MacDon®

Model FD75 FlexDraper®
with
CA25 Combine Adapter

UNLOADING and
ASSEMBLY INSTRUCTIONS
for
NORTH AMERICAN SHIPMENTS

Published: October, 2013
Original Instructions

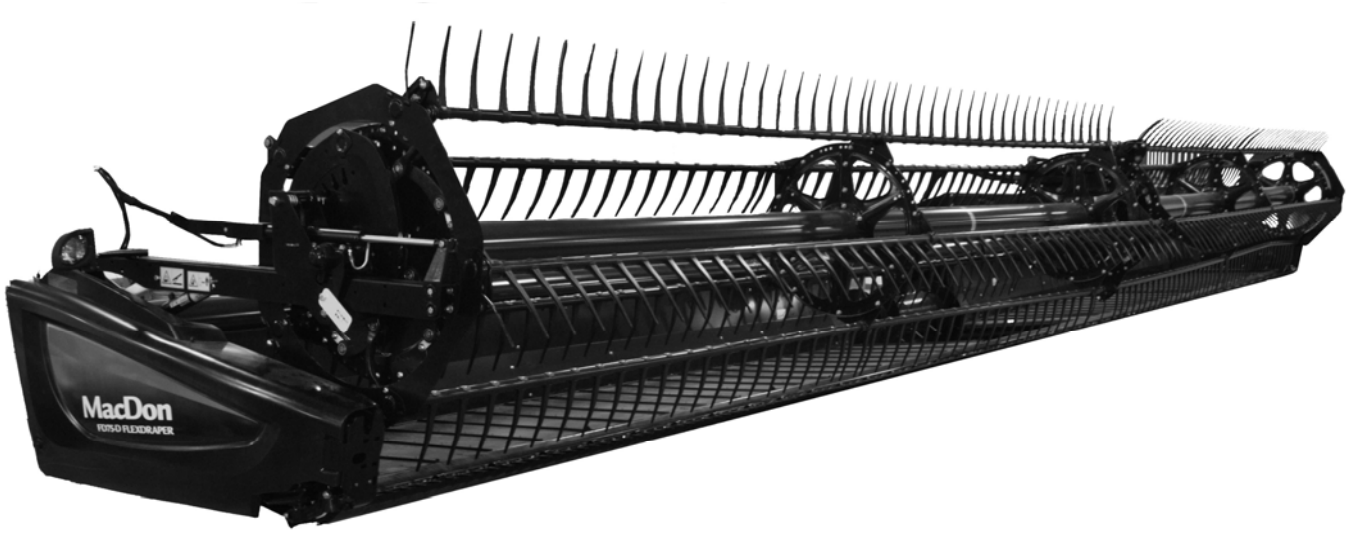
INTRODUCTION

This instructional manual describes the unloading, set-up, and predelivery requirements for the MacDon FD75 FlexDraper® with a CA25 Combine Adapter for North America.

Use the Table of Contents to guide you to specific areas.

Retain this instruction for future reference.

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



MACDON FD75 FLEXDRAPER® WITH CA25 ADAPTER

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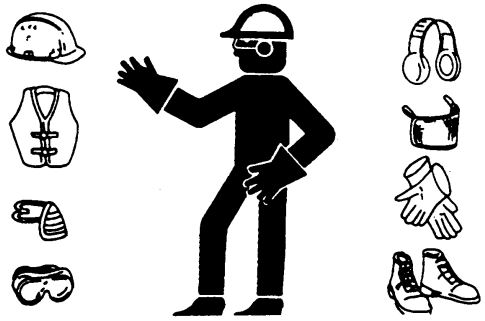
GENERAL SAFETY

CAUTION

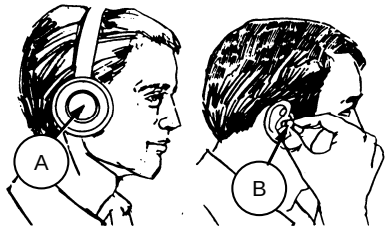
The following are general farm safety precautions that should be part of your operating procedure for all types of machinery.

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

You may need:



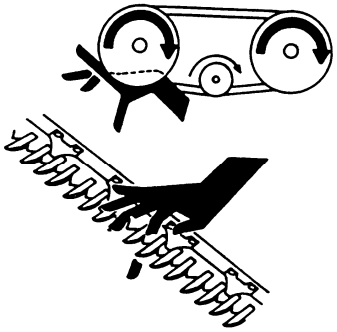
- **a hard hat**
- **protective shoes with slip resistant soles**
- **protective glasses or goggles**
- **heavy gloves**
- **wet weather gear**
- **respirator or filter mask**



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

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

- **Keep hands, feet, clothing, and hair away from moving parts. Never attempt to clear obstructions or objects from a machine while the engine is running.**



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

- **Use only service and repair parts made or approved by the equipment manufacturer. Substituted parts may not meet strength, design, or safety requirements.**
- **Do not modify the machine. Unauthorized modifications may impair the function and/or safety and affect machine life.**
- **Stop engine, and remove key from ignition before leaving Operator's seat for any reason. A child or even a pet could engage an idling machine.**

- **Keep the area used for servicing machinery clean and dry. Wet or oily floors are slippery. Wet spots can be dangerous when working with electrical equipment. Be sure all electrical outlets and tools are properly grounded.**
- **Use adequate light for the job at hand.**
- **Keep machinery clean. Do not allow oil or grease to accumulate on service platforms, ladders, or controls. Clean machines before storage.**
- **Never use gasoline, naphtha, or any volatile material for cleaning purposes. These materials may be toxic and/or flammable.**
- **When storing machinery, cover sharp or extending components to prevent injury from accidental contact.**

RECOMMENDED TORQUES

A. GENERAL

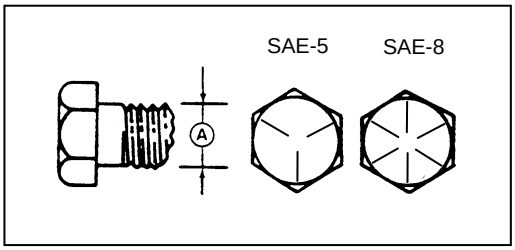
The tables shown below give correct torque values for various bolts and cap screws.

- 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 caps crews 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	
	lb-ft	N·m	lb-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	1,205

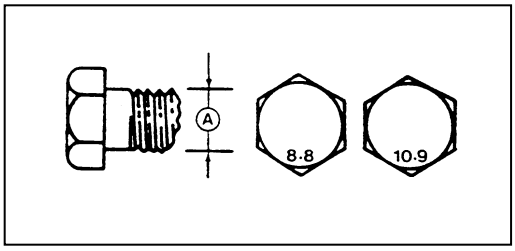
* Torque categories for bolts and cap screws are identified by their head markings.



C. METRIC BOLTS

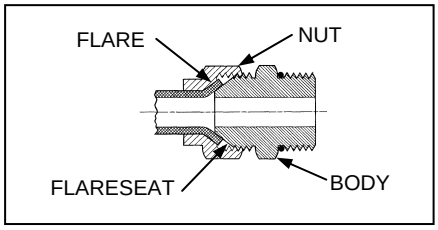
Bolt dia. "A"	Std coarse bolt torque*			
	8.8		10.9	
	lb-ft	N·m	lb-ft	N·m
M3	0.4	0.5	1.3	1.8
M4	2.2	3	3.3	4.5
M5	4	6	7	9
M6	7	10	11	15
M8	18	25	26	35
M10	37	50	52	70
M12	66	90	92	125
M14	103	140	148	200
M16	166	225	229	310
M20	321	435	450	610
M24	553	750	774	1,050
M30	1,103	1,495	1,550	2,100
M36	1,917	2,600	2,710	3,675

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



D. HYDRAULIC FITTINGS

FLARE TYPE



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

b. Align tube with fitting before tightening.

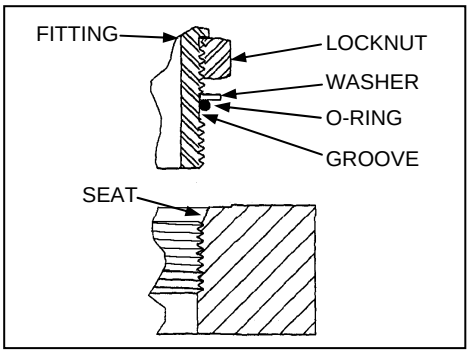
c. Lubricate connection, and hand-tighten swivel nut until snug.

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

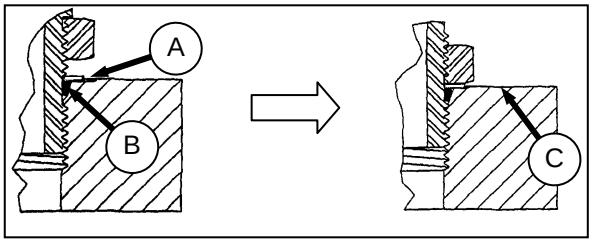
SAE no.	Tube size O.D. (in.)	Thd size (in.)	Nut size across flats (in.)	Torque value*		Recommended turns to tighten (after finger tightening)	
				lb-ft	N·m	Flats	Turns
3	3/16	3/8	7/16	6	8	1	1/6
4	1/4	7/16	9/16	9	12	1	1/6
5	5/16	1/2	5/8	12	16	1	1/6
6	3/8	9/16	11/16	18	24	1	1/6
8	1/2	3/4	7/8	34	46	1	1/6
10	5/8	7/8	1	46	62	1	1/6
12	3/4	1-1/16	1-1/4	75	102	3/4	1/8
14	7/8	1-3/8	1-3/8	90	122	3/4	1/8

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

O-RING TYPE



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



b. On angle fittings, back off the lock nut until washer (A) bottoms out at top of groove (B) in fitting.

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

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

e. Tighten straight fittings to torque shown.

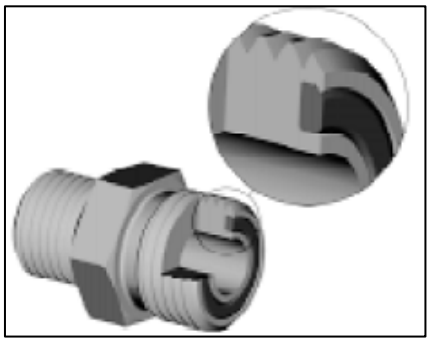
f. Tighten angle fittings to torque shown in the following table, while holding body of fitting with a wrench.

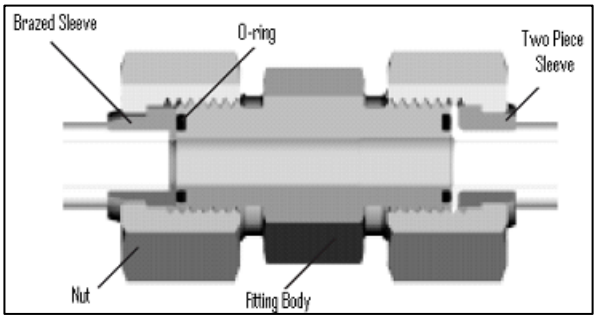
SAE no.	Thd size (in.)	Nut size across flats (in.)	Torque value*		Recommended turns to tighten (after finger tightening)	
			lb-ft	N·m	Flats	Turns
3	3/8	1/2	6	8	2	1/3
4	7/16	9/16	9	12	2	1/3
5	1/2	5/8	12	16	2	1/3
6	9/16	11/16	18	24	2	1/3
8	3/4	7/8	34	46	2	1/3
10	7/8	1	46	62	1-1/2	1/4
12	1-1/16	1-1/4	75	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 reassembly.

RECOMMENDED TORQUES

O-RING FACE SEAL (ORFS) TYPE 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)**	
			lb-ft	N·m	Tube nuts	Swivel & hose
3	***	3/16	---	---	---	---
4	9/16	1/4	11–12	14–16	1/4–1/2	1/2–3/4
5	***	5/16	---	---	---	---
6	11/16	3/8	18–20	24–27	1/4–1/2	1/2–3/4
8	13/16	1/2	32–35	43–47		
10	1	5/8	45–51	60–68		
12	1-3/16	3/4	67–71	90–95		1/3–1/2
14	1-3/16	7/8	67–71	90–95		
16	1-7/16	1	93–100	125–135		
20	1-11/16	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.

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	lb-ft	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

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 lifting capacity *	9,000 lb (4,082 kg)
Minimum fork length	78 in. (1,981 mm)

* At 48 in. (1,220 mm) from back end of forks.

IMPORTANT

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

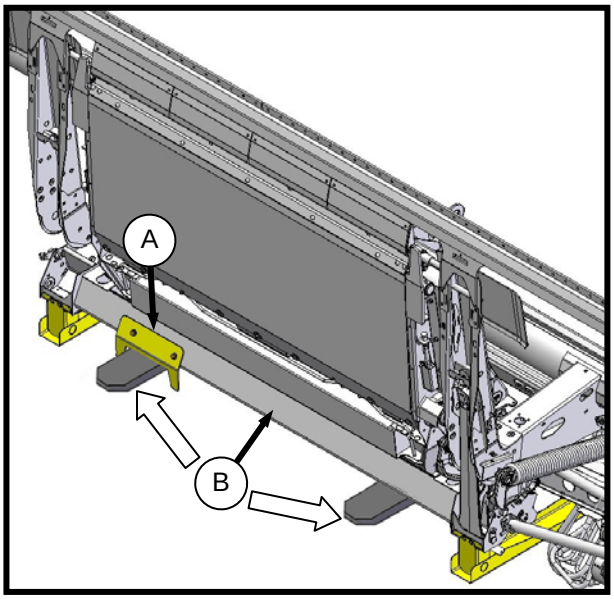
To obtain forklift capacity at 48 inches (1,220 mm), check with your forklift distributor.

a. Move trailer into position, and block trailer wheels.

b. Lower trailer storage stands.

CAUTION

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



c. Approach the header, and line up one fork with guide (A) under adapter frame.

d. Slide forks underneath shipping support (B) of header as far as possible without contacting the shipping support of opposite header.

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

WARNING

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

f. Slowly raise header off deck.

g. Back up until unit clears trailer, and slowly lower to 6 in. (150 mm) from ground.

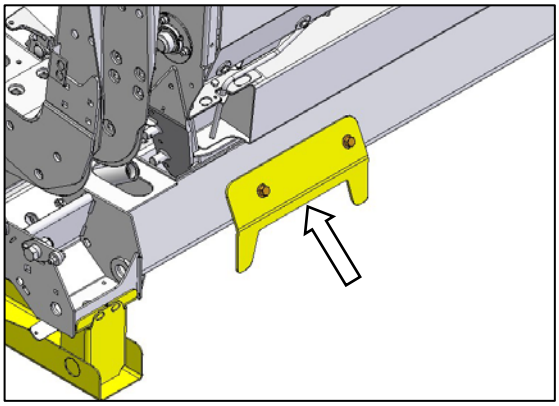
h. Take header to storage or set up area.

i. Repeat above steps for second header.

j. Check for shipping damage and missing parts.

STEP 2. LOWER HEADER

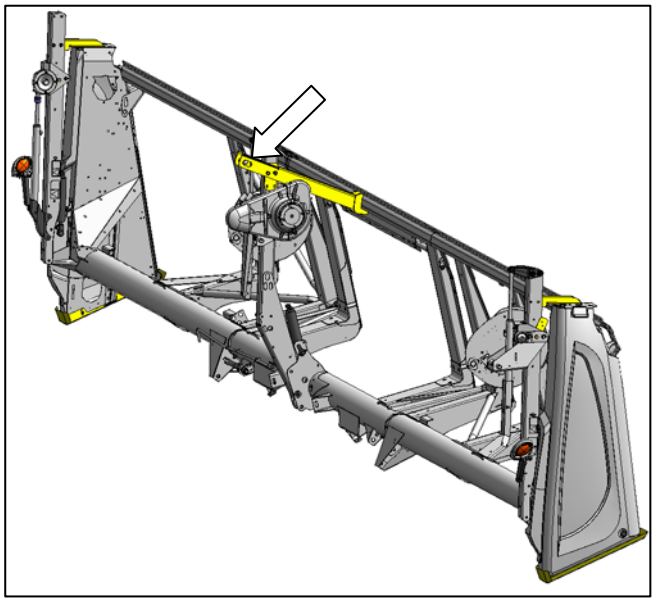
Reposition header in preparation for assembly and set-up as follows:



a. Remove fork guide from adapter lower frame.
b. Choose an area with level ground.
c. Drive lifting vehicle to approach header from its underside.

IMPORTANT

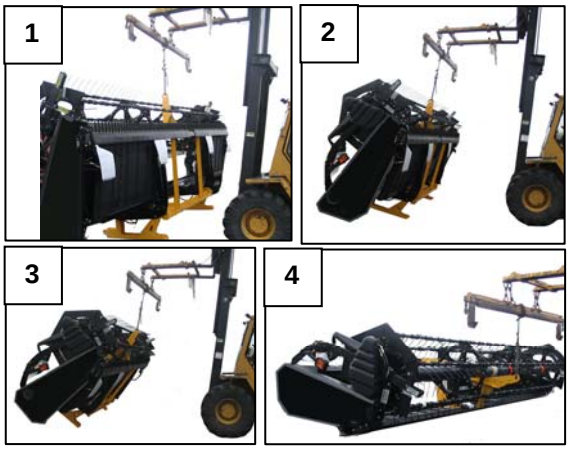
Do **not** lift at cutterbar when unloading from trailer. This procedure is only for laying the machine over into working position.



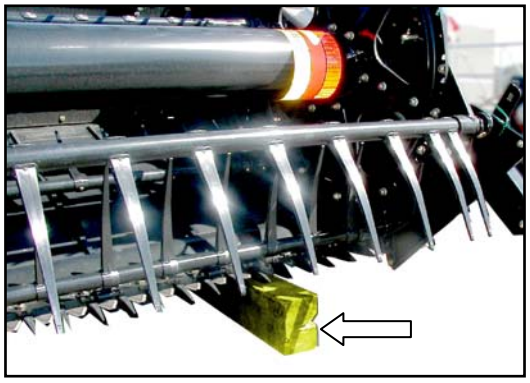
d. Attach chain to shipping support at center reel arm. (Combine adapter not shown.)

CAUTION

Stand clear when lowering, as machine may swing.



e. Back up SLOWLY while lowering forks until header rests on the ground.



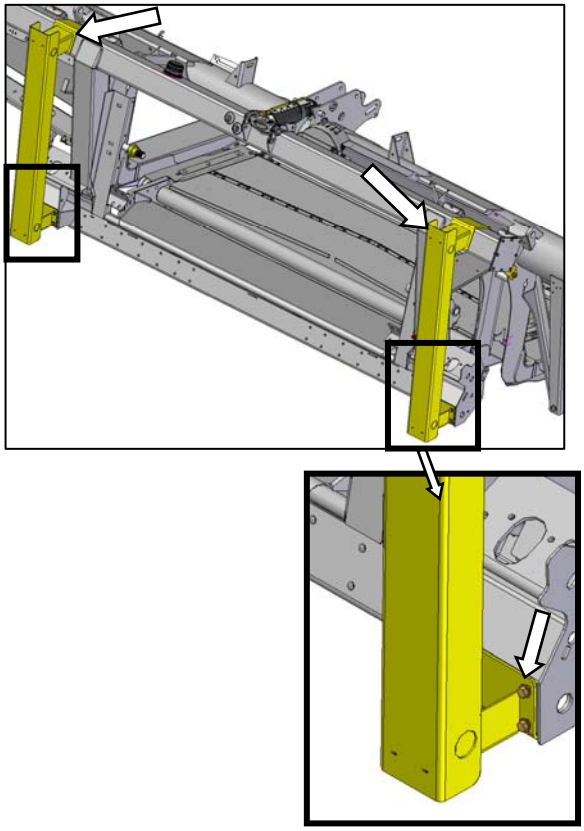
f. Place 6 inch (150 mm) blocks under each end and center of cutterbar, and lower header onto blocks.
g. Remove chain.

STEP 3. REMOVE SHIPPING STANDS

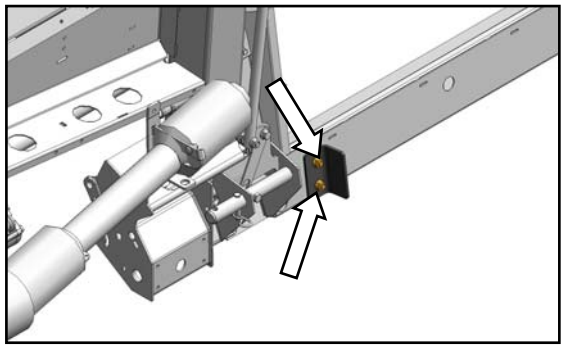
The removable stands are painted yellow.

NOTE

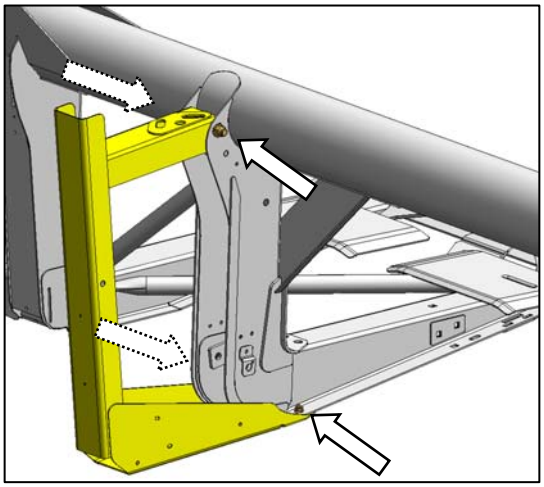
Unless otherwise specified, discard stands, and all shipping material and hardware.



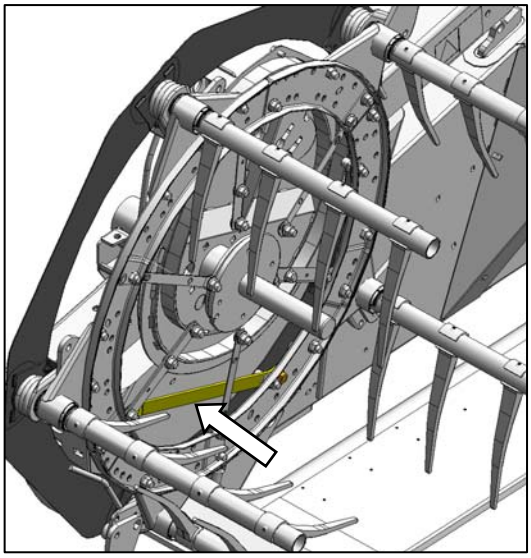
a. Remove four bolts at the base of the two adapter frame stands, and lift shipping stands off adapter.



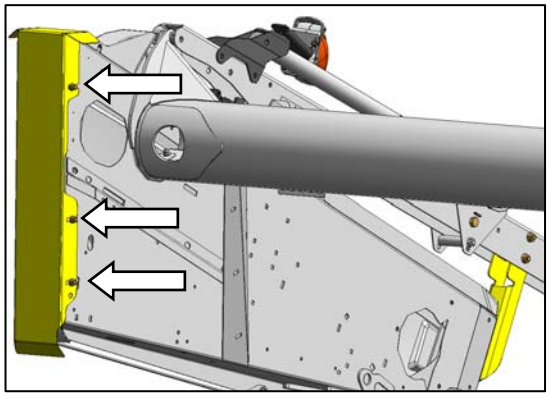
b. Remove two bolts from bracket on bottom of adapter frame, and remove bracket.



c. Remove four bolts in each shipping stand on outboard header legs, and remove stands.



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

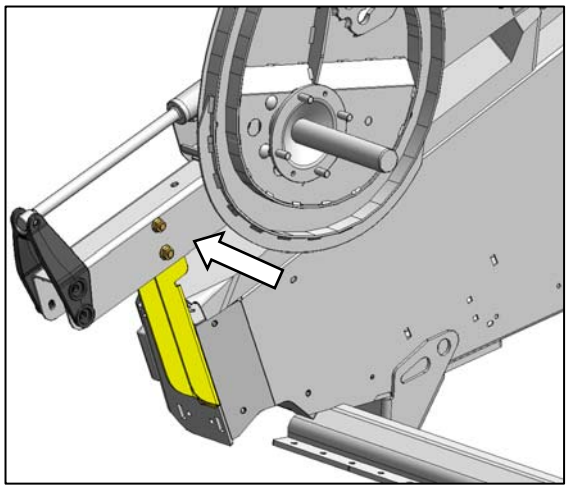


e. Loosen three bolts in each end shield stand, and remove stands. Hardware can be removed when header end shields are opened.

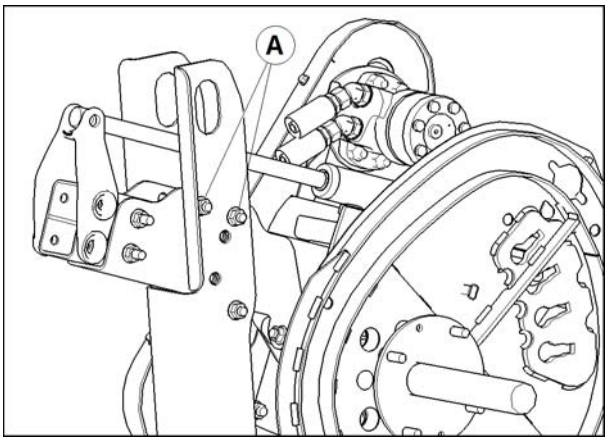
STEP 4. INSTALL REEL LIFT CYLINDERS

CAUTION

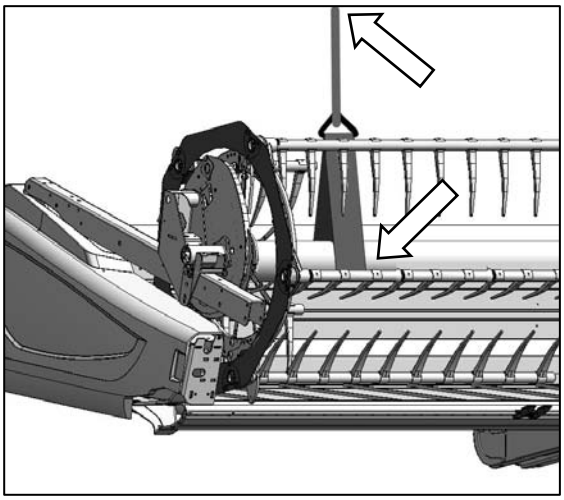
Braces on reel arms keep reel from sliding forward. Do not remove.



a. Remove two top bolts on outboard reel arm support—both ends.



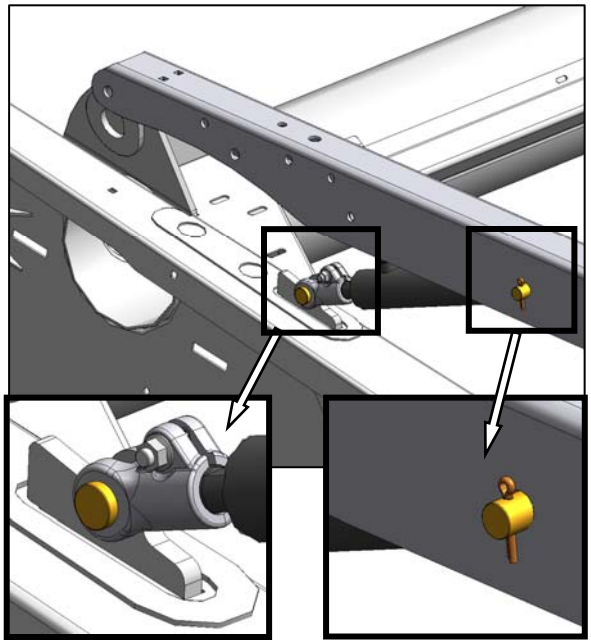
b. Remove two top bolts (A) on center reel arm support.



c. Position sling around the reel tube close to outboard end of reel, and attach sling to a forklift (or equivalent).

d. Remove shipping wire/banding from cylinder, and remove pins from lug and arm.

e. Lift reel so that reel lift cylinder mounting holes line up with lug on endsheet and hole in reel arm.



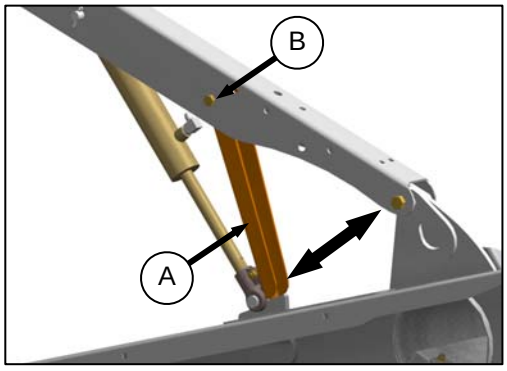
RH SHOWN - LH OPPOSITE

f. Secure cylinder to endsheet and reel arm with pins as shown.

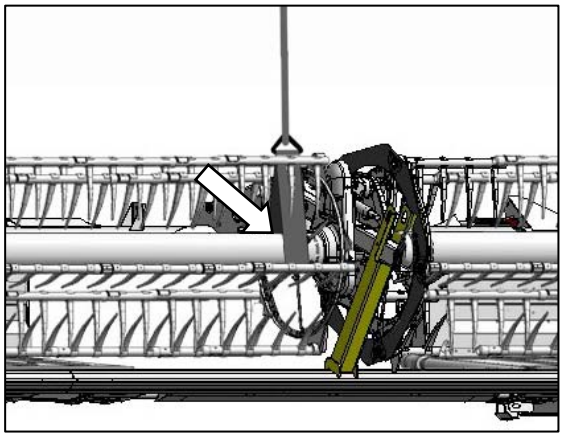
NOTE

Cotter pin outboard at reel arm; cotter pin inboard at endsheet.

(continued next page)

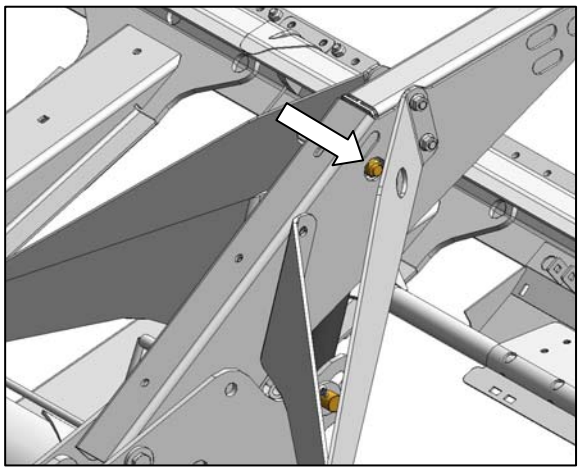


g. At outer arm, move props (A) to engaged position (shown).



h. Remove sling, and reposition around reel tube near reel center support arm.

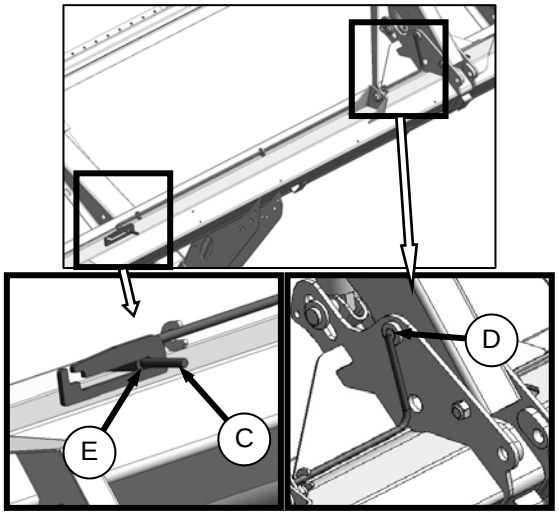
i. Remove shipping wire/banding from center reel lift cylinder, and remove socket head bolt and nut from cylinder rod.



CENTER CYLINDER

j. Lift reel so that hole in center lift cylinder rod lines up with mounting hole in reel arm.

k. Attach rod end of cylinder to reel arm with socket head bolt and nut. Access hardware through holes in reel arm braces.

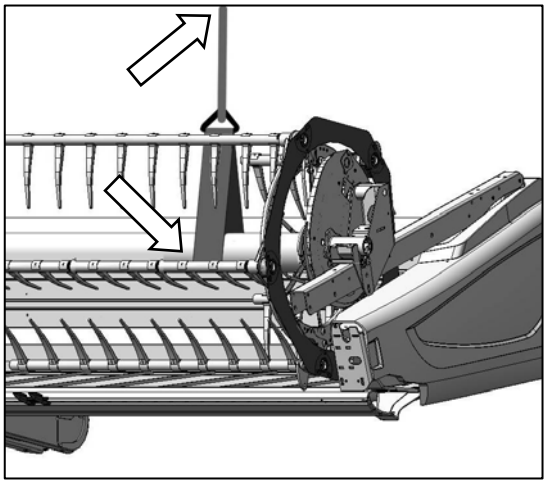


l. Use handle (C) to move lock rod to inboard position (E), engaging pin (D) into lock in arm.

m. Lower reel until props contact cylinder mounts on outer reel arms, and pin at center arm.

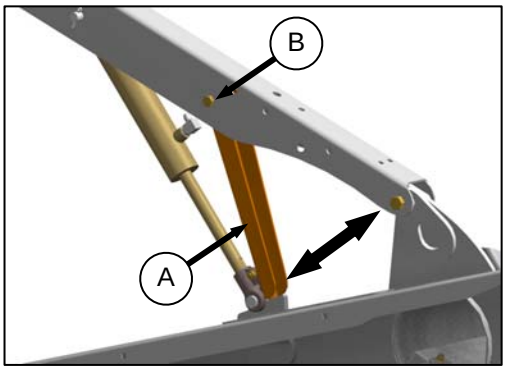
n. Remove pin at barrel end of cylinder.

o. Adjust reel height so pin can be installed at barrel end of cylinder and mounting structure.



p. Remove sling, and reposition around reel tube near opposite outboard reel arm.

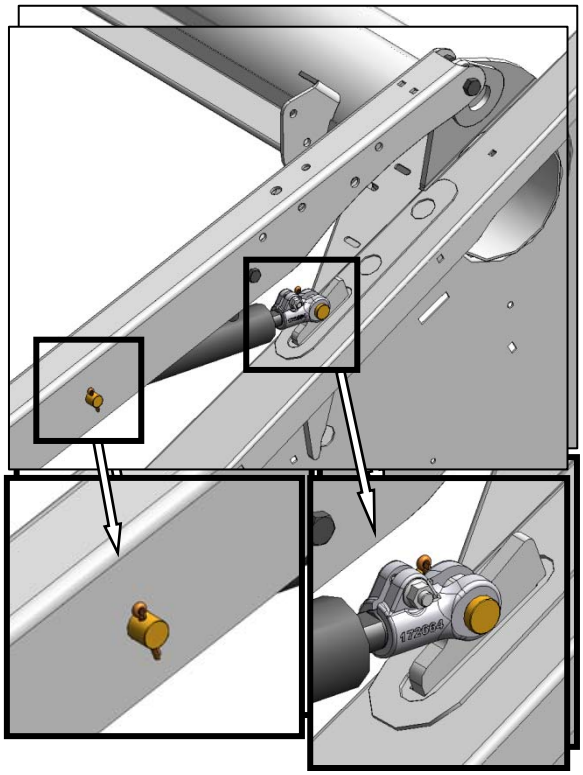
q. Remove shipping wire/banding from cylinder, and remove pins from lug and arm.



r. At outer arm, move props (A) to engaged position (shown).

s. Remove shipping wire/banding from cylinder, and remove pins from lug and arm.

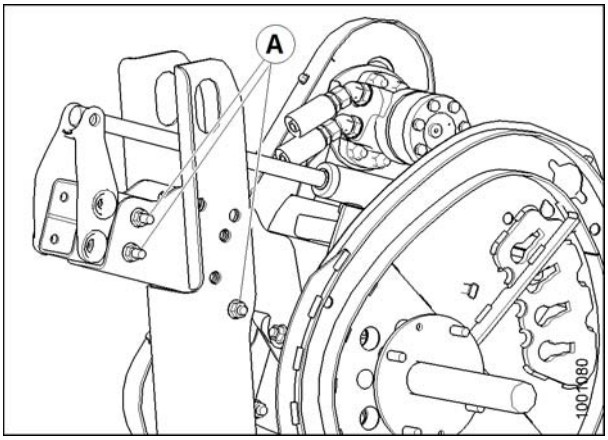
t. Lift reel so that reel lift cylinder mounting holes line up with lug on endsheet and hole in reel arm.



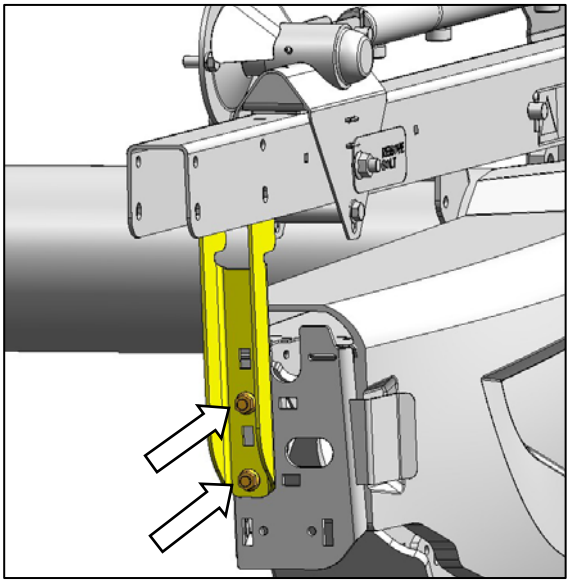
u. Secure cylinder to endsheet and reel arm with pins as shown.

NOTE

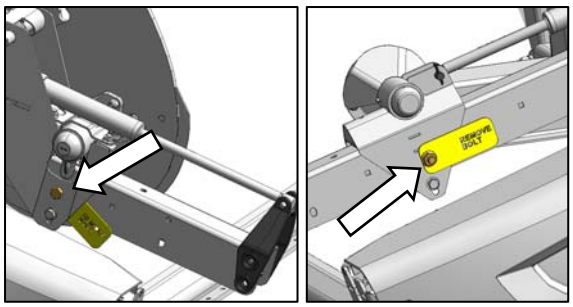
Cotter pin outboard at reel arm; cotter pin inboard at endsheet.



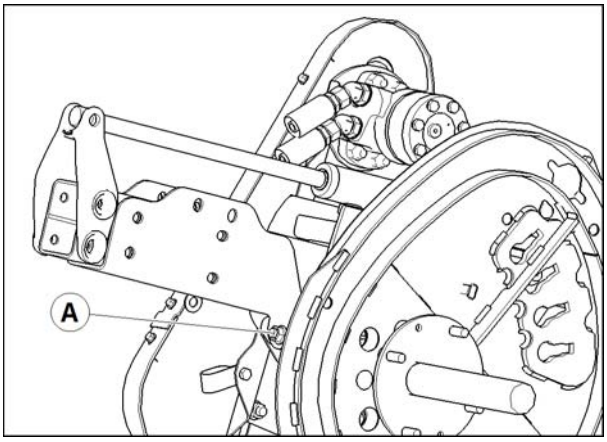
v. Remove the three remaining bolts (A). Disengage center reel arm shipping support from cutterbar, and remove.



w. Remove two bolts from reel arm supports at endsheet, and remove support. Repeat at other side.



x. Remove bolts and tags locking reel fore-aft position at outer reel arms.



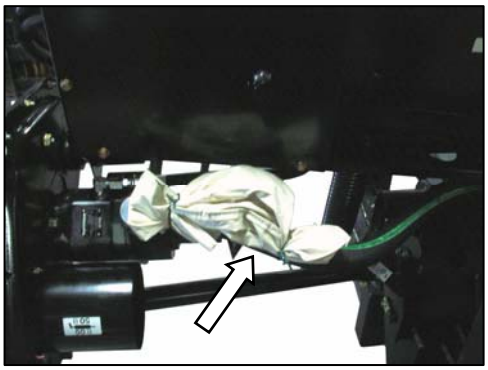
y. Remove bolt (A) locking reel fore-aft position at center reel arm, and remove center reel arm shipping channel.

STEP 5. INSTALL OPTIONS

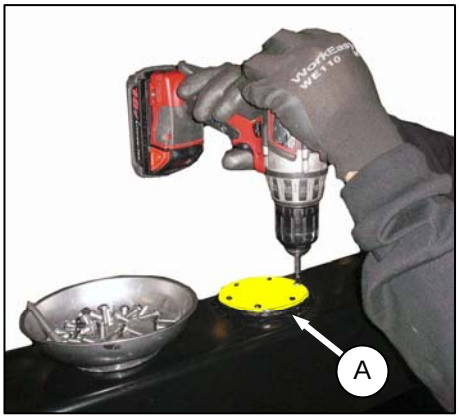
Retrieve kits supplied as options with the header, and install in accordance with installation instructions supplied in each kit.

STEP 6. SET-UP ADAPTER

A. FILLER CAP



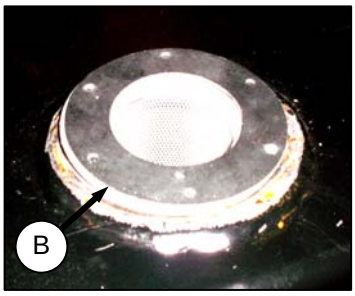
a. Remove filler cap from bag.



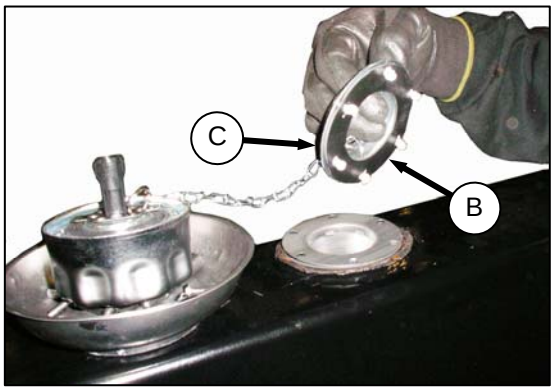
b. Remove yellow shipping cover (A) from adapter frame. Discard cover. Keep screws.

CAUTION

Cap may be under pressure. Allow pressure to equalize by lifting cap slightly with some of the screws remaining.



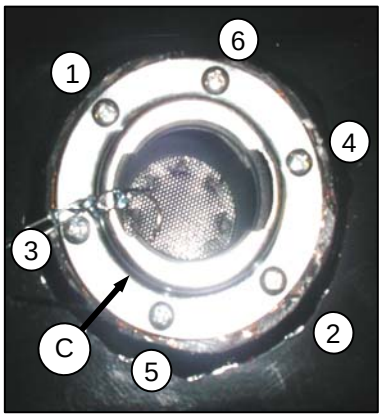
c. There are two gaskets—one on either side of the filler strainer flange. Remove the top gasket (B) for use in step d.



d. Place gasket (B) that was removed from the top of the filler strainer onto filler cap neck (C), and align holes.

e. Install #10-32 screws on filler cap neck (C), pressing screws through the gasket (B).

f. Apply Loctite® #565 (or equivalent) to screws.



g. Place filler cap neck (C) (complete with screws) over opening, aligning the machine screws with the threaded holes.

h. Carefully thread in the machine screws using a cross pattern (see photo above) to prevent cross threading of tapped holes.

i. Repeat pattern to gradually tighten screws to 31 lbf·in. (3.5 N·m).

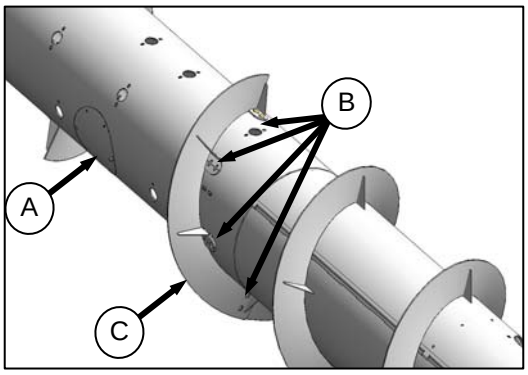
j. Install filler cap (A).

B. FLIGHTING EXTENSIONS

Flighting extension kits may have been supplied with your header to improve feeding in certain crops such as rice. They are **not** recommended in cereal crops.

APPLICABLE COMBINES: All except New Holland CR960, 9060, 970, 9070, and 9080.

If necessary, remove auger flighting extensions as follows.



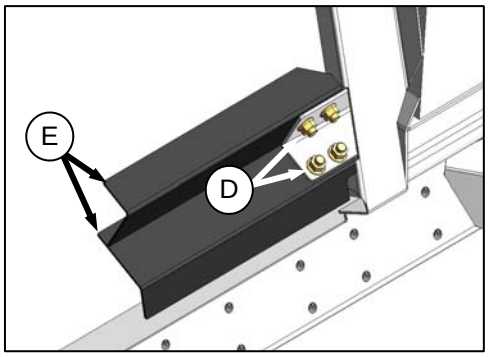
a. Remove access cover (A).
b. Remove eight bolts (B), washers, and nuts that secure flighting extension (C) to auger, and remove extension.
c. Repeat for other flighting extension.
d. Reinstall access cover (A).

C. STRIPPER BARS

Stripper bar kits may have been supplied with your header to improve feeding in certain crops such as rice. They are **not** recommended in cereal crops.

APPLICABLE COMBINES: All except New Holland CR960, 9060, 970, 9070, and 9080.

If necessary, remove auger stripper bars as follows:



a. Remove four bolts (D) and nuts securing bars (E) to adapter frame, and remove bars.
b. Repeat for opposite set of stripper bars.

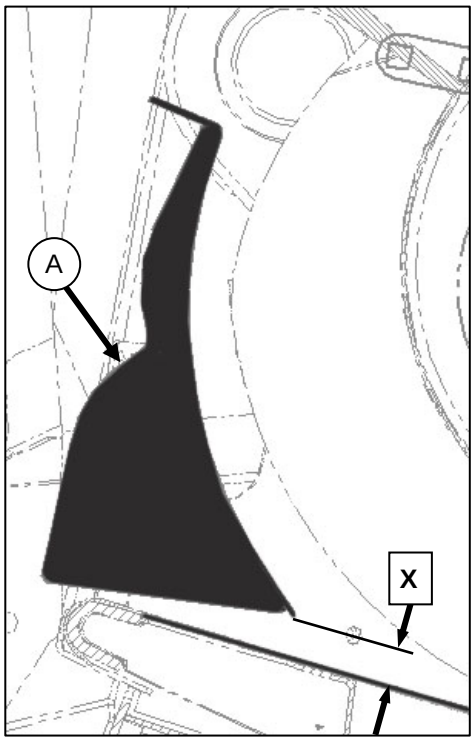
D. CR FEEDER DEFLECTORS

For New Holland CR 960, 9070, and 9080 combines, feeder kits have been installed on adapter at the factory to improve feeding into the feeder house. They may also have been installed as an option on older machines. If necessary, they can be removed.

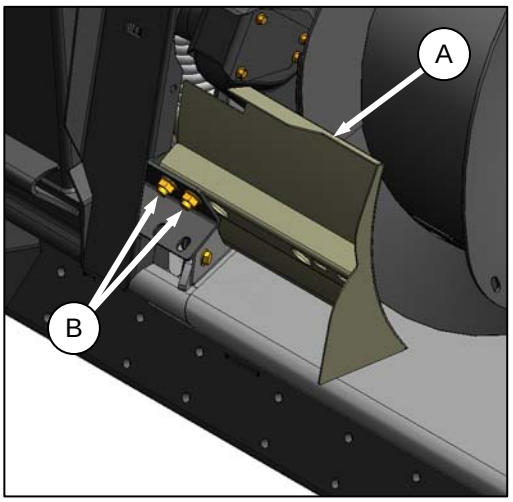
CA25 adapters for the CR Models listed have short feeder kits installed at the factory. Long feeder kits are provided for narrow feeder house combines, and are dealer-installed to replace short feeder kits.

Combine model	Feeder house size	Feeder kit size
CR970, 9070, 9080	Wide	Short: 200 mm
CR960, 9060, 940, 9040	Narrow	Long: 325 mm

If required, replace the feeder deflectors as follows:



a. Determine position of existing deflector (A) by measuring gap **'X'** between deflector forward edge and pan.



LH SHOWN, RH OPPOSITE

b. Remove two bolts (B) and nuts securing deflector (A) to adapter frame, and remove deflector.

c. Position replacement deflector, and secure with bolts (B) and nuts. Maintain dimension '**X**' from existing deflector for replacement deflector.

d. Repeat for opposite deflector.

e. After attaching header to combine, extend center-link fully, and check gap between deflector and pan. Maintain 7/8 in. (22 mm) +/- 1/8 in. (3 mm).

STEP 7. ATTACH TO COMBINE

Refer to specific section for your combine.

COMBINE	SECTION
CASE IH	A
JOHN DEERE 60, 70, and S-SERIES	B
LEXION	C
NEW HOLLAND	D
AGCO	E

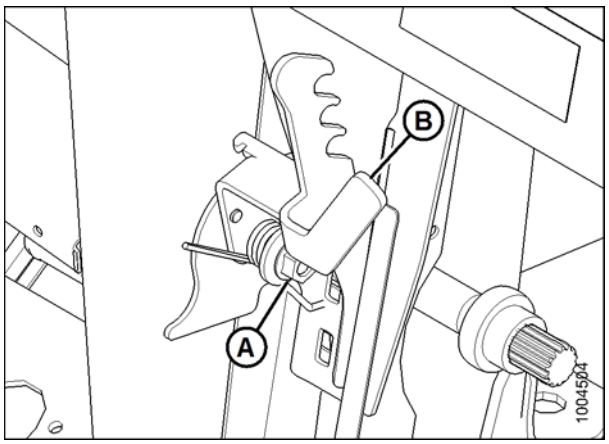
NOTE

Kits are available to allow attachment to Case 23 and 25 Series Combines, as well as John Deere 50 Series Combines. See your MacDon Dealer.

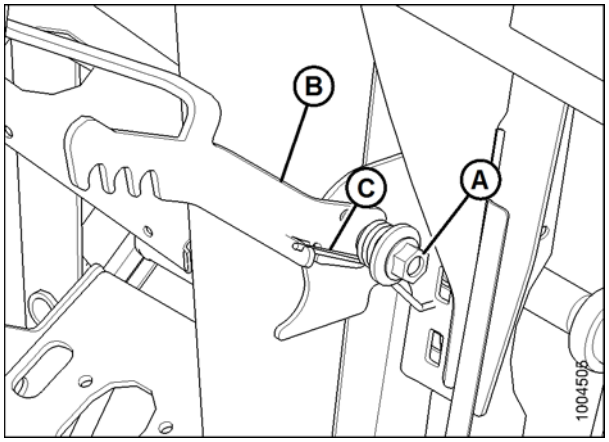
IMPORTANT

Ensure that applicable functions (AHHC, Draper Header Option, Hydraulic Center-link Option, Hydraulic Reel Drive, etc.) are enabled on the combine and combine computer. Failure to do so may result in improper header operation.

A. CASE IH 7010, 8010, 7120, 8120, 5088, 6088, 7088



a. Remove nut (A) and flip lever (B) horizontally.



b. Place lever (B) onto stud. Place spring arm into hook on lever (B) to preload it. Tighten nut (A).

