

MacDon™

A30-S, A30-D, and A40-D Auger Self-Propelled Windrower Header Unloading and Assembly Instructions

INTRODUCTION

This instructional manual describes the unloading, set-up and pre-delivery requirements for the MacDon Model A30-S, A30-D, and A40-D Auger Headers, including a Grass Seed version.

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.



MACDON A40-D SELF-PROPELLED AUGER HEADER

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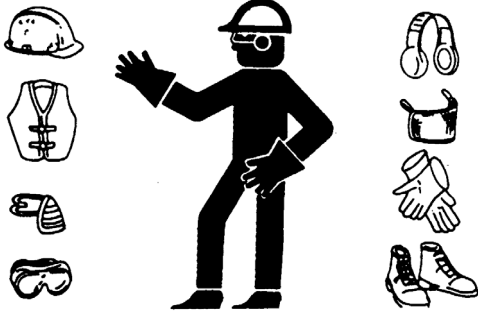
GENERAL SAFETY



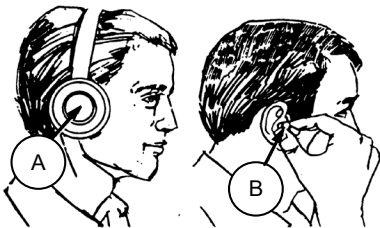
CAUTION

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

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



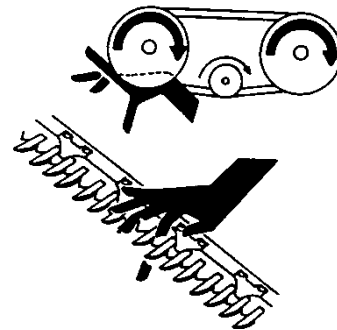
- a hard hat.
- protective shoes with slip resistant soles.
- protective glasses or goggles.
- heavy gloves.
- wet weather gear.
- respirator or filter mask.



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



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



- Keep all shields in place. Never alter or remove safety equipment. Make sure driveline guards can rotate independently of the shaft, and can telescope freely.
- Use only service and repair parts made or approved by the equipment manufacturer. Substituted parts may not meet strength, design, or safety requirements.

(continued next page)

SAFETY

- 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.

GENERAL

RECOMMENDED TORQUES

A. GENERAL

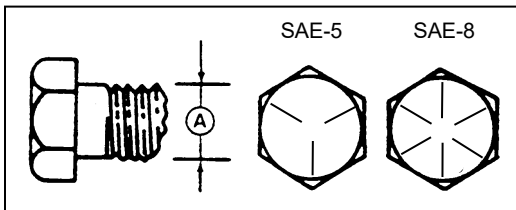
The tables shown below give correct torque values for various bolts and capscrews.

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

B. SAE BOLTS

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

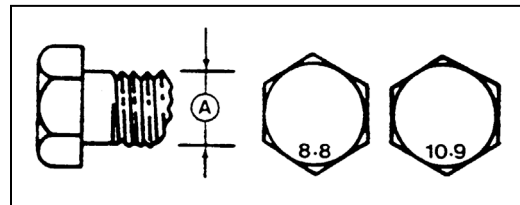
* Torque categories for bolts and capscrews are identified by their head markings.



C. METRIC BOLTS

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

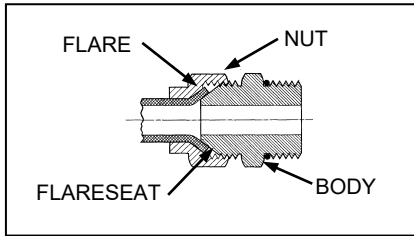
* Torque categories for bolts and capscrews are identified by their head markings.



GENERAL

D. HYDRAULIC FITTINGS

FLARE TYPE

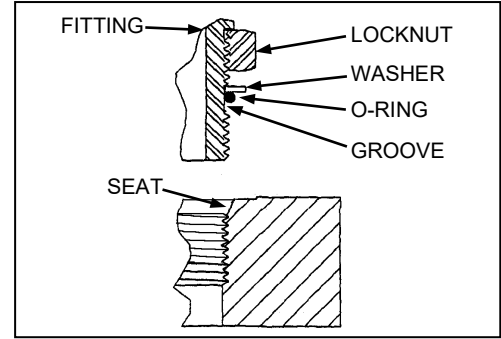


- Check flare and flare seat for defects that might cause leakage.
- Align tube with fitting before tightening.
- Lubricate connection, and hand-tighten swivel nut until snug.
- To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body, and with the second, tighten the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

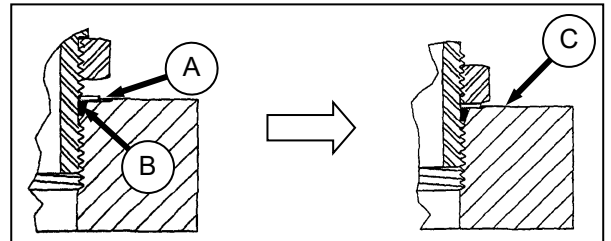
SAE NO.	TUBE SIZE O.D. (in.)	THD SIZE (in.)	NUT SIZE ACROSS FLATS (in.)	TORQUE VALUE*		RECOMMENDED TURNS TO TIGHTEN (AFTER FINGER TIGHTENING)	
				ft·lbf	N·m	Flats	Turns
3	3/16	3/8	7/16	6	8	1	1/6
4	1/4	7/16	9/16	9	12	1	1/6
5	5/16	1/2	5/8	12	16	1	1/6
6	3/8	9/16	11/16	18	24	1	1/6
8	1/2	3/4	7/8	34	46	1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

* Torque values shown are based on lubricated connections as in re-assembly.

O-RING TYPE



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



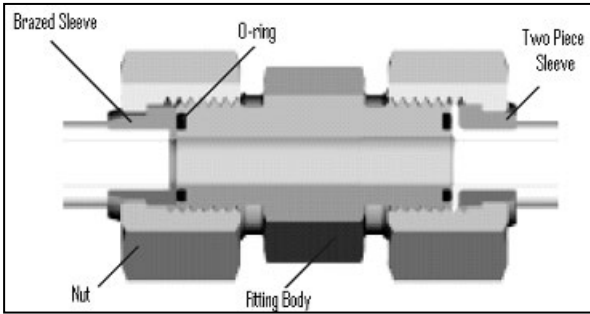
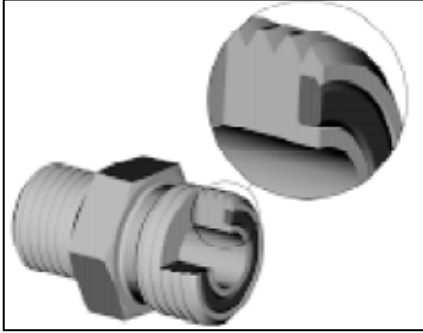
- On angle fittings, back off the lock nut until washer (A) "bottoms out" at top of groove (B) in fitting.
- Hand-tighten fitting until back up washer (A) or washer face (if straight fitting) bottoms on part face (C), and O-ring is seated.
- Position angle fittings by unscrewing **no more than one turn**.
- 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

* Torque values shown are based on lubricated connections as in re-assembly.

GENERAL

O-RING FACE SEAL (ORFS) HYDRAULIC FITTINGS



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

NOTE

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

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

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

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

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

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

GENERAL

CONVERSION CHART

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

DEFINITIONS

TERM	DEFINITION
API	American Petroleum Institute
APT	Articulating Power Tongue
ASTM	American Society Of Testing And Materials
Header	The removable portion of a harvesting machine (windrower, combine, mower) that cuts and conveys crops to a delivery opening. Includes sickle, reel and conveying systems.
PTO	Power Take-Off
rpm	Revolutions Per Minute
SAE	Society Of Automotive Engineers
Windrower	A piece of harvesting equipment used to cut and lay crop in windrows or swaths.
Windrower Tractor	The propelling portion of a self-propelled windrower, including the Operator's station.
Wobble Box	An enclosed system that translates rotating motion from the machine drive into reciprocating motion to the sickle.

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	
Minimum Capacity *	8000 lb (3630 kg)
Minimum Fork Length	78 in (1981 mm)

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

IMPORTANT

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

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



WARNING

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

IMPORTANT

Do not unload using lean bar for lifting. Chain hook slots in lean bar are only for laying the machine over into working position after it is on the ground.

NOTE

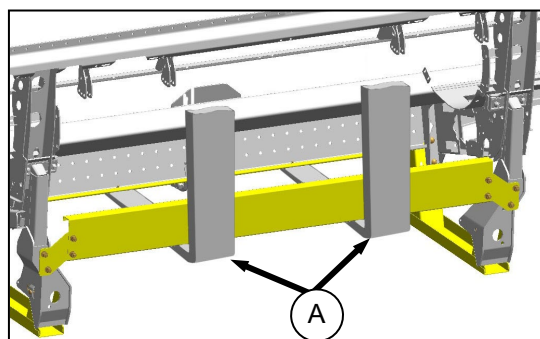
Take care not to bend parts on back tube.



TOPSIDE



UNDERSIDE



- Approach header from either its "topside" or "underside", and slide forks (A) in underneath lifting framework as far as possible.

NOTE

When possible, approach from the underside to minimize potential for scratching the unit.

- Remove hauler's tie down straps and chains.
- Raise header off deck.

IMPORTANT

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

- Back up until unit clears trailer, and slowly lower to 6 inches (150 mm) from ground.
- Take to storage or set-up area.
- Set machine down securely on level ground.
- Check for shipping damage and missing parts.

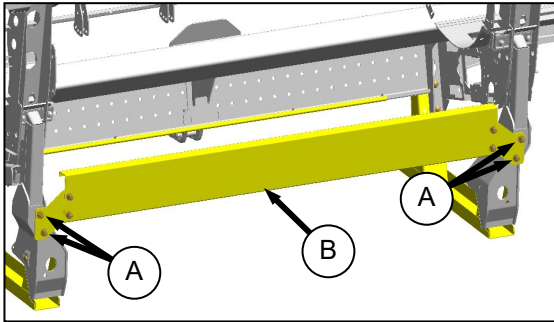
UNLOADING AND ASSEMBLY

STEP 2. REMOVE UNDERSIDE SHIPPING STAND



CAUTION

Keep feet clear when removing final bolts.



- Remove four bolts (A), and remove shipping stand (B). Discard stand and hardware.

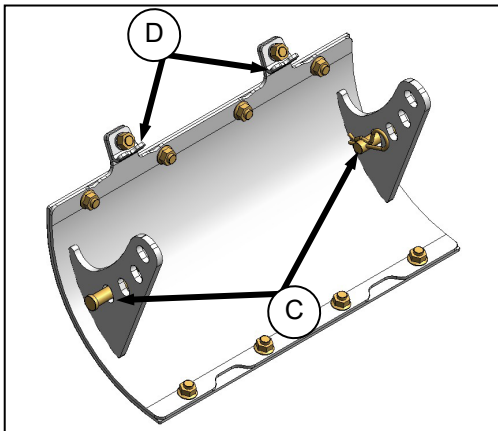
STEP 3. INSTALL ADDITIONAL SKID SHOES

If kit is not supplied, proceed to **STEP 4. INSTALL GAUGE ROLLERS**. Otherwise, proceed as follows:

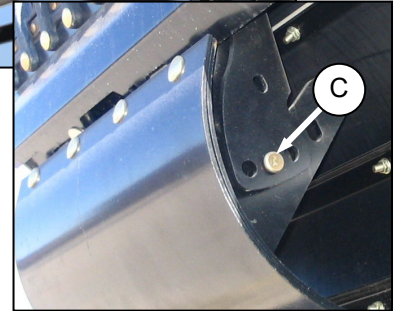
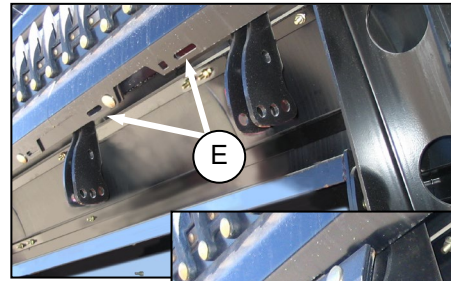
NOTE

This kit may be installed later in the header assembly sequence, but it may be easier prior to laying the header down.

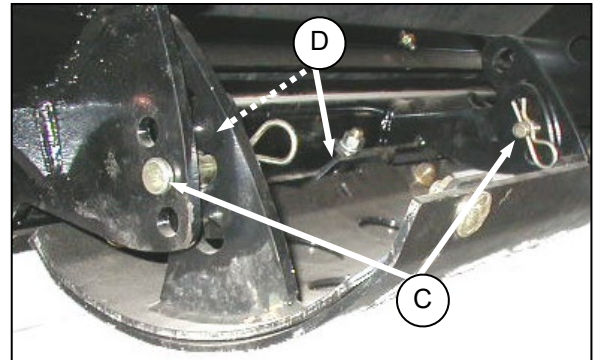
- Unpack skid shoe bundle.



- Remove two clevis pins (C) from each skid shoe.
- Remove nuts, bolts, and clips (D) from skid shoe.



- Insert tabs on skid shoe into slots (E) on cutterbar at inboard mounting locations on frame, and secure with clevis pin (C).



- Attach clips (D) with bolts and nuts removed at step c. to secure skid shoe to cutterbar.

NOTE

Use a socket and ratchet wrench to access the nuts.

- Remove clevis pin (C), and adjust skid shoe to desired height. Re-install two clevis pins (C), and secure with lynch pins.
- Repeat above steps for opposite side. Set both skid shoes to "same position".

UNLOADING AND ASSEMBLY

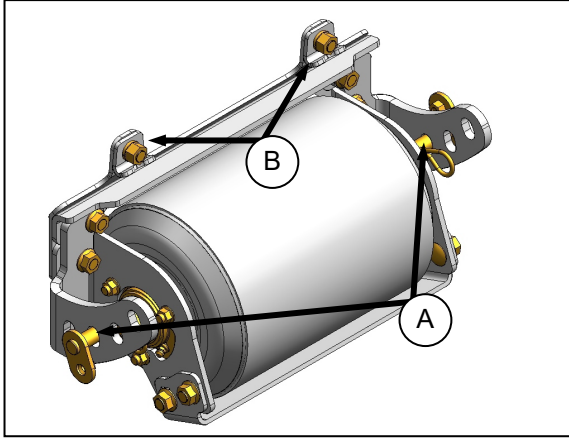
STEP 4. INSTALL GAUGE ROLLERS

If kit is not supplied proceed to **STEP 5. LOWER HEADER**. Otherwise, install kit as follows:

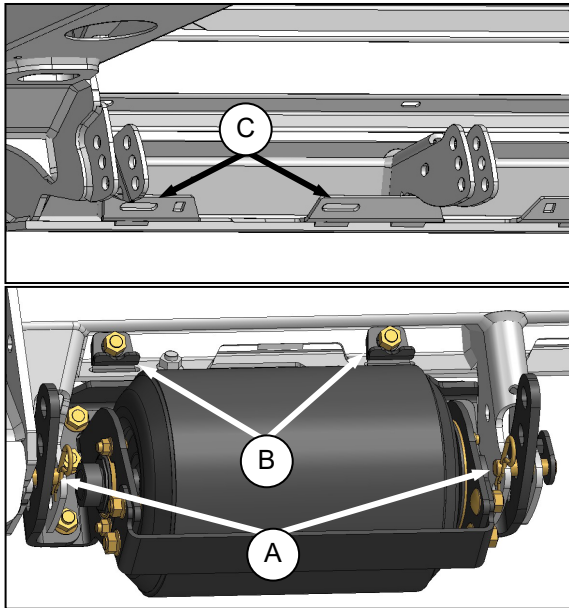
NOTE

This kit may be installed later in the header assembly sequence, but it may be easier prior to laying the header down.

- a. Unpack gauge roller bundle.



- b. Remove two locking pins (A) from each assembly.
c. Remove nuts, bolts, and clips (B) from assembly.



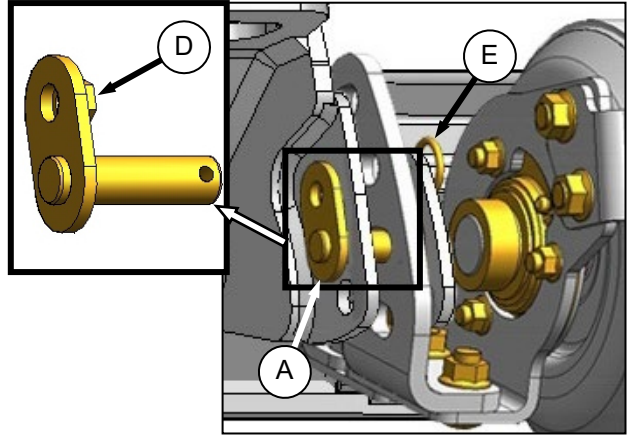
- d. Insert tabs on roller assembly into slots (C) on cutterbar at outboard mounting locations on frame, and secure to support bracket with locking pin (A) at "lowest position".

- e. Attach clips (B) with bolts and nuts removed at step c. to secure roller assembly to cutterbar.
f. Tighten nuts.

NOTE

Use a socket and ratchet wrench to access the nuts.

- g. Remove locking pin (A), and adjust rollers to desired height. Re-install both locking pins (A).



- h. Ensure that nut (D) on each pin registers in adjacent hole in support bracket.
i. Secure pins with hairpins (E).
j. Repeat above steps for opposite side. Set both gauge rollers to "same position".

UNLOADING AND ASSEMBLY

STEP 5. LOWER HEADER

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



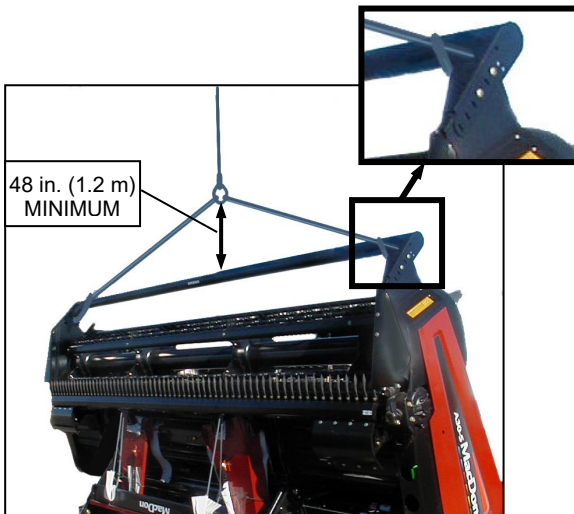
CAUTION

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.

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



LOWERING HEADER WITH FORKLIFT



LOWERING HEADER WITH CRANE

- c. Attach chain hooks to lean bar at slots as shown.

IMPORTANT

See table below for minimum chain specifications. Also, chain length must be sufficient to provide a minimum 4 feet (1.2 m) vertical chain height.

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



CAUTION

Stand clear when lowering, as machine may swing.

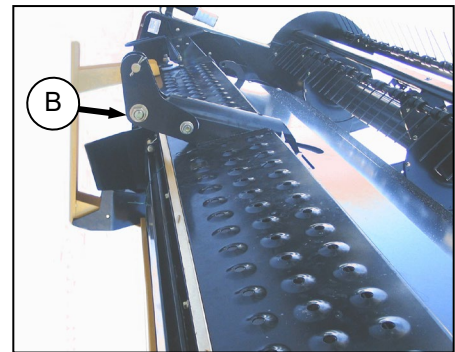
NOTE

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

- d. Raise forks until lift chains are fully tensioned.



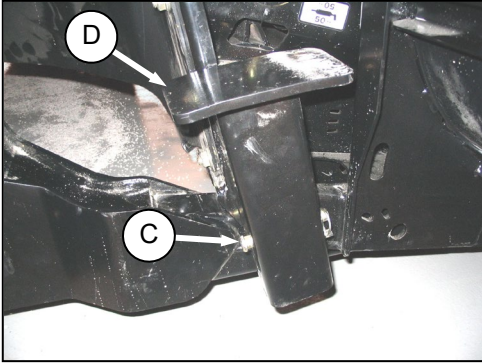
- e. Back up SLOWLY, while simultaneously lowering machine, so that cutterbar skid shoes rest on blocks (A).
f. Remove chain hooks from lean bar.



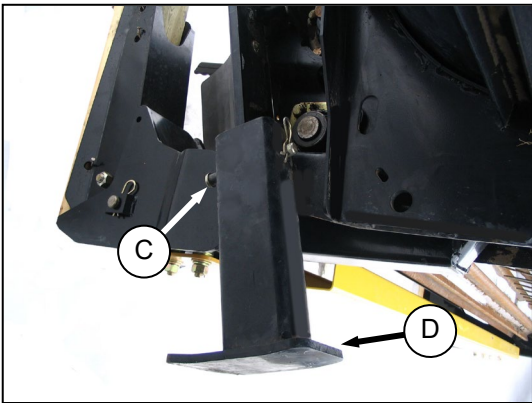
- g. Attach chain to center-link anchor (B) on frame tube, and raise rear of header approximately 12 inches (305 mm) off ground.

