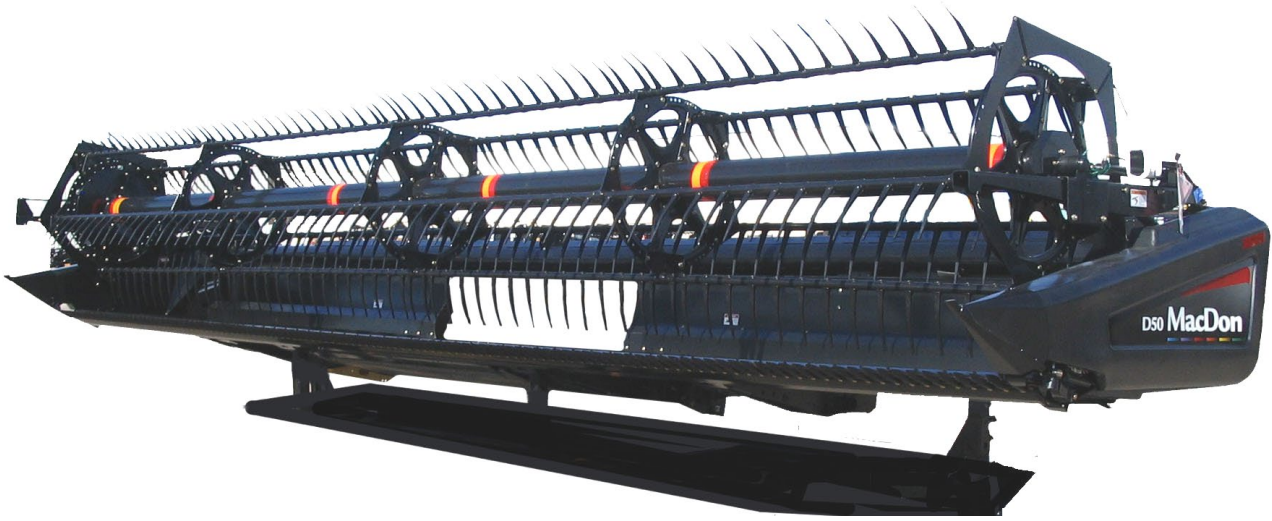


**MacDon™**

**Model D50 & D60 Harvest Header®  
for Self-Propelled Windrowers**

**UNLOADING &  
ASSEMBLY INSTRUCTIONS  
for  
NORTH AMERICAN SHIPMENTS**



**D50 HARVEST HEADER®**



**D60 HARVEST HEADER®**

# INTRODUCTION

This instruction describes the unloading, set-up and pre-delivery requirements for the MacDon D50 and D60 Harvest Headers for 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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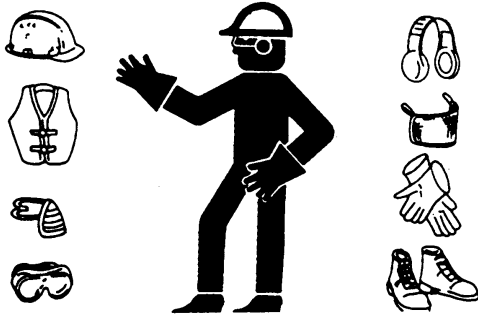
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# GENERAL SAFETY

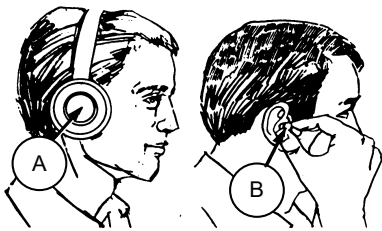


## CAUTION

- 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.



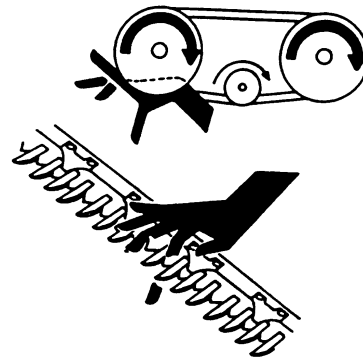
- hearing protection. Be aware that prolonged exposure to loud noise can cause impairment or loss of hearing. Wearing a suitable hearing protective device such as ear muffs (A) or ear plugs (B) protects against objectionable or loud noises.
- Be aware that accidents often happen when the operator is tired or in a hurry to get finished. Take the time to consider the safest way. Never ignore warning signs of fatigue.



- 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.
- 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

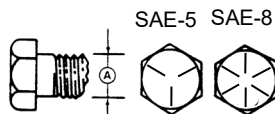
The tables shown below give correct torque values for various bolts and capscrews.

- 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"	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

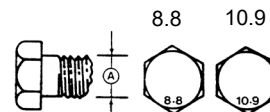
\* Torque categories for bolts and capscrews are identified by their head markings.



## C. METRIC BOLTS

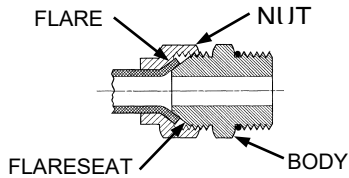
BOLT DIA. "A"	NC BOLT TORQUE*			
	8.8		10.9	
	ft-lbf	N·m	ft-lbf	N·m
M3	0.4	0.5	1.3	1.8
M4	2.2	3	3.3	4.5
M5	4	6	7	9
M6	7	10	11	15
M8	18	25	26	35
M10	37	50	52	70
M12	66	90	92	125
M14	103	140	148	200
M16	166	225	229	310
M20	321	435	450	610
M24	553	750	774	1050
M30	1103	1495	1550	2100
M36	1917	2600	2710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

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



## D. HYDRAULIC FITTINGS

### FLARE TYPE

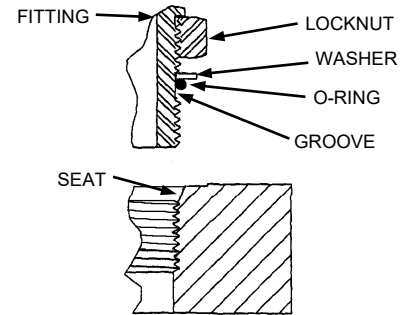


- Check flare and flare seat for defects that might cause leakage.
- Align tube with fitting before tightening.
- Lubricate connection and hand tighten swivel nut until snug.
- To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body and with the second tighten the swivel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

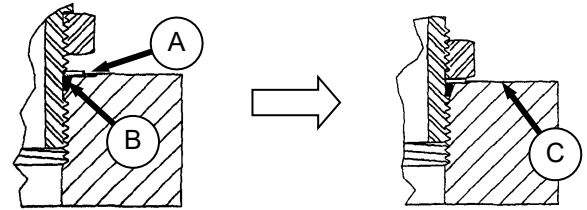
SAE NO.	TUBE SIZE O.D. (in.)	THD SIZE (in.)	NUT SIZE ACROSS FLATS (in.)	TORQUE VALUE*		RECOMMENDED TURNS TO TIGHTEN (AFTER FINGER TIGHTENING)	
				ft·lbf	N·m	Flats	Turns
3	3/16	3/8	7/16	6	8	1	1/6
4	1/4	7/16	9/16	9	12	1	1/6
5	5/16	1/2	5/8	12	16	1	1/6
6	3/8	9/16	11/16	18	24	1	1/6
8	1/2	3/4	7/8	34	46	1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

\* 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.

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

\* The torque values shown are based on lubricated connections as in 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)
gal (US)	x 3.7854	= liters (L)
US gal/min (gpm)	x 3.7854	= liters/min (L/min)
hp	x 0.7457	= kilowatts (kW)
in. <sup>3</sup>	x 16.3871	= cubic centimeters (cm <sup>3</sup> or cc)
lbf	x 4.4482	= Newtons (N)
lbf-ft or ft-lb	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)
pint (US)	x 0.4732	= liters (L)
psi	x 6.8948	= kilopascals (kPa)
psi	x 0.00689	= megapascals (MPa).
qt. (US)	x 0.9464	= liters (L)



## UNLOADING AND ASSEMBLY

### 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		
	HDR SIZE	
	15-25	30-45
Min. Lifting Capacity *	5000 lb (2270 kg)	7000 lb (3178 kg)
Min. Fork Length	78 in. (1981 mm)	

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

#### IMPORTANT

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

- Move trailer into position and block trailer wheels.
- Lower trailer storage stands.



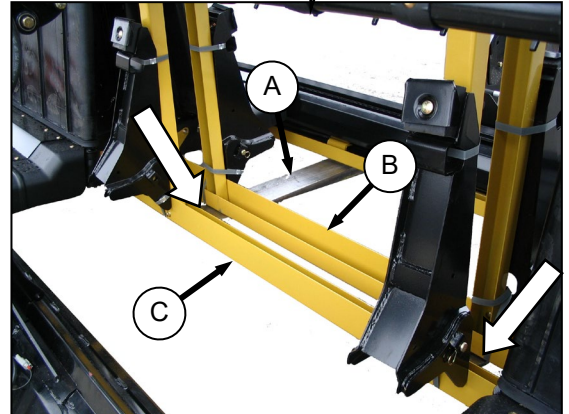
#### CAUTION

Ensure that forks extend beyond the inner support prior to lifting the header. If the forks do not lift at the supports, damage to the header may occur.



#### CAUTION

Avoid lifting the second header and ensure the forks do not interfere with the shipping frame. If the forks contact the second header, damage to the headers may occur.



- Approach the header and slide forks (A) underneath shipping support (B) of header as far as possible without contacting the shipping support (C) of opposite header.
- Remove hauler's tie down straps and chains.



#### WARNING

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

- Slowly raise windrower off deck.
- Back up until unit clears trailer and slowly lower to 6 in. (150 mm) from ground.
- Take machine to storage or set-up area.
- Repeat above steps for second header.
- Check for shipping damage and missing parts.

## UNLOADING AND ASSEMBLY

### STEP 2. LOWER HEADER

Reposition header as follows in preparation for assembly and set-up:

#### A. SINGLE REEL HEADERS

- a. Choose an area with level ground.

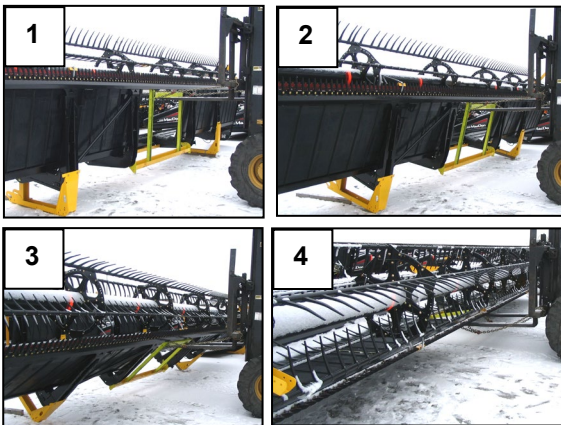


- b. Approach header from its "underside" and place forks under top of shipping frame.  
c. Attach a chain at each end of frame and secure other end to lifting vehicle.

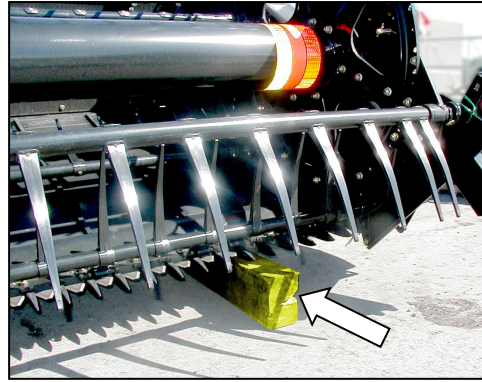


### CAUTION

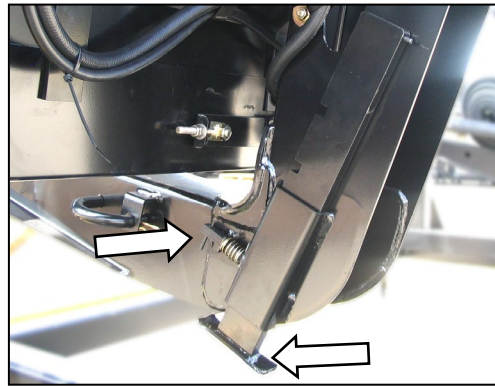
Stand clear when lowering, as machine may swing.



- d. Back up SLOWLY while lowering forks until header is just above the ground. See illustration.



- e. Place 6 in. (150 mm) blocks under each end and center of cutterbar and lower header onto blocks.  
f. Remove chain and move lifting vehicle to rear of header.  
g. Attach chain to center link anchor on frame tube and raise rear of header so that stand can be lowered.



- h. Lower header stand by pulling pin, lowering stand, and releasing pin to secure stand.  
i. Lower header onto stand.

#### NOTE

*If ground is soft, place a block under stand.*

## UNLOADING AND ASSEMBLY

### B. DOUBLE REEL HEADERS – D60 ONLY

Reposition header as follows in preparation for assembly and set-up:

- a. Choose an area with level ground.



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

#### IMPORTANT

Do not lift header at this location. This procedure is only for laying the machine over into working position.

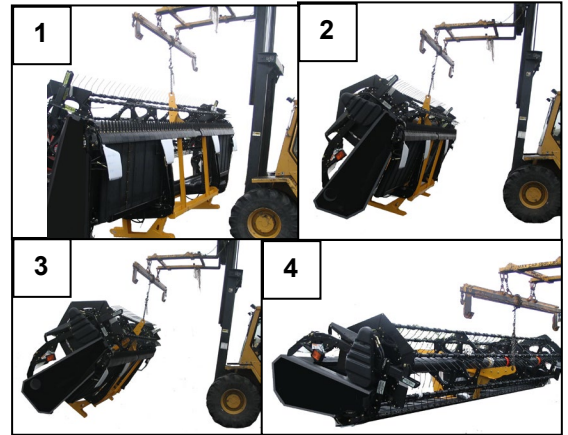


- c. Attach chain to shipping support at center reel arm.

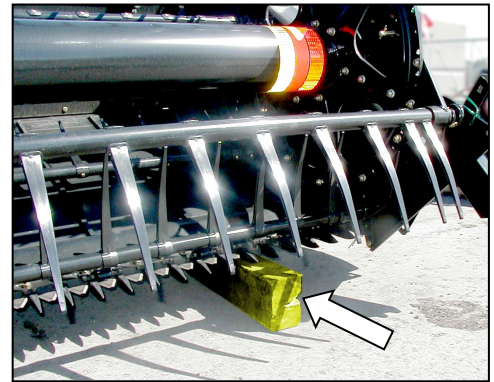


#### CAUTION

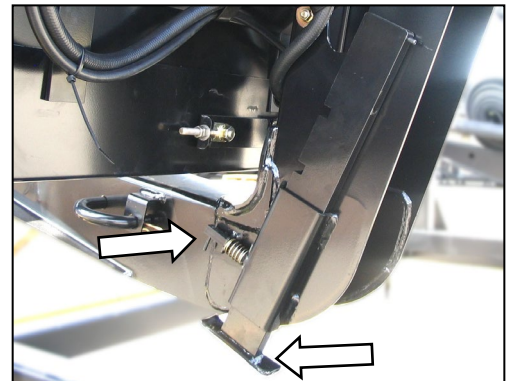
Stand clear when lowering, as machine may swing.