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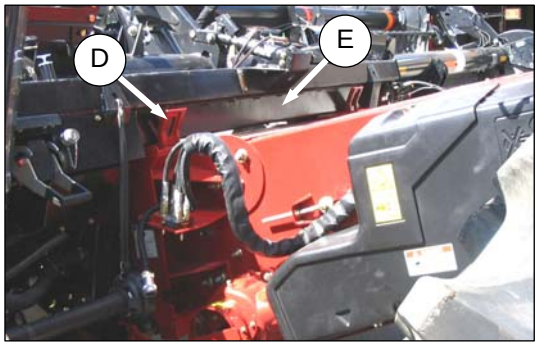


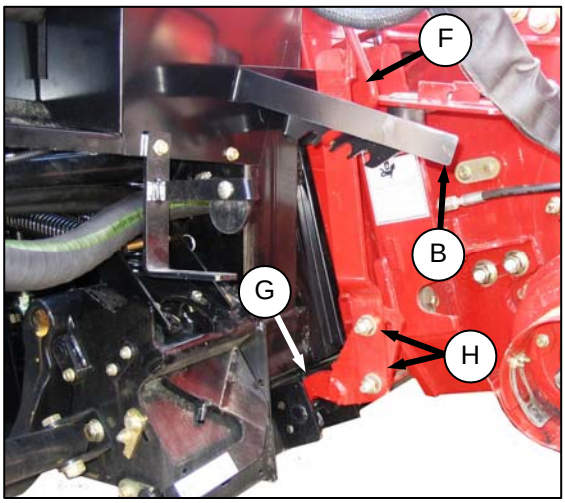
c. Slowly drive combine up to adapter until feeder house saddle (D) is directly under the adapter top cross member (E).

d. Raise feeder house slightly to lift adapter, ensuring feeder saddle is properly engaged in adapter frame.

CAUTION

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.

e. Lift lever (B) on adapter at left side of feeder house, and push handle (F) on combine to engage locks (G) on both sides of the feeder house.

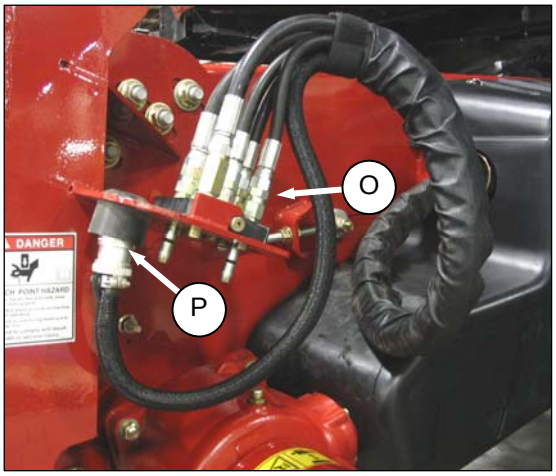


f. Push down on lever (B) so that slot in lever engages handle to lock handle in place.

g. If lock (G) does not fully engage pin on adapter when (B) and (F) are engaged, loosen bolts (H), and adjust lock as required. Retighten bolts.

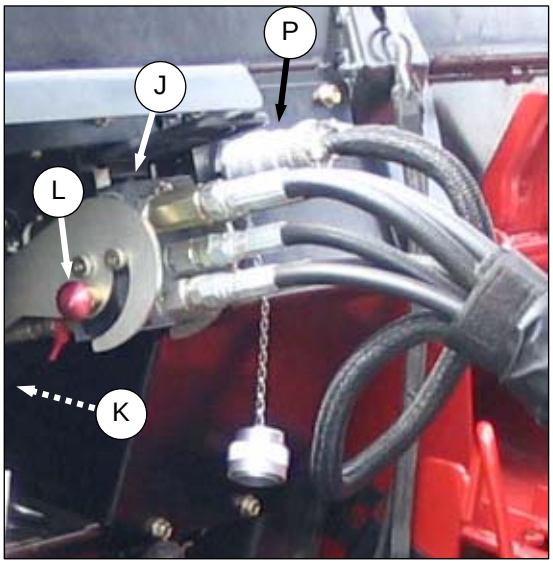
h. Connect combine hydraulic quick coupler to receptacle (J) on adapter as follows:

1. Open cover (M).
2. Push in lock button (L), and pull handle (K) to full open position.



3. Remove coupler (O) from combine, and clean mating surfaces.

(continued next page)

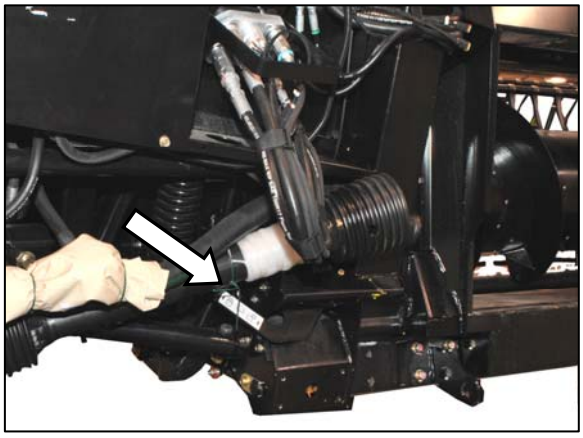


4. Position onto adapter receptacle (J), and push handle (K) to engage coupler pins into receptacle.
5. Push handle to closed position until lock button (L) snaps out.

i. Remove cover on adapter electrical receptacle (N).

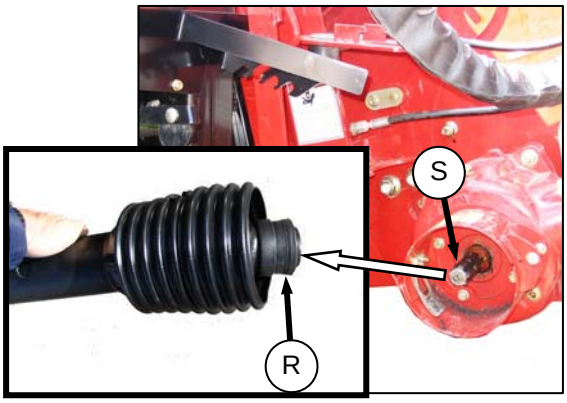
h. Remove electrical connector (P) from storage cup on combine, and route to adapter receptacle.

i. Align lugs on connector with slots in receptacle, push connector onto receptacle, and turn collar on connector to lock it in place.



j. Remove shipping wire from driveline and float lock lever.

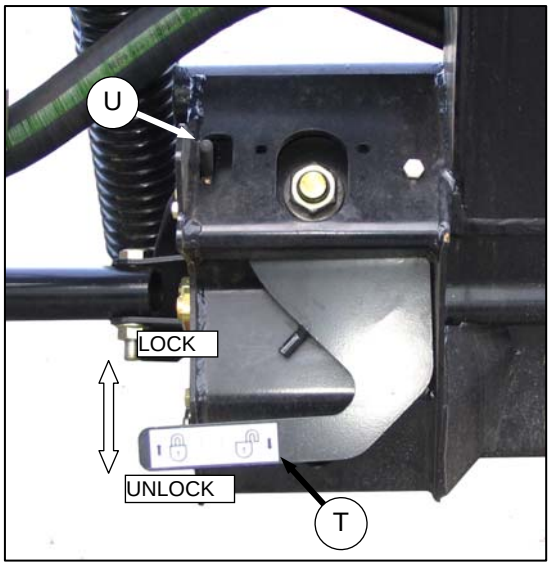
k. Rotate disc (Q) on adapter driveline storage hook, and remove driveline from hook.



l. Pull back collar (R) on end of driveline, and push onto combine output shaft (S) until collar locks.

(continued next page)

m. Pull back collar (R) on end of driveline, and push onto combine output shaft (S) until collar locks.



n. Disengage both adapter float locks by moving latch (U) away from adapter, and moving lever (T) at each lock to lowest position.

o. Proceed to **STEP 9. ATTACH CAM ARMS** (page 48).

B. JOHN DEERE 60, 70, AND S SERIES

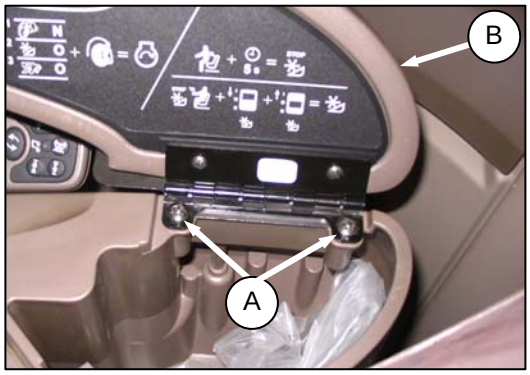
Contour Master, Level Land

I. INSTALLING REEL FORE-AFT / HEADER TILT SWITCH

a. The switch allows the combine Operator to select either reel FORE-AFT or HEADER TILT mode (if hydraulic center-link is installed).

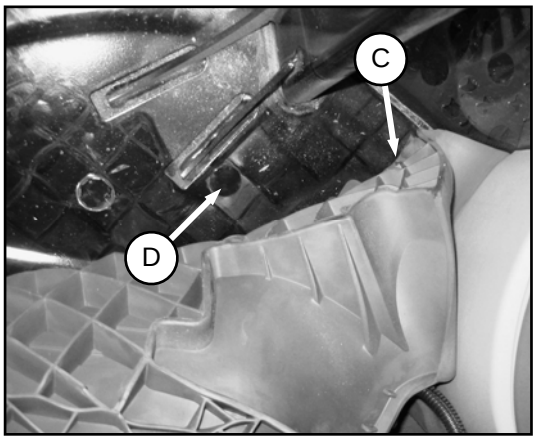
Prepare the combine cab for installing the switch and harness as follows:

1. Open storage compartment on the console.
2. Remove the two screws (A) attaching compartment cover (B) to the console, and remove cover.



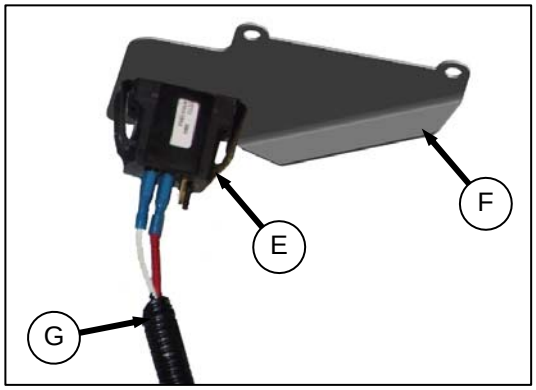
b. Lift floor mat (C) at forward right corner to expose knockout (D). Prop the floor mat for access to the knockout.

c. Remove the knockout (D).

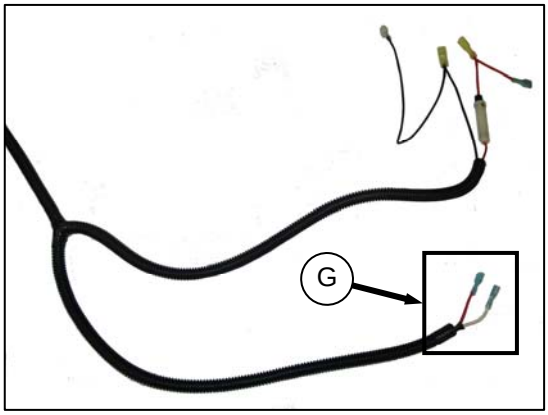


d. Retrieve switch (E), harness, and support (F) provided with kit.

e. Install switch (E) into support (F) from the top. Ensure lugs on underside of support have secured switch.

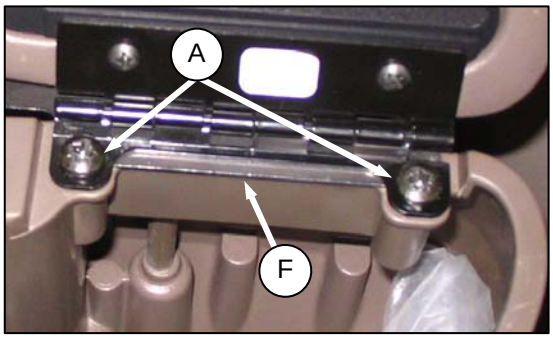


f. Connect switch end (G) of harness to switch (E) with red wire to center terminal, and white to either outer terminal.



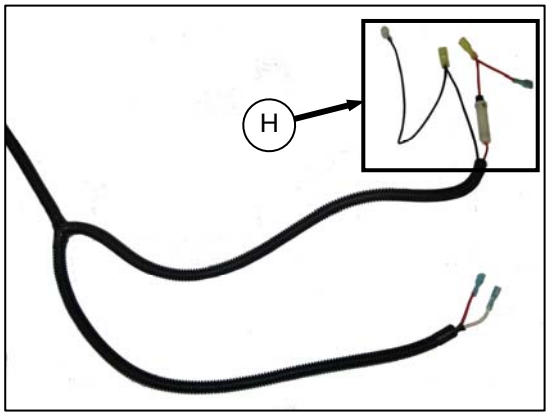
g. Position support (F) onto console, and align holes in support with holes in console.

h. Reinstall cover (B) with existing screws (A).

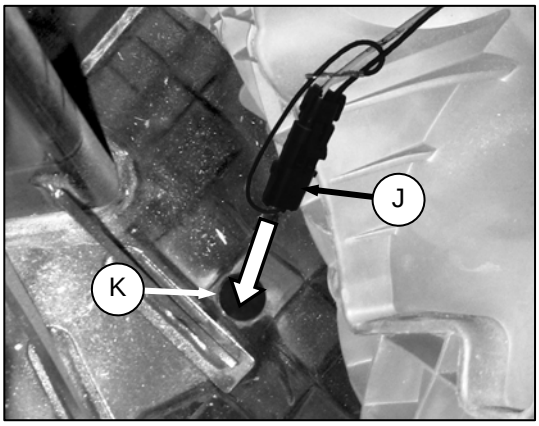


i. Close cover, and check security of switch (E) and support (F).

j. Connect feed end (H) of harness to cigarette lighter adapter (not shown).



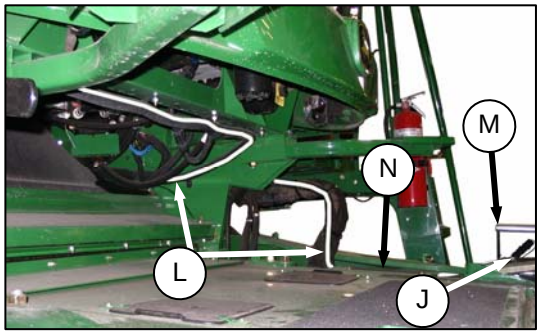
k. Route plug end (J) of harness through hole (K) in cab floor, and feed entire length to outside the cab. Leave some slack in the cab to allow for console adjustment.



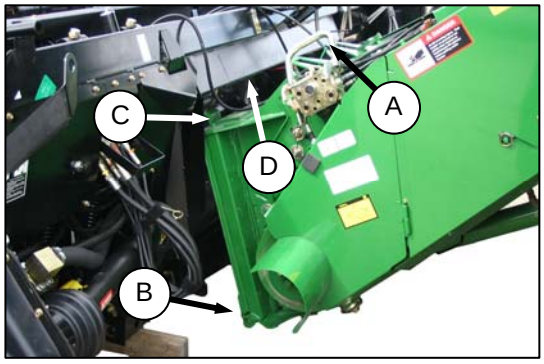
l. Replace floor mat.

m. Route harness (L) along existing hoses under the cab to left side of the feeder house, and to the multi-coupler (M). Route harness under hose shield (N).

n. Secure harness to hoses with plastic cable ties as required.



II. ATTACHING HEADER



a. Push handle (A) on combine coupler toward feeder house to retract pins (B) at bottom corners of feeder house.

b. Slowly drive combine up to adapter until feeder house saddle (C) is directly under the adapter top cross member (D).

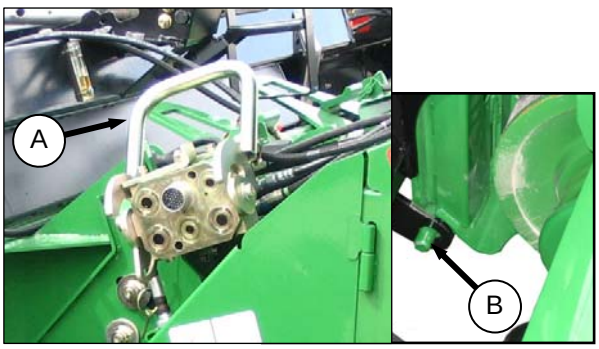
c. Raise feeder house to lift adapter, ensuring feeder saddle is properly engaged in adapter frame.

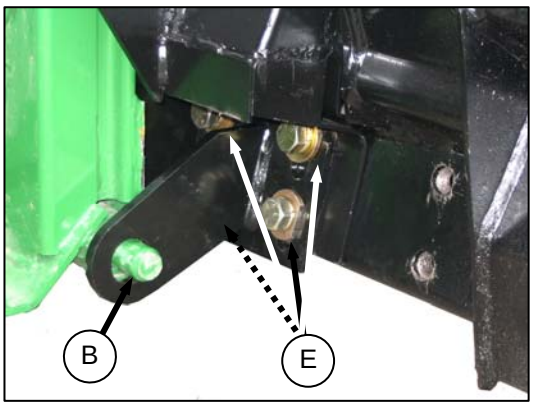
d. Raise or lower header until slightly off the ground.

CAUTION

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.

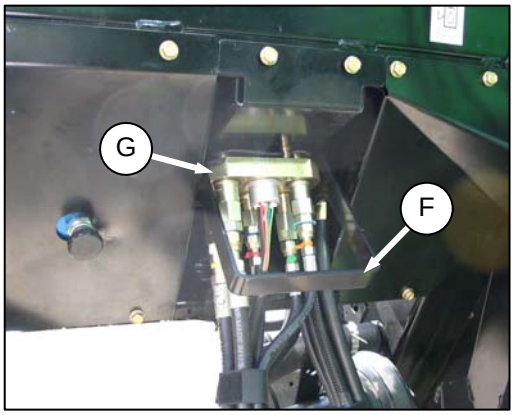
e. Pull handle (A) to engage pins (B) in adapter.





f. Check that bolts (E) on adapter brackets are tight.

g. If pins (B) do **NOT** fully engage adapter brackets, loosen bolts (E), and adjust bracket as required. Retighten bolts.



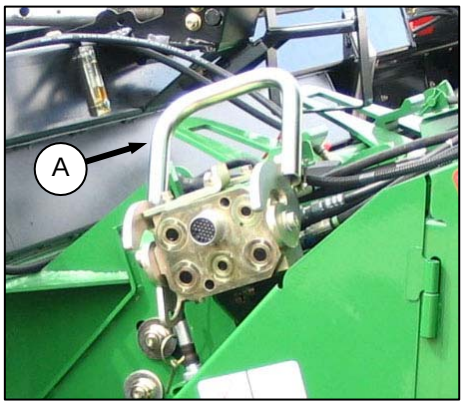
h. Remove blocks from under cutterbar.

i. Start engine, and lower header.

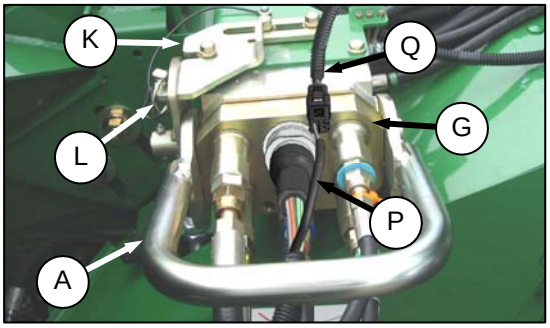
j. Pull handle (F) on adapter to release coupler (G) from storage position. Remove coupler, and push handle back into adapter to store.

(continued next page)

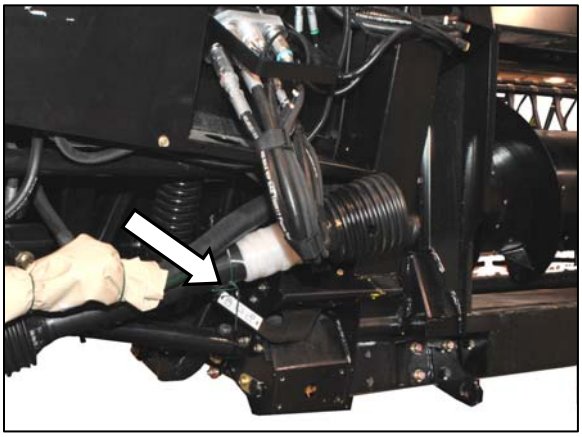
k. Attach coupler (G) to combine as follows:



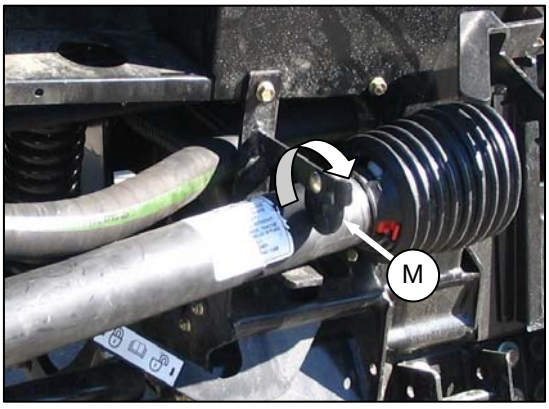
1. Handle (A) should be in the nearly up position. Clean receptacle.



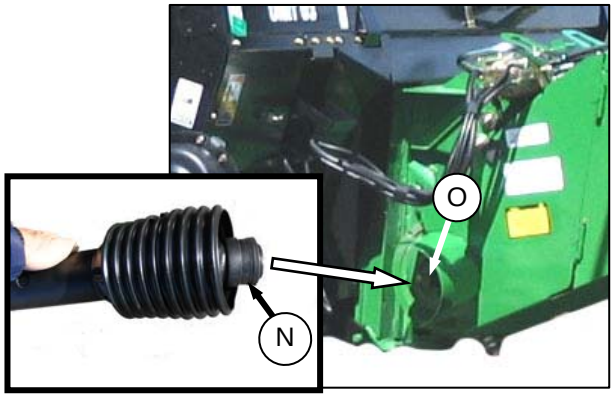
2. Locate coupler (G) onto receptacle, and pull handle (A) so that lugs on coupler are engaged into handle.
3. Pull handle to full horizontal position as shown.
4. Slide latch (K) to lock handle in position, and secure with lynch pin (L).
5. If adapter is equipped with reel fore-aft/header tilt selector, connect harness (P) to combine connector (Q).



l. Remove shipping wire from driveline and float lock lever.



m. Rotate disc (M) on adapter driveline storage hook, and remove driveline from hook.



n. Pull back collar (N) on end of driveline, and push onto combine output shaft (O) until collar locks.
o. Proceed to **STEP 9. ATTACH CAM ARMS** (page 48).

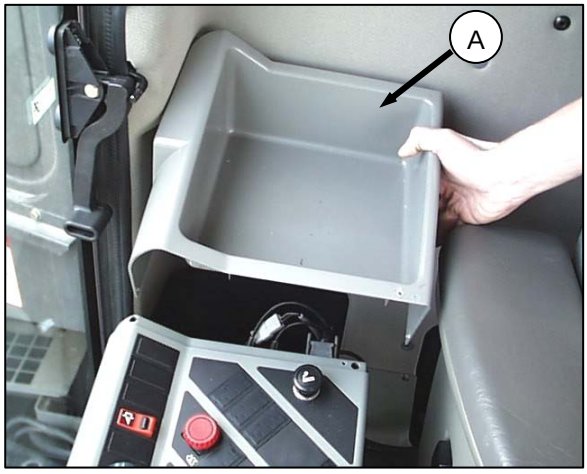
C. CAT LEXION 500, 700 SERIES

CAT Lexion 500(R), 700 combines

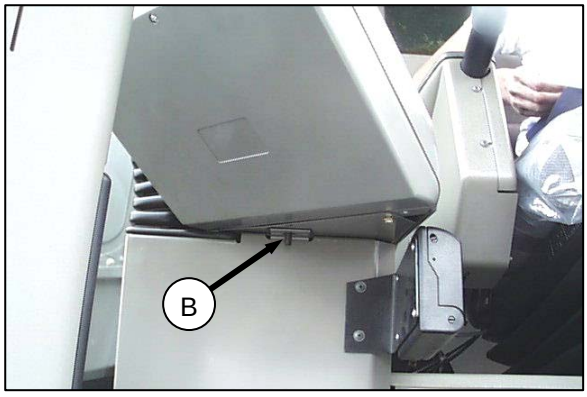
I. INSTALL REEL FORE-AFT/HEADER TILT SELECTOR VALVE SWITCH AND HARNESS

500 Series

a. Remove storage tray (A) from console.



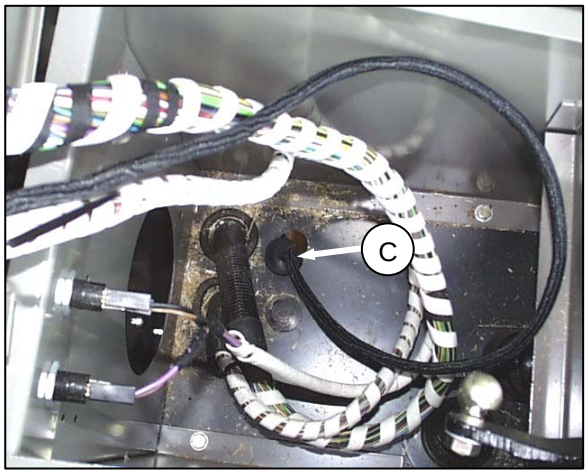
b. Remove 13 mm hex nut (B) and washer from under computer screen (front of console) as shown.



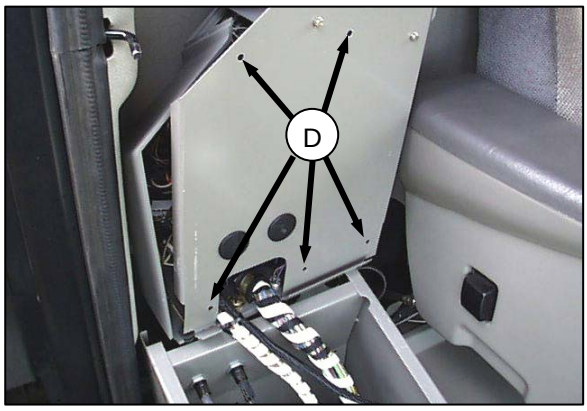
c. Tilt console back, (see picture on next page in sub-step d.) and remove the plug (C) in cab floor under console. Install adapter connector through hole, and route harness through hole. Cut a slit in the rubber floor plug (C). Slide plug over wiring harness.

NOTE:

Maintain some wire slack to prevent damage to harness.



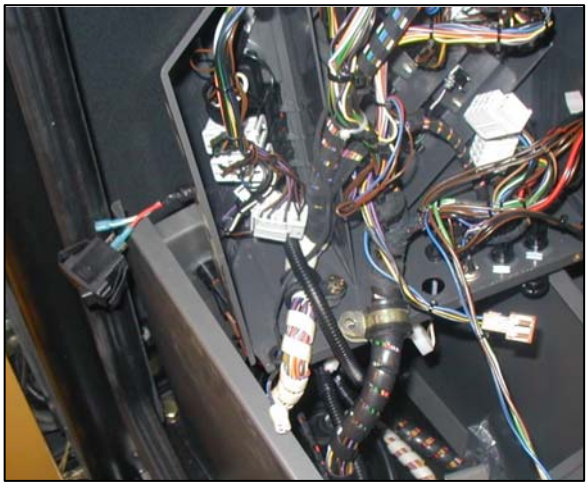
d. Remove five screws (D) as shown to access wiring connections underneath console.



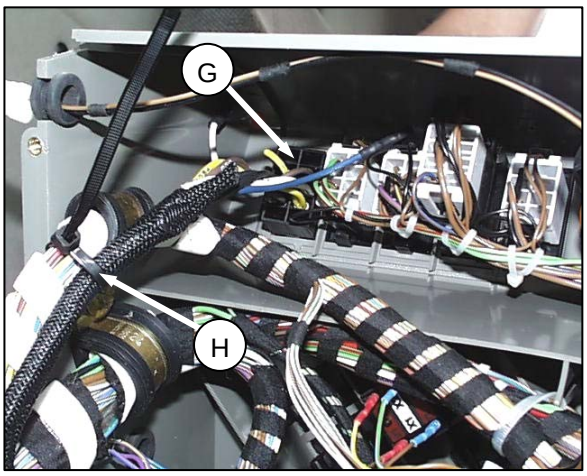
e. Remove switch plug (E) from topside of console at location shown, and push switch connector through backside of console at (G) (see sub-step g. on next page).

f. Connect switch (F) to harness (red and white wires), and snap switch (F) into place.

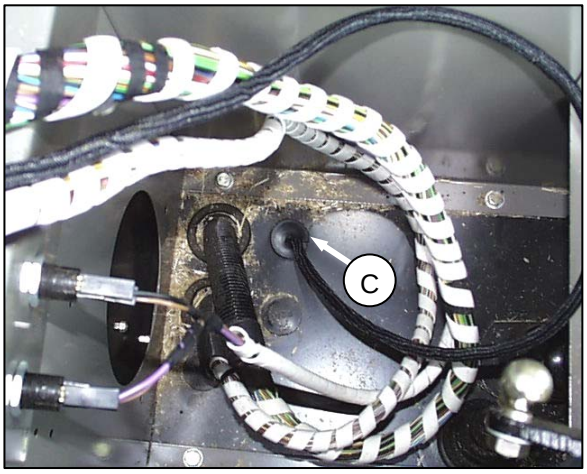
(In illustration opposite, rocker switch has been removed from console for clarity.)



g. Cable tie switch harness to existing wires at (H).

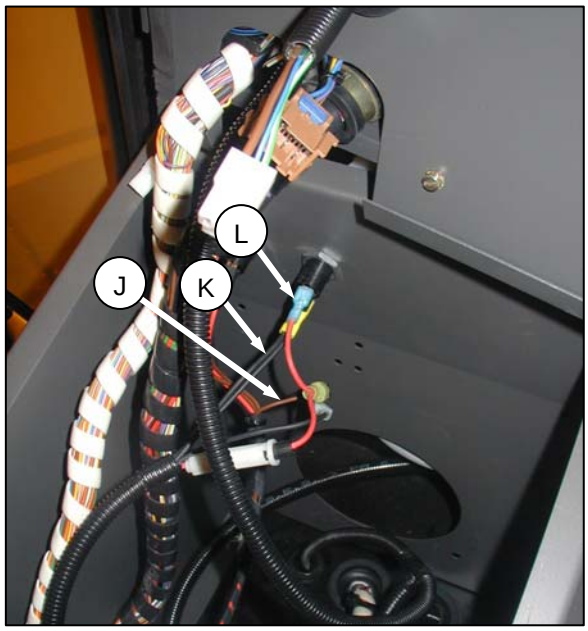


h. Reinstall plug (C) in floor (see sub-step c.) Return switch console to its original position, and tilt console back. Replace the five screws that were removed in sub-step d. on previous page.



i. FOR TWO INDIVIDUAL CONNECTOR HOOKUP:

1. Remove the brown wire (J) from power source under console. Replace it with the black wire (K).
2. Then remove the black wire from the power source, and replace it with the red wire (L).
3. Attach the wires removed from the switch (brown and black) to the wires coming from harness.
4. Ensure that wires are attached properly (black to black, and brown to red).

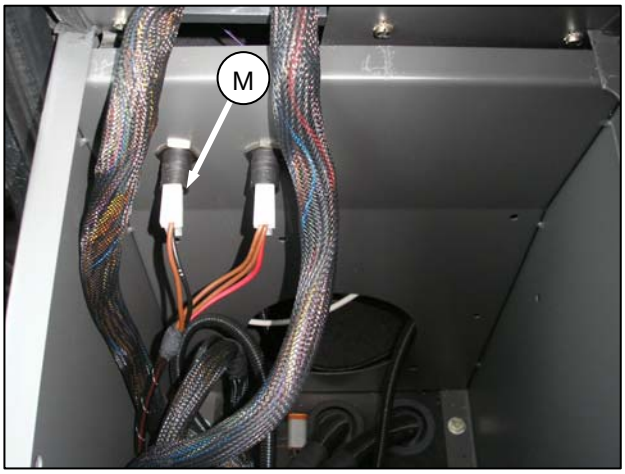


NOTE:

Remove the insulation from the male blades from the wire harness so they attach to plug (M).

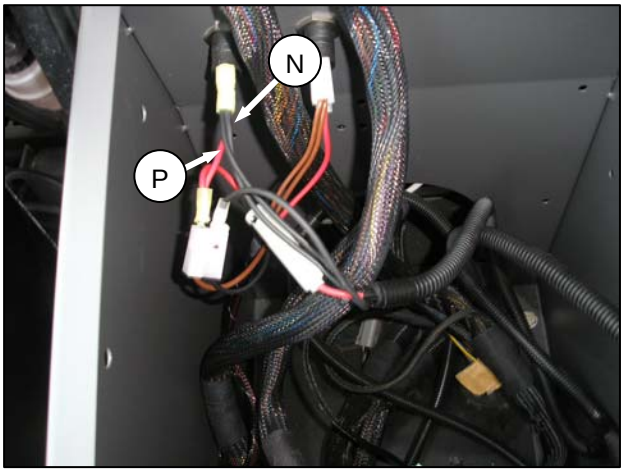
j. FOR ONE INDIVIDUAL CONNECTOR HOOKUP:

1. Remove the white plug with brown and black wire (M) from power source under console.

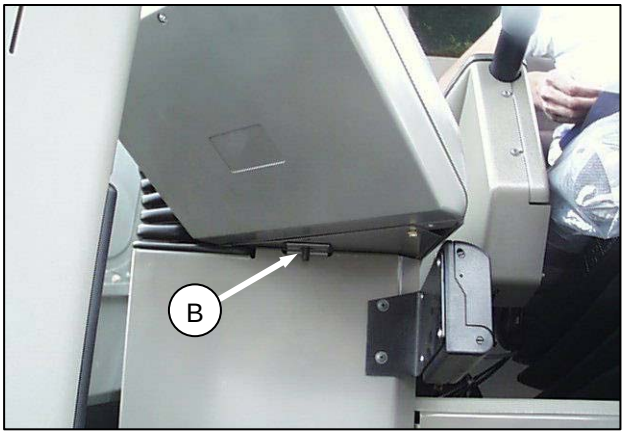


2. Replace the plug with the black wire (N) on the top terminal, and red wire (P) to bottom terminal.

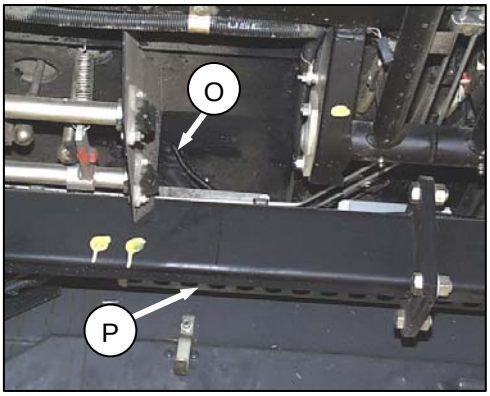
k. Attach the white plug (M) to the remaining wires coming from harness. Ensure that wires are properly attached (black to black, and brown to red).



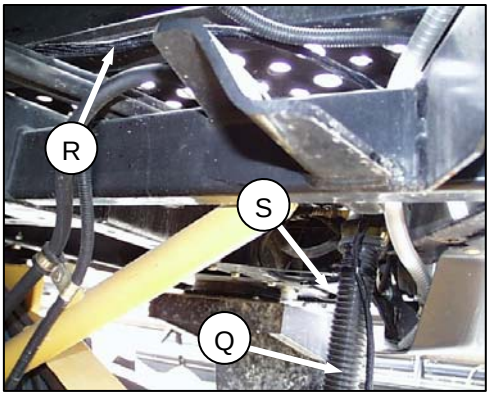
l. Return console to its original position, and install the washer and 13 mm hex nut (B), removed in sub-step b.



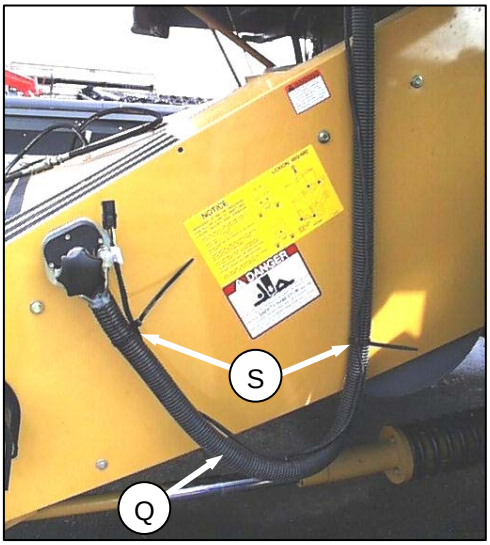
m. Route wiring harness (O) underneath cab floor. To prevent it from being damaged, place harness in steel tray (P) along underside of cab floor.



n. Route wiring harness (O) between left end of tray (P) and conduit (Q) between floor and frame as shown at (R).



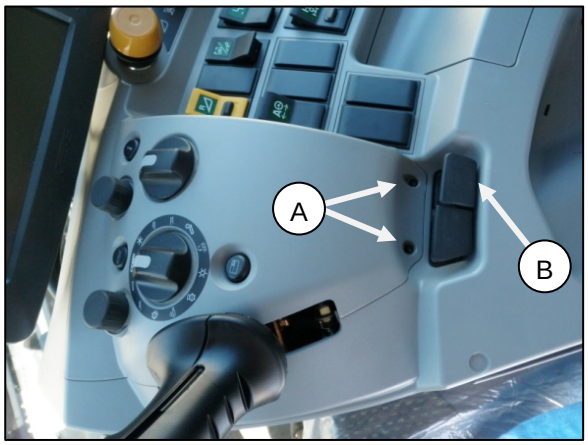
o. Use cable ties at (S) to secure wiring harness (O) to conduit (Q).



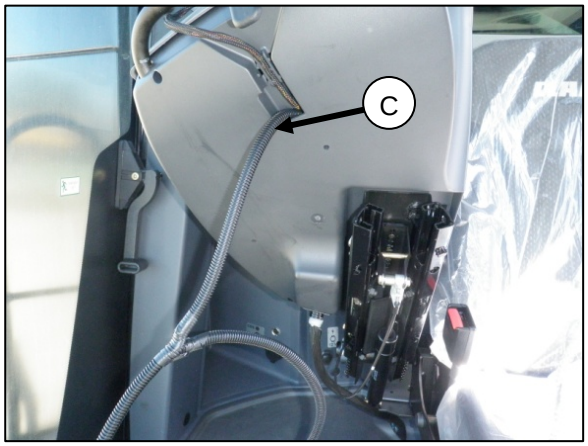
700 Series

a. Remove two screws at (A) from information system operator's panel, and remove panel to access compartment.

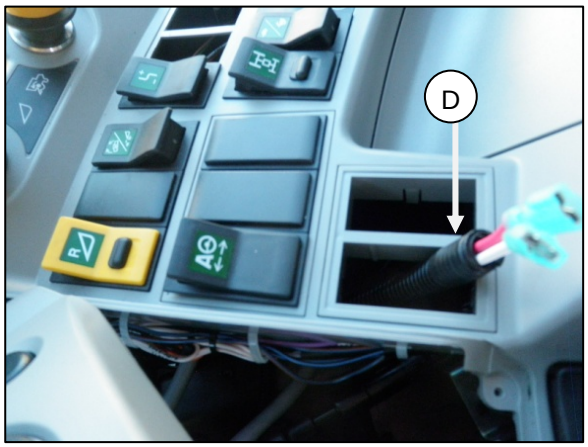
b. Rotate console up to expose the underside of the console to make it easier to insert wire harness. Pull tab (B) up to unlatch console.



c. Insert wire through bottom of console alongside wire that goes to the CEBIS monitor at (C)



d. Locate wire from the panel area that was removed in Step a. Remove blank cap from machine operator panel at (D). Run wire through opening, attach wire to switch, and insert switch into panel.

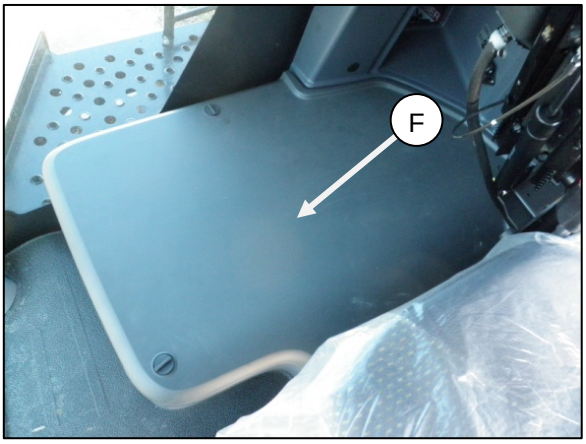


e. Secure the switch (E) back into the console, and screw down the information panel. Pull back the slack on the wire harness, and cable tie to wire harness that runs to CEBIS monitor (Refer to Step b.)

NOTE:

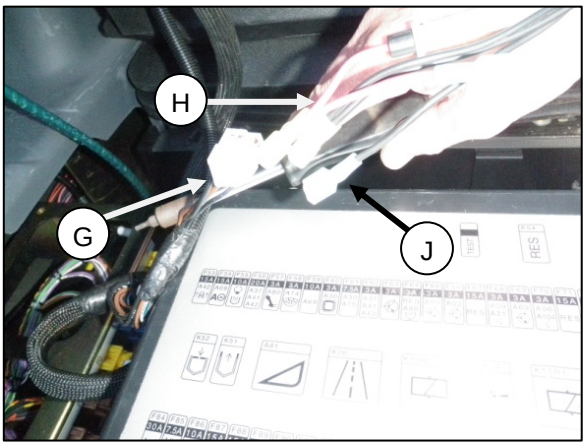
If LASER PILOT is used, select the blank plug next to (E).

f. On the floor at the right hand side of the cab, locate terminal compartment at (F). Remove lid for access for 12 volt switched power.

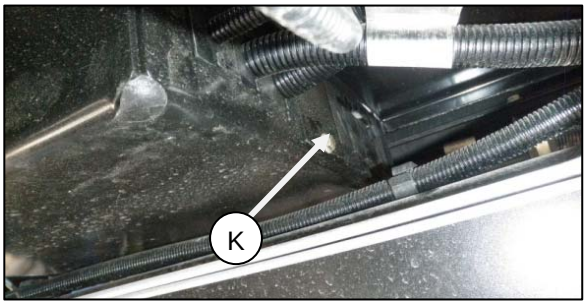


g. Once the lid is removed, locate the single wire harness that is switch power at (G).

1. On the MacDon wire harness, remove the insulation from the two male blades.
2. Attach red wire (H) to brown wire in plug (G), and connect black wire (J) to black wire in plug (G).



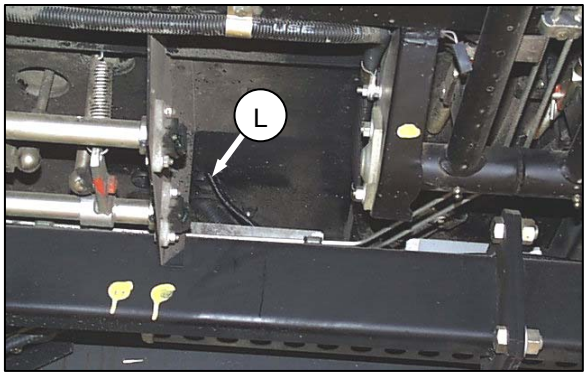
h. Make a harness exit hole to the left side of the box at (K) in one of the blank covers.



i. Run the two prong wire black/white connector of the MacDon harness through the hole.

NOTE:

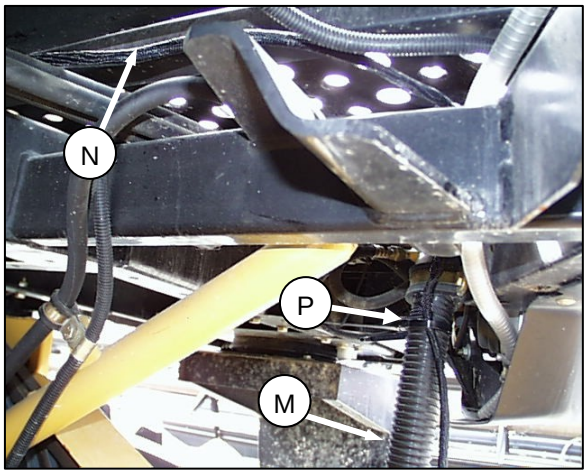
Your 700 Series combine will look different than photos relating to sub-steps i, j. and k. below.



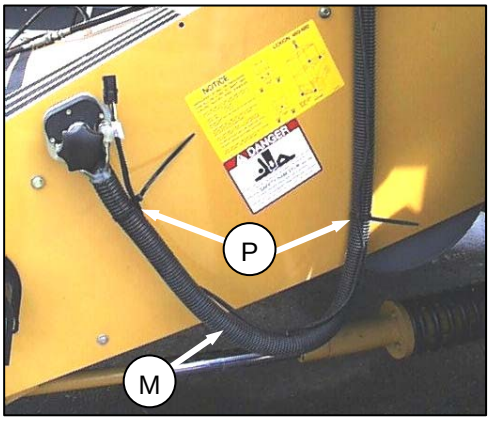
j. Route wiring harness (L) along underside of cab floor with existing harnesses. Do **NOT** tie harness until routing is complete.

k. Route harness from left bottom corner of cab to conduit (M) between floor and frame as shown at (N).

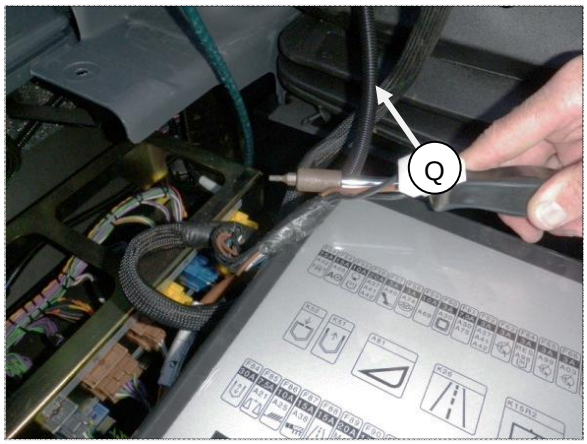
Continue routing harness along conduit (M) to end at multi-coupler.



l. Starting at multi-coupler end, use cable ties at (P) to secure harness to conduit (M).



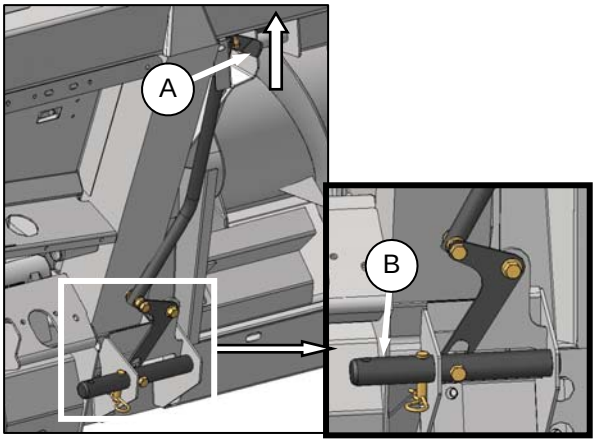
m. Once harness is secured with cable ties back to terminal box, push excess harness back into terminal box, and cable tie MacDon harness to existing harness that goes to the console at (Q). This will prevent the harness getting tangled when seat or console are moved.



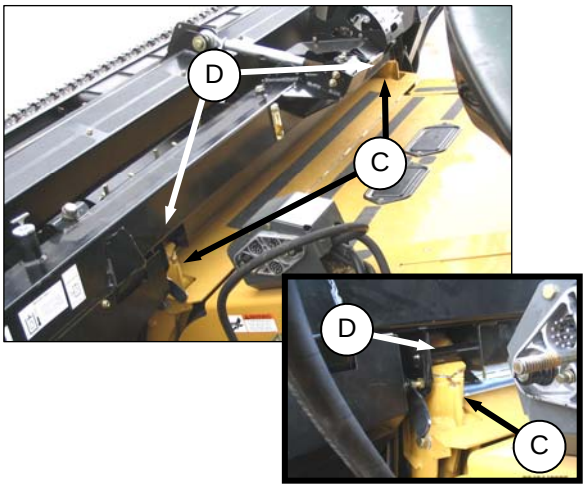
(continued next page)

II. ATTACHING HEADER

a. Handle (A) on the adapter should be in raised position, and pins (B) at bottom corners of adapter retracted.



b. Slowly drive combine up to adapter until feeder house is directly under the adapter top cross member.

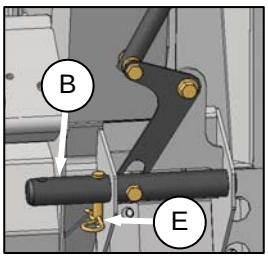


c. Raise feeder house to lift adapter, ensuring feeder house posts (C) are properly engaged in adapter frame (D).

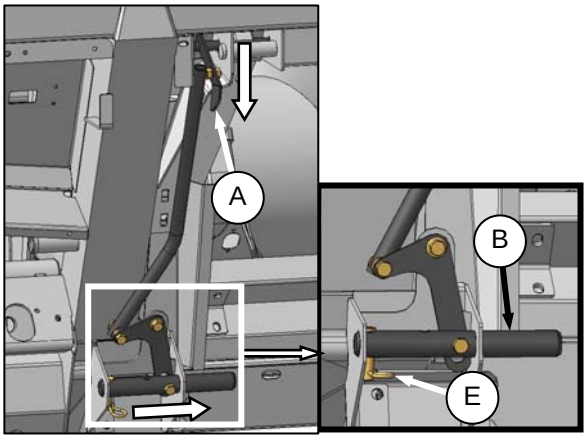
d. Position header slightly off the ground.

CAUTION

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.



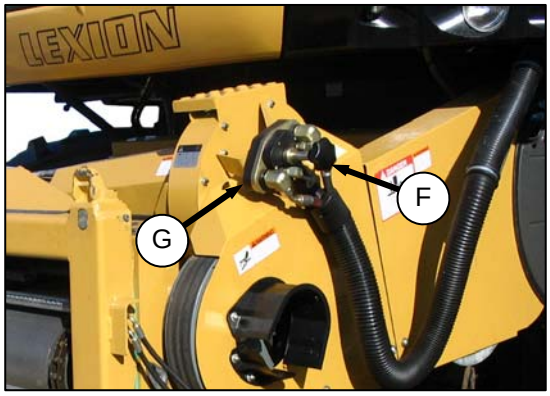
e. Remove locking pin (E) from adapter pin (B).



f. Lower handle (A) to engage adapter pins into feeder house. Re-insert locking pin (E), and secure with hairpin.

g. Remove blocks from under cutterbar.

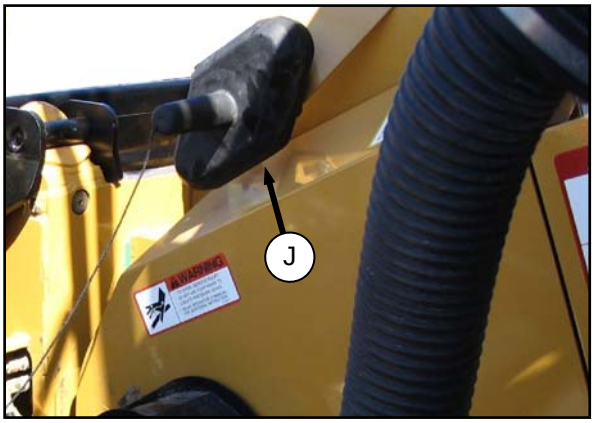
h. Start engine, and lower header. Shut down the combine.