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UNLOADING AND ASSEMBLY



- h. Remove lynch pin from pin (C) in header stand at right side of header.
- i. Hold stand (D), and remove pin (C).



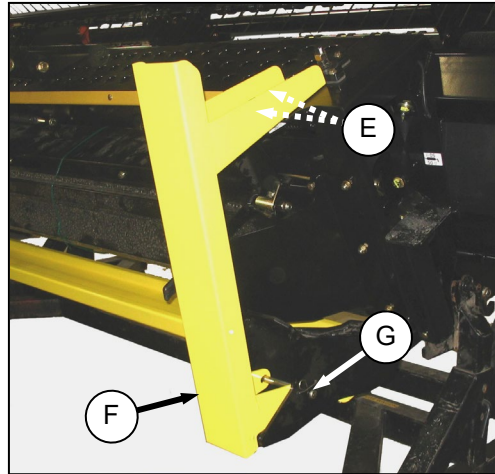
- j. Invert stand (D), and re-install on header leg in "upper" hole location with pin (C). Secure pin with lynch pin.

NOTE

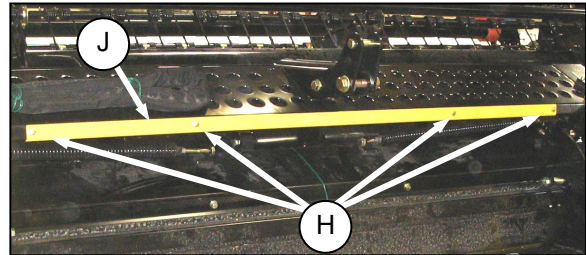
In soft conditions use a wooden block under the stand.

- k. Lower header onto stand (D).

STEP 6. REMOVE SHIPPING STANDS



- a. Remove two bolts (E) from shipping stand (F).
- b. Remove hairpin from pin (G).
- c. Hold shipping stand (F), remove pin (G), and remove stand. Discard stand and hardware.
- d. Repeat above steps for opposite shipping stand.

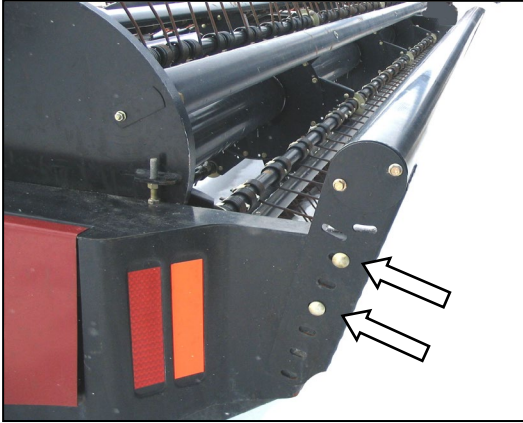


- e. Remove four bolts (H), and remove angle (J). Discard angle and hardware.

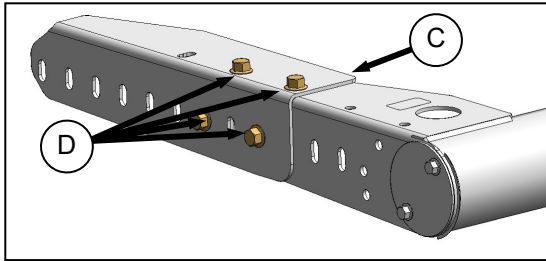
UNLOADING AND ASSEMBLY

STEP 7. INSTALL TALL CROP DIVIDER

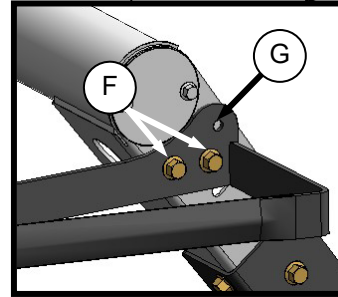
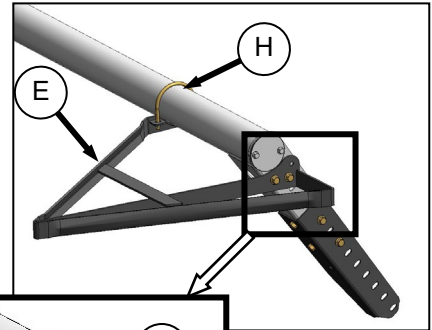
If kit is not supplied, proceed to **STEP 8. ADJUST LEAN BAR**. Otherwise, proceed as follows:



- a. Remove hardware on both sides of lean bar, and remove lean bar.



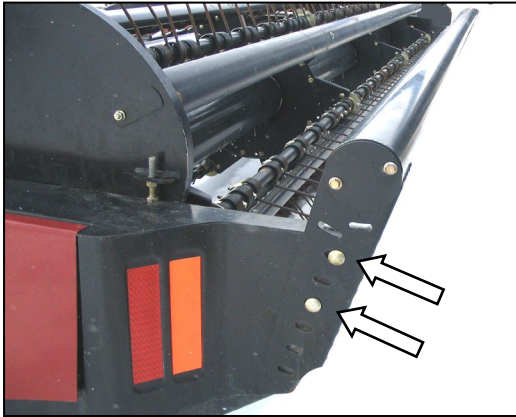
- b. Attach extensions (C) to lean bar with four bolts (D) and nuts provided.
c. Re-attach lean bar to header with existing hardware at desired location. Tighten bolts.



- d. Attach LH divider assembly (E) to LH end of lean bar with two bolts (F) and nuts provided. The divider may be positioned as shown, or using the optional mounting hole (G).
e. Install U-bolt (H), and tighten all bolts.
f. Repeat for RH divider.

UNLOADING AND ASSEMBLY

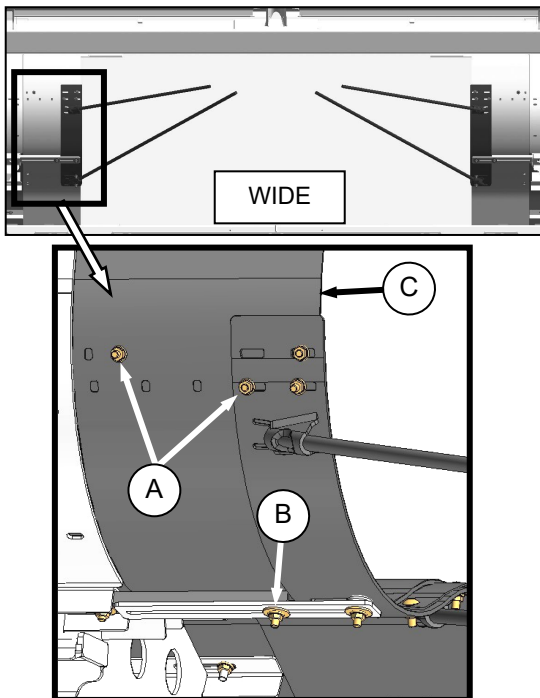
STEP 8. ADJUST LEAN BAR



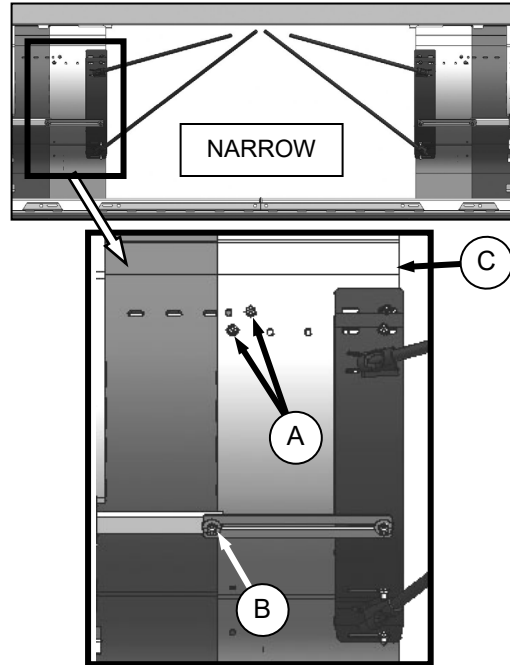
- Lean bar is fully retracted for shipping. Remove hardware on both sides, and install lean bar in "field position" at position suitable for crop (normally 2/3 of the crop height).
- Proceed to **STEP 10. ADJUST LIGHTS**. If this is a Grass Seed Header, proceed as follows:

STEP 9. ADJUST PAN EXTENSIONS: GRASS SEED SPECIAL

The grass seed header auger pan extensions are factory-installed for the widest delivery opening. Adjust as follows:



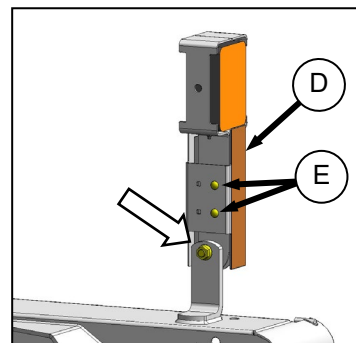
- Remove two bolts (A), and loosen bolt (B).



- Slide pan extensions (C) and swath forming rods "inboard" to desired position, and align holes.
- Re-install two bolts (A). Tighten bolts (A) and (B).
- Repeat for opposite pan extension.

STEP 10. ADJUST LIGHTS

- Position amber light supports perpendicular to header.



- Check that pivot bolt is tight enough to hold light support in "upright position", yet still allow light to pivot out of the way of obstructions.

NOTE

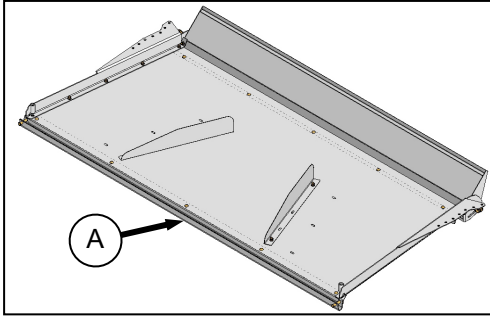
Do not over-tighten mounting hardware.

- Ensure base of light housings and bolted connections on light supports provide proper electrical grounding.
- Amber reflector (D) should face direction of travel. If required, remove bolts (E), flip reflector assembly, and re-install bolts.

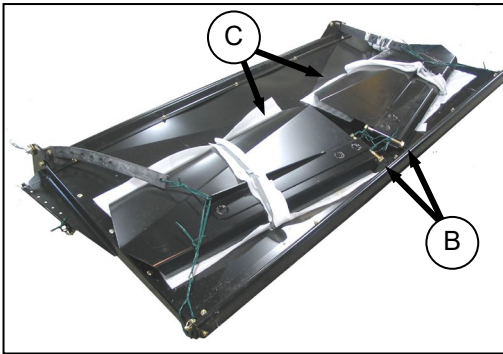
UNLOADING AND ASSEMBLY

STEP 11. ASSEMBLE FORMING SHIELD

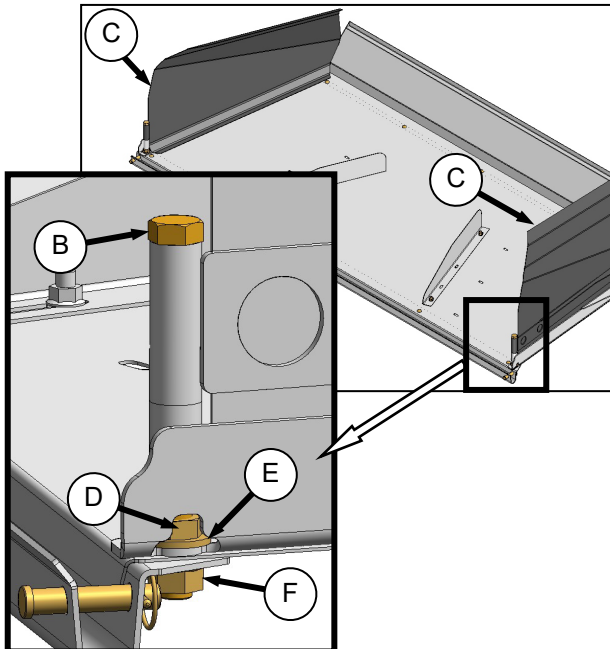
- a. Unpack and remove shipping material.



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

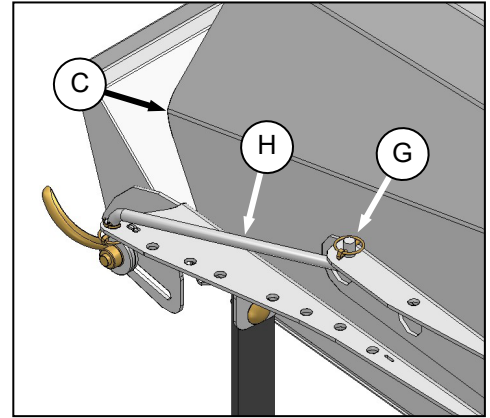


- c. Remove bolts (B) from side deflectors (C).

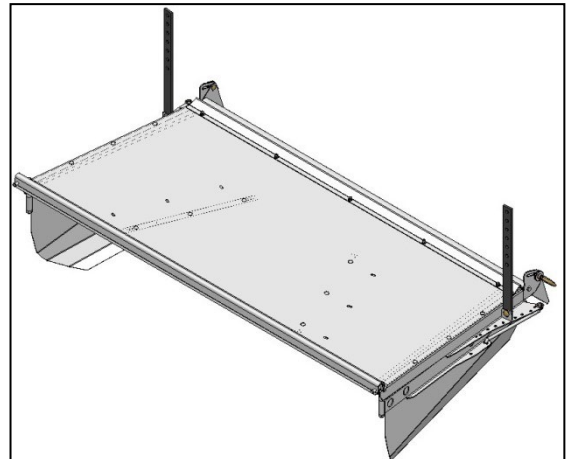


- d. Assemble side deflectors (C) to cover (A) with bolts (B), jam-nut (D), washer (E), and nut (F) from previous step.

- 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.

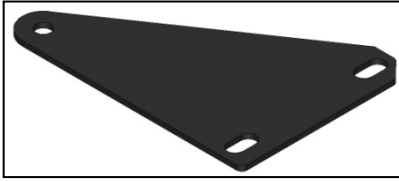


- i. Invert forming shield to "installation position" as shown.

UNLOADING AND ASSEMBLY

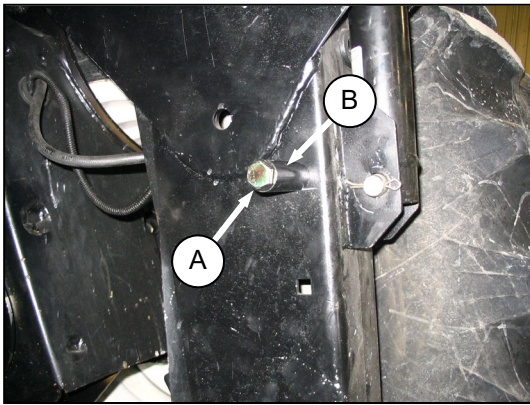
STEP 12. INSTALL FORMING SHIELD

- a. Remove header from the windrower (if attached) for ease of installing the forming shield.

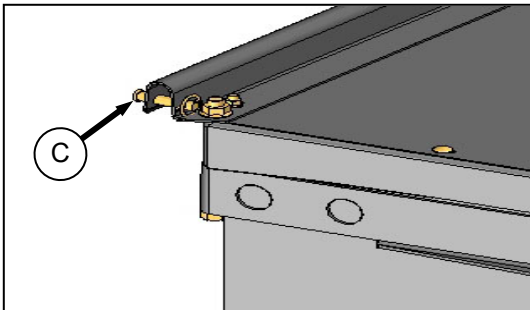


NOTE

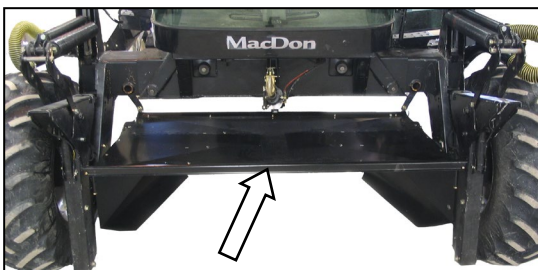
Do not install the two triangular shaped plates.



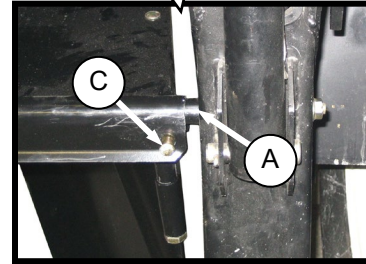
- b. Install bolt (A) with spacer (B), and nut on each leg in the upper hole. Hardware is supplied with forming shield kit.



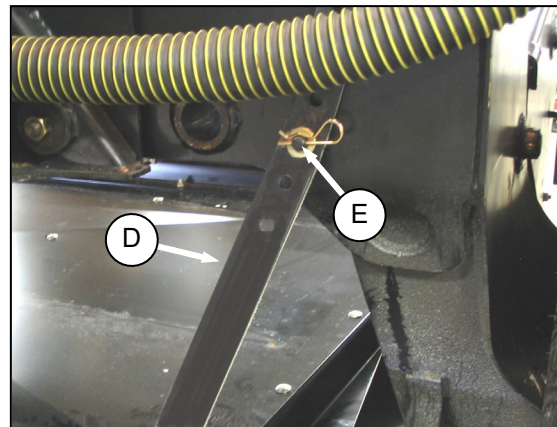
- c. Remove two clevis pins (C) from forward end of forming shield.



- d. Position forming shield under windrower frame.



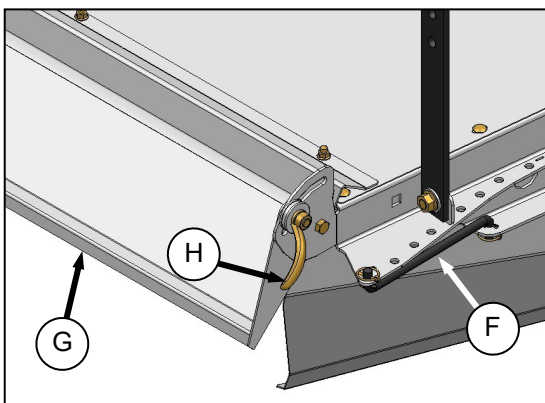
- e. Locate forming shield onto bolts (A) in windrower legs, and secure with clevis pins (C) and lynch pin.



- f. Lift aft end of the forming shield, and attach straps (D) to pins (E) on windrower frame. Install washer and hairpin to secure strap. Use the "middle" hole, and adjust height to suit the crop.

(continued next page)

UNLOADING AND ASSEMBLY



BOTH SIDES

- g. Set forming shield side deflectors to desired width by re-positioning adjuster bars (F). Use the same hole location on both sides.
- Position deflectors at the narrowest setting for a narrow windrow (silage for example).
 - Position deflectors at the widest position for a wide window.

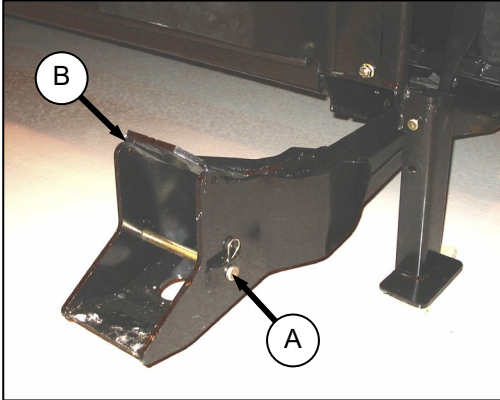
NOTE

Refer to the Operator's Manual or Quick Card for additional information on adjusting the forming shield.

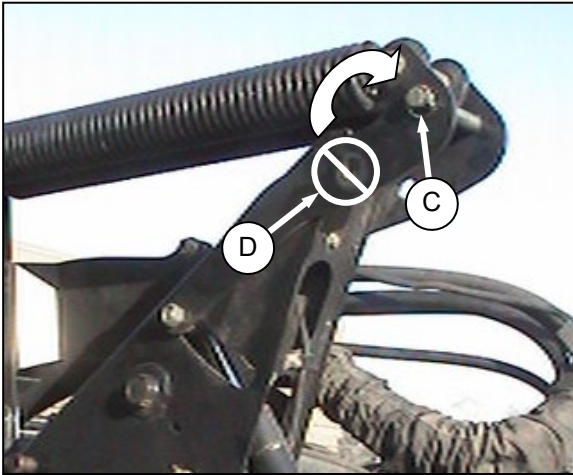
- h. Adjust fluffer shield (G) to "middle position". Loosen handles (H) if required.

