

# **C Series Corn Header**

Unloading and  
Assembly Instructions

215610 Revision A

Original Instruction



### Unload and Assembly, Container – C Series

The following instructions are to be completed when receiving C-Series headers in a shipping container.

\*See second part of document for Dealer U&A\*

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### 1. Removing Headers from Container

- a. Remove ratchet straps securing header to container side walls (Figure 1).



**Figure 1: Ratchet straps securing header to container.**

- b. Remove front header cart floor jams and scrap (Figure 2).
  - i. These prevent the cart from rolling during shipping.



**Figure 2: Front header cart floor jams.**

- c. Use tow-bar to hook into header cart (Figure 3).
  - i. Use appropriate tow bar for headers being unloaded
    1. Short tow bar – 6 and 8 row headers
    2. Long tow bar – 12 row headers



Figure 3: Tow bar attachment to header cart.

- d. Slowly roll header cart rearward out of container (Figure 4). Carefully watch for header clearance to container walls and ceiling. Utilizing a fork lift with side shift can be useful during this process to adjust lateral position of header cart as it is pulled out.



Figure 4: Removing header cart from container.

- e. Remove rear header cart floor jams from container and scrap (Figure 5).
- f. Ensure all items are removed from container and container floor is swept clean before signing and releasing container.



Figure 5: Rear header cart floor jams.

### 2. Removing Headers from Header Cart

- a. Check clearance light position – if it is positioned below manual holder, adjust accordingly:
  - i. Loosen four nuts (circled in red, Figure 6) and slide light inboard and upward (bottom right, Figure 6).

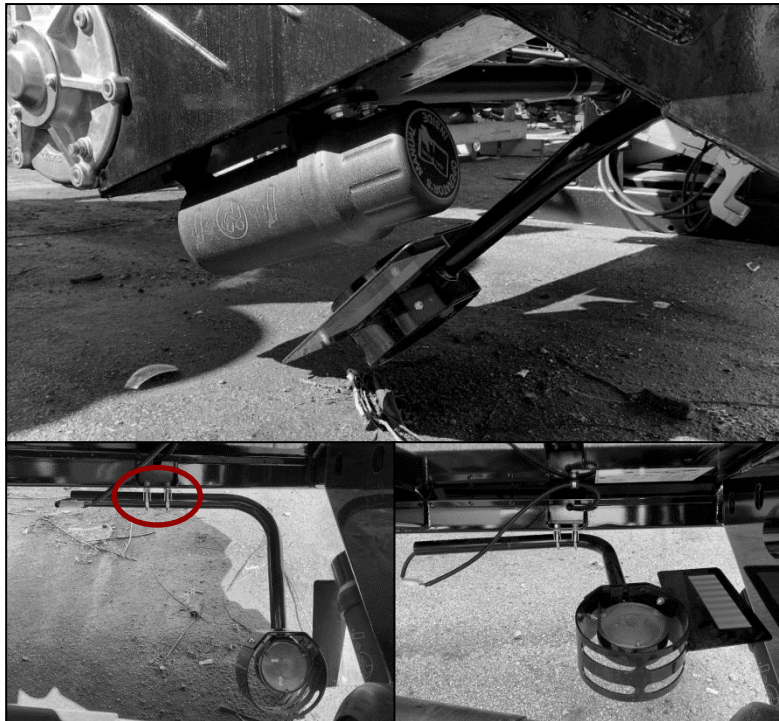
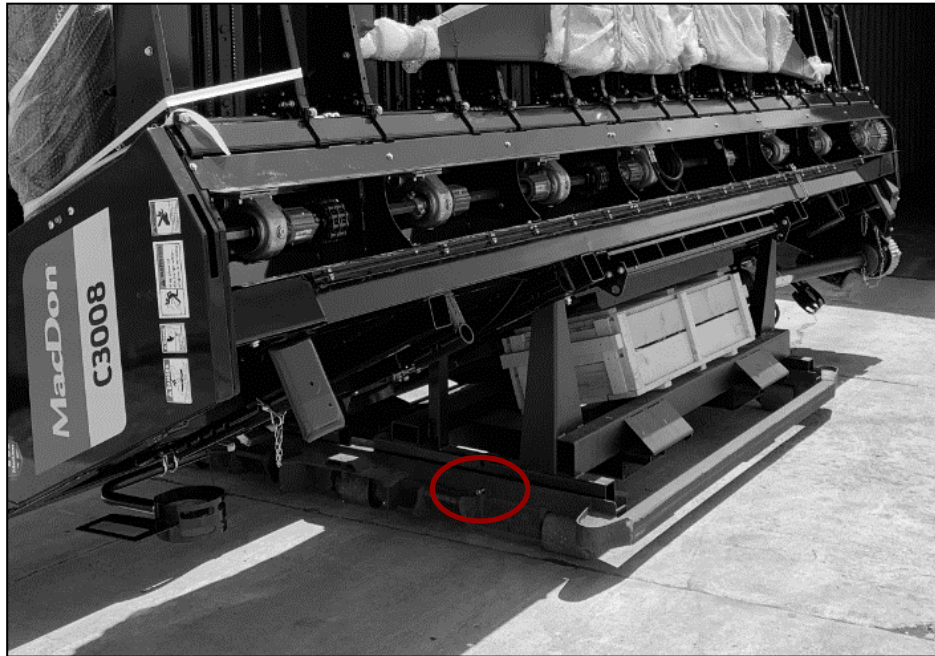


Figure 6: Clearance light position adjustment.



**Figure 7: Pin location (circled in red) securing header stand to header cart.**

- b. Remove pins (circled in red, Figure 7) securing header stands to header cart (2 pins per stand).
- c. With a spotter, lift headers off header cart (Figure 8).
  - i. Use appropriately sized forklift to remove and transport headers from cart. Consult Operator's Manual for header weights.
  - ii. Store header cart for return to OROS\*



**Figure 8: Removing header from header cart.**

### 3. Header Inspection

- a. Inspect the following to ensure the order was received in its entirety, correctly, and without damage.
  - i. Serial number
  - ii. Gearbox configuration (tooth configuration is written on housing, Figure 9)

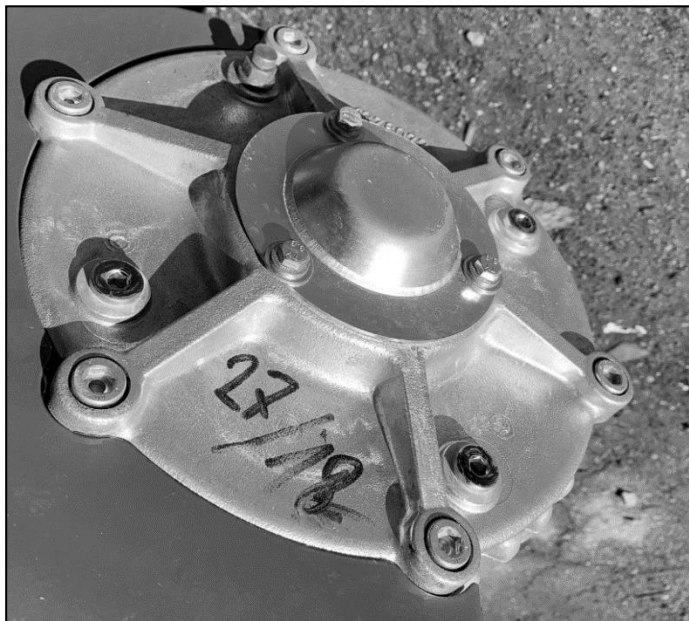


Figure 9: Gearbox configuration.