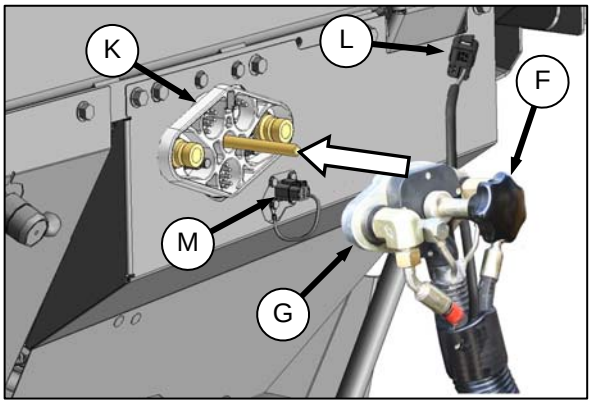
i. Unscrew knob (F) on combine coupler (G) to release coupler from combine receptacle.

(continued next page)

j. Locate cover (J) that is strapped on the adapter frame and remove it.



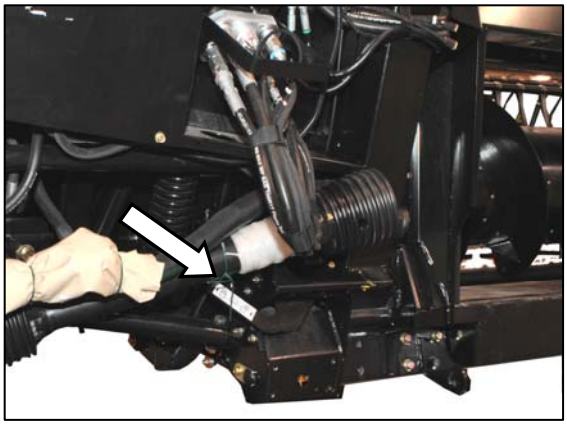
k. Place cover (J) onto adapter receptacle on the combine.



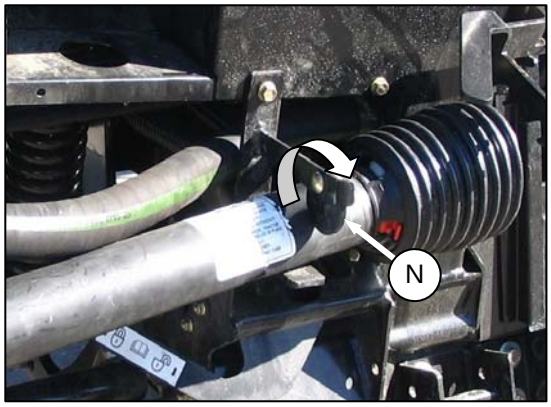
l. Locate receptacle (K) and remove and Clean mating surface of coupler (G), and locate onto adapter receptacle (K).

m. Turn knob (F) to secure coupler to receptacle.

n. Connect combine harness (L) to reel fore-aft/header tilt selector receptacle (M).



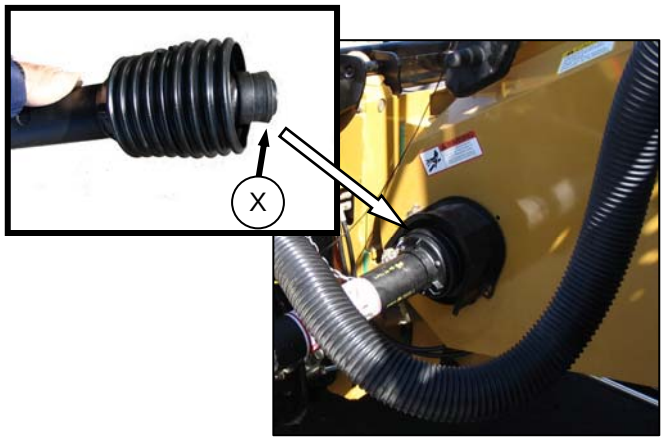
o. Remove shipping wire from driveline and float lock lever.



p. Rotate disc (N) on adapter driveline storage hook, and remove driveline from hook.

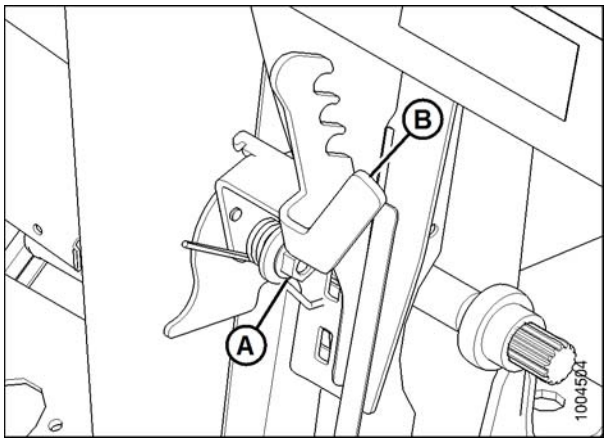
q. Pull back collar (X) on end of driveline, and push onto combine output shaft until collar locks.

r. Proceed to **STEP 9. ATTACH CAM ARMS** (page 48)

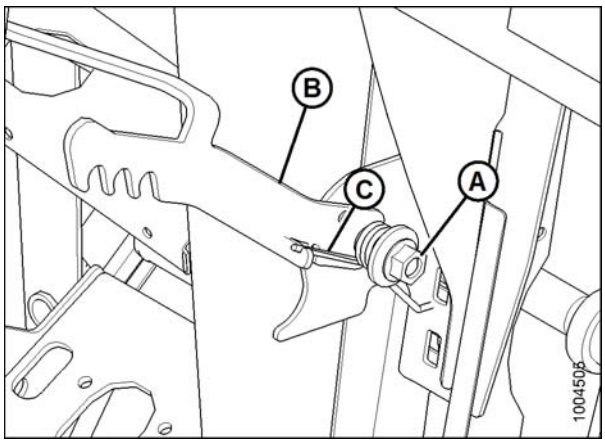


D. NEW HOLLAND CR, CX SERIES

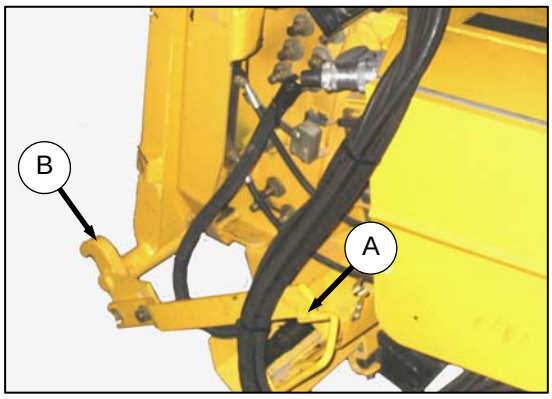
CR, CX Series



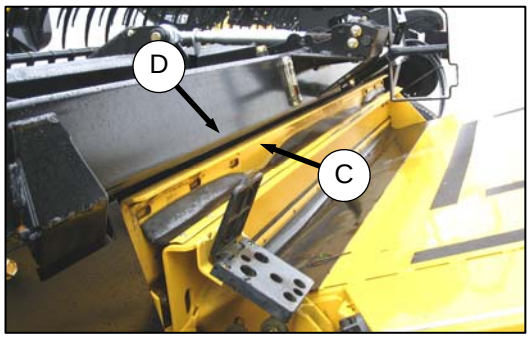
a. Remove nut (A) and flip lever (B) horizontally.



b. Place lever (B) onto stud. Place spring arm into hook on lever (B) to preload it. Tighten nut (A).



c. Ensure handle (A) is positioned so that hooks (B) can engage adapter.

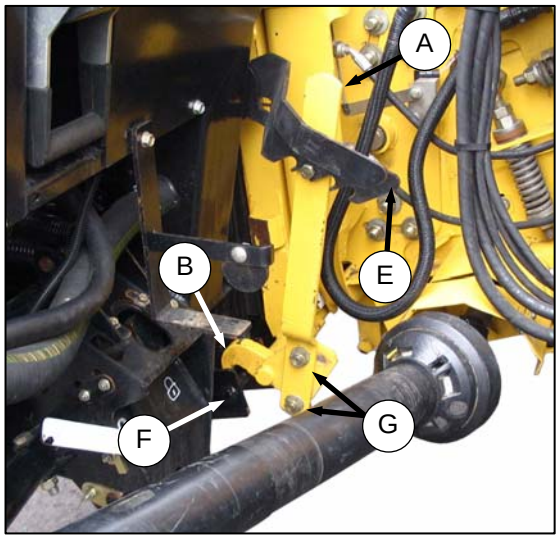


d. Slowly drive combine up to adapter until feeder house saddle (C) is directly under the adapter top cross member (D).

e. Raise feeder house to lift adapter, ensuring feeder saddle is properly engaged in adapter frame.

CAUTION

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.



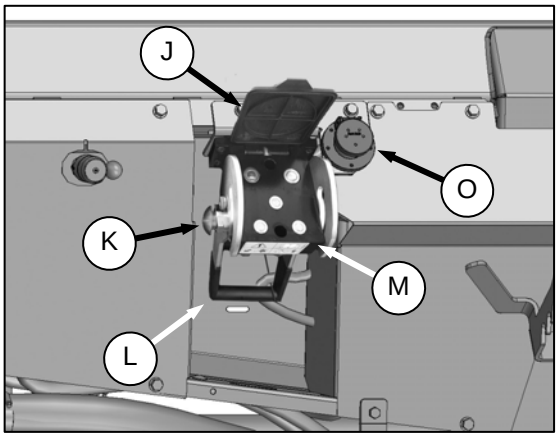
f. Lift lever (E) on adapter at left side of feeder house, and push handle (A) on combine so that hooks (B) engage pins (F) on both sides of the feeder house.

g. Push down on lever (E) so that slot in lever engages handle to lock handle in place.

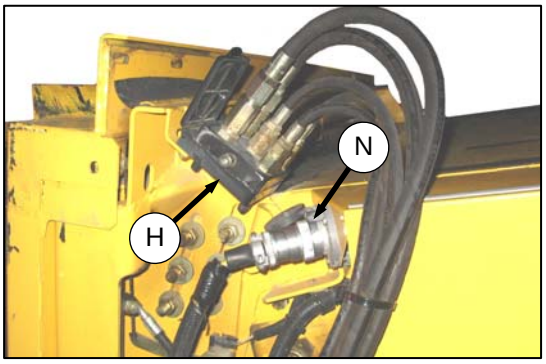
h. If hook (B) does **NOT** fully engage pin on adapter when (A) and (E) are engaged, loosen bolts (G), and adjust lock as required. Retighten bolts.

(continued next page)

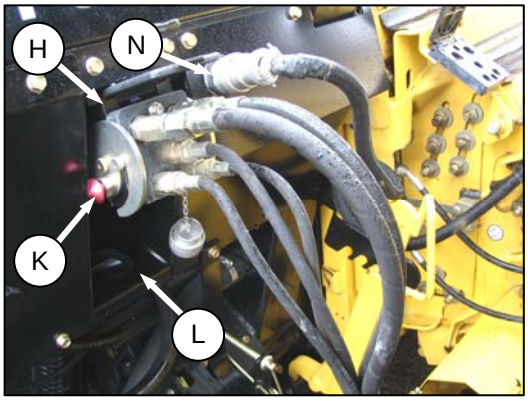
i. Connect to receptacle on adapter as follows:



1. Open cover (J).
2. Push in lock button (K), and pull handle (L) halfway up to open position.



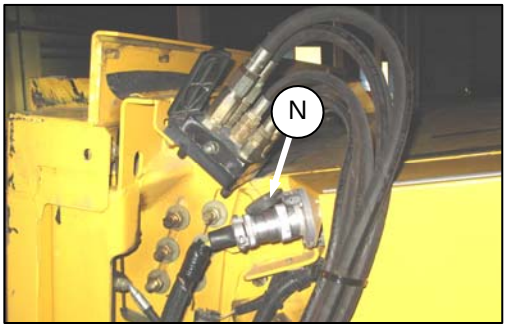
3. Remove hydraulic quick coupler (H) from storage plate on combine.



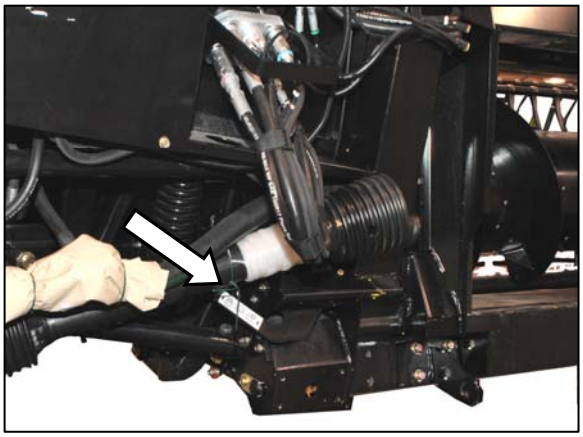
4. Position coupler onto adapter receptacle (M), and push handle (L) to engage pins into receptacle.
5. Push handle (L) to closed position until lock button (K) snaps out.

j. Attach combine electrical connector (N) to adapter as follows:

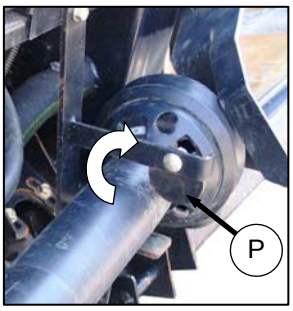
1. Remove cover on adapter electrical receptacle (O).



2. Remove connector (N) from combine.
3. Align lugs on connector (N) with slots in adapter receptacle (O), and push connector onto receptacle. Turn collar on connector to lock it in place.

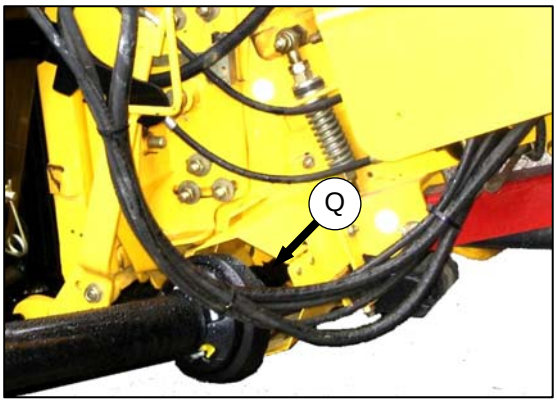


k. Remove shipping wire from driveline and float lock lever.



j. Rotate disc (P) on adapter driveline storage hook, and remove driveline from hook.

(continued next page)



k. Pull back collar on end of driveline, and push onto combine output shaft (Q) until collar locks.

l. Proceed to **STEP 9. ATTACH CAM ARMS** (page 48).

E. AGCO

Gleaner R Series and S Series
Challenger 660, 670, and 680B
Massey 9690, 9790, and 9895

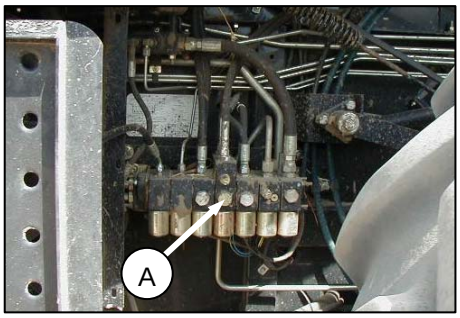
I. INSTALL REEL FORE-AFT/HEADER TILT SELECTOR VALVE SWITCH AND HARNESS

Gleaner Models:

NOTE:

*Combine is **NOT** equipped to have hydraulic reel fore-aft and header tilt options.*

Additional items are required (*not supplied by MacDon) are: Valve (A) (AGCO #71389745), hoses, electrical and couplers. (Converted AGCO unit shown at right).



R72 SHOWN

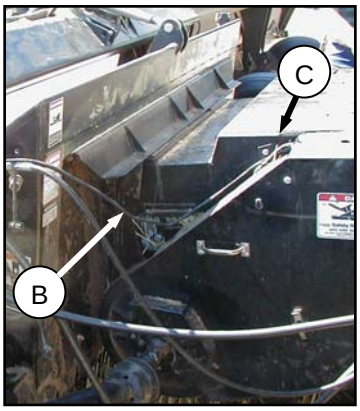
IMPORTANT:

To prevent possible damage to electronic components, disconnect the positive cable from the combine battery before connecting harness to combine connectors.

m. Before attaching any cable ties, lay the harness (B) along the route from front of feeder house to the power point in the cab as per these instructions. Ensure the harness will attach to wiring at selector valve with header tilted forward, and that the feeder house can be fully lowered with adequate slack in the harness.

n. With cable ties provided, tie the switch harness (B) to main harness on left side of feeder house and under cab floor at (C).

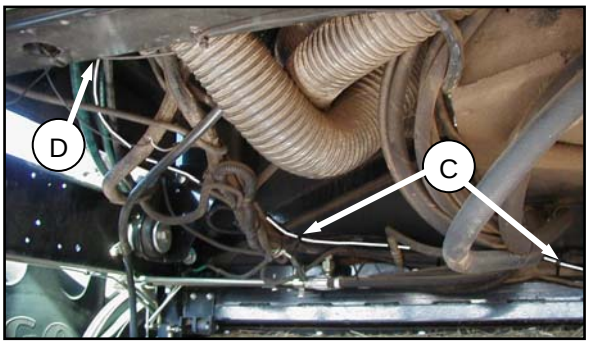
o. At the rear of the feeder house, run the switch harness (A) up to the underside of the cab floor at (D).



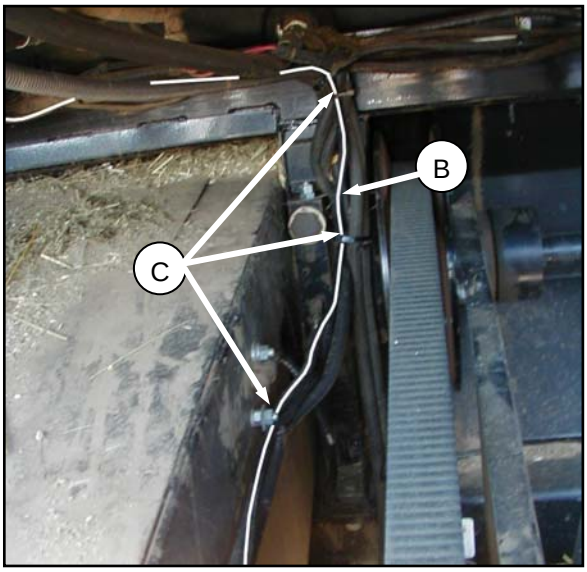
SWITCH HARNESS ROUTING

IMPORTANT:

To prevent damage to harness, fully lower feeder house before tying harness at (C) to ensure adequate slack.



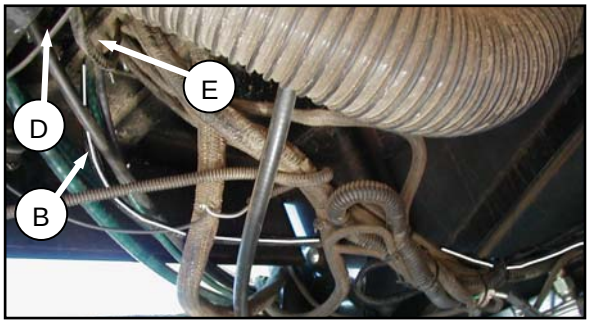
TIE HARNESS UNDER RH CAB FLOOR



LH SIDE OF FEEDER HOUSE

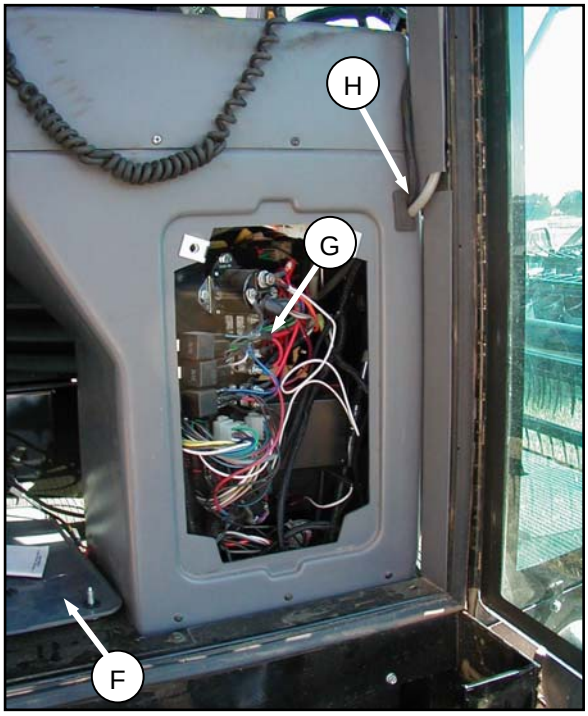
(continued next page)

p. Run harness (B) under cab, through cab floor into console (D) at foam seal (E).



ROUTE HARNESS INTO CAB AT ELECTRICAL PLATE - RH SIDE OF CAB FLOOR

q. Remove console cover (F) at right side window as shown.



r. Tap into power supply inside the console at (G).

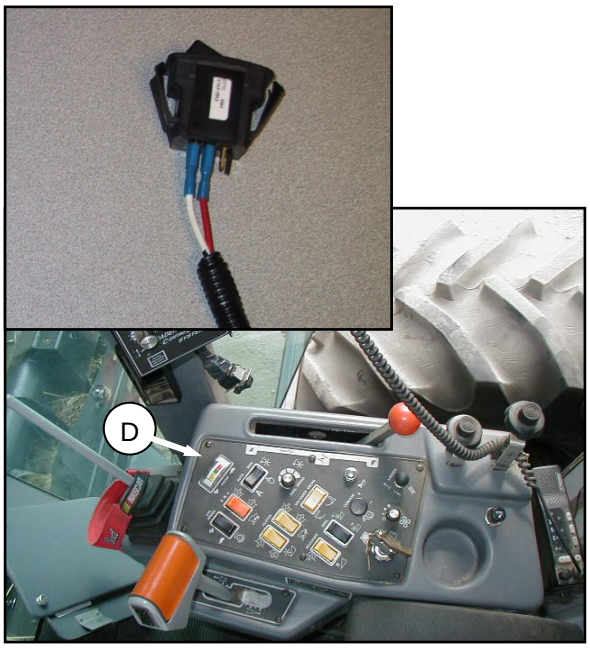
- The red wire from the inline fuse goes to the **SWITCHED POWER SUPPLY (G).**
- The double black wire goes to an appropriate ground.

IMPORTANT:

Connecting the harness to an un-switched power supply or cigar lighter adapter may drain the combine battery if the circuit is left powered (activating the header tilt side of the solenoid valve) during extended shutdown periods.

s. Route switch harness through grommet at (H), and replace cover (F).

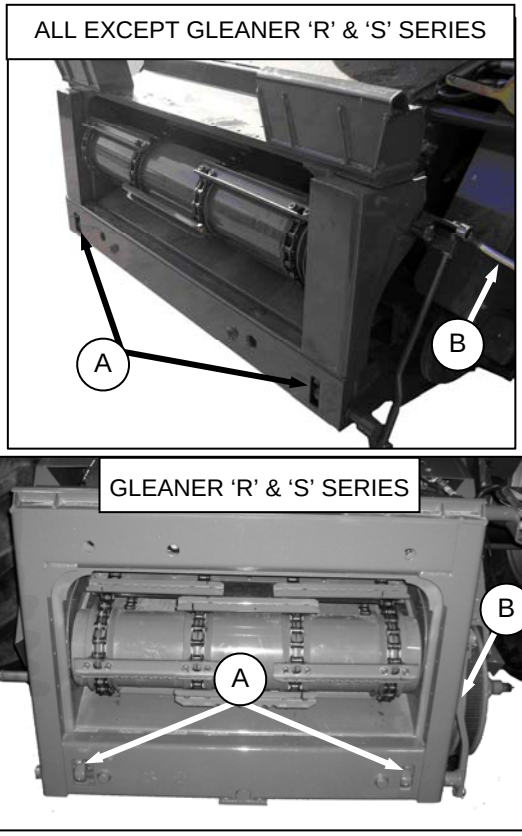
t. Mount switch plate onto console (D) in a comfortable position. Attach the harness to the switch center terminal and either of the outer terminals as shown.



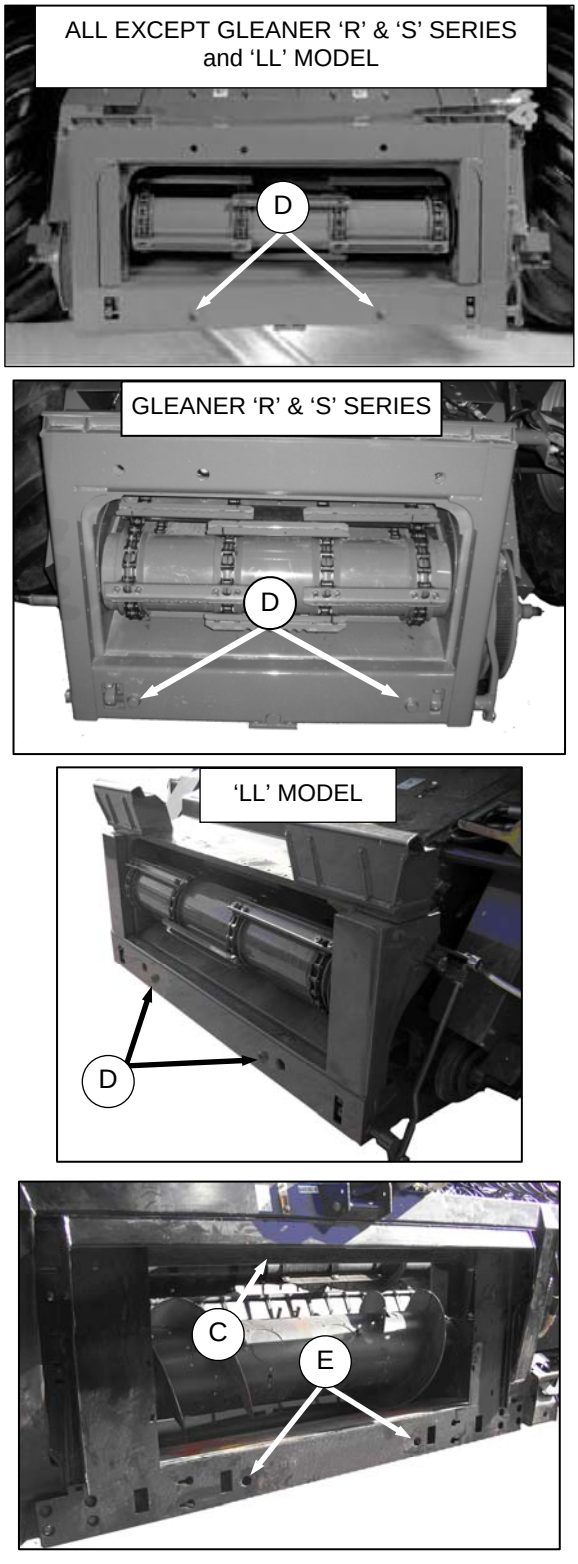
u. Reconnect the battery cable.

Operate the switch to select either REEL FORE-AFT or HEADER TILT function.

Attaching header and adapter to combine

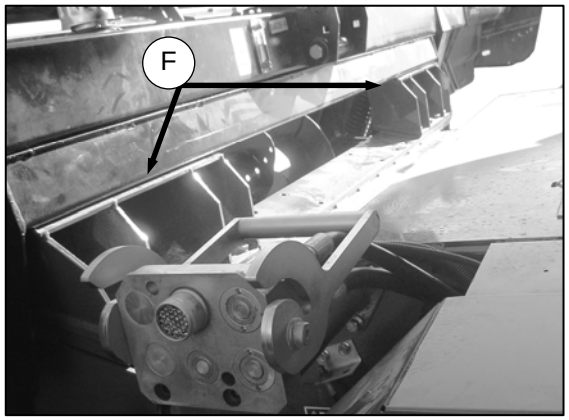


a. Retract lugs (A) at base of feeder house with lock handle (B).



b. Slowly drive combine up to adapter until feeder house is directly under the adapter top cross member (C), and alignment pins (D) are aligned with holes (E) in adapter frame.

(continued next page)



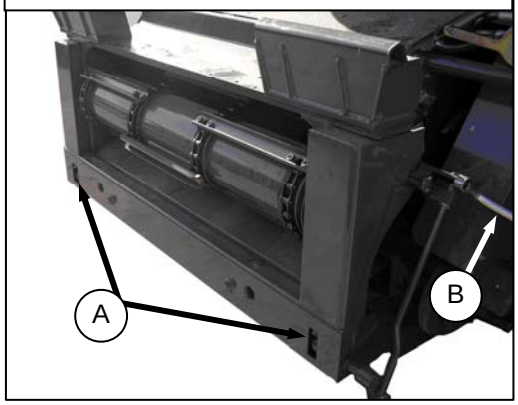
c. Raise feeder house to lift adapter, ensuring feeder house saddle (F) and alignment pins are properly engaged in adapter frame.

d. Raise header slightly off the ground.

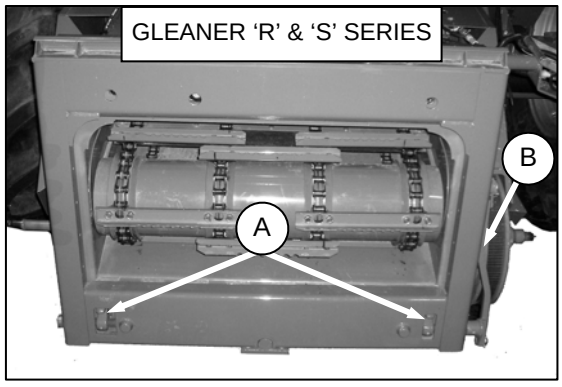
CAUTION

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.

ALL EXCEPT GLEANER 'R' & 'S' SERIES



GLEANER 'R' & 'S' SERIES



e. Engage lugs (A) with adapter using lock handle (B).

f. Remove blocks from under cutterbar.

g. Start engine, and lower header. Shut down the combine.

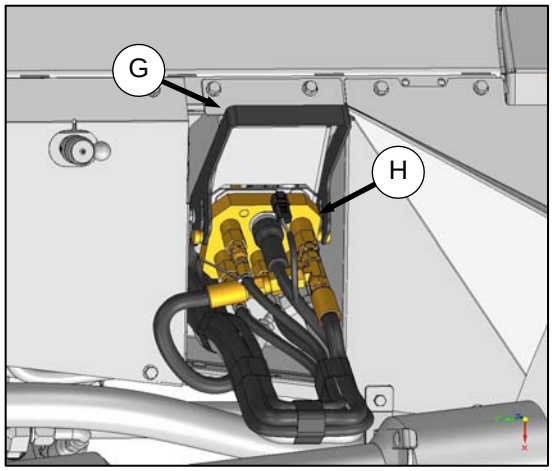
NOTE

The CA25 Combine Adapter is equipped with a multi-coupler that connects to the combine. If your combine is equipped with individual connectors, a multi-coupler kit (single-point connector) must be installed.

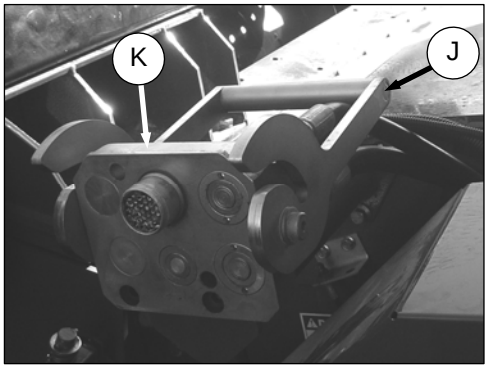
The kits are available through your AGCO Dealer, and include installation instructions.

Combine	AGCO kit#
Challenger	71530662
Massey	71411594
Gleaner R/S Series	71414706

h. Connect adapter hydraulic quick coupler to combine receptacle as follows:



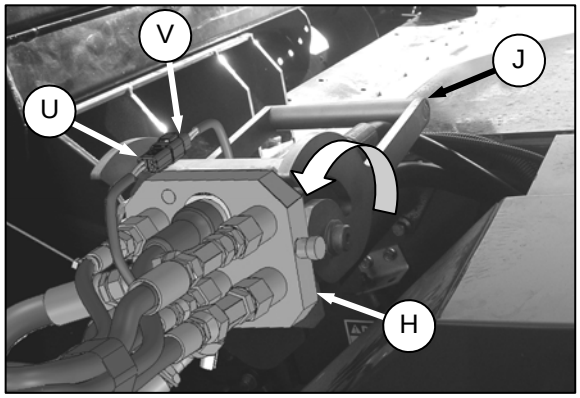
1. Raise handle (G) to release coupler (H) from adapter.



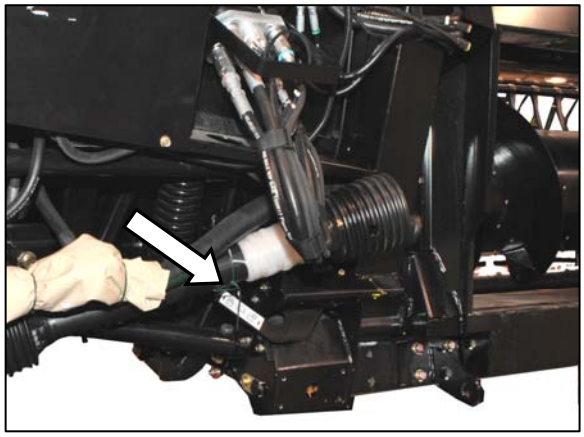
2. Push handle (J) on combine to full open position.

(continued next page)

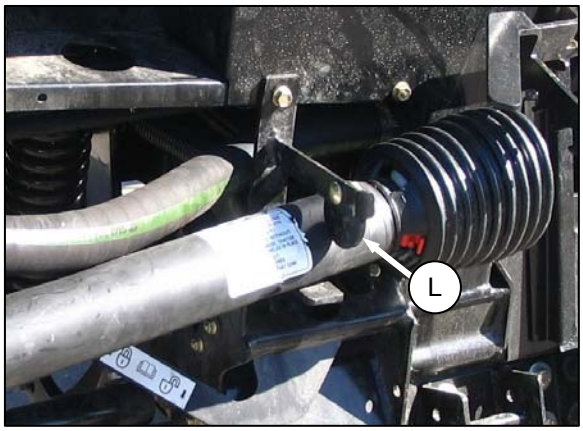
3. Clean mating surfaces of coupler and receptacle if necessary.



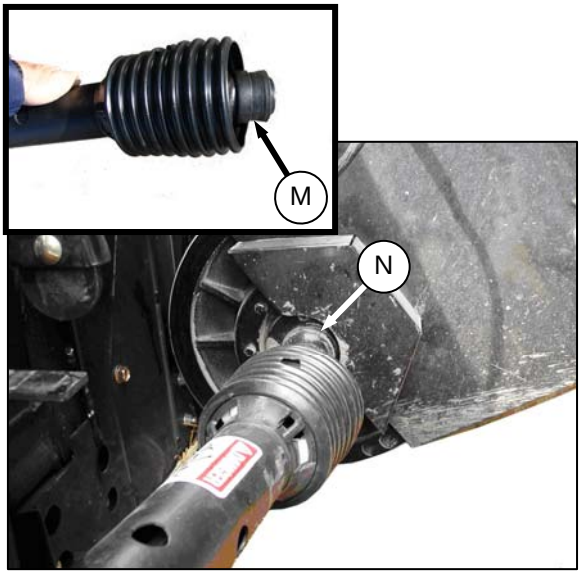
4. Position coupler (H) onto combine receptacle (K), and pull handle (J) to fully engage coupler into receptacle.
5. Connect reel fore-aft/header tilt selector harness (U) to combine harness (V).



i. Remove shipping wire from driveline and float lock lever.

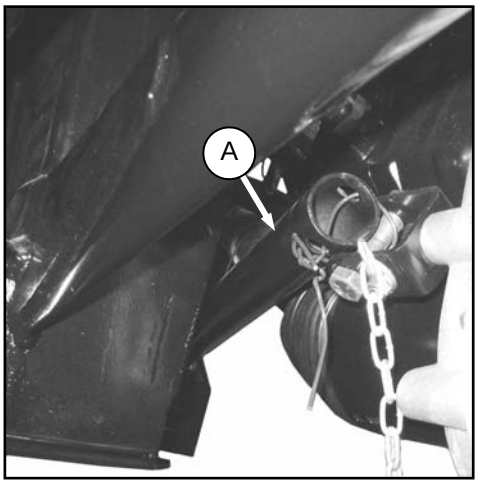


j. Rotate disc (L) on adapter driveline storage hook, and remove driveline from hook.



k. Pull back collar (M) on end of driveline, and push onto combine output shaft (N) until collar locks.
l. Proceed to **STEP 9. ATTACH CAM ARMS** (page 48).

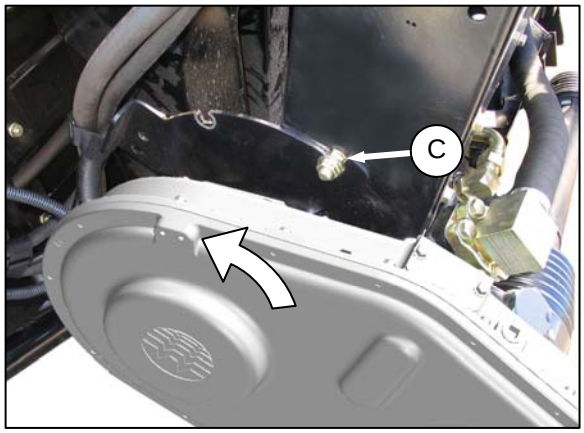
STEP 8. REPOSITION GEARBOX



a. Remove shipping wire and wrapping on brace, and swing brace (A) clear of gearbox.

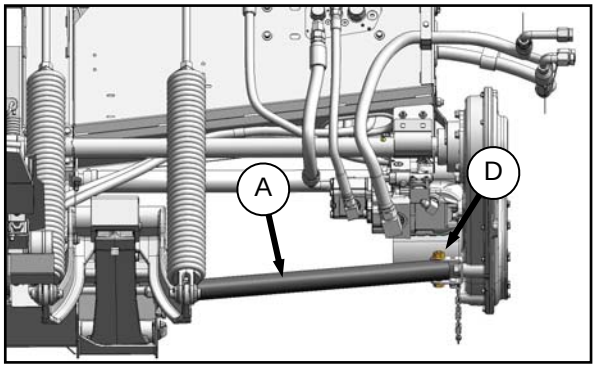
b. Loosen nut (B), and move bolt out of shipping position slot.

c. Rotate gearbox, and move bolt into working position slot (C). Tighten nut.



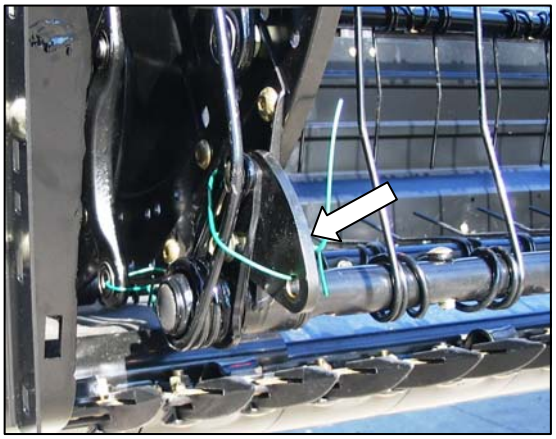
d. Remove bolt and nut from bracket on gearbox.

e. Position brace (A) inside bracket, and reinstall bolt (D) and nut.

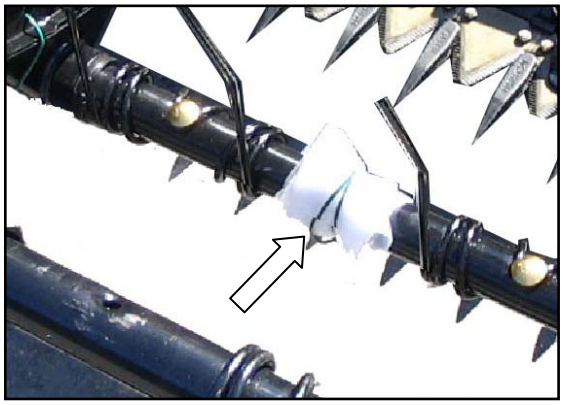


STEP 9. ATTACH CAM ARMS

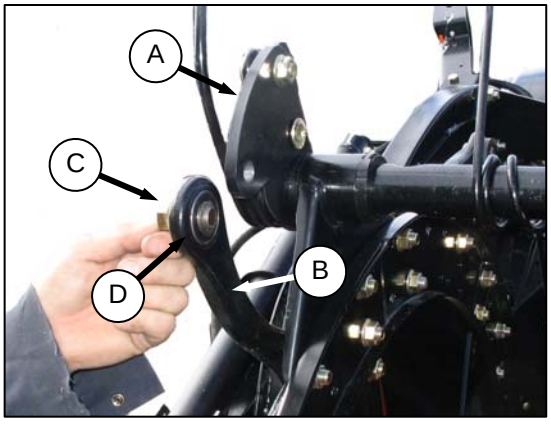
a. Manually rotate reel until the tine bars with the disconnected cam links are accessible.



b. Remove shipping wire (if not already removed).



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



d. Rotate tine bar crank (A), and position link (B) until attachment holes in bar crank and link are approximately aligned.

e. Install bolt (C) in link, and position shim (D) on bolt so that shim is between link and tine bar crank.

NOTE

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

f. Re-align link and tine bar crank, and thread in the bolt (C).

g. Repeat for remaining tine bars, and torque bolts to 120 lb-ft (165 N·m).

h. Position pitch at #4 to access bolt after rotating the reel. Reposition reel to #2 when done.

NOTE

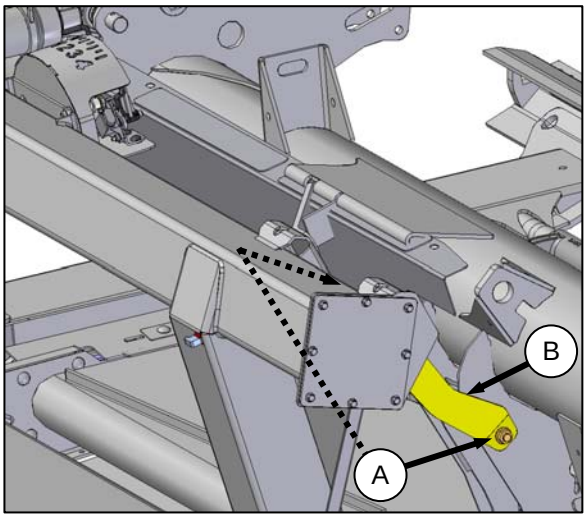
This is only done on right hand reel.

STEP 10. REMOVE SHIPPING SUPPORTS

The removable supports are painted yellow. Refer to illustrations, and remove the remaining supports as follows:

NOTE

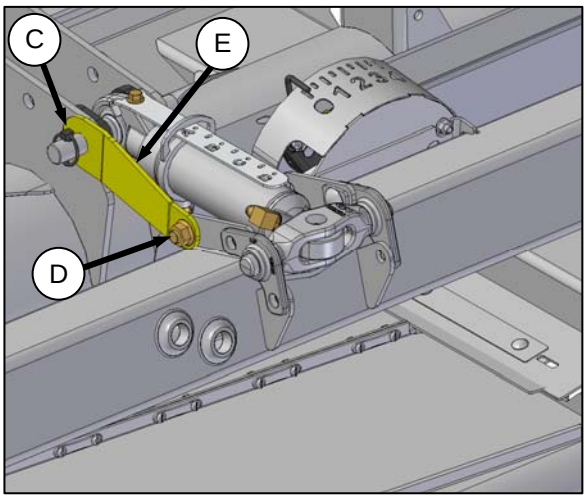
Unless otherwise specified, discard supports, and all shipping material and hardware.



a. Remove two bolts (A), and remove strap (B) from both sides of center frame.

NOTE

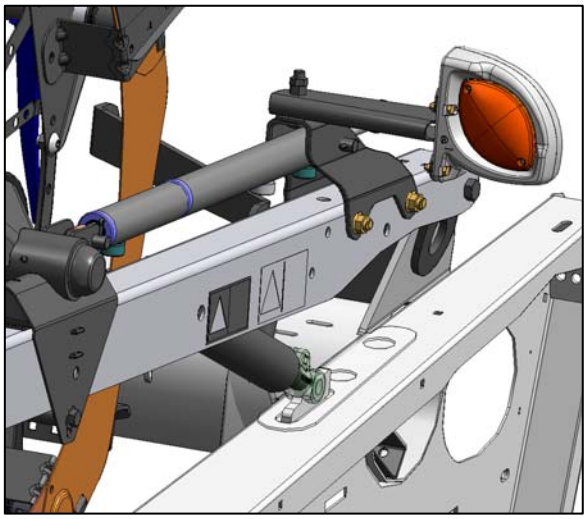
If strap is difficult to remove, lift on one end of header to release the load on the strap so that bolts can be removed.



b. Remove lynch pin (C), nut and bolt (D), and remove shipping brace (E).

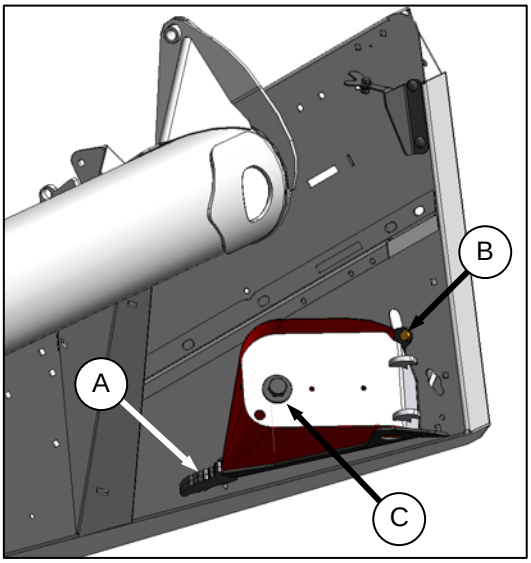
c. Reinstall lynch pin (C).

STEP 11. POSITION TRANSPORT LIGHTS



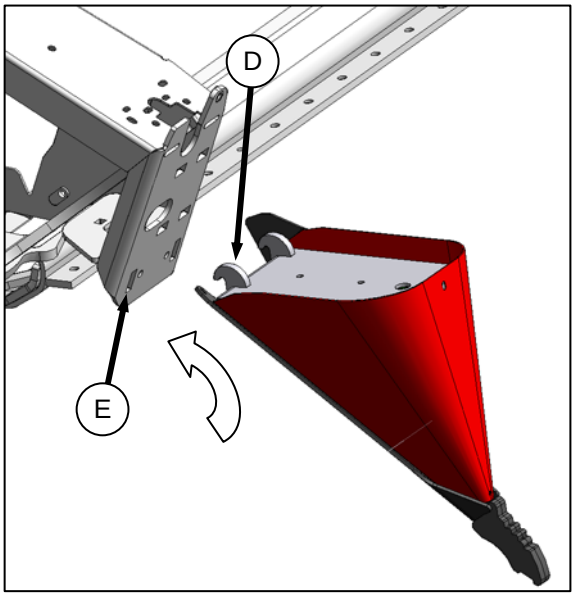
a. Position light perpendicular to header. Lights are located on each of the outboard reel arms.

STEP 12. INSTALL CROP DIVIDERS

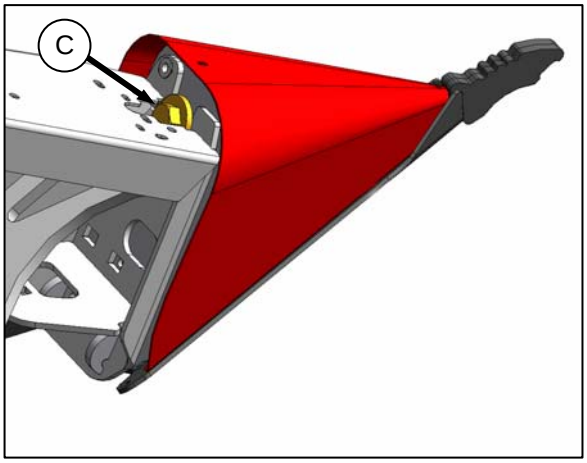


a. Dividers are stored on inboard side of endsheets. To remove, support the divider and remove shipping wire at front end (A). Then, remove bolt (B).

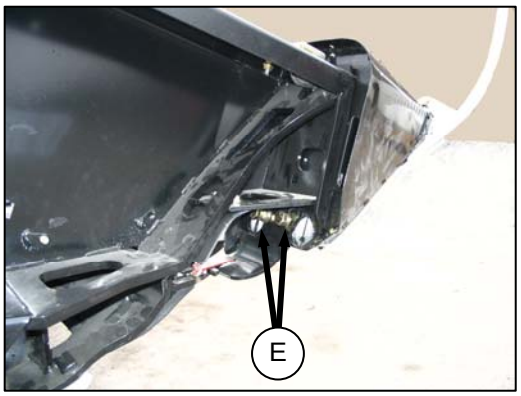
b. Remove bolt and washer at (C).



c. Position crop divider as shown by locating lugs (D) in slots (E) in endsheet.



d. Lift forward end of divider up to endsheet, and install washer and bolt at (C).



e. Check that divider does **NOT** move laterally. Adjust bolts (E) as required to tighten divider, and remove lateral play when pulling at divider tip.

STEP 13. PREDELIVERY CHECKS

WARNING

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

IMPORTANT

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

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

IMPORTANT

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

b. The completed Checklist should be retained either by the Operator or the Dealer.

A. TIRE PRESSURE: TRANSPORT AND STABILIZER WHEEL OPTIONS

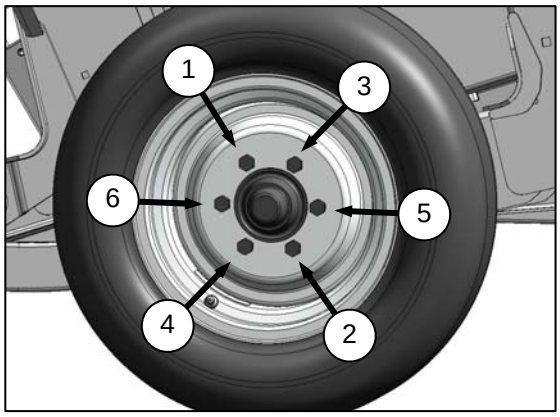
Check tire inflation pressure. If necessary, inflate as per following table:

Size	Load range	Pressure
ST205/75 R15	D	65 psi (448 kPa)
	E	80 psi (552 kPa)

IMPORTANT

Do **NOT** exceed maximum pressure specified on tire sidewall.

B. WHEEL BOLT TORQUE: TRANSPORT AND STABILIZER WHEEL OPTIONS

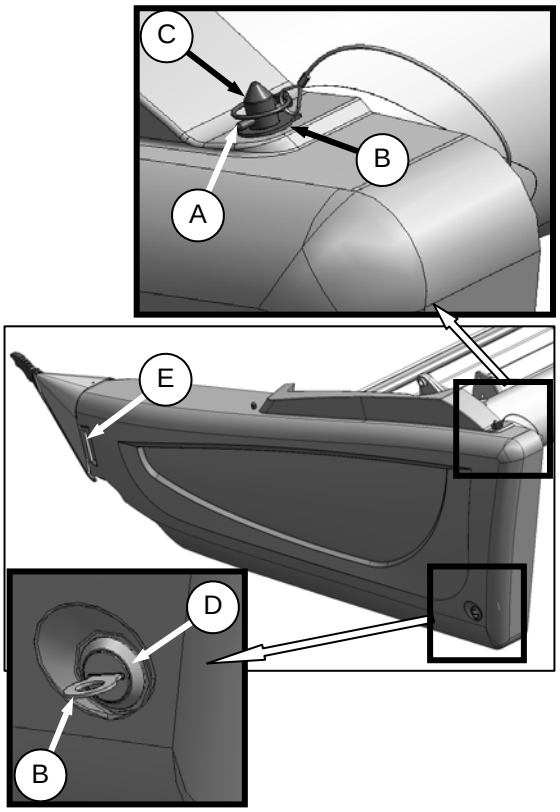


Check wheel bolt torque is 80–90 lb-ft (110–120 N·m). Refer to bolt tightening sequence illustration above.