UNLOADING AND ASSEMBLY

STEP 13. ATTACH HEADER TO WINDROWER



- a. Remove pins (A) from left and right header boots (B).



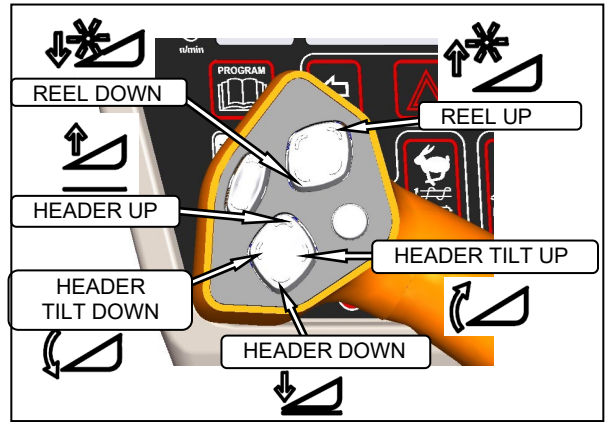
IMPORTANT

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



CAUTION

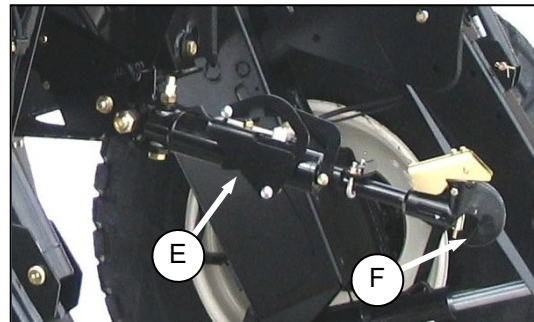
Check to be sure all bystanders have cleared the area.



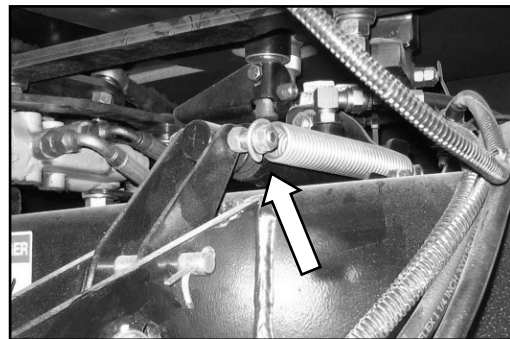
- b. Start windrower engine, and activate HEADER DOWN button on the GSL to fully retract header lift cylinders.

IMPORTANT

If the center-link is too low, it may contact the header as the windrower approaches the header for hook-up.



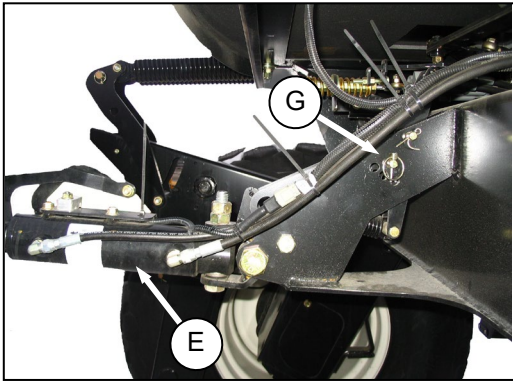
- c. If necessary, adjust position of the hydraulic center-link (E) so that the hook (F) is above the attachment pin on the header by using one of the following methods:



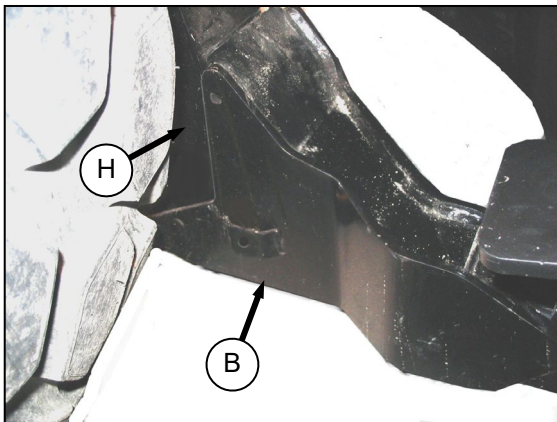
1. If the optional center-link self-alignment kit is installed, activate the REEL UP switch on the GSL to raise the center-link (E).

(continued next page)

UNLOADING AND ASSEMBLY

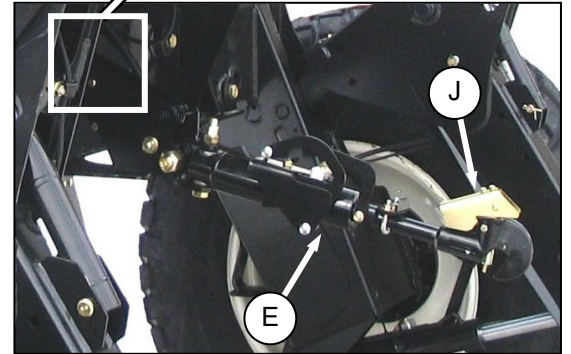
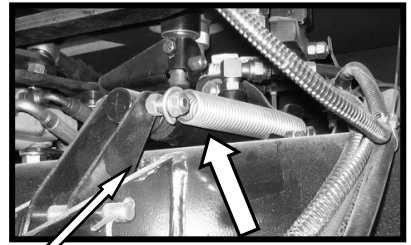
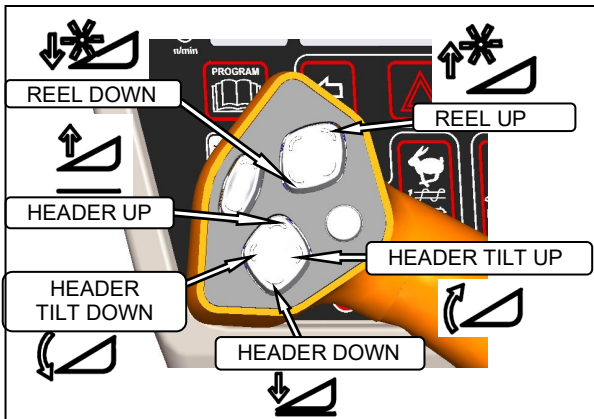


2. Without the self-alignment kit, re-locate the pin (G) at the frame linkage as required to raise the center-link (E).



- d. Slowly drive windrower forward so that feet (H) on windrower enter boots (B) on the header. Continue to drive slowly forward until feet engage the boots, and header nudges forward.
- e. Connect the center-link. Refer to the section for your equipment type:

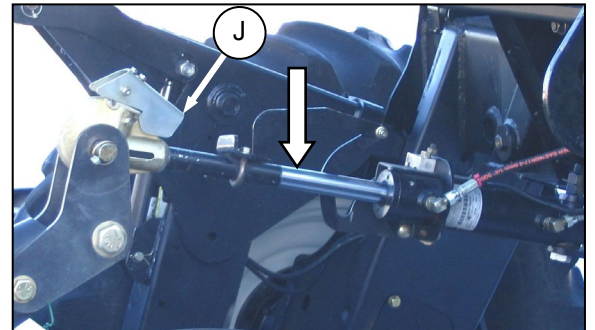
HYDRAULIC LINK WITH OPTIONAL SELF-ALIGNMENT KIT



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

IMPORTANT

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

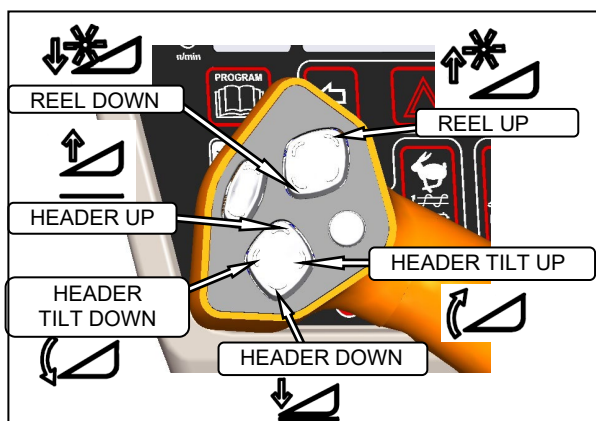


2. Lower the center-link onto the header with REEL DOWN switch until it locks into position (hook release (J) is "down").
3. Check that center-link is locked onto header by pressing the REEL UP switch on the GSL.
4. Proceed to step f. on next page.

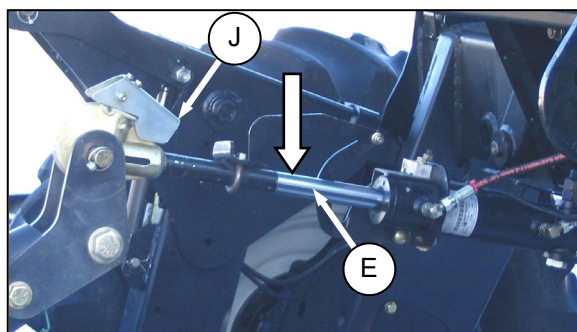
(continued next page)

UNLOADING AND ASSEMBLY

HYDRAULIC LINK WITHOUT SELF-ALIGNMENT KIT



1. Activate HEADER TILT cylinder switches on GSL to extend or retract center-link cylinder (E) so that the hook lines-up with the header attachment pin.
2. Stop engine, and remove key from ignition.



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

IMPORTANT

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

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

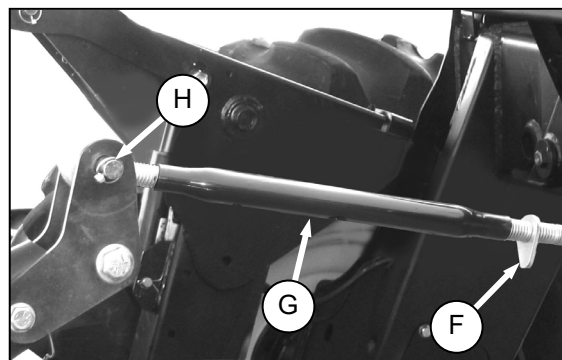
MECHANICAL LINK



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 (F), and rotate barrel (G) to adjust length so that other end "lines up" with header bracket.
3. Install pin (H), and secure with cotter pins.
4. Adjust link to required length for proper header angle by rotating barrel (G). Tighten nut (F) against barrel. A slight tap with a hammer is sufficient.
- f. If engine is not running, start engine, and press HEADER UP switch to raise header to maximum height.

NOTE

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

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



WARNING

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

(continued next page)

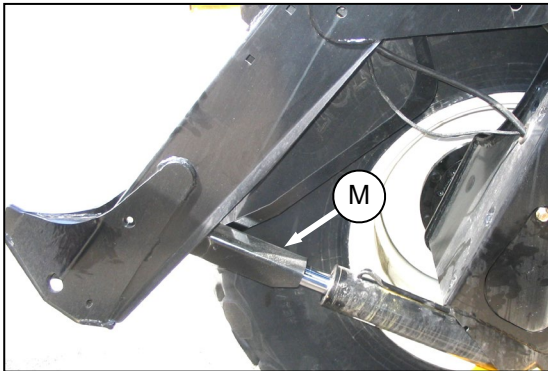
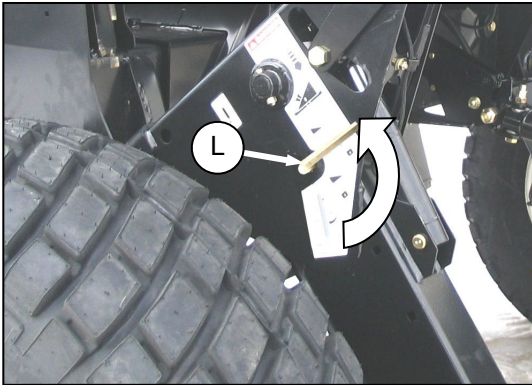
UNLOADING AND ASSEMBLY



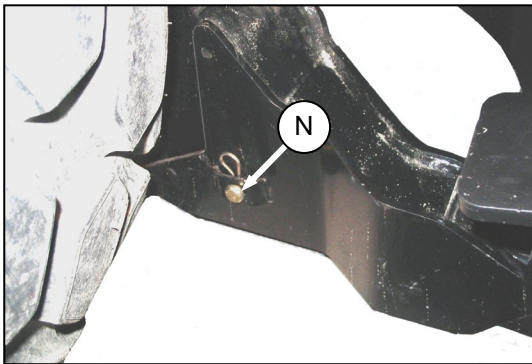
DANGER

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

- g. Cylinder stops are located on both header lift cylinders on the windrower. Engage lift cylinder stops on both lift cylinders as follows:
1. Stop engine, and remove key from ignition.



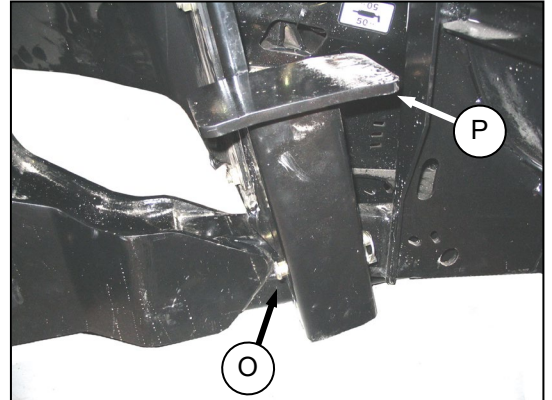
2. Pull lever (L), and rotate toward header to release and lower cylinder stop (M) onto cylinder.
3. Repeat for opposite lift cylinder.



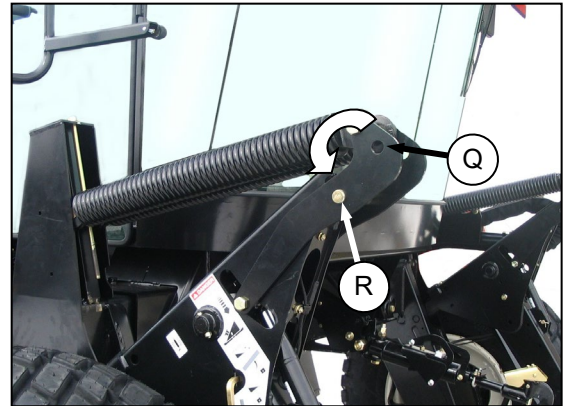
- h. Install pin (N) through each boot and foot, and secure with hairpin.

IMPORTANT

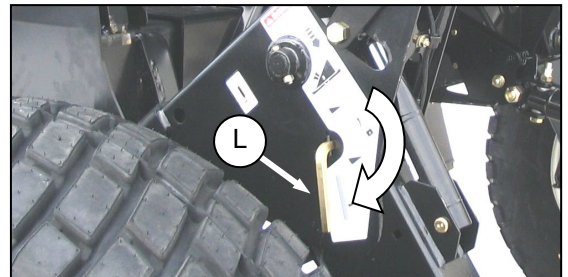
Ensure pin (N) is fully inserted, and hairpin is installed behind bracket.



- i. Remove lynch pin from pin (O) in stand (P).
- j. Hold stand (P), and remove pin (O).
- k. Re-position stand to "storage position" by inverting stand, and re-locating on bracket as shown
- l. Re-insert pin (O), and secure with lynch pin.



- m. Remove pin (Q) from "storage position" in linkage, and insert in hole (R) to engage float springs. Secure with lynch pin.



- n. Disengage lift cylinder stop by turning lever (L) downward to raise stop until lever locks into "vertical position".
- o. Repeat for opposite cylinder stop.

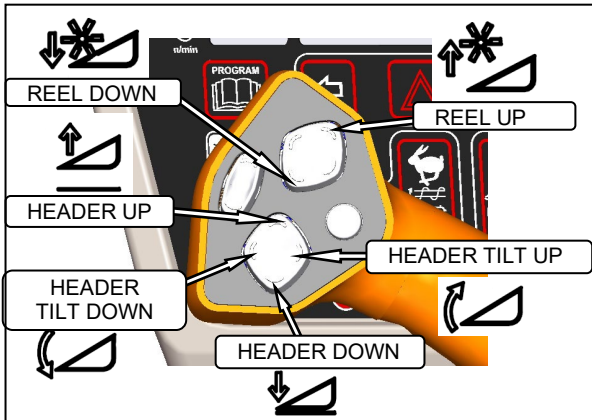
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UNLOADING AND ASSEMBLY



CAUTION

Check to be sure all bystanders have cleared the area.



- p. Start engine, and activate **HEADER DOWN** switch on **GSL** to lower header fully.

UNLOADING AND ASSEMBLY

STEP 14. MODIFY HYDRAULICS

A. A30-S, A30-D

The M100, M105, M150 and M155 are factory-equipped with A30-S and A30-D header hydraulics and electrical harness. Proceed to **STEP 15. CONFIGURE REVERSER VALVE JUMPER HOSE.**

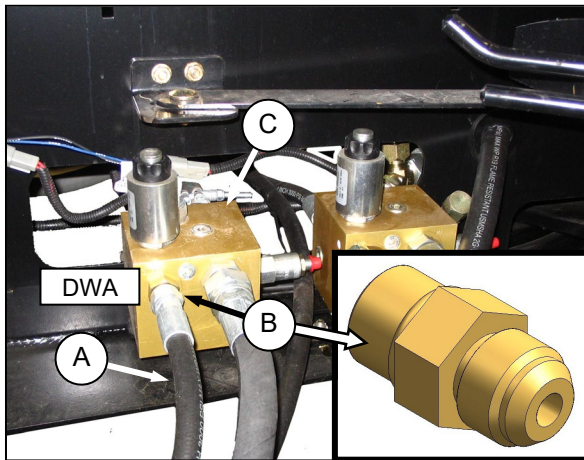
M200 hydraulics need to be reconfigured to run an A-Series header. Kit B4651 (available through your Dealer), includes the additional hose, hardware, and installation instructions. Install the kits in accordance with instructions that were supplied with the kits. Then, proceed to **STEP 15. CONFIGURE REVERSER VALVE JUMPER HOSE.**

M205 hydraulics need to be modified to accept an A-Series header, and kits B5491, B5492, and B5497 should have been supplied with your header. Install the kits in accordance with instructions that were supplied with the kits. Then, proceed to **STEP 16. ATTACH HYDRAULICS.**

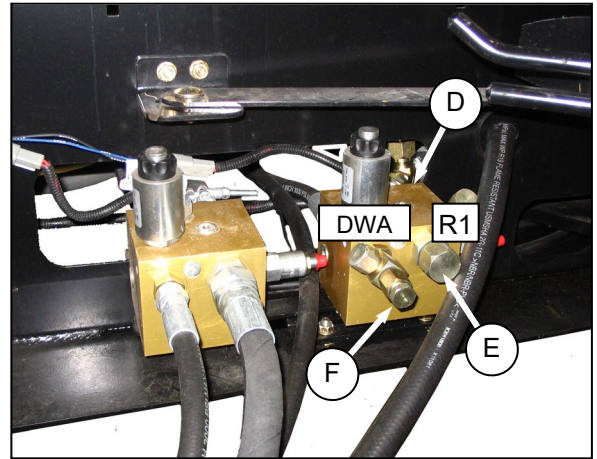
B. A40-D

I. M100, M105

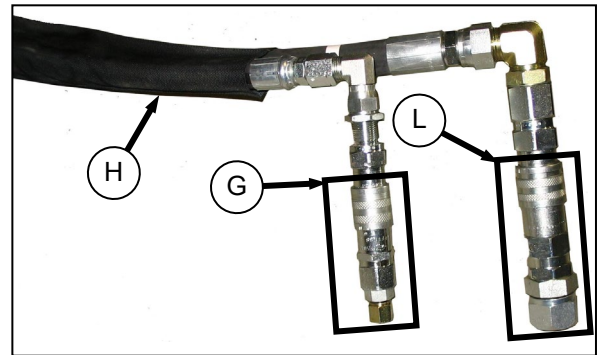
- a. Open LH maintenance platform, and modify valve blocks as follows:



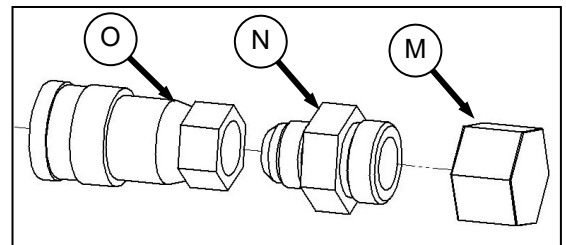
1. Disconnect hose (A) from 'DWA' port on valve block (C).
2. Remove fitting from 'DWA' port, and replace with check valve (B), MacDon #167344. Do not re-install removed fitting.
3. Connect hose (A) to check valve (B).



4. At valve (D), remove the cap (E) from port 'R1' fitting, and the plug (F) from 'DWA' tee fitting. Ports may not be identified.