- d. Back up SLOWLY while lowering forks until header is just above the ground.



- e. Place 6 in. (150 mm) blocks under each end and center of cutterbar and lower header onto blocks.
- f. Remove chain and move lifting vehicle to rear of header.
- g. Attach chain to center link anchor on frame tube and raise rear of header so that stand can be lowered.



- h. Lower header stand by pulling pin, lowering stand, and releasing pin to secure stand.
- i. Lower header onto stand.

#### NOTE

*If ground is soft, place a block under stand.*

## UNLOADING AND ASSEMBLY

### STEP 3. REMOVE SHIPPING SUPPORTS

The removable supports are painted yellow.

#### NOTE

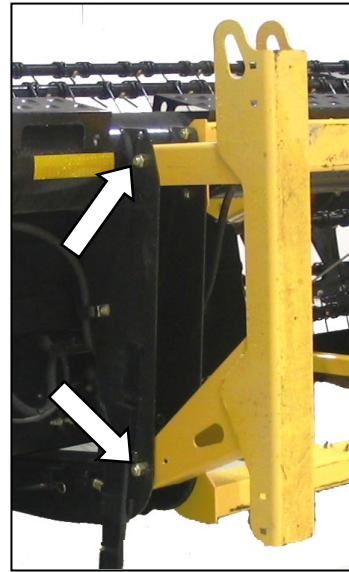
*Unless otherwise specified, discard supports, and all shipping material and hardware.*



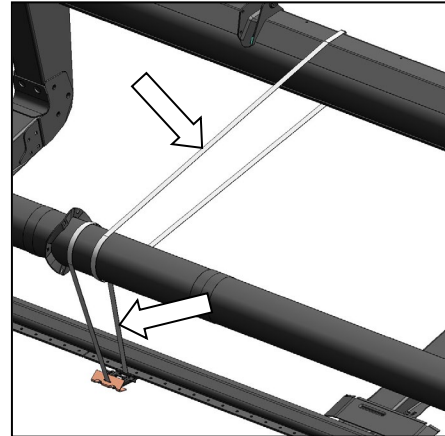
- a. Cut straps and remove header boots from shipping support. Set boots aside for later installation.



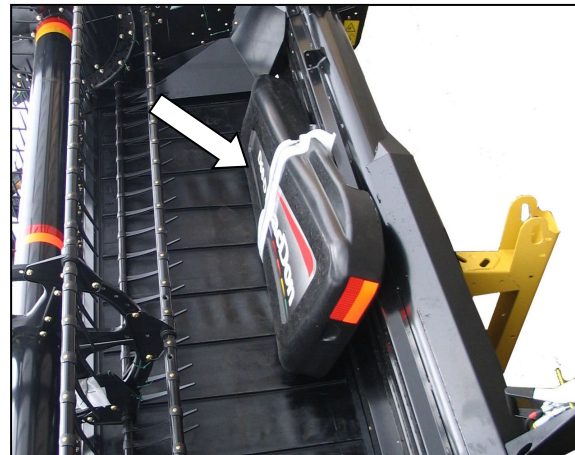
- b. Remove six bolts securing lower support to header legs and remove support.  
c. Remove four bolts securing upper support to header legs and remove support.



- d. Remove the two shipping stands from each header leg.



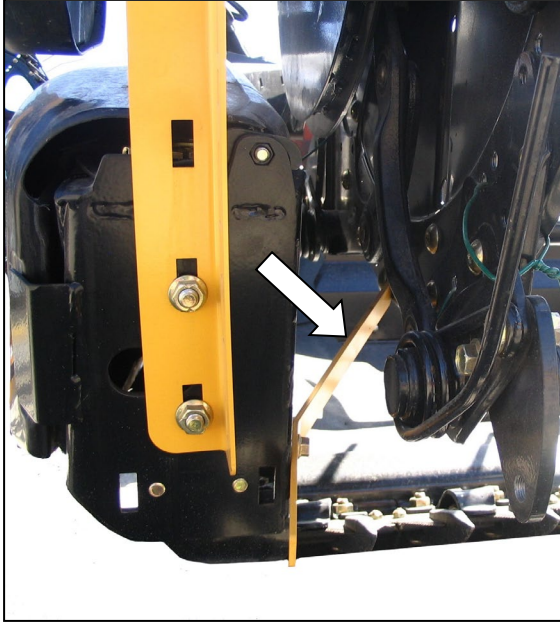
- e. Cut banding securing reel to cutterbar and backtube (SINGLE REEL ONLY).



- f. Cut banding and remove plastic endshields from backsheet.

*(continued next page)*

## UNLOADING AND ASSEMBLY



- g. Remove reel anti-rotation brace between reel and endsheet.

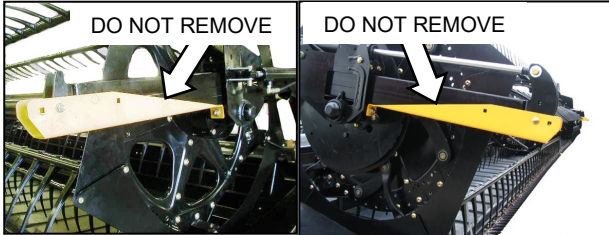
## UNLOADING AND ASSEMBLY

### STEP 4. ATTACH REEL LIFT CYLINDERS



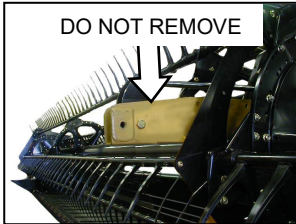
#### CAUTION

Braces On Reel Arms Keeps Reel From Sliding Forward. Do Not Remove.



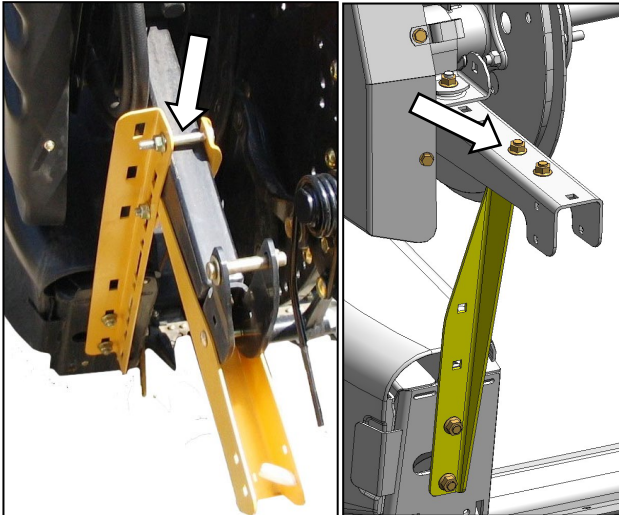
LH ARM – D60

RH ARM – D60



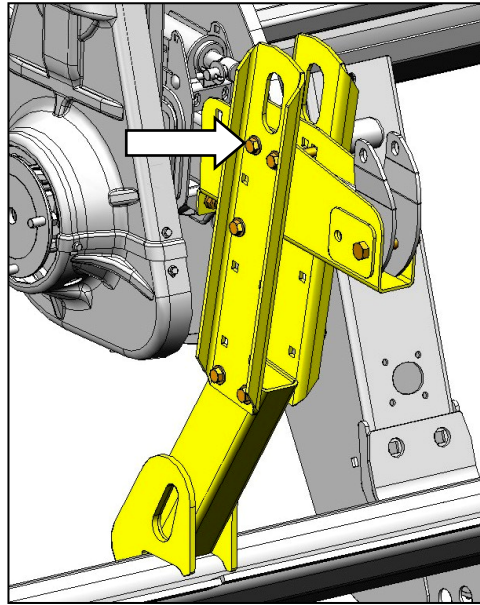
CENTER ARM – D60 DR

- a. Remove top bolt on outboard reel arm supports.



D60 REEL SUPPORT

D50 REEL SUPPORT



DOUBLE REEL SUPPORT

- b. Remove two top bolts on center reel arm support. (DOUBLE REEL ONLY).

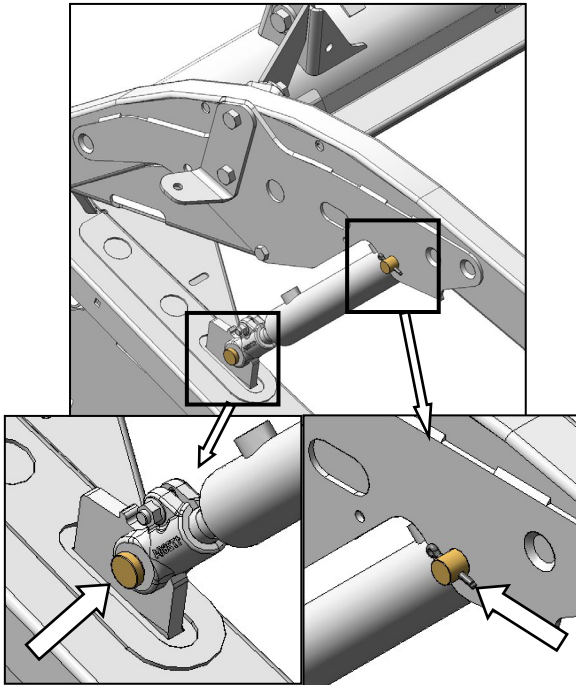


D60 REEL SHOWN

- c. Position sling around the reel tube close to outboard end of reel and attach sling to a forklift (or equivalent).
- d. Remove shipping wire/banding from cylinder and remove pins from lug and arm.
- e. Lift reel so that reel lift cylinder mounting holes line up with lug on end sheet and hole in reel arm.

*(continued next page)*

## UNLOADING AND ASSEMBLY



- f. Secure cylinder to end sheet and reel arm with pins as shown. Note orientation of pins. Secure with cotter pins.



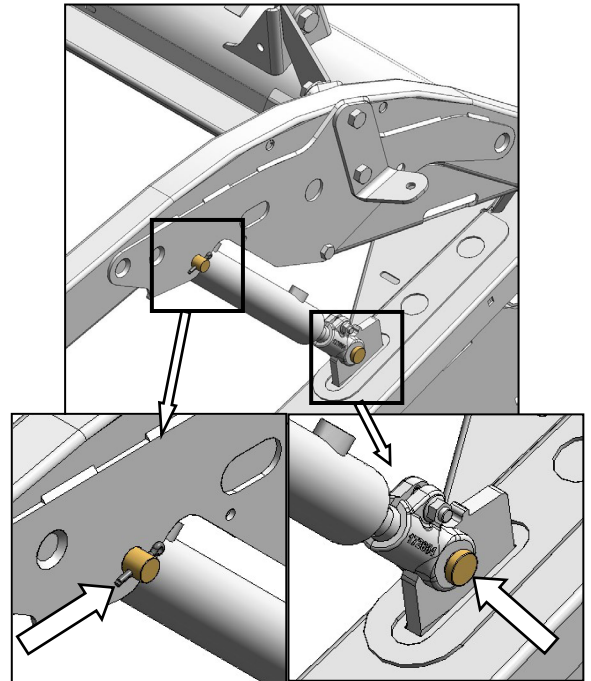
DOUBLE REEL

- g. Remove sling and reposition around reel tube near reel center support arm. (DOUBLE REEL ONLY).
- h. Lift reel so that reel center lift cylinder mounting holes line up with bracket on frame. (DOUBLE REEL ONLY).
- i. Remove shipping wire/banding from cylinder and remove pin from frame. (DOUBLE REEL ONLY).



CENTER CYLINDER – DOUBLE REEL

- j. Attach cylinder to frame with pin as shown. Secure with cotter pin. (DOUBLE REEL ONLY).
- k. Remove sling and reposition around reel tube near opposite outboard reel arm.
- l. Remove shipping wire/banding from cylinder and remove pins from lug and arm.
- m. Lift reel so that reel lift cylinder mounting holes line up with lug on end sheet and hole in reel arm.

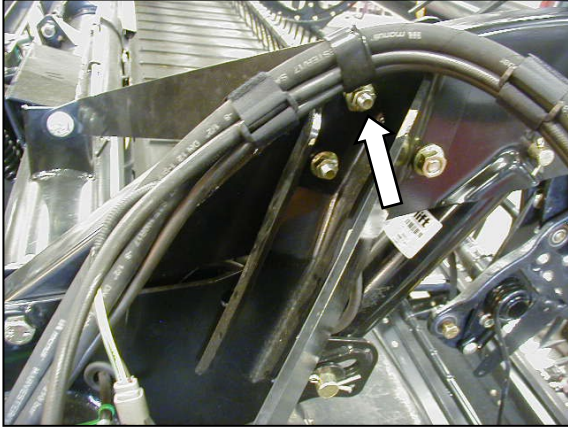


- n. Secure cylinder to end sheet and reel arm with pins as shown. Note orientation of pins. Secure with cotter pins.

*(continued next page)*

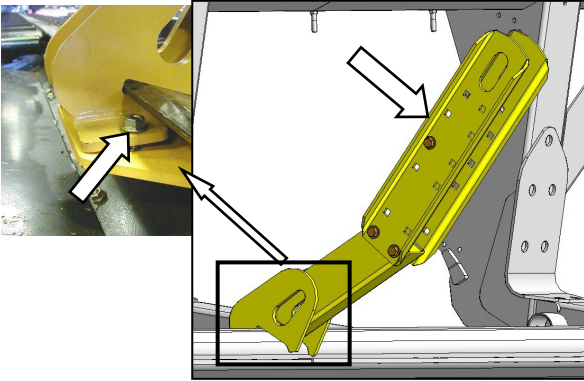
## UNLOADING AND ASSEMBLY

- o. Remove shipping wire from center arm hose bundle and remove bolt and nut from hose clip. (DOUBLE REEL ONLY).

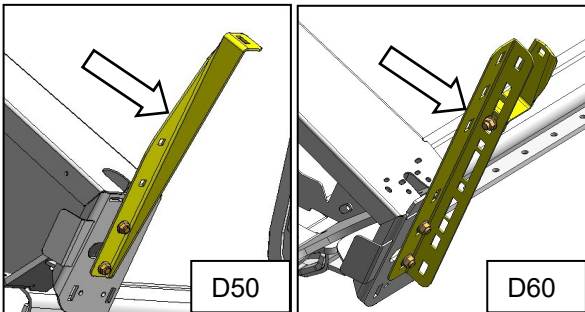


CENTER CYLINDER – DOUBLE REEL

- p. Re-install bolt with hose clip through upper hole in reel prop. (DOUBLE REEL ONLY).



- q. Hold support and remove two bolts at base of center reel arm shipping support so that plate drops free. (DOUBLE REEL).
- r. Slide lower support off cutterbar.