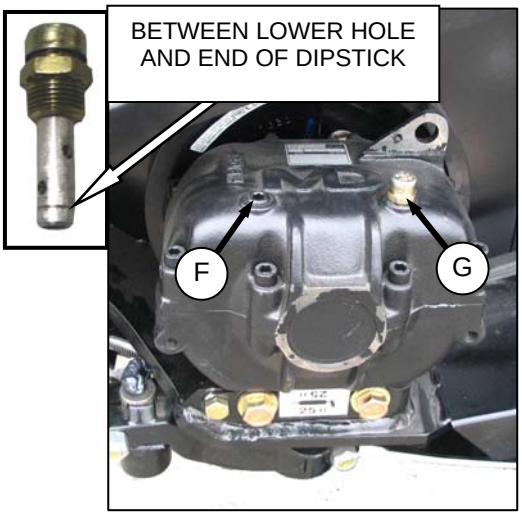
C. KNIFE DRIVE BOX

For access to knife drive box(es), endshield(s) must be fully opened.

a. To open endshield(s):



1. Remove lynch pin (A), and tool (B) from pin (C) at top rear of endshield.
2. Use tool (B) to unlock latch (D) at lower rear corner of endshield.
3. Lift shield at aft end to clear pin (C).
4. Swing shield out and away from header while maintaining forward pressure to prevent shield from slipping out of tab (E) at front of endsheet.
5. Carefully disengage front of shield from tab (E), and swing front of shield away from header.



KNIFE DRIVE BOX (CHECK OIL LEVEL WITH TOP OF KNIFE DRIVE BOX HORIZONTAL)

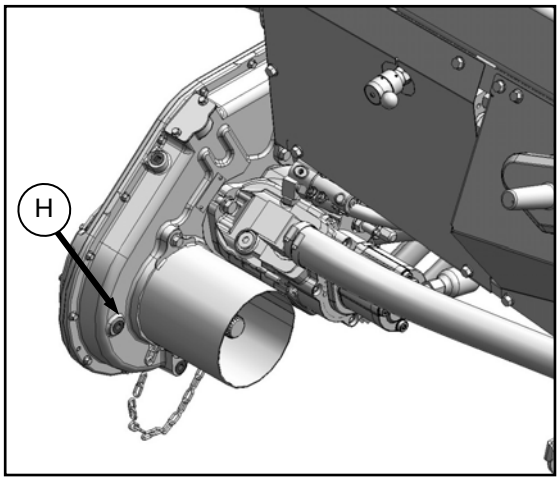
b. Position of plug (F) and breather (G) at knife drive box **must** be as shown above.

c. Check oil level.

d. Leave endshield(s) open.

D. GEARBOX OIL

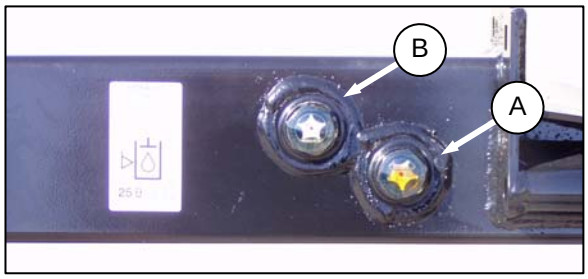
a. Set cutterbar to working position.



b. Remove plug (H). Level should be to bottom of hole.

E. HYDRAULIC RESERVOIR

Check oil level at sights (A) and (B) with cutterbar just touching ground. Check when oil is cold, and with center-link retracted.



Nominal: Normal Terrain: Maintain level so lower sight (A) is full, and upper sight (B) is empty.

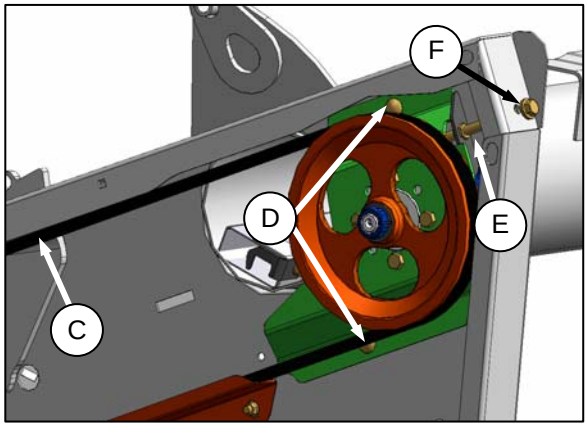
NOTE

When ambient temperatures are above 95°F (35°C), to prevent overflow at breather under operating temperatures, it may be necessary to lower oil level slightly.

F. KNIFE BELT TENSION

NOTE

The knife drive is identical on both sides of the header.



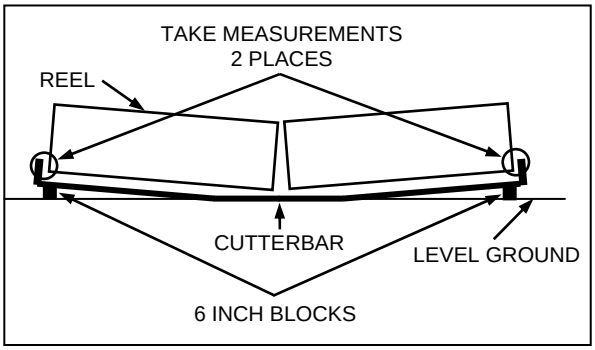
a. A force of 20 lbf (80 N) should deflect belt (C) 3/4 in. (18 mm) at mid-span.

b. If necessary, adjust tension as follows:
   1. Loosen two bolts (D) on knife drive mounting bracket and jam nut (E).
   2. Turn adjuster bolt (F) to move drive motor until tension is achieved.
   3. Tighten jam nut (E) and bolts (D) on drive mounting bracket.

c. Close endshield(s).

G. REEL CENTERING

a. Raise header, shut down combine, and engage header lift cylinder stops.



b. Place two 6 inch (150 mm) blocks at ends of cutterbar.

c. Disengage float locks and header lift cylinder locks.

d. Start combine, and lower header fully, allowing it to flex into ‘full smile’ mode.

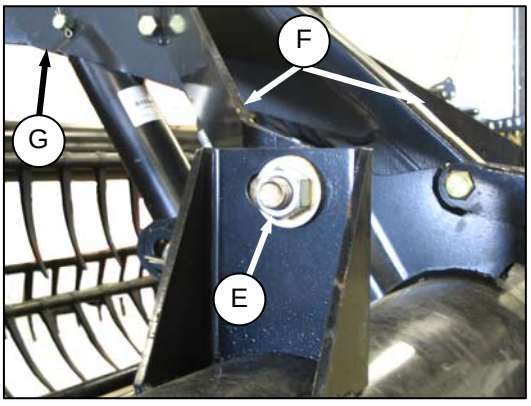
e. Shut down engine.

WARNING

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

f. Measure clearance between reels and both endsheets. The clearances should be the same if the reels are centered.

g. If required, center the reels as follows:



   1. Loosen bolt (E) on each brace (F).
   2. Move forward end of center support arm (G) laterally as required to center both reels.
   3. Tighten bolts (E), and torque to 265 lb-ft (359 N·m).

H. DRAPER TENSION

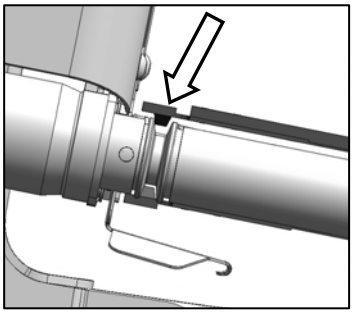
Raise header, and shut down engine. Engage header lift props.

WARNING

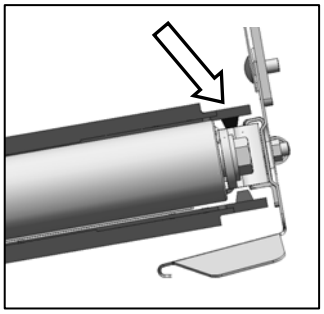
Stop combine engine, and remove key before making adjustments to machine. A child or even a pet could engage the drive.

CAUTION

Engage header lift cylinder stops before working under header.

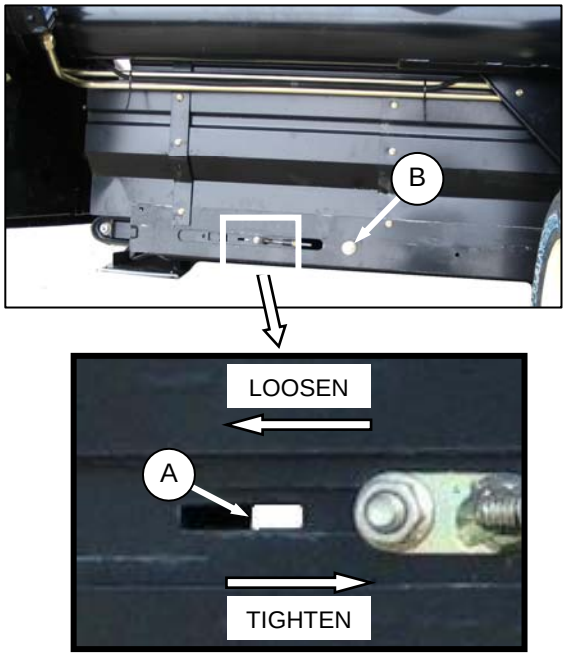


DRIVE ROLLER - ONE END



IDLER ROLLER - BOTH ENDS

a. Check that draper guide (the rubber track on underside of draper) is properly engaged in groove of drive roller, and that idler roller is between the guides.



b. Draper tension should be just enough to prevent slipping, and keep draper from sagging below cutterbar. The white bar (A) should be about halfway in the window.

c. If required, set draper tension as follows:

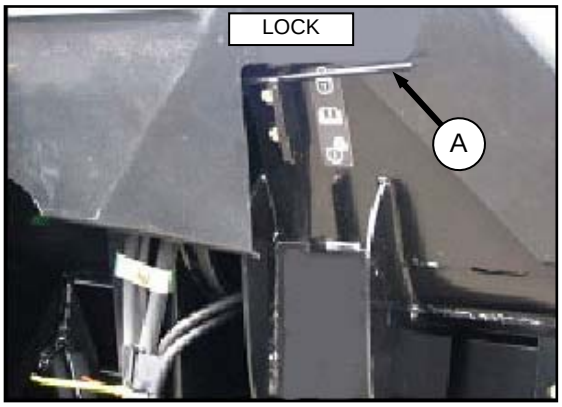
1. **Turn bolt (B) clockwise (tighten)** and white indicator bar (A) will move inboard in direction of arrow to indicate that draper is tightening.
2. **Turn bolt (B) counterclockwise (loosen)** and white indicator bar (A) will move outboard in direction of arrow to indicate that draper is loosening.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

I. HEADER MAIN FLOAT

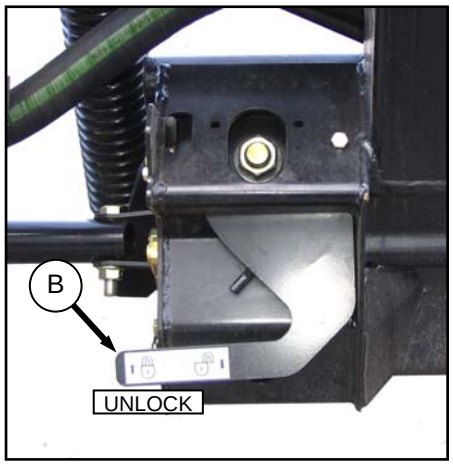
Checking and Adjusting Float

CAUTION

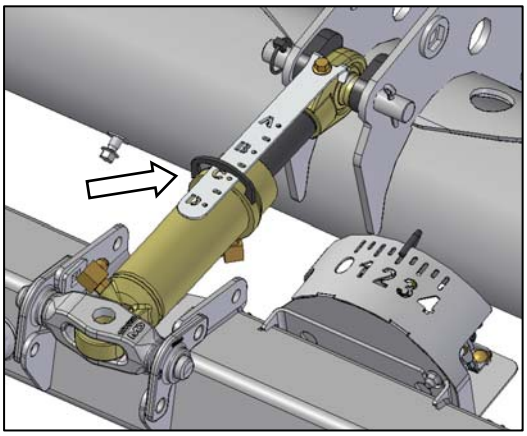
Stop engine, and remove key from ignition before leaving operator's seat for any reason. A child or even a pet could engage an idling machine.



a. If adjusting FD75 FlexDraper® header main float, ensure both **wing** float locks (A) are engaged. Spring handle is in LOCK position.

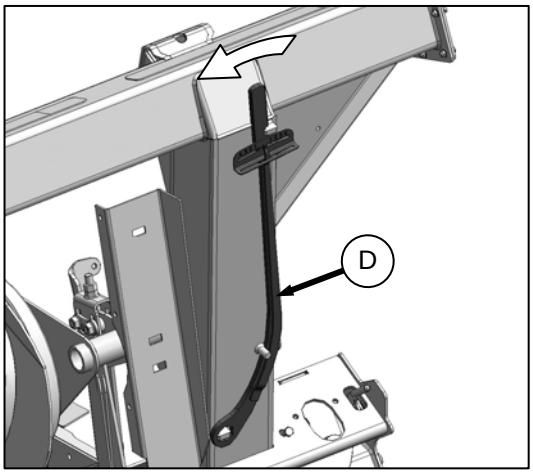


b. Ensure both **header** float lock levers (B) are down (UNLOCK).



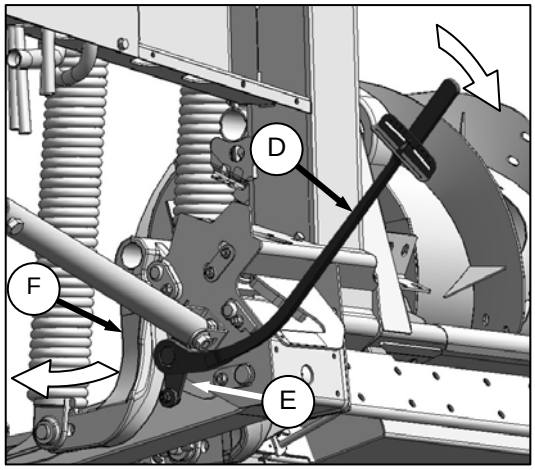
c. Set center-link to mid-range (near "C" on cylinder indicator). Cutterbar should be 8–12 inches (200–300 mm) off the ground.

d. If header is equipped with stabilizer wheels or slow speed transport wheels, raise them off the ground so they are supported by the header.

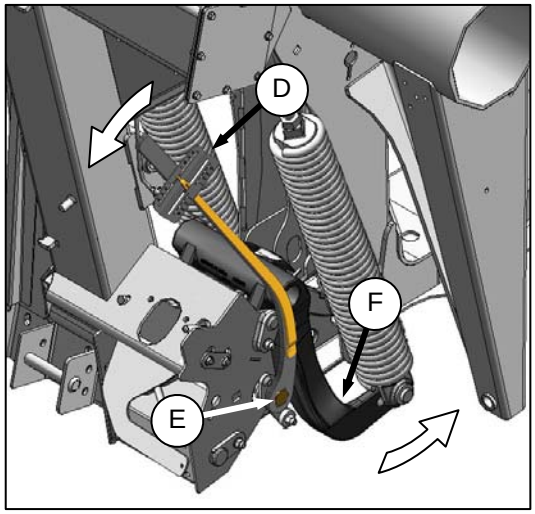


e. Remove special torque wrench (D) from storage position at RH side of adapter frame. Pull slightly in direction shown to disengage wrench from hook.

(continued next page)



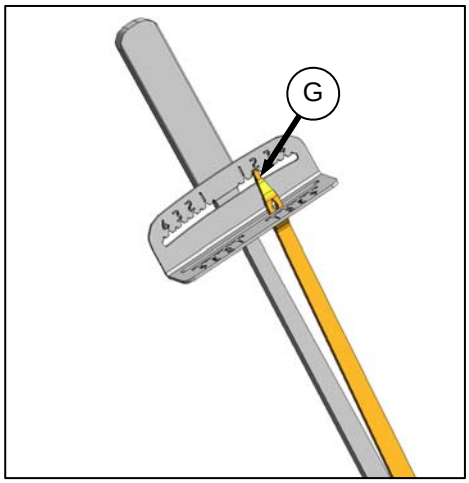
LEFT SIDE



RIGHT SIDE

f. Place torque wrench (D) onto float setting indicator (E). Note position of wrench for checking RH or LH side.

g. Push down on wrench to rotate bell crank (F) forward.

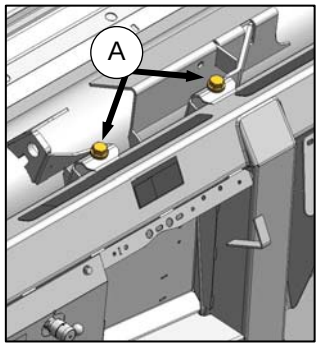


h. Continue pushing down on the wrench until indicator (G) has reached a maximum reading, and started to drop off. Note the maximum reading. Repeat for opposite side.

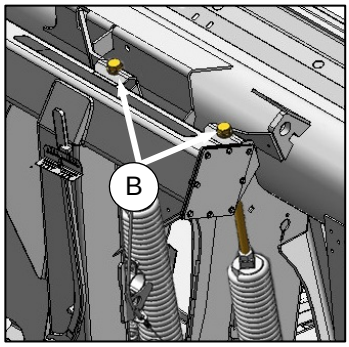
Use the table below as a guide for float settings:

Header width	Torque settings	
	Cutting on the ground	Cutting off the ground
30 and 35 FT	2	2-1/2
40 and 45 FT	2-1/2	3

i. If reading on wrench is **high**, float is **heavy**. If reading on wrench is **low**, float is **light**.



LEFT SIDE FLOAT



RIGHT SIDE FLOAT

1. To **increase** float (lighten the header), **tighten** bolts (A) and (B) at both sides of adapter.
2. To **decrease** float (increase header weight), **loosen** the bolts (A) and (B).

IMPORTANT

- For single knife headers, adjust the float so the wrench reading is equal for both sides.
- For 40 and 45 FT double knife headers, adjust the float so that wrench reading is equal for both sides, and then loosen **both** right hand springs **two turns**.

IMPORTANT

Turn each bolt pair equal amounts. After adjustment has been made, repeat torque wrench reading procedure.

(continued next page)

IMPORTANT

Proper float adjustment in accordance with the above is critical to maintain proper wing balance when cutting on the ground.

IMPORTANT

To avoid frequent breakage of knife components, scooping soil, or soil build-up at cutterbar in wet conditions, header float should be set as light as possible without causing excessive bouncing.

IMPORTANT

When float setting is light, it may be necessary to use a slower ground speed to avoid excessive bouncing and leaving a ragged cut.

IMPORTANT

The stabilizer wheels may be used in conjunction with main float to minimize bouncing at the header ends and control cut height when cutting off the ground. Refer to the operator's manual for details.

NOTE

If adequate header float cannot be achieved using all of the available adjustments, an optional heavy duty spring is available. See your MacDon Dealer or parts catalog for ordering information.

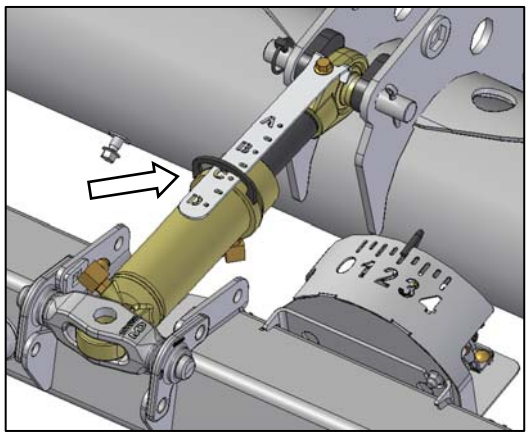
J. WING BALANCE

If a wing has a tendency to be too light or too heavy, wing balance may require adjusting.

Check and balance header wings as follows:

WARNING

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

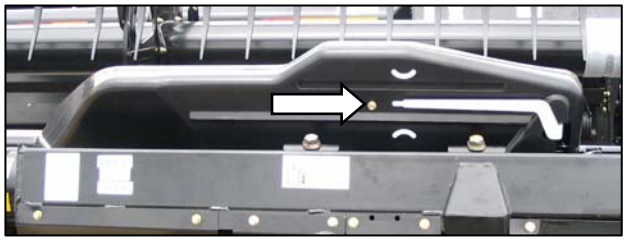


a. Adjust header tilt cylinder so that indicator is between B and C.

b. Raise header until the cutterbar is 6–10 in. (152–254 mm) off the ground.

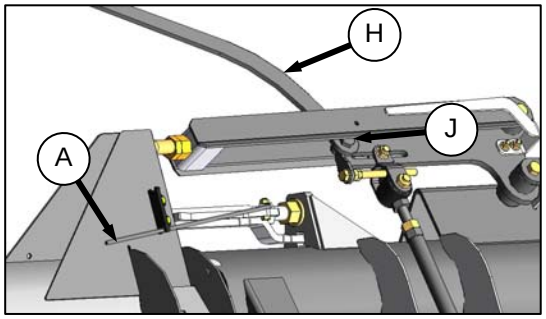
c. Stop engine, and remove key.

d. Move transport/stabilizer wheels so that they are supported by header. Refer to instructions provided with the transport/stabilizer system.



e. Remove linkage cover on the side that needs adjustment: Remove screw, and rotate cover upward until inboard end can be lifted off.

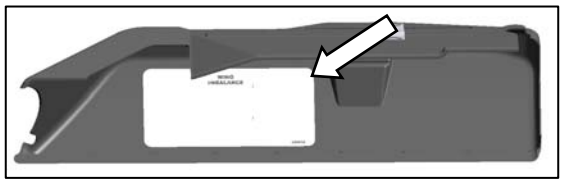
(continued next page)



f. Move spring handle (A) to lower position (C) to UNLOCK the wing float.

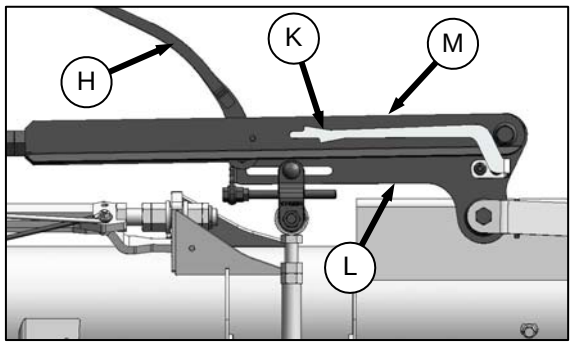
g. Place torque wrench (H) (from adapter frame) on bolt (J).

NOTE

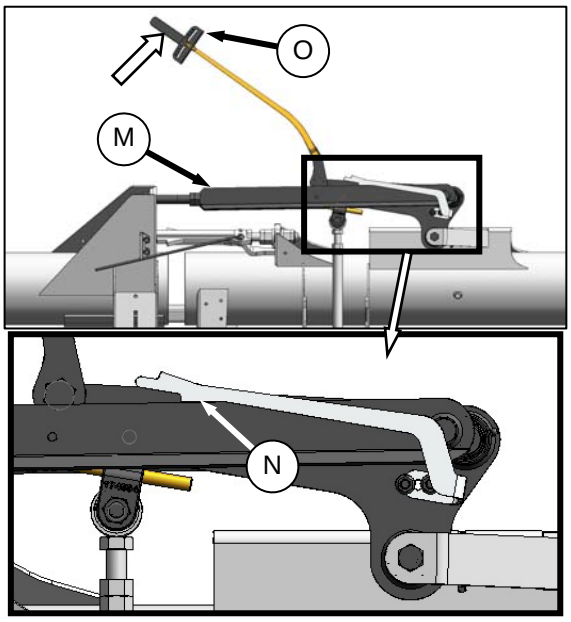


See decal inside each linkage cover.

h. Check that pointer (K) is properly positioned as follows:

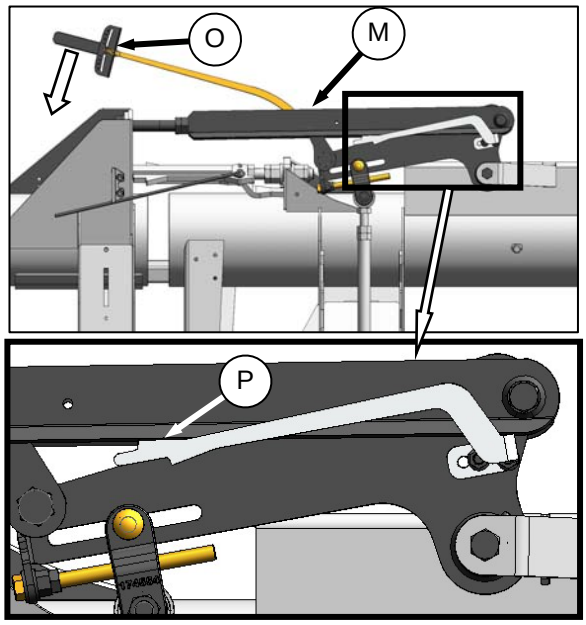


i. Use wrench (H) to move bell crank (L) so that lower edge of bell crank is parallel to top link (M). Check that pointer (K) is lined up with the top link (M). Bend pointer if necessary.



WING UP

j. Use wrench to move wing upward so that pointer lower alignment tab (N) lines up with upper edge of top link (M). Note indicator reading (O) on wrench.



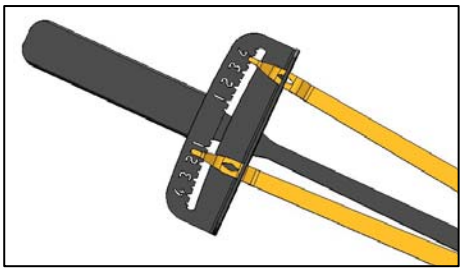
WING DOWN

k. Likewise, move wing downward so that pointer upper alignment tab (P) lines up with lower edge of top link (M). Note indicator reading (O) on wrench.

l. If readings are within one increment, the wing is balanced.

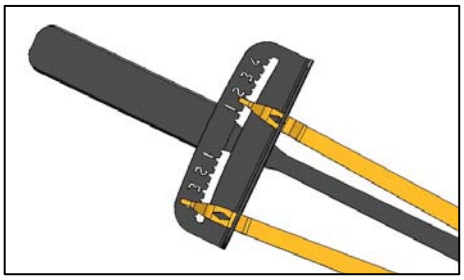
(continued next page)

m. If readings are outside the one increment range, the wing is either too light or too heavy.



TOO LIGHT

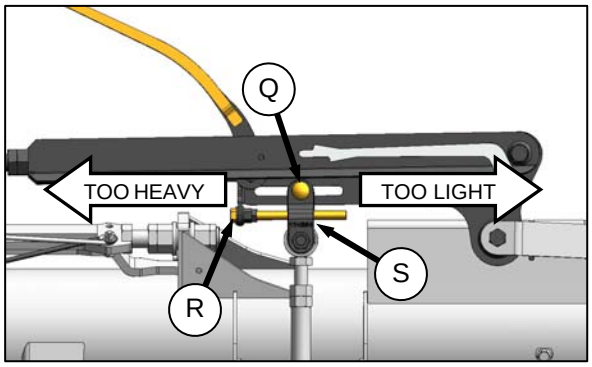
1. If the indicator range is as shown above, the wing is too light.



TOO HEAVY

2. If the indicator range is as shown above, the wing is too heavy.

n. Adjust the wing balance if required, as follows:



1. Loosen clevis nut (Q).

IMPORTANT

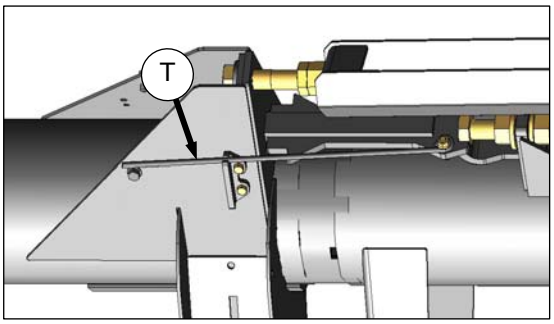
Do **not** loosen nuts on adjuster bolt (R).

2. If the wing is too heavy, turn adjuster bolt (R) to move clevis (S) outboard.
3. If the wing is too light, turn adjuster bolt (R) to move clevis (S) inboard.

o. Repeat steps i. to k. to check adjustments.

p. Adjust clevis position if necessary until indicator readings are within one increment.

q. Tighten clevis nut (Q).



r. Move spring handle (T) to upper position to LOCK the wing float.

s. Replace linkage cover and wrench.

J. SKID SHOE SETTINGS

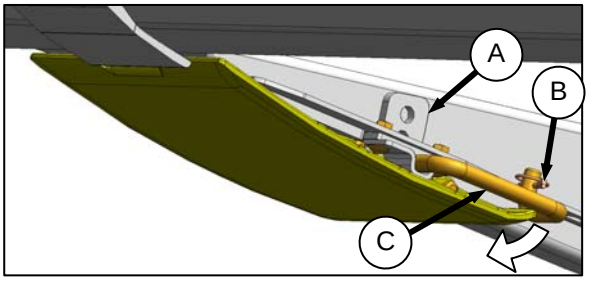
If optional skid shoes are installed, check and adjust if necessary as follows:

WARNING

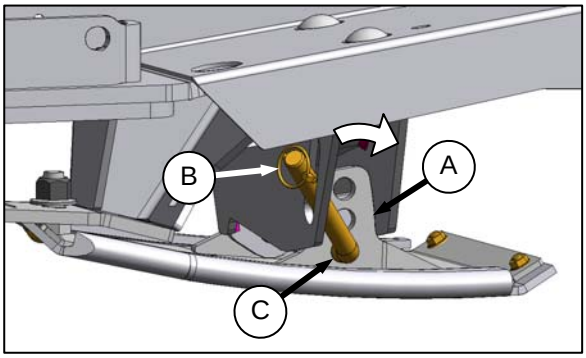
Stop combine engine, and remove key before making adjustments to machine. A child or even a pet could engage the drive.

CAUTION

Engage header lift cylinder stops before working under header.



INNER SKID SHOE



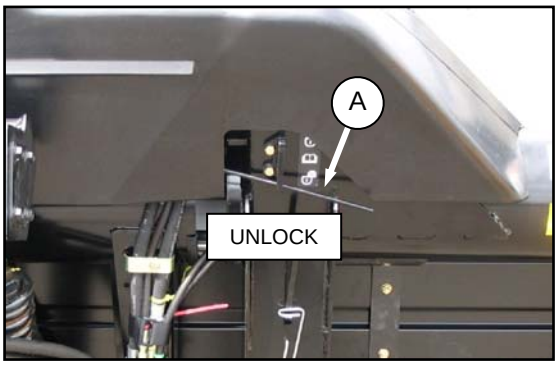
OUTER SKID SHOE

a. Note the hole positions on the adjuster legs (A) on each skid shoe. They should be the same.

b. If necessary, adjust as follows:

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

K. REEL TINE TO CUTTERBAR CLEARANCE



a. Place spring handle (A) in lower slot to unlock the wings.

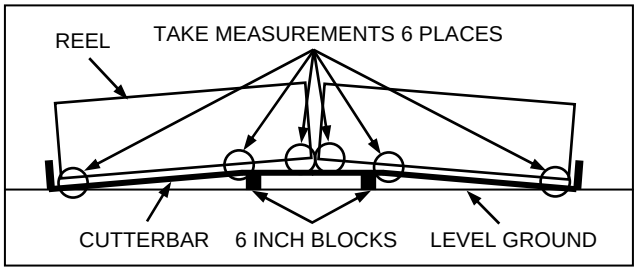
CAUTION

Engage header lift cylinder stops before working under header.

WARNING

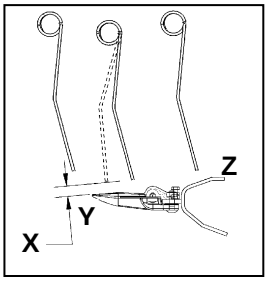
Stop combine engine, and remove key before making adjustments to machine. A child or even a pet could engage the drive.

b. Raise header, shut down combine, and engage header lift cylinder stops.



c. Place two 6 inch (150 mm) blocks just inboard of wing flex points.

d. Disengage header lift cylinder locks, start combine, and lower header fully, allowing it to flex into 'full frown' mode.



e. Measure clearance **'X'** at ends of each reel.

NOTE

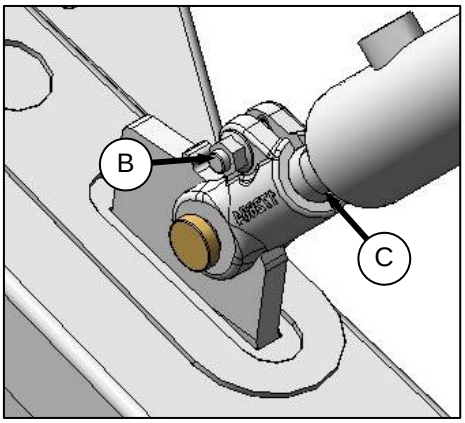
The reel has been adjusted at the factory to provide more clearance at the center of the reel than at the ends (frown) to compensate for reel flexing.

f. Measure the clearance **'X'** at both flex locations.

g. Check all possible points of contact between points **'Y'** and **'Z'**. Depending on reel fore-aft position, minimum clearance can occur at guard tine, hold-down or cutterbar.

The finger to guard/cutterbar clearance with reels fully lowered is 0.78 +/- 0.12 in. (20 +/- 3 mm) measured **at both ends of each reel, and at the cutterbar flex locations** with the reel in 'full frown' mode.

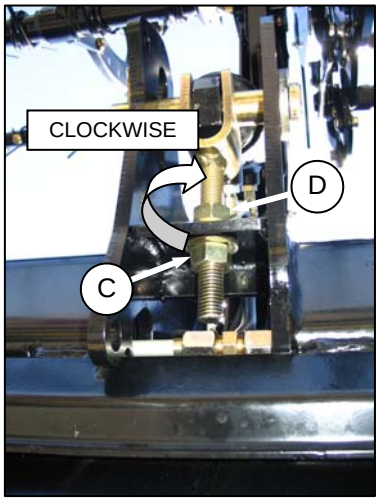
h. If necessary, adjust outside arms as follows:



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

(continued next page)

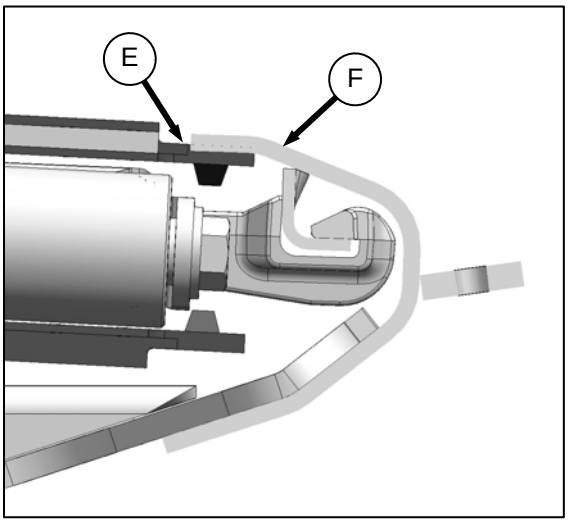
i. If necessary, adjust center arm as follows:



LOOKING UP
AT ARM UNDERSIDE

1. Loosen nut (C).
2. Turn nut (D) clockwise to raise reel and increase clearance to cutterbar, or counterclockwise to decrease.
3. Tighten bolt (C).

L. DRAPER SEAL

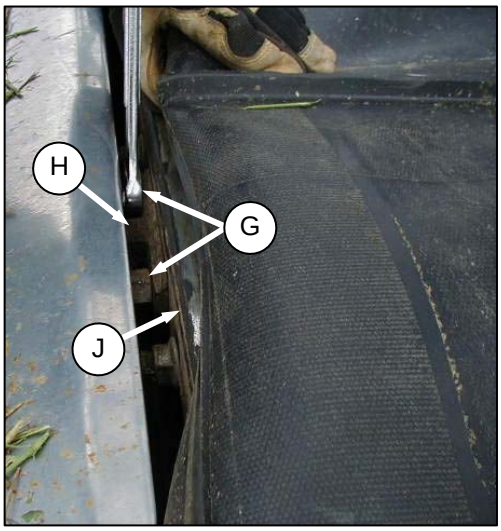


a. Check deck height so that draper (E) runs just below cutterbar (F) with maximum 1/32 in. (1 mm) gap, or with draper deflected down slightly (up to 1/16 in. (1.5 mm)) to create a seal.

NOTE

Measurement is at supports with header in working position, and decks slid fully ahead.

b. Loosen tension on drapers. Refer to sub-step *H. DRAPER TENSION.*



c. Lift draper up at front edge past cutterbar.

d. Loosen two lock nuts (G) one-half-turn only on deck support (H). There are two to four supports per deck, depending on header size.

e. Tap deck (J) to lower deck relative to supports to achieve the setting recommended above. Tap support (H) using a punch to raise deck relative to support.

f. Tighten deck support hardware (G).

g. Tension drapers. Refer to sub-step *H. DRAPER TENSION.*

M. LUBRICATE HEADER

Refer to master grease decals (shown opposite) provided on the header and adapter back frames, and use the illustrations on the following pages to identify the various locations requiring lubrication.

a. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.

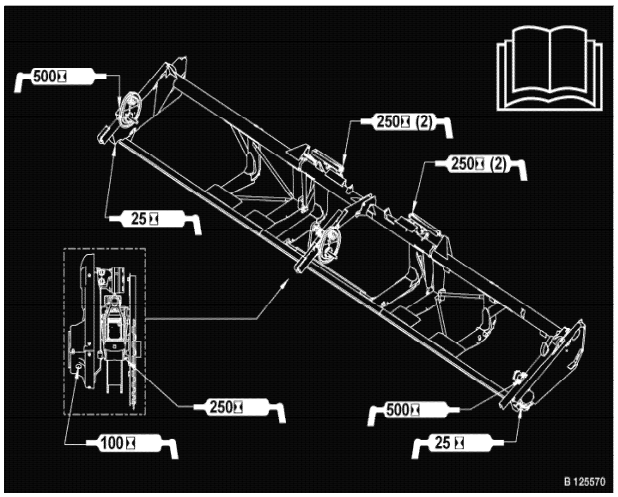
b. Inject grease through fitting with grease gun until grease overflows fitting, except where noted.

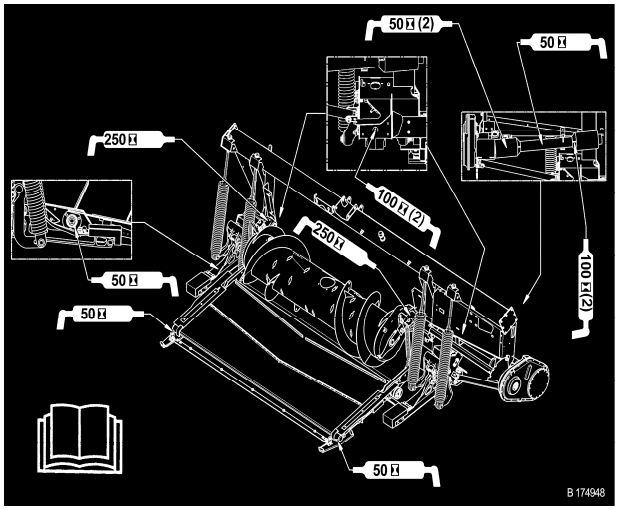
c. Leave excess grease on fitting to keep out dirt.

d. Replace any loose or broken fittings immediately.

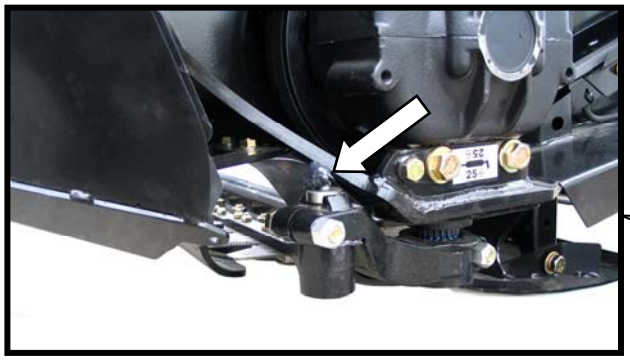
e. If fitting will **NOT** take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.

f. Use clean grease as specified (except where noted:





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

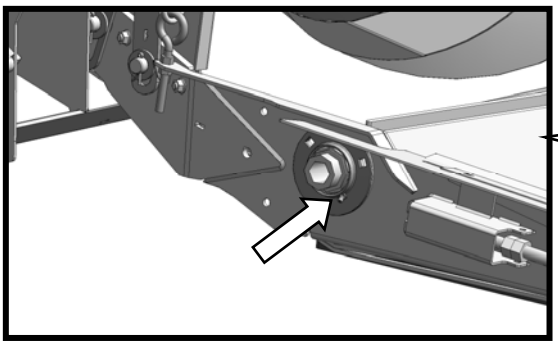


KNIFE HEAD
(SINGLE KNIFE - 1 PLC)
(DOUBLE KNIFE - 2 PLCS)

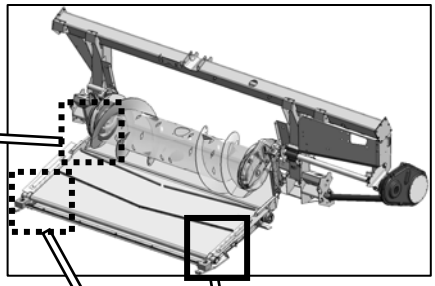
To prevent binding and/or excessive wear caused by knife pressing on guards, do **NOT** over grease. If more than 6 to 8 pumps of the grease gun are required to fill the cavity, replace the seal in the knifehead.

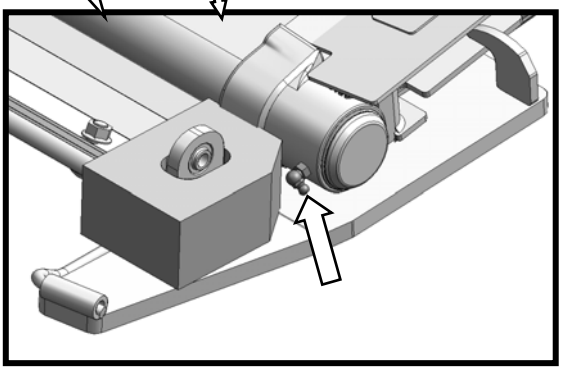
Check for signs of excessive heating on first few guards after greasing. If required, relieve pressure by depressing check-ball in grease fitting.

Lubrication Points (cont'd)



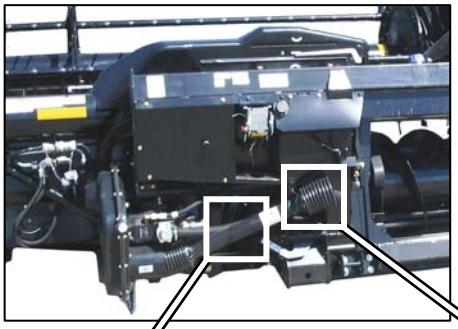
DRIVE ROLLER BEARING



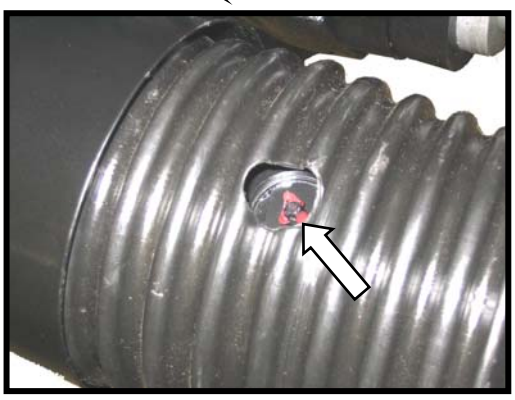


IDLER ROLLER
BOTH SIDES

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

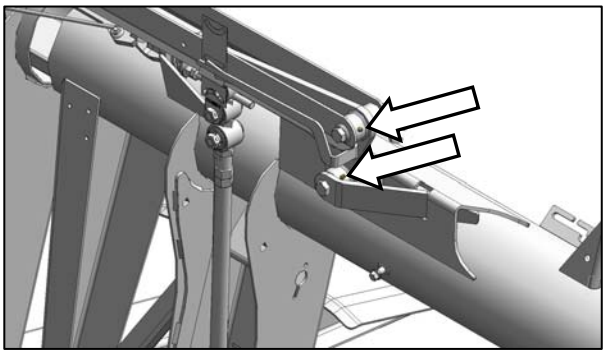


DRIVELINE SLIP JOINT

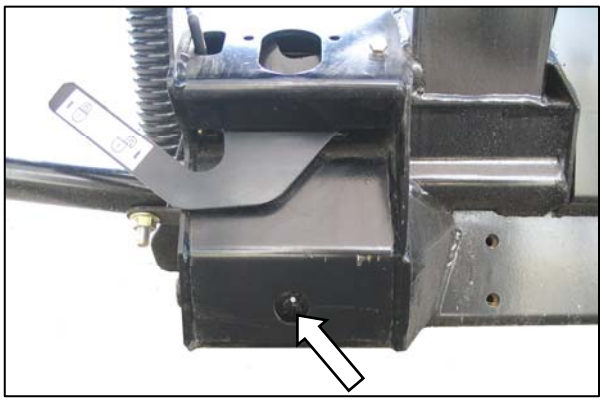


DRIVE UNIVERSAL - 2 PLACES

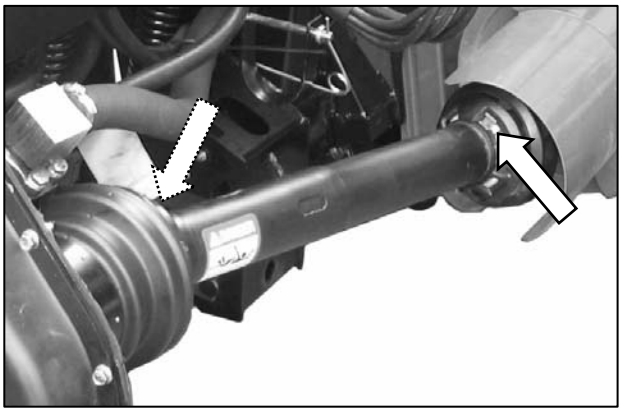
Lubrication Points (cont'd)



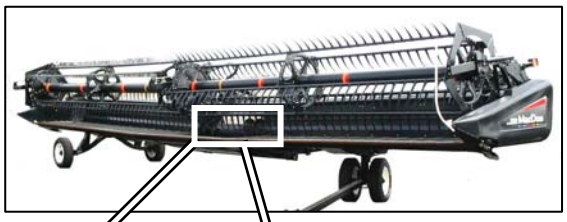
FLEX LINKAGE (2 PLACES) - BOTH SIDES

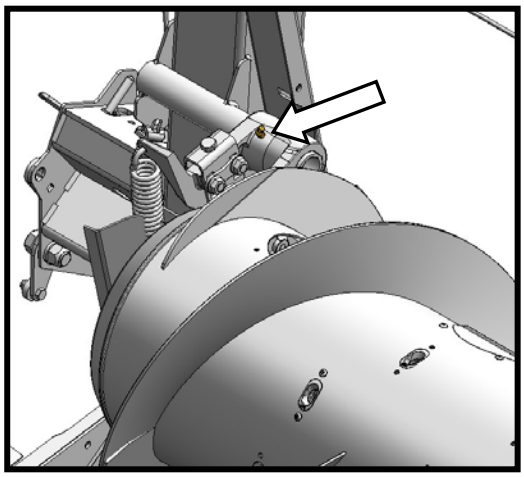


FLOAT PIVOT - 2 PLACES

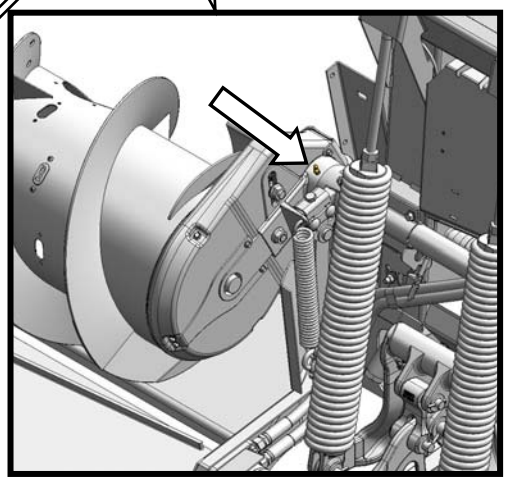


DRIVELINE GUARD - 2 PLACES





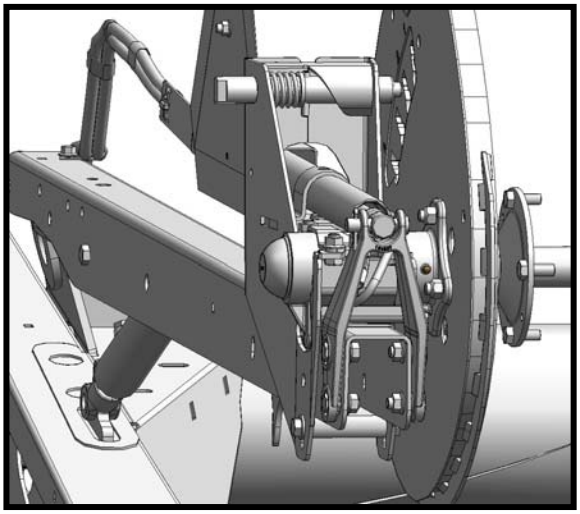
AUGER PIVOT



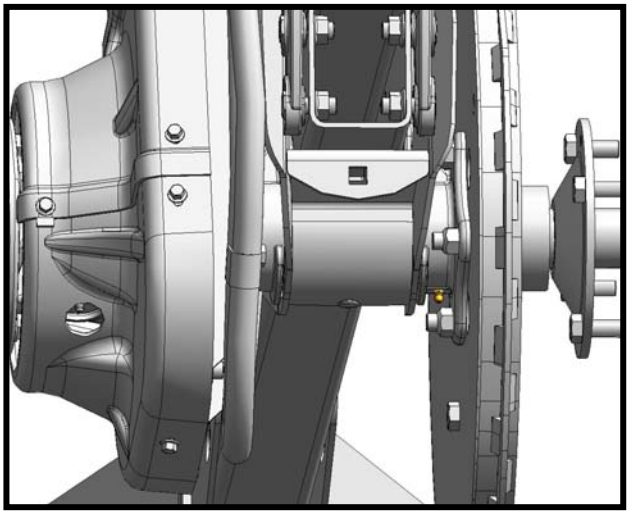
AUGER PIVOT

(continued next page)

Lubrication Points (cont'd)

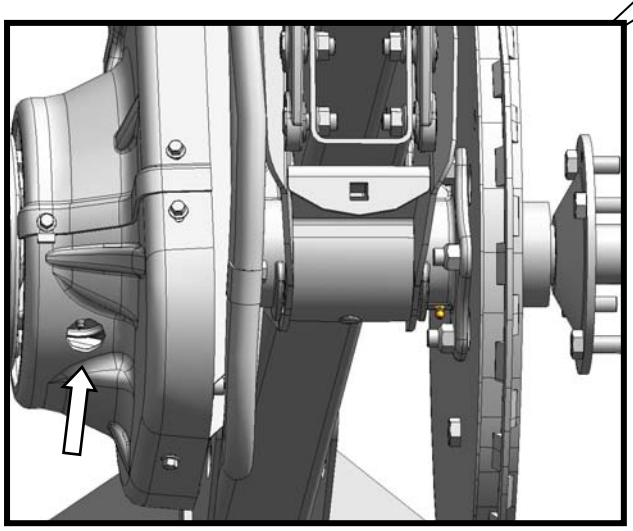


REEL SHAFT RH BEARING (1 PLACE)

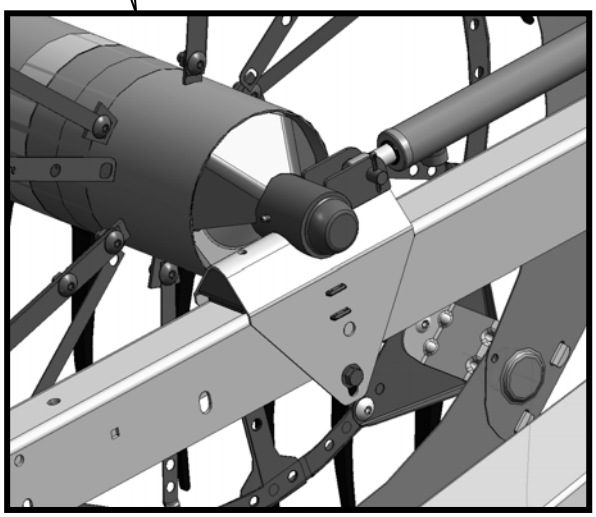


REEL CENTER BEARING (1 PLACE)

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



REEL UNIVERSAL (1 PLACE)



REEL SHAFT LH BEARING (1 PLACE)

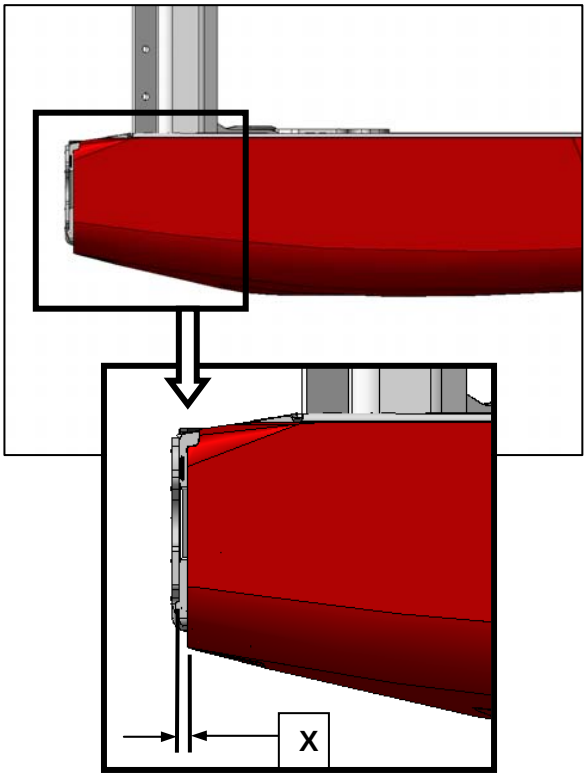
U-JOINT HAS AN EXTENDED LUBRICATION CROSS AND BEARING KIT. STOP GREASING WHEN GREASING BECOMES DIFFICULT OR IF U-JOINT STOPS TAKING GREASE. **OVERGREASING WILL DAMAGE U-JOINT**. 6–8 PUMPS IS SUFFICIENT AT FIRST GREASE (FACTORY). DECREASE GREASE INTERVAL AS U-JOINT WEARS AND REQUIRES MORE THAN 6 PUMPS.