1. Case IH – 27/11
  2. CNH – 27/12
  3. AGCO Variable Drive – 27/18
  4. AGCO Fixed Drive – 27/11
  5. John Deere Variable Drive – 27/15
  6. John Deere Fixed Drive – 27/11
  7. Lexion – 27/15
- iii. Driveline yoke type (hex, 1-3/8” 6 spline, 1-3/8” 21 spline, 1-3/4” 21 spline)
  - iv. Inspect wooden crate that all pieces are enclosed (Figure 10)
    1. Wire snout brackets
    2. Tool kit

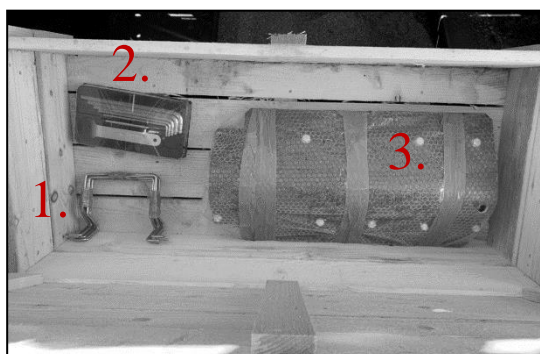
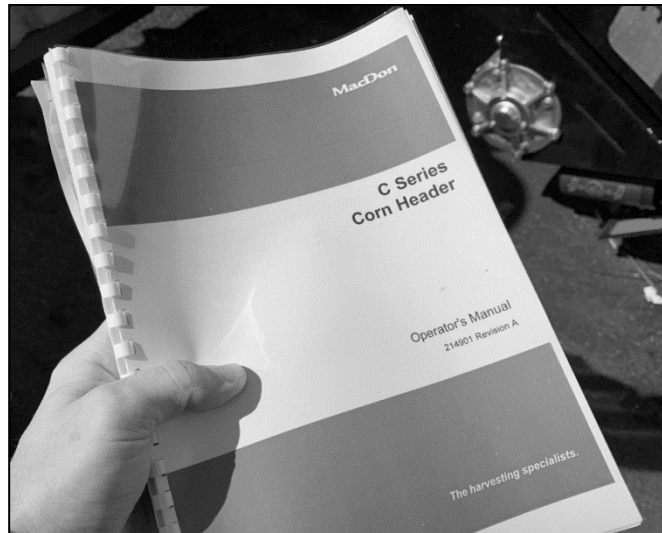


Figure 10: Wooden crate contents.

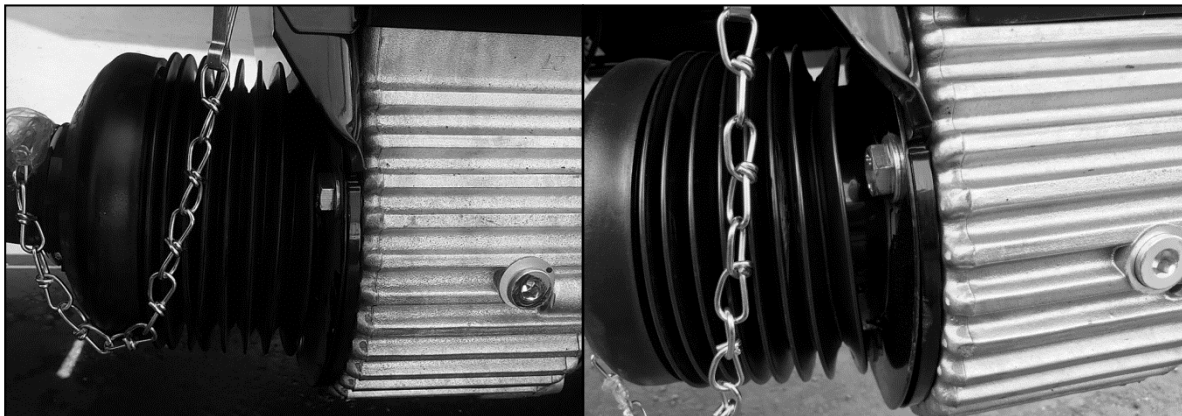


3. Auger finger kit
- v. Manuals (located in manual canister)
  1. OROS Quality Certificate
  2. Operators Manual
  3. Parts Manual



**Figure 11: Operator's Manual included in manual canister.**

- vi. Check main driveline guard that it is properly sealed to gearbox (Figure 12).



**Figure 12: Driveline guard correctly seated (left) and incorrectly seated (right).**

- vii. Special configurations etc. For example:
  1. Snout color
  2. Rotary End Dividers (RED's)
  3. Stubble Stompers
- viii. Inspect for shipping damage etc. For example:
  1. Missing or damaged snouts
  2. Decals peeling, bubbling, scratched
  3. Scuffed paint (touch up if possible)

4. Missing hardware or parts (toolbox cover, gathering chain tool)
5. Bent/damaged parts (snout support brackets, header field stands, clearance lights)
4. Part Replacement
  - a. Document and compile list of damaged parts (per section 3viii), or any missing parts, and send to [ShortageAndDamage@macdon.com](mailto:ShortageAndDamage@macdon.com).
5. Prepping Header for Shipping (complete if header U&A is not being completed at this time)
  - a. For headers ordered with Tall End Dividers (TEDs) they will be secured to the back of the header along with the end snout (red circle, Figure 13). Remove these before shipping and strap separately to the truck.

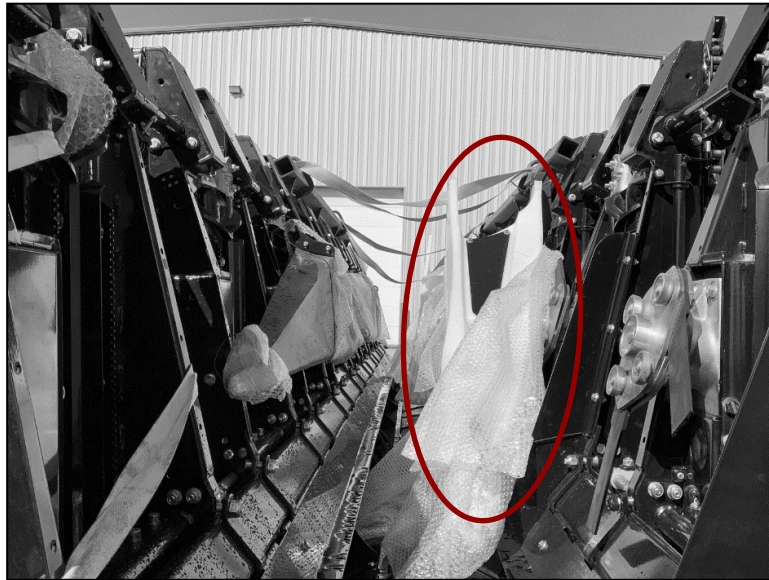


Figure 13: End snout placement on header from container shipping.

- b. Check drivelines are secured to storage brackets via lynch pin (Figure 14). If missing, drivelines can fall out during shipping.

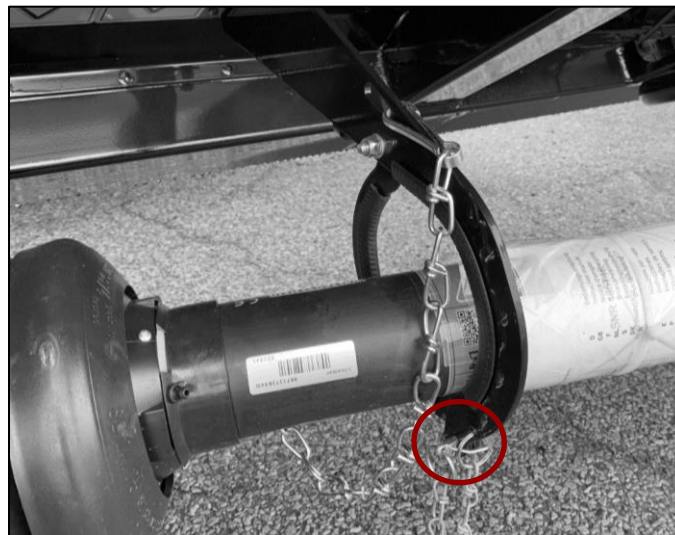


Figure 14: Driveline secured to storage bracket via green shipping wire.

- c. If header has bubble shipping packaging protecting auger doors (Figure 15), remove and discard after removing header from container. Bubble shipping packaging can melt to auger door during periods of high temperatures and leave permanent stains on auger door and decals.