5. Remove female coupler assemblies (G) and (L) from auger return and reel pressure hose bundle (H) from header.

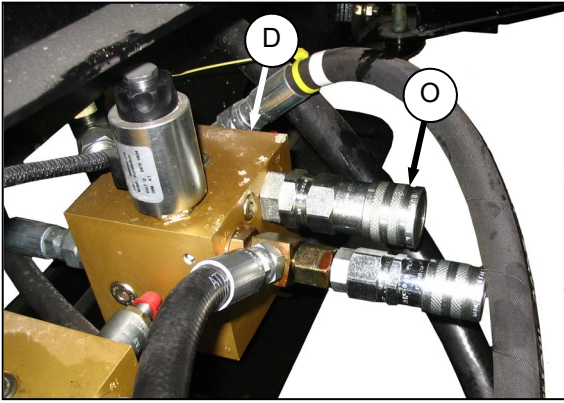


LARGE COUPLER ASSEMBLY (L)

6. Remove and discard cap (M) and adapter fitting (N) with O-ring, from the large coupler (O).

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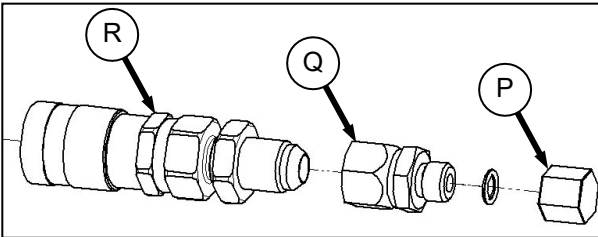
UNLOADING AND ASSEMBLY



7. Install large coupler (O) onto fitting at port 'R1' on valve block (D).

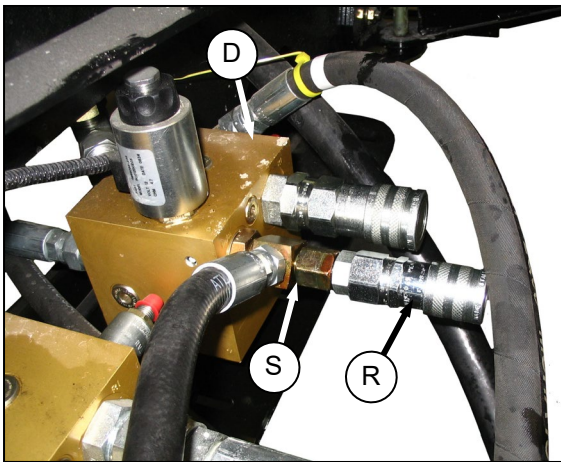
IMPORTANT

Make sure O-ring is on JIC threads in port 'R1' to ensure a proper seal with the coupler (O). If O-ring is missing, re-use O-ring from fitting (N).



SMALL COUPLER ASSEMBLY (G)

8. Remove and discard cap (P) and adapter fitting (Q) from the small coupler assembly (R).



9. Install the small coupler subassembly (R) onto the tee (S) on valve block (D).

NOTE

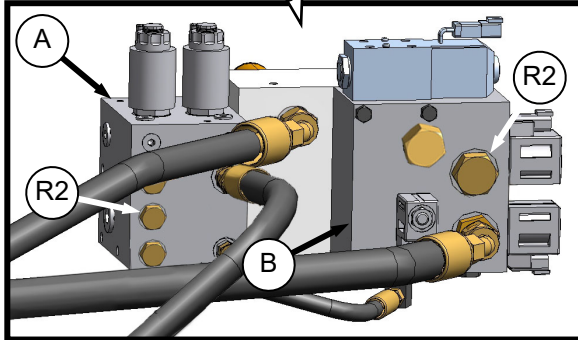
Adjacent hoses may require slight re-positioning to allow access for new hoses.

- b. Proceed to **STEP 16. ATTACH HYDRAULICS.**

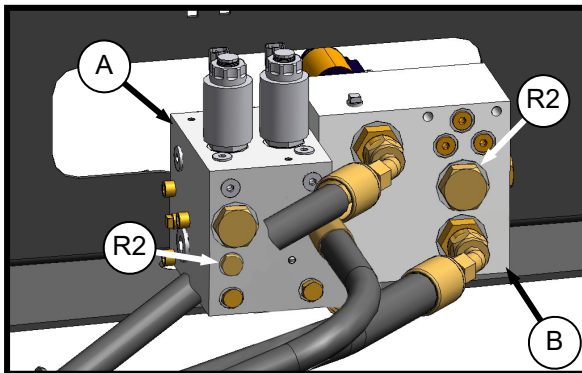
UNLOADING AND ASSEMBLY

II. M150, M155

- a. Open LH maintenance platform, and modify valve blocks as follows:

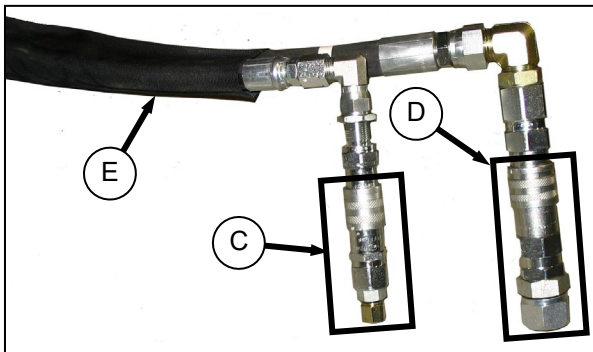


WITH REVERSER VALVE

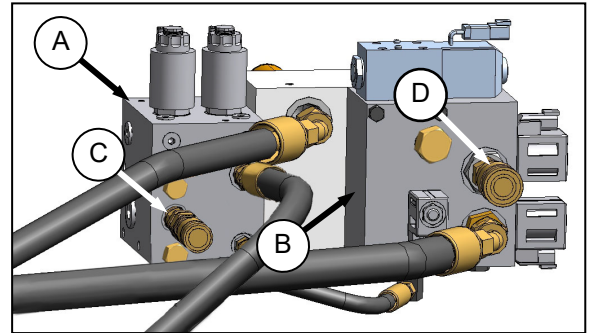


WITHOUT REVERSER VALVE

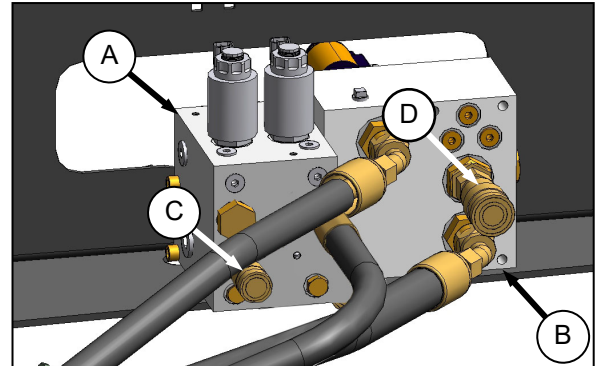
1. Remove the plugs from ports 'R2' on valve blocks (A) and (B). Ports may not be identified.



2. Remove female coupler assemblies (C) and (D) from hoses in bundle (E) from header, and remove caps.



WITH REVERSER VALVE



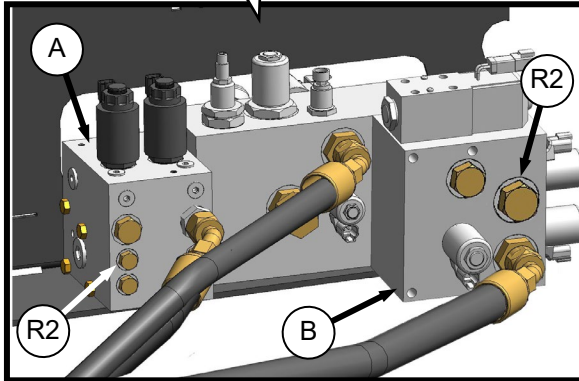
WITHOUT REVERSER VALVE

3. Install smaller coupler assembly (C) in 'R2' port in valve block (A), and the larger coupler assembly (D) in 'R2' port in valve block (B).
- b. Proceed to **STEP 15. CONFIGURE REVERSER VALVE JUMPER HOSE.**

UNLOADING AND ASSEMBLY

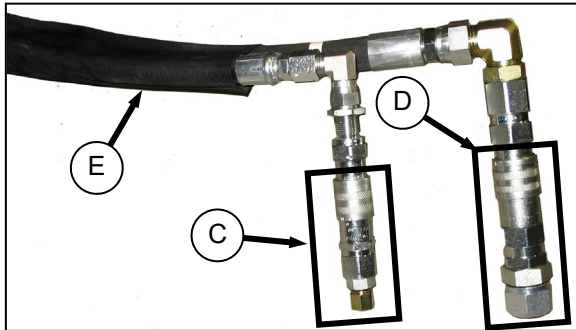
III. M200

M200 WITH REVERSER VALVE

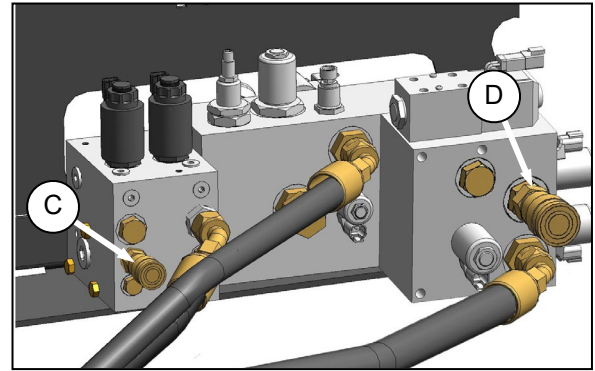


WITH REVERSER VALVE

- a. Remove the plugs from ports 'R2' on valve blocks (A) and (B). Ports may not be identified.



- b. Remove female coupler assemblies (C) and (D) from hoses in bundle (E) from header, and remove caps.



WITH REVERSER VALVE

- c. Install smaller coupler assembly (C) in 'R2' port in valve block (A), and the larger coupler assembly (D) in 'R2' port in valve block (B).

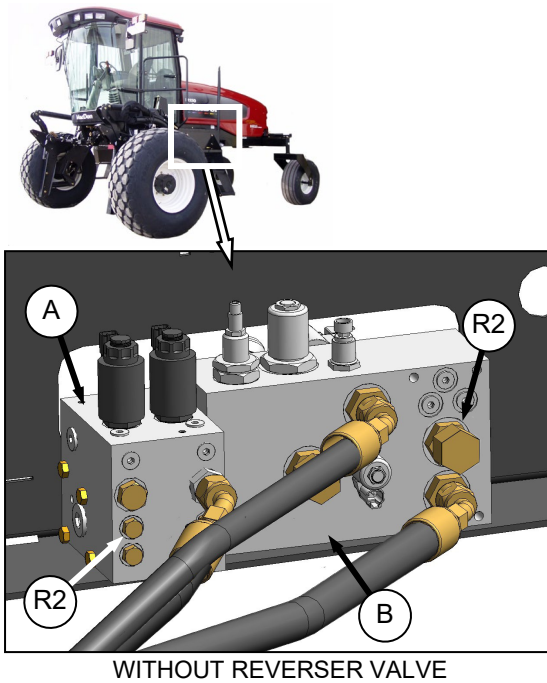
NOTE

Adjacent hoses may require slight re-positioning to allow access for new hoses.

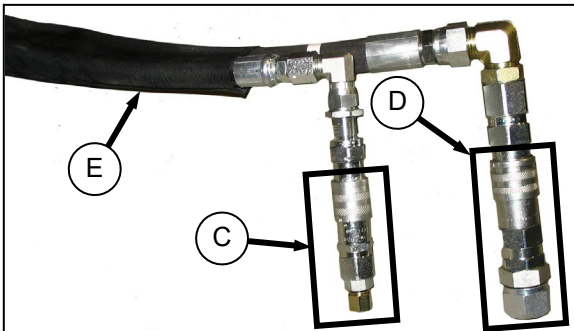
- d. Proceed to **Step 15. CONFIGURE REVERSER VALVE JUMPER HOSE.**

UNLOADING AND ASSEMBLY

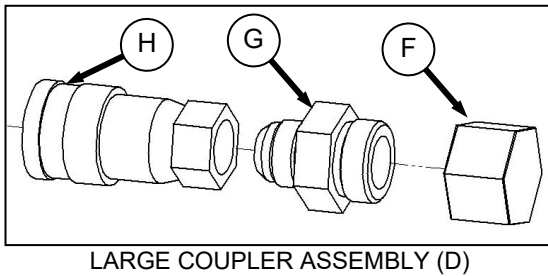
M200 WITHOUT REVERSER VALVE



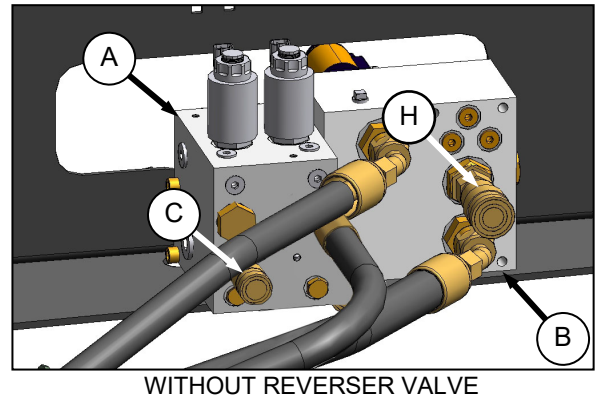
- a. Remove the plug from port 'R2' on valve block (A) and the cap from fitting in port 'R2' on valve block (B). Ports may not be identified.



- b. Remove female coupler assemblies (C) and (D) from hoses in bundle (E) from header.



- c. Remove and discard the cap (F) and adapter fitting (G) with O-ring from the large coupler (H).



- d. Install larger coupler (H) onto fitting at port 'R2' on valve block (B).
- e. Remove cap from smaller coupler assembly (C) and install assembly in port 'R2' on valve (A).

IMPORTANT

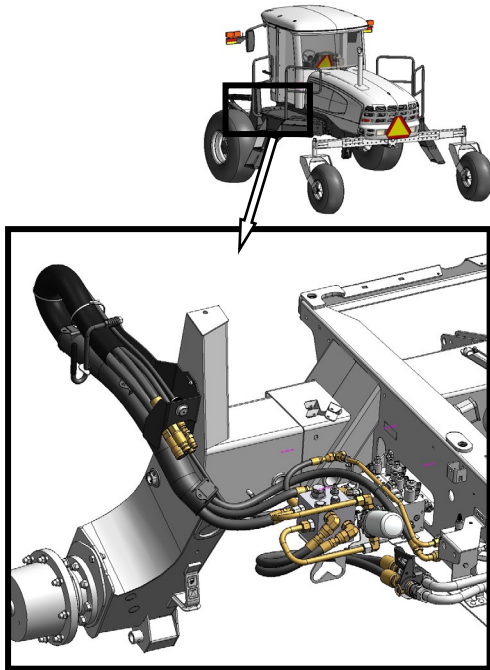
Make sure O-ring is on JIC threads in port 'R1' to ensure a proper seal with the coupler (H). If O-ring is missing, re-use O-ring from fitting (G).

- f. Proceed to **STEP 16. ATTACH HYDRAULICS.**

UNLOADING AND ASSEMBLY

IV. M205

- a. The M205 hydraulics need to be modified to accept an A-Series auger header, and kits B5491, B5492, and B5497 should have been supplied with your header.



AUGER HEADER HYDRAULICS

- b. Install kits in accordance with the instructions that were supplied with the kits to achieve the configuration shown above.
- c. Proceed to **STEP 16. ATTACH HYDRAULICS.**

UNLOADING AND ASSEMBLY

STEP 15. CONFIGURE REVERSER VALVE JUMPER HOSE

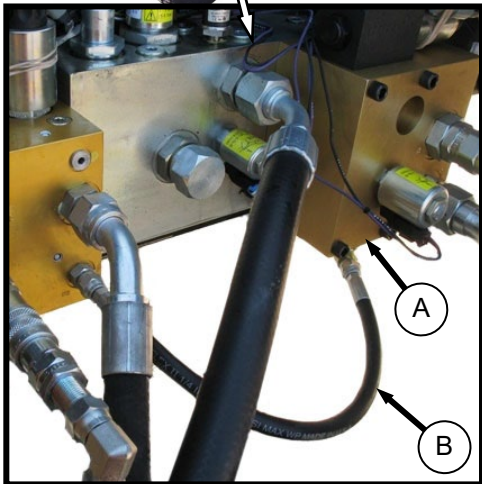
An optional valve block to reverse the header drive in the event of plugging may have been installed on the M150, M155, and M200 windrowers.

If reverser valve block (A) is installed, proceed as follows. Otherwise, proceed to **STEP 16. ATTACH HYDRAULICS.**

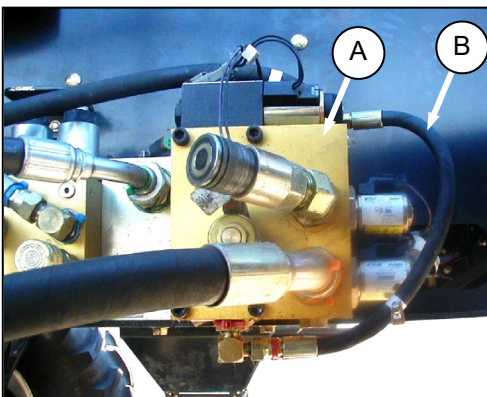
IMPORTANT

A jumper hose on the reverser valve has a specific routing for each model of auger header. **Do not operate the header unless hose is routed as shown.**

- Check the routing of the jumper hose as follows, and change as required:

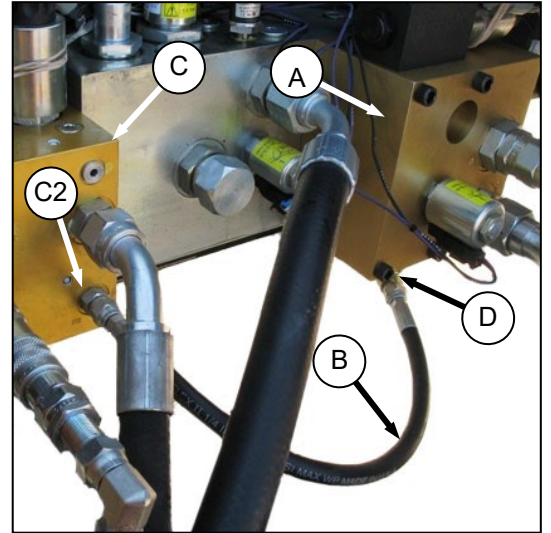


HOSE (B) POSITION: A40-D
M200 SHOWN - M150, M155 SIMILAR

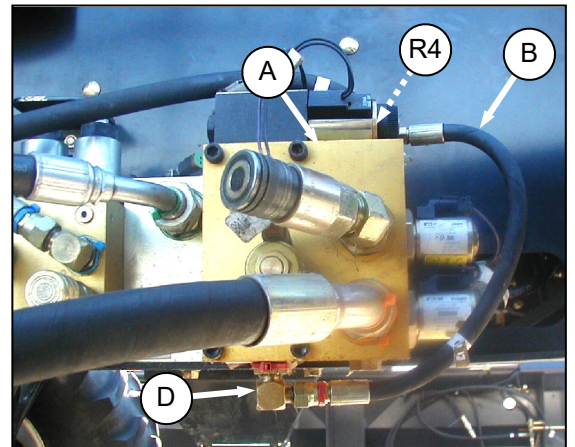


HOSE (B) POSITION: A30-S, A30-D
M150 SHOWN - M155, M200 SIMILAR

- Move LH windrower platform to "open position" to expose hydraulic valve blocks.
- To route hose (B) from A40-D position to A30-S, A30-D position:



- Disconnect jumper hose (B) from port 'C2' fitting on header drive valve block (C).
- Rotate 90° fitting (D) under reverser valve block (A) so that it points "aft".

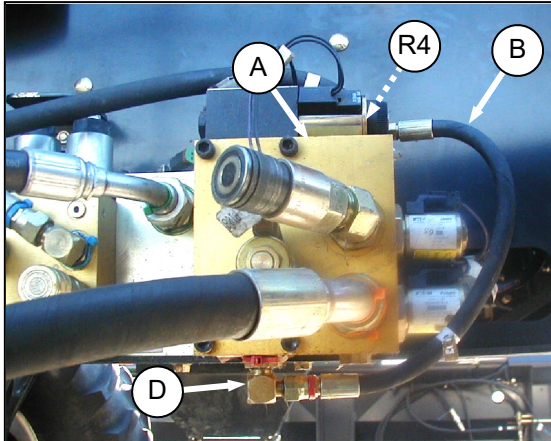


- Remove cap from 90° fitting in port 'R4' on top of reverser block (A).
- Connect jumper hose (B) to 90° fitting in port 'R4'.
- Install cap removed in step 3. on port 'C2' fitting on valve block (C).