(continued next page)

N. ENDSHIELDS

NOTE

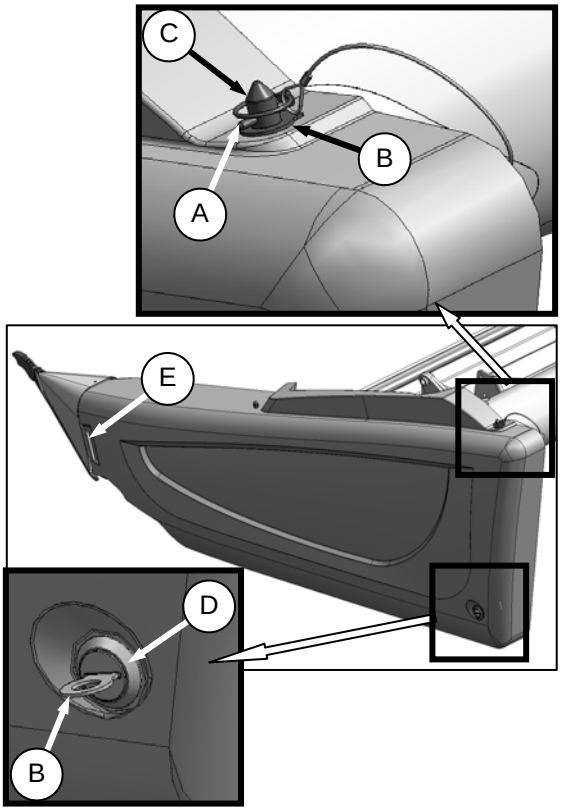
Plastic endshields are subject to expansion or contraction depending on large temperature variations. Position of top pin and lower catch can be adjusted to compensate for dimensional changes.



a. Check gap **'X'** between front end of shields and header frame, and compare against values in chart below.

Temperature Degrees ˚F (˚C)	Gap 'X' Inches (mm)
25 (-4)	1-1/10 (28)
45 (7)	1 (24)
65 (18)	64/81 (20)
85 (29)	16/25 (16)
105 (41)	1/2 (12)
125 (52)	8/25 (8)
145 (63)	4/25 (4)
165 (89)	0

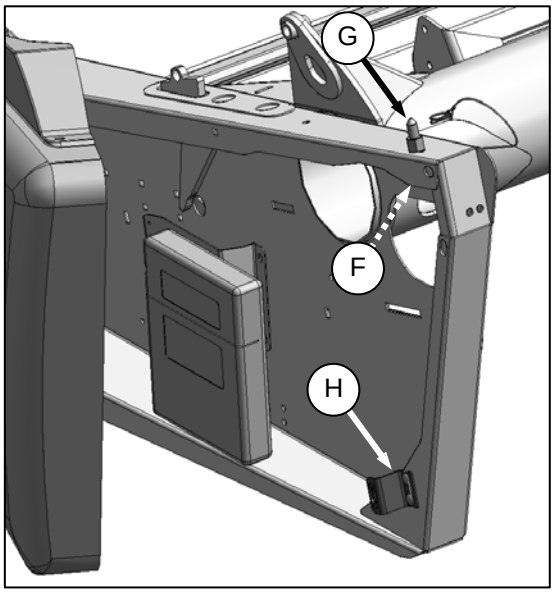
b. If necessary, open endshield, and adjust the gap as follows:
   1. Open endshield.



   2. Remove lynch pin (A), and tool (B) from pin (C) at top rear of endshield.
   3. Use tool (B) to unlock latch (D) at lower rear corner of endshield.
   4. Lift shield at aft end to clear pin (C).
   5. Swing shield out and away from header while maintaining forward pressure to prevent shield from slipping out of tab (E) at front of endsheet.

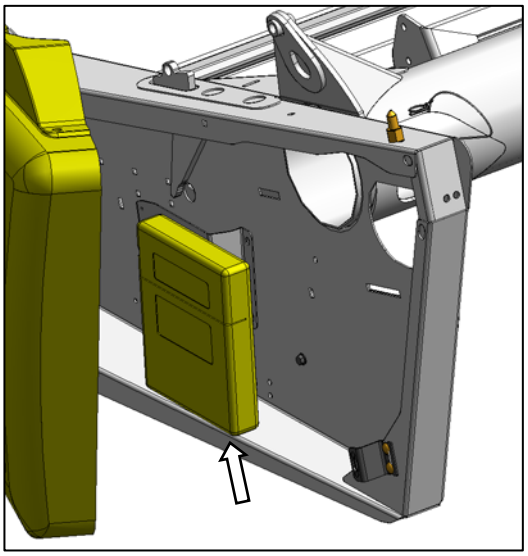
(continued next page)

6. Adjust gap:



   i. From inside endsheet, loosen nut (F) on pin (G).
   ii. Close endshield and adjust position to achieve the gap **'X'** between the front end of shield and header frame in accordance with chart on previous page.
7. Open endshield, and tighten nut (F).
8. Check for a snug fit between top of shield and header frame, and full engagement of endshield on pin (G). If necessary, loosen bolts on catch (H) and adjust catch as required to reposition shield.
9. Tighten bolts on catch (H).
10. Close endshield.

O. OPERATOR'S MANUAL AND PARTS CATALOGS



Check case contents. The manual case is located inside the LH endshield.

a. Open the left endshield, and remove plastic tie on manual case.

b. Check that case contains the following manuals:

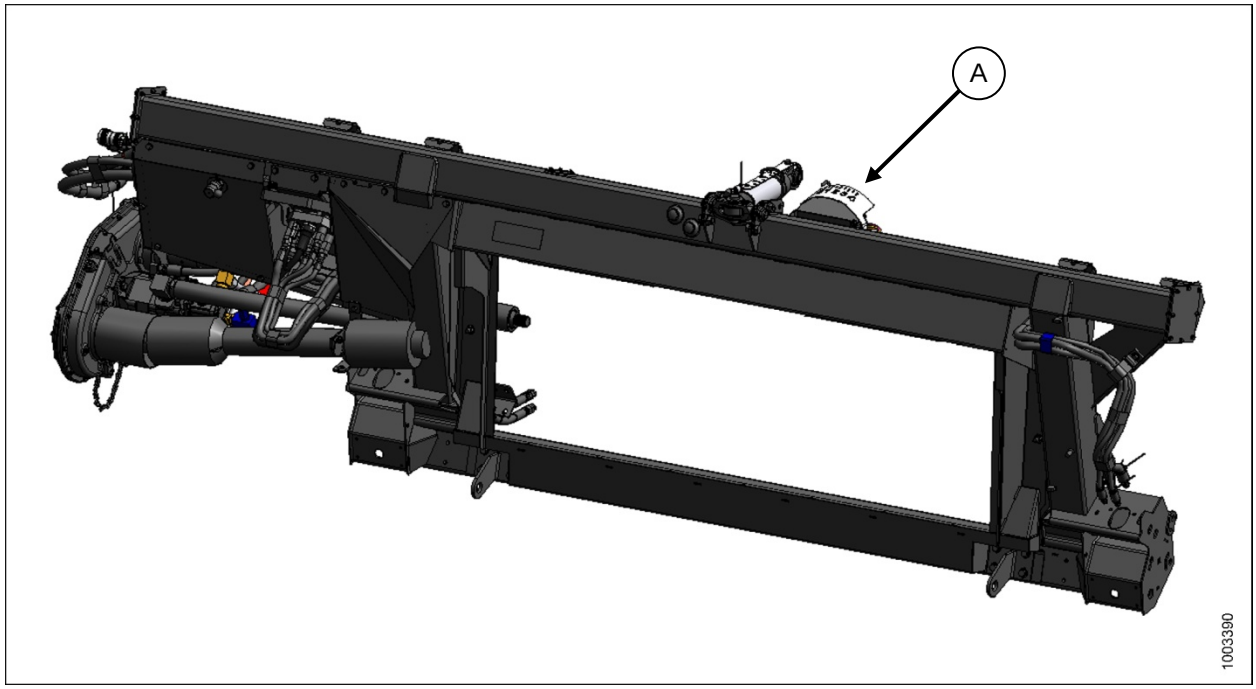
- FD75 FlexDraper® Operator's Manual - MD #169595.
- FD75 FlexDraper® Parts Catalog - MD #169597.
- CA25 Combine Adapter Parts Catalog - MD #169598.
- FD75 FlexDraper® Quick Card - MD #169601.

STEP 14 AHHC CALIBRATION

Contents

Introduction

MacDon's Auto Header Height feature works in conjunction with the Auto Header Height Control option available on certain combine models. A sensor is installed in the float indicator box (A) on the CA25 Combine Adapter. This sensor sends a signal to the combine to allow it to maintain a consistent cutting height and optimum adapter float as the header follows ground contours.



CA25 COMBINE ADAPTER

CA25 Combine Adapters are factory-equipped for Auto Header Height. However, before using the Auto Header Height feature, you must

1. Ensure that the Auto Header Height sensor's output voltage range is appropriate for the combine.
2. Calibrate the Auto Header Height system so that the combine can correctly interpret data from the Auto Header Height sensor on the combine adapter.
3. Prepare the combine to use the Auto Header Height feature.
4. Once calibration is complete, you are ready to use the Auto Header Height feature in the field. For each combine, certain operation settings can be used to improve the performance of the Auto Header Height feature.

NOTE: If your CA25 Combine Adapter is not equipped to work with a specific combine model, you will need to install the appropriate combine completion package. That completion package will come with instructions for installing the Auto Header Height sensor on the combine adapter.

Setting the Sensor's Output Voltage Range

The Auto Header Height sensor output must be within a specific voltage range for each combine or the Auto Header Height feature will not work properly.

Table 1: Sensor Voltage Ranges

Combine	Low Voltage Limit	High Voltage Limit	Range (difference between high and low limits)
Case 5/6/7088, 5/6/7130, 7010, 7/8/9120, 7/8/9230, 8010/20/30	0.5 V	4.5 V	2.0 V
Case IH 2300/2500 Series	2.8 V	7.2 V	4.0 V
Challenger, Gleaner A Series, and Massey Ferguson	0.5 V	4.5 V	3.0 V
Gleaner R and S Series	1.0 V	4.0 V	2.0 V
John Deere 50/60/70/S Series	0.5 V	4.5 V	3.0 V
Lexion 500/600/700 Series	0.5 V	4.5 V	2.5 V
New Holland CR/CX – 5 V system	0.7 V	4.3 V	2.5 V
New Holland CR/CX – 10 V system	2.8 V	7.2 V	4.1–4.4 V

For some combine models, you can check the sensor's output voltage range from the combine cab. For others, you must do it manually.

Manually Checking Voltage Range

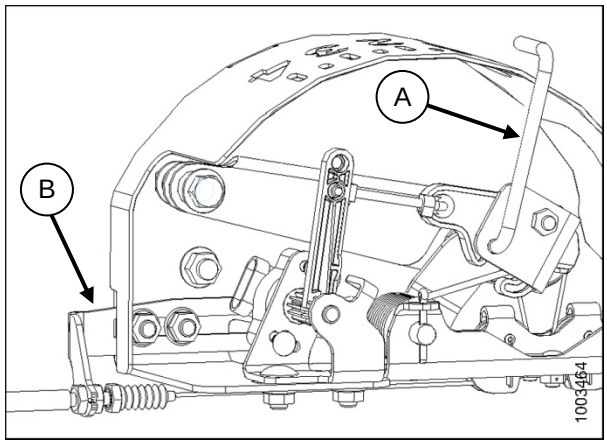
To manually check the sensor's output voltage range, follow these steps:

a. Position the header 6 inches (150 mm) above the ground, and rest it on the down stops. Unlock the adapter float.

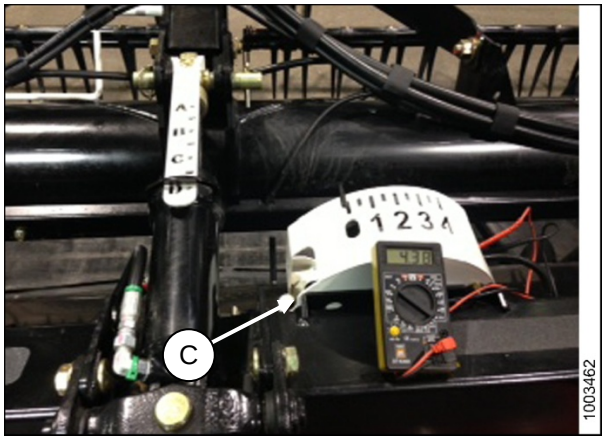
NOTE: If the header is not on down stops during the next two steps, the voltage may go out of range during operation, causing a malfunction of the Auto Header Height system.

b. The pointer (A) on the float indicator box should point at 0. If it does not point at zero, adjust the cable take-up bracket (B) until it does.

c. Using a voltmeter (C), measure the voltage between the ground and signal wires at the Auto Header Height sensor in the float indicator box. It should be at or below the high voltage limit for the combine, as listed in Table 1 on page 72.



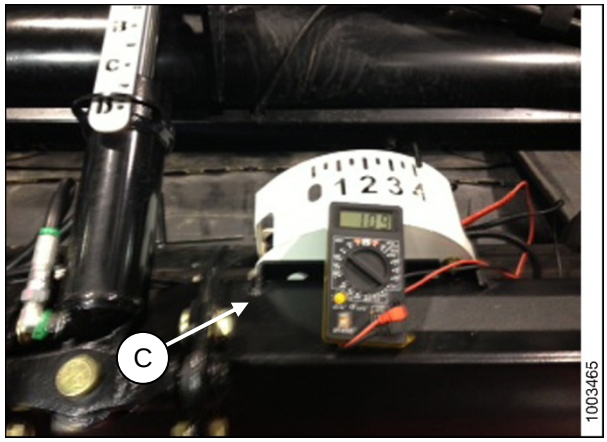
FLOAT INDICATOR BOX WITH NON-LEXION AUTO HEADER HEIGHT SENSOR



d. Fully lower the combine feeder house and float the header up off the down stops (float indicator should be on 4 and the adapter should be fully separated from the header).

e. Using a voltmeter (C), measure the voltage between the ground and signal wires at the Auto Header Height sensor in the float indicator box. It should be at or above the low voltage limit for the combine, as listed in Table 1 on page 72.

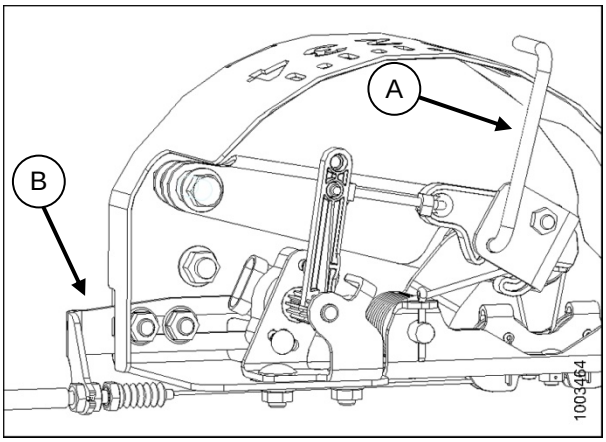
f. If the sensor voltage is not within the low and high limits shown in Table 1 on page 72, or if the range between the low and high limits is insufficient, you need to make adjustments. See *Adjusting Voltage Limits* on page 89 for instructions.



Checking Voltage Range from the Combine Cab (AGCO 6 and S Series)

Before checking the voltage range, follow these steps:

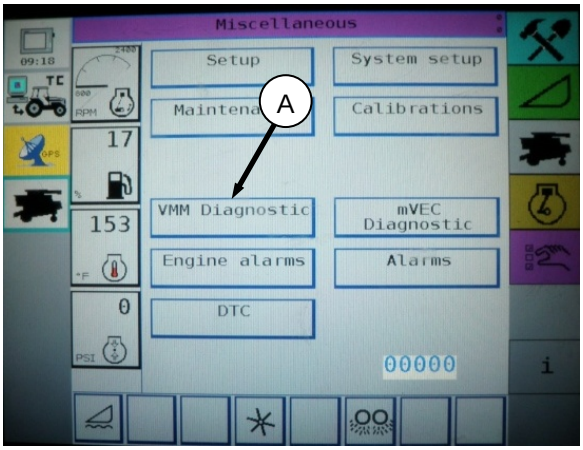
1. Position the header 6 inches (150 mm) above the ground, and rest it on the down stops. Unlock the adapter float.
2. The pointer (A) on the float indicator box should point at 0. If it does not point at zero, adjust the cable take-up bracket (B) until it does.



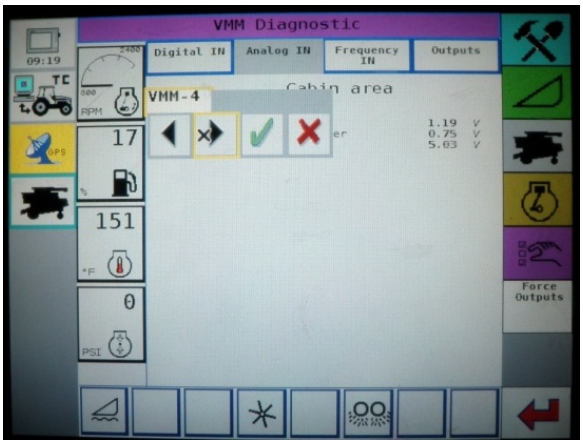
FLOAT INDICATOR BOX WITH
AUTO HEADER HEIGHT SENSOR

To check the sensor's output voltage range from the combine cab, follow these steps:

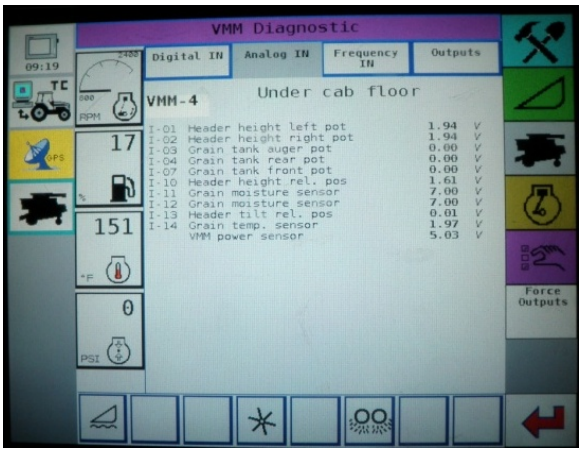
1. On the combine monitor, go to the Field page, and then press the diagnostics icon. The Miscellaneous page displays.
2. Press the VMM Diagnostic button (A). The VMM Diagnostic page displays.



3. Go to the Analog In tab, and then select VMM Module 4 by pressing the text box below the four tabs. The voltage from the Auto Header Height sensor is now displayed in the header height right pot and header height left pot. Both readings should be identical.



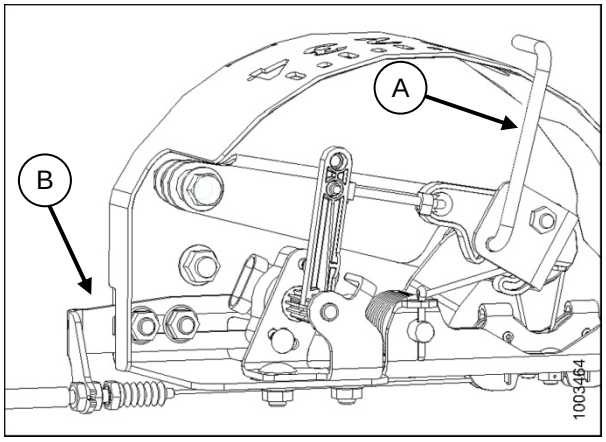
4. Unlock header float. Lower feeder house until it stops moving.
5. Read voltage.
6. Raise header so cutterbar is 6 inches (150 mm) off the ground.
7. Read voltage.
8. If the sensor voltage is not within the low and high limits shown in Table 1 on page 72, or if the range between the low and high limits is insufficient, you need to make adjustments. See *Adjusting Voltage Limits* on page 89 for instructions.



Checking Voltage Range from the Combine Cab (Case 7010 & 8010))

Before checking the voltage range, follow these steps:

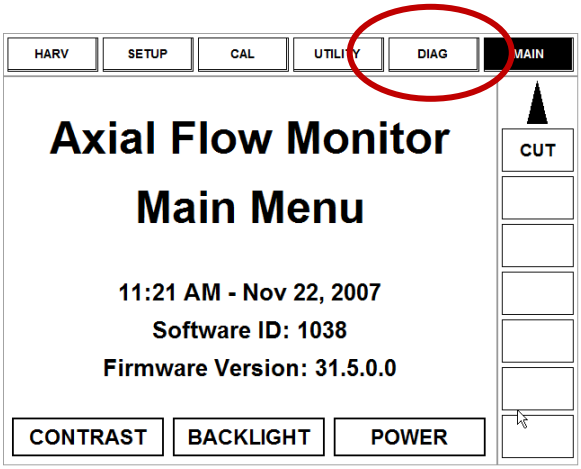
1. Position the header 6 inches (150 mm) above the ground, and rest it on the down stops. Unlock the adapter float.
2. The pointer (A) on the float indicator box should point at 0. If it does not point at zero, adjust the cable take-up bracket (B) until it does.



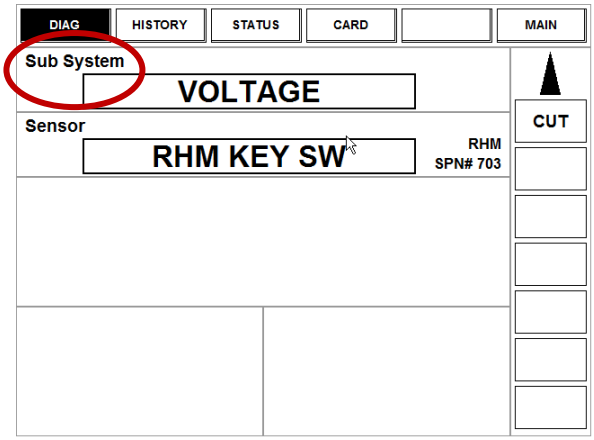
FLOAT INDICATOR BOX WITH
AUTO HEADER HEIGHT SENSOR

To check the sensor's output voltage range from the combine cab, follow these steps:

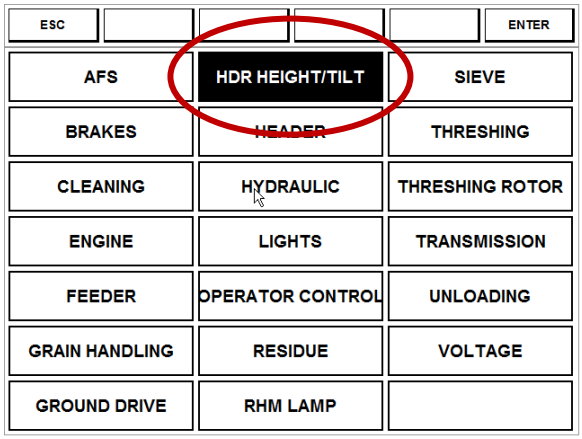
1. On the Universal display, MAIN screen, select *DIAG*. The DIAG screen displays.



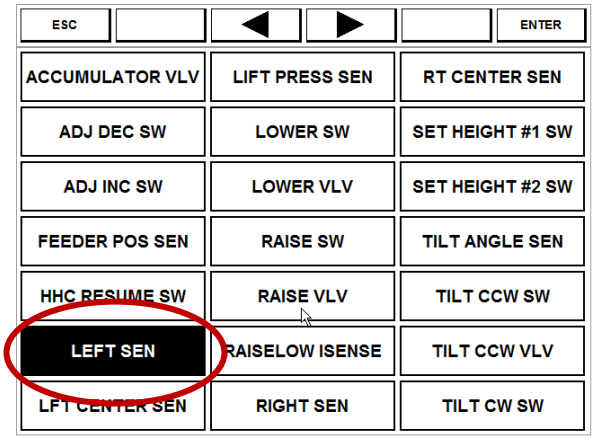
2. Select *Sub* System. The Sub System window opens.



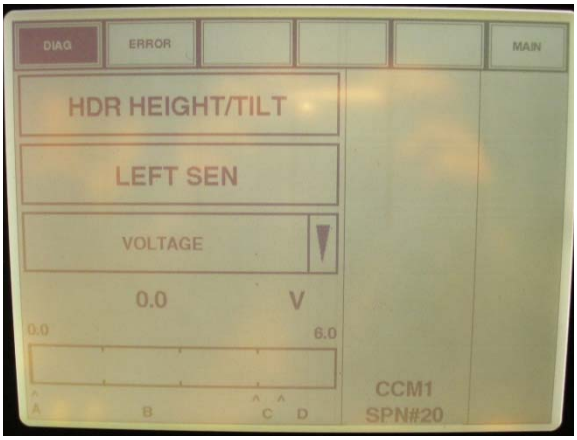
3. Select *HDR HEIGHT/TILT*. The Sensor window opens.



4. Select *LEFT SEN.* The exact voltage is displayed.
5. Unlock header float. Lower feeder house until it stops moving.
6. Raise and lower the header to see the full range of voltage readings.



7. If the sensor voltage is not within the low and high limits shown in Table 1 on page 72, or if the range between the low and high limits is insufficient, you need to make adjustments. See *Adjusting Voltage Limits* on page 89 for instructions.

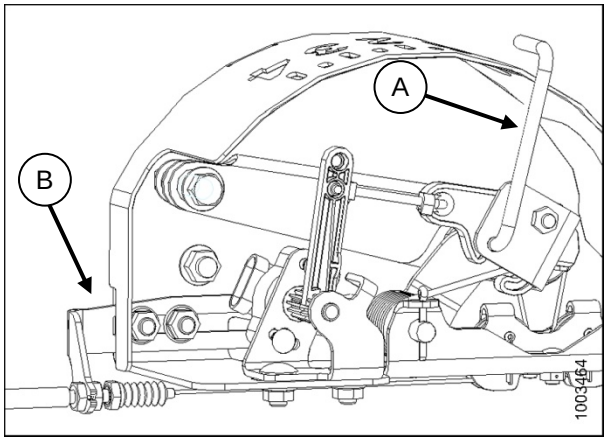


Checking Voltage Range from the Combine Cab (Case IH 7/8010, 7/8/9120, and 7/8/9230)

Before checking the voltage range, follow these steps:

1. Position the header 6 inches (150 mm) above the ground, and rest it on the down stops. Unlock the adapter float.

2. The pointer (A) on the float indicator box should point at 0. If it does not point at zero, adjust the cable take-up bracket (B) until it does.

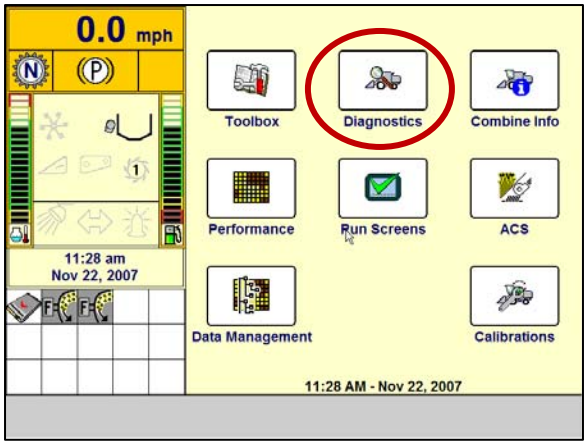


FLOAT INDICATOR BOX WITH
AUTO HEADER HEIGHT SENSOR

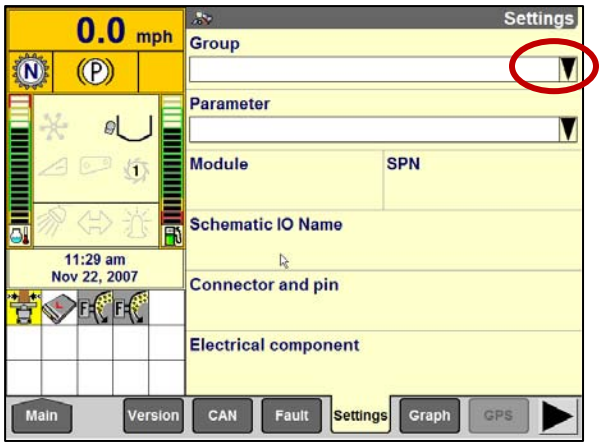
To check the sensor's output voltage range from the combine cab, follow these steps:

1. On the Main screen, select *Diagnostics*. The Diagnostics screen displays.

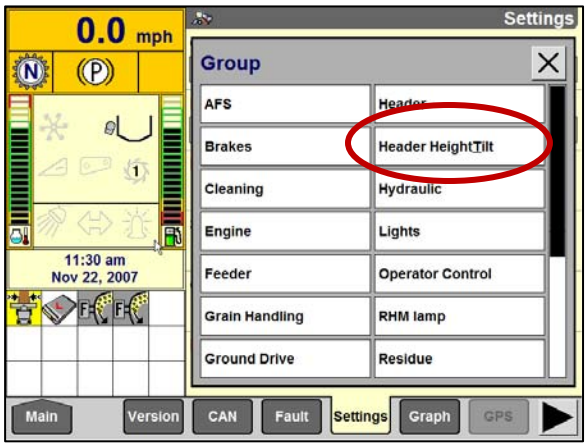
2. Select *Settings*. The Settings screen displays.



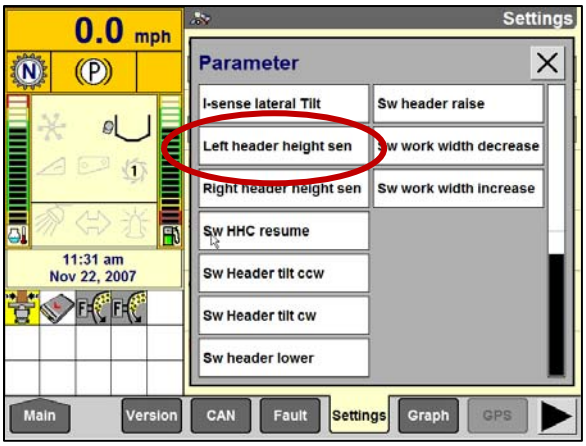
3. Select the *Group arrow*. The Group window opens.



4. Select *Header Height/Tilt.* The Parameter window opens.



5. Select *Left header height sen,* and then select the *Graph* button at the bottom of the screen. The exact voltage is displayed at top of screen.



6. Unlock header float.

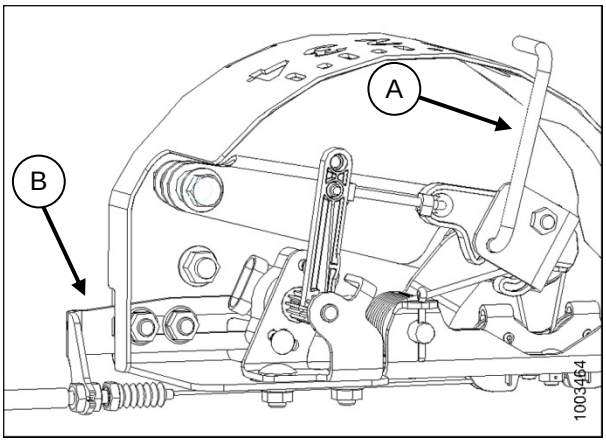
7. Raise and lower the header to see the full range of voltage readings.

8. If the sensor voltage is not within the low and high limits shown in Table 1 on page 72, or if the range between the low and high limits is insufficient, you need to make adjustments. See *Adjusting Voltage Limits* on page 89 for instructions.

Checking Voltage Range from the Combine Cab (Gleaner R65/R75)

Before checking the voltage range, follow these steps:

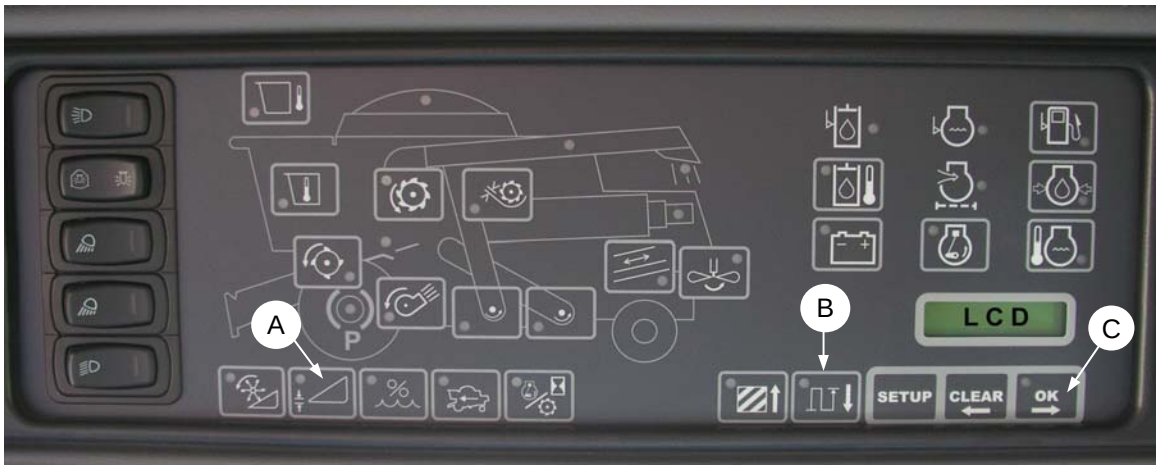
1. Position the header 6 inches (150 mm) above the ground, and rest it on the down stops. Unlock the adapter float.
2. The pointer (A) on the float indicator box should point at 0. If it does not point at zero, adjust the cable take-up bracket (B) until it does.



FLOAT INDICATOR BOX WITH
AUTO HEADER HEIGHT SENSOR

To check the sensor's output voltage range from the combine cab, follow these steps:

1. Press and hold button (A) on the heads up display for three seconds to enter diagnostic mode.

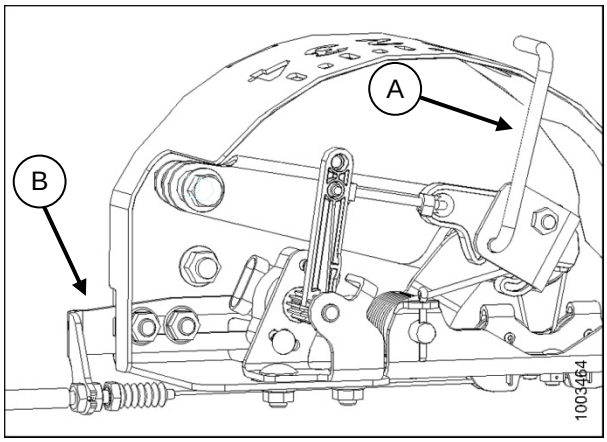


2. Scroll down using button (B) until "LEFT" is displayed on the LCD screen.
3. Press the OK button (C). The number indicated on the LCD screen is the voltage reading from the sensor of the Auto Header Height.
4. Unlock header float.
5. Raise and lower the header to see the full range of voltage readings.
6. If the sensor voltage is not within the low and high limits shown in Table 1 on page 72, or if the range between the low and high limits is insufficient, you need to make adjustments. See *Adjusting Voltage Limits* on page 89 for instructions.

Checking Voltage Range from the Combine Cab (John Deere 50/60 Series)

Before checking the voltage range, follow these steps:

1. Position the header 6 inches (150 mm) above the ground, and rest it on the down stops. Unlock the adapter float.
2. The pointer (A) on the float indicator box should point at 0. If it does not point at zero, adjust the cable take-up bracket (B) until it does.

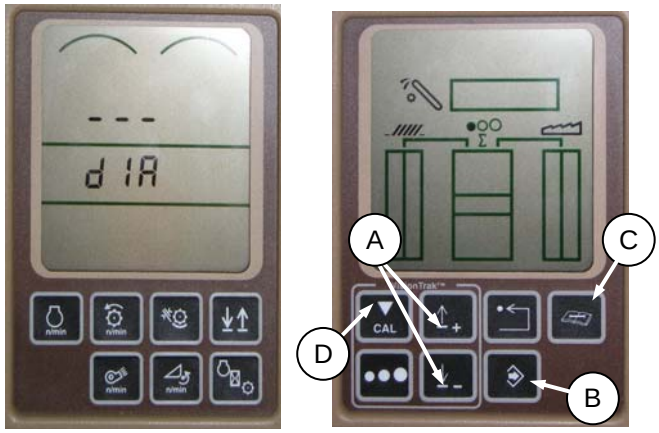


FLOAT INDICATOR BOX WITH
AUTO HEADER HEIGHT SENSOR

To check the sensor's output voltage range from the combine cab, follow these steps:

1. Press the diagnostic button on the (HHS) monitor—the button with the open book with the wrench on top of it (C) **dIA** appears on the monitor. Press the up button (A) until **EO1** appears on the monitor (these are all your header adjustments). Then press the enter button (B).
2. Press the up or down button (A) until **24** is displayed on the top portion of the monitor. This is the voltage reading of the sensor.
3. Unlock header float.
4. Start the combine, and then lower the feeder house until the header is on the ground and the adapter is completely separated from the header.

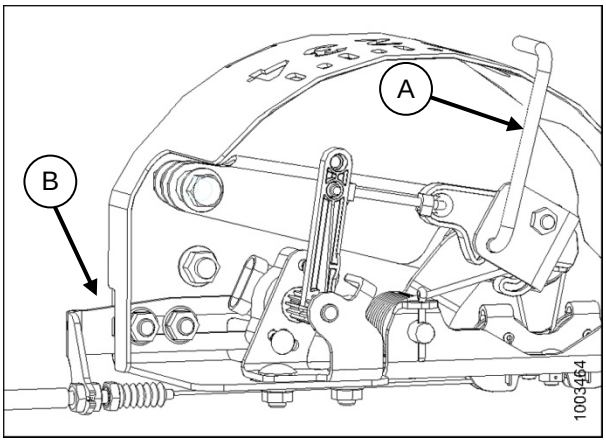
   NOTE: You may need to hold the header down switch for a few seconds to ensure the feeder house is entirely down.
5. Check the sensor reading on the monitor.
6. Raise the header so it is just off the ground, and then check the sensor reading again.
7. If the sensor voltage is not within the low and high limits shown in Table 1 on page 72, or if the range between the low and high limits is insufficient, you need to make adjustments. See *Adjusting Voltage Limits* on page 89 for instructions.



Checking Voltage Range from the Combine Cab (John Deere 70 Series)

Before checking the voltage range, follow these steps:

1. Position the header 6 inches (150 mm) above the ground, and rest it on the down stops. Unlock the adapter float.
2. The pointer (A) on the float indicator box should point at 0. If it does not point at zero, adjust the cable take-up bracket (B) until it does.



FLOAT INDICATOR BOX WITH
AUTO HEADER HEIGHT SENSOR

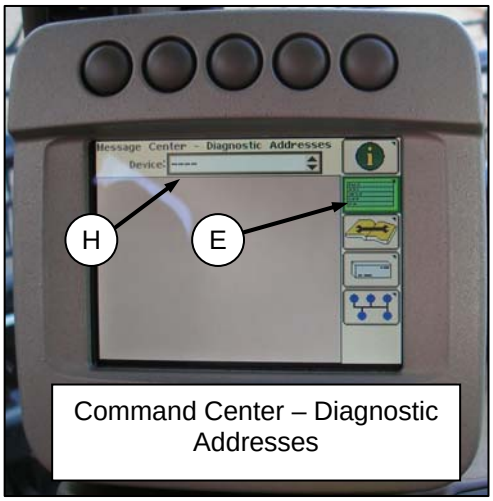
To check the sensor's output voltage range from the combine cab, follow these steps:

1. From the main page of the Command Center, press the Home Page button (A) to view the three icons (B).

Command Center – Main Page

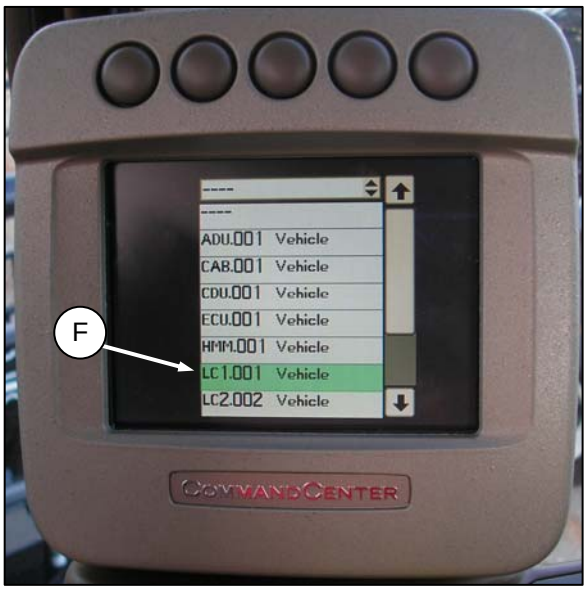
2. Scroll down using the scroll knob (C) until you reach the middle icon, the green i. Once the middle icon is selected, push the check mark button (D). This will bring up the Message Center.

3. Highlight the Diagnostic Addresses from the right hand column, the second icon from the top (E), using the scroll knob (C). Press the check mark button (D) to select.



Command Center – Diagnostic Addresses

4. Scroll over to the drop down box (H) and press the check mark button (D). Scroll down, using the scroll knob (C), until **LC 1.001 Vehicle** (F) is highlighted. Press the check mark button (D) to select.



5. Scroll to the small bottom arrow (H) and press the check mark button to scroll down the list until **029 Data** (G) is displayed, this is where the voltage reading is located.

6. Unlock header float.

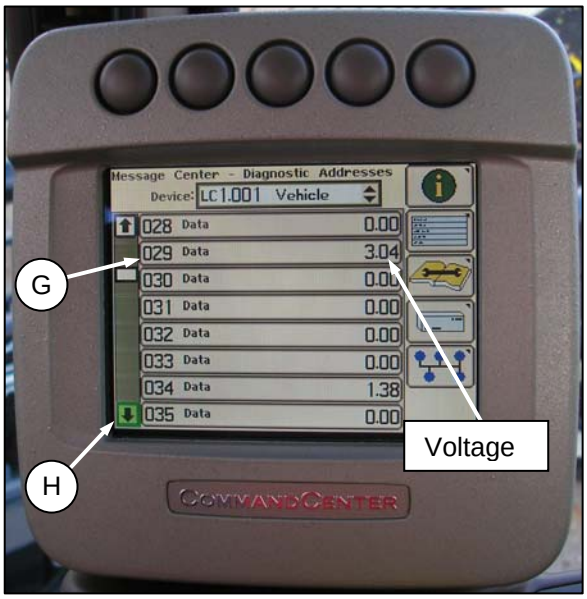
7. Start the combine, and then lower the feeder house until the header is on the ground and the adapter is completely separated from the header.

   NOTE: You may need to hold the header down switch for a few seconds to ensure the feeder house is entirely down.

8. Check the sensor reading on the monitor.

9. Raise the header so it is just off the ground, and then check the sensor reading on the monitor again.

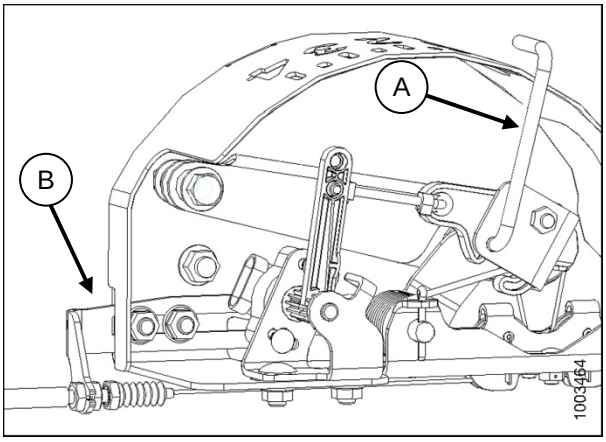
10. If the sensor voltage is not within the low and high limits shown in Table 1 on page 72, or if the range between the low and high limits is insufficient, you need to make adjustments. See *Adjusting Voltage Limits* on page 89 for instructions.



Checking Voltage Range from the Combine Cab (John Deere S Series)

Before checking the voltage range, follow these steps:

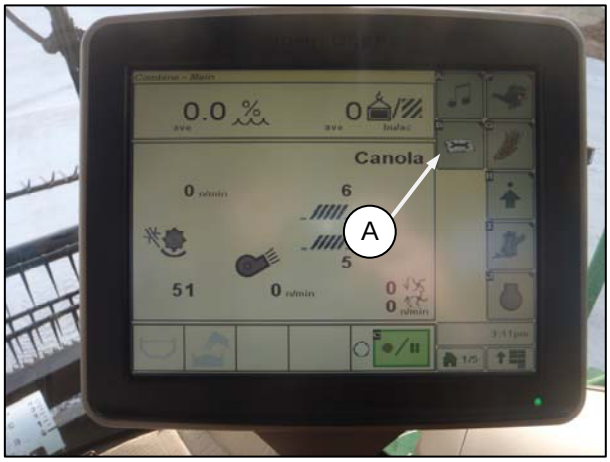
1. Position the header 6 inches (150 mm) above the ground, and rest it on the down stops. Unlock the adapter float.
2. The pointer (A) on the float indicator box should point at 0. If it does not point at zero, adjust the cable take-up bracket (B) until it does.



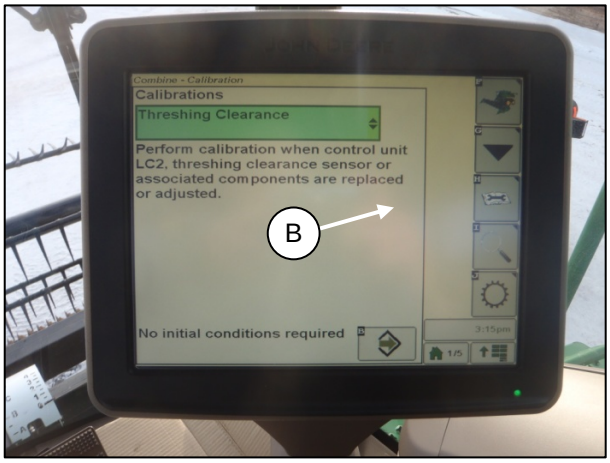
FLOAT INDICATOR BOX WITH
AUTO HEADER HEIGHT SENSOR

To check the sensor's output voltage range from the combine cab, follow these steps:

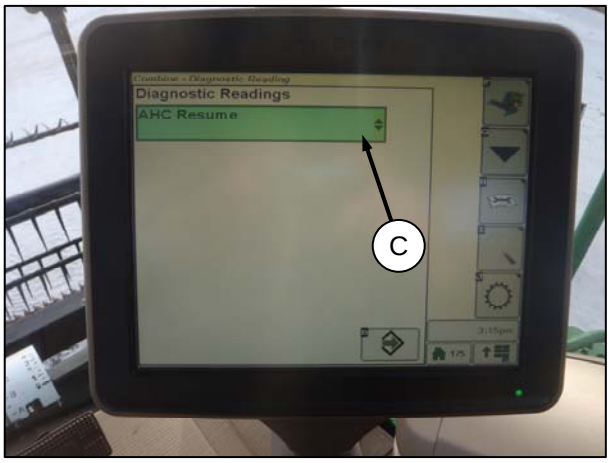
1. From the Command Center main page press the icon with wrench on the open book (A). The Calibration page appears.