**Figure 15: Bubble shipping packaging protecting auger doors needing to be removed after removing header from container.**

- d. Headers should be placed on trailer for shipping with snouts facing each other (Figure 16) and staggered so snouts nest within each other.
  - i. Additionally, take care to tie down header to main frame components only. Straps should not be anchored or crossed over drive and driven components like driveline and augers.



**Figure 16: Orientation of headers when placed on trailer for shipping.**

### Unload and Assembly, Dealer – C Series

The following instructions are to be completed when receiving a C Series header and prepping for field use.

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### 1. Safety

#### 1.1 Signal Words

Three signal words, **DANGER**, **WARNING**, and **CAUTION**, are used to alert you to hazardous situations. Two signal words, **IMPORTANT** and **NOTE**, identify non-safety related information. Signal words are selected using the following guidelines:

##### **DANGER**

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

##### **WARNING**

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. It may also be used to alert against unsafe practices.

##### **CAUTION**

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may be used to alert against unsafe practices.

##### **IMPORTANT:**

Indicates a situation that, if not avoided, could result in a malfunction or damage to the machine.

##### **NOTE:**

Provides additional information or advice.

### 1.2 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 protective clothing and personal safety devices that could be necessary for job at hand. Do **NOT** take chances. You may need the following:
  - Hard hat
  - Protective footwear with slip-resistant soles
  - Protective glasses or goggles
  - Heavy gloves
  - Wet weather gear
  - Respirator or filter mask
- Be aware that exposure to loud noises can cause hearing impairment or loss. Wear suitable hearing protection devices such as earmuffs or earplugs to help protect against loud noises.

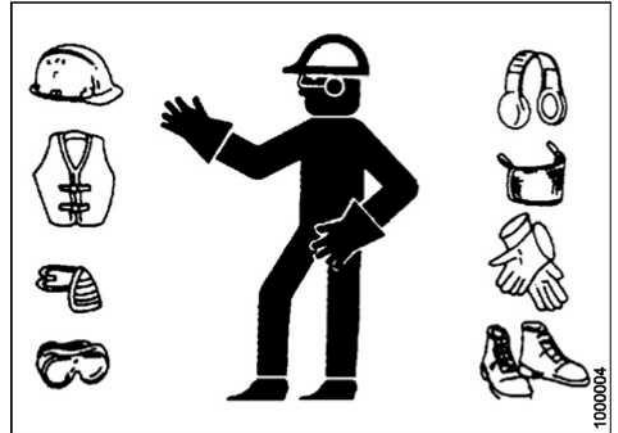


Figure 1.1: Safety Equipment



Figure 1.2: Safety Equipment

Provide a first aid kit for use in case of emergencies.

Keep a fire extinguisher on the machine. Be sure fire extinguisher is properly maintained. Be familiar with its proper use.

Keep young children away from machinery at all times.

Be aware that accidents often happen when Operator is tired or in a hurry. Take time to consider safest way. **NEVER** ignore warning signs of fatigue.

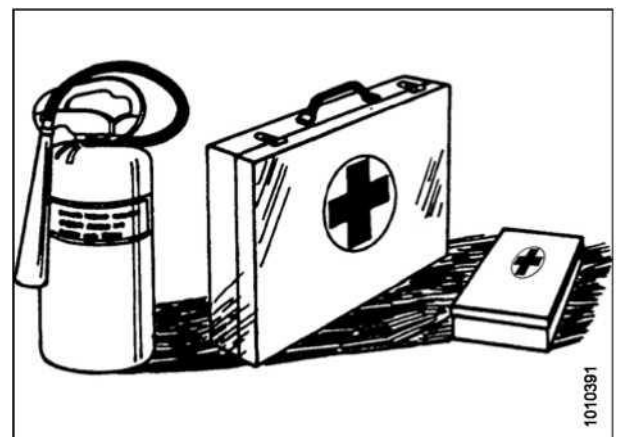


Figure 1.3: Safety Equipment

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# U&A – C Series

Wear close-fitting clothing and cover long hair. **NEVER** wear dangling items such as scarves or bracelets.

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

Use only service and repair parts made or approved by equipment manufacturer. Substituted parts may not meet strength, design, or safety requirements.



Figure 1.4: Safety around Equipment

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

Do **NOT** modify machine. Unauthorized modifications may impair machine function and/or safety. It may also shorten machine's life.

To avoid bodily injury or death from unexpected startup of machine, **ALWAYS** stop the engine and remove the key from the ignition before leaving the operator's seat for any reason.

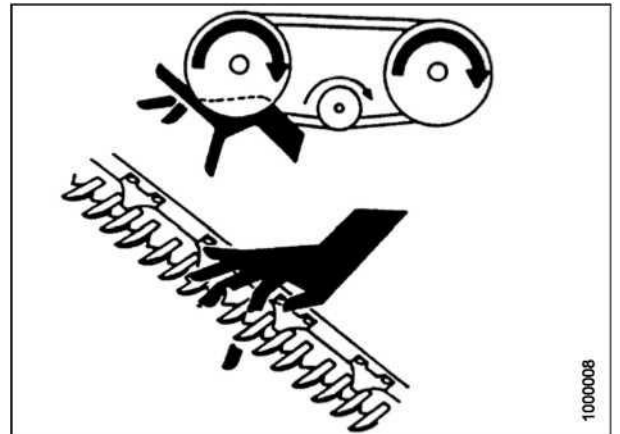


Figure 1.5: Safety around Equipment

Keep service area 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.

Keep work area well lit.

Keep machinery clean. Straw and chaff on a hot engine is a fire hazard. 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.



Figure 1.6: Safety around Equipment

### 1.3 Safety Signs

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or illegible.
- If original part on which a safety sign was installed is replaced, be sure the repair part displays the current safety sign.
- Safety signs are available from your MacDon Dealer.

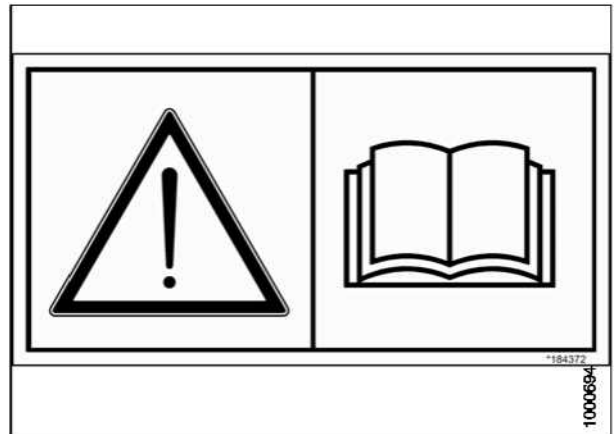


Figure 1.7: Operator's Manual Decal



### 2. Header Lifting Points

- 2.1. The header can be lifted with either a forklift, or via a crane (Figure 1).
- 2.2. Use an appropriately sized forklift, or crane and cables, to lift and move header. Consult the Operator's Manual for header weights. Ensure forks are fully seated in channel when moving header on stands.
- 2.3. When lifting a 12 row header, use four cables as shown in bottom right of Figure 1.