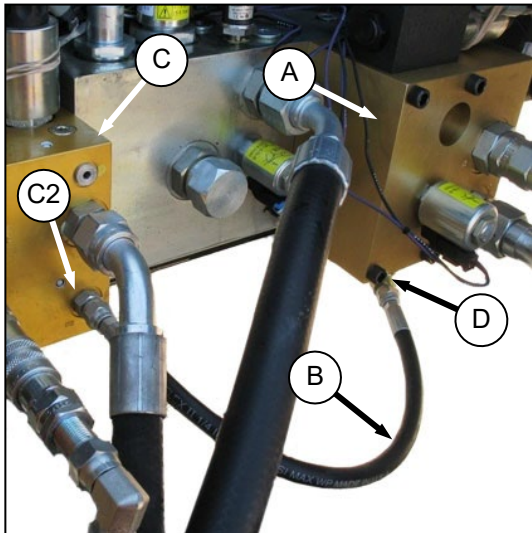
(continued next page)

UNLOADING AND ASSEMBLY

- d. To route hose (B) from A30-S, A30-D position to A40-D position:



1. Disconnect jumper hose (B) at 90° fitting in port 'R4'.



2. Rotate 90° fitting (D) under reverser valve block (A) so that hose can be routed to port 'C2' on header drive valve block (C).
 3. Remove cap from fitting in header drive valve block port 'C2', and connect jumper hose (B) to port 'C2' fitting.
 4. Install cap removed in step 3. (on previous page) on 90° fitting in port 'R4' on reverser valve block (A).
- e. Move LH maintenance platform to "normal operating position".

UNLOADING AND ASSEMBLY

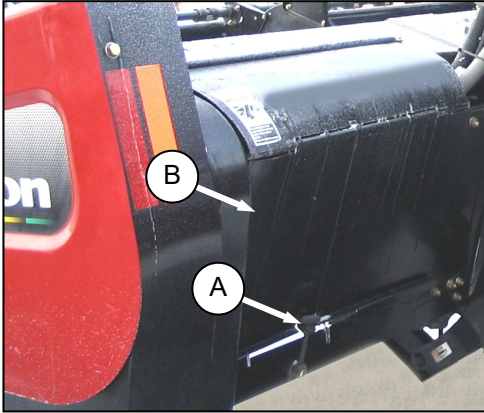
STEP 16. ATTACH HYDRAULICS

A. A30-S, A30-D

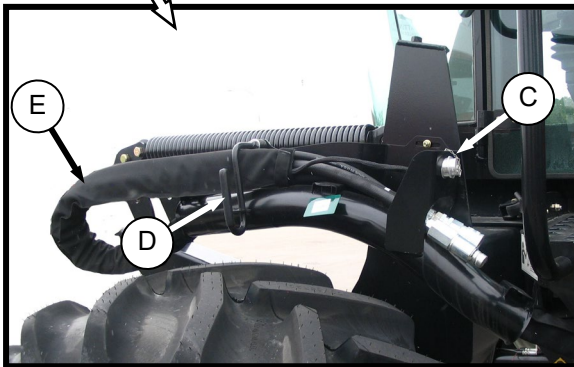


DANGER

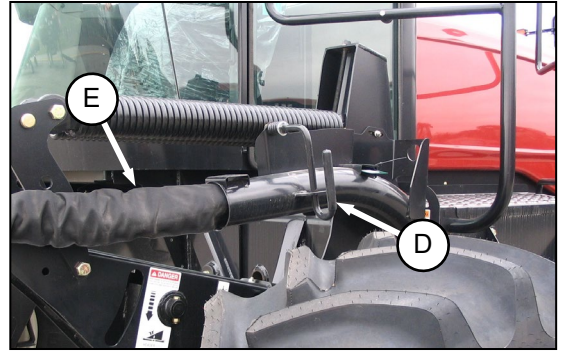
Stop engine, and remove key from ignition before leaving Operator's seat for any reason. A child or even a pet could engage an idling machine.



- a. Disengage rubber latch (A), and open driveline shield (B).



- b. Remove cap (C) from electrical connector, and remove connector from support bracket.
c. Disengage and rotate lever (D) counter clockwise to "fully up position" to release hose bundle (E).

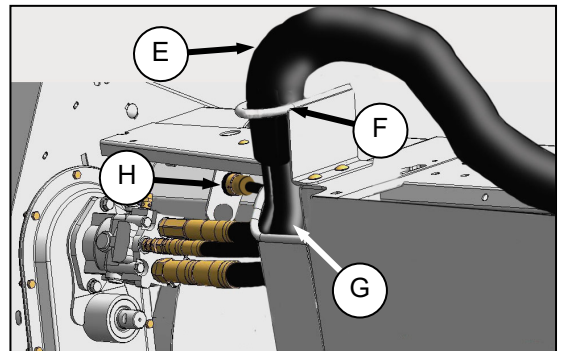


- d. Move hose bundle (E) to header.
e. Rotate lever (D) clockwise, and engage in bracket to store.



IMPORTANT

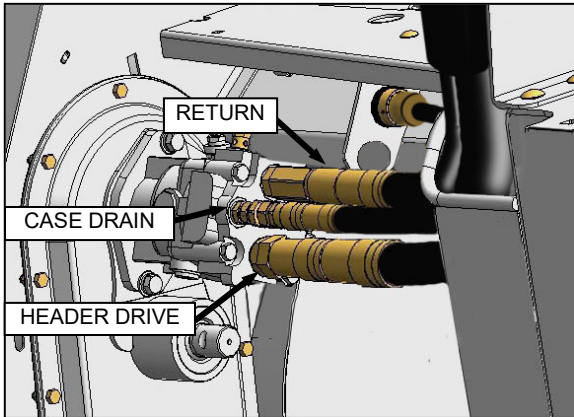
If the hose bundle contains four hoses (draper header operation), **only three** are required to power the A30 header. Ensure loose hose is properly secured to avoid contact with the drivelines.



- f. Route hoses (E) from windrower through support (F) and access hole (G) in header frame.
g. Remove cover on header electrical receptacle (H), push connector onto receptacle, and turn collar on connector to lock it in place.
h. Attach cover to mating cover on windrower wiring harness.
i. Remove caps (if installed) from hydraulic couplers, and clean if necessary.

(continued next page)

UNLOADING AND ASSEMBLY



- j. Push hose connectors onto mating receptacles as shown until collars on receptacles snap into "lock position".
- k. Activate header tilt cylinder switches to extend and retract center-link. Check for sufficient clearance between hoses and electrical harness.

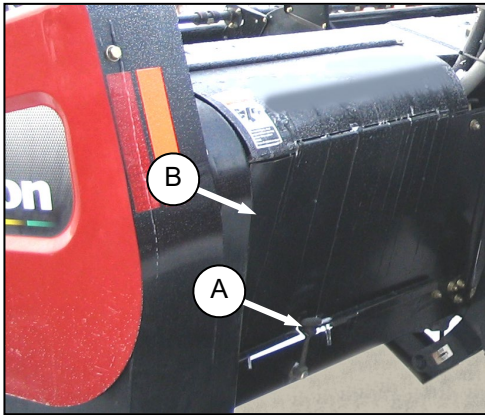
UNLOADING AND ASSEMBLY

B. A40-D

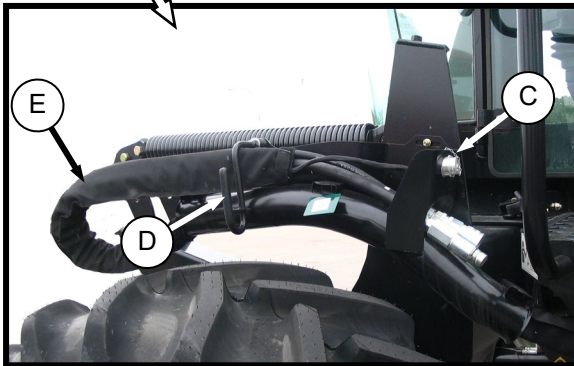


DANGER

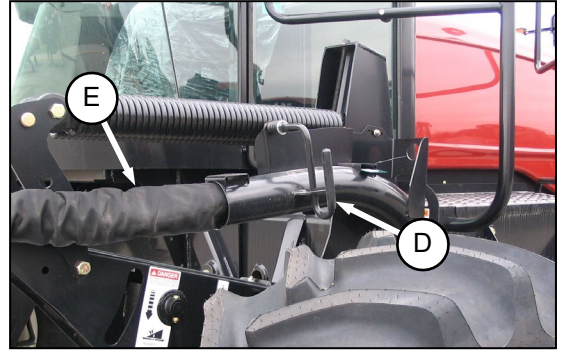
Stop engine, and remove key from ignition before leaving Operator's seat for any reason. A child or even a pet could engage an idling machine.



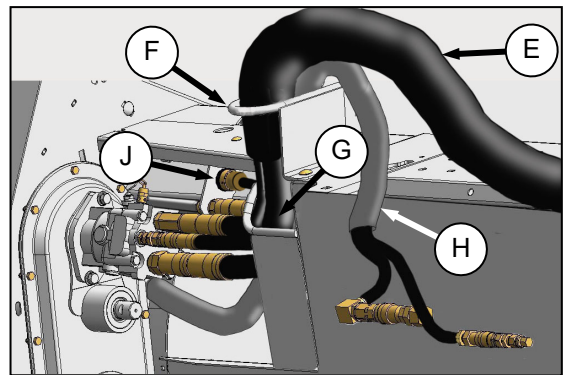
- a. Disengage rubber latch (A), and open driveline shield (B).



- b. Remove cap (C) from electrical connector, and remove connector from support bracket.
- c. Disengage and rotate lever (D) counter clockwise to "fully up position" to release hose bundle (E).



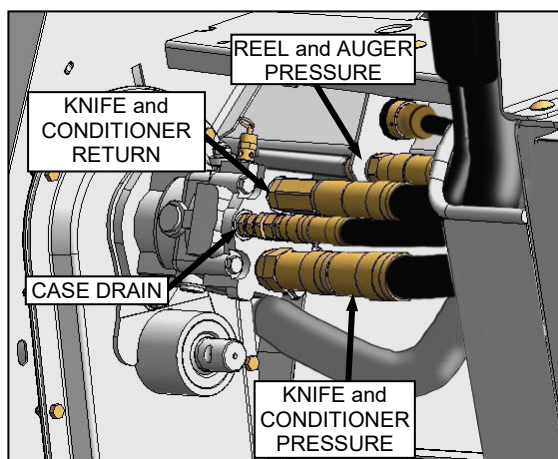
- d. Move hose bundle (E) to header.
- e. Rotate lever (D) clockwise, and engage in bracket to store.



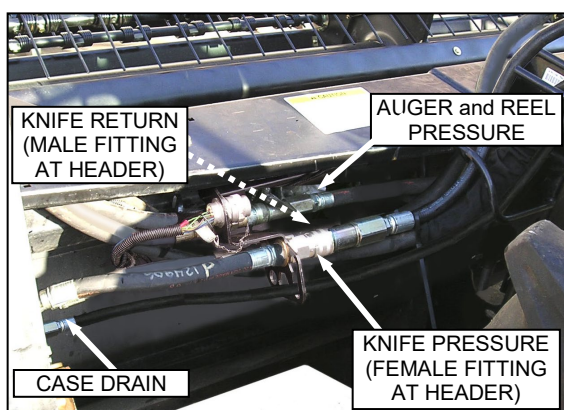
- f. Route hoses (E) from windrower through support (F) and access hole (G) in header frame alongside hose bundle (H). Hose bundle (H) will be attached later in the procedure.
- g. Remove cover on header electrical receptacle (J).
- h. Push connector onto receptacle, and turn collar on connector to lock it in place.
- i. Attach cover to mating cover on windrower wiring harness.
- j. Remove caps from hydraulic couplers, and clean if necessary.

(continued next page)

UNLOADING AND ASSEMBLY



STANDARD HEADER

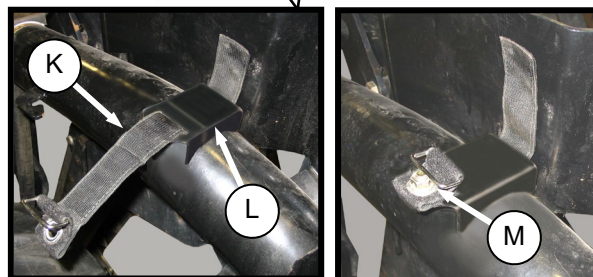


GRASS SEED HEADER

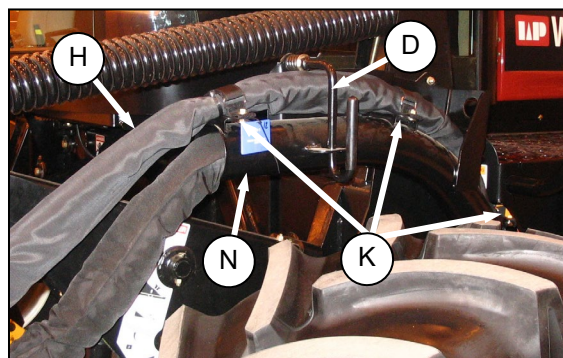
- k. Connect the four hoses from windrower to mating receptacles on header. Ensure collar snaps into "lock position".

- l. If not already installed, install Velcro straps on windrower as follows:

1. Retrieve package of three Velcro straps shipped with the header.



2. Locate Velcro strap (K) through slot and under bracket (L) on hose support.
3. Attach strap to bracket with 1/2 inch carriage bolt (M) and locking nut. Install bolt from under bracket.
4. Repeat above steps at the two other brackets on hose support.



- m. Route reel/auger return and auger pressure hose bundle (H) from header to windrower, and locate bundle above existing hose support (N) as shown.
- n. Secure with three straps (K), and lower lever (D).

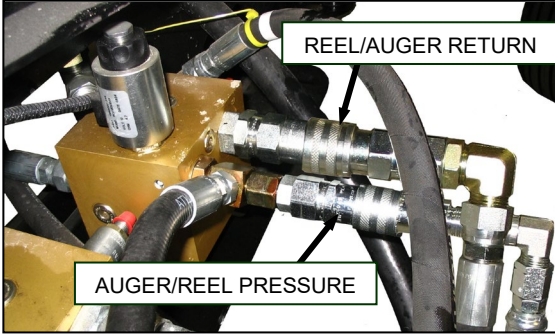
(continued next page)

UNLOADING AND ASSEMBLY

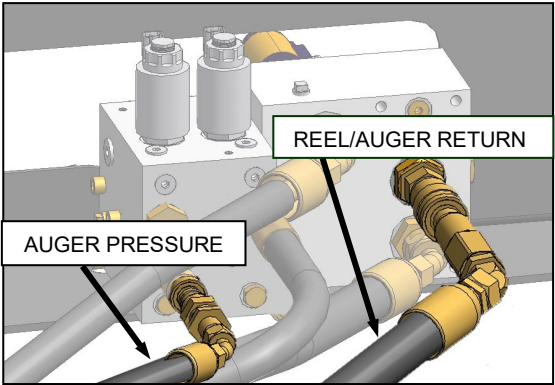
- o. Connect auger/reel pressure and reel/auger return hoses from header to receptacles on windrower valve block.

Refer to applicable section below for your equipment:

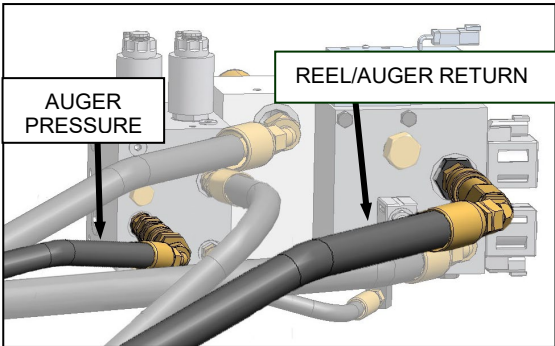
I. M100, M105



II. M150, M155

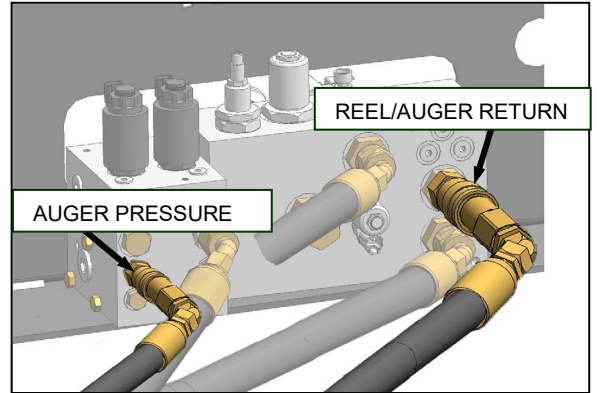


M150, M155 WITHOUT REVERSER VALVE

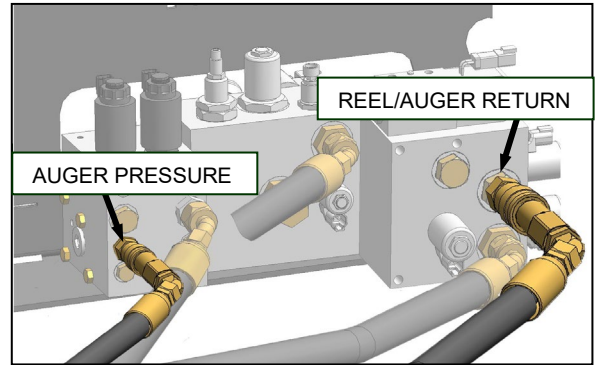


M150, M155 WITH REVERSER VALVE

III. M200

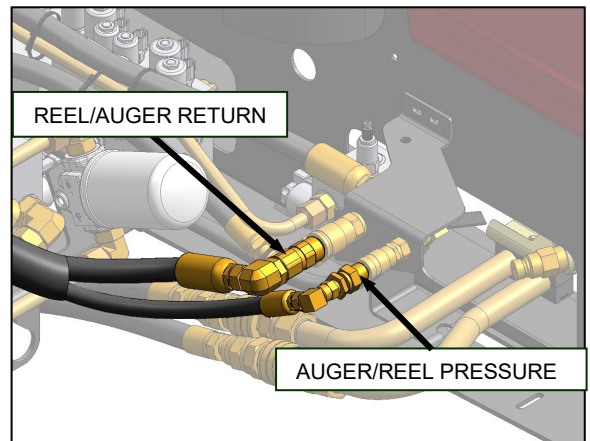


M200 WITHOUT REVERSER VALVE



M200 WITH REVERSER VALVE

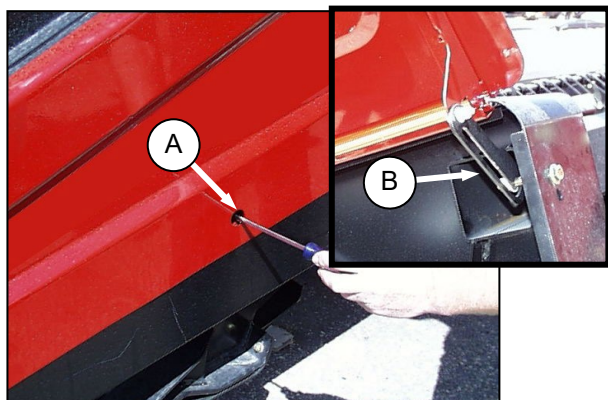
IV. M205



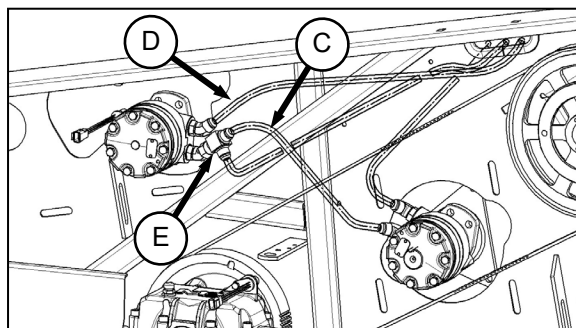
UNLOADING AND ASSEMBLY

STEP 17. CONFIGURE HOSE ROUTING: A-40D ONLY

The A40-D header drive hose routing depends on the windrower model to which the header is being attached.



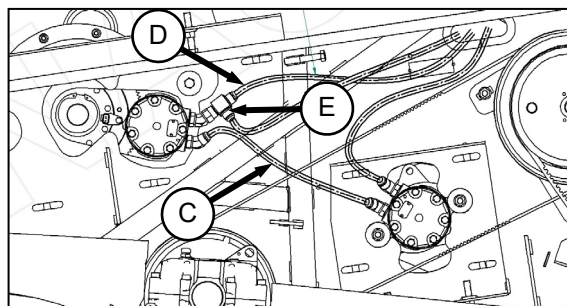
- Press screwdriver against latch in opening (A), and lift to open header LH drive shield. Shield will latch at (B) to stay open.
- Check hose routing at the reel motor.
- Disconnect hoses as follows:



M150 / M155 / M200 - FACTORY CONFIGURATION

- Disconnect hose (C) at tee.
- Disconnect hose (D) at reel motor.
- Disconnect tee (E) at motor lower port.