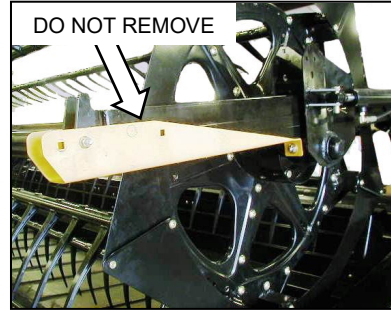


- s. Remove the two reel arm supports from end sheets.

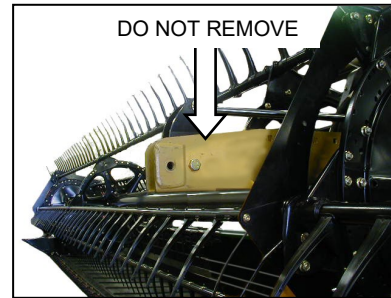


## CAUTION

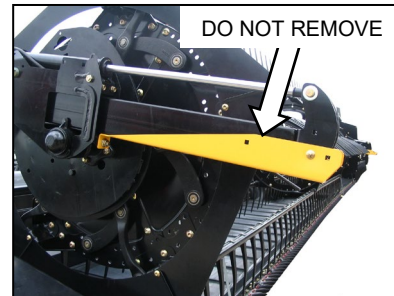
Braces On Reel Arms Keeps Reel From Sliding Forward. Do Not Remove.



LH ARM – D60



CENTER ARM – D60 DR



RH ARM – D60

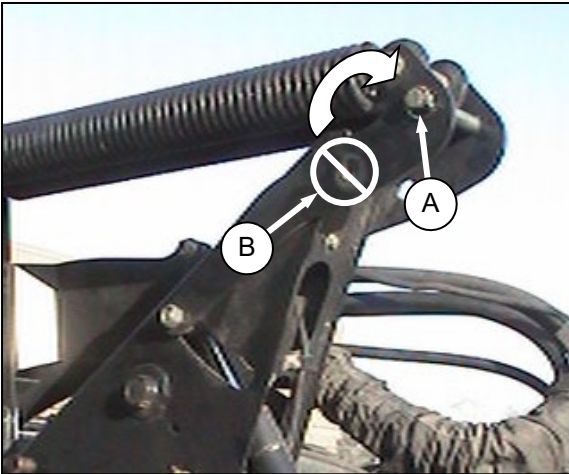


## UNLOADING AND ASSEMBLY

### STEP 5. ATTACH TO WINDROWER

#### IMPORTANT

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

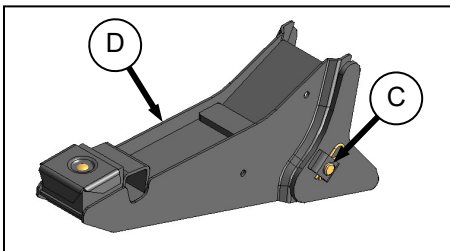


- a. If not installed, attach draper header boots (supplied with header) to windrower lift linkage as follows:

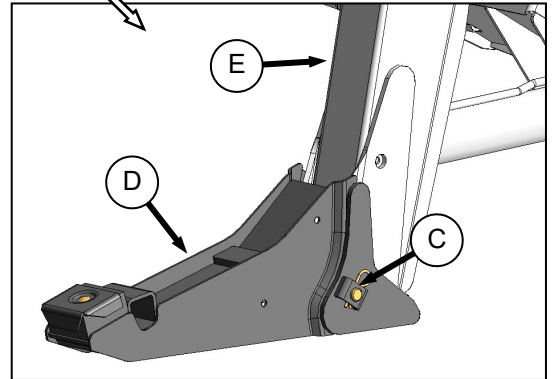
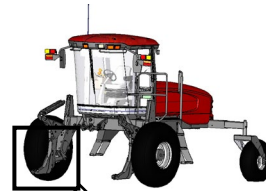


#### DANGER

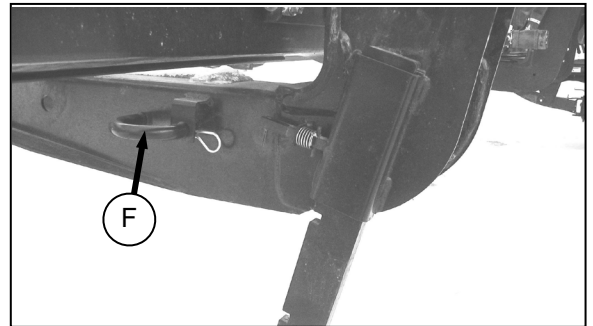
Stop engine and remove key from ignition before leaving operator's seat for any reason. A child or even a pet could engage an idling machine.



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



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



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

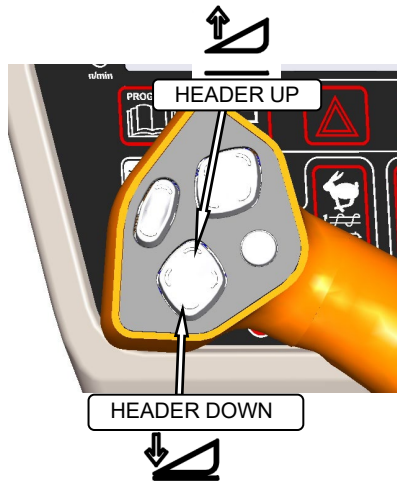
*(continued next page)*

## UNLOADING AND ASSEMBLY

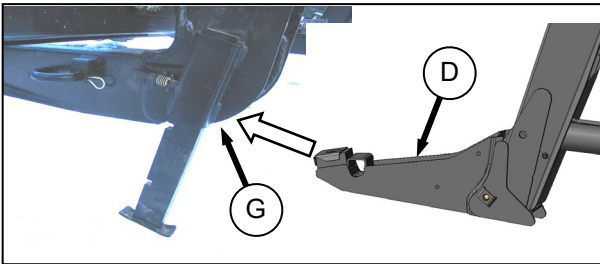


### CAUTION

Check to be sure all bystanders have cleared the area.



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



- d. Slowly drive windrower forward so that boots (D) enter header legs (G). Continue to drive slowly forward until 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.

## UNLOADING AND ASSEMBLY

### STEP 6. CONNECT CENTER LINK

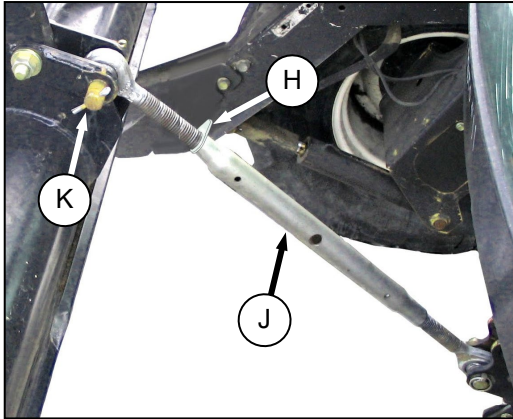
- a. Proceed to appropriate section to connect the center link.

#### MECHANICAL LINK – M100, M150



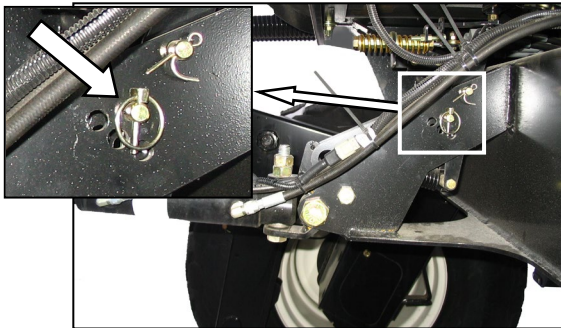
### DANGER

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

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

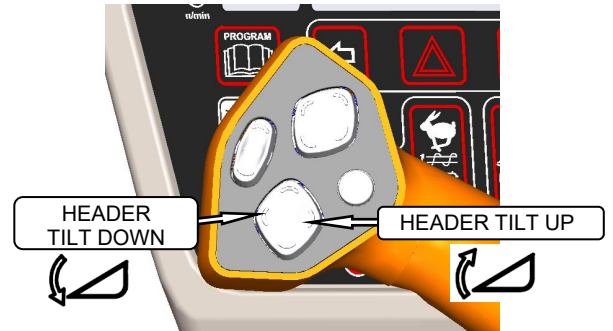


1. Stop engine and remove key.
2. Re-locate the pin at the frame linkage as required to position the hook over the header pin.

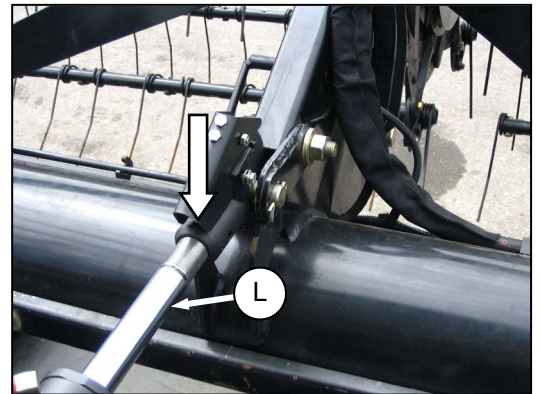


### CAUTION

Check to be sure all bystanders have cleared the area.



3. Start engine and activate HEADER TILT switches on GSL to extend or retract center link cylinder so that the hook lines up with the header attachment pin.
4. Stop engine.

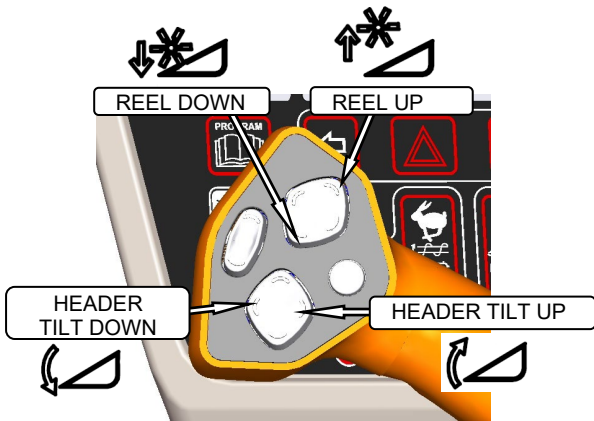


5. Push down on rod end of link cylinder (L) until hook engages pin on header and is locked.
6. Check that center link is locked onto header by pulling upward on rod end of cylinder.
7. Start engine and proceed to next page, step b.

*(continued next page)*

## UNLOADING AND ASSEMBLY

### HYDRAULIC LINK WITH OPTIONAL SELF-ALIGNMENT KIT – M200, M150



1. Adjust the position of the center link cylinder with the REEL UP, REEL DOWN, 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).
- b. Raise the header fully with the HEADER UP switch on the GSL. Stop engine and remove key.

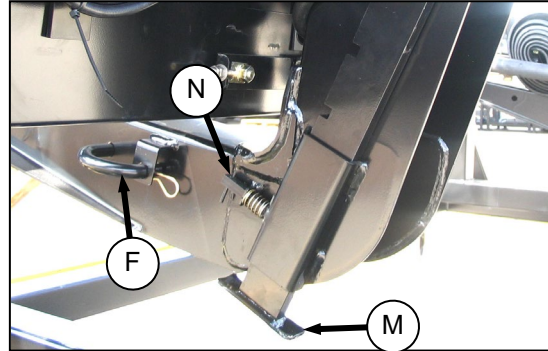


### DANGER

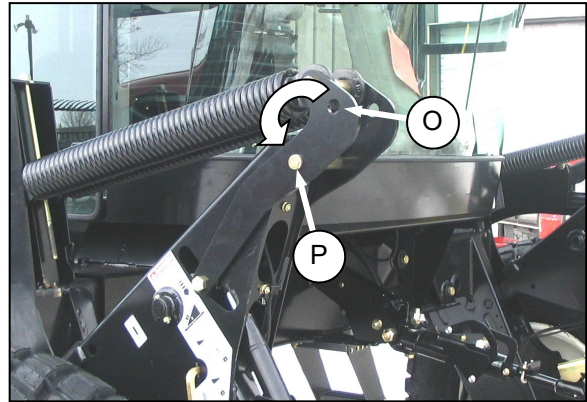
To avoid bodily injury from fall of raised header, always engage header lift cylinder stops when working on or around raised header.

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

- d. Install pin (F) through header leg, (engaging U-bracket in header leg) on both sides.



- e. Raise header stand (M) to storage position by pulling pin (N) and lifting stand into uppermost position. Release pin (N).



- f. Remove pin from storage position (O) in linkages on both sides and insert in hole (P) to engage float springs. Secure with hairpin.
- g. Disengage lift cylinder stops.



### CAUTION

Check to be sure all bystanders have cleared the area.

- h. Start engine and activate HEADER DOWN 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.

- i. Stop engine and remove key.

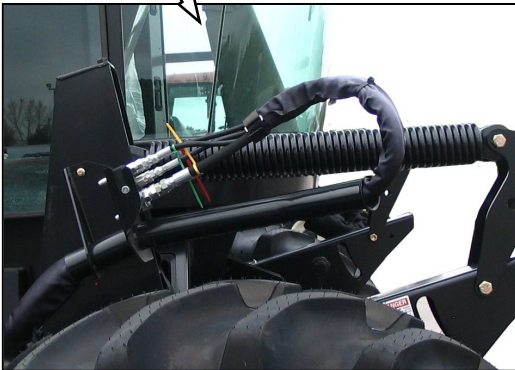
## UNLOADING AND ASSEMBLY

### STEP 7. CONNECT HYDRAULICS

The M150 and M200 Windrowers may not be factory equipped with D Series header and reel hydraulics as shown below. If not, proceed to step a, otherwise go to step b.



HEADER DRIVE



REEL HYDRAULICS

#### NOTE

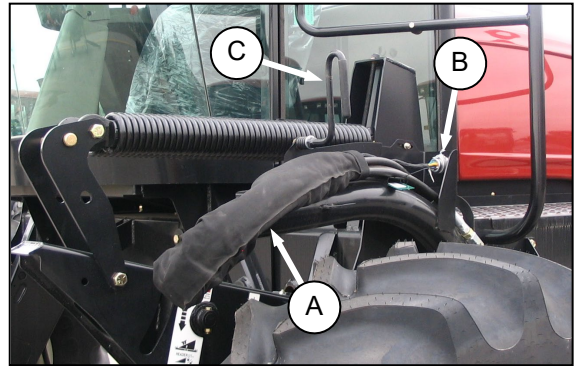
*Windrowers equipped with D-Series hydraulics have four header drive hoses on the LH side, and up to five reel drive hoses on the RH side.*

- a. If required, configure the M150 or M200 to run a D-Series draper header by installing a reel drive/lift kit. See table below for appropriate kit(s). The kits include all necessary hardware and installation instructions, and should have been provided with the windrower shipment.