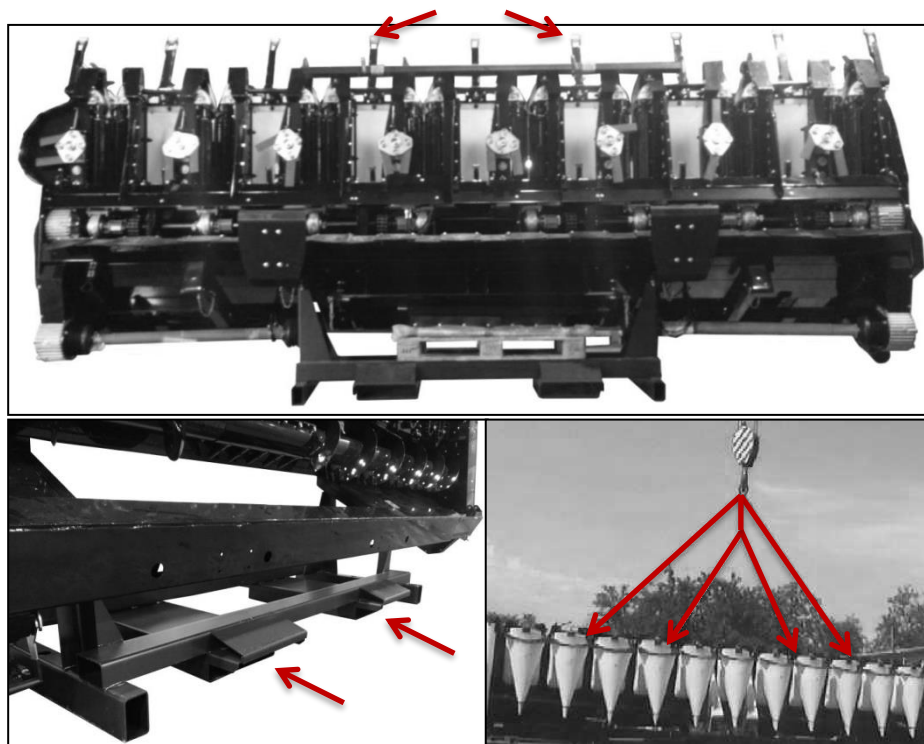


Figure 1: Head stand lifting point (bottom left) and lifting bars (top and bottom right).

### 3. Tipping Header Down and Removing Shipping Stands

- 3.1. Recommended to complete sections 13.9 and 13.10 before tipping header down (snapping roll and vine knife clearance, respectively).
- 3.2. Use lifting bar on top of header to attach and tilt header down to field position.
  - 3.2.1. **IMPORTANT:** Lower field stand (Figure 2) until top is flush with top of mount to protect bottom of row units. Ensure ground is level and free of rocks and debris.



Figure 2: Velcro straps securing bulkhead lines (left), header field stands (right).

- 3.2.2. Ensure clearance lights are pushed tight to backsheet to prevent damage when tipping header down.
- 3.3. Once header is tilted down to field position, remove header stand.
  - 3.3.1. Remove lifting bar after attaching header to combine (Section 6), raising header, and engaging feederhouse cylinder props.
  - 3.3.2. If applicable, remove Velcro strap securing bulkhead lines from header stand first (Figure 2).
  - 3.3.3. For folding headers, remove shipping hardware locking wing to center section (Figure 3).

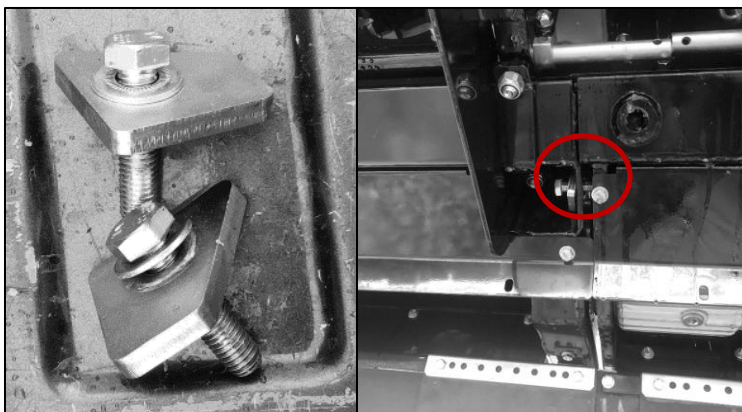


Figure 3: Shipping hardware (left) removed from underneath header at pivot point (right).

4. Moving Driveline Storage Bracket from Shipping to Field Position
  - 4.1. When applicable, driveline storage bracket/s must be moved from the shipping to field position (Figure 4).

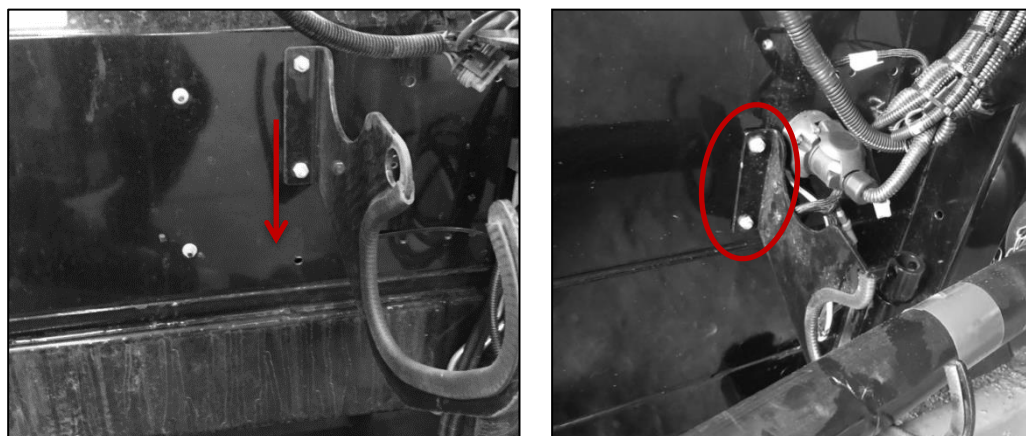


Figure 4: Driveline storage bracket in shipping position (left) and field position (right).

5. Moving Header Clearance Lights from Shipping to Field Position
  - 5.1. Remove U-bolts securing clearance light, rotate light to field position (ensure yellow reflector faces forward), rotate and reinstall U-bolts (Figure 5).



Figure 5: Clearance light secured by U-bolts (red circle, left) in shipping position (left) and field position (right).

### 6. Attaching Header to Combine

#### 6.1. Adjusting latch hooks

6.1.1. After picking up the header, position of latch plate may need to be adjusted in order to engage the locking pins (can remove lifting bar now).

6.1.2. Loosen hardware, adjust plates as needed to engage lock, and retighten hardware (John Deere, Figure 6).

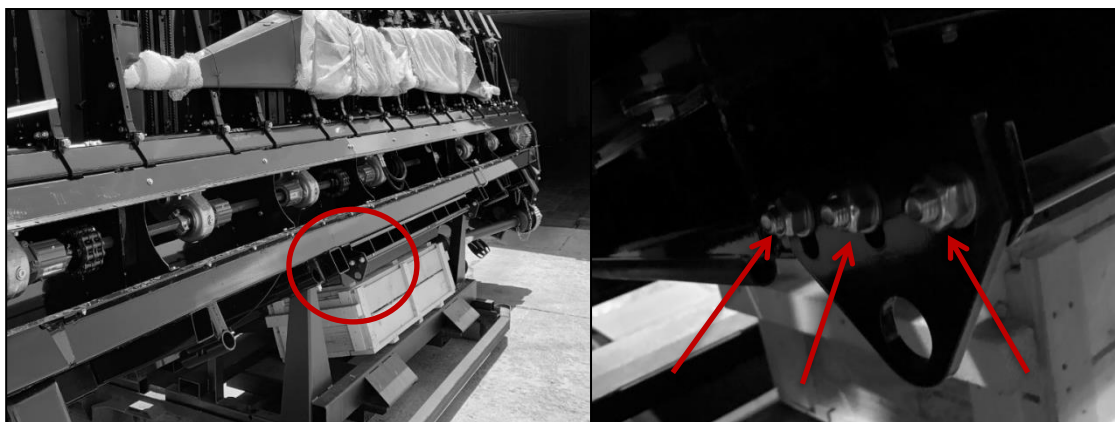


Figure 6: John Deere header latch (left), and latch adjustment hardware (right).

6.1.3. Make similar adjustment as needed on CNH, AGCO, and CLAAS combines.

#### 6.2. Secure Header Latch Mechanism

6.2.1. This varies for combine type; ensure locking pins are seated before proceeding (adjustment of latch mechanism may be needed for proper seating).