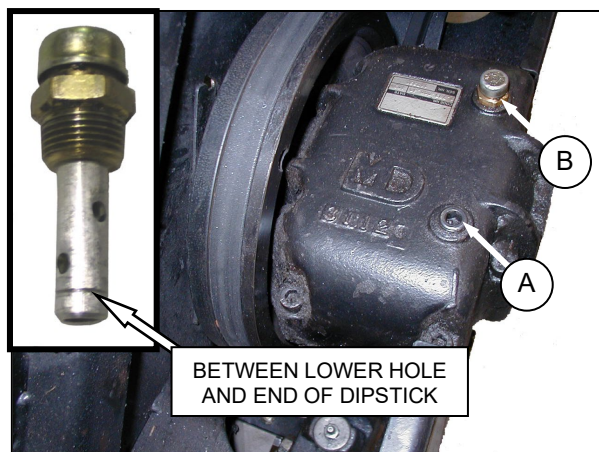
- Re-connect hoses as follows:



M100 / M105 / M205

- Relocate tee (E) to upper port.
 - Connect hose (D) to tee.
 - Connect hose (C) to motor lower port.
- Close drive shield before engaging header.

STEP 18. RE-POSITION WOBBLE BOX BREATHER



CHECK OIL LEVEL WITH TOP OF WOBBLE BOX HORIZONTAL

- Move breather/dipstick (B) to back port, and install plug (A) in forward port at wobble box(es).
- Check oil level. If required, add SAE 85W-140 lubricant.

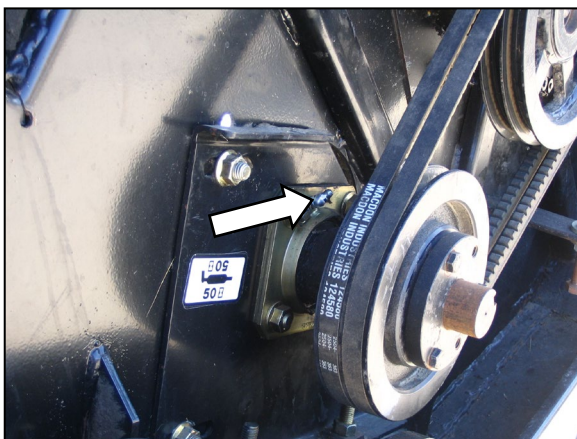
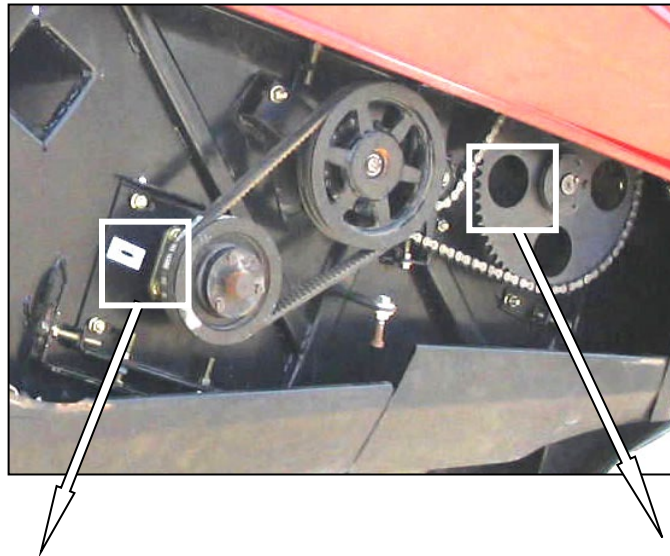
UNLOADING AND ASSEMBLY

STEP 19. LUBRICATE HEADER

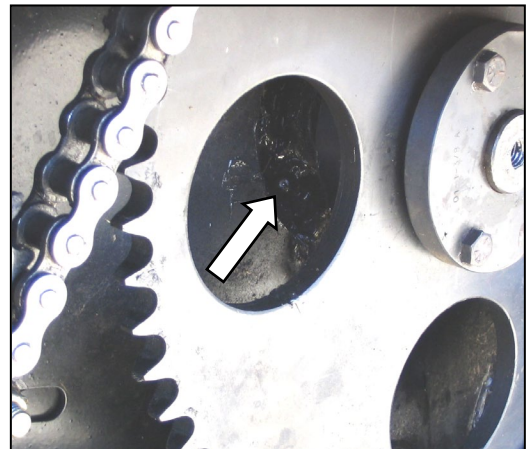
- a. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.
- b. Inject grease through fitting with grease gun until grease overflows fitting, except where noted.
- c. Leave excess grease on fitting to keep out dirt.
- d. Replace any loose or broken fittings immediately.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

A30-S HEADER RH SIDE

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



AUGER SHAFT BEARING - 1 PLC



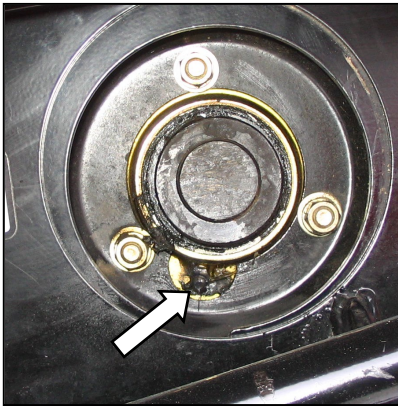
REEL SHAFT BEARING - 1 PLC

UNLOADING AND ASSEMBLY

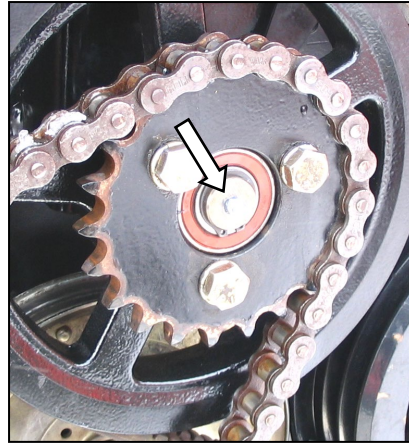
LUBRICATE HEADER (cont'd)

A30-S HEADER LH SIDE

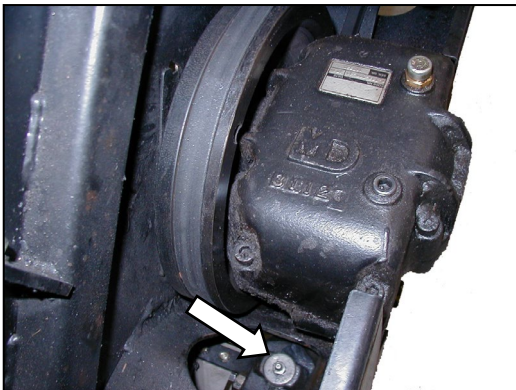
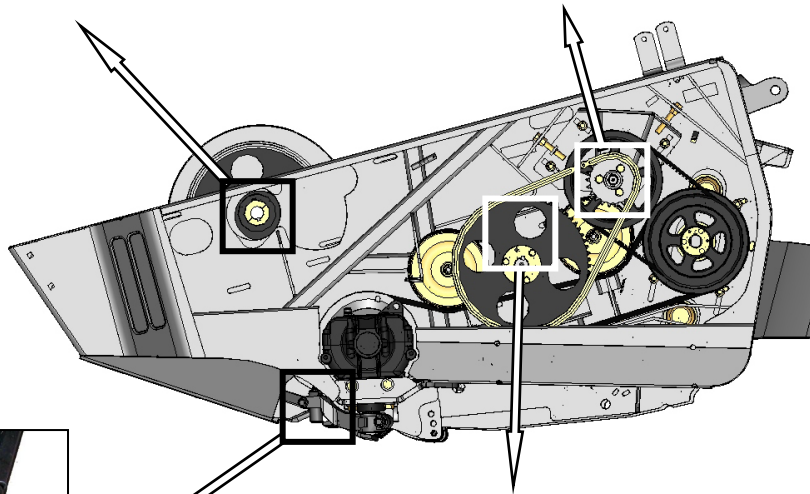
High Temperature Extreme Pressure (EP2) Performance With 1% Max Molybdenum Disulphide (NLGI Grade 2) Lithium Base.



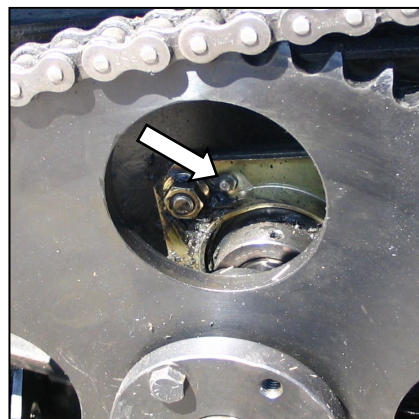
REEL SHAFT BEARING - 1 PLC



AUGER DRIVE BEARING - 1 PLC



SICKLE HEAD BEARING - 1 PLC



AUGER SHAFT BEARING - 1 PLC

NOTE

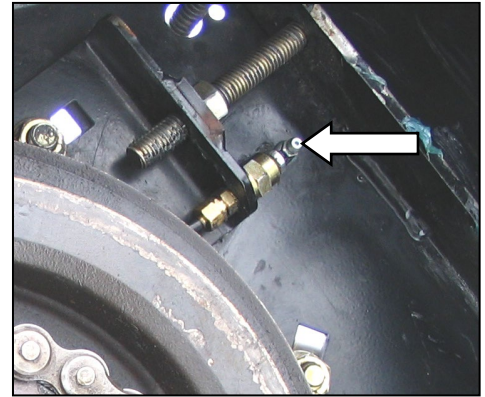
To prevent binding and/or excessive wear caused by sickle pressing on guards, do not over grease. If more than 6 to 8 pumps of the grease gun are required to fill the cavity, replace the seal in the sickle head.

UNLOADING AND ASSEMBLY

LUBRICATE HEADER (cont'd)

A30-D HEADER LH SIDE

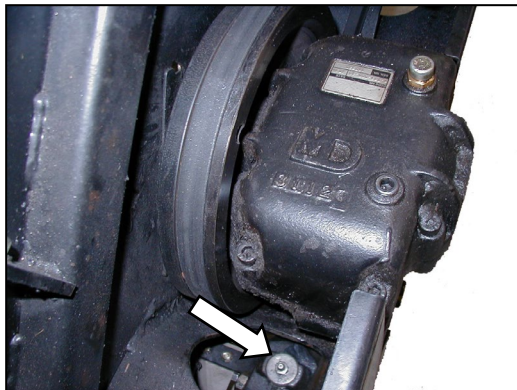
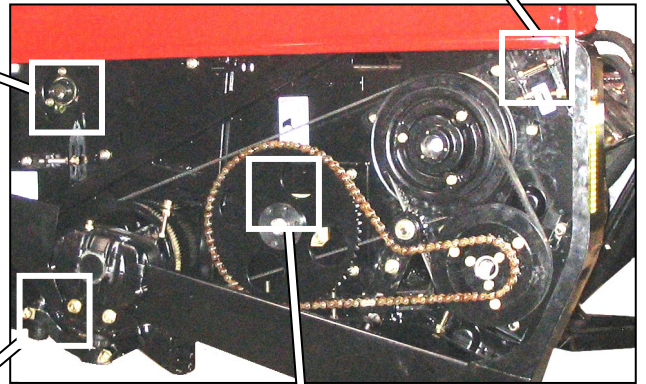
High Temperature Extreme Pressure (EP2) Performance With 1% Max Molybdenum Disulphide (NLGI Grade 2) Lithium Base.



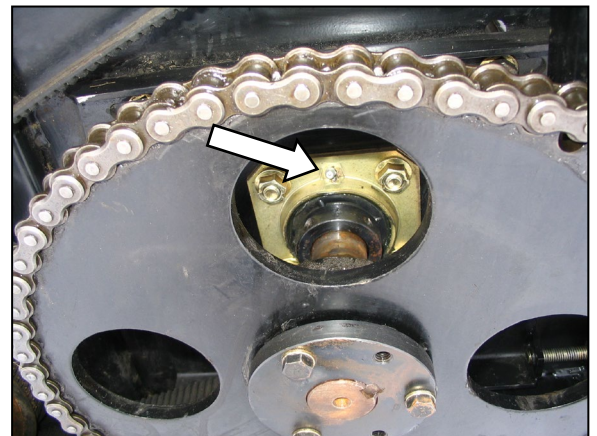
CROSS SHAFT BEARING - 1 PLC



REEL SHAFT BEARING - 1 PLC



SICKLE HEAD BEARING - 1 PLC



AUGER SHAFT BEARING - 1 PLC

NOTE

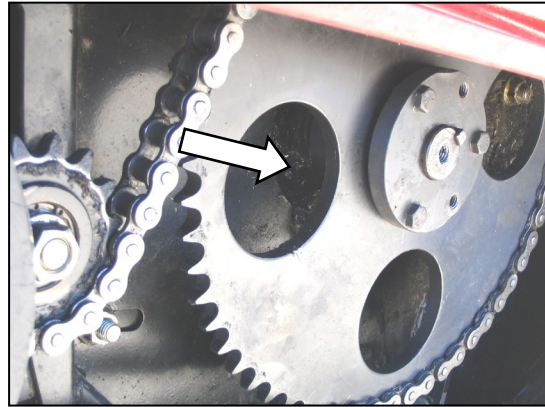
To prevent binding and/or excessive wear caused by sickle pressing on guards, do *not* over grease. If more than 6 to 8 pumps of the grease gun are required to fill the cavity, replace the seal in the sickle head.

UNLOADING AND ASSEMBLY

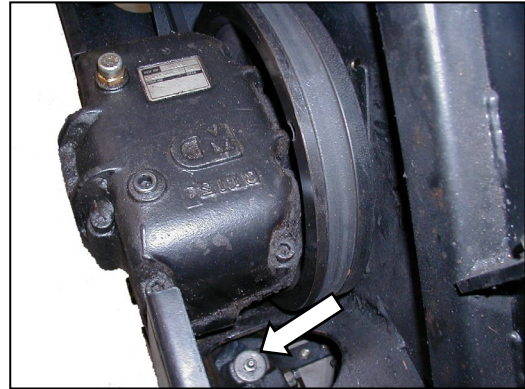
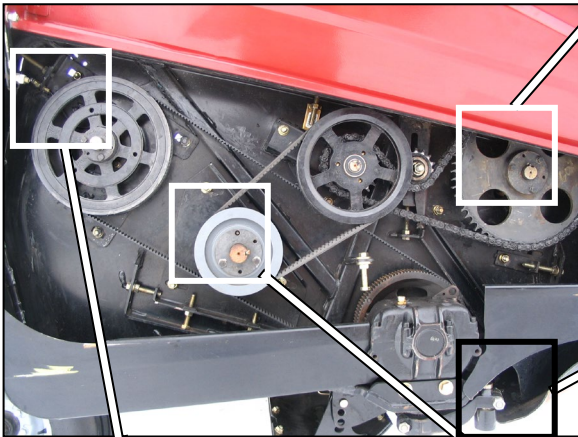
LUBRICATE HEADER (cont'd)

A30-D HEADER RH SIDE

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



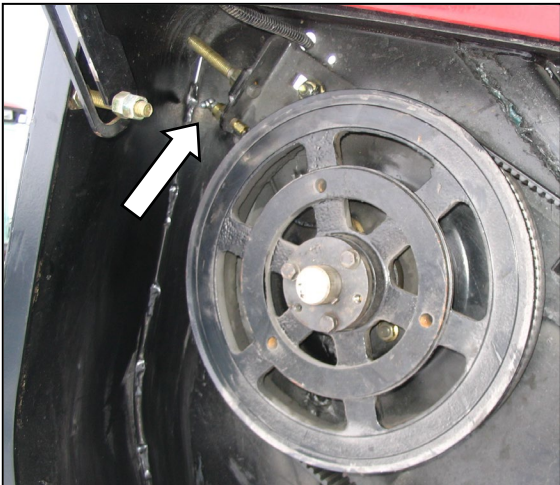
REEL SHAFT BEARING - 1 PLC



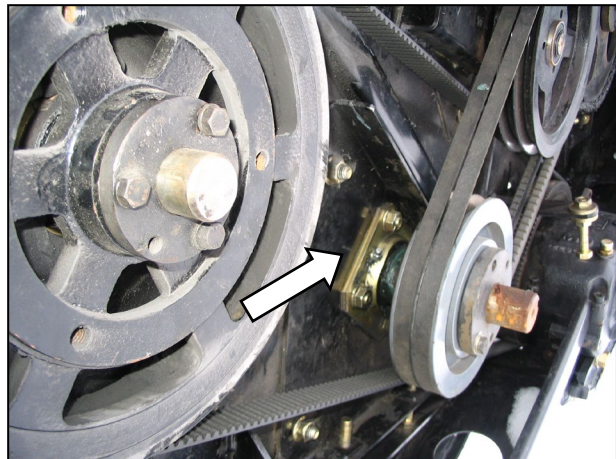
SICKLE HEAD BEARING - 1 PLC

NOTE

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.



SICKLE DRIVE BEARING - 1 PLC



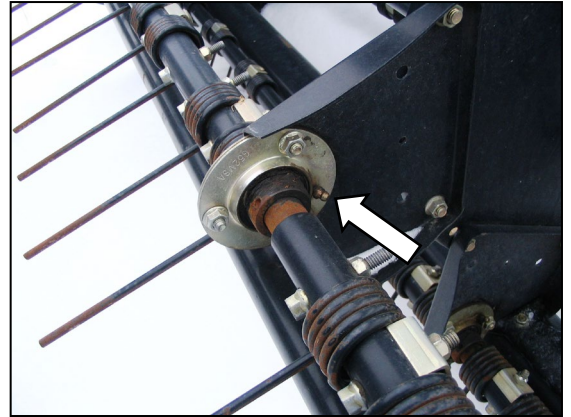
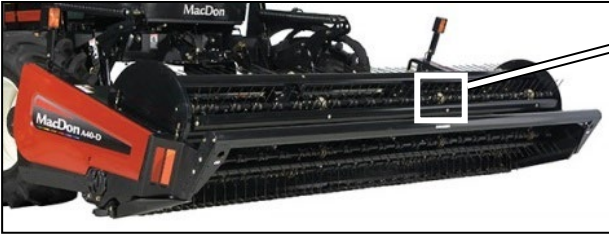
AUGER SHAFT BEARING - 1 PLC

UNLOADING AND ASSEMBLY

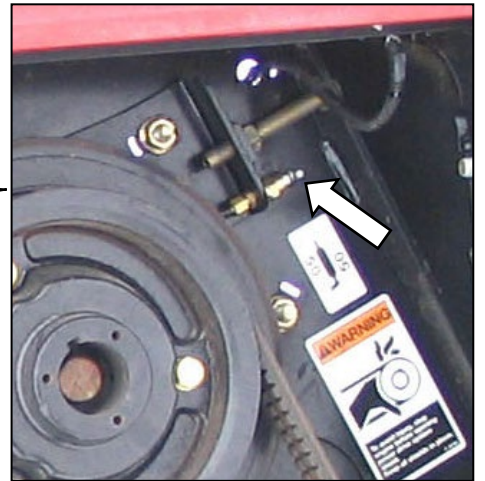
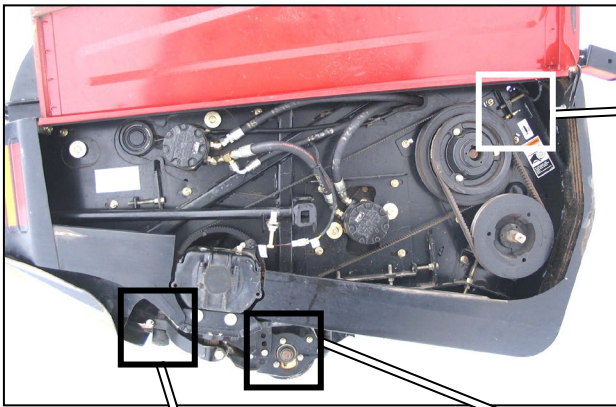
LUBRICATE HEADER (cont'd)

A40-D HEADER LH SIDE

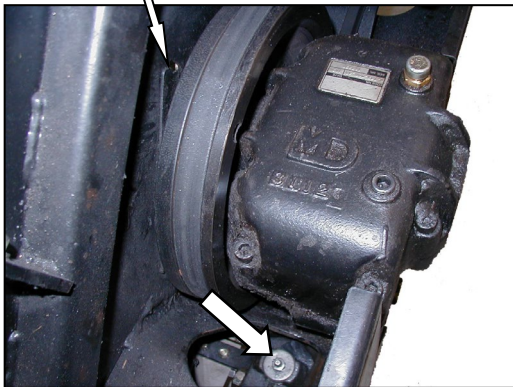
High Temperature Extreme Pressure (EP2) Performance With 1% Max Molybdenum Disulphide (NLGI Grade 2) Lithium Base.