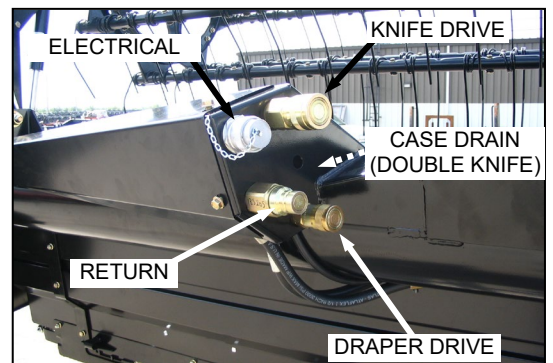
	REEL DRIVE/LIFT KIT
M150	B5426
M200	B5426 and B4651

- b. Connect header drive hydraulics (A) and electrical harness (B) to header as follows:

1. Check connectors and clean if required.



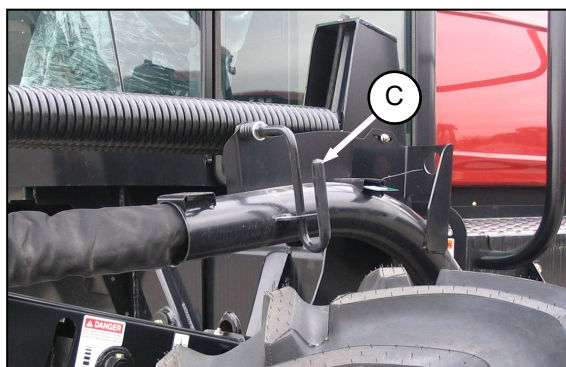
2. Disengage and rotate lever (C) counter-clockwise to fully up position.
3. Remove cap securing electrical connector (B) to frame.
4. Move hose bundle (A) from windrower around hose support on header.



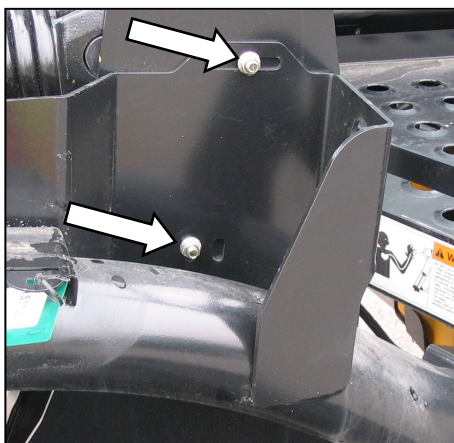
5. Push hose connectors onto mating receptacle until collar on receptacle snaps into lock position.
6. Remove cover on electrical receptacle.
7. Push electrical connector onto receptacle and turn collar on connector to lock it in place.
8. Attach cover to mating cover on windrower wiring harness.

*(continued next page)*

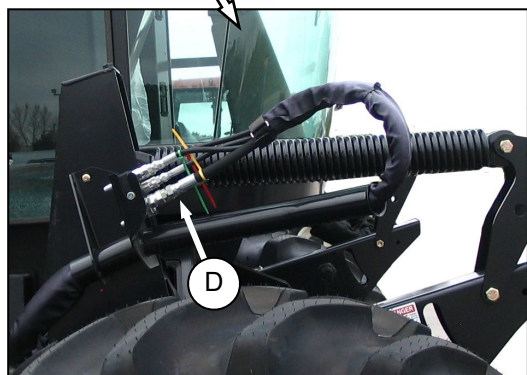
## UNLOADING AND ASSEMBLY



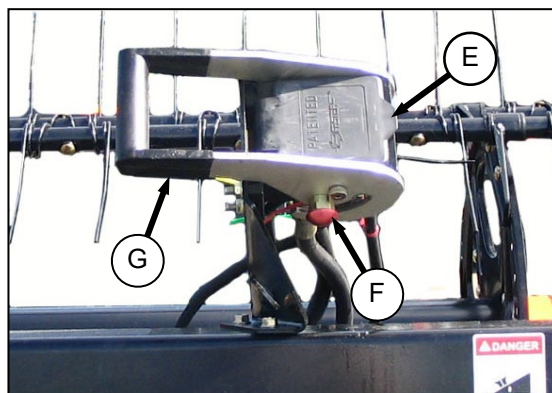
9. Lower lever (C) and engage in down position.



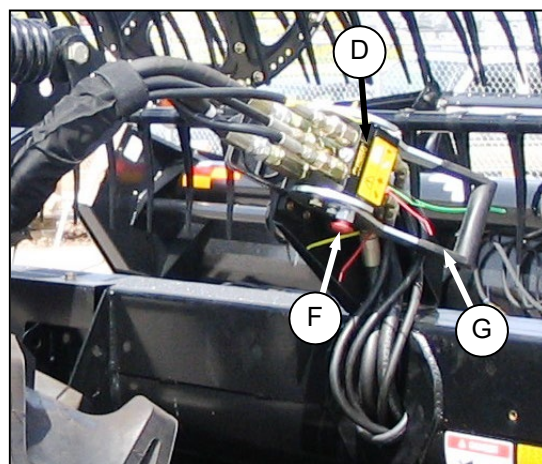
- c. Check that hose support is positioned so that top bolt is midway in slot and lower bolt is in forward hole. Loosen bolts and adjust as required.
- d. Connect reel hydraulics (D) as follows:



1. Check connectors and clean if required.



2. Open cover (E) on header receptacle.
3. Push in lock button (F) and pull handle (G) to half open position.



4. Remove hose bundle with multi-coupler (D) from windrower, position onto header receptacle.
5. Push handle (G) to engage pins on connector.
6. Push handle away from hoses until lock button (F) snaps out.



### CAUTION

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

- e. Start engine and raise and lower header and reel a few times to allow trapped air to pass back to the reservoir.
- f. Stop engine.

### NOTE

*It is not necessary to bleed the system by loosening fittings.*

## UNLOADING AND ASSEMBLY

### STEP 8. CONNECT REEL TO FORE/AFT CYL

#### A. D60



#### CAUTION

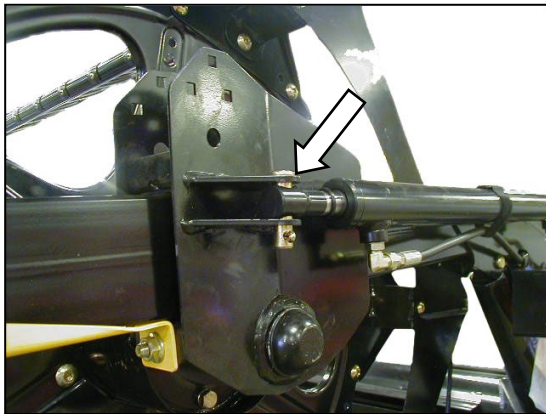
The reel fore-aft hydraulic cylinders must be connected to the reel prior to removing the fore-aft supports. Failure to do so may result in the reel sliding full forward when the supports are removed.



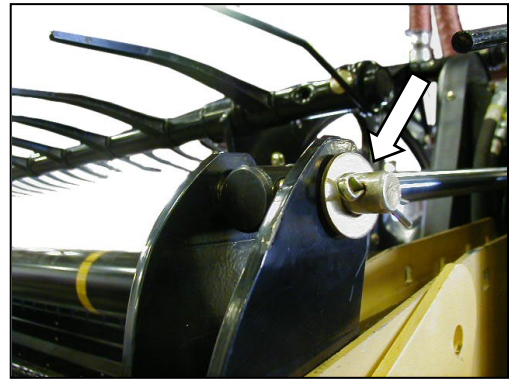
#### CAUTION

Be sure all bystanders are clear of machine before starting engine or engaging any header drives.

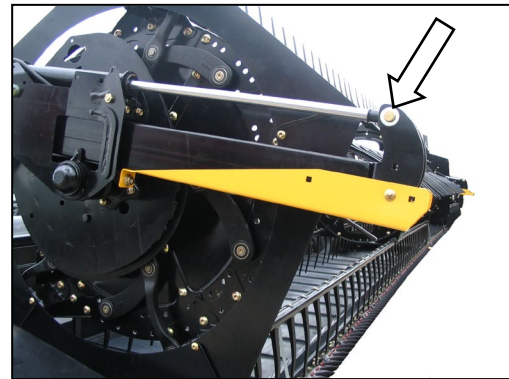
- g. Remove shipping wire and pins from fore/aft cylinders. Pin may be installed in arm. One cylinder on each reel support arm.
- h. Start windrower and level the reel arms with the windrower hydraulics.
- i. Extend and retract fore/aft cylinders to rephase cylinders.
- j. Align cylinders with reel arm mounting holes with windrower hydraulics. Stop engine and remove key.
- k. Attach fore/aft cylinders to reel arms with clevis pins, washers, and cotter pins.



LH ARM



CENTER ARM – DOUBLE REEL



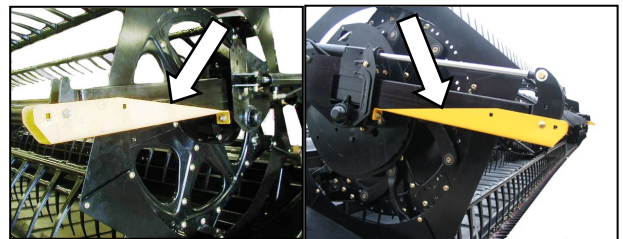
RH ARM



#### CAUTION

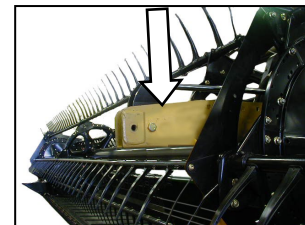
Reel arms must be level prior to removing reel shipping braces. Failure to do so may result in reel moving suddenly.

- l. Remove shipping braces on reel arms.



LH ARM

RH ARM



CENTER ARM - DR

## UNLOADING AND ASSEMBLY

B. D50



### CAUTION

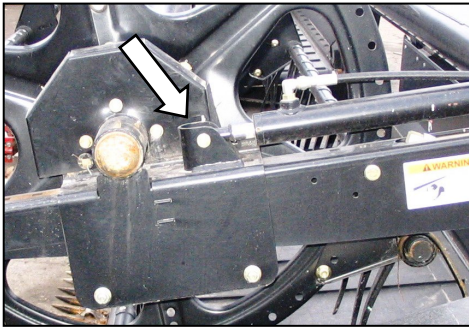
The reel fore-aft hydraulic cylinders must be connected to the reel prior to removing the fore-aft stops. Failure to do so may result in the reel sliding full forward when the stops are removed.



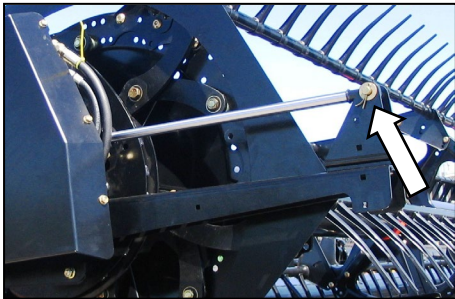
### CAUTION

Be sure all bystanders are clear of machine before starting engine or engaging any header drives.

- Remove shipping wire and pins from fore/aft cylinders. Pin may be installed in arm. One cylinder on each reel support arm.
- Start windrower and level the reel arms with the windrower hydraulics.
- Extend and retract fore/aft cylinders to rephase cylinders.
- Align cylinders with reel arm mounting holes with windrower hydraulics. Stop engine and remove key.



LH ARM

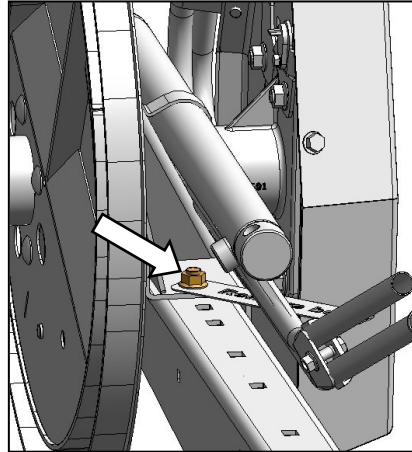


RH ARM

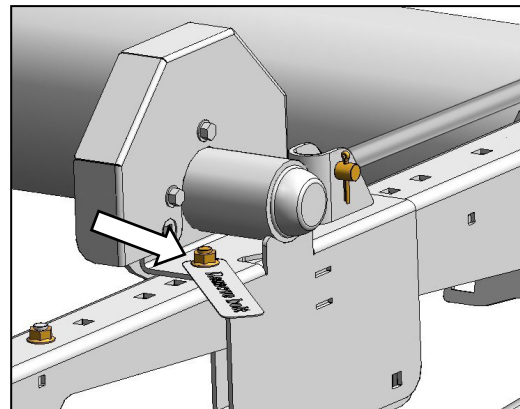


### CAUTION

Reel arms must be level prior to removing fore-aft stops. Failure to do so may result in reel moving suddenly.



RH ARM



LH ARM

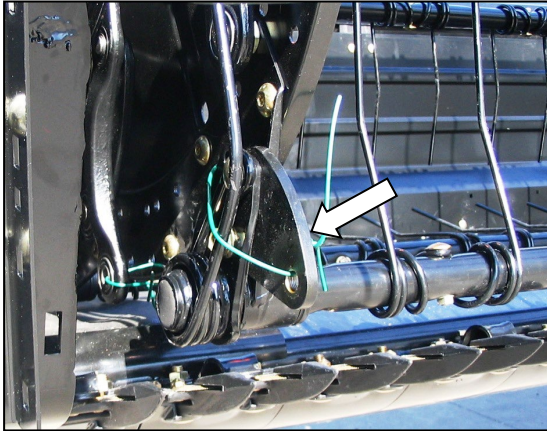
- Remove stops (bolts) from support arms.

- Attach fore/aft cylinders to reel arms with clevis pins, washers, and cotter pins.

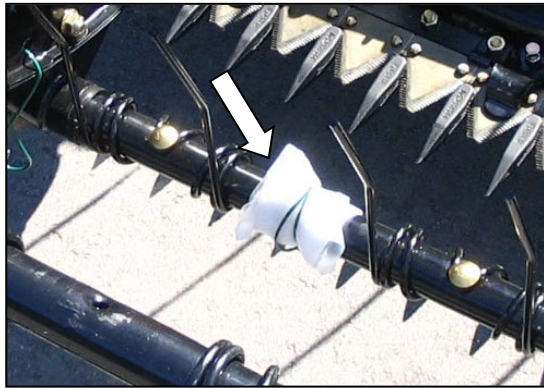


## UNLOADING AND ASSEMBLY

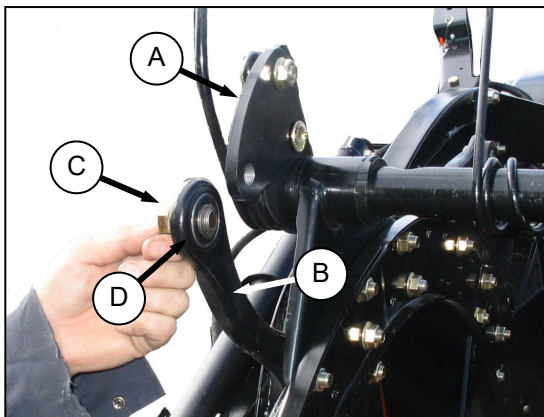
### STEP 9. ATTACH CAM ARMS



- a. Manually rotate reel until the tine bars with the disconnected cam links are accessible.
- b. Remove shipping wire if not already removed.