#### 6.3. Trim lower window frame seal (John Deere only)

6.3.1. Lower window frame seal may overlap feederhouse opening on some combines, trim edges as required.

#### 6.4. Attach Drivelines to Combine

6.4.1. Note: chopping and folding headers will have a driveline attached to each side of the combine feederhouse.

- 6.4.2. Ensure driveline guard retention chain is secured to the guard and driveline storage bracket, and the guard seal is flush with the header gearbox (Figure 7).

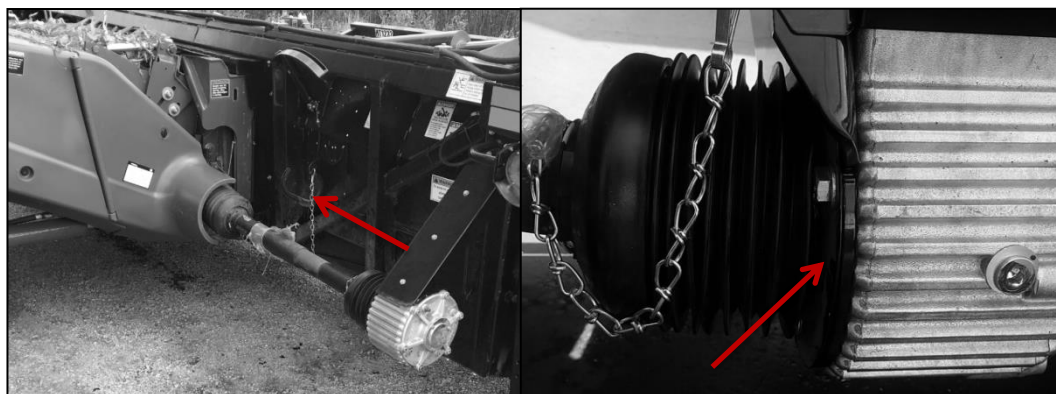


Figure 7: Driveline guard retention chain (left) and guard seal to gearbox (right).

### 6.5. Attaching Hydraulic and Electrical Bulkhead to Combine/Header

- 6.5.1. Varies for combine type (note: securing John Deere bulkhead also engages locking pins).

### 7. Attaching Snouts

- 7.1. Lift header and remove snouts from shipping position (Figure 8).

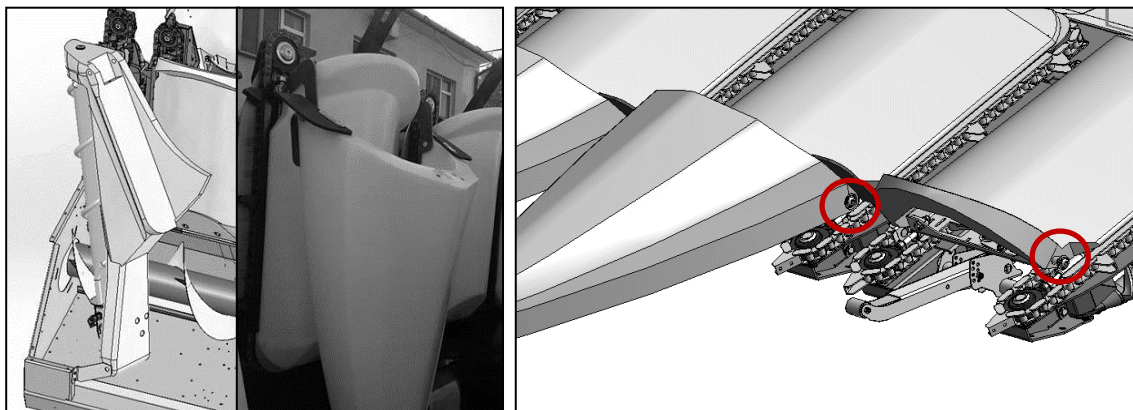


Figure 8: Snouts in shipping position (left), snout pivot hardware (circled, right).

- 7.2. Remove snout pivot hardware and install snout on bushings, reinstall hardware and torque to 100 Nm.

- 7.2.1. May consider completing steps 10, 13.8, and 13.9 before installing snouts.

- 7.2.2. Snout may need to be spread at the rear flanges to fit poly over bushings.

- 7.3. Install wire brackets on front snouts (Figure 9, next page)). Brackets support snout in service position and can be found in wooden shipping crate. Note: only applicable on 30" row spacing.

### 8. Setting Header Angle

- 8.1. Place combine harvester on level ground.

- 8.2. To set header angle, lower header until front of row unit rest of a 4" X 4" block (Figure 10).

- 8.3. Measure snapping plate angle relative to the ground (Figure 10).

- 8.3.1. Angle should measure 23 degrees for field operation.

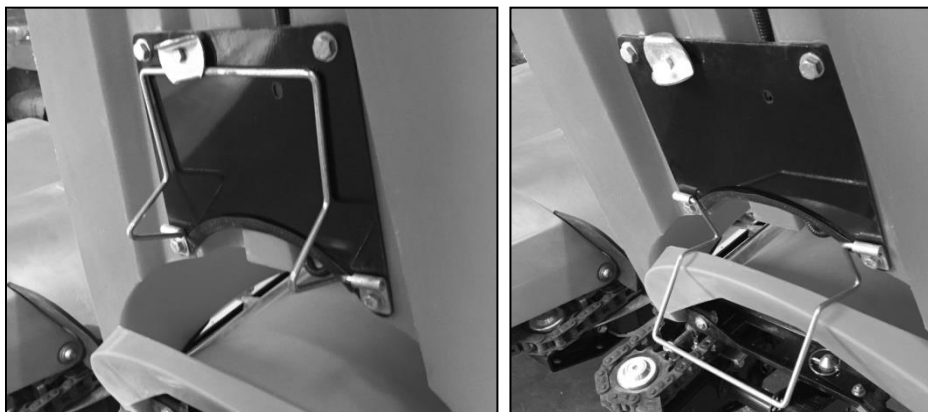


Figure 9: Installation and function of front snout wire brackets.

8.3.2. Adjust feederhouse angle if row unit angle is out of specification (see combine manual for feederhouse adjustment instructions).

8.3.3. Reseat header on 4" X 4" blocks and re-measure deck plate angle until desired angle is achieved.

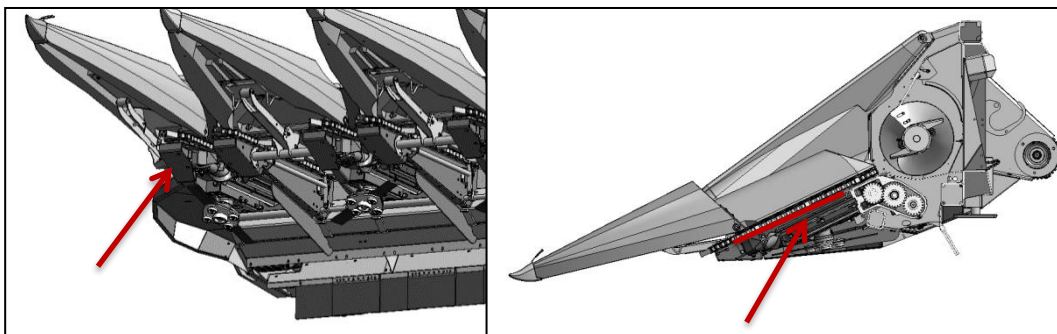


Figure 10: Rest 4" x 4" block on front of row unit (arrow, left) and measure deck plate angle (arrow, right) relative to ground.