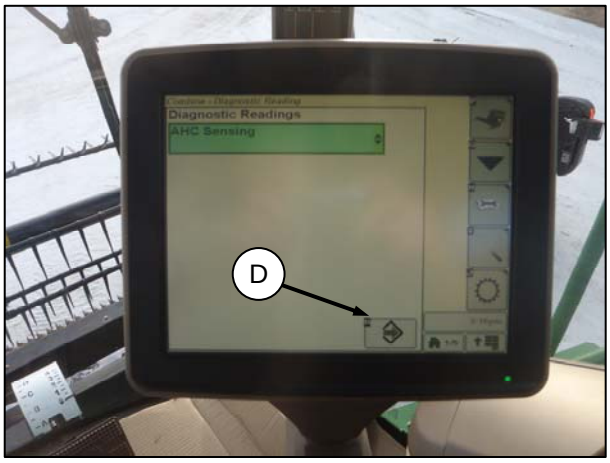
2. On the Calibration page, press the icon with wrench on the open book (B) as you did in the previous step until Diagnostic Readings appear. This page is where you will be able to complete calibrations, modify header option and read diagnostic information.



3. When you select a heading in the selection box (C), a list of different diagnostic readings appears. Select the AHC sensing option which will bring up the Automatic Height Control sensor.



4. With AHC Sensing selected, select the icon with the arrow in the box (D). AHC Sensing appears and provides five pages of information.

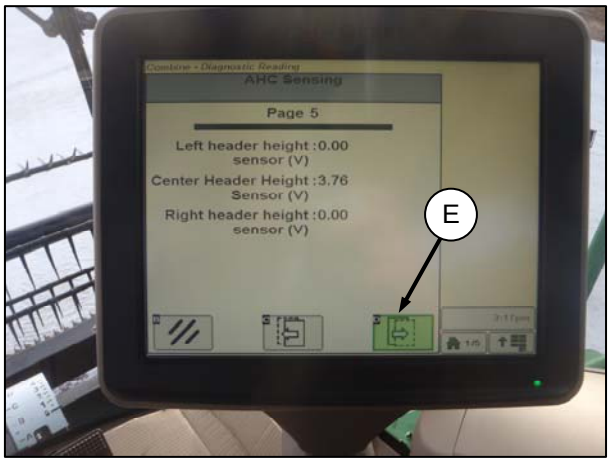


5. Scroll to page 5 by pressing button (E) until it reads page 5 near the top of the page.

   On page 5 you will see sensor readings:

   - Left Header Height
   - Center Header Height
   - Right Header Height

   Read sensor voltage on Center Header Height line (there are no left or right sensors on the CA25).

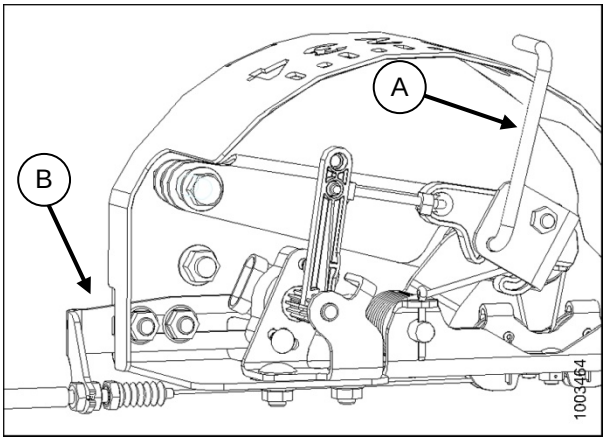


6. Position the header 6 inches (150 mm) above the ground, and rest it on the down stops. Unlock the adapter float.
7. Check the sensor reading.
8. Fully lower the combine feeder house and float the header up off the down stops (float indicator should be on 4 and the adapter should be fully separated from the header). Hold header lower button for 10 seconds to ensure the feeder house is fully lowered.
9. If the sensor voltage is not within the low and high limits shown in Table 1 on page 72, or if the range between the low and high limits is insufficient, you need to make adjustments. See *Adjusting Voltage Limits* on page 89 for instructions.

Checking Voltage Range from the Combine Cab (New Holland)

Before checking the voltage range, follow these steps:

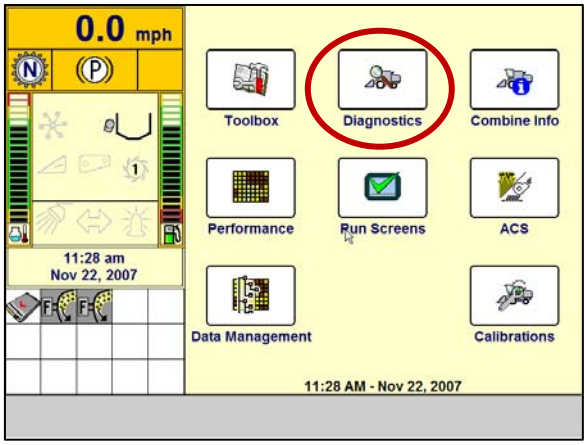
1. Position the header 6 inches (150 mm) above the ground, and rest it on the down stops. Unlock the adapter float.
2. The pointer (A) on the float indicator box should point at 0. If it does not point at zero, adjust the cable take-up bracket (B) until it does.



FLOAT INDICATOR BOX WITH
AUTO HEADER HEIGHT SENSOR

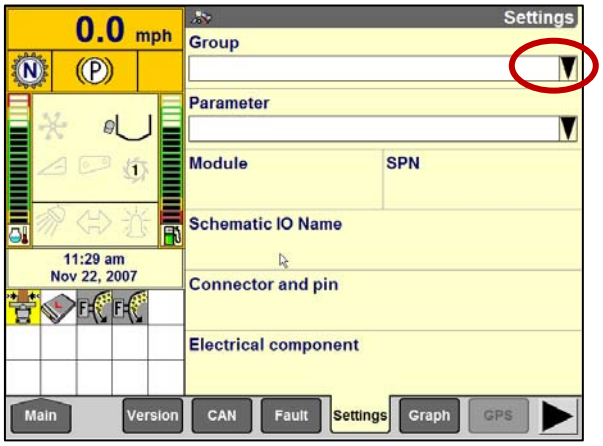
To check the sensor's output voltage range from the combine cab, follow these steps:

9. On the Main screen, select *Diagnostics*. The Diagnostics screen displays.

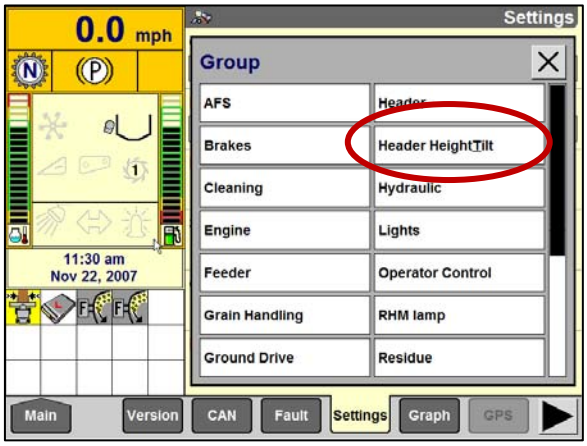


10. Select *Settings*. The Settings screen displays.

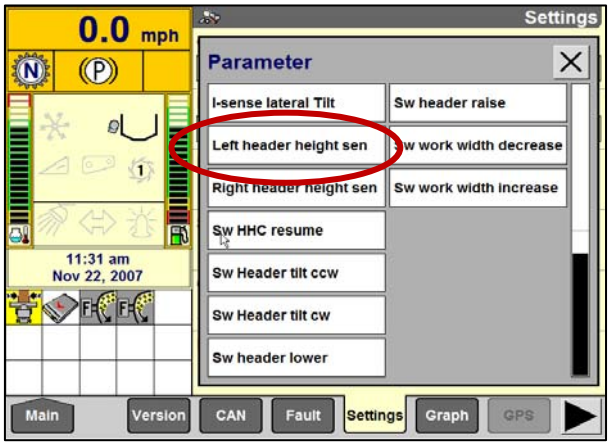
11. Select the *Group arrow*. The Group window opens.



12. Select *Header Height/Tilt.* The Parameter window opens.



13. Select *Left header height sen,* and then select the *Graph* button at the bottom of the screen. The exact voltage is displayed at top of screen.



14. Unlock header float.

15. Raise and lower the header to see the full range of voltage readings.

16. If the sensor voltage is not within the low and high limits shown in Table 1 on page 72, or if the range between the low and high limits is insufficient, you need to make adjustments. See *Adjusting Voltage Limits* on page 89 for instructions.

NOTE: Error code 08 indicates that the voltage range is too wide. Error code 15 indicates that voltage is too low or too high.

Adjusting Voltage Limits

NOTE: The sensor assembly used with Lexion combines is slightly different from the sensor assembly used with other combine models. Both assemblies are illustrated on this page.

To adjust high voltage limit, follow these steps:

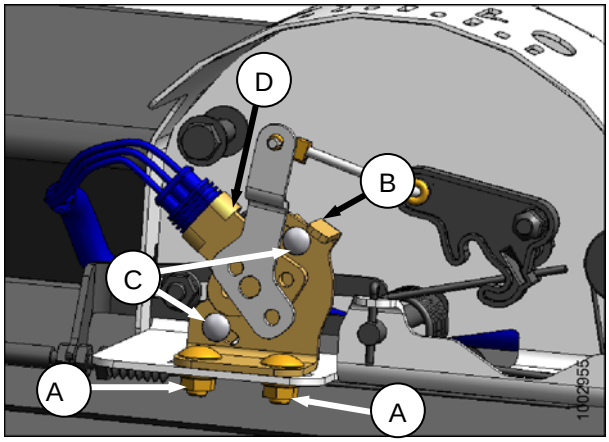
a. Fully extend guard angle; the header angle indicator should be at D.

b. Position header 6–10 inches above the ground; the float indicator should be at 0.

c. Loosen sensor mounting bolts (A).

d. Slide sensor support (B) to the right to increase the high voltage limit and to the left to decrease it.

e. Tighten sensor mounting bolts (A).



AUTO HEADER HEIGHT SENSOR ASSEMBLY
FOR USE WITH LEXION COMBINES

To adjust low voltage limit, follow these steps:

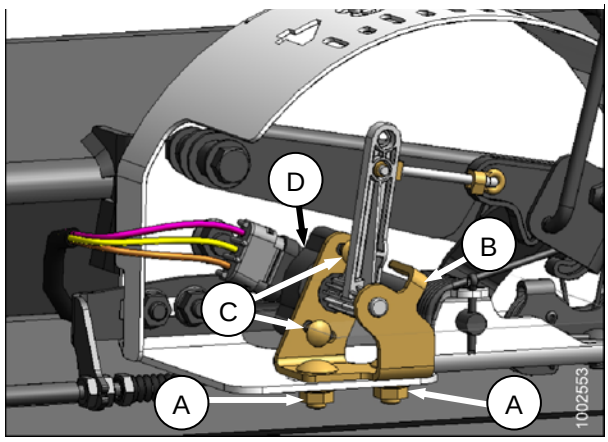
a. Fully extend guard angle; the header angle indicator should be at D.

b. Lower header fully on the ground; the float indicator should be at 4.

c. Loosen mounting bolts (C).

d. Rotate potentiometer (D) clockwise to increase the low voltage limit and counterclockwise to decrease it.

e. Tighten sensor mounting bolts (C).



AUTO HEADER HEIGHT SENSOR ASSEMBLY
FOR USE WITH NON-LEXION COMBINES

Calibrating the Auto Header Height System

The calibration procedure determines the limits of the Auto Header Height sensor.

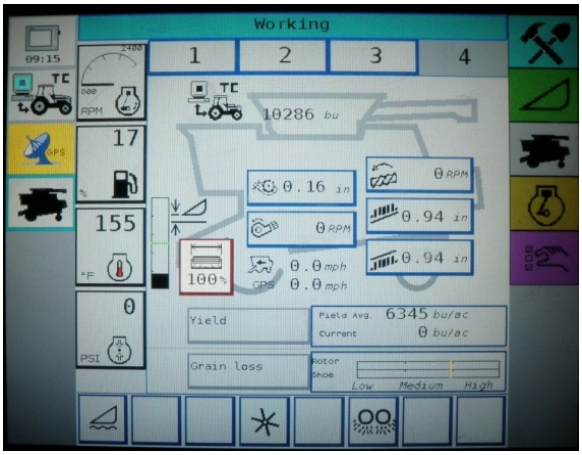
Calibrate the Auto Header Height system after initial header installation and after replacement or adjustment of any component of the Auto Header Height system. If the system does not function, calibrate it again.

Calibrating the Auto Header Height System (AGCO 6 Series)

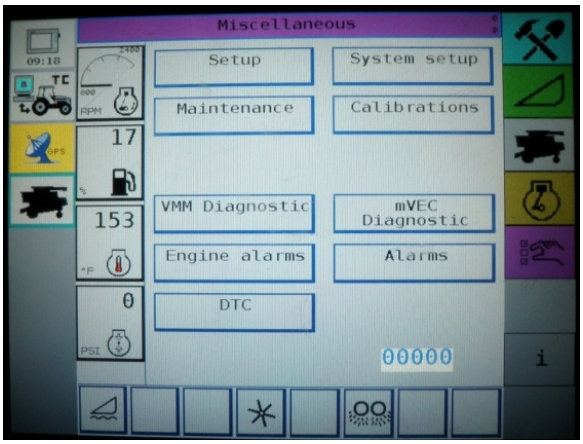
NOTE: For best performance of the Auto Header Height system, perform these procedures with the center link adjusted as long as possible. When setup and calibration is complete, adjust the center link back to desired header angle. See “Header Angle” in Operation section of the header operator’s manual.

To calibrate the Auto Header Height System, follow these steps:

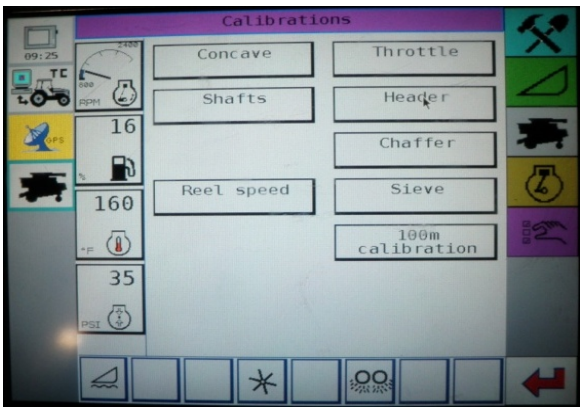
1. On the Field page, press the diagnostics icon. The Miscellaneous page appears.



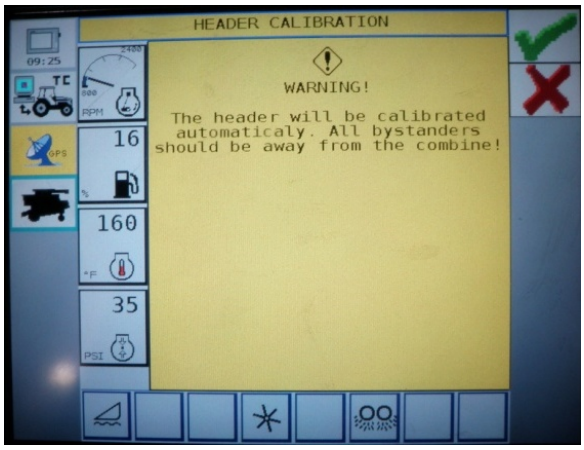
2. Press the Calibrations button. The Calibrations page appears.



3. Press the Header button. The Header Calibration page displays a warning.



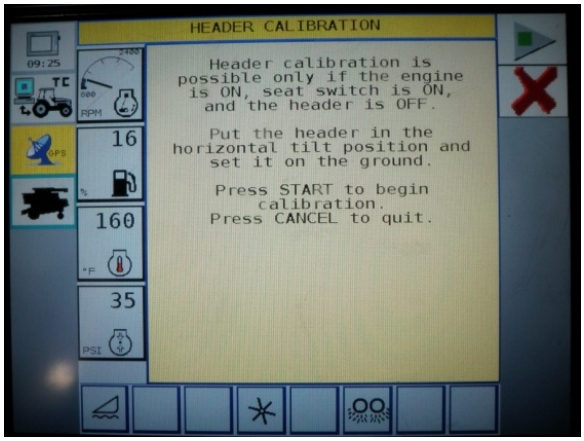
4. Read the warning message, and then press the green check mark button.



5. Follow the on-page prompts to complete calibration.

   NOTE: The calibration procedure can be cancelled at anytime by pressing the cancel button in the bottom, right corner of the page. While the header calibration is running, the calibration can also be canceled by using the up, down, tilt right, or tilt left buttons on the control handle.

   NOTE: If the combine does not have header tilt installed or if it is inoperable, you may receive warnings during calibration. Press the green check mark if these warnings appear. This will not affect the AHHC calibration.



Calibrating the Auto Header Height System (Case 7010/8010, 7120/8120/9120, 7230/8230/9230)

NOTE: For best performance of the Auto Header Height system, perform ground calibration with center link adjusted as long as possible. When calibration is complete, adjust the center link back to desired header angle (see the header operator's manual for instructions).

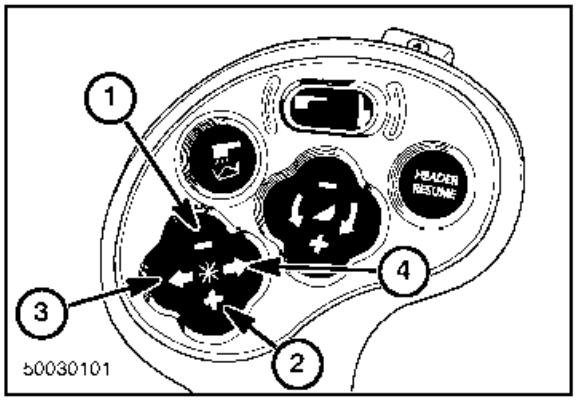
To calibrate the Auto Header Height System, follow these steps:

1. Set flotation on the header and adapter package (see operator's manual for instructions). Position center link in fully extended position.

2. Start combine engine running; there is no need to have separator or feeder house engaged.

3. On the propulsion lever, hold the lower switch (1) down until the adapter and header are lowered. Continue holding the switch down for five seconds.

4. Engage header raise switch (2). Hold the header raise switch up. The header should stop about a foot above the ground. Keep holding the header raise switch and header will automatically rise until the feeder reaches the top of its limitations. The Auto Header Height is now calibrated.

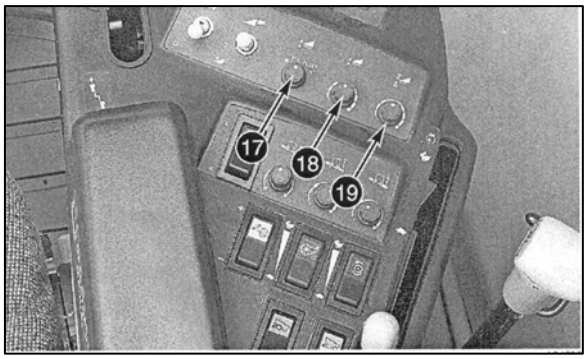


NOTE: If a new header type is detected or a new default header is defined, a momentary warning alarm "Calibrate Header Ground Height Sensors" will sound.
Repeat steps 1–4.

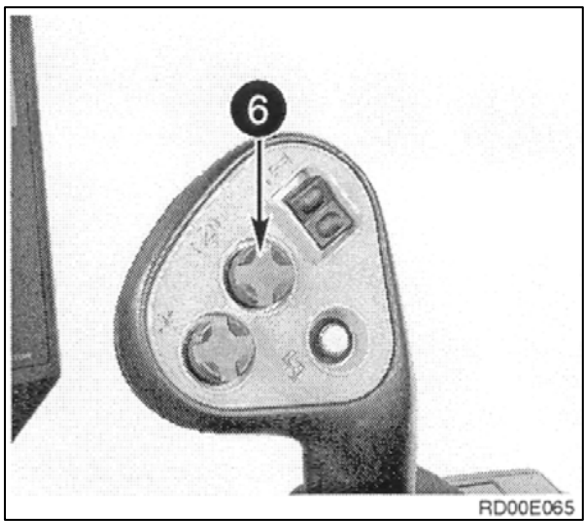
Calibrating the Auto Header Height System (Case IH 2300/2500)

NOTE: For best performance of the Auto Header Height system, perform ground calibration with center link adjusted as long as possible. When calibration is complete, adjust the center link back to desired header angle (see the header operator's manual for instructions).

To calibrate the Auto Header Height system, follow these steps:



1. Set the flotation on the header and adapter package (see operator's manual for instructions). Position fore aft and center link in mid span.
2. Start combine engine running; there is no need to have separator or feeder house engaged.
3. On right-hand console, set header control switch (17) to "HT" (this is Auto Header Height mode).
4. On the propulsion lever, hold the lower switch (6) down until the adapter and header are lowered. Hold the switch down for five seconds.
5. Engage header raise switch (6) and hold the header raise switch up. The header should stop at about the half way point. Keep holding the header raise switch and header will automatically rise until the feeder reaches the top of its limitations. The Auto Header Height system is now calibrated.



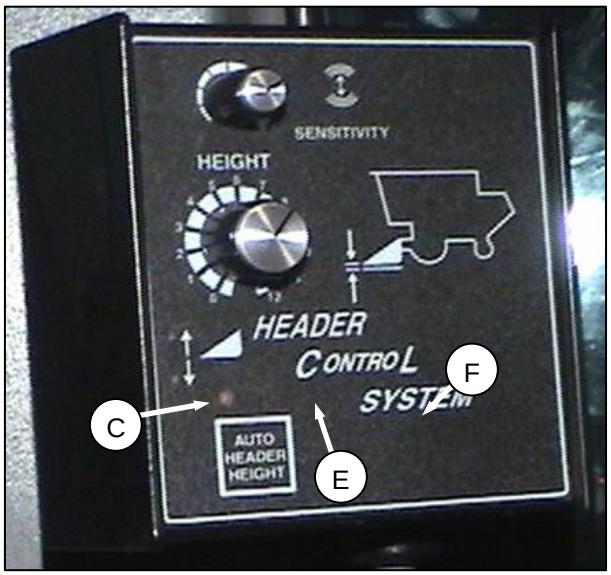
NOTE: If float was set heavier to complete ground calibration procedure, adjust to recommended operating float after the calibration is complete.

Calibrating the Auto Header Height System (Gleaner R62/R72)

NOTE: For best performance of the Auto Header Height system, perform these procedures with the center link adjusted as long as possible. When setup and calibration is complete, adjust the center link back to desired header angle. See “Header Angle” in Operation section of the header operator’s manual.

To calibrate the header, follow these steps:

1. Ensure the center link is as short as possible, and that the adapter float is unlocked.
2. Turn on the combine, and then press and hold the hidden C1 button (E) until the LED light (C) flashes momentarily.
3. Lower the feeder house as far as it will go.
4. Press and hold the hidden L2 button (F) until the LED light (C) flashes momentarily. The header is now calibrated.



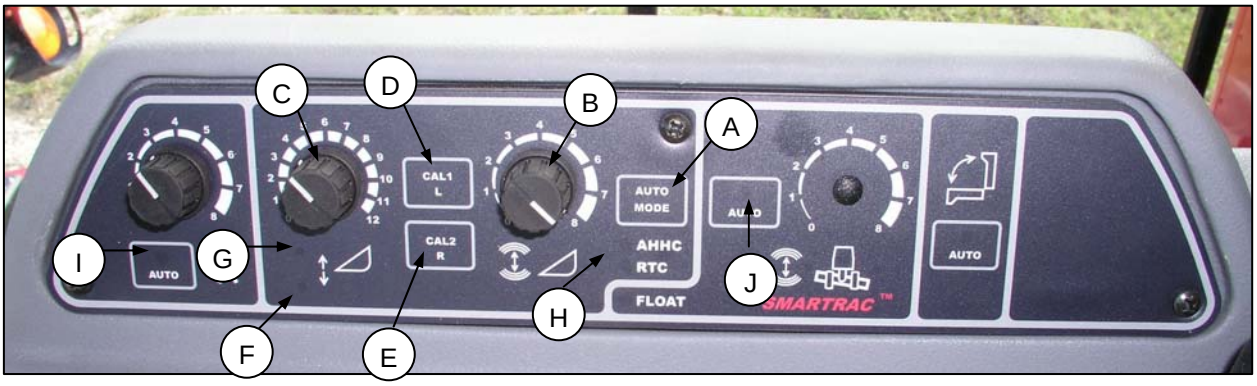
Calibrating the Auto Header Height System (Gleaner R65/R75)

NOTE: Calibration should be done on flat, level ground without the header clutches engaged. Header height and header tilt must not be in auto or standby modes. The engine rpm must also be above 2,000 rpm. The Header Tilt option on 2004 and prior combines does not work with MacDon headers. This system will have to be removed and disabled in order to calibrate the Auto Header Height. Refer to combine manual for instructions.

NOTE: For best performance of the Auto Header Height system, perform these procedures with the center link adjusted as long as possible. When setup and calibration is complete, adjust the center link back to desired header angle. See “Header Angle” in Operation section of the header operator’s manual.

To calibrate the header, follow these steps:

1. Press AUTO MODE button (A) until the AHHC light (H) is illuminated.



2. Press and hold CAL1 button (D) until you see the following lights flash: header (G) (F), tilt auto mode (J) and AHHC (H).
3. Lower header all the way down and continue to hold for 5–8 seconds to ensure adapter has separated from header.
4. Press CAL2 button (E) until lower header light (F) stops flashing, and release it when the raise header light (G) starts to flash.
5. Raise header to its maximum height (ensure the header is resting on the down-stop pads).
6. Press CAL2 button (E) until the raise header light (G) turns off.

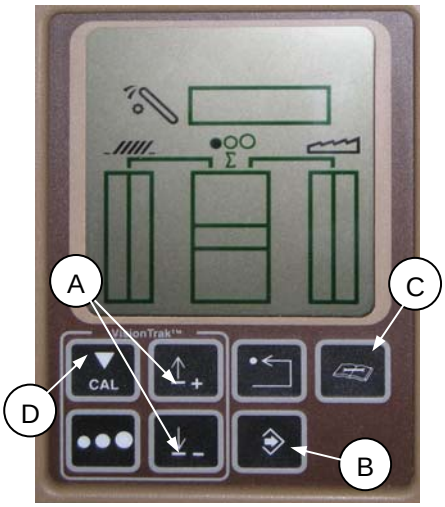
   NOTE: The following steps are only applicable to 2005 and newer combines with the Smartrac feeder house.
7. Wait for the header tilt left light to start flashing and then tilt header to the maximum left position.
8. Press CAL2 button (E) until the tilt header left light stops flashing (not present in picture) and release button when the right header tilt light (not present in picture) starts to flash.
9. Tilt the header to the maximum right position.
10. Press CAL2 button (E) until all of the following lights flash: Raise header (G), lower header (H), height auto mode (A), right header, left header (not present), and tilt auto mode (J).
11. Center the header.
12. Press CAL1 button (D) to exit calibration and save all values to the memory. All lights should stop flashing.

Calibrating the Auto Header Height System (John Deere 50/60 Series)

NOTE: For best performance of the Auto Header Height system, perform ground calibration with center link adjusted as long as possible. When calibration is complete, adjust the center link back to desired header angle (see the header operator's manual for instructions).

To calibrate the Auto Header Height System, follow these steps:

1. Rest header on down stops, and unlock adaptor float.
2. **FD75 only:** Put wings in locked position.
3. Start the combine.
4. Press the diagnostic button on the monitor (this is the button with the open book with the wrench on top of it (C) **dIA** appears on the monitor.
5. Press the CAL button (D) **DIA - CAL** appears on the monitor.
6. Press the up or down buttons until **hrd** appears on the monitor.
7. Press the enter button (B), **hdr H-dn** appears on the monitor.
8. Lower the feeder house all the way (after the header hits the ground you will have to continue to hold the header lower button for 5 to 8 seconds in order to accomplish this).
9. Once the feeder house is all the way down, press the CAL button (D). This will save the lower calibration in the computer. **hdr H-UP** appears on the monitor.
10. Raise the header 3 feet off the ground and again press the CAL (D) button. **EOC** appears on the monitor. Press the enter button (B) to save the calibration of the header. Your Auto Header Height is now calibrated.

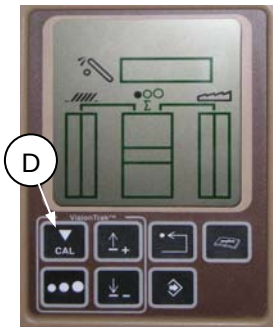


VisionTrak Monitor

NOTE: If an error code comes up on the screen the sensor is not in the correct working range. Go back to *Checking Voltage Range from the Combine Cab (John Deere 50/60 Series)* on page 14 to check and adjust the range.

Triple Display Tachometer

After the calibration is complete, specific combine operation settings need to be made to ensure proper field operation.



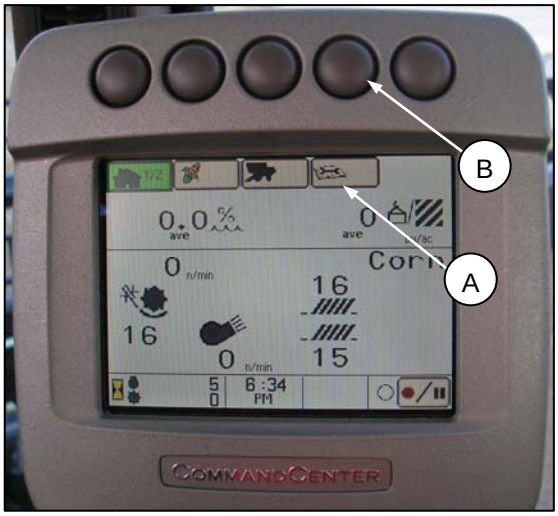
Calibrating the Auto Header Height System (John Deere 70 Series)

NOTE: For best performance of the Auto Header Height system, perform ground calibration with center link adjusted as long as possible. When calibration is complete, adjust the center link back to desired header angle (see the header operator's manual for instructions).

NOTE: The feeder house speed must be calibrated before you calibrate the Auto Header Height system. See the combine operator's manual for instructions.

To calibrate the Auto Header Height System, follow these steps:

1. Rest header on down stops, and unlock adaptor float.
2. **FD75 only:** Put wings in locked position.
3. Start the combine.
4. Press the fourth button on the top of the monitor (B) to select the icon showing an open book with a wrench on it (A).
5. Press the top button (B) a second time to enter diagnostics and calibration mode.
6. Select the option **Header** in the box (C) by scrolling down to the box using the scroll knob (F) and hitting enter (D).



7. Scroll, using knob (F), to the option **Header** and select it by pressing the enter key (D).
8. Scroll down, using the scroll knob (F), to the R/H corner icon (E), the arrow in the diamond, and again hit the enter key (D) to select.
9. Follow the steps listed on the monitor to perform the calibration.

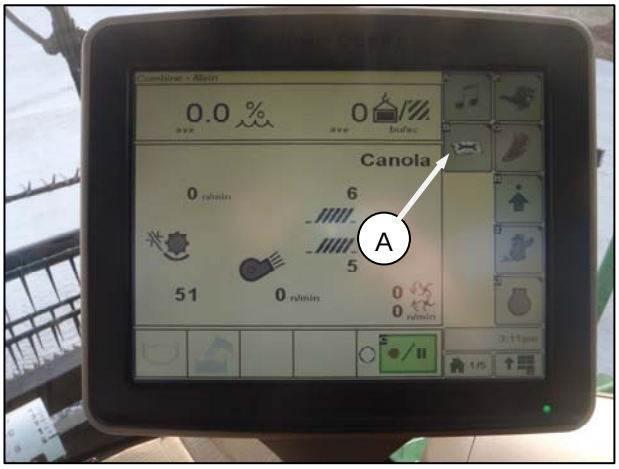
NOTE: If an error code comes up on the monitor, the sensor is not in the correct working range. Go back to *Checking Voltage Range from the Combine Cab (John Deere 70 Series)* on page 15 to check and adjust the range.

Calibrating the Auto Header Height System (John Deere S Series)

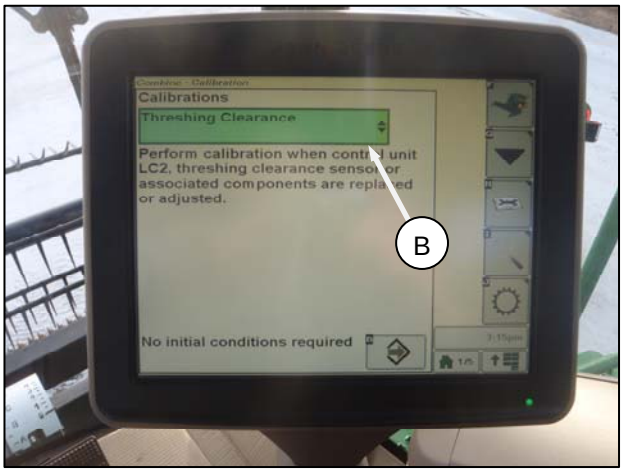
NOTE: For best performance of the Auto Header Height system, perform ground calibration with center link adjusted as long as possible. When calibration is complete, adjust the center link back to desired header angle (see the header operator's manual for instructions).

To calibrate the Auto Header Height System, follow these steps:

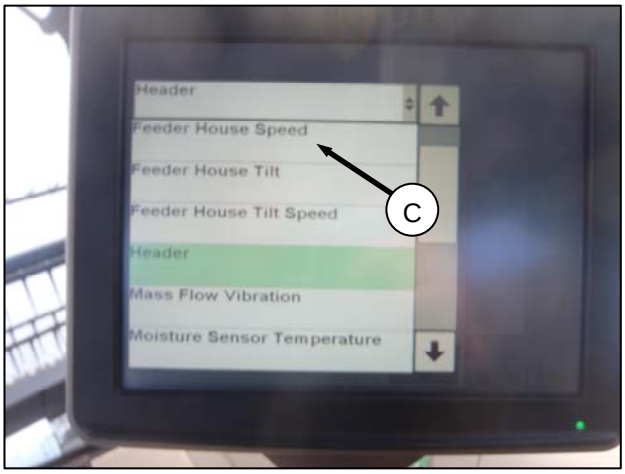
1. Rest header on down stops, and unlock adaptor float.
2. **FD75 only:** Put wings in locked position.
3. From the main page of the Command Center, press the diagnostic button (A). This is the button with the wrench on an open book. A calibration page appears (middle picture) this is the diagnostic page where you will be able to complete calibrations.



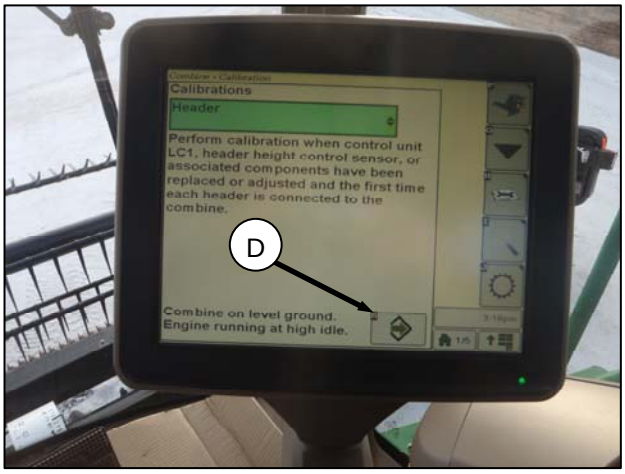
4. Press the green box near the top of the page (B). The Calibration page appears.



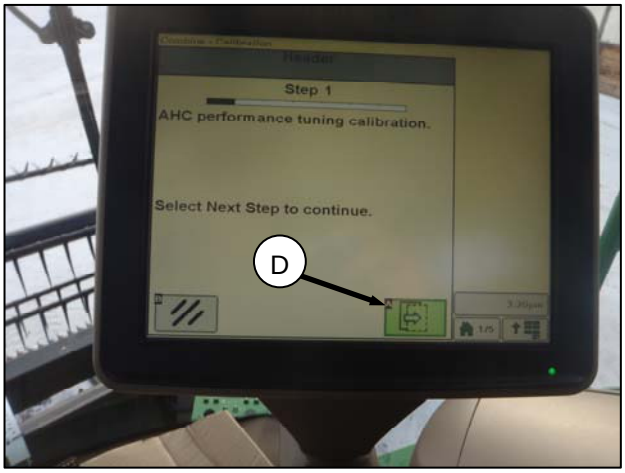
5. Select Feeder House Speed (C) as your first calibration. Once you calibrate feeder house speed you will than need to calibrate header.



6. After selecting feeder house speed or header for calibration, click the arrow inside a box button (D) on the bottom right corner of the page. The button turns green.



7. Click the button (D) again. Instructions on the page will guide you through the steps to complete with the calibration.



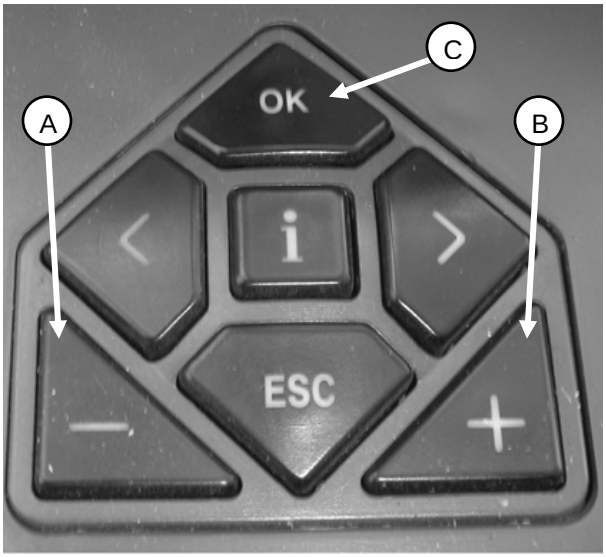
NOTE: If an error code pops up during the calibration the sensor is out of voltage range and will require adjustment. See *Checking Voltage Range from the Combine Cab (John Deere S Series)* on page 17.

Calibrating the Auto Header Height System (Lexion 500 Series)

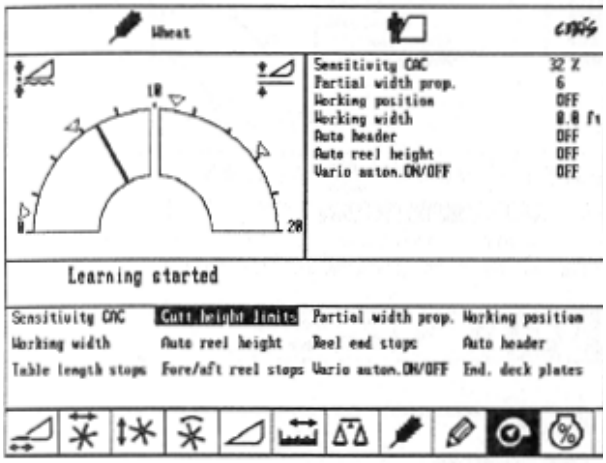
NOTE: For best performance of the Auto Header Height system, perform ground calibration with center link adjusted as long as possible. When calibration is complete, adjust the center link back to desired header angle (see the header operator's manual for instructions).

To calibrate the Auto Header Height System, follow these steps:

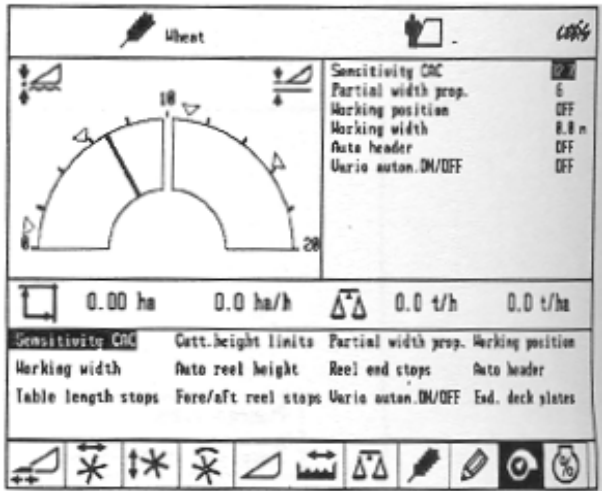
1. Use the "<" key or the ">" key to select "Auto header". Once selected, press the "OK" key to confirm your selection. Window (E5) displays whether the automatic header height is on or off.
2. Use the "-" key (A) or the "+" key (B) to turn the automatic header height on. Press the "OK" key (C) to confirm the setting.



3. Engage the threshing mechanism and the header.
4. Use the "<" key or use the ">" key to select "Cutt.height limits". To confirm the selection, press the "OK" key (C).
5. Follow the procedure displayed on the screen. This teaches CEBIS the upper and lower limits of the header.

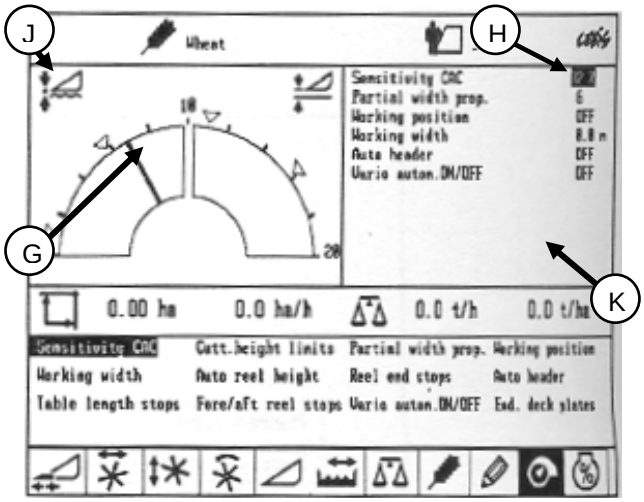


6. Use the "<" key or the ">" key to select "Sensitivity CAC". To confirm the selection, press the "OK" key. Setting the sensitivity of the AHHC system influences the reaction speed of the AHHC on the header.
7. Use the "-" key (A) or the "+" key (B) to change the setting of the reaction speed. Press the "OK" key (C) to confirm the setting.



8. Line (G) indicates the setting of the sensitivity. Window (J) displays the (G). Also value (H) indicates the sensitivity. Window (K) displays value (H).

NOTE: The setting can be adjusted from 0 percent to 100 percent. When sensitivity is adjusted to 0 percent, the signals from the sensing bands have no effect. When set to 100 percent, sensing bands have maximum effect on the automatic cutting height adjustment. 50% is a recommended starting point



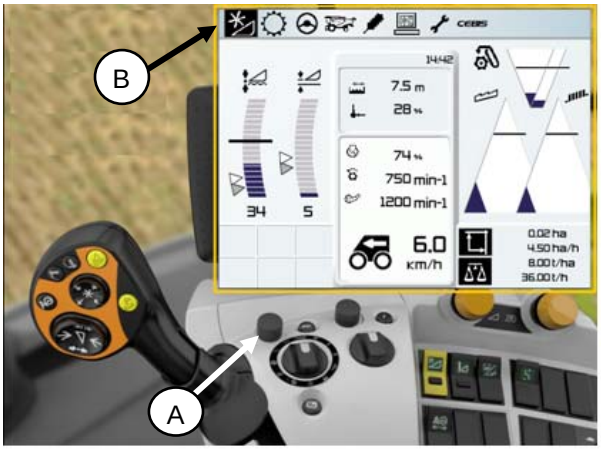
Calibrating the Auto Header Height System (Lexion 700 Series)

NOTE: For best performance of the Auto Header Height system, perform ground calibration with center link adjusted as long as possible. When calibration is complete, adjust the center link back to desired header angle (see the header operator's manual for instructions).

To calibrate the Auto Header Height System, follow these steps:

1. To calibrate the Auto Contour, select the icon with the reel in the header by pushing control knob (A).

   The control knob (A) is used to scroll left and right in top row (B). Once you find symbol you want to work with push (A) to select this field.



2. The following screen will show up with A highlighted. Scroll right using the control knob (A) to highlight the icon of the header with up & down arrows behind it (C).

3. When the header with up and down arrows is highlighted push control knob (A). The following screen will show up with the header icon highlighted (D).

4. The Letter A and the screwdriver icon appear. Rotate control knob (A) until the screwdriver is highlighted (E).

5. Once this icon appears engage the combine separator and feeder house.

6. Push the control knob (A) and the following graph will appear with a percentage value at 0.

7. Raise the feeder house all the way up. This will allow the graph to go to 33% (F).

8. Lower the feeder house all the way down until header stops moving. Ensure header float is unlocked. The graph will now be at 64%.

9. Raise the feeder house (a second time) all the way up.

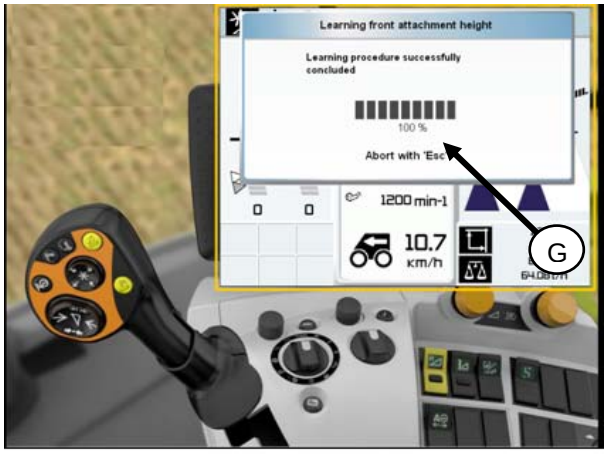
10. Lower the feeder house all the way down until header stops moving.

11. Once the calibrations are complete, the graph will indicate the unit is calibrated successfully by showing 100% (G).

    NOTE: At any time through the calibration, if the voltage is not within the voltage settings (0.5–4.5 volts) the monitor will indicate learning procedure not concluded.

    NOTE: If the float is set to light, an error will appear. Back float off three more turns on the coil springs. This should make float around 100–125 lbs.

    The calibration procedure is now complete.



Calibrating the Auto Header Height System (New Holland CR/CX Series)

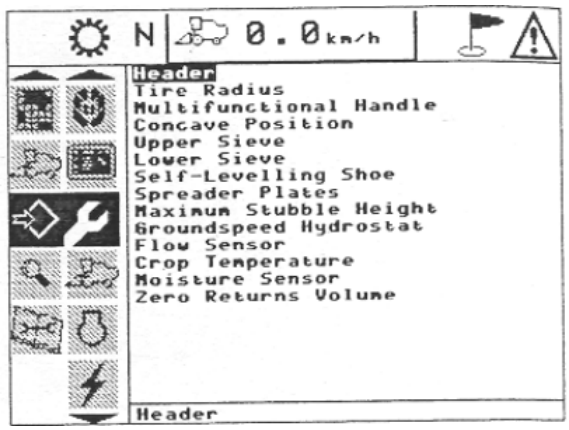
Check the following conditions before starting the header calibration procedure:

- The header is attached to the combine.
- The combine is on level ground, with the header level to the ground.
- The header is on down stops and the center link is back.
- The engine is running.
- The combine is not moving.
- No faults have been received from the Header Height Controller (HHC) module.
- Header/feeder is disengaged.
- Lateral flotation buttons are NOT pressed.
- ESC key is not pressed.

NOTE: For best performance of the Auto Header Height system, perform ground calibration with center link adjusted as long as possible. When calibration is complete, adjust the center link back to desired header angle (see the header operator's manual for instructions).

NOTE: Newer combines may have software that looks different from the illustrations shown below.

To calibrate the Auto Header Height System, follow these steps:



1. On the combine display, select the *calibration* sub-menu, and then press the "right arrow" navigation key to enter the information box.

2. Select *Header*.
   You can use the "up" and/or "down" navigation keys to navigate through the list of items to calibrate.

3. Press ENTER. The calibration window opens. You are now in Calibration mode.

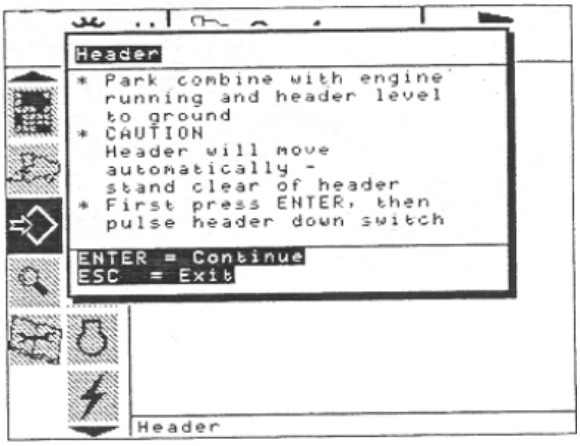
4. At the top of the calibration window is a description of the item to be calibrated. Below that, there is a description of the calibration conditions and procedure. Follow the steps as described in the window. As you proceed through the calibration process, the display will automatically update to show the next step.

   For example, when the delay says "First press ENTER, then pulse header down switch", you should press ENTER, and then press the header down key.

   Pressing the ESC key in one of the steps will cause the calibration procedure to stop.

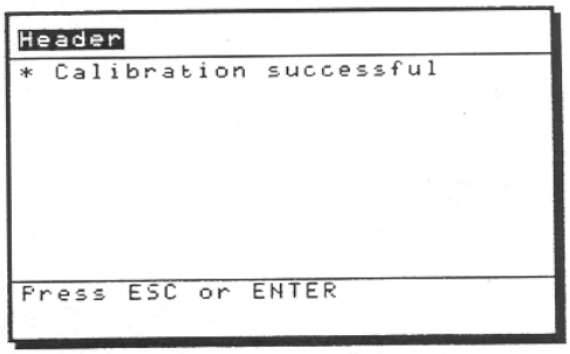
   Not reacting to the system within three minutes, will cause the calibration procedure to stop.

   NOTE: See combine operator's manual for an explanation of any error codes.



5. When all steps have been completed, “Calibration successful” is displayed on the screen. Leave the calibration by pressing the ENTER or ESC key.

6. If unit does not function properly, conduct the maximum stubble height calibration.



NOTE: If float was set heavier to complete ground calibration procedure, adjust to recommended operating float after the calibration is complete.

Maximum Stubble Height Calibration

This is necessary to know from which height the area counter should stop or start counting. When the header is raised before this level the area counter assumes you are not cutting crop. You have to put the header at a certain height you will always exceed when not cutting and at a certain height you will always stay below when cutting.

Select the height of the header that corresponds to the description above.

IMPORTANT: If the value is set too low, area may be counted since sometimes the header is raised above this threshold although the combine is still cutting.

If the value is set too high, the area counter will keep cutting even when the header is raised (but below this threshold) and the combine is not cutting crop any more.

To calibrate the maximum stubble height, proceed as follows:

1. Select the “Maximum Stubble Height” calibration window.

   Message: “Set header to desired maximum stubble height”.

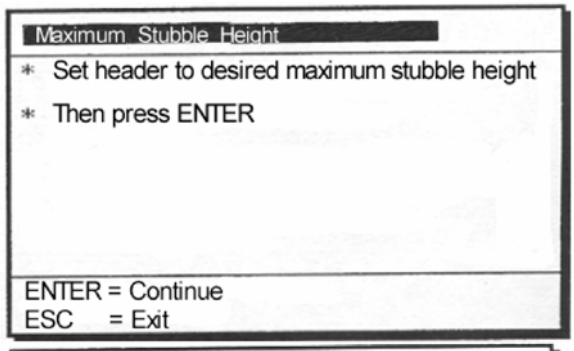
   Message: “Then press enter”.