- c. Remove bag of hardware from tine bar. It contains hardware for cam links and endshields.



- d. Rotate tine bar crank (A), and position link (B) until attachment holes in bar crank and link are approximately aligned.
- e. Install bolt (C) in link and position shim (D) (5/8" ID lockwasher on D50) on bolt so that shim is between link and tine bar crank.

#### NOTE

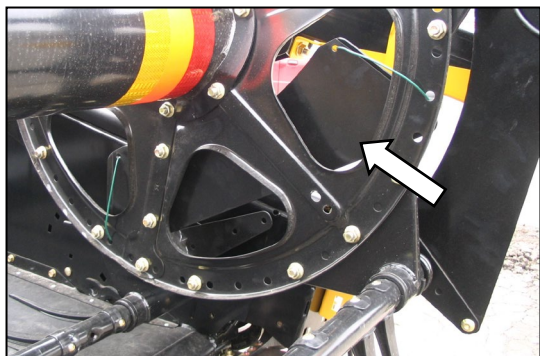
*Bolts are pre-coated with Loctite so no further locking method is required.*

- f. Realign link and tine bar crank and thread in the bolt (C).
- g. Repeat for remaining tine bars and torque bolts to 120 ft-lbf (165 N·m).

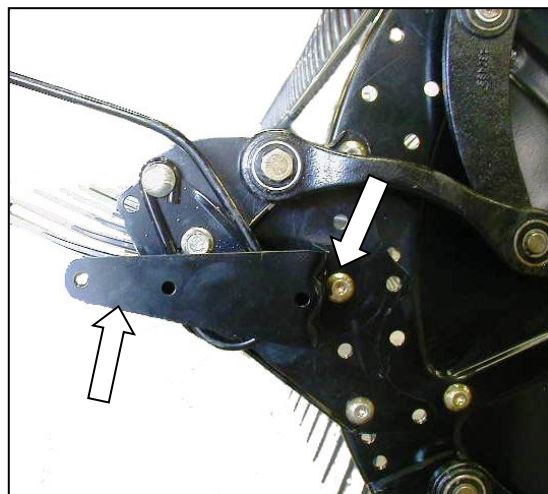
## UNLOADING AND ASSEMBLY

### STEP 10. INSTALL REEL ENDSHIELDS

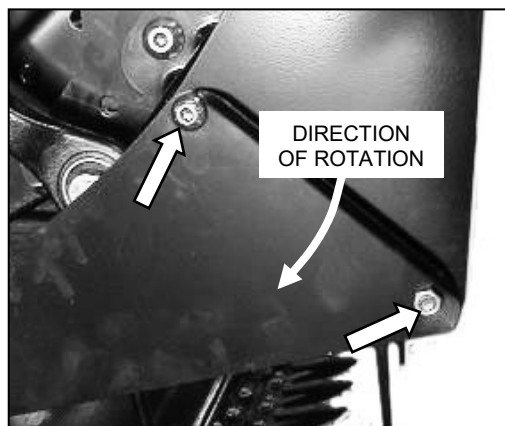
Up to three endshields on each end of some reels were removed for shipping purposes. If necessary, re-install shields as follows.



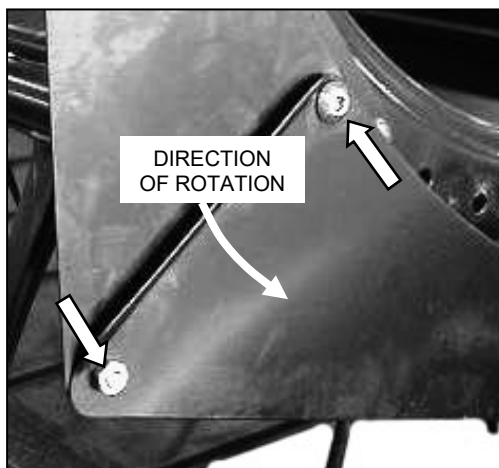
- Manually rotate reel until the wired endshields are accessible. Remove endshields.
- Manually rotate reel for accessibility to re-install the shields.



- Loosen bolts securing endshield supports to disc and rotate supports approximately as shown.
- Retrieve hardware from bag removed in previous step.



CAM END

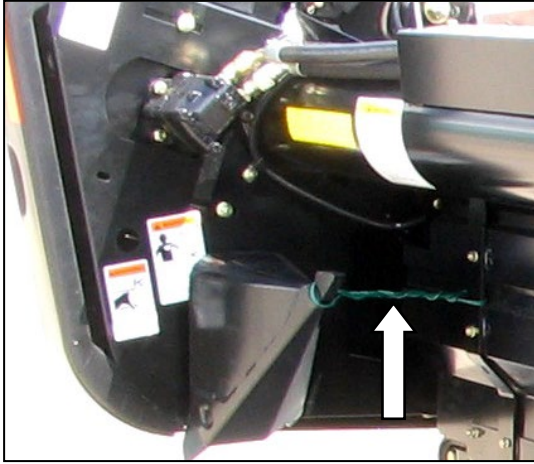


TAIL END

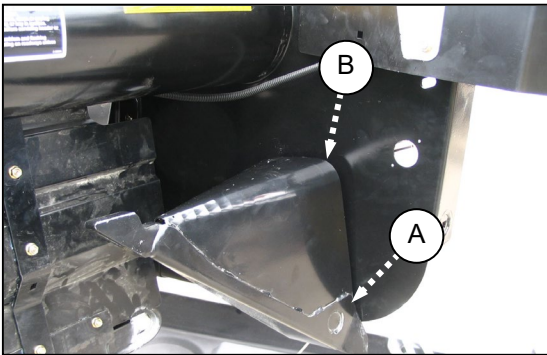
- Install endshields with lip in relation to reel rotation. Use 3/8"x0.5 lg. torx head screws and torque to 20 ft-lbf (27 N·m). **See above for hardware orientation.** The jam nuts must be locking jam nuts. If they aren't locking nuts, use Loctite.
- Re-tighten endshield support bolts if necessary.

## UNLOADING AND ASSEMBLY

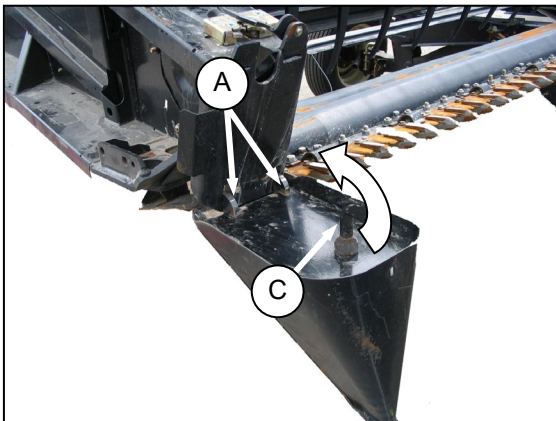
### STEP 11. INSTALL CROP DIVIDERS



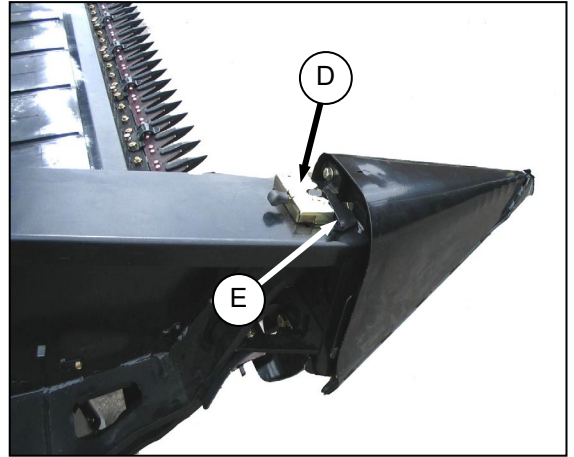
- a. At divider storage location, remove shipping wire from crop divider.



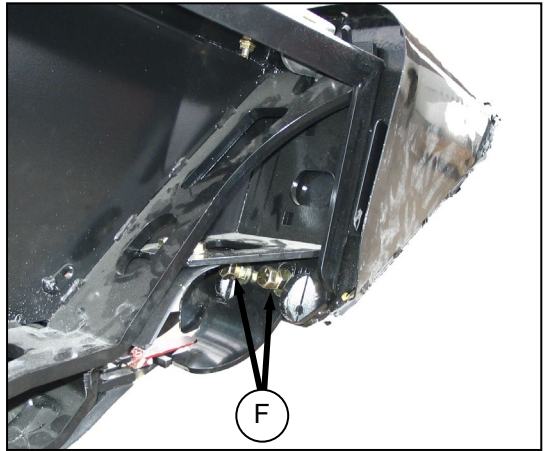
- b. Lift divider to disengage lugs (A) at lower end and then lower it slightly to disengage pin (B) from end sheet.



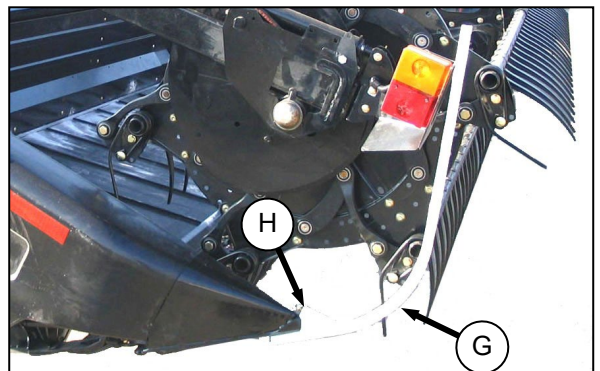
- c. Position crop divider as shown by locating lugs (A) in holes in end sheet.  
d. Lift forward end of divider until pin (C) at top of divider engages and closes latch (D).



- e. Push safety lever (E) down to lock pin in latch.



- f. Check that divider does not move laterally. Adjust bolts (F) as required to tighten divider and remove lateral play when pulling at divider tip.  
g. Remove divider rods from shipping location on header endsheet.



- h. Position divider rod (G) on tip of crop divider as shown and tighten bolt (H).  
i. Repeat above steps for other end of header.

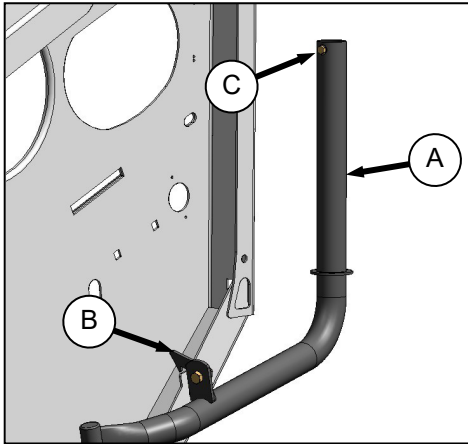
## UNLOADING AND ASSEMBLY

### STEP 12. INSTALL HEADER END SHIELDS

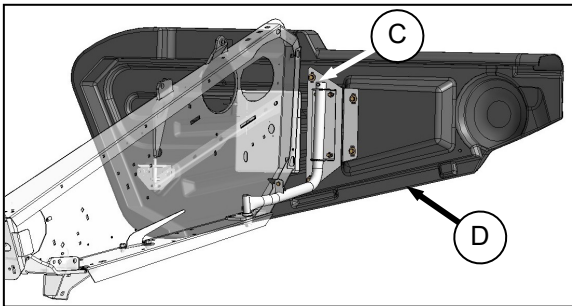
Single knife headers are fitted with a hinged endshield on the LH end of the header for easy access to the header drive. The RH end is not hinged but is still removable.

Double knife headers are fitted with hinged endshields on both ends of the header.

#### A. HINGED ENDSHIELD

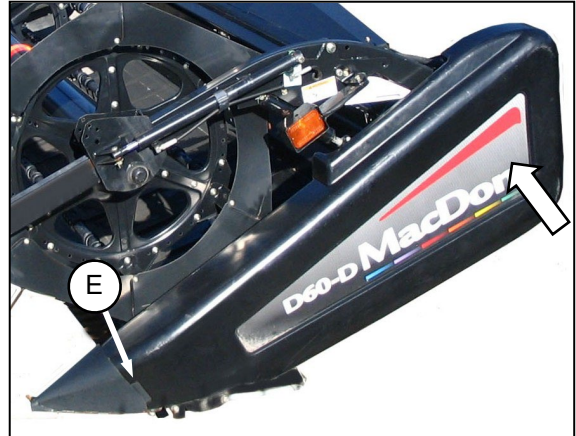


- a. Remove shipping wire from endshield support (A) and swivel support away from endsheet toward the back of the header until it latches (B).
- b. Retrieve plastic endshields.
- c. Remove screw (C) at top of support.



- d. Install endshield (D) onto support tube and re-install screw (C).

- e. To close shield, lift latch (B) and swing the shield forward until the front engages the crop divider (E).



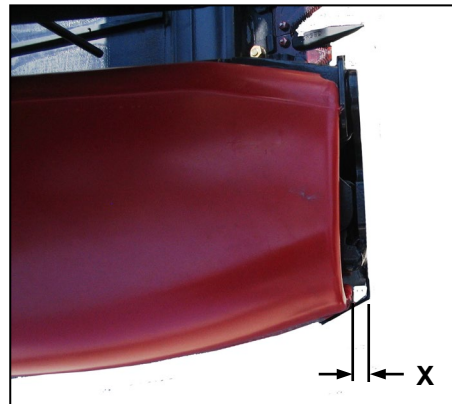
- f. Push in shield where shown (opposite latch) and shield will self-latch.

#### NOTE

*Plastic endshields are subject to expansion or contraction depending on large temperature variations. Latch pin can be adjusted to compensate for dimensional changes.*

- g. The endshield should fit snugly onto the endsheet. Check gap 'X' between the front end of the shield and the header frame and compare the measurement with the values in the chart.