### 9. Setting Snout Position

9.1. With header resting on 4" x 4" blocks, adjust the snout height so the tip of the snout is just touching the ground.

9.2. Adjust major position by changing position of bolt as shown in Figure 11 (circled).

9.2.1. Ensure nut faces outboard on end rows to prevent interference with gathering chain.

9.3. Adjust minor position with nut as shown in Figure 11 (arrow).

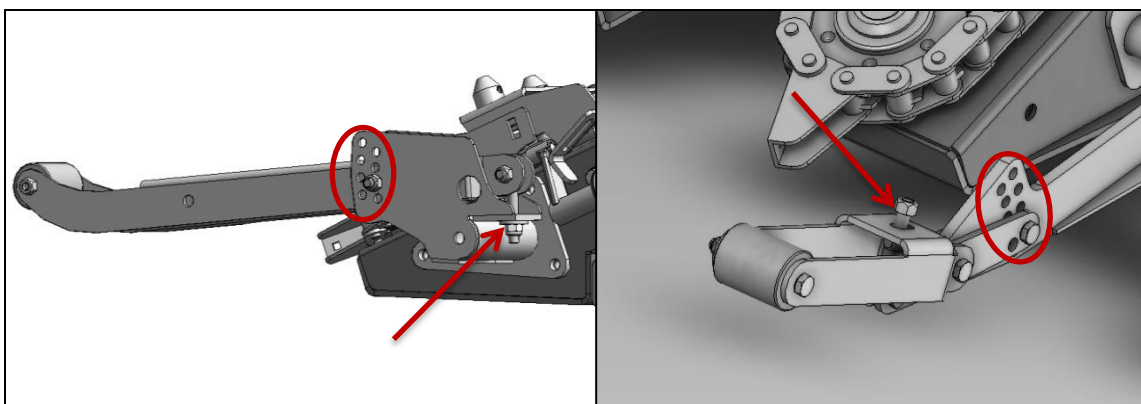


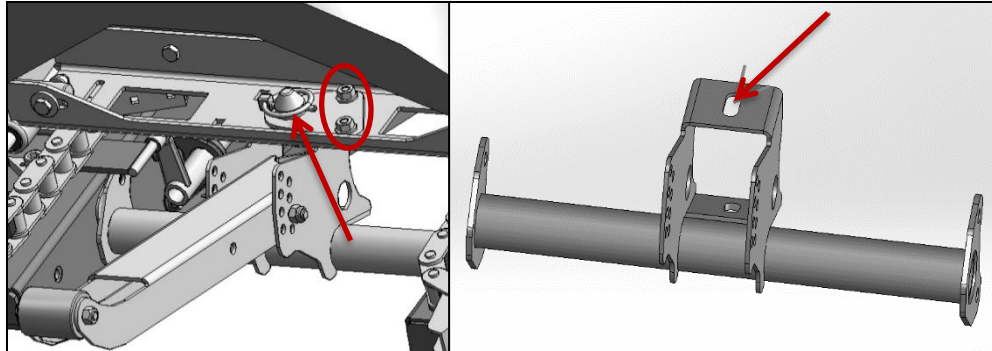
Figure 11: 30" snout adjustment (left) and 20" and 22" snout adjustment (right).

9.4. Note: 20” and 22” snout adjustment (right, Figure 11) is different than 30” adjustment (left, Figure 11).

### 10. Checking Snout Seating Pin Alignment

10.1. Check each snout that it seats properly with alignment pin.

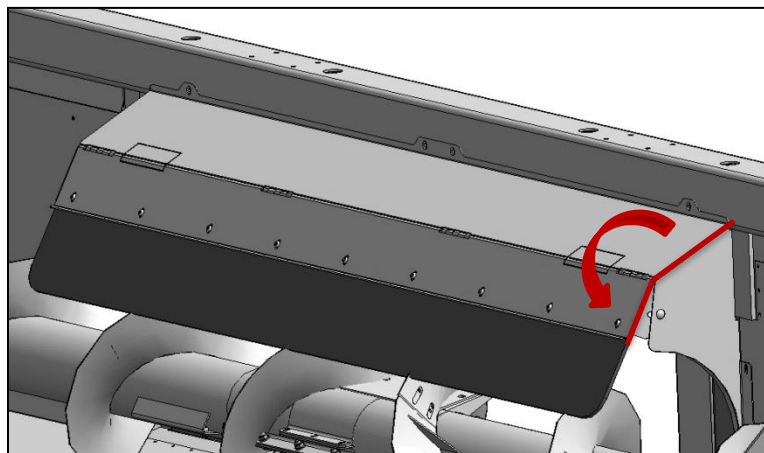
10.2. Loosen hardware to adjust plate or pin if needed (Figure 12).



**Figure 12: Check pin seats correctly (left, arrow) and adjust plate via hardware (circle, left) or moving pin in slot (arrow, right).**

### 11. Setting Auger Debris Shield Angle

11.1. Auger debris shield angle is factory set at 192 degrees (Figure 13) – verify setting has not changed.



**Figure 13: Auger debris shield should be set 192 degrees below the top flange (red arrow).**

### 12. Rotary End Divider (RED) Assembly

12.1. See Appendix for configuring CNH combine to operate RED's.

12.2. If header was configured with RED's, complete the following steps to reassemble from storage position.

12.2.1. Remove from shipping packaging

12.2.2. Remove RED connection lynch pin and pivot pin.

12.2.3. Place RED assembly into connection point and reinstall pivot pin and lynch pin (Figure 14).

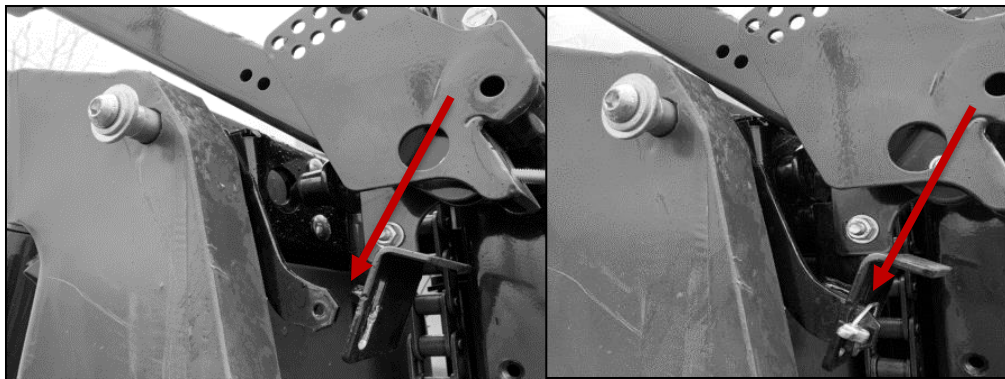


**Figure 14: RED rear connection point.**

12.2.3.1. Note: install pivot pin from outboard end of header pointing inwards.

12.2.4. Pivot the RED assembly until the top aligns and seats with the two positioning pins.

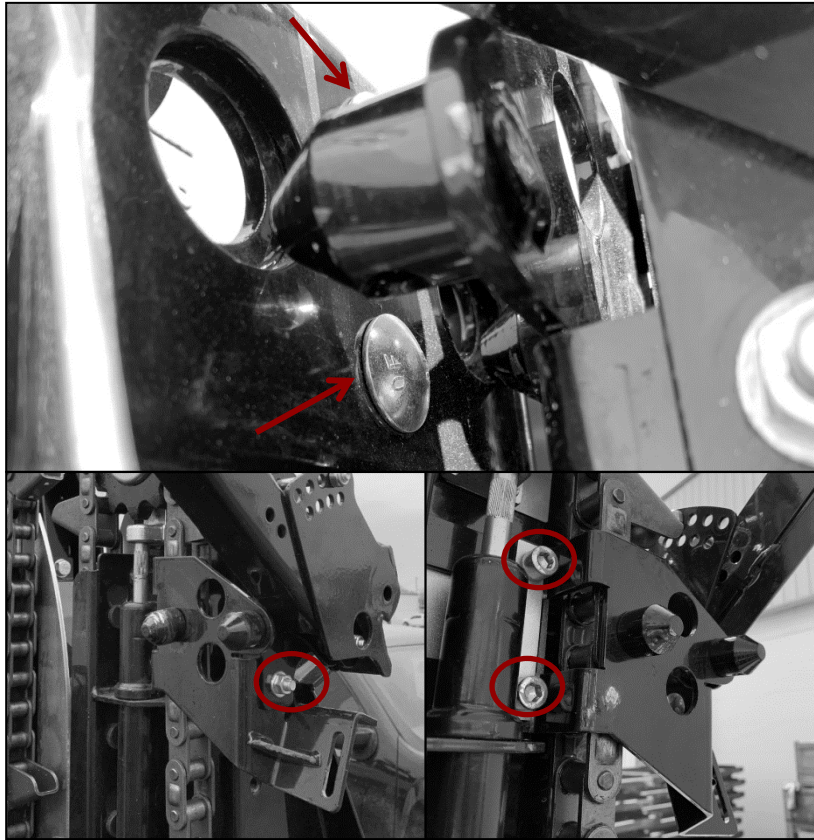
12.2.5. Fully seat assembly so lynch pin can be installed in metal securement strap (Figure 15).