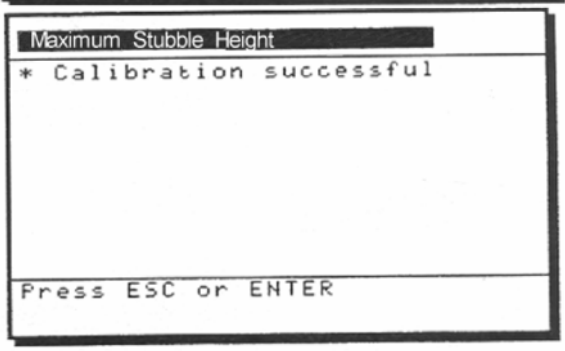
2. Put header to the correct position using the header up or down control switch on the multi-function handle.

3. Press “enter” to continue.

   Message: “Calibration successful”.

4. The calibration is done. Press ENTER or ESC to close the calibration window.





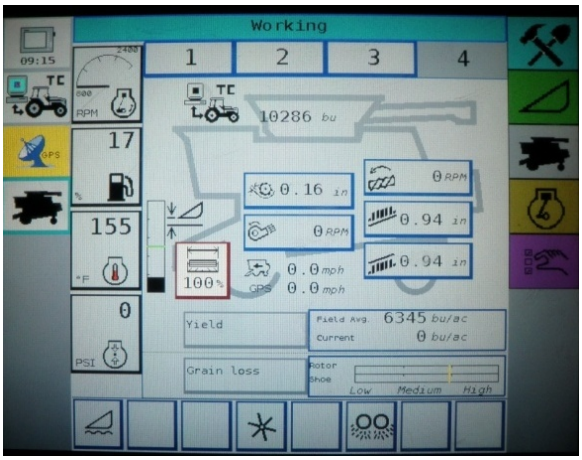
Preparing Combine to Use Auto Header Height

Once you have confirmed that the Auto Header Height sensor output's voltage range is appropriate for the combine and calibrated the system, you must prepare the combine to use the Auto Header Height System. The procedure is different for different combines.

Engaging the Auto Header Height System (AGCO 6 Series)

The following system components are required in order for the Auto Header Height system to work:

- Main module (PCB board) and header driver module (PCB board) mounted in card box (1) in Fuse Panel Module (FP)
- Multi Function Control Handle operator inputs
- Operator inputs mounted in the control console module (CC) panel



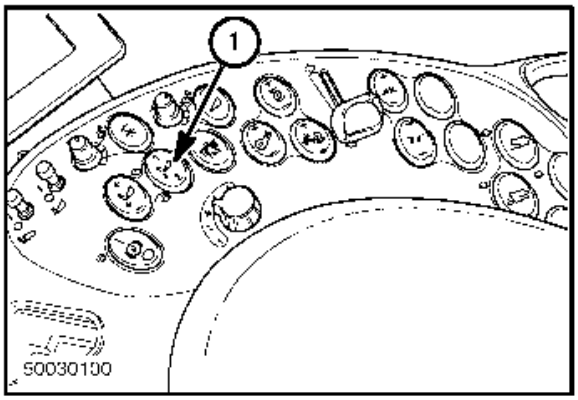
NOTE: In addition to the above components, the electro hydraulic header lift control valve must also be considered an integral part of the system.

To select the AHHC mode, scroll through the header control options using the header control switch until the AHHC icon is displayed in the first message box.

When activated, the AHHC will adjust the header height in relation to the ground according to the height setting and sensitivity setting.

Setting the Working Setting and Operating Mode (Case 7010/8010, 7120/8120/9120, 7230/8230/9230)

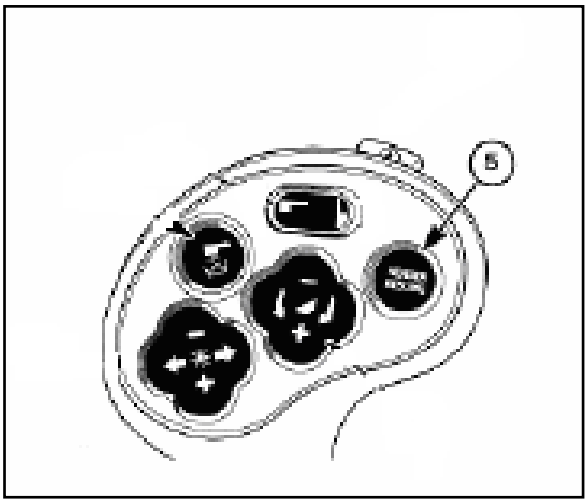
1. Engage separator and header.
2. Manually raise or lower the header to the desired cutting height.
3. Press the SET #1 switch (1). The Header Height Mode Lamp, 3, next to the SET #1 switch is turned on.
4. Manually raise or lower the header to a second desired cutting height.
5. Press the SET #2 switch. The Header Height Mode Lamp, 4, next to the SET #2 switch is turned on.



6. To swap between set points, press HEADER RESUME (5).
7. To pick up header at headlands, press HEADER RESUME (5) twice. To lower, press HEADER RESUME(5).

NOTE: You can fine adjust these set points by using the fine adjust switch; this will permanently alter the set points.

NOTE: As soon as you actuate the header raise/lower switch when in AUTO HEIGHT this will disengage AUTO HEIGHT mode. Press HEADER RESUME (5) to re-engage.

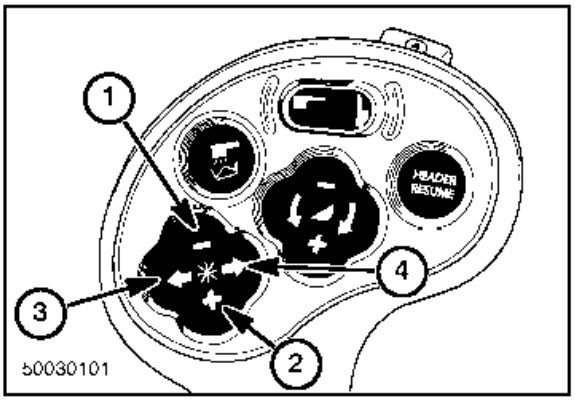


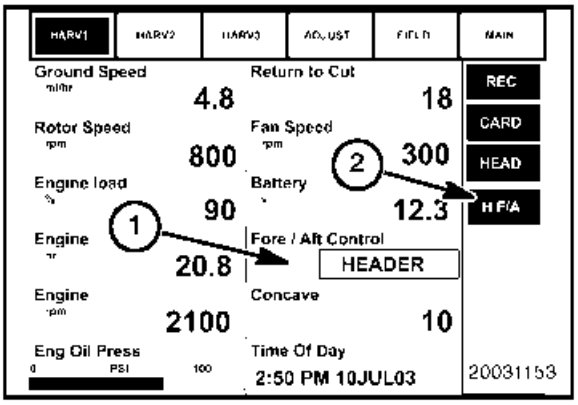
Configuring Controls (Case 7010/8010, 7120/8120/9120, 7230/8230/9230)

For draper headers equipped with Fore/ Aft Tilt, the reel fore and aft switches also control Fore/Aft Tilt.

To be able to swap between using the Reel Fore / Aft switches to position the reel or header fore and aft, the Fore / AFT CNTL, 1, needs to be selected and placed on one of the operator configurable screens; HARV1, HARV2, HARV3 or ADJUST under the RUN menu. If “Header” is selected with the Fore / Aft Control, press the reel aft switch, on the propulsion handle, to tilt the header rearward. Or press the reel fore switch on the propulsion handle, to tilt the header forward.

H F/A, 2, is displayed on the status bar on the right side of the operator configurable screens when “Header” is selected with the Fore / Aft Control.

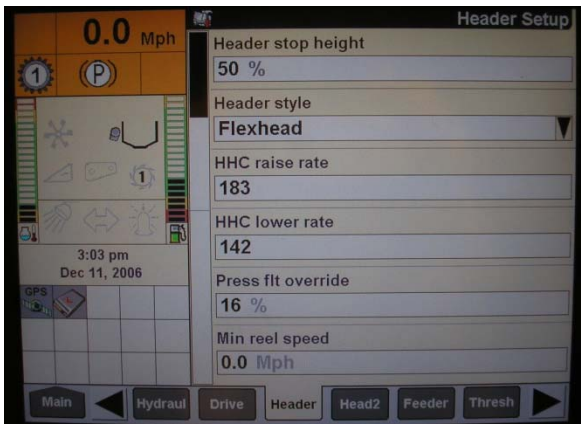




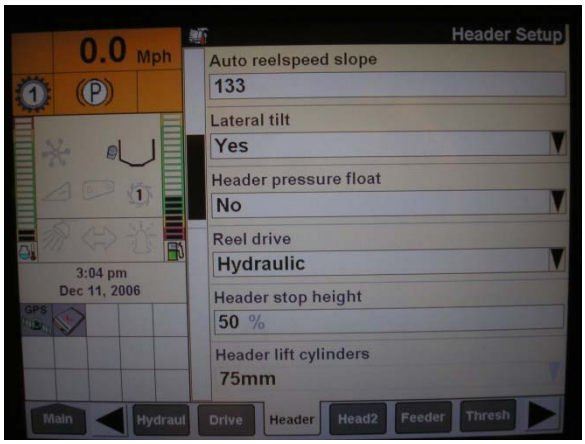
Configuring Combine (Case 7010/8010, 7120/8120/9120, 7230/8230/9230)

To configure the combine, follow these steps:

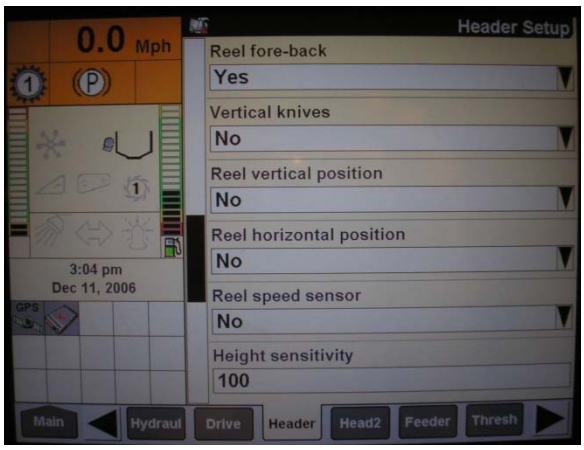
1. Ensure all header and adapter electrical and hydraulic connections are made.
2. At ***Main*** screen, select ***Toolbox*** then select ***Header***.
3. Set appropriate ***Header Style***.



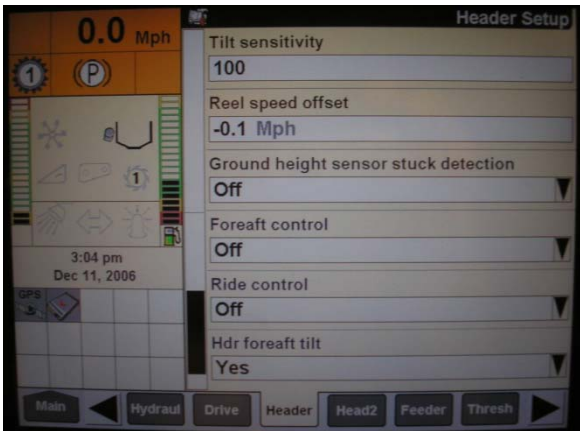
4. Set ***Auto reel speed slope***.
5. Set ***Header pressure float*** to yes if equipped and ensure ***Reel drive*** is hydraulic.



6. If applicable, install ***Reel fore-back***.
7. Set ***Height sensitivity*** to desired value. Recommend 180 as a starting point.

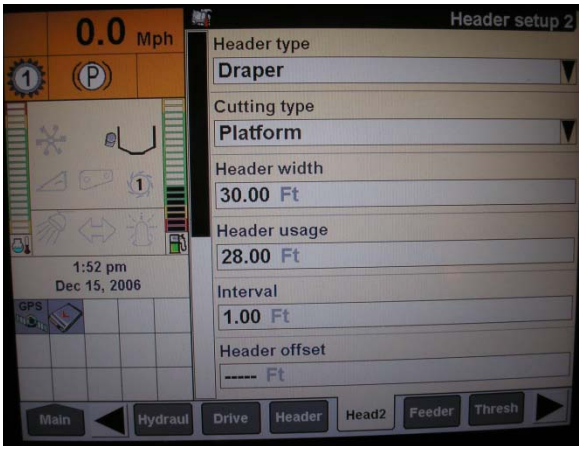


8. Install Foreaft ***control*** and ***Hdr foreaft tilt*** if applicable.



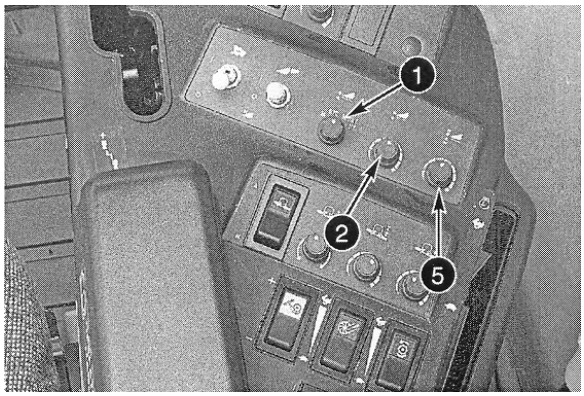
9. Once complete press ***Head2*** at bottom of screen.
10. Ensure ***Header Type*** is Draper.

    NOTE: If recognition resistor is plugged in to header harness, you will not be able to change this.
11. ***Cutting type*** should be set to Platform
12. Set appropriate ***Header width*** and ***Header usage***.



Engaging the Auto Header Height System (Case IH 2300)

To engage the Auto Header Height system, follow these steps:



1. In combine, turn mode select switch (1) to "HT".
2. Turn feeder ON.
3. Push header LOWER switch.

   In Automatic Header Height Control, the system raises and lowers the header to maintain a fixed distance from the ground. The POSITION CONTROL (2) sets the height to maintain the header from the ground.

   The rate at which the header raises or lowers to maintain the ground height is controlled by the HEADER RAISE RATE (3) and HEADER LOWER RATE (4) control settings.

   In this mode the SENSITIVITY CONTROL (5) sets how sensitive the header control is to changing ground conditions.

System Requirements (Gleaner R62/R75)

The following system components are required in order for the Auto Header Height system to work:

- Main module (PCB board) and header driver module (PCB board) mounted in card box (1) in Fuse Panel Module (FP)
- Multi Function Control Handle operator inputs
- Operator inputs mounted in the control console module (CC) panel

NOTE: In addition to the above components, the electro hydraulic header lift control valve must also be considered an integral part of the system.

Engaging the Auto Header Height System (Gleaner R65/R75)

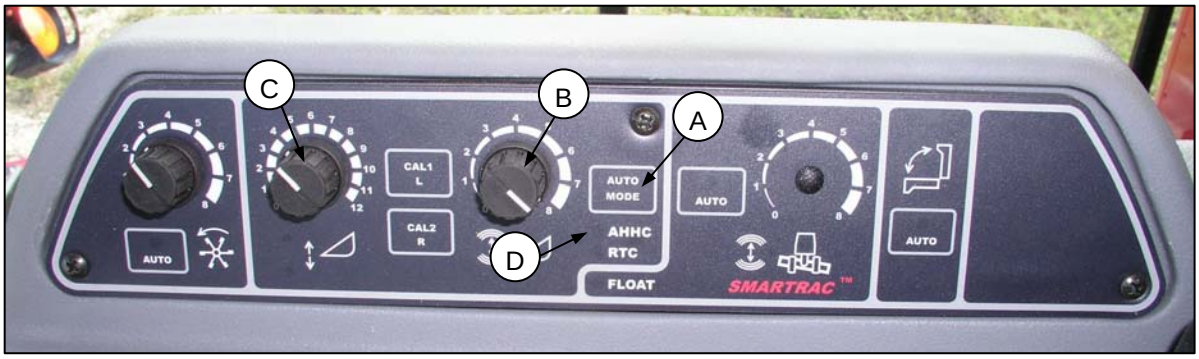
The following system components are required in order for the Auto Header Height system to work:

- Main module (PCB board) and header driver module (PCB board) mounted in card box (1) in Fuse Panel Module (FP)
- Multi Function Control Handle operator inputs
- Operator inputs mounted in the control console module (CC) panel

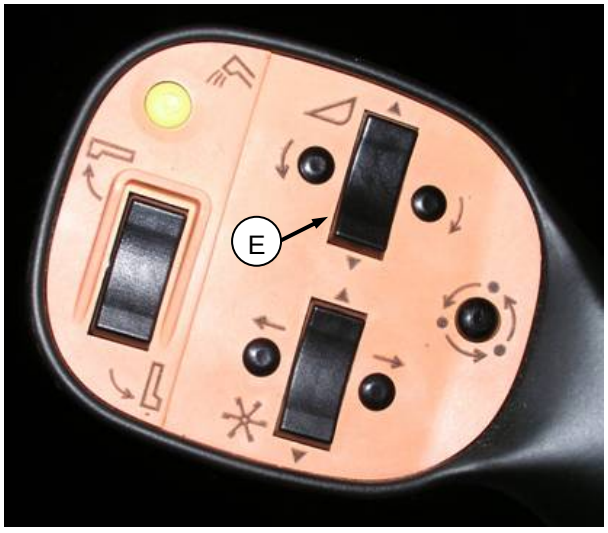
NOTE: In addition to the above components, the electro hydraulic header lift control valve must also be considered an integral part of the system.

To engage the Auto Header Height system, follow these steps:

1. Press the AUTO MODE (A) button until the AHHC LED light (D) is flashing. If the RTC light is flashing, press the AUTO MODE (A) button again until it switches to AHHC.



2. Momentarily press the down button (E) on the control handle. The AHHC light (D) should change from flashing to solid. The header should also drop toward the ground. The Auto Header Height control is now working and active and can be adjusted for height and sensitivity.

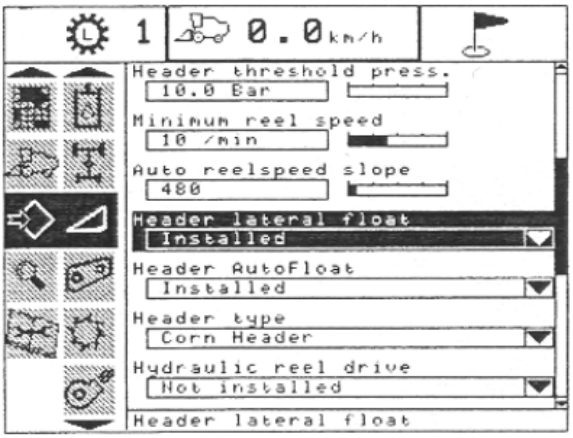


Configuring Combine (New Holland CR/CX Series)

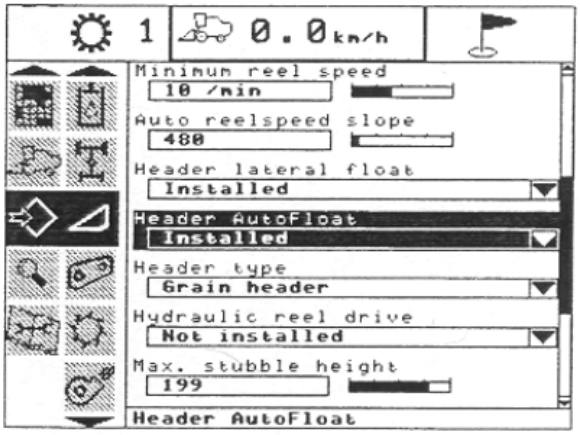
NOTE: Newer combines may have software that looks different from the illustrations shown below.

To configure the combine, follow these steps:

1. On the combine display screen, select *Header lateral float*, and then press ENTER.
2. In the window that opens, select *Installed*. You can use the up and down navigation keys to move between options.



3. On the combine display screen, select *Header Autofloat*, and then press ENTER.
4. In the window that opens, select *Installed*.



Field Operation Settings

Once calibration is complete, you are ready to use the Auto Header Height feature in the field. For each combine, certain operation settings can be used to improve the performance of the Auto Header Height feature. For optimal performance, perform all of the field operation setting procedures provided here for your combine model.

Performance can be further enhanced by

- Adjusting the lower rate of the combine feeder house. See combine operator's manual for instructions.
- Installing spring lock outs on feeder house lift cylinders. See combine operator's manual for instructions.

Adjusting the Header Height (AGCO 6 Series)

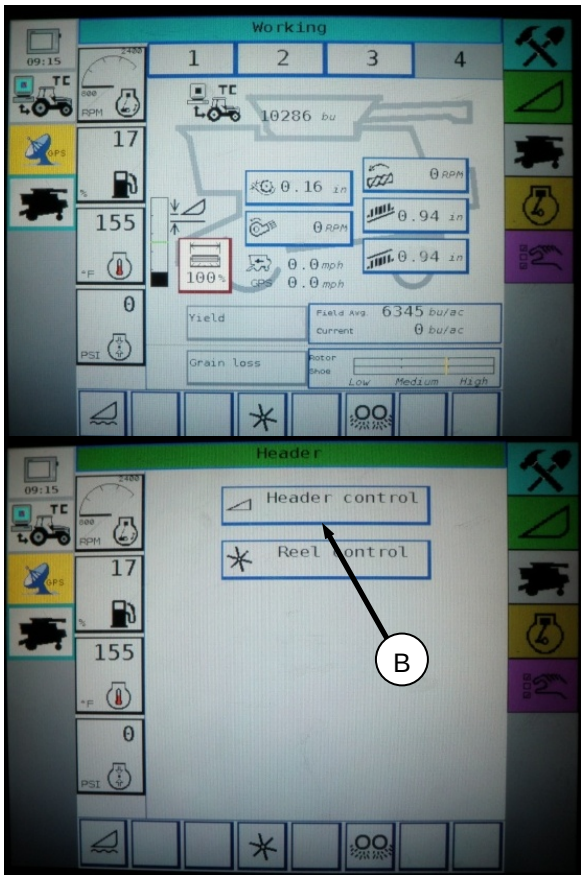
Once the AHHC is activated, press and release the lower button on the control handle. The AHHC will automatically lower the header to the selected height setting.

To selected AHHC height is adjusted using the height adjustment knob on the control console. Turning the knob clockwise increases the selected height and counterclockwise decreases the selected height.

Adjusting the Header Raise/Lower Rate (AGCO 6 Series)

To adjust the header raise/lower rate, follow these steps:

1. On the *Field* page, press the *Header* icon. The *Header* page displays.

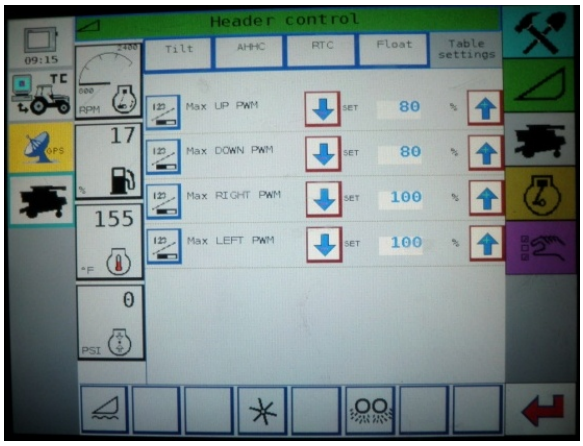


2. Press *Header control* (B). The *Header control* page displays.

3. Go to the *Table Settings* tab.

4. To increase raise speed, make percentage number bigger by pressing up arrow on *Max UP PWM*. To decrease raise speed, make percentage number lower by pressing down arrow on *Max UP PWM*.

5. To increase lower speed, make percentage number bigger by pressing up arrow on *Max DOWN PWM*. To decrease lower speed, make percentage number lower by pressing down arrow on *Max DOWN PWM*.



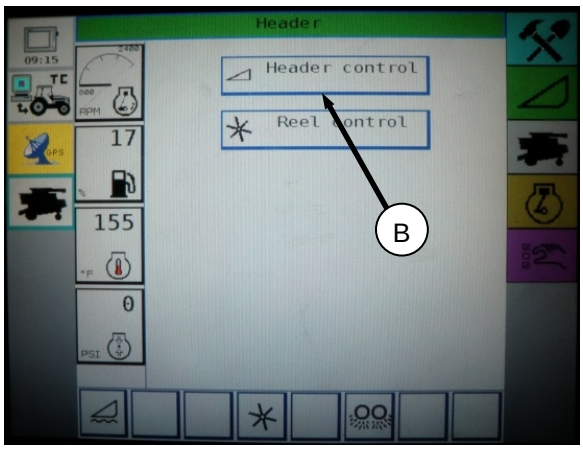
Adjusting the Sensitivity of the Auto Header Height (AGCO 6 Series)

The sensitivity adjustment, controls the distance the cutterbar must travel up or down before the AHHC reacts and raises or lowers the feeder house. When the sensitivity is at the maximum, small changes in the ground height is needed to cause the feeder house to raise or lower. When the sensitivity is at the minimum, large changes in the ground height is needed to cause the feeder house to raise or lower.

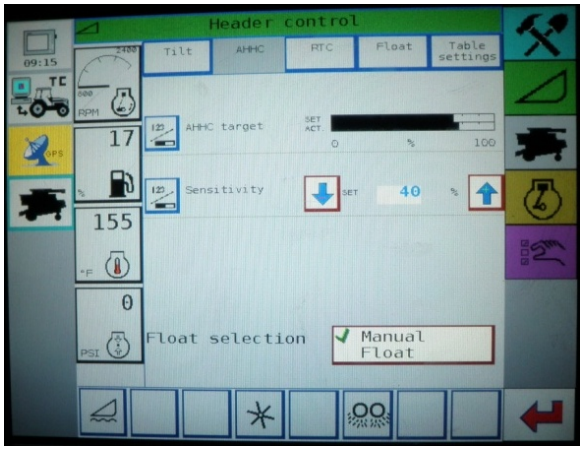
The sensitivity is adjusted in the AHHC page of the Header Control page.

To adjust the sensitivity of the Auto Header Height system, follow these steps:

1. On the field page, press the header icon. The Header page appears.
2. Press the Header control button (B). The Header control page appears. You can adjust sensitivity on this page using the up and down arrows.

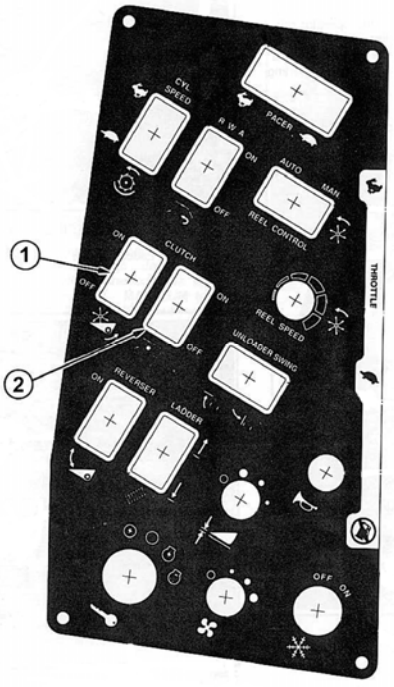


3. Adjust the sensitivity to the maximum setting.
4. Activate the AHHC and press the header lower button on the control handle.
5. Decrease the sensitivity until the feeder house remains steady and does not bounce up and down. This is the maximum sensitivity and is only an initial setting. The final setting must be made in the field as the system reaction will vary with changes in surface and operating conditions.
6. If a maximum sensitivity is not needed, a less sensitive setting will reduce the frequency of header height corrections and component wear. Partially opening the accumulator valve will cushion the action of the header lift cylinders and reduce header hunting.



Operation Settings (Gleaner R62/R72 Series)

Set Auto Header Height operation settings for the AGC) R62 and R72 combines as follows:



1. Engage the Main Threshing Clutch (2) and Header Clutch (1). Speed the throttle (A) to over 2,000 rpms.

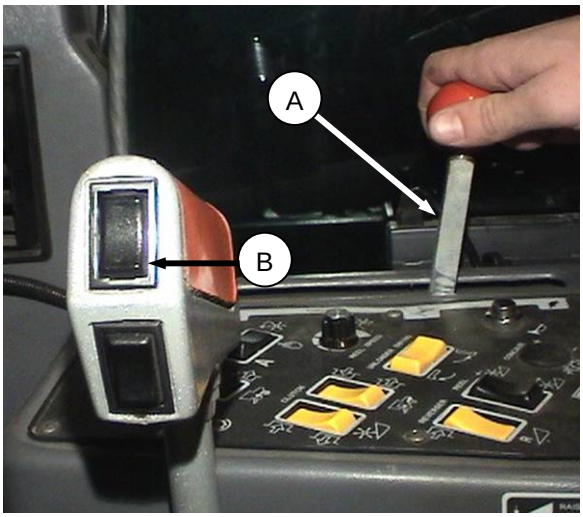
2. Push the Auto Header Height button (C). The LED light (D) should flash continuously, indicating it is in standby mode and waiting for a response from the operator.

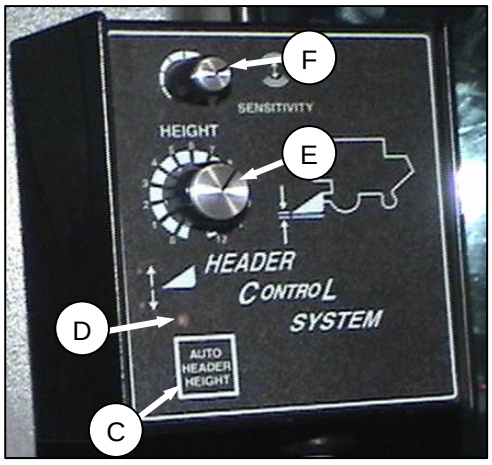
3. Momentarily push the header down button (B). The header should lower automatically and the LED light (D) should stay illuminated, indicating the auto height system is engaged and working.

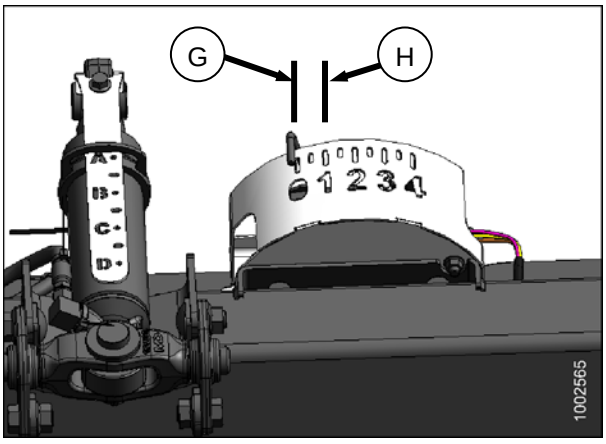
4. To control the ground pressure turn the Height dial (E) to increase or decrease ground pressure.

5. To control the sensitivity or how quickly the auto header height reacts to varying ground conditions, turn the Sensitivity dial (F).

   NOTE: Desired ground pressure is in most cases one number separation of the Auto Header Height from having the header fully suspended off the ground (H) to just sitting on the ground (G).







Turning the Accumulator Off (Gleaner R65/R75)

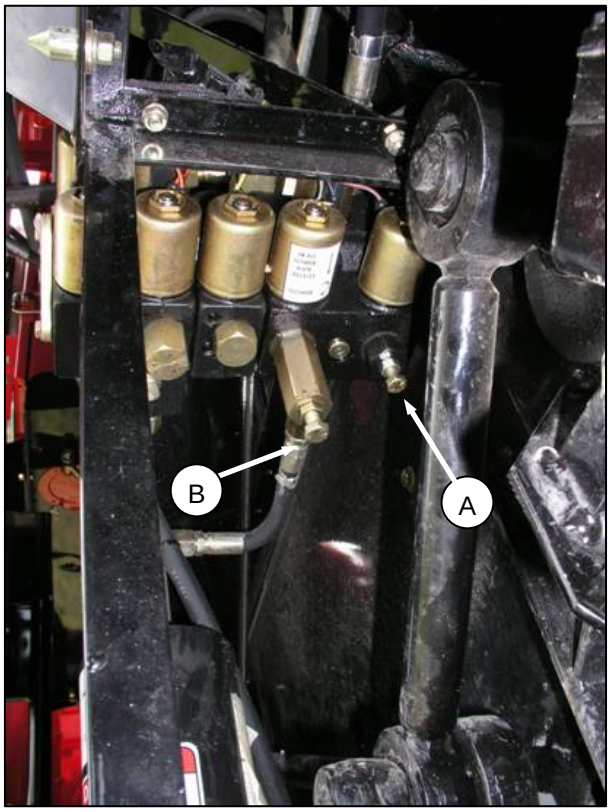
Refer to the combine's operator's manual for proper procedure when turning accumulator off and on. For best performance, turn the feeder house accumulator off. The accumulator will affect the combines' reaction time and greatly inhibit the Auto Header Heights' performance.

NOTE: The accumulator is located in front of the front left axle beam.

Adjusting the Header Raise/Lower Rate (Gleaner R65/R75)

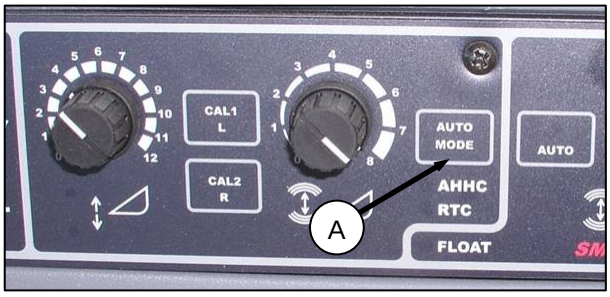
Header height control system stability is affected by hydraulic flow rates. Ensure that the header raise (A) and lower (B) adjustable restrictors in the hydraulic valve are adjusted so it takes approximately six seconds to raise the header from ground level to maximum height (hydraulic cylinders fully extended) and approximately six seconds to lower the header from maximum height to ground level.

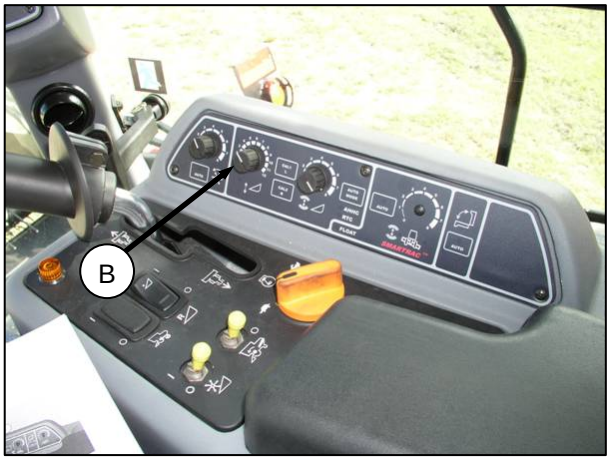
NOTE: Make this adjustment with the hydraulic system at normal operating temperature (130°F/54.4°C) and the engine running at full throttle.



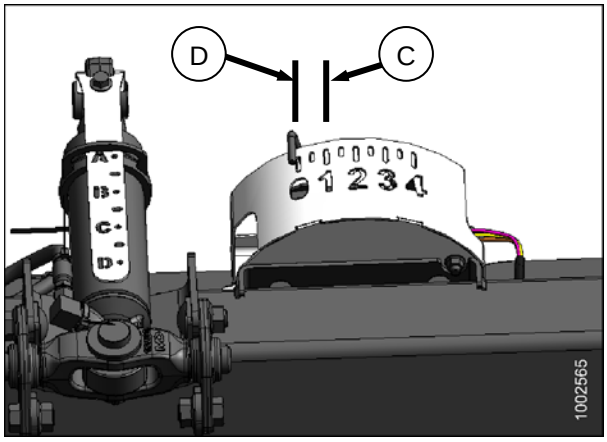
Adjusting Ground Pressure (Gleaner R65/R75)

To adjust height of header, be sure the header is in Auto Header Height Control (AHHC) mode indicated by the LED (A) being solid. The header will lower to the height (ground pressure) corresponding to the position selected with the height control knob (B). Turn the knob counterclockwise for minimum ground pressure and clockwise for maximum ground pressure.





NOTE: Desired ground pressure is in most cases one number separation of the Auto Header Height from having the header fully suspended off the ground (C) to just sitting on the ground (D).



Adjusting the Sensitivity of the Auto Header Height (Gleaner R65/R75)

The sensitivity adjustment dial (A) is used to control the distance the cutterbar travels (moves up or down) in relation to the header frame (flex head) or header in relation to ground (rigid or corn head) before the control module activates the hydraulic valve to raise or lower the header frame.

When the sensitivity adjustment dial (A) is turned completely clockwise, the control module is set to the “MOST” sensitive position. In this position, the cutterbar typically only moves up and down a distance of approximately 3/4 inch (19 mm) before the control module activates the hydraulic control valve to raise or lower the header frame.

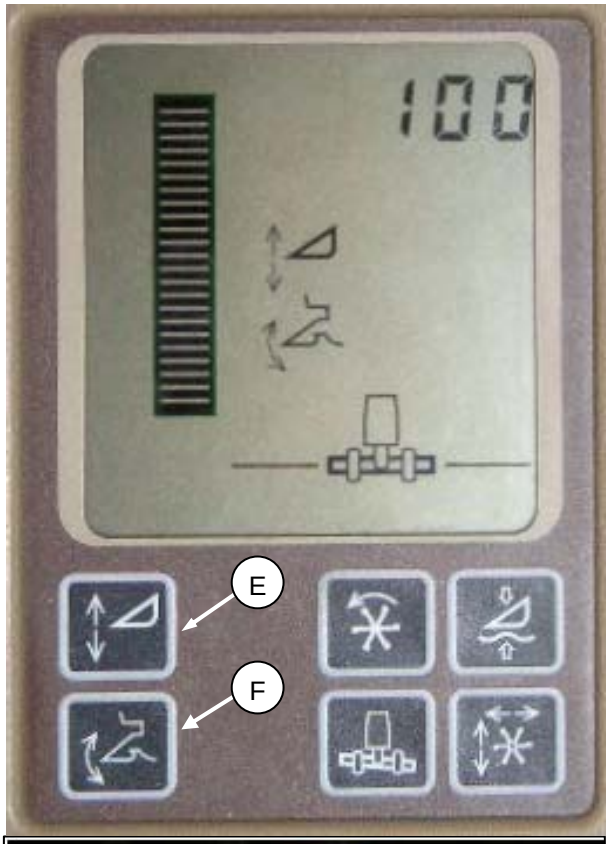
When the sensitivity adjustment dial is turned completely counterclockwise, the control module is set to the “LEAST” sensitive position. In this position, the flex head cutterbar can move up and down approximately 2 inches (51 mm) before the control module activates the hydraulic control valve to raise or lower the header frame. The “HEADER SENSE LINE” input changes the range of the sensitivity sensor as well. Connected to a draper, the counterclockwise position (least sensitive) allows for approximately 4 inches of vertical travel before correction is initiated.

Operating the Auto Header Height (John Deere 50, 60, and 70 Series

To operate the Auto Header Height, follow these steps:

1. Ensure the header height resume and active header control functions are on.

   Do this by pressing the buttons on the top monitor. Header height resume is indicated with a header diagram with a curved arrow in front of it (F) and active header height is indicated with an arrow going up and down in front of it (E). Icons will appear on the monitor with the same picture that is displayed on the buttons. This indicates that your auto header height, resume and active header control is turned on.



2. Once the header height resume and auto header control are turned on, use buttons 2 and 3 on your hydrostatic lever for active header control.

   NOTE: Button 1 is reserved for auto height resume which will return the header to a certain height, but will not automatically compensate for ground variation.

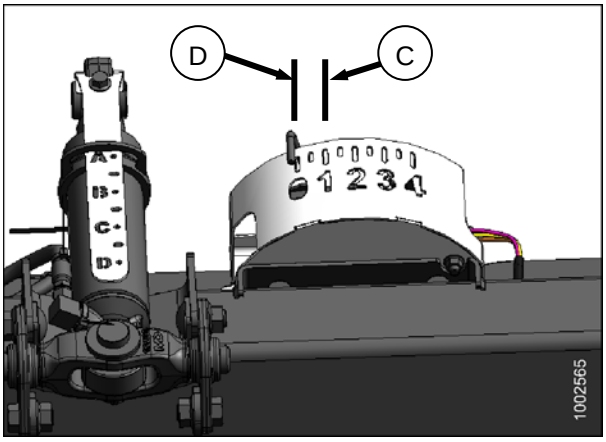
   NOTE: In order to use any of the buttons the combine must be running, the auto header height sensing must be turned on, and the header switch and feeder house must also be engaged.

   Once you choose which button you are going to use, push it and the header will position itself at a default height.

Active Header Control Display

3. From this position adjust the header to the desired ground pressure by turning your AHC dial (auto header control dial) located at the upper right hand corner of the console (H).

NOTE: Desired ground pressure is in most cases one number separation of the Auto Header Height from having the header fully suspended off the ground (D) to just sitting on the ground (C).



Once you have set your desired ground pressure the Auto Header Height will now maintain constant float at this ground pressure (it will lower or raise the feeder house to compensate for the changes in ground height).

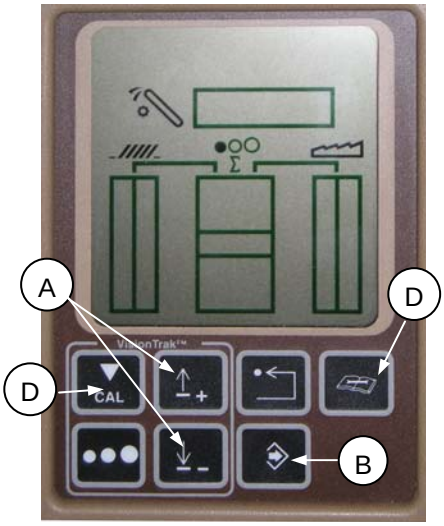
The additional buttons (2 or 3) on the hydrostatic lever are used for two different ground pressure settings. The dial (H) will work for the specific button that was pushed to activate auto header control. Each time the button is pushed the header will return to that specific ground pressure.

NOTE: The Auto Header Height is designed to optimize your float when cutting on the ground. It does not function when the cutter bar is off the ground.

Turning the Accumulator Off (John Deere 60 Series)

To turn the accumulator off, follow these steps:

1. Press the diagnostic button on the VisionTrak Display monitor (this is the button with the open book with the wrench on top of it (C) **DIA** appears on the monitor.
2. Press the up button (A) until **EO1** appears on the monitor (these are all your header adjustments). Then press enter (B).
3. Now press the up or down button (A) until **132** is displayed on the top portion of the monitor. This is the reading of the accumulator.
4. Once you have **132** displayed at the top of the monitor, press enter (B). This will now allow you to change the display to a three-digit number so it has a “0” in it. For example, “x0x”.
5. Press the up or down button (A) until the desired number is displayed, and then press the cal (D) button.
6. The accumulator is now deactivated. Press enter (B) to save the changes.

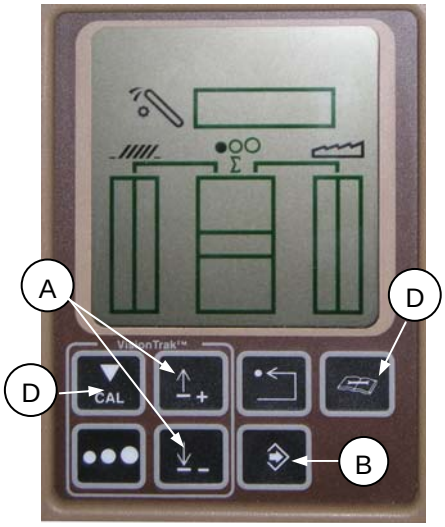


VisionTrak Display

Setting the Sensing Grain Header Height to “50” (John Deere 60 Series)

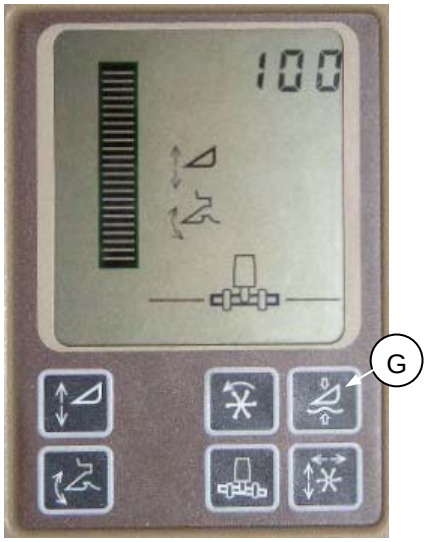
To set the sensing grain header height, follow these steps:

1. Press the diagnostic button on the “Vision Trak Display” monitor (this is the button with the open book with the wrench on top of it (C) **DIA** appears on the monitor.
2. Press the up button (A) until **EO1** appears on the monitor (this is all your header adjustments), and then press enter (B).
3. Press the up or down button (A) until **128** is displayed on the top portion of the monitor. This is the reading of the sensor.
4. Press enter (B). Now you can change the display so it has a “50” in it.
5. Push the up or down button (A) until the desired number is displayed, then press the CAL (D) button.
6. The height is now set. Press enter (B) to save the changes.



VisionTrak Display

NOTE: Do not use the active header float function (G) in combination with the MacDon Auto Header Height as the two systems will counter-act one another. Header symbol on display should not have wavy line under it and should appear exactly as shown on the *Active Header Control Display* illustration.



Active Header Control Display

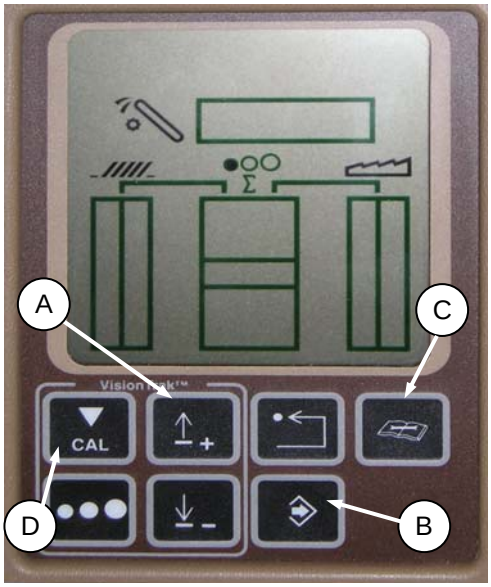
Increasing the Sensitivity of the Auto Header Height (John Deere 60 Series)

NOTE: This is also known as dead band adjustment.

To increase the sensitivity of the Auto Header Height, follow these steps:

1. Press the diagnostic button on the monitor—the button with the open book with the wrench on top of it (C) **dIA** appears on the monitor.
2. Press the up button (A) until **EO1** appears on the monitor (these are all your header adjustments), and then push the enter button (B).
3. Press the up or down button until **112** is displayed on the monitor. This is your sensitivity setting; the lower the reading, the higher the sensitivity. You should operate in the 50 to 80 range.
4. To adjust the sensitivity, once you have **112** displayed at the top of the monitor, press enter. You can now change the first digit of the number sequence.
5. Press the up or down button (A) until the desired number is displayed, and then press the CAL button (D). This brings you to the second digit. Repeat this procedure until the desired setting is achieved. Press enter (B) to save changes.

   NOTE: The numbers under this display are simply reference numbers; they do not represent any particular value.



ACTIVE HEADER CONTROL DISPLAY

TRIPLE DISPLAY TACHOMETER

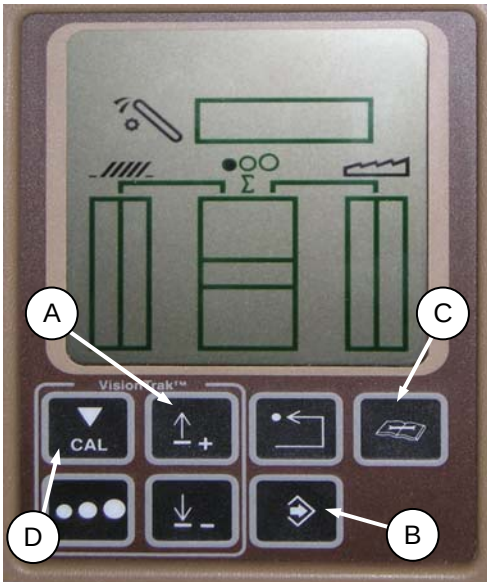
Adjusting the Threshold for the Drop Rate Valve (John Deere 60 Series)

This adjusts the point at which the restrictor valve opens allowing full flow to the lift cylinders.

To increase the flow rate sooner, follow these steps:

1. Press the diagnostic button on the monitor—the button with the open book with the wrench on top of it (C) **dIA** appears on the monitor.
2. Press the up button (A) until **EO1** appears on the monitor (these are all your header adjustments), and then push the enter button (B).
3. Press the up or down button until **114** is displayed on the monitor. This is the setting that adjusts when the fast drop rate starts with respect to the dead band. The default setting is 100. You should operate in the 60 to 85 range.
4. To adjust the threshold, once you have **114** displayed at the top of the monitor, press enter. You can now change the first digit of the number sequence.
5. Press the up or down button (A) until the desired number is displayed, and then press the CAL button (D). This will bring you to the second digit. Repeat this procedure until the desired setting is achieved. Press enter (B) to save changes.

   NOTE: The numbers under this display are simply reference numbers; they do not represent any particular value.

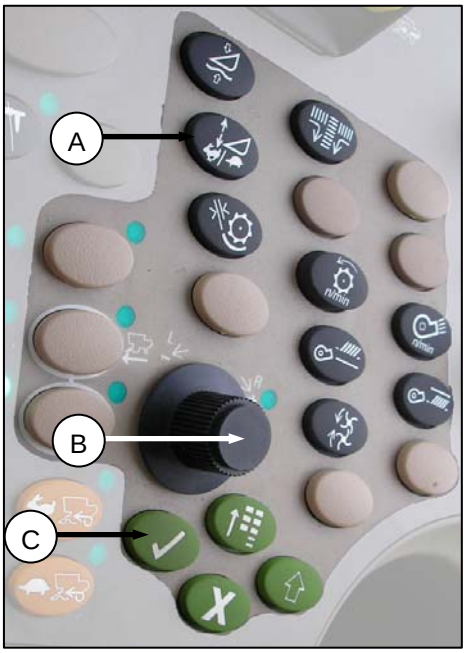


ACTIVE HEADER CONTROL DISPLAY

TRIPLE DISPLAY TACHOMETER

Increasing the Sensitivity of the Auto Header Height (John Deere 70 Series)

To adjust the sensitivity of the Auto Header Height, follow these steps:



1. Press button (A), found on the right-hand console, twice. On the Command Center the page displays the current setting. This is your sensitivity setting, the lower the reading the lower the sensitivity.

2. To adjust the sensitivity setting, use scroll knob (B). The adjustment will be automatically saved. If the page remains idle for a short period of time it will return to its previous page or the enter button (C) can be pushed to return to the previous page.

NOTE: The numbers under this display are simply reference numbers they do not represent any particular value.

Adjusting the Manual Header Raise/Lower Rate (John Deere 70 Series)

To adjust the raise/lower rate, follow these steps:

1. Press button (A), found on the right-hand console, once. On the Command Center the page displays the current setting. This is your raise/lower rate setting. The lower the reading the slow the rate.

2. To adjust the rate, use scroll knob (B). The adjustment will be automatically saved.

   If the page remains idle for a short period of time it will return to its previous page or the enter button (C) can be pushed to return to the previous page.

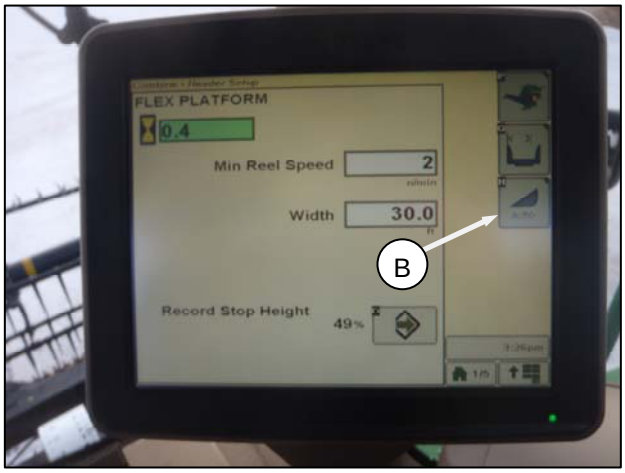
NOTE: The numbers under this display are simply reference numbers they do not represent any particular value.