TEMPERATURE Deg. F. (C.)	GAP 'X' in. (mm)
25 (-4)	1.1 (28)
45 (7)	1.0 (24)
65 (18)	0.79 (20)
85 (29)	0.64 (16)
105 (41)	0.5 (12)
125 (52)	0.32 (8)
145 (63)	0.16 (4)
165 (89)	0

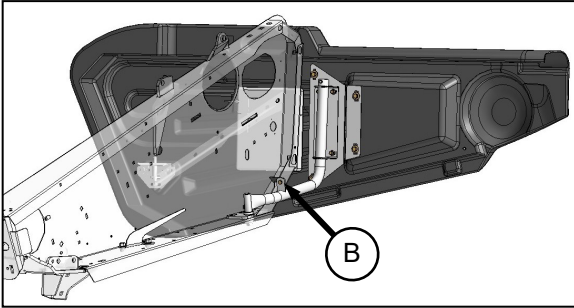
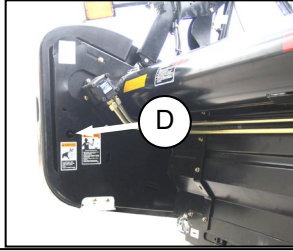


(continued next page)

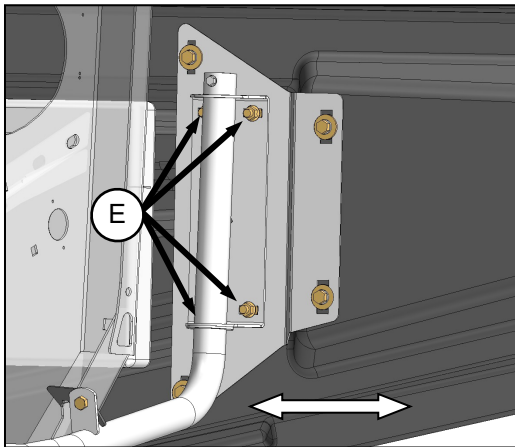
## UNLOADING AND ASSEMBLY

h. If required, adjust as follows:

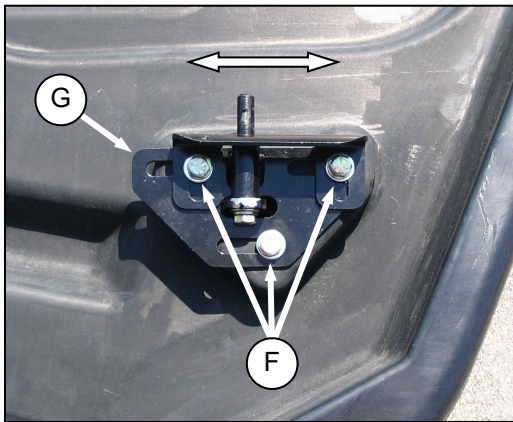
1. Open endshield by pressing against latch in opening at (D) on inboard side of endsheet.



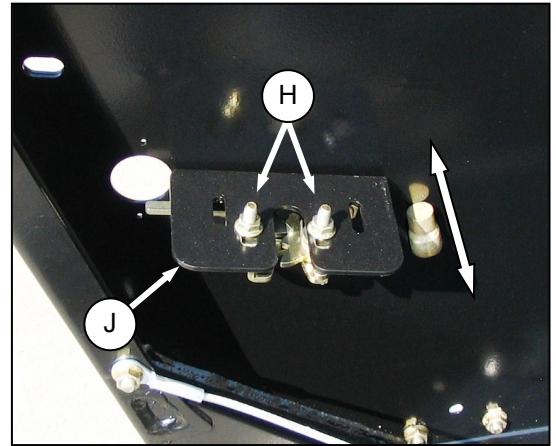
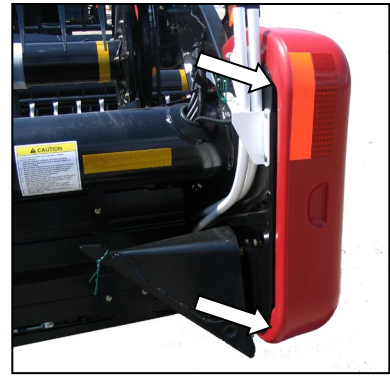
2. Pull shield away from header and swing it out and back behind the end sheet until the latch (B) engages the hook on the endsheet.



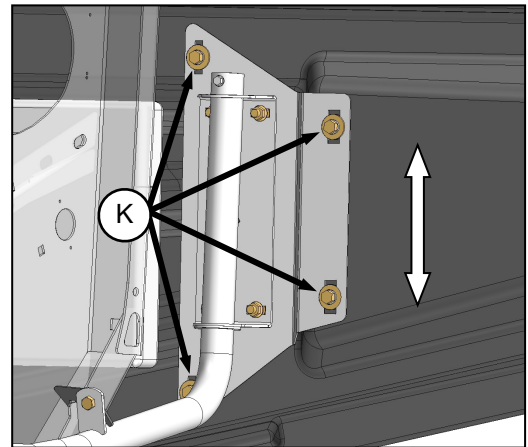
3. Loosen bolts (E) on support.



4. Loosen bolts (F) on latch assembly (G).
5. Adjust latch assembly (G) to achieve appropriate gap 'X' in chart (previous page).
6. Tighten bolts (E) and (F).



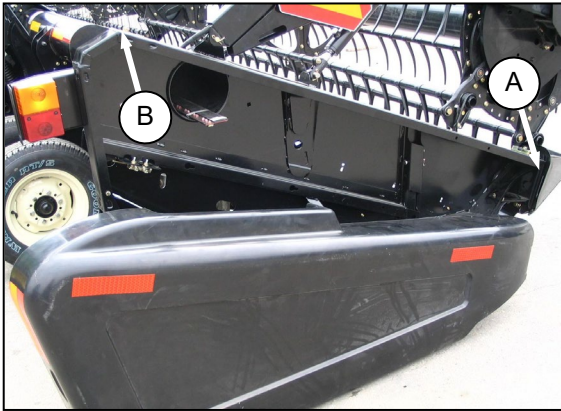
- i. To achieve a snug fit between the aft end of the shield and header frame, loosen bolts (H) and adjust the latch assembly (J) to reposition the shield.



- j. Loosen bolts (K) on endshield support and adjust endshield to align with endsheet as shown above.
- k. Tighten bolts (H) and (K).
- l. Close endshield.

## UNLOADING AND ASSEMBLY

### B. NON-HINGED ENDSHIELD



- a. To install the non-hinged shield, locate forward end in crop divider (A) and position shield over end sheet. Pin (B) at top of end sheet must engage shield.



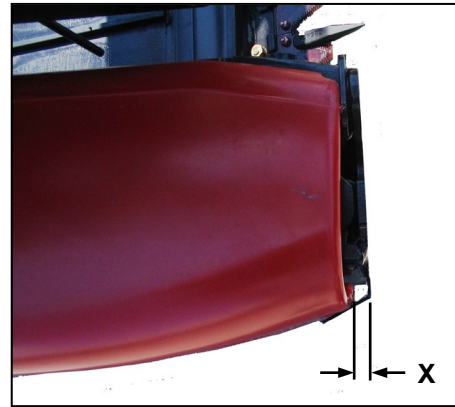
- b. Push in shield where shown (opposite latch) and shield will self-latch.

**NOTE**

*Plastic endshields are subject to expansion or contraction depending on large temperature variations. Latch pin can be adjusted to compensate for dimensional changes.*

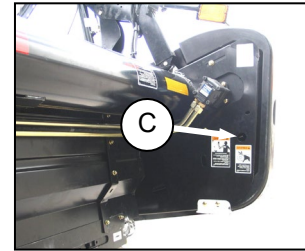
- c. The endshield should fit snugly onto the endsheet. Check gap 'X' between the front end of the shield and the header frame and compare the measurement with the values in the chart.

TEMPERATURE Deg. F. (C.)	GAP 'X' in. (mm)
25 (-4)	1.1 (28)
45 (7)	1.0 (24)
65 (18)	0.79 (20)
85 (29)	0.64 (16)
105 (41)	0.5 (12)
125 (52)	0.32 (8)
145 (63)	0.16 (4)
165 (89)	0

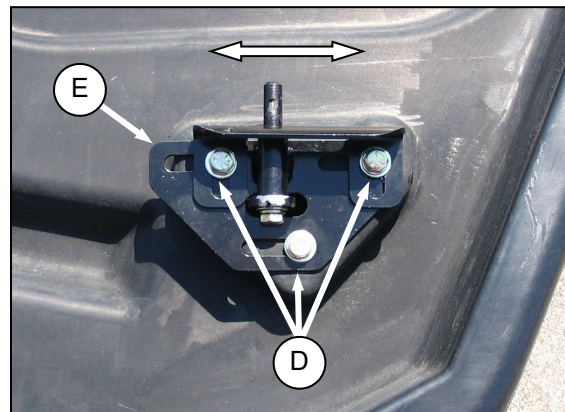


- d. If required, adjust as follows:

1. Remove the end shield by pressing against latch in opening at (C) on inboard side of endsheet.



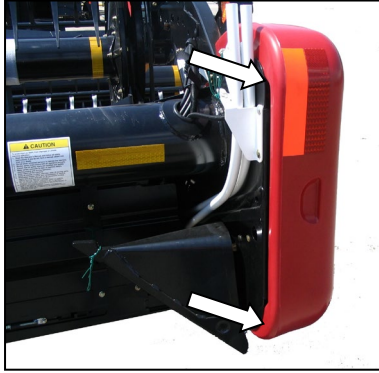
2. Lift up on shield, pull out and back to remove it.



3. Loosen bolts (D).
4. Adjust the pin assembly (E) to achieve the gap 'X' between the front end of the shield and the header frame in accordance with the chart.
5. Tighten bolts (D).

*(continued next page)*

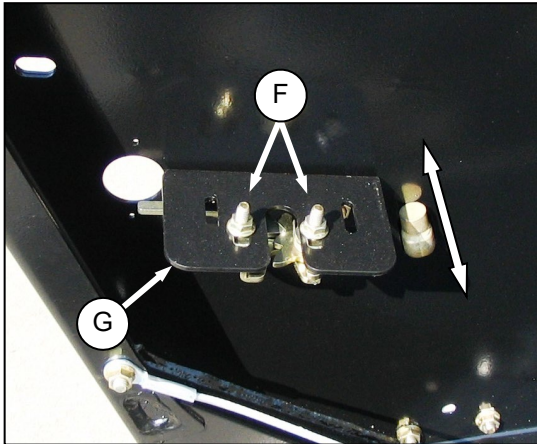
## UNLOADING AND ASSEMBLY



### STEP 13. ADJUST TRANSPORT LIGHTS



- a. Position light perpendicular to header. Lights are located on each of the outboard reel arms.



- e. To achieve a snug fit between the aft end of the shield and header frame, loosen bolts (F) and adjust the latch (G) to reposition the shield.
- f. Tighten bolts (F).

### STEP 14. INSTALL OPTIONS

Optional attachments and kits may have been supplied with the header. They include all necessary hardware and installation instructions.

## PRE-DELIVERY INSPECTION

### STEP 15. PRE-DELIVERY INSPECTION

#### IMPORTANT

To avoid machine damage, check that no shipping dunnage has fallen into machine.

Perform the final checks as listed on the "Pre-Delivery Checklist" (yellow sheet attached to this instruction) to ensure the machine is field-ready. Refer to the following pages for detailed instructions as indicated on the checklist.

#### IMPORTANT

The machine has been set at the factory and should require no further adjustments. However, perform the following checks to ensure your machine will provide maximum performance. Adjustments should be made **only if absolutely necessary** and in accordance with the instructions in this manual.

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

#### A. TIRE PRESSURE (TRANSPORT & STABILIZER WHEEL OPTIONS)

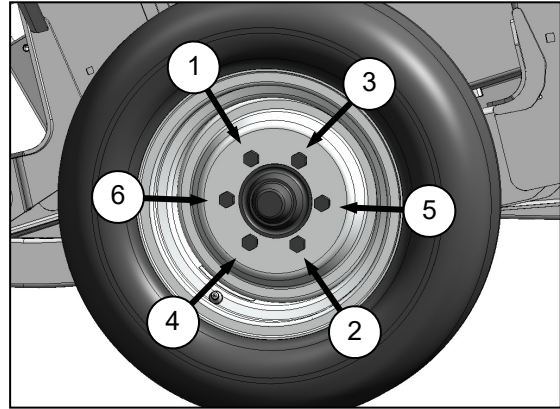
Check tire inflation pressure. If necessary, inflate as per following table.

YR	TIRE	SIZE	PRESSURE
2006 & EARLIER	GOODYEAR WRANGLER RT/S	205-75 R15	40 psi (276 kPa)
2007 & LATER	CARLISLE & TITAN	ST205/75 R15	65 psi (448 kPa)

#### IMPORTANT

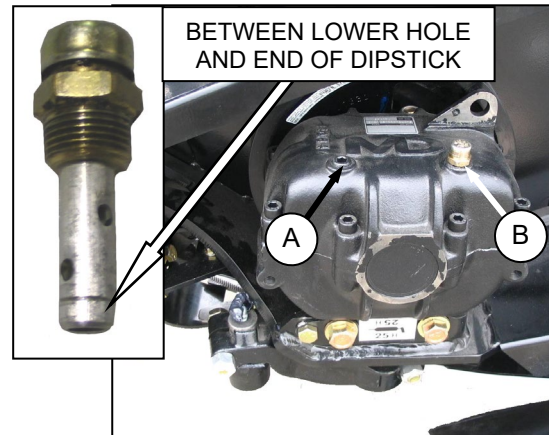
Do not exceed maximum pressure specified on tire side wall.

#### B. WHEEL BOLT TORQUE (TRANSPORT & STABILIZER WHEEL OPTIONS)



Check wheel bolt torque is 80-90 ft-lbf (110-120 N·m). Refer to bolt tightening sequence illustration.

#### C. WOBBLE BOX



CHECK OIL LEVEL WITH TOP OF WOBBLE BOX HORIZONTAL

- Position of plug (A) and breather (B) at wobble box must be as shown.
- Check oil level.

*(continued next page)*



## PRE-DELIVERY INSPECTION

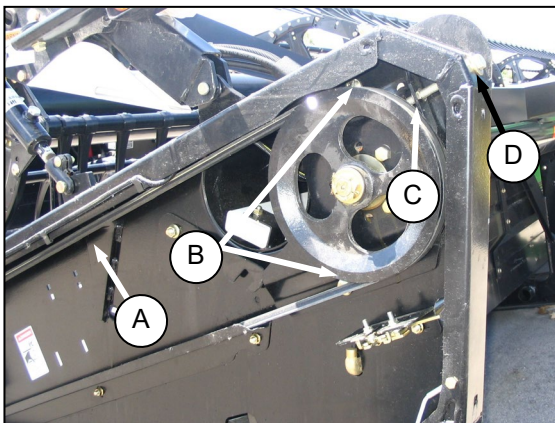
### D. SICKLE DRIVE BELT TENSION

#### IMPORTANT

To prolong belt and drive life, do not over-tighten belt.

#### I. NON-TIMED DRIVE – SK & DK

- a. Open end shield.



LH SHOWN – RH OPPOSITE

- b. A force of 20 lbf (80 N) should deflect belt (A) 3/4 in. (18 mm) at mid-span.
- c. Only if necessary, adjust tension as follows:
1. Loosen two bolts (B) on sickle drive mounting bracket and jam-nut (C).
  2. Turn adjuster bolt (D) to move drive motor until tension is achieved.
  3. Tighten jam nut (C) and bolts (B) on drive mounting bracket.
- d. Close end shield.

#### II. TIMED DRIVE - DK

- a. Open end shield.