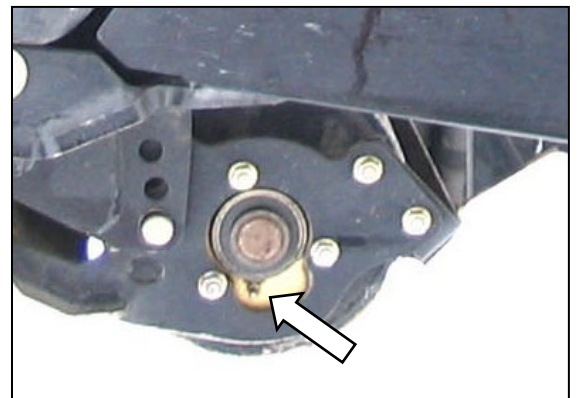
TINE BAR BEARING
(4 PLCS EACH TINE BAR)



SICKLE DRIVE BEARING - 1 PLC



SICKLE HEAD BEARING - 1 PLC



GAUGE ROLLER BEARINGS - 2 PLCS
BOTH SIDES - IF INSTALLED

NOTE

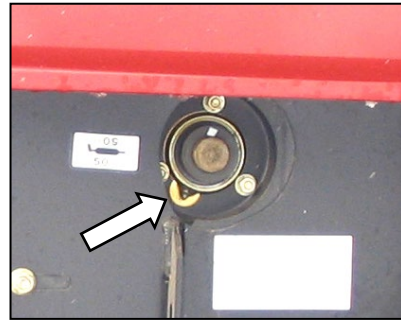
To prevent binding and/or excessive wear caused by sickle pressing on guards, do not over grease. If more than 6 to 8 pumps of the grease gun are required to fill the cavity, replace the seal in the sickle head.

UNLOADING AND ASSEMBLY

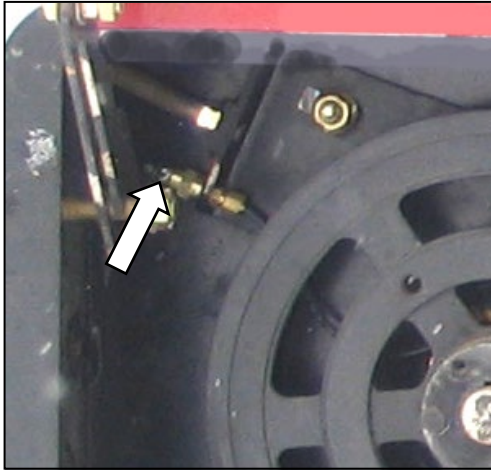
LUBRICATE HEADER (cont'd)

A40-D HEADER RH SIDE

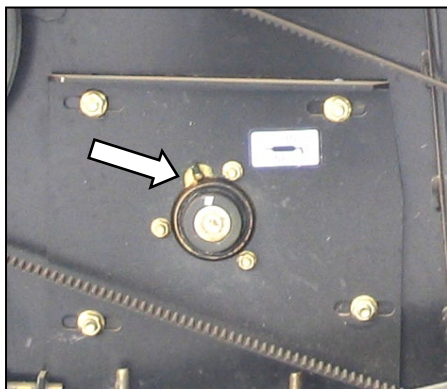
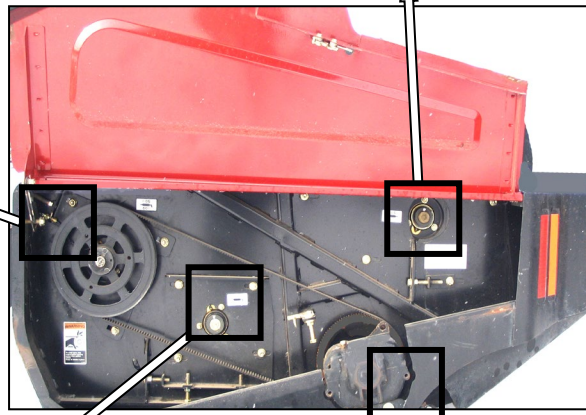
High Temperature Extreme Pressure (EP2) Performance With 1% Max Molybdenum Disulphide (NLGI Grade 2) Lithium Base.



REEL SHAFT BEARING - 1 PLC



SICKLE DRIVE BEARING - 1 PLC



AUGER SHAFT BEARING - 1 PLC



SICKLE HEAD BEARING - 1 PLC

NOTE

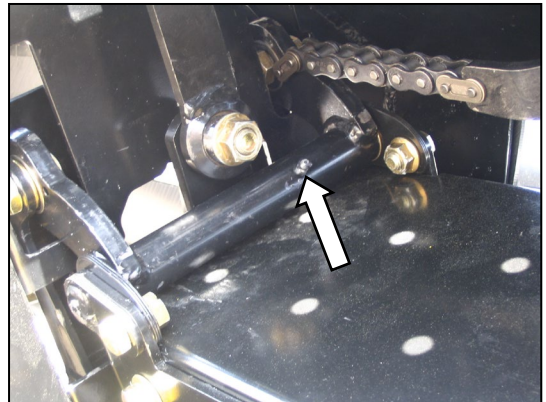
To prevent binding and/or excessive wear caused by sickle pressing on guards, do not over grease. If more than 6 to 8 pumps of the grease gun are required to fill the cavity, replace the seal in the sickle head.

UNLOADING AND ASSEMBLY

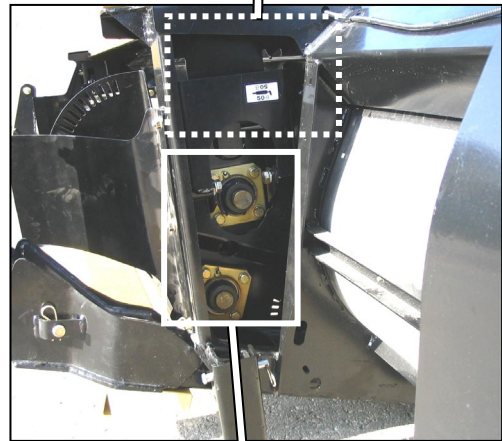
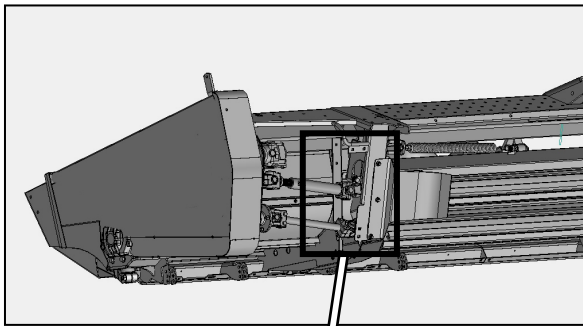
LUBRICATE HEADER (cont'd)

HAY CONDITIONER

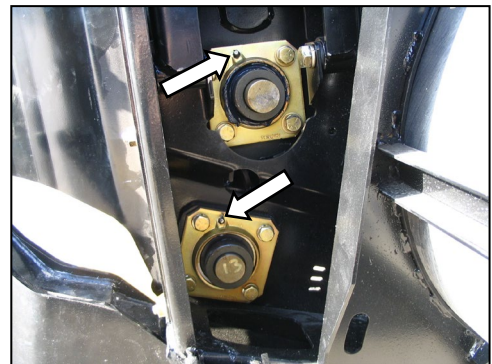
High Temperature Extreme Pressure (EP2) Performance With 1% Max Molybdenum Disulphide (NLGI Grade 2) Lithium Base.



ROLL PIVOT (1 PLC - BOTH SIDES)



ROLL SHAFT BEARINGS - 2 PLCS



ROLL SHAFT BEARINGS - 2 PLCS

UNLOADING AND ASSEMBLY

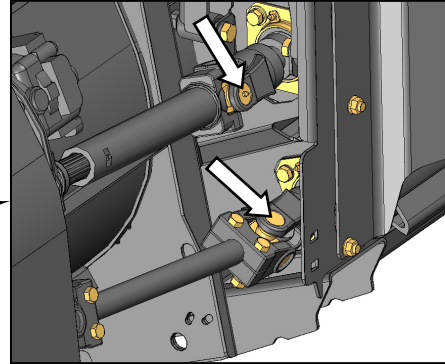
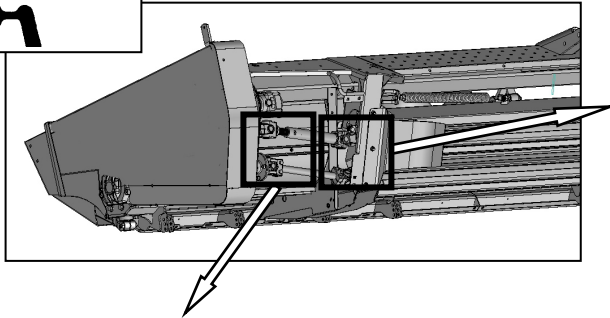
LUBRICATE HEADER (cont'd)

DRIVELINES

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

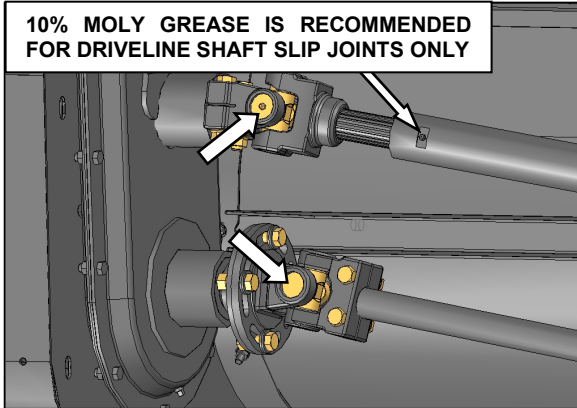


A30-S

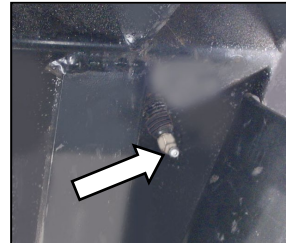


DRIVELINE UNIVERSALS - 2 PLCS

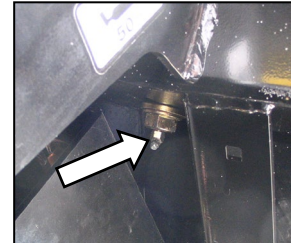
10% MOLY GREASE IS RECOMMENDED FOR DRIVELINE SHAFT SLIP JOINTS ONLY



DRIVELINE UNIVERSALS - 2 PLCS
DRIVELINE SHAFTS - 1 PLC

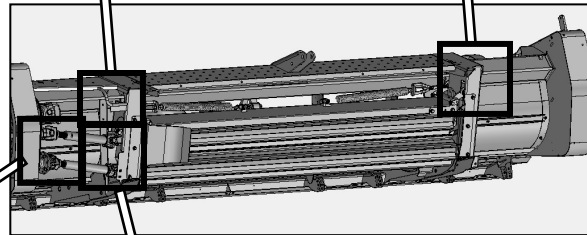


CROSS SHAFT - 1 PLC

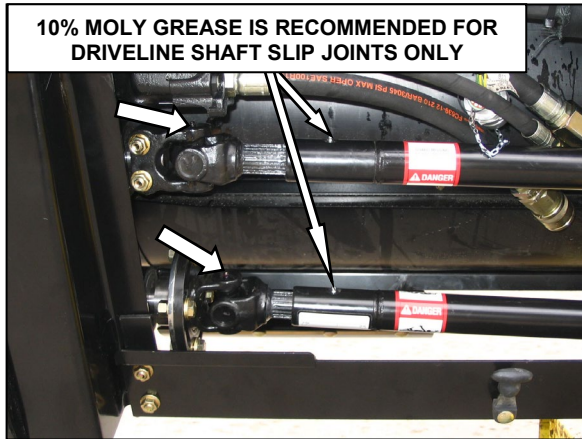


CROSS SHAFT - 1 PLC

A30-D and A40-D



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



DRIVELINE UNIVERSALS - 2 PLCS
DRIVELINE SHAFTS - 2 PLCS



DRIVELINE UNIVERSALS - 2 PLCS

UNLOADING AND ASSEMBLY

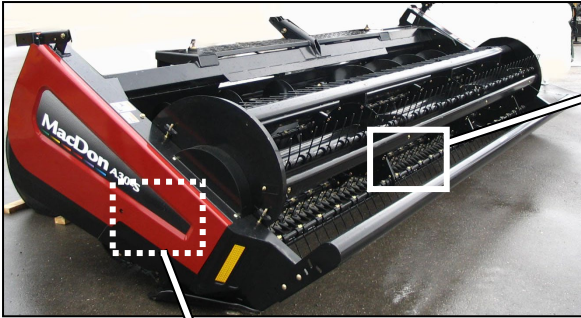
LUBRICATE HEADER (cont'd)

OILING

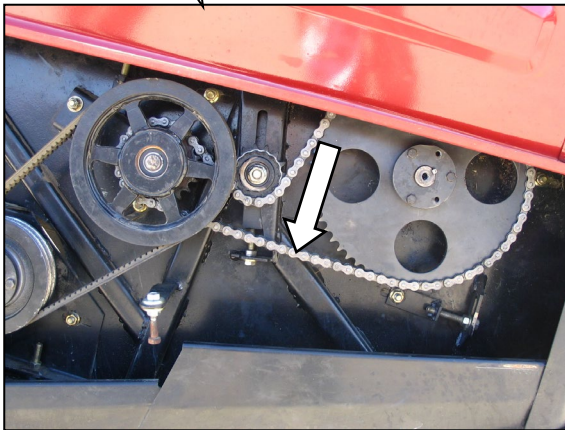
SAE 30



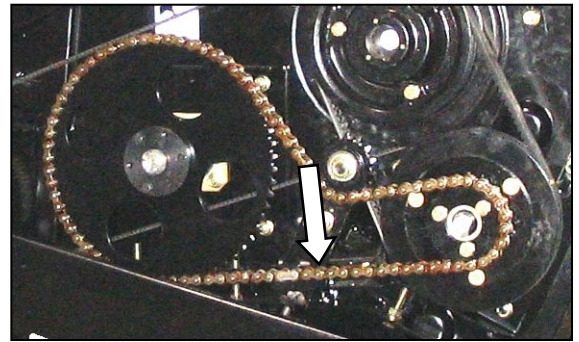
When oiling chains, apply oil to upper edge of lower spans.



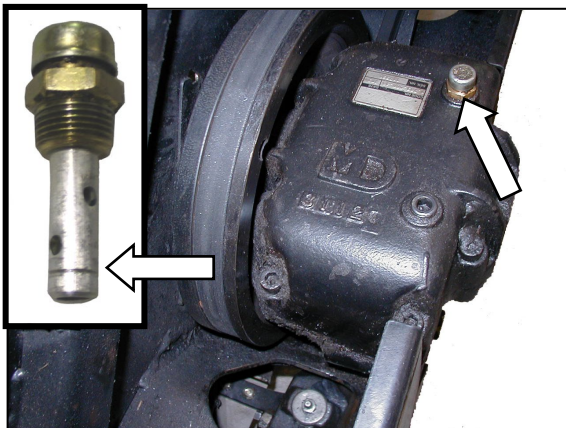
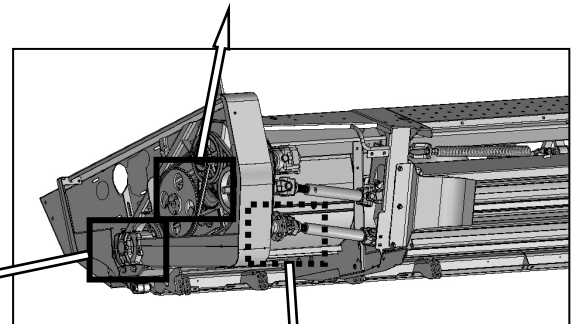
OIL KNIFE DAILY EXCEPT IN SANDY SOIL



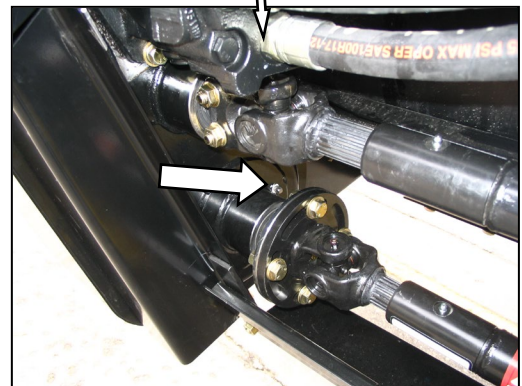
REEL DRIVE CHAIN - 1 PLC



AUGER DRIVE CHAIN - 1 PLC



WOBBLE BOX
(A30-S - 1 PLC) (A30-D/A40-D - 2 PLCS)
(CHECK OIL LEVEL WITH TOP OF
WOBBLE BOX HORIZONTAL)



CHECK ROLL GEARBOX - 1 PLC

PRE-DELIVERY CHECKS

STEP 20. PERFORM PRE-DELIVERY CHECKS



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.

IMPORTANT

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

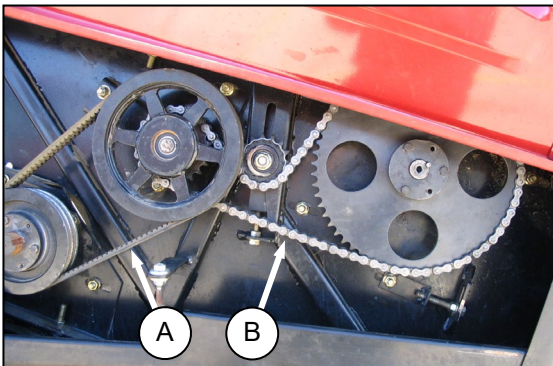
- Perform the final checks and adjustments as listed on the "Pre-Delivery Checklist" (yellow sheet) to ensure the machine is field-ready. Refer to the following pages for detailed instructions as indicated on the Checklist.
- The completed Checklist should be retained either by the Operator or the Dealer.

A. DRIVE BELTS AND DRIVE CHAINS

The drive systems for each of the three models of auger headers differ slightly, and therefore require different procedures for checking and making any necessary adjustments. Refer to the appropriate section for your particular header.

I. A30-S SINGLE KNIFE

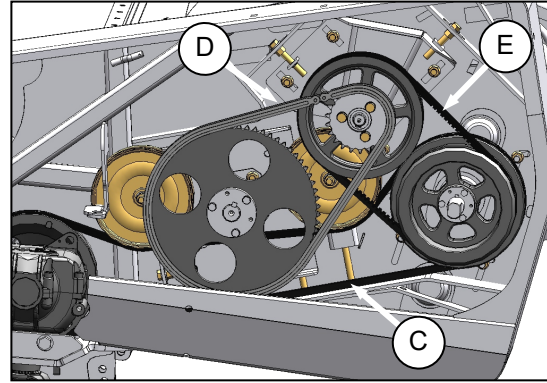
- Open shield on header RH side.



A30-S

- Reel drive belts (A) should deflect 3/16 in. (4 mm) when a load of 8 - 12 lbf (35 - 40 N) is applied to each belt at mid-span.
- Reel drive chain (B) slack should be 1/4 in. (6 mm).
- Close shield.

- Open shield on header LH side.

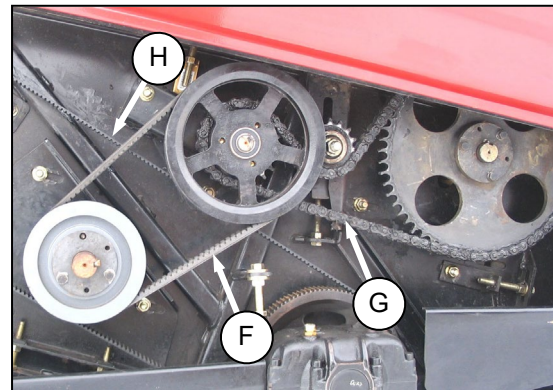


A30-S

- Sickle drive belt (C) should deflect 1/4 inch (6 mm) when a load of 20 lbf (80 N) is applied at mid-span.
- Auger drive chain (D) deflection at mid-span should be 1/4 inch (6 mm).
- Auger drive belts (E) belt should deflect 3/16 in. (4 mm) when a load of 8 - 12 lbf (35 - 40 N) is applied to each belt at mid-span.
- Close shield.
- Proceed to **STEP 20B. AUGER STRIPPER BAR CLEARANCE.**

II. A30-D DOUBLE KNIFE

- Open shield on header RH side.