Operating the Auto Header Height (John Deere S Series)

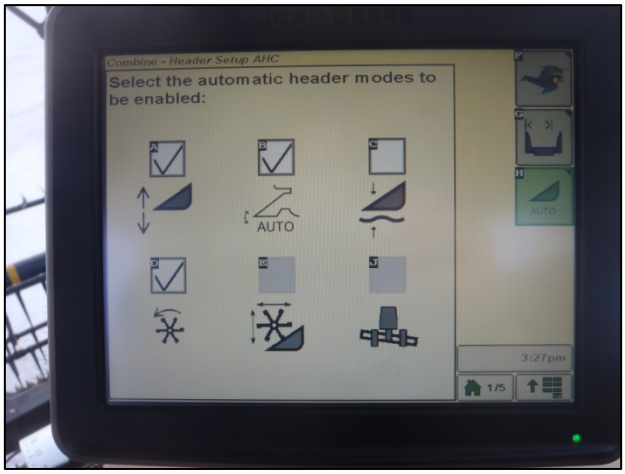
To operate your Auto Header Height, follow these steps:

1. From the main page of the Command Center, press the header option button (A).This the icon with a header on it. The Combine - Header Setup page displays. This page is used to set various header settings such as reel speed, header width, and height of feeder house for acre counter engagement.

2. To go to the automatic header modes page select icon (B) with a side view of a header. The Combine – Header Setup AHC page displays.



3. Select the top left and center icons for auto height sensing and return to cut.



4. After the two icons are selected you will be able to set the ground pressure preset on the joy stick by having button #2 as a light ground pressure setting for muddy or soft soil conditions and button #3 as a heavier setting for harder soil conditions with a faster ground speed so the header does not skip crop.

   Button #1 is reserved for header lift on the headland it does not have on the ground cutting capabilities.

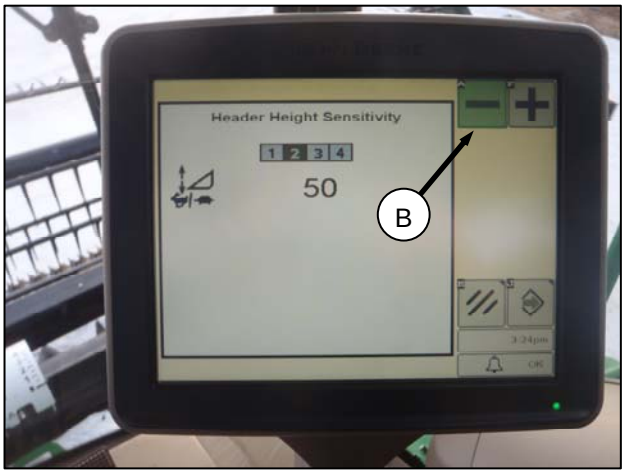
5. Adjustment for selecting the different button settings is done by control knob (A) in middle picture.

6. When the header height is engaged, the Auto header height icon appears on the monitor with the number from which button is pressed, as shown in the bottom picture.

Increasing the Sensitivity of the Auto Header Height (John Deere S Series)

To adjust the sensitivity of the Auto Header Height, follow these steps:

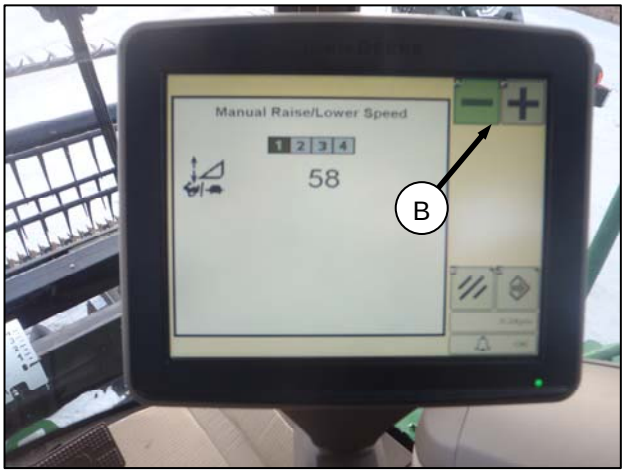
1. Press button (A) (twice). On the Command Center, the page will display the current setting.



2. To adjust rates, press the “-“or “+” sign (B) to make a change.

Adjusting the Manual Header Raise/Lower Rate (John Deere S Series)

To adjust the raise/lower rate, follow these steps:



1. Press the top right button (A) (once) shown in the top picture. On the Command Center the page will display the current setting.

2. To adjust rates press the “-“or “+” (B) button to make a change.

Setting Cutting Height (Lexion 500 Series)

The cutting heights can be programmed into the preset cutting height and into the auto contour system. Use the preset cutting height for cutting heights above 5.9 inches (150 mm) (J). Use the auto contour system for cutting heights below 5.9 inches (150 mm) (H).

Use the “<” key or use the “>” key in order to select the Cutting height window. Press the “OK” key in order to open the respective sub menu.

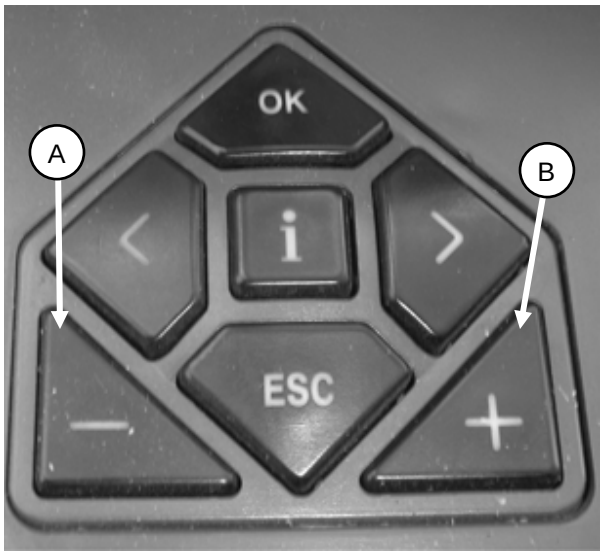
An active value is indicated by a solid arrow. An inactive value is indicated by an empty arrow.

Setting Preset Cutting Height

To program the settings of the preset cutting height, follow these steps:

1. Start the engine.
2. Activate the machine enable switch.
3. Engage the threshing mechanism.
4. Engage the header.
5. Briefly press button (H) in order to activate the auto contour system or briefly press button (J) in order to activate the preset cutting height.

   NOTE: Button (H) is used only with AHHC function. Button (J) is used only with the return to cut function.
6. Use the “-” key (A) or use the “+” key (B) in order to set the desired cutting height. An arrow indicates the selected cutting height on the scale.
7. Briefly press button (H) or button (J) in order to select the set point.
8. Repeat step 6 for the set point.



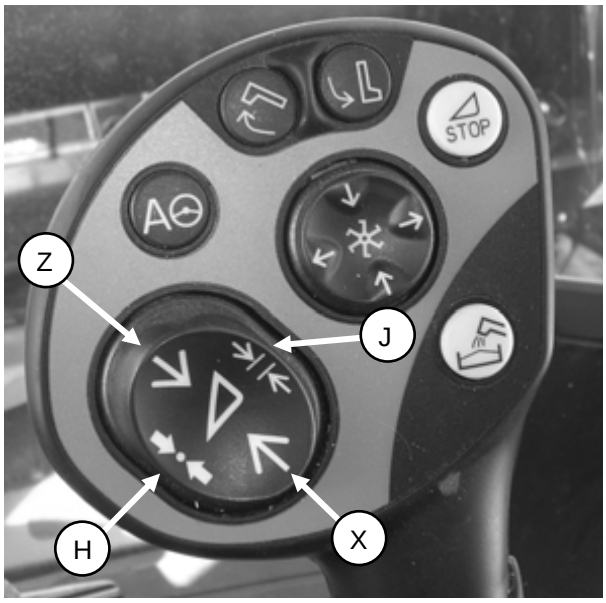
Setting Cut Height Manually

To set the cutting height manually, follow these steps:

1. When you enter the crop use button (X) or use button (Z) in order to set the cutting height. Then press button (H) or press button (J) for three seconds. This stores the cutting height into the CEBIS. The alarm will sound when the new setting is stored.

2. Briefly press button (H) or button (J) in order to select the second set point.

3. Repeat step 1 for the second set point.

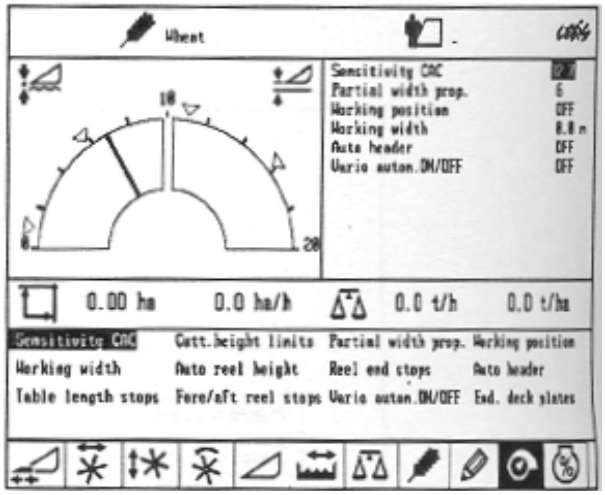


Adjusting the Sensitivity of the Auto Header Height (Lexion 500 Series)

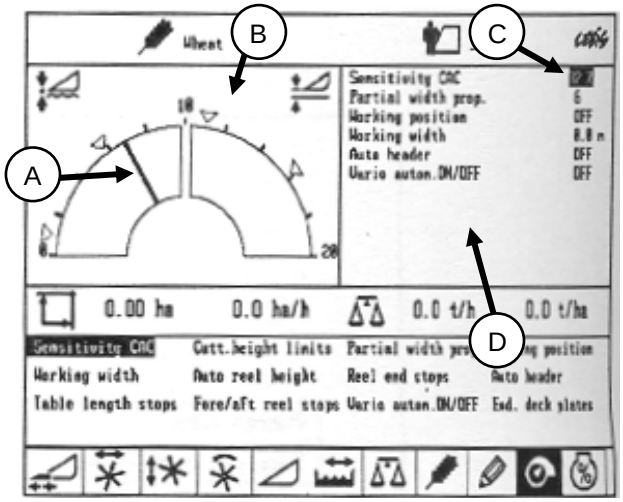
Setting the sensitivity of the AHHC system influences the reaction speed of the AHHC on the header.

NOTE: CEBIS must learn the upper limits and the lower limits of the header before you adjust the sensitivity of the AHHC system. The setting can be adjusted from 0 percent to 100 percent. When sensitivity is adjusted to 0 percent, the signals from the sensing bands have no effect. When set to 100 percent, sensing bands have maximum effect on the automatic cutting height adjustment. 50% is a recommended starting point

1. Use the “<“ key or the “>” key to select “Sensitivity CAC”. Press the “OK” key to confirm the selection.
2. Use the “-” key or the “+” key to change the reaction speed setting. Press the “OK” key in order to confirm the setting.

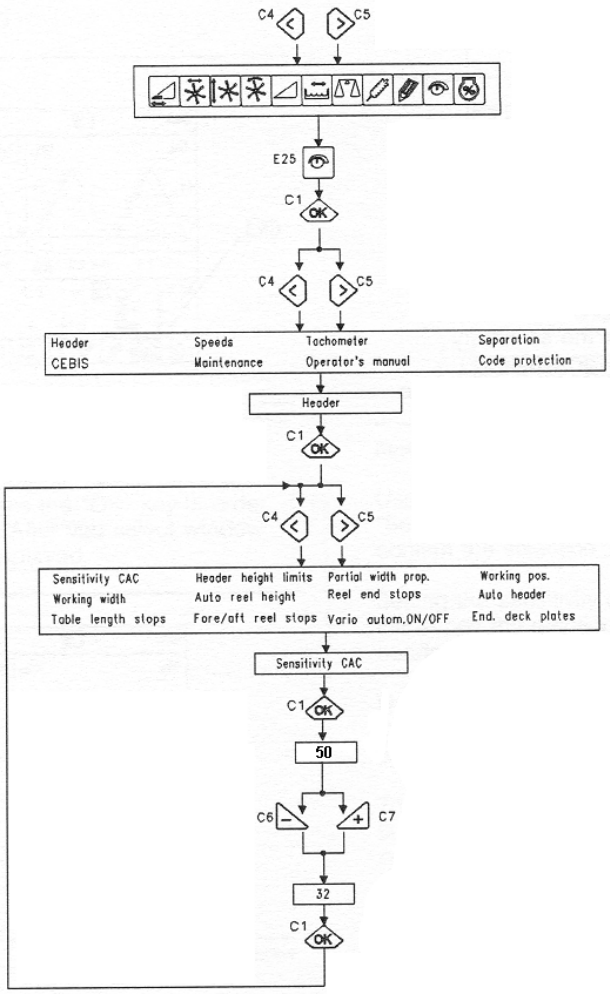


Line (A) indicates the setting of the sensitivity. Window E4 (B) displays the (A). Also value (C) indicates the sensitivity. Window E5 (D) displays value (C).



150
Operation Section
Combine Electronic Board Information System

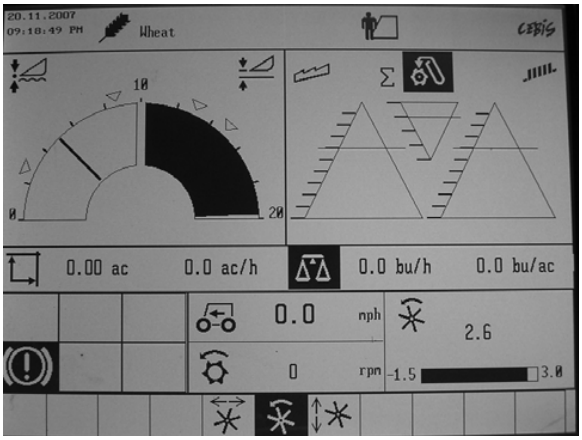
Flow Chart for Setting The Sensitivity of The Float Optimizer



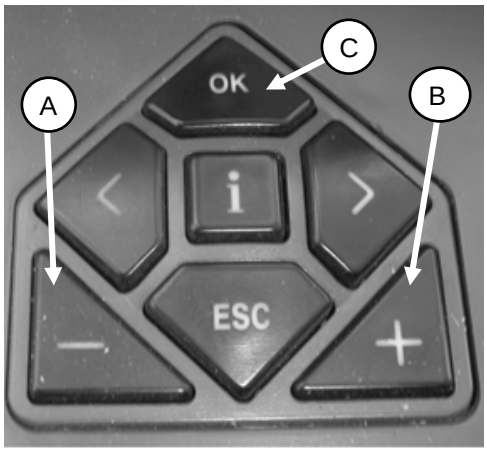
AHHC CALIBRATION

Adjusting Auto Reel Speed (Lexion 500 Series)
The preset reel speed can be set when the automatic header functions are activated.

To set the preset reel speed, follow these steps:



1. Use the “<” key or the “>” key to select reel window. When reel window is selected, window (E15) will display the current advance or retard speed of the reel relation to the ground speed.



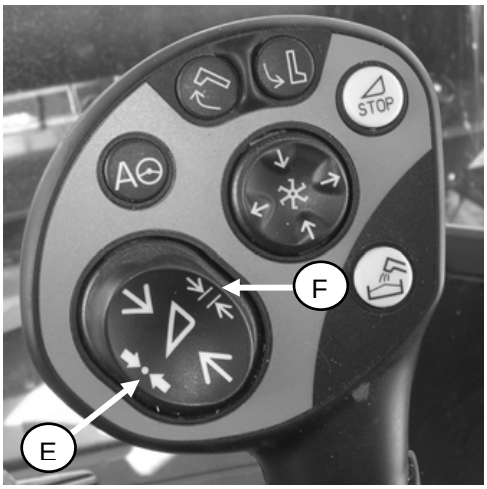
2. Press the “OK” key (**C**) in order to select the reel speed window.
3. Use the “-” key (A) or use the “+” key (B) in order to set the reel speed in relation to the current ground speed. Window (E15) will display the selected reel speed.

You can also manually adjust the reel speed by rotating the rotary switch to the reel position (D), and then using the “-” key (A) or the “+” key (B) to set the reel speed.

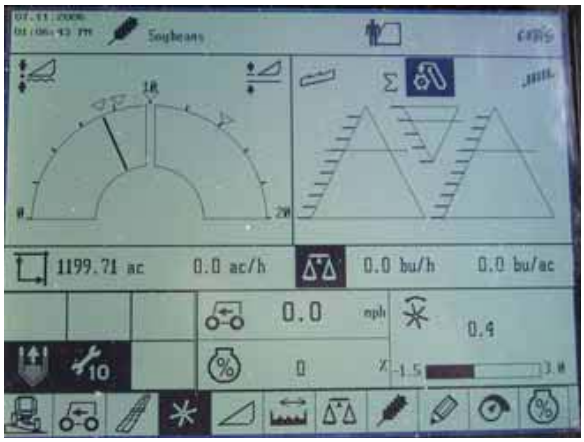
4. Press button (E) or (F) for three seconds in order to store the setting into CEBIS.

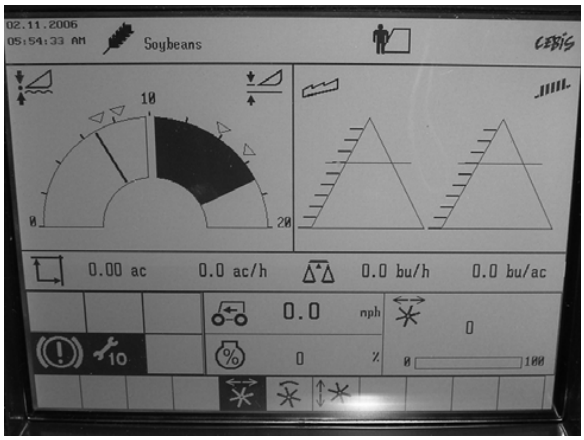
   NOTE: The alarm will sound when the new setting is stored.

   NOTE: Whenever button (E) or (F) is pressed for three seconds, the current positions for the following functions are stored: reel speed and cutting height.



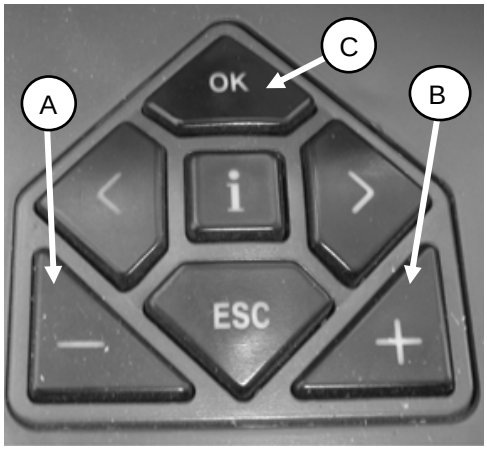
5. Use the “<” key or the “>” key to select the reel window. When the reel window is selected, window (E15) will display the current advance or retard speed of the reel in relation to the ground speed.



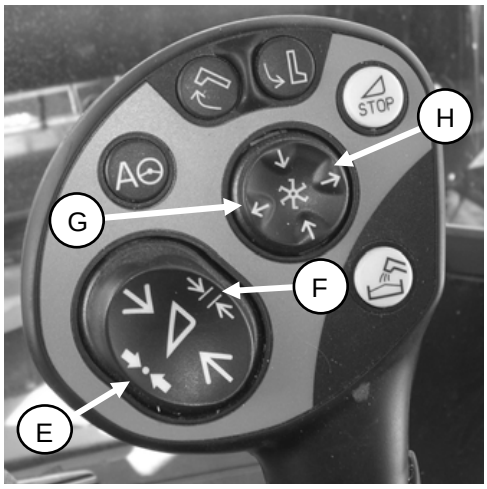


6. Press the “OK” button (C). Use the “<“ key or the “>” key to select the reel fore and aft window.

7. Use the “-” key (A) or the “+” key (B) to set the fore-aft position of the reel.



You can also use button (G) or (H) to set the fore-aft position of the reel.



8. Press button (E) or button (F) for three seconds to store the setting into CEBIS.

   NOTE: The alarm will sound when the new setting is stored.

   NOTE: Whenever button (E) or button (F) is pressed for three seconds, the current positions for the following functions are stored: reel speed and cutting height.

Setting Cutting Height (Lexion 700 Series)

To set cutting height, follow these steps:

1. Lower the header to desired cutting height or ground pressure setting. The indicator on the float indicator box (white box on top of the CA25 adapter) should be set to 1.5

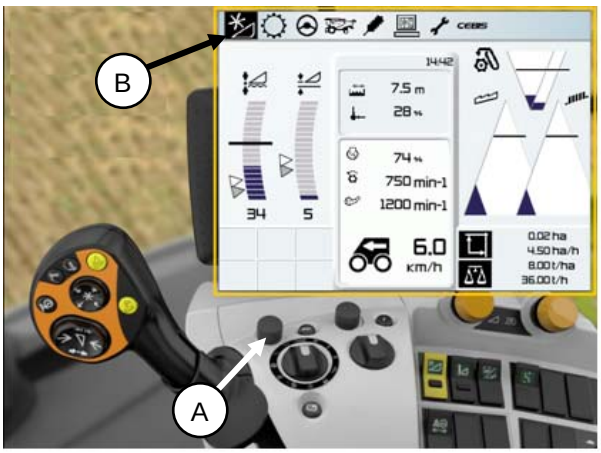
2. Hold the left side of the header lift and lower switch (A) until you hear a ping.

   You can set two different cutting heights.

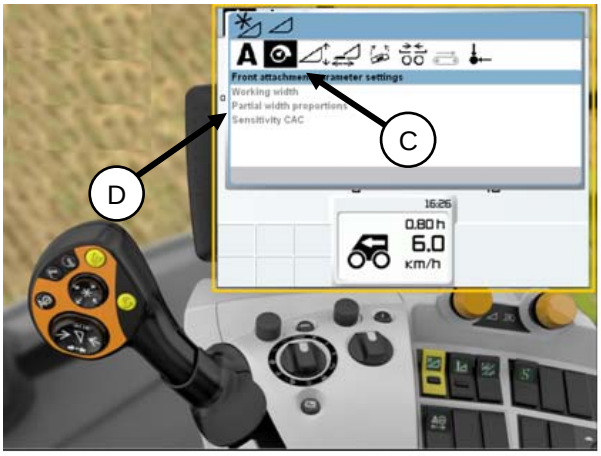
Adjusting the Sensitivity of the Auto Header Height (Lexion 700 Series)

To adjust the sensitivity of the Auto Header Height, follow these steps:

1. Use control knob (A) to navigate to the header and reel icon (B) on the CEBIS screen.
2. Push the knob to select this icon. The header/reel window opens.



3. Select the *Front attachment parameter settings* icon (C). A list of settings appears.
4. Select *Sensitivity CAC* (D) from the list and then when the window changes, select the Sensitivity CAC icon (E).

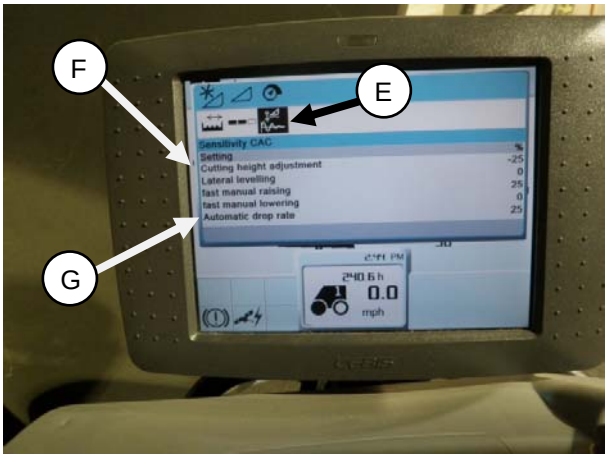


5. To set the sensitivity you will have to change the cutting height adjustment from the 0 default. The settings between 1 to 50 provide a faster response. Settings between -1 to -50 provide a slower response. When making adjustments to the above numbers, do it in increments of 5.

   There are two settings to change:

   - Cutting Height Adjustment (F)
   - Auto Drop Rate (G)

   When cutting on the ground and the reaction between the header and the adapter is too slow increase the Cutting height adjustment



   When the feeder house reacts (hunting) up and down too fast, decrease the cutting height adjustment.

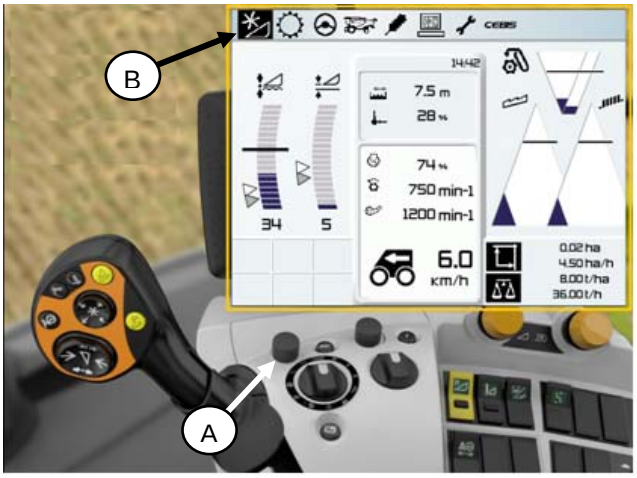
   When lowering the header takes too much time, increase the sensitivity.

   When the header hits the ground to hard and too quickly, decrease the sensitivity.

Adjusting Auto Reel Speed (Lexion 700 Series)

To adjust the auto reel speed, follow these steps:

1. Use control knob (A) to navigate to the header and reel icon (B) on the CEBIS screen.
2. Push the knob to select this icon. The header/reel window opens.



3. If you are not using Auto Reel Speed, in the window under *Reel*, select *Reel speed* (C). A graph displays. Use control knob (A) to adjust the reel speed.

4. If you are using Auto Reel Speed, in the window under *Auto reel speed*, select *Actual value* (D). The Actual value window opens and displays the auto reel speed.

5. Use control knob (A) to reduce or increase the reel speed.

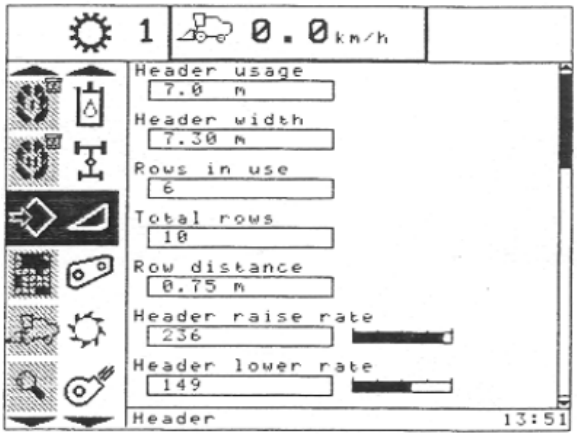
Adjusting Header Raise Rate (New Holland CR/CX Series)

If the header raise rate (the first speed on the header height rocker switch of the multifunctional handle) is not acceptable, it can be adjusted.

To adjust the header raise rate, follow these steps:

1. On the combine display screen, select Header raise rate.
2. Use the “+” or “–“ buttons to change the setting.
3. Press ENTER to save the new setting.

NOTE: The raise rate can be changed between 32 and 236 in steps of 34. The factory setting is 100.



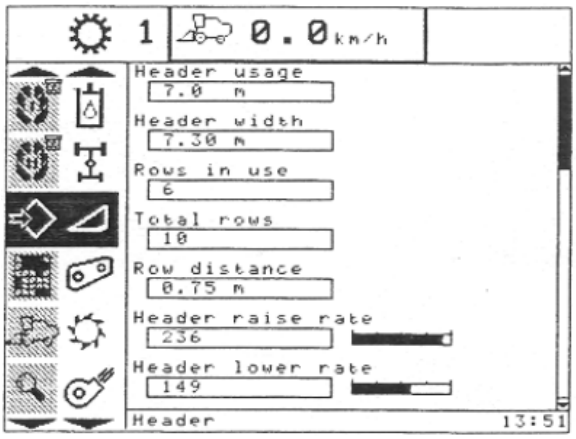
Setting the Header Lower Rate to 50 (New Holland CR/CX Series)

The fast lower speed (the automatic header height control button or second speed on the header height rocker switch of the multi-function handle) can be changed.

To set the header lower rate, follow these steps:

1. On the combine display screen, select Header lower rate.
2. Use the “+” or “–“ buttons to change the setting to 50.
3. Press ENTER to save the setting.

NOTE: The setting can be changed between 2 and 247% in steps of 7. It is factory set to 100%.

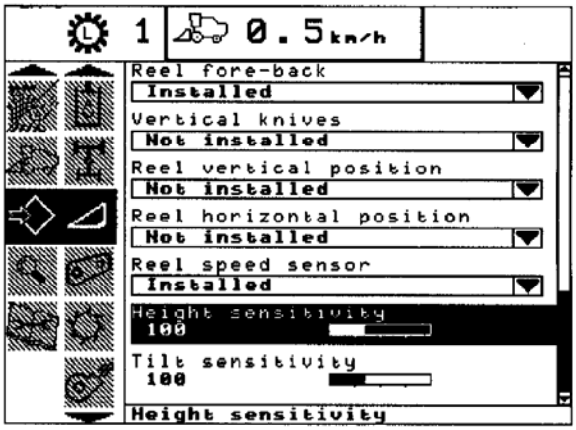


Setting the Auto Header Height Sensitivity to 200 (New Holland CR/CX Series)

To set the Auto Header Height sensitivity, follow these steps:

1. Engage threshing and feeder house.
2. On the combine display screen, select *Height Sensitivity*.
3. Use the “+” or “–“ buttons to change the setting to 200.
4. Press ENTER to save the setting.

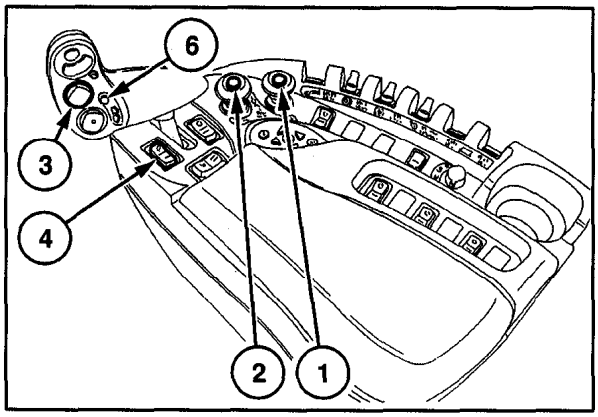
NOTE: The setting can be changed between 10 and 250 in steps of 10. It is factory set to 100.



Setting Cutting Height (New Holland CR/CX Series)

When cutting on the ground, the header will follow the field contours at a preselected stubble height.

To program the settings of the preset cutting height, follow these steps:



1. Start the engine.
2. Engage the threshing mechanism and the feeder with switches, 1 and 2.
3. Set header memory rocker switch 4 in stubble height/autofloat mode position, 1 or 2.
4. Lower the header to the desired cutting height using the header height and header lateral floatation rocker switch, 3.
5. Press automatic header height resume button, 6, for minimum 2 seconds to store. (A beep will confirm setting).

   NOTE: It is possible to store two different header height values by using header memory rocker switch 4 in stubble height/autofloat mode position, 1 or 2.
6. To change one of the memorized header height setpoints during working, using the header height and header lateral floatation rocker switch, 3, (slow up/down) to raise or lower header to the desired value. Press the automatic header height control button, 6, for a minimum of 2 seconds to store the new height position. (A beep will confirm setting).

   NOTE: Do not press too hard on header height control button 6 or float mode will be disengaged.

   NOTE: It is not necessary to press rocker switch 4, again after adjusting.

   NOTE: The status bar on the monitor shows in which mode the header works: There are three different modes:

   - Stubble height mode
   - Autofloat mode **– Must be in this mode for Auto Header Height to work.**
   - Compensation mode


STUBBLE HEIGHT MODE


AUTOFLOAT MODE


COMPENSATION MODE

   NOTE: The status bar on the monitor shows if touching ground during working in stubble or autofloat mode. This does not indicate that the machine is no longer in auto float mode.

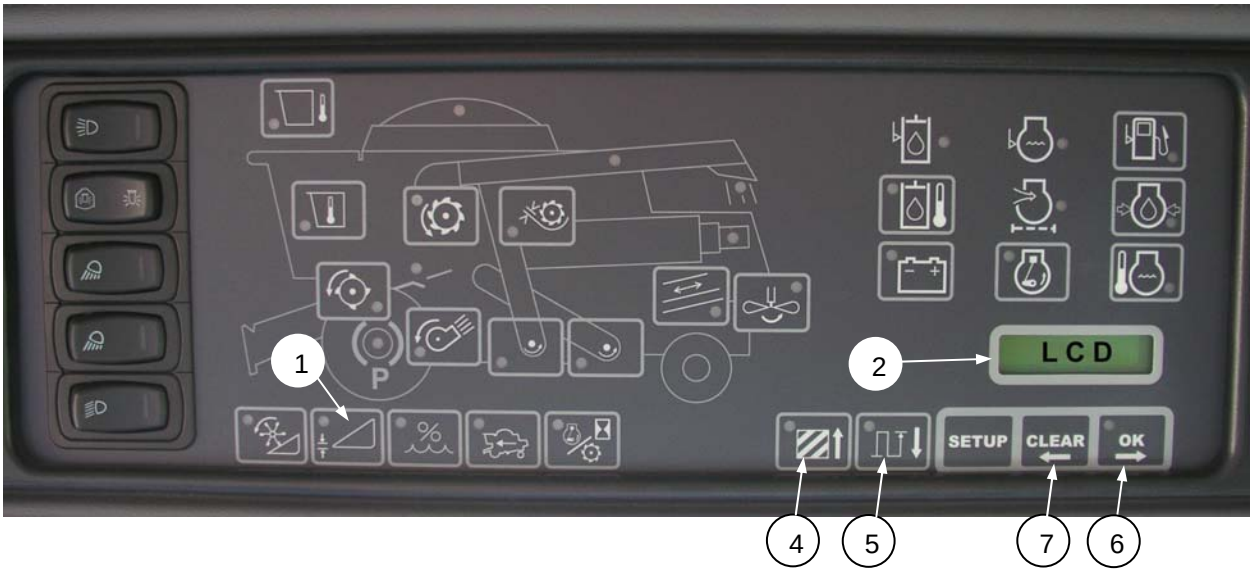
Diagnostics

Diagnostics (Gleaner R65/R75)

Display type:

Displayed on LCD (2) as “XX in” or “XXX cm”.

Displayed on tachometer (**3**) as “XX” or “XXX”.



Alarm conditions:

If an error is indicated in message received from the fuse panel, an audible alarm is set. The LCD on the EIP indicates the header system in error as **HDR CTRL** followed by **HGT ERR** for height, and **HDR CTRL** followed by **TILT ERR** from tilt. The header height LED flashes yellow two times every second.

The alarm is also noted by the buzzer sounding five times every 10 seconds.

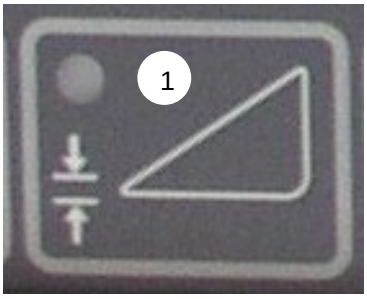
NOTE: If the header height switch (1) is pressed for 5 seconds or longer, the EIP goes into auto header height/tile (HTC) control diagnostic mode.

When an alarm condition occurs, switch green LED flashes on and off (green, yellow, or red depending on the input).

In addition, a message is displayed on the LCD to identify the nature of the alarm. For example, **HYD TEMP**, **OPEN**, **SHrt** will be flashed alternately.

Diagnostic fault failures (Gleaner R65/R75):

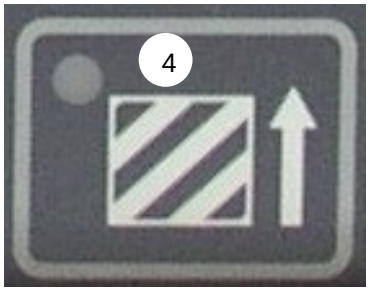
Pressing the header height switch (1) for a minimum of five seconds will put Electronic Instrument Panel (EIP) in header diagnostic mode.



The LCD (shown on previous page) will display the message **HDR DIAG** when the EIP has entered header diagnostic mode.

In this mode, after three seconds, header fault parameter labels are displayed on the EIP LCD.

NOTE: all the information displayed is read only.

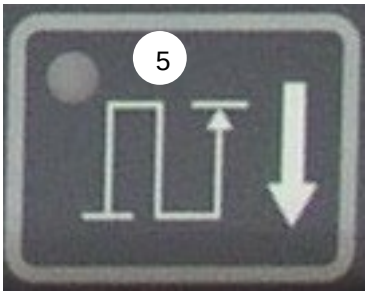


The OK (6) and CLEAR (7) buttons allow the operator to scroll through the list of parameters.

NOTE: If there are no active fault codes, the EIP LCD will display **NO CODE**.

When a parameter is displayed, its label is displayed for three seconds, after which its value is automatically displayed.

Pressing OK button (6) at this point when the value is displayed will advance to the next parameter and display its label.

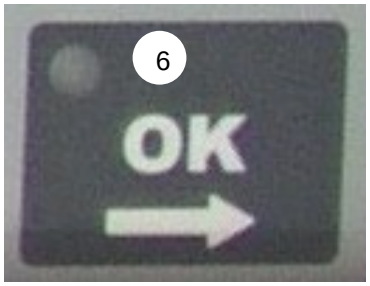


When a parameter label is displayed and the OK button (6) is pressed before three seconds, the parameters value will be displayed.

Pressing AREA (4) will cycle through the options.

NOTE: When **LEFT** is displayed in LCD, press the OK button (6) and the

Auto Header Height voltage will be shown in display.



Proceed with the *Checking the Sensor Settings* procedure on page 9.

Press the DIST button (5) to cycle back through the table.

Press the CLEAR button (7) to exit header diagnostics and return to normal mode.

STEP 15. RUN-UP THE HEADER

a. Start combine, raise header fully, and engage header lift cylinder locks. Shut down combine, and remove key.

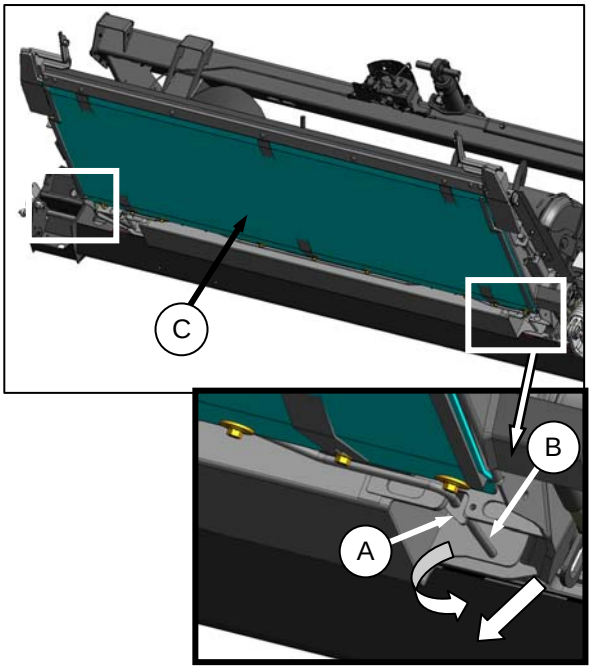
WARNING

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

CAUTION

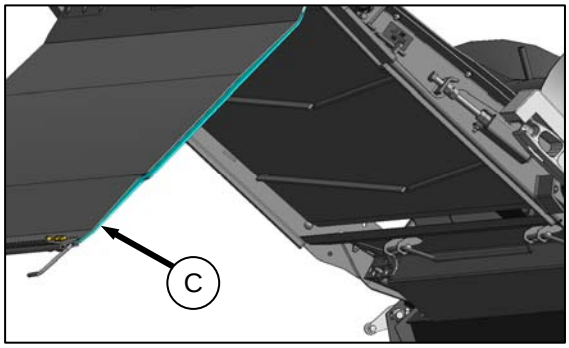
Engage header lift cylinder stops before working under header.

b. Lower poly pan under adapter, and check for shipping materials/debris that may have fallen under adapter draper:

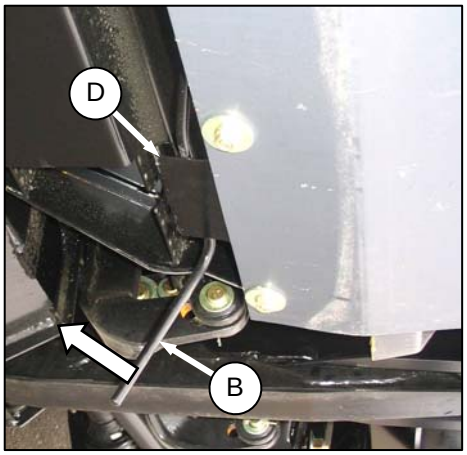


c. Rotate latches (A) to unlock handle (B).

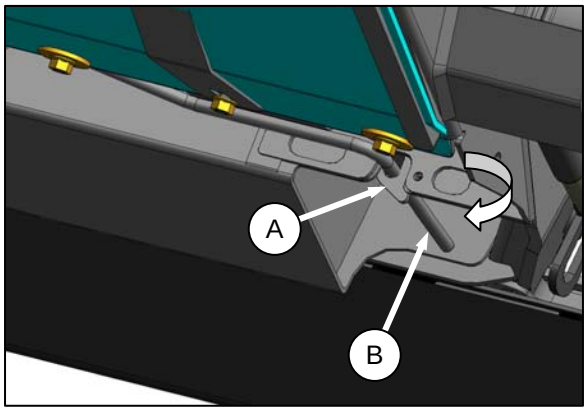
d. Hold pan (C), and rotate handle (B) to release pan. Lower pan to expose draper.



e. Check and remove debris from pan (C) and draper.



f. Raise pan, and rotate handle (B) so that rod engages clips (D) on pan.



g. Push handle (B) into slot, and secure with latches (A).

(continued next page)

CAUTION

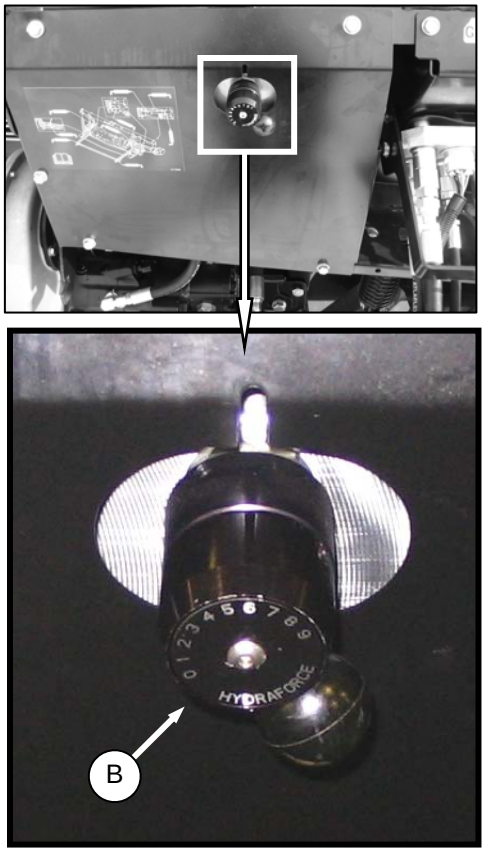
Never start or move the machine until you are sure all bystanders have cleared the area.

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.



h. Check that Flow Control (B) is factory set to position “6” as shown above. If required, turn knob so that setting lines up with slot in panel.

NOTE

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

i. Ensure feeder house variable speed is set to minimum.

j. Start combine, and run the machine slowly for 5 minutes, watching and listening FROM THE OPERATOR’S SEAT for binding or interfering parts.

k. Run the machine at operating speed for 15 minutes. Listen for any unusual sounds or abnormal vibration.

l. Perform run-up check as listed on **Predelivery Checklist** (yellow sheet attached to this instruction) to ensure the machine is field-ready.

STEP 16. POST RUN-UP ADJUSTMENTS

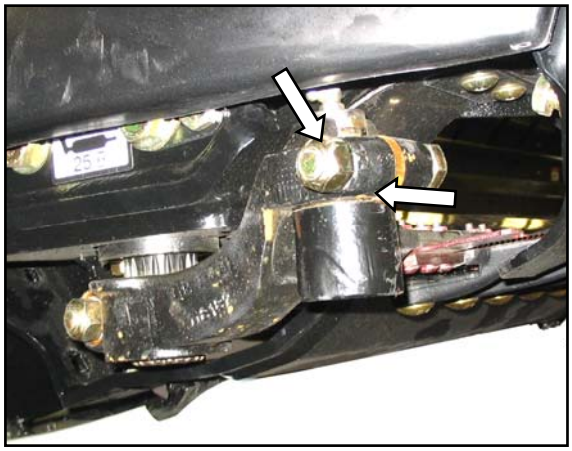
The following adjustments may be necessary after the run-up:

WARNING

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

A. KNIFE

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



1. Check gap between knifehead and pitman arm. A business card should slide easily through the gap. If not, then adjust gap by loosening bolt and tapping knifehead with a hammer. Retighten bolt.

b. Adjust guard alignment as follows: The guard straightening tool (MD #140135) is available from your MacDon Dealer.

UPWARD ADJUSTMENT

1. To adjust guard tips upwards, position tool as shown, and pull up.

DOWNWARD ADJUSTMENT

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

B. KNIFE SPEED

The header knife drive is driven by the adapter mounted hydraulic pump. Knife drive speed is factory-set for a feeder house speed of 575 rpm for CNH and John Deere adapters, and 780 rpm for AGCO and Lexion adapters.

IMPORTANT

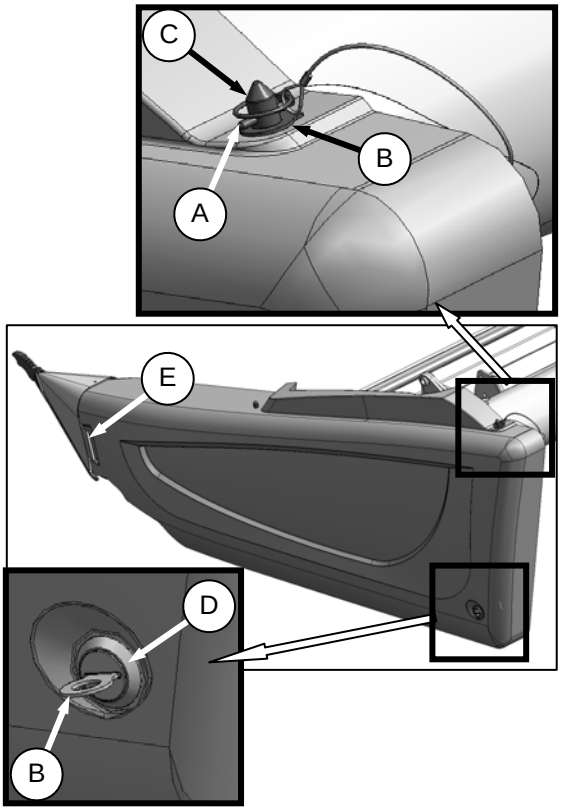
For variable speed feeder houses, this will be the **minimum** speed setting. To operate variable speed feeder house at greater than minimum speed, flow to the knife drive motor must be reduced to prevent excessive speeds which could result in premature knife failure.

WARNING

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

a. Stop combine engine, and remove key from ignition.

b. Open LH endshield:

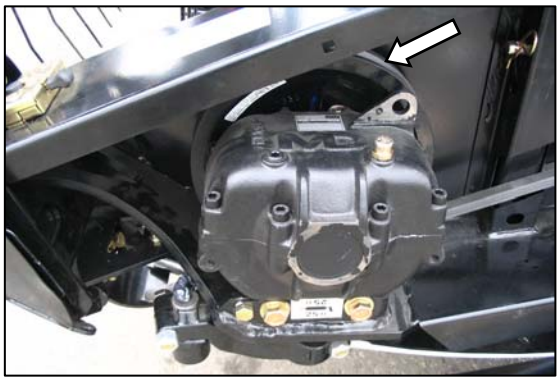


1. Remove lynch pin (A), and tool (B) from pin (C) at top rear of endshield.
2. Use tool (B) to unlock latch (D) at lower rear corner of endshield.
3. Lift shield at aft end to clear pin (C).
4. Swing shield out and away from header while maintaining forward pressure to prevent shield from slipping out of tab (E) at front of endsheet.
5. Carefully disengage front of shield from tab (E), and swing front of shield away from header.

WARNING

Ensure bystanders are clear before starting.

c. Start combine engine, engage header drive, and run combine at operating rpm.



d. Have someone check the rpm of knife drive box pulley using a hand held tachometer.

e. Shut down combine, and close endshield.

f. Compare actual pulley rpm with values in the following chart:

Header size	Recommended Knife Drive Speed Range (rpm)	
	Single Knife	Double Knife
30 FT	550–650	–-
35 FT	550–600	–-
40 FT	525–600	550–650
45 FT	N/A	

g. If adjustment to knife drive box pulley rpm is necessary, contact your MacDon Dealer or refer to the header technical manual.

NOTES

NOTES

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Printed in Canada

Model FD75 FlexDraper® / CA25 Combine Adapter Predelivery Checklist – North America

Perform these checks prior to delivery to your customer. **Adjustments are normally not required as the machine is factory-assembled and adjusted.** If adjustments are required, refer to the appropriate page number in this manual. The completed checklist should be retained either by the Operator or the Dealer.

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

Header Serial Number: _____ **Adapter Serial Number:**_____

✓	ITEM	PAGE
	Check for shipping damage or missing parts. Be sure all shipping dunnage is removed.	---
	Check for loose hardware. Tighten to required torque.	5
	Check tire pressure (Transport/Stabilizer Option).	51
	Check wheel bolt torque (Transport/Stabilizer Option).	51
	Check knife drive box breather position.	52
	Check knife drive box box lube level.	52
	Check adapter gearbox lube level.	52
	Check hydraulic reservoir lube level before and after run-up.	53
	Check knife drive belt(s) tension.	53
	Check reel centered between header endsheets (header in full smile).	53
	Grease all bearings and drivelines.	63–66
	Check side draper tension.	54
	Check draper seal.	62
	Check wing balance.	57
	Check header main float.	55
	Check reel tine to cutterbar clearance.	61
	Check skid shoes are evenly adjusted at a setting appropriate for first crop.	60
	Check fitment of endshields.	67
	Ensure feeder house variable speed is set to minimum.	---
RUN-UP PROCEDURE		**148**
	Check hydraulic hose and wiring harness routing for clearance when raising or lowering header and reel.	---
	Check lights are functional.	---
	Check knife speed.	149
	Ensure Auto Header Height is calibrated and functioning correctly.	69
POST RUN-UP CHECK. STOP ENGINE.		**148**
	Check knife sections for discoloration caused by misalignment of components.	148
	Check for hydraulic leaks.	---
	Check that manual storage case contains operator's manual and parts catalogs.	68

Date Checked: _____ **Checked by:** _____