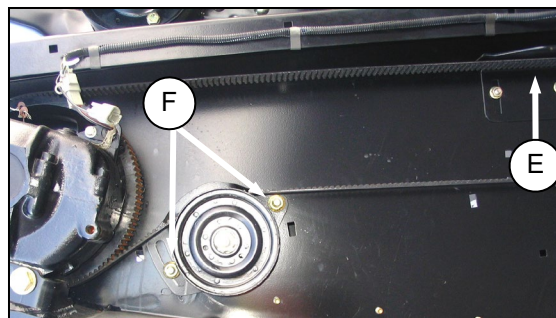
#### Timing Belts



LH SHOWN – RH OPPOSITE

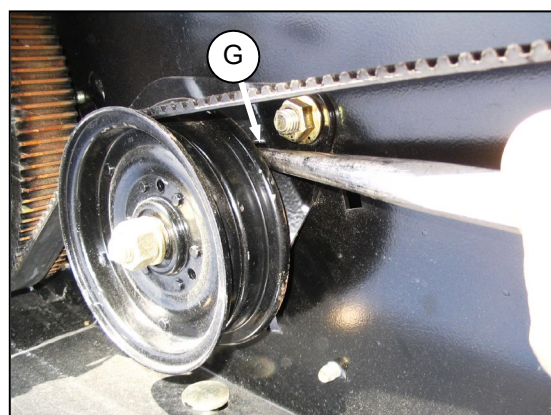
- b. A force of 6 lbf (27 N) should deflect timing belt (E) 1/2 in. (13 mm) at mid-span.

- c. Only if necessary, adjust tension as follows:



LH SHOWN – RH OPPOSITE

1. Loosen two nuts (F) on sickle drive belt idler bracket.

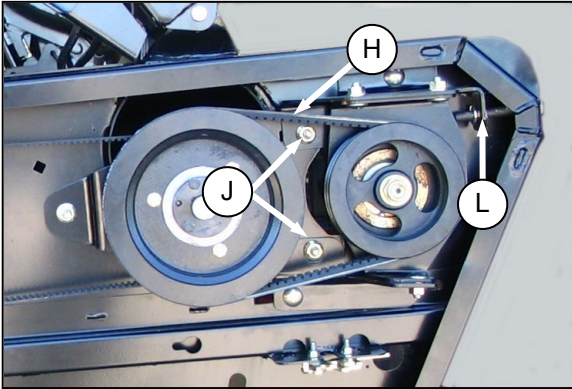


2. Insert a long punch or equivalent into hole (G) in idler bracket, and pry downward until a force of 6 lbf (27 N) deflects timing belt 1/2 in. (13 mm) at mid-span (E).
3. Tighten nuts (F) on idler mounting bracket.

*(continued next page)*

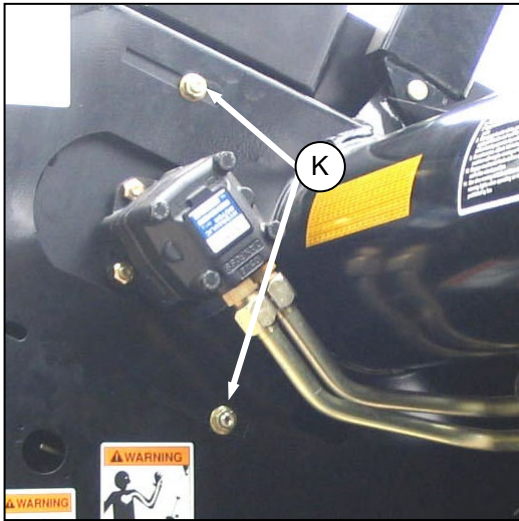
## PRE-DELIVERY INSPECTION

### Double V-Belts – LH Side Only



LH SIDE ONLY

- A force of 12 lbf (53 N) should deflect V-belts (H) 1/8 in. (3 mm) at mid-span.
- Only if necessary, adjust tension as follows:
  - Loosen two bolts (J) on sickle drive mounting bracket.



- Loosen two bolts (K) on end sheet.
  - Turn adjuster bolt (L) to move drive motor until a force of 12 lbf (53 N) deflects V-belts (H) 1/8 in. (3 mm) at mid-span.
  - Tighten bolts (J) and (K).
- Close end shield.

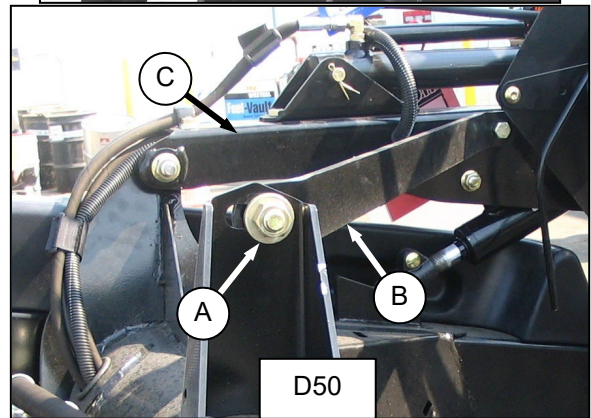
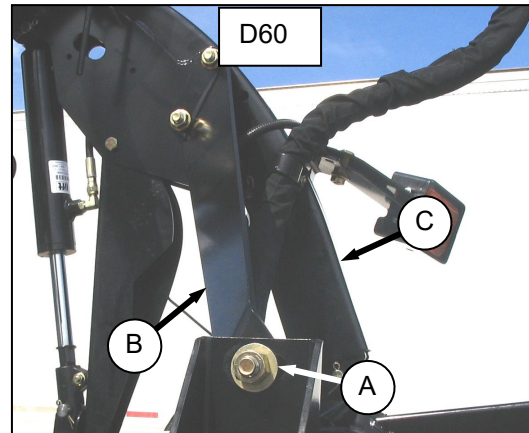
### E. REEL CENTERING



#### WARNING

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

- Measure clearance between reels and both end sheets. The clearances should be the same if the reels are centered.
- If required center the reels as follows:



- Loosen bolt (A) on each brace (B) located at each end of the reel.
- Move forward end of reel support arm (C) laterally as required to center reel.
- Tighten bolts (A) and torque to 265 ft-lbf (359 N·m).

## PRE-DELIVERY INSPECTION

### F. DRAPER TENSION

The drapers are tensioned after installation at the factory so should not require adjustment. Draper tension should be just enough to prevent slipping and keep draper from sagging below cutterbar.

- a. Raise header, and shut down engine. Engage header lift props.



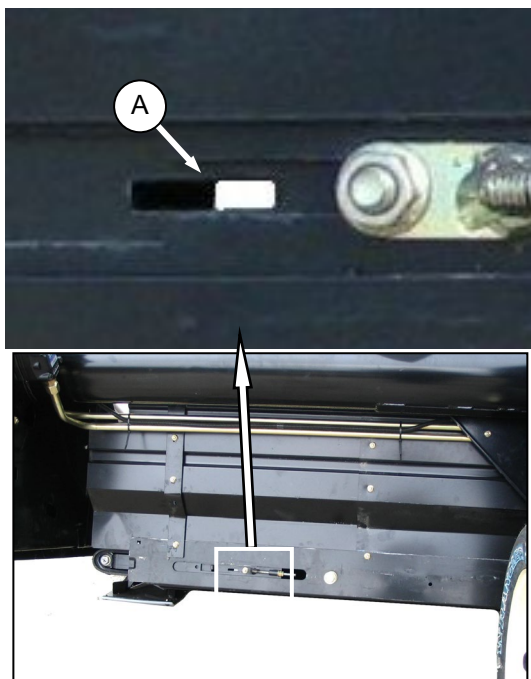
#### WARNING

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



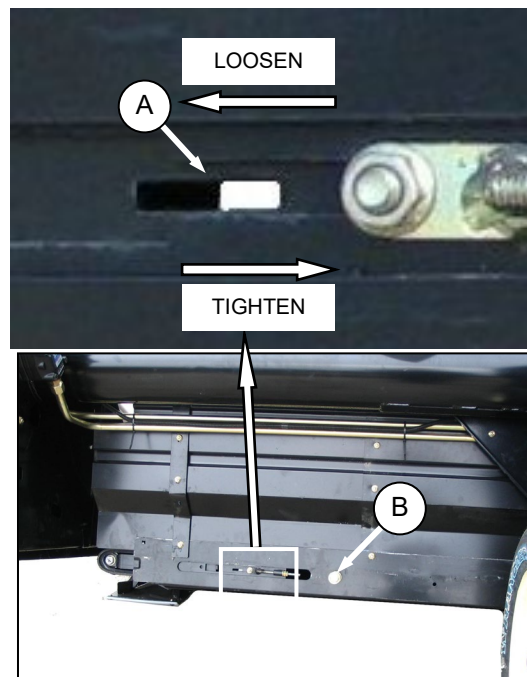
#### CAUTION

Engage header lift cylinder stops before working under header.



- b. The white bar should be about halfway in the window.

- c. If required, set draper tension as follows:



1. Turn bolt (B) clockwise (tighten) and white indicator bar (A) will move inboard in direction of arrow to indicate that draper is tightening.
2. Turn bolt (B) counterclockwise (loosen) and white indicator bar (A) will move outboard in direction of arrow to indicate that draper is loosening.
3. Adjust until bar is about halfway in window.

## PRE-DELIVERY INSPECTION

### G. SKID SHOE SETTINGS



#### WARNING

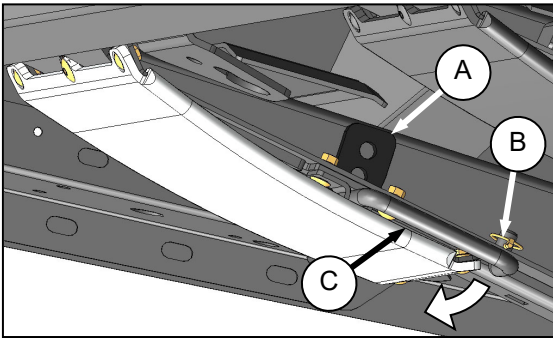
Stop windrower engine and remove key before making adjustments to machine. A child or even a pet could engage the drive.



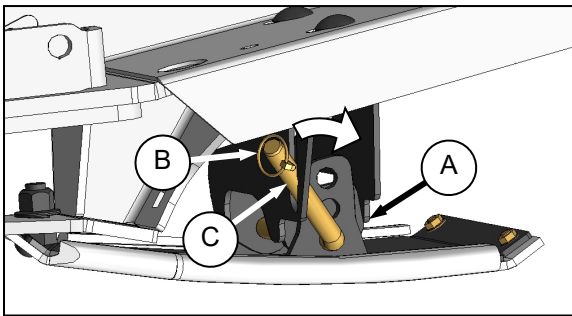
#### CAUTION

Engage header lift cylinder stops before working under header.

- a. Note the hole positions on the adjuster legs (A) on each skid shoe. They should be the same.
- b. If necessary, adjust as follows:



INNER SKID SHOE

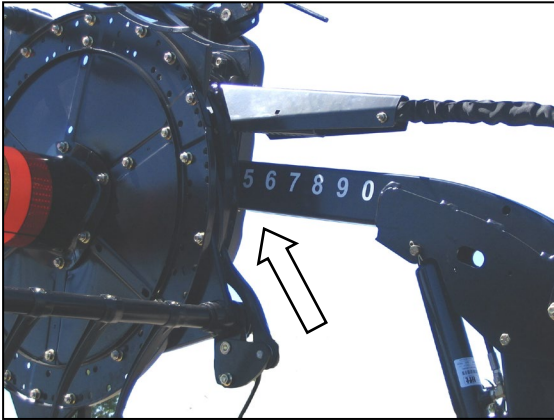


OUTER SKID SHOE

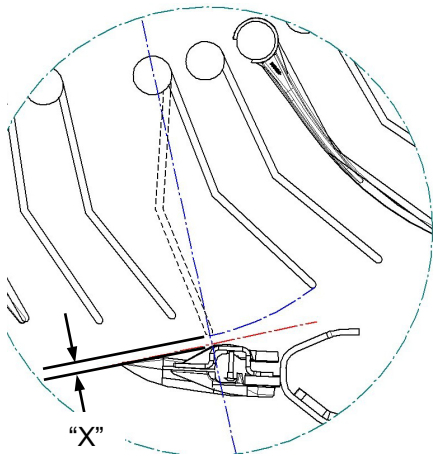
1. Remove lynch pin (B).
2. Hold shoe and remove pin (C) by disengaging frame and then pulling away from shoe.
3. Raise or lower skid shoe to desired position using holes in support as a guide.
4. Reinsert pin (C), engage in frame, and secure with lynch pin (B).
5. Check that skid shoes are adjusted to the same position.

## PRE-DELIVERY INSPECTION

### H. REEL TINE TO CUTTERBAR CLEARANCE



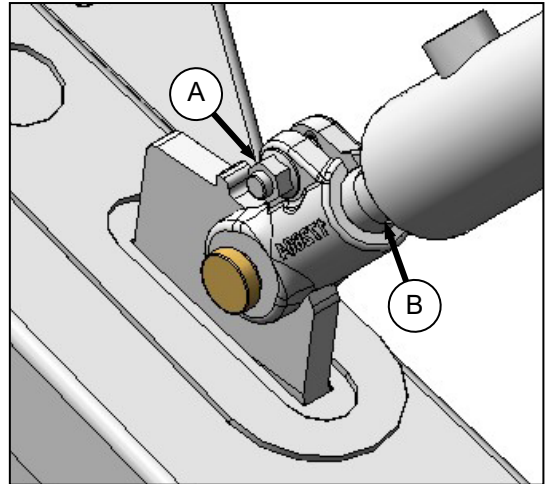
- a. Adjust fore/aft reel position so that back end of cam disc is approximately between 4 and 5 on the arm decal.
- b. Fully lower the reel.
- c. Rotate reel manually to determine which finger is closest to cutterbar (within 12 in. (300 mm) of endsheets).



- d. Flex fingers back as shown to check clearance "X". Refer to chart for allowable clearances.

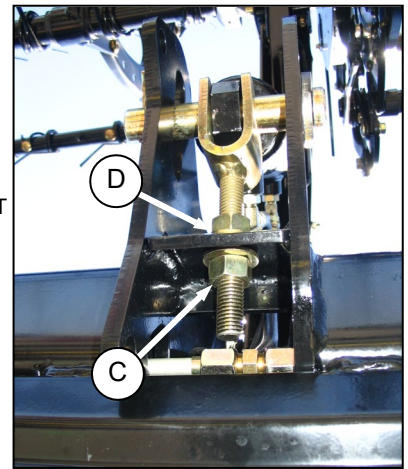
"X" +/- 0.12 in. (3 mm) At Endsheets	"X" +/- 0.12 in. (3 mm) At Sectors Next to Drive At Center Arm
0.78 in. (20 mm)	1.56 in. (40 mm)

- e. If required, adjust outside reel arms as follows:



1. Loosen nut (A).
2. Turn cylinder rod (B) counter-clockwise to raise reel and increase clearance to cutterbar, or clockwise to decrease.
3. Tighten nut (A).
4. Repeat at opposite side.