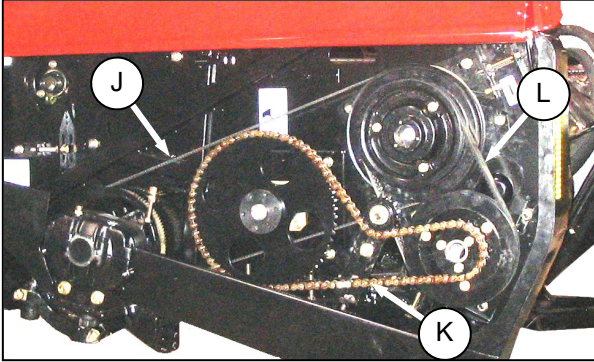
A30-D

- Reel drive belt (F) should deflect 3/16 in. (4 mm) when a load of 8 - 12 lbf (35 - 40 N) is applied to each belt at mid-span.
- Reel drive chain (G) slack should be 1/4 in. (6 mm).
- Sickle drive belt (H) should deflect 0.55 inch (14 mm) when a load of 5 - 6.5 lbf (22 - 30 N) is applied at mid-span.
- Close shield.

(continued next page)

PRE-DELIVERY CHECKS

- f. Open shield on header LH side.

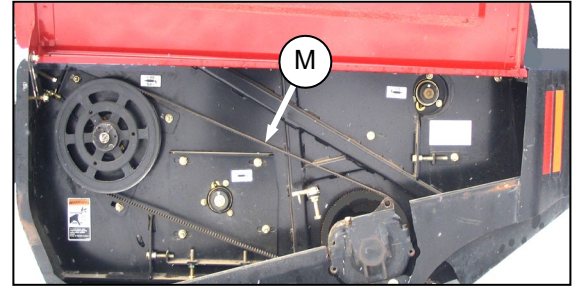


A30-D

- g. Sickle drive belt (J) should deflect 0.55 inch (14 mm) when a load of 5 - 6.5 lbf (22 - 30 N) is applied at mid-span).
- h. Auger drive chain (K) deflection should be 1/4 inch (6 mm).
- i. Auger drive belts (L) should deflect 3/16 in. (4 mm) when a load of 8 - 12 lbf (35 - 40 N) is applied to each belt at mid-span.
- j. Close shield.
- k. Proceed to **Section 20B. AUGER STRIPPER BAR CLEARANCE.**

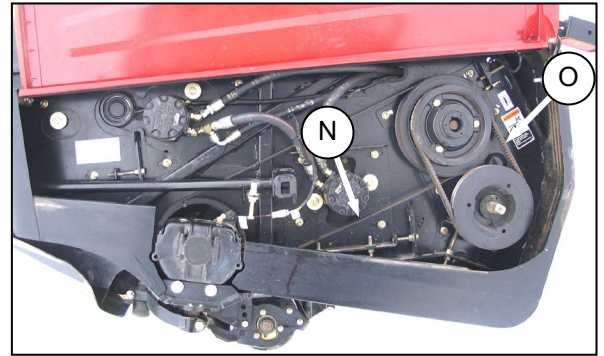
III. A40-D DOUBLE KNIFE

- a. Open shield on header RH side.



A40-D

- b. Sickle drive timing belt (M) should deflect 0.55 inch (14 mm) when a load of 5 - 6.5 lbf (22 - 30 N) is applied at mid-span).
- c. Open shield on header LH side.

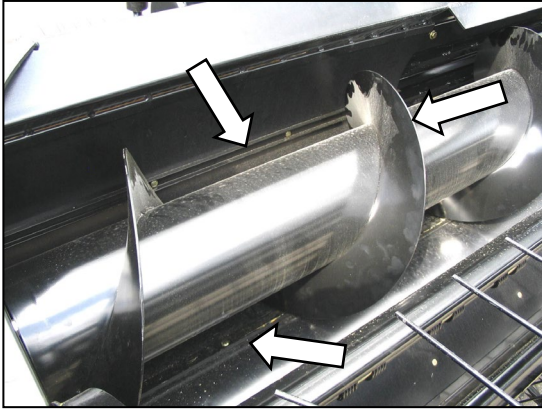


A40-D

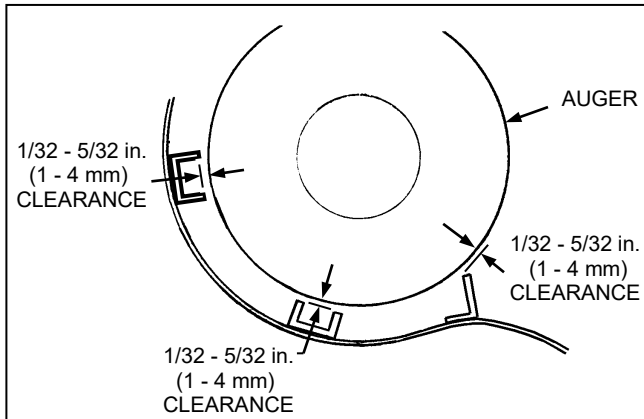
- d. Sickle drive timing belt (N) should deflect 0.55 inch (14 mm) when a load of 5 - 6.5 lbf (22 - 0 N) is applied at mid-span).
- e. Sickle drive V-belts (O) should deflect 3/16 in. (4 mm) when a load of 8 - 12 lbf (35 - 40 N) is applied to each belt at mid-span.
- f. Close shields.

PRE-DELIVERY CHECKS

B. AUGER STRIPPER BAR CLEARANCE



- a. Check for signs of auger flighting rubbing stripper bars after run-up.

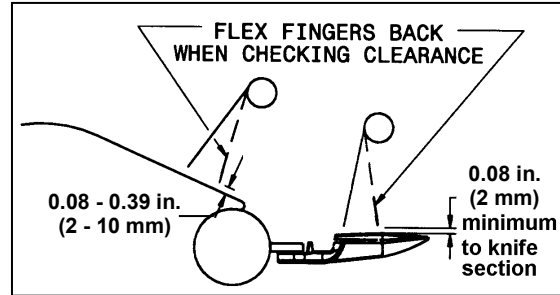


- b. Check clearance between auger flighting and stripper bars.

NOTE

The auger should clear the stripper bars on the auger pan by approximately 1/32 - 5/32 in. (1 - 4 mm). Shimming the stripper bars may be required.

C. REEL TINE TO HEADER PAN CLEARANCE



IMPORTANT

The above dimensions are provided as guidelines only. Tines may "slightly" contact the guards but not the knife sections or the auger pan.

- a. Rotate reel slowly by hand, and check tine clearance at knife and pan. Flex tines to simulate crop-loaded position to ensure tine clearances to knife sections and auger pan are adequate for working conditions.
- b. Check that reel rotates freely.

NOTE

In order to set the reel as close as possible to the knife and pan, it may be necessary to trim a small number of tines that appear exceptionally long.

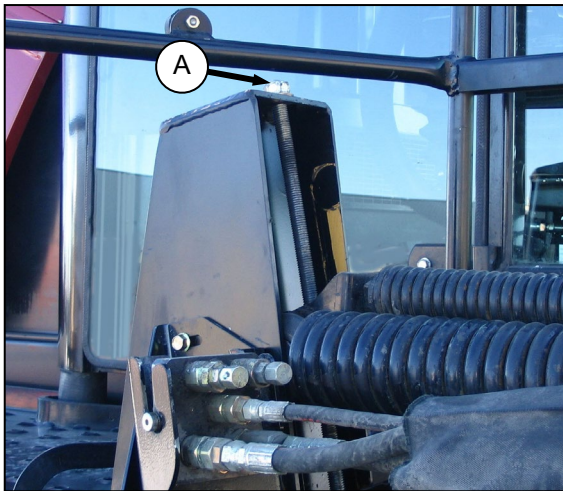
PRE-DELIVERY CHECKS

D. HEADER FLOTATION

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

To adjust float, proceed as follows:

- a. Check float by grasping the lean bar and lifting. The force to lift should be 75 - 85 lbf (335 - 380 N), and should be approximately the same at both ends.
- b. Perform the following steps to adjust the float (if necessary):
 1. Raise header fully, shut down engine, and remove key.



2. Turn drawbolt (A) clockwise to increase float (makes header lighter), or counter clockwise to decrease float (makes header heavier).
3. Re-check the float.

PRE-DELIVERY CHECKS

E. HEADER LEVELLING

Windrower linkages are factory-set to provide the proper level for the header, and should not normally require adjustment.

If the header is not level, perform the following checks prior to adjusting the leveling linkages. The float springs are not used to level the header.

- Park windrower on level ground.
- Check windrower tire pressures.
- Raise header fully, and hold momentarily to allow lift cylinders to re-phase.
- Stop engine, and remove key.



DANGER

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

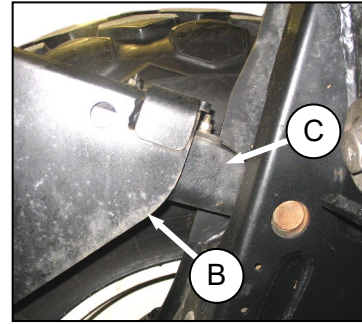


- Place float pins (A) in "locked out position".



CAUTION

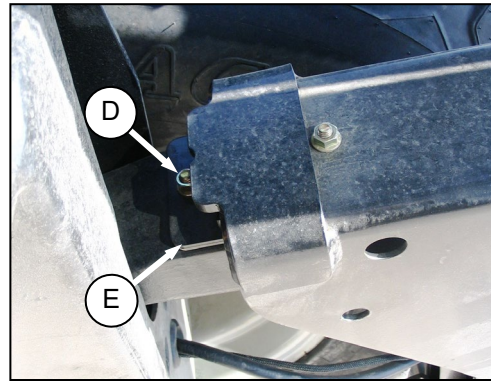
Check to be sure all bystanders have cleared the area.



- Start engine, and set header approximately six inches (150 mm) off ground. Check that member (B) is against link (C).
- Note "high" and "low" end of header.



- Place wooden blocks under header cutterbar and legs.
- Lower header onto blocks so that members (B) lift off of links (C).
- Shut down engine, and remove key.



- Remove nut, washer and bolt (D) that attach shims (E) to link at the header "high end".
- Remove one or both shims (E), and re-install the hardware (D).
- Start engine, and raise header slightly. Check level of header.
- If additional levelling is required, install the removed shim on the opposite linkage.

NOTE

If required, additional shims can be ordered from your Dealer. (MacDon #110854)

NOTE

Float does not require adjustment after levelling header.

PRE-DELIVERY CHECKS

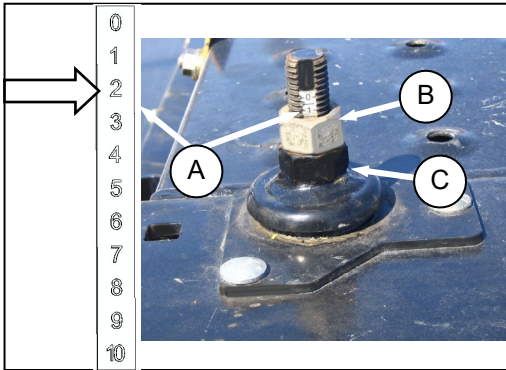
F. CONDITIONER ROLLS



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.

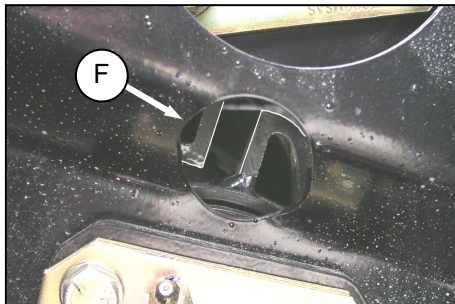
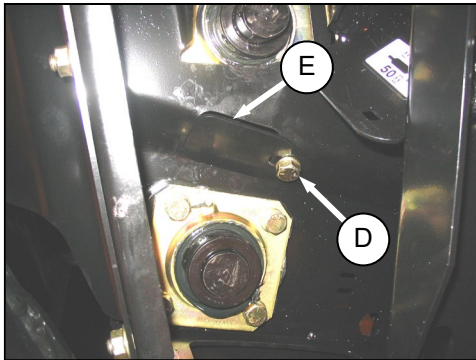
- a. Lower header fully, stop engine, and remove key.



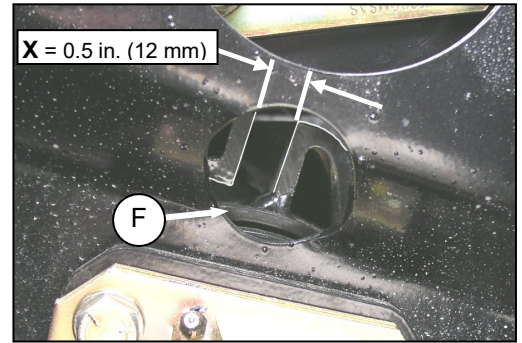
- b. Check that nut (B) is tight, and top of nut (B) is at 2 on the decal (A).
- c. If required, adjust gap by loosening nut (B), and turning adjuster (C). Re-tighten nut (B).

NOTE

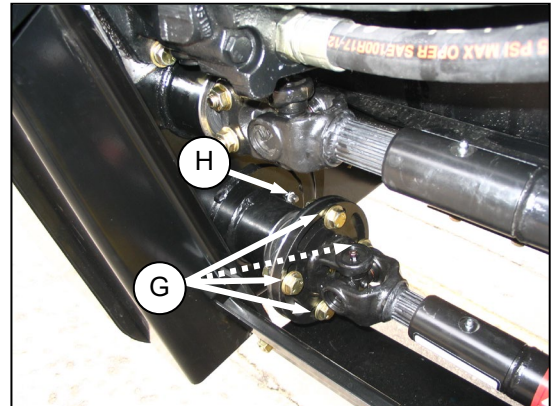
When adjusting roll gap, be sure that the decal reading is the same on both sides of the conditioner roll to achieve consistent intermesh across the rolls.



- d. Loosen bolt (D), and rotate cover (E) to expose access port (F).



- e. Check roll timing by examining distance 'X' at each end of the rolls (F). Each steel bar on one roll should be centered between two bars of the other roll, so that distance 'X' is 0.5 inches (12 mm).
- f. If required, adjust the roll timing as follows:



1. Loosen four bolts (G) in slots of yoke plate on lower roll universal shaft.
 2. Turn rolls to achieve "best" timing.
 3. When roll timing is satisfactory, tighten bolts (G) to secure the position.
 4. Re-position cover (E), and tighten bolt (D).
- g. Check oil level in conditioner gearbox. Oil is at required level when it runs out of check plug (H).

PRE-DELIVERY CHECKS

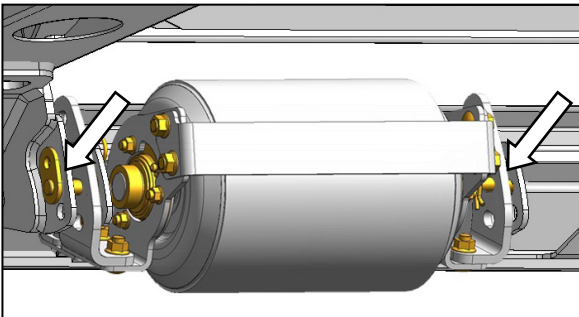
G. SKID SHOES/GAUGE ROLLERS



WARNING

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

- a. Raise header, and engage lift cylinder lockouts.

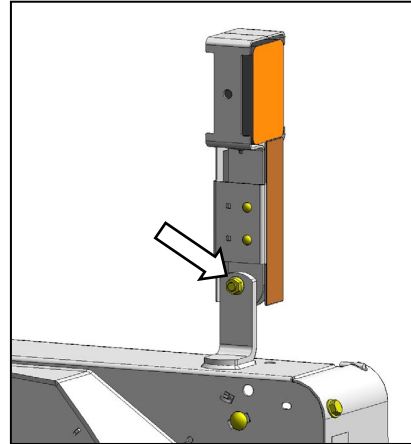


- b. Check that pins are installed in the same position in all skid shoes/gauge rollers.

H. LIGHTS

Hazard lights, which are mounted on both ends of the header, are activated by switches in the M Series windrower cab.

Check for operation during run-up.



- a. Check that pivot bolt is tight enough to hold light support in "upright position", yet will permit the light to pivot out of the way of obstructions.

PRE-DELIVERY CHECKS

I. 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.

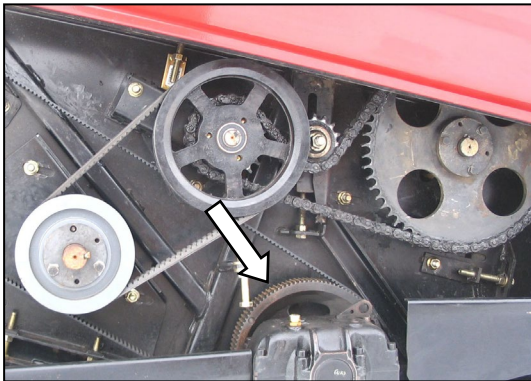


CAUTION

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

Refer to your M Series Unloading and Assembly Instructions, or your M Series Self-Propelled Windrower Operator's Manual.

- Operate machine slowly for 5 minutes, watching and listening FROM THE WINDROWER SEAT for binding or interfering parts.
- Run the machine for 15 minutes at maximum engine operating rpm, and 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.



- Check actual speed of wobble box pulley using a hand-held optical tachometer during run-up. Speed should be 775 rpm for A30-S, and 950 rpm for A30-D and A40-D with the engine at maximum operating rpm.
- If speed is incorrect, check the header ID in the windrower display module, or the header drive pump may require adjusting.

J. KNIFE

- Check guards for signs of heating during run-up due to insufficient clearance between guard and sickle.
- If heating is evident, proceed as follows:



- 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. Re-tighten bolt.
- Adjust guard alignment as follows: The guard straightening tool (MacDon #140135) is available from your MacDon Dealer:



UPWARD ADJUSTMENT

- Position tool as shown, and pull "up".



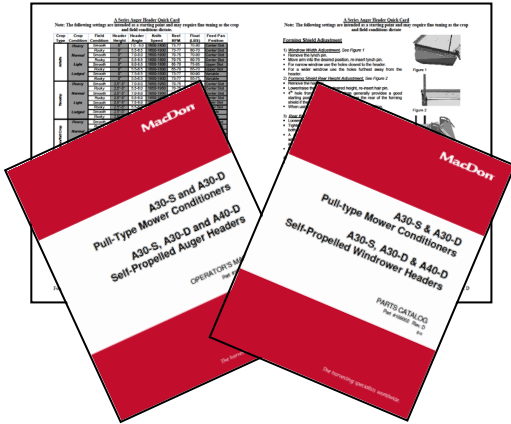
DOWNWARD ADJUSTMENT

- Position tool as shown, and push "down".

PRE-DELIVERY CHECKS

K. MANUALS

- a. Place the following in storage case in the windrower cab:



- A-Series Auger Header Quick Card (Form 169407)
 - Operator's Manual (Form 169000 / 169040)
 - Parts Catalog (Form 169002)
- b. This instructional manual should be kept for future reference.
- c. The yellow Checklist should be retained by either the Dealer or the Operator.

NOTES

Self-Propelled Auger Header Model A30-S, A30-D, and A40-D Pre-Delivery Checklist

Perform these checks and adjustments prior to delivery to your Customer. Refer to Set-Up Instructions for adjustment details. The completed Checklist should be retained either by the Customer 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: _____

✓	ITEM	PAGE
	Check for shipping damage or missing parts. Be sure all shipping dunnage is removed.	---
	Check for loose hardware. Tighten to required torque if applicable.	4
	Check sickle drive belt tension.	46
	Check reel drive belt and chain tension. (Not applicable to A40-D).	46
	Check auger drive belt and chain tension. (Not applicable to A40-D).	46
	Check reel tine to header pan and knife clearance.	48
	Check auger stripper bar clearance.	48
	Check header angle to middle of adjustment range (if mechanical link).	20
	Check that header is level.	50
	Check header flotation. (75 - 85 lbf (335 - 380 N·m)).	49
	Check lean bar is adjusted at a setting appropriate for first crop.	14
	Check skid shoes are evenly adjusted at a setting appropriate for first crop.	52
	Check wobble box lube level and breather position.	36
	Check rear and side forming shields evenly set to desired position.	16
	Grease all bearings and drivelines.	37 - 45
	Check conditioner gear case lube level.	51
	Check conditioner roll gap, timing, and alignment.	51
	Check roll intermesh hardware is securely tightened.	51
RUN-UP PROCEDURE		53
	Check hydraulic hose and wiring harness routing for clearance when raising or lowering header, and when retracting or extending center-link.	---
	Check speed of wobble box pulley.	53
	Check amber flasher and signal lights are functional.	52
	Confirm header ID on windrower CDM.	---
POST RUN-UP CHECKS. STOP ENGINE.		
	Check for hydraulic leaks.	---
	Check belt and chain drives for idler alignment and heated bearings.	46 - 47
	Check knife sections for discoloration caused by misalignment of components.	53
	Check manuals in windrower cab.	54

Date Checked: _____

Checked by: _____

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