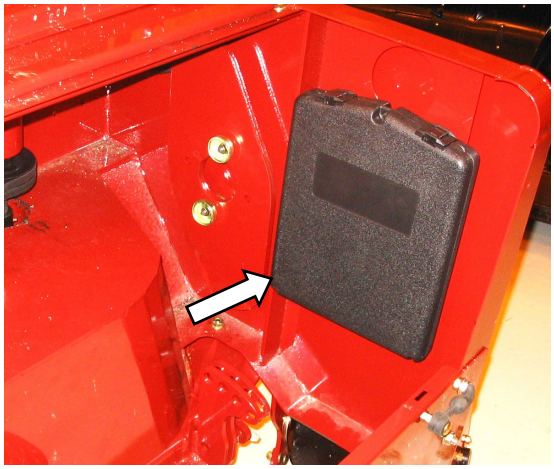
a. Raise header and engage lift cylinder stops.

b. Both gauge rollers or skid shoes should be set at the same position.





F. MANUALS



The following manuals should be stored in the manual storage case inside the RH drive compartment:

- R80 Rotary Disc Header
  PARTS CATALOGUE. Form #169054.
- R80 Rotary Disc Self-Propelled Windrower Header
  OPERATOR'S MANUAL. Form #169089.

G. LIGHTS – 16 FT ONLY

The hazard lights, which are mounted on both ends of the header, are activated by switches in the M Series tractor cab. Check for operation during run-up.

Check light mountings for security and check lights for damage.

H. RUN-UP THE HEADER

CAUTION

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

CAUTION

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

CAUTION

Before investigating an unusual sound or attempting to correct a problem, shut off engine, engage parking brake and remove key.

Refer to M Series Unloading & Assembly Instructions, Form #169018, or M150 & M200 Self-Propelled Windrower Operator's Manual, Form #169017 for tractor operating instructions.

a. Start windrower and run the machine for 15 minutes.

b. Perform the run-up check as listed on the "Pre-Delivery Checklist" (yellow sheet attached to this instruction) to ensure the machine is field-ready.

NOTES

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