**Figure 15: Seating of RED assembly at top end.**

12.2.6. If positioning pins do not align with the RED assembly first adjust plate by loosening two bolts on RED assembly (red arrows, Figure 16).

12.2.7. If more adjustment is needed, loosen two Allen cap screws and hex nut to adjust position of pins (red circles, Figure 16).



**Figure 16:** To adjust position of plate, loosen two bolts (red arrows); to adjust position of the alignment pins, loosen two cap screws and hex nut (red circles).

12.2.8. Last, re-secure hydraulic hoses in hydraulic clamp

12.2.8.1. Make sure to pull hoses tight before snugging clamp tight (Figure 17).



**Figure 17:** Re-securing RED hydraulic hoses.



### 13. Run-Up

13.1. Before run-up, check all gearboxes for lubricant, auger chain tension, and free rotation of components.

13.2. Run header for 20 minutes at rated speed (550 rpm backshaft) to allow all gearbox oil and grease to warm up as well as check proper operation of all drive and driven components.

13.3. If header is configured with chopping gearboxes, ensure they turn on and off.

13.4. Check level of all gearboxes with header deck angle at 23 degrees (operating position).

13.4.1. Main Gearbox Oil (left, Figure 18).

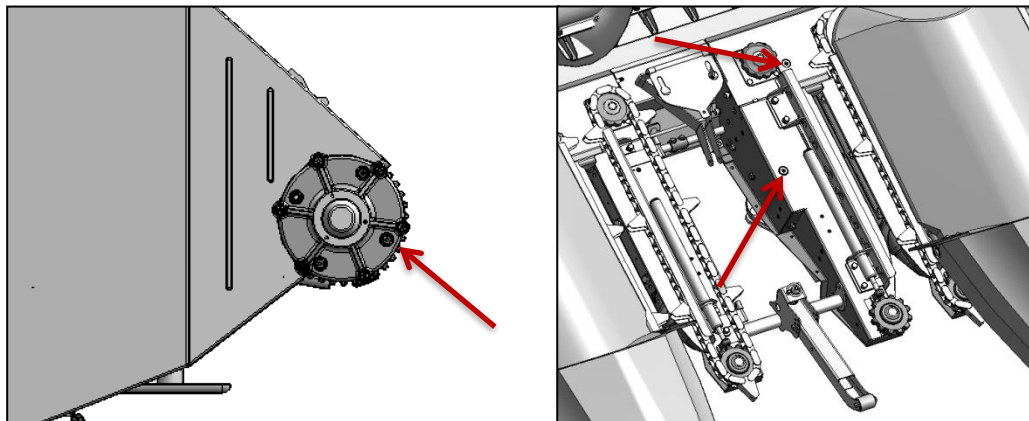


Figure 18: Gearbox check locations (red arrows).

13.4.2. Row unit grease level (right, upper, Figure 18).

13.4.2.1. Ensure grease level is between maximum and minimum fill lines of dipstick.

13.4.3. Chopper oil level (right, lower, Figure 18).

13.4.3.1. Ensure oil level is between upper fill line and bottom of dipstick.

13.5. Ensure high speed auger drive sprocket (16T) is installed (Figure 19).

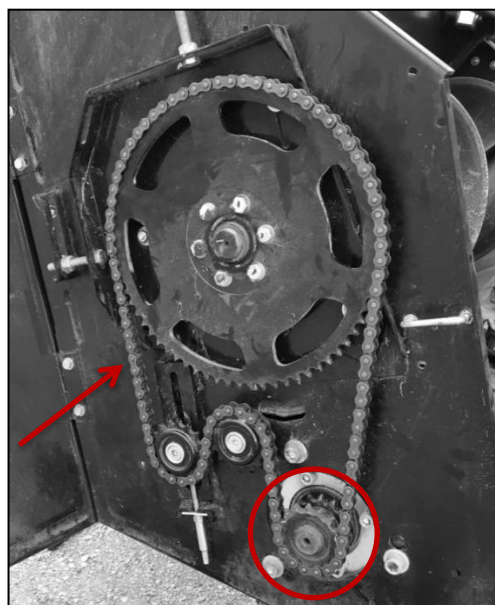


Figure 19: Auger drive chain deflection measurement (red arrow) and drive sprocket (red circle)

- 13.5.1. High speed for normal operating conditions; slow speed (14T) sprocket for severely lodged corn.
- 13.5.2. Note: 16 and 18 row headers have an 18T/16T sprocket with 18T set from factory.
- 13.6. Check slack on auger drive chain/s
  - 13.6.1. Ensure there is between 0.5” and 0.75” of total deflection at mid-span (red arrow, Figure 19).
  - 13.6.2. See Operator’s Manual for adjustment procedure (section 7.2).
- 13.7. Check auger clearance is between 1.0” and 1.25” (Figure 20)
  - 13.7.1. See Operator’s Manual for adjustment procedure (Section 7.2).
- 13.8. Check deck plate clearance with the deck plates set to their minimum gap (Figure 20)
  - 13.8.1. A – 3/4”
  - 13.8.2. B – 15/16”
  - 13.8.3. See Operator’s Manual for adjustment procedure (section 7.4.2).

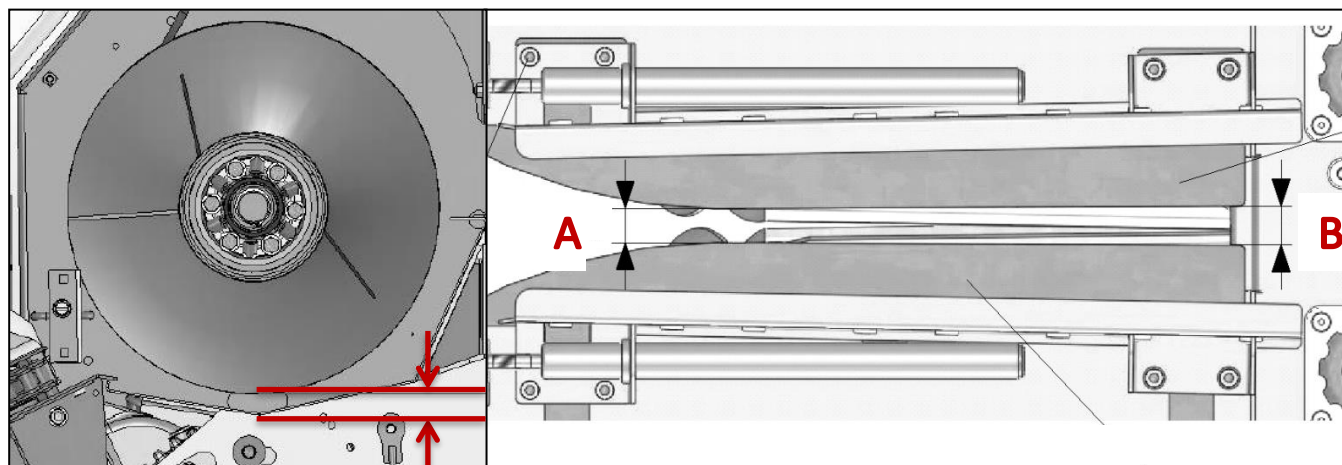


Figure 20: Auger clearance (left) and deck plate clearance (A & B, right).