LOOKING UP AT  
ARM  
UNDERSIDE



DOUBLE REEL

- f. If applicable, adjust center arm as follows:
  1. Loosen nut (C).
  2. Turn nut (D) clockwise to raise reel and increase clearance to cutterbar, or counter-clockwise to decrease.
  3. Tighten bolt (C).

# PRE-DELIVERY INSPECTION

## I. LUBRICATE HEADER

Refer to the illustrations for lubrication points:

- 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. Use clean High Temp. Extreme Pressure grease.

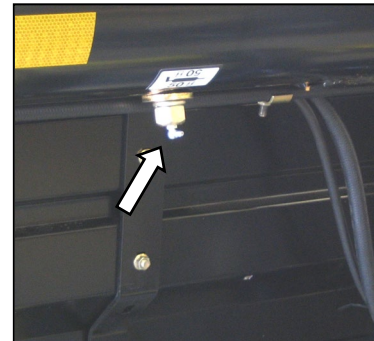
High Temp. Extreme Pressure (EP2) Performance With 1% Max Molybdenum Disulphide (NLGI Grade 2), Lithium Base



**D60**



**KNIFE DRIVE BEARING - DK  
(BOTH SIDES)**


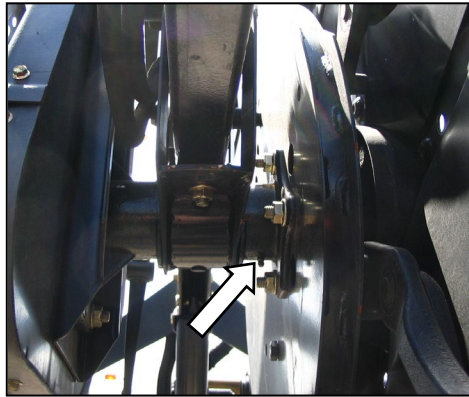


**KNIFE DRIVE SHAFT – DK  
15 PUMPS MINIMUM  
(BOTH SIDES)**

*(continued next page)*

# PRE-DELIVERY INSPECTION

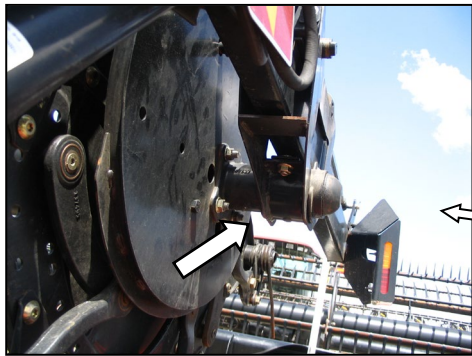
High Temp. Extreme Pressure (EP2) Performance With 1% Max Molybdenum Disulphide (NLGI Grade 2).Lithium Base

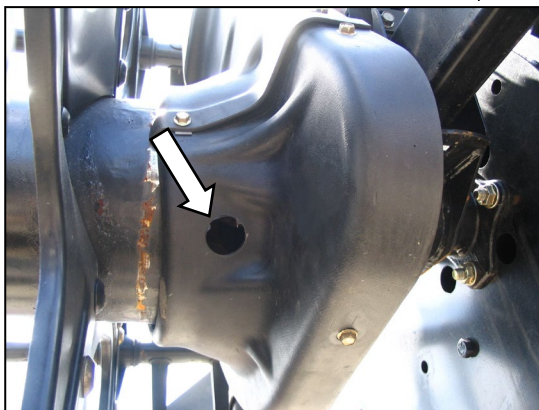
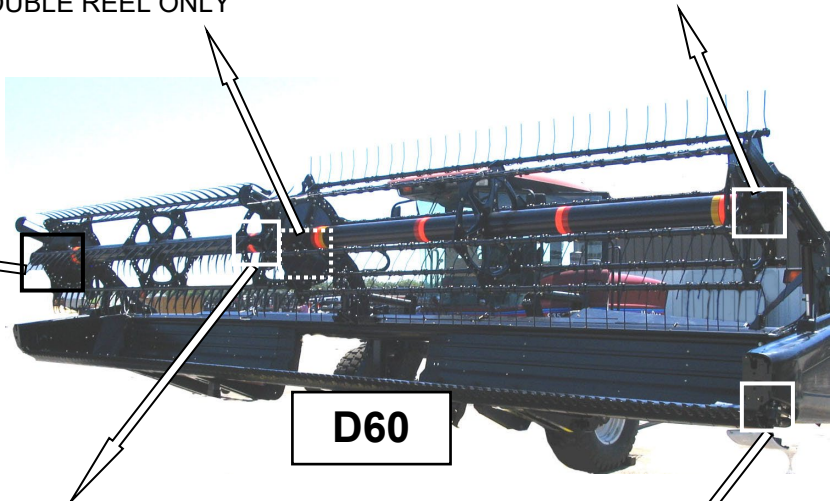
REEL CENTER BEARING (1 PLC)  
DOUBLE REEL ONLY



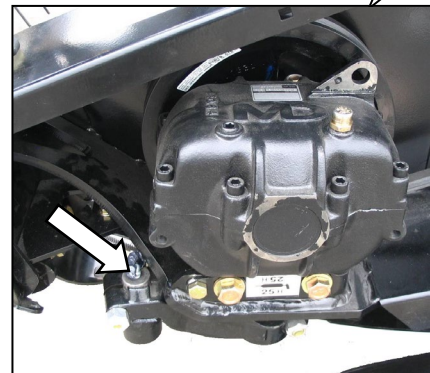
REEL SHAFT LH BEARING (1 PLC)



REEL SHAFT RH BEARING (1 PLC)



REEL UNIVERSAL (1 PLC) DOUBLE REEL



SICKLE HEAD  
(1 PLC SINGLE KNIFE/2 PLC DOUBLE KNIFE)

*U-joint has an extended lubrication cross and bearing kit. Stop greasing when greasing becomes difficult or if u-joint stops taking grease. **Overgreasing will damage U-joint.** 6-8 pumps are sufficient at first grease (factory). Decrease grease interval as U-joint wears and requires more than 6 pumps.*

*To prevent binding and/or excessive wear caused by sickle pressing on guards, do not over grease. If more than 6 to 8 pumps of the grease gun are required to fill the cavity, replace the seal in the sickle head.*

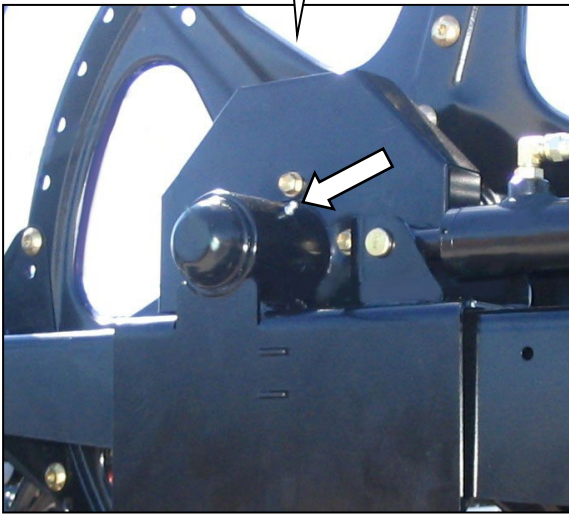
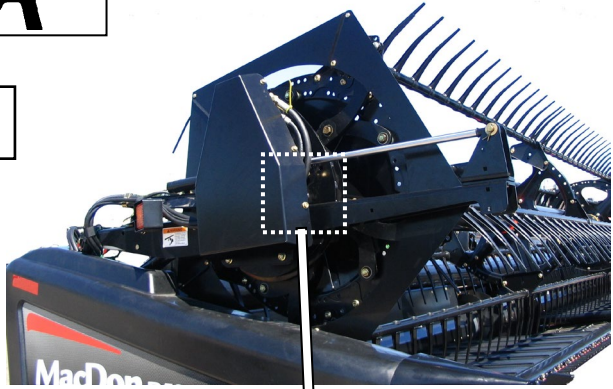
*(continued next page)*

# PRE-DELIVERY INSPECTION

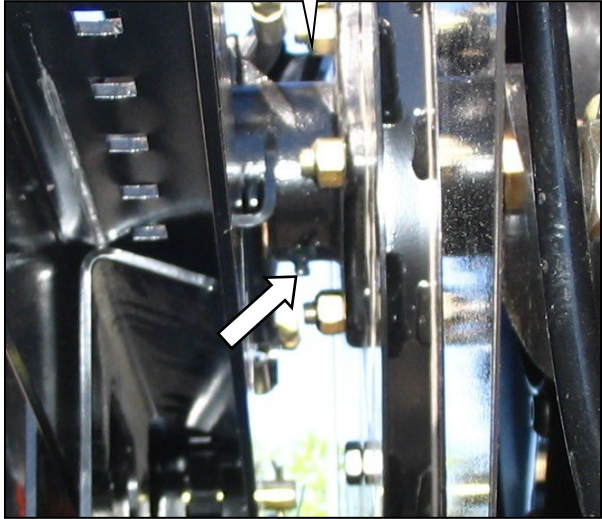
High Temp. Extreme Pressure (EP2) Performance With 1% Max Molybdenum Disulphide (NLGI Grade 2).Lithium Base



**D50**



REEL SHAFT LH BEARING (1 PLC)



REEL SHAFT RH BEARING (1 PLC)



SICKLE HEAD (1 PLC)

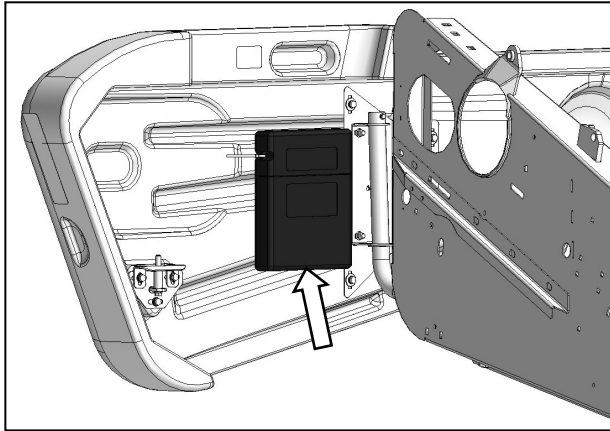


*To prevent binding and/or excessive wear caused by sickle pressing on guards, do not over grease. If more than 6 to 8 pumps of the grease gun are required to fill the cavity, replace the seal in the sickle head.*



## PRE-DELIVERY INSPECTION

### J. OPERATOR'S MANUAL AND PARTS CATALOG



Open the left end shield, and remove plastic tie on manual case. Check that case contains the following manuals.

1. D50 and D60 Harvest Headers for Self-Propelled Windrowers Operator's Manual #169441.
2. D50 and D60 Harvest Header / FD70 FlexDraper Parts Catalog #169008.

## RUN-UP ADJUSTMENTS AND CHECKS

### STEP 16. 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

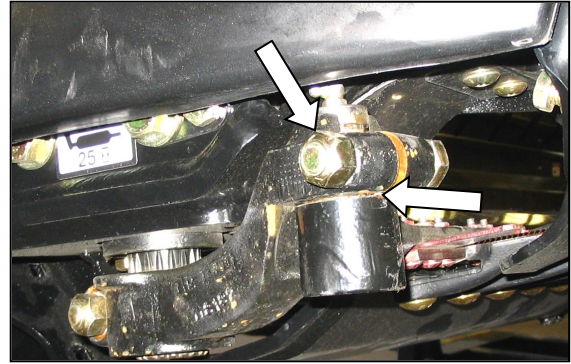
Before investigating an unusual sound or attempting to correct a problem, shut off engine, engage parking brake and remove key.

- Start windrower and run the header for 15 minutes. Run the header slowly for 5 minutes, watching and listening FROM THE OPERATOR'S SEAT for binding or interfering parts.

#### NOTE

*Reel and drapers will not operate until oil flow fills the lines.*

- Perform the run-up check as listed on the "Pre-Delivery Checklist" (yellow sheet attached to this instruction).



- Check gap between knife head and pitman arm. A business card should slide easily through the gap. If not, then adjust gap by loosening bolt and tapping knife head with a hammer. Retighten bolt.
- Adjust guard alignment as follows. The guard straightening tool (MacDon #140135) is available from your dealer:



UPWARD ADJUSTMENT

- To adjust guard tips upward, position tool as shown at and pull up.



DOWNWARD ADJUSTMENT

- To adjust tips downward, position tool as shown and push down.

### STEP 17. POST RUN-UP CHECKS



#### WARNING

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

- Perform the post run-up check as listed on the "Pre-Delivery Checklist" (yellow sheet attached to this instruction).
- Check guards for signs of heating during run-up due to insufficient clearance between guard and sickle. If heating is evident, proceed as follows:

## NOTES

## NOTES

## Model D50 & D60 Harvest Header for Self-Propelled Windrowers Pre-Delivery Checklist – N.A.

Perform these checks prior to delivery to your customer. **Adjustments are normally not required as the machine is factory assembled and adjusted.** If adjustments are required, refer to the appropriate page number in this manual. 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.**

Header Serial Number: \_\_\_\_\_

✓	<u>ITEM</u>	<u>PAGE</u>
	Check for shipping damage or missing parts. Be sure all shipping dunnage is removed.	-
	Check for loose hardware. Tighten to required torque.	4
	Check tire pressure (Transport/Stabilizer Option).	30
	Check wheel bolt torque (Transport/Stabilizer Option).	30
	Check wobble box breather position.	30
	Check wobble box lube level.	30
	Check sickle drive belt(s) tension.	31
	Check reel centered between header endsheets.	32
	Grease all bearings and U-joints.	36-38
	Check draper tension.	33
	Check reel tine to cutterbar clearance.	35
	Check skid shoes are evenly adjusted at a setting appropriate for first crop.	34
	<b>RUN-UP PROCEDURE</b>	40
	Check hydraulic hose and wiring harness routing for clearance when raising or lowering header and reel.	-
	Check lights are functional.	29
	<b>POST RUN-UP CHECK. STOP ENGINE.</b>	40
	Check belt drives for heated bearings.	31-32
	Check knife sections for discolouration caused by misalignment of components.	40
	Check for hydraulic leaks.	-
	Check manual storage case contains Operator's Manual and Parts Catalog.	39

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

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





# MacDon™

**MacDon Industries Ltd.**

680 Moray Street  
Winnipeg, Manitoba  
Canada R3J 3S3  
t. (204) 885-5590  
f. (204) 832-7749

**MacDon Inc.**

10708 N. Pomona Avenue  
Kansas City, Missouri  
United States, 64153-1924  
t. (816) 891-7313  
f. (816) 891-7323

**MacDon Australia Pty. Ltd.**

A.C.N. 079 393 721  
P.O. Box 243  
Suite 3, 143 Main Street  
Greensborough, Victoria  
Australia 3088  
t. 03 9432 9982  
f. 03 9432 9972

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[www.macdon.com](http://www.macdon.com)

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