- 13.9. Check minimum snapping roll knife clearance (Figure 21)
  - 13.9.1. Chopping header – 2-3mm gap
  - 13.9.2. Non-chopping headers – 1mm gap

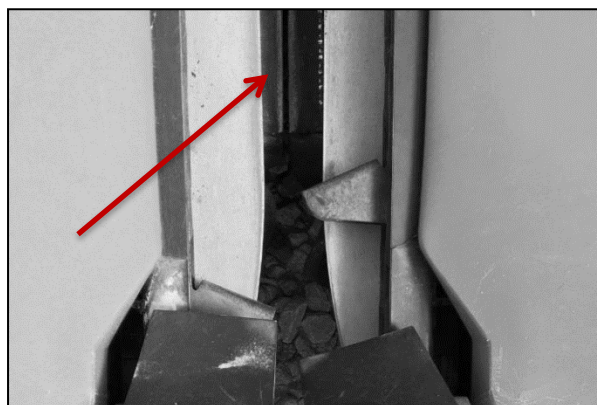


Figure 21: Checking minimum snapping roll knife clearance.

- 13.10. Check vine knife clearance to snapping roll knives for 0.5mm clearance.

13.10.1. See operator's manual for more detail (section 7.4.3).

13.11. Check gathering chain tension and phasing (Figure 22).

13.11.1. Fully staggered (Figure 22, left), least aggressive, good conveyance.

13.11.2. One lug staggered (Figure 22, right), factory (good compromise between fully staggered and in-phase).

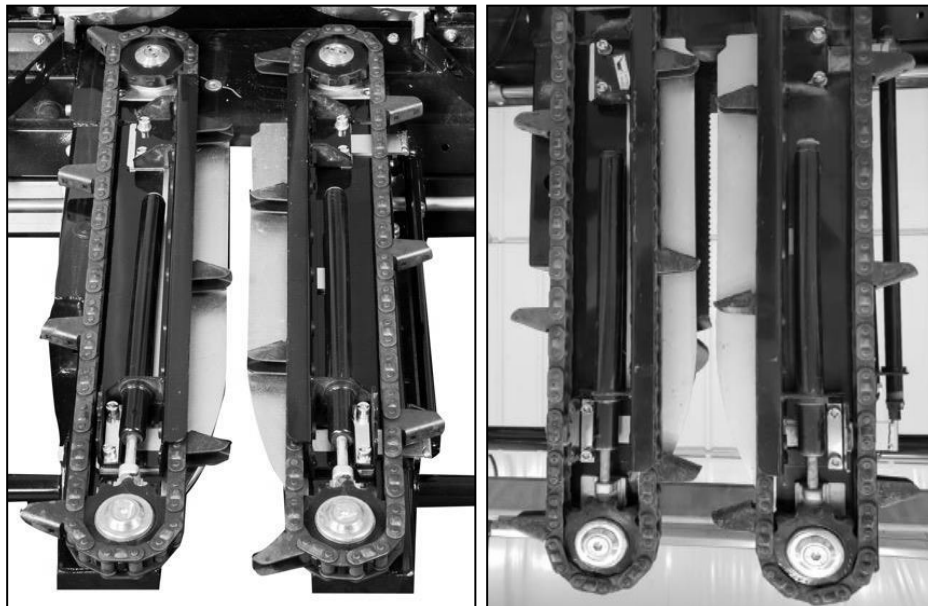


Figure 22: Gathering chains fully staggered, left, or one lug staggered (factory), right.

13.11.3. Fully in-phase (lugs aligned), most aggressive, less conveyance.

13.12. Check auger timing

13.12.1. For center bearing supported augers, flighting should be offset 180 degrees at center to feed combine smoothly. When paddles/fingers are installed, they should be offset 90 degrees (Figure 23). Adjust via clocking auger drive chain.

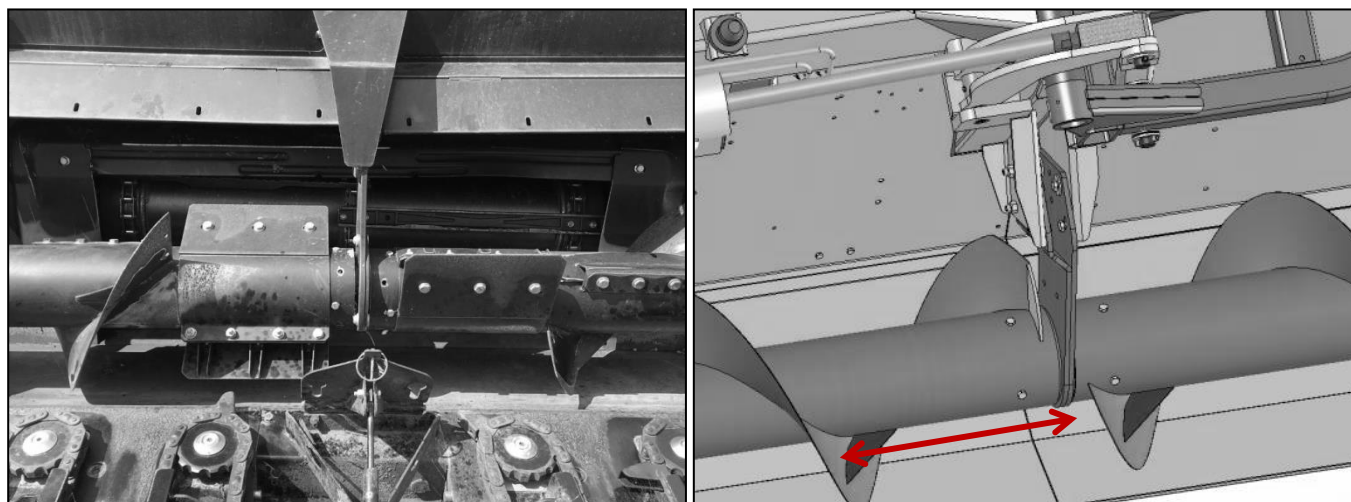


Figure 23: Center bearing support auger (w/paddles), left, and folding auger wing timing, right.

13.12.2. For folding headers, ensure flighting pitch is 18°-20° across wing joint (Figure 23, red arrow). The center auger flighting should lag the wing auger flighting to avoid binding of material flow. Adjust auger drive dog on wing to correct timing if needed. See operator’s manual for further detail.



**Figure 24: Tools stored in header toolbox.**

13.12.2.1. Also test folding operation, ensuring wing locking cylinders unlock, snouts fold up, and wings fold fully up and vice versa when unfolding header. See operator’s manual for further detail.

13.13. Check lighting and confirm proper operation.

13.14. Inspect header for loose hardware, missing parts, etc.

13.15. Place all tools from wooden crate and gathering chain adjustment tool in header toolbox (Figure 24).

#### 14. PDI Checklist

14.1. Please verify using the checkboxes below (Table 1) that the corn head is properly set up before delivering to customer.

**Table 1: PDI Checklist**

Checkoff	Item	Reference
	Lifting bar and other packaging removed	Section 3.3; 6.1.1
	Header latches properly seated	Section 6.1; 6.2
	Operating position set to 23 degrees	Section 8
	Hydraulic and electrical properly connected to combine	Section 6.4
	Drive shaft properly connected to combine	Section 6.3
	Deck plates correctly set	Section 13.8

	Gathering chains properly set and tensioned	Section 13.11
	Auger drive chains properly tensioned	Section 13.6
	Snouts and dividers properly adjusted and secured	Section 9; 10
	All safety shields functioning, secured, and installed	-
	Gearbox lubricant checked for proper fill	Section 13.1; 13.4
	Folding/unfolding operation (if applicable)	13.12.2; 13.12.2.1, 3.3.3
	Snapping roll clearances properly set	Section 13.9
	Hardware is tight	-
	Free rotation of chopper knives (if applicable) and drives	Section 13.1; 13.3
	Header run-up for 20 min	Section 13.2

### 15. Appendix

#### 15.1. Configuring RED's on CNH combines

To activate hydraulic power to the RED's when operating a corn head, you must set the "Deck Plates" and "Power Rotating Dividers" as "Installed" in the header run pages as shown below in Figure 25. The speed of the RED's is controlled the same as the reel speed would be controlled on a platform header.



Figure 25: CNH screen settings for RED operation.

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